

**Permit Amendment TCEQ Permit No. MSW- 1693B
City of Laredo Landfill**

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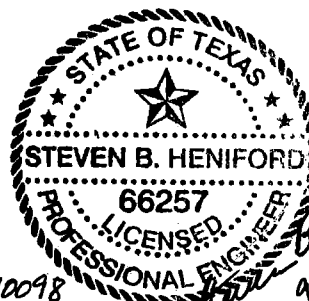
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9/17/14

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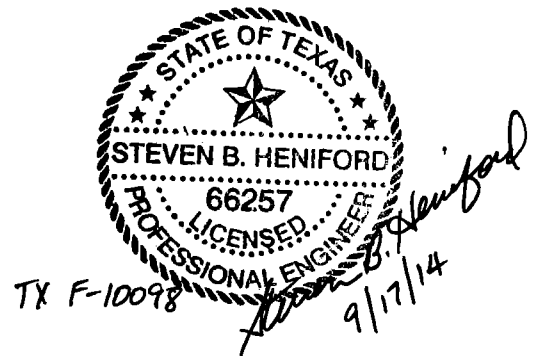
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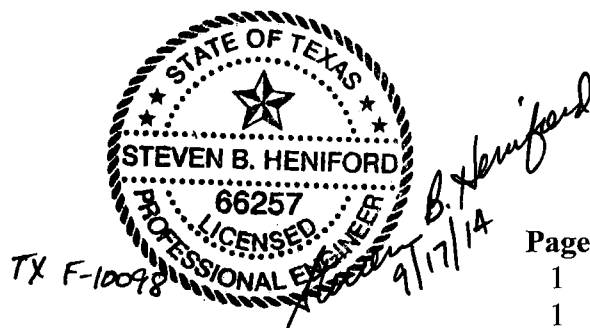
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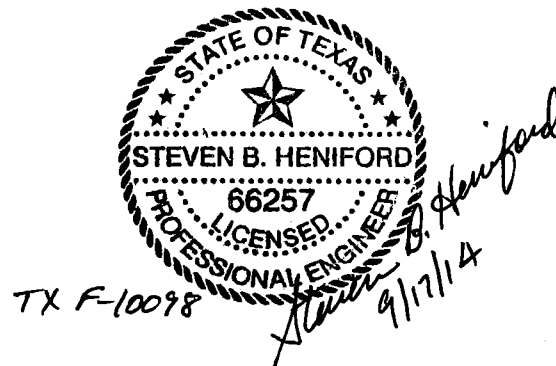
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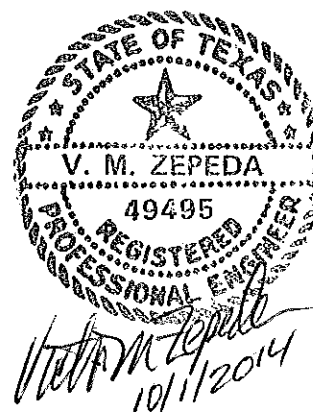
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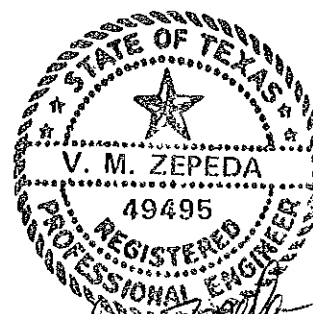
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V. M. Zepeda
10/11/2014
TBPE FIRM N° F10098

**City of Laredo Landfill Permit Amendment 1693B
City of Laredo, Texas
Permit Amendment MSW Permit 1693B
Laredo, Texas
Webb County, Texas
August 2014**

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Soil and Liner Quality Control Plan
§330.339**

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- 10B Soil and Liner Quality Control Plan for the Type IV Cells
- 10C Geosynthetic Clay Liner Quality Control Plan for the Type IV Cells



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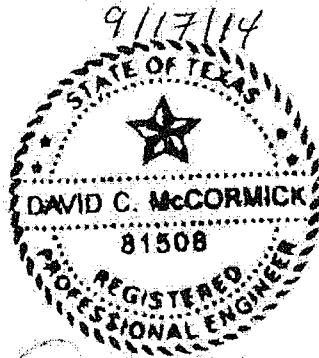
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SOIL AND LINER QUALITY CONTROL PLAN
CONSTRUCTION QUALITY ASSURANCE/
QUALITY CONTROL MANUAL

MSW Permit No. 1693 B

Prepared for:
CITY OF LAREDO
Webb County, Texas

Prepared by:
Terracon Consultants, Inc.
25809 Interstate 30
South Bryant, Arkansas 72022



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**LAREDO LANDFILL
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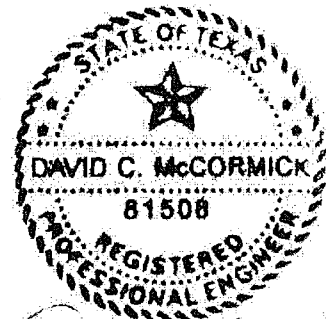
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SECTION 1: GENERAL

1.0 INTRODUCTION

1.1 Purpose

This Construction Quality Assurance/Quality Control (CQA) Manual shall serve as the Soil Liner and Quality Control Plan (SLQCP) as specified under Title 30, Chapter 330.339 of the Texas Administration Code (TAC) Municipal Solid Waste Management Regulations (MSWMR) for the CQA of soils and geosynthetic installation. The purpose of this CQA Manual or CQA Plan is to provide quality assurance guidelines to be implemented by CQA personnel during construction of a composite liner system as required under Subtitle D regulations. This CQA Manual outlines quality control procedures and measures for the following:

- Composite liner (soil and geosynthetic) construction including full time field observation, appropriate laboratory and field testing, and proper acceptance criteria for constructed work;
- Lines of communication and responsibilities of the owner, quality assurance team, design engineer, construction contractors, and other involved parties regarding adherence to the CQA guidelines; and
- Proper documentation procedures to demonstrate that the constructed composite liner meets the requirements of construction drawings and specifications.

1.2 Scope

The scope of this CQA Manual includes the CQA of the soils and geosynthetics for construction of the City of Laredo landfill in Webb County, Texas. CQA of the selection, evaluation, processing, placement, and compaction of soils for earthwork of low-permeability soil liners is included in the scope. CQA applicable to manufacturing, shipping, handling, and installing of all geosynthetics, and for the granular drainage system (leachate collection system) is also included.

In particular, full-time CQA during installation of the soils, geosynthetics, and leachate collection system is considered to be an essential part of ensuring the quality construction of a landfill for ultimate protection of the surrounding environment, and compliance with the regulations of the Texas Commission on Environmental Quality (TCEQ).

1.3 Definitions

Construction Drawings- A part of the construction specifications which illustrates layouts, typical sections, and scope of work to be performed.

Construction Specifications- The qualitative requirements for products, materials, and workmanship upon which the project is based.

Flexible Membrane liner (FML)- This material is a geosynthetic. It is an impermeable synthetic material used as an integral part of the liner system. (Also referred to as a geomembrane)

Geocomposite- This material is a geosynthetic. For this site, the geocomposite will consist of a geonet with a non-woven geotextile fused to both sides and will serve the purpose of a drainage layer on slopes.

Geonet- This material is a geosynthetic. It is a highly permeable synthetic net generally serving the purpose of a drainage layer.

Geosynthetics- A generic classification given to synthetic (man-made plastic) materials used in geotechnical engineering applications.

Geotextile- This material is a geosynthetic. It is a permeable synthetic textile generally serving the purpose of a filter interface between two types of soils or materials and has a high permeability. It may also serve as protection to the FML.

Non-Conformance- A deficiency in documentation, product, material and/or procedure that renders the procedure and/or quality of the document, product, or material unacceptable.

Project Documents- Contractor(s) submittals, construction specifications, construction drawings, record drawings, construction quality control and quality assurance plans, safety plan, and project schedule, and any other document related to the project.

Quality Assurance- A planned and systematic pattern of actions implemented by the quality assurance team to assure conformity of the services provided with the quality assurance plan. Regulatory requirements, and the construction drawings and specifications. The quality assurance team shall be a party independent of the owner, manufacturer and construction contractor(s).

Quality Control- Actions that are implemented to measure and regulate the characteristics and/or properties of an item, material or service to comply with the requirements of the construction drawings and specifications, and regulatory requirements.

Record Drawings- Drawings developed by the quality assurance team during liner construction which includes actual constructed dimensions, details and coordinates of the composite liner system.

2.0 PARTIES TO CQA AND QUALIFICATIONS

Figure 1 (see Appendix A) presents an organization chart depicting the relationships between the involved parties (Design Engineer, CQA officer, CQA Monitors, Construction Contractor(s) and Quality Assurance Laboratory) and the Owner.

2.1 Owner

The Owner owns and is responsible for the facility. For this project, the Owner is the City of Laredo in Webb County, Texas. The owner is responsible for the design, construction, and operation of the Municipal Solid Waste Landfill (MSWLF). The Owner must obtain a permit and assure the TCEQ, by submission of the Soil Liner Evaluation Report (SLER) and Flexible Membrane Liner Evaluation Report (FMLER), that the facility has been constructed as specified in the design, which was submitted to obtain the permit. Qualifications for the Owner do not apply.

2.2 Permitting Agency

The permitting agency for MSWLF's in the state of Texas is the Texas Commission on Environmental Quality (TCEQ). The permitting agency is authorized by law to issue a permit for the construction of a MSWLF. It is the responsibility of the permitting agency to review the Owner's permit application for compliance with the agency's regulations and to make a decision to issue or deny a permit based on this review. The agency also has the responsibility and authority to review all CQA documentation during and after facility construction to confirm that the approved CQA Plan was followed and that the facility was constructed as specified in the design.

2.3 Project Manager

The Project Manager is the official representative of the Owner who shall be in charge of coordinating the field activities. All other parties, excluding the Owner, shall report either directly or indirectly to the Project Manager. The selection of the Project Manager is the direct responsibility of the Owner; therefore, qualifications for this position are determined by the Owner independently of this CQA Manual.

2.4 Design Engineer

The primary responsibility of the Design Engineer is to design a MSWLF that fulfills the operational requirements of the facility and the performance requirements of the Permitting Agency. The Design Engineer is also responsible for approving submittals, resolving technical issues related to construction, interpretation of construction drawings and specifications, periodic review of CQA documentation, modifying construction site activity, specifying specific corrective measures when necessary, and maintaining record drawings.

2.5 CQA Consulting Firm

The CQA Consulting Firm shall be a party independent from the Owner, Manufacturer, Installer or other contractors, that is responsible for observing, testing and documenting activities related to the CQA of earthwork and/or geosynthetics for construction of the landfill. Subsequent to installation of each liner system (clay liner and FML), the CQA Consulting Firm will be responsible for issuing an evaluation report to document the construction.

The CQA Consulting Firm shall be a well-established engineering firm with experience in providing CQA services for soils and geosynthetics and preparation of quality assurance documentation. The CQA Consulting Firm shall include the CQA Officer and an appropriate number of CQA Monitors.

2.5.1 CQA Officer

The CQA Officer shall be an employee of the CQA Consulting Firm, who will be responsible for all aspects of the CQA Manual implementation. The CQA Officer shall be a person acting in compliance with the provisions of the Texas Engineering Practice Act and other state laws and regulations, and shall possess adequate formal academic, practical, technical, and managerial experience to successfully oversee and implement construction quality assurance activities for a MSWLF. The CQA Officer shall be registered in the State of Texas as a Professional Engineer. For clay liner construction, the CQA Officer may be certified and recognized as a Professional Geologist by the American Institute for Professional Geologists (AIPG).

2.5.2 CQA Monitors

The CQA Monitors shall be employees of the CQA Consulting Firm or approved independent subconsultants, who shall be responsible for full-time observation and documentation of quality assurance activities during construction of the composite liner system. The CQA Monitors shall be specifically trained in quality assurance of soils and/or geosynthetics.

2.6 CQA Laboratory

The CQA Laboratory will be a firm responsible for conducting laboratory tests on soil and geosynthetic samples obtained from the project. The laboratory shall be independent of the Owner, Manufacturer, and construction contractors. The laboratory and the CQA Consulting Firm may be one in the same.

The laboratory shall have experience in testing the types of soils and geosynthetics to be installed, be familiar with appropriate testing standards {i.e., American Society for Testing and Materials (ASTM), National Sanitation Foundation (NSF), Corps of Engineers (COE), and other applicable test methods}, and be capable of providing test results in accordance with these testing standards in a timely manner.

2.7 Earthwork Contractor

The Earthwork Contractor shall be a firm responsible for soil components of the composite liner construction, which may include the clay liner, granular drainage material, and protective cover. The Earthwork Contractor may also provide backfilling of the anchor trenches.

The Earthwork Contractor shall have a demonstrated history of successful earthwork construction in the State of Texas. This contractor shall be pre-qualified and approved by the Owner and Design Engineer.

2.8 Geosynthetic Manufacturer

The Geosynthetic Manufacturer will be the firm responsible for production of the flexible membrane liner (FML) and other geosynthetics, and possibly for delivery of the geosynthetic materials. The Geosynthetic Manufacturer shall be able to provide sufficient production capacity and qualified personnel to meet the demands of the project.

This firm shall be pre-qualified and approved by the Owner and Design Engineer. The Geosynthetic Manufacturer shall provide a quality control manual for the manufacturing process and a list of material properties including certified test results.

2.9 Geosynthetic Installer

The Geosynthetic Installer shall be responsible for the installation, and other aspects, of the geosynthetic materials. Other responsibilities of the Geosynthetic Installer may include handling, storing, and delivering of geosynthetic materials for the project.

The Geosynthetic Installer shall be trained and qualified to install the geosynthetics. The Installer shall be approved by the Owner and Design Engineer. This firm shall provide a statement of qualifications to conduct geosynthetic installation, a quality control manual for installation and qualifications of field crews.

2.10 Surveyor

The Surveyor shall be responsible for all survey control during construction in accordance to the design specifications and plans, and shall be registered in the State of Texas as a Professional Land Surveyor. The Surveyor will be chosen and approved by the Owner and Design Engineer.

3.0 DUTIES OF CQA PERSONNEL

The personnel for the CQA Consulting Firm will include a CQA Officer and one or more, as necessary, CQA Monitors. The following sections provide a brief description of the responsibilities of these personnel.

3.1 CQA Officer

The CQA Officer shall be a person acting in compliance with the provisions of the Texas Engineering Practice Act and other state laws and regulations, and shall possess adequate formal academic, practical, technical (including all types of FMLs to be installed), and managerial experience to successfully oversee and implement construction quality assurance activities for a MSWLF. Specific responsibilities of the CQA Officer include:

- Reviewing the Site Development Plan, design criteria, and plans and specifications for clarity and completeness so that the CQA Plan can be implemented;
- Educating all CQA personnel on CQA requirements and procedures;

- Scheduling and coordinating full-time CQA inspection activities;
- Reviewing all changes to the design, plans, and specifications;
- Directing, supporting and verifying that all monitoring, sampling, documenting and other CQA activities are conducted in accordance with this manual;
- Verifying that a contractor's construction quality control plan is in accordance with the site-specific CQA Plan;
- Reviewing all Manufacturer QC certifications and list of guaranteed physical property values;
- At the Owner's request, reporting to the contractor results of all observations and tests as the work progresses and interacting with the contractor to provide assistance in modifying the materials and work to comply with the specified design; and
- Providing to the Owner reports on the inspection results.

The CQA Officer shall report directly to the Owner and/or Project Manager.

3.2 CQA Monitors

The overall responsibility of the CQA Monitors, as outlined in this manual, includes full-time monitoring, sampling, documentation, and performing general overall CQA of the soils and geosynthetics contractors work activities. The CQA Monitors shall observe and document the activities of the contractor(s) in sufficient detail, and must perform tests, when appropriate, to provide a high level of confidence that the work performed and work product are fully compatible with the requirements of the construction drawings and specifications. The CQA Monitors performing daily QA/QC observation and testing shall be under the direct supervision of the CQA officer. The CQA Monitor shall be an engineering technician with a minimum of four years of directly related experience, or a graduate engineer or geologist with one year or directly related experience.

4.0 COMMUNICATION AND MEETINGS

To ensure a high degree of quality during construction, clear and open channels of communication are essential. To that end, meetings are a critical factor.

4.1 Overall Communication Relationship

Only individuals assigned to this project and as defined in this manual shall communicate with the Owner and/or Project manager, and construction contractor(s). All communications should be through proper channels as defined by the organization chart illustrated in Figure 1. Communication of an official capacity shall be concise and direct. If written communications are warranted, they shall be documented on the appropriate forms and subsequently filed or passed on for review through the proper channels.

4.2 Meetings

4.2.1 Preconstruction Meeting

A meeting should be held prior to construction once the design has been completed, permits have been obtained from the appropriate state and federal agencies, the CQA Plan has been submitted to the TCEQ for review, and the construction contract(s) have been awarded. The Owner and/or the Project Manager, Design Engineer, CQA personnel, and construction contractors should all be present, and the TCEQ personnel shall be notified. The purpose of this meeting will be to:

- Provide each party with all relevant CQA documents and support information;
- Review the construction drawings and specifications, work area security plan, safety guidelines, and related issues, and familiarize each party with the CQA Plan and its role relative to the construction drawings and specifications and other design criteria;
- Evaluate the CQA Plan and determine any changes necessary to ensure that the facility will be constructed to meet or exceed the specified design;
- Review the responsibilities of each party and establish lines of authority and communication for proper interaction among all involved parties;
- Discuss established procedures to address sampling, testing and construction nonconformances and methods for resampling, retesting, and repairs;
- Review methods for documenting, reporting, distributing, and storing of all data, documents, and reports;
- Review the project schedule; and
- Conduct a site walk-around to inspect and evaluate the work area, stockpile area, laydown area, access roads, haul roads, medical service area, and other related items.

The meeting should be documented by a person designated by the Project Manager, and minutes and other relative documents should be provided to all parties. The documents resulting from this meeting shall be kept on file by the CQA personnel.

4.2.2 Progress Meetings

These meetings shall be held either daily or weekly, depending on the length and progression of the project, and should be held at the work site prior to commencement of work activities for the period. Attendance of these meetings is required of the construction contractor(s), the CQA Monitors, and as necessary, the Project Manager. Other involved parties may be required to attend these meetings as problems arise that warrant their attendance. The purpose of this meeting is to:

- Review the activities, accomplishments, problems, and data accumulated from the previous day or week;
- Review the work locations and activities for the day or week;
- Discuss the contractor's personnel and equipment assignments for the day or week; and
- Discuss any potential construction problems that may occur during the day or week, and how these problems may be addressed.

This meeting should be documented by the CQA Monitor, and minutes will be provided to all parties involved and to the Owner.

4.2.3 Problem or Work Deficiency Meetings

Special meetings may be arranged to discuss construction problems and/or deficiencies that have occurred or may develop. At a minimum, the meeting should be attended by the construction contractor(s) and CQA personnel. If the problem may require a design modification, the Project Manager and/or Owner and the Design Engineer shall also be present. The purpose of the meetings will be to define and discuss the problem and/or deficiency. The meeting should be documented by a person designated at the beginning of the meeting and kept on file by the CQA personnel. Minutes of the meeting shall be distributed to all involved parties and the Owner.

5.0 DOCUMENTATION

The effectiveness of this CQA Manual depends ultimately on recognition of the construction activities to be inspected, and thorough monitoring, testing, and documentation of the construction activities by the CQA personnel. Documentation shall consist of non-conformance and corrective action reports, design and specification changes, daily construction reports, inspection and tests data sheets, panel layout drawings, and all other documentation accumulated by the CQA personnel during construction of the MSWLF. Forms to be utilized in the field to collect data and document activities are included in Appendix B. All documentation accumulated during construction of the MSWLF shall be properly filed and stored.

5.1 Daily Recordkeeping

Standard daily reporting procedures should include preparation of a daily construction report, inspection and test data sheets, and, when warranted, non-conformance and corrective measure reports.

5.1.1 Daily Construction Report

This report, prepared by the CQA personnel, should summarize all construction activities and discussions with the construction contractor(s), which took place that day, and should provide a chronological framework for identifying and documenting all other reports. Daily construction reports should include the following:

- Date, project name and number, and location. (The date along with the project number shall serve as a cross reference number for all other reports and data accumulated on that day.);
- Weather conditions summary;
- A chronological listing of any meetings held;
- A description of all construction work, including locations, performed for the day;
- An inventory of all equipment and personnel that performed work on the composite liner for the day, and the locations and type of work they performed;
- Descriptions and data of tests and observations, identified as passing or failing, and the

- measures taken in the case of a failing item or test;
- Concise locations where nonconformances occurred, and the corrective measures implemented to correct the non-conformance. (Attach any Non-conformance and Corrective Measure reports that were written.);
- Description of any minor field changes or conditions not included on the construction drawings and/or specifications;
- Description of offsite materials received, and quality verification documentation (vendor certification) of the materials; and
- Signature of the CQA personnel.

5.1.2 Inspection and Test Data Sheets

These data sheets should, at a minimum, include the following:

- Date, project name and number, and location of inspections and tests performed;
- A summary of tests results identified as passing or failing (non-conformance), and any retests (corrective measures) that are performed; and
- A summary of inspection activities and referenced construction drawings and specifications when appropriate.

All inspection and test data information shall be documented and kept on file by the CQA personnel.

5.1.3 Non-conformance and Corrective Measure Reports

All non-conformances shall be documented on the daily construction reports, inspection and test data sheets, and elsewhere as required. The extent of the non-conformance shall be evaluated by additional testing, observations, review of records, or any other means deemed appropriate by the CQA personnel. For non-conformances which are serious or complex in nature and/or require an engineering evaluation, a Non-conformance and Corrective Measure Report shall be written and the CQA Officer notified. All failed tests from field or laboratory CQA activities shall be provided in the final SLER and FMLER reports.

When a non-conformance occurs, the construction contractor(s) shall first be notified verbally by the CQA personnel, followed by a written notification, if necessary. If a Non-conformance and Corrective Measure Report is warranted, a copy shall be provided to the construction contractor(s) and the Design Engineer, and the Owner and/or the Project Manager. A copy of the Non-conformance and Corrective Measure Report shall also be kept on file by the CQA personnel.

For minor non-conformances, corrective action may be determined by the existing specifications, or the CQA personnel and the construction contractor(s) will discuss standard construction methods to correct the deficiency. For major non-conformances (those which require a Non-conformance and Corrective Measure Report), the CQA Officer, under direction of the Design Engineer, shall then assign the corrective action in writing.

Upon completion of the corrective action, the CQA personnel shall verify its completeness by inspection and/or additional testing. Once evaluated as being corrected, the CQA personnel shall make record of this corrective action in the daily construction report and also in the Non-conformance and Corrective Measure Report. The corrective action implemented shall be reviewed and verified by the Design Engineer.

5.2 Design and Specification Changes

Design and specification changes may be warranted periodically during construction. These changes may only be made with written approval of the Design Engineer, and shall be initiated through change orders. All changes shall be reviewed by the CQA Officer.

5.3 Monthly Progress Report

The construction contractor(s) should prepare monthly progress reports summarizing construction, testing, inspection, and quality assurance activities. This report shall be reviewed by the CQA personnel. Once reviewed by the CQA personnel, it shall be given to the Project Manager for review and then to the Owner.

5.4 Photographic Documents

Daily photographs may be taken of the construction activities, and of significant problems that develop. If corrective actions are implemented, they may be photographed also. If photographs are taken, a photograph log should be kept in which each photograph is identified by time, date, location, and photographer. (A camera that has the capability to put the date on the picture would be beneficial). A brief description should accompany each photograph. The CQA personnel should sign all photographic reports.

5.5 Storage of Records

During construction of the MSWLF, the CQA personnel shall be responsible for possessing a copy of all CQA documents and proper filing of these documents so that past information may easily be obtained. CQA documents include copies of the construction drawings and specifications, CQA Manual, and originals of all daily construction reports, inspection and test data sheets, and all reports, documentation and drawings required by the CQA Manual. Once facility construction is complete, the CQA document originals shall be stored by the CQA Officer in an organized manner to allow for easy access. All documentation shall be maintained through the operating and post closure monitoring periods of the facility.

6.0 EQUIPMENT CONTROL

6.1 Documentation of Testing Equipment

Prior to start of construction activities, the CQA personnel shall complete a list of all measuring, sampling and testing equipment to be available for use at the site. As additional equipment becomes available for use at site, it shall be added to the list. Each piece of equipment shall have

a specific identity number. The equipment list shall contain the following information:

- Type of equipment (generic or trademark name);
- Manufacturer, model and serial number or identifying number if each piece of equipment; and
- Use of the equipment.

6.2 Calibration of Testing Equipment

All equipment shall be calibrated and its accuracy evaluated by the CQA personnel, before the equipment is approved for use at the site, as deemed necessary by the CQA Officer. A valid certificate of equipment calibration, issued by the manufacturer or a qualified laboratory, shall be provided to the CQA personnel for approval if an on-site calibration is not feasible. The calibration procedures and frequency of calibration shall be performed according to the manufacturer's instructions or ASTM standards, and equipment that is suspect or producing questionable results shall be immediately removed from service and recalibrated. CQA personnel reserve the right to remove equipment from service for any reason.

7.0 PROJECT CONTROL VISITS

Project control visits shall be conducted by the CQA Officer or their representative during the fulltime CQA monitoring of construction activities. The construction site shall be visited by the CQA Officer or their representative periodically (at least once every other week) during major construction and critical construction meetings to ensure successful implementation of the CQA Plan. These visits can be coordinated with similar visits by the Design Engineer, as appropriate. TCEQ officials may be informed of the dates of these visits prior to occurrence and the final evaluation reports will document the dates of the visits. At a minimum, the professional of record who signs the soil liner, geomembrane, and/or geosynthetic clay liner evaluation reports or their representative will be on site during all liner construction.

SECTION II: CLAY LINER EARTHWORK CQA

1.0 INTRODUCTION

This section contains the guidelines for inspection and testing of the constructed clay liner and the materials used to construct the clay liner. The clay liner shall be constructed, inspected, and tested based upon guidelines stated in this CQA Manual.

2.0 PRE-CONSTRUCTION ACTIVITIES

Soil to be used to construct the landfill liner may be present onsite or may have to be imported to the site. All material to be used in construction of the composite liner must meet certain criteria, as discussed in this section of the CQA Manual and/or in the construction drawings and specifications.

Soil sampling and testing shall occur throughout the construction of the clay liner. Soil brought

onto the site shall be sampled and tested before it is used, to evaluate its properties. Once the soil is placed as part of the constructed clay liner, it shall be sampled and tested again.

Certificates of acceptance may be used by the Project Manager and/or CQA personnel to establish the acceptability of materials. These certificates shall state that the material is in compliance or conformance with the appropriate code, standard, or specifications for this project.

2.1 Soil Materials

The soils associated with construction of the clay liner component of the composite liner shall be low-permeability clay. Soils to be used for the clay liner shall meet the following criteria:

- Must have a liquid limit of no less than 30;
- Must have a plastic index of no less than 15;
- Must have no less than 30 percent of the material passing the No. 200 sieve; and
- Must have a recompacted coefficient of permeability no greater than 1×10^{-7} cm/s.

2.2 Soil Sampling, Testing, and Documentation

Most of the sampling and testing performed for this project shall be conducted on a random basis. Random sampling and testing in this report refers to the fact that no preset location is designated, and the samples will be obtained or testing performed at random locations selected by the CQA personnel. Therefore, the sampling and testing will be limited by total number only and not by location, although adequate coverage will be achieved.

Judgmental sampling and testing may also be implemented by the CQA personnel. This method of sampling and testing generally is performed to evaluate suspect areas.

2.2.1 Sample Documentation

The CQA personnel shall be responsible for maintaining proper labeling and documentation of all soil samples. All test samples shall be numbered by the CQA personnel. Information documented for each soil sample shall include:

- Sample number;
- CQA personnel who obtained the sample;
- Location of testing (onsite or offsite);
- Data sample collected and sent off to be tested;
- Data results received or test completed at site;
- Test(s) performed on sample; and
- Test results, indication of failing or passing, and additional comments when appropriate.

The CQA personnel shall tag the sample or sample container immediately upon sampling, and shall be responsible for timely processing of test samples. The CQA personnel shall reserve the decision of the location where samples shall be obtained or tested, and which samples shall be sent in to the laboratory for testing.

2.2.2 Test Procedures

Test procedures utilized for the various laboratory tests shall be in compliance with the applicable ASTM and/or other standards as specified in the project documents or this manual. If changes in procedures or additional procedures are warranted, the revised or additional procedures shall be developed and/or approved by the Design Engineer. The laboratory test procedures shall adhere to the following test standards (shown in Table II-I), unless designated otherwise in the construction drawings and specifications.

TABLE II-1
LABORATORY TEST STANDARDS
City of Laredo
Webb County, Texas

STANDARD	TEST DESCRIPTION
ASTM D 2216	Laboratory determination of water (moisture) content of soil, rock, and soil-aggregate mixture.
ASTM D 4318	Atterberg limits. Plastic limit, liquid limit, and plasticity index
ASTM D 422 and D 1140	Particle size analysis of soils
ASTM D 698	Moisture-density relations of soils and soil-aggregate mixtures using a 5.5-lb hammer and 12-inch drop.
ASTM D 5084	Flexible wall permeability test.
Appendix VII (method 7) Corps of Engineers Manual, EM 1110-2-1906, Nov. 30, 1970 or more current version	Permeability tests with back pressure.

*Note: Maximum particle size shall be 1-inch in diameter.

3.0 CONSTRUCTION EVALUATION

3.1 Recording of Data

All data accumulated from inspection, sampling and testing during construction of the clay liner shall be documented and stored as previously stated.

3.2 Material Placement and Monitoring

The CQA personnel shall monitor all aspects of placement of the clay liner. The CQA Officer or their representative shall conduct sufficient site visits (at least once every other week during major construction) to ensure the successful implementation of the CQA Plan. At a minimum, the professional of record who signs the soil liner, geomembrane, and/or geosynthetic clay liner evaluation reports or their representative will be on site during all liner construction. Continuous monitoring of construction of the clay liner shall include the following:

- Removal of roots, rocks, rubbish, or soil that does not meet the specifications of the liner material;
- Adequate clod size reduction of liner material;
- Adequate spreading of liner material to obtain complete coverage and the specified maximum compacted lift thickness not to exceed the lengths of the pad or prong feet of the compaction equipment;
- Proper equipment is utilized to meet the performance requirement of the liner system;
- Adequate spreading and incorporation of water to obtain full penetration through clods and uniform distribution of the specified water content;
- Adequate interlift bonding is achieved;
- Adjustment to proper soil moisture content in the event of 2 significant prolonged rain or drought during construction;
- Prevention of significant water loss and desiccation cracking before and after compaction; and
- Proper tie-in to previously constructed liners are made.

Any deficiencies observed during placement of the clay liner shall be documented by the CQA personnel, and the construction contractor(s) and the Owner and/or Project Manager shall be notified.

3.3 Sampling and Testing Strategy

The sampling and testing frequency stated herein, specifies a minimum sampling and testing frequency. These frequencies can be increased to identify potential problem areas where additional tests shall be performed. Any additional testing required to be performed as a result of a failing test shall not contribute to the total number of tests performed in satisfying the minimum test frequency. At a minimum, the sampling and testing frequency shall meet the criteria stated in Table II-2.

Field tests shall be performed on each six inch lift within the area being lined. Test locations shall be chosen without bias; however, additional testing shall be performed in those areas that are suspect or of poor quality. During the progress of the work, all test locations shall be recorded on the soil liner worksheet (with identification number) by the CQA personnel to verify that no significant areas are untested. The soil liner worksheet and test location plan shall become part of the CQA documents.

TABLE II-2
SOIL CONSTRUCTION TESTING FREQUENCIES

City of Laredo
Webb County, Texas

SOIL TEST CATEGORY	TYPE OF TEST	STANDARD TEST METHOD ^B	FREQUENCY OF TESTING
Quality Control Testing of Source Borrow Materials	Moisture/Density Relationship	ASTM D 698 or D 1557	Once per soil type
	Sieve (Gradation)	ASTM D 422 or D 1140	
	Atterberg Limits	ASTM D 4318	
	Coefficient of Permeability	ASTM D 5084 or CoE EM1110-2-1906	1/Moisture/Density Relationship
Constructed Soil Liners	Field Density	ASTM D 1556, D 2167, or D 6938	1/8,000 ft ² per 6-inch parallel lift ^A ; 1/100 lineal ft per 12 inches sidewall liner (horizontal lifts) ^A
	Sieve (Gradation)	ASTM D 422 or D 1140	1/100,000 ft ² per 6-inch parallel lift ^A ; 1/2000 lineal ft per 12 inches sidewall liner (horizontal lifts) ^A
	Atterberg Limits	ASTM D 4318	
	Coefficient of Permeability	ASTM D 5084 or CoE EM1110-2-1906 (laboratory) Air-Entry Permeameter (field)	
	Thickness	Registered Surveyor	1/5,000 ft ² (parallel lifts) ^A ; 50-ft cross-sections (horizontal-lift sidewall liners) ^A

Notes:

A- A minimum of one of each of the designated tests must be conducted for each unit thickness of liner as indicated, regardless of liner area or length.

3.4 Test Procedures and Requirements

- Nuclear Moisture/Density (ASTM D 6938) -The density and moisture content must be adequate to yield a coefficient of permeability of 1×10^{-7} cm/s or less based on preconstruction laboratory testing. Sections of compacted soil liner which does not pass should be reworked and retested until the section in question does pass. All field moisture/density test results shall be reported in the Soil Liner Evaluation Report (SLER). When taking field moisture/densities, all holes due to or created by density probes shall be backfilled and compacted with pure powder bentonite or a mixture of clay liner soil and powdered bentonite. Test method ASTM D 6938 is designated for use since this method replaced ASTM D 2922 in 2007.
- Moisture Content (ASTM D 2216) - At least once every seven days a sample should be secured and tested in the laboratory to maintain an accurate correction factor for the nuclear density equipment.
- Minus No. 200 Sieve Analysis (ASTM D 1140) - The clay liner shall have a percent passing the No. 200 sieve of no less than 30 percent and a maximum particle size of 1-inch in diameter.
- Coefficient of Permeability (ASTM D 5084 or Appendix VII (Method 7) of the Corps of Engineer Manual EM 1110-2-1906, November 30, 1970)- Undisturbed samples of the constructed liner shall be obtained for permeability testing. The liner coefficient of permeability must not exceed 1×10^{-7} cm/s.
- Atterberg Limits (ASTM D 4318) - The clay liner shall have a liquid limit of no less than 30 and a plasticity index of no less than 15.
- Moisture/Density Relation (ASTM D 698) - The clay liner shall be compared to at least 95 percent of standard (ASTM D 698) maximum dry density at or above optimum moisture content.

All voids created by sampling shall be backfilled and compacted with pure powdered bentonite or a mixture of clay liner soil and powdered bentonite.

3.5 Dimension Control

The Design Engineer or CQA Officer shall prepare a scale drawing of the area to be lined, and prior to placement of the initial lift, a grid shall be established across the base of the landfill and elevation data shall be recorded at designated point locations across the grid. Subsequent to placement of the final lift, the same point locations as previously surveyed shall be surveyed again and elevation data recorded as before. These corresponding point locations on each successive component of the landfill construction shall be within 0.3 horizontal feet of each other with proper adjustments for side slopes. The difference in the surveys will yield the constructed thickness of each component. Correction for side slopes will be necessary for appropriate measurement of thickness. The grid shall be established such that there will be at least one elevation point per 5,000 square feet of surface area.

The thickness verification shall be used to verify that each component of the clay liner has been constructed to the specified minimum thickness (2.0 feet minimum) as presented on the design drawings and in the specifications. The grades specified in the construction drawings shall be

verified to ensure proper performance of the leachate collection system. The surface of the clay liner shall be rolled with a flat wheel roller to achieve a smooth uniform surface prior to FML placement.

4.0 CQA INSPECTION

Soils CQA shall be performed on all earthwork components of the construction. Criteria to be used for determination of the acceptability of the construction work shall be as identified in the project specifications.

Construction evaluation testing shall consist of: (1) monitoring the earthwork; (2) evaluation of the adequacy of lift bonding; and (3) field and laboratory testing. All field and laboratory testing shall be conducted on in-place material or samples taken from the clay liner itself.

4.1 Monitoring

Monitoring the construction work shall consist of the following:

- Testing to determine the density, water content and other physical properties of the soil used in the construction:
- Monitoring the thickness of lifts as loosely placed and as compacted;
- Monitoring the action of the compaction and heavy hauling equipment on the construction surface (i.e., sheepfoot penetration, pumping, cracking, etc.); and
- Monitoring the number of passes used to compact each lift.

4.2 Evaluation of Lift Bonding

Evaluation of lift bonding may be determined by using test pits to make visual observations. All test pits shall be excavated in a manner acceptable to the CQA Officer and the Design Engineer. Test pits shall be at least one foot in depth. After observation by the CQA personnel, each pit shall be backfilled and compacted in accordance with this CQA Manual and the project specifications. The backfill shall be compacted using hand compaction equipment or other methods approved by the CQA Officer and Design Engineer. Each test pit will be backfilled with a mixture of clay liner material and powdered bentonite.

4.3 Field and Laboratory Tests

The field and laboratory test methods and testing frequencies are presented in Section 3.3. At locations where the field testing indicates densities below the requirements of the specifications, the failing area shall be reworked. For areas where the field testing indicates the moisture content is below the requirements, the area shall be scarified, moisture-conditioned, and recompacted. In any case, areas failing field tests will be reworked and recompacted until acceptable values are achieved.

4.3.1 Subgrade

During initial construction efforts or as necessary, the subgrade soils shall be continuously inspected to determine the suitability of the subgrade for placement of the liner material. Proof rolling should be conducted prior to construction, and suspect weak areas should be removed and replaced with fill material, or it should be reworked and recompacted.

4.3.2 Clay Liner

During the clay liner construction, continuous inspection shall be provided to ensure proper construction. Field moisture/density tests will be conducted with a nuclear moisture/density testing device. The tests shall be conducted at the frequency shown in Section 3.3. The density of the compacted clay material shall achieve a minimum of 95 percent of the Standard Proctor density, and the moisture content will be maintained at or above the optimum moisture content, both as determined from ASTM D 698.

Samples of the material used in the liner construction shall be collected for laboratory testing as stated previously. Prior to construction, samples of the material to be used will be collected to perform Atterberg limits determinations, percent passing the No. 200 sieve, moisture/density relationship, and permeability testing. During construction, samples of the compacted liner will be collected to perform Atterberg limits determinations, minus No. 200 sieves, and permeability testing. All of the tests will be conducted at the frequency listed in Section 3.3.

4.4 Testing Frequency

All quality control testing shall be conducted in accordance with the project specifications or as directed by the Owner and/or the Project Manager in concurrence with the CQA personnel. The field testing methods, as described previously, shall be conducted by the CQA Monitor and periodically observed by the CQA Officer. The frequency of each type of test is provided in Section 3.3.

Sampling locations shall be selected by the CQA Officer or his designated representative (CQA Monitor), and the location of routine in-place density tests shall be determined using a nonbiased sampling plan.

A special testing frequency may be used at the discretion of the Owner and/or the Project Manager, and the CQA personnel when visual observations of construction performance indicate a potential problem. Additional testing for suspected areas shall be considered for the following instances:

- Rollers slip during rolling operations;
- Fill is at improper and/or variable moisture content;
- Less than adequate number of roller passes are made;
- Dirt-clogged rollers are used to compact the material;
- Fill materials differ substantially from those specified;
- The degree of compaction is doubtful: and

- As directed by the Owner/Project Manager or CQA personnel.

During construction, the frequency of testing may also be increased in the following situations:

- Adverse weather conditions;
- Breakdown of equipment;
- At the start and finish of grading;
- Material fails to meet specifications; and
- The work area is reduced.

Laboratory testing shall be conducted at the minimum frequency shown in Section 3.3. Additional laboratory testing may be conducted, as necessary, for the following situations:

- Change in fill material type from those specified;
- The degree of compaction is doubtful;
- The amount of moisture is variable;
- Change in compaction efforts; and
- As directed by the Owner/Project Manager and/or CQA Officer.

4.5 Liner Perforations

Perforations that must be filled shall include, but not be limited to, the following:

- Nuclear moisture/density test probe locations;
- Laboratory test sampling locations; and
- Test pit locations.

All clay liner perforations shall be made in accordance with the testing methods and frequencies identified in Section 3.3. Construction permeability test samples shall be taken such that the sample tube is inserted into the liner normal (perpendicular) to the plane of the constructed surface.

Unless otherwise noted in the project specifications, or as directed by the Owner or his representatives, perforations for the density test probe and permeability locations shall be backfilled with pure powdered bentonite or a mixture of the same material type as removed and powdered bentonite. This mixture will be compacted in place with a tamping rod or other hand compaction equipment to achieve a similar density as the surrounding soil. Perforations created by test pits shall be backfilled as stated previously in Section 4.2 and the project specifications.

4.6 Deficiencies and Corrective Measures

If a deficiency is discovered in the earthwork product, the CQA personnel shall immediately determine the extent and nature of the deficiency. If the defect is indicated by an unsatisfactory test result, the CQA personnel shall determine the extent of the affected area by additional tests, observations, a review of records, or other means that is deemed appropriate. If the deficiency is related to adverse site conditions, such as overly wet soils or surface desiccation, the CQA

personnel shall define the limits and nature of the deficiency.

4.6.1 Notification

After determining the extent and nature of the defect, the CQA personnel shall notify the Owner and/or the Project Manager, and the Earthwork Contractor, and schedule appropriate retests when the work deficiency is to be corrected.

4.6.2 Repairs and Retesting

The Earthwork Contractor shall correct the deficiency to the satisfaction of the CQA personnel, the plans and specifications, and all applicable regulations. If a project specification criterion cannot be met, or unusual weather conditions hinder the work, then the CQA Officer shall develop and present to the Owner/Project Manager suggested solutions for his approval.

All retests recommended by the CQA personnel must verify that the defect has been corrected before any additional work is performed by the contractor in the area of the deficiency. The CQA Officer shall also verify that all installation requirements are met and that all submittals are provided.

SECTION III: HIGH DENSITY POLYETHYLENE CQA

1.0 INTRODUCTION

This section of the CQA Manual addresses the quality assurance of the installation of High Density Polyethylene (HDPE) Geomembranes. This plan does not address design guidelines, geosynthetic selection (which includes compatibility between geomembrane and contained material), and installation specifications. This plan stresses documentation during the quality assurance process and therefore requires the participation of knowledgeable quality assurance personnel.

The plan includes references to test procedures of the American Society for Testing and Materials (ASTM) and the Geosynthetic Institute (GSI) test standards.

The overall goal of the geosynthetic quality assurance program is to assure that proper construction techniques and procedures are implemented, and that the composite liner is built in accordance with the construction drawings and specifications.

The flexible membrane liner (FML) portion of the liner system shall be installed and tested based upon the construction drawings and specifications, and this manual. To monitor compliance, the quality assurance program shall include:

- A review of the construction contractor(s) quality control submittals;
- Material conformance testing (testing of FML prior to installation);
- Construction testing (testing of FML during and after installation); and
- Construction monitoring.

2.0 GEOMEMBRANE MANUFACTURING AND DELIVERY

2.1 Manufacturing

The High Density Polyethylene (HDPE) lining materials shall be new products designed and manufactured specifically for use as a landfill liner, and shall have satisfactorily demonstrated by prior use to be suitable material for use as a landfill liner (See Table III-1 for standard test methods and testing frequencies). The HDPE shall be supplied as a single ply continuous sheet in rolls, with a minimum width of 15 feet and a nominal thickness of 60 mils (0.060 inch). The HDPE lining material shall be certified in writing by the manufacturer to meet the minimum typical physical property values. The contractor shall provide the material property data to the Owner/Project Manager when the product is delivered to the site.

Extrusion resin used for extrusion welding with extrudate to make field seams between HDPE sheets and for repairs shall be HDPE sheet resin. Physical properties shall be the same as HDPE lining sheets.

2.1.1 Raw Materials

The raw material shall be first quality HDPE resin containing no more than 2% clean reground polymer by weight and shall be certified by the resin manufacturer for the following properties (as a minimum):

- Density;
- Specific gravity; and
- Melt index.

2.1.2 Geomembrane Production

The Geomembrane Manufacturer shall provide the Owner and/or Project Manager with the following:

- A properties sheet including at least all specified properties measured using test methods indicated in the specifications, or equivalent;
- The sampling procedure and results of testing; and
- A statement that property values given in the properties sheet are guaranteed by the Geomembrane Manufacturer.

The Owner and/or Project Manager will provide the CQA Officer with all information on the geomembrane provided by the Geomembrane Manufacturer. The CQA Officer shall verify that:

- Properties guaranteed by the Geomembrane Manufacturer meet all the specifications; and
- The measurements of properties by the Geomembrane Manufacturer are properly documented and test methods used are acceptable.

2.1.3 Geomembrane Rolls

Prior to shipment, the Geomembrane Manufacturer shall provide the Owner/Project Manager with a quality control certificate for each roll of geomembrane provided. The quality control certificate shall be signed by a responsible party employed by the Geomembrane Manufacturer, such as the production manager. The quality control certificate shall include:

- Roll numbers and identification; and
- Sampling procedures and results of quality control tests including at least density, thickness, tensile strength, carbon black content and dispersion, puncture resistance, tear resistance, and dimensional stability tests, conducted in accordance with the methods indicated in the specifications or equivalent methods approved by the Designer.

The Owner/Project Manager shall provide the CQA Officer with the information on rolls provided by the Geomembrane Manufacturer. The CQA Officer shall:

- Verify that the quality control certificates have been provided for all rolls; and
- Review the quality control certificates and verify that the measured roll properties meet the specifications.

2.2 Transportation, Handling and Storage

Transportation of the geomembrane is the responsibility of the Geomembrane Manufacturer, Geomembrane Installer, or other party as provided in contract agreement(s). All handling on site is the responsibility of the Installer.

The CQA personnel shall verify the following:

- Handling equipment used on the site is adequate and does not pose any risk of damage to the geomembrane; and
- The Installer's personnel handle the geomembrane with care.

Upon delivery at the site, the Installer and the CQA personnel shall conduct a surface inspection of all rolls for defects and/or damage. This inspection shall be conducted without unrolling rolls unless defects or damages are found or suspected. The CQA personnel shall document each roll of FML delivered to the site. The CQA personnel shall indicate to the Owner and/or Project Manager:

- Rolls, or portions thereof, which should be rejected and removed from the site because they have severe flaws; and
- Rolls which include minor repairable flaws.

The Installer will be responsible for proper storage of the geomembrane. The Project Manager shall provide storage space in a location (or several locations) such that on-site transportation and handling are optimized if possible. Storage space should be protected from theft, vandalism, passage of vehicles, etc. The CQA personnel shall verify that storage of the geomembrane

ensures adequate protection against dirt, debris and other sources of damage.

2.3 Conformance Testing

Upon delivery of the geomembrane, the CQA personnel shall ensure that samples are removed at the specified frequency and forwarded to the independent laboratory for testing to ensure conformance to both the design specifications and the list of guaranteed properties.

As a minimum, tests to determine the following characteristics shall be performed on geomembranes:

- Thickness (measured at several random locations on the sample);
- Tensile characteristics (yield strength, elongation at yield, break strength, elongation at break);
- Specific Gravity;
- Carbon Black Content; and
- Carbon Black Dispersion.

2.3.1 Test Procedures

The following test procedures shall be complied with:

- Thickness (ASTM D 5199 for smooth sheet and ASTM 5944 with Asperity Height GRI GM12 for textured sheet);
- Tensile strength (ASTM D 6693);
- Specific Gravity (ASTM D 1505);
- Carbon Black Content (ASTM D 1603); and
- Carbon Black Dispersion (ASTM D 5596).

In the above list of test procedures, ASTM D 6693 has replaced ASTM D 638 for tensile strength testing and will therefore is recommended in lieu of ASTM D 638. Where optional procedures are noted in the test method, the requirements of the specifications shall prevail.

2.3.2 Sampling Procedures

Samples shall be taken across the entire width of the roll and shall not include the first three feet. Unless otherwise specified, samples shall be three feet long by the roll width. The CQA personnel shall mark the machine direction on the samples with an arrow.

Unless otherwise specified, samples shall be taken at a rate of one per lot or one per 100,000 ft², whichever is least. Thickness measurements shall be taken in the field at a rate of one measurement every 5 feet along the leading edge of each panel.

2.3.3 Test Results

The CQA Officer examines all results from the laboratory conformance testing and shall report

any non-conformance to the Project Manager.

3.0 INSTALLER QUALIFICATIONS

The installer shall be responsible for field handling, storing, placing, seaming, and other site aspects of the geosynthetic installation. Other responsibilities may include transportation of the geomembrane to the site and construction of anchor trenches and all temporary anchoring or loading required to support the liner during installation.

The installer shall be a well established firm which has installed more than 10,000,000 ft² of HDPE geomembrane in North America. The Installer shall be able to provide sufficient equipment and qualified personnel to meet the demands of this project. The Installer shall be approved and/or licensed by the Geomembrane Manufacturer. The Installer shall be pre-qualified and approved by the Design Engineer and the Owner.

All personnel performing seaming operations shall be qualified by experience or by successfully passing seaming tests. At least one seamer shall have experience seaming a minimum of 1,000,000 ft² of HDPE geomembrane using the same type of seaming apparatus in use at the site. The most experienced seamer, the "master seamer", shall provide direct supervision, as required, over less experienced seamers. No field seaming shall take place without the master seamer being present.

The Installer shall provide the Owner/Project Manager with a list of proposed seaming personnel and their professional records. This document shall be reviewed by the Owner/Project Manager and the CQA personnel. Any proposed seaming personnel deemed insufficiently experienced shall not be accepted by the Owner/Project Manager or shall be invited to pass a seaming test.

Prior to installation of the FML, the construction contractor shall:

- (Along with the manufacturer) submit a complete description of its quality control program, as applicable, for manufacturing, handling, installing, testing, repairing and providing a completed liner in accordance with requirements of the CQA manual and construction drawings and specifications;
- Submit installation drawings, description of installation procedures, and a schedule for performing/completing the work;
- Submit written certification (geomembrane quality control certificates) by the lining manufacturer that the lining materials to be installed conform to the requirements of the CQA manual and construction drawings and specifications;
- Submit for approval by the Design Engineer, certification that the surface on which the lining will be placed is acceptable; and
- Submit a complete description of welding procedures for making field seams and repairs

The quality control plans to be implemented for construction of the FML by the lining manufacturer and construction contractor(s) shall be in accordance with applicable paragraphs of the CQA Manual and the construction drawings and specifications.

4.0 GEOMEMBRANE INSTALLATION

4.1 Earthwork

4.1.1 Surface Preparation

The Earthwork Contractor shall be responsible for preparing the supporting soil according to the Design Engineer's specifications. All subgrade surfaces shall be maintained in a moist, smooth, uniform, and compacted condition and shall be checked to ensure the following prior to installation of the FML:

- All lines and grades have been verified by the project surveyor;
- Excessive desiccation and cracking in the clay liner does not exist or has been repaired;
- The subgrade has been prepared in accordance with the CQA manual and construction drawings and specifications; and
- The surface has been rolled and compacted and is free of surface irregularities which could damage the liner.

The CQA personnel shall verify that:

- The surface to be lined has been rolled and compacted so as to be free of irregularities, protrusions, loose soil, and abrupt changes in grade;
- The surface of the supporting soil does not contain stones which may be damaging to the geomembrane; and
- There is no area excessively softened by high water content.

The installer shall certify in writing that the surface on which the geomembrane will be installed is acceptable. This certificate of acceptance shall be given by the Installer to the Project Manager, and subsequently to the CQA personnel.

After the supporting soil has been accepted by the Installer, it shall be the Installer's responsibility to indicate to the Owner/Project Manager any change in the supporting soil condition that may require repair work. If the CQA personnel concurs with the Installer, then the Owner/Project Manager shall ensure that the supporting soil is repaired by the Earthwork Contractor.

4.1.2 Crest Anchorage System

The anchor trench shall be excavated by the Earthwork Contractor (unless otherwise specified) to the lines and widths shown on the design drawings, prior to geomembrane placement. The CQA personnel shall verify that the anchor trench has been constructed according to design drawings. The anchorage system shall be designed where, if enough lateral pressure is exerted on the geomembrane, the geomembrane will pull out of the trench instead of causing a failure in the sheet.

If the anchor trench is excavated in a supporting soil susceptible to desiccation, no more than the amount of trench required for the geomembrane to be anchored in one day shall be excavated (unless otherwise specified) to minimize desiccation potential of the anchor trench soils. Backfilling of the anchor trench shall be conducted in accordance with the project specifications.

4.2 Geomembrane Placement

4.2.1 Panel Identification

A panel is the unit area of geomembrane which is to be seamed in the field, i.e., a panel is a roll or a portion of roll cut in the field.

Each panel shall be given an "identification code" (number or letter-number) consistent with the layout plan. This identification code shall be agreed upon by the Owner/Project Manager, Installer and the CQA personnel. This panel identification code shall be as simple and logical as possible. (Note that roll numbers established in the manufacturing plant are usually cumbersome and are not related to location in the field.)

4.2.2 Panel Placement

4.2.2.1 Location

The CQA personnel shall verify that panels are generally installed at the location indicated in the Design Engineer's or Installer's layout plan, as approved or modified.

The CQA personnel shall establish an "as-built" panel layout drawing showing panel numbers. The panel layout drawing shall also include seam numbers, test locations, and repair locations.

4.2.2.2 Installation Schedule

Panels may be installed, as approved, using any one of the following schedules:

- All panels are placed prior to field seaming (in order to protect the subgrade from desiccation by drying or erosion by rain);
- Panels are placed one at a time and each panel is seamed immediately after its placement (in order to minimize the number of unsealed panels exposed to wind); and
- Any combination of the above.

If a decision is reached to place all panels prior to field seaming, it is usually beneficial to begin in the sump area and proceed upward and outward with "shingle" overlaps to facilitate drainage in the event of precipitation. It is also usually beneficial to proceed in the direction of prevailing winds. Accordingly, an early decision regarding installation scheduling should be made if and only if weather conditions can be predicted with reasonable certainty. Otherwise, scheduling decisions must be made during installation, in accordance with varying conditions.

The CQA Officer shall evaluate every change in the schedule proposed by the Installer and

advise the Project Manager on the acceptability of that change. The CQA personnel shall verify that the condition of the supporting soil has not changed detrimentally during installation.

The CQA personnel shall record the identification code, location and date of installation of each panel.

4.2.2.3 Weather Conditions

Geomembrane placement shall not proceed at an ambient temperature below 5°C (40°F) or above 40°C (104°F) unless otherwise authorized. Geomembrane placement shall not be done during any precipitation, in the presence of excessive moisture (e.g. fog, dew), in an area of ponded water, or in the presence of excessive winds. Additionally, the CQA personnel shall verify that the supporting soil has not been damaged by weather condition.

The CQA personnel shall verify that the above conditions are fulfilled, and shall inform the Owner/Project Manager if geomembrane is installed during adverse weather conditions.

4.2.2.4 Method of Placement

The CQA personnel shall verify and document the following:

- Weather conditions including temperature, wind and humidity;
- Any small equipment with low contact pressure used by the Installer does not damage the geomembrane by handling, trafficking, excessive heat, leakage of hydrocarbons or other means;
- Verify that no stones, construction debris, or other items are present beneath the geomembrane which could cause damage;
- All personnel working on the geomembrane do not smoke, wear damaging shoes, or engage in other activities which could damage the geomembrane;
- Verify that the surface beneath the geomembrane has not deteriorated since previous acceptance;
- The method used to unroll the panels does not cause scratches or crimps in the geomembrane and does not damage the supporting soil;
- Observe the condition of the panels as they are deployed, and note any defects;
- The method used to place the panels minimizes wrinkles (especially differential wrinkles between adjacent panels);
- Adequate loading (e.g. sand bags), not likely to damage the geomembrane, has been placed to prevent uplift by wind (in case of high winds, continuous loading, e.g. by adjacent sand bags, is recommended along edges of panels to minimize risk of wind flow under the panels);
- Direct contact with geomembrane is minimized; i.e. the geomembrane in traffic areas is protected by geotextiles, extra geomembrane, or other suitable materials.

The CQA personnel shall inform the Project Manager if the above conditions are not fulfilled.

4.2.2.5 Damage

The CQA personnel, along with the Installer, shall inspect each panel after placement and prior to seaming for damage. The CQA personnel shall advise the Owner/Project Manager which panels, or portion of panels, should be rejected, repaired, or accepted. Damaged panels or portion of damaged panels which have been rejected shall be marked and their removal from this work area recorded by the CQA personnel. Repairs shall be made according to procedures described in Section 4.4.

4.3 Seaming

4.3.1 Seam Layout

The Design Engineer or the Installer shall provide the Owner/Project Manager with a drawing of the facility to be lined showing all expected seams. The Owner/Project Manager shall provide this seam layout to the CQA personnel. The CQA personnel shall review the seam layout and verify that it is consistent with accepted state of practice.

In general, seams should be oriented parallel to the line of maximum slope (i.e., oriented along, not across, the slope). In corners and odd-shaped geometric locations, the number of seams should be minimized. No horizontal seam (i.e. parallel to the toe of slope) should be placed on a slope, unless otherwise specified.

A seam numbering system compatible with the panel numbering system shall be agreed upon by the CQA personnel and the Installer.

There are two types of seams typically used to join HDPE membrane. These seams include extrusion, single fusion, and double fusion welds. Figure 2 (see Appendix A) illustrates the types of seams, destructive tests, and failure modes. A description of each type of seam follows:

- Extrusion- Welding of a seam where a ribbon of molten resin is introduced along the edge of a seam overlap. The molten polymer causes some of the material of each sheet to be liquefied resulting in a homogeneous bond between the molten weld bead and the surfaces of the sheets.
- Fusion- Welding of a seam where a heated wedge is placed between two overlapped sheets such that the surface of both sheets are heated above the melting point. Once heated by the wedge, the sheets are passed through a set of pressure wheels which compress the sheets together to form a continuous homogeneous fusion weld. This type of weld can be completed with either a single track or double track.

4.3.2 Overlapping and Temporary Bonding

The CQA personnel shall verify that:

- The panels of HDPE geomembrane are overlapped by a minimum of 4 inches for fusion welding and 3.5 inches for extrusion welding; and

- The procedure used to temporarily bond adjacent panels together does not damage the geomembrane; in particular, the temperature of hot air at the nozzle of any spot welding apparatus is controlled such that the geomembrane is not damaged.

The CQA personnel shall log all appropriate temperatures and conditions, and shall document and report to the Owner/Project Manager any non-compliance.

4.3.3 Seam Preparation

The CQA personnel shall verify that:

- Prior to seaming, the seam area is clean and free of moisture, dust, dirt, debris of any kind, and foreign material;
- If seam overlap grinding is required, the process is completed according to the geomembrane Manufacturer's instructions and in a way that does not damage the geomembrane; and
- Seams are aligned with the fewest possible number of wrinkles and "fishmouths".

4.3.4 Seaming Equipment and Products

Only equipment which has been specifically approved by the Owner/Project Manager and CQA personnel by make and model shall be used. Any proposed alternate processes shall be documented and submitted by the installer to the Owner/Project Manager for his approval. The Owner/Project Manager shall submit this documentation to the Design Engineer and the CQA Officer for their concurrence.

The Installer shall provide documentation regarding the HDPE extrudate to the Owner/Project Manager and shall certify that the extrudate is compatible with the specifications.

The CQA personnel shall log pre-heater temperatures, extrudate temperatures and ambient temperatures.

The CQA personnel shall verify that:

- The installer maintains on-site the amount of spare operable seaming equipment agreed upon in the preconstruction meeting;
- Equipment used for seaming will not damage the geomembrane;
- The electric generator is placed on a smooth base such as a "rub sheet" (i.e., scrap geomembrane) such that no damage occurs to the geomembrane; and
- A smooth insulating plate or fabric is placed beneath the welding equipment after usage.

4.3.5 Weather Conditions for Seaming

The normally required weather conditions for seaming are as follows:

- Unless authorized in writing by the Owner/Project Manager, no seaming shall be attempted below 5°C (40°F) nor above 40°C (104°F)
- In all cases, the geomembrane shall be dry and protected from wind.

If the Installer wishes to use methods which may allow seaming below 5 °C (40°F), an addendum to the contract between the Owner and the Installer is required which specifically states that the low temperature seaming procedure does not cause physical or chemical modification to the geomembrane that will generate any short or long term damage to the geomembrane. Then, the above quality assurance procedure shall be modified accordingly.

The CQA personnel shall verify that these weather conditions are fulfilled and will advise the Owner/Project Manager if they are not. The Owner/Project Manager shall decide if the installation shall be stopped or postponed.

4.3.6 Trial Welds

Trial welds shall be made at the beginning of each seaming period (i.e. start-up and after lunch), and at least once each five hours, for each seaming apparatus used that day. Also, each seamer shall make at least one trial weld each day. Trial welds shall be made under the same conditions as actual seams. Trial welds will be performed after each occurrence of a significantly different environmental conditions (such as temperature, humidity, dust, etc.), when seaming different geomembranes (e.g. tie-ins and smooth to texture). Both the welder and the machine must be tested for each new trial seam when extrusion welding. Only the machine needs to be tested for each new trial seam when fusion welding since the machine is not as operator dependant.

The trial seams shall be made from fragmented geomembrane. The trial weld test specimen shall be cut from a seam that is at least 10 feet long for a fusion weld and at least 3 feet long for an extrusion weld, with the seam centered lengthwise and at least a four inch overlap. Each trial test seam shall be at least 3 feet long by 1 foot wide. Test specimens, 1 inch wide, shall be cut from each end of the trial weld seam, and each shall be tested with a tensiometer for shear and peel strength. Four (six when possible if using dual track fusion welding) adjoining 1-inch wide specimens will be die-cut from the test seam sample. Two specimens will be tested in the field for shear and two for peel (4 when possible if testing both inner and outer welds for dual track fusion welding) The tensionmeter testing apparatus used for peel and shear tests must have an updated calibration certificate traceable to National Bureau of Standards (NBS). The failure criteria is the same as that for destructive seam testing. If the weld seam of a test specimen fails, the entire trial procedure shall be repeated. If the additional specimen fails, the seaming apparatus and seamer shall not be used for seaming until the deficiencies are corrected and two consecutive successful trial welds are achieved.

The CQA personnel shall observe all trial weld procedures and record the date, hour, ambient temperature, seaming unit and seamer, and pass/fail description.

4.3.7 General Seaming Procedures

Unless otherwise specified, the general seaming procedure used by the Installer shall be as follows:

- Seaming shall extend to the outside edge of panels to be placed in the anchor trench;
- If required, a firm substrate shall be provided by using a flat board, a conveyor belt, or similar hard surface directly under the seam overlap to achieve proper support; and
- Fishmouths or wrinkles at the seam overlaps shall be cut along the ridge of the wrinkle in order to achieve a flat overlap. The cut fishmouths or wrinkles shall be seamed and any portion where the overlap is inadequate shall then be patched with an oval or round patch of the same geomembrane extending a minimum of 6 inches beyond the cut in all directions.

During welding operations, the CQA personnel shall document the following:

- The extrudate is purged prior to beginning each weld until all the heat-degraded extrudate is removed (extrusion welding only);
- Seam grinding has been completed less than one hour before seam welding (extrusion welding only);
- The ambient temperature measured at the FML surface is above 40 degrees Fahrenheit;
- The end of old welds, more than five minutes old, are ground to expose new material before restarting a weld (extrusion welding only);
- The weld is free of dust and other debris;
- For cross seams, the seam is ground to a smooth incline prior to welding (fusion welding only);
- The seams are overlapped according to specifications;
- No solvents or adhesives are present in the seam area;
- The procedure used to temporarily hold the panels together does not damage the panels and does not preclude CQA testing;
- The panels are being welded in accordance with the construction drawings and specifications; and
- There is no free moisture in the weld area.

The CQA personnel shall verify that the above seaming procedures (or any other procedures agreed upon) are followed, and shall inform the Owner/Project Manager if they are not.

4.3.8 Non-destructive Seam Continuity Testing

4.3.8.1 Procedure for Non-destructive Testing

The Installer shall non-destructively test 100 percent of all field seams over their full length using air-pressure testing or a vacuum rest unit. The purpose of this test is to check the continuity of seams, and does not provide any information on seam strength. Continuity testing shall be

done as the seaming work progresses, not at the completion of seaming. Air-pressure testing of seams shall be utilized whenever possible for double welded fusion seams. If air-pressure testing is impractical or not productive, (such as for short double welded fusion seams, extrusion welded seams or failed air-tested seams), then the seams shall be vacuum tested for continuity.

Air-pressure testing procedures of double welded fusion seams are as follows:

- Seal both ends of the seam to be tested;
- Insert a needle pressure feed device into the air channel created by the fusion weld;
- Energize an air pump to a pressure of approximately 30 psi, close valve and sustain pressure for at least five minutes;
- A pressure loss of 4 psi is acceptable if it is determined that the air channel is not blocked between the sealed ends;
- If loss of pressure exceeds 4 psi within five minutes, locate faulty area and repair
- Before removing needle or pressure feed device, the opposite end of the air channel shall be pierced, and the resulting pressure drop observed, to assure the entire seam has been tested; and
- The geotechnical professional or his representative should observe and record all pressure gauge readings.

The following procedures shall be followed for vacuum testing (ASTM D 4437):

- Energize the vacuum pump and reduce the tank pressure to approximately 5 psi absolute;
- Wet a strip of geomembrane approximately 12 inches by 48 inches with a soapy solution;
- Place the vacuum box over the wetted area;
- Close the bleed valve and open the vacuum valve;
- Ensure that a leak tight seal is created;
- For a period of approximately 10 to 15 seconds, examine the geomembrane through the viewing window for the presence of soap bubbles;
- If no bubble(s) appear during the test, (excluding the areas at the ends of the vacuum box), close the vacuum valve and open the bleed valve, wet another strip of seam, move the box over the next adjoining area with a minimum 3 inch overlap, and repeat the process; and
- All areas where soap bubbles appear shall be marked and repaired in accordance with Section 4.4.

4.3.8.2 Quality Assurance of Non-destructive Testing

The CQA personnel shall:

- Observe all continuity testing;
- Record location, date, test unit number, name of tester, pressures used, time and outcome of all testing; and
- Inform the Installer and Owner/Project Manager of any required repairs.

The Installer shall complete any required repairs in accordance with Section 4.4. Upon completion of the repair, the CQA personnel shall:

- Observe the repair and retesting of the repair;
- Mark on the geomembrane that the repair has been made; and
- Document the results.

The following procedures shall apply to locations where seams cannot be non-destructively tested:

- All such seams shall be cap-stripped with the same geomembrane; and
- If the seam is not accessible to testing prior to final installation, the seaming and capstripping operations shall be observed by the CQA personnel for uniformity and completeness.

The seam number, date of observation, name of tester, and outcome of the test or observation shall be recorded by the CQA personnel.

4.3.9 Destructive Testing

There are two types of destructive seam testing required for the liner installation: peel adhesion (peel) and bonded seam strength (shear). The purpose of the peel and shear tests is to evaluate seam strength and to evaluate long-term performance. The location of where samples are obtained for seam weld testing shall be indicated on the as-built drawing. The seam identification number and the corresponding test results shall be recorded on the seam log.

4.3.9.1 Location and Frequency

The CQA personnel shall designate locations where seam samples will be cut out for laboratory testing. Locations shall be established as follows:

- Destructive test samples shall be taken at a minimum of one stratified location for every 500 linear feet of field seam or major fraction thereof. The total footage of individual repairs of leaks of more than 10 feet and individual repairs of more than 10 feet of failed seams must also be counted and destructively tested using the same frequency of testing described above.
- A maximum frequency shall be agreed upon by the Installer, Design Engineer, Owner/Project Manager and CQA personnel;
- Test locations shall be determined during seaming at the CQA personnel's discretion. Selection of such locations may be prompted by suspicion of excess crystallinity, contamination, offset welds, or any other potential cause of imperfect welding; and
- At a minimum, a destructive test must be done for each welding machine used for seaming or repairs.

The Installer shall not be informed in advance of the locations where the seam samples will be taken.

4.3.9.2 Sampling Procedure

Two types of samples shall be obtained at each test location. Two seam specimens one inch wide by 12 inches long with the weld centered across the length shall be taken 42 inches apart. These samples shall be tested in the field by the contractor using a tensiometer capable of quantitatively measuring shear and peel strengths. If a double fusion weld is to be tested, then both tracks of the weld should be tested, if possible. This test shall be observed by the CQA personnel.

Once the field tests have passed, a sample shall be recovered between the passing field sample locations for laboratory testing. The sample shall be 42 inches long by 12 inches wide, with the weld centered along the length. The sample shall be divided and distributed as stated below:

- One 12-inch by 12-inch section shall be given to the construction contractor(s);
- Field Testing shall include at least 2 peel test specimens (4 when possible for testing both tracks on dual-track fusion welded seams) and 2 shear test specimens;
- One 12-inch by 18-inch sample shall be sent to the laboratory for testing;
- Independent Laboratory Testing shall consist of at least 5 peel test specimens (10 when possible for testing both tracks on dual-track fusion welded seams) and 5 shear test specimens; and
- One 12-inch by 12-inch sample shall be given to the Owner for archive storage.

Samples shall be cut by the Installer as the seaming progresses in order to have laboratory test results before completion of liner installation. The CQA personnel shall:

- Observe sampling;
- Assign a number to each sample, and mark it accordingly;
- Record sample location on layout drawing; and
- Record reason for taking the sample at this location (e.g. statistical routine, suspicious feature of the geomembrane).

All holes in the geomembrane resulting from destructive seam sampling shall be immediately repaired in accordance with repair procedures described in Section 4.4. The continuity of the new seams in the repaired area shall be tested according to Section 4.3.8.

4.3.9.3 Destructive Test

The CQA personnel shall be responsible for maintaining proper labeling and documentation of all FML samples. All test samples shall be numbered by the CQA personnel. Information contained on the master log shall include:

- Sample number;
- CQA personnel who obtained the sample;
- Location of testing (onsite or offsite);
- Date sample collected and sent off to be tested or date tested in the field;

- Date results received or test completed at site;
- Test(s) performed on sample; and
- Test(s) results, indication of failing or passing, and additional comments when appropriate.

The samples shall be numbered the same as they are on the master log. The CQA monitor shall mark the sample immediately upon sampling, and shall be responsible for timely processing of test samples. The CQA personnel shall reserve the decision of the location of where samples shall be obtained or tested, and allow which samples shall be sent to the laboratory.

4.3.9.4 Laboratory Testing

The destructive test samples to be sent to an independent testing laboratory shall be packaged and shipped under the responsibility of the CQA personnel in a manner which will not damage the test sample. The Owner/Project Manager shall verify that packaging and shipping conditions are acceptable. The Owner/Project Manager will be responsible for packaging and storing the archive samples.

Test samples shall be forwarded to an Independent Testing Laboratory selected by the Owner/Project Manager with concurrence of the CQA Officer. Testing shall include "Standard Test Method for Determining the Integrity of Nonreinforced Geomembrane Seams Produced Using Thermo-Fusion Methods" as referenced in ASTM D 6392. ASTM D 6392 is recommended for destructive seam testing since it has replaced ASTM D 4437.

Five test specimens shall be tested for each test method (ten for peel when testing both tracks on dual-track fusion welded seams where possible). The Independent Testing Laboratory shall provide test results no more than 24 hours after they receive the samples. The destructive test results shall meet or exceed the following specifications, and shall not have any visible sign of failure in the weld (see Table III-I).

The CQA personnel shall immediately notify the Design Engineer and construction contractor(s) of failing test results. The CQA Officer shall review Independent Laboratory test results as soon as they become available, and make appropriate recommendations to the Project Manager.

4.3.9.5 Procedure for Destructive Test Failure

The following procedures shall apply whenever a sample fails the destructive test. If laboratory test results indicate failure, then these procedures shall be followed using only the laboratory tests. The Installer has two options:

- The Installer can cap strip between the failed location and any passed test location; or
- The Installer can retrace the welding path to an intermediate location (at a 10 ft. minimum spacing from the location of the failed test) and take a small sample for an additional field test. If this additional sample passes the test, then the seam is reconstructed between that location and the original failed location. If this sample fails, then process is repeated to establish the zone in which the seam should be reconstructed.

The seam must be reconstructed in both directions from the original failed location and either one or both of the above procedures can be used to reconstruct the seam.

TABLE III-1
FML TEST SPECIFICATIONS – 60 MIL HDPE
City of Laredo
Webb County, Texas

TEST	TYPE OF TEST	STANDARD TEST METHOD	FREQUENCY OF TESTING
Resin	Density	ASTM D 1505	per 100,000 ft² and every resin lot
	Melt Flow Index	ASTM D 1238 (90/2.16 and 190/21.6)	
Manufacturer's Quality Control	Testing per GRI Standard GM13 ^A		
Conformance Testing by 3 rd Party Independent Laboratory	Thickness	ASTM D 5199 (smooth HDPE) or D 5994 (textured HDPE)	per 50,000 ft² and every resin lot
	Specific Gravity/Density	ASTM D 1505/D 792	per 100,000 ft² and every resin lot
	Carbon Black Content	ASTM D 1603	
	Carbon Black Dispersion	ASTM D 5596	
	Tensile Properties	ASTM D 6693 Type IV Dumbbell, 2 ipm, GL=2.0 in	
Destructive Seam Field Testing	Shear & Peel	ASTM D 6392	varies for field, lab, and archive
Non-destructive Seam Field Testing	Air Pressure	GRI GM12	all dual-track fusion
	Vacuum	ASTM D 4437	all non-air pressure tested seams when possible
	Other		concurrence of TCEQ

Notes:

A- UV Resistance testing not required for HDPE which is to be immediately covered.

TABLE III-2
FML DESTRUCTIVE TEST SPECIFICATIONS – 60 MIL HDPE
City of Laredo
Webb County, Texas

PROPERTY	TEST METHOD	SPECIFIED MINIMUM VALUE ⁽¹⁾			
		SMOOTH (lb/in)		TEXTURED (lb/in)	
		EXTRUSION WELD	FUSION WELD	EXTRUSION WELD	FUSION WELD
Peel Adhesion ⁽²⁾⁽³⁾ (Peel) ⁽²⁾	ASTM D 6392	FTB and 78	FTB and 91	FTB and 78	FTB and 91
Bonded Seam ⁽²⁾⁽³⁾ Strength (Shear) ⁽³⁾	ASTM D 6392	120		120	

To be considered passing: (a) all specimens tested in peel must fail in FTB; (b) at least 4 of the 5 specimens tested must meet the minimum specified value for peel and shear; (c) the 5th specimen can be as low as 80% of the listed values; (d) adhesion cannot be greater than 25%.

FTB: Film Tear Bond

- ⁽¹⁾ At least 4 of 5 specimens tested in the peel mode must fail in FTB.
- ⁽²⁾ At least 4 of 5 specimens from each peel and shear determination must meet the following minimum specified values; peel strength minimum requirement for HDPE is 62% of the manufacturer's parent sheet strength but not less than 78 pounds per inch (ppi) and exhibit FTB; shear strength minimum requirement for HDPE is 95% of the manufacturer's parent sheet strength but not less than 120 ppi; and
- ⁽³⁾ The average value from all 5 specimens from each peel and shear determination must meet the minimum specified value.
- ⁽⁴⁾ The above criteria must be met by both tracks from each dual-track fusion welded seam before it is considered as passing.

Destructive seam testing locations shall be cap-stripped and the cap completely seamed by extrusion welding to the parent geomembrane. Capped sections shall be non-destructively tested. Additional destructive test samples may be taken if deemed necessary by the geotechnical professional or his representative. If a destructive test does not meet the passing criteria, additional destructive tests must be conducted at least 10 feet on both sides of the failed destructive test. If either of these destructive tests fails, the sampling and testing process must be repeated until the failed seam is bracketed by passing destructive tests. The failed seam must then be capped between the passing tests. Alternatively, all seams done by the welder/machine within the time period (between passing destructive tests or trial welds) represented by the failed destructive test may be capped. All field tested specimens from a destructive test location must be passing both shear and peel for the seam to be considered passing. Field tested specimens are determined as passing if the specimen tested in peel fails in film tear bond (FTB) and all test specimens meet the passing criteria for independent laboratory testing. Independent laboratory testing must confirm field results.

All acceptable seams must be bounded by two locations from which samples passing destructive tests have been taken. In all cases, to approve a reconstructed seam, a sample taken from the zone in which the seam has been reconstructed must pass destructive testing. Any seam or portion of seam in the zone reconstructed by the first of the above procedures, between the location which originally passed the destructive test and location which, after reconstruction, passes the second destructive test, is acceptable. Seams or portions of seams reconstructed by the second procedure are acceptable if an additional sample, located outside of, but adjacent to, the reconstructed seam, also passes destructive testing.

The CQA personnel shall document all actions taken in conjunction with destructive test failures.

4.4 Defects and Repairs

4.4.1 Identification

All seams and non-seam areas of the geomembrane shall be examined by the CQA personnel for identification of defects, holes, blisters, undispersed raw materials and any sign of contamination by foreign matter. Because light reflected by the geomembrane helps to detect defects, the surface of the geomembrane shall be clean at the time of examination. The geomembrane surface shall be broomed or washed by the Installer if the amount of dust or mud inhibits examination.

4.4.2 Evaluation

Each suspect location both in seam and non-seam areas shall be non-destructively tested using the methods described in Section 4.3.8 as appropriate. Each location which fails the non-destructive testing shall be marked by the CQA personnel and repaired by the Installer.

4.4.3 Repair Procedures

Repair procedures should be agreed upon between the Owner/Project Manager, Installer and CQA personnel. Unless otherwise agreed, the procedures shall be as follows:

- Defective seams shall be repaired by reconstruction;
- Pinholes shall be repaired by seaming or patching;
- Tears, larger holes, undispersed raw materials, and contamination by foreign matter shall be repaired by patches;
- Surfaces of HDPE geomembrane which are to be patched shall be abraded no more than one hour prior to the repair; and
- All seams used in repairing procedures must be approved extrusion welded seams and shall be subjected to the same non-destructive test procedures as outlined for all other seams.
- All seam leaks and destructive test locations shall be repaired for a distance of at least 6 inches on each side of the faulty spot or area detected. At a minimum, these repairs shall be non-destructively retested and possibly destructively tested.

Each patch shall be numbered and logged. Patches shall be round or oval in shape, made of the same geomembrane, and extend a minimum of 6 inches beyond the edge of defects. Patches shall be applied using approved methods only.

4.4.4 Seam Reconstruction Procedures

Seam reconstruction shall be achieved by grinding the existing seam and rewelding a new seam.

4.4.5 Verification of Repairs

Each repair shall be non-destructively tested using the methods described in Section 4.3.8 as appropriate. Repairs which pass the non-destructive test shall be taken as an indication of an adequate repair and the repair will be considered completed. Failed tests indicate that the repair shall be redone and retested until a passing test is obtained. The CQA personnel shall observe all non-destructive testing of repairs and shall record the number of each patch, date, and test outcome.

4.4.6 Excessive Wrinkles

When seaming of the geomembrane liner is completed (or when seaming of a large area of the geomembrane liner is completed) and prior to placing materials on top of it, the CQA personnel shall observe the geomembrane wrinkles when the geomembrane is in a cool state. Wrinkles which can be folded over and creased by weight shall be repaired. The CQA personnel shall indicate to the Project Manager which wrinkles should be cut and resealed by the Installer. The seam thus produced shall be tested like any other seam.

4.5 Backfilling of Anchor Trench

The anchor trench, if any, shall be backfilled and compacted by the Earthwork Contractor or the Installer in accordance with the construction specifications and/or drawings, and contractual agreements.

Care shall be taken when backfilling the trenches to prevent any damage to the geomembrane. The CQA personnel shall observe the backfilling operation and advise the Project Manager of any problems.

4.6 Geomembrane Acceptance

Certificates of acceptance shall be used by the Design Engineer and/or CQA Officer to establish the acceptability of the installed FML. These certificates shall state that the FML has been installed in accordance with the construction drawings and specifications.

The Installer and Geomembrane Manufacturer shall retain all ownership and responsibility for the geomembrane until acceptance by the Owner.

The geomembrane liner shall be accepted by the Owner/Project Manager when:

- The installation is finished;
- All seams have been inspected and approved;
- All required laboratory tests have been completed and approved;
- All required documentation has been received from the construction contractor(s) and has been approved;
- All record drawings have been completed and approved; and
- The SLER and FMLER have been accepted by the TCEQ

The lining Manufacturer shall furnish a written lining material warranty on a prorated basis for a period of 5 years. The warranty shall be against manufacturing defects or workmanship and against deterioration due to ozone, ultraviolet, or other normal weather aging. The warranty shall be limited to replacement of material only, and shall not cover installation of said material. It shall not cover damage due to vandalism, acts of animals or unusual acts of God.

The Installer shall furnish a written guarantee stating the entire lining work constructed by said contractor is free of defects in material and workmanship, and was installed pursuant to the CQA Manual for a period of one (1) year following the date of acceptance of the work by the Owner. The installer shall agree to make any repairs or replacements made necessary by defects in materials or workmanship in the work which become evident within said guarantee period. The Installer shall make repairs and/or replacements promptly. If the Owner secures the repair work, the Installer shall be liable to the Owner for the cost of such repairs and/or replacements.

4.7 Materials in Contact with the Geomembrane

The quality assurance procedures indicated in this section are only intended to assure that systems built with these materials would be constructed in such a way to enable proper performance.

4.7.1 Granular Materials

A copy of the specifications prepared by the Design Engineer for placement of granular materials shall be given to the CQA Officer by the Owner/Project Manager. The CQA personnel shall verify that these specifications are consistent with the state of the art such as:

- Placement of granular materials on the geomembrane shall not proceed at an ambient temperature below 5° (40°F) nor above 40°C (104°F) unless otherwise specified;
- A geotextile may be installed between angular aggregate and the geomembrane;
- Equipment used for placing granular material shall not be driven directly on the geomembrane;
- A minimum thickness of 1 foot of granular material is specified between a light dozer (such as a D-6 LPG or lighter which exerts a maximum contact pressure of 5 psi) and the geomembrane;
- A minimum thickness of 3 feet of granular material is specified between a rubber-tired vehicle and the geomembrane;
- In heavily trafficked areas such as access ramps, granular material thickness should be at least 3 feet; and
- The CQA personnel shall verify that placement of granular material is done in such a manner that geomembrane damage is unlikely.

The CQA personnel shall inform the Owner/Project Manager if the above conditions are not fulfilled.

4.7.2 Sumps and Appurtenances

A copy of the specifications prepared by the Design Engineer for sumps and appurtenances shall be given by the Owner/Project Manager to the CQA Officer. The CQA personnel shall review these specifications and verify the use of geosynthetic layers between concrete and geomembranes, if necessary.

The CQA personnel shall verify that:

- Installation of the geomembrane in sump and appurtenance areas, and connection of geomembrane to sumps appurtenances have been made according to the specifications;
- Extreme care is taken while welding around appurtenances since both non-destructive and destructive testing might not be feasible in these areas; and
- The geomembrane has not been visibly damaged while making connections to sumps and appurtenances.

The CQA personnel shall inform the Owner/Project Manager if the above conditions are not fulfilled.

SECTION IV: GEOTEXTILES AND GEONETS CQA

1.0 INTRODUCTION

Any geotextile and geonet (or geocomposite) materials used in conjunction with construction of the composite liner will be documented by the Manufacturers and CQA personnel. The following sections outline the quality assurance for geotextile and geonet materials.

2.0 MANUFACTURING

The Geotextile and geonet (or geocomposite) manufacturers will provide the Owner/Project Manager with a list of guaranteed "minimum average roll value" properties for the type of geotextile and geonet (or geocomposite) to be delivered. The manufacturer shall also provide a written quality control certification, signed by a responsible party employed by the Manufacturer, that the material delivered has properties that meet or exceed the guaranteed "minimum average roll value" properties. The contractor shall provide the material property data to the Owner/Project Manager when the product is delivered to the site.

Quality control certificates shall include the following:

- Roll identification numbers;
- Sampling procedures; and
- Results of quality control testing.

The Manufacturer of the geotextile shall provide, as a minimum, the following test results:

- Mass per unit area;
- Tear strength;

- Puncture strength;
- Permeability; and
- Apparent opening size.

The Manufacturer of the geonet (or geocomposite) shall provide, as a minimum, test results for the following:

- Transmissivity;
- Density;
- Mass per unit area;
- Carbon black content;
- Tensile strength; and
- Thickness.

The Manufacturers shall also provide a written certification that the geotextile and geonet is continuously inspected and, in the case of geotextile, found to be needle-free. The CQA Officer shall examine all the certifications to ensure that the property values listed meet or exceed those specified for that particular material.

The Manufacturers shall identify all rolls of geotextile and geonet with the following:

- Manufacturer's name;
- Product identification;
- Lot number;
- Roll number; and
- Roll dimensions.

The CQA personnel shall examine the rolls upon delivery, and will document each roll received and any damage to the rolls. Any deviation from the above requirements shall be reported to the Owner/Project Manager.

3.0 SHIPMENT AND STORAGE

During shipment and storage, the geotextile and geonet shall be protected from ultraviolet light exposure, precipitation or other inundation, mud, dirt, dust, puncture, cutting or any other damaging or deleterious conditions. To that effect, the geotextile and geonet rolls shall be shipped and stored in relatively opaque and watertight wrappings.

The wrapping protecting the geotextile and geonet shall be removed less than one hour prior to placement. After the wrapping has been removed, the material shall not be exposed to sunlight for more than 15 days prior to placement of soil or waste material, unless otherwise specified and guaranteed by the Manufacturer.

4.0 HANDLING AND PLACEMENT

The Installer shall handle all geotextile and geonets in such a manner as to ensure that they are

not damaged in any way. As necessary, the material shall be securely anchored in anchor trenches and rolled down slopes. In the presence of wind, the material shall be appropriately weighted with sandbags or the equivalent. Special care shall be taken during cutting to protect other materials from damage and not to entrap stones, excessive dust or moisture that could damage the underlying materials, generate clogging potential, or hamper subsequent seaming.

5.0 SEAMING AND OVERLAPS

At a minimum, all geotextile shall be properly overlapped and continuously sewn or heat bonded. For sewing purposes, the geotextile shall be overlapped approximately 4 inches. No horizontal seams will be allowed on side slopes, except as part of a patch. All sewing shall be done using polymeric thread with chemical resistance properties equal to or exceeding those of the geotextile.

At a minimum, the geonet/geotextile composite shall be overlapped by at least 4 inches and secured by tying the geonet and sewing or heat bonding the geotextile. The tying of the geonet can be achieved by plastic fasteners or polymer braid. Tying devices shall be white or yellow for inspection purposes. Tying shall be conducted as a minimum of every 5 feet of seam on the slope and the every 8 feet on the seam bottom. The geotextile shall be sewn or heat bonded.

6.0 REPAIRS

Any holes or tears in the geotextile shall be repaired as follows:

- On slopes: A patch made from the same geotextile shall be sewn or heat bonded into place. A minimum overlap of 2 feet will be maintained.
- Non-slopes: A patch made from the same geotextile shall be spot sewn or heat bonded into place with a minimum of 2 feet overlap in all directions.

Any holes or tears in the geonet/geotextile composite shall be repaired by placing a patch extending 2 feet beyond edges of the hole or tear. The patch shall be secured to the original composite by tying at 1 foot intervals. If the hole or tear is more than 50% of the width of the roll, the damaged areas shall be cut out and replaced.

7.0 PLACEMENT OF SOIL MATERIALS

The Earthwork Contractor and/or the Installer shall place all soil materials located on top of the geotextile and geonet in such a manner as to ensure the following:

- No dumping directly on the geotextile;
- No damage to the material;
- Minimal slippage of the geotextile and geonet on underlying layers;
- No excess tensile stresses in the geotextile; and
- Protective cover shall be placed on sidewalls beginning at the bottom of the slope proceeding to the top of the slope.

Unless otherwise specified by the Design Engineer, all lifts of material shall, in no case, be less than 12 inches, measured loose to provide adequate protection to the geotextile from heavy equipment.

SECTION V: LEACHATE COLLECTION SYSTEM CQA

1.0 INTRODUCTION

The purpose of the leachate collection system (LCS) in a MSWLF is to minimize the leachate head on the liner during operation and through the postclosure monitoring period. The LCS shall consist of the following:

- Collection pipe network;
- Granular drainage layer;
- Synthetic drainage layer; and
- Geotextiles (filter fabric).

2.0 DOCUMENTATION

The inspection and testing results of the LCS materials shall be recorded in the daily construction report and on other appropriate forms.

2.1 Collection Pipe Network

2.1.1 Pipe Specifications

The collection pipes shall be 6-inch diameter Schedule 80 PVC pipe or as required in the construction specifications. All pipes shall be of structural integrity to withstand the overburden pressures that will result from placement of solid waste into the landfill.

2.1.2 Construction Monitoring During Installation

The pipe network shall be placed as specified in the construction drawing and specifications. The pipe network installation shall be monitored to ensure the following:

- The pipes are placed at the specified locations and in the correct configurations;
- The pipes are placed at the proper grades as stated in the construction specifications; and
- The pipes are properly connected.

Once the collection pipe network is installed, the pipes shall be flushed to remove sedimentation and debris and to verify that the pipes are open. Standard sewer cleaning equipment can be used to remove objects and debris remaining in the pipes after simple flushing.

2.1.3 Gravel Packing Around Pipes

Gravel packing shall be placed around the collection pipes to ensure sufficient flow of leachate into the pipes. The gravel packing around the leachate collection pipes shall consist of rounded granular soils meeting the requirements of ASTM C 33 for coarse aggregate and Size No.4 gradation requirements or the requirements stated in the construction specifications, and shall have a permeability of 1×10^{-2} cm/s or greater as determined by ASTM D 2434. The gravel shall not have a calcium carbonate or calcium sulfate content that exceeds 15 percent by weight as determined by procedures set forth in the ASTM D 3042 modified method, since a calcium carbonate or calcium sulfate concentration above this value may induce clogging of the pipes when subjected to leachate.

The installation of the gravel packing shall be monitored to ensure the following:

- Gravel packing is properly placed around the collection pipes and meets the gradation requirements stated in the CQA manual of the construction specifications; and
- The gravel packing is properly wrapped and completely enclosed with a geotextile.

2.1.4 Sumps and Collection Trenches

Sumps and collection trenches should be constructed to the appropriate dimensions and grades. The thickness of day liner in the area of sumps and collection trenches shall be verified.

2.2 Granular Drainage Layer

The granular LCS drainage layer shall be constructed of rounded granular soils meeting the requirements of ASTM C 33 for coarse aggregate and Size No. 67 gradation requirements, or smaller, or the requirements stated in the construction specifications. These granular soils shall be selected on the basis of their permeability, grain size distribution, and calcium carbonate content. Once delivered at the site, the granular soils shall be tested to ensure that they meet the gradation and permeability specifications and are free from excessive amounts of fines or organic materials. The gravel shall be rounded and properly graded, and have a permeability, of 1×10^{-2} cm/s or greater as determined by ASTM D 2434. The percent of calcium carbonate or calcium sulfate shall not exceed 15 percent by weight, as determined by procedures set forth in the Concrete Handbook or the X-Ray Fluorescent technique respectively, to minimize clogging potential.

The granular drainage layer shall be a minimum 1-foot thick continuous granular blanket and the CQA personnel shall monitor the installation of the drainage layer to ensure the following:

- The thickness of the drainage layer meets the specified requirements; and
- The transport of fines by runoff into the LCS is prevented by barriers or filters.

Placement of the granular-material shall be conducted such that the material is not dumped or pushed directly on the geomembrane. The material shall be placed outside of the construction area, and a staging area will be developed where the granular material can be pushed over the

staging area with low ground pressure equipment and slowly spilled over the leading edge of the layer. This method of placement will ensure that the minimum thickness of one foot is maintained under the equipment, and the FML under the granular layer is not pushed to create wrinkles or possible tears.

At a minimum, the granular drainage layer shall be sampled and tested for gradation (ASTM D 422 or 1140) at a frequency of one test per 50,000 square feet of area.

2.3 Synthetic Drainage Layer

The synthetic drainage layer shall consist of a geonet specifically designed to have high permeability and sufficient strength characteristics (see Section V). This layer along with geotextile may be substituted on the slopes and floors for the granular drainage layer.

Upon delivery of the geonet/geotextile at the site, the CQA personnel shall observe the material to ensure that it contains no deficiencies or is not damaged during unloading. Any damaged rolls shall be rejected and removed from the site. At a minimum, the Manufacturer shall furnish certification with appropriate documentation that the geonet meets the design specifications. During geonet placement, the CQA personnel shall:

- Document all defects and actions implemented to repair or remove the defects;
- Verify that the geonet is not damaged during handling and placement;
- Verify that the geonet is appropriately anchored to prevent movement by wind; and
- Verify that the geonet is properly overlapped and joined in accordance with the specifications.

The CQA personnel shall inform both the construction contractor and the Owner/Project Manager if the above conditions are not met. All deficiencies with the geonet shall be repaired in accordance with this manual and the project specifications.

2.4 Geotextile Filter Fabric

The filter fabric, also referred to as a geotextile, is a synthetic product specifically designed to have high permeability and sufficient strength characteristics (see Section V).

Upon delivery at the site, the CQA personnel shall observe the geotextile to ensure that it contains no deficiencies or is not damaged during unloading. Any damaged rolls shall be rejected and removed from the site. At a minimum, the supplier shall furnish certification with appropriate documentation that the geotextile meets the design specifications.

Prior to geotextile installation, the CQA personnel shall verify that the supporting surface does not contain debris or have objects protruding which could damage the geotextile.

During geotextile placement, the CQA personnel shall:

- Document all defects and corrective measures implemented to repair or eliminate the defects;
- Verify that equipment used does not damage the geotextile by equipment transit, leakage of hydrocarbons, or other means;
- Verify that people working on the geotextile do not smoke, wear shoes that could damage the geotextile, or engage in activities that could damage the geotextile;
- Verify that the geotextile are anchored to prevent movement by the wind;
- Verify that seams are overlapped in accordance with the specifications; and
- Verify that the panels are being joined in accordance with the specifications.

The CQA personnel shall inform both the construction contractor(s) and the Owner/Project Manager if the above conditions are not met.

All deficiencies with the geotextile shall be repaired in accordance with the construction specifications. The CQA personnel shall document all repairs on the daily construction report. Repair procedures may include the following:

- Patching- Used to repair large holes, tears, large defects, and destructive sample locations; and
- Removal- Used to replace areas with large defects where the preceding method is not appropriate.

3.0 PROTECTIVE COVER

A minimum 2-foot thick protective cover (2 feet on slopes using a geocomposite drainage layer) shall be placed over the LCS. The thickness of the protective cover shall be verified through subsequent surveys. The protective cover shall consist of onsite soils resulting from landfill excavation which will possess a permeability of approximately 1×10^{-4} cm/sec or greater after minimal compaction. The protective cover in conjunction with the LCS shall provide a minimum of 2 feet of protection to the FML. Care shall be implemented during placement of the protective cover to avoid damage to the LCS. If the protective cover does not meet the permeability criteria, gravel-filled leachate drains tied into the underlying drainage layer may be constructed.

SECTION VI: SURVEYING CQA

1.0 INTRODUCTION

Surveying of lines and grades shall be conducted on an ongoing basis during the construction of the composite liner system. Thorough CQA of the surveying is essential to ensure that slopes and base gradients are properly constructed to promote proper drainage to the sumps.

2.0 SURVEY CONTROL

If not available, a permanent benchmark shall be established for the site in a location convenient for daily tie-in. The vertical and horizontal control for this benchmark shall be established within normal land surveying standards.

3.0 SURVEYING PERSONNEL

The survey crew shall consist of a senior field surveyor and as many survey technicians as are required to satisfactorily undertake the requirements of the work. All surveying personnel shall be experienced in the provision of these services, including detailed accurate documentation. All surveying shall be performed under the direct supervision of a registered Professional Land Surveyor in the State of Texas. This licensed surveyor shall seal all survey drawings prepared showing in-place elevations.

4.0 SURVEYING PROCESS

4.1 Precision and Accuracy

The survey instruments used for this work should be sufficiently precise and accurate to meet the needs of the project. All survey equipment should be capable of reading to a precision of 0.001 foot and with a setting accuracy of ± 0.8 seconds.

4.2 Lines and Grades

The following surfaces shall be surveyed to verify that proper lines and grades were achieved during the liner construction:

- Original subgrade surface;
- Top of the compacted clay liner;
- Top of the completed leachate collection system; and
- Top of the completed protective cover system.

During each subsequent survey, the crest and toe of each slope and the limits of each component shall be defined.

4.3 Frequency and Spacing

All surveying should be carried out immediately upon completion of a given installation to facilitate progress and avoid delaying commencement of the next installation. In addition, spot checks during construction will be necessary to assist the Earthwork Contractor in compliance with the required grades.

A grid should be established across the construction site to maintain point locations in the construction area for survey control. The grid should be established so that elevation points are present for at least every 5,000 square feet of surface area. The cross points of the grid should be

utilized during each successive survey to maintain dimension control. The corresponding successive cross point locations should not vary by more than 0.3 feet horizontally with appropriate adjustments on side slopes. The subsequent surveys will be used to determine the constructed thickness of each component.

5.0 DOCUMENTATION

All field survey notes should be retained by the Surveyor. The findings from the field surveys should be documented on a set of as-built drawings. These drawings should, at least, show the final surface elevations (and thickness) of each liner system component.

SECTION VII: SOIL AND GEOSYNTHETIC EVALUATION REPORTS

1.0 INTRODUCTION

Upon completion of the field inspection laboratory testing and engineering evaluation an evaluation report for the earthwork portion and the geosynthetic portion of the liner system construction will be provided by the CQA Consultant. The following sections briefly describe the contents of those reports. Brief outlines for each report are contained in Appendix C to illustrate the contents of the reports, at a minimum.

2.0 SOIL LINER EVALUATION REPORT (SLER)

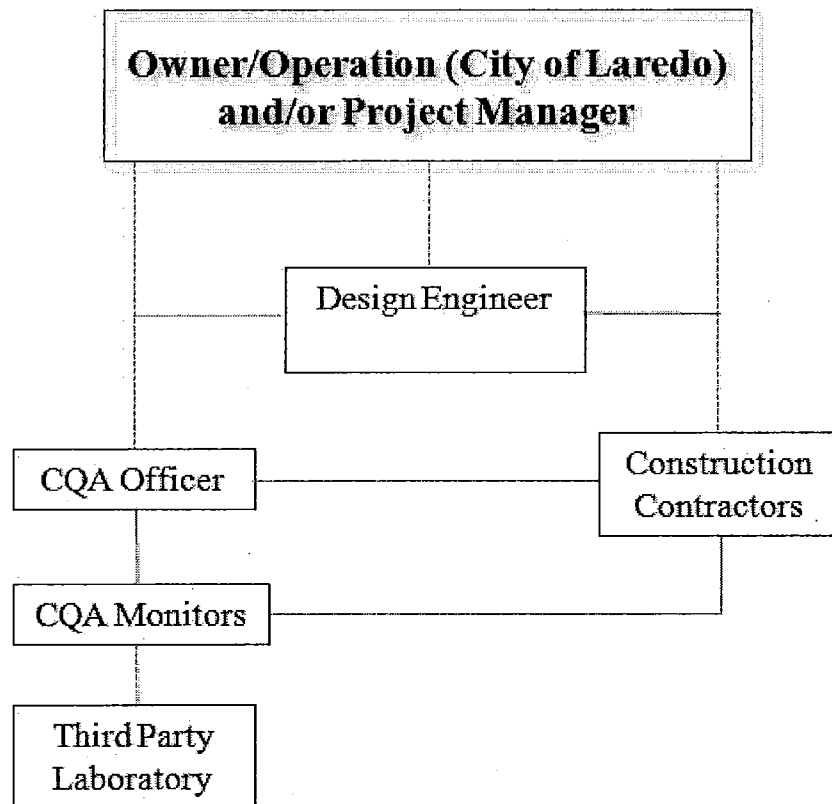
Upon completion of the clay liner portion of the liner system, a Soil Liner Evaluation Report (SLER) will be presented to document the activities associated with the earthwork. The SLER will contain, at a minimum, the soil and liner evaluation form developed by the TCEQ, and a construction quality assurance report. In this report, all relevant data and drawings will also be provided to present a full documentation of the activities. Upon completion of the SLER, the report and all attachments will be submitted to the TCEQ in triplicate.

3.0 FLEXIBLE MEMBRANE LINER EVALUATION REPORT (FMLER)

A Flexible Membrane Liner Evaluation Report (FMLER) will be provided upon completion of the geosynthetic portion of the composite liner system to document the activities associated with the construction of the geosynthetics. The FMLER will contain, at a minimum, the flexible membrane liner evaluation form developed by the TCEQ, and a construction quality assurance report. The report will present all relevant data and as-built drawings to fully document the construction activities. The FMLER will be submitted to the TCEQ, in triplicate, upon completion.

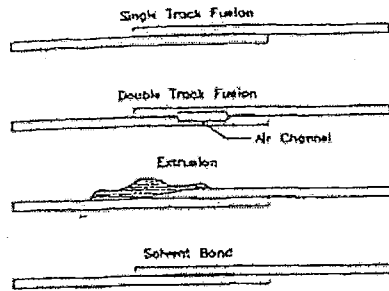
APPENDIX A FIGURES

Figure 1
Project Organization

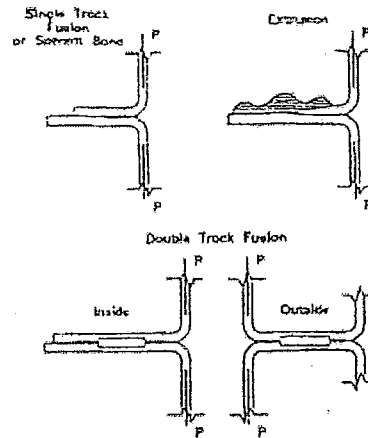


————— Communication Lines
- - - - - Contractual/Communication Lines

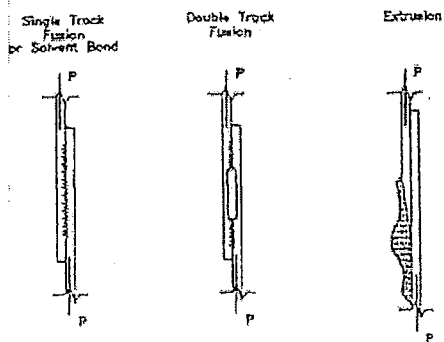
TYPES OF WELDS



PEEL TESTS (ASTM D413)



SHEAR TESTS (ASTM D3083)



TYPES OF FAILURES

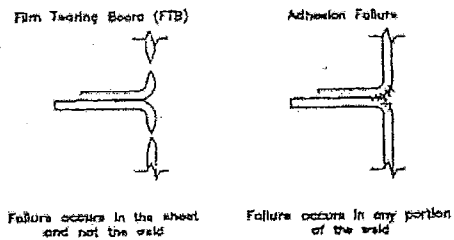


FIGURE 2
WELD
INFORMATION

SWL REFERENCE NO. 2293-174
DWC NO. 5312-1601 11-9-92

APPENDIX B
CQA FORMS

[illegible]

CERTIFICATE OF ACCEPTANCE OF SOIL SUBGRADE

Geosynthetic
Installer _____ Project _____

Address _____ Location _____

_____ Owner _____

I, the Undersigned, the duly authorized representative of _____
do hereby accept the soil subgrade surface bounded by _____

_____ as an acceptable surface on
which to install and shall be responsible for maintaining its integrity and suitability in
accordance with the project specifications from this date to the completion of the
installation.

_____ Name	_____ Signature	_____ Title	_____ Date

Certificate accepted by QA/QC Manager:

_____ Name	_____ Signature	_____ Title	_____ Date

Certificate accepted by Owner:

_____ Name	_____ Signature	_____ Title	_____ Date

Terracon

25809 Interstate 30 South

Bryant, AR 72022

Phone: 501.847.9292

Fax: 501.847.9210

Manufacturer:

Transportation:

Date of Arrival:

Material Type:

Condition of Material:

TOTAL THIS PAGE:	ft ²
TOTAL ACCUMULATED:	ft ²
 <u>Material Type Legend:</u>	
40S = 40 Mil Smooth HDPE Geomembrane	DSG - Double Sided Geocomposite
40T = 40 Mil Textured HDPE Geomembrane	SSG - Single Sided Geocomposite
60S = 60 Mil Smooth HDPE Geomembrane	6oz Geo - 6 ounce Geotextile
60T = 60 Mil Textured HDPE Geomembrane	12oz Geo - 12 ounce Geotextile

Material Type Legend:

DSG - Double Sided Geocomposite
SSG - Single Sided Geocomposite
6oz Geo - 6 ounce Geotextile
12oz Geo - 12 ounce Geotextile

Terracon

Project Number: _____
CQA Monitor: _____
Reviewed By: _____
Approved By: _____
Liner Installer: _____

Terracon

Material Type Legend:

DSGC - Double Sided Geocomposite
SSGC - Single Sided Geocomposite
8oz Geo - 8 ounce Geotextile
12oz Geo - 12 ounce Geotextile

Terracon

Fax: 501.847.9210

Project Number: _____
 CQA Monitor: _____
 Reviewed By: _____
 Approved By: _____
 Liner Installer: _____

Peel Extrusion = _____
Shear Extrusion = _____
Peel Fusion = _____
Shear Fusion = _____

[illegible]

Terracon

Fax: 501.847.9210

☐ Other: _____

Carry Over: _____ ft

This Page: _____ ft.
Accumulated: _____ ft.

Terracon

25809 Interstate 30 South
Bryant, AR 72022
Phone: 501.847.9292
Fax: 501.847.9210

[illegible]

ABBREVIATIONS:
GV = Gas Vent AT = Anchor Trench
EXT = Existing PP = Pipe Penetration

Terracon

Fax: 501.847.9210

Project Number: _____
CQA Monitor: _____
Reviewed By: _____
Approved By: _____
Liner Installer: _____

[illegible]

P1 = Panel Number 1
OBB = Overbuild Berm

Terracon

Fax: 501.847.9210

Location:

Liner Installer:

Shear Fusion =

[illegible]

APPENDIX C
REPORT OUTLINES

SOIL LINER EVALUATION REPORT (SLER) OUTLINE

COVER LETTER

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GEOSYNTHETIC CLAY LINER CQA

GEOSYNTHETIC CLAY LINER QUALITY ASSURANCE

1.0 INTRODUCTION

This document includes the requirements for selection, installation and protection of the Geosynthetic Clay Liner (GCL) as used in conjunction with the FML as the primary liner.

The overall goal of the GCL quality assurance program is to assure that proper construction techniques and procedures are implemented, and that the GCL is installed in accordance with construction drawings and specifications. The GCL portion of the liner system shall be installed and tested in accordance with the construction drawings and specifications, and this CQA document. To monitor compliance, the quality assurance program shall include:

- A review of the construction contractor's quality control submittals;
- Material conformance testing on samples collected prior to installation; and
- On-site construction monitoring.

2.0 MATERIALS

The GCL material to be used for this construction shall be an approved GCL, as either bentonite sandwiched between two geotextiles, such as Claymax produced by the James Clem Corporation, or bentonite bonded to a geomembrane, such as Gundseal produced by Gundle Lining Systems. The contractor shall provide the material property data to the Owner/Project Manager when the product is delivered to the site. The bentonite shall be natural sodium bentonite. The GCL shall meet the minimum specification for this project of a hydraulic conductivity of 5×10^{-9} cm/sec and an internal friction angle of 6° for unreinforced GCL in a hydrated state. A reinforced GCL containing a nonwoven geotextile on both sides shall be utilized on all cell side slopes. The material must exhibit an internal friction angle of 24° . The Manufacturer shall provide "minimum specifications" for the GCL and its components (bentonite and geotextile/FML facing) prior to construction to verify conformity with project specifications. The Manufacturer shall also provide a written certification that the GCL and its components meet the "minimum specifications", that the GCL has been continuously inspected and found to be needle-free, and that the bentonite will not shift during transportation or installation.

Quality control certificates shall also be submitted by the Manufacturer, which will be signed by a responsible party of the Manufacturer, and shall contain roll identification numbers and results of quality control tests. The GCL Manufacturer quality control tests shall include, at a minimum, clay mass per unit area (minimum of 0.75 lbs/sq.ft., oven dried at 105°), water content of bentonite (maximum of 25%), free swell (minimum of 24 ml), permeability, fluid loss (maximum 18 ml), and internal shear resistance. The bentonite manufacturer quality control tests shall include, at a minimum, water content, free swell, and liquid limit (minimum of 500%) or plate water absorption (minimum of 800%). The geosynthetic manufacturer tests shall include at a minimum, mass per unit area and strength properties (e.g., grab and Mullen burst strength) for geotextiles or density, thickness, melt flow index, tensile properties, tear resistance, and puncture resistance for FMLs, depending on the material provided for use. The Owner and Engineer

reserve the right to reject any material which is deemed unsuitable, at no cost to the Owner.

The GCL manufacturer shall provide information in regards to granular bentonite to be applied at the seam overlap to provide permeability less than or equal to the parent material (i.e. spread rate, supporting test data, etc.)

3.0 SHIPPING AND HANDLING

The GCL shall be supplied in rolls which are individually wrapped in relatively opaque (plastic) protective covers. Each roll shall be marked with the Manufacturer's name, product identification, roll number, roll dimensions and roll weight. The Installer shall store the GCL in an area selected by the Owner and shall protect the GCL from damage by the environment and during handling. The rolls must be stored off the ground, covered with a tarp, and kept dry. Upon delivery at the site, CQA personnel shall document the arrival of the materials and obtain samples for subsequent laboratory testing, as specified in Section 4.0.

4.0 CONFORMANCE TESTING

The samples collected by the CQA personnel from the delivered rolls of GCL shall be forwarded to an independent laboratory for testing to ensure conformance with the specifications and the list of guaranteed properties. As a minimum, tests to determine the following characteristics shall be performed on the GCL:

- Mass per Unit Area (ASTM D 5993);
- Permeability (ASTM D 5887); and
- Direct Shear (ASTM D 6243) per GCL adjoining material type.

Test method ASTM D 5887 is recommended for permeability in the proceeding list since this method has replaced ASTM D 5084 modified or GRI GCL-2 as the preferred method. Test method ASTM D 6243 is recommended for direct shear since this method has replaced ASTM D 5321.

Samples shall be taken across the entire width of the roll and shall not include the first three feet. Samples shall be three feet long by the roll width. The CQA personnel shall mark the machine direction on the samples with an arrow.

Samples shall be taken at a minimum rate of one per lot or batch number, or one per 100,000 ft², whichever is least.

The CQA Officer shall examine all results from the laboratory conformance testing and shall report any non-conformance in accordance with Section 5.1.3 of Section I: General of the SLQCP.

5.0 INSTALLATION

The GCL Installer shall submit a copy of their quality control procedures prior to installation for

review and concurrence with the Engineer. The GCL shall be handled in a manner to ensure it is not damaged during placement.

Prior to GCL installation, the CQA personnel and Installer shall inspect the sub grade soils and provide written certification that these soils are suitable for placement of the GCL. This certification shall be provided in the form of a Subgrade Acceptance sheet. The surface of the subgrade shall be smooth-drum rolled, such that loose soil, exposed rocks, or other foreign material are not protruding from the surface. Also, the surface shall be kept free from standing water.

CQA personnel shall provide 100 percent on-site monitoring of the GCL installation. Documentation of the roll numbers along with other pertinent data will be obtained as deployment of the GCL proceeds. The GCL shall be properly anchored at the top of the slope and deployed down the slope in a controlled manner. No horizontal seams shall be allowed on the slope. The edges of the GCL shall be weighted with sandbags in the presence of wind. The GCL shall be cut with a textile cutter or other approved device. During placement of the GCL, care shall be taken not to entrap stones or other deleterious material under the GCL. Equipment used to deploy the GCL must not cause rutting of the subgrade. Geomembrane-backed GCL must be placed with the bentonite side up. The GCL shall not be placed during or prior to impending inclement weather, or in areas of ponded water. GCL material that is hydrated prior to placement of the geomembrane shall be replaced at no cost to the Owner. Only that amount of GCL which can be covered with FML during the day shall be placed.

The GCL edges shall be overlapped a minimum of six inches on the sides or per the manufacturer's recommended overlap distance. Panel ends shall be overlapped a minimum of one foot on the floor. End laps on the sidewalls are to be avoided whenever possible. Written approval from TCEQ is required for sidewall end laps, and a minimum lap of 3 feet is required. For GCL with non-woven geotextile facing, granular bentonite must be applied to the overlapped area at a rate in accordance with the manufacturer's recommendations. In areas of repairs or sample locations, a patch of the same material shall be placed with a minimum overlap of one foot in all directions. If areas of shifted bentonite are encountered, a patch of the same material shall be placed and shall extend a minimum of one foot beyond the area of shifting. If flaws such as cuts, rips, shifted bentonite, etc., in excess of 50 percent of the width of the roll are found, the entire roll width shall be replaced at no cost to the Owner. In the area of a clay liner tie-in, the GCL shall extend a minimum of two feet beyond the tie-in area.

6.0 GCL ACCEPTANCE

Certificates of acceptance may be used by the Engineer and/or CQA Officer to establish the acceptability of the installed GCL. The Installer and Manufacturer shall retain all ownership and responsibility for the GCL until acceptance by the Owner.

TABLE D-1
LABORATORY TEST STANDARDS
FOR GCL MATERIALS
City of Laredo, Webb County, Texas

Manufacturer's Quality Control			(Reinforced/Non-Reinforced)	
Test	Method (1)	Testing Freq.	Units	Min. Requirements
Bentonite Swell Index ²	ASTM D 5890	1 per 100,000 lbs	mL/g	≥24/2 (min)
Bentonite Fluid Loss ²	ASTM D 5891	1 per 100,000 lbs	mL	≤18 (max)
Bentonite Mass per Area ³	ASTM D 5993	40,000 ft ²	lb/ft ²	≥0.75 (min)
Bentonite Moisture Content	ASTM D 4643 ASTM D 5993	1 per 100,000 lbs	%	≤12%
Geotextile Mass per Area	ASTM D 5261	200,000 ft ²	oz/yd ²	≥3 oz MARV
Geotextile Grab Tensile Strength	ASTM D 4632 ASTM D 6768	200,000 ft ²	lbs/ft	N/A
Geomembrane Mass/Unit Area ⁸	ASTM D 5261 ASTM D 1525	200,000 ft ²	g/cm ³	≥94
Geomembrane Thickness ⁸	ASTM D 5199 (Smooth) ASTM D 5944 (Textured)	200,000 ft ²	mil	20 avg./18 min.
Geomembrane Tensile Properties ⁸ (Strength / Elongation)	ASTM D 638 ASTM D6693	200,000 ft ²	lbs./in. / %	30 MARV / 100% MARV
GCL Grab Strength ⁴	ASTM D 4632 ASTM D 6768	200,000 ft ²	lbs/in	≥30 MARV
GCL Peel Strength ⁴	ASTM D 6496	40,000 ft ²	lbs/in	≥3.5 MARV
GCL Index Flux ⁵	ASTM D 5887	1 per week	m ³ /m ² /s	≤1 x 10 ⁻⁸ (max)
GCL Permeability ⁵	ASTM D 5887	1 per week	cm/sec	≤5 x 10 ⁻⁹ (max)
Lap Joint Permeability	Flow box or other suitable device	(7)	—/—	N/A
Conformance Testing by CQA Engineer			(Reinforced/Non-Reinforced)	
Bentonite Mass per Area ³	ASTM D 5993	100,000 ft ²	lb/ft ²	0.75 (min)
GCL Grab Strength ⁴	ASTM D 4632 ASTM D 6768	100,000 ft ²	lbs/in	≥30 MARV
GCL Peel Strength ⁴ (reinforced only)	ASTM D 4632/6496	100,000 ft ²	lbs/in	≥3.5/NA MARV
GCL Permeability ⁵	ASTM D 5887	100,000 ft ²	cm/sec	5 x 10 ⁻⁹ (max)
GCL Hydrated Internal Shear Strength ⁶	ASTM D 5321 ASTM D 6243	Periodic (6)	psf	≥500 typical @ 200 psf (min) / ≥100 typical @ 200 psf (min)

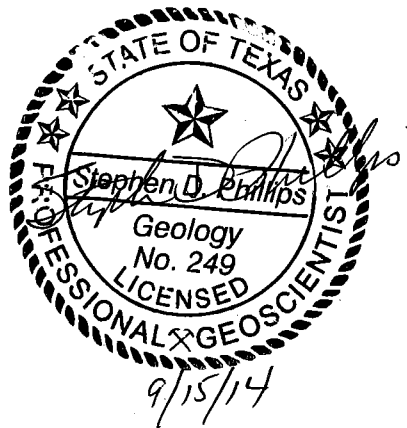
(See Table D-1 notes on next page)

Notes:

1. Test to be performed according to the latest test method as approved by the certifying engineer.
2. These parameters are for the bentonite incorporated into the GCL and do not necessarily reflect the properties of the bentonite in the finished product.
3. Bentonite mass per area is exclusive of the average weight of the geotextiles and is normalized by 0 percent moisture content per ASTM D 5993.
4. All tensile testing is performed in the machine direction, with results as minimum average roll values unless otherwise indicated.
5. Index flux and permeability testing with deaired distilled/deionized water at 80 psi cell pressure, 77 psi headwater pressure and 75 psi tail water pressure. Reported value is equivalent to 925 gal/acre/day. This flux value is equivalent to a permeability of 5×10^{-9} cm/sec for typical GCL thickness. This flux value should not be used for equivalency calculations unless gradient used represent field conditions. A flux test using gradients that represent field conditions must be performed to determine equivalency. The last 20 weekly values prior to end of the production date of the supplied GCL may be provided.
6. ASTM D 5321-08 (geosynthetics) or D 6243 (GCLs) internal direct shear performed on GCL sample hydrated under 200 psf normal load and then sheared at 0.2 in./min. max for Procedure A and 0.04 in/min for Procedure B. Use wet conditions as per ASTM D 5321. The testing is required prior to construction of the first ECS Cell.
7. GCL Panels will be installed using the manufacturer's recommended overlap distances.
8. The use of geomembrane backed GCL's must be approved by the POR and TCEQ prior to use.

**City of Laredo Landfill Permit Amendment 1693B
City of Laredo, Texas
Permit Amendment MSW Permit 1693B
Laredo, Texas
Webb County, Texas
August 2014**

**PART III
Attachment 11
Groundwater Sampling and Analysis Plan**



Original Prepared by City of Laredo – April 1966
Revised by Drukell Trahan, R.P.G., Rust Environment and Infrastructure, December 1998
Revised by SCS Engineers – September 2006
Revised by Stephen Phillips, P.G., PS Phillips Environmental – December 2013

**LAREDO LANDFILL
PART III
Attachment 11
Groundwater Sampling and Analysis Plan**

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Figure III.11.1 Groundwater Monitoring System Map

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III.11.1 Groundwater Elevations

III.11.2 Quality Control Specification Limits for PQLs

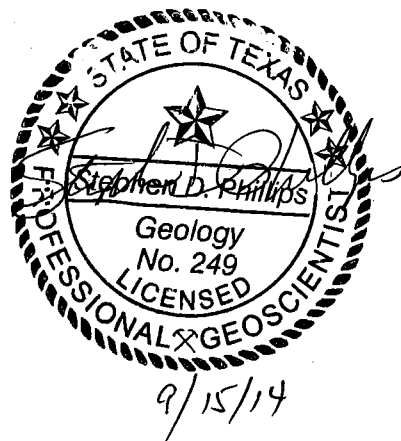
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Appendix III.11.1 Well Construction Details

Appendix III.11.2 Groundwater Flow Direction Maps

Appendix III.11.3 Precipitation Data

Appendix III.11.4 Groundwater Certifications



EXECUTIVE SUMMARY

This Groundwater Sampling and Analysis Plan (GWSAP) is provided to present the groundwater monitoring system, sampling and analysis procedures, the reporting of results, and the assessment monitoring program for the City of Laredo Landfill (CLLF). The monitoring system is currently comprised of 15 point of compliance (POC) wells and 2 upgradient wells screened in the greenish-gray sandstone of the Layer II stratum of the Laredo Formation. These deposits represent the uppermost aquifer at the CLLF. The POC wells are located at the POC along the west, north, and east sides of the landfill. Historically, groundwater in Layer II has flowed in a north and northeasterly direction.

Sampling of groundwater from the POC wells will be conducted using dedicated pneumatic bladder pumps after measuring water levels. Sample progression will be based on the highest water level to lowest unless contamination is suspected to be present. Samples will not be filtered and will be field tested as appropriate, labeled, and preserved for shipment to, and analysis by, a National Environmental Laboratory Accreditation Conference (NELAC) qualified laboratory.

The reporting of groundwater sampling and analyses will be in accordance with §330.407 "Detection Monitoring Program for Type I Landfills." The report will determine whether there has been a statistically significant increase over background of any tested constituent at any compliance well.

As of the time of this application, no plume of contamination has entered the groundwater from a municipal solid waste management area at the CLLC. Section C, Groundwater Sampling and Analysis Procedures, presents the information on a detection monitoring program that meets the requirements of 30 TAC Section §330.407 (relating to Detection Monitoring Program for Type I Landfills).

Based on a review of the groundwater chemistry over the past years and the amount of precipitation received at or near the site, the City is requesting an arid exemption for the CLLF. A plan to phase into the arid exemption is included at the end of Section B, Groundwater Monitoring System.

1.0 General

The GWSAP for CLLF will be conducted in general accordance with the Municipal Solid Waste Management Regulations as listed in 30 TAC 330, §§330.401-330.421.

The intent of the GWSAP is to provide accurate representation of groundwater quality at the background and downgradient wells located at the facility by including all aspects of groundwater monitoring, purging, and sampling and analysis.

2.0 Groundwater Monitoring System

The Groundwater Monitoring System (GWMS) for the CLLF is designed to comply with the requirements of 30 TAC §330.403 "Groundwater Monitoring System." The CLLF site will use 17 monitoring wells placed at locations shown on Figure III.11.1 monitoring the Layer II stratum of the Laredo Formation. Monitoring wells MW-4R1 and MW-12 are the upgradient wells. Appendix III.11.1 presents the construction details of the existing wells.

A series of groundwater flow maps prepared by SCS Engineers using groundwater data from June 2004, 2006, and 2007 indicate flow from the southwestern corner (MW-4R1) toward the north, northeast, and east (Appendix III.11.2). Groundwater elevations from more recent data (November 2011 and November 2012) substantiate the same directions. Table 1 presents the groundwater elevations for the 2007, 2011, and 2012 dates.

The point of compliance (POC) for the landfill is a line connecting the downgradient monitoring wells from MW-22 clockwise to MW-5.

If or when any existing wells require abandonment or plugging, the well(s) will be abandoned and plugged in accordance with 16 TAC §76.702 (relating to Responsibilities of the Licensee and Landowner--Well Drilling, Completion, Capping and Plugging) and §76.1004 (relating to Technical Requirements--Standards for Capping and Plugging of Wells and Plugging Wells that Penetrate Undesirable Water or Constituent Zones).

The monitoring frequency for the 17 wells shall be semi-annually, unless otherwise approved, during the active life of the facility and during closure and post-closure periods. Background data sets may be updated once every two years with semi-annual detection results that are demonstrated to be representative of background water quality after submitting the proposed data set to TCEQ and receiving permission to make the changes. At least one sample from all wells will be collected and analyzed during each subsequent semiannual sampling event.

**TABLE III.11.1
GROUNDWATER ELEVATIONS**

Location	June 2007	November 2011	November 2012
	Elevations in feet (MSL)		
MW-1	435.64	Plugged	
MW-2	435.96	Plugged	
MW-3R2	435.88	Plugged	
MW-4R1 (U)	479.61	483.00	483.05
MW-5 (D)	426.51	436.32	437.67
MW-6 (D)	424.60	429.92	431.04
MW-7 (D)	425.44	430.69	431.84
MW-8	427.65	Plugged	
MW-9	428.36	Plugged	
MW-10	429.03	Plugged	
MW-11 (D)	424.52	428.09	429.14
MW-12 (U)	466.72	471.78	451.18
MW-13 (D)		436.57	439.07
MW-14 (D)		438.90	440.10
MW-15 (D)		440.31	441.94
MW-16 (D)		436.61	437.41
MW-17 (D)		433.03	433.74
MW-18 (D)		432.60	433.35
MW-19 (D)		431.98	432.58
MW-20 (D)		432.00	432.66
MW-21 (D)		431.61	432.33
MW-22 (D)		436.91	437.31
MW-23 (D)		437.63	438.23

The owner or operator shall promptly notify the executive director, and any local pollution agency with jurisdiction that has requested to be notified, in writing of changes in facility construction or operation or changes in adjacent property that affect or are likely to affect the direction and rate of groundwater flow and the potential for detecting groundwater contamination from a solid waste management unit and that may require the installation of additional monitoring wells or sampling points. If such wells or sampling points are required, a modification to the site sampling plan will be requested.

The City proposes to terminate groundwater sampling over a period of time based on an arid exemption. A review of the 2011 and 2012 groundwater monitoring reports indicates that there is currently no groundwater contamination. No volatile organic compounds (VOCs) were detected in any wells. No metals were detected in any wells above federally-promulgated maximum concentration levels (MCLs). The only statistically significant change (SSC) seen was for thallium in MW-12 during the May 2011 sampling event. However, confirmation resampling of MW-12 during the November 2011 sampling event indicated a non-detect for thallium. Therefore the SSC

for thallium from May 2011 was not confirmed. Thallium was not detected during the November 2012 sampling event.

Data obtained from the National weather Service, South Texas Climate Normals from 1981 through 2010 indicate a yearly precipitation average of 20.2 inches.

The Texas Climate Extremes indicates that Laredo is the fifth driest city in Texas with an average rainfall amount of 16.22 inches per year. This statement is based on data from the National Climatic Data Center. It is unknown the period of time from which this average was derived.

The Texas Water Atlas indicates the average annual precipitation for the Laredo area ranges from 20.01 to 25.00 inches based on data from the National Oceanographic and Atmospheric Administration from the years 1971 through 2000. Copies of the above data bases are included in Appendix III.11.3.

The proposed schedule for terminating groundwater monitoring is as follows:

Year 1: Maintain current semi-annual schedule and analysis. Year 1 schedule will be maintained until two consecutive semi-annual results indicated no VOCs present that cannot be reconciled and metals remain below MCLs.

Years 2 and 3: One sampling per year for metals only.

Year 4+: If metals remained below MCLs for years 2 and 3, then groundwater sampling will be discontinued. Groundwater monitoring will return to this schedule beginning with the Year 1 protocol if the quantity of leachate measured decreases by over 10 percent of the previous year's quantity.

3.0 Groundwater Sampling and Analysis Procedures

The Groundwater Sampling and Analysis Procedures for the CLLF are prepared in compliance with the requirements of the Municipal Solid Waste Management Regulations as listed in 30 TAC, Chapter 330-Subchapter J, §§330.405, 330.407, 330.409, and 330.419. These procedures are intended to provide an accurate representation of the groundwater quality at the background and downgradient wells located at the facility.

1. Sampling and Analysis Procedures

For each sampling event, the qualified groundwater scientist (QGWS) will use the following procedures:

- Record water levels of all wells prior to sampling. Determine the flow direction and select the order of well sampling in accordance with §330.405(b) (2). Sampling will be conducted from highest water-level elevation to those of successively lower elevations unless contamination is known to be present, in which case wells not likely to be contaminated will be sampled prior to those known to be contaminated.
- Data collected prior to sampling shall be recorded in a field log and shall include the initial depth to groundwater, measured well depth, height of the water column, well volume, purging discharge rate, well purging time, volume of water purged from the well, a record of pH, conductivity, and temperature readings, information from the well inspection, time of day, weather conditions, the names of the sampling personnel and any other pertinent information.
- Using the dedicated pneumatic bladder pumps and laboratory-supplied containers, purge the well of three well volumes. Store the purge water in suitable containers until the results of the groundwater analysis are received. If concentrations are below levels of concern, the purge water may be discharged to the soil surface (but not to any landfill cell). If concentrations indicate the presence of contaminants, discharge the water at an approved facility.
- The groundwater level shall be measured in the well immediately before sampling (after purging) in order to determine the recovery rate and to determine if there is enough water for sampling. The well shall be sampled within 24 hours after purging, and, if feasible, after the groundwater has recharged to at least 90% of the original static water level. Due to slow recharge rates at wells 3R2, MW -2 and MW -5, these wells may be sampled when recovered water levels are less than 90% of their original static levels. Sampling may extend beyond 24 hours with TCEQ approval if adequate volume is not available to collect the full suite of samples.
- **Samples will not be field filtered.** Collect the samples starting with the most volatile constituents to the least volatile constituents.
- Label each container with the sample number and TCEQ permit number, well number, date and time, sampler name and firm, and analysis requested.
- Properly preserve all samples according to the specifications in the methods, and send to the laboratory in well-sealed, labeled coolers. Add sufficient ice to the coolers to maintain a temperature of 4°C +/- 2°C. Place custody seals on the outside lids of the coolers.
- Field test for pH, temperature, alkalinity, conductance, and/or other tests as may be appropriate. Inspect and calibrate all field instrumentation prior to and following the sampling event. Each field instrument is standardized in the field prior to use, and the standardization/calibration is recorded in the field log. Battery-operated equipment is checked to ensure full operating capacity.
- Prepare field report of sampling event recording:
 - sampling methodology
 - purpose of event (initial sampling, semi-annual event, etc.)

- sampling preservation methods
- sampling sequences
- number and location of samples taken water levels prior to purging
- purging date and time, if different from sampling date field conditions (weather, water turbidity, etc.)
- field measurements
- sample collector's name
- chain-of-custody forms and method of transport to laboratory

Analysis for the detection monitoring events shall include the 62 constituents (15 metals and 47 VOCs) listed in 40 CFR 258 Appendix I, July 14, 2005, as referenced by 30 TAC §330.419. The analytical testing shall be conducted by a properly equipped and qualified laboratory using the appropriate testing methods for the specified constituents, as established by *Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, EPA SW-846*. The laboratory shall have a documented quality control program, incorporating quality assurance criteria by established review and testing programs.

Laboratory analyses will use as a practical quantitation limit (PQL) the lowest concentration level that can be reliably achieved within specified limits of precision and accuracy during routine laboratory operating conditions available to the facility. The PQL is analogous to the limit of quantitation (LOQ) definition in the most recent NELAC (National Environmental Laboratory Accreditation Conference) Standard. The PQL is method specific, instrument specific, medium specific, and analyte specific, and may be updated as more data becomes available. The PQL must be below the groundwater protection standard established for that analyte as defined by 30 TAC §330.409(h), unless approved otherwise by the TCEQ. The precision and accuracy of the PQL shall be initially determined from the PQLs reported over the course of a minimum of eight groundwater monitoring events. The results obtained from these events shall be used to demonstrate that the PQLs meet the specified precision and accuracy as shown below in **Table 2**. Laboratory standards, which include a laboratory reagent grade sample matrix spiked with the chemicals of concern (COC), will be used to support the PQL. A PQL check will be performed at least quarterly during the calendar year to demonstrate that the PQL continues to meet the specified limits for precision and accuracy as defined in the table below.

Table III.11.2
Quality Control Specification Limits for PQLs

COC	Precision (% RSD)	Accuracy (% Recovery)
Metals	10	70-130
Volatiles	20	50-150
Semi-volatiles	30	50-150

For analytes that the established PQL cannot meet the precision and accuracy requirements of Table 1, the owner/operator will ensure that the laboratory will

submit sufficient documentation and information to the TCEQ for alternate precision and accuracy limits on a case by case basis. Non-detected results will be reported as less than the established PQL limit that meets the precision and accuracy requirements.

2. Statistical Methods for Determination of Statistically Significant Change (SSC)

In accordance with §330.405(e) and (f), statistical analysis of groundwater data at this site will be performed using an intra-well control chart approach that gives control limits for each constituent. Statistical parameters shall be determined after considering the number of samples in the background database, the data distribution, and the range of values for each constituent of concern. Statistical parameters shall be selected to be protective of human health and the environment and to provide a site-wide false negative rate for a five standard deviation release (the chance of failing to report a release from the landfill of five standard deviations above the mean) of less than 5%. Parameters will also be chosen to maintain a false positive rate below 5%.

Existing wells already have a background database used for statistical analyses. Any new wells will collect at least four statistically independent samples on a quarterly basis as outlined in Section B. Every two years, additional groundwater sampling data may be incorporated into the background dataset (after submitting the proposed data set to TCEQ and receiving permission) for each well so long as the new data is representative of background groundwater quality and does not include a statistically significant change from background due to waste management activities.

Nonparametric limits will be used for constituents which are rarely or never detected and whose data are not normally distributed. For constituents whose background data are all non-detects after 13 samples, the limit will be set at the median quantification limit for that constituent in that well. Constituents which are detected less than 25% of the time will use a limit equal to the highest of the detected background concentrations or the median quantification limit.

Verification resampling is an integral part of the statistical methodology used for this site. Verification resampling allows the application of a much smaller prediction limit, therefore minimizing both the false positive and false negative rates. Under this procedure, a statistically significant increase is not declared and should not be reported until the results of the verification are known. The probability of an initial exceedance is much higher than 5% for the site as a whole.²

4.0 Reporting of Sample Analysis Results

The reporting of groundwater sampling and analyses will be in accordance with §330.407 "Detection Monitoring Program for Type I Landfills." Within 60 days of each sampling

² ASTM D6312-98, "Standard Guide for Developing Appropriate Statistical Approaches for Ground-Water Detection Monitoring Programs." (5.1.3)

event, the City will determine whether there has been a statistically significant increase over background of any tested constituent at any compliance well. Statistically significant increases over background will be reported in writing to the TCEQ and any local pollution agency with jurisdiction requesting to be notified within 14 days of the determination. If there has been an initial exceedance, a verification resampling report will be submitted 60 days of the verification resampling event, and the City will verify whether there has been a statistically significant increase over background. The TCEQ and any local pollution agency with jurisdiction requesting to be notified will be notified in writing of any verified statistically significant increases within 14 days of the determination, and the owner/operator will immediately place a notice describing the increase into the operating record and then establish an assessment monitoring program meeting the requirements of §330.409 within 90 days of the date of the notice to TCEQ.

If a statistically significant increase over background of any tested constituent at any compliance well has occurred and the City has reasonable cause to think that a source other than a monitored landfill unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality, then the City will submit a report providing documentation to this effect. In making a demonstration under this paragraph, the City will notify TCEQ, and any local pollution agency with jurisdiction that has requested to be notified, in writing, within 14 days of determining a statistically significant increase over background at the compliance point that the City intends to make this demonstration. Within 90 days of determining a statistically significant increase, the City will submit a report to TCEQ, and any local pollution agency with jurisdiction that has requested to be notified, that demonstrates that a source other than a monitored landfill unit caused the contamination or that the statistically significant increase resulted from error in sampling, analysis, statistical evaluation, or natural variation in groundwater quality. Groundwater samples collected for this documentation will not be filtered prior to laboratory analysis and the City will continue to monitor in accordance with the detection monitoring program. The report will be prepared and certified by a QGWS.

If the demonstration is not determined satisfactory by TCEQ, then the City will begin assessment monitoring as described in Section E of this GWSAP.

If an initial exceedance fails to verify, then no statistically significant change has occurred and no reporting is necessary prior to the annual report and the City will continue with detection monitoring.

The City will submit an annual detection monitoring report within 90 days after the second semi-annual groundwater sampling event in a calendar year. The report will include the following information determined since the previously submitted annual report:

² ASTM D6312-98, "Standard Guide for Developing Appropriate Statistical Approaches for Ground-Water Detection Monitoring Programs." (5.1.3)

- a statement regarding whether a statistically significant increase has occurred over background values in any compliance well during the previous calendar year period and the status of any statistically significant increase events;
- the results of all groundwater monitoring, testing, and analytical work obtained or prepared under the requirements of this permit, including a summary of background groundwater quality values, groundwater monitoring analyses, statistical calculations, graphs, and drawings;
- background groundwater concentration measurements of each constituent of concern listed in Appendix I, for each monitoring well;
- a potentiometric map will be included using the data collected during the preceding calendar year's sampling events from the monitoring wells of the detection monitoring program. The owner or operator shall also include in the report all documentation used to determine the groundwater flow rate and direction of groundwater flow; and
- recommendation for any changes.

The City will submit analytical data from the laboratory, a laboratory case narrative (LCN) identifying any potential bias and/or problems during the analysis, and either a laboratory checklist or a copy of the laboratory QA/QC and analytical data to TCEQ. The analytical report, LCN, and the laboratory QA/QC or checklist shall be included with the TCEQ-0312 forms for all groundwater monitoring events. The checklist may be modified as long as the information that is in the enclosure is included in the facility's checklist.

If the City determines that the detection monitoring program no longer satisfies the requirements of this section, the City will submit an application for a permit amendment or modification within 90 days of this determination to make any appropriate changes to the program.

5.0 Assessment Monitoring Program

Assessment monitoring is required whenever a statistically significant increase over background for one or more of the constituents listed in §330.419 has been detected and the City does not provide an explanatory report within 90 days of determining a statistically significant increase has occurred and determining a source other than the Municipal Solid Waste Landfill (MSWLF) unit caused the increase. Assessment monitoring, will be conducted in accordance with §330.409 "Assessment Monitoring Program."

Initiation of the assessment monitoring program will be the collection of one set of groundwater samples within 90 days of determining that a statistically significant increase has occurred in accordance with §330.407(b). The samples will be analyzed for the constituents listed in 40 CFR 258, Appendix II (hereafter referred to as the "assessment constituents"). The owner or operator will then, at least annually, sample and analyze the groundwater monitoring system for the full set of assessment constituents. For any new constituent(s) detected in the POC wells as a result of the complete

Appendix II analysis, a minimum of four statistically independent samples from each background well will be collected and analyzed to establish background levels for the additional constituent(s).

If the QGWS provides evidence that adequate assessment information would be obtained from a reduced number (subset) of wells, the City will petition TCEQ to approve the subset. Additionally, if there is reasonable evidence that any of the assessment constituents are not expected to be derived from the MSWLF unit waste, the City will petition TCEQ to approve a reduced constituent list.

The owner or operator will submit to TCEQ the results from the initial and subsequent sampling events and place them in the operating record within 60 days of each sampling event. Within 90 days of submittal of the results from a sampling event and on a semi-annual basis thereafter, groundwater samples will be collected and analyzed for all assessment constituents. The results will be submitted to TCEQ within 60 days of the sampling event and will place them in the operating record. At least one sample will be collected and analyzed from each background and POC well.

The groundwater protection standard for assessment monitoring will be established based on historical records (where available) and four statistically independent sampling events. The groundwater protection standard for any monitored assessment constituent at the POC for each MSWLF unit will be as follows: (1) for constituents with a maximum contaminant level (MCL) per Section 1412 of the Safe Drinking Water Act (40 CFR Part 141), the MCL for that constituent; or, (2) for constituents for which MCLs have not been established, the MSWLF unit background concentration for the constituent; or (3) for constituents for which the background level is higher than the MCL, the background concentration or the health-based level identified in accordance with 30 TAC 330.409(i).

If the concentrations of all monitored assessment constituents are at or below background values for two consecutive assessment sampling events, the City will notify TCEQ and resume standard detection upon approval.

If the concentrations of all monitored assessment constituents are shown to be below the maximum allowable concentration values, but above background values, the City will continue assessment monitoring.

If concentrations of any assessment constituents are detected at statistically significant levels above allowable levels, the City will:

- notify TCEQ and appropriate local government officials in writing within seven days, install at least one additional monitoring well between the monitoring well with the statistically significant level and the next adjacent wells along the POC before the next sampling event, and sample these wells;
- characterize the nature and extent of the contamination, installing additional monitoring wells as necessary, and notify affected property owners or occupants in writing if contamination is suspected to have migrated offsite; and

- initiate an assessment of corrective action within 90 days of the notification to the TCEQ.

The City will submit an annual assessment monitoring report to TCEQ within 60 days after the second semi-annual groundwater sampling event in a calendar year. The report will include the following information determined since the previously submitted annual report:

- a statement regarding whether a statistically significant increase has occurred over an established groundwater protection standard in any compliance well during the previous calendar year period and the status of any statistically significant increase events;
- the results of all groundwater monitoring, testing, and analytical work obtained or prepared under the requirements of this permit, including a summary of background groundwater quality values, groundwater monitoring analyses, statistical calculations, graphs, and drawings;
- a potentiometric map (if warranted) will be included using the data collected during the preceding calendar year's sampling events from the monitoring wells of the detection monitoring program. The owner or operator shall also include in the report all documentation used to determine the groundwater flow rate and direction of groundwater flow; and
- recommendation for any changes.

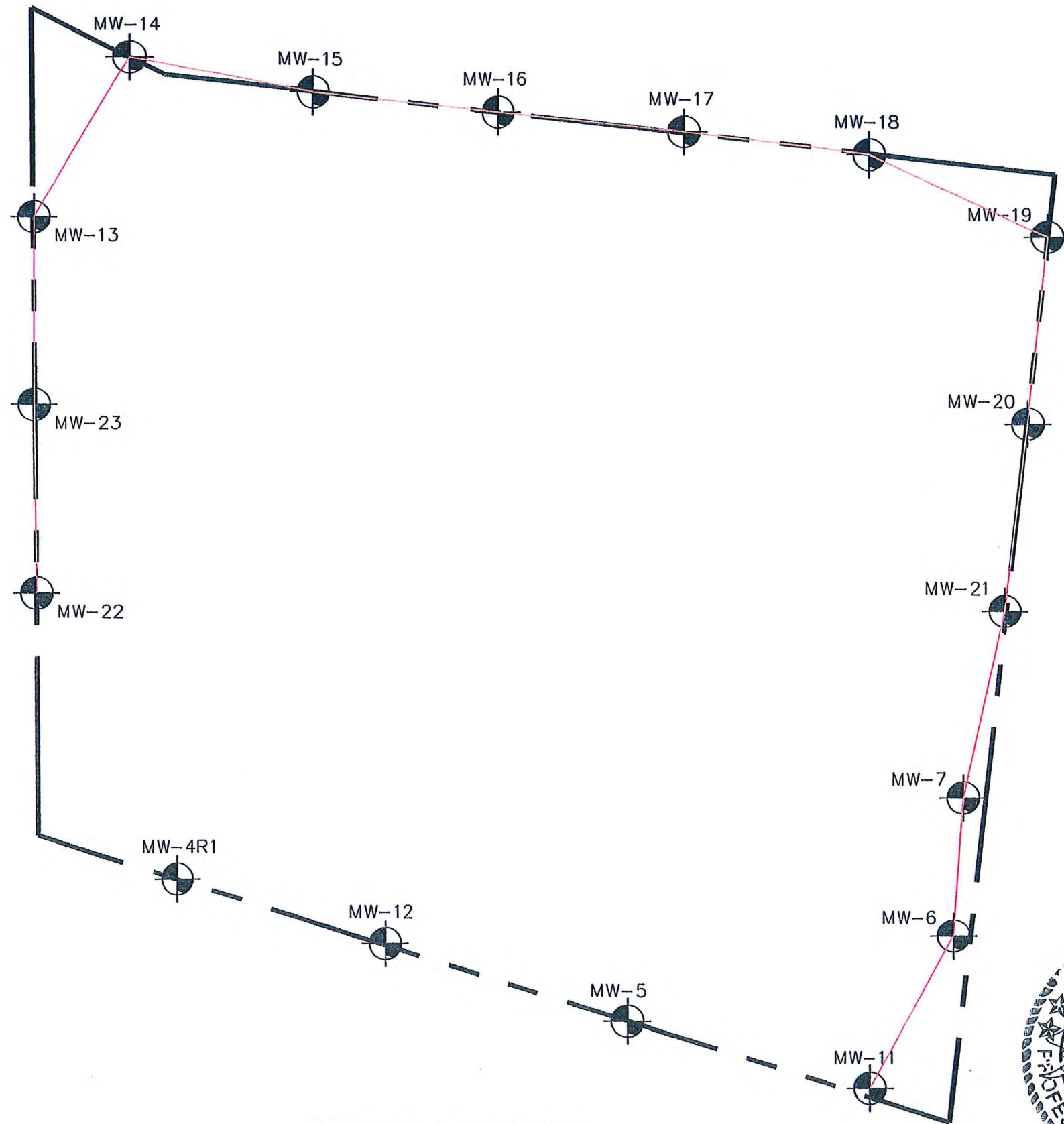
If the City determines that the assessment monitoring program no longer satisfies the requirements of an assessment monitoring program, within 90 days of the determination, the City will submit an application for a permit amendment or modification to make the appropriate changes to the program.

Within 90 days of finding that any of the 40 Code of Federal Regulations Part 258, Appendix II constituents have been detected at a statistically significant level above the groundwater protection standards, the City will initiate an corrective measures assessment. The assessment will meet the requirements of §330.411 and be completed within 180 days of initiating the assessment.

Based on the results of the corrective measures assessment, the City will select a remedy that, at a minimum, meets the standards listed in §330.413(b). Within 30 days of completing the assessment of corrective measures, the City will submit a report to TCEQ for review and approval and place it in the operating record. The report shall describe the remedy or remedies proposed for selection and the way it or they meet the standards.

Based on the schedule established under the corrective measures assessment, the City will establish and implement a corrective action groundwater monitoring program that meets the requirements of an assessment monitoring program, indicates the effectiveness of the corrective action remedy, and demonstrates compliance with groundwater protection standards required by §330.415(f). The City will implement the corrective

action remedy selected and take any interim measures necessary to ensure the protection of human health and the environment.

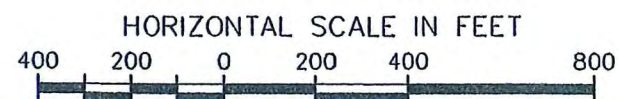
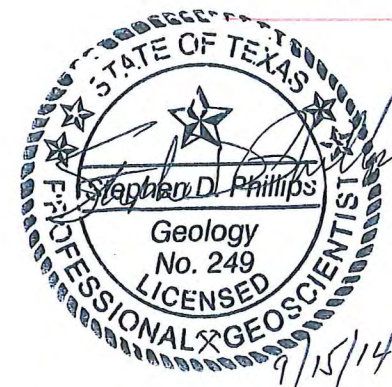


NOTES

1. Permit Boundary based on AZ&B Drawing No. 1, City of Laredo, Site Layout Plan
2. Point of Compliance and Monitoring Well Locations based on SCS Engineers Drawing No. 1, City of Laredo, Site Map

LEGEND

- PERMIT BOUNDARY
 POINT OF COMPLIANCE



LAREDO, TEXAS			
CITY OF LAREDO LANDFILL			
WEBB COUNTY, TEXAS			
MSW PERMIT NO. 1693B			
GROUND WATER MONITORING WELL			
LOCATION MAP			
PS Phillips Environmental			
SCALE	AS SHOWN	JOB No. 12-008	DATE 09/15/14
DRAWN	GPP	APPROVED	SDP
			FIGURE III-11.1

Appendix III.11.1 Well Construction Details

838 Monitor Well Data Sheet

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION
MSWD-8267

Permittee or Site Name: CITY OF LAREDO

County: WEBB

Date of Monitor Well Installation: 11/26/97

Monitor Well: Latitude: N664146.50 Longitude: E1704060.14

Monitor Well Groundwater

Gradient: Upgradient Downgradient X

MSW PERMIT NO: MSW-1693

Monitor Well I.D. No: MW-4R

Date of Monitor Well

Development: 12/15/97

Monitor Well Driller

Name: Jones Environmental Drilling,

License No.: 4931-M

NOTE:

(A) The information shown in the sketch below should be considered the minimum required for an installed ground-water monitor well.

(B) Report All Depths from Surface Elevation and all Elevations relative to Mean Sea Level.

(C) The minimum distance between the inside wall of the Bore Hole and the outside of the Well Casing shall be 2".

(D) Use Flush Screw Joint Casing only, 2" diameter or larger. Recommend 4" diameter minimum & Teflon Taping Casing Joints.

(E) Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist or Engineer Supervising Well Installation: BRENT CHRISTIAN

Static Water Level Elevation (with respect to MSL) after Well Development: 474.88

Name of Geologic Formation(s) in which Well is completed: LAREDO FORMATION

Type of Locking Device: MASTER LOCK

Type of Casing Protection: STEEL SLEEVE

Concrete Surface Pad - Recommend steel reinforcement in the Surface Pad.

Surface Pad Dimensions:

6' X 6'

Surface

Elevation: _____

Top of Protective Collar Elevation: _____

Top of Casing Elevation: 528.75

Surveyor's Pin Elevation: 526.42

Concrete Seal

Depth: 0-50

Casing Seal (Backfill)

Material: CONCRETE

Bentonite Seal

Filter Pack

Filter Pack Material: 20/40

Sterilized Sand or Glass Beads

Bentonite Seal Top
Depth: 50

Elevation: 476.42

Filter Pack Top

Depth: 52

Elevation: 474.42

Well Casing

Type: PVC FLUSH-JOINT

Size (diameter): 4"

(Schedule) or Thickness: 40

Well Screen

Top Depth: 54

Top Elevation: 472.42

Type of Well Screen: PVC FLUSH-

Screen Opening Size: JOINT

0.010

Bottom Cap (Depth: 64)

Bore Hole Diameter: 10"

839 Monitor Well Data Sheet

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION

MSW-8867
MSW-1693

Permittee or Site Name: CITY OF LAREDO

County: WEBB

Date of Monitor Well Installation: 08/22/96

Monitor Well: Latitude: N663385.42 Longitude: E1706464.24

Monitor Well Groundwater

Gradient: Upgradient Downgradient X

MSW PERMIT NO:

Monitor Well I.D. No.: MW-5

Date of Monitor Well

Development: 09/28/97

Monitor Well Driller

Name: WILLIAM BLUDWORTH

License No.: 4885-M

NOTE:

- (A) The information shown in the sketch below should be considered the minimum required for an installed ground-water monitor well.
(B) Report All Depths from Surface Elevation and all Elevations relative to Mean Sea Level.
(C) The minimum distance between the inside wall of the Bore Hole and the outside of the Well Casing shall be 2".
(D) Use Flush Screw Joint Casing only, 2" diameter or larger. Recommend 4" diameter minimum & Teflon Taping Casing Joints.
(E) Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist or Engineer Supervising Well Installation: BRENT CHRISTIAN

Static Water Level Elevation (with respect to MSL) after Well Development: 424.27

Name of Geologic Formation(s) in which Well is completed: LAREDO FORMATION

Type of Locking Device: MASTER LOCK

Type of Casing Protection: STEEL SLEEVE

Concrete Surface Pad - Recommend steel reinforcement in the Surface Pad.

Surface Pad Dimensions:

6' X 6'

Surface

Elevation:

Top of Protective Collar Elevation:

Top of Casing Elevation: 524.97

Surveyor's Pin Elevation: 523.29

Concrete Seal

Depth: 0-92.0

Casing Seal (Backfill)

Material: CONCRETE

Bentonite Seal

Filter Pack

Filter Pack Material: 20/40

Sterilized Sand or Glass Beads

Bentonite Seal Top

Depth: 92.0

Elevation: 431.29

Filter Pack Top

Depth: 95.0

Elevation: 428.29

Well Casing

Type: PVC FLUSH-JOINT

Size (diameter): 4"

Schedule or Thickness: 40

Well Screen

Top Depth: 103.75

Top Elevation: 419.54

Type of Well Screen: PVC FLUSH-JOINT

Screen Opening Size:

0.010

Bottom Cap (Depth: 113.75)

Bore Hole Diameter: 10"

840 Monitor Well Data Sheet

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION
MSWD-2867

Permittee or Site Name: CITY OF LAREDO

County: WEBB

Date of Monitor Well Installation: 09/09/96

Monitor Well: Latitude: N664301.25 Longitude: E1703530.91

Monitor Well Groundwater

Gradient: Upgradient Downgradient X

MSW PERMIT NO: MSW-1693

Monitor Well I.D. No.: MW-6

Date of Monitor Well

Development: 09/29/96

Monitor Well Driller

Name: WILLIAM BLUDWORTH

License No.: 4885-M

NOTE:

- (A) The information shown in the sketch below should be considered the minimum required for an installed ground-water monitor well.
(B) Report All Depths from Surface Elevation and all Elevations relative to Mean Sea Level.
(C) The minimum distance between the inside wall of the Bore Hole and the outside of the Well Casing shall be 2".
(D) Use Flush Screw Joint Casing only, 2" diameter or larger. Recommend 4" diameter minimum & Teflon Taping Casing Joints.
(E) Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist or Engineer Supervising Well Installation: BRENT CHRISTIAN

Static Water Level Elevation (with respect to MSL) after Well Development: 423.41

Name of Geologic Formation(s) in which Well is completed: LAREDO FORMATION

Type of Locking Device: MASTER LOCK

Type of Casing Protection: STEEL SLEEVE

Concrete Surface Pad - Recommend steel reinforcement in the Surface Pad.

Surface Pad Dimensions: 6' X 6'

Surface Elevation: _____

Top of Protective Collar Elevation: _____

Top of Casing Elevation: 490.74

Surveyor's Pin Elevation: 488.38

Concrete Seal
Depth: 0-60.5

Casing Seal (Backfill)
Material: CEMENT

Bentonite Seal

Filter Pack

Filter Pack Material: 20/40
Sterilized Sand or Glass Beads

Bentonite Seal Top
Depth: 60.5 Elevation: 427.88

Filter Pack Top
Depth: 65.0 Elevation: 423.38

Well Screen

Top Depth: 66.71

Top Elevation: 421.67

Type of Well Screen: PVC FLUSH-JOINT

Screen Opening Size:

0.010

Well Casing

Type: PVC FLUSH-JOINT

Size (diameter): 4"

(Schedule) or Thickness: 40

Bottom Cap (Depth: 76.71)

Bore Hole Diameter: 10"

841

Monitor Well Data Sheet

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION
MSWD-8267Permittee or Site Name: CITY OF LAREDOMSW PERMIT NO.: MSW-1693County: WEBBMonitor Well I.D. No.: MW-7Date of Monitor Well Installation: 08/18/96

Date of Monitor Well

Monitor Well: Latitude: N665515.15 Longitude: E1703517.71Development: 09/30/96

Monitor Well Groundwater

Monitor Well Driller

Gradient: Upgradient Downgradient XName: WILLIAM BLUDWORTHLicense No.: 4885-M

NOTE:

(A) The information shown in the sketch below should be considered the minimum required for an installed ground-water monitor well.

(B) Report All Depths from Surface Elevation and all Elevations relative to Mean Sea Level.

(C) The minimum distance between the inside wall of the Bore Hole and the outside of the Well Casing shall be 2".

(D) Use Flush Screw Joint Casing only, 2" diameter or larger. Recommend 4" diameter minimum & Teflon Taping Casing Joints.

(E) Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist or Engineer Supervising Well Installation: BRENT CHRISTIANStatic Water Level Elevation (with respect to MSL) after Well Development: 424.07Name of Geologic Formation(s) in which Well is completed: LAREDO FORMATIONType of Locking Device: MASTER LOCKType of Casing Protection: STEEL SLEEVE

Concrete Surface Pad - Recommend steel reinforcement in the Surface Pad.

Surface Pad Dimensions:

6' X 6'

Surface

Elevation: Top of Protective Collar Elevation: Top of Casing Elevation: 487.54Surveyor's Pin Elevation: 485.42

Concrete Seal

Depth: 0-55.5

Casing Seal (Backfill)

Material: CEMENT

Bentonite Seal

Filter Pack

Filter Pack Material: 20/40Sterilized Sand or Glass Beads

Bentonite Seal Top

Depth: 55.5 Elevation: 429.92

Filter Pack Top

Depth: 58.0 Elevation: 427.42

Well Casing

Type: PVC FLUSH-JOINTSize (diameter): 4"(Schedule or Thickness: 40)

Well Screen

Top Depth: 60.83Top Elevation: 424.59Type of Well Screen: PVC FLUSH-JOINTScreen Opening Size:
0.010Bottom Cap (Depth: 70.83)Bore Hole Diameter: 10"

845

Monitor Well Data Sheet

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSIONPermittee or Site Name: CITY OF LAREDOMSW PERMIT NO: MSW-1693County: WEBBMonitor Well I.D. No.: MW-11Date of Monitor Well Installation: 11/20/97

Date of Monitor Well

Monitor Well: Latitude: N663444.47 Longitude: E1706272.88Development: 12/15/97

Monitor Well Groundwater

Monitor Well Driller

Gradient: Upgradient Downgradient XName: Jones Environmental DrillingLicense No.: 4931-M

NOTE:

- (A) The information shown in the sketch below should be considered the minimum required for an installed ground-water monitor well.
 (B) Report All Depths from Surface Elevation and all Elevations relative to Mean Sea Level.
 (C) The minimum distance between the inside wall of the Bore Hole and the outside of the Well Casing shall be 2".
 (D) Use Flush Screw Joint Casing only, 2" diameter or larger. Recommend 4" diameter minimum & Teflon Taping Casing Joints.
 (E) Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist or Engineer Supervising Well Installation: BRENT CHRISTIANStatic Water Level Elevation (with respect to MSL) after Well Development: 423.38Name of Geologic Formation(s) in which Well is completed: LAREDO FORMATIONType of Locking Device: MASTER LOCKType of Casing Protection: STEEL SLEEVE

Concrete Surface Pad - Recommend steel reinforcement in the Surface Pad.

Surface Pad Dimensions:

6' X 6'Surface
Elevation: Top of Protective Collar Elevation: Top of Casing Elevation: 494.74Surveyor's Pin Elevation: 492.42

Concrete Seal

Depth: 0-61

Casing Seal (Backfill)

Material: CONCRETE

Bentonite Seal

Filter Pack

Filter Pack Material: 20/40Sterilized Sand or Glass Beads

Bentonite Seal Top

Depth: 61Elevation: 431.42

Filter Pack Top

Depth: 67Elevation: 425.42

Well Casing

Type: PVC FLUSH-JOINTSize (diameter): 4"Schedule or Thickness: 40

Well Screen

Top Depth: 71Top Elevation: 421.42Type of Well Screen: PVC FLUSH-JOINT

Screen Opening Size:

0.010Bottom Cap (Depth: 81)Bore Hole Diameter: 10"

846 Monitor Well Data Sheet

TEXAS NATURAL RESOURCE
CONSERVATION COMMISSION

Permittee or Site Name: CITY OF LAREDO

County: WEBB

Date of Monitor Well Installation: 11/25/97

Monitor Well: Latitude: N663949.54 Longitude: E1704658.46

Monitor Well Groundwater

Gradient: Upgradient ☐ Downgradient ☒

MSW PERMIT NO: MSW-1693

Monitor Well I.D. No.: MW-12

Date of Monitor Well

Development: 12/15/97

Monitor Well Driller

Name: Jones Environmental Drilling

License No.: 4931-M

NOTE:

(A) The information shown in the sketch below should be considered the minimum required for an installed ground-water monitor well.

(B) Report All Depths from Surface Elevation and all Elevations relative to Mean Sea Level.

(C) The minimum distance between the inside wall of the Bore Hole and the outside of the Well Casing shall be 2'.

(D) Use Flush Screw Joint Casing only, 2" diameter or larger. Recommend 4" diameter minimum & Teflon Taping Casing Joints.

(E) Well development should continue until water is clear, and pH and conductivity are stable.

Geologist, Hydrologist or Engineer Supervising Well Installation: BRENT CHRISTIAN

Static Water Level Elevation (with respect to MSL) after Well Development: 451.11

Name of Geologic Formation(s) in which Well is completed: LAREDO FORMATION

Type of Locking Device: MASTER LOCK

Type of Casing Protection: STEEL SLEEVE

Concrete Surface Pad - Recommend steel reinforcement in the Surface Pad.

Surface Pad Dimensions:

6' X 6'

Surface
Elevation: _____

Concrete Seal
Depth: 0-58

Casing Seal (Backfill)

Material: CONCRETE

Bentonite Seal

Filter Pack

Filter Pack Material: 20/40

Sterilized Sand or Glass Beads

Well Screen

Top Depth: 63.5

Top Elevation: 452.93

Type of Well Screen: PVC FLUSH-

Screen Opening Size:

0.010

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Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Monitor Well I.D. No.: MW-13

Date of Installation: 06-02-09

Date of Development: 6-9-09

Northing: 17070555

Easting: 687677

Well Driller Name and License Number Brian Kern #54611

Method of well development Surging and pumping

SCS Field Staff Supervising Installation: Dave Maves

Static Water Level after Well Development: 74.03'

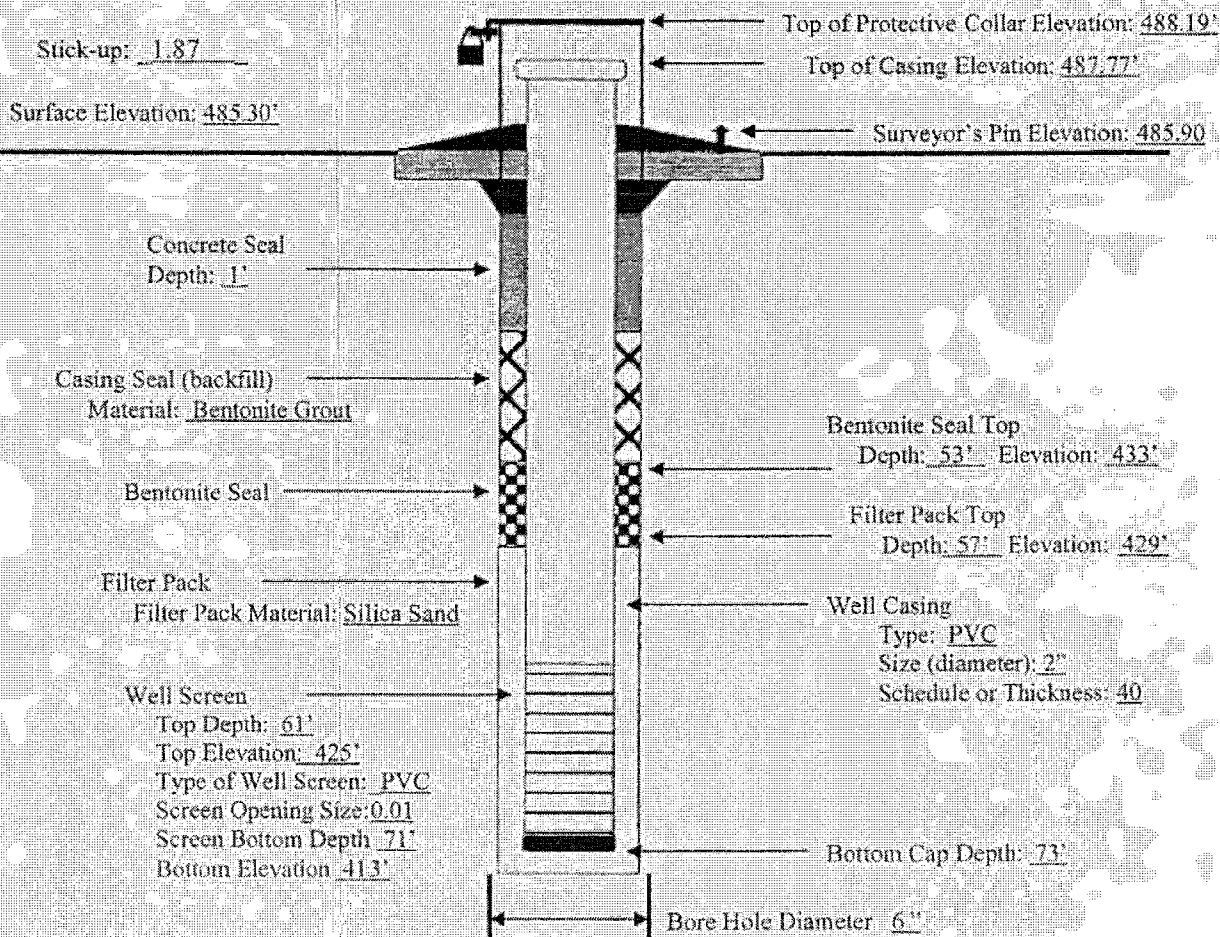
Name of Geologic Formation(s) in which Well is completed: Laredo

Type of Locking Device: Pad Lock

Type of Case Protection: Steel

Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'

Stick-up: 1.87



Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Monitor Well I.D. No.: MW-14

Date of Installation: 05-20-09

Date of Development: 6-9-09

Northing: 17071080 Easting: 687973

Well Driller Name and License Number Brian Kern #54611

Method of well development Surging and pumping

SCS Field Staff Supervising Installation: Dave Mayes

Static Water Level after Well Development: 54.27'

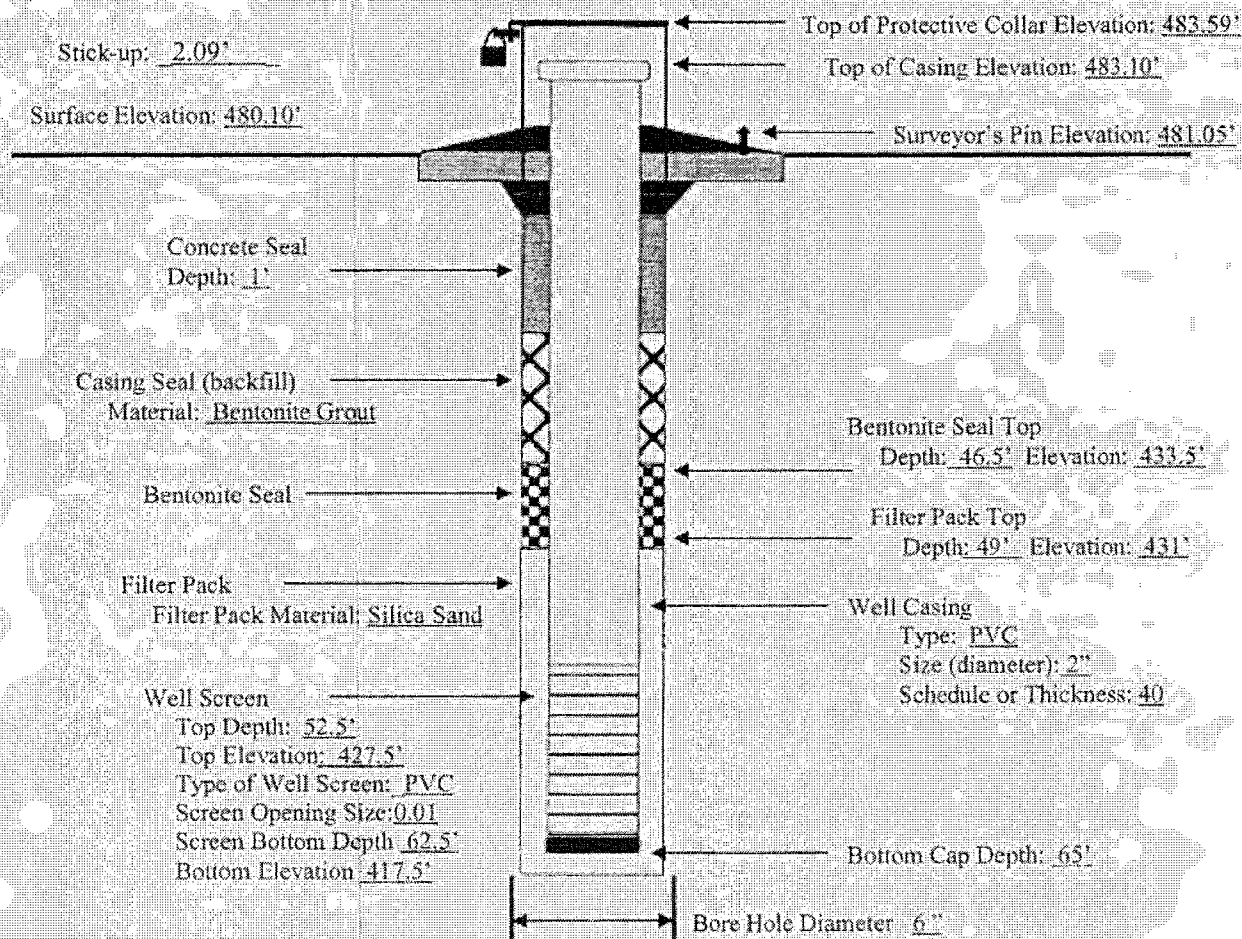
Name of Geologic Formation(s) in which Well is completed: Laredo

Type of Locking Device: Pad Lock Type of Case Protection: Steel

Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'

Stick-up: 2.09'

Surface Elevation: 480.10'



Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Monitor Well I.D. No.: MW-15

Date of Installation: 05-21-09

Date of Development: 6-9-09

Northing: 17070970

Easting: 688562

Well Driller Name and License Number: Brian Kern #54611

Method of well development: Surging and pumping

SCS Field Staff Supervising Installation: Dave Mayes

Static Water Level after Well Development: 46.4

Name of Geologic Formation(s) in which Well is completed: Laredo

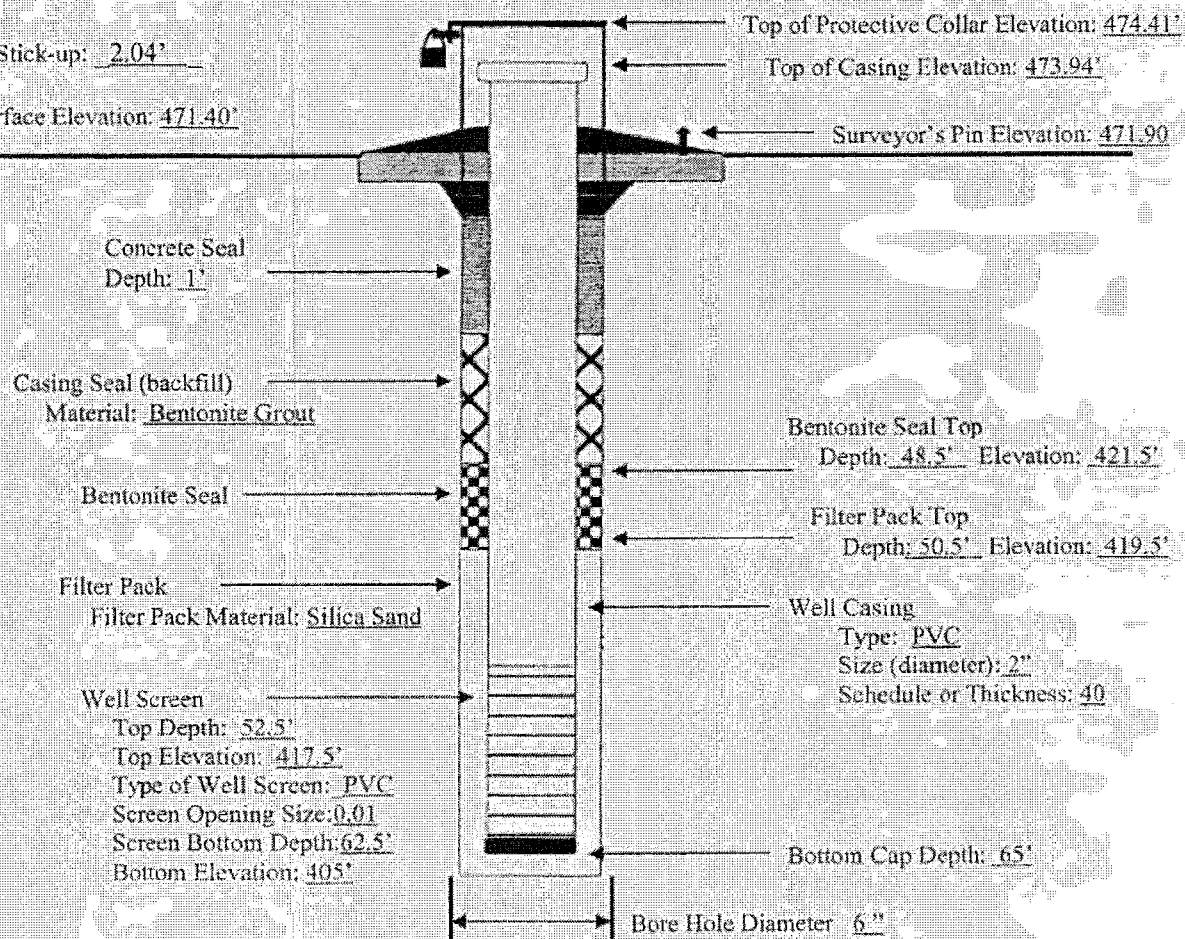
Type of Locking Device: Pad Lock

Type of Case Protection: Steel

Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'

Stick-up: 2.04'

Surface Elevation: 471.40'



Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Monitor Well I.D. No.: MW-16

Date of Installation: 05-20-09

Date of Development: 6-9-09

Northing: 17070908

Easting: 689158

Well Driller Name and License Number Brian Kern #54611

Method of well development Surging and pumping

SCS Field Staff Supervising Installation: Dave Maves

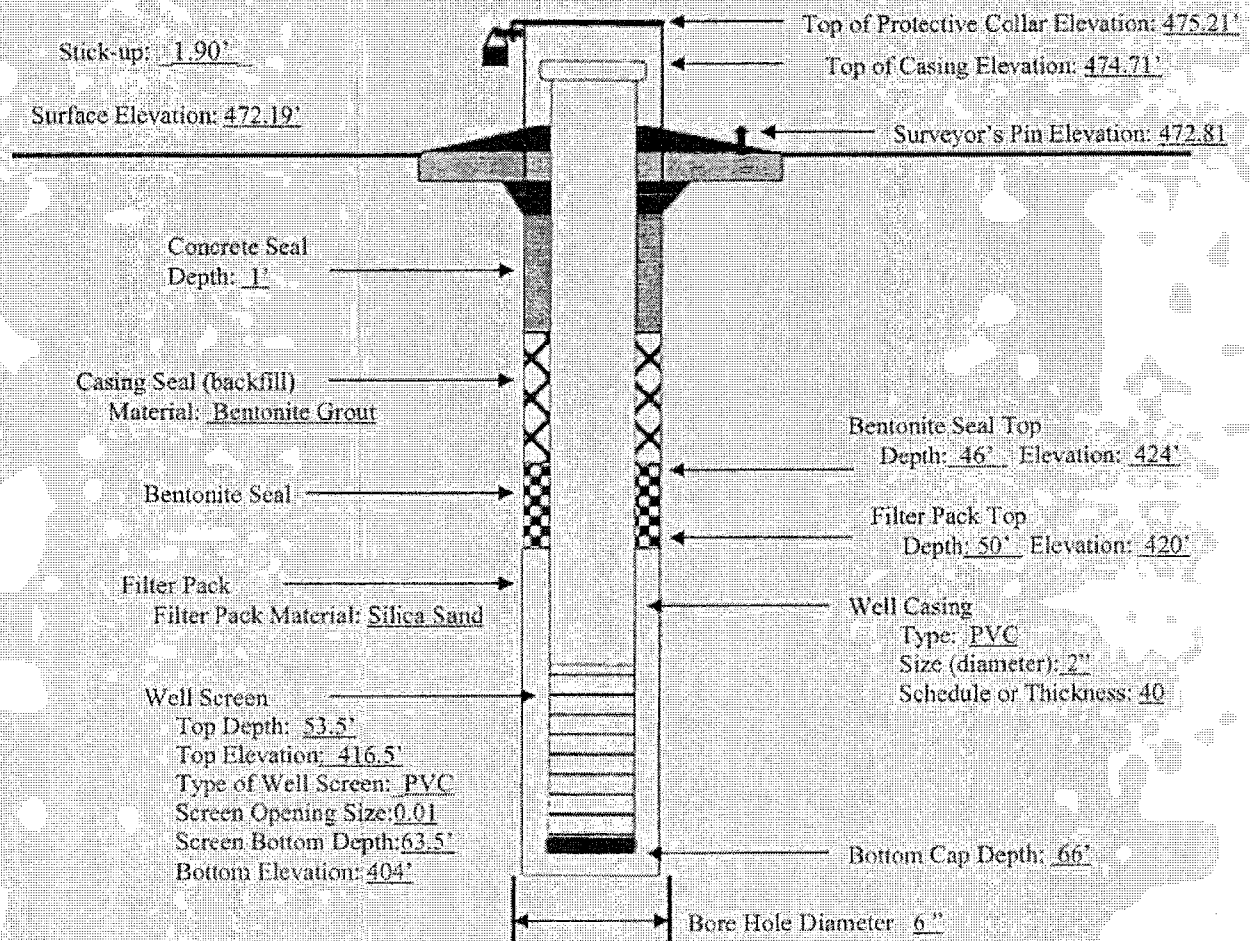
Static Water Level after Well Development: --

Name of Geologic Formation(s) in which Well is completed: Laredo

Type of Locking Device: Pad Lock

Type of Case Protection: Steel

Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'



Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Monitor Well I.D. No.: MW-17

Date of Installation: 05-31-09

Date of Development: 6-9-09

Northing: 17070845

Easting: 689755

Well Driller Name and License Number Brian Kern #54611

Method of well development Surging and pumping

SCS Field Staff Supervising Installation: Gail Davis

Static Water Level after Well Development: 58.12'

Name of Geologic Formation(s) in which Well is completed: Laredo

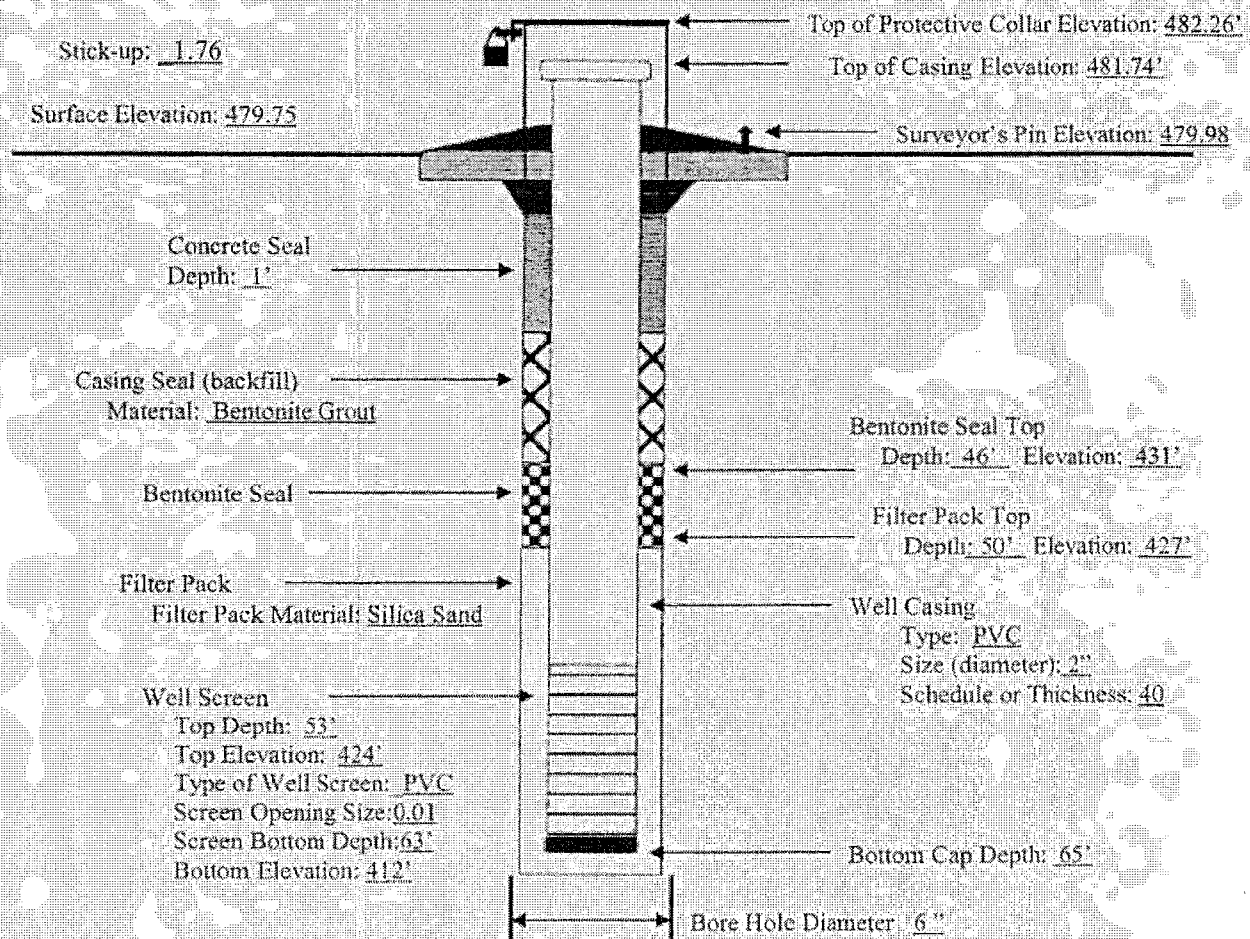
Type of Locking Device: Pad Lock

Type of Case Protection: Steel

Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'

Stick-up: 1.76

Surface Elevation: 479.75



Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Date of Installation: 06-03-09

Northing: 17070780

Well Driller Name and License Number Brian Kern #54611

Method of well development Surging and pumping

Monitor Well I.D. No.: MW-18

Date of Development: 6-10-09

Easting: 690351

SCS Field Staff Supervising Installation: Gail Davis

Static Water Level after Well Development: 53.10'

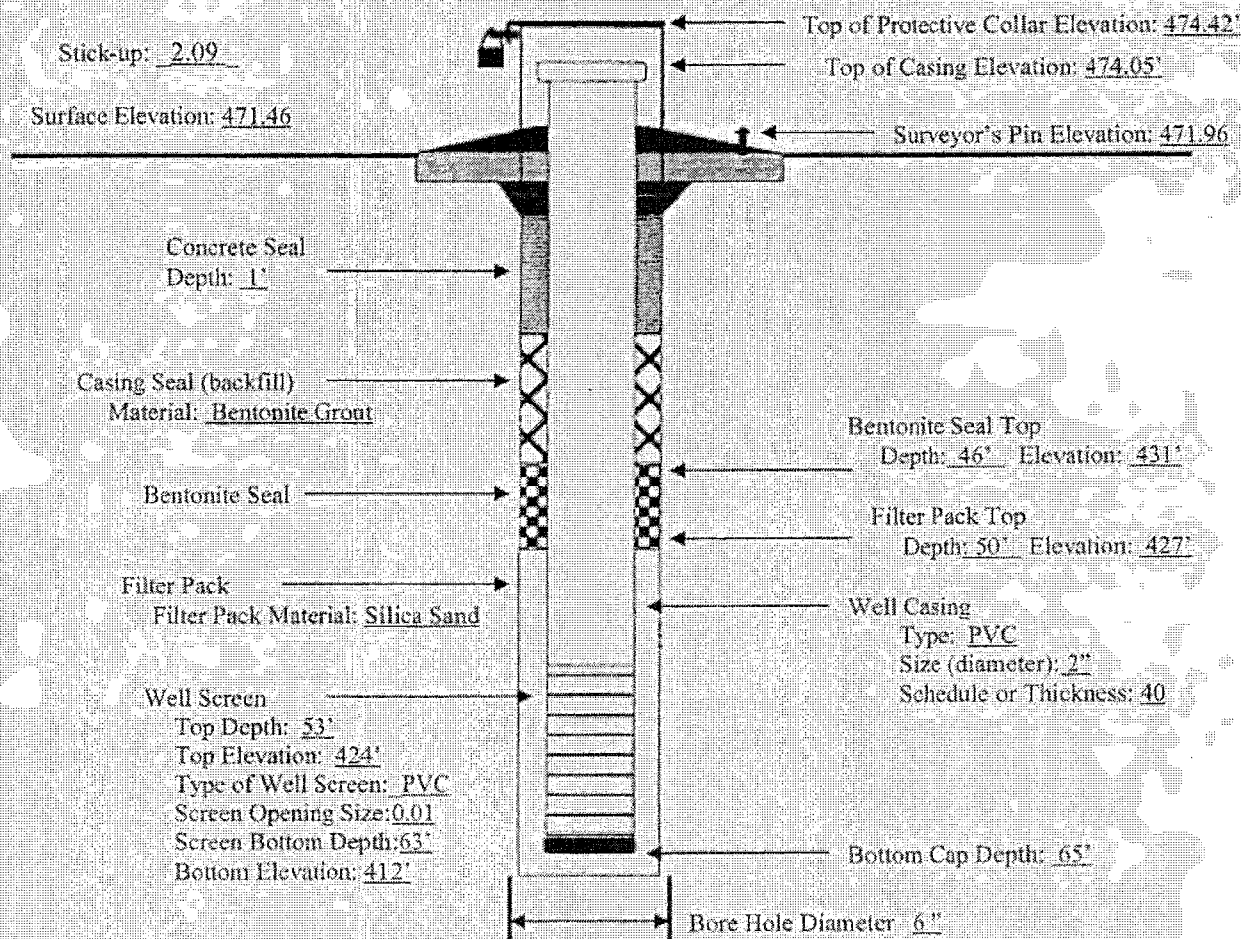
Name of Geologic Formation(s) in which Well is completed: Laredo

Type of Locking Device: Pad Lock Type of Case Protection: Steel

Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'

Stick-up: 2.09

Surface Elevation: 471.46



Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Monitor Well I.D. No.: MW-19

Date of Installation: 05-14-09

Date of Development: 6-3-09

Northing: 17070571

Easting: 690931

Well Driller Name and License Number Brian Kern #54611

Method of well development Surging and pumping

SCS Field Staff Supervising Installation: Gail Davis

Static Water Level after Well Development: 43.0'

Name of Geologic Formation(s) in which Well is completed: Laredo

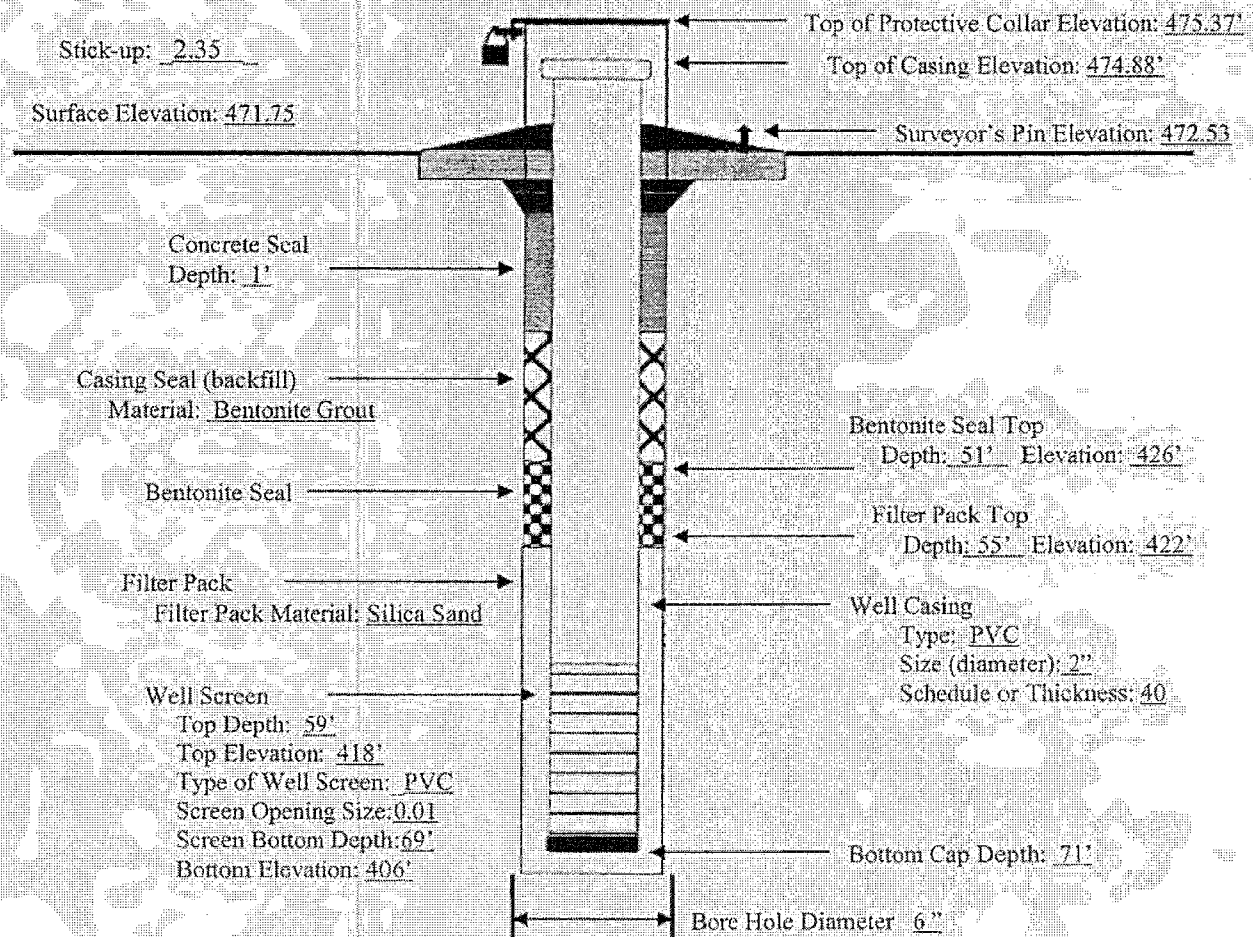
Type of Locking Device: Pad Lock

Type of Case Protection: Steel

Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'

Stick-up: 2.35

Surface Elevation: 471.75



Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Date of Installation: 05-27-09

Northing: 17069973

Well Driller Name and License Number Brian Kern #54611

Method of well development Surging and pumping

Monitor Well I.D. No.: MW-20

Date of Development: 6-9-09

Easting: 690866

SCS Field Staff Supervising Installation: Gail Davis

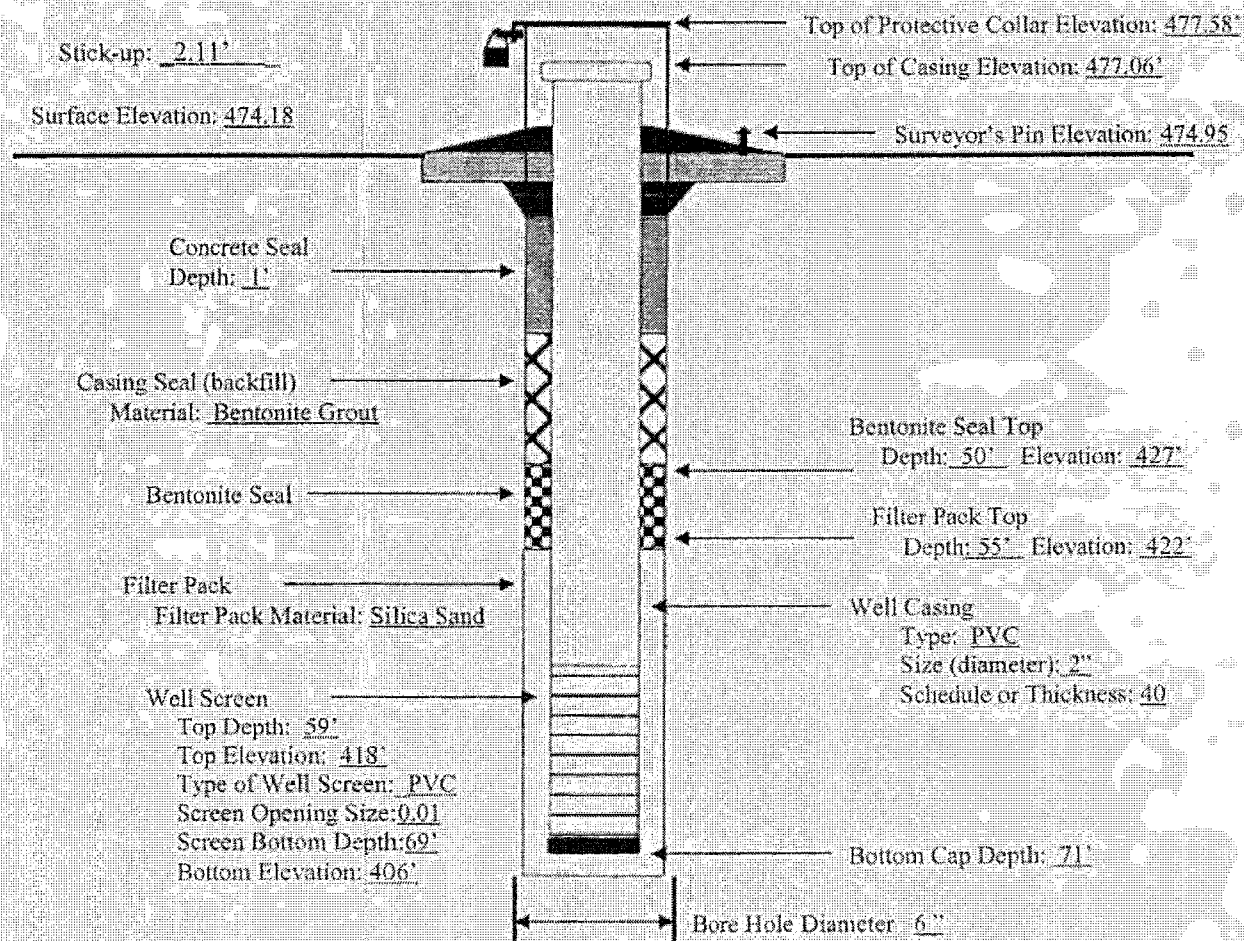
Static Water Level after Well Development: 47.90'

Name of Geologic Formation(s) in which Well is completed: Laredo

Type of Locking Device: Pad Lock

Type of Case Protection: Steel

Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'



Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Monitor Well I.D. No.: MW-21

Date of Installation: 05-28-09

Date of Development: 6-9-09

Northing: 17069377 Easting: 690797

Well Driller Name and License Number Brian Kern #54611

Method of well development Surging and pumping

SCS Field Staff Supervising Installation: Gail Davis

Static Water Level after Well Development: 52.36'

Name of Geologic Formation(s) in which Well is completed: Laredo

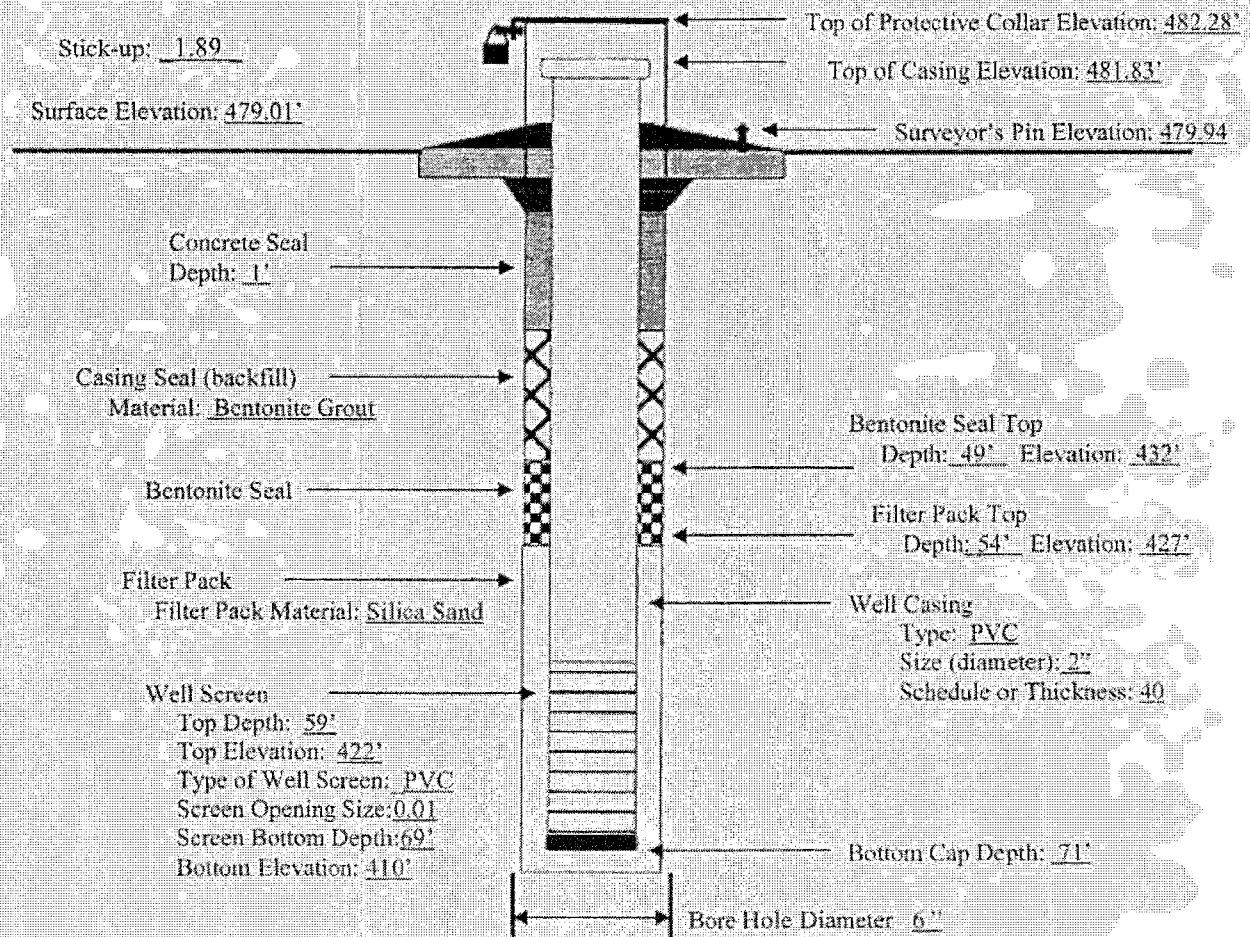
Type of Locking Device: Pad Lock

Type of Case Protection: Steel

Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'

Stick-up: 1.89

Surface Elevation: 479.01'



Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Monitor Well I.D. No.: MW-22

Date of Installation: 05-19-09

Date of Development: 6-9-09

Northing: 17069345

Easting: 687681

Well Driller Name and License Number Brian Kern #54611

Method of well development Surging and pumping

SCS Field Staff Supervising Installation: Dave Mayes

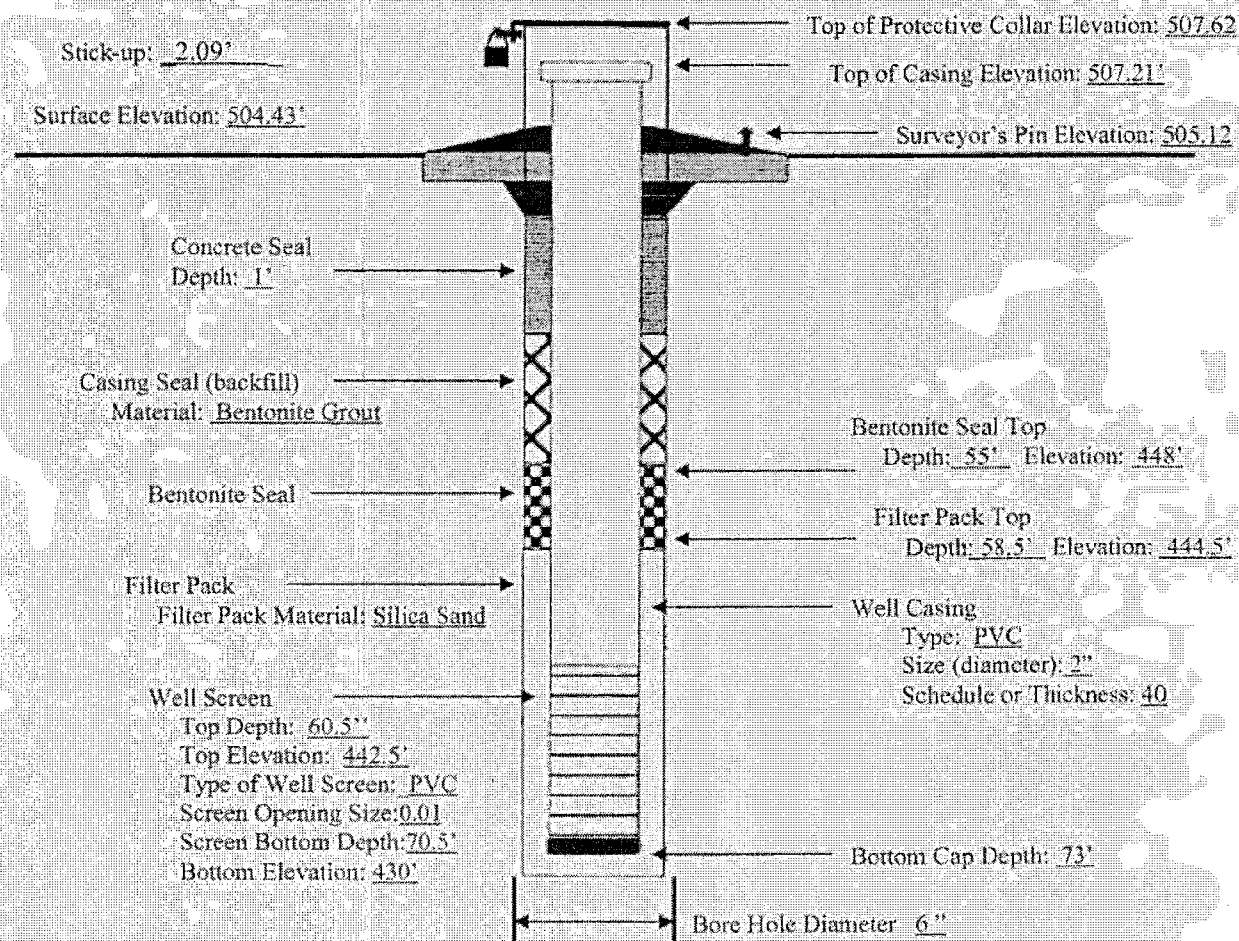
Static Water Level after Well Development: 72.80'

Name of Geologic Formation(s) in which Well is completed: Laredo

Type of Locking Device: Pad Lock

Type of Case Protection: Steel

Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'



Monitoring Well Completion Data

Site Name: City of Laredo Landfill

County: Webb

Monitor Well I.D. No.: MW-23

Date of Installation: 06-1-09

Date of Development: 6-9-09

Northing: 17069956

Easting: 687684

Well Driller Name and License Number Brian Kern #54611

Method of well development Surging and pumping

SCS Field Staff Supervising Installation: Gail Davis

Static Water Level after Well Development: 70.95'

Name of Geologic Formation(s) in which Well is completed: Laredo

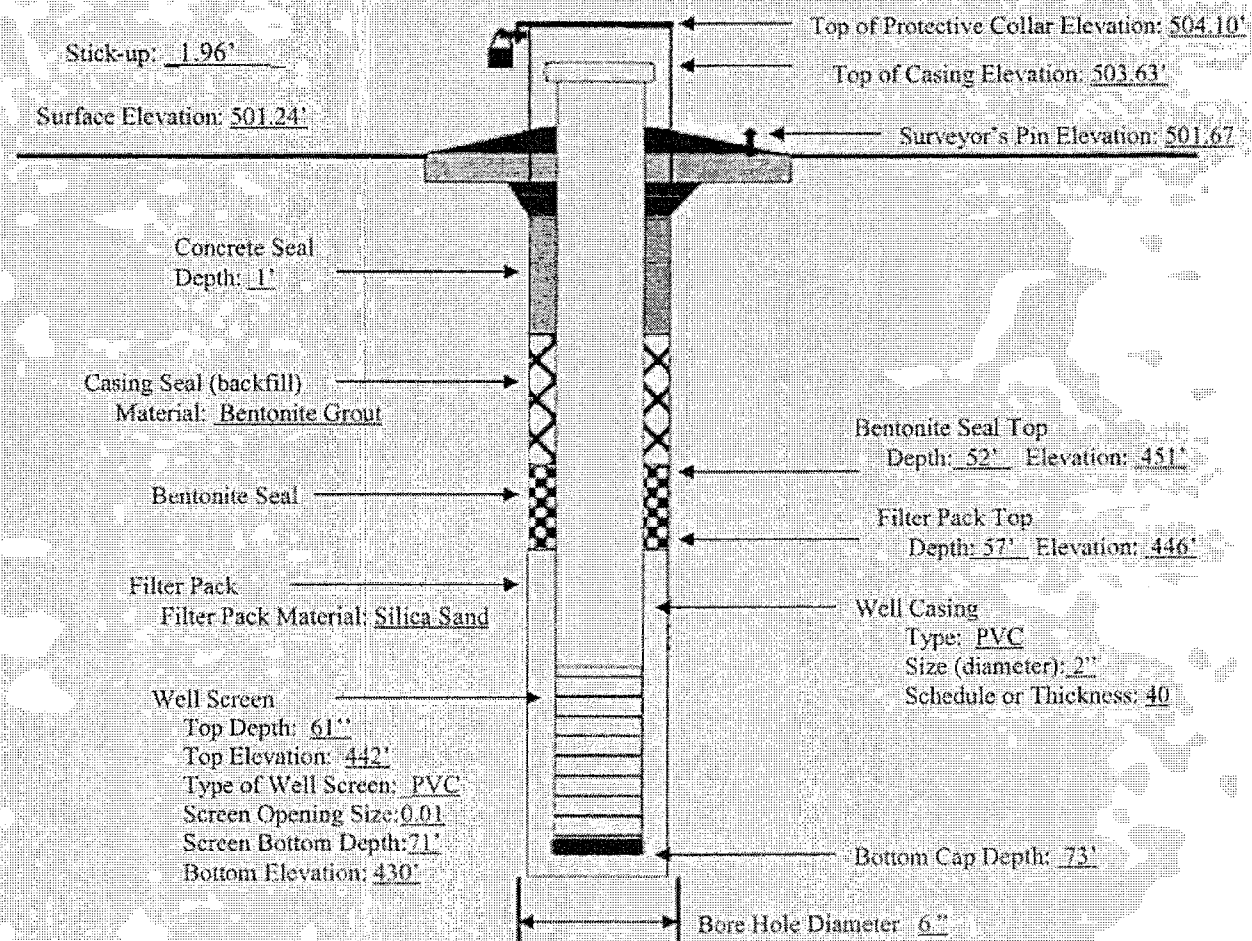
Type of Locking Device: Pad Lock

Type of Case Protection: Steel

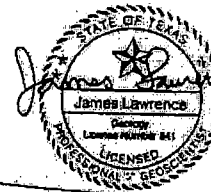
Concrete Surface Pad (with steel reinforcement) Dimensions: 6'X6'

Stick-up: 1.96'

Surface Elevation: 501.24'



Appendix III.11.2 Groundwater Flow Direction Maps



3-31-08

June 2006

0 200 400
SCALE: H. FEET

LEGEND

- 420 — EXISTING CONTOURS
- - - EXISTING FENCE
- - - PERMIT BOUNDARY
- - - ADJACENT PROPERTY LINES
- - - CITY LIMITS
- ⊕ MW-8 EXISTING MONITORING WELL
- GROUNDWATER FLOW DIRECTION
- 429.30 - GROUNDWATER ELEVATION CONTOURS, JUNE 2006

NOTE:
EXISTING GRADES DEVELOPED FROM GROUND SURVEY
COMPLETED AUGUST 3, 2005 THROUGH AUGUST 26, 2005,
FISTER ENGINEERING COMPANY.

50'-WIDE ENTERPRISE
PRODUCTS GAS PIPELINE
(TO BE ABANDONED)

FOR INFORMATION PURPOSES ONLY

HIGHWAY 359

70'-WIDE C.P.L. TRANSMISSION
LINE EASEMENT

MW-2
435.71
8/06

MW-3R2
435.78
8/06

MW-4R1
470.11
8/06

MW-12
467.76
8/06

MW-15
425.85
8/06

MW-11
424.72
8/06

MW-6
434.15
8/06

MW-7
424.88
8/06

MW-8
426.55
8/06

MW-9
427.51
8/06

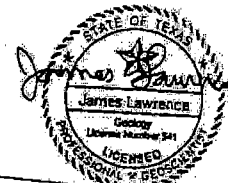
MW-10
427.51
8/06

MW-1
434.98
8/06

NO.	DESCRIPTION	DATE
1	GROUNDWATER FLOW DIRECTION	JUNE 2006
2	PERMIT BOUNDARY	JUNE 2006
3	ADJACENT PROPERTY LINES	JUNE 2006
4	CITY LIMITS	JUNE 2006
5	EXISTING MONITORING WELLS	JUNE 2006
6	GROUNDWATER FLOW DIRECTION	JUNE 2006
7	GROUNDWATER ELEVATION CONTOURS	JUNE 2006

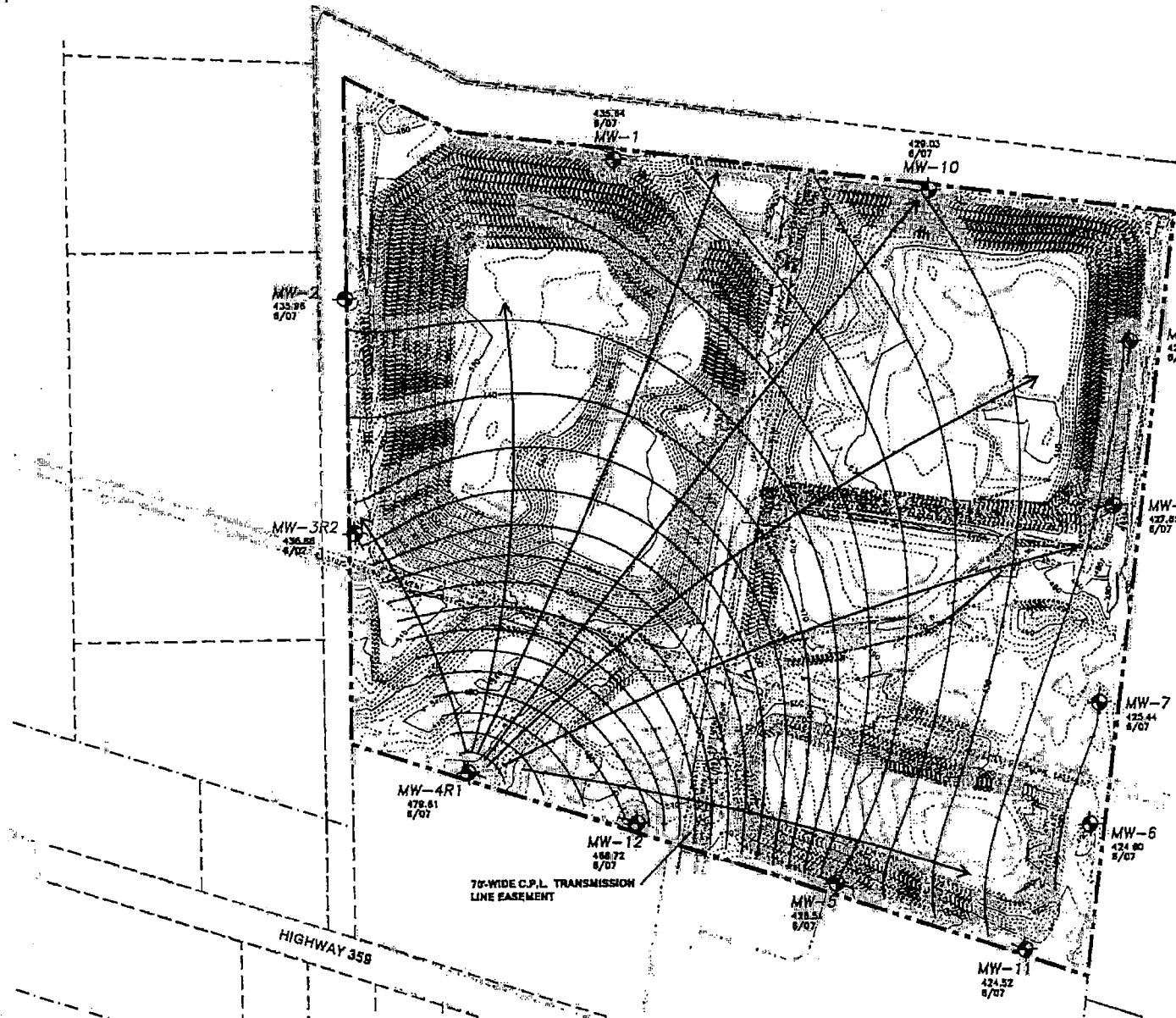
CITY OF LAREDO WEBB COUNTY, TEXAS

SCS ENGINEERS STATION, CORRAL AND BURNETT COUNTY, TEXAS 11/2007	DATE: 11/2007
SCALE: AS SHOWN	DRAWING NO: D.3



3-31-08

June 2007



- LEGEND**
- 400 --- EXISTING CONTOURS
 - EXISTING FENCE
 - - - PERMIT BOUNDARY
 - - - ADJACENT PROPERTY LINES
 - - - CITY LIMITS
 - ⊙ MW-8 EXISTING MONITORING WELL
 - ← GROUNDWATER FLOW DIRECTION
 - 424.52 --- GROUNDWATER ELEVATION CONTOURS, JUNE 2007

NOTE:
EXISTING GRADES DEVELOPED FROM GROUND SURVEY
COMPLETED AUGUST 31, 2005 THROUGH AUGUST 26, 2006,
FOSTER ENGINEERING COMPANY.

50'-WIDE ENTERPRISE
PRODUCTS GAS PIPELINE
(TO BE ABANDONED)

FOR INFORMATION PURPOSES ONLY

PROJECT TITLE		SUBCHAPTER J PERMIT RECOMMENDATION	
CITY OF LAREDO WEBB COUNTY, TEXAS		DATE: 11/2007	
SCALE: AS SHOWN		DATE: 11/2007	
DRAWN BY: D.2		DATE: 11/2007	

Appendix III.11.3 Precipitation Data

National Weather Service Weather Forecast Office Corpus Christi, TX

The New Climatological Normals for the Period 1981-2010

The National Climatic Data Center (NCDC) calculates new climatological normals every 10 years based upon the previous 30-year period. Climatological normals of temperature and precipitation are two of the most common types of normals but many other normals (such as winds, snowfall and heating degree days) are calculated. Prior to July 1, 2011, the 30-year period used in the calculation of climatological normals was from 1971 to 2000. From now through the next decade, the new 30-year period used to calculate climatological normals will be from 1981 through 2010. Officially, these new normals began being used as of August 1, 2011 in our daily climate products:

- [Daily Climate Report for Corpus Christi](#)
- [Daily Climate Report for Victoria](#)
- [Daily Climate Report for Laredo](#)

The new normals (1981-2010) will be incorporated into the 2011 August monthly climate information (which will be produced on September 1, 2011). Our monthly climate products are:

- [Monthly Climate Report for Corpus Christi](#)
- [Monthly Climate Report for Victoria](#)
- [Monthly Climate Report for Laredo](#)

For more information on the new climatological normals, please go to the [NCDC](#) web page. Monthly data exists below (click images for higher resolution) for Corpus Christi, Victoria and Laredo. Additional data will be forthcoming on the [Norms & Records](#) web page.



Texas Climate Extremes

Hottest Texas cities Annual average temperature Cities > 10,000 population	Avg. Temp
1. Mc Allen	74.6
2. Weslaco	74.3
3. Rio Grande City	74.0
4. Mercedes	73.9
5. San Benito	73.9
6. Mission	73.9
7. Brownsville	73.9
8. Harlingen	73.6
9. Alice	72.2
10. Corpus Christi	71.9

Coldest Texas Cities Annual average temperature Cities > 10,000 population	Avg Temp
1. Stratford	55.0
2. Pampa	56.9
3. Amarillo	57.2
4. Plainview	58.4
5. Levelland	59.2
6. Borger	59.2
7. Lubbock	60.2
8. Socorro	60.8
9. Lamesa	61.4
10. Snyder	62.2

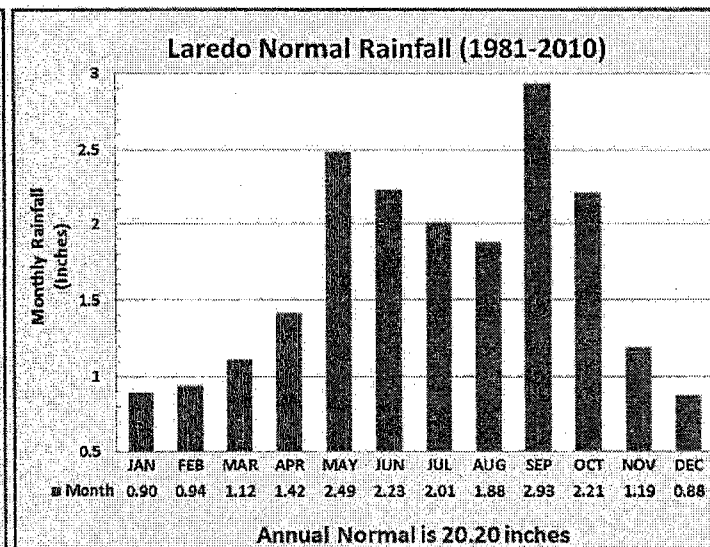
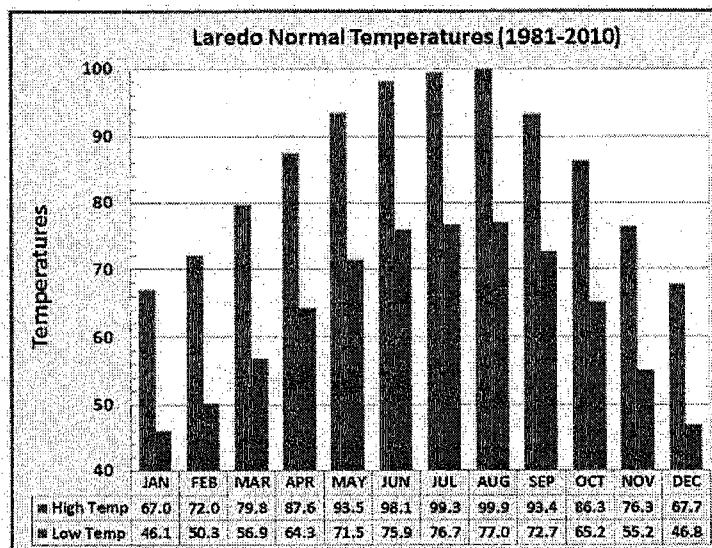
Wettest Texas Cities Annual average precipitation Cities > 10,000 population	Avg Precip
1. Orange	59.76
2. Port Arthur	58.49
3. Houston	56.66
4. Beaumont	55.13
5. Baytown	54.13
6. Angleton	52.84
7. Texarkana	50.54
8. Humble	49.67
9. Nacogdoches	49.53
10. Freeport	49.52

Driest Texas Cities Annual average precipitation Cities > 10,000 population	Avg Precip
1. Socorro	7.68
2. El Paso	8.67
3. Odessa	13.67
4. Midland	14.08
5. Laredo	16.22
6. Lamesa	17.61
7. Del Rio	17.69
8. Dumas	18.20
9. Hereford	18.22
10. Big Spring	18.34

Most # of days with at least .01 precipitation Cities > 10,000 population	Avg # days
1. Port Arthur	105
2. Orange	100
3. Houston	100
4. Beaumont	99

Lowest # days with at least .01 precipitation Cities > 10,000 population	Avg # days
1. Socorro	36
2. Lamesa	46
3. El Paso	48
4. Snyder	49

Laredo Monthly Temperature and Precipitation Normals (1981-2010)



National Weather Service
Corpus Christi, TX Weather Forecast Office
426 Pinson Dr
Corpus Christi, TX 78406
(361) 289-0959
Page Author: CRP Webmaster

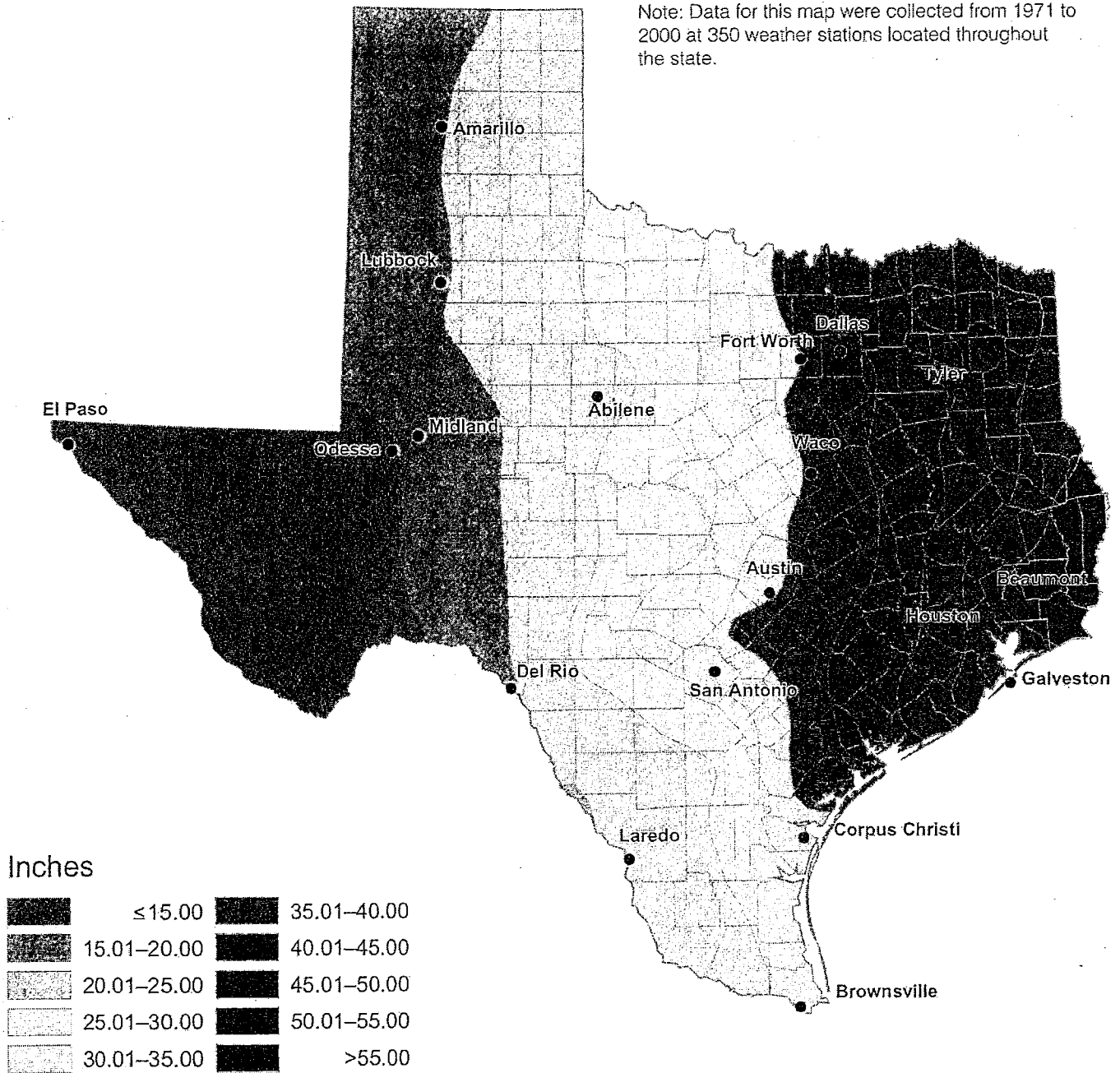
Web Master's E-mail: sf-crp.webmaster@noaa.gov
Page last modified: August 5th 2011 8:33 PM

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Average Annual Precipitation

Note: Data for this map were collected from 1971 to 2000 at 350 weather stations located throughout the state.



Source: National Oceanographic and Atmospheric Administration, 2002.

Appendix III.11.4 Groundwater Certifications

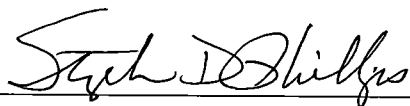
GROUNDWATER DATA CERTIFICATION

Site: City of Laredo Landfill

Site: Location: Webb County

MSW Permit No: 1693B

I, Stephen D. Phillips, a Qualified Groundwater Scientist and licensed Professional Geoscientist by the State of Texas, certify I have reviewed the groundwater data described in a report submitted with this certification and have found no evidence that the City of Laredo municipal solid waste landfill located at 6912 SH 359 Laredo, Webb County, Texas has contaminated groundwater in the uppermost aquifer.



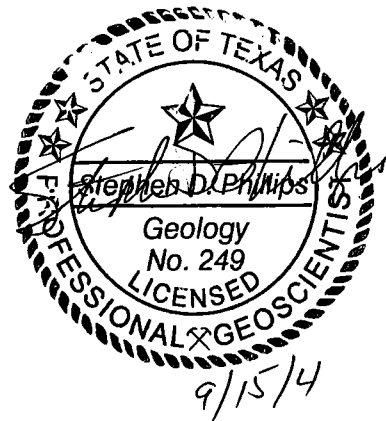
Stephen D. Phillips, P.G., Lic. No. 249

Vice President

PS Phillips Environmental, Reg. No. 50395

510 Benjamin St.

Sulphur Springs, TX 75482



9/15/14
Date

GROUNDWATER MONITORING SYSTEM CERTIFICATION

Site: City of Laredo Landfill

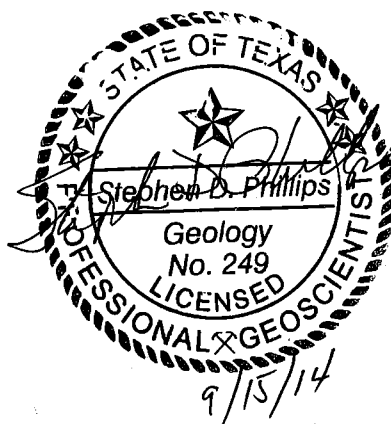
Site: Location: Webb County

MSW Permit No: 1693A

A groundwater monitoring system has been designed for the City of Laredo Landfill in Webb County, Texas. The design is based on geologic and hydrogeologic conditions as well as the proposed layout of the facility. I, Stephen D. Phillips, a Qualified Groundwater Scientist and licensed Professional Geoscientist by the State of Texas, certify that this groundwater monitoring system has been designed in accordance with and meets the requirements set forth in 30 TAC 330, Subchapter J, Sections 330.403, Groundwater Monitoring Systems, and 330.405–330.409, Groundwater Sampling and Analysis Requirements, Detection Monitoring Program for Type I Landfills, and Assessment Monitoring Program. This system as presented will be an adequate detection system for the facility. The only warranty made by me in connection with this document is that I have used that degree of care and skill ordinarily exercised under similar conditions by reputable members of my profession, practicing in the same or similar locality. No other warranty, expressed or implied, is intended.



Stephen D. Phillips, P.G., Lic. No. 249
Vice President
PS Phillips Environmental, Reg. No. 50395
510 Benjamin St.
Sulphur Springs, TX 75482



9/15/14
Date

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

CLOSURE PLAN
ATTACHMENT III.12

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

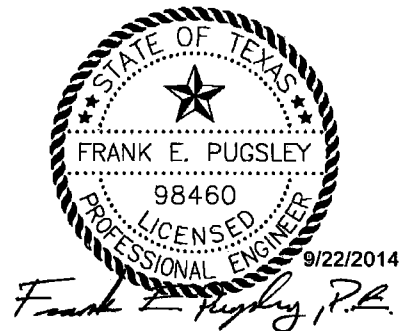
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

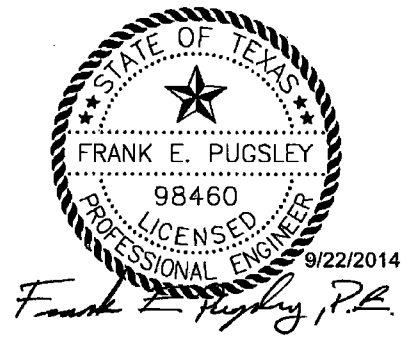
September 2014

Prepared by:

CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741



CLOSURE PLAN
CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
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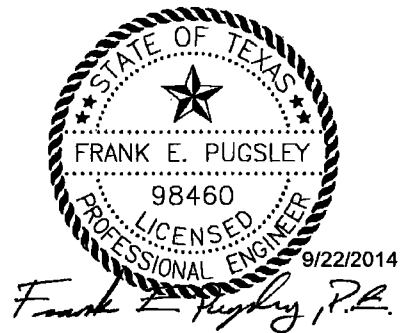
APPENDIX A-2 – CLIMATE DATA

APPENDIX A-3 – SOILS DATA

APPENDIX A-4 – UNSAT-H INPUT AND OUTPUT

APPENDIX B – SOIL EROSION CALCULATIONS

APPENDIX C – CLOSURE PLAN FIGURES



1. Introduction

The following closure requirements were written to comply with TCEQ Municipal Solid Waste Management Regulations in 30 TAC §330.63(h) and Subchapter K (relating to Closure and Post Closure) and with EPA's RCRA Subtitle D regulations. The City of Laredo Municipal Solid Waste Landfill must comply with §330.457 - Closure Requirements for Solid Waste Landfill Units that Receive Waste on or after October 9, 1993.

2. Final Cover Design, Methods, and Procedures for Installation §330.457(e)(1)

The landfill shall install a final cover system that is designed and constructed to minimize infiltration and erosion. The final cover system shall be composed of no less than two feet of soil and consist of a clay-rich soil cover layer overlain by an erosion layer as follows.

- For landfill phases with a synthetic bottom liner, a synthetic membrane that has a permeability less than or equal to the permeability of any bottom liner system overlain by a clay-rich soil cover layer consisting of a minimum of 18 inches of earthen material with a coefficient of permeability no greater than 1×10^{-5} centimeters/second (cm/sec). The minimum thickness of the synthetic membrane shall be 20 mils, or 60 mils in the case of high-density polyethylene, in order to ensure proper seaming of the synthetic membrane.
- For landfill phases with no synthetic bottom liner, the clay-rich soil cover layer shall consist of a minimum of 18 inches of earthen material with a coefficient of permeability less than or equal to the permeability of any constructed bottom liner or natural subsoil present. The coefficient of permeability of the infiltration layer shall in no case exceed 1×10^{-5} cm/sec, even though the coefficient of permeability of the constructed bottom liner or natural subsoil is greater than 1×10^{-5} cm/sec or no data exist for the value(s) of the coefficient of permeability of the constructed bottom liner or natural subsoil.
- The erosion layer shall consist of a minimum of six inches of earthen material that is capable of sustaining native plant growth and shall be seeded or sodded immediately following the application of the final cover in order to minimize erosion. In addition to the prescriptive covers described in §330.457(a)(1),(2), and (3), which require MSW landfills to utilize final cover systems designed and constructed to minimize infiltration and erosion, composed of no less than two feet of soil, and consisting of a clay-rich soil cover (infiltration layer) with a coefficient of permeability no greater than that of the constructed bottom liner system (less than or equal to 1×10^{-5} cm/sec) overlain by an erosion layer.

In addition to the prescriptive covers described in §330.457(a)(1),(2), and (3), the following currently approved alternative final cover systems may be used at the Landfill.

2.1. Currently Approved Alternative Final Cover Systems

As required by §330.457(d), the following final cover systems achieve an equivalent reduction in infiltration and protection from wind and water erosion as the standard covers described in

330.457(a)(1). Calculations to determine equivalency of infiltration and protection from wind and water erosion is provided in Attachment A and B of this Plan.

2.1.1. Alternative Final Cover with Composite Bottom Liner

This final cover system has previously been approved in 1999 by TCEQ during a major Permit amendment to the 1986 original permit. There are no changes proposed to the following alternative final cover system. This alternative final cover system is for disposal areas with a composite geomembrane bottom liner system (Subtitle D). A geosynthetic clay liner (GCL) with a hydraulic conductivity less than or equal to 5×10^{-9} cm/sec will serve as the barrier layer. The GCL is overlain by a 60 mil minimum HDPE geomembrane or equivalent. Double-sided textured material is required on the 4:1 slopes. The geomembrane is overlain by a drainage layer consisting of a geonet with a minimum 6 oz/sy non-woven geotextile heat bonded to each side (geocomposite). The geocomposite is then covered by a protective layer consisting of 18-in. of cover soil and an erosion layer consisting of 6-in. of topsoil capable of supporting vegetation. See Appendix C for Figures. It shall be seeded, sodded, or covered in 2 to 4 inch thick angular rock armor immediately following the application of the final cover in order to minimize erosion. Other erosion prevention techniques may be used and are discussed in more detail in Section 2.3.6.

2.1.2. Alternative Final Cover with Soil Bottom Liner

This final cover system has previously been approved by TCEQ during a major permit amendment in 1999. There are no changes proposed to the following alternative final cover system. This alternative final cover system is for disposal areas that contain only a constructed clay liner, in-situ liner (pre-Subtitle D), or a Type IV liner. The cover system consists of a GCL having a hydraulic conductivity less than or equal to 3×10^{-9} cm/sec, overlain by a protective layer consisting of 12-in. of cover soil and an erosion layer consisting of 12-in. of topsoil capable of supporting vegetation. See Appendix C for Figures. It shall be seeded, sodded, or covered in 2 to 4 inch thick angular rock armor immediately following the application of the final cover in order to minimize erosion. Other erosion prevention techniques may be used and are discussed in more detail in Section 2.3.6.

2.2. Water Balance Alternative Cover System

The City also proposes the use of a water balance (WB) cover system. This cover system has been designed in accordance with 30 TAC 330.457(d) and TCEQ's "Guidance for Requesting a Water Balance Alternative Cover for a Municipal Solid Waste Landfill" revised January 2012.

This alternative cover may be utilized over any portion of the landfill regardless of the bottom liner system. The WB final cover system will consist of a 24" monolithic soil layer, compacted to 85% Standard Proctor, and be capable of supporting native vegetation. See Appendix C for Figures. All soil used in the construction of the landfill cover shall be excavated from an area near the landfill or shall meet the requirements discussed in Section 2.3. It shall be seeded, sodded, or covered with 2 to 4 inch thick angular rock armor immediately following the

application of the final cover in order to minimize erosion. Other erosion prevention techniques may be used and are discussed in more detail in Section 2.3.6. See Appendix A – Alternative Final Cover Demonstration for further discussion.

2.3. Final Cover Installation §330.457(e)(1)

When a portion of a disposal area is completed to within an elevation appropriate to the thickness of final cover required, the area will be prepared for the placement of final cover. The daily/intermediate cover will be graded smooth and any protruding objects will be removed. The installation procedures, as applicable to the type of final cover system being used, are discussed in the following sections.

2.3.1. Barrier Layer

Installation of a soil barrier layer (soil where the permeability must be 1×10^{-5} cm/sec or less) will be performed by placing 8 in. thick loose lifts of cohesive soil that is free of foreign material. Methods of construction will be as described in Part III, Attachment 10, Section 2 of the Soil Liner Quality Control Plan (SLQCP). The lifts will be uniformly compacted. In instances where a GCL is used as the barrier layer, the surface of the daily/intermediate cover will be prepared in the same manner and the GCL panels will be deployed in accordance with the requirements outlined in Part III, Attachment 10C, Section 2.3 of the SLQCP for installation of GCL's.

2.3.2. Geomembrane Layer

The geomembrane layer, if included in the final cover system configuration, will be installed over the soil or the GCL barrier layer. The installation surface will be smooth and free of any loose rocks, protrusions, or void areas. Panels of the geomembrane will be deployed, welded, and leak-tested in accordance with the CQA and installation requirements outlined in Part III, Attachment 10A, Section III of the SLQCP.

2.3.3. Drainage Layer

The drainage layer (geocomposite) will be installed above the geomembrane. The geocomposite will be deployed and seamed or tied, as applicable, in accordance with the CQA and installation requirements outlined in Part III, Attachment 10A, Section IV of the SLQCP.

2.3.4. Erosion Layer

The uppermost erosion layer may consist of 6-in. or 12-in. of soil cover, consisting of earthen material capable of supporting grass or vegetative cover, or 2 to 4-in. thick angular rock armor. For areas of final cover where a soil layer is designed with no permeability requirement, a 12-in. or 18-in. thick layer may be installed, as applicable.

2.3.5. Water Balance Monolithic Layer

The 24" monolithic soil layer consisting of onsite borrow soil capable of supporting vegetative cover shall have the following properties.

- Plasticity Index $16 < PI < 28$
- Passing #4 Greater than 79% Passing
- Passing #40 59% - 99% Passing
- Passing #200 26% - 52% Passing
- Soil Classification CL or SC
- In-place hydraulic conductivity $< 2 \times 10^{-7}$

The cover shall be placed at near 85% standard proctor density. The cover will be constructed, installed and CQA tested in accordance with current TCEQ regulations.

2.3.6. Erosion Control

The completed cover will be seeded or sodded following placement of the top soil. Bermuda or Buffalo grasses are recommended for permanent vegetative cover. Native or adapted grasses and wildflowers may also be used. A temporary cover of rye grass, winter wheat or other cool weather vegetation may also be used if final cover is installed during the winter.

During the early stages of vegetative growth, mulching, slope regrading, and mowing will be performed to complete vegetative coverage and effective erosion control. Soil loss calculations are provided in Attachment B of this Plan. A summary of the calculations are provided in Table 1. As shown for all cases, the soil loss for both the top slope and sideslope is less than the permissible soil loss of 50 tons/acre/year for intermediate cover and less than 3 tons/acre/year for final cover.

Due to the climate at the Laredo Landfill, it may be difficult to establish a 75% vegetative cover immediately after final cover installation. It may require up to 5 years to establish permanent vegetation. During that time, periodic inspection and maintenance of the final cover system shall be required to prevent excessive erosion on the side slopes. Eroded soil which accumulates in ditches and ponds will be removed and used in repair of erosion damage.

If permanent vegetation cannot be established, a 4 inch thick rock armor layer may be installed to help prevent erosion in the absence of vegetation.

TABLE 1
SOIL LOSS SUMMARY

Case		A (tons/acre/year)
Interim	5% Slope	6.69
	25% Vegetated	
Interim	4H:1V Slope	80.38
	25% Vegetated	
Final	5% Slope	0.73
	75% Vegetated	
Final	4H:1V Slope	4.88
	75% Vegetated	
Final	4H:1V Slope	4.77
	Rock armor	

2.4. Quality Control

Hydraulic conductivity testing of undisturbed samples of the cover material will be performed by the construction quality assurance (CQA) monitor at a frequency of not less than one test per surface acre of final cover. Portions of the soil barrier layer that do not exhibit the required hydraulic conductivity will be reworked and retested. The final cover will be bored to verify thickness and collect soil samples for analysis or surveyed prior to and following placement of final cover. Such borings will be backfilled with a soil/bentonite mixture. Permeability data shall be submitted to the Executive Director in a format stipulated in technical guidelines furnished by the executive director. Construction quality control of the barrier layer, drainage layer, and geomembrane shall be governed by the SLQCP.

2.5. Largest Area §330.457(e)(2)

The largest area of the MSWLF unit or MSW site ever requiring a final cover at one time during the active life of the unit is approximately 155.59 acres. This area is depicted on Figure 1.

FIGURE 1
LARGEST AREA EVER REQUIRING FINAL COVER



2.6. Maximum Inventory of Waste §330.457(e)(3)

The design of the Landfill, as amended, will have an estimated total capacity of 25.25 million cubic yards. The West Phase will have a capacity of 12.5 million cubic yards and the East Phase will have a capacity of 12.75 million cubic yards. This volume represents the total airspace volume above the bottom liner and below the final cover system and is inclusive of waste and daily/intermediate cover. The supporting calculations are included in Part III.

2.7. Schedule for Closure Activities §330.457(e)(4)

The final cover elements shall be placed as follows:

- Place the barrier layer.
- If applicable, place the geomembrane layer (60 mil HDPE or equivalent).
- If applicable, place the geocomposite layer
- Place protective soil layer.
- Place erosion layer capable of sustaining native plant growth.
- Immediately seed or sod the erosion layer or place 4" rock armor.

2.8. Required Figures §330.457(e)(5)

- A final contour map depicting the proposed final contours, establishing top slopes and side slopes, and proposed surface drainage features is shown in Part III, Attachment 7.
- Fill cross sections are shown in Figures III.2.1 through III.2.5.
- No fill areas of the landfill are subject to flooding due to a 100-year frequency flood. A map showing the 100-year frequency flood is shown in Part II, Attachment 1, Figure II.1.15.

3. Implementation of Closure Plan §330.457(f)

Implementation of the Final Closure Plan shall be as follows:

- §330.457(f)(1) – A copy of the Closure plan shall be placed into the Operating Record immediately upon approval.
- §330.457(f)(2) – The City of Laredo shall provide written notification to the Executive Director of the intent to close the MSW site and place this notice of intent in the operating record no later than 45 days prior to the initiation of final closure activities for the site.
- §330.461(a) – No later than 90 days prior to the initiation of a final facility closure, the City of Laredo shall, through a public notice in the newspaper of largest circulation in the vicinity of the facility, provide public notice for final facility closure. This notice shall provide the name, address, and physical location of the facility, the permit number, and the last date of intended receipt of waste. The City shall also make available an adequate number of copies of the approved final closure and port-closure plans for public access

and review. The City shall provide written notification to the Executive Director of the intent to close the facility and place this notice in the Operating Record.

- §330.457(f)(3) – The City shall begin final closure activities for each unit of the site no later than 30 days after the date on which the unit receives the known final receipt of wastes or, if the unit has remaining capacity and there is a reasonable likelihood that the unit will receive additional wastes, no later than one year after the most recent receipt of wastes. A request for an extension beyond the one-year deadline for the initiation of final closure may be submitted to the Executive Director for review and approval and shall include all applicable documentation necessary to demonstrate that the site has the capacity to receive additional waste and that the City has taken and will continue to take all steps necessary to prevent threats to human health and the environment from the unclosed site.
- §330.459 – Any recyclable materials remaining on site at the beginning of final closure activities will either be disposed of in the remaining waste cells, or transported off site as the property of a recycling contractor within 180 days of the last receipt of such materials.
- §330.459 – The City shall dispose of all on site processed and unprocessed greenwaste.
- §330.457(f)(4) – The City shall complete final closure activities for the landfill unit in accordance with the approved final closure plan within 180 days following the initiation of final closure activities as specified in above. A request for an extension for the completion of final closure activities may be submitted to the Executive Director for review and approval, and shall include all applicable documentation necessary to demonstrate that final closure will, of necessity, take longer than 180 days, and all steps have been taken and will continue to be taken to prevent threats to human health and the environment from the unclosed MSW site.
- §330.457(f)(5) and §330.461(c)(2) – Following completion of all final closure activities for the MSW site, the City shall comply with the post closure care requirements specified in §330.463(b), and submit to the Executive Director, by registered mail, for review and approval a document, signed by an independent registered professional engineer, verifying that final closure has been completed in accordance with the approved final closure plan. The submittal to the Executive Director shall include all applicable documentation necessary for certification of final closure. Once approved, this certification shall be placed in the operating record.
- §330.461(b) – Upon notification to the Executive Director as specified in §330.461(a) , the City shall post a minimum of one sign at the main entrance and all other frequently used points of access for the facility notifying all persons who may utilize the facility or site of the date of closing for the entire facility or site and the prohibition against further receipt of waste materials after the stated date. Further, suitable barriers or locked gates shall be installed at all access points to adequately prevent the unauthorized dumping of solid waste at the closed site.
- §330.457(f)(6) – Following receipt of the required final closure documents, as applicable, and an inspection report from the Commission's district office verifying proper closure of the Landfill or site according to the approved final closure plan, the Executive Director may acknowledge the termination of operation and closure of the facility or site and deem it properly closed.

- §330.457(g) – Within 10 days after completion of final closure activities of the site, the City shall submit to the Executive Director, by registered mail, a certified copy of an "Affidavit to the Public" in accordance with the requirements of §330.19 of the TCEQ Solid Waste Management Regulations, and place a copy of the affidavit in the operating record. In addition, the City shall record a certified notation on the deed to the facility or site property, or on some other instrument that is normally examined during title search, that will in perpetuity notify any potential purchaser of the property that the land has been used as a landfill facility and use of the land is restricted according to the provisions specified in 30 TAC §330.465. The City shall submit a certified copy of the modified deed to the Executive Director and place a copy of the modified deed in the operating record within the time frame specified in this paragraph.

4. Closure Cost Estimate §330.63(j)

A detailed written estimate, in current dollars, of the cost of hiring a third party to close the largest area of all MSWLF units ever requiring a final cover at any time during the active life, when the extent and manner of its operation would make closure most expensive, as indicated by this closure plan is presented as Table 2.

**TABLE 2
CLOSURE COST ESTIMATE**

Engineering Costs

Cost Item	Unit	Cost	Quantity	Total Cost
Topographic Survey	Acre	\$ 100.00	156	\$ 15,559.00
Boundary Survey for Affidavit	Lump Sum	\$ 4,000.00	1	\$ 4,000.00
Site Evaluation	Acre	\$ 250.00	156	\$ 38,897.50
Final Closure Plans	Acre	\$ 280.00	156	\$ 43,565.20
Contract, Administration, Bidding, and Award	Lump Sum	\$ 10,000.00	1	\$ 10,000.00
Administrative Costs	Lump Sum	\$ 5,000.00	1	\$ 5,000.00
Closure Inspection & Testing (Subtitle D Area)	Acre	\$ 5,000.00	43	\$ 217,000.00
Closure Inspection & Testing (Non-Subtitle D Area)	Acre	\$ 3,200.00	49	\$ 157,120.00
Subtotal				\$ 491,141.70
10% Contingency				\$ 49,114.17
Engineering Total				\$ 540,255.87

Construction Costs

Cost Item	Unit	Cost	Quantity	Total Cost
Water Balance Cover - Soils Testing	Lump Sum	\$ 10,000.00	1	\$ 10,000.00
Monolithic Water Balance Cover Placement	Cubic Yard	\$ 5.00	298,466	\$ 1,492,330.00
Vegetation	Acre	\$ 2,000.00	156	\$ 311,180.00
Site Grading & Drainage	Acre	\$ 1,000.00	156	\$ 155,590.00
Subtotal				\$ 1,959,100.00
10% Contingency				\$ 195,910.00
Construction Total				\$ 2,155,010.00

Total Closure Cost **\$ 2,695,265.87**

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

ALTERNATIVE COVER DEMONSTRATION
ATTACHMENT III.12 – APPENDIX A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

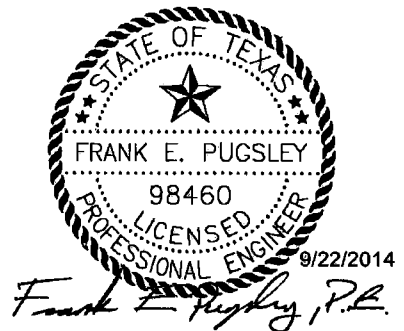
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

SEPTEMBER 2014

Prepared by:

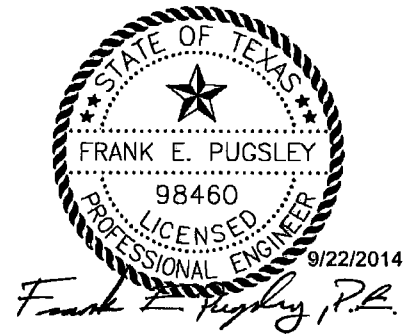
CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741



CLOSURE PLAN
CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL

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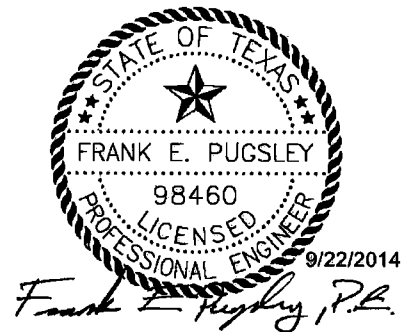
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APPENDICES

APPENDIX A-1 – HELP MODEL OUTPUT
APPENDIX A-2 – CLIMATE DATA
APPENDIX A-3 – SOILS DATA
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1. Introduction

The purpose of this demonstration is to present alternate final cover systems for use at the City of Laredo Landfill. In accordance with Title 30, Texas Administrative Code (30 TAC), Section 330.457(d), an alternative final cover design may be approved if it meets the following two criteria or performance standards:

- The final cover achieves an equivalent reduction in infiltration as the clay rich soil cover layer specified in 30 TAC 330.457(a)(1) or (2). Equivalency demonstrations of all alternate cover systems are provided in Section 2 of this Demonstration.
- The final cover provides equivalent protection from wind and water erosion as the erosion layer specified in 30 TAC 330.457(a)(3). Soil erosion calculations are provided in Appendix A-2 to the Closure Plan.

The City may use one or more of the following three alternate cover systems that meet these requirements, in place of the standard prescriptive covers.

- Alternative Final Cover (Synthetic Bottom Liner)
- Alternative Final Cover (No Synthetic Bottom Liner)
- Water Balance Alternative Cover System

More details of each alternative cover system including design and CQA details are provided in the Closure Plan.

2. Infiltration Equivalency

The following methods are used to demonstrate equivalency as required in 30 TAC 330.457(a)(1) or (2).

- The Hydrologic Evaluation of Landfill Performance (HELP) Model - The model requires inputs for weather, soil, and design data that are representative of the landfill. It utilizes solution techniques that account for the effects of surface water storage, snow melt, surface runoff, infiltration, evapotranspiration, vegetative growth, soil moisture storage, lateral subsurface drainage, leachate recirculation (subsurface inflow), unsaturated vertical drainage, and leakage through soil, geomembrane or composite liners. By comparing the alternate covers with the covers described in 330.457(a), equivalency can be determined. More information on the HELP model is provided in the Section 2.1 of the Leachate and Contaminated Water Plan.
- UNSAT-H – the model is a FORTRAN computer code used to simulate the one-dimensional flow of water, vapor, and heat in soils. The code addresses the processes of precipitation, evaporation, plant transpiration, storage, and deep drainage. The UNSAT-H computer code is used to understand the movement of water, heat, and vapor in soils so better decisions can be made about land use, waste disposal, and climate change. Typical applications include studies of the water balance behavior of surface covers over landfills and studies of land disturbance effects on recharge rates.

2.1. Alternative Final Cover with Composite Bottom Liner

As noted in the Closure Plan, this final cover system was approved by TCEQ during the 1999 major Permit Amendment to the original 1986 Permit. There are no changes proposed to the following alternative final cover system. This alternative final cover system may be utilized over areas of the landfill that contain a composite liner system (Subtitle D) or a separation liner as described in the Closure Plan. The cover system consists of a geosynthetic clay liner (GCL) with a hydraulic conductivity less than or equal to 5×10^{-9} cm/sec that serves as the barrier layer. The GCL is overlain by a 20 mil minimum FML (60 mil minimum if HDPE) geomembrane. Double-sided textured material is required on the 4:1 slopes. The geomembrane is overlain by a drainage layer consisting of a geonet with a 6 oz/sy non-woven geotextile heat bonded to each side (geocomposite). The geocomposite is then covered by a protective layer consisting of 18-in. of cover soil and an erosion layer consisting of 6-in. of topsoil capable of supporting vegetation. See Appendix C of the Closure Plan for Figures.

The HELP model was used to determine equivalency of the alternative cover system as described above. This cover achieves an equivalent reduction of infiltration as the cover described in 30 TAC 330.457(a)(1). Table 1 summarizes the results of the HELP model runs included in Appendix A-1 of this Demonstration.

TABLE 1
ALTERNATIVE FINAL COVER WITH COMPOSITE BOTTOM LINER
EQUIVALENCY COMPARISON

	Alternate Final Cover as described in Section 2.1.	Cover in accordance with §330.457(a)(1).
Percolation Through Infiltration Layer, in/year/acre	0.011	0.028
Percolation Through Infiltration Layer, ft ³ /year/acre	43	102
Erosion Layer Thickness, in	6	6

2.2. Alternative Final Cover with No Synthetic Bottom Liner

As noted in the Closure Plan, this final cover system has previously been approved by TCEQ during the 1999 major Permit Amendment to the original 1986 Permit. There are no changes proposed to the following alternative final cover system. This alternative final cover system may be utilized in areas of the landfill that contain only constructed clay liner, in-situ liner (pre-Subtitle D), or a Type IV liner. The cover system consists of a GCL having a hydraulic conductivity less than or equal to 3×10^{-9} cm/sec, overlain by a protective layer consisting of 12-in. of cover soil and an erosion layer consisting of 12-in. of topsoil capable of supporting vegetation. See Appendix C of the Closure Plan for Figures.

The HELP model was used to determine equivalency of the alternative cover system as described above. This cover achieves an equivalent reduction of infiltration as the cover described in 30 TAC 330.457(a)(2). Table 2 summarizes the results of the HELP model runs included in Appendix A-1 of this Demonstration.

TABLE 2
ALTERNATIVE FINAL COVER WITH SOIL BOTTOM LINER EQUIVALENCY
COMPARISON

	Alternate Final Cover as described in Section 2.2.	Cover in accordance with §330.457(a)(2).
Percolation Through Infiltration Layer, in/year/acre	0.254	0.508
Percolation Through Infiltration Layer, ft ³ /year/acre	924	1844
Erosion Layer Thickness, in	12	6

2.3. Water Balance Alternate Cover System

The City of Laredo Landfill also proposes the use of a water balance (WB) cover system. This cover system has been designed in accordance with 30 TAC 330.457(d) and TCEQ's "Guidance for Requesting a Water Balance Alternative Cover for a Municipal Solid Waste Landfill" revised January 2012. This alternative cover may be utilized over any portion of the landfill regardless of the bottom liner system. The WB final cover system will consist of a 24-inch monolithic soil layer capable of supporting vegetation. See Appendix C of the Closure Plan for Figures.

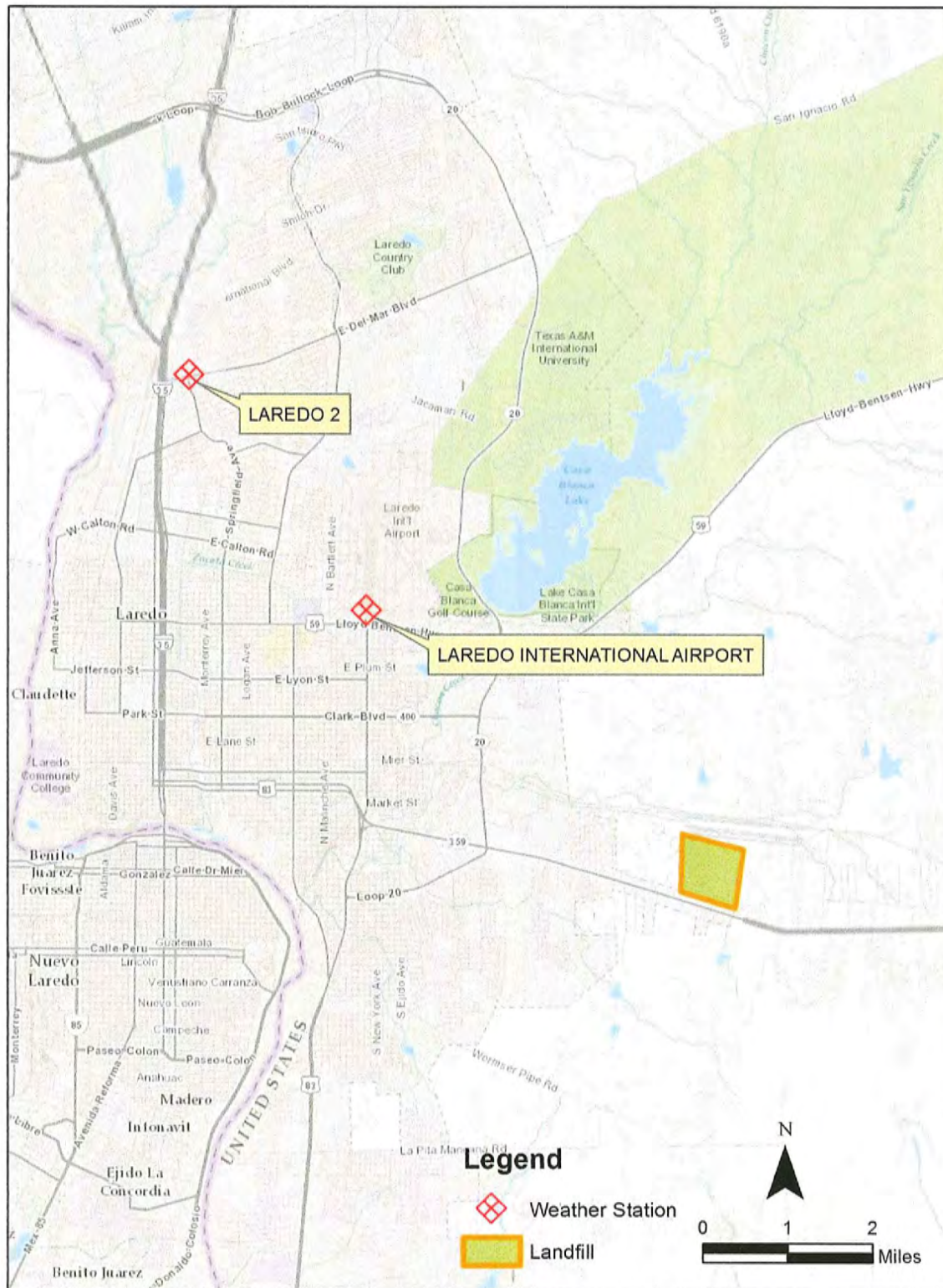
This cover achieves an equivalent reduction of infiltration as the cover described in 30 TAC 330.457(a)(2). In accordance with the guidance document, a landfill proposing a WB alternative cover must provide a final cover design that has been modeled to allow ≤ 4 mm percolation in a year through the cover using site-specific climate, soil, and vegetation data. Because the City of Laredo Municipal Solid Waste Landfill receives less than 25 inches of rainfall a year, no performance verification plot is required; the design and modeling of this final cover may be based solely on numerical modeling provided the model is an approved and proven numerical unsaturated flow model. The following information was used to model the proposed alternative cover system.

2.3.1. Climate Data

The Landfill is located within the limits of the City of Laredo, Texas in Webb County, and approximately 5.7 miles east of the downtown area. According to nearby weather stations, this area receives approximately 19.1 inches of rain per year. The minimal rainfall in addition to the hot climate, low humidity, and available soils make this landfill a good candidate for the WB cover system.

All climate data was obtained from weather station data provided by the National Climatic Data Center. The nearest weather stations with 30 years of continuous weather data (1983 – 2012) are located as shown on Figure 1. The weather station located at the Laredo International Airport was used for daily records of minimum temperature, maximum temperature, average dew point temperature, wind speed, atmospheric pressure, and cloud cover. Precipitation records at the Laredo International Airport weather station were not available until 2005. The "Laredo 2" weather station was used for daily precipitation records for the entire 30 year period.

**FIGURE 1
WEATHER STATION LOCATIONS**



Daily records of solar radiation were not available from any station near Laredo, Texas. Average monthly solar radiation information for the city of Laredo was provided by the solar lab at the University of Texas. This data was processed and used as average daily inputs for each respective month.

2.3.2. Soil Data

The soils available for the construction of the WB cover are located in various locations around the site. In total, eight (8) soil samples were taken, identified as TP1-TP8. Terracon, a local geotechnical firm, located in Laredo, Texas provided the initial soil testing including proctor, liquid limit, plastic limit, sieve analysis, and soil classification. Three of the samples (TP2, TP3, & TP4) were representative of the entire borrow areas and were analyzed for use as WB cover material. TRI Environmental located in Austin, Texas performed the soil water characteristic curve (SWCC) analysis. Soil testing results are provided in Appendix A-3 of this Demonstration.

2.3.3. Vegetation Data

The final cover system will be seeded or sodded as soon as possible after the cover is installed. However, due to the difficulties in sustaining vegetative growth at the Landfill, the WB alternative cover has been designed to perform without the benefit of vegetation and its transpiration.

2.3.4. Available Storage Capacity

The calculated available water storage capacity of a unit of soil is the difference between the soils saturated water content and the residual water content. The calculations for all three representative soils samples are as follows:

**TABLE 3
AVAILABLE STORAGE CAPACITY CALCULATIONS**

		Soil Sample		
		TP2	TP3	TP4
Θ_S	(Measured Saturated Water Content)	= 0.463	0.455	0.380
Θ_{FC}	(Field Capacity Water Content) $\Theta_S \times 0.85$	= 0.394	0.387	0.323
Θ_{WP}	(Wilting Point)	= 0.000	0.000	0.000
Θ_v	(Volumetric Storage Capacity) $\Theta_{FC} - \Theta_{WP}$	= 0.394	0.387	0.323
T	(Soil Unit Thickness), in.	= 24.000	24.000	24.000
S	(Total Storage Capacity) $\Theta_v \times T$, in.	= 9.445	9.282	7.752

2.3.5. Model Implementation & Inputs

UNSAT-H is the computer model used to determine equivalency of the alternative WB cover system as described above. The model is a FORTRAN computer code used to simulate the one-dimensional flow of water, vapor, and heat in soils. The code addresses the processes of precipitation, evaporation, plant transpiration, storage, and deep drainage. The UNSAT-H computer code is used to analyze the movement of water, heat, and vapor in soils so better decisions can be made about land use, waste disposal, and climate change. Typical applications include studies of the water balance behavior of surface covers over landfills and studies of land disturbance effects on recharge rates.

UNSAT-H input fields are classified into 5 groups

- Options, Constraints, and Limits
Options, constraints, and limits input values and descriptions are provided in Table 3.
- Soil Property Description
Soil property input values are provided in Table 4
- Initial Conditions
Initial condition inputs are provided in the model input summary files provided in Appendix A-4 to this Demonstration. Input values were determined by running a 5-year warm-up simulation. The output values at the end of the warm-up simulation we used as the input values for the 30-year design simulation.
- Plant Information
Plant information is not provided. The WB cover has been designed to function w/o the benefit of transportation from vegetation.
- Boundary Conditions
Boundary condition input values and descriptions are provided in Table 5. Additional information is provided in Appendix A-4 to this Demonstration.

The following tables (Tables 3 – 5) present the required input field values for the applicable groups listed above. These inputs were used to run a 30-year simulation using actual weather data from Jan 1, 1983 to Dec 31, 2012. A simulation was performed for each soil type representing the entire borrow area of the Laredo Landfill. These simulations determine the flow through the designed soil profile. The model input file is provided in Appendix A-3 to this Demonstration - UNSAT-H Input and Output. Results are discussed in Section 2.3.6.

TABLE 4
OPTIONS, CONSTRAINTS, AND LIMITS

Variable	Field	Input Value	Explanation
TITLE	Title	Laredo Landfill: Soil Sample #	Title dependent on soil sample.
IPLANT	Option for Plants	0 (No Plants)	Simulation includes plant input parameters.
NGRAV	Domain Orientation	1 (Vertical)	To model vertical flow, orientation of the profile should be set to vertical.
IFDEND	Last day of the last year of the simulation	366	2012 has 366 days in the year
IDTBEG	First day for which data have been provided (first year of simulation)	1	Data was provided for day 1, year 1.
IDTEND	Last day for which data have been provided (last year of simulation)	366	Data was provided for day 366, year 30.
IYS	Year of the simulation. For multiyear simulations, this year serves as the base year on which all subsequent years are incremented.	1983	Simulation began on Jan 1, 1983.
NYEARS	Number of years to simulate.	30	Simulation ended Dec 31, 2012. 30 Years
ISTEAD	Steady state option	0 (Transient)	Each year was simulated one time per soil sample.
IFLIST	Option for entering meteorological information	1	Data was provided for each year in separate files.
NFLIST	Number of Filenames	30	30 files of weather data
NPRINT	Option for level of output	0	Standard output is sufficient.
STOPHR	Stopping time when IDAY equals IDTEND and NPRINT equals 1.	0	NPRINT $\neq$ 1
ISMETH	Option for method of solution	0 (Crank-Nicholson)	Standard Method for solving UNSAT-H
INMAX	Number of iterations allowed for solving the water flow equation.	4	4 was selected to increase accuracy and reduce mass balance error.

Variable	Field	Input Value	Explanation
ISWDIF	Option for time step control	1	Reduces the time step if the mass balance for the whole profile exceeds DMAXBA
DMAXBA	Time step control parameter.	1.30E-03	If ISWDIF equals 1, the maximum allowable mass balance error.
DELMAX	Maximum allowable time step	1	Typically 1 hr.
DELMIN	Minimum allowable time step.	1.00E-04	Set to reduce mass balance error and minimize modeling time.
OUTTIM	Determines the size of the DELSUB period	1	Set to reduce mass balance error and minimize modeling time.
RFACT	Maximum time-step factor.	1	Set to reduce mass balance error and minimize modeling time.
RAINIF	Rainfall time-step reduction factor.	1.00E-03	Set to reduce mass balance error and minimize modeling time.
DHTOL	Iteration control parameter. If the relative change in head during an iteration exceeds DHTOL, the time step is reduced by half.	0	Set to reduce mass balance error and minimize modeling time.
DHMAX	Iteration control parameter. If DHMAX is positive, each potential head solution is checked to see if the change in head exceeds DHMAX.	0	DHMAX = 0
DHFACT	Time step reduction factor if DHMAX > 0.	0	DHMAX = 0
KOPT	Options for describing the soil hydraulic properties	4 (van Genuchten)	Laboratory analysis determined van Genuchten parameters.
KEST	Option for estimating the liquid conductivity at the midpoint between nodes.	3 (geometric mean)	Typical Input
WTF	Weighting factor	0	Nodes are weighted equally.
ITOPBC	Option for the surface-boundary condition	0 (flux)	There is no constant head on the surface of the profile. It is in flux and changes with the soil atmospheric interaction.

Variable	Field	Input Value	Explanation
IEVOPT	Option to allow evaporation	1 (evaporation)	Model includes the effects of evaporation.
NF HOUR	Option to distribute the daily potential evapotranspiration (PET) value over the 24 hours of the day.	2 (sine function)	Site specific data not available. Sine wave function used to determine PET values.
LOWER	Lower boundary condition option	1 (unit gradient)	Free drainage from bottom of soil profile.
HIRRI	Minimum head to which the soil can wet up	5.00E-01	Typical Input confirmed by soils testing.
HDRY	Maximum head to which the soil can dry out when IHEAT equals 0 and SHOPT equals 0.	1.00E+06	Typical Input confirmed by soils testing.
HTOP	Constant head value of the surface node when ITOPBC equals 1	0	ITOBC = 0
RHA	Relative humidity of the air	0	This parameter is used to calculate HDRY if the input value of HDRY is zero, ISHOPT is zero, and IHEAT is zero. $\text{HDRY} \neq 1$
IETOPT	Option to input daily meteorological data	1	Daily meteorological data is provided in yearly files.
ICLOUD	Option to use cloud cover data from the meteorological record	0	No. Cloud cover calculated from measured and potential solar radiation.
ISHOPT	Option for the upper surface head limit when IHEAT equals 0	1	Calculate a daily HDRY value based on atmospheric humidity
IRAIN	Option for water application information	1	Use the daily precipitation values that are included with the meteorological data and apply at the HPR rate
HPR	Hourly precipitation rate when IETOPT equals 1.	1	Starting at 0000 hr., precipitation is applied at the HPR rate until the amount to be applied is less than the amount that would fall in one hour at the HPR rate, after which the remainder is applied over the next hour. The default value is 1.0 cm/hr.

Variable	Field	Input Value	Explanation
IHYS	Option for hysteresis	0	Hysteresis data not available for this soil.
AIRTOL	Tolerance limit on entrapped air content below which volumetric air content is considered zero in hysteresis simulations	0	IHYS = 0
HYSTOL	Tolerance limit on head changes below which a change in head does not trigger a path reversal during hysteresis simulations	0	IHYS = 0
HYSMAX	Maximum head value for all materials above which hysteresis does not occur.	0	IHYS = 0
IHEAT	Option for simulating heat flow	0	Heat flow parameters not available for this soil.
ICONVH	Option to allow convective heat flow via water flow	0	IHEAT = 0
DMAXHE	Time step control parameter when greater than zero and IHEAT=1	0	IHEAT = 0
UPPERH	Option for the upper boundary condition for heat flow	0	IHEAT = 0
TSMEAN	Daily mean surface temperature when UPPERH equals 2; temperature of infiltrating water when UPPERH equals 3	0	IHEAT = 0
TSAMP	Daily surface temperature amplitude about TSMEAN when UPPERH = 2	0	IHEAT = 0
QHCTOP	User-specified surface heat flux when UPPERH equals 3	0	IHEAT = 0

Variable	Field	Input Value	Explanation
LOWERH	Option for the lower boundary condition for heat flow	0	IHEAT = 0
QHLEAK	Heat flux at the bottom boundary when LOWERH equals 3	0	IHEAT = 0
TGRAD	Temperature gradient at the bottom boundary when IHEAT equals 1 and LOWERH equals 1	1	IHEAT = 0
IVAPOR	Option to allow vapor flow.	1	Vapor Flow is typically modeled.
TORT	Tortuosity	6.60E-01	Typical Soil Value
TSOIL	Average temperature of the soil	2.97E+02	Average air temperature at the site over the 30 year modeling period is 297 K
VAPDIF	Diffusion coefficient of vapor in air	2.40E-01	Typical value
MATN	Number of different soil materials	1	Monolithic soil layer
NPT	Number of nodes	30	30 Nodes
MAT	Soil material identification number for the given node	See Input File	See Input File
Z	Depth of node below the surface	See Input File	See Input File

TABLE 5
SOIL PROPERTY DESCRIPTION INPUTS

Variable	Field	Soil Sample			Explanation
		TP-2	TP-3	TP-4	
DUMMY	Water Retention Information				
THET	Saturated Water Content	0.463	0.455	0.38	Calculated Laboratory Results
THTR	Residual Water Content	0.036	0.083	0.025	Calculated Laboratory Results
VGA	Coefficient of van Genuchten function	0.004	0.008	0.004	Calculated Laboratory Results
VGN	The "n" exponent	1.25	1.19	1.26	Calculated Laboratory Results
DUMMY	Water Conductivity Information				
RKMOD	Conductivity model option	Mualem	Mualem	Mualem	Typical Input
SK	Saturated hydraulic conductivity (cm/hr.)	0.054	0.02916	0.00828	Calculated Laboratory Results
VGA	Coefficient of van Genuchten function	0.004	0.008	0.004	Calculated Laboratory Results
VGN	The "n" exponent	1.25	1.19	1.26	Calculated Laboratory Results
EPIT	Exponent of the pore interaction term	0.5	0.5	0.5	Exponent of the pore interaction term value 0.5 is standard for the Mualem model.

TABLE 6
BOUNDARY CONDITIONS

Boundary Conditions			
Variable	Field	Input Value	Explanation
ALBEDO	Soil Surface albedo	0.15	Surface albedo is required for calculation of heat flux into or out of the surface node. The albedo value is constrained to between 0.10 and 0.25. Typical value inputed.
ALT	Altitude of site being simulated	520	Average elevation at simulated site in meters.
ZU	Height of the wind speed measurement	6	Height of anemometer at weather station in meters.
PMB	Average annual atmospheric pressure	1015.7	Average 30 year pressure at weather station in mb.
MET	Meteorological Data	See Input Data	See Input Data

2.3.6. Model Results

In accordance with 330.457(d) the proposed WB monolithic soil final cover system is designed to achieve a reduction in infiltration equivalent to the prescriptive covers as defined in 330.457(a)(1). There are portions of the landfill with a pre-subtitle D bottom liner that require final cover in accordance 330.457(a)(2). It is assumed that if the WB cover meets the infiltration equivalency of a final cover with geomembrane, it will meet or exceed the infiltration equivalency of a final cover without geomembrane.

During the simulation, percolation through the WB landfill cover system remained below the 4 mm/year threshold for all three soil samples over the 30 year period. The following tables and figures summarize the results for each soil type. Detailed output files for each simulation are provided in Appendix A-4.

TABLE 7
RESULT SUMMARY – SOIL SAMPLE TP2

Soil Sample TP2										
Year	Precipitation, cm.	PET, cm.	P/PET	Evaporation, cm.	Transpiration, cm.	Runoff, cm.	Water Storage, cm	Percolation, cm.	Mass Balance Error, cm.	Percolation + Mass Balance Error, mm.
1	37.24	389.08	0.10	25.50	0.00	12.17	14.17	1.20E-02	-1.35E-01	1.47
2	32.18	418.15	0.08	18.69	0.00	13.31	14.45	1.10E-02	-1.02E-01	1.13
3	89.21	394.03	0.23	37.98	0.00	49.38	16.46	2.40E-02	-1.91E-01	2.15
4	47.14	413.38	0.11	28.35	0.00	18.73	16.64	5.00E-02	-1.71E-01	2.21
5	46.63	452.72	0.10	31.83	0.00	16.64	14.92	3.80E-02	-1.54E-01	1.92
6	35.97	425.57	0.08	23.37	0.00	13.09	14.54	2.10E-02	-1.32E-01	1.53
7	39.68	414.76	0.10	22.70	0.00	16.67	14.96	1.50E-02	-1.29E-01	1.44
8	58.57	416.40	0.14	31.28	0.00	26.96	15.44	1.70E-02	-1.57E-01	1.74
9	47.80	386.58	0.12	28.44	0.00	18.57	16.37	2.80E-02	-1.66E-01	1.94
10	52.98	366.19	0.14	34.89	0.00	18.80	15.81	4.90E-02	-1.89E-01	2.38
11	33.45	395.97	0.08	23.37	0.00	11.98	14.01	2.70E-02	-1.24E-01	1.51
12	54.71	429.59	0.13	32.82	0.00	20.57	15.51	1.60E-02	-1.81E-01	1.97
13	61.06	435.53	0.14	32.83	0.00	27.93	15.96	2.20E-02	-1.69E-01	1.91
14	58.27	461.00	0.13	28.78	0.00	29.60	15.96	4.00E-02	-1.50E-01	1.90
15	53.52	422.53	0.13	33.57	0.00	20.34	15.71	4.40E-02	-1.90E-01	2.34
16	26.42	467.68	0.06	20.01	0.00	7.77	14.44	2.70E-02	-1.21E-01	1.48
17	42.01	462.15	0.09	22.97	0.00	19.41	14.17	1.30E-02	-1.10E-01	1.23
18	42.39	471.45	0.09	23.37	0.00	18.62	14.72	1.20E-02	-1.51E-01	1.63
19	44.96	456.11	0.10	26.19	0.00	18.70	14.90	1.10E-02	-1.33E-01	1.44
20	48.74	461.51	0.11	25.46	0.00	23.20	15.11	1.20E-02	-1.40E-01	1.52
21	65.23	431.87	0.15	35.19	0.00	29.70	15.61	2.80E-02	-1.94E-01	2.22
22	69.14	439.22	0.16	35.94	0.00	32.80	16.12	5.50E-02	-1.74E-01	2.29
23	34.95	412.26	0.08	21.58	0.00	15.04	14.53	3.80E-02	-1.22E-01	1.60
24	49.17	431.12	0.11	21.55	0.00	26.23	16.05	1.60E-02	-1.37E-01	1.53
25	75.62	387.42	0.20	40.79	0.00	35.40	15.66	5.80E-02	-2.36E-01	2.94
26	57.86	407.81	0.14	28.12	0.00	29.95	15.56	4.50E-02	-1.55E-01	2.00
27	34.29	415.53	0.08	22.65	0.00	11.85	15.48	2.90E-02	-1.62E-01	1.91
28	66.62	385.40	0.17	34.45	0.00	32.49	15.33	3.90E-02	-2.06E-01	2.45
29	23.57	435.44	0.05	13.16	0.00	11.38	14.39	3.00E-02	-6.73E-02	0.97
30	28.65	427.82	0.07	18.72	0.00	11.54	12.90	9.00E-03	-1.18E-01	1.27

FIGURE 2
WATER STORAGE SUMMARY – SOIL SAMPLE TP2

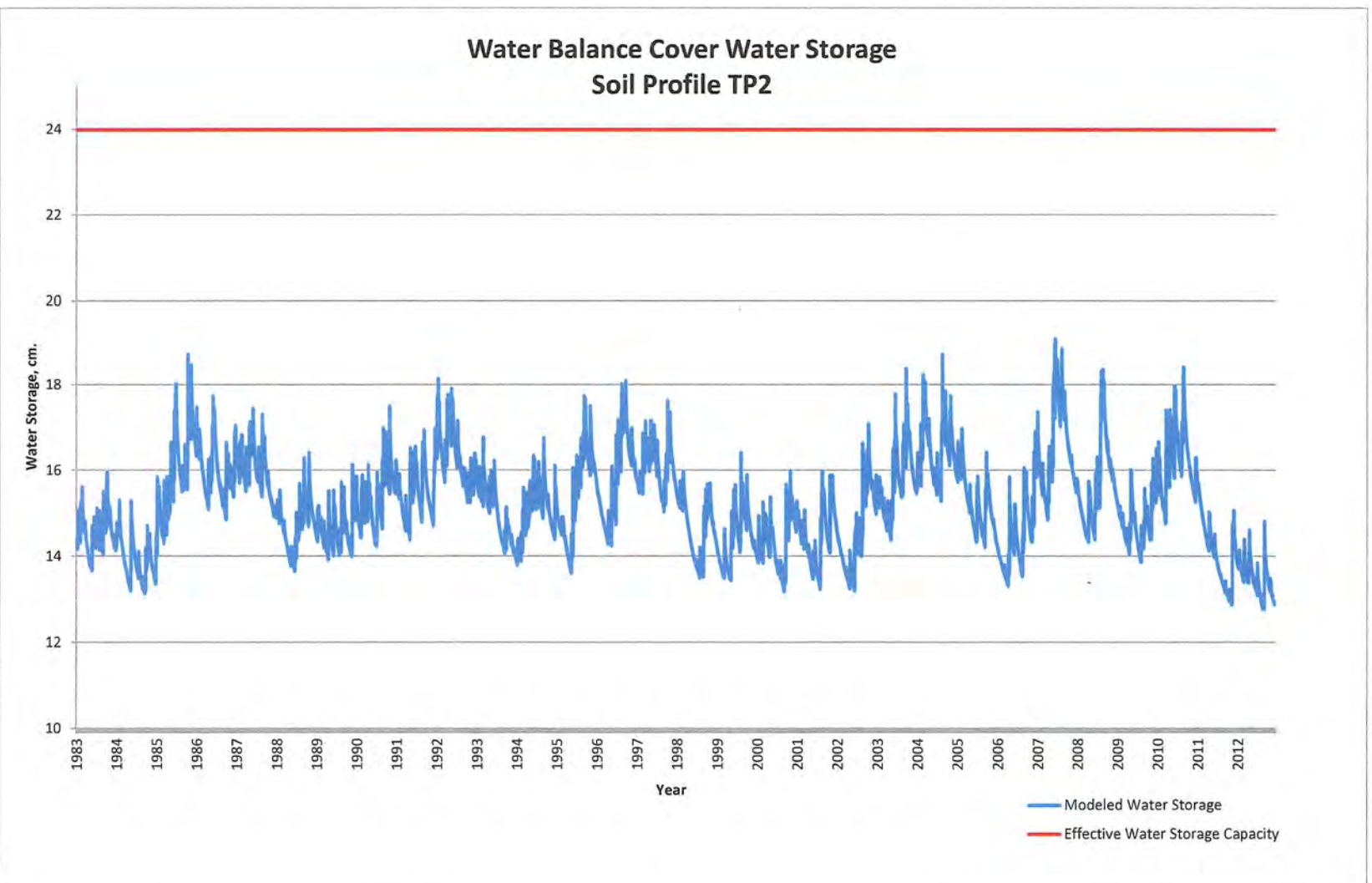


TABLE 8
RESULT SUMMARY - SOIL SAMPLE TP3

Soil Sample TP3										
Year	Precipitation, cm.	PET, cm.	P/PET	Evaporation, cm.	Transpiration, cm.	Runoff, cm.	Water Storage, cm	Percolation, cm.	Mass Balance Error, cm.	Percolation + Mass Balance Error, mm.
1	37.24	389.08	0.10	15.69	0.00	23.10	14.90	1.00E-03	-0.15183	1.53
2	32.18	418.15	0.08	11.83	0.00	20.94	14.48	1.00E-03	-0.15119	1.52
3	89.21	394.03	0.23	19.29	0.00	70.11	14.53	1.00E-03	-0.24461	2.46
4	47.14	413.38	0.11	16.02	0.00	31.44	14.42	1.00E-03	-0.21467	2.16
5	46.63	452.72	0.10	18.98	0.00	28.80	13.46	1.00E-03	-0.19111	1.92
6	35.97	425.57	0.08	14.09	0.00	22.60	12.94	1.00E-03	-0.19342	1.94
7	39.68	414.76	0.10	13.43	0.00	26.39	12.98	0.00E+00	-0.17563	1.76
8	58.57	416.40	0.14	17.06	0.00	42.26	12.43	0.00E+00	-0.20504	2.05
9	47.80	386.58	0.12	15.91	0.00	31.63	12.93	0.00E+00	-0.2291	2.29
10	52.98	366.19	0.14	20.44	0.00	33.35	12.38	0.00E+00	-0.26171	2.62
11	33.45	395.97	0.08	14.47	0.00	19.79	11.75	0.00E+00	-0.18576	1.86
12	54.71	429.59	0.13	18.92	0.00	35.94	11.84	0.00E+00	-0.24135	2.41
13	61.06	435.53	0.14	18.04	0.00	43.47	11.61	0.00E+00	-0.22253	2.23
14	58.27	461.00	0.13	14.41	0.00	44.34	11.32	0.00E+00	-0.18858	1.89
15	53.52	422.53	0.13	19.65	0.00	34.20	11.25	0.00E+00	-0.2598	2.60
16	26.42	467.68	0.06	12.04	0.00	15.02	10.78	0.00E+00	-0.1697	1.70
17	42.01	462.15	0.09	13.21	0.00	29.30	10.45	0.00E+00	-0.17104	1.71
18	42.39	471.45	0.09	13.62	0.00	28.90	10.48	0.00E+00	-0.15695	1.57
19	44.96	456.11	0.10	15.57	0.00	29.81	10.25	0.00E+00	-0.17566	1.76
20	48.74	461.51	0.11	13.86	0.00	35.18	10.12	0.00E+00	-0.17437	1.74
21	65.23	431.87	0.15	20.42	0.00	45.07	10.17	0.00E+00	-0.30327	3.03
22	69.14	439.22	0.16	20.23	0.00	49.13	10.21	0.00E+00	-0.26388	2.64
23	34.95	412.26	0.08	11.98	0.00	23.61	9.73	0.00E+00	-0.16022	1.60
24	49.17	431.12	0.11	11.20	0.00	37.82	10.05	0.00E+00	-0.17242	1.72
25	75.62	387.42	0.20	22.48	0.00	53.50	9.99	0.00E+00	-0.29904	2.99
26	57.86	407.81	0.14	15.90	0.00	42.25	9.92	0.00E+00	-0.21719	2.17
27	34.29	415.53	0.08	13.44	0.00	20.94	10.06	0.00E+00	-0.23392	2.34
28	66.62	385.40	0.17	18.60	0.00	48.62	9.76	0.00E+00	-0.29833	2.98
29	23.57	435.44	0.05	7.50	0.00	16.19	9.74	0.00E+00	-0.09336	0.93
30	28.65	427.82	0.07	11.94	0.00	17.32	9.31	0.00E+00	-0.17553	1.76

FIGURE 3
WATER STORAGE SUMMARY – SOIL SAMPLE TP3

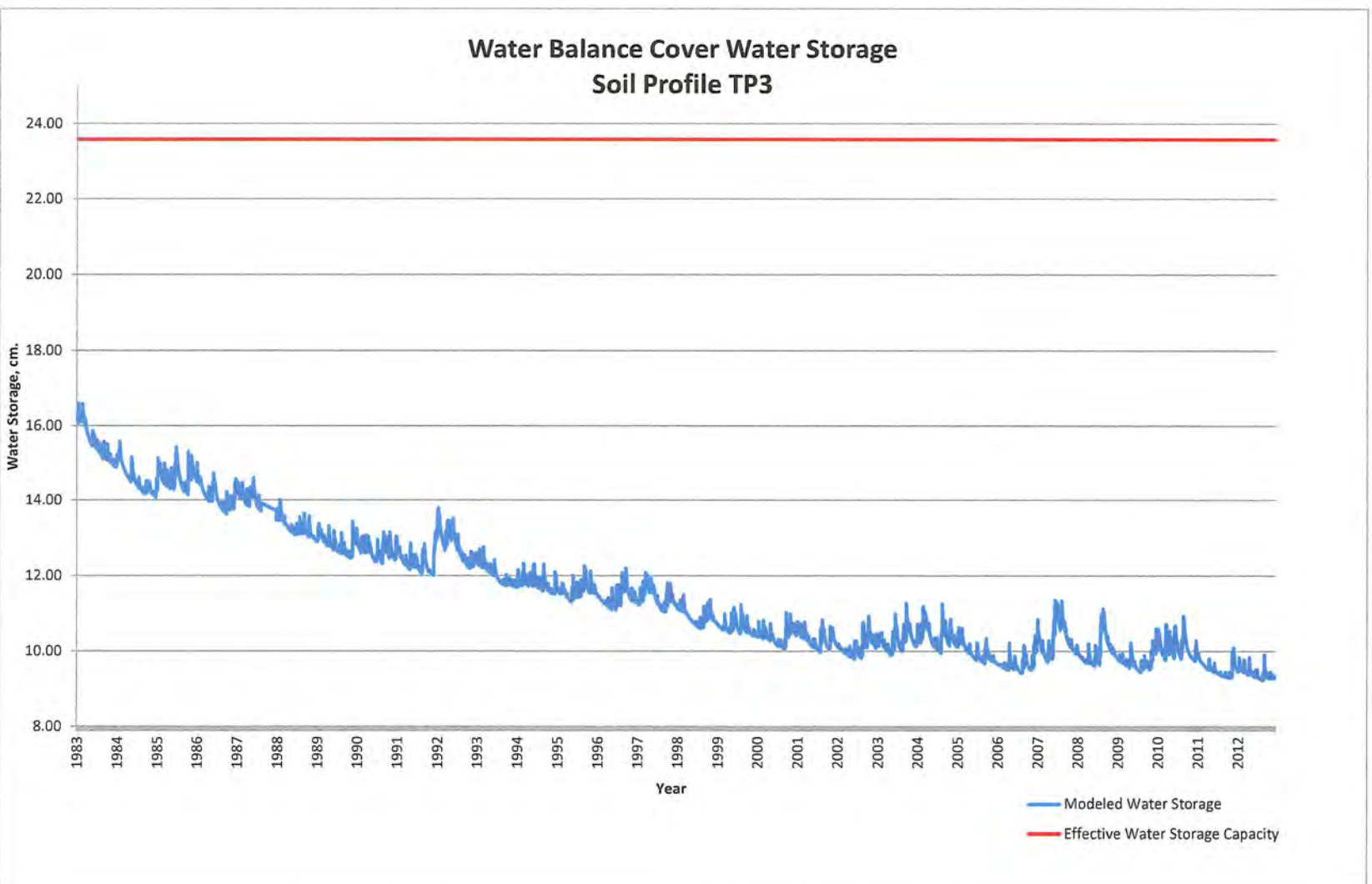
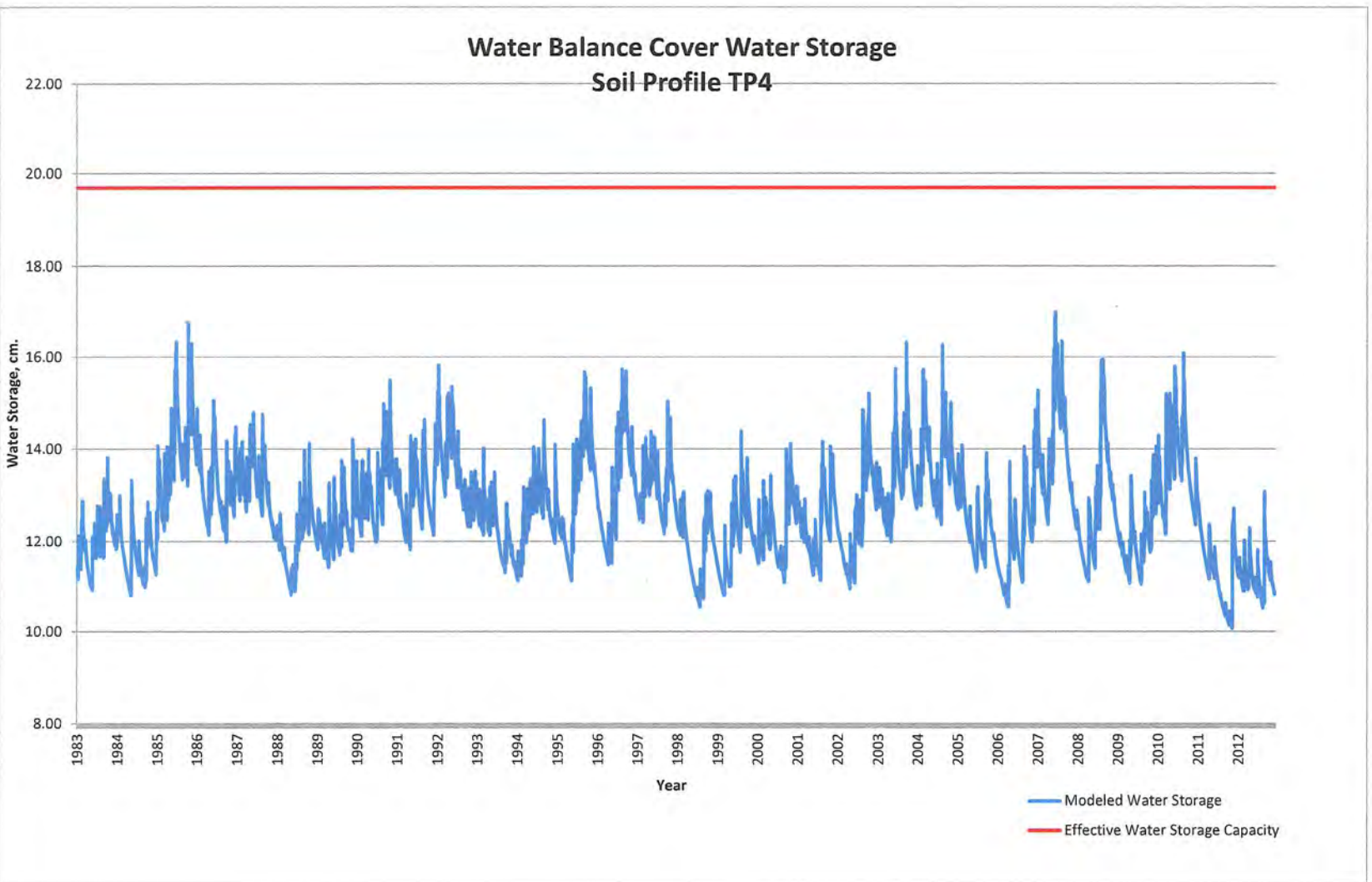


TABLE 9
RESULT SUMMARY – SOIL SAMPLE TP4

Soil Sample TP4										
Year	Precipitation, cm.	PET, cm.	P/PET	Evaporation, cm.	Transpiration, cm.	Runoff, cm.	Water Storage, cm	Percolation, cm.	Mass Balance Error, cm.	Percolation + Mass Balance Error, mm.
1	37.24	389.08	0.10	27.79	0.00	9.12	11.86	2.60E-02	-1.17E-01	1.43
2	32.18	418.15	0.08	20.68	0.00	10.77	12.65	3.00E-02	-8.38E-02	1.14
3	89.21	394.03	0.23	43.39	0.00	44.64	13.80	1.83E-01	-1.49E-01	3.32
4	47.14	413.38	0.11	31.78	0.00	15.19	13.99	1.14E-01	-1.36E-01	2.50
5	46.63	452.72	0.10	34.63	0.00	13.96	12.06	1.02E-01	-1.21E-01	2.23
6	35.97	425.57	0.08	25.51	0.00	10.57	12.03	3.80E-02	-1.09E-01	1.47
7	39.68	414.76	0.10	25.02	0.00	14.03	12.71	4.20E-02	-1.03E-01	1.45
8	58.57	416.40	0.14	34.77	0.00	23.50	13.04	8.70E-02	-1.27E-01	2.14
9	47.80	386.58	0.12	31.64	0.00	15.42	13.83	8.70E-02	-1.31E-01	2.18
10	52.98	366.19	0.14	38.86	0.00	15.11	12.86	1.44E-01	-1.58E-01	3.02
11	33.45	395.97	0.08	25.42	0.00	9.58	11.36	4.90E-02	-9.50E-02	1.44
12	54.71	429.59	0.13	36.36	0.00	16.52	13.28	5.50E-02	-1.45E-01	2.00
13	61.06	435.53	0.14	36.76	0.00	24.26	13.35	1.02E-01	-1.32E-01	2.34
14	58.27	461.00	0.13	32.26	0.00	26.20	13.13	1.33E-01	-1.16E-01	2.49
15	53.52	422.53	0.13	36.61	0.00	17.29	12.80	9.70E-02	-1.49E-01	2.46
16	26.42	467.68	0.06	21.43	0.00	6.12	11.72	4.30E-02	-9.51E-02	1.38
17	42.01	462.15	0.09	25.24	0.00	16.66	11.88	3.80E-02	-8.51E-02	1.23
18	42.39	471.45	0.09	26.18	0.00	15.60	12.57	3.90E-02	-1.13E-01	1.52
19	44.96	456.11	0.10	28.75	0.00	16.06	12.77	4.60E-02	-1.05E-01	1.51
20	48.74	461.51	0.11	28.31	0.00	20.37	12.88	6.50E-02	-1.09E-01	1.74
21	65.23	431.87	0.15	38.95	0.00	26.28	12.90	1.28E-01	-1.58E-01	2.86
22	69.14	439.22	0.16	39.85	0.00	29.01	13.17	1.57E-01	-1.50E-01	3.07
23	34.95	412.26	0.08	23.69	0.00	12.66	11.81	6.60E-02	-9.75E-02	1.64
24	49.17	431.12	0.11	23.65	0.00	23.54	13.85	3.50E-02	-1.00E-01	1.35
25	75.62	387.42	0.20	45.18	0.00	31.76	12.48	2.52E-01	-1.08E-01	3.60
26	57.86	407.81	0.14	31.20	0.00	26.51	12.65	1.04E-01	-1.20E-01	2.24
27	34.29	415.53	0.08	24.77	0.00	9.36	12.90	4.30E-02	-1.38E-01	1.81
28	66.62	385.40	0.17	38.40	0.00	28.65	12.46	1.63E-01	-1.51E-01	3.14
29	23.57	435.44	0.05	14.51	0.00	9.60	11.94	4.10E-02	-5.82E-02	0.99
30	28.65	427.82	0.07	19.93	0.00	9.89	10.83	1.50E-02	-7.69E-02	0.92

FIGURE 4
WATER STORAGE SUMMARY – SOIL SAMPLE TP4



3. Soil and Water Erosion Equivalency

The proposed alternative final cover systems described above provide equivalent protection from wind and water erosion as the erosion layer specified in 30 TAC 330.457(a)(3). All alternative covers have identical erosion protection as the prescriptive cover. The same erosion control features and BMP shall be used on each cover system. Soil erosion calculations are provided in Appendix A-2 to the Closure Plan.

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

ALTERNATIVE COVER DEMONSTRATION
HELP MODEL OUTPUT

ATTACHMENT III.12 – APPENDIX A-1

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

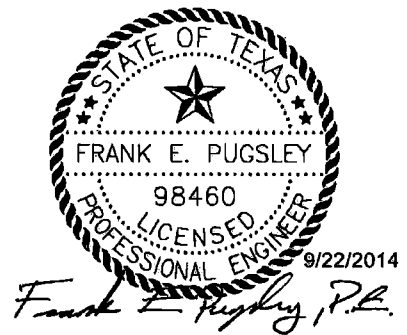
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

SEPTEMBER 2014

Prepared by:

CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741



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**
**      HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE
**      HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)
**      DEVELOPED BY ENVIRONMENTAL LABORATORY
**      USAE WATERWAYS EXPERIMENT STATION
**      FOR USEPA RISK REDUCTION ENGINEERING LABORATORY
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TIME: 10:14 DATE: 9/17/2013

LAYER 1

LAYER 2

LARESTDA.OUT
TYPE 3 - BARRIER SOIL LINER
MATERIAL TEXTURE NUMBER 16

THICKNESS	=	18.00	INCHES
POROSITY	=	0.4270	VOL/VOL
FIELD CAPACITY	=	0.4180	VOL/VOL
WILTING POINT	=	0.3670	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4270	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

LAYER 3

TYPE 4 - FLEXIBLE MEMBRANE LINER
MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	1.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	1.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3	- GOOD

LAYER 4

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 23

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4610	VOL/VOL
FIELD CAPACITY	=	0.3600	VOL/VOL
WILTING POINT	=	0.2030	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.3195	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.900000032000E-05	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
SOIL DATA BASE USING SOIL TEXTURE #23 WITH A
FAIR STAND OF GRASS, A SURFACE SLOPE OF 1.0%
AND A SLOPE LENGTH OF 200. FEET.

SCS RUNOFF CURVE NUMBER	=	90.20	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	6.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	1.337	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	2.766	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.218	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	12.856	INCHES

LARESTDA.OUT

TOTAL INITIAL WATER	=	12.856	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA -----

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
CORPUS CHRISTI TEXAS

STATION LATITUDE	=	27.56	DEGREES
MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	0	
END OF GROWING SEASON (JULIAN DATE)	=	367	
EVAPORATIVE ZONE DEPTH	=	6.0	INCHES
AVERAGE ANNUAL WIND SPEED	=	12.00	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	76.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	78.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	76.00	%
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	76.00	%

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-----	-----	-----	-----	-----	-----
0.90	0.94	1.12	1.42	2.49	2.23
2.01	1.88	2.93	2.21	1.19	0.88

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-----	-----	-----	-----	-----	-----
56.50	61.20	68.40	75.90	82.50	87.00
88.00	88.40	83.10	75.80	65.80	57.30

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS
AND STATION LATITUDE = 27.56 DEGREES

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 30

	JAN/JUL	LARESTDA.OUT FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.76 2.06	1.00 1.94	1.09 2.98	1.27 2.25	1.91 1.10	1.86 0.94
STD. DEVIATIONS	0.45 1.88	0.67 1.60	0.54 1.64	0.95 1.42	1.37 0.86	1.30 0.63
RUNOFF						
TOTALS	0.006 0.742	0.056 0.405	0.063 0.700	0.187 0.528	0.440 0.126	0.442 0.028
STD. DEVIATIONS	0.016 1.284	0.107 0.648	0.134 0.896	0.396 0.654	0.637 0.403	0.588 0.080
EVAPOTRANSPIRATION						
TOTALS	0.703 1.386	0.921 1.413	1.030 2.119	1.067 2.003	1.511 1.049	1.430 0.786
STD. DEVIATIONS	0.545 0.924	0.600 1.311	0.484 1.122	0.616 1.084	0.998 0.784	0.885 0.589
PERCOLATION/LEAKAGE THROUGH LAYER 3						
TOTALS	0.0002 0.0002	0.0003 0.0002	0.0003 0.0003	0.0003 0.0003	0.0003 0.0002	0.0002 0.0001
STD. DEVIATIONS	0.0002 0.0002	0.0002 0.0002	0.0002 0.0001	0.0002 0.0002	0.0002 0.0002	0.0002 0.0002
PERCOLATION/LEAKAGE THROUGH LAYER 4						
TOTALS	0.0014 0.0015	0.0023 0.0024	0.0044 0.0036	0.0039 0.0029	0.0018 0.0011	0.0020 0.0009
STD. DEVIATIONS	0.0025 0.0028	0.0033 0.0058	0.0088 0.0062	0.0085 0.0045	0.0021 0.0017	0.0024 0.0016

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF LAYER 2

AVERAGES	0.5185 0.8156	1.0967 0.9221	0.9908 1.5961	1.1308 1.3528	1.0378 0.7020	0.7611 0.4354
STD. DEVIATIONS	0.6856 0.7392	1.0540 0.8571	0.8321 1.0016	0.8928 0.9392	0.8109 0.9248	0.6353 0.7566

AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 30
Page 4

LARESTDA.OUT

	INCHES		CU. FEET	PERCENT
PRECIPITATION	19.15	(3.853)	69520.6	100.00
RUNOFF	3.722	(1.7707)	13512.09	19.436
EVAPOTRANSPIRATION	15.419	(2.9312)	55971.71	80.511
PERCOLATION/LEAKAGE THROUGH LAYER 3	0.00302	(0.00076)	10.958	0.01576
AVERAGE HEAD ON TOP OF LAYER 2	0.947	(0.368)		
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.02832	(0.03607)	102.796	0.14786
CHANGE IN WATER STORAGE	-0.018	(0.3967)	-66.07	-0.095

PEAK DAILY VALUES FOR YEARS 1 THROUGH 30		
	(INCHES)	(CU. FT.)
PRECIPITATION	4.41	16008.300
RUNOFF	3.948	14329.5527
PERCOLATION/LEAKAGE THROUGH LAYER 3	0.000018	0.06693
AVERAGE HEAD ON TOP OF LAYER 2	6.000	
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.001916	6.95533
SNOW WATER	0.00	0.0000
MAXIMUM VEG. SOIL WATER (VOL/VOL)		0.4610
MINIMUM VEG. SOIL WATER (VOL/VOL)		0.2030

FINAL WATER STORAGE AT END OF YEAR 30		
LAYER	(INCHES)	(VOL/VOL)
1	1.5496	0.2583
2	7.6860	0.4270

LARESTDA.OUT

3	0.0000	0.0000
4	3.0744	0.2562
SNOW WATER	0.000	

LARESTDB.OUT

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**          HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE          **
**          HELP MODEL VERSION 3.07 (1 NOVEMBER 1997)              **
**          DEVELOPED BY ENVIRONMENTAL LABORATORY                  **
**          USAE WATERWAYS EXPERIMENT STATION                     **
**          FOR USEPA RISK REDUCTION ENGINEERING LABORATORY        **
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PRECIPITATION DATA FILE: C:\HELP3\LAREPREC.D4
TEMPERATURE DATA FILE: C:\HELP3\LARETEMP.D7
SOLAR RADIATION DATA FILE: C:\HELP3\LARESOLA.D13
EVAPOTRANSPIRATION DATA: C:\HELP3\LAREEVAP.D11
SOIL AND DESIGN DATA FILE: C:\HELP3\LARESTDB.D10
OUTPUT DATA FILE: C:\HELP3\LARESTDB.OUT

TIME: 10:22 DATE: 9/17/2013

TITLE: STANDARD FINAL COVER WITH SOIL BOTTOM LINER 330.457(A)(2)

NOTE: INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER WERE
COMPUTED AS NEARLY STEADY-STATE VALUES BY THE PROGRAM.

LAYER 1

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 23

THICKNESS	=	6.00	INCHES
POROSITY	=	0.4610	VOL/VOL
FIELD CAPACITY	=	0.3600	VOL/VOL
WILTING POINT	=	0.2030	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.2221	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.900000032000E-05	CM/SEC

LAYER 2

LARESTDB.OUT
 TYPE 3 - BARRIER SOIL LINER
 MATERIAL TEXTURE NUMBER 16

THICKNESS	=	18.00	INCHES
POROSITY	=	0.4270	VOL/VOL
FIELD CAPACITY	=	0.4180	VOL/VOL
WILTING POINT	=	0.3670	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4270	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

LAYER 3

TYPE 1 - VERTICAL PERCOLATION LAYER
 MATERIAL TEXTURE NUMBER 23

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4610	VOL/VOL
FIELD CAPACITY	=	0.3600	VOL/VOL
WILTING POINT	=	0.2030	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.3483	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.900000032000E-05	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
 SOIL DATA BASE USING SOIL TEXTURE #23 WITH A
 POOR STAND OF GRASS, A SURFACE SLOPE OF 1.%
 AND A SLOPE LENGTH OF 200. FEET.

SCS RUNOFF CURVE NUMBER	=	93.60	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	6.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	1.333	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	2.766	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	1.218	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	13.198	INCHES
TOTAL INITIAL WATER	=	13.198	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
 CORPUS CHRISTI TEXAS

STATION LATITUDE	=	27.56	DEGREES
MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	0	
END OF GROWING SEASON (JULIAN DATE)	=	367	
EVAPORATIVE ZONE DEPTH	=	6.0	INCHES
AVERAGE ANNUAL WIND SPEED	=	12.00	MPH

LARESTDB.OUT

AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	76.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	78.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	76.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	76.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.90	0.94	1.12	1.42	2.49	2.23
2.01	1.88	2.93	2.21	1.19	0.88

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.20	68.40	75.90	82.50	87.00
88.00	88.40	83.10	75.80	65.80	57.30

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS
AND STATION LATITUDE = 27.56 DEGREES

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 30

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						
TOTALS	0.76 2.06	1.00 1.94	1.09 2.98	1.27 2.25	1.91 1.10	1.86 0.94
STD. DEVIATIONS	0.45 1.88	0.67 1.60	0.54 1.64	0.95 1.42	1.37 0.86	1.30 0.63
RUNOFF						
TOTALS	0.020 0.766	0.092 0.494	0.098 0.725	0.255 0.577	0.495 0.152	0.509 0.047
STD. DEVIATIONS	0.040 1.242	0.121 0.652	0.140 0.862	0.450 0.599	0.620 0.402	0.614 0.106

		LARESTD.B.OUT				
EVAPOTRANSPIRATION						

TOTALS	0.663 1.278	0.852 1.390	0.901 1.972	1.001 1.911	1.371 0.989	1.333 0.745
STD. DEVIATIONS	0.553 0.839	0.584 1.162	0.461 1.167	0.603 0.919	0.906 0.666	0.852 0.590
PERCOLATION/LEAKAGE THROUGH LAYER 2						

TOTALS	0.0296 0.0355	0.0415 0.0393	0.0465 0.0625	0.0505 0.0644	0.0474 0.0329	0.0398 0.0172
STD. DEVIATIONS	0.0403 0.0345	0.0398 0.0399	0.0464 0.0357	0.0433 0.0422	0.0382 0.0373	0.0306 0.0311
PERCOLATION/LEAKAGE THROUGH LAYER 3						

TOTALS	0.0289 0.0363	0.0403 0.0383	0.0474 0.0594	0.0510 0.0626	0.0486 0.0352	0.0421 0.0181
STD. DEVIATIONS	0.0389 0.0345	0.0374 0.0370	0.0458 0.0322	0.0439 0.0390	0.0374 0.0380	0.0321 0.0304

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)

DAILY AVERAGE HEAD ON TOP OF LAYER 2						

AVERAGES	0.3052	0.6425	0.5789	0.6162	0.5529	0.3584
	0.3605	0.5059	0.9362	0.9566	0.3838	0.1531
STD. DEVIATIONS	0.5367	0.8256	0.7462	0.6457	0.6571	0.3587
	0.4032	0.6440	0.8290	0.8802	0.6189	0.2970

AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 30

	INCHES		CU. FEET	PERCENT
	-----		-----	-----
PRECIPITATION	19.15	(3.853)	69520.6	100.00
RUNOFF	4.231	(1.9780)	15357.61	22.091
EVAPOTRANSPIRATION	14.406	(2.6367)	52295.46	75.223
PERCOLATION/LEAKAGE THROUGH LAYER 2	0.50709	(0.17920)	1840.749	2.64778
AVERAGE HEAD ON TOP OF LAYER 2	0.529	(0.287)		
PERCOLATION/LEAKAGE THROUGH LAYER 3	0.50807	(0.17597)	1844.278	2.65285

CHANGE IN WATER STORAGE LARESTD.B.OUT
0.006 (0.4129) 23.18 0.033

PEAK DAILY VALUES FOR YEARS	1 THROUGH	30
	(INCHES)	(CU. FT.)
PRECIPITATION	4.41	16008.300
RUNOFF	3.609	13100.9687
PERCOLATION/LEAKAGE THROUGH LAYER 2	0.004505	16.35319
AVERAGE HEAD ON TOP OF LAYER 2	5.839	
PERCOLATION/LEAKAGE THROUGH LAYER 3	0.007162	25.99750
SNOW WATER	0.00	0.0000
MAXIMUM VEG. SOIL WATER (VOL/VOL)		0.4610
MINIMUM VEG. SOIL WATER (VOL/VOL)		0.2030

FINAL WATER STORAGE AT END OF YEAR 30		
LAYER	(INCHES)	(VOL/VOL)
1	1.5536	0.2589
2	7.6860	0.4270
3	4.1501	0.3458
SNOW WATER	0.000	


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**      HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE
**      HELP MODEL VERSION 3.07  (1 NOVEMBER 1997)
**      DEVELOPED BY ENVIRONMENTAL LABORATORY
**      USAE WATERWAYS EXPERIMENT STATION
**      FOR USEPA RISK REDUCTION ENGINEERING LABORATORY
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TIME: 9:54 DATE: 9/18/2013

LAREALTC.OUT
 TYPE 1 - VERTICAL PERCOLATION LAYER
 MATERIAL TEXTURE NUMBER 16

THICKNESS	=	18.00	INCHES
POROSITY	=	0.4270	VOL/VOL
FIELD CAPACITY	=	0.4180	VOL/VOL
WILTING POINT	=	0.3670	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.3982	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

LAYER 3

TYPE 2 - LATERAL DRAINAGE LAYER
 MATERIAL TEXTURE NUMBER 34

THICKNESS	=	0.24	INCHES
POROSITY	=	0.8500	VOL/VOL
FIELD CAPACITY	=	0.0100	VOL/VOL
WILTING POINT	=	0.0050	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0100	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	33.0000000000	CM/SEC
SLOPE	=	1.00	PERCENT
DRAINAGE LENGTH	=	200.0	FEET

LAYER 4

TYPE 4 - FLEXIBLE MEMBRANE LINER
 MATERIAL TEXTURE NUMBER 35

THICKNESS	=	0.06	INCHES
POROSITY	=	0.0000	VOL/VOL
FIELD CAPACITY	=	0.0000	VOL/VOL
WILTING POINT	=	0.0000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.0000	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.199999996000E-12	CM/SEC
FML PINHOLE DENSITY	=	1.00	HOLES/ACRE
FML INSTALLATION DEFECTS	=	1.00	HOLES/ACRE
FML PLACEMENT QUALITY	=	3 - GOOD	

LAYER 5

TYPE 3 - BARRIER SOIL LINER
 MATERIAL TEXTURE NUMBER 0

THICKNESS	=	0.24	INCHES
POROSITY	=	0.7500	VOL/VOL
FIELD CAPACITY	=	0.7470	VOL/VOL
WILTING POINT	=	0.4000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.7500	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.499999997000E-08	CM/SEC

LAREALTC.OUT

TYPE 1 - VERTICAL PERCOLATION LAYER

MATERIAL TEXTURE NUMBER 23

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4610	VOL/VOL
FIELD CAPACITY	=	0.3600	VOL/VOL
WILTING POINT	=	0.2030	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.3031	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.900000032000E-05	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
SOIL DATA BASE USING SOIL TEXTURE #23 WITH A
POOR STAND OF GRASS, A SURFACE SLOPE OF 1%
AND A SLOPE LENGTH OF 200. FEET.

SCS RUNOFF CURVE NUMBER	=	93.60	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	10.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.921	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	4.474	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	2.686	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	12.469	INCHES
TOTAL INITIAL WATER	=	12.469	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
CORPUS CHRISTI TEXAS

STATION LATITUDE	=	27.56	DEGREES
MAXIMUM LEAF AREA INDEX	=	0.00	
START OF GROWING SEASON (JULIAN DATE)	=	0	
END OF GROWING SEASON (JULIAN DATE)	=	367	
EVAPORATIVE ZONE DEPTH	=	10.0	INCHES
AVERAGE ANNUAL WIND SPEED	=	12.00	MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY	=	76.00	%
AVERAGE 2ND QUARTER RELATIVE HUMIDITY	=	78.00	%
AVERAGE 3RD QUARTER RELATIVE HUMIDITY	=	76.00	%
AVERAGE 4TH QUARTER RELATIVE HUMIDITY	=	76.00	%

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC

LAREALTC.OUT					
-----	-----	-----	-----	-----	-----
0.90	0.94	1.12	1.42	2.49	2.23
2.01	1.88	2.93	2.21	1.19	0.88

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-----	-----	-----	-----	-----	-----
56.50	61.20	68.40	75.90	82.50	87.00
88.00	88.40	83.10	75.80	65.80	57.30

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS
AND STATION LATITUDE = 27.56 DEGREES

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 30

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
-----	-----	-----	-----	-----	-----	-----
PRECIPITATION						
TOTALS	0.76 2.06	1.00 1.94	1.09 2.98	1.27 2.25	1.91 1.10	1.86 0.94
STD. DEVIATIONS	0.45 1.88	0.67 1.60	0.54 1.64	0.95 1.42	1.37 0.86	1.30 0.63
RUNOFF						
TOTALS	0.058 1.078	0.160 0.851	0.260 1.108	0.510 0.931	0.824 0.265	0.830 0.122
STD. DEVIATIONS	0.085 1.460	0.179 0.927	0.286 0.961	0.623 0.785	0.818 0.459	0.754 0.252
EVAPOTRANSPIRATION						
TOTALS	0.625 1.054	0.744 1.035	0.949 1.663	0.845 1.570	1.098 0.812	1.048 0.703
STD. DEVIATIONS	0.443 0.648	0.553 0.869	0.447 0.981	0.477 0.828	0.861 0.568	0.775 0.496
LATERAL DRAINAGE COLLECTED FROM LAYER 3						
TOTALS	0.0003 0.0008	0.0002 0.0004	0.0008 0.0004	0.0011 0.0007	0.0013 0.0003	0.0015 0.0001

		LAREALTC.OUT				
STD. DEVIATIONS	0.0013	0.0005	0.0014	0.0033	0.0034	0.0034
	0.0027	0.0020	0.0017	0.0017	0.0012	0.0005
PERCOLATION/LEAKAGE THROUGH LAYER 5						
TOTALS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
PERCOLATION/LEAKAGE THROUGH LAYER 6						
TOTALS	0.0012	0.0007	0.0014	0.0013	0.0015	0.0016
	0.0010	0.0006	0.0007	0.0011	0.0004	0.0003
STD. DEVIATIONS	0.0021	0.0011	0.0016	0.0027	0.0022	0.0035
	0.0027	0.0014	0.0013	0.0014	0.0009	0.0006

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)						

DAILY AVERAGE HEAD ON TOP OF LAYER 4						
AVERAGES	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
STD. DEVIATIONS	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000
	0.0000	0.0000	0.0000	0.0000	0.0000	0.0000

AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 30						

	INCHES		CU. FEET		PERCENT	
	-----		-----		-----	
PRECIPITATION	19.15	(3.853)	69520.6		100.00	
RUNOFF	6.997	(2.4420)	25398.70		36.534	
EVAPOTRANSPIRATION	12.146	(2.2518)	44090.90		63.421	
LATERAL DRAINAGE COLLECTED FROM LAYER 3	0.00811	(0.01784)	29.424		0.04232	
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.00000	(0.00000)	0.000		0.00000	
AVERAGE HEAD ON TOP OF LAYER 4	0.000	(0.000)				
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.01185	(0.01166)	43.010		0.06187	
CHANGE IN WATER STORAGE	-0.011	(0.3693)	-41.47		-0.060	

LAREALTC.OUT

PEAK DAILY VALUES FOR YEARS	1 THROUGH	30
	(INCHES)	(CU. FT.)
PRECIPITATION	4.41	16008.300
RUNOFF	4.025	14611.7529
DRAINAGE COLLECTED FROM LAYER 3	0.00087	3.16760
PERCOLATION/LEAKAGE THROUGH LAYER 5	0.000000	0.00002
AVERAGE HEAD ON TOP OF LAYER 4	0.000	
MAXIMUM HEAD ON TOP OF LAYER 4	0.001	
LOCATION OF MAXIMUM HEAD IN LAYER 3 (DISTANCE FROM DRAIN)	0.0 FEET	
PERCOLATION/LEAKAGE THROUGH LAYER 6	0.000811	2.94561
SNOW WATER	0.00	0.0000
MAXIMUM VEG. SOIL WATER (VOL/VOL)		0.4378
MINIMUM VEG. SOIL WATER (VOL/VOL)		0.2686

*** Maximum heads are computed using McEnroe's equations. ***

Reference: Maximum Saturated Depth over Landfill Liner
by Bruce M. McEnroe, University of Kansas
ASCE Journal of Environmental Engineering
Vol. 119, No. 2, March 1993, pp. 262-270.

FINAL WATER STORAGE AT END OF YEAR 30		
LAYER	(INCHES)	(VOL/VOL)
1	1.5318	0.2553
2	7.1336	0.3963
3	0.0024	0.0100
4	0.0000	0.0000

Page 6

	LAREALTC.OUT	
5	0.1770	0.7500
6	3.2814	0.2734
SNOW WATER	0.000	

LAREALTD.OUT

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HYDROLOGIC EVALUATION OF LANDFILL PERFORMANCE
HELP MODEL VERSION 3.07 (1 NOVEMBER 1997)
DEVELOPED BY ENVIRONMENTAL LABORATORY
USAE WATERWAYS EXPERIMENT STATION
FOR USEPA RISK REDUCTION ENGINEERING LABORATORY
**
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*****

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PRECIPITATION DATA FILE: C:\HELP3\LAREPREC.D4
TEMPERATURE DATA FILE: C:\HELP3\LARETEMP.D7
SOLAR RADIATION DATA FILE: C:\HELP3\LARESOLA.D13
EVAPOTRANSPIRATION DATA: C:\HELP3\LAREEVP.D11
SOIL AND DESIGN DATA FILE: C:\HELP3\LAREALTD.D10
OUTPUT DATA FILE: C:\HELP3\LAREALTD.OUT
```

TIME: 10:44 DATE: 9/17/2013

TITLE: ALTERNATE FINAL COVER WITH SOIL BOTTOM LINER

NOTE: INITIAL MOISTURE CONTENT OF THE LAYERS AND SNOW WATER WERE
COMPUTED AS NEARLY STEADY-STATE VALUES BY THE PROGRAM.

LAYER 1

```

TYPE 1 - VERTICAL PERCOLATION LAYER
MATERIAL TEXTURE NUMBER 23
THICKNESS = 12.00 INCHES
POROSITY = 0.4610 VOL/VOL
FIELD CAPACITY = 0.3600 VOL/VOL
WILTING POINT = 0.2030 VOL/VOL
INITIAL SOIL WATER CONTENT = 0.2761 VOL/VOL
EFFECTIVE SAT. HYD. COND. = 0.900000032000E-05 CM/SEC

```

LAYER 2

LAREALTD.OUT
 TYPE 1 - VERTICAL PERCOLATION LAYER
 MATERIAL TEXTURE NUMBER 16

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4270	VOL/VOL
FIELD CAPACITY	=	0.4180	VOL/VOL
WILTING POINT	=	0.3670	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.4186	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.100000001000E-06	CM/SEC

LAYER 3

TYPE 3 - BARRIER SOIL LINER
 MATERIAL TEXTURE NUMBER 17

THICKNESS	=	0.24	INCHES
POROSITY	=	0.7500	VOL/VOL
FIELD CAPACITY	=	0.7470	VOL/VOL
WILTING POINT	=	0.4000	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.7500	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.300000003000E-08	CM/SEC

LAYER 4

TYPE 1 - VERTICAL PERCOLATION LAYER
 MATERIAL TEXTURE NUMBER 23

THICKNESS	=	12.00	INCHES
POROSITY	=	0.4610	VOL/VOL
FIELD CAPACITY	=	0.3600	VOL/VOL
WILTING POINT	=	0.2030	VOL/VOL
INITIAL SOIL WATER CONTENT	=	0.3366	VOL/VOL
EFFECTIVE SAT. HYD. COND.	=	0.900000032000E-05	CM/SEC

GENERAL DESIGN AND EVAPORATIVE ZONE DATA

NOTE: SCS RUNOFF CURVE NUMBER WAS COMPUTED FROM DEFAULT
 SOIL DATA BASE USING SOIL TEXTURE #23 WITH A
 POOR STAND OF GRASS, A SURFACE SLOPE OF 1.0%
 AND A SLOPE LENGTH OF 200. FEET.

SCS RUNOFF CURVE NUMBER	=	93.60	
FRACTION OF AREA ALLOWING RUNOFF	=	100.0	PERCENT
AREA PROJECTED ON HORIZONTAL PLANE	=	1.000	ACRES
EVAPORATIVE ZONE DEPTH	=	10.0	INCHES
INITIAL WATER IN EVAPORATIVE ZONE	=	2.594	INCHES
UPPER LIMIT OF EVAPORATIVE STORAGE	=	4.610	INCHES
LOWER LIMIT OF EVAPORATIVE STORAGE	=	2.030	INCHES
INITIAL SNOW WATER	=	0.000	INCHES
INITIAL WATER IN LAYER MATERIALS	=	12.553	INCHES
TOTAL INITIAL WATER	=	12.553	INCHES
TOTAL SUBSURFACE INFLOW	=	0.00	INCHES/YEAR

LAREALTD.OUT

EVAPOTRANSPIRATION AND WEATHER DATA

NOTE: EVAPOTRANSPIRATION DATA WAS OBTAINED FROM
CORPUS CHRISTI TEXAS

STATION LATITUDE = 27.56 DEGREES
MAXIMUM LEAF AREA INDEX = 0.00
START OF GROWING SEASON (JULIAN DATE) = 0
END OF GROWING SEASON (JULIAN DATE) = 367
EVAPORATIVE ZONE DEPTH = 10.0 INCHES
AVERAGE ANNUAL WIND SPEED = 12.00 MPH
AVERAGE 1ST QUARTER RELATIVE HUMIDITY = 76.00 %
AVERAGE 2ND QUARTER RELATIVE HUMIDITY = 78.00 %
AVERAGE 3RD QUARTER RELATIVE HUMIDITY = 76.00 %
AVERAGE 4TH QUARTER RELATIVE HUMIDITY = 76.00 %

NOTE: PRECIPITATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS

NORMAL MEAN MONTHLY PRECIPITATION (INCHES)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
0.90	0.94	1.12	1.42	2.49	2.23
2.01	1.88	2.93	2.21	1.19	0.88

NOTE: TEMPERATURE DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS

NORMAL MEAN MONTHLY TEMPERATURE (DEGREES FAHRENHEIT)

JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
56.50	61.20	68.40	75.90	82.50	87.00
88.00	88.40	83.10	75.80	65.80	57.30

NOTE: SOLAR RADIATION DATA WAS SYNTHETICALLY GENERATED USING
COEFFICIENTS FOR CORPUS CHRISTI TEXAS
AND STATION LATITUDE = 27.56 DEGREES

AVERAGE MONTHLY VALUES IN INCHES FOR YEARS 1 THROUGH 30

	JAN/JUL	FEB/AUG	MAR/SEP	APR/OCT	MAY/NOV	JUN/DEC
PRECIPITATION						

LAREALTD.OUT						

TOTALS	0.76 2.06	1.00 1.94	1.09 2.98	1.27 2.25	1.91 1.10	1.86 0.94
STD. DEVIATIONS	0.45 1.88	0.67 1.60	0.54 1.64	0.95 1.42	1.37 0.86	1.30 0.63
RUNOFF						

TOTALS	0.017 0.681	0.069 0.437	0.088 0.625	0.235 0.517	0.431 0.131	0.440 0.044
STD. DEVIATIONS	0.030 1.100	0.088 0.566	0.125 0.702	0.381 0.548	0.544 0.301	0.507 0.106
EVAPOTRANSPIRATION						

TOTALS	0.715 1.424	0.878 1.450	0.962 1.997	1.028 1.957	1.478 1.082	1.403 0.826
STD. DEVIATIONS	0.494 0.952	0.559 1.146	0.474 1.160	0.592 0.991	0.912 0.689	0.882 0.559
PERCOLATION/LEAKAGE THROUGH LAYER 3						

TOTALS	0.0104 0.0189	0.0029 0.0185	0.0025 0.0194	0.0053 0.0530	0.0180 0.0527	0.0173 0.0253
STD. DEVIATIONS	0.0226 0.0409	0.0060 0.0393	0.0043 0.0378	0.0189 0.0691	0.0418 0.0665	0.0333 0.0432
PERCOLATION/LEAKAGE THROUGH LAYER 4						

TOTALS	0.0405 0.0180	0.0228 0.0230	0.0173 0.0220	0.0114 0.0176	0.0113 0.0191	0.0134 0.0384
STD. DEVIATIONS	0.0488 0.0203	0.0328 0.0301	0.0200 0.0276	0.0132 0.0225	0.0089 0.0260	0.0109 0.0371

AVERAGES OF MONTHLY AVERAGED DAILY HEADS (INCHES)						

DAILY AVERAGE HEAD ON TOP OF LAYER 3						

AVERAGES	0.6578 1.3041	0.1550 1.2667	0.1063 1.3704	0.3359 3.7868	1.2460 3.9006	1.2234 1.7354
STD. DEVIATIONS	1.6353 2.9987	0.4362 2.8844	0.2541 2.8732	1.4212 5.1097	3.0702 5.0625	2.5043 3.1767

AVERAGE ANNUAL TOTALS & (STD. DEVIATIONS) FOR YEARS 1 THROUGH 30						

	INCHES		CU. FEET		PERCENT	
	-----		-----		-----	

	LAREALTD.OUT		
PRECIPITATION	19.15 (3.853)	69520.6	100.00
RUNOFF	3.714 (1.5974)	13482.64	19.394
EVAPOTRANSPIRATION	15.200 (2.7861)	55175.94	79.366
PERCOLATION/LEAKAGE THROUGH LAYER 3	0.24404 (0.20349)	885.849	1.27423
AVERAGE HEAD ON TOP OF LAYER 3	1.424 (1.260)		
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.25478 (0.15442)	924.867	1.33035
CHANGE IN WATER STORAGE	-0.017 (0.5123)	-62.90	-0.090

PEAK DAILY VALUES FOR YEARS	1 THROUGH	30
	(INCHES)	(CU. FT.)
PRECIPITATION	4.41	16008.300
RUNOFF	3.193	11589.3096
PERCOLATION/LEAKAGE THROUGH LAYER 3	0.010089	36.62303
AVERAGE HEAD ON TOP OF LAYER 3	23.097	
PERCOLATION/LEAKAGE THROUGH LAYER 4	0.006144	22.30176
SNOW WATER	0.00	0.0000
MAXIMUM VEG. SOIL WATER (VOL/VOL)		0.4551
MINIMUM VEG. SOIL WATER (VOL/VOL)		0.2030

FINAL WATER STORAGE AT END OF YEAR 30		
LAYER	(INCHES)	(VOL/VOL)
1	3.1234	0.2603
2	5.0160	0.4180
3	0.1770	0.7500

	4	LAREALTD.OUT	
		3.7171	0.3098
SNOW WATER		0.000	

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

ALTERNATIVE COVER DEMONSTRATION
CLIMATE DATA

ATTACHMENT III.12 – APPENDIX A-2

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

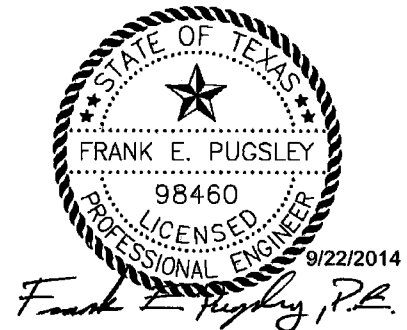
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

SEPTEMBER 2014

Prepared by:

CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741



City of Laredo Landfill

Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langley's)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
1983	1	1	1	53.96	41.00	40.19	277.05	11.85	6.88	0.01
1983	1	2	2	57.02	33.08	32.20	277.05	9.17	0.00	0.00
1983	1	3	3	57.92	33.98	33.69	277.05	3.58	1.65	0.00
1983	1	4	4	53.96	39.02	41.20	277.05	4.70	8.00	0.00
1983	1	5	5	59.00	46.94	40.53	277.05	2.68	7.25	0.00
1983	1	6	6	69.98	42.98	36.93	277.05	5.59	4.25	0.00
1983	1	7	7	66.92	55.94	40.80	277.05	4.02	7.55	0.00
1983	1	8	8	62.96	48.92	39.90	277.05	5.81	6.55	0.02
1983	1	9	9	73.94	42.98	35.55	277.05	3.13	3.23	0.00
1983	1	10	10	69.08	46.04	35.64	277.05	6.71	3.33	0.00
1983	1	11	11	71.96	42.08	34.45	277.05	4.47	2.50	0.00
1983	1	12	12	69.98	44.06	35.37	277.05	6.48	3.03	0.00
1983	1	13	13	69.98	46.94	36.61	277.05	8.27	3.90	0.00
1983	1	14	14	71.96	55.04	39.02	277.05	6.26	5.78	0.00
1983	1	15	15	64.04	48.02	42.80	277.05	8.05	9.78	0.09
1983	1	16	16	59.00	48.92	43.00	277.05	4.02	10.00	0.00
1983	1	17	17	64.04	53.96	43.00	277.05	6.26	10.00	0.00
1983	1	18	18	60.08	51.08	43.00	277.05	7.83	10.00	0.16
1983	1	19	19	51.08	42.08	43.00	277.05	8.72	10.00	0.04
1983	1	20	20	46.04	39.92	43.00	277.05	8.50	10.00	0.30
1983	1	21	21	53.06	44.06	40.57	277.05	5.14	7.30	0.00
1983	1	22	22	60.98	37.04	33.42	277.05	2.01	1.35	0.00
1983	1	23	23	69.08	41.00	34.61	277.05	3.80	2.68	0.00
1983	1	24	24	75.02	44.06	33.87	277.05	6.48	1.85	0.00
1983	1	25	25	68.00	42.08	35.89	277.05	5.59	3.10	0.00
1983	1	26	26	68.00	46.94	34.36	277.05	11.63	2.40	0.00
1983	1	27	27	64.94	39.02	32.20	277.05	5.81	0.00	0.00
1983	1	28	28	71.96	42.98	35.08	277.05	7.60	3.20	0.00
1983	1	29	29	80.06	46.04	32.56	277.05	2.68	0.40	0.00
1983	1	30	30	75.92	51.98	40.55	277.05	14.31	7.48	0.00
1983	1	31	31	78.08	57.92	39.40	277.05	9.84	6.20	0.00
1983	2	1	32	69.08	46.94	35.71	359.22	5.81	2.90	0.00
1983	2	2	33	66.92	41.00	34.34	359.22	4.47	2.38	0.00
1983	2	3	34	57.02	48.02	41.52	359.22	15.88	8.35	0.00
1983	2	4	35	57.02	48.02	43.00	359.22	4.92	10.00	0.13
1983	2	5	36	57.02	46.94	43.00	359.22	8.94	10.00	0.04
1983	2	6	37	57.92	44.96	40.08	359.22	6.93	6.95	0.05
1983	2	7	38	64.94	39.92	34.36	359.22	8.05	2.40	0.00
1983	2	8	39	73.94	51.08	40.41	359.22	5.59	7.23	0.00
1983	2	9	40	80.96	59.00	32.92	359.22	10.29	0.80	0.00
1983	2	10	41	78.08	48.92	32.20	359.22	4.70	0.00	0.00
1983	2	11	42	57.02	51.98	41.61	359.22	6.04	8.45	0.41
1983	2	12	43	66.92	44.96	39.51	359.22	4.02	6.33	0.01
1983	2	13	44	68.00	44.06	34.00	359.22	10.29	2.00	0.00
1983	2	14	45	75.02	46.94	32.79	359.22	12.97	0.65	0.00
1983	2	15	46	62.96	51.08	41.22	359.22	14.76	8.03	0.75
1983	2	16	47	71.06	46.04	33.51	359.22	7.38	1.45	0.00
1983	2	17	48	73.04	48.02	34.38	359.22	4.02	2.43	0.00
1983	2	18	49	77.00	50.00	32.20	359.22	2.68	0.00	0.00
1983	2	19	50	84.92	55.94	34.25	359.22	15.88	2.28	0.00
1983	2	20	51	77.00	55.94	32.56	359.22	11.40	0.40	0.00

City of Laredo Landfill

Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
1983	2	21	52	69.98	48.02	32.20	359.22	10.51	0.00	0.00
1983	2	22	53	75.92	46.04	32.97	359.22	5.59	0.85	0.00
1983	2	23	54	75.02	46.94	32.56	359.22	2.91	0.40	0.00
1983	2	24	55	78.08	57.02	39.90	359.22	6.71	6.75	0.00
1983	2	25	56	64.94	53.96	42.55	359.22	11.63	9.50	0.96
1983	2	26	57	57.92	51.08	42.26	359.22	6.48	9.18	0.12
1983	2	27	58	66.92	44.96	37.44	359.22	3.35	4.83	0.00
1983	2	28	59	80.06	48.92	32.20	359.22	4.02	0.00	0.00
1983	3	1	60	84.92	53.96	32.20	421.77	8.05	0.00	0.00
1983	3	2	61	82.04	64.04	39.24	421.77	16.10	6.03	0.00
1983	3	3	62	87.08	69.08	39.76	421.77	14.31	6.60	0.00
1983	3	4	63	80.06	64.94	39.83	421.77	13.42	6.68	0.00
1983	3	5	64	80.96	57.92	33.82	421.77	11.40	1.80	0.00
1983	3	6	65	84.92	62.06	34.38	421.77	7.38	2.43	0.00
1983	3	7	66	87.98	53.06	32.20	421.77	3.80	0.00	0.00
1983	3	8	67	84.92	53.96	33.33	421.77	9.61	1.25	0.00
1983	3	9	68	69.08	59.00	40.37	421.77	11.85	7.28	0.00
1983	3	10	69	77.00	50.00	32.20	421.77	4.70	0.00	0.00
1983	3	11	70	73.04	51.08	32.97	421.77	12.30	0.85	0.00
1983	3	12	71	68.00	50.00	40.57	421.77	9.39	7.30	0.01
1983	3	13	72	73.94	59.00	39.94	421.77	6.71	6.80	0.00
1983	3	14	73	80.96	60.98	37.42	421.77	4.92	4.80	0.00
1983	3	15	74	75.92	62.06	41.00	421.77	9.61	7.78	0.07
1983	3	16	75	71.06	55.04	36.18	421.77	14.31	3.43	0.00
1983	3	17	76	71.96	50.00	32.20	421.77	13.86	0.00	0.00
1983	3	18	77	75.02	46.04	32.83	421.77	8.94	0.70	0.00
1983	3	19	78	84.92	60.08	37.51	421.77	10.96	4.90	0.00
1983	3	20	79	71.06	55.04	33.89	421.77	11.85	1.88	0.00
1983	3	21	80	62.96	44.06	39.11	421.77	10.73	5.88	0.00
1983	3	22	81	62.06	51.98	43.00	421.77	10.96	10.00	0.18
1983	3	23	82	64.94	53.06	40.73	421.77	8.94	7.48	0.04
1983	3	24	83	73.94	50.00	35.08	421.77	11.63	3.20	0.00
1983	3	25	84	82.94	55.94	40.95	421.77	18.78	7.83	0.00
1983	3	26	85	82.94	57.02	33.98	421.77	12.97	1.98	0.00
1983	3	27	86	80.06	51.08	32.20	421.77	4.92	0.00	0.00
1983	3	28	87	78.08	48.92	32.83	421.77	13.64	0.70	0.00
1983	3	29	88	82.04	57.92	36.81	421.77	13.86	4.13	0.00
1983	3	30	89	87.08	62.96	38.28	421.77	7.16	4.95	0.00
1983	3	31	90	91.94	62.96	32.83	421.77	11.18	0.70	0.00
1983	4	1	91	89.96	64.04	32.20	514.09	15.65	0.00	0.00
1983	4	2	92	75.02	53.06	32.20	514.09	3.58	0.00	0.00
1983	4	3	93	87.08	55.04	32.56	514.09	20.12	0.40	0.00
1983	4	4	94	95.00	64.94	37.26	514.09	14.31	4.63	0.00
1983	4	5	95	75.92	55.94	41.18	514.09	11.85	7.98	0.00
1983	4	6	96	71.96	50.00	36.81	514.09	10.96	4.13	0.00
1983	4	7	97	69.98	55.04	37.26	514.09	9.17	4.63	0.00
1983	4	8	98	64.94	53.06	40.86	514.09	11.85	7.63	0.00
1983	4	9	99	78.98	42.08	32.20	514.09	4.02	0.00	0.00
1983	4	10	100	86.00	55.94	32.20	514.09	9.61	0.00	0.00
1983	4	11	101	89.06	64.04	32.20	514.09	19.90	0.00	0.00
1983	4	12	102	89.96	64.94	33.28	514.09	11.63	1.20	0.00

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1983	4	13	103	89.96	68.00	34.88	514.09	10.29	2.98	0.00
1983	4	14	104	75.92	60.08	34.70	514.09	12.97	2.78	0.00
1983	4	15	105	73.94	51.08	32.20	514.09	9.39	0.00	0.00
1983	4	16	106	78.08	46.94	32.20	514.09	8.27	0.00	0.00
1983	4	17	107	82.04	53.96	32.56	514.09	11.40	0.40	0.00
1983	4	18	108	93.92	59.00	32.20	514.09	9.17	0.00	0.00
1983	4	19	109	91.94	64.04	32.20	514.09	9.84	0.00	0.00
1983	4	20	110	91.04	69.98	34.59	514.09	15.43	2.65	0.00
1983	4	21	111	89.96	69.98	39.33	514.09	10.73	6.13	0.00
1983	4	22	112	91.94	71.96	37.08	514.09	8.94	4.43	0.00
1983	4	23	113	87.08	64.94	32.20	514.09	11.40	0.00	0.00
1983	4	24	114	84.02	60.08	32.20	514.09	6.04	0.00	0.00
1983	4	25	115	86.00	57.02	32.38	514.09	12.97	0.20	0.00
1983	4	26	116	84.02	64.94	35.46	514.09	18.34	3.13	0.00
1983	4	27	117	89.96	66.02	36.61	514.09	8.27	3.90	0.00
1983	4	28	118	93.92	71.06	40.75	514.09	14.98	7.70	0.00
1983	4	29	119	93.02	75.02	40.89	514.09	15.20	7.85	0.00
1983	4	30	120	96.08	75.02	39.31	514.09	14.98	6.10	0.00
1983	5	1	121	102.92	75.92	40.23	514.09	16.55	7.13	0.00
1983	5	2	122	105.98	75.02	33.42	553.07	10.73	1.35	0.00
1983	5	3	123	89.96	73.94	37.08	553.07	11.40	4.43	0.00
1983	5	4	124	89.06	60.08	32.20	553.07	11.85	0.00	0.00
1983	5	5	125	89.96	60.08	32.20	553.07	15.43	0.00	0.00
1983	5	6	126	93.02	68.00	33.78	553.07	16.77	1.75	0.00
1983	5	7	127	89.06	75.02	40.68	553.07	10.96	7.53	0.00
1983	5	8	128	89.96	71.06	39.18	553.07	11.85	5.95	0.00
1983	5	9	129	77.00	69.08	41.79	553.07	14.09	8.65	0.00
1983	5	10	130	86.00	69.08	41.81	553.07	13.86	8.68	0.24
1983	5	11	131	87.98	73.94	39.56	553.07	12.30	6.38	0.00
1983	5	12	132	91.04	75.02	39.11	553.07	12.75	5.88	0.00
1983	5	13	133	93.92	75.02	39.11	553.07	15.43	5.88	0.00
1983	5	14	134	95.00	75.92	38.68	553.07	12.30	5.40	0.00
1983	5	15	135	80.96	64.04	39.90	553.07	10.73	6.55	0.05
1983	5	16	136	89.96	60.98	35.89	553.07	12.52	3.10	0.00
1983	5	17	137	89.96	68.00	40.86	553.07	13.64	7.73	0.00
1983	5	18	138	86.00	73.94	41.54	553.07	6.71	8.38	0.00
1983	5	19	139	89.96	75.92	41.31	553.07	11.40	8.13	0.00
1983	5	20	140	100.04	78.08	39.78	553.07	10.29	6.63	0.00
1983	5	21	141	96.08	73.04	36.86	553.07	11.85	4.28	0.09
1983	5	22	142	95.00	71.06	35.56	553.07	8.94	3.48	0.00
1983	5	23	143	89.06	73.94	39.38	553.07	12.75	6.18	0.00
1983	5	24	144	91.04	73.94	38.97	553.07	9.61	5.73	0.00
1983	5	25	145	93.02	71.96	39.49	553.07	12.30	6.30	0.00
1983	5	26	146	87.08	71.96	41.85	553.07	7.38	8.73	0.60
1983	5	27	147	84.92	71.06	41.38	553.07	7.83	8.40	0.29
1983	5	28	148	82.04	69.98	42.24	553.07	4.92	9.15	0.22
1983	5	29	149	87.98	66.92	40.01	553.07	3.13	6.88	0.03
1983	5	30	150	91.94	69.98	33.87	553.07	8.27	1.85	0.00
1983	5	31	151	91.94	71.06	36.27	553.07	12.52	3.53	0.00
1983	6	1	152	87.98	62.96	40.23	553.07	14.09	7.13	0.00
1983	6	2	153	95.00	73.94	37.98	581.92	14.76	5.43	0.00

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1983	6	3	154	96.08	78.08	39.94	581.92	11.18	6.80	0.00
1983	6	4	155	96.08	77.00	39.76	581.92	10.96	6.60	0.00
1983	6	5	156	93.92	75.92	38.32	581.92	12.07	5.40	0.08
1983	6	6	157	87.98	66.92	39.83	581.92	14.31	6.68	0.42
1983	6	7	158	86.00	66.02	38.91	581.92	3.58	6.05	0.00
1983	6	8	159	91.94	69.08	32.97	581.92	10.29	0.85	0.00
1983	6	9	160	89.96	69.98	37.33	581.92	12.52	4.70	0.00
1983	6	10	161	93.02	73.94	38.57	581.92	18.56	6.08	0.00
1983	6	11	162	93.92	75.92	38.73	581.92	19.45	5.85	0.00
1983	6	12	163	93.92	73.94	34.38	581.92	16.10	2.43	0.00
1983	6	13	164	95.00	73.94	38.34	581.92	14.98	5.43	0.00
1983	6	14	165	93.92	78.08	39.42	581.92	12.97	6.23	0.00
1983	6	15	166	95.00	75.02	38.50	581.92	10.96	5.20	0.66
1983	6	16	167	87.98	69.08	40.75	581.92	9.61	7.70	0.06
1983	6	17	168	91.04	71.96	39.81	581.92	7.60	6.65	0.00
1983	6	18	169	96.98	73.94	33.69	581.92	12.52	1.65	0.00
1983	6	19	170	95.00	75.02	36.95	581.92	10.29	4.28	0.00
1983	6	20	171	96.08	73.94	36.61	581.92	9.61	3.90	0.00
1983	6	21	172	96.08	75.02	34.99	581.92	8.94	2.60	0.00
1983	6	22	173	95.00	75.02	37.02	581.92	6.93	3.95	0.00
1983	6	23	174	95.00	77.00	36.18	581.92	7.38	3.43	0.00
1983	6	24	175	93.92	77.00	37.89	581.92	6.26	5.13	0.05
1983	6	25	176	95.00	73.94	36.36	581.92	4.02	3.63	0.02
1983	6	26	177	100.94	77.00	33.33	581.92	8.05	1.25	0.00
1983	6	27	178	102.02	78.98	32.20	581.92	13.42	0.00	0.00
1983	6	28	179	96.98	80.96	38.57	581.92	11.18	6.08	0.00
1983	6	29	180	100.04	80.06	33.62	581.92	13.64	1.58	0.00
1983	6	30	181	98.06	78.98	36.41	581.92	14.76	3.68	0.00
1983	7	1	182	96.98	80.06	38.68	581.92	19.23	5.40	0.48
1983	7	2	183	98.06	80.06	38.19	623.50	19.01	5.65	0.00
1983	7	3	184	96.98	82.04	37.40	623.50	21.69	4.78	0.00
1983	7	4	185	95.00	78.98	38.32	623.50	19.68	5.00	0.00
1983	7	5	186	96.98	80.06	37.44	623.50	13.42	4.83	0.00
1983	7	6	187	96.98	78.98	36.88	623.50	9.39	4.20	0.00
1983	7	7	188	95.00	77.00	37.69	623.50	9.39	4.70	0.00
1983	7	8	189	95.00	78.08	37.58	623.50	10.51	4.98	0.00
1983	7	9	190	93.92	75.92	38.12	623.50	6.93	4.78	0.00
1983	7	10	191	93.02	75.02	38.41	623.50	10.29	5.10	0.06
1983	7	11	192	84.92	73.94	39.85	623.50	7.38	6.70	0.94
1983	7	12	193	89.06	73.04	39.58	623.50	8.72	6.40	0.01
1983	7	13	194	91.04	73.94	39.85	623.50	7.38	6.70	0.00
1983	7	14	195	89.96	75.92	40.32	623.50	8.94	7.23	0.00
1983	7	15	196	96.08	77.00	40.21	623.50	7.38	7.10	0.00
1983	7	16	197	95.00	78.98	39.81	623.50	17.22	6.65	0.02
1983	7	17	198	96.08	78.98	39.49	623.50	17.22	6.30	0.00
1983	7	18	199	91.94	75.92	38.84	623.50	13.86	5.58	0.00
1983	7	19	200	87.08	73.94	41.49	623.50	8.94	8.33	0.13
1983	7	20	201	91.94	75.02	40.75	623.50	10.29	7.70	0.00
1983	7	21	202	96.08	77.00	37.26	623.50	10.29	4.63	0.00
1983	7	22	203	96.98	75.02	32.20	623.50	9.61	0.00	0.00
1983	7	23	204	96.98	75.02	33.69	623.50	15.65	1.65	0.00

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1983	7	24	205	98.96	78.08	32.47	623.50	17.89	0.30	0.00
1983	7	25	206	100.94	77.00	32.65	623.50	17.44	0.50	0.00
1983	7	26	207	98.96	75.92	32.20	623.50	14.53	0.00	0.00
1983	7	27	208	100.04	77.00	33.51	623.50	15.20	1.45	0.00
1983	7	28	209	98.96	78.08	35.28	623.50	17.89	2.93	0.00
1983	7	29	210	98.06	78.98	37.87	623.50	13.42	4.90	0.00
1983	7	30	211	96.98	75.92	36.97	623.50	9.17	4.30	0.01
1983	7	31	212	98.06	77.00	36.45	623.50	8.72	3.73	0.00
1983	8	1	213	96.08	77.00	36.52	543.94	9.84	3.80	0.00
1983	8	2	214	96.98	75.92	36.95	543.94	8.27	4.28	0.00
1983	8	3	215	98.06	75.02	37.02	543.94	6.93	3.95	0.00
1983	8	4	216	91.04	73.04	38.66	543.94	12.75	5.38	0.07
1983	8	5	217	87.08	69.98	39.67	543.94	5.14	6.50	0.94
1983	8	6	218	89.06	75.02	39.02	543.94	4.47	5.78	0.05
1983	8	7	219	96.08	75.02	35.89	543.94	4.92	3.10	0.00
1983	8	8	220	96.98	77.00	36.88	543.94	9.84	4.20	0.00
1983	8	9	221	96.98	78.08	36.07	543.94	9.17	3.30	0.00
1983	8	10	222	96.98	78.98	36.68	543.94	12.75	3.98	0.00
1983	8	11	223	98.06	78.08	37.04	543.94	12.97	4.38	0.00
1983	8	12	224	96.08	78.98	38.21	543.94	14.09	5.68	0.00
1983	8	13	225	96.98	80.06	40.12	543.94	13.86	7.00	0.00
1983	8	14	226	91.94	75.92	40.19	543.94	5.59	7.08	0.00
1983	8	15	227	98.06	77.00	34.27	543.94	8.72	2.30	0.00
1983	8	16	228	100.04	78.98	37.40	543.94	8.27	4.78	0.00
1983	8	17	229	96.98	78.08	34.65	543.94	7.60	2.73	0.00
1983	8	18	230	98.96	77.00	38.52	543.94	8.27	5.23	0.00
1983	8	19	231	102.02	80.06	36.21	543.94	16.10	3.45	0.00
1983	8	20	232	98.06	78.98	36.68	543.94	17.66	3.98	0.00
1983	8	21	233	98.06	77.00	34.05	543.94	13.42	2.05	0.00
1983	8	22	234	98.96	78.08	33.69	543.94	12.52	1.65	0.00
1983	8	23	235	98.96	77.00	32.20	543.94	13.64	0.00	0.00
1983	8	24	236	98.96	77.00	34.18	543.94	13.19	2.20	0.00
1983	8	25	237	95.00	78.08	36.54	543.94	10.06	3.83	0.00
1983	8	26	238	96.08	75.92	35.37	543.94	7.60	3.03	0.00
1983	8	27	239	100.04	77.00	34.47	543.94	9.17	2.53	0.00
1983	8	28	240	91.94	77.00	38.32	543.94	11.63	5.00	0.00
1983	8	29	241	93.02	78.08	39.47	543.94	13.64	6.28	0.25
1983	8	30	242	96.98	75.92	36.86	543.94	7.83	4.18	0.00
1983	8	31	243	100.04	75.92	33.15	543.94	6.26	1.05	0.00
1983	9	1	244	102.92	78.08	34.56	459.97	7.60	2.63	0.00
1983	9	2	245	96.98	78.08	37.76	459.97	7.60	5.18	0.05
1983	9	3	246	96.98	75.02	34.47	459.97	8.27	2.53	0.00
1983	9	4	247	96.98	75.92	33.33	459.97	10.96	1.25	0.00
1983	9	5	248	100.04	78.08	36.23	459.97	14.98	3.48	0.00
1983	9	6	249	100.04	80.06	36.14	459.97	17.22	3.38	0.00
1983	9	7	250	93.92	75.02	38.41	459.97	15.88	5.10	1.02
1983	9	8	251	87.98	73.94	39.13	459.97	12.75	5.90	0.91
1983	9	9	252	93.02	75.92	40.14	459.97	10.29	7.03	0.00
1983	9	10	253	87.98	77.00	41.00	459.97	9.17	7.78	0.04
1983	9	11	254	91.04	75.02	40.41	459.97	7.60	7.33	0.01
1983	9	12	255	93.92	73.94	34.55	459.97	5.59	2.45	0.00

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1983	9	13	256	95.00	75.02	36.97	459.97	7.38	4.30	0.00
1983	9	14	257	91.04	73.04	35.80	459.97	9.39	3.50	0.00
1983	9	15	258	91.94	71.06	37.24	459.97	4.92	4.60	0.00
1983	9	16	259	96.08	75.92	34.47	459.97	9.84	2.53	0.00
1983	9	17	260	96.08	77.00	34.38	459.97	12.97	2.43	0.00
1983	9	18	261	93.02	78.98	41.13	459.97	12.75	8.03	0.00
1983	9	19	262	98.06	78.08	34.99	459.97	14.31	2.60	0.00
1983	9	20	263	98.96	75.02	35.31	459.97	12.75	3.45	0.20
1983	9	21	264	73.94	59.00	41.76	459.97	8.94	8.63	0.03
1983	9	22	265	82.94	55.04	32.20	459.97	6.71	0.00	0.00
1983	9	23	266	86.00	60.08	32.20	459.97	9.61	0.00	0.00
1983	9	24	267	87.08	62.06	33.51	459.97	9.17	1.45	0.00
1983	9	25	268	89.96	62.96	40.44	459.97	7.38	7.35	0.00
1983	9	26	269	91.04	75.02	40.77	459.97	9.84	7.73	0.00
1983	9	27	270	87.98	71.96	38.86	459.97	8.72	5.60	0.00
1983	9	28	271	95.00	69.98	38.37	459.97	10.51	5.05	0.00
1983	9	29	272	84.92	71.06	42.44	459.97	8.27	9.38	0.59
1983	9	30	273	84.02	71.96	41.79	459.97	9.39	8.65	0.00
1983	10	1	274	87.98	69.08	34.74	355.35	9.17	2.83	0.00
1983	10	2	275	91.04	69.98	32.79	355.35	12.75	0.65	0.00
1983	10	3	276	91.04	71.96	37.56	355.35	11.63	4.95	0.00
1983	10	4	277	95.00	73.94	32.97	355.35	7.16	0.85	0.00
1983	10	5	278	96.08	73.94	32.38	355.35	7.60	0.20	0.00
1983	10	6	279	93.92	75.02	36.41	355.35	11.85	3.68	0.00
1983	10	7	280	93.92	77.00	34.83	355.35	14.09	2.93	0.00
1983	10	8	281	93.92	77.00	39.04	355.35	14.53	5.80	0.00
1983	10	9	282	82.94	66.92	41.20	355.35	9.17	8.20	1.26
1983	10	10	283	80.96	66.02	36.72	355.35	3.80	4.03	0.00
1983	10	11	284	87.98	68.00	33.55	355.35	6.48	1.50	0.00
1983	10	12	285	78.08	66.02	38.43	355.35	9.84	5.53	0.69
1983	10	13	286	80.06	57.02	32.20	355.35	8.72	0.00	0.00
1983	10	14	287	84.02	59.00	32.20	355.35	13.19	0.00	0.00
1983	10	15	288	87.08	62.96	34.56	355.35	10.06	2.63	0.00
1983	10	16	289	87.98	69.08	38.37	355.35	8.72	5.05	0.00
1983	10	17	290	89.06	73.94	40.39	355.35	8.72	7.30	0.00
1983	10	18	291	89.06	75.02	39.96	355.35	12.52	6.83	0.04
1983	10	19	292	89.96	75.02	38.14	355.35	21.24	4.80	0.00
1983	10	20	293	86.00	75.02	38.16	355.35	13.42	4.83	0.00
1983	10	21	294	78.08	64.94	42.12	355.35	10.06	9.03	0.00
1983	10	22	295	84.02	62.96	36.52	355.35	3.13	3.80	0.00
1983	10	23	296	87.08	64.04	32.97	355.35	4.25	0.85	0.00
1983	10	24	297	86.00	64.94	32.20	355.35	13.19	0.00	0.00
1983	10	25	298	78.98	62.06	34.92	355.35	7.60	3.03	0.00
1983	10	26	299	75.92	57.02	32.38	355.35	6.93	0.20	0.00
1983	10	27	300	78.98	53.06	32.20	355.35	6.26	0.00	0.00
1983	10	28	301	80.06	55.94	36.41	355.35	8.72	3.68	0.00
1983	10	29	302	82.94	66.02	36.45	355.35	6.04	3.33	0.00
1983	10	30	303	80.96	64.94	38.30	355.35	6.26	4.98	0.00
1983	10	31	304	82.94	64.94	36.54	355.35	6.48	3.83	0.00
1983	11	1	305	84.92	69.08	37.42	273.78	10.06	4.80	0.00
1983	11	2	306	87.08	71.06	39.56	273.78	11.63	6.38	0.01

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langley's)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
1983	11	3	307	84.92	73.04	40.30	273.78	12.07	7.20	0.00
1983	11	4	308	84.92	71.06	39.92	273.78	5.81	6.78	0.00
1983	11	5	309	80.96	69.08	38.03	273.78	5.59	5.48	0.43
1983	11	6	310	82.94	66.92	38.50	273.78	2.68	5.20	0.07
1983	11	7	311	84.92	64.94	34.50	273.78	3.35	2.40	0.00
1983	11	8	312	80.06	69.08	41.40	273.78	12.30	8.23	0.00
1983	11	9	313	82.04	62.96	39.47	273.78	11.18	6.28	0.00
1983	11	10	314	69.98	50.00	32.83	273.78	5.37	0.70	0.00
1983	11	11	315	71.06	46.94	32.20	273.78	5.81	0.00	0.00
1983	11	12	316	84.02	53.06	32.20	273.78	6.04	0.00	0.00
1983	11	13	317	91.04	55.04	32.20	273.78	2.46	0.00	0.00
1983	11	14	318	91.04	60.08	32.92	273.78	3.58	0.80	0.00
1983	11	15	319	73.94	57.02	32.20	273.78	7.38	0.00	0.00
1983	11	16	320	75.02	50.00	32.20	273.78	8.50	0.00	0.00
1983	11	17	321	80.06	55.94	36.18	273.78	8.05	3.43	0.00
1983	11	18	322	84.92	64.94	39.27	273.78	13.86	6.05	0.00
1983	11	19	323	80.06	59.00	33.24	273.78	13.86	1.15	0.00
1983	11	20	324	75.02	48.02	32.20	273.78	7.38	0.00	0.00
1983	11	21	325	82.94	57.92	32.38	273.78	12.75	0.20	0.00
1983	11	22	326	89.96	69.08	37.04	273.78	13.19	4.38	0.00
1983	11	23	327	69.98	55.94	34.80	273.78	14.31	2.63	0.00
1983	11	24	328	69.98	48.02	33.28	273.78	4.02	1.20	0.00
1983	11	25	329	77.00	46.04	32.20	273.78	14.76	0.00	0.00
1983	11	26	330	87.98	59.00	37.42	273.78	19.90	4.80	0.00
1983	11	27	331	66.02	50.00	36.09	273.78	6.48	3.33	0.00
1983	11	28	332	66.02	37.94	32.20	273.78	4.70	0.00	0.00
1983	11	29	333	71.96	53.96	41.94	273.78	6.48	8.83	0.00
1983	11	30	334	80.96	64.94	41.58	273.78	6.26	8.43	0.00
1983	12	1	335	62.06	48.92	43.00	207.53	7.38	10.00	0.09
1983	12	2	336	55.94	50.00	43.00	207.53	1.79	10.00	0.05
1983	12	3	337	82.04	53.96	34.81	207.53	5.37	2.90	0.01
1983	12	4	338	82.94	53.96	32.38	207.53	13.86	0.20	0.00
1983	12	5	339	78.98	60.98	39.36	207.53	10.73	6.15	0.00
1983	12	6	340	62.96	48.02	34.09	207.53	8.27	2.10	0.00
1983	12	7	341	69.08	42.98	32.20	207.53	7.38	0.00	0.00
1983	12	8	342	75.92	46.94	32.97	207.53	6.26	0.85	0.00
1983	12	9	343	78.08	62.06	36.18	207.53	4.47	3.93	0.00
1983	12	10	344	84.02	71.06	32.20	207.53	4.70	0.00	0.00
1983	12	11	345	82.04	53.96	32.20	207.53	7.16	0.00	0.00
1983	12	12	346	78.08	48.02	33.98	207.53	10.96	1.98	0.00
1983	12	13	347	73.04	50.00	33.80	207.53	11.63	1.78	0.00
1983	12	14	348	69.08	44.96	33.15	207.53	8.50	1.05	0.00
1983	12	15	349	71.06	42.98	32.20	207.53	8.72	0.00	0.00
1983	12	16	350	62.96	41.00	36.70	207.53	11.85	4.50	0.00
1983	12	17	351	53.96	37.04	35.89	207.53	8.27	4.10	0.00
1983	12	18	352	48.02	35.96	43.00	207.53	8.50	10.00	0.00
1983	12	19	353	42.08	31.10	43.00	207.53	9.39	10.00	0.00
1983	12	20	354	41.00	35.96	43.00	207.53	6.48	10.00	0.00
1983	12	21	355	48.02	37.04	43.00	207.53	5.37	10.00	0.00
1983	12	22	356	42.98	28.22	41.85	207.53	10.96	8.73	0.00
1983	12	23	357	42.98	31.10	42.64	207.53	6.26	9.60	0.00

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1983	12	24	358	33.08	22.10	40.39	207.53	12.75	7.10	0.00
1983	12	25	359	31.10	17.24	33.15	207.53	4.25	1.05	0.00
1983	12	26	360	33.08	22.10	39.04	207.53	5.14	5.70	0.00
1983	12	27	361	57.02	24.26	33.53	207.53	3.13	1.48	0.00
1983	12	28	362	55.94	33.08	34.05	207.53	10.96	2.05	0.00
1983	12	29	363	39.92	25.16	32.79	207.53	15.20	0.65	0.00
1983	12	30	364	44.06	17.24	32.20	207.53	3.35	0.00	0.00
1983	12	31	365	60.98	27.14	39.33	207.53	7.83	6.13	0.00
1984	1	1	1	69.08	48.92	41.52	277.05	8.72	8.55	0.00
1984	1	2	2	66.92	57.02	43.00	277.05	12.07	10.00	0.06
1984	1	3	3	53.96	44.06	43.00	277.05	8.72	10.00	0.23
1984	1	4	4	60.98	48.92	42.82	277.05	1.12	9.80	0.01
1984	1	5	5	71.96	44.96	37.78	277.05	1.57	5.20	0.00
1984	1	6	6	78.08	55.04	39.65	277.05	3.58	6.48	0.00
1984	1	7	7	69.08	57.92	42.82	277.05	4.70	9.80	0.00
1984	1	8	8	66.02	59.00	43.00	277.05	6.93	10.00	0.43
1984	1	9	9	71.96	53.96	34.81	277.05	6.48	2.90	0.02
1984	1	10	10	57.92	39.92	38.70	277.05	17.22	5.43	0.00
1984	1	11	11	55.94	33.08	32.20	277.05	5.14	0.00	0.00
1984	1	12	12	62.96	35.96	34.07	277.05	6.26	2.08	0.00
1984	1	13	13	53.96	39.92	38.88	277.05	8.94	5.63	0.00
1984	1	14	14	51.08	37.94	41.11	277.05	8.27	7.90	0.00
1984	1	15	15	48.02	39.92	43.00	277.05	6.26	10.00	0.00
1984	1	16	16	46.04	41.00	43.00	277.05	7.38	10.00	0.00
1984	1	17	17	44.96	41.00	43.00	277.05	7.38	10.00	0.03
1984	1	18	18	44.06	39.02	42.19	277.05	7.83	9.10	0.04
1984	1	19	19	39.02	30.20	43.00	277.05	8.94	10.00	0.00
1984	1	20	20	35.96	32.00	43.00	277.05	7.60	10.00	0.00
1984	1	21	21	44.06	35.06	43.00	277.05	6.26	10.00	0.00
1984	1	22	22	42.98	35.96	43.00	277.05	2.46	10.00	0.01
1984	1	23	23	62.06	41.00	39.42	277.05	6.04	6.23	0.00
1984	1	24	24	53.06	51.62	42.91	277.05	5.37	9.90	0.00
1984	1	25	25	62.06	50.00	42.35	277.05	5.14	9.28	0.15
1984	1	26	26	69.08	44.96	33.87	277.05	2.91	1.85	0.00
1984	1	27	27	69.08	46.04	37.06	277.05	4.47	4.40	0.00
1984	1	28	28	75.02	44.06	32.79	277.05	3.58	0.65	0.00
1984	1	29	29	73.04	51.08	37.22	277.05	5.59	4.58	0.00
1984	1	30	30	64.04	44.96	42.82	277.05	13.42	9.80	0.17
1984	1	31	31	46.04	42.98	43.00	277.05	3.35	10.00	0.42
1984	2	1	32	55.94	44.06	42.80	359.22	4.92	9.78	0.01
1984	2	2	33	64.94	51.08	40.91	359.22	3.80	7.68	0.01
1984	2	3	34	69.98	42.98	33.33	359.22	3.58	1.25	0.00
1984	2	4	35	73.04	44.96	34.05	359.22	6.26	2.05	0.00
1984	2	5	36	66.92	48.02	40.21	359.22	2.68	7.10	0.00
1984	2	6	37	62.06	42.98	36.84	359.22	9.84	4.15	0.00
1984	2	7	38	66.92	39.02	32.20	359.22	10.51	0.00	0.00
1984	2	8	39	68.00	46.94	37.56	359.22	7.83	4.95	0.00
1984	2	9	40	77.00	57.02	35.08	359.22	5.59	3.20	0.00
1984	2	10	41	84.02	60.08	34.90	359.22	11.40	3.00	0.00
1984	2	11	42	84.92	62.06	33.60	359.22	10.06	1.55	0.00
1984	2	12	43	78.08	57.02	34.41	359.22	10.51	2.45	0.00

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1984	2	13	44	82.04	46.94	32.38	359.22	4.47	0.20	0.00
1984	2	14	45	87.08	53.96	33.33	359.22	16.10	1.25	0.00
1984	2	15	46	84.02	62.96	37.35	359.22	9.61	4.73	0.00
1984	2	16	47	82.04	53.06	33.33	359.22	9.39	1.25	0.00
1984	2	17	48	86.00	64.04	41.34	359.22	18.34	8.35	0.00
1984	2	18	49	82.94	64.04	37.49	359.22	12.30	4.88	0.00
1984	2	19	50	62.06	51.98	42.62	359.22	17.44	9.58	0.01
1984	2	20	51	53.96	46.04	43.00	359.22	8.94	10.00	0.02
1984	2	21	52	64.94	42.08	34.74	359.22	5.14	2.83	0.00
1984	2	22	53	75.02	39.92	32.20	359.22	4.92	0.00	0.00
1984	2	23	54	80.96	48.92	32.47	359.22	7.83	0.30	0.00
1984	2	24	55	80.96	55.94	34.50	359.22	9.39	2.55	0.00
1984	2	25	56	82.04	55.04	35.33	359.22	17.22	3.48	0.00
1984	2	26	57	80.06	55.94	34.05	359.22	24.82	2.05	0.00
1984	2	27	58	62.96	48.92	33.33	359.22	27.73	1.25	0.00
1984	2	28	59	62.96	39.02	32.20	359.22	6.04	0.00	0.00
1984	2	29	60	62.96	42.08	34.83	421.77	14.98	2.93	0.00
1984	3	1	61	71.96	46.94	35.01	421.77	7.83	3.13	0.00
1984	3	2	62	87.08	53.06	33.10	421.77	9.39	1.00	0.00
1984	3	3	63	82.04	62.06	36.14	421.77	18.34	3.38	0.00
1984	3	4	64	80.96	66.92	41.55	421.77	10.96	8.55	0.00
1984	3	5	65	71.06	50.00	42.82	421.77	16.10	9.80	0.00
1984	3	6	66	60.98	44.96	36.00	421.77	9.39	3.73	0.00
1984	3	7	67	71.96	44.06	32.20	421.77	8.50	0.00	0.00
1984	3	8	68	80.06	51.98	33.24	421.77	12.07	1.15	0.00
1984	3	9	69	77.00	59.00	37.60	421.77	14.31	4.60	0.00
1984	3	10	70	78.08	60.98	40.39	421.77	12.30	7.30	0.00
1984	3	11	71	78.98	64.04	42.35	421.77	16.10	9.28	0.05
1984	3	12	72	89.96	68.00	38.34	421.77	8.94	5.43	0.00
1984	3	13	73	89.96	62.06	32.79	421.77	8.50	0.65	0.00
1984	3	14	74	84.92	69.08	40.26	421.77	14.98	7.15	0.00
1984	3	15	75	86.00	71.06	39.87	421.77	11.18	6.73	0.00
1984	3	16	76	91.04	68.00	33.33	421.77	14.09	1.25	0.00
1984	3	17	77	91.04	69.98	39.78	421.77	14.31	6.63	0.00
1984	3	18	78	93.92	69.08	36.50	421.77	17.66	3.78	0.00
1984	3	19	79	73.94	60.08	34.05	421.77	15.88	2.05	0.00
1984	3	20	80	78.08	48.92	32.20	421.77	4.25	0.00	0.00
1984	3	21	81	82.04	53.96	32.20	421.77	16.77	0.00	0.00
1984	3	22	82	86.00	59.00	33.84	421.77	13.86	1.83	0.00
1984	3	23	83	89.06	66.92	35.35	421.77	9.84	3.50	0.00
1984	3	24	84	78.98	64.94	36.90	421.77	7.83	4.23	0.00
1984	3	25	85	82.94	57.02	37.44	421.77	14.53	4.83	0.00
1984	3	26	86	91.94	66.92	39.76	421.77	7.83	6.60	0.00
1984	3	27	87	104.00	68.00	34.02	421.77	12.30	2.03	0.00
1984	3	28	88	78.98	57.92	32.79	421.77	19.90	0.65	0.00
1984	3	29	89	75.92	48.92	34.11	421.77	7.60	2.13	0.00
1984	3	30	90	78.08	55.04	37.38	421.77	16.77	4.75	0.00
1984	3	31	91	84.02	64.04	36.79	514.09	12.30	4.10	0.00
1984	4	1	92	78.08	64.94	41.63	514.09	16.32	8.48	0.00
1984	4	2	93	89.96	66.92	34.50	514.09	11.18	2.55	0.00
1984	4	3	94	89.96	60.98	32.20	514.09	7.38	0.00	0.00

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1984	4	4	95	78.98	55.94	34.23	514.09	5.37	2.25	0.00
1984	4	5	96	78.98	57.02	35.13	514.09	12.52	3.25	0.00
1984	4	6	97	82.94	59.00	38.05	514.09	16.77	4.70	0.00
1984	4	7	98	93.92	69.08	37.78	514.09	16.99	4.80	0.00
1984	4	8	99	87.98	60.08	32.20	514.09	7.60	0.00	0.00
1984	4	9	100	93.02	62.96	32.56	514.09	13.19	0.40	0.00
1984	4	10	101	95.00	66.92	32.20	514.09	11.63	0.00	0.00
1984	4	11	102	96.08	62.06	32.20	514.09	8.05	0.00	0.00
1984	4	12	103	89.06	64.94	32.20	514.09	12.30	0.00	0.00
1984	4	13	104	91.94	64.04	33.51	514.09	5.81	1.45	0.00
1984	4	14	105	84.02	68.00	38.86	514.09	11.40	5.60	0.00
1984	4	15	106	82.94	53.96	32.79	514.09	6.93	0.65	0.00
1984	4	16	107	82.94	55.94	32.20	514.09	7.16	0.00	0.00
1984	4	17	108	91.04	53.96	32.20	514.09	7.83	0.00	0.00
1984	4	18	109	98.06	66.92	37.98	514.09	11.63	5.43	0.00
1984	4	19	110	100.94	68.00	33.60	514.09	6.71	1.55	0.00
1984	4	20	111	107.96	69.98	32.56	514.09	14.09	0.40	0.00
1984	4	21	112	93.02	77.00	38.86	514.09	11.40	5.50	0.00
1984	4	22	113	82.94	66.92	37.87	514.09	12.07	4.90	0.00
1984	4	23	114	89.06	62.96	32.65	514.09	7.83	0.50	0.00
1984	4	24	115	89.96	66.02	32.38	514.09	19.68	0.20	0.00
1984	4	25	116	98.06	69.98	35.04	514.09	15.88	3.15	0.00
1984	4	26	117	104.00	71.06	32.20	514.09	9.39	0.00	0.00
1984	4	27	118	89.96	73.94	38.46	514.09	11.18	5.15	0.00
1984	4	28	119	98.96	71.96	38.84	514.09	10.29	5.58	0.00
1984	4	29	120	91.94	75.92	39.45	514.09	13.42	6.25	0.00
1984	4	30	121	82.94	73.04	41.54	514.09	19.45	8.38	0.00
1984	5	1	122	89.96	66.02	41.70	553.07	14.09	8.55	0.01
1984	5	2	123	98.96	73.04	33.24	553.07	10.51	1.15	0.00
1984	5	3	124	102.92	71.96	32.20	553.07	9.39	0.00	0.00
1984	5	4	125	102.92	71.06	32.20	553.07	13.19	0.00	0.00
1984	5	5	126	104.00	75.02	32.20	553.07	14.98	0.00	0.00
1984	5	6	127	105.08	78.08	39.15	553.07	8.72	5.93	0.00
1984	5	7	128	104.00	75.92	38.55	553.07	10.06	6.05	0.00
1984	5	8	129	84.92	69.98	38.61	553.07	12.97	5.73	0.00
1984	5	9	130	86.00	60.08	32.20	553.07	9.39	0.00	0.00
1984	5	10	131	89.06	64.04	33.26	553.07	16.10	1.18	0.00
1984	5	11	132	93.02	68.00	32.92	553.07	16.55	0.80	0.00
1984	5	12	133	93.02	71.06	36.95	553.07	14.53	4.28	0.00
1984	5	13	134	87.98	71.06	40.12	553.07	12.30	7.00	0.02
1984	5	14	135	78.08	69.98	41.31	553.07	8.94	8.33	0.79
1984	5	15	136	84.02	71.06	42.24	553.07	10.29	9.15	0.02
1984	5	16	137	82.94	71.06	41.61	553.07	13.42	8.55	0.00
1984	5	17	138	84.92	68.00	42.08	553.07	8.50	8.98	2.07
1984	5	18	139	86.00	66.02	40.37	553.07	7.60	7.28	0.59
1984	5	19	140	93.92	69.98	35.96	553.07	8.94	3.18	0.00
1984	5	20	141	95.00	66.02	41.49	553.07	8.05	8.33	0.25
1984	5	21	142	98.96	73.04	36.41	553.07	10.96	3.68	0.00
1984	5	22	143	102.02	75.02	32.20	553.07	10.29	0.00	0.00
1984	5	23	144	95.00	80.06	39.94	553.07	12.52	6.80	0.00
1984	5	24	145	93.92	73.04	34.09	553.07	8.72	2.10	0.00

City of Laredo Landfill

Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langley's)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
1984	5	25	146	95.00	71.06	35.98	553.07	13.42	3.20	0.00
1984	5	26	147	93.02	75.02	38.37	553.07	14.31	5.45	0.00
1984	5	27	148	95.00	71.96	36.63	553.07	14.31	3.93	0.00
1984	5	28	149	93.92	75.02	39.27	553.07	13.19	6.05	0.05
1984	5	29	150	82.94	71.06	39.69	553.07	10.06	6.53	0.02
1984	5	30	151	84.02	62.96	32.20	553.07	8.27	0.00	0.00
1984	5	31	152	84.92	60.08	32.20	553.07	9.84	0.00	0.00
1984	6	1	153	89.06	64.94	32.20	581.92	16.32	0.00	0.00
1984	6	2	154	87.98	68.00	34.65	581.92	16.10	2.73	0.00
1984	6	3	155	87.98	68.00	36.45	581.92	10.96	3.73	0.02
1984	6	4	156	91.94	73.94	40.44	581.92	14.09	7.35	0.00
1984	6	5	157	91.94	77.00	39.27	581.92	16.77	6.05	0.00
1984	6	6	158	96.98	78.08	38.07	581.92	14.53	5.53	0.00
1984	6	7	159	98.96	78.08	37.33	581.92	17.89	4.70	0.00
1984	6	8	160	96.98	80.06	40.59	581.92	18.56	7.53	0.00
1984	6	9	161	96.98	80.06	39.18	581.92	17.22	5.95	0.00
1984	6	10	162	95.00	78.08	41.25	581.92	18.11	8.25	0.00
1984	6	11	163	95.00	75.92	40.93	581.92	16.32	7.90	0.00
1984	6	12	164	93.92	77.00	40.01	581.92	17.89	6.88	0.00
1984	6	13	165	91.94	73.94	39.65	581.92	14.31	6.48	0.02
1984	6	14	166	93.02	75.02	39.76	581.92	14.98	6.60	0.00
1984	6	15	167	93.92	73.94	37.51	581.92	11.63	4.50	0.00
1984	6	16	168	96.08	75.02	36.36	581.92	15.88	3.63	0.00
1984	6	17	169	95.00	73.04	37.22	581.92	15.65	4.58	0.00
1984	6	18	170	95.00	75.92	39.13	581.92	14.76	5.90	0.01
1984	6	19	171	93.92	75.02	36.75	581.92	15.20	3.85	0.00
1984	6	20	172	93.02	75.02	39.56	581.92	11.63	6.38	0.00
1984	6	21	173	95.00	75.02	37.96	581.92	13.19	5.00	0.00
1984	6	22	174	96.98	75.92	34.61	581.92	15.43	2.68	0.00
1984	6	23	175	100.04	75.92	35.17	581.92	12.52	2.80	0.00
1984	6	24	176	98.96	77.00	36.70	581.92	11.40	4.00	0.00
1984	6	25	177	100.04	78.08	32.97	581.92	9.84	0.85	0.00
1984	6	26	178	102.92	77.00	32.20	581.92	11.18	0.00	0.00
1984	6	27	179	102.02	77.00	34.11	581.92	11.18	2.13	0.00
1984	6	28	180	100.04	77.00	33.87	581.92	12.97	1.85	0.00
1984	6	29	181	98.96	78.08	39.58	581.92	9.17	6.40	0.00
1984	6	30	182	102.02	77.00	36.77	581.92	6.71	4.08	0.00
1984	7	1	183	96.98	78.98	39.49	623.50	10.96	6.30	0.01
1984	7	2	184	98.06	75.92	37.04	623.50	10.73	4.38	0.00
1984	7	3	185	98.06	75.02	35.31	623.50	15.20	2.70	0.00
1984	7	4	186	100.04	77.00	34.00	623.50	20.57	2.00	0.00
1984	7	5	187	96.98	77.00	36.43	623.50	15.88	3.70	0.00
1984	7	6	188	96.08	78.08	38.50	623.50	14.31	5.20	0.00
1984	7	7	189	98.06	75.92	34.65	623.50	13.19	2.73	0.00
1984	7	8	190	98.06	77.00	33.60	623.50	15.65	1.55	0.00
1984	7	9	191	96.98	75.92	36.88	623.50	14.98	4.20	0.00
1984	7	10	192	96.98	78.08	39.45	623.50	18.56	6.25	0.00
1984	7	11	193	95.00	78.08	37.13	623.50	14.98	4.48	0.00
1984	7	12	194	93.02	75.02	37.74	623.50	12.75	5.15	0.03
1984	7	13	195	95.00	73.94	34.74	623.50	12.97	2.83	0.00
1984	7	14	196	93.92	75.02	34.56	623.50	13.64	2.63	0.00

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1984	7	15	197	93.02	73.04	37.13	623.50	12.52	4.48	0.00
1984	7	16	198	98.06	75.92	33.93	623.50	10.96	1.93	0.00
1984	7	17	199	100.94	75.02	33.91	623.50	12.07	1.90	0.00
1984	7	18	200	100.94	77.00	34.90	623.50	12.30	2.50	0.00
1984	7	19	201	100.94	77.00	34.90	623.50	10.96	2.50	0.00
1984	7	20	202	100.04	77.00	33.93	623.50	11.85	1.93	0.00
1984	7	21	203	96.98	78.08	36.23	623.50	11.85	3.48	0.00
1984	7	22	204	98.06	77.00	38.14	623.50	10.06	5.20	0.00
1984	7	23	205	96.98	78.08	37.74	623.50	8.94	5.15	0.00
1984	7	24	206	96.98	71.96	36.95	623.50	8.05	4.28	0.81
1984	7	25	207	93.92	75.92	37.51	623.50	10.06	4.90	0.12
1984	7	26	208	95.00	75.02	37.33	623.50	5.81	4.70	0.02
1984	7	27	209	96.98	75.02	34.83	623.50	6.48	2.93	0.00
1984	7	28	210	93.92	73.94	39.92	623.50	8.50	6.78	0.00
1984	7	29	211	95.00	75.92	36.54	623.50	5.59	3.83	0.00
1984	7	30	212	93.02	78.08	39.90	623.50	8.50	6.75	0.00
1984	7	31	213	93.92	75.02	37.83	543.94	5.37	5.25	0.00
1984	8	1	214	96.98	75.92	34.29	543.94	8.72	2.33	0.00
1984	8	2	215	96.98	75.92	36.09	543.94	8.05	3.83	0.00
1984	8	3	216	96.98	77.00	36.09	543.94	10.06	3.33	0.00
1984	8	4	217	96.08	78.08	36.97	543.94	11.18	4.30	0.00
1984	8	5	218	98.06	75.92	35.98	543.94	14.09	3.20	0.00
1984	8	6	219	98.06	77.00	36.79	543.94	15.65	4.10	0.00
1984	8	7	220	98.06	78.08	33.51	543.94	19.45	1.45	0.00
1984	8	8	221	96.98	78.08	36.95	543.94	18.11	4.28	0.00
1984	8	9	222	93.92	75.92	39.04	543.94	16.10	5.80	0.01
1984	8	10	223	96.98	78.08	37.67	543.94	16.32	5.08	0.00
1984	8	11	224	96.98	75.92	35.91	543.94	13.19	3.63	0.00
1984	8	12	225	98.06	75.02	34.36	543.94	10.73	2.40	0.00
1984	8	13	226	96.08	75.92	37.74	543.94	10.51	5.15	0.00
1984	8	14	227	93.92	75.92	39.83	543.94	9.61	6.68	0.02
1984	8	15	228	91.94	73.94	40.19	543.94	9.84	7.08	0.00
1984	8	16	229	91.94	75.02	41.67	543.94	11.85	8.53	0.00
1984	8	17	230	95.00	73.94	37.96	543.94	8.27	5.00	0.00
1984	8	18	231	98.06	77.00	34.27	543.94	8.05	2.30	0.00
1984	8	19	232	100.94	78.08	34.99	543.94	7.83	2.60	0.00
1984	8	20	233	100.04	77.00	33.93	543.94	11.18	1.93	0.00
1984	8	21	234	98.96	77.00	34.09	543.94	16.55	2.10	0.00
1984	8	22	235	95.00	78.08	37.58	543.94	12.52	4.98	0.00
1984	8	23	236	96.08	73.94	38.23	543.94	6.71	4.90	0.00
1984	8	24	237	98.96	75.02	33.69	543.94	8.27	1.65	0.00
1984	8	25	238	95.00	78.08	34.52	543.94	12.97	2.58	0.00
1984	8	26	239	96.98	77.00	34.20	543.94	9.39	2.23	0.00
1984	8	27	240	98.06	75.92	33.51	543.94	14.76	1.45	0.00
1984	8	28	241	98.96	77.00	32.20	543.94	14.76	0.00	0.00
1984	8	29	242	98.96	78.08	32.97	543.94	11.85	0.85	0.00
1984	8	30	243	98.06	78.08	34.25	543.94	11.40	2.28	0.00
1984	8	31	244	96.08	77.00	35.94	459.97	11.85	3.65	0.00
1984	9	1	245	93.92	75.92	36.36	459.97	11.18	3.63	0.00
1984	9	2	246	96.08	75.02	39.22	459.97	12.07	6.00	0.00
1984	9	3	247	84.92	75.92	42.24	459.97	9.84	9.15	0.39

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1984	9	4	248	89.06	75.02	40.93	459.97	8.94	7.90	0.00
1984	9	5	249	91.04	69.98	33.69	459.97	10.29	1.65	0.00
1984	9	6	250	91.94	66.92	34.56	459.97	9.39	2.63	0.00
1984	9	7	251	91.94	71.96	36.97	459.97	8.27	4.30	0.00
1984	9	8	252	95.00	75.92	38.32	459.97	15.65	5.00	0.00
1984	9	9	253	96.98	75.02	34.90	459.97	14.09	2.50	0.00
1984	9	10	254	96.98	75.02	35.53	459.97	16.77	2.70	0.00
1984	9	11	255	95.00	75.02	36.81	459.97	19.45	4.13	0.00
1984	9	12	256	93.02	77.00	38.01	459.97	14.76	5.45	0.00
1984	9	13	257	93.02	73.04	39.74	459.97	8.94	6.58	0.00
1984	9	14	258	93.02	73.04	36.59	459.97	5.59	3.88	0.00
1984	9	15	259	93.02	71.06	36.41	459.97	8.72	3.68	0.00
1984	9	16	260	82.94	68.00	41.81	459.97	13.86	8.68	0.05
1984	9	17	261	82.94	71.06	41.13	459.97	5.37	8.13	0.00
1984	9	18	262	86.00	69.98	41.52	459.97	5.81	8.55	0.00
1984	9	19	263	89.06	71.96	40.39	459.97	5.14	7.30	0.00
1984	9	20	264	84.92	66.92	36.77	459.97	10.29	4.18	0.44
1984	9	21	265	84.02	69.98	40.53	459.97	6.71	7.25	0.02
1984	9	22	266	95.00	69.98	32.56	459.97	9.17	0.40	0.00
1984	9	23	267	95.00	75.02	37.06	459.97	16.10	4.40	0.00
1984	9	24	268	96.08	78.08	38.64	459.97	15.20	5.75	0.00
1984	9	25	269	93.02	77.00	39.24	459.97	13.42	6.03	0.00
1984	9	26	270	80.96	71.06	40.10	459.97	5.59	6.78	0.00
1984	9	27	271	86.00	68.00	41.31	459.97	6.71	8.33	0.00
1984	9	28	272	82.94	68.00	39.13	459.97	12.97	5.90	0.00
1984	9	29	273	66.92	55.04	43.00	459.97	10.06	10.00	1.51
1984	9	30	274	68.00	57.92	40.73	355.35	2.01	7.58	0.00
1984	10	1	275	75.02	57.02	39.38	355.35	6.26	6.18	0.00
1984	10	2	276	75.02	68.00	42.80	355.35	8.27	9.78	0.00
1984	10	3	277	82.94	69.08	40.80	355.35	12.30	7.75	0.00
1984	10	4	278	84.92	69.98	39.76	355.35	12.97	6.60	0.00
1984	10	5	279	87.98	71.06	39.76	355.35	9.61	6.60	0.00
1984	10	6	280	89.96	73.04	41.22	355.35	14.76	8.03	0.00
1984	10	7	281	89.96	75.92	40.93	355.35	12.30	7.90	0.00
1984	10	8	282	84.92	71.06	41.31	355.35	4.25	8.33	0.27
1984	10	9	283	87.08	73.04	39.83	355.35	8.50	6.68	0.00
1984	10	10	284	87.98	73.04	39.02	355.35	9.17	5.78	0.02
1984	10	11	285	84.02	73.04	40.75	355.35	9.61	7.70	0.11
1984	10	12	286	87.98	71.96	40.10	355.35	8.94	6.98	0.00
1984	10	13	287	87.08	73.94	40.89	355.35	12.52	7.65	0.00
1984	10	14	288	89.96	64.94	34.43	355.35	9.17	2.48	0.89
1984	10	15	289	95.00	73.04	32.20	355.35	8.72	0.00	0.00
1984	10	16	290	93.92	77.00	39.31	355.35	11.18	6.10	0.00
1984	10	17	291	84.92	73.94	41.07	355.35	14.31	8.05	0.00
1984	10	18	292	91.94	78.08	40.21	355.35	11.18	7.10	0.00
1984	10	19	293	87.08	71.06	40.95	355.35	10.29	7.93	0.00
1984	10	20	294	95.00	77.00	37.02	355.35	10.51	4.35	0.00
1984	10	21	295	91.04	70.52	37.50	355.35	13.19	4.63	0.00
1984	10	22	296	69.98	60.08	43.00	355.35	10.96	10.00	0.00
1984	10	23	297	60.98	57.92	43.00	355.35	7.83	10.00	0.10
1984	10	24	298	69.08	57.92	43.00	355.35	3.80	10.00	0.07

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1984	10	25	299	71.96	62.06	42.80	355.35	4.92	9.78	0.03
1984	10	26	300	78.98	64.04	41.67	355.35	3.35	8.53	0.15
1984	10	27	301	80.06	71.06	40.23	355.35	5.59	7.13	0.00
1984	10	28	302	87.98	69.98	39.87	355.35	3.13	6.73	0.00
1984	10	29	303	86.00	71.06	39.92	355.35	7.83	6.78	0.00
1984	10	30	304	87.98	69.08	39.49	355.35	8.27	6.30	0.00
1984	10	31	305	89.06	75.02	39.18	273.78	13.42	5.95	0.00
1984	11	1	306	89.96	75.02	39.94	273.78	12.07	6.80	0.00
1984	11	2	307	80.06	60.98	42.26	273.78	11.18	9.18	0.47
1984	11	3	308	73.94	57.92	40.75	273.78	7.60	7.70	0.00
1984	11	4	309	84.92	62.96	35.69	273.78	8.05	3.88	0.00
1984	11	5	310	77.00	53.06	33.15	273.78	5.81	1.05	0.00
1984	11	6	311	77.00	51.98	32.79	273.78	9.84	0.65	0.00
1984	11	7	312	84.02	60.98	34.09	273.78	11.85	2.10	0.00
1984	11	8	313	87.08	64.94	32.56	273.78	12.07	0.40	0.00
1984	11	9	314	84.92	66.92	34.23	273.78	7.83	2.25	0.00
1984	11	10	315	75.92	59.00	32.74	273.78	9.39	0.60	0.00
1984	11	11	316	73.94	50.00	32.20	273.78	6.26	0.00	0.00
1984	11	12	317	75.02	53.96	38.70	273.78	8.50	5.43	0.00
1984	11	13	318	75.02	62.06	41.70	273.78	10.06	8.65	0.00
1984	11	14	319	82.94	66.02	37.83	273.78	12.30	4.45	0.00
1984	11	15	320	84.02	66.92	35.89	273.78	6.93	3.10	0.00
1984	11	16	321	82.94	64.94	36.61	273.78	5.14	3.90	0.00
1984	11	17	322	84.02	66.92	38.23	273.78	13.86	4.90	0.00
1984	11	18	323	75.02	57.02	37.22	273.78	8.72	4.58	0.00
1984	11	19	324	66.92	51.98	37.87	273.78	5.81	5.10	0.00
1984	11	20	325	53.96	46.94	42.64	273.78	13.42	9.60	0.01
1984	11	21	326	57.92	44.96	40.59	273.78	4.70	7.33	0.00
1984	11	22	327	62.96	37.94	36.79	273.78	6.48	4.10	0.00
1984	11	23	328	60.98	48.02	43.00	273.78	8.27	10.00	0.00
1984	11	24	329	75.02	57.02	42.82	273.78	15.20	9.80	0.00
1984	11	25	330	75.92	53.06	38.64	273.78	3.80	6.15	0.00
1984	11	26	331	80.06	60.08	33.33	273.78	6.93	1.25	0.00
1984	11	27	332	62.06	46.94	34.52	273.78	16.55	2.58	0.00
1984	11	28	333	66.92	37.04	32.20	273.78	7.38	0.00	0.00
1984	11	29	334	75.92	46.94	32.20	273.78	6.26	0.00	0.00
1984	11	30	335	75.02	44.96	32.20	207.53	6.04	0.00	0.00
1984	12	1	336	78.08	44.96	32.20	207.53	3.13	0.00	0.00
1984	12	2	337	75.02	55.94	38.78	207.53	5.81	6.05	0.00
1984	12	3	338	62.96	46.04	41.38	207.53	10.96	8.40	0.08
1984	12	4	339	50.00	46.94	43.00	207.53	6.93	10.00	0.00
1984	12	5	340	59.00	44.06	34.81	207.53	9.39	2.90	0.00
1984	12	6	341	55.04	41.00	32.38	207.53	6.71	0.20	0.00
1984	12	7	342	60.98	35.06	32.38	207.53	4.70	0.20	0.00
1984	12	8	343	71.06	46.04	38.68	207.53	6.48	5.40	0.00
1984	12	9	344	75.02	53.96	37.22	207.53	3.35	4.58	0.00
1984	12	10	345	78.98	53.06	33.37	207.53	3.13	1.30	0.00
1984	12	11	346	80.06	60.08	33.69	207.53	9.39	1.65	0.00
1984	12	12	347	71.96	55.04	39.56	207.53	3.13	6.28	0.00
1984	12	13	348	84.02	60.98	37.86	207.53	6.48	5.13	0.00
1984	12	14	349	82.94	64.94	39.24	207.53	11.85	6.03	0.00

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langley's)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
1984	12	15	350	84.02	62.06	40.39	207.53	18.11	7.30	0.00
1984	12	16	351	62.06	55.94	43.00	207.53	6.93	10.00	0.03
1984	12	17	352	69.98	60.08	41.63	207.53	2.91	8.48	0.00
1984	12	18	353	80.06	64.94	40.28	207.53	7.83	7.18	0.00
1984	12	19	354	78.08	64.94	38.95	207.53	8.72	5.70	0.00
1984	12	20	355	82.04	66.92	40.05	207.53	11.85	6.93	0.00
1984	12	21	356	80.96	64.94	39.04	207.53	8.72	5.80	0.00
1984	12	22	357	68.00	62.06	41.74	207.53	9.17	8.60	0.00
1984	12	23	358	68.00	59.00	42.91	207.53	6.04	9.90	0.00
1984	12	24	359	80.96	66.92	38.84	207.53	7.16	5.58	0.00
1984	12	25	360	68.00	48.92	41.45	207.53	10.73	8.28	0.05
1984	12	26	361	57.92	48.02	43.00	207.53	5.14	10.00	0.00
1984	12	27	362	69.98	55.04	42.82	207.53	2.01	9.80	0.00
1984	12	28	363	80.06	69.98	40.19	207.53	15.43	7.08	0.00
1984	12	29	364	82.04	68.00	39.76	207.53	12.75	6.60	0.00
1984	12	30	365	78.98	68.00	41.34	207.53	11.40	8.35	0.34
1984	12	31	366	80.06	60.08	37.24	207.53	8.50	4.60	1.08
1985	1	1	1	60.98	44.96	39.60	277.05	10.96	6.43	0.04
1985	1	2	2	44.06	33.08	42.91	277.05	17.22	9.90	0.05
1985	1	3	3	55.04	31.10	33.91	277.05	12.30	1.90	0.00
1985	1	4	4	64.04	37.04	32.20	277.05	8.50	0.00	0.00
1985	1	5	5	64.04	39.92	32.20	277.05	6.93	0.00	0.00
1985	1	6	6	69.08	37.94	32.20	277.05	6.04	0.00	0.00
1985	1	7	7	68.00	44.06	32.20	277.05	8.94	0.00	0.00
1985	1	8	8	71.06	39.02	34.05	277.05	7.16	2.05	0.00
1985	1	9	9	75.02	55.94	37.35	277.05	7.60	4.73	0.00
1985	1	10	10	60.08	53.96	42.82	277.05	8.05	9.80	0.00
1985	1	11	11	55.04	39.02	43.00	277.05	10.51	10.00	0.46
1985	1	12	12	39.02	28.22	43.00	277.05	12.07	10.00	0.65
1985	1	13	13	31.10	28.22	43.00	277.05	7.60	10.00	0.00
1985	1	14	14	48.92	31.10	41.09	277.05	9.61	7.88	0.11
1985	1	15	15	55.04	37.04	39.40	277.05	4.02	6.20	0.00
1985	1	16	16	53.96	48.92	42.64	277.05	6.26	9.60	0.10
1985	1	17	17	60.08	41.00	35.87	277.05	7.38	3.08	0.00
1985	1	18	18	73.04	42.98	32.20	277.05	4.70	0.00	0.00
1985	1	19	19	77.00	44.06	32.97	277.05	6.04	0.85	0.00
1985	1	20	20	59.00	30.20	37.56	277.05	14.98	4.95	0.00
1985	1	21	21	41.00	25.16	32.92	277.05	4.70	0.80	0.00
1985	1	22	22	42.08	33.08	41.45	277.05	6.26	8.28	0.00
1985	1	23	23	42.08	39.02	43.00	277.05	6.26	10.00	0.00
1985	1	24	24	66.92	41.00	38.03	277.05	3.35	5.48	0.00
1985	1	25	25	75.02	46.04	34.27	277.05	3.58	2.30	0.00
1985	1	26	26	59.00	51.08	40.93	277.05	9.61	7.70	0.61
1985	1	27	27	73.04	51.98	39.04	277.05	7.38	5.70	0.01
1985	1	28	28	64.94	48.02	38.73	277.05	8.94	5.45	0.00
1985	1	29	29	60.98	51.98	42.91	277.05	5.81	9.90	0.04
1985	1	30	30	71.06	57.92	42.62	277.05	3.80	9.58	0.02
1985	1	31	31	64.04	32.00	43.00	277.05	14.76	10.00	0.00
1985	2	1	32	33.08	26.24	42.35	359.22	14.31	9.28	0.00
1985	2	2	33	42.98	22.10	33.15	359.22	9.61	1.05	0.00
1985	2	3	34	37.94	31.10	42.33	359.22	8.72	9.25	0.04

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1985	2	4	35	44.06	33.08	43.00	359.22	6.71	10.00	0.02
1985	2	5	36	48.02	41.00	43.00	359.22	6.71	10.00	0.00
1985	2	6	37	62.06	35.96	35.53	359.22	5.81	3.70	0.00
1985	2	7	38	48.92	41.00	42.64	359.22	10.96	9.60	0.00
1985	2	8	39	55.94	44.96	43.00	359.22	6.04	10.00	0.00
1985	2	9	40	68.00	50.00	41.11	359.22	5.14	7.90	0.00
1985	2	10	41	75.92	59.00	40.77	359.22	6.26	7.53	0.00
1985	2	11	42	60.98	44.96	33.37	359.22	13.42	1.30	0.00
1985	2	12	43	64.94	33.98	32.97	359.22	6.93	0.85	0.00
1985	2	13	44	73.94	44.96	33.24	359.22	9.17	1.15	0.00
1985	2	14	45	64.94	48.92	34.86	359.22	8.27	2.95	0.00
1985	2	15	46	71.06	41.00	32.20	359.22	6.26	0.00	0.00
1985	2	16	47	77.00	46.94	35.96	359.22	11.85	3.18	0.00
1985	2	17	48	71.96	55.04	41.18	359.22	7.38	7.98	0.00
1985	2	18	49	78.08	59.00	39.78	359.22	10.51	6.63	0.00
1985	2	19	50	75.02	60.98	42.35	359.22	8.05	9.28	0.04
1985	2	20	51	75.92	64.94	42.44	359.22	16.10	9.38	0.00
1985	2	21	52	86.00	66.92	41.31	359.22	17.89	8.33	0.00
1985	2	22	53	87.08	69.98	39.99	359.22	19.01	6.85	0.00
1985	2	23	54	82.04	64.94	37.44	359.22	13.64	4.83	0.03
1985	2	24	55	64.94	57.02	42.55	359.22	10.51	9.50	0.00
1985	2	25	56	71.96	50.00	39.96	359.22	6.04	6.83	0.00
1985	2	26	57	68.00	55.94	41.61	359.22	8.05	8.55	0.08
1985	2	27	58	62.96	53.06	43.00	359.22	7.60	10.00	0.20
1985	2	28	59	60.08	55.04	42.91	359.22	2.01	9.90	0.08
1985	3	1	60	66.02	57.92	42.46	421.77	4.70	9.40	0.00
1985	3	2	61	78.98	60.08	40.95	421.77	9.17	7.73	0.00
1985	3	3	62	89.06	68.00	38.39	421.77	16.77	5.08	0.00
1985	3	4	63	77.00	60.08	34.61	421.77	13.86	2.68	0.00
1985	3	5	64	69.98	55.94	40.82	421.77	10.51	7.58	0.00
1985	3	6	65	64.04	55.04	43.00	421.77	6.04	10.00	0.03
1985	3	7	66	84.02	64.04	40.82	421.77	14.09	7.58	0.00
1985	3	8	67	84.92	68.00	39.87	421.77	12.30	6.73	0.00
1985	3	9	68	80.96	64.04	39.42	421.77	8.94	6.23	0.00
1985	3	10	69	84.92	64.04	38.25	421.77	12.07	5.73	0.00
1985	3	11	70	89.96	66.92	33.51	421.77	11.85	1.45	0.00
1985	3	12	71	93.02	66.02	33.84	421.77	12.75	1.83	0.00
1985	3	13	72	86.00	68.00	39.83	421.77	10.29	6.68	0.00
1985	3	14	73	66.02	51.98	43.00	421.77	12.30	10.00	0.81
1985	3	15	74	53.96	51.98	43.00	421.77	7.38	10.00	0.84
1985	3	16	75	62.06	53.06	42.91	421.77	7.83	9.90	0.02
1985	3	17	76	66.02	53.06	41.13	421.77	6.93	8.13	0.00
1985	3	18	77	64.04	55.94	42.53	421.77	4.47	9.48	0.00
1985	3	19	78	75.02	57.02	40.73	421.77	12.52	7.48	0.00
1985	3	20	79	87.08	60.98	33.87	421.77	10.96	1.85	0.00
1985	3	21	80	75.02	53.96	32.92	421.77	13.86	0.80	0.00
1985	3	22	81	80.96	51.98	34.18	421.77	9.61	2.20	0.00
1985	3	23	82	87.08	59.00	36.09	421.77	7.16	3.33	0.00
1985	3	24	83	84.92	59.00	35.67	421.77	6.26	3.35	0.00
1985	3	25	84	84.92	64.04	36.95	421.77	13.19	4.28	0.00
1985	3	26	85	82.94	68.00	42.26	421.77	11.63	9.18	0.00

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1985	3	27	86	89.96	69.98	37.13	421.77	10.51	4.48	0.00
1985	3	28	87	89.96	71.06	38.25	421.77	11.40	5.33	0.00
1985	3	29	88	84.92	71.96	42.26	421.77	11.85	9.18	0.00
1985	3	30	89	78.08	60.98	34.38	421.77	14.76	2.43	0.00
1985	3	31	90	75.02	48.02	34.27	421.77	5.37	2.30	0.00
1985	4	1	91	80.06	53.06	34.68	514.09	6.71	2.50	0.00
1985	4	2	92	82.94	55.94	32.38	514.09	6.48	0.20	0.00
1985	4	3	93	89.06	57.92	32.56	514.09	11.40	0.40	0.00
1985	4	4	94	91.94	64.04	38.73	514.09	9.61	5.85	0.00
1985	4	5	95	87.98	64.94	35.53	514.09	10.73	2.70	0.00
1985	4	6	96	89.96	59.00	33.87	514.09	7.38	1.85	0.00
1985	4	7	97	82.04	68.00	42.37	514.09	13.42	9.30	0.00
1985	4	8	98	66.92	53.96	43.00	514.09	12.07	10.00	0.01
1985	4	9	99	62.96	53.06	43.00	514.09	6.71	10.00	1.97
1985	4	10	100	71.96	57.02	42.37	514.09	5.81	9.30	0.00
1985	4	11	101	80.06	60.98	39.60	514.09	5.59	6.43	0.00
1985	4	12	102	82.94	66.02	39.15	514.09	7.60	5.93	0.00
1985	4	13	103	78.98	66.02	40.75	514.09	6.93	7.70	0.00
1985	4	14	104	84.02	62.96	39.42	514.09	6.71	6.23	0.00
1985	4	15	105	91.04	64.04	32.20	514.09	8.50	0.00	0.00
1985	4	16	106	95.00	64.94	32.56	514.09	9.39	0.40	0.00
1985	4	17	107	89.96	66.02	34.20	514.09	10.51	2.23	0.00
1985	4	18	108	80.96	66.02	39.87	514.09	12.52	6.73	0.00
1985	4	19	109	82.94	68.00	42.91	514.09	12.07	9.90	0.00
1985	4	20	110	93.02	71.06	37.40	514.09	12.75	4.78	0.00
1985	4	21	111	89.06	71.96	41.54	514.09	9.84	8.38	0.00
1985	4	22	112	98.06	75.02	38.68	514.09	11.18	5.40	0.00
1985	4	23	113	93.92	73.94	37.71	514.09	9.39	5.13	0.00
1985	4	24	114	89.96	69.98	38.07	514.09	10.06	5.53	1.23
1985	4	25	115	89.06	66.02	40.77	514.09	11.63	7.73	0.00
1985	4	26	116	89.96	69.08	40.23	514.09	8.05	7.13	0.00
1985	4	27	117	91.04	73.04	40.08	514.09	8.72	6.95	0.00
1985	4	28	118	91.94	73.94	39.43	514.09	9.39	6.58	0.04
1985	4	29	119	82.94	71.96	42.55	514.09	8.27	9.50	0.00
1985	4	30	120	87.98	73.04	39.90	514.09	5.37	6.55	0.00
1985	5	1	121	91.04	73.04	38.24	514.09	6.04	5.58	0.00
1985	5	2	122	86.00	71.96	39.87	553.07	6.26	6.73	0.00
1985	5	3	123	89.06	66.02	35.46	553.07	5.59	3.13	0.00
1985	5	4	124	89.06	66.02	32.79	553.07	7.83	0.65	0.00
1985	5	5	125	89.06	64.04	36.23	553.07	9.61	3.48	0.00
1985	5	6	126	91.94	68.00	36.41	553.07	9.84	3.68	0.00
1985	5	7	127	93.92	69.98	38.19	553.07	8.94	5.65	0.00
1985	5	8	128	96.08	73.04	37.44	553.07	7.38	4.83	1.14
1985	5	9	129	91.04	66.02	38.34	553.07	8.27	5.83	0.00
1985	5	10	130	95.00	73.04	38.61	553.07	12.30	5.53	0.00
1985	5	11	131	93.92	71.96	36.66	553.07	12.07	3.95	0.00
1985	5	12	132	95.00	75.02	38.07	553.07	13.19	5.53	0.00
1985	5	13	133	96.08	77.00	38.01	553.07	10.96	4.65	0.00
1985	5	14	134	82.94	66.92	40.21	553.07	10.51	6.90	0.08
1985	5	15	135	82.94	66.02	42.62	553.07	9.84	9.58	0.00
1985	5	16	136	89.96	73.94	41.52	553.07	8.72	8.55	1.20

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1985	5	17	137	87.08	73.94	43.00	553.07	10.73	10.00	1.13
1985	5	18	138	84.02	64.04	37.69	553.07	8.94	5.10	0.00
1985	5	19	139	87.08	69.08	34.38	553.07	5.37	2.43	0.01
1985	5	20	140	91.94	71.96	38.34	553.07	8.27	5.43	0.38
1985	5	21	141	87.98	66.02	38.16	553.07	7.60	5.63	0.00
1985	5	22	142	91.04	69.98	36.00	553.07	7.16	3.73	0.00
1985	5	23	143	87.98	69.98	39.94	553.07	5.59	6.80	0.00
1985	5	24	144	93.02	73.04	40.48	553.07	6.26	7.40	0.00
1985	5	25	145	91.04	71.06	40.48	553.07	8.27	7.40	0.00
1985	5	26	146	91.94	71.96	40.59	553.07	9.39	7.53	0.00
1985	5	27	147	95.00	75.92	39.65	553.07	9.17	6.48	0.00
1985	5	28	148	98.96	75.02	34.41	553.07	9.39	2.45	0.00
1985	5	29	149	102.02	73.94	33.42	553.07	11.18	1.35	0.00
1985	5	30	150	102.02	73.94	35.28	553.07	10.73	2.93	0.00
1985	5	31	151	100.04	75.92	39.40	553.07	11.40	6.20	0.00
1985	6	1	152	98.06	75.92	36.95	553.07	10.96	4.28	0.00
1985	6	2	153	98.06	75.02	36.07	581.92	12.75	3.30	0.00
1985	6	3	154	96.98	77.00	36.48	581.92	14.53	3.75	0.00
1985	6	4	155	93.92	80.06	40.01	581.92	15.88	6.88	0.00
1985	6	5	156	91.94	78.08	41.45	581.92	12.07	8.28	0.00
1985	6	6	157	96.08	78.08	38.77	581.92	7.38	5.50	0.00
1985	6	7	158	93.02	78.98	38.70	581.92	8.72	5.43	0.00
1985	6	8	159	98.96	75.02	32.97	581.92	10.06	0.85	0.00
1985	6	9	160	98.96	73.94	33.24	581.92	15.65	1.15	0.00
1985	6	10	161	98.06	75.02	35.91	581.92	14.98	3.13	0.00
1985	6	11	162	98.96	77.00	35.46	581.92	10.96	3.13	1.30
1985	6	12	163	95.00	69.08	38.91	581.92	6.93	5.65	0.00
1985	6	13	164	86.00	69.98	40.14	581.92	7.60	7.03	0.00
1985	6	14	165	91.94	73.04	37.33	581.92	7.16	4.70	0.00
1985	6	15	166	93.92	73.04	34.50	581.92	7.38	2.55	0.00
1985	6	16	167	96.98	73.94	33.44	581.92	6.04	1.38	0.00
1985	6	17	168	96.98	75.02	36.79	581.92	9.39	4.10	1.07
1985	6	18	169	91.04	75.02	37.62	581.92	12.97	5.03	2.35
1985	6	19	170	84.92	68.00	41.13	581.92	6.26	7.93	0.01
1985	6	20	171	89.06	71.96	39.76	581.92	7.38	6.60	0.00
1985	6	21	172	91.94	73.94	39.20	581.92	4.92	5.98	0.00
1985	6	22	173	93.02	78.08	39.96	581.92	14.09	6.83	0.00
1985	6	23	174	91.04	77.00	37.24	581.92	14.09	4.60	0.00
1985	6	24	175	95.00	75.92	38.19	581.92	16.32	5.65	0.00
1985	6	25	176	95.00	78.08	39.22	581.92	16.77	6.00	0.00
1985	6	26	177	95.00	77.00	39.67	581.92	14.53	6.50	1.31
1985	6	27	178	91.94	71.96	40.71	581.92	11.18	7.65	1.21
1985	6	28	179	80.06	69.08	41.54	581.92	8.05	8.38	0.00
1985	6	29	180	89.96	66.02	32.20	581.92	6.04	0.00	0.00
1985	6	30	181	91.04	66.92	32.20	581.92	3.80	0.00	0.00
1985	7	1	182	93.02	69.08	34.00	581.92	8.72	2.00	0.00
1985	7	2	183	93.02	73.04	37.49	623.50	12.07	4.88	1.99
1985	7	3	184	91.04	69.08	39.78	623.50	14.31	6.63	0.00
1985	7	4	185	87.08	69.98	40.26	623.50	8.05	7.15	0.00
1985	7	5	186	89.96	71.06	34.00	623.50	6.48	2.00	0.00
1985	7	6	187	93.92	71.96	33.15	623.50	7.38	1.05	0.00

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1985	7	7	188	93.02	71.96	34.74	623.50	8.94	2.83	0.14
1985	7	8	189	87.08	73.94	37.47	623.50	8.72	4.85	0.00
1985	7	9	190	95.00	73.04	33.33	623.50	10.73	1.25	0.00
1985	7	10	191	96.08	75.02	33.84	623.50	9.84	1.83	0.00
1985	7	11	192	98.06	75.02	33.06	623.50	10.06	0.95	0.00
1985	7	12	193	96.08	75.02	33.96	623.50	11.40	1.95	0.00
1985	7	13	194	95.00	73.94	36.25	623.50	13.19	3.50	0.00
1985	7	14	195	96.08	75.02	35.62	623.50	15.20	2.80	0.00
1985	7	15	196	95.00	77.00	39.22	623.50	13.19	6.00	0.00
1985	7	16	197	95.00	75.02	32.79	623.50	12.52	0.65	0.00
1985	7	17	198	98.06	73.94	34.18	623.50	10.73	2.20	0.00
1985	7	18	199	96.98	86.00	33.42	623.50	10.96	0.98	0.00
1985	7	19	200	98.96	78.08	36.68	623.50	10.96	3.98	0.00
1985	7	20	201	98.96	75.92	33.69	623.50	14.09	1.65	0.00
1985	7	21	202	100.04	75.92	33.78	623.50	13.42	1.75	0.00
1985	7	22	203	100.04	77.00	36.41	623.50	12.30	3.68	0.00
1985	7	23	204	100.04	78.08	36.30	623.50	13.64	3.55	0.00
1985	7	24	205	100.94	78.98	39.22	623.50	15.20	6.00	0.00
1985	7	25	206	100.04	78.08	37.42	623.50	15.20	4.40	0.00
1985	7	26	207	98.96	78.08	35.07	623.50	14.76	2.93	0.00
1985	7	27	208	98.96	75.02	35.80	623.50	10.29	3.00	0.00
1985	7	28	209	98.96	77.00	36.54	623.50	10.06	3.83	0.00
1985	7	29	210	98.06	75.02	33.91	623.50	14.76	1.90	0.00
1985	7	30	211	98.06	77.00	36.79	623.50	15.43	4.10	0.00
1985	7	31	212	98.96	77.00	35.71	623.50	14.98	2.90	0.00
1985	8	1	213	100.94	77.00	32.79	543.94	13.42	0.65	0.00
1985	8	2	214	100.04	75.92	36.12	543.94	10.06	3.35	0.00
1985	8	3	215	100.04	77.00	36.30	543.94	11.40	3.55	0.00
1985	8	4	216	100.04	77.00	34.09	543.94	12.30	2.10	0.00
1985	8	5	217	102.02	77.00	33.15	543.94	14.76	1.05	0.00
1985	8	6	218	102.92	75.92	32.20	543.94	12.52	0.00	0.00
1985	8	7	219	102.02	77.00	32.65	543.94	12.30	0.50	0.00
1985	8	8	220	100.94	77.00	32.20	543.94	13.19	0.00	0.00
1985	8	9	221	102.92	78.08	32.20	543.94	16.32	0.00	0.00
1985	8	10	222	100.04	78.08	35.01	543.94	16.10	3.13	0.00
1985	8	11	223	100.04	77.00	33.96	543.94	14.09	1.95	0.00
1985	8	12	224	98.96	77.00	35.79	543.94	14.09	3.23	0.00
1985	8	13	225	98.96	78.08	36.68	543.94	12.30	3.98	0.00
1985	8	14	226	98.96	78.08	37.74	543.94	11.63	5.15	0.00
1985	8	15	227	98.96	75.92	36.63	543.94	8.50	3.93	0.00
1985	8	16	228	100.94	78.08	36.54	543.94	12.52	3.83	0.00
1985	8	17	229	100.94	78.98	35.71	543.94	14.09	2.90	0.00
1985	8	18	230	102.02	78.08	35.79	543.94	13.86	3.23	0.00
1985	8	19	231	102.92	78.08	32.97	543.94	13.86	0.85	0.00
1985	8	20	232	102.02	77.00	36.41	543.94	12.75	3.68	0.00
1985	8	21	233	100.04	78.98	34.99	543.94	12.30	2.60	0.00
1985	8	22	234	100.04	77.00	33.91	543.94	12.52	1.90	0.00
1985	8	23	235	100.94	78.98	34.38	543.94	15.20	2.43	0.00
1985	8	24	236	100.04	78.98	36.36	543.94	11.63	3.63	0.00
1985	8	25	237	100.04	78.98	37.85	543.94	10.06	5.28	0.00
1985	8	26	238	102.02	75.92	33.60	543.94	10.06	1.55	0.00

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1985	8	27	239	98.06	77.00	34.90	543.94	11.18	2.50	0.68
1985	8	28	240	89.96	75.02	38.23	543.94	9.84	5.30	0.01
1985	8	29	241	89.96	73.04	39.42	543.94	8.72	6.23	0.00
1985	8	30	242	93.92	73.94	36.61	543.94	6.26	3.90	0.00
1985	8	31	243	98.06	77.00	34.65	543.94	9.39	2.73	0.00
1985	9	1	244	98.96	75.92	33.33	459.97	10.06	1.25	0.00
1985	9	2	245	100.04	75.02	33.33	459.97	7.38	1.25	0.00
1985	9	3	246	100.94	77.00	33.60	459.97	13.64	1.55	0.00
1985	9	4	247	100.04	78.98	33.78	459.97	14.53	1.75	0.13
1985	9	5	248	100.04	75.92	36.18	459.97	13.64	3.93	0.00
1985	9	6	249	100.94	75.92	38.88	459.97	15.88	5.63	0.00
1985	9	7	250	98.96	78.08	36.23	459.97	16.77	3.48	0.00
1985	9	8	251	100.04	78.08	33.33	459.97	14.76	1.25	0.00
1985	9	9	252	98.06	75.02	36.59	459.97	11.63	3.88	0.00
1985	9	10	253	96.98	75.92	37.31	459.97	12.52	4.68	0.00
1985	9	11	254	98.06	77.00	39.06	459.97	11.18	5.83	0.19
1985	9	12	255	96.08	77.00	39.94	459.97	11.40	6.80	0.39
1985	9	13	256	89.96	75.92	40.64	459.97	7.16	7.58	0.00
1985	9	14	257	95.00	73.94	39.54	459.97	8.94	6.35	0.00
1985	9	15	258	89.96	73.94	38.57	459.97	10.51	5.88	0.17
1985	9	16	259	82.04	73.94	41.76	459.97	10.29	8.63	0.00
1985	9	17	260	91.94	71.96	37.65	459.97	8.27	5.05	0.00
1985	9	18	261	96.98	77.00	37.67	459.97	14.53	5.08	0.00
1985	9	19	262	95.00	77.00	36.97	459.97	12.52	4.30	0.00
1985	9	20	263	98.96	75.02	36.27	459.97	9.61	3.53	0.00
1985	9	21	264	93.92	69.98	36.48	459.97	7.38	3.75	0.00
1985	9	22	265	96.08	73.04	35.08	459.97	8.05	2.70	1.10
1985	9	23	266	98.06	73.94	38.61	459.97	10.06	5.33	0.00
1985	9	24	267	91.94	69.98	37.71	459.97	8.94	5.13	0.00
1985	9	25	268	98.06	73.94	32.97	459.97	9.17	0.85	0.00
1985	9	26	269	84.02	66.92	38.39	459.97	10.29	5.88	0.00
1985	9	27	270	87.08	66.92	39.40	459.97	7.83	6.20	0.00
1985	9	28	271	93.92	75.02	41.31	459.97	12.97	8.13	0.02
1985	9	29	272	93.02	73.04	40.75	459.97	15.43	7.70	0.09
1985	9	30	273	73.04	59.00	40.57	459.97	13.42	7.30	0.00
1985	10	1	274	78.08	53.06	33.51	355.35	9.17	1.45	0.00
1985	10	2	275	82.94	55.04	32.38	355.35	5.14	0.20	0.00
1985	10	3	276	89.06	62.06	34.45	355.35	5.59	2.50	0.00
1985	10	4	277	96.98	66.92	32.97	355.35	10.96	0.85	0.00
1985	10	5	278	82.04	57.02	35.62	355.35	9.17	2.80	0.00
1985	10	6	279	86.00	57.02	33.15	355.35	9.17	1.05	0.00
1985	10	7	280	87.98	64.94	34.47	355.35	15.20	2.53	0.00
1985	10	8	281	91.94	71.06	38.16	355.35	14.31	5.23	0.00
1985	10	9	282	93.02	77.00	39.38	355.35	18.56	6.18	0.00
1985	10	10	283	93.02	78.08	39.20	355.35	13.86	5.98	0.00
1985	10	11	284	93.02	73.94	38.23	355.35	14.09	5.30	0.00
1985	10	12	285	95.00	73.94	34.90	355.35	13.86	2.50	0.00
1985	10	13	286	95.00	77.00	37.58	355.35	13.42	4.98	0.00
1985	10	14	287	95.00	78.08	36.95	355.35	13.64	4.28	1.01
1985	10	15	288	82.94	68.00	40.53	355.35	9.84	7.45	0.00
1985	10	16	289	78.08	68.00	41.76	355.35	8.27	8.63	0.00

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1985	10	17	290	87.98	71.06	40.03	355.35	11.85	6.90	0.00
1985	10	18	291	89.96	71.96	40.03	355.35	13.86	6.90	0.53
1985	10	19	292	91.04	66.92	39.49	355.35	13.86	6.30	2.90
1985	10	20	293	71.96	66.02	42.82	355.35	10.51	9.80	3.47
1985	10	21	294	73.04	66.92	43.00	355.35	6.93	10.00	0.00
1985	10	22	295	82.04	69.98	40.89	355.35	2.68	7.65	0.00
1985	10	23	296	89.06	71.96	37.67	355.35	7.60	5.08	0.00
1985	10	24	297	89.06	71.06	36.81	355.35	5.81	4.13	0.00
1985	10	25	298	86.00	69.98	37.38	355.35	6.04	4.75	0.00
1985	10	26	299	84.92	64.94	34.47	355.35	7.60	2.53	0.00
1985	10	27	300	84.02	62.96	32.20	355.35	10.29	0.00	0.00
1985	10	28	301	84.92	55.94	32.20	355.35	12.52	0.00	0.00
1985	10	29	302	86.00	60.98	32.20	355.35	11.63	0.00	0.00
1985	10	30	303	78.98	62.06	32.20	355.35	19.45	0.00	0.00
1985	10	31	304	80.96	55.04	33.51	355.35	5.81	1.45	0.41
1985	11	1	305	77.00	55.94	42.26	273.78	10.51	9.18	0.01
1985	11	2	306	66.02	51.98	39.85	273.78	13.86	6.50	0.00
1985	11	3	307	75.02	46.04	32.20	273.78	4.92	0.00	0.00
1985	11	4	308	78.98	48.02	32.20	273.78	4.92	0.00	0.00
1985	11	5	309	78.98	50.00	32.20	273.78	7.16	0.00	0.00
1985	11	6	310	87.08	55.94	34.11	273.78	6.48	2.13	0.00
1985	11	7	311	78.08	57.02	34.00	273.78	7.83	2.00	0.00
1985	11	8	312	84.92	64.94	39.15	273.78	11.85	5.93	0.00
1985	11	9	313	86.00	64.94	33.28	273.78	8.27	1.20	0.00
1985	11	10	314	84.92	69.98	37.92	273.78	9.17	4.55	0.00
1985	11	11	315	87.98	71.96	40.19	273.78	10.51	7.08	0.00
1985	11	12	316	89.06	75.02	39.40	273.78	14.98	6.20	0.00
1985	11	13	317	89.06	71.06	37.98	273.78	13.64	5.43	0.00
1985	11	14	318	86.00	71.96	39.42	273.78	12.97	6.23	0.00
1985	11	15	319	78.08	60.98	40.86	273.78	12.52	7.73	0.00
1985	11	16	320	62.96	57.02	43.00	273.78	8.05	10.00	0.00
1985	11	17	321	75.92	59.00	40.73	273.78	9.17	7.48	0.00
1985	11	18	322	87.08	71.06	38.95	273.78	14.76	5.70	1.25
1985	11	19	323	80.06	68.00	40.01	273.78	12.30	6.68	1.70
1985	11	20	324	55.94	48.92	43.00	273.78	12.30	10.00	0.00
1985	11	21	325	57.92	46.94	43.00	273.78	6.04	10.00	0.00
1985	11	22	326	64.94	57.02	42.82	273.78	5.14	9.80	0.00
1985	11	23	327	78.08	62.06	42.17	273.78	3.35	9.08	0.02
1985	11	24	328	80.96	66.92	41.16	273.78	3.58	8.05	0.00
1985	11	25	329	84.92	71.96	39.96	273.78	11.85	6.83	0.00
1985	11	26	330	82.04	73.04	40.37	273.78	10.06	7.28	0.12
1985	11	27	331	75.02	62.06	40.01	273.78	7.83	6.88	0.00
1985	11	28	332	73.94	57.02	41.79	273.78	7.38	8.65	0.04
1985	11	29	333	64.04	53.96	43.00	273.78	9.17	10.00	0.00
1985	11	30	334	82.94	62.96	38.41	273.78	8.50	5.40	0.00
1985	12	1	335	71.96	48.92	33.96	207.53	11.18	1.95	0.00
1985	12	2	336	53.06	37.04	32.20	207.53	8.94	0.00	0.00
1985	12	3	337	51.08	37.04	41.47	207.53	7.83	8.30	0.00
1985	12	4	338	71.96	44.06	38.12	207.53	5.37	5.58	0.00
1985	12	5	339	68.00	42.98	33.10	207.53	9.17	1.00	0.00
1985	12	6	340	69.08	39.92	32.79	207.53	4.70	0.65	0.00

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1985	12	7	341	75.02	48.02	36.54	207.53	6.93	3.83	0.00
1985	12	8	342	75.02	53.06	37.13	207.53	7.38	4.48	0.00
1985	12	9	343	80.06	64.94	37.42	207.53	11.40	4.60	0.00
1985	12	10	344	78.08	71.06	42.80	207.53	13.42	9.78	0.01
1985	12	11	345	73.94	42.08	43.00	207.53	16.77	10.00	0.02
1985	12	12	346	44.96	39.02	41.74	207.53	8.27	8.60	0.00
1985	12	13	347	57.92	33.08	34.00	207.53	10.06	2.00	0.00
1985	12	14	348	51.08	28.22	33.51	207.53	6.48	1.45	0.00
1985	12	15	349	62.96	30.20	32.20	207.53	4.70	0.00	0.00
1985	12	16	350	68.00	35.96	34.50	207.53	5.59	2.55	0.00
1985	12	17	351	57.92	51.98	43.00	207.53	8.27	10.00	0.00
1985	12	18	352	71.06	46.94	38.12	207.53	8.05	5.58	0.00
1985	12	19	353	62.96	37.04	33.91	207.53	6.71	1.90	0.00
1985	12	20	354	60.98	44.96	40.93	207.53	7.38	7.70	0.00
1985	12	21	355	60.08	55.04	43.00	207.53	2.68	10.00	0.00
1985	12	22	356	69.98	57.02	42.37	207.53	6.04	9.30	0.00
1985	12	23	357	73.94	51.98	35.26	207.53	6.26	3.40	0.00
1985	12	24	358	66.02	46.94	37.26	207.53	9.84	4.63	0.00
1985	12	25	359	62.06	39.92	32.20	207.53	6.93	0.00	0.00
1985	12	26	360	59.00	35.06	39.59	207.53	5.59	6.45	0.00
1985	12	27	361	64.94	48.02	40.80	207.53	7.16	7.55	0.00
1985	12	28	362	60.08	46.04	38.86	207.53	6.26	5.50	0.00
1985	12	29	363	66.02	42.08	41.22	207.53	4.47	8.13	0.00
1985	12	30	364	75.02	57.92	40.21	207.53	4.02	6.90	0.00
1985	12	31	365	80.96	50.00	34.95	207.53	6.93	3.05	0.00
1986	1	1	1	59.00	44.06	38.16	277.05	6.26	5.23	0.00
1986	1	2	2	75.02	39.02	33.91	277.05	3.58	1.90	0.00
1986	1	3	3	68.00	50.00	39.33	277.05	5.81	6.13	0.00
1986	1	4	4	77.00	57.02	37.53	277.05	11.63	4.93	0.00
1986	1	5	5	57.92	39.92	32.20	277.05	9.39	0.00	0.00
1986	1	6	6	68.00	42.08	33.33	277.05	4.92	1.25	0.23
1986	1	7	7	57.92	42.98	39.04	277.05	12.07	5.70	0.71
1986	1	8	8	37.94	35.06	43.00	277.05	16.32	10.00	0.05
1986	1	9	9	41.00	35.96	42.06	277.05	11.40	8.95	0.00
1986	1	10	10	66.02	32.00	35.22	277.05	9.17	2.60	0.00
1986	1	11	11	66.02	35.96	32.20	277.05	7.16	0.00	0.00
1986	1	12	12	73.94	37.04	32.38	277.05	3.58	0.20	0.00
1986	1	13	13	66.92	39.02	33.69	277.05	6.04	1.65	0.00
1986	1	14	14	71.96	41.00	36.25	277.05	7.38	3.50	0.00
1986	1	15	15	75.92	51.08	36.16	277.05	11.63	3.40	0.02
1986	1	16	16	68.00	60.08	41.45	277.05	8.94	8.28	0.00
1986	1	17	17	71.06	55.04	39.33	277.05	5.14	6.13	0.00
1986	1	18	18	82.94	48.92	32.20	277.05	5.81	0.00	0.00
1986	1	19	19	78.08	48.92	32.38	277.05	6.04	0.20	0.00
1986	1	20	20	80.96	51.08	34.63	277.05	7.60	2.70	0.00
1986	1	21	21	80.96	57.02	33.15	277.05	8.27	1.05	0.00
1986	1	22	22	64.94	55.04	41.43	277.05	9.17	8.25	0.00
1986	1	23	23	68.00	50.00	41.36	277.05	7.83	8.18	0.00
1986	1	24	24	75.02	57.02	39.49	277.05	7.83	6.10	0.00
1986	1	25	25	75.92	53.06	34.77	277.05	9.61	2.85	0.00
1986	1	26	26	69.08	44.96	33.19	277.05	8.05	1.10	0.00

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langley's)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
1986	1	27	27	66.02	39.02	32.20	277.05	8.05	0.00	0.00
1986	1	28	28	75.02	44.06	33.33	277.05	9.17	1.25	0.00
1986	1	29	29	87.08	50.00	32.83	277.05	8.72	0.70	0.00
1986	1	30	30	75.92	57.02	37.56	277.05	9.61	4.95	0.00
1986	1	31	31	80.06	57.02	36.54	277.05	12.30	3.83	0.00
1986	2	1	32	80.96	60.98	36.21	359.22	10.73	3.45	0.00
1986	2	2	33	78.08	64.04	41.34	359.22	11.40	8.35	0.67
1986	2	3	34	78.08	62.96	42.35	359.22	11.18	9.28	0.00
1986	2	4	35	80.06	57.02	36.27	359.22	6.48	3.53	0.00
1986	2	5	36	73.94	57.92	33.69	359.22	14.31	1.65	0.00
1986	2	6	37	77.00	44.96	32.20	359.22	7.83	0.00	0.00
1986	2	7	38	84.92	53.96	32.97	359.22	10.73	0.85	0.16
1986	2	8	39	62.96	42.08	42.73	359.22	11.85	9.70	0.03
1986	2	9	40	46.04	42.08	43.00	359.22	8.50	10.00	0.00
1986	2	10	41	57.02	42.08	40.10	359.22	10.06	6.78	0.00
1986	2	11	42	55.04	32.00	33.51	359.22	8.27	1.45	0.00
1986	2	12	43	53.96	33.08	40.21	359.22	9.84	6.90	0.00
1986	2	13	44	51.08	42.08	42.91	359.22	5.37	9.90	0.00
1986	2	14	45	78.08	50.00	38.86	359.22	6.93	5.40	0.00
1986	2	15	46	78.08	46.04	34.95	359.22	10.51	3.05	0.00
1986	2	16	47	89.96	64.94	40.32	359.22	9.39	7.23	0.00
1986	2	17	48	91.94	62.96	34.32	359.22	6.71	2.35	0.00
1986	2	18	49	98.06	57.92	34.45	359.22	6.93	2.50	0.00
1986	2	19	50	96.98	57.02	32.38	359.22	7.60	0.20	0.00
1986	2	20	51	100.04	57.92	32.20	359.22	7.83	0.00	0.00
1986	2	21	52	71.06	55.04	40.66	359.22	13.19	7.40	0.00
1986	2	22	53	73.94	46.94	37.02	359.22	11.18	4.35	0.00
1986	2	23	54	78.08	44.06	32.20	359.22	6.26	0.00	0.00
1986	2	24	55	86.00	48.92	32.20	359.22	6.04	0.00	0.00
1986	2	25	56	89.06	53.06	32.20	359.22	6.93	0.00	0.00
1986	2	26	57	93.92	55.04	32.20	359.22	8.50	0.00	0.00
1986	2	27	58	80.96	55.04	32.20	359.22	12.75	0.00	0.00
1986	2	28	59	73.94	48.92	33.60	359.22	10.73	1.55	0.00
1986	3	1	60	77.00	44.96	32.56	421.77	12.97	0.40	0.00
1986	3	2	61	84.92	55.04	35.53	421.77	11.85	2.70	0.00
1986	3	3	62	82.04	60.98	39.60	421.77	8.94	6.43	0.01
1986	3	4	63	77.00	53.06	34.95	421.77	9.84	3.05	0.00
1986	3	5	64	77.00	53.06	34.47	421.77	10.73	2.53	0.00
1986	3	6	65	80.96	53.96	32.20	421.77	8.27	0.00	0.00
1986	3	7	66	82.94	53.06	38.10	421.77	11.18	4.75	0.00
1986	3	8	67	87.98	66.02	37.96	421.77	10.06	5.40	0.00
1986	3	9	68	93.02	66.02	35.82	421.77	16.10	3.53	0.00
1986	3	10	69	89.96	68.00	34.65	421.77	11.63	2.73	0.00
1986	3	11	70	89.06	69.98	42.08	421.77	11.63	8.98	0.00
1986	3	12	71	84.02	59.00	36.45	421.77	8.05	3.73	0.00
1986	3	13	72	86.00	55.94	35.89	421.77	12.30	3.10	0.00
1986	3	14	73	84.02	50.00	32.83	421.77	9.84	0.70	0.00
1986	3	15	74	84.02	57.92	34.50	421.77	10.29	2.55	0.00
1986	3	16	75	86.00	57.92	32.20	421.77	13.19	0.00	0.00
1986	3	17	76	89.96	62.96	36.81	421.77	16.32	4.13	0.00
1986	3	18	77	86.00	62.06	33.42	421.77	12.75	1.35	0.00

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1986	3	19	78	73.04	53.96	37.17	421.77	13.19	4.53	0.00
1986	3	20	79	71.96	44.06	32.20	421.77	8.72	0.00	0.00
1986	3	21	80	78.98	42.98	32.20	421.77	8.27	0.00	0.00
1986	3	22	81	77.00	51.08	32.20	421.77	12.52	0.00	0.00
1986	3	23	82	78.98	51.08	33.42	421.77	11.63	1.35	0.00
1986	3	24	83	80.06	57.02	33.91	421.77	15.65	1.90	0.00
1986	3	25	84	82.04	57.92	35.94	421.77	15.20	3.15	0.00
1986	3	26	85	86.00	62.96	35.98	421.77	13.64	3.20	0.00
1986	3	27	86	82.04	60.98	37.78	421.77	10.06	4.80	0.00
1986	3	28	87	84.02	60.08	33.33	421.77	11.40	1.25	0.00
1986	3	29	88	82.04	59.00	38.95	421.77	12.07	5.70	0.00
1986	3	30	89	87.08	62.06	34.74	421.77	13.19	2.83	0.00
1986	3	31	90	87.98	64.04	33.78	421.77	14.31	1.75	0.00
1986	4	1	91	91.04	66.92	36.45	514.09	14.76	3.73	0.00
1986	4	2	92	91.94	68.00	37.26	514.09	16.55	4.63	0.00
1986	4	3	93	93.02	69.08	37.89	514.09	12.30	4.93	0.00
1986	4	4	94	89.06	73.04	41.04	514.09	10.96	8.03	0.00
1986	4	5	95	84.02	73.04	42.26	514.09	11.85	9.18	0.00
1986	4	6	96	86.00	73.94	41.45	514.09	11.63	8.28	0.00
1986	4	7	97	89.96	68.00	39.78	514.09	9.84	6.63	0.00
1986	4	8	98	96.98	69.08	36.77	514.09	9.84	4.08	0.00
1986	4	9	99	80.06	69.08	41.01	514.09	13.64	7.83	0.16
1986	4	10	100	77.00	60.08	42.73	514.09	13.64	9.70	0.00
1986	4	11	101	91.94	68.00	39.04	514.09	10.96	6.60	0.00
1986	4	12	102	100.94	69.08	37.04	514.09	6.04	4.38	0.00
1986	4	13	103	100.04	71.96	37.51	514.09	14.53	4.90	0.00
1986	4	14	104	80.96	69.98	40.53	514.09	10.51	7.25	0.00
1986	4	15	105	80.96	68.00	41.67	514.09	11.63	8.53	0.03
1986	4	16	106	78.98	68.00	42.62	514.09	14.09	9.58	0.00
1986	4	17	107	87.08	69.98	40.21	514.09	15.43	7.10	0.00
1986	4	18	108	91.94	71.06	39.78	514.09	14.09	6.63	0.00
1986	4	19	109	93.02	75.02	40.57	514.09	8.50	7.50	0.00
1986	4	20	110	84.92	62.96	34.50	514.09	7.16	2.55	0.00
1986	4	21	111	91.94	64.04	32.20	514.09	9.39	0.00	0.00
1986	4	22	112	87.98	64.04	37.53	514.09	12.75	4.93	0.00
1986	4	23	113	89.96	64.04	36.95	514.09	13.64	4.28	0.00
1986	4	24	114	87.98	68.00	39.47	514.09	13.19	6.28	0.00
1986	4	25	115	89.06	69.08	39.02	514.09	12.52	6.58	0.00
1986	4	26	116	91.94	75.02	42.26	514.09	16.10	9.18	0.00
1986	4	27	117	93.92	73.94	40.48	514.09	10.29	7.40	1.26
1986	4	28	118	89.96	73.04	40.77	514.09	10.29	7.63	0.29
1986	4	29	119	89.06	69.08	42.06	514.09	8.27	8.95	0.00
1986	4	30	120	91.94	68.00	39.56	514.09	5.81	6.78	0.00
1986	5	1	121	93.92	71.96	35.82	514.09	8.72	3.53	0.00
1986	5	2	122	84.92	69.08	37.33	553.07	9.84	4.70	0.02
1986	5	3	123	78.08	66.02	42.35	553.07	8.27	9.28	0.03
1986	5	4	124	89.06	69.08	40.30	553.07	8.50	7.20	0.00
1986	5	5	125	91.94	69.98	41.27	553.07	10.73	8.08	0.00
1986	5	6	126	96.98	73.94	37.44	553.07	12.07	4.83	0.00
1986	5	7	127	91.04	73.04	40.26	553.07	13.64	7.15	0.00
1986	5	8	128	98.06	75.02	37.13	553.07	11.85	4.48	0.02

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1986	5	9	129	89.96	75.02	41.36	553.07	12.52	8.18	0.00
1986	5	10	130	84.02	73.04	40.66	553.07	10.96	7.50	0.00
1986	5	11	131	98.96	66.92	35.22	553.07	7.83	2.60	0.00
1986	5	12	132	98.06	71.06	35.89	553.07	11.85	3.10	0.00
1986	5	13	133	84.92	73.04	40.11	553.07	12.52	6.83	0.00
1986	5	14	134	84.92	75.92	42.35	553.07	12.97	9.28	0.00
1986	5	15	135	93.02	75.02	40.07	553.07	11.85	7.10	0.02
1986	5	16	136	93.02	77.00	42.24	553.07	12.75	9.15	0.96
1986	5	17	137	96.08	69.08	41.70	553.07	13.64	8.55	0.00
1986	5	18	138	82.94	60.98	36.72	553.07	13.64	4.03	0.00
1986	5	19	139	87.08	62.06	32.56	553.07	3.80	0.40	0.00
1986	5	20	140	91.04	62.96	32.97	553.07	7.38	0.85	0.00
1986	5	21	141	93.92	64.04	33.33	553.07	12.30	1.25	0.00
1986	5	22	142	95.00	69.08	32.97	553.07	12.75	0.85	0.00
1986	5	23	143	95.00	73.94	40.82	553.07	11.63	7.58	0.00
1986	5	24	144	93.02	75.02	38.88	553.07	12.07	5.63	0.00
1986	5	25	145	96.98	75.92	39.22	553.07	8.94	6.00	0.00
1986	5	26	146	93.02	69.98	38.12	553.07	8.94	5.58	0.25
1986	5	27	147	86.00	68.00	37.35	553.07	8.50	4.73	0.00
1986	5	28	148	87.98	71.06	40.50	553.07	8.05	7.43	0.08
1986	5	29	149	91.04	73.94	39.65	553.07	10.06	6.48	0.53
1986	5	30	150	80.06	73.94	42.26	553.07	8.27	9.18	0.60
1986	5	31	151	87.08	73.04	41.52	553.07	7.83	8.35	0.38
1986	6	1	152	84.02	71.96	41.13	553.07	8.50	7.93	0.04
1986	6	2	153	87.08	73.94	41.24	581.92	6.26	8.20	0.00
1986	6	3	154	87.98	73.04	40.41	581.92	6.26	7.33	0.00
1986	6	4	155	91.94	75.92	39.63	581.92	10.29	6.65	0.00
1986	6	5	156	95.00	75.02	37.71	581.92	10.51	5.13	0.00
1986	6	6	157	96.08	75.92	36.86	581.92	7.60	4.18	0.75
1986	6	7	158	96.98	73.04	38.48	581.92	9.39	5.98	1.53
1986	6	8	159	95.00	71.06	38.30	581.92	6.48	5.78	0.00
1986	6	9	160	93.02	71.96	37.85	581.92	6.71	5.28	0.00
1986	6	10	161	96.08	78.98	37.51	581.92	8.72	4.90	0.00
1986	6	11	162	93.92	78.08	37.62	581.92	7.60	5.03	0.04
1986	6	12	163	91.94	73.94	40.12	581.92	4.70	7.00	0.00
1986	6	13	164	93.92	73.94	37.20	581.92	5.81	4.55	0.00
1986	6	14	165	93.02	75.02	36.41	581.92	6.71	3.68	0.00
1986	6	15	166	95.00	77.00	37.24	581.92	6.26	4.60	0.00
1986	6	16	167	96.98	77.00	34.27	581.92	8.94	2.30	0.00
1986	6	17	168	95.00	78.08	37.98	581.92	8.72	5.43	0.00
1986	6	18	169	95.00	75.92	37.74	581.92	9.84	5.15	0.00
1986	6	19	170	95.00	75.02	38.07	581.92	8.50	5.53	0.02
1986	6	20	171	95.00	73.94	36.68	581.92	10.29	3.98	0.92
1986	6	21	172	96.08	75.02	38.50	581.92	11.85	6.00	0.00
1986	6	22	173	96.08	75.92	39.74	581.92	11.40	6.78	0.00
1986	6	23	174	95.00	75.92	38.28	581.92	10.96	5.75	0.00
1986	6	24	175	91.94	75.92	38.07	581.92	11.40	5.53	0.17
1986	6	25	176	93.92	75.02	38.50	581.92	9.17	6.00	0.00
1986	6	26	177	96.98	75.02	37.06	581.92	11.40	4.40	0.00
1986	6	27	178	98.06	78.08	36.21	581.92	12.75	3.45	0.00
1986	6	28	179	98.96	77.00	32.97	581.92	13.42	0.85	0.00

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1986	6	29	180	102.02	77.00	33.10	581.92	15.65	1.00	0.00
1986	6	30	181	100.04	77.00	32.20	581.92	14.76	0.00	0.00
1986	7	1	182	100.04	78.08	33.91	581.92	15.88	1.90	0.00
1986	7	2	183	100.04	78.98	35.98	623.50	13.64	3.20	0.00
1986	7	3	184	100.94	77.00	32.38	623.50	13.19	0.20	0.00
1986	7	4	185	102.92	78.98	32.38	623.50	15.65	0.20	0.00
1986	7	5	186	102.02	77.00	32.20	623.50	16.55	0.00	0.00
1986	7	6	187	100.04	78.98	35.64	623.50	16.99	3.33	0.00
1986	7	7	188	96.98	77.00	37.51	623.50	12.07	4.90	0.00
1986	7	8	189	95.00	73.04	33.78	623.50	12.97	1.75	0.00
1986	7	9	190	100.04	73.94	33.78	623.50	11.18	1.75	0.00
1986	7	10	191	100.94	75.92	33.91	623.50	12.30	1.90	0.00
1986	7	11	192	102.02	78.08	36.12	623.50	17.22	3.35	0.00
1986	7	12	193	96.98	75.02	36.09	623.50	16.10	3.33	0.00
1986	7	13	194	87.98	77.00	41.52	623.50	15.43	8.35	0.00
1986	7	14	195	96.98	78.08	38.64	623.50	14.76	6.15	0.00
1986	7	15	196	98.06	75.02	35.71	623.50	14.31	2.90	0.00
1986	7	16	197	98.06	75.02	36.30	623.50	15.43	3.55	0.00
1986	7	17	198	100.04	75.02	36.30	623.50	14.98	3.55	0.00
1986	7	18	199	98.96	75.02	33.78	623.50	13.42	1.75	0.00
1986	7	19	200	98.96	75.02	33.15	623.50	9.84	1.05	0.00
1986	7	20	201	102.02	75.02	33.69	623.50	9.17	1.65	0.00
1986	7	21	202	102.02	77.00	33.51	623.50	9.39	1.45	0.00
1986	7	22	203	100.94	77.00	33.51	623.50	13.86	1.45	0.00
1986	7	23	204	100.04	75.92	33.87	623.50	12.52	1.85	0.00
1986	7	24	205	100.94	77.00	33.06	623.50	11.18	0.95	0.00
1986	7	25	206	102.92	78.08	33.51	623.50	10.29	1.45	0.00
1986	7	26	207	102.92	78.98	34.99	623.50	11.63	2.60	0.00
1986	7	27	208	102.02	75.92	33.60	623.50	14.09	1.55	0.00
1986	7	28	209	104.00	78.98	32.20	623.50	14.76	0.00	0.00
1986	7	29	210	104.00	77.00	34.90	623.50	12.52	2.50	0.00
1986	7	30	211	102.92	77.00	34.99	623.50	12.07	2.60	0.00
1986	7	31	212	102.02	77.00	36.21	623.50	12.07	3.45	0.00
1986	8	1	213	105.98	78.08	32.20	543.94	10.96	0.00	0.00
1986	8	2	214	105.98	78.08	32.97	543.94	11.85	0.85	0.00
1986	8	3	215	102.92	78.08	34.50	543.94	11.40	2.30	0.06
1986	8	4	216	100.04	78.08	35.62	543.94	11.63	2.80	0.00
1986	8	5	217	98.96	77.00	35.71	543.94	10.51	2.90	0.00
1986	8	6	218	100.04	78.98	37.22	543.94	14.31	4.58	0.00
1986	8	7	219	100.94	78.98	34.18	543.94	16.32	2.20	0.00
1986	8	8	220	98.96	78.08	35.62	543.94	14.98	2.80	0.00
1986	8	9	221	100.94	77.00	34.27	543.94	14.53	2.30	0.00
1986	8	10	222	109.04	80.06	33.91	543.94	15.88	1.90	0.00
1986	8	11	223	102.92	80.06	35.94	543.94	12.97	3.15	0.24
1986	8	12	224	100.04	75.92	36.93	543.94	11.40	4.25	0.00
1986	8	13	225	98.96	75.92	35.53	543.94	11.85	2.70	0.00
1986	8	14	226	100.94	77.00	34.27	543.94	14.09	2.30	0.00
1986	8	15	227	98.06	78.08	36.23	543.94	17.22	3.48	0.00
1986	8	16	228	100.94	80.06	35.98	543.94	15.88	3.20	0.00
1986	8	17	229	102.92	80.06	34.59	543.94	12.75	2.40	0.00
1986	8	18	230	102.92	75.92	35.62	543.94	10.29	2.80	0.00

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1986	8	19	231	102.92	78.08	33.87	543.94	5.59	1.85	0.00
1986	8	20	232	105.98	80.96	35.24	543.94	8.72	2.88	0.03
1986	8	21	233	89.06	75.92	39.51	543.94	10.29	6.33	0.00
1986	8	22	234	89.06	71.06	40.05	543.94	8.05	6.93	0.00
1986	8	23	235	93.02	71.06	39.04	543.94	9.17	5.80	0.00
1986	8	24	236	95.00	78.08	40.86	543.94	14.31	7.83	0.00
1986	8	25	237	95.00	78.08	38.12	543.94	14.09	5.58	0.00
1986	8	26	238	96.98	78.08	39.13	543.94	14.09	5.90	0.00
1986	8	27	239	98.96	75.92	36.48	543.94	11.85	3.75	0.00
1986	8	28	240	96.98	77.00	36.41	543.94	10.73	3.68	0.00
1986	8	29	241	93.02	73.94	37.22	543.94	11.40	4.58	0.00
1986	8	30	242	96.08	75.02	37.56	543.94	9.84	4.95	0.00
1986	8	31	243	98.96	77.00	36.48	543.94	12.97	3.75	0.00
1986	9	1	244	100.04	78.98	37.74	459.97	13.64	5.15	0.00
1986	9	2	245	100.04	78.98	36.84	459.97	14.76	4.15	0.00
1986	9	3	246	95.00	77.00	37.15	459.97	13.86	4.50	0.01
1986	9	4	247	84.92	78.08	41.70	459.97	6.04	8.55	0.00
1986	9	5	248	96.98	75.02	35.80	459.97	9.61	3.00	0.00
1986	9	6	249	93.92	78.08	39.78	459.97	12.97	6.63	0.45
1986	9	7	250	78.98	73.04	42.26	459.97	10.29	9.18	0.12
1986	9	8	251	84.02	73.04	42.53	459.97	8.94	9.48	0.00
1986	9	9	252	95.00	75.02	39.81	459.97	9.84	6.65	0.00
1986	9	10	253	98.96	77.00	35.62	459.97	12.97	2.80	0.00
1986	9	11	254	100.94	77.00	34.90	459.97	10.06	2.50	0.00
1986	9	12	255	98.96	77.00	35.98	459.97	8.94	3.20	0.00
1986	9	13	256	96.98	77.00	35.53	459.97	10.51	2.70	0.00
1986	9	14	257	96.08	75.92	35.98	459.97	12.97	3.20	0.00
1986	9	15	258	98.06	77.00	38.30	459.97	12.97	5.78	0.00
1986	9	16	259	96.98	75.92	37.02	459.97	11.85	4.35	0.00
1986	9	17	260	95.00	75.92	38.50	459.97	11.63	6.00	0.00
1986	9	18	261	96.08	75.92	36.57	459.97	14.98	3.85	0.00
1986	9	19	262	95.00	75.02	37.89	459.97	14.31	5.33	0.00
1986	9	20	263	95.00	77.00	40.01	459.97	13.19	6.88	0.00
1986	9	21	264	95.00	78.08	40.68	459.97	14.53	7.63	0.00
1986	9	22	265	96.08	75.92	37.76	459.97	12.52	5.18	0.00
1986	9	23	266	96.08	75.92	36.03	459.97	12.97	3.25	0.00
1986	9	24	267	96.98	77.00	32.56	459.97	16.32	0.40	0.00
1986	9	25	268	96.08	77.00	35.62	459.97	16.77	2.80	0.00
1986	9	26	269	95.00	78.98	35.88	459.97	14.98	3.33	0.00
1986	9	27	270	95.00	78.08	36.48	459.97	15.20	3.75	0.00
1986	9	28	271	98.06	75.92	36.25	459.97	14.09	3.50	0.00
1986	9	29	272	96.98	78.98	36.99	459.97	18.34	4.33	0.00
1986	9	30	273	96.08	78.08	38.77	459.97	19.23	5.50	0.00
1986	10	1	274	95.00	78.98	37.69	355.35	16.77	5.10	0.00
1986	10	2	275	96.98	80.06	37.87	355.35	21.69	4.90	0.00
1986	10	3	276	96.98	78.98	35.53	355.35	18.11	2.70	0.00
1986	10	4	277	96.08	78.08	36.03	355.35	16.99	3.25	0.00
1986	10	5	278	95.00	78.98	37.67	355.35	14.98	5.08	1.95
1986	10	6	279	75.92	64.94	42.53	355.35	9.61	9.48	1.11
1986	10	7	280	66.92	64.04	43.00	355.35	8.72	10.00	0.07
1986	10	8	281	75.92	66.92	42.80	355.35	5.14	9.78	0.00

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1986	10	9	282	84.92	71.96	41.76	355.35	4.02	8.63	0.00
1986	10	10	283	82.94	69.98	39.33	355.35	7.83	6.13	0.00
1986	10	11	284	87.08	75.02	40.95	355.35	9.61	7.93	0.01
1986	10	12	285	80.06	53.06	42.17	355.35	12.30	9.08	0.00
1986	10	13	286	60.08	50.00	41.88	355.35	10.06	8.75	0.00
1986	10	14	287	80.96	51.08	36.07	355.35	4.47	3.30	0.00
1986	10	15	288	82.04	55.04	33.33	355.35	5.14	1.25	0.00
1986	10	16	289	84.02	57.92	32.38	355.35	4.25	0.20	0.00
1986	10	17	290	82.94	59.00	36.30	355.35	7.16	3.55	0.00
1986	10	18	291	84.02	64.04	38.43	355.35	9.39	5.93	0.00
1986	10	19	292	82.94	64.04	40.17	355.35	10.06	7.05	0.40
1986	10	20	293	80.96	66.92	42.17	355.35	9.17	9.08	0.22
1986	10	21	294	75.02	69.98	43.00	355.35	9.39	10.00	0.03
1986	10	22	295	80.06	69.08	43.00	355.35	7.60	10.00	0.04
1986	10	23	296	86.00	69.98	41.00	355.35	5.14	7.88	0.00
1986	10	24	297	82.04	64.94	36.39	355.35	8.05	3.65	0.00
1986	10	25	298	80.96	62.06	37.85	355.35	3.80	5.28	0.00
1986	10	26	299	82.04	62.06	35.71	355.35	6.48	2.90	0.00
1986	10	27	300	84.92	59.00	32.79	355.35	5.37	0.65	0.00
1986	10	28	301	86.00	57.92	32.20	355.35	2.91	0.00	0.00
1986	10	29	302	84.92	60.98	36.16	355.35	6.71	3.40	0.00
1986	10	30	303	80.96	60.08	35.94	355.35	5.59	3.15	0.00
1986	10	31	304	82.94	60.08	33.33	355.35	10.06	1.25	0.00
1986	11	1	305	82.04	66.02	40.03	273.78	10.73	6.90	0.00
1986	11	2	306	82.94	66.02	40.73	273.78	10.06	7.68	0.00
1986	11	3	307	78.08	66.02	42.62	273.78	10.06	9.58	0.00
1986	11	4	308	80.06	64.94	40.08	273.78	10.73	6.95	0.00
1986	11	5	309	69.98	60.08	41.99	273.78	9.39	8.88	0.00
1986	11	6	310	66.92	59.00	42.62	273.78	5.81	9.58	0.02
1986	11	7	311	78.08	60.98	41.56	273.78	6.26	8.50	0.00
1986	11	8	312	91.04	66.02	35.94	273.78	6.71	3.15	0.47
1986	11	9	313	86.00	68.00	40.86	273.78	7.83	7.63	0.16
1986	11	10	314	82.94	69.98	39.20	273.78	8.05	6.78	0.00
1986	11	11	315	71.96	48.92	42.44	273.78	11.63	9.38	0.14
1986	11	12	316	59.00	50.00	43.00	273.78	6.48	10.00	0.04
1986	11	13	317	51.08	37.94	43.00	273.78	13.64	10.00	0.00
1986	11	14	318	51.08	39.02	43.00	273.78	4.02	10.00	0.00
1986	11	15	319	60.08	50.00	43.00	273.78	3.35	10.00	0.00
1986	11	16	320	69.98	57.92	42.17	273.78	2.68	9.08	0.00
1986	11	17	321	78.98	60.98	40.10	273.78	5.14	6.98	0.00
1986	11	18	322	89.96	62.96	37.78	273.78	3.35	5.20	0.00
1986	11	19	323	82.04	64.94	38.84	273.78	6.26	6.38	0.00
1986	11	20	324	82.04	64.04	38.59	273.78	9.17	6.10	0.00
1986	11	21	325	71.96	55.94	39.13	273.78	6.26	6.70	0.00
1986	11	22	326	75.92	64.04	40.71	273.78	4.25	7.45	0.04
1986	11	23	327	68.00	57.02	41.18	273.78	8.72	7.98	0.18
1986	11	24	328	56.12	44.06	42.80	273.78	16.99	9.78	0.00
1986	11	25	329	69.98	39.92	32.20	273.78	7.38	0.00	0.00
1986	11	26	330	69.08	44.06	37.60	273.78	6.26	5.00	0.00
1986	11	27	331	62.06	46.04	39.20	273.78	9.84	6.78	0.00
1986	11	28	332	78.98	46.04	37.71	273.78	5.59	5.13	0.00

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1986	11	29	333	78.08	39.92	32.20	273.78	3.80	0.00	0.00
1986	11	30	334	80.06	42.98	32.20	273.78	5.37	0.00	0.00
1986	12	1	335	69.08	46.04	34.59	207.53	9.61	2.40	0.00
1986	12	2	336	75.02	42.08	33.60	207.53	5.37	1.55	0.00
1986	12	3	337	73.04	46.94	36.12	207.53	10.29	3.35	0.01
1986	12	4	338	62.06	55.94	42.51	207.53	7.38	9.45	0.04
1986	12	5	339	68.00	55.94	43.00	207.53	6.48	10.00	0.00
1986	12	6	340	69.98	60.08	43.00	207.53	10.06	10.00	0.00
1986	12	7	341	77.00	66.02	42.80	207.53	8.50	9.78	0.00
1986	12	8	342	78.08	64.04	41.52	207.53	5.59	8.55	0.00
1986	12	9	343	66.92	53.96	42.82	207.53	10.51	9.80	0.02
1986	12	10	344	53.96	39.92	43.00	207.53	11.40	10.00	0.00
1986	12	11	345	44.06	37.04	41.97	207.53	8.27	8.85	0.00
1986	12	12	346	60.08	32.00	37.06	207.53	6.71	4.40	0.00
1986	12	13	347	60.08	42.98	41.61	207.53	2.01	8.55	0.45
1986	12	14	348	55.94	53.06	43.00	207.53	3.58	10.00	0.15
1986	12	15	349	66.92	53.96	40.32	207.53	6.71	7.13	0.00
1986	12	16	350	64.04	55.94	43.00	207.53	5.14	10.00	0.00
1986	12	17	351	60.08	57.02	42.80	207.53	5.37	9.78	0.07
1986	12	18	352	64.94	53.06	42.82	207.53	11.63	9.80	0.00
1986	12	19	353	60.08	44.96	39.56	207.53	3.13	6.38	0.01
1986	12	20	354	55.94	52.52	42.82	207.53	4.25	9.80	0.84
1986	12	21	355	55.04	48.92	43.00	207.53	8.05	10.00	0.27
1986	12	22	356	53.06	46.04	42.35	207.53	12.97	9.28	0.00
1986	12	23	357	57.92	44.96	38.25	207.53	12.75	5.53	0.00
1986	12	24	358	68.00	39.02	34.99	207.53	4.02	2.60	0.00
1986	12	25	359	71.96	44.06	35.91	207.53	2.91	3.13	0.00
1986	12	26	360	62.96	50.00	39.96	207.53	5.14	6.83	0.00
1986	12	27	361	64.94	46.94	40.57	207.53	3.58	7.50	0.07
1986	12	28	362	55.94	50.00	43.00	207.53	6.93	10.00	0.81
1986	12	29	363	50.00	48.02	43.00	207.53	10.51	10.00	0.05
1986	12	30	364	60.98	48.92	41.67	207.53	4.47	8.53	0.00
1986	12	31	365	69.98	42.98	34.09	207.53	3.13	2.10	0.00
1987	1	1	1	64.94	41.00	33.15	277.05	7.83	1.05	0.00
1987	1	2	2	68.00	41.00	34.23	277.05	8.72	2.25	0.00
1987	1	3	3	64.94	51.08	32.20	277.05	14.76	0.00	0.00
1987	1	4	4	66.02	37.94	32.20	277.05	5.14	0.00	0.00
1987	1	5	5	69.98	39.92	33.91	277.05	9.39	1.90	0.00
1987	1	6	6	71.06	48.92	39.02	277.05	7.83	5.78	0.00
1987	1	7	7	71.96	53.96	39.76	277.05	3.58	6.60	0.00
1987	1	8	8	73.94	62.96	41.49	277.05	8.27	8.33	0.00
1987	1	9	9	71.96	53.06	37.76	277.05	11.85	5.18	0.00
1987	1	10	10	57.92	48.92	42.53	277.05	5.37	9.48	0.00
1987	1	11	11	60.08	42.08	41.11	277.05	5.14	8.10	0.00
1987	1	12	12	55.04	48.02	42.80	277.05	7.60	9.78	0.05
1987	1	13	13	55.94	50.00	42.08	277.05	8.05	8.98	0.01
1987	1	14	14	69.08	50.00	40.12	277.05	6.26	7.30	0.23
1987	1	15	15	59.00	48.92	41.63	277.05	7.38	8.48	0.15
1987	1	16	16	55.94	51.08	43.00	277.05	6.93	10.00	0.03
1987	1	17	17	55.04	42.08	43.00	277.05	8.05	10.00	0.00
1987	1	18	18	51.98	33.98	37.24	277.05	13.86	4.60	0.00

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1987	1	19	19	59.00	33.98	37.98	277.05	6.04	5.43	0.00
1987	1	20	20	48.92	41.54	42.35	277.05	11.63	9.28	0.05
1987	1	21	21	51.98	39.02	38.64	277.05	8.50	5.25	0.00
1987	1	22	22	60.98	37.04	32.20	277.05	8.50	0.00	0.00
1987	1	23	23	64.94	35.06	33.87	277.05	10.73	1.85	0.00
1987	1	24	24	73.94	46.04	35.28	277.05	5.14	2.93	0.00
1987	1	25	25	78.08	42.08	32.20	277.05	3.35	0.00	0.00
1987	1	26	26	78.98	42.08	32.38	277.05	4.02	0.20	0.00
1987	1	27	27	82.04	46.04	33.10	277.05	7.38	1.00	0.00
1987	1	28	28	82.94	51.08	32.20	277.05	8.50	0.00	0.00
1987	1	29	29	82.94	51.98	35.89	277.05	5.37	3.10	0.00
1987	1	30	30	71.96	53.96	38.07	277.05	7.83	5.53	0.00
1987	1	31	31	77.00	57.02	39.06	277.05	13.64	5.83	0.00
1987	2	1	32	71.96	57.92	39.94	359.22	5.59	6.80	0.00
1987	2	2	33	78.98	46.94	36.79	359.22	4.47	4.10	0.00
1987	2	3	34	82.94	59.00	38.34	359.22	8.50	5.83	0.00
1987	2	4	35	75.92	64.94	41.13	359.22	6.71	8.13	1.17
1987	2	5	36	68.00	57.92	42.62	359.22	9.84	9.58	0.02
1987	2	6	37	60.98	47.12	37.65	359.22	16.55	5.05	0.00
1987	2	7	38	66.92	42.08	34.14	359.22	8.72	2.15	0.00
1987	2	8	39	75.92	44.06	33.15	359.22	3.58	1.05	0.00
1987	2	9	40	71.96	48.92	33.60	359.22	7.83	1.55	0.00
1987	2	10	41	75.02	53.06	38.07	359.22	8.72	5.53	0.00
1987	2	11	42	78.08	57.02	36.41	359.22	8.94	3.68	0.00
1987	2	12	43	77.00	60.08	39.36	359.22	8.27	6.15	0.00
1987	2	13	44	75.92	59.00	39.54	359.22	9.17	6.35	0.00
1987	2	14	45	82.94	59.00	35.40	359.22	8.50	3.55	0.00
1987	2	15	46	80.06	57.92	32.38	359.22	11.85	0.20	0.00
1987	2	16	47	69.98	48.02	37.51	359.22	5.37	4.90	0.00
1987	2	17	48	68.00	46.04	36.75	359.22	6.93	4.05	0.00
1987	2	18	49	57.92	44.06	40.68	359.22	9.17	7.43	0.04
1987	2	19	50	53.96	46.94	42.82	359.22	8.72	9.80	0.01
1987	2	20	51	55.04	46.04	43.00	359.22	11.63	10.00	0.00
1987	2	21	52	53.06	44.96	42.64	359.22	7.60	9.60	0.00
1987	2	22	53	62.96	39.02	37.89	359.22	7.83	5.33	0.07
1987	2	23	54	60.98	50.00	42.26	359.22	12.52	9.18	0.00
1987	2	24	55	73.04	48.02	39.31	359.22	5.81	6.10	1.19
1987	2	25	56	59.00	55.04	42.82	359.22	6.71	9.80	0.12
1987	2	26	57	68.00	57.02	42.82	359.22	8.50	9.80	0.00
1987	2	27	58	82.04	57.92	39.58	359.22	8.50	6.40	0.00
1987	2	28	59	73.94	48.02	34.29	359.22	11.85	2.33	0.00
1987	3	1	60	73.04	48.02	37.42	421.77	4.47	4.80	0.00
1987	3	2	61	71.96	46.04	36.59	421.77	6.93	3.88	0.00
1987	3	3	62	71.96	51.08	39.29	421.77	6.48	6.28	0.00
1987	3	4	63	73.94	46.04	32.20	421.77	6.04	0.00	0.00
1987	3	5	64	75.02	42.98	32.20	421.77	4.02	0.00	0.00
1987	3	6	65	77.00	48.02	32.20	421.77	7.38	0.00	0.00
1987	3	7	66	73.04	46.04	34.56	421.77	7.16	2.63	0.00
1987	3	8	67	77.00	46.94	33.69	421.77	6.48	1.65	0.00
1987	3	9	68	77.00	55.04	37.78	421.77	9.61	4.80	0.01
1987	3	10	69	71.06	55.94	42.06	421.77	10.96	8.95	0.20

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1987	3	11	70	57.02	48.02	42.91	421.77	9.17	9.90	0.00
1987	3	12	71	62.96	48.92	40.05	421.77	3.80	6.93	0.00
1987	3	13	72	69.98	50.00	40.14	421.77	6.93	7.03	0.00
1987	3	14	73	73.94	50.00	39.24	421.77	10.73	6.03	0.00
1987	3	15	74	78.08	62.06	41.13	421.77	12.97	7.93	0.00
1987	3	16	75	86.00	62.06	39.81	421.77	14.31	6.45	0.00
1987	3	17	76	82.04	53.96	34.50	421.77	9.61	2.55	0.00
1987	3	18	77	84.92	53.06	35.96	421.77	4.92	3.18	0.00
1987	3	19	78	80.06	59.00	40.93	421.77	10.51	7.90	0.00
1987	3	20	79	84.92	62.96	38.39	421.77	9.61	5.08	0.00
1987	3	21	80	78.98	64.94	42.28	421.77	9.61	9.20	0.00
1987	3	22	81	78.98	68.00	42.21	421.77	9.61	9.13	0.03
1987	3	23	82	84.02	57.92	39.81	421.77	14.31	6.65	0.00
1987	3	24	83	78.08	51.08	36.86	421.77	9.17	4.18	0.00
1987	3	25	84	69.98	59.00	42.26	421.77	12.75	9.18	0.04
1987	3	26	85	69.98	53.96	40.89	421.77	11.18	7.65	0.00
1987	3	27	86	80.96	53.96	35.46	421.77	5.81	3.63	0.00
1987	3	28	87	78.98	55.04	36.99	421.77	9.17	4.33	0.00
1987	3	29	88	68.00	41.00	42.91	421.77	17.22	9.90	0.00
1987	3	30	89	60.08	35.06	32.47	421.77	15.20	0.30	0.00
1987	3	31	90	75.02	35.96	32.20	421.77	4.25	0.00	0.00
1987	4	1	91	82.04	44.96	32.20	514.09	11.63	0.00	0.00
1987	4	2	92	71.06	53.96	35.94	514.09	12.75	3.65	0.00
1987	4	3	93	66.92	39.92	36.12	514.09	7.83	3.35	0.00
1987	4	4	94	64.04	44.06	39.31	514.09	12.52	5.90	0.85
1987	4	5	95	66.02	53.96	43.00	514.09	10.73	10.00	0.23
1987	4	6	96	51.98	46.94	43.00	514.09	9.84	10.00	0.05
1987	4	7	97	69.98	50.00	41.34	514.09	5.81	8.15	0.00
1987	4	8	98	77.00	48.92	37.53	514.09	4.25	4.93	0.00
1987	4	9	99	82.04	53.96	38.25	514.09	6.93	5.73	0.00
1987	4	10	100	91.04	57.92	34.77	514.09	8.72	2.60	0.00
1987	4	11	101	95.00	62.96	32.38	514.09	12.52	0.20	0.00
1987	4	12	102	89.96	66.92	35.06	514.09	11.63	3.18	0.00
1987	4	13	103	86.00	66.92	34.97	514.09	11.85	3.08	0.00
1987	4	14	104	80.96	53.06	34.09	514.09	8.27	2.10	0.00
1987	4	15	105	91.04	53.06	36.39	514.09	6.71	3.65	0.00
1987	4	16	106	98.96	64.04	36.25	514.09	6.04	3.50	0.00
1987	4	17	107	102.02	64.94	36.23	514.09	10.96	3.48	0.00
1987	4	18	108	96.98	64.04	34.32	514.09	11.40	2.35	0.00
1987	4	19	109	95.00	69.98	38.03	514.09	12.07	5.48	0.00
1987	4	20	110	91.04	71.96	39.78	514.09	12.97	6.63	0.45
1987	4	21	111	78.98	60.98	43.00	514.09	8.50	10.00	0.02
1987	4	22	112	73.04	57.92	41.64	514.09	8.72	8.53	0.00
1987	4	23	113	77.00	57.92	40.50	514.09	4.92	7.43	0.00
1987	4	24	114	84.92	62.06	41.07	514.09	5.81	8.05	0.18
1987	4	25	115	84.92	62.96	39.67	514.09	6.48	6.50	0.00
1987	4	26	116	87.08	62.96	37.22	514.09	5.37	4.58	0.00
1987	4	27	117	87.98	64.94	37.35	514.09	9.17	4.73	0.00
1987	4	28	118	89.96	60.98	36.77	514.09	8.72	4.08	0.00
1987	4	29	119	87.98	64.04	38.41	514.09	10.51	5.10	0.00
1987	4	30	120	87.98	64.94	36.66	514.09	12.52	3.95	0.00

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1987	5	1	121	87.08	71.06	39.76	514.09	10.06	6.60	0.00
1987	5	2	122	93.92	69.98	38.61	553.07	9.84	5.73	0.00
1987	5	3	123	89.96	71.06	39.74	553.07	6.93	6.78	0.01
1987	5	4	124	78.08	68.00	41.54	553.07	10.29	8.38	2.07
1987	5	5	125	84.02	64.04	40.66	553.07	8.05	7.60	0.00
1987	5	6	126	82.04	64.94	39.94	553.07	9.39	6.80	0.05
1987	5	7	127	80.96	66.02	40.77	553.07	9.17	7.73	0.00
1987	5	8	128	87.08	62.06	34.09	553.07	13.19	2.10	0.00
1987	5	9	129	89.06	64.94	35.62	553.07	11.40	2.80	0.00
1987	5	10	130	89.96	69.98	38.07	553.07	15.65	5.53	0.95
1987	5	11	131	80.96	62.06	40.57	553.07	15.20	7.50	0.00
1987	5	12	132	87.98	71.96	41.94	553.07	11.18	8.83	0.00
1987	5	13	133	91.94	69.98	38.43	553.07	16.99	5.93	0.00
1987	5	14	134	93.02	73.94	40.30	553.07	14.31	7.20	0.00
1987	5	15	135	91.04	75.02	41.85	553.07	12.97	8.73	0.08
1987	5	16	136	93.92	73.94	39.94	553.07	14.31	6.80	0.10
1987	5	17	137	96.08	71.06	37.98	553.07	13.19	5.43	0.18
1987	5	18	138	87.98	69.98	40.17	553.07	16.32	7.05	0.01
1987	5	19	139	96.08	71.96	38.68	553.07	14.98	6.20	0.00
1987	5	20	140	93.92	69.98	36.34	553.07	14.53	3.60	0.00
1987	5	21	141	91.04	75.92	39.90	553.07	17.89	6.75	0.00
1987	5	22	142	93.02	77.00	39.76	553.07	19.45	6.60	0.00
1987	5	23	143	93.02	73.94	39.40	553.07	19.45	6.20	0.49
1987	5	24	144	89.06	69.98	39.94	553.07	15.20	7.20	0.00
1987	5	25	145	93.02	73.04	38.10	553.07	17.89	4.75	0.00
1987	5	26	146	93.92	75.92	37.49	553.07	21.24	4.88	0.00
1987	5	27	147	86.00	77.00	41.63	553.07	21.02	8.48	0.00
1987	5	28	148	87.98	73.94	42.44	553.07	21.47	9.38	0.00
1987	5	29	149	82.04	69.98	42.80	553.07	20.57	9.78	0.09
1987	5	30	150	89.96	69.98	42.26	553.07	15.20	9.18	0.18
1987	5	31	151	93.02	68.00	40.93	553.07	18.11	7.90	0.03
1987	6	1	152	89.96	68.00	39.63	553.07	18.78	6.45	0.00
1987	6	2	153	93.02	73.94	37.35	581.92	16.10	4.73	0.87
1987	6	3	154	82.04	66.02	40.59	581.92	17.66	7.43	0.03
1987	6	4	155	82.04	69.08	40.03	581.92	14.53	6.90	0.04
1987	6	5	156	84.92	71.06	41.13	581.92	10.29	8.13	0.39
1987	6	6	157	86.00	69.08	40.84	581.92	8.94	7.80	0.03
1987	6	7	158	80.96	69.98	42.62	581.92	9.84	9.58	0.65
1987	6	8	159	75.92	71.96	42.53	581.92	10.96	9.48	0.04
1987	6	9	160	87.08	71.06	41.22	581.92	12.30	8.23	0.00
1987	6	10	161	89.96	73.94	40.48	581.92	11.85	7.40	0.00
1987	6	11	162	93.02	75.02	38.93	581.92	10.29	6.48	0.00
1987	6	12	163	93.02	78.08	40.37	581.92	11.40	7.28	0.00
1987	6	13	164	96.98	77.00	39.13	581.92	12.52	5.90	0.02
1987	6	14	165	91.94	75.02	38.55	581.92	10.29	6.05	0.00
1987	6	15	166	96.08	75.92	35.89	581.92	10.73	3.10	0.05
1987	6	16	167	95.00	75.02	34.77	581.92	9.39	2.60	0.00
1987	6	17	168	96.08	77.00	35.24	581.92	13.64	2.88	0.00
1987	6	18	169	96.98	78.08	36.57	581.92	14.53	3.85	0.00
1987	6	19	170	98.96	77.00	33.51	581.92	18.34	1.45	0.00
1987	6	20	171	98.06	77.00	33.15	581.92	23.48	1.05	0.00

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1987	6	21	172	96.08	77.00	37.40	581.92	18.56	4.78	0.00
1987	6	22	173	98.06	75.02	36.97	581.92	17.89	4.30	0.00
1987	6	23	174	98.06	77.00	34.99	581.92	16.10	2.60	0.00
1987	6	24	175	98.06	78.08	34.63	581.92	12.97	2.70	0.00
1987	6	25	176	100.04	78.98	34.59	581.92	12.97	2.40	0.00
1987	6	26	177	98.06	75.92	34.59	581.92	14.09	2.65	0.00
1987	6	27	178	98.06	77.00	38.25	581.92	12.07	5.73	0.00
1987	6	28	179	96.08	73.94	37.35	581.92	14.98	4.73	0.00
1987	6	29	180	96.98	78.08	38.03	581.92	19.45	5.48	0.00
1987	6	30	181	98.06	78.08	35.89	581.92	15.88	3.10	0.00
1987	7	1	182	100.04	78.08	34.09	581.92	14.76	2.10	0.00
1987	7	2	183	102.02	78.98	33.91	623.50	18.34	1.90	0.00
1987	7	3	184	102.92	78.98	32.56	623.50	20.79	0.40	0.00
1987	7	4	185	102.02	78.98	32.20	623.50	21.91	0.00	0.00
1987	7	5	186	100.94	78.08	32.56	623.50	23.25	0.40	0.00
1987	7	6	187	98.96	78.98	35.80	623.50	22.58	3.00	0.00
1987	7	7	188	96.98	77.00	36.86	623.50	21.24	4.18	0.00
1987	7	8	189	95.00	78.08	37.98	623.50	18.56	5.43	0.00
1987	7	9	190	91.04	75.92	41.29	623.50	22.14	8.30	0.00
1987	7	10	191	96.08	77.00	37.04	623.50	21.47	4.38	0.00
1987	7	11	192	100.04	78.98	36.14	623.50	21.69	3.38	0.00
1987	7	12	193	100.94	80.06	37.62	623.50	22.14	5.03	0.00
1987	7	13	194	100.04	77.00	37.51	623.50	18.11	4.90	0.08
1987	7	14	195	96.98	78.98	38.16	623.50	16.10	5.63	0.31
1987	7	15	196	95.00	73.94	41.61	623.50	13.42	8.45	0.00
1987	7	16	197	100.04	78.98	41.07	623.50	20.79	8.05	0.00
1987	7	17	198	100.04	80.96	41.22	623.50	21.02	8.03	0.00
1987	7	18	199	100.04	80.06	37.35	623.50	21.02	4.73	0.00
1987	7	19	200	98.96	75.92	36.12	623.50	17.66	3.35	0.00
1987	7	20	201	96.98	75.02	36.39	623.50	12.97	3.65	0.05
1987	7	21	202	89.96	77.00	36.99	623.50	12.97	4.33	0.00
1987	7	22	203	98.96	77.00	38.19	623.50	17.44	5.65	0.00
1987	7	23	204	98.06	77.00	36.77	623.50	17.44	4.08	0.07
1987	7	24	205	91.94	75.92	36.41	623.50	15.88	3.68	0.17
1987	7	25	206	89.06	73.04	39.74	623.50	10.51	6.48	0.12
1987	7	26	207	82.94	73.94	42.82	623.50	8.50	9.80	0.69
1987	7	27	208	84.02	73.94	41.07	623.50	11.85	8.05	0.03
1987	7	28	209	87.98	71.06	38.50	623.50	11.63	5.20	0.00
1987	7	29	210	95.00	73.04	35.98	623.50	12.30	3.20	0.00
1987	7	30	211	96.08	73.94	35.62	623.50	14.98	2.80	0.00
1987	7	31	212	98.06	75.92	35.53	623.50	17.44	2.70	0.00
1987	8	1	213	98.96	75.02	34.90	543.94	16.77	2.50	0.00
1987	8	2	214	100.04	77.00	32.20	543.94	18.34	0.00	0.00
1987	8	3	215	100.04	75.92	32.79	543.94	19.01	0.65	0.00
1987	8	4	216	98.96	75.92	36.72	543.94	15.20	4.03	0.00
1987	8	5	217	100.04	78.08	36.75	543.94	13.64	4.05	0.00
1987	8	6	218	102.02	78.08	33.15	543.94	17.22	1.05	0.00
1987	8	7	219	100.04	75.92	33.69	543.94	19.90	1.65	0.00
1987	8	8	220	100.04	77.00	37.06	543.94	17.44	4.40	0.00
1987	8	9	221	100.94	77.00	35.98	543.94	14.53	3.20	0.00
1987	8	10	222	100.94	78.08	33.96	543.94	13.19	1.95	0.00

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1987	8	11	223	104.00	78.98	33.91	543.94	15.43	1.90	0.00
1987	8	12	224	102.02	78.98	37.47	543.94	17.66	4.85	0.00
1987	8	13	225	102.92	78.98	32.38	543.94	18.78	0.20	0.00
1987	8	14	226	102.92	78.08	33.91	543.94	19.68	1.90	0.00
1987	8	15	227	102.92	80.96	33.80	543.94	19.68	1.78	0.00
1987	8	16	228	105.08	80.06	32.20	543.94	18.78	0.00	0.00
1987	8	17	229	102.92	80.06	32.65	543.94	19.90	0.50	0.00
1987	8	18	230	102.02	80.06	34.90	543.94	20.35	2.50	0.00
1987	8	19	231	102.02	78.98	35.59	543.94	18.56	2.93	0.02
1987	8	20	232	98.96	75.92	34.18	543.94	17.89	2.20	0.12
1987	8	21	233	93.02	77.00	36.95	543.94	14.53	4.28	0.00
1987	8	22	234	100.04	78.08	35.80	543.94	18.56	3.00	0.00
1987	8	23	235	100.04	77.00	35.53	543.94	15.65	2.70	0.00
1987	8	24	236	98.96	75.92	34.90	543.94	16.10	2.50	0.00
1987	8	25	237	100.04	78.08	35.89	543.94	17.89	3.10	0.00
1987	8	26	238	102.02	78.98	34.18	543.94	21.24	2.20	0.00
1987	8	27	239	98.96	78.98	36.12	543.94	21.24	3.35	0.22
1987	8	28	240	87.98	75.02	39.18	543.94	16.32	5.95	0.74
1987	8	29	241	89.06	73.94	41.75	543.94	12.75	8.65	1.38
1987	8	30	242	89.06	73.04	41.46	543.94	9.17	8.45	0.80
1987	8	31	243	87.08	73.04	40.93	543.94	11.40	7.90	0.04
1987	9	1	244	87.98	71.96	40.71	459.97	13.64	7.65	0.00
1987	9	2	245	93.92	71.06	34.77	459.97	10.06	2.60	0.00
1987	9	3	246	93.02	71.96	33.87	459.97	9.39	1.85	0.00
1987	9	4	247	93.02	71.96	33.78	459.97	11.63	1.75	0.00
1987	9	5	248	93.02	73.94	36.07	459.97	14.09	3.30	0.00
1987	9	6	249	95.00	75.02	33.91	459.97	14.09	1.90	0.00
1987	9	7	250	96.98	75.92	34.23	459.97	14.31	2.25	0.00
1987	9	8	251	96.08	75.02	35.62	459.97	11.40	2.80	0.00
1987	9	9	252	98.96	77.00	33.91	459.97	10.51	1.90	0.00
1987	9	10	253	98.96	77.00	35.53	459.97	13.64	2.70	0.00
1987	9	11	254	98.06	75.92	39.49	459.97	12.30	6.30	0.00
1987	9	12	255	100.04	78.08	34.29	459.97	14.09	2.33	0.00
1987	9	13	256	102.02	78.98	33.96	459.97	15.88	1.95	0.00
1987	9	14	257	100.04	77.00	33.69	459.97	17.44	1.65	0.00
1987	9	15	258	98.06	78.98	36.99	459.97	16.99	4.33	0.00
1987	9	16	259	98.96	80.06	39.00	459.97	14.31	5.95	0.00
1987	9	17	260	98.06	80.96	40.77	459.97	13.86	7.73	0.21
1987	9	18	261	96.08	80.06	40.48	459.97	14.76	7.40	0.00
1987	9	19	262	89.06	73.94	39.58	459.97	13.64	6.40	0.51
1987	9	20	263	87.08	69.08	40.86	459.97	11.18	7.63	0.00
1987	9	21	264	89.06	73.94	41.13	459.97	10.96	8.13	0.00
1987	9	22	265	89.96	73.04	41.46	459.97	14.31	8.45	0.00
1987	9	23	266	87.08	69.08	38.88	459.97	11.40	5.63	0.00
1987	9	24	267	89.06	64.04	32.20	459.97	7.83	0.00	0.00
1987	9	25	268	91.04	66.02	32.88	459.97	11.85	0.75	0.00
1987	9	26	269	89.06	71.06	39.00	459.97	13.42	5.75	0.08
1987	9	27	270	93.92	77.00	41.70	459.97	12.30	8.65	0.00
1987	9	28	271	89.96	71.96	38.52	459.97	8.05	5.43	0.00
1987	9	29	272	82.94	74.30	41.79	459.97	15.20	8.65	0.00
1987	9	30	273	87.98	62.96	36.70	459.97	13.64	4.00	0.00

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1987	10	1	274	87.98	60.08	35.71	355.35	9.17	2.90	0.00
1987	10	2	275	84.02	64.04	39.22	355.35	8.05	6.00	0.00
1987	10	3	276	87.08	62.06	35.19	355.35	12.75	2.83	0.00
1987	10	4	277	84.92	59.00	36.70	355.35	9.39	4.00	0.00
1987	10	5	278	89.96	62.96	33.60	355.35	10.96	1.55	0.00
1987	10	6	279	91.04	64.94	32.38	355.35	12.52	0.20	0.00
1987	10	7	280	89.06	57.92	32.20	355.35	11.40	0.00	0.00
1987	10	8	281	91.04	62.06	32.20	355.35	14.53	0.00	0.00
1987	10	9	282	91.04	64.04	32.20	355.35	17.44	0.00	0.00
1987	10	10	283	89.06	66.92	34.90	355.35	12.97	2.50	0.00
1987	10	11	284	87.08	64.94	33.33	355.35	11.63	1.25	0.00
1987	10	12	285	84.92	60.08	32.20	355.35	9.61	0.00	0.00
1987	10	13	286	87.98	62.96	35.53	355.35	14.09	2.70	0.00
1987	10	14	287	87.08	64.94	37.31	355.35	16.55	4.68	0.00
1987	10	15	288	87.98	66.92	38.34	355.35	16.99	5.43	0.00
1987	10	16	289	89.96	66.02	34.36	355.35	12.52	2.40	0.00
1987	10	17	290	91.04	68.00	36.41	355.35	14.09	3.68	0.00
1987	10	18	291	89.06	69.08	35.22	355.35	14.53	2.60	0.00
1987	10	19	292	87.08	69.08	38.39	355.35	16.55	5.08	0.10
1987	10	20	293	87.98	71.06	39.11	355.35	12.52	6.08	0.00
1987	10	21	294	75.02	60.08	40.75	355.35	12.97	7.70	0.40
1987	10	22	295	71.96	62.96	42.73	355.35	10.29	9.70	0.00
1987	10	23	296	84.02	69.98	41.94	355.35	10.06	8.83	0.00
1987	10	24	297	84.92	71.06	41.04	355.35	9.39	8.03	0.00
1987	10	25	298	91.04	71.96	39.02	355.35	10.73	6.38	0.00
1987	10	26	299	98.06	69.98	36.95	355.35	12.97	4.28	0.00
1987	10	27	300	84.02	64.04	37.58	355.35	12.52	4.98	0.00
1987	10	28	301	84.92	59.00	34.90	355.35	12.75	2.50	0.00
1987	10	29	302	86.00	62.96	35.80	355.35	16.99	3.00	0.00
1987	10	30	303	89.06	68.00	36.93	355.35	18.34	4.25	0.00
1987	10	31	304	87.08	66.02	34.99	355.35	18.11	2.60	0.00
1987	11	1	305	84.02	64.94	37.33	273.78	14.76	4.70	0.00
1987	11	2	306	84.92	64.94	37.94	273.78	12.07	5.38	0.00
1987	11	3	307	84.92	60.98	35.53	273.78	10.51	3.20	0.00
1987	11	4	308	89.06	50.00	32.74	273.78	7.60	0.60	0.00
1987	11	5	309	87.98	62.96	36.95	273.78	9.17	4.28	0.00
1987	11	6	310	84.02	64.94	39.38	273.78	14.76	6.58	0.00
1987	11	7	311	86.00	69.08	37.49	273.78	19.23	4.88	0.04
1987	11	8	312	80.06	62.06	42.06	273.78	14.53	8.95	0.00
1987	11	9	313	69.08	53.06	35.55	273.78	17.66	3.23	0.00
1987	11	10	314	68.00	48.02	33.06	273.78	14.53	0.95	0.00
1987	11	11	315	66.02	39.02	32.20	273.78	9.17	0.00	0.06
1987	11	12	316	68.00	44.96	37.71	273.78	10.51	4.93	0.00
1987	11	13	317	75.02	53.06	37.44	273.78	8.05	4.83	0.00
1987	11	14	318	82.04	57.02	38.61	273.78	14.31	5.73	0.00
1987	11	15	319	89.06	69.08	36.80	273.78	13.42	4.28	0.00
1987	11	16	320	75.92	55.94	34.16	273.78	16.10	2.18	0.00
1987	11	17	321	78.98	44.96	33.78	273.78	9.61	1.75	0.10
1987	11	18	322	78.08	59.00	40.59	273.78	10.29	7.53	0.00
1987	11	19	323	68.00	48.92	36.93	273.78	14.31	4.25	0.00
1987	11	20	324	69.08	39.92	35.71	273.78	9.84	2.90	0.00

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1987	11	21	325	73.04	44.06	36.30	273.78	12.30	3.55	0.00
1987	11	22	326	80.06	57.02	32.65	273.78	10.06	0.50	0.00
1987	11	23	327	82.94	66.92	39.40	273.78	14.09	6.20	0.00
1987	11	24	328	78.98	68.00	41.94	273.78	13.42	8.83	0.00
1987	11	25	329	80.06	60.08	37.51	273.78	10.51	4.90	0.03
1987	11	26	330	60.08	57.02	42.64	273.78	10.51	9.60	0.10
1987	11	27	331	64.04	46.94	38.84	273.78	14.31	5.58	0.00
1987	11	28	332	68.00	37.94	33.96	273.78	5.14	1.95	0.00
1987	11	29	333	57.92	51.08	42.62	273.78	11.85	9.58	0.00
1987	11	30	334	64.94	51.98	40.21	273.78	9.39	6.90	0.00
1987	12	1	335	69.98	39.92	35.63	207.53	6.93	3.55	0.00
1987	12	2	336	75.02	46.94	33.42	207.53	11.40	1.35	0.00
1987	12	3	337	87.08	55.04	34.27	207.53	9.39	2.30	0.00
1987	12	4	338	84.02	46.94	32.74	207.53	8.72	0.60	0.00
1987	12	5	339	80.96	55.94	41.58	207.53	15.20	8.43	0.00
1987	12	6	340	86.00	62.96	36.54	207.53	13.19	3.83	0.00
1987	12	7	341	82.04	51.08	32.20	207.53	8.50	0.00	0.00
1987	12	8	342	86.00	55.94	34.27	207.53	10.06	2.30	0.00
1987	12	9	343	73.04	59.00	39.69	207.53	10.51	6.53	0.00
1987	12	10	344	77.00	55.04	35.15	207.53	7.60	3.28	0.00
1987	12	11	345	89.96	55.04	33.73	207.53	8.27	1.70	0.00
1987	12	12	346	68.00	55.04	40.28	207.53	13.19	7.08	0.00
1987	12	13	347	78.98	60.08	37.42	207.53	10.06	4.80	0.00
1987	12	14	348	69.98	46.94	40.32	207.53	16.10	7.23	0.00
1987	12	15	349	53.96	35.06	35.49	207.53	9.61	2.90	0.00
1987	12	16	350	59.00	33.98	39.58	207.53	9.61	6.40	0.00
1987	12	17	351	57.92	44.96	42.62	207.53	11.18	9.58	0.03
1987	12	18	352	68.00	53.96	42.44	207.53	14.98	9.38	0.02
1987	12	19	353	84.92	66.92	39.96	207.53	13.86	6.83	0.20
1987	12	20	354	69.08	55.04	41.76	207.53	13.86	8.63	0.03
1987	12	21	355	69.08	48.92	40.35	207.53	9.39	7.05	0.00
1987	12	22	356	68.00	44.96	36.16	207.53	7.83	4.40	0.01
1987	12	23	357	78.98	55.94	39.02	207.53	14.98	5.78	0.00
1987	12	24	358	78.98	66.92	41.40	207.53	12.07	8.23	0.01
1987	12	25	359	72.50	44.96	42.82	207.53	17.44	9.80	0.00
1987	12	26	360	44.06	39.92	43.00	207.53	19.45	10.00	0.00
1987	12	27	361	48.02	39.92	42.91	207.53	10.51	9.90	0.00
1987	12	28	362	62.06	37.04	39.20	207.53	7.60	5.98	0.00
1987	12	29	363	55.94	33.98	38.04	207.53	9.17	5.23	0.00
1987	12	30	364	59.00	42.98	42.55	207.53	12.07	9.50	0.00
1987	12	31	365	78.98	50.00	37.44	207.53	9.61	4.83	0.03
1988	1	1	1	60.62	41.00	42.82	277.05	15.88	9.80	0.00
1988	1	2	2	51.08	41.00	43.00	277.05	10.51	10.00	0.00
1988	1	3	3	64.94	44.96	39.32	277.05	4.25	6.08	0.00
1988	1	4	4	55.04	42.98	41.09	277.05	10.06	7.88	0.03
1988	1	5	5	51.98	46.04	42.91	277.05	9.17	9.90	0.14
1988	1	6	6	53.96	46.94	43.00	277.05	8.94	10.00	0.01
1988	1	7	7	48.02	42.08	43.00	277.05	11.18	10.00	0.00
1988	1	8	8	42.98	35.96	42.82	277.05	12.75	9.80	0.00
1988	1	9	9	41.00	33.08	41.47	277.05	10.96	8.30	0.00
1988	1	10	10	44.96	30.20	39.02	277.05	10.73	5.78	0.00

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1988	1	11	11	50.00	28.22	40.39	277.05	10.06	7.10	0.00
1988	1	12	12	59.00	46.04	41.52	277.05	8.05	8.35	0.00
1988	1	13	13	59.00	44.96	39.94	277.05	13.42	6.80	0.00
1988	1	14	14	53.06	42.08	42.24	277.05	8.94	9.15	0.04
1988	1	15	15	57.02	50.00	43.00	277.05	6.71	10.00	0.18
1988	1	16	16	73.94	53.96	41.49	277.05	6.71	8.33	0.00
1988	1	17	17	80.06	53.06	40.14	277.05	9.39	7.03	0.00
1988	1	18	18	82.04	57.02	37.47	277.05	13.19	4.85	0.00
1988	1	19	19	77.00	48.02	32.20	277.05	13.42	0.00	0.00
1988	1	20	20	57.92	39.02	35.22	277.05	14.09	3.35	0.00
1988	1	21	21	62.06	32.00	32.65	277.05	9.17	0.50	0.00
1988	1	22	22	55.94	33.08	37.83	277.05	9.39	5.25	0.00
1988	1	23	23	57.02	44.06	40.66	277.05	8.72	7.40	0.00
1988	1	24	24	66.92	35.06	32.20	277.05	12.75	0.00	0.00
1988	1	25	25	62.96	39.92	34.97	277.05	7.83	3.08	0.00
1988	1	26	26	69.98	37.04	32.20	277.05	9.84	0.00	0.00
1988	1	27	27	78.08	39.92	33.33	277.05	11.18	1.25	0.00
1988	1	28	28	73.04	44.96	36.97	277.05	13.64	4.30	0.00
1988	1	29	29	75.02	50.00	37.83	277.05	14.53	4.95	0.00
1988	1	30	30	80.06	57.02	37.13	277.05	16.77	4.48	0.00
1988	1	31	31	77.00	59.00	40.21	277.05	13.42	7.10	0.00
1988	2	1	32	82.04	66.02	40.86	359.22	14.31	7.83	0.00
1988	2	2	33	75.92	53.06	42.26	359.22	14.53	9.18	0.00
1988	2	3	34	64.04	46.94	42.91	359.22	9.61	9.90	0.33
1988	2	4	35	55.04	39.92	43.00	359.22	15.65	10.00	0.15
1988	2	5	36	41.00	37.94	43.00	359.22	13.42	10.00	0.02
1988	2	6	37	42.08	37.04	43.00	359.22	11.18	10.00	0.07
1988	2	7	38	46.94	37.94	42.53	359.22	7.60	9.48	0.00
1988	2	8	39	60.98	41.00	41.58	359.22	8.94	8.43	0.03
1988	2	9	40	55.94	53.06	42.80	359.22	8.94	9.78	0.00
1988	2	10	41	64.04	51.98	41.97	359.22	7.16	8.85	0.00
1988	2	11	42	57.92	39.02	38.77	359.22	16.32	6.30	0.00
1988	2	12	43	62.96	33.08	33.87	359.22	10.96	1.85	0.00
1988	2	13	44	75.02	42.08	34.27	359.22	14.31	2.30	0.00
1988	2	14	45	75.92	55.94	40.64	359.22	11.63	7.38	0.00
1988	2	15	46	73.04	44.96	32.56	359.22	8.94	0.40	0.00
1988	2	16	47	78.08	48.92	37.87	359.22	15.43	4.90	0.00
1988	2	17	48	77.00	64.94	42.35	359.22	14.31	9.28	0.00
1988	2	18	49	75.02	57.02	39.58	359.22	14.53	6.20	0.00
1988	2	19	50	62.96	48.92	39.90	359.22	11.63	6.75	0.00
1988	2	20	51	71.06	53.06	38.79	359.22	10.29	5.73	0.00
1988	2	21	52	78.98	44.06	32.20	359.22	9.17	0.00	0.00
1988	2	22	53	80.96	50.00	34.89	359.22	16.99	2.73	0.00
1988	2	23	54	75.02	53.06	35.08	359.22	13.42	2.70	0.00
1988	2	24	55	66.92	48.02	38.97	359.22	12.07	5.73	0.04
1988	2	25	56	62.96	53.96	42.91	359.22	10.06	9.90	0.00
1988	2	26	57	71.06	60.98	43.00	359.22	12.97	10.00	0.00
1988	2	27	58	84.92	60.08	39.69	359.22	9.39	6.53	0.00
1988	2	28	59	89.96	59.00	33.24	359.22	7.83	1.15	0.00
1988	2	29	60	91.04	62.96	39.22	421.77	11.85	6.00	0.00
1988	3	1	61	84.92	66.02	40.57	421.77	19.01	7.50	0.02

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1988	3	2	62	80.96	66.02	40.32	421.77	15.88	7.23	0.00
1988	3	3	63	71.96	51.98	39.15	421.77	15.65	5.93	0.00
1988	3	4	64	69.08	48.92	40.82	421.77	9.84	7.78	0.00
1988	3	5	65	84.02	48.02	33.26	421.77	8.94	1.18	0.00
1988	3	6	66	82.94	51.98	32.47	421.77	15.65	0.30	0.00
1988	3	7	67	78.08	59.00	41.85	421.77	15.65	8.73	0.00
1988	3	8	68	80.96	60.98	38.66	421.77	16.77	6.18	0.00
1988	3	9	69	80.06	53.06	34.63	421.77	14.98	2.70	0.00
1988	3	10	70	89.06	50.00	32.38	421.77	16.77	0.20	0.00
1988	3	11	71	96.08	60.98	34.59	421.77	16.77	2.40	0.00
1988	3	12	72	82.94	64.04	36.27	421.77	15.65	3.53	0.00
1988	3	13	73	78.98	48.92	32.47	421.77	11.18	0.30	0.00
1988	3	14	74	62.06	41.00	37.80	421.77	14.98	5.23	0.00
1988	3	15	75	60.98	44.06	39.94	421.77	16.77	6.60	0.22
1988	3	16	76	62.06	53.96	43.00	421.77	12.30	10.00	0.04
1988	3	17	77	78.98	51.08	41.85	421.77	20.12	8.73	0.00
1988	3	18	78	62.96	42.98	35.15	421.77	22.36	3.28	0.00
1988	3	19	79	69.08	35.06	32.20	421.77	7.38	0.00	0.00
1988	3	20	80	78.08	44.96	32.20	421.77	13.86	0.00	0.00
1988	3	21	81	84.92	50.00	35.71	421.77	14.09	2.90	0.00
1988	3	22	82	80.06	57.92	37.89	421.77	16.32	4.93	0.00
1988	3	23	83	84.92	62.96	36.61	421.77	15.20	3.90	0.00
1988	3	24	84	91.94	64.94	34.86	421.77	15.20	2.95	0.00
1988	3	25	85	91.04	66.92	37.94	421.77	12.30	5.38	0.00
1988	3	26	86	93.92	69.08	38.59	421.77	12.75	5.30	0.00
1988	3	27	87	87.98	68.00	39.56	421.77	17.22	6.38	0.00
1988	3	28	88	91.04	69.98	39.83	421.77	19.23	6.68	0.00
1988	3	29	89	78.98	62.06	40.86	421.77	16.99	7.63	0.00
1988	3	30	90	73.94	53.96	39.74	421.77	14.09	6.58	0.00
1988	3	31	91	80.96	57.02	40.41	514.09	13.19	7.33	0.00
1988	4	1	92	87.08	69.08	38.97	514.09	17.22	5.93	0.00
1988	4	2	93	89.06	60.98	38.67	514.09	12.75	6.05	0.00
1988	4	3	94	93.02	57.92	37.94	514.09	11.63	5.38	0.00
1988	4	4	95	91.94	69.98	40.05	514.09	13.42	6.93	0.00
1988	4	5	96	98.96	71.96	40.21	514.09	13.19	7.10	0.07
1988	4	6	97	80.06	60.08	41.38	514.09	13.19	8.30	0.00
1988	4	7	98	77.00	55.04	41.20	514.09	6.26	8.20	0.00
1988	4	8	99	78.98	62.06	40.46	514.09	10.73	7.38	0.00
1988	4	9	100	78.98	62.96	40.66	514.09	9.17	7.60	0.00
1988	4	10	101	71.06	57.02	41.09	514.09	13.64	7.98	0.00
1988	4	11	102	78.98	48.02	38.75	514.09	6.71	5.48	0.00
1988	4	12	103	86.00	44.96	32.20	514.09	4.92	0.00	0.00
1988	4	13	104	87.98	53.96	37.69	514.09	10.73	5.10	0.00
1988	4	14	105	91.04	62.96	37.71	514.09	14.98	5.13	0.00
1988	4	15	106	84.02	64.94	40.23	514.09	13.19	7.13	0.00
1988	4	16	107	82.94	68.00	41.36	514.09	14.76	8.18	0.00
1988	4	17	108	96.08	71.06	38.19	514.09	11.40	5.65	0.00
1988	4	18	109	93.02	69.98	35.17	514.09	14.31	2.88	0.00
1988	4	19	110	87.98	57.02	32.20	514.09	9.61	0.00	0.00
1988	4	20	111	93.02	60.98	36.99	514.09	15.43	4.33	0.00
1988	4	21	112	89.96	68.00	39.65	514.09	12.30	6.48	0.00

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1988	4	22	113	98.06	73.04	41.52	514.09	10.51	8.45	0.00
1988	4	23	114	100.04	77.00	39.58	514.09	15.43	6.40	0.00
1988	4	24	115	98.06	71.96	36.68	514.09	14.09	3.98	0.00
1988	4	25	116	93.02	73.94	39.92	514.09	10.73	6.78	0.00
1988	4	26	117	96.98	64.94	37.26	514.09	11.18	4.63	0.00
1988	4	27	118	91.94	64.04	36.27	514.09	14.09	3.53	0.00
1988	4	28	119	87.08	60.08	41.02	514.09	11.63	8.00	0.00
1988	4	29	120	89.96	71.96	40.48	514.09	8.94	7.40	0.00
1988	4	30	121	91.94	62.96	32.85	514.09	9.17	0.73	0.00
1988	5	1	122	89.06	69.08	41.34	553.07	17.66	8.25	0.00
1988	5	2	123	91.94	69.98	40.23	553.07	12.75	7.03	0.00
1988	5	3	124	93.92	69.98	35.53	553.07	9.84	3.20	0.00
1988	5	4	125	93.92	69.08	34.27	553.07	14.09	2.30	0.00
1988	5	5	126	95.00	68.00	37.38	553.07	14.76	4.75	0.00
1988	5	6	127	89.96	68.00	38.86	553.07	17.89	5.60	0.00
1988	5	7	128	96.08	73.94	39.74	553.07	18.34	6.58	0.00
1988	5	8	129	100.94	75.92	38.39	553.07	13.86	5.88	0.00
1988	5	9	130	98.06	77.00	39.76	553.07	12.75	6.60	0.00
1988	5	10	131	89.96	73.94	40.05	553.07	12.30	6.93	0.00
1988	5	11	132	89.06	69.98	40.32	553.07	11.63	7.23	0.00
1988	5	12	133	80.06	68.00	40.59	553.07	10.96	7.53	0.00
1988	5	13	134	87.98	64.04	36.52	553.07	8.50	3.80	0.00
1988	5	14	135	89.96	68.00	37.24	553.07	13.19	4.60	0.00
1988	5	15	136	93.92	71.06	36.81	553.07	14.09	4.13	0.00
1988	5	16	137	93.02	73.94	37.08	553.07	14.53	4.43	0.00
1988	5	17	138	93.92	69.98	36.99	553.07	14.76	4.33	0.00
1988	5	18	139	89.96	71.96	39.33	553.07	15.20	6.13	0.00
1988	5	19	140	89.06	71.96	40.77	553.07	14.31	7.73	0.21
1988	5	20	141	89.06	73.94	41.27	553.07	14.98	8.08	0.27
1988	5	21	142	84.92	64.94	40.93	553.07	10.96	7.90	0.00
1988	5	22	143	91.04	62.06	33.24	553.07	8.94	1.15	0.00
1988	5	23	144	96.08	69.98	35.43	553.07	10.51	2.83	0.00
1988	5	24	145	96.08	73.04	38.55	553.07	9.39	5.25	0.00
1988	5	25	146	96.08	77.00	40.19	553.07	11.40	7.08	0.00
1988	5	26	147	89.06	71.96	39.40	553.07	10.51	6.20	0.00
1988	5	27	148	91.94	69.08	36.36	553.07	12.52	3.63	0.00
1988	5	28	149	91.94	73.04	39.38	553.07	16.99	6.18	0.00
1988	5	29	150	93.92	75.02	40.01	553.07	18.11	6.88	0.00
1988	5	30	151	91.94	78.08	41.29	553.07	19.01	8.30	0.00
1988	5	31	152	93.02	78.08	41.79	553.07	19.01	8.65	0.00
1988	6	1	153	95.00	77.00	40.39	581.92	13.42	7.30	0.00
1988	6	2	154	100.04	75.02	36.39	581.92	12.07	3.65	0.46
1988	6	3	155	93.02	69.08	38.12	581.92	11.40	5.58	0.00
1988	6	4	156	89.06	69.08	34.38	581.92	13.42	2.43	0.00
1988	6	5	157	93.92	68.00	33.91	581.92	4.92	1.90	0.00
1988	6	6	158	96.98	71.96	35.71	581.92	8.94	2.90	0.00
1988	6	7	159	100.04	73.94	33.69	581.92	10.96	1.65	0.00
1988	6	8	160	102.92	73.04	33.15	581.92	10.29	1.05	0.00
1988	6	9	161	109.04	77.00	32.65	581.92	8.50	0.50	0.00
1988	6	10	162	100.04	78.08	35.01	581.92	12.75	3.13	0.00
1988	6	11	163	96.08	75.02	37.42	581.92	11.63	4.80	0.00

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
1988	6	12	164	96.08	75.02	36.23	581.92	15.88	3.48	0.00
1988	6	13	165	98.06	75.02	39.22	581.92	16.99	6.00	0.00
1988	6	14	166	96.98	75.92	37.89	581.92	16.55	5.23	0.00
1988	6	15	167	93.92	75.92	39.85	581.92	11.63	6.70	0.00
1988	6	16	168	93.02	75.02	40.19	581.92	8.05	7.08	0.00
1988	6	17	169	98.06	75.02	36.66	581.92	10.29	3.95	0.00
1988	6	18	170	96.98	75.92	36.36	581.92	12.97	3.63	0.00
1988	6	19	171	96.08	73.94	36.39	581.92	11.18	3.65	0.00
1988	6	20	172	98.06	75.92	38.10	581.92	12.97	5.55	0.00
1988	6	21	173	93.92	75.02	36.54	581.92	11.18	3.83	0.00
1988	6	22	174	98.06	73.94	35.37	581.92	10.73	3.03	0.00
1988	6	23	175	98.06	75.02	35.96	581.92	10.51	3.18	0.36
1988	6	24	176	98.96	75.02	38.12	581.92	10.51	5.58	0.00
1988	6	25	177	96.98	75.02	37.40	581.92	8.72	4.78	0.00
1988	6	26	178	98.06	77.00	36.77	581.92	10.73	4.08	0.68
1988	6	27	179	96.98	78.98	41.61	581.92	10.96	8.65	0.00
1988	6	28	180	100.94	77.00	40.57	581.92	12.30	7.50	0.00
1988	6	29	181	100.04	78.08	37.22	581.92	14.76	4.58	0.00
1988	6	30	182	100.94	75.92	33.69	581.92	14.09	1.65	0.00
1988	7	1	183	100.04	77.00	36.09	623.50	14.09	3.33	0.00
1988	7	2	184	102.02	78.98	38.55	623.50	13.86	5.25	0.00
1988	7	3	185	98.06	78.98	37.98	623.50	14.76	5.43	0.00
1988	7	4	186	100.94	78.98	38.37	623.50	16.55	5.85	0.10
1988	7	5	187	98.06	78.98	39.20	623.50	15.88	5.98	0.00
1988	7	6	188	98.06	78.08	37.56	623.50	11.18	4.95	0.02
1988	7	7	189	95.00	78.08	37.15	623.50	11.63	4.50	0.00
1988	7	8	190	96.08	77.00	38.46	623.50	9.84	5.55	1.43
1988	7	9	191	93.92	71.96	39.15	623.50	10.51	5.93	0.01
1988	7	10	192	95.00	75.02	41.61	623.50	7.60	8.45	0.00
1988	7	11	193	96.98	78.98	39.56	623.50	12.97	6.38	0.00
1988	7	12	194	102.92	80.96	38.37	623.50	13.64	5.45	0.00
1988	7	13	195	102.02	80.06	33.06	623.50	17.44	0.95	0.00
1988	7	14	196	100.04	80.06	35.80	623.50	17.66	3.00	0.00
1988	7	15	197	96.98	78.98	36.99	623.50	14.53	4.33	0.00
1988	7	16	198	98.96	78.08	35.98	623.50	17.22	3.20	0.00
1988	7	17	199	100.94	78.98	35.71	623.50	15.88	2.90	0.00
1988	7	18	200	102.02	78.08	34.00	623.50	14.98	2.00	0.00
1988	7	19	201	100.94	78.98	36.79	623.50	14.53	4.10	0.15
1988	7	20	202	91.04	75.02	41.18	623.50	10.06	7.98	0.16
1988	7	21	203	93.92	73.04	38.84	623.50	5.37	6.38	0.02
1988	7	22	204	91.04	77.00	39.58	623.50	4.92	6.40	0.00
1988	7	23	205	96.98	75.92	38.10	623.50	8.94	5.55	0.00
1988	7	24	206	100.04	77.00	37.67	623.50	12.52	5.08	0.00
1988	7	25	207	100.94	78.98	33.78	623.50	14.76	1.75	0.00
1988	7	26	208	98.06	78.08	38.32	623.50	12.52	5.40	0.46
1988	7	27	209	96.08	71.96	41.99	623.50	14.76	8.88	0.00
1988	7	28	210	96.98	77.00	40.55	623.50	13.86	7.48	0.00
1988	7	29	211	95.00	77.00	39.83	623.50	14.31	6.68	0.00
1988	7	30	212	96.98	77.00	41.31	623.50	11.18	8.33	0.14
1988	7	31	213	95.00	75.92	41.22	543.94	10.51	8.13	0.00
1988	8	1	214	95.00	77.00	39.12	543.94	12.30	6.15	0.00

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1988	8	2	215	96.08	78.08	40.19	543.94	16.10	7.08	0.00
1988	8	3	216	95.00	78.08	41.43	543.94	11.63	8.45	0.30
1988	8	4	217	95.00	75.92	41.22	543.94	10.06	8.23	1.27
1988	8	5	218	93.02	71.96	41.49	543.94	6.48	8.53	0.00
1988	8	6	219	100.94	77.00	34.43	543.94	10.73	2.48	0.00
1988	8	7	220	102.02	75.92	32.47	543.94	11.40	0.30	0.00
1988	8	8	221	102.02	78.08	36.21	543.94	9.17	3.45	0.00
1988	8	9	222	102.02	78.98	35.71	543.94	7.16	2.90	0.00
1988	8	10	223	104.00	78.08	34.27	543.94	7.83	2.30	0.00
1988	8	11	224	102.92	71.96	33.33	543.94	12.07	1.25	0.00
1988	8	12	225	100.94	78.98	34.90	543.94	14.98	2.50	0.00
1988	8	13	226	100.04	78.08	35.89	543.94	13.19	3.10	0.09
1988	8	14	227	98.96	77.00	36.81	543.94	9.39	4.13	0.28
1988	8	15	228	93.92	75.92	39.94	543.94	8.05	6.80	0.10
1988	8	16	229	89.06	75.92	41.07	543.94	4.47	8.05	0.01
1988	8	17	230	89.06	75.92	40.89	543.94	6.48	7.85	0.05
1988	8	18	231	86.00	75.92	41.25	543.94	8.27	8.25	0.02
1988	8	19	232	93.02	77.00	41.52	543.94	9.61	8.55	0.00
1988	8	20	233	96.98	75.92	38.19	543.94	11.85	5.45	0.00
1988	8	21	234	98.06	78.08	37.13	543.94	13.42	4.48	0.00
1988	8	22	235	100.04	78.98	36.99	543.94	13.19	4.33	0.00
1988	8	23	236	98.06	78.08	36.50	543.94	10.96	3.78	0.00
1988	8	24	237	102.02	78.08	36.39	543.94	8.05	3.65	0.01
1988	8	25	238	100.94	80.96	39.90	543.94	6.71	6.75	0.00
1988	8	26	239	100.04	77.00	36.05	543.94	8.05	3.28	0.00
1988	8	27	240	96.98	75.02	35.98	543.94	10.29	3.20	0.00
1988	8	28	241	96.98	78.08	38.23	543.94	9.84	4.90	0.00
1988	8	29	242	96.98	78.08	39.81	543.94	10.29	6.65	0.00
1988	8	30	243	95.00	75.02	37.76	543.94	10.06	5.18	0.12
1988	8	31	244	93.92	75.02	36.97	459.97	8.94	4.30	0.20
1988	9	1	245	95.00	75.02	36.23	459.97	7.16	3.48	0.04
1988	9	2	246	89.06	75.92	40.10	459.97	11.18	6.98	0.65
1988	9	3	247	98.06	73.94	39.24	459.97	10.06	6.03	0.08
1988	9	4	248	93.02	75.02	37.87	459.97	11.85	5.30	0.00
1988	9	5	249	91.04	64.04	33.33	459.97	7.83	1.25	0.00
1988	9	6	250	95.00	66.02	36.41	459.97	5.81	3.68	0.00
1988	9	7	251	93.92	69.98	33.69	459.97	8.27	1.65	0.00
1988	9	8	252	96.98	69.98	32.20	459.97	8.94	0.00	0.00
1988	9	9	253	95.00	69.08	32.83	459.97	6.71	0.70	0.00
1988	9	10	254	95.00	69.98	32.20	459.97	6.04	0.00	0.00
1988	9	11	255	96.08	71.96	32.20	459.97	11.63	0.00	0.02
1988	9	12	256	96.98	73.04	34.90	459.97	12.75	2.50	0.00
1988	9	13	257	96.98	75.02	37.15	459.97	11.85	4.50	0.00
1988	9	14	258	96.08	77.00	37.78	459.97	8.72	5.20	0.00
1988	9	15	259	98.06	71.06	34.27	459.97	8.94	2.30	1.85
1988	9	16	260	82.94	71.96	41.36	459.97	15.65	8.18	0.60
1988	9	17	261	87.08	73.94	42.26	459.97	19.68	9.18	0.00
1988	9	18	262	93.92	78.98	40.17	459.97	18.34	7.05	0.00
1988	9	19	263	93.92	78.08	40.32	459.97	12.97	7.23	0.00
1988	9	20	264	93.92	80.06	39.87	459.97	13.42	6.73	0.00
1988	9	21	265	91.04	75.02	37.13	459.97	13.86	4.48	0.00

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1988	9	22	266	95.00	75.92	37.53	459.97	11.85	4.93	0.00
1988	9	23	267	93.02	77.00	39.51	459.97	10.96	6.33	0.00
1988	9	24	268	93.92	77.00	39.56	459.97	5.59	6.78	0.00
1988	9	25	269	95.00	75.92	37.17	459.97	7.16	4.53	0.00
1988	9	26	270	93.92	73.94	34.00	459.97	8.05	2.00	0.00
1988	9	27	271	93.02	71.96	34.18	459.97	9.61	2.20	0.00
1988	9	28	272	96.08	73.04	36.12	459.97	14.09	3.35	0.00
1988	9	29	273	93.92	73.94	38.30	459.97	11.85	5.78	0.00
1988	9	30	274	82.94	71.06	40.93	355.35	6.71	7.90	0.00
1988	10	1	275	89.96	69.98	40.12	355.35	6.71	7.00	0.00
1988	10	2	276	86.00	69.08	33.15	355.35	11.63	1.05	0.00
1988	10	3	277	87.08	62.96	33.51	355.35	7.38	1.45	0.00
1988	10	4	278	86.00	60.08	32.20	355.35	6.48	0.00	0.00
1988	10	5	279	84.92	57.92	34.05	355.35	7.16	2.05	0.00
1988	10	6	280	82.94	64.04	37.65	355.35	10.96	5.05	0.00
1988	10	7	281	84.92	62.96	37.22	355.35	8.27	4.58	0.00
1988	10	8	282	86.00	66.92	36.77	355.35	6.04	4.08	0.00
1988	10	9	283	87.98	66.02	36.99	355.35	10.51	4.33	0.19
1988	10	10	284	82.94	66.02	39.94	355.35	9.84	6.80	0.00
1988	10	11	285	84.92	60.08	37.24	355.35	4.02	4.60	0.00
1988	10	12	286	86.00	62.06	37.40	355.35	4.25	4.78	0.00
1988	10	13	287	84.92	62.06	33.69	355.35	8.94	1.65	0.00
1988	10	14	288	84.92	64.94	35.62	355.35	11.85	2.80	0.00
1988	10	15	289	87.08	66.02	36.57	355.35	11.40	3.85	0.00
1988	10	16	290	89.06	66.92	34.18	355.35	9.61	2.20	0.00
1988	10	17	291	89.96	66.92	33.15	355.35	11.85	1.05	0.00
1988	10	18	292	89.06	69.98	35.98	355.35	10.96	3.20	0.00
1988	10	19	293	91.94	69.08	32.97	355.35	10.06	0.85	0.00
1988	10	20	294	89.96	66.92	36.21	355.35	12.52	3.45	0.00
1988	10	21	295	87.08	73.04	39.76	355.35	11.63	6.60	0.00
1988	10	22	296	87.08	66.92	36.99	355.35	9.84	4.33	0.00
1988	10	23	297	93.02	71.06	37.13	355.35	6.71	4.48	0.00
1988	10	24	298	91.04	66.92	36.43	355.35	6.04	3.70	0.00
1988	10	25	299	91.04	71.06	37.04	355.35	11.18	4.38	0.00
1988	10	26	300	89.96	73.94	39.87	355.35	11.18	6.73	0.00
1988	10	27	301	89.96	71.96	37.67	355.35	12.07	5.08	1.25
1988	10	28	302	87.08	69.98	39.85	355.35	12.52	6.70	0.60
1988	10	29	303	80.96	66.02	41.02	355.35	9.39	8.00	0.00
1988	10	30	304	80.96	69.98	40.57	355.35	6.93	7.50	0.53
1988	10	31	305	78.08	62.06	39.15	273.78	8.50	5.93	0.00
1988	11	1	306	78.08	59.00	36.97	273.78	5.37	4.30	0.00
1988	11	2	307	80.96	59.00	37.96	273.78	10.51	5.00	0.00
1988	11	3	308	91.04	62.96	33.91	273.78	5.59	1.90	0.00
1988	11	4	309	96.08	64.04	32.20	273.78	7.60	0.00	0.00
1988	11	5	310	82.94	62.06	32.20	273.78	7.38	0.00	0.00
1988	11	6	311	82.94	57.02	32.20	273.78	9.39	0.00	0.00
1988	11	7	312	89.96	64.94	33.33	273.78	6.04	1.25	0.00
1988	11	8	313	87.08	66.02	37.38	273.78	7.16	4.75	0.00
1988	11	9	314	87.08	71.96	38.05	273.78	12.07	5.50	0.00
1988	11	10	315	84.02	73.94	40.68	273.78	5.37	7.63	0.00
1988	11	11	316	84.92	71.96	39.49	273.78	14.31	6.30	0.00

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1988	11	12	317	87.98	69.08	34.34	273.78	8.94	2.38	0.00
1988	11	13	318	87.98	62.96	33.51	273.78	6.04	1.45	0.00
1988	11	14	319	87.98	71.06	39.29	273.78	13.64	6.48	0.00
1988	11	15	320	84.92	71.96	40.59	273.78	14.76	7.53	0.00
1988	11	16	321	75.92	62.06	39.27	273.78	12.30	6.45	0.00
1988	11	17	322	68.00	51.98	39.54	273.78	7.16	6.25	0.00
1988	11	18	323	82.94	62.06	38.86	273.78	6.93	6.40	0.00
1988	11	19	324	78.08	57.92	35.60	273.78	12.97	3.78	0.00
1988	11	20	325	69.98	46.04	32.65	273.78	8.94	0.50	0.00
1988	11	21	326	66.02	46.04	33.42	273.78	8.94	1.35	0.00
1988	11	22	327	69.98	42.98	34.90	273.78	6.93	2.50	0.00
1988	11	23	328	73.94	44.06	35.46	273.78	4.92	3.13	0.00
1988	11	24	329	84.02	60.08	37.40	273.78	8.72	4.78	0.00
1988	11	25	330	86.00	66.02	36.79	273.78	11.40	4.10	0.00
1988	11	26	331	89.96	62.06	35.01	273.78	6.04	3.13	0.00
1988	11	27	332	73.04	53.96	32.56	273.78	14.09	0.40	0.00
1988	11	28	333	69.98	42.08	32.20	273.78	6.93	0.00	0.00
1988	11	29	334	77.00	48.02	35.71	273.78	5.37	2.90	0.00
1988	11	30	335	68.00	48.02	36.32	207.53	9.61	3.58	0.00
1988	12	1	336	71.96	42.08	33.69	207.53	2.68	1.65	0.00
1988	12	2	337	73.04	44.96	34.27	207.53	6.04	2.30	0.00
1988	12	3	338	75.92	53.06	35.53	207.53	8.72	2.70	0.00
1988	12	4	339	75.02	60.08	40.50	207.53	8.94	7.43	0.00
1988	12	5	340	75.02	55.94	38.88	207.53	4.25	5.63	0.00
1988	12	6	341	77.00	57.02	39.76	207.53	7.60	6.60	0.00
1988	12	7	342	82.04	57.02	33.15	207.53	9.39	1.05	0.01
1988	12	8	343	66.92	42.08	40.75	207.53	14.76	7.50	0.00
1988	12	9	344	42.08	39.02	43.00	207.53	15.43	10.00	0.02
1988	12	10	345	48.02	39.02	43.00	207.53	6.71	10.00	0.00
1988	12	11	346	69.98	44.96	39.40	207.53	8.27	6.20	0.00
1988	12	12	347	62.96	39.92	33.91	207.53	7.16	1.90	0.00
1988	12	13	348	68.00	39.02	33.19	207.53	7.16	1.10	0.00
1988	12	14	349	77.00	50.00	34.02	207.53	8.05	2.03	0.00
1988	12	15	350	73.04	48.02	33.15	207.53	10.29	1.05	0.00
1988	12	16	351	62.06	46.04	42.01	207.53	10.06	8.90	0.00
1988	12	17	352	66.02	33.08	37.92	207.53	6.48	5.35	0.00
1988	12	18	353	68.00	39.92	34.50	207.53	6.48	2.55	0.00
1988	12	19	354	78.08	50.00	36.68	207.53	12.75	3.98	0.00
1988	12	20	355	80.06	55.94	38.39	207.53	4.92	5.88	0.00
1988	12	21	356	78.08	55.04	39.04	207.53	5.81	5.80	0.00
1988	12	22	357	82.94	66.02	38.12	207.53	12.07	5.38	0.00
1988	12	23	358	80.96	57.92	37.78	207.53	3.35	5.20	0.01
1988	12	24	359	73.94	62.96	40.64	207.53	8.94	7.48	0.00
1988	12	25	360	75.92	57.92	40.95	207.53	7.38	7.83	0.00
1988	12	26	361	84.92	66.92	37.71	207.53	18.34	5.13	0.00
1988	12	27	362	78.08	60.08	38.23	207.53	15.88	5.30	0.00
1988	12	28	363	60.08	42.08	34.36	207.53	10.96	2.40	0.00
1988	12	29	364	64.94	37.94	39.74	207.53	4.92	6.48	0.00
1988	12	30	365	60.08	53.96	43.00	207.53	9.17	10.00	0.00
1988	12	31	366	71.96	55.04	40.77	207.53	6.71	7.63	0.00
1989	1	1	1	75.02	53.06	39.69	277.05	5.81	6.53	0.00

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1989	1	2	2	80.06	64.04	40.08	277.05	7.16	6.75	0.00
1989	1	3	3	82.04	60.08	39.96	277.05	5.59	6.83	0.00
1989	1	4	4	77.00	60.98	41.22	277.05	9.17	8.23	0.00
1989	1	5	5	82.04	64.04	40.12	277.05	8.94	7.00	0.00
1989	1	6	6	87.98	57.02	32.97	277.05	6.93	0.85	0.00
1989	1	7	7	89.96	68.00	37.96	277.05	11.18	5.40	0.00
1989	1	8	8	69.98	56.12	41.45	277.05	15.43	8.28	0.00
1989	1	9	9	57.92	50.00	42.08	277.05	9.84	8.98	0.00
1989	1	10	10	60.98	50.00	42.91	277.05	8.27	9.90	0.00
1989	1	11	11	75.02	55.04	39.27	277.05	8.50	5.95	0.00
1989	1	12	12	73.94	46.94	38.55	277.05	14.53	5.65	0.00
1989	1	13	13	46.94	41.00	43.00	277.05	14.98	10.00	0.00
1989	1	14	14	62.06	32.00	33.01	277.05	7.83	0.90	0.00
1989	1	15	15	75.92	39.02	33.33	277.05	6.48	1.25	0.00
1989	1	16	16	66.92	44.96	37.76	277.05	8.50	5.18	0.02
1989	1	17	17	60.08	53.06	43.00	277.05	6.04	10.00	0.01
1989	1	18	18	62.06	55.04	43.00	277.05	6.71	10.00	0.44
1989	1	19	19	60.98	57.92	42.91	277.05	9.39	9.90	0.26
1989	1	20	20	60.08	53.06	43.00	277.05	12.52	10.00	0.00
1989	1	21	21	62.96	37.94	33.24	277.05	7.83	1.15	0.00
1989	1	22	22	62.06	39.02	39.27	277.05	5.37	6.05	0.00
1989	1	23	23	66.92	48.92	42.26	277.05	7.38	9.18	0.00
1989	1	24	24	78.08	60.08	41.31	277.05	9.84	8.13	0.00
1989	1	25	25	80.06	64.94	40.92	277.05	12.52	7.85	0.25
1989	1	26	26	78.98	55.04	43.00	277.05	13.42	10.00	0.14
1989	1	27	27	55.94	51.98	43.00	277.05	7.38	10.00	0.04
1989	1	28	28	71.96	55.04	41.81	277.05	8.05	8.68	0.07
1989	1	29	29	62.06	53.06	42.91	277.05	10.96	9.90	0.00
1989	1	30	30	69.98	53.06	41.67	277.05	6.93	8.53	0.00
1989	1	31	31	77.00	51.08	37.67	277.05	8.50	5.08	0.00
1989	2	1	32	80.96	62.96	39.54	359.22	8.94	6.35	0.00
1989	2	2	33	84.92	69.08	40.10	359.22	12.75	6.98	0.00
1989	2	3	34	69.08	44.96	40.84	359.22	15.43	7.80	0.00
1989	2	4	35	42.98	31.10	43.00	359.22	11.40	10.00	0.00
1989	2	5	36	35.96	28.22	43.00	359.22	9.84	10.00	0.01
1989	2	6	37	32.00	28.22	43.00	359.22	11.40	10.00	0.00
1989	2	7	38	46.04	30.20	40.62	359.22	8.50	7.55	0.00
1989	2	8	39	53.96	31.10	36.27	359.22	8.27	3.53	0.00
1989	2	9	40	60.08	42.98	40.93	359.22	7.38	7.90	0.00
1989	2	10	41	57.92	46.94	43.00	359.22	8.94	10.00	0.00
1989	2	11	42	69.98	53.06	43.00	359.22	6.04	10.00	0.00
1989	2	12	43	84.92	62.06	39.72	359.22	16.55	6.35	0.00
1989	2	13	44	87.08	66.02	39.02	359.22	14.98	5.78	0.00
1989	2	14	45	87.08	69.08	39.33	359.22	14.76	6.13	0.00
1989	2	15	46	73.04	66.02	41.61	359.22	13.86	8.55	0.02
1989	2	16	47	66.02	53.06	43.00	359.22	13.42	10.00	0.23
1989	2	17	48	53.96	48.92	43.00	359.22	11.85	10.00	0.02
1989	2	18	49	55.04	48.02	42.53	359.22	9.84	9.48	0.00
1989	2	19	50	60.98	50.00	41.47	359.22	8.94	8.30	0.00
1989	2	20	51	80.06	51.98	39.09	359.22	9.17	5.95	0.00
1989	2	21	52	71.06	53.96	36.36	359.22	13.86	3.63	0.00

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1989	2	22	53	71.06	44.06	32.20	359.22	4.70	0.00	0.00
1989	2	23	54	69.08	44.96	32.20	359.22	13.64	0.00	0.00
1989	2	24	55	78.98	50.00	36.66	359.22	14.09	3.95	0.00
1989	2	25	56	80.96	55.94	32.20	359.22	14.98	0.00	0.00
1989	2	26	57	87.98	57.92	33.69	359.22	13.42	1.65	0.00
1989	2	27	58	96.98	59.00	32.97	359.22	9.84	0.85	0.00
1989	2	28	59	69.98	53.96	40.75	359.22	13.64	7.50	0.00
1989	3	1	60	57.92	50.00	42.82	421.77	8.94	9.80	0.00
1989	3	2	61	78.08	55.04	40.71	421.77	7.60	7.45	0.00
1989	3	3	62	87.08	62.96	40.93	421.77	12.97	7.90	0.00
1989	3	4	63	82.04	42.08	38.68	421.77	16.77	6.20	0.00
1989	3	5	64	51.98	33.08	35.46	421.77	22.14	3.13	0.00
1989	3	6	65	60.08	33.98	33.33	421.77	11.40	1.25	0.00
1989	3	7	66	66.02	32.00	32.20	421.77	7.16	0.00	0.00
1989	3	8	67	71.96	37.94	32.20	421.77	7.16	0.00	0.00
1989	3	9	68	75.02	42.08	32.56	421.77	7.83	0.40	0.00
1989	3	10	69	80.06	46.94	32.20	421.77	9.61	0.00	0.00
1989	3	11	70	84.92	50.00	32.20	421.77	10.06	0.00	0.00
1989	3	12	71	89.06	57.02	32.20	421.77	13.19	0.00	0.00
1989	3	13	72	96.08	57.92	32.20	421.77	10.96	0.00	0.00
1989	3	14	73	98.96	64.94	33.69	421.77	11.18	1.65	0.00
1989	3	15	74	87.08	66.02	34.18	421.77	12.07	2.20	0.00
1989	3	16	75	84.92	62.96	41.20	421.77	11.63	8.20	0.00
1989	3	17	76	89.06	66.92	40.30	421.77	13.64	7.20	0.00
1989	3	18	77	87.98	68.00	41.02	421.77	13.19	8.00	0.71
1989	3	19	78	89.06	69.08	40.75	421.77	14.76	7.70	0.00
1989	3	20	79	91.94	64.04	33.51	421.77	8.72	1.45	0.00
1989	3	21	80	75.02	46.04	38.65	421.77	16.99	5.53	0.00
1989	3	22	81	69.08	37.94	32.20	421.77	8.94	0.00	0.00
1989	3	23	82	82.04	48.02	35.97	421.77	9.61	3.43	0.00
1989	3	24	83	84.02	60.08	39.49	421.77	12.97	6.30	0.00
1989	3	25	84	84.02	68.00	41.34	421.77	11.85	8.35	0.01
1989	3	26	85	87.08	71.96	40.55	421.77	10.96	7.38	0.00
1989	3	27	86	95.00	73.04	37.74	421.77	18.78	5.15	0.00
1989	3	28	87	87.08	64.94	37.94	421.77	14.98	5.38	0.00
1989	3	29	88	93.92	57.92	32.20	421.77	7.83	0.00	0.00
1989	3	30	89	98.06	62.06	32.20	421.77	10.96	0.00	0.00
1989	3	31	90	80.96	60.98	32.20	421.77	10.73	0.00	0.00
1989	4	1	91	87.08	53.96	32.56	514.09	14.98	0.40	0.00
1989	4	2	92	96.98	66.02	33.96	514.09	12.97	1.95	0.00
1989	4	3	93	100.94	69.98	33.60	514.09	7.60	1.55	0.00
1989	4	4	94	93.92	69.98	36.12	514.09	12.75	3.35	0.00
1989	4	5	95	80.96	64.94	36.81	514.09	13.86	4.13	0.00
1989	4	6	96	87.98	57.02	32.56	514.09	14.31	0.40	0.00
1989	4	7	97	96.98	64.04	33.06	514.09	10.51	0.95	0.00
1989	4	8	98	107.96	68.00	32.20	514.09	11.63	0.00	0.00
1989	4	9	99	89.06	66.92	38.10	514.09	15.20	5.55	0.00
1989	4	10	100	64.94	55.04	43.00	514.09	15.88	10.00	0.00
1989	4	11	101	66.02	55.04	42.82	514.09	11.63	9.80	0.09
1989	4	12	102	64.04	55.04	43.00	514.09	8.72	10.00	0.03
1989	4	13	103	62.06	55.04	43.00	514.09	12.07	10.00	0.09

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1989	4	14	104	73.04	55.94	41.90	514.09	10.51	8.78	0.00
1989	4	15	105	80.96	53.06	36.75	514.09	6.48	4.05	0.00
1989	4	16	106	89.96	57.92	34.05	514.09	12.30	2.05	0.00
1989	4	17	107	93.02	66.92	35.69	514.09	12.97	3.88	0.00
1989	4	18	108	95.00	69.08	36.00	514.09	12.97	3.73	0.00
1989	4	19	109	91.04	69.98	39.22	514.09	11.85	6.00	0.00
1989	4	20	110	95.00	64.94	33.51	514.09	6.26	1.45	0.00
1989	4	21	111	96.08	69.08	33.78	514.09	14.31	1.75	0.00
1989	4	22	112	96.08	68.00	32.97	514.09	16.10	0.85	0.00
1989	4	23	113	95.00	68.00	37.26	514.09	16.32	4.63	0.00
1989	4	24	114	93.02	66.92	40.01	514.09	16.32	6.88	0.00
1989	4	25	115	93.02	73.94	40.95	514.09	15.65	7.93	0.00
1989	4	26	116	93.92	77.00	41.56	514.09	15.65	8.50	0.80
1989	4	27	117	91.94	66.92	40.95	514.09	10.73	7.83	0.70
1989	4	28	118	93.02	66.92	38.75	514.09	9.61	6.28	0.58
1989	4	29	119	96.08	68.00	38.70	514.09	9.39	5.83	0.00
1989	4	30	120	87.98	62.96	34.29	514.09	8.94	2.33	0.00
1989	5	1	121	87.98	66.92	37.22	514.09	8.50	4.58	0.00
1989	5	2	122	91.04	68.00	37.58	553.07	12.30	4.98	0.00
1989	5	3	123	96.08	73.04	38.97	553.07	13.86	5.73	0.00
1989	5	4	124	100.04	75.02	35.72	553.07	12.30	3.08	0.00
1989	5	5	125	91.04	73.94	38.86	553.07	12.30	5.60	0.00
1989	5	6	126	93.92	73.94	39.74	553.07	9.84	6.58	0.00
1989	5	7	127	95.00	73.04	35.88	553.07	12.07	3.33	0.00
1989	5	8	128	100.04	73.94	33.87	553.07	14.98	1.85	0.00
1989	5	9	129	102.92	73.94	34.38	553.07	14.76	2.43	0.00
1989	5	10	130	91.94	75.92	40.32	553.07	11.40	7.23	0.00
1989	5	11	131	91.04	71.96	41.79	553.07	15.20	8.75	0.07
1989	5	12	132	93.02	71.96	39.13	553.07	15.20	6.70	0.00
1989	5	13	133	93.02	75.02	38.88	553.07	11.85	5.63	0.00
1989	5	14	134	96.98	75.92	37.74	553.07	10.73	5.15	0.00
1989	5	15	135	87.98	78.08	42.12	553.07	12.30	9.03	0.00
1989	5	16	136	100.04	80.06	41.13	553.07	14.31	8.03	0.00
1989	5	17	137	98.96	78.98	39.60	553.07	12.75	6.43	0.00
1989	5	18	138	98.96	71.96	34.36	553.07	4.92	2.40	0.00
1989	5	19	139	105.08	78.98	33.87	553.07	10.51	1.85	0.00
1989	5	20	140	102.02	78.08	37.80	553.07	11.85	5.23	0.00
1989	5	21	141	100.94	77.00	36.61	553.07	11.40	3.90	0.00
1989	5	22	142	105.08	77.00	37.04	553.07	14.31	4.38	0.00
1989	5	23	143	104.00	75.92	33.84	553.07	11.40	1.83	0.00
1989	5	24	144	105.98	75.92	33.10	553.07	15.65	1.00	0.00
1989	5	25	145	107.06	78.08	32.20	553.07	18.11	0.00	0.00
1989	5	26	146	104.00	78.08	32.56	553.07	17.44	0.40	0.00
1989	5	27	147	96.08	80.06	39.74	553.07	18.34	6.58	0.00
1989	5	28	148	98.96	75.02	36.48	553.07	17.44	3.75	0.00
1989	5	29	149	100.94	77.00	39.20	553.07	16.10	5.98	0.00
1989	5	30	150	100.04	75.02	37.35	553.07	17.89	4.73	0.00
1989	5	31	151	98.96	75.92	37.40	553.07	18.56	4.78	0.00
1989	6	1	152	100.04	77.00	37.62	553.07	14.53	5.03	0.00
1989	6	2	153	100.04	77.00	37.08	581.92	13.64	4.43	0.00
1989	6	3	154	102.92	78.08	36.23	581.92	17.89	3.48	0.00

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1989	6	4	155	102.02	77.00	38.84	581.92	13.86	6.38	0.00
1989	6	5	156	98.96	80.06	39.42	581.92	9.61	6.23	0.00
1989	6	6	157	100.94	78.98	36.90	581.92	13.19	4.23	0.00
1989	6	7	158	107.96	78.98	35.87	581.92	9.84	3.08	0.00
1989	6	8	159	105.08	80.06	32.56	581.92	10.51	0.40	0.07
1989	6	9	160	98.96	77.00	39.58	581.92	14.31	6.40	0.00
1989	6	10	161	105.08	82.04	39.11	581.92	16.99	6.28	0.00
1989	6	11	162	100.94	78.98	38.93	581.92	17.66	6.48	0.00
1989	6	12	163	102.92	80.06	38.61	581.92	18.11	6.13	1.82
1989	6	13	164	102.02	69.98	40.12	581.92	18.11	7.00	0.49
1989	6	14	165	91.04	68.00	40.26	581.92	7.38	7.15	0.00
1989	6	15	166	89.96	69.98	37.13	581.92	6.71	4.48	0.00
1989	6	16	167	95.00	69.98	32.79	581.92	8.94	0.65	0.00
1989	6	17	168	96.98	69.98	32.20	581.92	11.40	0.00	0.00
1989	6	18	169	98.06	77.00	36.57	581.92	12.75	3.85	0.00
1989	6	19	170	100.04	78.08	34.27	581.92	11.18	2.30	0.00
1989	6	20	171	102.02	75.02	33.15	581.92	11.40	1.05	0.00
1989	6	21	172	100.94	75.92	33.33	581.92	14.76	1.25	0.00
1989	6	22	173	96.08	75.92	38.50	581.92	16.10	5.60	0.00
1989	6	23	174	89.06	75.92	41.07	581.92	9.39	8.05	0.15
1989	6	24	175	87.08	73.94	41.02	581.92	10.51	8.00	0.19
1989	6	25	176	86.00	73.94	41.97	581.92	9.61	8.85	0.00
1989	6	26	177	96.08	73.04	37.22	581.92	7.83	4.58	0.00
1989	6	27	178	100.04	77.00	35.71	581.92	10.06	2.90	0.00
1989	6	28	179	102.92	78.98	34.99	581.92	5.81	2.60	0.00
1989	6	29	180	100.94	78.98	36.41	581.92	7.83	3.68	0.02
1989	6	30	181	95.00	80.06	38.61	581.92	9.61	6.13	0.00
1989	7	1	182	100.04	75.92	34.09	581.92	8.27	2.10	0.00
1989	7	2	183	104.00	78.98	32.20	623.50	12.52	0.00	0.00
1989	7	3	184	100.94	78.98	36.61	623.50	13.42	3.90	0.00
1989	7	4	185	96.08	77.00	37.15	623.50	9.39	4.50	0.00
1989	7	5	186	100.94	78.98	36.48	623.50	8.72	3.75	0.00
1989	7	6	187	100.04	78.98	33.91	623.50	9.17	1.90	0.00
1989	7	7	188	98.96	69.08	35.89	623.50	8.50	3.10	0.00
1989	7	8	189	100.04	78.98	36.12	623.50	12.75	3.35	0.00
1989	7	9	190	100.04	77.00	36.88	623.50	13.64	4.20	0.00
1989	7	10	191	98.96	77.00	36.41	623.50	14.31	3.68	0.00
1989	7	11	192	100.04	78.08	36.81	623.50	14.53	4.13	0.00
1989	7	12	193	100.04	77.00	33.51	623.50	14.53	1.45	0.00
1989	7	13	194	104.00	75.92	33.78	623.50	12.97	1.75	0.00
1989	7	14	195	105.08	77.00	38.61	623.50	12.30	5.33	0.00
1989	7	15	196	104.00	78.08	36.93	623.50	12.52	4.25	0.00
1989	7	16	197	104.00	78.08	32.20	623.50	12.07	0.00	0.00
1989	7	17	198	105.08	78.98	33.06	623.50	11.63	0.95	0.00
1989	7	18	199	105.08	78.98	34.18	623.50	12.97	2.20	0.00
1989	7	19	200	104.00	78.98	36.59	623.50	7.83	3.88	0.00
1989	7	20	201	100.94	80.96	36.50	623.50	9.61	3.78	0.00
1989	7	21	202	98.96	77.00	36.63	623.50	9.39	3.93	0.00
1989	7	22	203	98.06	78.98	37.83	623.50	10.96	5.25	0.00
1989	7	23	204	96.98	73.94	34.92	623.50	10.96	3.03	0.03
1989	7	24	205	91.94	73.04	39.74	623.50	9.39	6.58	0.10

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1989	7	25	206	89.96	71.06	38.55	623.50	8.27	5.25	0.10
1989	7	26	207	93.92	71.96	39.04	623.50	6.04	5.80	0.00
1989	7	27	208	89.96	73.94	39.67	623.50	5.59	6.50	0.00
1989	7	28	209	96.08	75.92	38.10	623.50	7.38	5.55	0.00
1989	7	29	210	96.98	75.92	33.33	623.50	9.61	1.25	0.00
1989	7	30	211	98.06	75.02	35.53	623.50	9.84	2.70	0.00
1989	7	31	212	98.96	75.92	34.18	623.50	7.83	2.20	0.00
1989	8	1	213	100.94	78.08	37.92	543.94	6.93	4.55	0.00
1989	8	2	214	102.02	80.06	38.78	543.94	13.19	5.65	0.00
1989	8	3	215	100.94	80.06	36.32	543.94	15.65	3.58	0.00
1989	8	4	216	102.92	78.08	33.51	543.94	13.86	1.45	0.00
1989	8	5	217	102.02	80.06	34.59	543.94	13.64	2.40	0.15
1989	8	6	218	96.98	80.96	38.97	543.94	12.07	5.73	0.00
1989	8	7	219	96.98	78.98	40.77	543.94	10.29	7.73	0.57
1989	8	8	220	89.06	71.96	41.49	543.94	10.73	8.53	0.00
1989	8	9	221	87.98	73.94	41.20	543.94	8.94	8.20	0.00
1989	8	10	222	91.94	75.92	40.26	543.94	9.61	7.15	0.00
1989	8	11	223	96.08	75.02	38.28	543.94	8.72	5.75	0.00
1989	8	12	224	96.08	75.02	36.63	543.94	8.50	3.93	0.00
1989	8	13	225	96.08	75.02	38.95	543.94	8.27	5.70	0.00
1989	8	14	226	96.08	75.02	36.57	543.94	10.51	3.85	0.00
1989	8	15	227	98.06	75.92	36.68	543.94	10.96	3.98	0.00
1989	8	16	228	98.96	75.92	34.83	543.94	13.86	2.93	0.00
1989	8	17	229	98.96	77.00	36.09	543.94	14.98	3.33	0.00
1989	8	18	230	93.92	75.92	37.15	543.94	13.42	4.50	0.00
1989	8	19	231	98.96	75.02	35.62	543.94	15.20	2.80	0.00
1989	8	20	232	100.04	78.98	35.39	543.94	17.89	2.70	0.00
1989	8	21	233	98.96	78.08	37.58	543.94	15.65	4.98	0.00
1989	8	22	234	98.06	78.08	37.22	543.94	13.42	4.58	2.81
1989	8	23	235	98.06	73.04	41.02	543.94	11.40	8.00	0.01
1989	8	24	236	96.08	75.02	41.25	543.94	10.96	8.25	0.00
1989	8	25	237	100.04	78.08	36.95	543.94	14.76	4.28	0.00
1989	8	26	238	98.96	78.08	36.63	543.94	12.30	3.93	0.00
1989	8	27	239	96.98	78.98	36.70	543.94	12.52	4.00	0.00
1989	8	28	240	100.04	77.00	35.22	543.94	14.09	2.60	0.00
1989	8	29	241	100.04	78.08	35.96	543.94	13.86	3.18	0.00
1989	8	30	242	100.04	78.98	33.60	543.94	13.42	1.55	0.00
1989	8	31	243	102.92	78.98	35.22	543.94	15.20	2.60	0.00
1989	9	1	244	100.94	78.98	34.27	459.97	14.76	2.30	0.00
1989	9	2	245	102.02	80.06	34.27	459.97	12.30	2.30	0.00
1989	9	3	246	100.94	78.98	33.60	459.97	12.07	1.55	0.00
1989	9	4	247	100.04	77.00	33.33	459.97	10.29	1.25	0.03
1989	9	5	248	96.98	78.08	36.18	459.97	11.40	3.43	0.08
1989	9	6	249	93.02	77.00	36.79	459.97	8.50	4.10	0.00
1989	9	7	250	98.06	77.00	38.77	459.97	12.52	5.50	0.00
1989	9	8	251	100.94	75.92	34.59	459.97	14.09	2.40	0.00
1989	9	9	252	100.04	77.00	33.42	459.97	16.32	1.35	0.00
1989	9	10	253	100.04	80.06	36.81	459.97	13.86	4.13	0.00
1989	9	11	254	100.04	78.08	37.17	459.97	12.97	4.53	0.00
1989	9	12	255	100.04	78.08	36.95	459.97	12.52	4.28	0.00
1989	9	13	256	100.04	77.00	37.58	459.97	11.40	4.98	1.43

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1989	9	14	257	78.98	62.96	41.94	459.97	10.96	8.83	0.00
1989	9	15	258	87.08	69.08	38.48	459.97	6.93	5.98	0.00
1989	9	16	259	89.96	66.02	32.97	459.97	5.59	0.85	0.00
1989	9	17	260	91.94	69.08	32.20	459.97	7.83	0.00	0.00
1989	9	18	261	93.92	69.08	33.78	459.97	6.93	1.75	0.00
1989	9	19	262	93.92	71.96	33.24	459.97	8.27	1.15	0.00
1989	9	20	263	93.02	71.96	36.72	459.97	8.50	4.03	0.00
1989	9	21	264	91.04	75.02	37.60	459.97	10.06	5.00	0.00
1989	9	22	265	91.94	73.04	39.49	459.97	8.72	6.30	0.00
1989	9	23	266	87.08	66.92	34.38	459.97	12.52	2.43	0.00
1989	9	24	267	80.06	55.94	32.20	459.97	8.05	0.00	0.00
1989	9	25	268	87.08	57.02	32.20	459.97	4.25	0.00	0.00
1989	9	26	269	84.02	57.92	32.20	459.97	6.93	0.00	0.00
1989	9	27	270	87.08	57.92	32.20	459.97	6.26	0.00	0.00
1989	9	28	271	87.98	62.06	34.05	459.97	4.70	2.05	0.00
1989	9	29	272	93.02	60.98	32.20	459.97	4.47	0.00	0.00
1989	9	30	273	91.94	62.06	32.20	459.97	3.58	0.00	0.00
1989	10	1	274	96.98	66.02	32.20	355.35	6.71	0.00	0.00
1989	10	2	275	96.98	68.00	32.20	355.35	10.29	0.00	0.00
1989	10	3	276	93.02	66.92	33.15	355.35	7.16	1.05	0.00
1989	10	4	277	95.00	71.06	36.27	355.35	8.72	3.53	0.00
1989	10	5	278	96.08	77.00	37.49	355.35	12.07	4.88	0.00
1989	10	6	279	96.98	75.92	36.05	355.35	8.94	3.28	0.25
1989	10	7	280	84.02	71.96	42.06	355.35	9.39	8.95	0.00
1989	10	8	281	84.02	64.04	36.59	355.35	10.29	3.88	0.00
1989	10	9	282	86.00	55.94	35.98	355.35	5.59	3.20	0.00
1989	10	10	283	89.96	57.02	32.20	355.35	2.01	0.00	0.00
1989	10	11	284	91.94	57.92	32.20	355.35	3.58	0.00	0.00
1989	10	12	285	91.94	62.06	32.20	355.35	7.83	0.00	0.00
1989	10	13	286	89.96	66.92	36.57	355.35	5.37	3.85	0.00
1989	10	14	287	91.04	71.96	36.86	355.35	5.59	4.18	0.00
1989	10	15	288	93.02	66.92	35.80	355.35	4.70	3.00	0.00
1989	10	16	289	95.00	68.00	33.51	355.35	8.05	1.45	0.00
1989	10	17	290	80.96	68.00	36.77	355.35	11.63	4.08	0.00
1989	10	18	291	71.06	62.06	40.86	355.35	13.86	7.83	0.00
1989	10	19	292	69.98	46.94	36.16	355.35	8.94	3.40	0.00
1989	10	20	293	77.00	48.02	32.97	355.35	9.84	0.85	0.00
1989	10	21	294	82.94	55.94	38.19	355.35	11.85	5.65	0.00
1989	10	22	295	87.98	62.06	33.91	355.35	9.84	1.90	0.00
1989	10	23	296	89.96	66.02	35.53	355.35	10.73	2.70	0.00
1989	10	24	297	86.00	66.02	36.18	355.35	12.52	3.43	0.00
1989	10	25	298	82.94	66.92	39.22	355.35	10.29	6.00	0.00
1989	10	26	299	87.08	66.92	37.38	355.35	11.63	4.75	0.00
1989	10	27	300	87.08	69.98	39.63	355.35	13.19	6.45	0.00
1989	10	28	301	87.98	71.06	40.68	355.35	14.76	7.63	0.23
1989	10	29	302	86.00	64.94	40.39	355.35	11.18	7.30	0.00
1989	10	30	303	78.08	64.04	40.75	355.35	11.18	7.70	0.00
1989	10	31	304	71.06	51.98	39.49	355.35	8.05	6.30	0.00
1989	11	1	305	78.98	57.92	38.16	273.78	4.92	5.23	0.00
1989	11	2	306	66.02	51.98	33.96	273.78	11.18	1.95	0.00
1989	11	3	307	69.08	46.94	36.95	273.78	4.70	4.28	0.00

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1989	11	4	308	80.96	57.02	36.95	273.78	6.26	4.28	0.00
1989	11	5	309	82.94	69.08	38.59	273.78	7.60	5.30	0.00
1989	11	6	310	89.06	66.92	36.68	273.78	5.14	3.98	0.00
1989	11	7	311	91.04	69.98	35.22	273.78	5.81	2.60	0.00
1989	11	8	312	93.02	71.96	35.04	273.78	8.50	3.15	0.00
1989	11	9	313	84.02	53.96	32.79	273.78	5.59	0.65	0.00
1989	11	10	314	82.94	53.96	34.50	273.78	4.92	2.55	0.00
1989	11	11	315	82.94	60.98	38.23	273.78	7.16	4.90	0.00
1989	11	12	316	86.00	68.00	37.78	273.78	11.18	4.80	0.00
1989	11	13	317	84.92	71.06	39.56	273.78	11.18	6.38	0.00
1989	11	14	318	89.96	69.98	36.95	273.78	7.83	4.28	0.00
1989	11	15	319	84.92	60.98	38.86	273.78	12.97	5.60	0.00
1989	11	16	320	66.92	46.94	39.65	273.78	6.48	6.48	0.14
1989	11	17	321	69.98	57.02	42.62	273.78	7.83	9.58	0.09
1989	11	18	322	62.96	60.08	42.44	273.78	8.72	9.38	0.04
1989	11	19	323	60.98	57.02	43.00	273.78	8.50	10.00	0.00
1989	11	20	324	78.98	60.08	38.73	273.78	2.91	6.25	0.00
1989	11	21	325	73.04	60.98	41.31	273.78	7.83	8.13	0.00
1989	11	22	326	84.02	59.00	39.87	273.78	15.65	6.73	0.00
1989	11	23	327	64.04	48.92	32.38	273.78	8.50	0.20	0.00
1989	11	24	328	75.02	44.96	38.64	273.78	10.73	5.35	0.00
1989	11	25	329	77.00	60.08	40.86	273.78	3.58	7.83	0.00
1989	11	26	330	84.92	51.98	34.99	273.78	2.91	3.10	0.00
1989	11	27	331	87.08	66.02	37.98	273.78	9.61	5.43	0.17
1989	11	28	332	69.98	55.04	42.44	273.78	15.88	9.38	0.00
1989	11	29	333	55.04	50.00	43.00	273.78	11.85	10.00	0.14
1989	11	30	334	50.00	39.92	42.91	273.78	9.17	9.90	0.53
1989	12	1	335	42.98	41.00	43.00	207.53	5.81	10.00	1.17
1989	12	2	336	50.00	42.98	43.00	207.53	8.94	10.00	0.05
1989	12	3	337	55.04	48.92	42.24	207.53	7.83	9.15	0.00
1989	12	4	338	64.04	46.94	39.99	207.53	6.04	6.85	0.00
1989	12	5	339	73.04	50.00	35.55	207.53	6.26	3.23	0.00
1989	12	6	340	82.94	57.02	37.40	207.53	5.81	4.78	0.00
1989	12	7	341	62.96	51.98	41.09	207.53	11.85	7.88	0.00
1989	12	8	342	57.02	42.98	32.65	207.53	14.31	0.50	0.00
1989	12	9	343	64.94	35.06	32.20	207.53	8.05	0.00	0.00
1989	12	10	344	77.00	46.04	36.23	207.53	8.50	3.48	0.00
1989	12	11	345	60.08	41.00	39.78	207.53	16.32	6.63	0.00
1989	12	12	346	50.00	33.08	33.10	207.53	14.31	1.00	0.00
1989	12	13	347	60.98	28.22	32.20	207.53	5.59	0.00	0.00
1989	12	14	348	66.92	39.92	33.78	207.53	6.48	1.75	0.00
1989	12	15	349	78.08	39.92	36.95	207.53	11.40	4.28	0.00
1989	12	16	350	37.94	26.24	39.67	207.53	10.06	6.30	0.00
1989	12	17	351	39.02	32.00	43.00	207.53	7.83	10.00	0.00
1989	12	18	352	53.06	37.04	42.82	207.53	7.60	9.80	0.05
1989	12	19	353	46.04	42.08	43.00	207.53	9.17	10.00	0.00
1989	12	20	354	53.96	30.20	34.65	207.53	4.47	2.73	0.00
1989	12	21	355	50.00	37.04	42.91	207.53	11.63	9.90	0.00
1989	12	22	356	35.06	22.10	42.64	207.53	18.78	9.60	0.00
1989	12	23	357	33.08	15.26	32.47	207.53	8.05	0.30	0.00
1989	12	24	358	50.00	20.12	33.15	207.53	8.72	1.05	0.00

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1989	12	25	359	66.02	27.14	32.79	207.53	3.58	0.65	0.00
1989	12	26	360	73.04	35.06	35.62	207.53	5.59	2.80	0.00
1989	12	27	361	73.04	50.00	38.10	207.53	4.92	5.55	0.00
1989	12	28	362	73.04	53.96	38.61	207.53	7.83	5.73	0.00
1989	12	29	363	78.08	51.98	36.97	207.53	6.71	4.30	0.00
1989	12	30	364	64.04	53.06	41.38	207.53	8.27	8.20	0.00
1989	12	31	365	59.00	48.92	42.82	207.53	11.85	9.80	0.12
1990	1	1	1	51.98	46.94	43.00	277.05	2.24	10.00	0.00
1990	1	2	2	66.02	48.02	42.37	277.05	7.83	9.30	0.01
1990	1	3	3	78.98	57.92	39.87	277.05	11.40	6.73	0.00
1990	1	4	4	69.98	59.00	41.18	277.05	12.30	7.98	0.09
1990	1	5	5	57.92	48.92	42.44	277.05	7.60	9.38	1.00
1990	1	6	6	50.00	44.96	43.00	277.05	9.17	10.00	0.04
1990	1	7	7	66.02	41.00	34.36	277.05	7.38	2.40	0.00
1990	1	8	8	73.04	41.00	32.20	277.05	7.60	0.00	0.00
1990	1	9	9	80.06	44.06	32.20	277.05	6.26	0.00	0.00
1990	1	10	10	80.06	44.06	32.20	277.05	5.81	0.00	0.00
1990	1	11	11	80.96	53.06	34.72	277.05	6.48	2.80	0.00
1990	1	12	12	62.96	55.04	39.90	277.05	11.40	6.75	0.00
1990	1	13	13	57.92	48.02	42.26	277.05	8.05	9.18	0.00
1990	1	14	14	68.00	55.04	41.67	277.05	6.48	8.53	0.00
1990	1	15	15	80.06	55.94	35.24	277.05	12.75	2.88	0.00
1990	1	16	16	82.94	66.02	38.12	277.05	16.10	5.58	0.00
1990	1	17	17	80.06	66.92	41.11	277.05	10.29	8.10	0.00
1990	1	18	18	84.92	69.98	40.93	277.05	15.43	7.90	0.00
1990	1	19	19	73.04	60.08	42.35	277.05	17.22	9.28	0.00
1990	1	20	20	66.92	57.92	41.22	277.05	7.83	8.23	0.00
1990	1	21	21	66.92	48.92	39.06	277.05	4.92	5.83	0.00
1990	1	22	22	73.04	46.04	36.99	277.05	6.71	4.33	0.00
1990	1	23	23	75.02	55.04	39.47	277.05	5.81	6.28	0.00
1990	1	24	24	84.02	60.98	41.16	277.05	5.59	8.15	0.00
1990	1	25	25	64.94	48.02	34.02	277.05	11.85	2.03	0.00
1990	1	26	26	71.96	39.02	32.20	277.05	14.09	0.00	0.00
1990	1	27	27	78.08	53.06	35.08	277.05	10.06	2.70	0.00
1990	1	28	28	64.94	50.00	42.10	277.05	10.96	9.00	0.00
1990	1	29	29	68.00	41.00	37.42	277.05	6.48	4.80	0.00
1990	1	30	30	73.94	51.98	39.67	277.05	6.71	6.50	0.00
1990	1	31	31	82.94	60.98	42.17	277.05	12.75	9.08	0.00
1990	2	1	32	84.02	60.98	40.95	359.22	12.30	7.93	0.00
1990	2	2	33	75.02	59.00	40.98	359.22	5.59	7.95	0.00
1990	2	3	34	71.96	55.94	39.81	359.22	17.89	6.65	0.00
1990	2	4	35	68.00	42.08	35.94	359.22	4.92	3.15	0.00
1990	2	5	36	73.04	46.94	37.08	359.22	12.75	4.43	0.00
1990	2	6	37	73.94	55.94	42.24	359.22	8.50	9.15	0.00
1990	2	7	38	73.94	50.00	41.52	359.22	7.16	8.55	0.00
1990	2	8	39	87.08	64.94	36.50	359.22	11.63	4.28	0.00
1990	2	9	40	91.04	59.00	36.23	359.22	12.97	3.48	0.00
1990	2	10	41	78.98	50.00	37.40	359.22	8.05	4.78	0.00
1990	2	11	42	84.02	51.08	32.38	359.22	3.80	0.20	0.00
1990	2	12	43	86.00	53.96	33.33	359.22	15.43	1.25	0.00
1990	2	13	44	82.94	59.00	39.81	359.22	15.43	6.65	0.04

City of Laredo Landfill

Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
1990	2	14	45	80.96	64.94	42.24	359.22	11.85	9.15	0.01
1990	2	15	46	91.94	62.96	38.25	359.22	7.16	5.73	0.00
1990	2	16	47	75.02	51.08	40.73	359.22	11.18	7.48	0.00
1990	2	17	48	57.92	55.04	42.82	359.22	8.05	9.80	0.03
1990	2	18	49	57.02	50.00	43.00	359.22	8.27	10.00	0.02
1990	2	19	50	69.08	53.96	42.80	359.22	7.38	9.78	0.02
1990	2	20	51	64.04	60.08	42.91	359.22	12.75	9.90	1.47
1990	2	21	52	69.08	51.98	40.14	359.22	14.31	7.03	0.00
1990	2	22	53	69.98	53.06	34.47	359.22	12.07	2.53	0.00
1990	2	23	54	73.04	46.04	32.20	359.22	4.92	0.00	0.00
1990	2	24	55	75.92	48.02	32.20	359.22	10.29	0.00	0.00
1990	2	25	56	78.08	51.08	32.20	359.22	13.42	0.00	0.00
1990	2	26	57	78.08	55.94	36.09	359.22	16.99	3.33	0.00
1990	2	27	58	73.94	62.06	41.13	359.22	14.53	8.13	0.03
1990	2	28	59	73.94	53.06	42.91	359.22	14.98	9.90	0.88
1990	3	1	60	51.98	44.06	42.37	421.77	14.31	9.30	0.00
1990	3	2	61	66.92	39.92	37.26	421.77	6.26	4.63	0.00
1990	3	3	62	73.04	48.92	38.05	421.77	5.37	4.70	0.00
1990	3	4	63	75.92	57.02	40.68	421.77	13.86	7.63	0.00
1990	3	5	64	78.98	59.00	39.27	421.77	16.99	6.05	0.00
1990	3	6	65	84.02	69.08	41.27	421.77	16.10	8.08	0.01
1990	3	7	66	77.00	69.08	42.53	421.77	10.73	9.48	0.00
1990	3	8	67	84.02	68.00	41.28	421.77	11.18	8.13	0.00
1990	3	9	68	84.92	69.98	40.57	421.77	16.32	7.50	0.00
1990	3	10	69	84.02	69.98	40.30	421.77	18.34	7.20	0.10
1990	3	11	70	84.92	71.06	41.70	421.77	17.22	8.55	0.00
1990	3	12	71	89.06	71.06	38.03	421.77	14.31	5.48	0.00
1990	3	13	72	87.98	73.94	41.81	421.77	17.44	8.68	0.00
1990	3	14	73	77.00	60.62	40.46	421.77	16.32	7.38	0.00
1990	3	15	74	75.02	55.94	38.30	421.77	7.16	5.78	0.00
1990	3	16	75	77.00	48.02	34.00	421.77	6.48	2.00	0.00
1990	3	17	76	80.06	50.00	33.51	421.77	5.59	1.45	0.00
1990	3	18	77	82.94	57.92	33.15	421.77	14.98	1.05	0.00
1990	3	19	78	75.02	59.00	36.18	421.77	11.63	3.43	0.00
1990	3	20	79	73.94	51.98	34.65	421.77	9.61	2.73	0.00
1990	3	21	80	82.04	53.96	37.26	421.77	13.64	4.63	0.00
1990	3	22	81	89.06	60.98	32.56	421.77	13.86	0.40	0.00
1990	3	23	82	86.00	64.94	37.33	421.77	15.43	4.70	0.00
1990	3	24	83	84.02	62.06	38.43	421.77	12.30	5.13	0.09
1990	3	25	84	69.98	48.02	43.00	421.77	11.63	10.00	0.11
1990	3	26	85	57.02	48.92	43.00	421.77	9.84	10.00	0.17
1990	3	27	86	55.94	48.02	43.00	421.77	8.72	10.00	0.00
1990	3	28	87	75.02	55.04	42.26	421.77	7.38	9.18	0.26
1990	3	29	88	82.04	64.94	39.49	421.77	7.38	6.10	0.00
1990	3	30	89	75.02	62.96	40.64	421.77	12.30	7.48	0.00
1990	3	31	90	78.08	62.96	41.56	421.77	10.96	8.50	0.00
1990	4	1	91	78.98	64.94	41.90	514.09	6.93	8.78	0.52
1990	4	2	92	78.98	66.92	40.66	514.09	10.29	7.60	0.00
1990	4	3	93	78.98	59.00	39.65	514.09	9.61	6.48	0.00
1990	4	4	94	82.04	62.06	40.44	514.09	8.50	7.35	0.00
1990	4	5	95	82.94	64.94	38.39	514.09	14.09	5.88	0.00

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1990	4	6	96	75.02	60.08	38.96	514.09	14.09	5.95	0.00
1990	4	7	97	69.98	48.02	37.20	514.09	10.73	4.55	0.01
1990	4	8	98	66.92	60.08	43.00	514.09	9.39	10.00	0.00
1990	4	9	99	84.02	66.92	41.99	514.09	13.86	8.88	0.00
1990	4	10	100	82.94	69.08	40.66	514.09	11.40	7.60	0.00
1990	4	11	101	78.08	55.94	35.87	514.09	10.73	3.08	0.00
1990	4	12	102	73.04	55.94	40.64	514.09	11.63	7.48	0.10
1990	4	13	103	77.00	64.94	42.26	514.09	12.75	9.18	0.00
1990	4	14	104	86.00	71.06	41.04	514.09	11.63	8.03	0.00
1990	4	15	105	87.08	69.08	39.81	514.09	12.97	6.65	0.00
1990	4	16	106	86.00	71.96	41.79	514.09	13.64	8.65	0.00
1990	4	17	107	89.06	69.98	39.63	514.09	11.40	6.45	0.00
1990	4	18	108	84.02	69.08	42.35	514.09	13.19	9.28	0.00
1990	4	19	109	86.00	69.98	41.52	514.09	14.76	8.55	0.00
1990	4	20	110	91.04	69.98	39.04	514.09	16.99	5.80	0.00
1990	4	21	111	89.06	73.94	40.30	514.09	14.31	7.20	0.00
1990	4	22	112	91.04	66.92	39.38	514.09	14.09	6.18	1.09
1990	4	23	113	89.96	68.00	41.43	514.09	15.43	8.25	0.00
1990	4	24	114	89.96	68.00	38.25	514.09	14.31	5.73	0.00
1990	4	25	115	91.94	73.94	40.12	514.09	19.23	7.00	0.98
1990	4	26	116	82.94	64.04	38.25	514.09	13.64	5.33	0.00
1990	4	27	117	96.98	64.94	33.19	514.09	8.05	1.10	0.00
1990	4	28	118	96.98	69.08	33.01	514.09	7.38	0.90	0.00
1990	4	29	119	105.08	75.02	32.56	514.09	11.63	0.40	0.00
1990	4	30	120	98.96	73.04	33.87	514.09	11.18	1.85	0.00
1990	5	1	121	87.98	78.98	42.35	514.09	15.20	9.28	0.00
1990	5	2	122	82.94	75.02	42.82	553.07	12.52	9.80	0.04
1990	5	3	123	87.08	62.96	41.00	553.07	12.97	7.88	0.00
1990	5	4	124	80.06	55.94	41.09	553.07	8.94	7.88	0.04
1990	5	5	125	69.98	59.00	43.00	553.07	9.39	10.00	0.00
1990	5	6	126	80.06	62.06	41.97	553.07	8.50	8.85	0.27
1990	5	7	127	77.00	62.06	41.61	553.07	7.38	8.45	0.08
1990	5	8	128	86.00	64.94	39.81	553.07	6.93	6.45	0.00
1990	5	9	129	102.02	68.00	32.92	553.07	8.72	0.80	0.00
1990	5	10	130	84.02	73.04	40.39	553.07	15.20	7.30	0.01
1990	5	11	131	93.92	73.04	42.24	553.07	15.65	9.15	0.00
1990	5	12	132	98.96	75.92	37.04	553.07	10.29	4.38	0.00
1990	5	13	133	98.06	75.92	39.06	553.07	10.96	5.83	0.00
1990	5	14	134	96.98	78.08	40.50	553.07	13.42	7.43	0.00
1990	5	15	135	98.96	77.00	36.77	553.07	16.99	4.08	0.00
1990	5	16	136	100.94	77.00	38.68	553.07	12.07	5.40	0.00
1990	5	17	137	96.98	78.98	39.60	553.07	12.97	6.43	0.00
1990	5	18	138	96.98	78.08	40.95	553.07	15.43	7.93	0.00
1990	5	19	139	102.92	71.96	36.86	553.07	14.09	4.18	0.29
1990	5	20	140	105.98	78.08	37.69	553.07	11.40	4.90	0.00
1990	5	21	141	102.02	78.08	37.53	553.07	8.50	4.93	0.00
1990	5	22	142	96.08	77.00	39.33	553.07	8.94	6.13	0.00
1990	5	23	143	96.08	73.04	36.72	553.07	9.39	4.03	0.00
1990	5	24	144	98.06	77.00	36.12	553.07	14.31	3.35	0.00
1990	5	25	145	100.04	75.92	36.14	553.07	15.65	3.38	0.00
1990	5	26	146	100.94	77.00	35.56	553.07	14.76	2.98	0.00

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1990	5	27	147	100.94	77.00	33.51	553.07	13.64	1.45	0.00
1990	5	28	148	96.08	78.98	39.72	553.07	11.40	6.55	0.00
1990	5	29	149	98.06	77.00	37.40	553.07	14.76	4.78	0.00
1990	5	30	150	91.94	78.98	41.67	553.07	10.51	8.53	0.00
1990	5	31	151	100.94	82.94	40.66	553.07	13.64	7.60	0.00
1990	6	1	152	105.98	82.94	35.92	553.07	18.78	3.88	0.00
1990	6	2	153	105.08	80.96	36.68	581.92	17.89	3.98	0.00
1990	6	3	154	105.98	78.98	34.27	581.92	14.76	2.30	0.00
1990	6	4	155	100.94	78.98	36.66	581.92	12.52	3.95	0.00
1990	6	5	156	102.92	78.08	33.15	581.92	14.31	1.05	0.00
1990	6	6	157	102.92	78.08	32.97	581.92	16.32	0.85	0.00
1990	6	7	158	100.94	80.96	36.93	581.92	17.22	4.25	0.00
1990	6	8	159	100.94	78.08	37.04	581.92	14.98	4.38	0.00
1990	6	9	160	98.96	77.00	35.71	581.92	12.75	2.90	0.00
1990	6	10	161	93.02	75.92	36.05	581.92	6.93	3.28	0.00
1990	6	11	162	96.98	73.94	35.80	581.92	9.84	3.00	0.00
1990	6	12	163	100.94	75.92	34.09	581.92	14.98	2.10	0.00
1990	6	13	164	100.04	78.98	36.25	581.92	14.53	3.50	0.00
1990	6	14	165	100.04	80.96	37.98	581.92	16.32	5.43	0.00
1990	6	15	166	100.94	80.96	39.38	581.92	15.20	6.58	0.00
1990	6	16	167	102.92	78.08	37.98	581.92	15.20	5.43	0.00
1990	6	17	168	102.02	78.08	34.27	581.92	13.86	2.30	0.00
1990	6	18	169	100.94	78.08	35.53	581.92	12.75	2.70	0.00
1990	6	19	170	100.94	75.92	33.06	581.92	12.52	0.95	0.00
1990	6	20	171	102.02	77.00	32.97	581.92	13.86	0.85	0.00
1990	6	21	172	100.94	78.08	36.72	581.92	13.86	4.03	0.00
1990	6	22	173	102.92	78.98	35.53	581.92	13.19	2.70	0.00
1990	6	23	174	102.92	78.98	33.51	581.92	10.96	1.45	0.00
1990	6	24	175	102.92	80.06	32.97	581.92	12.52	0.85	0.00
1990	6	25	176	102.92	80.06	32.56	581.92	14.31	0.40	0.00
1990	6	26	177	102.92	78.98	36.30	581.92	13.42	3.55	0.00
1990	6	27	178	100.04	78.98	34.27	581.92	12.52	2.30	0.00
1990	6	28	179	100.04	78.08	33.91	581.92	14.09	1.90	0.00
1990	6	29	180	98.96	78.08	35.53	581.92	14.98	2.70	0.19
1990	6	30	181	95.00	77.00	37.24	581.92	12.97	4.40	0.00
1990	7	1	182	93.92	71.06	41.01	581.92	11.85	7.95	0.00
1990	7	2	183	93.92	78.08	41.37	623.50	10.73	8.23	0.00
1990	7	3	184	98.96	75.92	36.50	623.50	12.30	3.78	0.00
1990	7	4	185	100.04	73.94	36.21	623.50	14.09	3.45	0.00
1990	7	5	186	100.04	78.08	36.30	623.50	15.20	3.55	0.00
1990	7	6	187	96.98	78.08	36.99	623.50	15.88	4.33	0.07
1990	7	7	188	91.94	75.92	39.36	623.50	15.88	6.15	0.17
1990	7	8	189	95.00	73.04	41.07	623.50	13.19	8.05	0.00
1990	7	9	190	98.06	75.92	36.12	623.50	12.07	3.35	0.00
1990	7	10	191	96.98	75.92	37.35	623.50	12.07	4.73	0.00
1990	7	11	192	98.06	75.92	35.80	623.50	12.75	3.00	0.00
1990	7	12	193	102.02	78.08	36.00	623.50	10.51	3.23	0.28
1990	7	13	194	91.04	71.96	40.41	623.50	8.27	7.33	0.00
1990	7	14	195	91.04	73.94	37.76	623.50	8.27	5.18	0.03
1990	7	15	196	95.00	77.00	39.13	623.50	15.88	5.90	0.78
1990	7	16	197	87.98	75.02	42.62	623.50	9.84	9.58	0.82

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1990	7	17	198	89.06	71.96	42.26	623.50	14.31	9.18	0.60
1990	7	18	199	89.06	77.00	41.49	623.50	12.30	8.53	0.00
1990	7	19	200	91.94	75.92	42.53	623.50	9.61	9.48	0.03
1990	7	20	201	95.00	77.00	41.61	623.50	10.73	8.50	0.00
1990	7	21	202	98.96	77.00	35.46	623.50	14.09	3.13	0.00
1990	7	22	203	98.96	77.00	34.09	623.50	13.64	2.10	0.05
1990	7	23	204	96.98	77.00	39.38	623.50	11.18	6.18	0.00
1990	7	24	205	96.98	78.08	37.89	623.50	14.76	5.33	0.00
1990	7	25	206	102.02	78.08	35.62	623.50	16.77	2.80	0.00
1990	7	26	207	98.96	75.92	37.24	623.50	14.76	4.60	0.00
1990	7	27	208	98.96	77.00	36.59	623.50	12.07	3.88	0.00
1990	7	28	209	98.06	75.92	35.96	623.50	10.06	3.18	0.00
1990	7	29	210	98.96	78.08	35.40	623.50	8.05	2.80	0.00
1990	7	30	211	98.96	77.00	36.48	623.50	8.27	3.75	0.00
1990	7	31	212	96.98	78.98	38.01	623.50	8.50	5.45	0.01
1990	8	1	213	96.98	78.98	41.88	543.94	8.27	8.75	0.57
1990	8	2	214	89.96	73.94	42.82	543.94	7.60	9.80	0.04
1990	8	3	215	98.96	77.00	39.87	543.94	11.63	6.73	0.00
1990	8	4	216	100.94	78.08	35.89	543.94	13.86	3.10	0.00
1990	8	5	217	100.04	78.08	34.59	543.94	11.40	2.40	0.00
1990	8	6	218	96.08	75.92	36.48	543.94	9.17	3.75	0.00
1990	8	7	219	93.92	75.92	38.16	543.94	10.96	5.63	0.00
1990	8	8	220	95.00	75.02	40.86	543.94	5.81	7.83	0.02
1990	8	9	221	91.04	75.92	40.39	543.94	7.60	7.30	0.00
1990	8	10	222	93.02	73.94	37.92	543.94	7.83	5.35	0.00
1990	8	11	223	96.98	71.96	35.53	543.94	9.17	2.70	0.00
1990	8	12	224	96.98	75.92	36.50	543.94	12.07	3.78	0.22
1990	8	13	225	96.98	77.00	37.89	543.94	12.07	5.33	0.00
1990	8	14	226	100.04	78.08	38.93	543.94	13.64	6.08	0.00
1990	8	15	227	100.04	77.00	35.71	543.94	13.42	2.90	0.00
1990	8	16	228	98.06	78.98	36.75	543.94	14.53	4.05	0.00
1990	8	17	229	98.06	78.08	36.59	543.94	11.18	3.88	0.00
1990	8	18	230	100.04	78.98	36.95	543.94	12.75	4.28	0.00
1990	8	19	231	102.92	80.06	38.16	543.94	14.76	5.63	0.00
1990	8	20	232	102.02	77.00	33.42	543.94	13.42	1.35	0.00
1990	8	21	233	100.04	75.92	33.96	543.94	9.61	1.95	0.00
1990	8	22	234	98.96	78.08	34.98	543.94	10.96	2.83	0.00
1990	8	23	235	98.96	78.08	35.53	543.94	12.75	2.70	0.00
1990	8	24	236	102.02	78.08	32.97	543.94	15.65	0.85	0.00
1990	8	25	237	102.02	78.98	32.20	543.94	14.31	0.00	0.00
1990	8	26	238	102.02	78.08	32.20	543.94	12.07	0.00	0.00
1990	8	27	239	102.92	77.00	32.79	543.94	7.38	0.65	0.04
1990	8	28	240	96.98	78.08	39.51	543.94	8.05	6.33	0.00
1990	8	29	241	96.98	75.02	37.22	543.94	7.38	4.58	0.00
1990	8	30	242	98.96	80.06	38.55	543.94	8.72	6.05	0.00
1990	8	31	243	96.98	78.08	35.35	543.94	8.94	2.50	0.00
1990	9	1	244	100.94	78.08	37.40	459.97	9.17	4.78	0.53
1990	9	2	245	87.08	71.96	41.61	459.97	6.93	8.55	1.91
1990	9	3	246	89.96	71.06	40.82	459.97	5.37	7.78	0.08
1990	9	4	247	87.08	73.04	40.39	459.97	5.37	7.30	0.04
1990	9	5	248	93.02	73.04	38.21	459.97	2.46	5.68	0.00

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1990	9	6	249	93.92	71.96	34.92	459.97	3.58	3.03	0.00
1990	9	7	250	91.94	73.94	37.04	459.97	5.37	4.38	0.19
1990	9	8	251	93.92	75.92	35.62	459.97	6.93	2.80	0.00
1990	9	9	252	96.08	75.92	36.39	459.97	8.27	3.65	0.00
1990	9	10	253	93.92	75.02	37.71	459.97	10.06	5.13	0.00
1990	9	11	254	84.02	73.94	40.10	459.97	7.16	6.98	2.45
1990	9	12	255	87.08	69.98	40.64	459.97	5.81	7.58	0.01
1990	9	13	256	87.08	71.06	39.78	459.97	1.79	6.63	0.04
1990	9	14	257	89.06	77.00	41.49	459.97	4.25	8.53	0.00
1990	9	15	258	91.94	78.08	40.73	459.97	4.02	7.68	0.00
1990	9	16	259	95.00	75.92	38.77	459.97	6.93	5.50	0.00
1990	9	17	260	95.00	77.00	36.03	459.97	10.73	3.25	0.00
1990	9	18	261	91.04	75.92	36.43	459.97	12.07	3.70	0.49
1990	9	19	262	82.94	73.04	41.00	459.97	9.61	7.88	0.00
1990	9	20	263	98.06	77.00	37.67	459.97	10.96	5.08	0.00
1990	9	21	264	93.02	77.00	37.51	459.97	8.72	4.90	0.00
1990	9	22	265	95.00	77.00	37.13	459.97	6.93	4.48	0.27
1990	9	23	266	84.02	73.04	41.49	459.97	9.61	8.33	0.00
1990	9	24	267	82.04	62.96	36.77	459.97	4.25	4.08	0.00
1990	9	25	268	89.06	66.92	35.53	459.97	5.59	2.70	0.00
1990	9	26	269	91.94	69.98	33.51	459.97	6.48	1.45	0.00
1990	9	27	270	91.94	73.04	34.99	459.97	7.16	2.60	0.00
1990	9	28	271	91.94	71.06	36.07	459.97	7.38	3.30	0.00
1990	9	29	272	91.94	73.04	37.92	459.97	5.14	5.35	0.00
1990	9	30	273	91.94	71.06	36.12	459.97	3.35	3.35	0.00
1990	10	1	274	91.94	71.06	34.18	355.35	6.93	2.20	0.00
1990	10	2	275	91.04	71.96	39.67	355.35	11.18	6.50	0.00
1990	10	3	276	91.94	77.00	40.66	355.35	7.60	7.60	0.00
1990	10	4	277	98.06	75.02	40.77	355.35	4.47	7.73	0.00
1990	10	5	278	93.02	75.02	38.03	355.35	5.59	5.48	0.00
1990	10	6	279	95.00	73.94	36.30	355.35	8.72	3.55	0.00
1990	10	7	280	95.00	77.00	35.62	355.35	10.51	2.80	0.00
1990	10	8	281	95.00	75.92	35.80	355.35	9.61	3.00	1.90
1990	10	9	282	84.92	57.92	40.05	355.35	11.85	6.93	0.00
1990	10	10	283	71.06	48.92	32.38	355.35	6.04	0.20	0.00
1990	10	11	284	75.92	51.08	32.20	355.35	3.35	0.00	0.00
1990	10	12	285	80.96	57.02	34.09	355.35	6.93	2.10	0.00
1990	10	13	286	84.92	62.96	34.02	355.35	8.05	2.03	0.00
1990	10	14	287	93.92	64.04	32.20	355.35	8.05	0.00	0.00
1990	10	15	288	93.02	69.08	33.15	355.35	8.94	1.05	0.00
1990	10	16	289	89.96	73.04	39.47	355.35	11.40	6.68	0.00
1990	10	17	290	93.02	73.94	34.86	355.35	6.71	2.95	0.00
1990	10	18	291	80.96	64.04	36.50	355.35	10.06	3.78	0.00
1990	10	19	292	82.04	51.98	32.20	355.35	5.37	0.00	0.00
1990	10	20	293	89.96	66.02	33.51	355.35	9.84	1.45	0.01
1990	10	21	294	80.06	57.02	40.80	355.35	13.42	7.55	0.00
1990	10	22	295	71.06	48.92	39.15	355.35	6.93	5.93	0.00
1990	10	23	296	78.98	53.06	36.48	355.35	5.81	3.75	0.00
1990	10	24	297	80.06	53.06	35.22	355.35	4.25	2.60	0.00
1990	10	25	298	82.04	51.98	32.20	355.35	2.91	0.00	0.00
1990	10	26	299	82.04	55.94	32.20	355.35	8.27	0.00	0.00

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1990	10	27	300	82.04	60.08	32.47	355.35	8.50	0.30	0.00
1990	10	28	301	78.98	57.02	33.15	355.35	5.81	1.05	0.00
1990	10	29	302	82.04	53.06	32.20	355.35	4.70	0.00	0.00
1990	10	30	303	84.02	59.00	32.20	355.35	7.16	0.00	0.00
1990	10	31	304	84.02	64.04	33.51	355.35	9.61	1.45	0.00
1990	11	1	305	86.00	64.94	33.15	273.78	10.06	1.05	0.00
1990	11	2	306	87.98	64.04	36.23	273.78	12.07	3.48	0.00
1990	11	3	307	87.08	69.98	36.43	273.78	14.09	3.70	0.00
1990	11	4	308	75.92	51.08	39.11	273.78	12.97	5.88	0.00
1990	11	5	309	71.96	42.98	32.20	273.78	4.70	0.00	0.00
1990	11	6	310	80.06	51.08	33.15	273.78	9.61	1.05	2.84
1990	11	7	311	69.08	60.08	42.12	273.78	7.83	9.03	0.52
1990	11	8	312	60.98	46.94	40.66	273.78	11.18	7.40	0.00
1990	11	9	313	69.98	44.06	32.20	273.78	11.40	0.00	0.00
1990	11	10	314	71.06	42.98	32.20	273.78	2.46	0.00	0.00
1990	11	11	315	73.04	48.92	34.90	273.78	4.70	2.50	0.00
1990	11	12	316	73.94	50.00	35.53	273.78	2.91	2.70	0.00
1990	11	13	317	75.92	53.06	33.15	273.78	4.25	1.05	0.00
1990	11	14	318	78.98	59.00	38.50	273.78	6.93	5.60	0.00
1990	11	15	319	80.06	60.98	36.36	273.78	7.83	3.63	0.00
1990	11	16	320	80.96	64.94	36.99	273.78	3.80	4.33	0.00
1990	11	17	321	75.92	60.08	37.24	273.78	4.25	4.60	0.00
1990	11	18	322	82.04	60.98	33.78	273.78	8.05	1.75	0.00
1990	11	19	323	84.02	64.94	37.11	273.78	8.94	4.45	0.00
1990	11	20	324	84.92	64.94	37.24	273.78	12.97	4.60	0.00
1990	11	21	325	84.02	69.08	36.99	273.78	8.27	4.33	0.00
1990	11	22	326	80.96	71.06	39.76	273.78	4.92	6.60	0.00
1990	11	23	327	73.94	64.94	40.53	273.78	6.71	7.25	0.00
1990	11	24	328	80.06	60.98	34.27	273.78	6.48	2.30	0.00
1990	11	25	329	86.00	66.92	37.06	273.78	8.05	4.40	0.00
1990	11	26	330	84.02	69.98	39.13	273.78	14.31	5.90	0.00
1990	11	27	331	82.94	64.94	40.95	273.78	9.17	7.73	0.00
1990	11	28	332	69.08	62.06	39.69	273.78	10.51	6.53	0.00
1990	11	29	333	60.98	53.06	41.31	273.78	8.94	8.33	0.00
1990	11	30	334	66.92	51.08	38.37	273.78	4.02	5.85	0.00
1990	12	1	335	77.00	53.96	35.40	207.53	5.14	2.80	0.00
1990	12	2	336	80.06	66.02	37.47	207.53	9.17	4.85	0.00
1990	12	3	337	69.98	48.92	38.70	207.53	12.30	5.43	0.00
1990	12	4	338	57.02	42.08	32.20	207.53	9.17	0.00	0.00
1990	12	5	339	64.04	39.92	33.33	207.53	4.25	1.25	0.00
1990	12	6	340	73.94	46.04	32.65	207.53	9.84	0.50	0.00
1990	12	7	341	62.06	42.08	32.20	207.53	10.06	0.00	0.00
1990	12	8	342	66.92	35.06	32.20	207.53	2.46	0.00	0.00
1990	12	9	343	69.98	41.00	32.20	207.53	7.60	0.00	0.00
1990	12	10	344	71.96	44.96	37.04	207.53	6.48	4.38	0.00
1990	12	11	345	73.94	55.04	38.39	207.53	8.72	5.88	0.00
1990	12	12	346	82.04	50.00	32.74	207.53	5.81	0.60	0.00
1990	12	13	347	80.96	51.08	38.23	207.53	7.16	4.90	0.00
1990	12	14	348	80.06	64.04	39.76	207.53	8.27	6.60	0.00
1990	12	15	349	77.00	64.04	39.92	207.53	7.38	6.78	0.00
1990	12	16	350	80.06	66.92	41.22	207.53	9.84	8.23	0.00

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1990	12	17	351	82.04	66.92	39.83	207.53	8.50	6.68	0.00
1990	12	18	352	73.04	55.94	40.12	207.53	8.72	7.00	0.00
1990	12	19	353	73.94	51.98	39.04	207.53	9.39	5.80	0.00
1990	12	20	354	80.96	60.98	39.24	207.53	5.81	6.03	0.00
1990	12	21	355	82.94	48.92	40.21	207.53	7.83	7.10	0.00
1990	12	22	356	44.06	32.00	43.00	207.53	11.85	10.00	0.00
1990	12	23	357	44.06	28.22	40.57	207.53	10.51	7.50	0.00
1990	12	24	358	44.96	28.22	39.83	207.53	5.81	6.68	0.00
1990	12	25	359	50.00	37.94	41.76	207.53	6.04	8.63	0.00
1990	12	26	360	55.04	44.06	42.91	207.53	7.60	9.90	0.00
1990	12	27	361	57.02	46.04	41.58	207.53	6.71	8.43	0.05
1990	12	28	362	57.92	46.94	42.33	207.53	3.58	9.25	0.00
1990	12	29	363	71.06	53.96	42.35	207.53	2.24	9.28	0.00
1990	12	30	364	73.94	39.92	42.06	207.53	9.39	8.95	0.00
1990	12	31	365	51.08	33.98	40.75	207.53	7.16	7.70	0.00
1991	1	1	1	53.96	41.00	43.00	277.05	6.04	10.00	0.17
1991	1	2	2	57.02	48.02	43.00	277.05	5.59	10.00	0.12
1991	1	3	3	53.06	42.98	43.00	277.05	8.50	10.00	0.19
1991	1	4	4	42.98	39.02	43.00	277.05	7.16	10.00	0.05
1991	1	5	5	57.92	42.98	43.00	277.05	3.80	10.00	0.00
1991	1	6	6	66.92	51.98	42.26	277.05	7.83	9.18	0.06
1991	1	7	7	55.94	46.94	43.00	277.05	8.94	10.00	0.03
1991	1	8	8	50.00	46.04	43.00	277.05	6.48	10.00	0.11
1991	1	9	9	53.06	46.94	43.00	277.05	5.59	10.00	0.05
1991	1	10	10	62.06	50.00	40.39	277.05	6.93	7.10	0.00
1991	1	11	11	69.98	42.08	34.02	277.05	5.81	2.03	0.00
1991	1	12	12	60.08	46.04	39.63	277.05	5.14	6.45	0.00
1991	1	13	13	66.92	41.00	33.33	277.05	7.60	1.25	0.00
1991	1	14	14	73.94	48.92	33.15	277.05	8.94	1.05	0.00
1991	1	15	15	73.94	51.98	32.20	277.05	11.40	0.00	0.00
1991	1	16	16	73.94	46.04	33.33	277.05	9.84	1.25	0.00
1991	1	17	17	69.98	60.98	42.44	277.05	16.99	9.38	0.00
1991	1	18	18	68.00	50.00	42.17	277.05	11.85	9.08	0.00
1991	1	19	19	69.98	42.98	33.51	277.05	4.92	1.45	0.00
1991	1	20	20	73.94	48.92	36.50	277.05	10.06	3.78	0.00
1991	1	21	21	48.02	41.00	42.12	277.05	10.29	9.03	0.00
1991	1	22	22	51.98	41.00	42.82	277.05	6.71	9.80	0.01
1991	1	23	23	51.98	46.04	43.00	277.05	6.71	10.00	0.00
1991	1	24	24	62.06	48.92	39.78	277.05	8.72	6.63	0.00
1991	1	25	25	69.08	42.08	32.92	277.05	6.48	0.80	0.00
1991	1	26	26	64.94	44.06	40.12	277.05	7.83	6.80	0.00
1991	1	27	27	69.08	55.04	41.67	277.05	4.92	8.53	0.00
1991	1	28	28	73.94	48.02	40.75	277.05	6.26	7.70	0.00
1991	1	29	29	87.08	60.98	40.17	277.05	6.71	7.05	0.02
1991	1	30	30	68.00	44.96	39.85	277.05	11.85	7.10	0.00
1991	1	31	31	60.08	35.96	33.24	277.05	5.81	1.15	0.00
1991	2	1	32	66.92	37.94	32.56	359.22	6.04	0.40	0.00
1991	2	2	33	68.00	44.06	38.61	359.22	4.70	5.33	0.00
1991	2	3	34	69.98	57.92	42.62	359.22	6.93	9.58	0.52
1991	2	4	35	73.04	62.06	42.62	359.22	7.16	9.58	0.01
1991	2	5	36	71.96	57.02	40.05	359.22	4.92	6.93	0.00

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1991	2	6	37	77.00	53.06	35.80	359.22	4.92	3.00	0.00
1991	2	7	38	73.04	48.92	33.24	359.22	6.71	1.15	0.00
1991	2	8	39	71.06	44.06	32.20	359.22	4.70	0.00	0.00
1991	2	9	40	73.04	48.02	35.08	359.22	6.26	2.70	0.00
1991	2	10	41	75.02	53.06	39.33	359.22	2.91	6.13	0.00
1991	2	11	42	73.04	60.98	42.44	359.22	4.92	9.38	0.00
1991	2	12	43	80.96	59.00	37.87	359.22	10.06	5.30	0.00
1991	2	13	44	87.08	60.08	36.45	359.22	7.83	3.73	0.00
1991	2	14	45	77.00	57.92	36.27	359.22	9.61	3.53	0.00
1991	2	15	46	68.00	48.92	37.74	359.22	11.63	5.15	0.03
1991	2	16	47	57.92	44.96	42.44	359.22	7.83	9.38	0.00
1991	2	17	48	80.06	46.94	41.97	359.22	6.04	8.85	0.00
1991	2	18	49	82.94	64.04	41.61	359.22	6.93	8.50	0.00
1991	2	19	50	73.04	57.92	40.30	359.22	11.85	7.20	0.01
1991	2	20	51	59.00	46.04	41.85	359.22	9.17	8.73	0.04
1991	2	21	52	66.92	48.02	37.29	359.22	9.84	4.65	0.00
1991	2	22	53	77.00	44.96	32.20	359.22	5.37	0.00	0.00
1991	2	23	54	75.92	48.92	35.87	359.22	8.50	3.08	0.00
1991	2	24	55	77.00	55.04	40.57	359.22	7.60	7.50	0.00
1991	2	25	56	66.02	53.06	43.00	359.22	10.51	10.00	0.00
1991	2	26	57	53.96	46.94	42.91	359.22	7.83	9.90	0.00
1991	2	27	58	60.98	46.94	42.82	359.22	7.16	9.80	0.00
1991	2	28	59	64.94	57.02	43.00	359.22	6.26	10.00	0.07
1991	3	1	60	89.96	60.08	34.32	421.77	6.48	2.35	0.00
1991	3	2	61	89.06	59.00	32.56	421.77	11.63	0.40	0.00
1991	3	3	62	75.92	57.02	32.20	421.77	11.85	0.00	0.00
1991	3	4	63	91.04	51.08	32.20	421.77	6.04	0.00	0.00
1991	3	5	64	100.94	60.08	32.38	421.77	8.94	0.20	0.00
1991	3	6	65	102.92	60.08	32.38	421.77	6.26	0.20	0.00
1991	3	7	66	80.96	62.06	35.94	421.77	12.07	3.15	0.00
1991	3	8	67	78.98	55.04	32.38	421.77	9.84	0.20	0.00
1991	3	9	68	77.00	53.96	36.68	421.77	8.50	3.98	0.00
1991	3	10	69	78.08	50.00	33.24	421.77	12.30	1.15	0.00
1991	3	11	70	86.00	59.00	33.51	421.77	13.86	1.45	0.00
1991	3	12	71	87.98	62.96	37.85	421.77	8.72	5.28	0.00
1991	3	13	72	87.08	59.00	35.53	421.77	6.48	2.70	0.00
1991	3	14	73	73.94	62.06	42.53	421.77	10.73	9.48	0.00
1991	3	15	74	66.92	53.06	43.00	421.77	11.85	10.00	0.03
1991	3	16	75	64.04	51.98	42.91	421.77	7.60	9.90	0.00
1991	3	17	76	80.96	57.92	40.48	421.77	10.29	7.40	0.00
1991	3	18	77	82.04	59.00	40.12	421.77	7.83	7.00	0.00
1991	3	19	78	84.92	55.94	37.22	421.77	12.30	4.58	0.00
1991	3	20	79	84.02	66.92	41.52	421.77	9.84	8.35	0.00
1991	3	21	80	91.94	71.96	41.13	421.77	12.75	8.13	0.00
1991	3	22	81	78.08	64.94	39.54	421.77	9.17	6.35	0.00
1991	3	23	82	82.04	60.08	40.95	421.77	4.47	7.93	0.00
1991	3	24	83	84.92	51.98	39.58	421.77	8.94	6.40	0.00
1991	3	25	84	91.94	71.96	40.41	421.77	12.52	7.33	0.00
1991	3	26	85	100.94	71.06	37.60	421.77	16.32	5.00	0.00
1991	3	27	86	89.06	71.96	39.54	421.77	11.63	6.35	0.00
1991	3	28	87	95.00	69.98	39.96	421.77	8.50	6.83	0.00

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1991	3	29	88	80.06	60.98	37.92	421.77	12.30	5.35	0.00
1991	3	30	89	77.00	57.02	38.95	421.77	10.06	5.70	0.05
1991	3	31	90	71.96	51.98	38.68	421.77	6.93	6.20	0.00
1991	4	1	91	78.08	55.04	37.71	514.09	9.39	5.13	0.00
1991	4	2	92	86.00	62.96	37.71	514.09	14.76	5.13	0.00
1991	4	3	93	84.02	62.96	38.32	514.09	8.72	5.40	0.00
1991	4	4	94	80.06	66.92	42.35	514.09	8.27	9.28	0.92
1991	4	5	95	73.94	62.06	40.95	514.09	9.61	7.73	0.00
1991	4	6	96	71.96	62.06	40.77	514.09	6.26	7.73	0.00
1991	4	7	97	89.96	64.94	37.98	514.09	7.83	5.03	0.00
1991	4	8	98	100.04	71.96	36.70	514.09	10.73	4.50	0.00
1991	4	9	99	87.98	73.04	40.93	514.09	8.50	7.90	0.00
1991	4	10	100	87.98	69.98	39.72	514.09	9.17	6.55	0.00
1991	4	11	101	87.98	69.08	41.99	514.09	11.85	8.88	0.00
1991	4	12	102	93.92	75.02	39.72	514.09	9.39	6.55	0.00
1991	4	13	103	98.06	77.00	39.06	514.09	9.39	5.83	0.00
1991	4	14	104	89.06	71.96	39.42	514.09	10.73	6.23	0.00
1991	4	15	105	89.06	59.00	36.97	514.09	7.83	4.30	0.00
1991	4	16	106	91.04	66.92	39.42	514.09	7.16	6.23	0.00
1991	4	17	107	89.96	77.00	42.46	514.09	8.50	9.40	0.00
1991	4	18	108	91.94	73.04	38.73	514.09	5.14	5.45	0.00
1991	4	19	109	91.94	73.94	39.31	514.09	7.60	6.10	0.00
1991	4	20	110	86.00	68.00	39.22	514.09	9.84	6.00	0.00
1991	4	21	111	87.08	68.00	40.59	514.09	10.51	7.53	0.00
1991	4	22	112	96.98	69.08	38.68	514.09	8.50	5.40	0.00
1991	4	23	113	91.04	64.94	40.39	514.09	9.39	7.30	0.00
1991	4	24	114	91.94	75.02	41.29	514.09	10.73	8.30	0.00
1991	4	25	115	91.94	77.00	42.17	514.09	9.17	9.08	0.00
1991	4	26	116	100.04	77.00	40.77	514.09	6.71	7.53	0.00
1991	4	27	117	91.94	75.92	35.58	514.09	7.83	3.75	0.00
1991	4	28	118	96.98	71.96	35.33	514.09	9.17	3.48	0.00
1991	4	29	119	89.96	69.08	33.98	514.09	7.16	1.98	0.00
1991	4	30	120	95.00	66.02	39.18	514.09	9.17	6.35	0.00
1991	5	1	121	86.00	68.00	39.83	514.09	9.17	6.68	0.00
1991	5	2	122	91.04	77.00	42.26	553.07	12.75	9.18	0.00
1991	5	3	123	100.04	78.98	41.31	553.07	10.29	8.13	0.00
1991	5	4	124	93.02	78.98	41.16	553.07	7.38	8.05	0.05
1991	5	5	125	86.00	73.04	38.95	553.07	7.60	5.70	0.00
1991	5	6	126	82.94	62.96	39.33	553.07	8.72	6.13	0.00
1991	5	7	127	86.00	69.08	40.12	553.07	9.84	7.00	0.00
1991	5	8	128	87.98	71.06	38.07	553.07	10.06	5.53	0.00
1991	5	9	129	93.92	73.94	40.91	553.07	9.39	7.88	0.00
1991	5	10	130	95.00	78.08	40.75	553.07	12.52	7.70	0.00
1991	5	11	131	98.06	78.08	39.76	553.07	13.86	6.60	0.00
1991	5	12	132	96.98	77.00	40.48	553.07	12.07	7.40	0.94
1991	5	13	133	89.06	68.00	41.22	553.07	12.30	8.13	1.86
1991	5	14	134	91.04	66.02	39.15	553.07	8.27	6.33	0.00
1991	5	15	135	96.98	77.00	38.01	553.07	9.61	5.45	0.95
1991	5	16	136	93.02	66.92	40.87	553.07	10.73	7.68	0.00
1991	5	17	137	89.06	66.92	36.84	553.07	6.48	4.15	0.00
1991	5	18	138	91.94	68.00	32.20	553.07	4.70	0.00	0.00

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1991	5	19	139	89.06	73.04	36.54	553.07	6.48	3.83	0.00
1991	5	20	140	87.08	71.06	38.64	553.07	8.72	5.35	0.00
1991	5	21	141	89.06	73.04	39.51	553.07	6.48	6.33	0.00
1991	5	22	142	89.06	73.94	38.95	553.07	6.71	5.70	0.00
1991	5	23	143	91.04	73.94	38.14	553.07	6.04	4.80	0.00
1991	5	24	144	89.96	73.94	38.91	553.07	5.59	5.65	0.00
1991	5	25	145	93.02	75.02	37.78	553.07	4.92	5.20	0.00
1991	5	26	146	96.98	75.02	33.15	553.07	6.93	1.05	0.00
1991	5	27	147	96.08	75.92	36.84	553.07	10.06	4.15	0.00
1991	5	28	148	95.00	75.02	36.57	553.07	10.96	3.85	0.00
1991	5	29	149	96.98	77.00	37.17	553.07	10.51	4.53	0.00
1991	5	30	150	98.06	78.08	36.52	553.07	14.31	3.80	0.00
1991	5	31	151	95.00	80.96	39.49	553.07	14.53	6.30	0.00
1991	6	1	152	95.00	80.96	39.22	553.07	14.53	6.00	0.00
1991	6	2	153	96.08	80.96	39.78	581.92	14.09	6.63	0.00
1991	6	3	154	96.08	80.06	40.50	581.92	12.52	7.43	0.00
1991	6	4	155	98.06	78.08	38.84	581.92	9.84	6.18	0.00
1991	6	5	156	96.98	78.08	36.54	581.92	10.73	3.83	0.00
1991	6	6	157	91.94	78.98	41.99	581.92	8.72	8.88	0.00
1991	6	7	158	96.08	75.92	38.64	581.92	8.05	6.15	0.74
1991	6	8	159	91.04	71.06	40.95	581.92	8.27	7.93	0.00
1991	6	9	160	89.06	71.06	37.80	581.92	7.60	5.23	0.03
1991	6	10	161	89.96	71.06	40.50	581.92	7.16	7.43	0.00
1991	6	11	162	95.00	75.92	38.57	581.92	6.26	6.08	0.00
1991	6	12	163	98.06	75.02	37.04	581.92	9.39	4.38	0.00
1991	6	13	164	98.96	78.08	37.38	581.92	10.73	4.75	0.00
1991	6	14	165	98.96	78.98	38.01	581.92	10.73	5.45	0.00
1991	6	15	166	98.96	80.06	37.51	581.92	10.51	4.90	0.00
1991	6	16	167	100.04	80.06	34.65	581.92	8.94	2.73	1.35
1991	6	17	168	93.02	69.98	35.40	581.92	9.39	3.55	0.00
1991	6	18	169	98.96	78.08	33.69	581.92	6.71	1.65	0.00
1991	6	19	170	98.06	77.00	36.39	581.92	6.93	3.65	0.00
1991	6	20	171	98.96	78.08	34.27	581.92	8.05	2.30	0.00
1991	6	21	172	100.94	78.08	34.90	581.92	10.29	2.50	0.00
1991	6	22	173	100.94	80.06	33.87	581.92	12.97	1.85	0.00
1991	6	23	174	100.94	80.06	36.68	581.92	11.18	3.98	0.00
1991	6	24	175	98.96	78.08	37.13	581.92	12.07	4.48	0.00
1991	6	25	176	98.06	75.92	35.94	581.92	10.29	3.15	0.00
1991	6	26	177	98.96	75.02	34.27	581.92	12.30	2.30	0.00
1991	6	27	178	98.06	77.00	33.91	581.92	13.64	1.90	0.00
1991	6	28	179	95.00	75.92	36.45	581.92	12.30	3.73	0.72
1991	6	29	180	82.04	71.06	41.90	581.92	11.85	8.78	0.44
1991	6	30	181	80.96	71.06	43.00	581.92	7.60	10.00	0.00
1991	7	1	182	87.08	73.94	41.70	581.92	6.93	8.65	0.00
1991	7	2	183	91.04	75.02	39.04	623.50	7.16	5.80	0.00
1991	7	3	184	93.02	75.02	36.48	623.50	8.27	3.75	0.00
1991	7	4	185	95.00	75.02	36.66	623.50	8.05	3.95	0.00
1991	7	5	186	95.00	75.92	36.50	623.50	8.27	3.78	0.00
1991	7	6	187	96.98	75.92	36.14	623.50	8.50	3.38	0.04
1991	7	7	188	89.06	78.08	38.05	623.50	11.40	5.10	0.16
1991	7	8	189	93.02	78.08	39.67	623.50	11.40	6.50	0.00

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1991	7	9	190	93.02	77.00	38.75	623.50	14.53	6.28	0.00
1991	7	10	191	93.02	78.98	39.40	623.50	16.77	6.20	0.00
1991	7	11	192	93.02	75.92	37.06	623.50	14.53	4.40	0.00
1991	7	12	193	95.00	77.00	36.97	623.50	14.53	4.30	0.00
1991	7	13	194	96.98	78.98	38.12	623.50	14.76	5.58	0.09
1991	7	14	195	98.06	78.08	37.71	623.50	12.75	5.13	0.41
1991	7	15	196	96.08	75.92	37.22	623.50	9.39	4.58	0.00
1991	7	16	197	96.98	75.02	37.35	623.50	7.83	4.73	0.00
1991	7	17	198	98.96	75.02	34.90	623.50	8.27	2.50	0.00
1991	7	18	199	100.94	75.92	33.78	623.50	10.29	1.75	0.00
1991	7	19	200	102.02	77.00	33.15	623.50	14.31	1.05	0.00
1991	7	20	201	98.96	80.06	36.59	623.50	16.10	3.88	0.01
1991	7	21	202	98.96	80.06	39.65	623.50	14.76	6.48	0.00
1991	7	22	203	93.92	75.92	38.73	623.50	10.96	5.85	0.00
1991	7	23	204	96.08	75.92	39.04	623.50	11.63	5.80	0.00
1991	7	24	205	98.06	75.92	33.96	623.50	12.97	1.95	0.00
1991	7	25	206	100.04	75.92	35.94	623.50	13.86	3.15	0.00
1991	7	26	207	98.96	78.08	38.01	623.50	14.53	5.45	0.00
1991	7	27	208	100.94	78.98	36.39	623.50	14.09	3.65	0.00
1991	7	28	209	98.96	78.98	36.57	623.50	12.75	3.85	0.00
1991	7	29	210	102.02	78.08	33.78	623.50	8.05	1.75	0.00
1991	7	30	211	104.00	78.08	38.16	623.50	7.83	5.63	0.00
1991	7	31	212	105.08	78.98	35.89	623.50	8.72	3.10	0.00
1991	8	1	213	102.02	77.00	33.06	543.94	8.27	0.95	0.00
1991	8	2	214	100.94	78.08	34.18	543.94	12.07	2.20	0.00
1991	8	3	215	98.96	78.98	34.09	543.94	13.19	2.10	0.00
1991	8	4	216	100.04	78.98	36.39	543.94	14.76	3.65	0.18
1991	8	5	217	96.98	75.02	41.04	543.94	10.29	8.03	0.00
1991	8	6	218	95.00	78.08	41.04	543.94	13.19	8.03	0.02
1991	8	7	219	91.04	75.92	37.87	543.94	7.60	4.90	0.00
1991	8	8	220	96.98	75.02	36.18	543.94	9.39	3.43	0.00
1991	8	9	221	98.06	78.08	37.58	543.94	9.61	4.98	0.00
1991	8	10	222	100.04	77.00	34.09	543.94	13.19	2.10	0.00
1991	8	11	223	104.00	78.08	32.97	543.94	12.75	0.85	0.00
1991	8	12	224	105.08	77.00	36.21	543.94	14.76	3.45	0.00
1991	8	13	225	102.92	75.92	34.23	543.94	13.42	2.25	0.00
1991	8	14	226	100.04	77.00	37.83	543.94	11.40	5.25	0.00
1991	8	15	227	100.04	78.98	40.21	543.94	12.07	7.10	0.00
1991	8	16	228	100.04	78.98	35.89	543.94	11.40	3.10	0.00
1991	8	17	229	100.94	78.08	36.54	543.94	10.29	3.83	0.00
1991	8	18	230	100.04	78.98	36.30	543.94	9.61	3.55	0.00
1991	8	19	231	100.04	80.96	39.18	543.94	8.94	6.35	0.00
1991	8	20	232	100.04	78.08	34.09	543.94	7.83	2.10	0.00
1991	8	21	233	100.94	78.08	35.22	543.94	8.05	2.60	0.00
1991	8	22	234	102.02	78.98	34.32	543.94	9.84	2.35	0.00
1991	8	23	235	96.98	80.06	37.80	543.94	10.29	5.23	0.00
1991	8	24	236	95.00	78.08	37.80	543.94	8.94	5.23	0.00
1991	8	25	237	93.92	77.00	39.56	543.94	7.60	6.38	0.00
1991	8	26	238	95.00	75.02	34.90	543.94	8.72	2.50	0.00
1991	8	27	239	98.06	75.02	37.62	543.94	8.27	5.03	0.00
1991	8	28	240	98.96	78.98	38.73	543.94	10.06	5.85	0.00

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1991	8	29	241	102.92	80.06	37.85	543.94	13.64	5.28	0.00
1991	8	30	242	100.94	77.00	36.41	543.94	9.39	3.68	0.79
1991	8	31	243	91.04	77.00	39.31	543.94	9.84	6.10	0.00
1991	9	1	244	95.00	73.04	36.84	459.97	5.37	4.15	0.26
1991	9	2	245	96.98	77.00	38.16	459.97	8.05	5.63	1.16
1991	9	3	246	93.92	69.98	39.20	459.97	7.60	6.78	0.00
1991	9	4	247	96.08	73.94	40.57	459.97	9.39	7.50	0.01
1991	9	5	248	91.04	75.02	39.67	459.97	9.39	6.50	1.17
1991	9	6	249	84.92	71.96	40.68	459.97	7.38	7.53	0.01
1991	9	7	250	87.08	75.92	40.89	459.97	11.18	7.85	0.00
1991	9	8	251	93.92	78.08	40.30	459.97	13.86	7.20	0.00
1991	9	9	252	93.92	78.08	37.35	459.97	12.75	4.73	0.29
1991	9	10	253	93.02	73.04	36.68	459.97	7.38	3.98	0.13
1991	9	11	254	82.94	73.04	39.33	459.97	6.71	6.13	0.00
1991	9	12	255	91.04	71.96	39.02	459.97	7.60	6.58	0.00
1991	9	13	256	93.02	77.00	38.82	459.97	12.52	6.35	0.00
1991	9	14	257	93.02	77.00	38.28	459.97	11.18	5.75	0.00
1991	9	15	258	93.02	77.00	37.89	459.97	11.40	5.33	0.03
1991	9	16	259	87.98	75.92	38.32	459.97	10.73	5.40	0.00
1991	9	17	260	87.98	73.94	41.43	459.97	10.51	8.45	0.00
1991	9	18	261	93.02	73.94	37.89	459.97	9.17	5.33	1.41
1991	9	19	262	80.96	57.02	41.85	459.97	12.07	8.73	0.18
1991	9	20	263	60.08	55.94	43.00	459.97	10.51	10.00	0.00
1991	9	21	264	71.06	59.00	42.91	459.97	7.60	9.90	0.00
1991	9	22	265	87.98	66.92	40.19	459.97	4.02	7.08	0.00
1991	9	23	266	89.06	73.94	39.04	459.97	5.59	5.80	0.00
1991	9	24	267	89.96	73.04	37.49	459.97	6.26	4.88	0.00
1991	9	25	268	82.04	64.04	33.60	459.97	11.40	1.55	0.00
1991	9	26	269	87.08	59.00	32.20	459.97	3.80	0.00	0.00
1991	9	27	270	86.00	60.98	36.86	459.97	6.04	4.18	0.00
1991	9	28	271	86.00	64.94	33.69	459.97	8.50	1.65	0.00
1991	9	29	272	84.92	64.04	36.25	459.97	7.38	3.50	0.00
1991	9	30	273	84.92	68.00	39.76	459.97	5.14	6.60	0.00
1991	10	1	274	86.00	69.08	36.97	355.35	4.70	4.30	0.00
1991	10	2	275	89.06	69.08	37.04	355.35	5.37	4.38	0.00
1991	10	3	276	91.94	69.98	33.33	355.35	9.39	1.25	0.00
1991	10	4	277	96.98	75.02	35.85	355.35	10.73	3.55	0.00
1991	10	5	278	82.04	71.96	40.55	355.35	11.18	7.28	0.00
1991	10	6	279	77.00	64.94	42.80	355.35	10.51	9.78	0.00
1991	10	7	280	78.98	55.94	41.38	355.35	9.17	8.40	0.00
1991	10	8	281	80.06	66.02	40.95	355.35	6.26	7.83	0.00
1991	10	9	282	87.08	60.98	32.20	355.35	7.16	0.00	0.00
1991	10	10	283	84.92	64.94	36.07	355.35	4.70	3.30	0.00
1991	10	11	284	89.96	60.08	32.56	355.35	2.01	0.40	0.00
1991	10	12	285	96.08	60.98	32.20	355.35	4.47	0.00	0.00
1991	10	13	286	96.08	64.94	32.20	355.35	5.59	0.00	0.00
1991	10	14	287	93.02	66.92	32.20	355.35	6.48	0.00	0.00
1991	10	15	288	87.98	68.00	34.20	355.35	4.92	2.23	0.00
1991	10	16	289	91.94	69.08	34.18	355.35	6.93	2.20	0.00
1991	10	17	290	91.04	69.08	34.18	355.35	10.51	2.20	0.00
1991	10	18	291	87.08	66.02	36.25	355.35	9.17	3.50	0.00

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1991	10	19	292	86.00	68.00	39.63	355.35	8.05	6.45	0.00
1991	10	20	293	84.92	64.04	38.30	355.35	6.71	5.78	0.00
1991	10	21	294	86.00	64.94	37.76	355.35	7.38	5.18	0.00
1991	10	22	295	91.04	71.96	36.86	355.35	11.85	4.18	0.00
1991	10	23	296	91.94	73.94	35.26	355.35	12.07	2.90	0.00
1991	10	24	297	93.02	75.92	37.33	355.35	15.20	4.70	0.00
1991	10	25	298	93.92	75.02	38.21	355.35	16.10	5.68	0.00
1991	10	26	299	91.04	75.92	39.96	355.35	15.20	6.83	0.00
1991	10	27	300	87.08	77.00	42.35	355.35	14.76	9.28	0.00
1991	10	28	301	95.00	77.00	37.49	355.35	12.97	4.88	0.00
1991	10	29	302	91.04	66.92	39.31	355.35	12.75	6.10	0.03
1991	10	30	303	64.04	59.00	43.00	355.35	10.73	10.00	0.05
1991	10	31	304	59.00	46.94	41.58	355.35	9.17	8.43	0.00
1991	11	1	305	62.06	42.98	40.03	273.78	7.60	6.90	0.00
1991	11	2	306	66.02	50.00	39.22	273.78	10.73	6.80	0.00
1991	11	3	307	57.02	42.98	43.00	273.78	14.53	10.00	0.00
1991	11	4	308	51.08	42.98	42.62	273.78	7.16	9.58	0.00
1991	11	5	309	57.92	48.02	43.00	273.78	6.04	10.00	0.01
1991	11	6	310	60.08	53.96	43.00	273.78	5.59	10.00	0.00
1991	11	7	311	69.08	55.04	42.91	273.78	6.93	9.90	0.00
1991	11	8	312	60.98	48.92	36.88	273.78	10.96	4.70	0.00
1991	11	9	313	66.02	41.00	32.20	273.78	6.71	0.00	0.00
1991	11	10	314	73.04	46.94	36.41	273.78	10.73	3.68	0.00
1991	11	11	315	73.94	62.06	42.62	273.78	12.30	9.58	0.00
1991	11	12	316	71.06	64.94	43.00	273.78	12.97	10.00	0.00
1991	11	13	317	73.94	60.08	42.80	273.78	9.39	9.78	0.00
1991	11	14	318	84.02	62.96	38.12	273.78	13.42	5.58	0.00
1991	11	15	319	82.04	62.96	39.13	273.78	11.63	5.90	0.00
1991	11	16	320	84.92	71.06	40.30	273.78	14.09	7.20	0.05
1991	11	17	321	75.02	55.04	38.68	273.78	9.17	5.30	0.00
1991	11	18	322	84.92	55.04	32.20	273.78	8.72	0.00	0.00
1991	11	19	323	82.04	62.06	34.36	273.78	12.52	2.40	0.00
1991	11	20	324	68.00	51.98	35.78	273.78	15.20	3.98	0.00
1991	11	21	325	71.96	42.98	32.20	273.78	6.26	0.00	0.00
1991	11	22	326	80.96	51.98	34.05	273.78	9.17	2.05	0.00
1991	11	23	327	62.06	46.94	35.67	273.78	12.30	3.35	0.00
1991	11	24	328	62.06	39.02	32.20	273.78	5.81	0.00	0.00
1991	11	25	329	64.94	42.98	38.07	273.78	8.72	5.13	0.00
1991	11	26	330	73.04	57.02	39.87	273.78	6.93	6.73	0.00
1991	11	27	331	78.98	59.00	34.99	273.78	7.60	3.10	0.00
1991	11	28	332	84.02	66.02	39.60	273.78	14.76	6.43	0.00
1991	11	29	333	86.00	66.02	37.53	273.78	14.09	4.93	0.00
1991	11	30	334	80.96	68.00	40.41	273.78	5.14	7.33	0.03
1991	12	1	335	66.02	42.98	43.00	207.53	12.30	10.00	0.00
1991	12	2	336	62.06	39.02	37.74	207.53	10.06	5.15	0.00
1991	12	3	337	64.94	39.92	32.56	207.53	7.16	0.40	0.00
1991	12	4	338	69.98	39.02	33.91	207.53	6.04	1.90	0.00
1991	12	5	339	71.96	48.92	36.77	207.53	7.83	4.08	0.00
1991	12	6	340	73.94	57.02	39.40	207.53	8.50	6.20	0.00
1991	12	7	341	75.92	66.02	41.52	207.53	10.51	8.35	0.00
1991	12	8	342	75.92	68.00	42.35	207.53	7.83	9.28	0.00

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1991	12	9	343	80.96	62.96	38.97	207.53	7.16	6.53	0.00
1991	12	10	344	80.06	62.96	42.17	207.53	7.60	9.08	0.00
1991	12	11	345	80.96	69.98	42.82	207.53	13.64	9.80	0.00
1991	12	12	346	78.08	69.08	42.26	207.53	8.94	9.18	0.09
1991	12	13	347	71.06	62.06	42.91	207.53	7.16	9.90	0.41
1991	12	14	348	62.96	48.92	42.82	207.53	9.84	9.80	0.18
1991	12	15	349	50.00	46.04	43.00	207.53	4.02	10.00	0.07
1991	12	16	350	50.00	46.94	43.00	207.53	2.46	10.00	0.15
1991	12	17	351	53.06	48.02	43.00	207.53	4.70	10.00	0.18
1991	12	18	352	57.92	53.06	43.00	207.53	5.59	10.00	0.19
1991	12	19	353	69.98	57.92	42.91	207.53	7.16	9.90	0.16
1991	12	20	354	73.04	68.00	42.82	207.53	11.63	9.80	0.27
1991	12	21	355	73.94	62.06	42.82	207.53	9.39	9.80	0.01
1991	12	22	356	66.02	60.98	43.00	207.53	5.81	10.00	0.00
1991	12	23	357	69.08	53.96	40.71	207.53	8.94	7.65	0.00
1991	12	24	358	55.94	46.04	37.87	207.53	5.59	5.10	0.26
1991	12	25	359	51.08	44.06	42.03	207.53	7.16	8.93	0.58
1991	12	26	360	51.08	48.02	43.00	207.53	9.61	10.00	0.00
1991	12	27	361	60.08	46.94	38.61	207.53	8.50	5.73	0.00
1991	12	28	362	60.98	41.00	32.56	207.53	0.45	0.40	0.00
1991	12	29	363	62.06	46.04	40.21	207.53	8.50	6.90	0.02
1991	12	30	364	62.96	53.96	43.00	207.53	5.37	10.00	0.16
1991	12	31	365	64.94	57.02	42.91	207.53	4.25	9.90	0.00
1992	1	1	1	68.00	59.00	42.53	277.05	5.81	9.48	0.79
1992	1	2	2	62.06	53.96	41.63	277.05	6.71	8.48	0.00
1992	1	3	3	68.00	48.02	36.77	277.05	3.35	4.08	0.15
1992	1	4	4	60.98	55.94	42.08	277.05	5.37	8.98	0.04
1992	1	5	5	60.08	53.96	40.55	277.05	6.26	7.28	0.00
1992	1	6	6	71.06	46.94	36.16	277.05	4.47	4.40	0.02
1992	1	7	7	64.94	57.92	42.62	277.05	6.48	9.58	0.00
1992	1	8	8	69.08	59.00	42.06	277.05	7.16	8.95	0.01
1992	1	9	9	59.00	53.06	43.00	277.05	5.14	10.00	0.05
1992	1	10	10	55.94	46.04	42.82	277.05	4.92	9.80	0.19
1992	1	11	11	48.92	46.04	43.00	277.05	4.25	10.00	0.00
1992	1	12	12	60.08	48.92	40.39	277.05	4.70	7.10	0.00
1992	1	13	13	60.08	46.94	34.18	277.05	13.86	2.20	0.00
1992	1	14	14	55.94	35.96	35.53	277.05	4.02	2.70	0.00
1992	1	15	15	57.92	42.08	40.82	277.05	8.94	7.58	0.10
1992	1	16	16	42.98	33.98	43.00	277.05	6.26	10.00	0.67
1992	1	17	17	41.00	35.96	43.00	277.05	5.81	10.00	0.14
1992	1	18	18	48.02	42.08	43.00	277.05	11.85	10.00	0.00
1992	1	19	19	46.94	39.02	41.02	277.05	8.94	7.80	0.00
1992	1	20	20	55.94	37.04	37.11	277.05	2.68	4.45	0.00
1992	1	21	21	64.94	48.92	39.65	277.05	4.92	6.88	0.00
1992	1	22	22	71.96	46.94	36.05	277.05	5.59	4.28	0.00
1992	1	23	23	60.98	44.06	40.75	277.05	5.81	7.70	0.00
1992	1	24	24	64.04	39.92	39.24	277.05	5.81	6.03	0.68
1992	1	25	25	57.02	48.92	41.85	277.05	3.58	8.73	0.83
1992	1	26	26	57.92	53.96	43.00	277.05	4.47	10.00	0.00
1992	1	27	27	68.00	55.04	40.77	277.05	8.94	7.63	0.00
1992	1	28	28	57.92	51.98	42.21	277.05	5.81	9.13	0.00

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1992	1	29	29	57.92	51.98	42.44	277.05	6.26	9.38	0.00
1992	1	30	30	64.94	50.00	37.44	277.05	3.35	4.83	0.00
1992	1	31	31	71.96	46.04	36.50	277.05	2.91	3.78	0.00
1992	2	1	32	66.92	53.96	40.55	359.22	6.93	7.28	0.42
1992	2	2	33	62.06	55.94	43.00	359.22	4.47	10.00	0.03
1992	2	3	34	68.00	60.08	42.80	359.22	6.48	9.78	0.05
1992	2	4	35	60.08	41.54	51.08	359.22	12.07	8.38	0.00
1992	2	5	36	66.92	51.08	35.26	359.22	13.64	3.40	0.00
1992	2	6	37	71.96	44.96	33.15	359.22	3.35	1.05	0.00
1992	2	7	38	69.98	44.06	32.97	359.22	6.26	0.85	0.00
1992	2	8	39	64.94	44.96	36.45	359.22	6.71	3.73	0.00
1992	2	9	40	68.00	50.00	35.61	359.22	8.05	3.03	0.00
1992	2	10	41	69.98	53.06	39.76	359.22	7.38	6.60	0.00
1992	2	11	42	73.04	60.98	40.62	359.22	7.16	7.55	0.00
1992	2	12	43	73.94	62.96	40.57	359.22	7.16	7.50	0.00
1992	2	13	44	73.04	62.96	41.81	359.22	5.14	8.68	0.00
1992	2	14	45	80.96	66.02	41.13	359.22	6.93	8.13	0.00
1992	2	15	46	80.96	55.04	37.51	359.22	5.81	4.90	0.00
1992	2	16	47	77.00	60.08	39.40	359.22	7.16	6.20	0.00
1992	2	17	48	77.00	62.96	40.75	359.22	7.83	7.70	0.00
1992	2	18	49	78.98	55.94	38.73	359.22	4.47	6.25	0.00
1992	2	19	50	73.04	51.98	37.83	359.22	7.38	5.25	0.00
1992	2	20	51	69.98	53.06	41.31	359.22	7.83	8.23	0.01
1992	2	21	52	66.02	55.04	41.65	359.22	7.83	8.50	0.04
1992	2	22	53	77.00	60.98	39.74	359.22	5.14	6.48	0.00
1992	2	23	54	69.98	59.00	41.09	359.22	7.38	7.88	0.01
1992	2	24	55	71.06	55.94	41.13	359.22	12.75	8.13	0.00
1992	2	25	56	60.98	48.92	35.91	359.22	17.22	3.63	0.00
1992	2	26	57	64.94	37.94	38.16	359.22	6.04	5.23	0.00
1992	2	27	58	73.04	46.94	34.86	359.22	4.02	2.95	0.00
1992	2	28	59	77.00	46.04	32.20	359.22	2.68	0.00	0.00
1992	2	29	60	80.96	48.92	32.20	421.77	5.37	0.00	0.00
1992	3	1	61	78.98	59.00	38.70	421.77	11.40	5.43	0.00
1992	3	2	62	75.02	66.92	42.26	421.77	9.61	9.18	0.00
1992	3	3	63	82.94	64.04	38.59	421.77	11.85	5.50	0.00
1992	3	4	64	82.04	66.02	37.80	421.77	6.93	5.23	0.05
1992	3	5	65	80.06	66.02	39.04	421.77	4.02	5.70	0.00
1992	3	6	66	87.98	57.92	32.56	421.77	2.68	0.40	0.00
1992	3	7	67	84.02	64.04	38.50	421.77	12.52	5.20	0.00
1992	3	8	68	80.96	69.98	39.85	421.77	11.85	6.70	0.00
1992	3	9	69	84.92	68.00	39.24	421.77	8.27	6.03	0.00
1992	3	10	70	66.02	51.98	39.04	421.77	10.51	5.80	0.00
1992	3	11	71	55.04	44.06	40.46	421.77	8.27	7.18	0.00
1992	3	12	72	64.04	48.02	41.04	421.77	5.14	8.03	0.00
1992	3	13	73	77.00	44.96	32.56	421.77	4.47	0.40	0.00
1992	3	14	74	82.04	48.92	32.20	421.77	8.72	0.00	0.00
1992	3	15	75	84.92	59.00	33.78	421.77	8.27	1.75	0.00
1992	3	16	76	77.00	66.92	40.95	421.77	12.07	7.83	0.00
1992	3	17	77	77.00	66.92	42.62	421.77	11.63	9.58	0.00
1992	3	18	78	87.98	66.02	34.86	421.77	8.27	2.95	0.00
1992	3	19	79	84.92	60.98	39.56	421.77	8.05	6.38	0.00

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1992	3	20	80	77.00	55.04	40.46	421.77	8.05	7.38	0.00
1992	3	21	81	78.08	64.94	42.91	421.77	9.61	9.90	0.00
1992	3	22	82	84.02	66.02	41.29	421.77	9.39	8.30	0.00
1992	3	23	83	73.04	50.00	38.39	421.77	7.60	5.88	0.00
1992	3	24	84	75.92	53.96	36.90	421.77	9.17	4.23	0.00
1992	3	25	85	84.02	60.08	39.94	421.77	4.70	6.80	0.00
1992	3	26	86	78.98	62.96	41.25	421.77	10.73	8.25	0.45
1992	3	27	87	75.92	62.06	43.00	421.77	10.06	10.00	0.00
1992	3	28	88	71.06	60.98	42.73	421.77	7.38	9.70	0.77
1992	3	29	89	80.06	62.96	38.70	421.77	6.71	5.43	0.00
1992	3	30	90	75.92	62.96	35.61	421.77	8.27	3.35	0.00
1992	3	31	91	73.04	59.00	41.81	514.09	8.72	8.68	0.00
1992	4	1	92	66.92	59.00	43.00	514.09	9.61	10.00	0.32
1992	4	2	93	59.00	46.94	43.00	514.09	9.84	10.00	0.09
1992	4	3	94	60.98	44.96	41.94	514.09	5.81	8.83	0.00
1992	4	4	95	64.04	53.06	42.24	514.09	5.14	9.15	0.11
1992	4	5	96	75.02	59.00	41.13	514.09	6.26	8.03	0.00
1992	4	6	97	82.94	53.96	32.20	514.09	4.25	0.00	0.00
1992	4	7	98	91.04	62.96	33.96	514.09	8.05	1.95	0.00
1992	4	8	99	84.92	66.92	39.85	514.09	10.73	6.70	0.01
1992	4	9	100	77.00	66.92	41.79	514.09	10.06	8.65	0.00
1992	4	10	101	84.02	66.92	40.77	514.09	5.59	7.73	0.00
1992	4	11	102	89.96	69.98	37.11	514.09	8.27	4.45	0.00
1992	4	12	103	84.92	69.98	39.15	514.09	8.27	5.93	0.00
1992	4	13	104	87.08	69.08	37.76	514.09	8.72	5.18	0.00
1992	4	14	105	82.04	68.00	40.98	514.09	9.61	7.95	0.50
1992	4	15	106	82.94	64.04	41.11	514.09	9.17	8.10	0.00
1992	4	16	107	83.84	71.06	41.43	514.09	10.73	8.45	2.12
1992	4	17	108	75.02	62.96	42.06	514.09	8.27	8.95	0.00
1992	4	18	109	89.06	60.98	34.36	514.09	6.04	2.40	0.00
1992	4	19	110	86.00	69.98	37.62	514.09	13.19	5.03	0.00
1992	4	20	111	78.08	60.08	37.53	514.09	10.51	4.93	0.00
1992	4	21	112	87.98	57.02	32.20	514.09	9.39	0.00	0.00
1992	4	22	113	87.98	64.04	32.83	514.09	10.73	0.70	0.00
1992	4	23	114	87.08	66.92	39.04	514.09	8.72	5.80	0.00
1992	4	24	115	89.06	71.96	41.20	514.09	8.05	8.20	1.31
1992	4	25	116	80.06	62.06	42.91	514.09	9.84	9.90	0.00
1992	4	26	117	75.92	62.06	41.79	514.09	6.93	8.65	0.00
1992	4	27	118	78.98	60.08	35.64	514.09	6.48	3.33	0.00
1992	4	28	119	87.98	60.98	32.20	514.09	11.18	0.00	0.00
1992	4	29	120	89.06	64.94	32.38	514.09	9.17	0.20	0.00
1992	4	30	121	87.98	64.94	32.20	514.09	5.81	0.00	0.00
1992	5	1	122	89.06	69.08	35.62	553.07	11.18	2.80	0.00
1992	5	2	123	89.96	71.06	37.94	553.07	9.61	5.38	0.68
1992	5	3	124	84.92	68.00	41.49	553.07	6.48	8.53	0.00
1992	5	4	125	84.02	69.08	39.56	553.07	6.26	6.38	0.00
1992	5	5	126	84.92	64.04	35.80	553.07	6.04	3.00	0.00
1992	5	6	127	89.06	66.02	36.07	553.07	7.16	3.30	0.00
1992	5	7	128	78.98	64.94	40.71	553.07	8.27	7.65	0.00
1992	5	8	129	80.96	60.08	37.22	553.07	10.73	4.58	0.00
1992	5	9	130	82.04	69.08	41.52	553.07	13.64	8.55	0.00

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1992	5	10	131	89.06	69.08	40.73	553.07	12.07	7.68	0.00
1992	5	11	132	93.02	73.04	38.75	553.07	10.51	6.28	0.00
1992	5	12	133	98.06	71.96	33.87	553.07	7.16	1.85	0.00
1992	5	13	134	98.06	73.94	40.28	553.07	8.50	7.18	0.07
1992	5	14	135	91.04	73.04	40.17	553.07	8.27	7.05	0.24
1992	5	15	136	78.98	68.00	41.88	553.07	7.60	8.75	0.00
1992	5	16	137	86.00	66.92	40.12	553.07	7.83	7.00	0.00
1992	5	17	138	82.04	73.04	41.43	553.07	7.60	8.45	0.00
1992	5	18	139	86.00	66.92	40.03	553.07	5.81	6.90	0.00
1992	5	19	140	89.06	69.98	37.58	553.07	8.94	4.98	0.07
1992	5	20	141	87.08	69.98	40.19	553.07	10.06	7.08	0.00
1992	5	21	142	89.96	73.04	40.37	553.07	11.85	7.28	0.00
1992	5	22	143	87.98	73.94	40.77	553.07	11.63	7.73	0.00
1992	5	23	144	87.08	71.96	39.63	553.07	10.29	6.45	0.00
1992	5	24	145	87.08	71.06	40.95	553.07	10.06	7.93	0.37
1992	5	25	146	91.04	71.96	38.48	553.07	12.75	5.98	1.14
1992	5	26	147	84.92	64.94	40.84	553.07	8.72	7.80	0.63
1992	5	27	148	86.00	64.94	38.30	553.07	8.72	4.98	0.00
1992	5	28	149	89.06	71.06	39.58	553.07	7.16	6.40	0.00
1992	5	29	150	77.00	62.96	40.50	553.07	10.06	7.43	0.08
1992	5	30	151	75.02	64.04	41.67	553.07	6.71	8.53	0.08
1992	5	31	152	86.00	71.06	41.43	553.07	5.14	8.45	0.00
1992	6	1	153	91.04	73.94	39.90	581.92	7.16	6.75	0.00
1992	6	2	154	82.04	66.02	37.44	581.92	8.05	4.83	0.00
1992	6	3	155	95.00	68.00	36.21	581.92	7.38	3.45	0.00
1992	6	4	156	95.00	71.96	35.31	581.92	9.17	2.70	0.54
1992	6	5	157	93.02	69.98	40.37	581.92	9.84	7.28	0.00
1992	6	6	158	96.08	78.08	39.27	581.92	10.51	6.25	0.03
1992	6	7	159	89.06	71.06	38.75	581.92	8.94	6.28	0.18
1992	6	8	160	89.96	69.08	37.24	581.92	8.94	4.60	0.19
1992	6	9	161	84.92	71.06	40.05	581.92	8.50	6.93	0.00
1992	6	10	162	91.04	69.98	36.12	581.92	7.16	3.35	0.00
1992	6	11	163	96.08	75.92	36.54	581.92	8.05	3.83	0.00
1992	6	12	164	96.98	77.00	36.21	581.92	6.93	3.45	0.00
1992	6	13	165	96.98	78.08	36.84	581.92	10.29	4.15	0.00
1992	6	14	166	98.06	77.00	34.68	581.92	11.18	2.75	0.00
1992	6	15	167	100.04	77.00	33.24	581.92	13.42	1.15	0.00
1992	6	16	168	98.96	78.08	34.11	581.92	15.20	2.13	0.00
1992	6	17	169	98.06	78.98	35.37	581.92	14.76	3.03	0.00
1992	6	18	170	98.06	75.92	36.75	581.92	11.18	4.05	0.00
1992	6	19	171	98.96	78.08	34.20	581.92	11.18	2.23	0.00
1992	6	20	172	98.06	77.00	32.47	581.92	11.40	0.30	0.00
1992	6	21	173	98.06	75.02	35.62	581.92	8.50	2.80	0.00
1992	6	22	174	96.98	75.92	34.09	581.92	8.50	2.10	0.00
1992	6	23	175	97.88	75.02	33.69	581.92	8.72	1.65	0.00
1992	6	24	176	100.04	75.92	33.60	581.92	8.27	1.55	0.00
1992	6	25	177	104.00	75.92	33.33	581.92	10.73	1.25	0.00
1992	6	26	178	101.84	77.00	35.24	581.92	10.73	2.88	0.00
1992	6	27	179	99.86	77.90	37.40	581.92	9.61	4.78	0.00
1992	6	28	180	102.92	77.00	37.04	581.92	10.29	4.38	0.00
1992	6	29	181	102.92	79.88	35.53	581.92	8.72	3.20	0.00

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1992	6	30	182	105.98	79.88	34.23	581.92	10.51	2.25	0.00
1992	7	1	183	106.88	80.96	33.51	623.50	14.31	1.45	0.00
1992	7	2	184	101.84	80.96	35.71	623.50	13.42	2.90	0.10
1992	7	3	185	96.98	77.90	39.51	623.50	11.85	6.33	0.00
1992	7	4	186	96.98	75.92	36.68	623.50	12.52	3.98	0.00
1992	7	5	187	99.86	75.92	33.42	623.50	15.20	1.35	0.00
1992	7	6	188	104.00	75.92	32.20	623.50	14.09	0.00	0.00
1992	7	7	189	97.88	75.92	32.20	623.50	15.65	0.00	0.00
1992	7	8	190	97.88	77.00	35.87	623.50	14.09	3.08	0.00
1992	7	9	191	100.94	78.98	35.71	623.50	14.98	2.90	0.00
1992	7	10	192	98.96	77.00	33.15	623.50	15.88	1.05	0.00
1992	7	11	193	98.96	77.90	36.30	623.50	15.65	3.55	0.00
1992	7	12	194	96.98	77.00	36.12	623.50	16.77	3.35	0.00
1992	7	13	195	96.98	77.00	36.30	623.50	12.75	3.55	0.00
1992	7	14	196	99.86	74.84	37.02	623.50	13.19	4.35	0.00
1992	7	15	197	101.84	78.98	36.12	623.50	14.53	3.35	0.00
1992	7	16	198	99.86	78.98	34.02	623.50	16.10	2.03	0.00
1992	7	17	199	96.98	77.90	37.17	623.50	12.97	4.53	0.22
1992	7	18	200	96.98	77.90	38.32	623.50	12.30	5.40	0.01
1992	7	19	201	91.94	74.84	40.39	623.50	10.73	7.30	0.17
1992	7	20	202	87.98	72.86	41.70	623.50	10.73	8.65	0.91
1992	7	21	203	88.88	77.00	41.29	623.50	10.29	8.30	0.00
1992	7	22	204	93.92	77.00	41.13	623.50	10.51	8.03	0.00
1992	7	23	205	99.86	77.90	35.62	623.50	13.19	2.80	0.00
1992	7	24	206	95.90	75.92	36.59	623.50	12.30	3.88	0.00
1992	7	25	207	98.96	77.90	36.25	623.50	12.07	3.50	0.00
1992	7	26	208	98.96	77.00	36.59	623.50	11.85	3.88	0.00
1992	7	27	209	97.88	77.00	33.87	623.50	12.07	1.85	0.00
1992	7	28	210	96.98	75.92	36.23	623.50	10.96	3.48	0.00
1992	7	29	211	98.96	77.90	35.94	623.50	12.75	3.15	0.00
1992	7	30	212	99.86	75.92	33.33	623.50	12.97	1.25	0.00
1992	7	31	213	97.88	77.90	38.77	543.94	12.30	5.50	0.00
1992	8	1	214	98.96	77.00	37.40	543.94	9.84	4.78	0.00
1992	8	2	215	98.96	77.00	34.74	543.94	11.18	2.83	0.00
1992	8	3	216	97.88	75.92	38.41	543.94	9.39	5.10	0.00
1992	8	4	217	99.86	77.00	34.99	543.94	9.84	2.60	0.00
1992	8	5	218	100.94	77.00	33.15	543.94	9.84	1.05	0.00
1992	8	6	219	99.86	77.00	33.33	543.94	12.30	1.25	0.00
1992	8	7	220	101.84	77.90	33.69	543.94	12.97	1.65	0.00
1992	8	8	221	99.86	77.90	36.39	543.94	12.52	3.65	0.00
1992	8	9	222	98.96	77.00	35.71	543.94	10.96	2.90	0.00
1992	8	10	223	99.86	77.00	34.09	543.94	8.27	2.10	0.00
1992	8	11	224	100.94	77.90	34.45	543.94	7.60	2.50	0.35
1992	8	12	225	91.94	77.00	40.66	543.94	6.04	7.60	0.00
1992	8	13	226	86.90	77.00	42.08	543.94	5.14	8.98	0.00
1992	8	14	227	90.86	71.96	40.30	543.94	7.60	7.20	0.01
1992	8	15	228	92.84	70.88	36.95	543.94	6.93	4.28	0.00
1992	8	16	229	86.90	72.86	41.52	543.94	7.16	8.55	0.00
1992	8	17	230	88.88	71.96	36.77	543.94	8.50	4.08	0.00
1992	8	18	231	91.94	68.90	35.71	543.94	8.05	2.90	0.00
1992	8	19	232	95.00	72.86	37.76	543.94	7.38	5.18	0.00

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1992	8	20	233	92.84	74.84	38.64	543.94	7.83	5.95	0.00
1992	8	21	234	91.94	69.98	33.33	543.94	7.38	1.25	0.00
1992	8	22	235	92.84	72.86	34.90	543.94	8.27	2.50	0.00
1992	8	23	236	92.84	73.94	35.87	543.94	11.18	3.08	0.00
1992	8	24	237	95.90	74.84	36.39	543.94	13.86	3.65	0.00
1992	8	25	238	95.00	75.92	36.95	543.94	10.51	4.28	0.00
1992	8	26	239	98.96	75.92	36.12	543.94	7.83	3.35	0.11
1992	8	27	240	98.96	75.92	34.45	543.94	8.50	2.50	0.20
1992	8	28	241	90.86	72.86	39.40	543.94	9.61	6.20	0.00
1992	8	29	242	95.90	73.94	37.17	543.94	9.17	4.53	0.00
1992	8	30	243	97.88	77.00	37.38	543.94	12.30	4.75	0.00
1992	8	31	244	97.88	77.90	37.31	459.97	13.42	4.68	0.00
1992	9	1	245	98.96	77.90	36.30	459.97	13.86	3.55	0.00
1992	9	2	246	98.96	77.90	36.70	459.97	13.64	4.00	0.00
1992	9	3	247	99.86	77.90	33.51	459.97	11.40	1.45	0.00
1992	9	4	248	100.94	78.98	36.05	459.97	12.52	3.28	0.00
1992	9	5	249	98.96	77.90	36.12	459.97	11.85	3.35	0.00
1992	9	6	250	96.98	75.92	35.94	459.97	11.63	3.15	0.00
1992	9	7	251	97.88	77.00	36.48	459.97	11.40	3.75	0.00
1992	9	8	252	97.88	77.00	33.33	459.97	12.52	1.25	0.00
1992	9	9	253	98.96	75.92	34.18	459.97	12.07	2.20	0.00
1992	9	10	254	96.98	77.90	36.32	459.97	12.07	3.58	0.37
1992	9	11	255	88.88	71.96	40.93	459.97	8.50	7.90	0.09
1992	9	12	256	86.90	69.98	40.46	459.97	6.48	7.38	0.00
1992	9	13	257	95.00	72.86	37.53	459.97	10.06	4.93	0.00
1992	9	14	258	88.88	73.94	37.94	459.97	10.29	5.38	0.09
1992	9	15	259	86.00	71.96	37.51	459.97	7.83	4.90	0.00
1992	9	16	260	88.88	68.90	36.81	459.97	4.25	4.13	0.00
1992	9	17	261	92.84	72.86	33.78	459.97	8.05	1.75	0.00
1992	9	18	262	96.98	74.84	33.60	459.97	10.51	1.55	0.00
1992	9	19	263	95.90	75.92	35.80	459.97	11.18	3.00	0.00
1992	9	20	264	97.88	75.92	32.20	459.97	10.73	0.00	0.00
1992	9	21	265	98.96	77.90	38.03	459.97	8.27	5.48	0.48
1992	9	22	266	88.88	69.98	39.13	459.97	8.94	5.90	0.00
1992	9	23	267	79.88	70.88	42.26	459.97	5.81	9.18	0.05
1992	9	24	268	83.84	69.98	41.40	459.97	6.71	8.33	0.00
1992	9	25	269	87.98	65.84	34.41	459.97	6.04	2.45	0.00
1992	9	26	270	93.92	69.98	36.07	459.97	6.93	3.30	0.00
1992	9	27	271	90.86	71.96	37.69	459.97	6.48	4.70	0.00
1992	9	28	272	84.92	72.86	40.68	459.97	8.50	7.63	0.00
1992	9	29	273	83.84	63.86	35.22	459.97	11.40	2.60	0.00
1992	9	30	274	83.84	61.88	32.20	355.35	8.05	0.00	0.00
1992	10	1	275	84.92	53.96	32.20	355.35	4.70	0.00	0.00
1992	10	2	276	86.00	51.98	32.20	355.35	4.25	0.00	0.00
1992	10	3	277	87.98	61.88	32.20	355.35	4.25	0.00	0.00
1992	10	4	278	88.88	61.88	32.20	355.35	6.93	0.00	0.00
1992	10	5	279	88.88	64.94	33.91	355.35	8.50	1.90	0.00
1992	10	6	280	86.00	64.94	37.17	355.35	7.83	4.53	0.00
1992	10	7	281	86.90	68.90	39.54	355.35	9.17	6.35	0.00
1992	10	8	282	75.92	62.96	41.76	355.35	9.61	8.63	0.00
1992	10	9	283	82.94	59.90	41.66	355.35	6.71	8.55	0.00

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1992	10	10	284	93.92	70.88	37.83	355.35	6.48	5.25	0.00
1992	10	11	285	87.98	71.96	37.22	355.35	8.94	4.58	0.00
1992	10	12	286	87.98	66.92	35.80	355.35	8.27	3.00	0.00
1992	10	13	287	88.88	66.92	32.20	355.35	10.29	0.00	0.00
1992	10	14	288	90.86	69.98	37.17	355.35	12.30	4.53	0.00
1992	10	15	289	91.94	73.94	39.94	355.35	9.61	6.80	0.02
1992	10	16	290	90.86	71.96	40.19	355.35	8.72	7.08	0.00
1992	10	17	291	77.00	68.90	40.50	355.35	8.05	7.43	0.00
1992	10	18	292	81.86	68.90	40.23	355.35	7.60	7.13	0.00
1992	10	19	293	83.84	68.90	38.32	355.35	8.94	5.40	0.00
1992	10	20	294	86.90	68.00	34.99	355.35	10.73	2.60	0.06
1992	10	21	295	86.90	68.90	39.49	355.35	8.94	6.30	0.68
1992	10	22	296	82.94	69.98	41.76	355.35	8.05	8.63	0.00
1992	10	23	297	83.84	68.90	39.40	355.35	8.05	6.20	0.00
1992	10	24	298	83.84	61.88	33.37	355.35	5.37	1.30	0.00
1992	10	25	299	86.00	61.88	32.20	355.35	7.60	0.00	0.00
1992	10	26	300	87.98	61.88	32.20	355.35	8.94	0.00	0.00
1992	10	27	301	87.98	65.84	34.27	355.35	4.92	2.30	0.00
1992	10	28	302	88.88	68.90	39.96	355.35	8.50	6.83	0.00
1992	10	29	303	83.84	72.86	41.97	355.35	6.48	8.85	0.00
1992	10	30	304	89.96	70.88	37.47	355.35	4.47	4.85	0.00
1992	10	31	305	88.88	72.86	36.95	273.78	10.96	4.28	0.00
1992	11	1	306	86.90	69.98	33.01	273.78	10.73	0.90	0.00
1992	11	2	307	82.94	56.84	32.20	273.78	7.60	0.00	0.00
1992	11	3	308	89.96	65.84	33.87	273.78	12.75	1.85	0.00
1992	11	4	309	64.94	47.84	41.20	273.78	14.53	8.20	0.00
1992	11	5	310	63.86	42.98	37.08	273.78	5.37	4.43	0.00
1992	11	6	311	59.90	42.98	40.55	273.78	8.72	7.28	0.00
1992	11	7	312	66.92	53.96	43.00	273.78	6.26	10.00	0.09
1992	11	8	313	66.92	56.84	42.91	273.78	3.35	9.90	0.02
1992	11	9	314	81.86	68.90	42.17	273.78	12.75	9.08	0.00
1992	11	10	315	84.92	71.96	42.26	273.78	10.73	9.18	0.00
1992	11	11	316	82.94	72.86	41.88	273.78	5.81	8.75	0.00
1992	11	12	317	74.84	59.90	36.00	273.78	10.06	3.73	0.00
1992	11	13	318	68.00	50.00	37.71	273.78	5.81	5.13	0.00
1992	11	14	319	68.90	51.98	42.06	273.78	5.37	8.95	0.37
1992	11	15	320	63.86	59.90	42.82	273.78	3.13	9.80	0.01
1992	11	16	321	69.98	60.98	41.56	273.78	4.25	8.50	0.00
1992	11	17	322	72.86	61.88	40.57	273.78	5.37	7.50	0.46
1992	11	18	323	78.98	65.84	41.88	273.78	9.61	8.75	0.35
1992	11	19	324	73.94	59.00	41.40	273.78	8.05	8.23	0.00
1992	11	20	325	72.86	52.88	33.33	273.78	6.04	1.25	0.00
1992	11	21	326	71.96	55.94	35.60	273.78	11.18	3.78	0.00
1992	11	22	327	65.84	44.96	33.24	273.78	8.05	1.15	0.00
1992	11	23	328	73.94	48.92	33.42	273.78	5.59	1.35	0.00
1992	11	24	329	72.86	51.98	35.09	273.78	8.72	2.95	0.00
1992	11	25	330	59.00	47.84	37.22	273.78	7.38	4.58	0.00
1992	11	26	331	52.88	41.90	38.66	273.78	8.72	5.38	0.00
1992	11	27	332	60.98	34.88	32.20	273.78	6.48	0.00	0.00
1992	11	28	333	66.92	34.88	32.20	273.78	5.59	0.00	0.00
1992	11	29	334	72.86	41.90	35.28	273.78	5.81	2.93	0.00

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1992	11	30	335	61.88	54.86	42.37	207.53	5.81	9.30	0.00
1992	12	1	336	70.88	53.96	38.64	207.53	3.35	6.15	0.00
1992	12	2	337	65.84	46.94	33.69	207.53	7.38	1.65	0.00
1992	12	3	338	71.96	51.98	39.31	207.53	4.70	6.10	0.00
1992	12	4	339	69.98	51.98	42.24	207.53	6.26	9.15	0.03
1992	12	5	340	48.92	38.84	43.00	207.53	10.06	10.00	0.00
1992	12	6	341	53.96	39.92	41.16	207.53	2.01	8.15	0.00
1992	12	7	342	62.96	42.98	37.02	207.53	2.91	4.35	0.03
1992	12	8	343	61.88	51.98	42.46	207.53	3.58	9.40	0.00
1992	12	9	344	77.90	51.98	35.69	207.53	5.59	3.88	0.00
1992	12	10	345	79.88	45.86	34.98	207.53	5.59	2.83	0.00
1992	12	11	346	73.94	46.94	38.28	207.53	5.81	5.75	0.04
1992	12	12	347	68.90	56.84	41.85	207.53	8.50	8.73	0.00
1992	12	13	348	74.84	61.88	43.00	207.53	13.42	10.00	0.07
1992	12	14	349	71.96	44.96	43.00	207.53	13.19	10.00	0.54
1992	12	15	350	59.90	38.84	37.06	207.53	6.26	4.40	0.00
1992	12	16	351	57.92	47.84	41.36	207.53	5.81	8.18	0.00
1992	12	17	352	65.84	42.98	32.20	207.53	4.25	0.00	0.00
1992	12	18	353	72.86	48.92	39.29	207.53	6.48	6.08	0.00
1992	12	19	354	79.88	66.92	41.09	207.53	6.26	7.88	0.02
1992	12	20	355	68.90	48.92	42.35	207.53	8.05	9.28	0.00
1992	12	21	356	57.92	48.92	42.17	207.53	3.13	9.08	0.02
1992	12	22	357	62.96	55.94	43.00	207.53	2.01	10.00	0.02
1992	12	23	358	66.92	60.98	42.62	207.53	2.68	9.58	0.52
1992	12	24	359	65.84	50.90	43.00	207.53	9.39	10.00	0.00
1992	12	25	360	56.84	50.90	43.00	207.53	4.70	10.00	0.03
1992	12	26	361	56.84	51.98	43.00	207.53	6.04	10.00	0.02
1992	12	27	362	57.92	53.96	43.00	207.53	4.47	10.00	0.02
1992	12	28	363	63.86	55.94	42.73	207.53	3.35	9.70	0.00
1992	12	29	364	77.90	63.86	41.97	207.53	7.16	8.85	0.00
1992	12	30	365	77.90	64.94	40.66	207.53	7.16	7.60	0.00
1992	12	31	366	78.98	68.00	41.49	207.53	8.50	8.53	0.02
1993	1	1	1	59.90	42.98	43.00	277.05	8.94	10.00	0.01
1993	1	2	2	52.88	42.98	43.00	277.05	4.25	10.00	0.00
1993	1	3	3	61.88	52.88	43.00	277.05	6.71	10.00	0.01
1993	1	4	4	71.96	56.84	41.29	277.05	9.39	8.30	0.00
1993	1	5	5	60.98	35.96	40.95	277.05	6.93	7.93	0.07
1993	1	6	6	59.00	43.88	40.95	277.05	4.47	7.73	0.34
1993	1	7	7	62.96	50.00	40.62	277.05	3.58	7.35	0.00
1993	1	8	8	72.86	56.84	40.62	277.05	5.81	7.35	0.00
1993	1	9	9	77.00	60.98	40.46	277.05	8.72	7.38	0.00
1993	1	10	10	65.84	41.00	42.91	277.05	10.06	9.90	0.03
1993	1	11	11	47.84	38.84	43.00	277.05	5.59	10.00	0.00
1993	1	12	12	62.96	45.86	41.61	277.05	4.02	8.45	0.00
1993	1	13	13	57.92	50.00	41.81	277.05	7.38	8.68	0.03
1993	1	14	14	52.88	44.96	43.00	277.05	6.04	10.00	0.01
1993	1	15	15	65.84	48.92	40.28	277.05	3.80	7.08	0.00
1993	1	16	16	74.84	43.88	36.63	277.05	2.46	3.93	0.00
1993	1	17	17	69.98	57.92	40.08	277.05	7.38	6.75	0.00
1993	1	18	18	77.90	65.84	43.00	277.05	6.93	10.00	0.05
1993	1	19	19	69.98	50.00	43.00	277.05	8.94	10.00	0.00

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1993	1	20	20	69.98	50.00	40.75	277.05	5.37	7.70	0.00
1993	1	21	21	79.88	50.90	33.51	277.05	6.71	1.45	0.00
1993	1	22	22	70.88	56.84	37.26	277.05	4.92	4.63	0.00
1993	1	23	23	81.86	62.96	38.12	277.05	6.71	5.18	0.01
1993	1	24	24	66.92	45.86	35.60	277.05	9.61	3.78	0.00
1993	1	25	25	56.84	39.92	33.69	277.05	7.16	1.65	0.00
1993	1	26	26	60.98	33.98	36.79	277.05	2.68	4.10	0.00
1993	1	27	27	62.96	42.98	39.65	277.05	5.14	6.48	0.00
1993	1	28	28	63.86	52.88	42.80	277.05	4.70	9.78	0.00
1993	1	29	29	59.90	50.00	42.35	277.05	8.05	9.28	0.00
1993	1	30	30	56.84	45.86	42.64	277.05	9.61	9.60	0.00
1993	1	31	31	59.90	46.94	41.20	277.05	2.24	8.20	0.00
1993	2	1	32	60.98	54.86	42.80	359.22	3.58	9.78	0.01
1993	2	2	33	63.86	55.94	43.00	359.22	3.58	10.00	0.27
1993	2	3	34	65.84	59.90	42.91	359.22	5.37	9.90	0.26
1993	2	4	35	61.88	55.94	43.00	359.22	6.48	10.00	0.14
1993	2	5	36	55.94	50.00	43.00	359.22	7.83	10.00	0.00
1993	2	6	37	60.98	39.92	33.96	359.22	4.47	1.95	0.00
1993	2	7	38	64.94	39.92	37.76	359.22	4.02	5.18	0.00
1993	2	8	39	72.86	45.86	33.24	359.22	7.83	1.15	0.00
1993	2	9	40	77.00	59.00	40.41	359.22	7.83	7.33	0.00
1993	2	10	41	74.84	54.86	37.98	359.22	6.71	5.43	0.00
1993	2	11	42	75.92	51.98	34.09	359.22	6.48	2.10	0.00
1993	2	12	43	78.98	47.84	33.69	359.22	6.93	1.65	0.00
1993	2	13	44	77.00	55.94	37.24	359.22	5.37	4.60	0.00
1993	2	14	45	72.86	62.96	41.27	359.22	11.18	8.08	0.00
1993	2	15	46	88.88	63.86	34.36	359.22	6.71	2.40	0.00
1993	2	16	47	73.94	54.86	34.23	359.22	9.17	2.25	0.00
1993	2	17	48	52.88	41.90	41.02	359.22	11.18	7.80	0.00
1993	2	18	49	50.90	44.96	43.00	359.22	8.72	10.00	0.00
1993	2	19	50	59.90	43.88	42.35	359.22	5.14	9.28	0.00
1993	2	20	51	75.92	52.88	41.11	359.22	6.04	7.90	0.00
1993	2	21	52	84.92	62.96	35.85	359.22	5.59	3.55	0.00
1993	2	22	53	80.96	57.92	37.33	359.22	6.48	4.70	0.00
1993	2	23	54	77.90	54.86	40.26	359.22	8.05	7.15	0.00
1993	2	24	55	77.00	64.94	42.44	359.22	12.75	9.38	0.00
1993	2	25	56	80.96	64.94	41.22	359.22	10.51	8.13	0.00
1993	2	26	57	68.90	51.98	40.86	359.22	6.93	7.73	0.12
1993	2	27	58	62.96	51.98	42.82	359.22	9.17	9.80	0.16
1993	2	28	59	54.86	48.92	43.00	359.22	8.05	10.00	0.01
1993	3	1	60	66.92	51.98	42.64	421.77	4.70	9.60	0.00
1993	3	2	61	70.88	53.96	40.03	421.77	5.14	6.90	0.00
1993	3	3	62	77.90	47.84	32.20	421.77	7.16	0.00	0.00
1993	3	4	63	77.90	45.86	32.56	421.77	6.26	0.40	0.00
1993	3	5	64	57.92	50.00	41.07	421.77	6.71	7.85	0.00
1993	3	6	65	72.86	41.90	33.78	421.77	4.02	1.75	0.00
1993	3	7	66	80.96	44.96	32.79	421.77	5.81	0.65	0.00
1993	3	8	67	82.94	51.98	32.20	421.77	6.71	0.00	0.00
1993	3	9	68	88.88	59.00	32.65	421.77	8.50	0.50	0.00
1993	3	10	69	93.92	59.90	35.37	421.77	8.05	3.03	0.00
1993	3	11	70	74.84	57.92	41.04	421.77	7.83	7.93	2.71

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1993	3	12	71	63.86	43.88	42.55	421.77	15.43	9.50	0.00
1993	3	13	72	52.88	34.88	33.15	421.77	7.38	1.05	0.00
1993	3	14	73	60.98	38.84	38.88	421.77	10.73	5.63	0.00
1993	3	15	74	77.00	54.86	38.84	421.77	8.94	5.58	0.00
1993	3	16	75	88.88	54.86	33.87	421.77	4.47	1.85	0.00
1993	3	17	76	77.00	59.90	35.13	421.77	9.17	3.25	0.00
1993	3	18	77	77.00	57.92	39.65	421.77	12.30	6.48	0.00
1993	3	19	78	77.00	65.84	41.34	421.77	7.83	8.15	0.00
1993	3	20	79	79.88	60.98	37.26	421.77	7.16	4.63	0.00
1993	3	21	80	71.96	57.92	41.74	421.77	8.50	8.60	0.00
1993	3	22	81	80.96	65.84	41.97	421.77	8.27	8.85	0.13
1993	3	23	82	69.98	59.90	42.35	421.77	9.61	9.28	0.03
1993	3	24	83	77.00	62.96	41.94	421.77	4.47	8.83	0.00
1993	3	25	84	86.00	68.90	37.62	421.77	5.14	5.03	0.00
1993	3	26	85	86.00	65.84	34.25	421.77	9.39	2.28	0.00
1993	3	27	86	81.86	65.84	40.05	421.77	10.29	6.93	0.00
1993	3	28	87	84.92	69.98	41.13	421.77	9.61	7.93	0.00
1993	3	29	88	86.90	68.90	39.06	421.77	10.96	5.83	0.01
1993	3	30	89	87.98	64.94	36.18	421.77	8.72	3.93	0.00
1993	3	31	90	82.94	55.94	32.20	421.77	5.81	0.00	0.00
1993	4	1	91	84.92	55.94	32.79	514.09	7.83	0.65	0.00
1993	4	2	92	74.84	59.00	40.53	514.09	13.64	7.45	0.00
1993	4	3	93	84.92	66.92	40.08	514.09	7.16	6.95	0.00
1993	4	4	94	77.90	64.94	34.11	514.09	11.85	2.13	0.00
1993	4	5	95	80.96	51.98	32.20	514.09	8.94	0.00	0.00
1993	4	6	96	88.88	59.90	37.17	514.09	11.63	4.53	0.00
1993	4	7	97	87.98	70.88	39.76	514.09	10.73	6.60	0.36
1993	4	8	98	77.00	61.88	39.76	514.09	7.83	6.60	0.00
1993	4	9	99	80.96	51.98	32.65	514.09	4.92	0.50	0.00
1993	4	10	100	88.88	56.84	32.20	514.09	9.17	0.00	0.00
1993	4	11	101	93.92	63.86	33.51	514.09	9.61	1.45	0.00
1993	4	12	102	91.94	66.92	38.30	514.09	12.52	5.78	0.00
1993	4	13	103	86.00	70.88	40.95	514.09	9.17	7.93	0.01
1993	4	14	104	89.96	68.00	38.03	514.09	12.07	5.48	0.00
1993	4	15	105	79.88	53.96	32.83	514.09	6.26	0.70	0.00
1993	4	16	106	81.86	56.84	39.42	514.09	11.40	6.23	0.01
1993	4	17	107	84.92	62.96	37.80	514.09	7.38	5.23	0.00
1993	4	18	108	92.84	63.86	34.27	514.09	10.06	2.30	0.00
1993	4	19	109	90.86	68.00	38.84	514.09	12.97	5.58	0.00
1993	4	20	110	79.88	69.98	38.19	514.09	9.17	5.65	0.00
1993	4	21	111	79.88	55.94	33.96	514.09	7.83	1.95	0.00
1993	4	22	112	83.84	55.94	32.38	514.09	8.94	0.20	0.00
1993	4	23	113	93.92	61.88	38.01	514.09	13.42	4.65	0.00
1993	4	24	114	89.96	66.92	39.63	514.09	8.50	6.45	0.00
1993	4	25	115	93.92	69.98	37.96	514.09	8.50	5.00	0.00
1993	4	26	116	86.00	70.88	40.17	514.09	9.61	7.05	0.16
1993	4	27	117	80.96	69.98	42.08	514.09	9.17	8.98	0.00
1993	4	28	118	87.98	70.88	41.20	514.09	8.94	8.20	0.16
1993	4	29	119	78.98	63.86	42.06	514.09	9.17	8.95	0.01
1993	4	30	120	73.94	61.88	42.17	514.09	5.14	9.08	0.00
1993	5	1	121	89.96	66.92	39.06	514.09	5.14	5.83	0.00

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1993	5	2	122	82.94	64.94	34.43	553.07	11.40	2.48	0.00
1993	5	3	123	91.94	62.96	32.20	553.07	8.27	0.00	0.00
1993	5	4	124	90.86	74.84	41.81	553.07	12.07	8.68	0.03
1993	5	5	125	89.96	74.84	41.52	553.07	12.07	8.55	0.00
1993	5	6	126	87.98	73.94	41.94	553.07	10.51	8.83	0.00
1993	5	7	127	89.96	74.84	41.88	553.07	12.07	8.75	0.00
1993	5	8	128	92.84	72.86	37.04	553.07	10.96	4.38	0.00
1993	5	9	129	90.86	75.92	39.76	553.07	9.61	6.60	0.96
1993	5	10	130	81.86	63.86	38.59	553.07	6.93	5.30	0.00
1993	5	11	131	90.86	61.88	32.20	553.07	7.83	0.00	0.00
1993	5	12	132	84.92	68.00	38.41	553.07	7.38	5.10	0.00
1993	5	13	133	87.98	64.94	36.25	553.07	6.93	3.50	0.00
1993	5	14	134	92.84	66.92	34.09	553.07	4.25	2.10	0.00
1993	5	15	135	95.00	68.90	32.20	553.07	7.83	0.00	0.00
1993	5	16	136	95.90	69.98	32.65	553.07	10.51	0.50	0.00
1993	5	17	137	91.94	72.86	38.86	553.07	12.07	5.60	0.38
1993	5	18	138	82.94	69.98	40.95	553.07	8.27	7.93	0.00
1993	5	19	139	84.92	69.98	34.36	553.07	7.60	2.40	0.00
1993	5	20	140	87.98	68.90	39.83	553.07	8.27	7.08	0.00
1993	5	21	141	89.96	66.92	37.15	553.07	11.18	4.50	0.00
1993	5	22	142	86.00	71.96	40.80	553.07	12.30	7.75	0.49
1993	5	23	143	80.96	66.92	41.52	553.07	8.94	8.55	0.00
1993	5	24	144	86.00	66.92	38.48	553.07	7.38	5.98	0.00
1993	5	25	145	86.00	70.88	39.81	553.07	8.27	6.65	0.10
1993	5	26	146	82.94	69.98	40.35	553.07	8.27	7.25	0.00
1993	5	27	147	86.00	68.00	39.92	553.07	5.14	6.78	0.00
1993	5	28	148	87.98	68.90	36.95	553.07	7.38	4.28	0.00
1993	5	29	149	91.94	71.96	37.24	553.07	7.38	4.60	0.00
1993	5	30	150	93.92	73.94	35.24	553.07	7.83	2.88	0.00
1993	5	31	151	92.84	73.94	32.56	553.07	6.93	0.40	0.00
1993	6	1	152	95.90	70.88	32.20	553.07	4.92	0.00	0.00
1993	6	2	153	104.00	70.88	32.20	581.92	9.84	0.00	0.00
1993	6	3	154	107.96	71.96	32.56	581.92	12.52	0.40	0.00
1993	6	4	155	100.94	74.84	36.68	581.92	10.73	3.98	0.00
1993	6	5	156	98.96	79.88	39.87	581.92	12.30	6.73	0.00
1993	6	6	157	98.96	80.96	39.63	581.92	16.10	6.45	0.00
1993	6	7	158	98.96	80.96	40.82	581.92	16.10	7.78	0.00
1993	6	8	159	98.96	78.98	38.61	581.92	14.31	6.13	0.00
1993	6	9	160	97.88	79.88	39.63	581.92	16.55	6.45	0.00
1993	6	10	161	87.98	75.92	41.22	581.92	14.09	8.23	0.24
1993	6	11	162	86.90	69.98	41.66	581.92	9.61	8.55	0.73
1993	6	12	163	81.86	70.88	42.21	581.92	11.63	9.13	0.04
1993	6	13	164	87.98	70.88	40.73	581.92	9.17	7.68	0.01
1993	6	14	165	86.90	71.96	40.81	581.92	7.83	7.73	0.00
1993	6	15	166	90.86	72.86	40.48	581.92	6.71	7.40	0.00
1993	6	16	167	90.86	72.86	37.76	581.92	8.72	5.18	0.00
1993	6	17	168	91.94	75.92	39.72	581.92	10.06	6.55	0.19
1993	6	18	169	88.88	73.94	38.93	581.92	6.71	5.68	0.06
1993	6	19	170	87.98	73.94	40.23	581.92	8.72	7.13	0.33
1993	6	20	171	84.92	74.84	42.44	581.92	11.63	9.38	0.35
1993	6	21	172	82.94	73.94	42.24	581.92	12.30	9.15	0.04

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1993	6	22	173	88.88	73.94	39.78	581.92	7.60	6.63	0.00
1993	6	23	174	91.94	77.00	38.21	581.92	10.29	5.68	0.00
1993	6	24	175	91.94	77.90	39.60	581.92	11.85	6.43	0.00
1993	6	25	176	91.94	78.98	40.57	581.92	10.73	7.50	0.02
1993	6	26	177	87.98	77.00	41.97	581.92	8.27	8.85	0.00
1993	6	27	178	90.86	77.90	41.67	581.92	9.17	8.53	0.00
1993	6	28	179	93.92	77.90	39.92	581.92	11.40	6.78	0.00
1993	6	29	180	93.92	77.90	39.40	581.92	12.07	6.20	0.00
1993	6	30	181	93.92	77.90	37.58	581.92	15.20	4.98	0.00
1993	7	1	182	95.90	77.90	36.77	581.92	14.76	4.08	0.00
1993	7	2	183	95.00	75.92	35.53	623.50	14.98	2.70	0.00
1993	7	3	184	95.90	77.00	35.62	623.50	15.65	2.80	0.00
1993	7	4	185	95.00	77.00	37.08	623.50	14.98	4.43	0.00
1993	7	5	186	95.90	78.98	37.40	623.50	15.88	4.78	0.00
1993	7	6	187	96.98	77.90	35.71	623.50	14.53	2.90	0.00
1993	7	7	188	95.00	77.00	36.16	623.50	14.98	3.40	0.00
1993	7	8	189	92.84	77.90	35.41	623.50	14.98	2.95	0.00
1993	7	9	190	96.98	74.84	32.20	623.50	14.09	0.00	0.00
1993	7	10	191	96.98	77.00	36.72	623.50	13.64	4.03	0.00
1993	7	11	192	97.88	77.00	33.33	623.50	14.53	1.25	0.00
1993	7	12	193	95.90	77.00	36.14	623.50	14.53	3.38	0.00
1993	7	13	194	97.88	77.90	37.13	623.50	13.42	4.48	0.00
1993	7	14	195	96.98	75.92	37.08	623.50	13.64	4.43	0.00
1993	7	15	196	96.98	74.84	36.41	623.50	13.64	3.68	0.00
1993	7	16	197	97.88	77.90	36.32	623.50	12.75	3.58	0.00
1993	7	17	198	97.88	77.90	36.14	623.50	11.85	3.38	0.00
1993	7	18	199	97.88	77.90	36.59	623.50	13.42	3.88	0.00
1993	7	19	200	97.88	75.92	35.53	623.50	12.52	2.70	0.00
1993	7	20	201	97.88	77.00	33.91	623.50	12.07	1.90	0.00
1993	7	21	202	99.86	77.90	35.53	623.50	12.30	2.70	0.00
1993	7	22	203	100.94	78.98	33.15	623.50	13.86	1.05	0.00
1993	7	23	204	102.92	77.00	32.79	623.50	14.98	0.65	0.00
1993	7	24	205	101.84	77.90	34.18	623.50	14.31	2.20	0.00
1993	7	25	206	101.84	77.00	33.15	623.50	16.32	1.05	0.00
1993	7	26	207	100.94	74.84	32.83	623.50	11.18	0.70	0.00
1993	7	27	208	100.94	74.84	33.55	623.50	9.84	1.50	0.00
1993	7	28	209	98.96	78.98	36.39	623.50	14.09	3.65	0.00
1993	7	29	210	99.86	77.90	34.02	623.50	11.63	2.03	0.00
1993	7	30	211	100.94	78.98	35.71	623.50	9.17	2.90	0.00
1993	7	31	212	98.96	78.98	34.90	623.50	9.17	2.50	0.00
1993	8	1	213	101.84	79.88	33.51	543.94	12.30	1.45	0.00
1993	8	2	214	100.94	77.90	35.94	543.94	13.86	3.15	0.00
1993	8	3	215	100.94	77.90	34.27	543.94	17.44	2.30	0.00
1993	8	4	216	100.94	77.00	35.94	543.94	15.43	3.15	0.00
1993	8	5	217	99.86	77.00	33.91	543.94	16.55	1.90	0.00
1993	8	6	218	100.94	77.90	32.20	543.94	15.65	0.00	0.00
1993	8	7	219	100.94	77.00	33.87	543.94	15.65	1.85	0.00
1993	8	8	220	99.86	77.00	32.38	543.94	16.32	0.20	0.00
1993	8	9	221	99.86	77.00	34.09	543.94	13.42	2.10	0.00
1993	8	10	222	97.88	74.84	33.69	543.94	11.63	1.65	0.00
1993	8	11	223	97.88	77.00	35.80	543.94	13.86	3.00	0.00

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1993	8	12	224	99.86	77.00	34.20	543.94	14.76	2.23	0.00
1993	8	13	225	98.96	77.90	33.51	543.94	15.20	1.45	0.00
1993	8	14	226	99.86	77.90	36.12	543.94	16.77	3.35	0.00
1993	8	15	227	99.86	78.98	36.12	543.94	16.55	3.35	0.00
1993	8	16	228	98.96	77.90	35.53	543.94	16.99	2.70	0.00
1993	8	17	229	97.88	77.00	35.08	543.94	15.43	2.70	0.00
1993	8	18	230	98.96	75.92	32.20	543.94	15.43	0.00	0.00
1993	8	19	231	98.96	75.92	34.45	543.94	16.32	2.50	0.00
1993	8	20	232	99.86	74.84	35.71	543.94	15.65	2.90	0.00
1993	8	21	233	98.96	77.00	34.09	543.94	15.43	2.10	0.00
1993	8	22	234	97.88	77.90	35.53	543.94	16.99	2.70	0.05
1993	8	23	235	99.86	79.88	36.39	543.94	17.89	3.65	0.00
1993	8	24	236	99.86	79.88	39.13	543.94	17.89	5.90	0.00
1993	8	25	237	99.86	78.98	39.04	543.94	18.34	5.80	0.00
1993	8	26	238	89.96	74.84	39.27	543.94	9.39	6.05	0.06
1993	8	27	239	89.96	75.92	40.77	543.94	4.70	7.73	0.00
1993	8	28	240	97.88	77.00	37.49	543.94	12.52	4.88	0.00
1993	8	29	241	96.98	77.00	36.84	543.94	16.10	4.15	0.00
1993	8	30	242	96.98	69.98	38.12	543.94	16.55	5.58	0.12
1993	8	31	243	95.00	75.92	39.04	543.94	13.42	5.80	0.00
1993	9	1	244	91.94	73.94	37.40	459.97	11.18	4.78	0.00
1993	9	2	245	98.96	75.92	36.41	459.97	14.09	3.68	0.02
1993	9	3	246	97.88	78.98	37.53	459.97	12.30	4.93	0.10
1993	9	4	247	87.98	75.92	41.45	459.97	8.05	8.28	0.00
1993	9	5	248	93.92	77.00	41.02	459.97	7.60	8.00	0.00
1993	9	6	249	88.88	77.00	42.17	459.97	12.07	9.08	0.00
1993	9	7	250	91.94	72.86	41.22	459.97	5.81	8.03	0.00
1993	9	8	251	95.90	74.84	35.87	459.97	2.68	3.08	0.00
1993	9	9	252	95.00	73.94	36.32	459.97	10.51	3.58	0.15
1993	9	10	253	91.94	77.00	40.66	459.97	8.50	7.60	0.04
1993	9	11	254	87.98	72.86	38.32	459.97	9.84	5.40	0.00
1993	9	12	255	93.92	73.94	38.32	459.97	16.55	5.40	0.00
1993	9	13	256	96.98	78.98	40.30	459.97	21.47	7.20	0.00
1993	9	14	257	92.84	73.94	37.49	459.97	11.40	4.88	0.01
1993	9	15	258	77.00	63.86	39.47	459.97	9.84	6.28	0.00
1993	9	16	259	89.96	64.94	33.60	459.97	4.92	1.55	0.00
1993	9	17	260	92.84	73.94	37.20	459.97	8.94	4.55	0.00
1993	9	18	261	95.00	74.84	37.31	459.97	11.85	4.68	0.00
1993	9	19	262	95.90	75.92	34.90	459.97	11.40	2.50	0.02
1993	9	20	263	95.90	75.92	36.34	459.97	10.96	3.60	0.00
1993	9	21	264	95.00	77.00	38.84	459.97	9.61	5.58	0.00
1993	9	22	265	90.86	75.92	38.30	459.97	7.38	5.78	0.00
1993	9	23	266	93.92	77.90	38.10	459.97	12.52	5.55	0.00
1993	9	24	267	95.90	75.92	36.39	459.97	14.09	3.65	0.00
1993	9	25	268	95.00	75.92	36.59	459.97	14.09	3.88	0.74
1993	9	26	269	93.92	77.00	39.06	459.97	10.96	5.83	0.00
1993	9	27	270	86.00	66.92	38.25	459.97	10.51	5.73	0.00
1993	9	28	271	87.98	61.88	36.30	459.97	4.47	3.55	0.00
1993	9	29	272	88.88	59.90	33.42	459.97	6.26	1.35	0.00
1993	9	30	273	88.88	63.86	35.89	459.97	7.16	3.10	0.00
1993	10	1	274	90.86	68.90	34.20	355.35	14.53	2.23	0.00

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1993	10	2	275	91.94	71.96	36.77	355.35	13.64	4.08	0.00
1993	10	3	276	83.84	73.94	36.99	355.35	8.50	4.33	0.00
1993	10	4	277	89.96	65.84	33.06	355.35	5.81	0.95	0.00
1993	10	5	278	90.86	68.90	33.91	355.35	10.06	1.90	0.00
1993	10	6	279	90.86	69.98	34.90	355.35	10.73	2.50	0.00
1993	10	7	280	88.88	70.88	36.79	355.35	10.96	4.10	0.00
1993	10	8	281	93.92	72.86	36.50	355.35	11.40	3.78	1.53
1993	10	9	282	95.90	70.88	36.81	355.35	10.29	4.13	0.01
1993	10	10	283	77.90	63.86	39.56	355.35	10.06	6.28	0.00
1993	10	11	284	89.96	69.98	39.76	355.35	6.71	6.60	0.00
1993	10	12	285	89.96	73.94	37.24	355.35	11.63	4.60	0.00
1993	10	13	286	91.94	73.94	35.85	355.35	10.51	3.55	0.00
1993	10	14	287	88.88	71.96	38.21	355.35	10.51	5.68	0.00
1993	10	15	288	91.94	74.84	39.81	355.35	11.85	6.65	0.00
1993	10	16	289	93.92	75.92	37.60	355.35	10.29	5.00	0.00
1993	10	17	290	99.86	74.84	34.32	355.35	11.63	2.35	0.00
1993	10	18	291	91.94	75.92	36.97	355.35	14.31	4.30	0.00
1993	10	19	292	93.92	75.92	36.41	355.35	16.99	3.68	0.33
1993	10	20	293	81.86	68.90	40.59	355.35	14.09	7.53	0.00
1993	10	21	294	74.84	60.98	37.24	355.35	12.97	4.60	0.00
1993	10	22	295	71.96	52.88	35.71	355.35	9.61	2.90	0.00
1993	10	23	296	74.84	48.92	32.20	355.35	6.71	0.00	0.00
1993	10	24	297	77.90	47.84	35.94	355.35	3.80	3.15	0.00
1993	10	25	298	82.94	53.96	32.20	355.35	1.34	0.00	0.00
1993	10	26	299	81.86	54.86	33.51	355.35	7.60	1.45	0.03
1993	10	27	300	68.90	57.92	42.53	355.35	12.07	9.48	0.08
1993	10	28	301	70.88	54.86	42.26	355.35	6.48	9.18	0.01
1993	10	29	302	79.88	53.96	38.93	355.35	15.20	5.58	0.00
1993	10	30	303	51.98	38.84	38.16	355.35	18.11	5.13	0.00
1993	10	31	304	63.86	34.88	32.20	355.35	5.37	0.00	0.00
1993	11	1	305	73.94	41.00	37.24	273.78	12.97	4.60	0.15
1993	11	2	306	74.84	59.00	42.53	273.78	6.71	9.48	0.07
1993	11	3	307	65.84	59.90	42.24	273.78	4.47	9.15	0.00
1993	11	4	308	80.96	60.98	41.04	273.78	5.14	8.03	0.00
1993	11	5	309	80.96	59.00	41.31	273.78	9.61	8.23	0.00
1993	11	6	310	59.00	46.94	40.93	273.78	10.06	7.90	0.00
1993	11	7	311	61.88	42.98	38.82	273.78	8.72	5.55	0.03
1993	11	8	312	69.98	54.86	42.35	273.78	7.83	9.28	0.00
1993	11	9	313	70.88	60.98	42.62	273.78	7.16	9.58	0.06
1993	11	10	314	66.92	57.92	42.62	273.78	7.38	9.58	0.01
1993	11	11	315	74.84	59.90	41.76	273.78	8.05	8.63	0.00
1993	11	12	316	86.90	66.92	39.31	273.78	9.61	6.10	0.00
1993	11	13	317	87.98	70.88	38.79	273.78	10.51	5.93	0.00
1993	11	14	318	77.00	68.00	41.52	273.78	11.85	8.55	0.00
1993	11	15	319	77.00	63.86	42.06	273.78	11.18	8.95	0.03
1993	11	16	320	73.94	59.00	39.45	273.78	8.05	6.25	0.00
1993	11	17	321	72.86	50.00	36.50	273.78	4.02	3.78	0.00
1993	11	18	322	77.00	52.88	35.53	273.78	7.16	2.70	0.00
1993	11	19	323	82.94	61.88	39.31	273.78	10.29	6.10	0.00
1993	11	20	324	62.96	50.00	39.85	273.78	8.72	6.70	0.00
1993	11	21	325	68.00	41.90	32.56	273.78	4.02	0.40	0.00

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1993	11	22	326	69.98	47.84	38.79	273.78	7.16	5.53	0.00
1993	11	23	327	77.90	54.86	37.92	273.78	9.39	5.35	0.00
1993	11	24	328	81.86	62.96	36.93	273.78	10.06	4.25	0.22
1993	11	25	329	70.88	39.92	42.73	273.78	14.98	9.70	0.01
1993	11	26	330	45.86	28.94	42.17	273.78	10.51	9.08	0.00
1993	11	27	331	54.86	34.88	33.93	273.78	2.91	1.93	0.00
1993	11	28	332	69.98	36.86	36.07	273.78	4.92	3.30	0.00
1993	11	29	333	72.86	45.86	39.40	273.78	8.94	6.20	0.00
1993	11	30	334	77.00	53.96	38.23	273.78	11.18	4.90	0.00
1993	12	1	335	79.88	65.84	41.49	207.53	14.31	8.53	0.00
1993	12	2	336	80.96	64.94	40.59	207.53	12.52	7.53	0.00
1993	12	3	337	77.00	66.92	40.91	207.53	9.17	7.88	0.00
1993	12	4	338	71.96	53.96	38.21	207.53	10.51	5.68	0.00
1993	12	5	339	72.86	53.96	40.66	207.53	7.60	7.60	0.00
1993	12	6	340	66.92	59.90	41.61	207.53	10.29	8.65	0.01
1993	12	7	341	69.98	59.00	42.35	207.53	6.04	9.28	0.00
1993	12	8	342	77.00	66.92	41.99	207.53	5.37	8.88	0.00
1993	12	9	343	79.88	66.92	41.02	207.53	8.05	8.00	0.00
1993	12	10	344	83.84	60.98	37.08	207.53	10.29	4.43	0.00
1993	12	11	345	74.84	55.94	36.77	207.53	10.73	4.08	0.00
1993	12	12	346	77.00	57.92	40.12	207.53	12.97	7.00	0.00
1993	12	13	347	77.90	57.92	32.20	207.53	13.42	0.00	0.00
1993	12	14	348	69.98	45.86	33.78	207.53	6.71	1.75	0.00
1993	12	15	349	73.94	45.86	34.47	207.53	8.72	2.53	0.00
1993	12	16	350	75.92	61.88	41.42	207.53	8.50	8.40	0.00
1993	12	17	351	73.94	63.86	42.35	207.53	8.27	9.28	0.06
1993	12	18	352	62.96	46.94	43.00	207.53	12.97	10.00	0.01
1993	12	19	353	59.00	46.94	42.91	207.53	4.92	9.90	0.00
1993	12	20	354	69.98	51.98	41.84	207.53	10.29	8.75	0.00
1993	12	21	355	59.90	47.84	38.95	207.53	12.30	5.70	0.06
1993	12	22	356	50.00	42.98	42.73	207.53	13.42	9.70	0.00
1993	12	23	357	50.90	32.00	37.58	207.53	7.16	4.98	0.06
1993	12	24	358	54.86	39.92	39.58	207.53	11.63	7.20	0.00
1993	12	25	359	64.94	33.98	37.17	207.53	5.14	4.53	0.00
1993	12	26	360	68.90	37.94	32.20	207.53	8.50	0.00	0.00
1993	12	27	361	73.94	48.92	38.95	207.53	8.50	5.70	0.00
1993	12	28	362	73.94	48.92	39.49	207.53	6.04	6.30	0.00
1993	12	29	363	54.86	38.84	43.00	207.53	12.52	10.00	0.00
1993	12	30	364	50.90	44.96	43.00	207.53	8.72	10.00	0.00
1993	12	31	365	57.92	47.84	42.91	207.53	5.14	9.90	0.00
1994	1	1	1	74.84	48.92	37.35	277.05	6.93	4.73	0.00
1994	1	2	2	82.94	36.86	34.11	277.05	6.48	2.13	0.00
1994	1	3	3	68.90	45.86	32.20	277.05	6.93	0.00	0.00
1994	1	4	4	72.86	41.90	32.20	277.05	8.27	0.00	0.00
1994	1	5	5	74.84	44.96	32.20	277.05	14.09	0.00	0.00
1994	1	6	6	84.92	52.88	34.25	277.05	7.83	2.28	0.00
1994	1	7	7	64.94	47.84	40.14	277.05	14.98	7.03	0.00
1994	1	8	8	61.88	35.96	33.15	277.05	8.27	1.05	0.00
1994	1	9	9	69.98	39.92	38.10	277.05	15.43	4.75	0.00
1994	1	10	10	74.84	52.88	36.34	277.05	8.72	3.60	0.01
1994	1	11	11	70.88	54.86	40.23	277.05	7.38	7.13	0.00

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1994	1	12	12	66.92	57.92	42.82	277.05	10.96	9.80	0.00
1994	1	13	13	70.88	52.88	39.18	277.05	9.61	6.50	0.00
1994	1	14	14	73.94	42.98	34.27	277.05	6.48	2.30	0.00
1994	1	15	15	73.94	50.90	38.82	277.05	11.40	5.55	0.00
1994	1	16	16	74.84	60.98	40.12	277.05	12.52	7.00	0.00
1994	1	17	17	65.84	48.92	39.11	277.05	11.18	5.88	0.00
1994	1	18	18	59.90	38.84	37.60	277.05	9.39	4.60	0.00
1994	1	19	19	52.88	37.94	42.01	277.05	6.93	8.90	0.00
1994	1	20	20	68.90	50.90	42.62	277.05	6.93	9.58	0.26
1994	1	21	21	65.84	51.98	43.00	277.05	14.31	10.00	0.13
1994	1	22	22	55.94	48.92	43.00	277.05	8.72	10.00	0.16
1994	1	23	23	56.84	50.90	43.00	277.05	5.37	10.00	0.08
1994	1	24	24	68.90	56.84	42.44	277.05	3.35	9.38	0.00
1994	1	25	25	72.86	61.88	41.99	277.05	7.83	8.88	0.00
1994	1	26	26	74.84	65.84	42.26	277.05	7.83	9.18	0.01
1994	1	27	27	66.92	60.98	42.73	277.05	6.71	9.70	0.00
1994	1	28	28	59.90	45.86	42.82	277.05	11.85	9.80	0.00
1994	1	29	29	56.84	41.90	38.28	277.05	9.61	5.75	0.00
1994	1	30	30	59.90	41.90	34.70	277.05	6.71	2.78	0.00
1994	1	31	31	50.90	39.92	40.48	277.05	10.73	7.20	0.00
1994	2	1	32	42.98	35.96	42.01	359.22	10.06	8.90	0.00
1994	2	2	33	55.94	28.94	34.56	359.22	5.37	2.63	0.00
1994	2	3	34	56.84	42.98	41.63	359.22	5.81	8.48	0.00
1994	2	4	35	69.98	50.00	41.72	359.22	2.91	8.58	0.00
1994	2	5	36	75.92	54.86	39.67	359.22	7.38	6.50	0.00
1994	2	6	37	79.88	52.88	34.65	359.22	4.70	2.73	0.00
1994	2	7	38	78.98	62.96	40.53	359.22	10.51	7.45	0.00
1994	2	8	39	87.98	61.88	37.60	359.22	12.07	4.60	0.00
1994	2	9	40	73.94	45.86	40.01	359.22	14.76	6.78	0.26
1994	2	10	41	61.88	37.94	37.31	359.22	10.73	4.78	0.00
1994	2	11	42	73.94	36.86	34.23	359.22	13.64	2.25	0.00
1994	2	12	43	69.98	55.94	38.14	359.22	10.96	4.80	0.00
1994	2	13	44	60.98	50.90	41.81	359.22	13.86	8.68	0.00
1994	2	14	45	68.00	41.90	34.05	359.22	10.51	2.05	0.00
1994	2	15	46	78.98	51.98	40.30	359.22	6.26	7.20	0.00
1994	2	16	47	71.96	59.90	41.25	359.22	6.26	8.05	0.00
1994	2	17	48	73.94	54.86	39.49	359.22	12.30	6.30	0.00
1994	2	18	49	74.84	60.98	42.46	359.22	15.43	9.40	0.00
1994	2	19	50	77.00	63.86	38.58	359.22	13.42	5.93	0.00
1994	2	20	51	80.96	68.90	41.25	359.22	6.71	8.25	0.00
1994	2	21	52	80.96	68.00	41.90	359.22	13.19	8.78	0.00
1994	2	22	53	83.84	68.00	40.19	359.22	9.17	7.08	0.67
1994	2	23	54	70.88	54.86	41.02	359.22	12.75	8.00	0.00
1994	2	24	55	69.98	46.94	39.99	359.22	10.29	6.85	0.00
1994	2	25	56	77.90	51.98	38.28	359.22	8.27	5.55	0.00
1994	2	26	57	64.94	47.84	42.82	359.22	14.09	9.80	0.00
1994	2	27	58	59.00	44.96	43.00	359.22	7.16	10.00	0.06
1994	2	28	59	63.86	51.98	43.00	359.22	4.70	10.00	0.01
1994	3	1	60	75.92	55.94	37.29	421.77	13.42	4.65	0.00
1994	3	2	61	75.92	46.94	39.06	421.77	6.71	5.83	0.00
1994	3	3	62	79.88	51.98	37.33	421.77	9.17	4.70	0.00

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
1994	3	4	63	87.98	60.98	40.57	421.77	9.39	7.50	0.04
1994	3	5	64	91.94	65.84	37.94	421.77	7.83	5.38	0.01
1994	3	6	65	90.86	66.92	35.04	421.77	7.16	3.15	0.00
1994	3	7	66	87.98	65.84	33.87	421.77	14.31	1.85	0.44
1994	3	8	67	88.88	56.84	42.24	421.77	12.97	9.15	0.64
1994	3	9	68	57.92	45.86	34.63	421.77	18.34	2.70	0.00
1994	3	10	69	62.96	39.92	34.02	421.77	4.92	2.03	0.00
1994	3	11	70	72.86	45.86	37.76	421.77	13.86	5.18	0.00
1994	3	12	71	73.94	54.86	40.48	421.77	12.97	7.20	0.06
1994	3	13	72	68.00	59.00	43.00	421.77	13.64	10.00	0.07
1994	3	14	73	66.92	57.92	43.00	421.77	8.72	10.00	1.16
1994	3	15	74	70.88	59.00	42.62	421.77	9.84	9.58	0.06
1994	3	16	75	68.90	59.00	41.52	421.77	8.27	8.35	0.00
1994	3	17	76	80.96	59.00	36.93	421.77	7.38	4.25	0.00
1994	3	18	77	90.86	59.90	34.32	421.77	7.16	2.35	0.00
1994	3	19	78	92.84	62.96	33.15	421.77	12.07	1.05	0.00
1994	3	20	79	90.86	68.00	39.76	421.77	8.72	6.60	0.00
1994	3	21	80	86.00	69.98	38.32	421.77	10.73	5.40	0.00
1994	3	22	81	83.84	62.96	40.30	421.77	7.83	7.20	0.00
1994	3	23	82	87.98	70.88	41.79	421.77	8.72	8.65	0.00
1994	3	24	83	84.92	69.98	41.28	421.77	8.72	8.13	0.00
1994	3	25	84	82.94	66.92	40.66	421.77	14.09	7.60	0.00
1994	3	26	85	97.88	66.92	39.51	421.77	12.30	6.33	0.00
1994	3	27	86	80.96	62.96	37.31	421.77	16.55	4.68	0.00
1994	3	28	87	66.92	50.90	38.70	421.77	12.97	6.23	0.00
1994	3	29	88	74.84	53.96	39.40	421.77	12.97	6.20	0.00
1994	3	30	89	75.92	55.94	35.96	421.77	10.51	3.18	0.00
1994	3	31	90	72.86	50.00	41.07	421.77	10.51	8.05	0.00
1994	4	1	91	73.94	59.90	41.13	514.09	12.97	8.03	0.00
1994	4	2	92	84.92	63.86	38.59	514.09	14.98	6.10	0.00
1994	4	3	93	78.98	66.92	39.36	514.09	10.29	6.15	0.00
1994	4	4	94	86.90	68.00	40.84	514.09	13.42	7.80	0.00
1994	4	5	95	90.86	69.98	40.66	514.09	10.51	7.60	0.50
1994	4	6	96	77.00	51.98	35.35	514.09	12.97	3.50	0.00
1994	4	7	97	80.96	51.98	35.71	514.09	13.19	2.90	0.00
1994	4	8	98	86.00	59.90	39.67	514.09	12.52	6.50	0.00
1994	4	9	99	95.00	68.00	35.33	514.09	13.19	3.48	0.00
1994	4	10	100	96.98	70.88	33.19	514.09	14.98	1.10	0.00
1994	4	11	101	89.96	73.94	39.45	514.09	11.85	6.25	0.00
1994	4	12	102	79.88	68.00	42.24	514.09	10.51	9.15	0.00
1994	4	13	103	79.88	65.84	42.03	514.09	8.27	8.93	0.00
1994	4	14	104	79.88	66.92	42.35	514.09	12.07	9.28	0.92
1994	4	15	105	84.92	65.84	42.19	514.09	8.72	9.10	0.00
1994	4	16	106	77.90	60.98	38.79	514.09	10.29	5.93	0.00
1994	4	17	107	77.90	53.96	39.63	514.09	3.13	6.45	0.00
1994	4	18	108	81.86	60.98	37.31	514.09	5.14	4.68	0.00
1994	4	19	109	86.90	64.94	36.50	514.09	9.39	3.78	0.00
1994	4	20	110	79.88	65.84	39.67	514.09	9.17	6.50	0.00
1994	4	21	111	83.84	63.86	40.19	514.09	6.93	7.08	0.00
1994	4	22	112	86.90	65.84	38.10	514.09	6.48	5.55	0.00
1994	4	23	113	86.90	66.92	35.71	514.09	9.17	2.90	0.00

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1994	4	24	114	89.96	68.90	36.61	514.09	12.30	3.90	0.00
1994	4	25	115	96.98	73.94	35.42	514.09	11.40	3.58	0.00
1994	4	26	116	98.96	72.86	34.70	514.09	12.30	2.78	0.00
1994	4	27	117	99.86	74.84	39.72	514.09	13.86	6.55	0.00
1994	4	28	118	83.84	68.90	39.38	514.09	14.31	6.98	0.05
1994	4	29	119	91.94	72.86	40.37	514.09	15.43	7.28	0.52
1994	4	30	120	79.88	54.86	42.80	514.09	13.19	9.78	0.18
1994	5	1	121	59.90	52.88	43.00	514.09	9.17	10.00	0.04
1994	5	2	122	74.84	53.96	42.44	553.07	5.14	9.38	0.00
1994	5	3	123	83.84	68.90	42.06	553.07	7.83	8.95	0.00
1994	5	4	124	83.84	69.98	42.24	553.07	10.73	9.15	0.00
1994	5	5	125	84.92	71.96	41.76	553.07	13.19	8.63	0.00
1994	5	6	126	91.94	72.86	41.20	553.07	13.86	8.20	0.00
1994	5	7	127	96.98	77.90	40.77	553.07	11.18	7.73	0.00
1994	5	8	128	91.94	72.86	41.61	553.07	11.63	8.55	0.83
1994	5	9	129	89.96	69.98	41.64	553.07	11.85	8.65	0.00
1994	5	10	130	90.86	75.92	41.97	553.07	10.96	8.85	0.00
1994	5	11	131	90.86	77.00	42.35	553.07	14.98	9.28	0.00
1994	5	12	132	93.92	77.00	40.37	553.07	15.65	7.28	0.00
1994	5	13	133	87.98	75.92	37.62	553.07	11.85	5.03	0.39
1994	5	14	134	93.92	72.86	39.36	553.07	11.18	6.15	0.26
1994	5	15	135	86.90	66.92	38.84	553.07	9.39	6.38	0.00
1994	5	16	136	89.96	68.90	35.89	553.07	4.92	3.10	0.00
1994	5	17	137	92.84	72.86	34.99	553.07	8.94	2.60	0.00
1994	5	18	138	89.96	72.86	38.07	553.07	8.94	5.53	0.00
1994	5	19	139	89.96	72.86	38.50	553.07	7.60	6.00	0.00
1994	5	20	140	88.88	69.98	36.50	553.07	9.61	3.78	0.00
1994	5	21	141	88.88	66.92	34.09	553.07	10.29	2.10	0.00
1994	5	22	142	86.90	69.98	37.92	553.07	12.75	5.35	0.00
1994	5	23	143	89.96	69.98	38.93	553.07	12.30	6.28	0.00
1994	5	24	144	93.92	71.96	37.80	553.07	13.64	5.23	0.00
1994	5	25	145	95.00	73.94	39.90	553.07	14.76	6.75	0.00
1994	5	26	146	92.84	74.84	41.49	553.07	11.63	8.53	0.60
1994	5	27	147	89.96	75.92	40.75	553.07	12.30	7.70	0.00
1994	5	28	148	92.84	73.94	39.22	553.07	7.16	6.00	0.00
1994	5	29	149	98.96	77.00	35.62	553.07	11.63	2.80	0.00
1994	5	30	150	99.86	77.00	34.02	553.07	12.75	2.03	0.00
1994	5	31	151	100.94	75.92	35.53	553.07	9.39	2.70	0.00
1994	6	1	152	96.98	78.98	35.53	553.07	9.61	2.70	0.00
1994	6	2	153	96.98	75.92	37.94	581.92	9.61	5.38	0.00
1994	6	3	154	95.00	77.00	39.02	581.92	8.72	6.18	0.17
1994	6	4	155	93.92	75.92	39.99	581.92	8.05	6.85	0.00
1994	6	5	156	97.88	77.00	37.76	581.92	10.06	5.18	0.00
1994	6	6	157	101.84	77.00	34.83	581.92	9.39	2.93	0.00
1994	6	7	158	104.00	77.90	35.62	581.92	11.85	2.80	0.00
1994	6	8	159	104.00	77.90	35.80	581.92	10.51	3.00	0.00
1994	6	9	160	100.94	81.86	37.17	581.92	14.76	4.53	0.61
1994	6	10	161	90.86	68.90	39.15	581.92	11.18	6.13	0.22
1994	6	11	162	91.94	77.00	38.86	581.92	9.39	5.60	0.29
1994	6	12	163	88.88	73.94	37.44	581.92	10.73	4.83	0.13
1994	6	13	164	89.96	73.94	40.75	581.92	10.96	7.70	0.73

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1994	6	14	165	86.00	70.88	40.68	581.92	12.97	7.63	0.00
1994	6	15	166	90.86	77.00	39.76	581.92	16.77	6.60	0.00
1994	6	16	167	92.84	75.92	37.69	581.92	14.53	5.10	0.00
1994	6	17	168	95.00	77.00	37.89	581.92	14.76	5.33	0.11
1994	6	18	169	91.94	75.92	37.85	581.92	8.72	5.08	0.00
1994	6	19	170	93.92	74.84	37.13	581.92	7.60	4.48	0.48
1994	6	20	171	91.94	77.90	39.05	581.92	7.83	6.15	0.00
1994	6	21	172	93.92	74.84	37.62	581.92	7.83	5.03	0.00
1994	6	22	173	97.88	74.84	35.71	581.92	8.27	2.90	0.00
1994	6	23	174	100.94	78.98	36.16	581.92	12.52	3.40	0.00
1994	6	24	175	100.94	78.98	37.42	581.92	7.16	4.80	0.00
1994	6	25	176	104.00	79.88	32.20	581.92	9.39	0.00	0.00
1994	6	26	177	100.94	77.90	32.38	581.92	12.97	0.20	0.00
1994	6	27	178	105.98	77.00	33.42	581.92	14.53	1.35	0.00
1994	6	28	179	105.98	77.90	32.20	581.92	16.10	0.00	0.00
1994	6	29	180	102.92	77.00	36.63	581.92	12.30	3.93	0.00
1994	6	30	181	105.98	77.00	33.69	581.92	15.20	1.65	0.00
1994	7	1	182	102.92	77.90	34.05	581.92	14.53	2.05	0.00
1994	7	2	183	101.84	77.90	36.07	623.50	13.64	3.30	0.00
1994	7	3	184	99.86	77.90	33.51	623.50	15.20	1.45	0.00
1994	7	4	185	98.96	78.98	36.34	623.50	16.55	3.60	0.00
1994	7	5	186	99.86	79.88	35.98	623.50	15.43	3.20	0.00
1994	7	6	187	102.92	79.88	35.71	623.50	17.22	2.90	0.00
1994	7	7	188	104.90	78.98	33.51	623.50	16.10	1.45	0.00
1994	7	8	189	98.96	79.88	35.71	623.50	15.43	2.90	0.00
1994	7	9	190	97.88	73.94	36.07	623.50	13.42	3.30	0.00
1994	7	10	191	96.98	77.00	33.69	623.50	10.73	1.65	0.00
1994	7	11	192	100.94	77.00	34.92	623.50	11.85	3.03	0.00
1994	7	12	193	100.94	79.88	36.23	623.50	15.65	3.48	0.00
1994	7	13	194	99.86	79.88	39.00	623.50	16.77	5.75	0.73
1994	7	14	195	97.88	70.88	41.20	623.50	16.10	8.20	0.38
1994	7	15	196	97.88	72.86	41.04	623.50	13.42	8.03	0.00
1994	7	16	197	98.96	78.98	33.91	623.50	16.32	1.90	0.00
1994	7	17	198	99.86	77.00	32.38	623.50	14.31	0.20	0.00
1994	7	18	199	101.84	75.92	32.20	623.50	13.64	0.00	0.00
1994	7	19	200	100.94	74.84	33.15	623.50	14.09	1.05	0.00
1994	7	20	201	99.86	77.90	33.91	623.50	15.20	1.90	0.00
1994	7	21	202	98.96	77.90	34.09	623.50	16.55	2.10	0.00
1994	7	22	203	99.86	77.90	35.71	623.50	14.09	2.90	0.00
1994	7	23	204	104.00	77.00	33.15	623.50	13.19	1.05	0.00
1994	7	24	205	102.92	77.00	32.97	623.50	14.09	0.85	0.00
1994	7	25	206	104.00	75.92	35.53	623.50	13.86	2.70	0.00
1994	7	26	207	102.92	77.00	36.36	623.50	12.07	3.63	0.00
1994	7	27	208	96.98	77.90	36.90	623.50	12.52	4.23	0.00
1994	7	28	209	96.98	79.88	37.92	623.50	13.42	5.35	0.00
1994	7	29	210	95.00	77.00	38.93	623.50	12.30	6.48	1.50
1994	7	30	211	95.90	71.96	39.99	623.50	14.31	6.85	0.04
1994	7	31	212	92.84	72.86	37.80	623.50	8.27	5.23	0.00
1994	8	1	213	93.92	74.84	37.22	543.94	10.96	4.58	0.00
1994	8	2	214	92.84	72.86	37.08	543.94	7.60	4.43	0.01
1994	8	3	215	93.92	72.86	37.53	543.94	8.94	4.93	0.02

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1994	8	4	216	87.98	74.84	37.89	543.94	10.96	5.33	0.00
1994	8	5	217	88.88	71.96	37.83	543.94	10.06	5.25	0.00
1994	8	6	218	95.90	77.00	38.03	543.94	10.96	5.48	0.00
1994	8	7	219	97.88	77.00	34.45	543.94	14.76	2.50	0.13
1994	8	8	220	96.98	77.90	38.19	543.94	13.86	4.85	0.16
1994	8	9	221	93.92	70.88	39.40	543.94	16.10	6.20	0.18
1994	8	10	222	90.86	72.86	40.48	543.94	8.94	7.40	0.00
1994	8	11	223	91.94	71.96	37.60	543.94	8.72	4.60	0.00
1994	8	12	224	91.94	72.86	36.48	543.94	7.16	3.75	0.00
1994	8	13	225	93.92	74.84	36.43	543.94	10.73	3.70	0.08
1994	8	14	226	89.96	77.90	38.59	543.94	8.50	5.30	0.00
1994	8	15	227	95.00	74.84	36.84	543.94	6.48	4.15	0.00
1994	8	16	228	97.88	75.92	34.27	543.94	9.84	2.30	0.00
1994	8	17	229	99.86	77.90	33.69	543.94	11.63	1.65	0.00
1994	8	18	230	100.94	77.90	33.78	543.94	13.19	1.75	0.00
1994	8	19	231	99.86	77.90	35.94	543.94	15.20	3.15	0.00
1994	8	20	232	100.94	77.90	32.56	543.94	15.43	0.40	0.00
1994	8	21	233	98.96	77.00	34.00	543.94	12.97	2.00	0.00
1994	8	22	234	96.98	77.90	40.75	543.94	12.75	7.70	0.00
1994	8	23	235	100.94	80.96	37.13	543.94	16.77	4.48	0.00
1994	8	24	236	96.98	77.90	33.96	543.94	16.77	1.95	0.00
1994	8	25	237	92.84	74.84	37.40	543.94	10.29	4.78	0.00
1994	8	26	238	96.98	75.92	34.90	543.94	11.85	2.50	0.00
1994	8	27	239	95.90	75.92	36.23	543.94	10.51	3.48	0.00
1994	8	28	240	97.88	77.90	34.27	543.94	13.64	2.30	0.00
1994	8	29	241	98.96	75.92	35.71	543.94	13.86	2.90	0.00
1994	8	30	242	95.90	77.90	38.50	543.94	14.09	5.20	0.18
1994	8	31	243	88.88	74.84	40.12	543.94	13.64	7.00	0.02
1994	9	1	244	84.92	72.86	39.58	459.97	12.30	6.40	0.00
1994	9	2	245	88.88	72.86	37.38	459.97	10.06	4.75	0.00
1994	9	3	246	92.84	71.96	35.96	459.97	14.09	3.18	0.00
1994	9	4	247	97.88	71.96	33.19	459.97	16.99	1.10	0.00
1994	9	5	248	97.88	73.94	32.79	459.97	16.10	0.65	0.00
1994	9	6	249	96.98	75.92	36.97	459.97	11.40	4.30	0.00
1994	9	7	250	96.98	75.92	33.69	459.97	10.96	1.65	0.00
1994	9	8	251	93.92	75.92	36.97	459.97	12.30	4.30	0.84
1994	9	9	252	84.92	69.98	40.39	459.97	10.73	7.30	0.35
1994	9	10	253	86.90	70.88	38.59	459.97	8.72	5.30	0.00
1994	9	11	254	86.90	71.96	39.85	459.97	9.39	6.70	0.11
1994	9	12	255	89.96	73.94	39.38	459.97	9.39	6.18	1.01
1994	9	13	256	88.88	73.94	40.28	459.97	11.63	7.18	0.02
1994	9	14	257	92.84	74.84	38.37	459.97	8.72	5.85	0.07
1994	9	15	258	91.94	74.84	40.12	459.97	9.84	7.00	1.17
1994	9	16	259	84.92	70.88	41.79	459.97	7.60	8.75	0.00
1994	9	17	260	81.86	73.94	41.88	459.97	10.29	8.75	0.00
1994	9	18	261	90.86	68.00	32.56	459.97	9.84	0.40	0.00
1994	9	19	262	91.94	65.84	32.56	459.97	3.80	0.40	0.00
1994	9	20	263	90.86	68.90	35.53	459.97	6.93	2.70	0.00
1994	9	21	264	90.86	68.90	34.90	459.97	9.39	2.50	0.00
1994	9	22	265	89.96	68.90	39.04	459.97	14.98	5.80	0.00
1994	9	23	266	82.94	60.98	36.90	459.97	8.50	4.23	0.00

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1994	9	24	267	92.84	66.92	33.33	459.97	9.61	1.25	0.00
1994	9	25	268	84.92	69.98	40.68	459.97	10.29	7.63	0.00
1994	9	26	269	90.86	57.92	37.38	459.97	8.50	4.75	0.00
1994	9	27	270	93.92	69.98	36.03	459.97	10.96	3.25	0.00
1994	9	28	271	93.92	69.98	32.65	459.97	10.29	0.50	0.00
1994	9	29	272	89.96	63.86	36.72	459.97	9.17	4.03	0.00
1994	9	30	273	89.96	69.98	40.30	459.97	8.05	7.20	0.00
1994	10	1	274	91.94	68.90	36.23	355.35	7.16	3.48	0.00
1994	10	2	275	95.00	72.86	33.33	355.35	8.72	1.25	0.00
1994	10	3	276	96.98	74.84	32.56	355.35	14.53	0.40	0.00
1994	10	4	277	92.84	74.84	37.92	355.35	12.97	5.35	0.00
1994	10	5	278	92.84	68.90	34.27	355.35	12.30	2.30	0.00
1994	10	6	279	93.92	70.88	33.78	355.35	17.22	1.75	0.01
1994	10	7	280	93.92	77.00	39.04	355.35	18.11	5.80	0.07
1994	10	8	281	82.94	68.00	41.43	355.35	16.77	8.45	0.00
1994	10	9	282	73.94	61.88	40.01	355.35	12.30	6.88	0.00
1994	10	10	283	74.84	55.94	36.12	355.35	6.71	3.60	0.00
1994	10	11	284	79.88	50.00	32.20	355.35	5.59	0.00	0.00
1994	10	12	285	82.94	54.86	32.97	355.35	7.60	0.85	0.00
1994	10	13	286	81.86	57.92	38.05	355.35	10.29	4.70	0.06
1994	10	14	287	71.96	62.96	42.53	355.35	13.19	9.48	0.00
1994	10	15	288	89.96	69.98	41.00	355.35	7.83	7.88	0.00
1994	10	16	289	91.94	74.84	40.17	355.35	12.97	7.05	0.00
1994	10	17	290	90.86	77.00	38.46	355.35	14.76	5.95	0.00
1994	10	18	291	90.86	78.98	40.57	355.35	13.86	7.50	0.00
1994	10	19	292	91.94	77.00	40.12	355.35	12.30	7.00	0.00
1994	10	20	293	91.94	73.94	37.71	355.35	16.10	5.13	0.00
1994	10	21	294	89.96	74.84	37.31	355.35	12.75	4.68	0.00
1994	10	22	295	93.92	77.00	37.83	355.35	7.83	5.25	0.00
1994	10	23	296	90.86	71.96	36.39	355.35	10.29	3.65	0.00
1994	10	24	297	89.96	71.96	36.41	355.35	12.30	3.68	0.41
1994	10	25	298	84.92	68.90	40.17	355.35	14.09	7.05	0.01
1994	10	26	299	68.00	57.92	42.80	355.35	12.07	9.78	0.00
1994	10	27	300	63.86	55.94	43.00	355.35	9.61	10.00	0.00
1994	10	28	301	74.84	57.92	42.12	355.35	7.38	9.03	0.00
1994	10	29	302	80.96	64.94	39.94	355.35	9.61	6.80	0.00
1994	10	30	303	82.94	66.92	39.45	355.35	11.40	6.25	0.00
1994	10	31	304	81.86	66.92	39.45	355.35	10.29	6.25	0.00
1994	11	1	305	78.98	56.84	33.24	273.78	10.06	1.15	0.00
1994	11	2	306	88.88	68.90	41.45	273.78	14.09	8.28	0.00
1994	11	3	307	89.96	74.84	40.10	273.78	14.53	6.98	0.00
1994	11	4	308	90.86	75.92	40.01	273.78	18.34	6.88	0.00
1994	11	5	309	79.88	65.84	38.03	273.78	12.52	5.48	0.00
1994	11	6	310	83.84	55.94	32.20	273.78	5.37	0.00	0.00
1994	11	7	311	82.94	59.90	37.56	273.78	9.84	4.95	0.00
1994	11	8	312	90.86	70.88	35.24	273.78	14.76	2.88	0.00
1994	11	9	313	81.86	65.84	34.20	273.78	13.42	2.23	0.00
1994	11	10	314	71.96	51.98	33.24	273.78	10.29	1.15	0.00
1994	11	11	315	69.98	50.90	42.06	273.78	11.18	8.95	0.00
1994	11	12	316	80.96	65.84	41.76	273.78	13.19	8.63	0.00
1994	11	13	317	87.98	68.90	37.71	273.78	16.32	5.13	0.00

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1994	11	14	318	81.86	71.96	42.26	273.78	11.18	9.18	0.00
1994	11	15	319	62.96	56.84	40.03	273.78	15.65	6.70	0.00
1994	11	16	320	70.88	59.00	39.99	273.78	8.50	6.85	0.00
1994	11	17	321	78.98	59.00	37.89	273.78	8.94	5.33	0.00
1994	11	18	322	83.84	66.92	40.17	273.78	12.07	7.05	0.00
1994	11	19	323	88.88	73.94	38.66	273.78	20.12	6.18	0.00
1994	11	20	324	81.86	62.96	37.87	273.78	12.07	4.90	0.00
1994	11	21	325	86.00	52.88	34.27	273.78	9.84	2.30	0.00
1994	11	22	326	84.92	69.98	41.02	273.78	13.42	8.00	0.16
1994	11	23	327	74.84	50.90	42.82	273.78	14.09	9.80	0.00
1994	11	24	328	57.92	48.92	43.00	273.78	4.47	10.00	0.00
1994	11	25	329	69.98	55.94	40.14	273.78	5.59	6.93	0.00
1994	11	26	330	80.96	54.86	36.16	273.78	8.05	3.40	0.00
1994	11	27	331	90.86	65.84	36.25	273.78	13.64	3.50	0.00
1994	11	28	332	69.98	59.90	40.89	273.78	8.72	7.85	0.00
1994	11	29	333	69.98	57.92	41.22	273.78	10.96	8.23	0.00
1994	11	30	334	66.92	50.00	38.48	273.78	9.84	5.98	0.04
1994	12	1	335	68.00	50.90	40.44	207.53	10.51	7.35	0.00
1994	12	2	336	68.00	57.92	42.80	207.53	7.38	9.78	0.00
1994	12	3	337	77.00	59.90	37.83	207.53	7.60	5.25	0.00
1994	12	4	338	83.84	53.96	32.20	207.53	7.83	0.00	0.00
1994	12	5	339	83.84	62.96	38.48	207.53	12.97	5.98	0.00
1994	12	6	340	87.98	72.86	40.75	207.53	14.31	7.70	0.00
1994	12	7	341	78.98	68.90	38.10	207.53	7.38	5.55	0.00
1994	12	8	342	86.90	72.86	38.14	207.53	16.32	5.20	0.00
1994	12	9	343	74.84	46.94	41.11	207.53	14.76	7.90	0.02
1994	12	10	344	59.90	46.94	40.57	207.53	13.86	7.30	0.00
1994	12	11	345	57.92	36.86	36.99	207.53	10.06	4.33	0.00
1994	12	12	346	68.90	43.88	37.69	207.53	6.48	5.10	0.00
1994	12	13	347	74.84	54.86	41.20	207.53	6.93	8.20	0.02
1994	12	14	348	79.88	63.86	42.06	207.53	10.73	8.95	0.05
1994	12	15	349	77.90	70.88	42.24	207.53	10.06	9.15	0.01
1994	12	16	350	73.94	68.00	42.91	207.53	10.29	9.90	0.00
1994	12	17	351	68.00	55.94	42.91	207.53	9.17	9.90	0.00
1994	12	18	352	60.98	53.96	42.73	207.53	7.38	9.70	0.00
1994	12	19	353	65.84	54.86	41.18	207.53	6.04	7.98	0.00
1994	12	20	354	72.86	59.00	40.86	207.53	7.16	7.83	0.00
1994	12	21	355	71.96	50.00	35.62	207.53	7.38	2.80	0.00
1994	12	22	356	69.98	45.86	38.21	207.53	6.93	5.68	0.00
1994	12	23	357	59.00	50.00	42.17	207.53	8.50	9.08	0.02
1994	12	24	358	59.90	50.90	41.36	207.53	7.60	8.18	0.00
1994	12	25	359	64.94	42.98	32.20	207.53	4.25	0.00	0.00
1994	12	26	360	64.94	38.84	38.68	207.53	8.72	5.30	2.41
1994	12	27	361	64.94	57.92	43.00	207.53	15.43	10.00	0.01
1994	12	28	362	64.94	52.88	39.00	207.53	12.97	6.15	0.00
1994	12	29	363	63.86	46.94	35.53	207.53	5.81	3.20	0.04
1994	12	30	364	57.92	51.98	41.65	207.53	7.60	8.50	0.04
1994	12	31	365	65.84	51.98	39.40	207.53	9.39	6.00	0.00
1995	1	1	1	50.90	43.88	39.29	277.05	9.39	5.98	0.11
1995	1	2	2	50.00	38.84	42.35	277.05	10.73	9.28	0.03
1995	1	3	3	48.92	39.92	42.82	277.05	9.61	9.80	0.00

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1995	1	4	4	45.86	39.92	42.91	277.05	12.30	9.90	0.00
1995	1	5	5	45.86	38.84	43.00	277.05	8.94	10.00	0.02
1995	1	6	6	65.84	42.98	38.28	277.05	8.27	5.75	0.00
1995	1	7	7	71.96	42.98	36.50	277.05	6.48	3.78	0.00
1995	1	8	8	75.92	44.96	36.12	277.05	6.04	3.35	0.00
1995	1	9	9	77.00	50.90	37.78	277.05	4.92	5.20	0.00
1995	1	10	10	78.98	63.86	39.49	277.05	8.94	6.10	0.00
1995	1	11	11	79.88	64.94	39.00	277.05	10.29	6.15	0.00
1995	1	12	12	73.94	59.90	37.33	277.05	10.29	4.70	0.00
1995	1	13	13	72.86	52.88	33.69	277.05	12.97	1.65	0.00
1995	1	14	14	74.84	44.96	32.20	277.05	5.37	0.00	0.00
1995	1	15	15	77.00	46.94	33.33	277.05	10.29	1.25	0.00
1995	1	16	16	81.86	59.00	37.98	277.05	14.98	5.43	0.00
1995	1	17	17	68.90	59.90	42.53	277.05	10.73	9.48	0.00
1995	1	18	18	68.90	51.98	36.36	277.05	14.31	3.63	0.00
1995	1	19	19	62.96	42.98	40.10	277.05	5.37	6.98	0.00
1995	1	20	20	68.00	48.92	40.19	277.05	6.71	7.08	0.00
1995	1	21	21	68.00	48.92	41.25	277.05	12.52	8.25	0.00
1995	1	22	22	75.92	60.98	38.86	277.05	11.18	5.60	0.00
1995	1	23	23	56.84	41.90	32.79	277.05	9.17	0.65	0.00
1995	1	24	24	56.84	41.00	40.32	277.05	8.72	7.03	0.02
1995	1	25	25	55.94	50.00	43.00	277.05	6.48	10.00	0.00
1995	1	26	26	65.84	53.96	41.76	277.05	5.59	8.63	0.00
1995	1	27	27	79.88	54.86	37.65	277.05	6.93	5.05	0.00
1995	1	28	28	74.84	50.90	33.15	277.05	9.39	1.05	0.00
1995	1	29	29	63.86	46.94	34.38	277.05	12.30	2.43	0.00
1995	1	30	30	59.90	43.88	37.60	277.05	11.63	5.00	0.00
1995	1	31	31	70.88	37.94	32.20	277.05	8.50	0.00	0.00
1995	2	1	32	80.96	45.86	32.20	359.22	10.96	0.00	0.00
1995	2	2	33	84.92	48.92	33.91	359.22	6.48	1.90	0.00
1995	2	3	34	77.00	51.98	32.20	359.22	17.22	0.00	0.00
1995	2	4	35	69.98	43.88	33.15	359.22	8.72	1.05	0.00
1995	2	5	36	78.98	45.86	32.20	359.22	6.93	0.00	0.00
1995	2	6	37	77.90	48.92	34.14	359.22	9.17	2.15	0.00
1995	2	7	38	82.94	55.94	36.09	359.22	12.52	3.83	0.01
1995	2	8	39	52.88	47.84	42.91	359.22	12.07	9.90	0.00
1995	2	9	40	68.00	45.86	39.54	359.22	8.72	6.25	0.00
1995	2	10	41	79.88	55.94	39.18	359.22	9.61	6.35	0.00
1995	2	11	42	80.96	47.84	37.08	359.22	13.64	4.43	0.02
1995	2	12	43	46.94	37.94	42.80	359.22	12.75	9.78	0.02
1995	2	13	44	50.00	44.96	43.00	359.22	9.39	10.00	0.02
1995	2	14	45	59.90	46.94	41.74	359.22	8.05	8.60	0.00
1995	2	15	46	77.00	55.94	42.44	359.22	5.37	9.38	0.00
1995	2	16	47	68.00	59.00	42.35	359.22	11.63	9.28	0.13
1995	2	17	48	59.00	47.84	42.24	359.22	11.63	9.15	0.00
1995	2	18	49	62.96	51.98	42.80	359.22	6.48	9.78	0.00
1995	2	19	50	72.86	54.86	40.14	359.22	7.16	7.03	0.00
1995	2	20	51	78.98	45.86	37.04	359.22	5.59	4.38	0.00
1995	2	21	52	79.88	51.98	39.40	359.22	4.47	6.20	0.00
1995	2	22	53	77.00	57.92	40.66	359.22	12.75	7.60	0.00
1995	2	23	54	86.00	61.88	36.32	359.22	11.85	3.58	0.00

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1995	2	24	55	79.88	61.88	39.72	359.22	14.09	6.55	0.06
1995	2	25	56	74.84	64.94	42.08	359.22	15.88	8.98	0.00
1995	2	26	57	79.88	65.84	41.34	359.22	12.97	8.35	0.36
1995	2	27	58	86.00	66.92	42.44	359.22	9.61	9.38	0.05
1995	2	28	59	77.90	57.92	37.67	359.22	8.72	5.08	0.04
1995	3	1	60	55.94	46.94	43.00	421.77	12.52	10.00	0.13
1995	3	2	61	45.86	42.98	43.00	421.77	14.31	10.00	0.01
1995	3	3	62	55.94	41.00	42.91	421.77	10.06	9.90	0.00
1995	3	4	63	57.92	44.96	42.91	421.77	6.71	9.90	0.00
1995	3	5	64	66.92	55.94	38.48	421.77	4.92	5.08	0.02
1995	3	6	65	80.96	61.88	41.54	421.77	12.07	8.38	0.13
1995	3	7	66	70.88	51.98	41.25	421.77	19.01	8.25	0.00
1995	3	8	67	57.92	37.94	34.77	421.77	11.63	2.60	0.00
1995	3	9	68	60.98	41.90	39.27	421.77	9.84	6.05	0.00
1995	3	10	69	70.88	50.90	41.16	421.77	13.42	8.15	0.00
1995	3	11	70	79.88	53.96	33.91	421.77	17.66	1.90	0.00
1995	3	12	71	84.92	64.94	39.24	421.77	23.03	6.03	0.24
1995	3	13	72	83.84	56.84	34.59	421.77	11.63	2.15	0.00
1995	3	14	73	82.94	53.96	33.33	421.77	6.48	1.25	0.00
1995	3	15	74	74.84	55.94	36.59	421.77	14.31	3.88	0.00
1995	3	16	75	74.84	55.94	35.87	421.77	11.40	3.08	0.00
1995	3	17	76	79.88	56.84	35.53	421.77	8.05	2.70	0.00
1995	3	18	77	82.94	55.94	32.79	421.77	6.48	0.65	0.00
1995	3	19	78	89.96	59.00	32.20	421.77	14.31	0.00	0.00
1995	3	20	79	95.00	65.84	32.38	421.77	10.51	0.20	0.00
1995	3	21	80	97.88	64.94	32.20	421.77	13.19	0.00	0.00
1995	3	22	81	88.88	66.92	38.77	421.77	11.40	5.50	0.00
1995	3	23	82	95.00	68.00	38.41	421.77	6.04	5.10	0.00
1995	3	24	83	91.94	68.90	37.40	421.77	11.63	4.78	0.00
1995	3	25	84	95.00	69.98	39.42	421.77	14.53	6.23	0.03
1995	3	26	85	79.88	71.96	41.11	421.77	11.18	7.90	0.00
1995	3	27	86	75.92	66.92	42.35	421.77	15.20	9.28	0.03
1995	3	28	87	65.84	57.92	43.00	421.77	10.73	10.00	0.00
1995	3	29	88	57.92	51.98	43.00	421.77	14.76	10.00	0.00
1995	3	30	89	62.96	52.88	42.80	421.77	8.94	9.78	0.08
1995	3	31	90	65.84	56.84	42.35	421.77	11.18	9.28	0.00
1995	4	1	91	70.88	55.94	40.95	514.09	8.05	7.93	0.00
1995	4	2	92	69.98	53.96	39.76	514.09	13.42	6.40	0.00
1995	4	3	93	78.98	64.94	42.03	514.09	15.88	8.93	0.00
1995	4	4	94	77.90	65.84	40.95	514.09	13.42	7.93	0.00
1995	4	5	95	80.96	56.84	36.72	514.09	13.42	4.03	0.00
1995	4	6	96	90.86	55.94	34.27	514.09	6.71	2.30	0.00
1995	4	7	97	91.94	61.88	37.69	514.09	14.09	4.70	0.00
1995	4	8	98	92.84	66.92	32.20	514.09	16.10	0.00	0.00
1995	4	9	99	95.90	68.90	34.56	514.09	19.01	2.63	0.00
1995	4	10	100	95.90	74.84	36.50	514.09	15.43	4.28	0.00
1995	4	11	101	77.90	62.96	35.35	514.09	14.31	3.50	0.00
1995	4	12	102	86.00	55.94	32.20	514.09	13.19	0.00	0.00
1995	4	13	103	87.98	59.00	32.20	514.09	12.07	0.00	0.00
1995	4	14	104	89.96	61.88	36.09	514.09	16.77	3.33	0.00
1995	4	15	105	91.94	74.84	41.67	514.09	16.32	8.53	0.00

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1995	4	16	106	97.88	75.92	40.86	514.09	16.32	7.63	0.13
1995	4	17	107	104.00	74.84	39.47	514.09	16.99	6.28	0.00
1995	4	18	108	86.90	68.90	34.02	514.09	13.19	2.03	0.00
1995	4	19	109	100.94	69.98	35.01	514.09	9.84	3.13	0.00
1995	4	20	110	88.88	72.86	34.99	514.09	13.42	3.10	0.00
1995	4	21	111	95.00	64.94	33.10	514.09	12.75	1.00	0.00
1995	4	22	112	90.86	71.96	37.13	514.09	15.65	4.48	0.00
1995	4	23	113	72.86	54.86	39.56	514.09	17.22	6.58	0.00
1995	4	24	114	73.94	54.86	39.06	514.09	10.73	5.83	0.00
1995	4	25	115	77.00	55.94	36.72	514.09	12.52	4.03	0.00
1995	4	26	116	87.98	60.98	33.15	514.09	14.53	1.05	0.00
1995	4	27	117	86.00	66.92	39.40	514.09	13.42	6.20	0.00
1995	4	28	118	89.96	68.90	40.99	514.09	18.11	7.93	0.00
1995	4	29	119	95.00	70.88	38.68	514.09	12.75	5.40	0.00
1995	4	30	120	98.96	71.96	36.23	514.09	17.44	3.08	0.00
1995	5	1	121	91.94	70.88	38.59	514.09	15.20	5.30	0.00
1995	5	2	122	78.98	66.92	41.52	553.07	14.53	8.35	0.00
1995	5	3	123	87.98	70.88	41.43	553.07	9.84	8.25	0.00
1995	5	4	124	95.90	70.88	37.51	553.07	12.52	4.90	0.00
1995	5	5	125	91.94	73.94	40.39	553.07	17.44	7.30	0.00
1995	5	6	126	95.00	74.84	39.40	553.07	19.01	6.20	0.00
1995	5	7	127	95.90	77.90	39.51	553.07	21.69	6.33	0.00
1995	5	8	128	86.90	70.88	36.63	553.07	14.98	3.93	0.00
1995	5	9	129	95.90	64.94	36.66	553.07	6.26	3.95	0.00
1995	5	10	130	100.94	73.94	36.59	553.07	12.52	3.88	0.00
1995	5	11	131	83.84	72.86	41.09	553.07	15.88	7.88	0.01
1995	5	12	132	100.94	71.96	39.54	553.07	10.73	6.25	0.00
1995	5	13	133	110.84	77.00	33.44	553.07	13.86	1.38	0.00
1995	5	14	134	104.90	77.90	34.20	553.07	16.77	2.23	0.00
1995	5	15	135	99.86	80.96	40.50	553.07	17.66	7.43	0.00
1995	5	16	136	98.96	78.98	38.48	553.07	20.79	5.98	0.00
1995	5	17	137	101.84	79.88	39.56	553.07	16.10	6.38	0.00
1995	5	18	138	95.00	77.90	34.83	553.07	15.20	2.93	0.00
1995	5	19	139	92.84	68.00	36.21	553.07	10.51	3.45	0.00
1995	5	20	140	93.92	64.94	33.51	553.07	13.64	1.45	0.00
1995	5	21	141	89.96	70.88	39.83	553.07	16.55	6.68	0.00
1995	5	22	142	95.00	77.00	41.81	553.07	17.89	8.68	0.00
1995	5	23	143	95.90	77.90	40.84	553.07	20.12	7.70	0.00
1995	5	24	144	95.00	77.00	40.86	553.07	18.34	7.83	0.13
1995	5	25	145	89.96	74.84	40.66	553.07	17.22	7.60	0.00
1995	5	26	146	92.84	72.86	39.09	553.07	16.55	6.25	0.01
1995	5	27	147	92.84	72.86	40.50	553.07	10.29	7.43	0.00
1995	5	28	148	97.88	77.00	39.49	553.07	14.09	6.30	1.29
1995	5	29	149	89.96	70.88	38.66	553.07	14.76	6.18	0.13
1995	5	30	150	93.92	69.98	40.21	553.07	15.20	7.10	0.01
1995	5	31	151	93.92	68.90	38.14	553.07	9.84	5.60	0.00
1995	6	1	152	97.88	73.94	37.11	553.07	12.97	4.45	0.00
1995	6	2	153	98.96	77.00	36.59	581.92	19.23	3.88	0.00
1995	6	3	154	96.98	78.98	38.03	581.92	22.58	5.48	0.00
1995	6	4	155	95.90	77.90	38.73	581.92	19.23	5.85	0.00
1995	6	5	156	96.98	75.92	36.72	581.92	15.43	4.03	0.00

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1995	6	6	157	99.86	77.00	36.68	581.92	18.34	3.98	0.00
1995	6	7	158	102.92	81.86	37.94	581.92	18.34	4.98	0.00
1995	6	8	159	102.92	78.98	33.84	581.92	19.68	1.83	0.00
1995	6	9	160	100.94	81.86	37.71	581.92	20.57	5.13	0.00
1995	6	10	161	99.86	80.96	38.64	581.92	18.56	5.95	4.06
1995	6	11	162	86.00	68.00	40.93	581.92	10.51	7.90	0.00
1995	6	12	163	88.88	70.88	35.61	581.92	8.05	3.03	0.00
1995	6	13	164	87.98	65.84	33.26	581.92	8.05	1.18	0.00
1995	6	14	165	89.96	68.00	33.24	581.92	11.40	1.15	0.00
1995	6	15	166	92.84	68.90	33.69	581.92	15.88	1.65	0.00
1995	6	16	167	90.86	71.96	35.37	581.92	15.43	3.03	0.00
1995	6	17	168	90.86	68.90	36.30	581.92	12.30	3.55	0.00
1995	6	18	169	92.84	71.96	38.77	581.92	10.29	5.50	0.00
1995	6	19	170	93.92	74.84	37.13	581.92	12.97	4.48	0.00
1995	6	20	171	90.86	72.86	38.32	581.92	12.75	5.20	0.00
1995	6	21	172	93.92	71.96	35.53	581.92	12.07	2.70	0.00
1995	6	22	173	95.90	72.86	34.27	581.92	10.29	2.30	0.00
1995	6	23	174	96.98	74.84	34.09	581.92	12.52	2.10	0.00
1995	6	24	175	98.96	75.92	33.51	581.92	10.96	1.45	0.00
1995	6	25	176	99.86	74.84	33.87	581.92	10.29	1.85	0.00
1995	6	26	177	99.86	77.00	35.71	581.92	11.63	2.90	0.00
1995	6	27	178	100.94	77.00	34.18	581.92	13.86	2.20	0.00
1995	6	28	179	99.86	77.90	36.68	581.92	16.55	3.98	0.75
1995	6	29	180	93.92	68.00	37.44	581.92	13.86	4.83	0.00
1995	6	30	181	89.96	70.88	38.23	581.92	14.09	5.30	0.00
1995	7	1	182	95.00	75.92	36.21	581.92	6.04	3.45	0.00
1995	7	2	183	95.90	75.92	36.68	623.50	12.52	3.98	0.00
1995	7	3	184	99.86	78.98	39.83	623.50	17.66	6.68	0.00
1995	7	4	185	100.94	79.88	37.49	623.50	18.56	4.88	0.00
1995	7	5	186	98.96	79.88	37.22	623.50	18.11	4.58	1.27
1995	7	6	187	87.98	70.88	41.52	623.50	12.52	8.55	0.11
1995	7	7	188	91.94	70.88	41.22	623.50	7.16	8.23	0.00
1995	7	8	189	93.92	75.92	40.39	623.50	7.38	7.30	0.00
1995	7	9	190	95.00	75.92	37.02	623.50	7.83	4.35	0.00
1995	7	10	191	98.96	75.92	33.51	623.50	10.29	1.45	0.00
1995	7	11	192	99.86	74.84	32.20	623.50	11.63	0.00	0.00
1995	7	12	193	99.86	75.92	33.78	623.50	12.30	1.75	0.00
1995	7	13	194	97.88	75.92	35.71	623.50	14.53	3.03	1.25
1995	7	14	195	96.98	74.84	37.26	623.50	12.52	4.63	0.00
1995	7	15	196	96.98	74.84	35.53	623.50	10.73	2.83	0.01
1995	7	16	197	97.88	77.00	36.05	623.50	14.31	3.28	0.31
1995	7	17	198	96.98	77.00	39.09	623.50	12.07	6.25	0.00
1995	7	18	199	98.96	77.90	37.98	623.50	11.63	5.43	0.00
1995	7	19	200	100.94	78.98	37.51	623.50	12.52	4.90	0.00
1995	7	20	201	100.94	78.98	37.62	623.50	13.86	5.03	0.00
1995	7	21	202	104.00	79.88	37.15	623.50	17.22	4.50	0.00
1995	7	22	203	102.92	79.88	36.21	623.50	16.77	3.45	0.00
1995	7	23	204	105.98	78.98	32.20	623.50	16.32	0.00	0.00
1995	7	24	205	102.92	77.90	33.33	623.50	16.99	1.25	0.00
1995	7	25	206	101.84	77.90	35.71	623.50	18.34	2.90	0.00
1995	7	26	207	101.84	79.88	33.33	623.50	16.32	1.25	0.00

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1995	7	27	208	104.00	77.90	35.53	623.50	13.86	2.70	0.00
1995	7	28	209	102.92	77.90	33.15	623.50	12.52	1.05	0.00
1995	7	29	210	101.84	77.00	33.91	623.50	8.94	1.90	0.00
1995	7	30	211	95.90	77.00	38.61	623.50	12.97	6.13	0.00
1995	7	31	212	97.88	77.90	37.13	623.50	7.83	4.48	1.21
1995	8	1	213	92.84	75.92	40.28	543.94	10.51	7.18	0.00
1995	8	2	214	97.88	77.90	39.81	543.94	8.05	6.65	0.00
1995	8	3	215	100.94	78.98	36.66	543.94	11.40	3.95	0.00
1995	8	4	216	99.86	78.98	35.22	543.94	13.42	2.60	0.00
1995	8	5	217	99.86	78.98	35.94	543.94	12.52	3.15	0.00
1995	8	6	218	97.88	78.98	39.36	543.94	12.52	6.15	0.02
1995	8	7	219	96.98	77.90	39.63	543.94	12.97	6.45	0.00
1995	8	8	220	99.86	77.90	37.20	543.94	15.20	4.55	0.00
1995	8	9	221	97.88	77.00	36.54	543.94	12.75	3.83	0.00
1995	8	10	222	93.92	77.90	39.76	543.94	11.40	6.60	0.41
1995	8	11	223	86.00	77.00	41.34	543.94	10.73	8.35	0.36
1995	8	12	224	84.92	75.92	42.06	543.94	12.75	8.95	0.00
1995	8	13	225	95.00	74.84	38.52	543.94	11.40	6.03	0.00
1995	8	14	226	95.00	77.90	38.34	543.94	15.65	5.83	0.08
1995	8	15	227	91.94	77.90	37.96	543.94	15.88	4.80	0.00
1995	8	16	228	95.90	77.00	37.13	543.94	16.10	4.48	0.00
1995	8	17	229	98.96	73.94	36.41	543.94	13.64	3.68	0.01
1995	8	18	230	96.98	77.00	35.71	543.94	12.97	2.90	0.00
1995	8	19	231	96.98	77.00	32.38	543.94	11.18	0.20	0.00
1995	8	20	232	96.98	77.00	33.62	543.94	6.71	1.58	0.00
1995	8	21	233	97.88	78.98	33.87	543.94	7.83	0.85	0.69
1995	8	22	234	95.90	79.88	37.56	543.94	8.94	4.95	0.23
1995	8	23	235	95.90	77.00	38.21	543.94	10.06	5.38	0.52
1995	8	24	236	87.98	72.86	40.75	543.94	7.60	7.70	0.00
1995	8	25	237	95.00	75.92	40.66	543.94	8.05	7.60	0.00
1995	8	26	238	95.90	77.00	36.39	543.94	8.94	3.65	0.00
1995	8	27	239	95.00	75.92	36.12	543.94	9.17	3.35	0.00
1995	8	28	240	92.84	77.90	40.23	543.94	9.17	7.13	0.00
1995	8	29	241	96.98	77.90	36.59	543.94	9.39	3.88	0.00
1995	8	30	242	90.86	79.88	36.60	543.94	10.29	3.53	0.61
1995	8	31	243	91.94	74.84	39.51	543.94	14.09	6.33	0.08
1995	9	1	244	83.84	71.96	41.16	459.97	8.27	8.05	0.00
1995	9	2	245	92.84	73.94	37.15	459.97	5.81	4.50	0.00
1995	9	3	246	95.90	74.84	33.51	459.97	6.71	1.45	0.00
1995	9	4	247	95.00	75.92	34.09	459.97	9.61	2.10	0.00
1995	9	5	248	95.90	77.00	34.59	459.97	11.18	2.40	0.00
1995	9	6	249	96.98	77.00	34.59	459.97	12.07	2.40	0.00
1995	9	7	250	95.90	77.00	34.59	459.97	10.29	2.40	0.61
1995	9	8	251	90.86	70.88	37.96	459.97	9.17	5.40	0.00
1995	9	9	252	93.92	73.94	32.65	459.97	10.96	0.50	0.00
1995	9	10	253	93.92	73.94	33.51	459.97	9.84	1.45	0.00
1995	9	11	254	92.84	73.94	34.59	459.97	9.84	2.40	0.00
1995	9	12	255	95.90	75.92	36.39	459.97	14.53	3.65	0.41
1995	9	13	256	91.94	77.00	38.50	459.97	10.96	5.60	0.42
1995	9	14	257	91.94	77.90	40.59	459.97	11.18	7.53	0.00
1995	9	15	258	92.84	77.00	38.95	459.97	12.75	5.70	0.00

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1995	9	16	259	96.98	75.92	35.89	459.97	13.42	3.10	0.00
1995	9	17	260	97.88	77.90	35.94	459.97	12.30	3.15	0.00
1995	9	18	261	99.86	78.98	35.71	459.97	14.09	2.90	0.00
1995	9	19	262	99.86	77.90	35.94	459.97	14.09	3.15	0.00
1995	9	20	263	95.90	77.90	37.15	459.97	11.18	4.50	1.82
1995	9	21	264	95.90	71.96	39.65	459.97	14.09	6.48	0.88
1995	9	22	265	65.84	52.88	43.00	459.97	19.68	10.00	0.00
1995	9	23	266	75.92	59.00	37.51	459.97	8.50	4.90	0.00
1995	9	24	267	84.92	61.88	34.27	459.97	7.38	2.30	0.00
1995	9	25	268	89.96	65.84	32.20	459.97	5.37	0.00	0.00
1995	9	26	269	88.88	73.94	36.49	459.97	7.16	3.83	0.00
1995	9	27	270	92.84	74.84	36.81	459.97	8.50	4.13	0.00
1995	9	28	271	92.84	75.92	35.89	459.97	12.97	3.10	0.00
1995	9	29	272	91.94	72.86	33.84	459.97	13.86	1.83	0.00
1995	9	30	273	90.86	70.88	36.95	459.97	9.39	4.28	0.00
1995	10	1	274	92.84	75.92	36.95	355.35	8.50	4.28	0.00
1995	10	2	275	92.84	73.94	36.95	355.35	7.38	4.28	1.30
1995	10	3	276	81.86	66.92	38.07	355.35	15.43	5.33	0.00
1995	10	4	277	86.90	62.96	32.20	355.35	6.93	0.00	0.00
1995	10	5	278	86.90	65.84	32.56	355.35	12.30	0.40	0.00
1995	10	6	279	83.84	59.90	32.79	355.35	8.27	0.65	0.00
1995	10	7	280	84.92	61.88	32.56	355.35	9.84	0.40	0.00
1995	10	8	281	86.90	63.86	32.20	355.35	11.63	0.00	0.00
1995	10	9	282	86.90	63.86	32.20	355.35	11.18	0.00	0.00
1995	10	10	283	86.90	61.88	32.20	355.35	6.48	0.00	0.00
1995	10	11	284	87.98	61.88	32.20	355.35	7.60	0.00	0.00
1995	10	12	285	86.90	63.86	34.99	355.35	8.50	2.60	0.00
1995	10	13	286	86.90	70.88	40.37	355.35	6.04	7.28	0.00
1995	10	14	287	84.92	64.94	37.06	355.35	13.42	4.40	0.00
1995	10	15	288	82.94	54.86	32.20	355.35	3.13	0.00	0.00
1995	10	16	289	86.00	54.86	32.20	355.35	7.60	0.00	0.00
1995	10	17	290	84.92	60.98	35.53	355.35	8.50	2.70	0.00
1995	10	18	291	86.90	64.94	33.60	355.35	7.16	1.55	0.00
1995	10	19	292	87.98	68.90	35.94	355.35	6.93	3.65	0.00
1995	10	20	293	78.98	63.86	35.55	355.35	13.19	3.23	0.00
1995	10	21	294	81.86	55.94	32.20	355.35	11.63	0.00	0.00
1995	10	22	295	88.88	64.94	32.20	355.35	19.01	0.00	0.00
1995	10	23	296	81.86	68.90	38.64	355.35	14.76	5.35	0.10
1995	10	24	297	74.84	66.92	39.90	355.35	14.09	6.75	0.00
1995	10	25	298	83.84	68.00	40.31	355.35	7.83	7.05	0.00
1995	10	26	299	86.00	72.86	40.71	355.35	11.40	7.65	0.00
1995	10	27	300	95.00	68.90	35.53	355.35	7.38	2.70	0.00
1995	10	28	301	80.96	68.90	40.55	355.35	14.09	7.28	0.06
1995	10	29	302	70.88	65.84	42.73	355.35	12.52	9.70	0.04
1995	10	30	303	74.84	68.00	42.44	355.35	9.61	9.38	0.00
1995	10	31	304	86.00	70.88	40.84	355.35	12.75	7.80	0.00
1995	11	1	305	87.98	73.94	39.09	273.78	10.29	6.25	0.00
1995	11	2	306	84.92	64.94	38.86	273.78	9.17	6.20	0.00
1995	11	3	307	62.96	50.90	42.91	273.78	16.55	9.90	0.29
1995	11	4	308	49.82	44.96	43.00	273.78	11.18	10.00	0.00
1995	11	5	309	54.86	44.96	43.00	273.78	8.94	10.00	0.00

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1995	11	6	310	65.84	51.98	39.76	273.78	6.26	6.40	0.00
1995	11	7	311	83.84	71.96	33.87	273.78	10.73	0.85	0.00
1995	11	8	312	73.94	55.94	32.38	273.78	10.29	0.20	0.00
1995	11	9	313	77.90	59.00	37.38	273.78	13.19	4.75	0.00
1995	11	10	314	90.86	69.98	38.16	273.78	16.32	5.63	0.00
1995	11	11	315	77.00	53.96	37.71	273.78	12.97	5.13	0.00
1995	11	12	316	71.96	43.88	32.79	273.78	10.06	0.65	0.00
1995	11	13	317	87.98	52.88	33.15	273.78	8.27	1.05	0.00
1995	11	14	318	74.84	55.94	34.36	273.78	11.63	2.40	0.00
1995	11	15	319	73.94	55.94	40.73	273.78	8.72	7.58	0.72
1995	11	16	320	66.92	63.86	41.99	273.78	11.18	8.88	1.60
1995	11	17	321	72.86	60.98	42.03	273.78	12.07	8.93	0.17
1995	11	18	322	62.96	59.00	42.80	273.78	10.73	9.78	0.00
1995	11	19	323	73.94	56.84	37.60	273.78	4.70	5.00	0.00
1995	11	20	324	77.00	57.92	33.78	273.78	6.48	1.75	0.00
1995	11	21	325	70.88	56.84	40.08	273.78	4.02	6.85	0.00
1995	11	22	326	74.84	56.84	33.69	273.78	10.73	1.65	0.00
1995	11	23	327	73.94	59.90	33.60	273.78	11.63	1.55	0.00
1995	11	24	328	70.88	51.98	33.51	273.78	8.94	1.45	0.00
1995	11	25	329	74.84	50.00	32.20	273.78	10.73	0.00	0.00
1995	11	26	330	79.88	59.00	34.09	273.78	14.09	2.10	0.00
1995	11	27	331	83.84	59.00	36.23	273.78	10.29	3.48	0.00
1995	11	28	332	63.86	47.84	37.74	273.78	14.98	5.15	0.00
1995	11	29	333	64.94	39.92	32.20	273.78	6.04	0.00	0.00
1995	11	30	334	70.88	44.96	34.98	273.78	7.38	2.83	0.00
1995	12	1	335	78.98	57.92	37.56	207.53	9.39	4.95	0.00
1995	12	2	336	78.98	65.84	39.40	207.53	8.05	6.00	0.00
1995	12	3	337	80.96	66.92	41.13	207.53	5.59	8.13	0.00
1995	12	4	338	78.98	57.92	32.20	207.53	6.48	0.00	0.00
1995	12	5	339	84.92	65.84	36.80	207.53	7.60	4.35	0.00
1995	12	6	340	75.92	53.96	36.30	207.53	6.93	3.55	0.02
1995	12	7	341	66.92	59.90	41.99	207.53	10.29	8.88	0.02
1995	12	8	342	70.88	53.96	39.90	207.53	7.83	6.55	0.00
1995	12	9	343	57.92	42.98	42.46	207.53	16.10	9.40	0.00
1995	12	10	344	48.92	32.90	42.62	207.53	9.84	9.58	0.00
1995	12	11	345	63.86	46.94	40.66	207.53	6.48	7.40	0.00
1995	12	12	346	75.92	48.92	34.36	207.53	7.38	2.40	0.00
1995	12	13	347	82.94	59.90	36.57	207.53	10.96	3.85	0.00
1995	12	14	348	80.96	61.88	35.04	207.53	12.07	3.15	0.00
1995	12	15	349	79.88	62.96	39.29	207.53	10.06	6.48	0.00
1995	12	16	350	73.94	52.88	36.86	207.53	9.84	4.18	0.03
1995	12	17	351	78.98	65.84	39.06	207.53	5.81	5.83	0.00
1995	12	18	352	66.92	50.90	36.99	207.53	19.90	4.33	0.00
1995	12	19	353	61.88	44.96	36.50	207.53	14.31	3.78	0.00
1995	12	20	354	51.98	41.00	37.53	207.53	9.61	4.93	0.09
1995	12	21	355	47.84	41.90	43.00	207.53	12.97	10.00	0.08
1995	12	22	356	51.98	41.00	42.80	207.53	11.18	9.78	0.00
1995	12	23	357	50.00	41.00	41.85	207.53	12.75	8.73	0.00
1995	12	24	358	48.92	43.88	43.00	207.53	7.83	10.00	0.00
1995	12	25	359	54.86	44.96	43.00	207.53	6.04	10.00	0.00
1995	12	26	360	54.86	47.84	42.82	207.53	7.38	9.80	0.04

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1995	12	27	361	56.84	45.86	42.24	207.53	3.58	9.15	0.02
1995	12	28	362	61.88	47.84	38.84	207.53	6.26	6.38	0.02
1995	12	29	363	57.92	50.90	43.00	207.53	7.83	10.00	0.05
1995	12	30	364	61.88	55.94	41.97	207.53	5.14	8.85	0.00
1995	12	31	365	73.94	44.96	37.83	207.53	5.81	5.25	0.00
1996	1	1	1	70.88	46.94	38.03	277.05	18.56	5.48	0.00
1996	1	2	2	52.88	41.00	39.29	277.05	18.56	6.48	0.00
1996	1	3	3	56.84	33.98	32.47	277.05	8.94	0.30	0.00
1996	1	4	4	72.86	39.92	33.69	277.05	11.40	1.65	0.00
1996	1	5	5	73.94	47.84	36.18	277.05	7.60	3.93	0.00
1996	1	6	6	55.94	38.84	40.84	277.05	16.99	7.60	0.00
1996	1	7	7	50.90	29.84	32.20	277.05	8.50	0.00	0.00
1996	1	8	8	56.84	29.84	32.20	277.05	10.29	0.00	0.00
1996	1	9	9	69.98	36.86	33.51	277.05	8.05	1.45	0.00
1996	1	10	10	72.86	39.92	39.45	277.05	7.83	6.25	0.00
1996	1	11	11	69.98	48.92	36.16	277.05	14.09	3.40	0.00
1996	1	12	12	72.86	38.84	32.20	277.05	4.92	0.00	0.00
1996	1	13	13	75.92	43.88	34.74	277.05	7.16	2.83	0.00
1996	1	14	14	78.98	50.90	33.42	277.05	10.06	1.35	0.00
1996	1	15	15	77.00	45.86	34.09	277.05	6.04	2.10	0.00
1996	1	16	16	80.96	50.00	37.71	277.05	10.06	5.13	0.00
1996	1	17	17	86.00	57.92	36.79	277.05	18.56	4.10	0.00
1996	1	18	18	65.84	43.88	36.17	277.05	16.32	3.65	0.00
1996	1	19	19	54.86	33.98	32.20	277.05	11.63	0.00	0.00
1996	1	20	20	69.98	38.84	32.20	277.05	7.16	0.00	0.00
1996	1	21	21	74.84	41.00	33.78	277.05	10.06	1.75	0.00
1996	1	22	22	78.98	56.84	37.65	277.05	15.43	5.05	0.00
1996	1	23	23	87.98	59.00	32.20	277.05	12.97	0.00	0.00
1996	1	24	24	65.84	46.94	32.20	277.05	10.29	0.00	0.00
1996	1	25	25	71.96	42.98	33.33	277.05	10.73	1.25	0.00
1996	1	26	26	79.88	55.94	34.86	277.05	12.75	2.95	0.00
1996	1	27	27	55.94	41.90	39.90	277.05	9.61	6.75	0.00
1996	1	28	28	68.90	47.84	40.84	277.05	6.04	7.60	0.00
1996	1	29	29	78.98	53.96	39.49	277.05	4.92	7.10	0.00
1996	1	30	30	79.88	60.98	37.87	277.05	5.81	5.30	0.00
1996	1	31	31	63.86	38.84	42.10	277.05	14.53	9.00	0.01
1996	2	1	32	38.84	33.98	43.00	359.22	12.07	10.00	0.00
1996	2	2	33	47.84	32.90	42.08	359.22	14.09	8.98	0.00
1996	2	3	34	41.00	25.88	37.35	359.22	10.73	4.73	0.00
1996	2	4	35	45.86	28.94	39.06	359.22	11.63	6.03	0.00
1996	2	5	36	61.88	41.00	40.12	359.22	10.06	6.80	0.00
1996	2	6	37	73.94	44.96	36.30	359.22	8.94	4.05	0.00
1996	2	7	38	74.84	54.86	37.06	359.22	14.53	4.40	0.00
1996	2	8	39	78.98	56.84	39.94	359.22	11.85	6.80	0.00
1996	2	9	40	79.88	56.84	39.18	359.22	8.94	5.95	0.00
1996	2	10	41	81.86	60.98	37.22	359.22	10.73	4.58	0.00
1996	2	11	42	66.92	53.96	39.24	359.22	13.64	6.03	0.00
1996	2	12	43	62.96	46.94	40.80	359.22	8.50	7.75	0.00
1996	2	13	44	68.90	51.98	37.35	359.22	9.17	4.73	0.00
1996	2	14	45	81.86	50.90	35.98	359.22	8.05	3.20	0.00
1996	2	15	46	78.98	55.94	33.33	359.22	13.42	1.25	0.00

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1996	2	16	47	62.96	47.84	32.97	359.22	10.29	0.85	0.00
1996	2	17	48	72.86	41.90	33.80	359.22	11.40	1.78	0.00
1996	2	18	49	83.84	52.88	37.42	359.22	10.73	4.80	0.00
1996	2	19	50	88.88	59.00	37.15	359.22	9.61	4.50	0.00
1996	2	20	51	96.98	60.98	34.74	359.22	6.48	2.83	0.00
1996	2	21	52	96.98	60.98	35.62	359.22	7.38	2.80	0.00
1996	2	22	53	95.90	62.96	38.86	359.22	13.42	5.60	0.00
1996	2	23	54	92.84	64.94	34.47	359.22	11.40	2.53	0.00
1996	2	24	55	77.00	61.88	39.27	359.22	12.52	6.05	0.00
1996	2	25	56	87.98	66.92	40.05	359.22	16.32	6.93	0.00
1996	2	26	57	86.90	66.92	40.62	359.22	13.86	7.55	0.00
1996	2	27	58	91.94	69.98	38.84	359.22	13.64	6.38	0.00
1996	2	28	59	74.84	48.92	41.56	359.22	16.10	8.40	0.00
1996	2	29	60	46.94	38.84	42.08	421.77	13.64	8.98	0.00
1996	3	1	61	56.84	34.88	37.35	421.77	8.05	4.73	0.00
1996	3	2	62	72.86	37.94	33.15	421.77	9.17	1.05	0.00
1996	3	3	63	73.94	48.92	36.63	421.77	14.98	3.93	0.03
1996	3	4	64	79.88	59.00	40.39	421.77	13.86	7.30	0.00
1996	3	5	65	86.00	66.92	37.31	421.77	11.18	4.68	0.00
1996	3	6	66	90.86	61.88	39.69	421.77	13.86	6.53	0.00
1996	3	7	67	59.00	38.84	34.99	421.77	22.14	3.10	0.00
1996	3	8	68	48.92	32.90	38.82	421.77	10.73	5.55	0.00
1996	3	9	69	57.92	30.92	33.33	421.77	8.05	1.25	0.00
1996	3	10	70	68.00	37.94	32.97	421.77	11.85	0.85	0.00
1996	3	11	71	72.86	43.88	33.06	421.77	14.09	0.95	0.00
1996	3	12	72	77.90	51.98	35.44	421.77	16.10	3.60	0.00
1996	3	13	73	87.98	57.92	32.20	421.77	17.22	0.00	0.00
1996	3	14	74	87.98	61.88	35.36	421.77	10.96	3.25	0.00
1996	3	15	75	82.94	59.90	33.96	421.77	12.30	1.95	0.00
1996	3	16	76	81.86	66.92	40.23	421.77	8.27	7.13	0.00
1996	3	17	77	86.90	59.00	33.78	421.77	10.51	1.75	0.00
1996	3	18	78	72.86	59.90	32.20	421.77	17.66	0.00	0.00
1996	3	19	79	70.88	45.86	32.38	421.77	5.37	0.20	0.00
1996	3	20	80	72.86	46.94	33.15	421.77	10.51	1.05	0.00
1996	3	21	81	79.88	50.00	37.13	421.77	12.07	4.48	0.00
1996	3	22	82	82.94	57.92	37.47	421.77	16.77	4.85	0.00
1996	3	23	83	80.96	66.92	40.14	421.77	17.22	6.93	0.00
1996	3	24	84	91.94	65.84	40.30	421.77	14.76	7.20	0.00
1996	3	25	85	72.86	57.92	39.92	421.77	16.55	6.58	0.00
1996	3	26	86	55.94	42.98	43.00	421.77	16.32	10.00	0.03
1996	3	27	87	56.84	41.00	40.35	421.77	11.18	7.05	0.00
1996	3	28	88	72.86	38.84	33.96	421.77	8.27	1.95	0.00
1996	3	29	89	84.92	54.86	38.41	421.77	10.96	5.90	0.00
1996	3	30	90	90.86	64.94	35.46	421.77	12.52	3.63	0.00
1996	3	31	91	74.84	53.96	40.86	514.09	10.06	7.73	0.00
1996	4	1	92	78.98	54.86	36.86	514.09	13.64	4.18	0.00
1996	4	2	93	75.92	50.90	37.78	514.09	15.20	4.80	0.00
1996	4	3	94	82.94	59.90	37.26	514.09	11.18	4.63	0.00
1996	4	4	95	86.90	68.90	40.41	514.09	14.76	7.33	0.07
1996	4	5	96	68.90	44.96	42.37	514.09	16.32	9.30	0.07
1996	4	6	97	63.86	41.90	40.14	514.09	15.43	7.03	0.00

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1996	4	7	98	71.96	45.86	37.71	514.09	6.26	5.13	0.00
1996	4	8	99	82.94	52.88	33.24	514.09	7.38	1.15	0.00
1996	4	9	100	89.96	57.92	32.20	514.09	7.16	0.00	0.00
1996	4	10	101	93.92	60.98	35.80	514.09	16.10	3.50	0.00
1996	4	11	102	86.00	66.92	39.92	514.09	21.24	6.68	0.00
1996	4	12	103	93.92	68.90	35.36	514.09	16.10	3.25	0.00
1996	4	13	104	97.88	66.92	33.69	514.09	14.31	1.65	0.00
1996	4	14	105	91.94	68.00	35.91	514.09	14.31	3.63	0.00
1996	4	15	106	79.88	59.90	32.20	514.09	11.18	0.00	0.00
1996	4	16	107	81.86	53.96	37.24	514.09	13.64	4.60	0.00
1996	4	17	108	86.90	61.88	36.35	514.09	14.31	3.85	0.00
1996	4	18	109	97.88	66.92	34.61	514.09	9.17	2.68	0.00
1996	4	19	110	101.84	69.98	34.25	514.09	16.32	2.28	0.00
1996	4	20	111	95.00	72.86	35.71	514.09	9.61	2.90	0.00
1996	4	21	112	95.90	73.94	36.43	514.09	20.12	3.70	0.00
1996	4	22	113	90.86	71.96	39.78	514.09	17.66	6.63	0.00
1996	4	23	114	84.92	59.90	32.20	514.09	10.96	0.00	0.00
1996	4	24	115	88.88	59.90	34.02	514.09	12.07	2.03	0.00
1996	4	25	116	99.86	64.94	32.97	514.09	14.31	0.85	0.00
1996	4	26	117	95.00	70.88	36.14	514.09	15.43	3.38	0.00
1996	4	27	118	95.90	73.94	39.20	514.09	14.98	6.38	0.71
1996	4	28	119	96.98	72.86	39.99	514.09	16.32	6.85	0.25
1996	4	29	120	81.86	56.84	39.13	514.09	15.20	5.70	0.00
1996	4	30	121	84.92	54.86	32.97	514.09	11.40	0.85	0.00
1996	5	1	122	90.86	59.90	34.09	553.07	16.32	2.10	0.00
1996	5	2	123	86.00	69.98	39.09	553.07	14.09	6.25	0.00
1996	5	3	124	92.84	74.84	41.76	553.07	16.55	8.63	0.00
1996	5	4	125	96.98	73.94	38.95	553.07	16.55	6.50	0.00
1996	5	5	126	93.92	71.96	38.01	553.07	15.65	5.45	0.00
1996	5	6	127	87.98	73.94	41.11	553.07	17.89	8.10	0.00
1996	5	7	128	91.94	75.92	41.43	553.07	17.66	8.45	0.00
1996	5	8	129	93.92	72.86	39.96	553.07	18.78	6.83	0.00
1996	5	9	130	92.84	72.86	39.51	553.07	19.45	6.33	0.00
1996	5	10	131	97.88	74.84	38.50	553.07	16.99	5.20	0.00
1996	5	11	132	95.00	73.94	40.12	553.07	13.42	7.00	0.00
1996	5	12	133	93.92	69.98	34.90	553.07	13.19	2.50	0.00
1996	5	13	134	97.88	74.84	34.83	553.07	18.78	2.93	0.00
1996	5	14	135	97.88	73.94	38.82	553.07	19.23	5.95	0.00
1996	5	15	136	96.98	73.94	37.17	553.07	19.68	4.53	0.00
1996	5	16	137	96.98	72.86	33.87	553.07	19.23	1.85	0.00
1996	5	17	138	97.88	73.94	36.81	553.07	20.35	4.13	0.00
1996	5	18	139	95.90	74.84	36.81	553.07	21.24	4.13	0.00
1996	5	19	140	97.88	74.84	34.47	553.07	18.11	2.53	0.00
1996	5	20	141	100.94	73.94	36.12	553.07	19.01	3.35	0.00
1996	5	21	142	99.86	74.84	36.72	553.07	16.55	4.03	0.00
1996	5	22	143	99.86	73.94	35.28	553.07	18.34	2.93	0.00
1996	5	23	144	100.94	74.84	38.07	553.07	17.89	5.53	0.00
1996	5	24	145	95.00	78.98	40.59	553.07	21.69	7.53	0.00
1996	5	25	146	95.00	77.90	39.72	553.07	20.12	6.55	0.00
1996	5	26	147	99.86	77.90	39.94	553.07	17.44	6.80	0.00
1996	5	27	148	97.88	78.98	38.10	553.07	13.64	5.55	0.03

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1996	5	28	149	101.84	78.98	37.89	553.07	14.76	5.33	0.90
1996	5	29	150	100.94	73.94	41.29	553.07	14.31	8.30	1.38
1996	5	30	151	93.92	71.96	39.42	553.07	16.10	6.23	0.00
1996	5	31	152	95.90	77.90	40.93	553.07	16.99	7.90	0.74
1996	6	1	153	93.92	69.98	40.50	581.92	10.06	7.43	0.00
1996	6	2	154	95.00	75.92	38.55	581.92	13.19	6.05	0.28
1996	6	3	155	91.94	69.98	38.93	581.92	8.27	6.48	0.00
1996	6	4	156	96.98	73.94	36.12	581.92	10.73	3.35	0.00
1996	6	5	157	97.88	74.84	33.60	581.92	16.32	1.55	0.00
1996	6	6	158	98.96	74.84	34.27	581.92	17.89	2.30	0.00
1996	6	7	159	93.92	75.92	36.77	581.92	12.97	4.08	0.00
1996	6	8	160	95.90	75.92	37.44	581.92	4.70	4.83	0.00
1996	6	9	161	96.98	73.94	36.41	581.92	11.85	3.68	0.00
1996	6	10	162	101.84	74.84	36.48	581.92	16.55	3.75	0.00
1996	6	11	163	100.94	73.94	36.21	581.92	15.43	3.45	0.00
1996	6	12	164	98.96	69.98	37.42	581.92	16.32	4.80	0.00
1996	6	13	165	99.86	77.00	36.00	581.92	16.10	3.23	0.00
1996	6	14	166	97.88	77.00	35.53	581.92	14.31	2.70	0.00
1996	6	15	167	96.98	74.84	35.53	581.92	14.53	2.70	0.00
1996	6	16	168	97.88	75.92	36.14	581.92	14.31	3.38	0.00
1996	6	17	169	98.96	77.90	34.09	581.92	13.19	2.10	0.00
1996	6	18	170	100.94	77.90	33.69	581.92	14.53	1.65	0.00
1996	6	19	171	104.00	78.98	33.15	581.92	14.98	1.05	0.00
1996	6	20	172	104.90	77.90	33.33	581.92	13.19	1.25	0.00
1996	6	21	173	104.00	78.98	36.27	581.92	19.68	3.53	0.00
1996	6	22	174	97.88	78.98	38.55	581.92	16.55	5.65	0.00
1996	6	23	175	95.90	71.96	37.69	581.92	15.43	5.10	0.00
1996	6	24	176	98.96	78.98	37.40	581.92	13.19	4.78	0.00
1996	6	25	177	96.98	79.88	39.18	581.92	16.32	5.95	0.00
1996	6	26	178	95.90	77.90	38.77	581.92	17.66	5.50	0.00
1996	6	27	179	97.88	78.98	39.13	581.92	19.68	5.90	0.00
1996	6	28	180	97.88	77.90	36.41	581.92	17.44	3.68	0.00
1996	6	29	181	95.00	75.92	38.28	581.92	16.32	5.75	0.00
1996	6	30	182	92.84	75.92	38.84	581.92	12.75	5.58	0.00
1996	7	1	183	98.60	73.40	34.16	623.50	11.63	1.68	0.00
1996	7	2	184	98.60	77.00	33.51	623.50	11.18	0.95	0.00
1996	7	3	185	98.60	77.00	34.14	623.50	11.85	1.65	0.00
1996	7	4	186	98.60	75.20	33.69	623.50	10.06	1.15	0.00
1996	7	5	187	100.40	77.00	34.25	623.50	13.19	1.78	0.00
1996	7	6	188	100.40	78.80	34.25	623.50	14.09	1.78	0.00
1996	7	7	189	100.40	77.00	33.51	623.50	12.30	0.95	0.00
1996	7	8	190	100.40	78.80	34.16	623.50	14.31	1.68	2.25
1996	7	9	191	104.00	73.40	35.37	623.50	14.76	3.03	1.89
1996	7	10	192	91.40	73.40	40.93	623.50	10.73	7.70	0.00
1996	7	11	193	96.80	78.80	40.53	623.50	12.97	7.45	0.00
1996	7	12	194	100.40	77.00	34.32	623.50	13.64	1.85	0.00
1996	7	13	195	98.60	77.00	33.87	623.50	14.09	1.35	0.00
1996	7	14	196	100.40	77.00	34.16	623.50	16.32	1.68	0.00
1996	7	15	197	98.60	78.80	36.67	623.50	15.88	3.83	0.00
1996	7	16	198	100.40	78.80	34.07	623.50	17.22	1.58	0.00
1996	7	17	199	98.60	77.00	34.07	623.50	17.44	1.58	0.00

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1996	7	18	200	100.40	77.00	34.23	623.50	17.66	1.75	0.00
1996	7	19	201	100.40	78.80	33.39	623.50	19.01	0.83	0.00
1996	7	20	202	100.40	77.00	32.74	623.50	17.66	0.10	0.00
1996	7	21	203	100.40	77.00	33.78	623.50	17.89	1.25	0.00
1996	7	22	204	102.20	78.80	34.25	623.50	17.22	1.78	0.00
1996	7	23	205	102.20	80.60	34.16	623.50	17.44	1.68	0.00
1996	7	24	206	100.40	82.40	37.94	623.50	18.11	4.58	0.00
1996	7	25	207	100.40	78.80	38.57	623.50	15.43	5.28	2.80
1996	7	26	208	98.60	78.80	36.77	623.50	15.20	4.58	0.00
1996	7	27	209	98.60	77.00	35.04	623.50	16.10	2.65	0.00
1996	7	28	210	98.60	77.00	35.46	623.50	13.86	3.13	0.00
1996	7	29	211	100.40	77.00	33.87	623.50	15.88	1.35	0.00
1996	7	30	212	100.40	78.80	34.16	623.50	17.22	1.68	0.00
1996	7	31	213	102.20	78.80	32.94	543.94	17.44	0.33	0.00
1996	8	1	214	100.40	77.00	34.25	543.94	16.10	1.78	0.00
1996	8	2	215	104.00	80.60	34.16	543.94	14.98	1.68	0.00
1996	8	3	216	105.80	78.80	32.20	543.94	18.56	0.00	0.00
1996	8	4	217	102.20	77.00	32.20	543.94	18.11	0.00	0.00
1996	8	5	218	102.20	80.60	34.43	543.94	18.56	1.98	0.00
1996	8	6	219	102.20	78.80	34.90	543.94	16.99	2.50	0.00
1996	8	7	220	96.80	78.80	35.73	543.94	14.76	3.43	0.03
1996	8	8	221	91.40	75.74	38.41	543.94	9.39	5.10	0.59
1996	8	9	222	89.60	75.20	38.73	543.94	6.26	5.45	0.00
1996	8	10	223	96.80	75.20	35.49	543.94	12.52	2.40	0.00
1996	8	11	224	98.60	77.00	33.87	543.94	13.64	1.35	0.00
1996	8	12	225	96.80	78.80	35.46	543.94	12.07	3.13	0.00
1996	8	13	226	98.60	75.20	34.90	543.94	11.18	2.50	0.00
1996	8	14	227	98.60	75.20	36.70	543.94	10.96	3.20	0.05
1996	8	15	228	96.80	78.80	39.47	543.94	13.86	6.28	0.00
1996	8	16	229	98.60	75.20	33.69	543.94	13.64	1.35	0.00
1996	8	17	230	98.60	77.00	33.96	543.94	17.22	1.45	0.00
1996	8	18	231	96.80	77.00	34.41	543.94	16.77	1.95	0.00
1996	8	19	232	96.80	77.00	35.37	543.94	17.89	3.03	0.05
1996	8	20	233	91.40	69.80	37.87	543.94	12.30	4.50	0.01
1996	8	21	234	91.40	69.80	39.36	543.94	7.38	6.15	0.29
1996	8	22	235	82.40	73.40	42.06	543.94	10.29	8.95	1.19
1996	8	23	236	86.00	71.60	42.26	543.94	12.07	9.18	0.24
1996	8	24	237	86.00	73.40	42.44	543.94	10.06	9.38	0.66
1996	8	25	238	87.80	73.40	40.59	543.94	10.51	7.53	0.01
1996	8	26	239	87.80	73.40	40.37	543.94	12.52	7.28	0.00
1996	8	27	240	93.20	75.20	36.54	543.94	14.98	4.33	0.00
1996	8	28	241	93.20	75.20	34.79	543.94	14.98	2.38	0.00
1996	8	29	242	93.20	75.20	38.77	543.94	13.64	5.50	1.72
1996	8	30	243	84.20	71.60	41.13	543.94	9.84	8.13	0.63
1996	8	31	244	87.80	73.40	38.93	459.97	6.93	5.68	0.00
1996	9	1	245	89.60	71.60	35.67	459.97	7.83	3.35	0.00
1996	9	2	246	91.40	75.20	35.85	459.97	11.18	3.55	0.00
1996	9	3	247	93.20	75.20	34.86	459.97	10.29	2.45	0.00
1996	9	4	248	91.40	75.20	38.39	459.97	10.29	5.08	0.02
1996	9	5	249	91.40	73.40	35.67	459.97	8.50	3.35	0.00
1996	9	6	250	87.80	71.60	35.62	459.97	7.60	3.30	0.00

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1996	9	7	251	91.40	73.40	36.52	459.97	8.05	4.30	0.00
1996	9	8	252	93.20	75.20	37.25	459.97	10.29	4.48	0.00
1996	9	9	253	95.00	75.20	36.72	459.97	10.51	4.53	0.00
1996	9	10	254	95.00	75.20	34.34	459.97	10.51	1.88	0.00
1996	9	11	255	93.20	75.20	36.00	459.97	9.17	3.73	0.05
1996	9	12	256	91.40	75.20	37.03	459.97	10.96	4.55	1.62
1996	9	13	257	84.20	71.60	41.07	459.97	9.17	8.05	0.00
1996	9	14	258	91.40	73.40	38.75	459.97	13.19	5.48	0.00
1996	9	15	259	96.80	77.00	34.97	459.97	9.84	2.58	0.00
1996	9	16	260	98.60	78.80	34.79	459.97	7.60	2.38	0.00
1996	9	17	261	96.80	78.80	39.04	459.97	13.64	5.80	0.00
1996	9	18	262	93.20	79.70	40.73	459.97	14.53	7.68	0.00
1996	9	19	263	91.40	75.20	40.84	459.97	10.96	7.70	0.00
1996	9	20	264	91.40	78.80	35.22	459.97	10.51	2.85	0.00
1996	9	21	265	96.80	71.60	33.06	459.97	8.05	0.95	0.00
1996	9	22	266	95.00	73.40	33.33	459.97	14.76	1.25	0.00
1996	9	23	267	98.60	77.00	35.58	459.97	15.43	3.25	0.00
1996	9	24	268	95.00	77.00	35.55	459.97	12.52	3.23	1.06
1996	9	25	269	93.20	68.00	39.65	459.97	12.97	6.48	0.00
1996	9	26	270	93.20	77.00	34.70	459.97	12.97	2.28	0.67
1996	9	27	271	95.00	68.00	36.18	459.97	13.86	3.93	0.00
1996	9	28	272	77.00	59.00	37.73	459.97	10.73	5.33	0.00
1996	9	29	273	80.60	59.00	34.61	459.97	6.48	2.18	0.00
1996	9	30	274	80.60	59.00	34.99	355.35	6.71	2.60	0.00
1996	10	1	275	87.80	60.80	34.25	355.35	6.48	1.78	0.27
1996	10	2	276	87.80	69.80	40.19	355.35	7.38	7.08	0.07
1996	10	3	277	82.40	73.40	42.08	355.35	14.53	8.98	0.05
1996	10	4	278	77.00	69.80	43.00	355.35	16.55	10.00	0.87
1996	10	5	279	69.80	66.20	43.00	355.35	13.64	10.00	0.00
1996	10	6	280	80.60	68.00	41.11	355.35	9.84	7.90	0.00
1996	10	7	281	82.40	68.00	34.72	355.35	6.93	2.30	0.00
1996	10	8	282	87.80	64.40	33.57	355.35	4.02	1.53	0.00
1996	10	9	283	84.20	64.40	32.20	355.35	8.50	0.00	0.00
1996	10	10	284	87.80	60.80	32.20	355.35	8.50	0.00	0.00
1996	10	11	285	87.80	64.40	32.20	355.35	12.07	0.00	0.00
1996	10	12	286	86.00	62.60	32.20	355.35	11.63	0.00	0.00
1996	10	13	287	84.20	66.20	35.37	355.35	9.17	3.03	0.00
1996	10	14	288	84.20	62.60	33.43	355.35	5.81	1.25	0.00
1996	10	15	289	87.80	66.20	34.77	355.35	10.06	2.35	0.00
1996	10	16	290	89.60	68.00	34.43	355.35	9.17	1.98	0.00
1996	10	17	291	93.20	69.80	34.16	355.35	8.94	1.68	0.00
1996	10	18	292	80.60	64.40	37.35	355.35	14.31	4.90	0.00
1996	10	19	293	77.00	59.00	36.90	355.35	9.84	4.50	0.00
1996	10	20	294	89.60	71.60	36.18	355.35	10.29	3.93	0.00
1996	10	21	295	93.20	73.40	33.30	355.35	12.52	1.23	0.00
1996	10	22	296	78.80	53.60	35.28	355.35	18.11	3.43	0.00
1996	10	23	297	77.00	46.40	32.58	355.35	11.40	0.43	0.00
1996	10	24	298	84.20	60.80	35.33	355.35	7.83	2.98	0.00
1996	10	25	299	86.00	66.20	36.39	355.35	4.92	4.15	0.00
1996	10	26	300	91.40	71.60	38.50	355.35	10.73	5.53	0.00
1996	10	27	301	89.60	78.80	40.35	355.35	17.89	7.25	0.00

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1996	10	28	302	87.80	77.00	39.87	355.35	16.99	6.53	0.00
1996	10	29	303	89.60	73.40	34.88	355.35	12.52	2.60	0.00
1996	10	30	304	89.60	66.20	37.25	355.35	8.05	4.48	0.00
1996	10	31	305	93.20	71.60	35.37	273.78	17.22	3.03	0.00
1996	11	1	306	86.00	62.60	37.26	273.78	14.98	4.80	0.00
1996	11	2	307	66.20	55.40	39.33	273.78	11.18	6.13	0.00
1996	11	3	308	75.20	53.60	35.96	273.78	9.84	3.68	0.00
1996	11	4	309	82.40	64.40	36.66	273.78	11.85	4.45	0.00
1996	11	5	310	87.80	66.20	34.34	273.78	14.76	1.88	0.00
1996	11	6	311	93.20	73.40	37.29	273.78	18.78	5.15	0.00
1996	11	7	312	80.60	62.60	32.83	273.78	15.20	0.70	0.00
1996	11	8	313	75.20	48.20	32.20	273.78	8.05	0.00	0.00
1996	11	9	314	75.20	46.40	32.20	273.78	10.29	0.00	0.00
1996	11	10	315	77.00	53.60	32.20	273.78	10.96	0.00	0.00
1996	11	11	316	82.40	55.40	33.24	273.78	12.75	1.15	0.31
1996	11	12	317	78.80	64.40	38.75	273.78	11.85	5.48	0.00
1996	11	13	318	78.80	64.40	36.81	273.78	12.97	4.63	0.00
1996	11	14	319	80.60	60.80	35.82	273.78	15.20	3.53	0.00
1996	11	15	320	78.80	64.40	37.08	273.78	16.55	4.60	0.00
1996	11	16	321	86.00	68.00	36.00	273.78	17.22	3.73	0.00
1996	11	17	322	80.60	64.40	38.68	273.78	9.84	5.40	0.00
1996	11	18	323	77.00	60.80	39.04	273.78	6.26	5.70	0.00
1996	11	19	324	87.80	66.20	35.44	273.78	11.85	3.60	0.00
1996	11	20	325	89.60	68.00	36.21	273.78	9.61	3.95	0.00
1996	11	21	326	86.00	64.40	35.31	273.78	10.29	2.95	0.00
1996	11	22	327	73.40	64.40	41.18	273.78	11.40	7.98	0.00
1996	11	23	328	84.20	68.00	39.22	273.78	16.32	6.00	0.03
1996	11	24	329	71.60	42.80	36.90	273.78	20.12	4.73	0.00
1996	11	25	330	64.40	37.40	32.29	273.78	13.42	0.10	0.00
1996	11	26	331	59.00	35.60	35.82	273.78	9.39	3.53	0.11
1996	11	27	332	48.20	44.60	42.44	273.78	11.18	9.38	0.60
1996	11	28	333	46.40	42.80	43.00	273.78	8.72	10.00	0.02
1996	11	29	334	57.20	44.60	41.79	273.78	5.81	8.65	0.00
1996	11	30	335	69.80	53.60	40.35	207.53	11.63	7.25	0.00
1996	12	1	336	64.40	41.00	32.58	207.53	6.26	0.43	0.00
1996	12	2	337	68.00	44.60	37.43	207.53	10.96	4.68	0.00
1996	12	3	338	66.20	53.60	41.52	207.53	8.05	8.55	0.12
1996	12	4	339	64.40	53.60	42.80	207.53	8.05	9.78	0.00
1996	12	5	340	60.80	55.40	41.99	207.53	7.83	8.88	0.00
1996	12	6	341	75.20	55.40	39.40	207.53	7.83	6.20	0.00
1996	12	7	342	82.40	50.00	32.56	207.53	10.96	0.40	0.00
1996	12	8	343	69.80	46.40	32.20	207.53	6.48	0.00	0.00
1996	12	9	344	77.00	51.80	32.38	207.53	11.85	0.20	0.00
1996	12	10	345	80.60	59.00	34.09	207.53	11.85	2.10	0.00
1996	12	11	346	82.40	60.80	35.37	207.53	4.25	3.03	0.00
1996	12	12	347	84.20	55.40	34.54	207.53	5.81	2.60	0.00
1996	12	13	348	80.60	55.40	33.06	207.53	6.48	0.95	0.00
1996	12	14	349	80.60	64.40	41.02	207.53	14.31	7.90	0.00
1996	12	15	350	68.00	41.00	42.82	207.53	15.20	9.80	0.00
1996	12	16	351	57.20	42.80	36.45	207.53	11.85	4.23	0.00
1996	12	17	352	59.00	35.60	33.96	207.53	14.76	1.45	0.00

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1996	12	18	353	46.40	33.80	36.88	207.53	16.99	4.70	0.00
1996	12	19	354	48.20	24.80	32.20	207.53	6.71	0.00	0.00
1996	12	20	355	46.40	37.40	43.00	207.53	8.94	10.00	0.00
1996	12	21	356	71.60	44.60	39.24	207.53	9.61	5.93	0.00
1996	12	22	357	78.80	53.60	34.68	207.53	8.72	2.25	0.00
1996	12	23	358	78.80	62.60	34.47	207.53	11.18	2.53	0.00
1996	12	24	359	64.40	46.40	36.03	207.53	13.64	3.75	0.03
1996	12	25	360	44.60	39.20	42.80	207.53	8.72	9.78	0.10
1996	12	26	361	57.20	42.80	41.81	207.53	4.92	8.68	0.00
1996	12	27	362	71.60	44.60	38.93	207.53	7.38	5.68	0.03
1996	12	28	363	69.80	55.40	41.36	207.53	7.16	8.18	0.00
1996	12	29	364	78.80	50.00	36.72	207.53	8.50	4.53	0.00
1996	12	30	365	77.00	48.20	34.22	207.53	9.39	2.13	0.00
1996	12	31	366	75.20	62.60	38.73	207.53	7.83	5.45	0.00
1997	1	1	1	77.00	62.60	40.89	277.05	4.25	7.70	0.00
1997	1	2	2	78.80	59.00	38.43	277.05	8.27	5.53	0.00
1997	1	3	3	87.80	64.40	35.80	277.05	13.64	4.00	0.00
1997	1	4	4	91.40	60.80	34.68	277.05	10.29	2.50	0.00
1997	1	5	5	77.00	60.80	36.12	277.05	11.63	3.85	0.01
1997	1	6	6	66.20	39.20	43.00	277.05	17.66	10.00	0.03
1997	1	7	7	39.20	35.60	43.00	277.05	13.64	10.00	0.01
1997	1	8	8	50.00	37.40	39.69	277.05	12.07	6.33	0.00
1997	1	9	9	62.60	33.80	33.24	277.05	8.94	1.15	0.00
1997	1	10	10	71.60	41.00	32.20	277.05	12.07	0.00	0.00
1997	1	11	11	42.80	33.80	40.39	277.05	14.09	7.10	0.00
1997	1	12	12	37.40	30.20	43.00	277.05	16.10	10.00	0.00
1997	1	13	13	30.20	26.60	43.00	277.05	13.64	10.00	0.00
1997	1	14	14	37.40	28.40	43.00	277.05	7.83	10.00	0.00
1997	1	15	15	60.80	33.80	38.86	277.05	8.27	5.40	0.00
1997	1	16	16	55.40	39.20	37.55	277.05	12.97	4.80	0.00
1997	1	17	17	46.40	35.60	41.83	277.05	10.51	8.70	0.00
1997	1	18	18	48.20	39.20	43.00	277.05	5.59	10.00	0.03
1997	1	19	19	53.60	44.60	43.00	277.05	6.71	10.00	0.03
1997	1	20	20	55.40	48.20	42.82	277.05	3.13	9.80	0.00
1997	1	21	21	69.80	53.60	40.59	277.05	4.70	7.33	0.00
1997	1	22	22	71.60	50.00	37.44	277.05	7.83	5.33	0.00
1997	1	23	23	73.40	57.20	39.94	277.05	7.16	6.60	0.00
1997	1	24	24	80.60	51.80	35.40	277.05	6.93	3.05	0.00
1997	1	25	25	77.00	50.00	32.76	277.05	11.85	0.63	0.00
1997	1	26	26	78.80	53.60	36.09	277.05	11.85	3.83	0.00
1997	1	27	27	71.60	55.40	40.12	277.05	9.39	6.80	0.00
1997	1	28	28	55.40	35.60	40.10	277.05	17.44	6.98	0.00
1997	1	29	29	57.20	33.80	35.80	277.05	7.38	3.50	0.00
1997	1	30	30	64.40	42.80	38.82	277.05	6.04	5.55	0.00
1997	1	31	31	71.60	44.60	39.22	277.05	8.05	5.90	0.00
1997	2	1	32	69.80	51.80	41.18	359.22	6.71	7.98	0.00
1997	2	2	33	82.40	59.00	38.57	359.22	6.48	5.60	0.00
1997	2	3	34	84.20	57.20	33.24	359.22	7.16	1.15	0.00
1997	2	4	35	78.80	57.20	35.55	359.22	11.18	3.23	0.16
1997	2	5	36	68.00	57.20	42.44	359.22	13.42	9.38	0.03
1997	2	6	37	59.00	48.20	43.00	359.22	10.73	10.00	0.00

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1997	2	7	38	68.00	48.20	40.14	359.22	15.43	6.93	0.00
1997	2	8	39	57.20	42.80	35.82	359.22	11.18	3.53	0.01
1997	2	9	40	59.00	42.80	42.26	359.22	12.52	9.18	0.00
1997	2	10	41	53.60	46.40	43.00	359.22	9.39	10.00	0.23
1997	2	11	42	53.60	46.40	43.00	359.22	9.17	10.00	0.13
1997	2	12	43	59.00	48.20	40.66	359.22	13.19	7.40	0.03
1997	2	13	44	55.40	39.20	38.95	359.22	12.07	5.60	0.10
1997	2	14	45	60.80	42.80	36.90	359.22	14.09	4.73	0.00
1997	2	15	46	62.60	39.20	32.49	359.22	4.02	0.33	0.00
1997	2	16	47	69.80	44.60	32.49	359.22	8.50	0.33	0.00
1997	2	17	48	73.40	44.60	34.50	359.22	12.97	2.05	0.00
1997	2	18	49	78.80	51.80	36.50	359.22	16.32	4.28	0.00
1997	2	19	50	82.40	64.40	40.10	359.22	18.78	6.98	0.00
1997	2	20	51	80.60	64.40	36.81	359.22	15.88	4.63	0.00
1997	2	21	52	86.00	57.20	32.29	359.22	12.07	0.10	0.00
1997	2	22	53	60.80	50.00	41.02	359.22	9.84	7.90	0.00
1997	2	23	54	64.40	51.80	41.65	359.22	11.63	8.50	0.02
1997	2	24	55	57.20	51.80	43.00	359.22	14.09	10.00	0.19
1997	2	25	56	50.00	46.40	43.00	359.22	10.06	10.00	0.09
1997	2	26	57	69.80	48.20	39.60	359.22	12.07	6.43	0.00
1997	2	27	58	68.00	50.00	41.13	359.22	10.51	8.13	0.00
1997	2	28	59	86.00	53.60	40.21	359.22	10.06	7.10	0.00
1997	3	1	60	93.20	60.80	33.75	421.77	10.73	1.73	0.00
1997	3	2	61	75.20	55.40	32.58	421.77	16.77	0.43	0.00
1997	3	3	62	84.20	50.00	32.20	421.77	13.19	0.00	0.00
1997	3	4	63	89.60	60.80	33.74	421.77	15.88	1.45	0.05
1997	3	5	64	73.40	60.80	39.38	421.77	13.42	6.18	0.00
1997	3	6	65	62.60	51.80	41.61	421.77	13.86	8.65	0.00
1997	3	7	66	71.60	55.40	41.38	421.77	8.50	8.20	0.00
1997	3	8	67	86.00	66.20	40.01	421.77	16.55	6.88	0.00
1997	3	9	68	84.20	69.80	40.10	421.77	15.65	6.98	0.34
1997	3	10	69	77.00	64.40	41.66	421.77	12.97	8.55	1.96
1997	3	11	70	66.20	62.60	42.82	421.77	12.97	9.80	0.02
1997	3	12	71	73.40	62.60	41.02	421.77	7.38	7.80	0.00
1997	3	13	72	89.60	62.60	33.42	421.77	7.16	1.35	0.00
1997	3	14	73	75.20	57.20	37.55	421.77	14.98	4.80	0.05
1997	3	15	74	55.40	50.00	42.91	421.77	10.51	9.90	0.17
1997	3	16	75	57.20	50.00	43.00	421.77	9.17	10.00	0.00
1997	3	17	76	73.40	57.20	42.82	421.77	8.50	9.80	0.16
1997	3	18	77	75.20	68.00	42.08	421.77	8.72	8.98	0.06
1997	3	19	78	73.40	57.20	39.74	421.77	13.19	6.58	0.00
1997	3	20	79	82.40	50.00	32.67	421.77	6.04	0.53	0.00
1997	3	21	80	87.80	55.40	37.07	421.77	8.50	4.28	0.00
1997	3	22	81	87.80	60.80	40.37	421.77	8.72	7.28	0.00
1997	3	23	82	80.60	62.60	38.20	421.77	8.05	5.53	0.00
1997	3	24	83	89.60	66.20	36.43	421.77	17.89	4.20	0.01
1997	3	25	84	77.00	62.60	42.03	421.77	14.76	8.93	0.00
1997	3	26	85	69.80	57.20	42.26	421.77	12.07	9.18	0.00
1997	3	27	86	73.40	62.60	39.40	421.77	8.50	6.00	0.00
1997	3	28	87	93.20	64.40	36.48	421.77	8.94	4.25	0.00
1997	3	29	88	91.40	68.00	36.23	421.77	9.61	3.98	0.18

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1997	3	30	89	73.40	53.60	41.56	421.77	13.42	8.40	0.08
1997	3	31	90	60.80	53.60	42.91	421.77	8.27	9.90	0.07
1997	4	1	91	66.20	57.20	42.80	514.09	8.72	9.78	0.59
1997	4	2	92	75.20	62.60	42.53	514.09	9.39	9.48	0.48
1997	4	3	93	80.60	64.40	42.53	514.09	13.64	9.48	0.22
1997	4	4	94	86.00	57.20	39.04	514.09	17.89	5.80	0.00
1997	4	5	95	84.20	51.80	34.41	514.09	9.84	1.95	0.00
1997	4	6	96	84.20	57.20	34.65	514.09	10.29	2.23	0.01
1997	4	7	97	77.00	55.40	39.42	514.09	12.52	6.13	0.00
1997	4	8	98	78.80	60.80	42.06	514.09	8.94	8.95	0.00
1997	4	9	99	71.60	66.20	42.26	514.09	14.98	9.18	0.10
1997	4	10	100	78.80	66.20	40.98	514.09	16.77	7.95	0.00
1997	4	11	101	82.40	66.20	38.20	514.09	14.31	5.53	0.00
1997	4	12	102	62.60	50.00	42.64	514.09	15.65	9.60	0.00
1997	4	13	103	53.60	46.40	40.66	514.09	11.40	7.40	0.00
1997	4	14	104	69.80	51.80	37.83	514.09	7.83	5.75	0.00
1997	4	15	105	71.60	53.60	41.32	514.09	9.84	8.18	0.00
1997	4	16	106	73.40	62.60	42.06	514.09	8.50	8.95	0.23
1997	4	17	107	66.20	60.80	42.08	514.09	9.17	8.98	0.20
1997	4	18	108	68.00	57.20	42.80	514.09	13.19	9.78	0.00
1997	4	19	109	86.00	60.80	37.87	514.09	7.60	5.43	0.00
1997	4	20	110	87.80	66.20	37.06	514.09	12.07	4.90	0.00
1997	4	21	111	98.60	69.80	35.82	514.09	9.84	3.53	0.00
1997	4	22	112	93.20	71.60	33.06	514.09	14.31	0.95	0.00
1997	4	23	113	80.60	62.60	36.18	514.09	9.17	3.93	0.00
1997	4	24	114	78.80	66.20	40.19	514.09	17.66	7.08	0.00
1997	4	25	115	87.80	71.60	40.84	514.09	14.09	7.60	0.35
1997	4	26	116	68.00	57.20	42.44	514.09	16.77	9.38	0.00
1997	4	27	117	66.20	55.40	40.19	514.09	16.10	7.08	0.00
1997	4	28	118	87.80	51.80	32.20	514.09	6.93	0.00	0.00
1997	4	29	119	95.00	60.80	33.22	514.09	13.64	1.05	0.00
1997	4	30	120	93.20	69.80	36.27	514.09	12.97	4.03	0.00
1997	5	1	121	86.00	69.80	37.43	514.09	14.09	4.68	0.00
1997	5	2	122	93.20	73.40	37.17	553.07	12.97	5.03	0.00
1997	5	3	123	86.00	66.20	32.49	553.07	12.30	0.33	0.00
1997	5	4	124	87.80	60.80	32.94	553.07	12.52	0.83	0.00
1997	5	5	125	91.40	64.40	37.16	553.07	16.10	4.38	0.00
1997	5	6	126	89.60	71.60	40.46	553.07	16.55	7.38	0.00
1997	5	7	127	87.80	71.60	41.52	553.07	17.89	8.35	0.00
1997	5	8	128	87.80	71.60	39.20	553.07	16.32	5.98	0.47
1997	5	9	129	78.80	64.40	43.00	553.07	15.65	10.00	0.00
1997	5	10	130	75.20	59.00	41.02	553.07	10.96	7.80	0.00
1997	5	11	131	80.60	60.80	34.07	553.07	7.60	1.58	0.00
1997	5	12	132	84.20	64.40	39.47	553.07	7.38	6.28	0.00
1997	5	13	133	80.60	64.40	40.16	553.07	11.18	7.00	0.00
1997	5	14	134	91.40	68.00	35.64	553.07	14.09	3.33	0.44
1997	5	15	135	87.80	66.20	38.59	553.07	13.42	5.30	0.12
1997	5	16	136	82.40	66.20	40.68	553.07	10.29	7.63	0.00
1997	5	17	137	82.40	66.20	38.48	553.07	7.83	5.50	0.00
1997	5	18	138	89.60	68.00	34.25	553.07	14.09	1.78	0.00
1997	5	19	139	93.20	73.40	39.58	553.07	13.86	6.40	0.00

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1997	5	20	140	82.40	66.20	40.17	553.07	10.51	7.05	0.02
1997	5	21	141	86.00	71.60	41.63	553.07	10.29	8.48	0.01
1997	5	22	142	86.00	71.60	41.09	553.07	10.73	8.08	1.44
1997	5	23	143	80.60	64.40	41.61	553.07	10.96	8.45	0.00
1997	5	24	144	87.80	69.80	39.94	553.07	9.84	6.80	0.00
1997	5	25	145	98.60	73.40	35.26	553.07	10.96	3.40	0.00
1997	5	26	146	96.80	77.00	36.81	553.07	11.85	4.63	0.09
1997	5	27	147	93.20	68.00	40.64	553.07	12.52	7.38	0.02
1997	5	28	148	87.80	66.20	37.35	553.07	13.19	5.23	0.00
1997	5	29	149	89.60	71.60	35.62	553.07	9.84	3.30	0.00
1997	5	30	150	91.40	73.40	36.43	553.07	14.76	4.20	0.00
1997	5	31	151	87.80	73.40	38.21	553.07	10.06	4.88	0.00
1997	6	1	152	87.80	69.80	36.25	553.07	9.17	4.00	0.00
1997	6	2	153	93.20	68.00	33.03	581.92	14.31	0.93	0.00
1997	6	3	154	91.40	69.80	33.03	581.92	14.53	0.93	0.00
1997	6	4	155	95.00	69.80	35.55	581.92	10.29	3.23	0.00
1997	6	5	156	98.60	73.40	35.91	581.92	11.85	3.63	1.00
1997	6	6	157	96.80	71.60	40.77	581.92	12.52	7.73	0.07
1997	6	7	158	93.20	69.80	40.46	581.92	11.63	7.38	0.00
1997	6	8	159	91.40	73.40	36.32	581.92	14.53	4.08	0.11
1997	6	9	160	91.40	68.00	39.27	581.92	13.42	6.05	0.00
1997	6	10	161	96.80	77.00	36.52	581.92	13.19	4.30	0.00
1997	6	11	162	95.00	75.20	34.17	581.92	10.06	1.93	0.00
1997	6	12	163	100.40	71.60	33.76	581.92	15.43	1.35	0.00
1997	6	13	164	102.20	78.80	36.61	581.92	14.09	4.40	0.00
1997	6	14	165	98.60	78.80	35.91	581.92	13.64	3.63	0.64
1997	6	15	166	98.60	71.60	37.53	581.92	13.42	5.43	0.00
1997	6	16	167	96.80	78.80	36.50	581.92	9.84	4.28	0.00
1997	6	17	168	93.20	73.40	38.32	581.92	9.84	5.00	0.00
1997	6	18	169	95.00	75.20	38.20	581.92	12.52	5.53	0.00
1997	6	19	170	98.60	77.00	36.79	581.92	13.86	4.60	0.00
1997	6	20	171	93.20	77.00	39.56	581.92	16.77	6.38	0.01
1997	6	21	172	95.00	69.80	38.68	581.92	16.32	5.73	0.00
1997	6	22	173	96.80	78.80	36.32	581.92	19.90	4.08	0.00
1997	6	23	174	91.40	75.20	35.96	581.92	17.44	3.68	0.74
1997	6	24	175	82.40	71.60	41.16	581.92	10.96	8.15	0.00
1997	6	25	176	87.80	71.60	40.17	581.92	10.96	7.05	0.00
1997	6	26	177	93.20	75.20	39.27	581.92	14.98	6.05	0.00
1997	6	27	178	95.00	75.20	36.63	581.92	14.53	4.43	0.00
1997	6	28	179	95.00	77.00	36.34	581.92	15.20	4.10	0.00
1997	6	29	180	96.80	77.00	34.34	581.92	15.43	1.88	0.00
1997	6	30	181	98.60	77.00	33.96	581.92	17.66	1.45	0.00
1997	7	1	182	96.80	75.20	32.67	581.92	17.22	0.53	0.00
1997	7	2	183	98.60	77.00	34.92	623.50	18.11	2.53	0.00
1997	7	3	184	96.80	78.80	34.32	623.50	17.89	1.85	0.00
1997	7	4	185	100.40	71.60	34.65	623.50	17.44	2.23	0.00
1997	7	5	186	96.80	73.40	34.23	623.50	10.73	1.75	0.00
1997	7	6	187	98.60	73.40	34.74	623.50	11.85	2.33	0.00
1997	7	7	188	98.60	77.00	33.96	623.50	16.99	1.45	0.00
1997	7	8	189	95.00	78.80	38.39	623.50	18.11	5.08	0.00
1997	7	9	190	100.40	78.80	35.82	623.50	18.78	3.53	0.00

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1997	7	10	191	100.40	78.80	34.16	623.50	17.66	1.68	0.00
1997	7	11	192	100.40	77.00	33.15	623.50	17.89	1.05	0.00
1997	7	12	193	98.60	78.80	33.76	623.50	16.99	1.35	0.00
1997	7	13	194	98.60	77.00	33.87	623.50	14.98	1.35	0.00
1997	7	14	195	100.40	77.00	33.96	623.50	14.31	1.45	0.00
1997	7	15	196	98.60	77.00	34.16	623.50	11.85	1.68	0.00
1997	7	16	197	100.40	77.00	32.85	623.50	12.97	0.73	0.00
1997	7	17	198	102.20	75.20	33.87	623.50	12.07	1.35	0.00
1997	7	18	199	100.40	77.00	34.25	623.50	14.09	1.78	0.00
1997	7	19	200	100.40	78.80	38.30	623.50	13.64	4.98	1.01
1997	7	20	201	98.60	73.40	39.47	623.50	16.99	6.28	0.00
1997	7	21	202	91.40	78.80	42.06	623.50	10.96	8.95	0.00
1997	7	22	203	98.60	78.80	39.78	623.50	11.18	6.63	0.00
1997	7	23	204	100.40	78.80	36.52	623.50	15.88	4.30	0.00
1997	7	24	205	98.60	75.20	34.61	623.50	14.31	2.18	0.00
1997	7	25	206	98.60	77.00	34.50	623.50	14.98	2.05	0.00
1997	7	26	207	100.40	77.00	34.14	623.50	12.75	1.65	0.00
1997	7	27	208	100.40	78.80	33.24	623.50	14.76	1.15	0.00
1997	7	28	209	100.40	78.80	33.15	623.50	15.43	1.05	0.00
1997	7	29	210	100.40	78.80	34.25	623.50	12.75	1.78	0.00
1997	7	30	211	102.20	78.80	36.23	623.50	11.85	3.98	0.09
1997	7	31	212	93.20	75.20	38.21	623.50	11.40	4.88	0.00
1997	8	1	213	96.80	77.00	37.91	543.94	9.39	5.20	0.00
1997	8	2	214	93.20	78.80	39.81	543.94	7.83	6.65	0.00
1997	8	3	215	98.60	77.00	36.50	543.94	10.06	4.28	0.00
1997	8	4	216	100.40	78.80	36.12	543.94	10.73	3.85	0.00
1997	8	5	217	98.60	77.00	34.79	543.94	9.84	2.38	0.00
1997	8	6	218	100.40	77.00	34.32	543.94	12.07	2.10	0.00
1997	8	7	219	102.20	77.00	33.96	543.94	12.52	1.45	0.00
1997	8	8	220	98.60	80.60	38.46	543.94	11.40	5.15	0.00
1997	8	9	221	104.00	78.80	35.06	543.94	17.22	2.68	0.00
1997	8	10	222	102.20	80.60	33.60	543.94	19.23	1.55	0.00
1997	8	11	223	100.40	78.80	34.16	543.94	19.01	1.68	0.00
1997	8	12	224	100.40	77.00	34.25	543.94	17.44	1.78	0.00
1997	8	13	225	98.60	75.20	34.40	543.94	13.64	2.10	0.00
1997	8	14	226	102.20	75.20	32.94	543.94	17.22	0.83	0.00
1997	8	15	227	102.20	78.80	33.24	543.94	17.89	1.15	0.00
1997	8	16	228	104.00	80.60	34.16	543.94	18.34	1.68	0.00
1997	8	17	229	102.20	80.60	33.21	543.94	20.57	1.13	0.00
1997	8	18	230	102.20	78.80	32.94	543.94	19.68	0.83	0.00
1997	8	19	231	102.20	75.20	34.16	543.94	14.09	1.68	0.00
1997	8	20	232	102.20	78.80	34.16	543.94	14.09	1.68	0.00
1997	8	21	233	104.00	77.00	34.34	543.94	12.97	1.88	0.00
1997	8	22	234	102.20	78.80	34.09	543.94	12.30	2.10	0.00
1997	8	23	235	102.20	77.00	35.73	543.94	12.30	3.43	0.00
1997	8	24	236	93.20	77.00	38.84	543.94	11.63	5.58	0.00
1997	8	25	237	93.20	73.40	34.23	543.94	9.84	1.75	0.00
1997	8	26	238	93.20	75.20	36.83	543.94	12.07	4.13	0.00
1997	8	27	239	96.80	73.40	33.76	543.94	11.40	1.35	0.00
1997	8	28	240	98.60	75.20	33.56	543.94	14.31	1.25	0.00
1997	8	29	241	96.80	78.80	34.23	543.94	16.10	1.75	0.00

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1997	8	30	242	96.80	75.20	33.24	543.94	13.64	1.15	0.00
1997	8	31	243	93.20	75.20	34.36	543.94	12.52	2.40	0.08
1997	9	1	244	93.20	75.20	35.44	459.97	12.07	3.10	0.04
1997	9	2	245	96.80	73.40	35.87	459.97	8.72	3.58	0.15
1997	9	3	246	93.20	73.40	38.48	459.97	8.27	5.18	0.00
1997	9	4	247	93.20	73.40	39.11	459.97	7.38	5.88	0.09
1997	9	5	248	89.60	73.40	41.07	459.97	9.17	8.05	0.00
1997	9	6	249	91.40	73.40	38.79	459.97	9.84	5.53	0.00
1997	9	7	250	95.00	75.20	38.48	459.97	10.06	5.18	0.00
1997	9	8	251	96.80	75.20	34.99	459.97	11.63	2.60	0.00
1997	9	9	252	100.40	75.20	33.96	459.97	10.51	1.45	0.01
1997	9	10	253	98.60	75.20	36.61	459.97	11.63	4.40	0.00
1997	9	11	254	96.80	75.20	35.06	459.97	12.07	2.68	0.00
1997	9	12	255	96.80	75.20	33.87	459.97	15.88	1.35	0.00
1997	9	13	256	96.80	75.20	34.61	459.97	16.55	2.30	0.00
1997	9	14	257	96.80	77.00	33.92	459.97	15.20	1.65	0.00
1997	9	15	258	98.60	75.20	33.06	459.97	14.53	0.95	0.00
1997	9	16	259	98.60	75.20	32.85	459.97	14.31	0.73	0.00
1997	9	17	260	98.60	75.20	32.85	459.97	13.42	0.73	0.00
1997	9	18	261	96.80	77.00	34.83	459.97	15.65	2.43	0.00
1997	9	19	262	96.80	75.20	34.79	459.97	15.43	2.50	0.20
1997	9	20	263	89.60	73.40	36.32	459.97	10.51	4.08	0.49
1997	9	21	264	86.00	75.20	40.68	459.97	9.61	7.63	0.01
1997	9	22	265	89.60	75.20	39.92	459.97	7.16	6.78	0.00
1997	9	23	266	93.20	78.80	39.65	459.97	9.84	6.48	0.00
1997	9	24	267	86.00	73.40	40.35	459.97	12.97	7.25	0.00
1997	9	25	268	87.80	68.00	34.88	459.97	10.73	2.48	0.00
1997	9	26	269	89.60	66.20	33.76	459.97	5.59	1.35	0.00
1997	9	27	270	93.20	66.20	32.58	459.97	8.94	0.43	0.00
1997	9	28	271	96.80	69.80	32.20	459.97	10.29	0.00	0.00
1997	9	29	272	95.00	69.80	32.29	459.97	8.94	0.10	0.00
1997	9	30	273	95.00	73.40	34.14	459.97	12.07	1.65	0.00
1997	10	1	274	91.40	68.00	33.06	355.35	10.06	0.95	0.00
1997	10	2	275	91.40	69.80	35.37	355.35	9.61	3.03	0.00
1997	10	3	276	93.20	66.20	34.74	355.35	9.84	2.33	0.00
1997	10	4	277	93.20	73.40	37.83	355.35	12.75	4.78	0.37
1997	10	5	278	80.60	71.60	38.03	355.35	12.07	4.68	0.53
1997	10	6	279	82.40	71.60	40.19	355.35	12.75	7.08	0.00
1997	10	7	280	87.80	71.60	40.44	355.35	10.96	7.35	0.00
1997	10	8	281	89.60	75.20	38.84	355.35	11.40	5.58	0.19
1997	10	9	282	86.00	74.30	40.44	355.35	12.07	7.35	0.27
1997	10	10	283	87.80	69.80	42.26	355.35	10.73	9.18	0.25
1997	10	11	284	84.20	73.40	41.16	355.35	10.96	8.15	0.00
1997	10	12	285	86.00	75.20	39.74	355.35	16.55	6.58	0.00
1997	10	13	286	78.80	64.40	37.17	355.35	15.20	5.03	0.00
1997	10	14	287	73.40	55.40	32.20	355.35	16.55	0.00	0.00
1997	10	15	288	75.20	48.20	32.20	355.35	6.71	0.00	0.00
1997	10	16	289	77.00	50.00	32.29	355.35	6.71	0.10	0.00
1997	10	17	290	78.80	53.60	32.20	355.35	6.26	0.00	0.00
1997	10	18	291	86.00	59.00	32.20	355.35	9.61	0.00	0.00
1997	10	19	292	86.00	60.80	32.20	355.35	10.73	0.00	0.00

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1997	10	20	293	86.00	64.40	33.15	355.35	13.64	1.05	0.00
1997	10	21	294	84.20	64.40	36.07	355.35	12.97	3.80	3.77
1997	10	22	295	71.60	57.20	42.82	355.35	13.86	9.80	0.00
1997	10	23	296	84.20	64.40	39.22	355.35	10.73	6.00	0.00
1997	10	24	297	89.60	64.40	38.39	355.35	7.16	5.08	0.00
1997	10	25	298	84.20	68.00	36.79	355.35	12.30	4.60	0.00
1997	10	26	299	69.80	55.40	42.35	355.35	12.97	9.28	0.00
1997	10	27	300	66.20	44.60	38.50	355.35	6.26	5.20	0.08
1997	10	28	301	62.60	53.60	42.44	355.35	8.94	9.38	0.00
1997	10	29	302	77.00	57.20	36.36	355.35	8.05	4.13	0.00
1997	10	30	303	82.40	66.20	40.03	355.35	6.48	6.90	0.00
1997	10	31	304	91.40	69.80	35.80	355.35	9.61	4.00	0.00
1997	11	1	305	84.20	60.80	32.20	273.78	10.73	0.00	0.00
1997	11	2	306	77.00	53.60	32.20	273.78	4.92	0.00	0.00
1997	11	3	307	77.00	50.00	34.41	273.78	8.27	1.95	0.00
1997	11	4	308	82.40	59.00	36.27	273.78	12.52	4.03	0.00
1997	11	5	309	82.40	64.40	33.24	273.78	12.97	1.15	0.00
1997	11	6	310	73.40	62.60	39.81	273.78	12.07	6.65	0.00
1997	11	7	311	69.80	53.60	40.77	273.78	10.96	7.73	0.00
1997	11	8	312	75.20	59.00	41.43	273.78	14.09	8.35	0.00
1997	11	9	313	78.80	64.40	40.03	273.78	10.51	6.80	0.05
1997	11	10	314	69.80	51.80	43.00	273.78	16.32	10.00	0.74
1997	11	11	315	51.80	46.40	43.00	273.78	10.73	10.00	0.46
1997	11	12	316	64.40	46.40	43.00	273.78	10.06	10.00	0.00
1997	11	13	317	68.00	53.60	39.13	273.78	7.16	5.80	0.00
1997	11	14	318	75.20	53.60	36.66	273.78	7.83	4.45	0.22
1997	11	15	319	64.40	42.80	42.91	273.78	16.10	9.90	0.00
1997	11	16	320	48.20	44.60	43.00	273.78	9.84	10.00	0.00
1997	11	17	321	50.00	44.60	43.00	273.78	7.60	10.00	0.03
1997	11	18	322	57.20	42.80	40.93	273.78	8.05	7.70	0.00
1997	11	19	323	62.60	42.80	38.95	273.78	5.81	5.50	0.00
1997	11	20	324	64.40	46.40	40.23	273.78	5.81	6.93	0.00
1997	11	21	325	66.20	51.80	39.51	273.78	8.27	6.23	0.00
1997	11	22	326	66.20	44.60	36.16	273.78	7.60	3.90	0.00
1997	11	23	327	68.00	46.40	35.62	273.78	7.60	3.30	0.00
1997	11	24	328	71.60	57.20	42.62	273.78	6.93	9.58	0.06
1997	11	25	329	75.20	64.40	41.90	273.78	7.83	8.78	0.00
1997	11	26	330	73.40	69.80	43.00	273.78	10.51	10.00	0.00
1997	11	27	331	80.60	68.00	39.18	273.78	16.55	5.95	0.00
1997	11	28	332	80.60	62.60	34.50	273.78	11.18	2.30	0.00
1997	11	29	333	75.20	57.20	33.10	273.78	10.96	1.00	0.00
1997	11	30	334	73.40	48.20	32.58	273.78	8.27	0.43	0.00
1997	12	1	335	68.00	44.60	38.82	207.53	9.17	5.55	0.00
1997	12	2	336	68.00	59.00	42.82	207.53	10.96	9.80	0.00
1997	12	3	337	73.40	57.20	39.74	207.53	11.40	6.58	0.00
1997	12	4	338	64.40	46.40	35.46	207.53	7.60	3.13	0.00
1997	12	5	339	66.20	50.00	38.75	207.53	9.17	5.48	0.00
1997	12	6	340	59.00	48.20	42.26	207.53	10.29	9.18	0.12
1997	12	7	341	53.60	48.20	43.00	207.53	7.60	10.00	0.00
1997	12	8	342	73.40	48.20	34.70	207.53	5.81	2.78	0.00
1997	12	9	343	80.60	57.20	35.58	207.53	11.18	3.25	0.00

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1997	12	10	344	62.60	50.00	37.94	207.53	10.29	4.90	0.00
1997	12	11	345	51.80	39.20	42.44	207.53	15.20	9.38	0.00
1997	12	12	346	44.60	37.40	42.44	207.53	10.96	9.38	0.00
1997	12	13	347	59.00	28.40	33.55	207.53	10.96	1.50	0.00
1997	12	14	348	64.40	37.40	32.20	207.53	9.61	0.00	0.00
1997	12	15	349	71.60	37.40	32.85	207.53	7.38	0.73	0.00
1997	12	16	350	71.60	44.60	32.20	207.53	6.04	0.00	0.00
1997	12	17	351	66.20	37.40	32.38	207.53	8.27	0.20	0.00
1997	12	18	352	75.20	39.20	32.20	207.53	8.94	0.00	0.00
1997	12	19	353	78.80	53.60	39.22	207.53	16.55	6.00	0.03
1997	12	20	354	78.80	51.80	41.02	207.53	18.11	7.80	0.00
1997	12	21	355	69.80	42.80	33.33	207.53	8.94	1.25	0.00
1997	12	22	356	77.00	50.00	39.36	207.53	12.30	6.15	0.00
1997	12	23	357	71.60	51.80	40.03	207.53	10.73	6.80	0.00
1997	12	24	358	71.60	42.80	32.20	207.53	6.71	0.00	0.04
1997	12	25	359	66.20	51.80	39.81	207.53	13.19	6.65	0.06
1997	12	26	360	53.60	42.80	42.55	207.53	16.77	9.50	0.00
1997	12	27	361	55.40	37.40	34.25	207.53	12.30	1.78	0.00
1997	12	28	362	60.80	35.60	33.76	207.53	15.65	1.35	0.00
1997	12	29	363	64.40	33.80	32.94	207.53	8.72	0.83	0.00
1997	12	30	364	71.60	39.20	39.27	207.53	8.05	6.05	0.00
1997	12	31	365	64.40	42.80	39.02	207.53	12.97	5.78	0.02
1998	1	1	1	69.80	51.80	41.34	277.05	8.94	8.35	0.00
1998	1	2	2	80.60	57.20	34.65	277.05	14.53	2.23	0.00
1998	1	3	3	78.80	66.20	42.06	277.05	17.66	8.95	0.00
1998	1	4	4	78.80	64.40	39.13	277.05	8.94	5.90	0.00
1998	1	5	5	77.00	66.20	40.21	277.05	10.96	7.00	0.03
1998	1	6	6	71.60	57.20	42.08	277.05	11.85	8.98	0.01
1998	1	7	7	59.00	46.40	37.17	277.05	17.22	5.03	0.00
1998	1	8	8	69.80	41.00	32.85	277.05	8.50	0.73	0.00
1998	1	9	9	77.00	46.40	33.30	277.05	8.05	1.23	0.00
1998	1	10	10	80.60	55.40	33.28	277.05	9.39	1.20	0.00
1998	1	11	11	77.00	60.80	39.47	277.05	9.61	6.28	0.00
1998	1	12	12	75.20	60.80	40.37	277.05	3.80	7.28	0.00
1998	1	13	13	69.80	55.40	41.48	277.05	8.94	8.35	0.00
1998	1	14	14	66.20	51.80	40.50	277.05	8.94	7.23	0.00
1998	1	15	15	66.20	46.40	33.19	277.05	11.40	1.10	0.00
1998	1	16	16	80.60	46.40	33.06	277.05	10.73	0.95	0.00
1998	1	17	17	71.60	50.00	35.06	277.05	7.83	2.68	0.00
1998	1	18	18	82.40	50.00	33.82	277.05	8.05	1.80	0.00
1998	1	19	19	69.80	48.20	32.20	277.05	10.51	0.00	0.00
1998	1	20	20	73.40	53.60	39.31	277.05	10.06	6.10	0.00
1998	1	21	21	75.20	59.00	37.82	277.05	6.04	5.10	0.00
1998	1	22	22	64.40	46.40	40.51	277.05	15.65	7.28	0.00
1998	1	23	23	68.00	39.20	32.85	277.05	6.04	0.73	0.00
1998	1	24	24	66.20	39.20	32.76	277.05	10.29	0.63	0.00
1998	1	25	25	68.00	51.80	39.04	277.05	10.51	5.60	0.00
1998	1	26	26	73.40	48.20	34.54	277.05	9.84	2.60	0.00
1998	1	27	27	73.40	42.80	32.20	277.05	7.16	0.00	0.00
1998	1	28	28	77.00	50.00	33.43	277.05	13.86	1.25	0.00
1998	1	29	29	77.00	50.00	34.53	277.05	7.60	2.33	0.00

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1998	1	30	30	75.20	59.00	39.38	277.05	14.98	6.18	0.02
1998	1	31	31	78.80	59.00	39.31	277.05	14.31	6.10	0.21
1998	2	1	32	60.80	51.80	40.12	359.22	10.29	6.90	0.00
1998	2	2	33	69.80	50.00	36.32	359.22	12.52	4.08	0.00
1998	2	3	34	71.60	42.80	32.20	359.22	4.70	0.00	0.00
1998	2	4	35	68.00	42.80	34.00	359.22	12.75	2.00	0.00
1998	2	5	36	75.20	51.80	38.68	359.22	10.51	5.40	0.00
1998	2	6	37	62.60	48.20	37.20	359.22	10.06	4.80	0.00
1998	2	7	38	66.20	37.40	32.20	359.22	10.29	0.00	0.00
1998	2	8	39	82.40	48.20	32.20	359.22	6.93	0.00	0.00
1998	2	9	40	84.20	55.40	34.09	359.22	9.84	2.10	0.00
1998	2	10	41	77.00	59.00	35.53	359.22	15.65	3.33	0.00
1998	2	11	42	73.40	48.20	32.38	359.22	7.16	0.20	0.00
1998	2	12	43	75.20	51.80	36.57	359.22	13.64	4.35	0.00
1998	2	13	44	68.00	51.80	41.27	359.22	10.96	8.08	0.56
1998	2	14	45	62.60	57.20	42.62	359.22	11.18	9.58	0.00
1998	2	15	46	64.40	51.80	39.51	359.22	9.17	6.13	0.12
1998	2	16	47	73.40	53.60	36.72	359.22	13.42	4.53	0.00
1998	2	17	48	73.40	48.20	32.20	359.22	8.72	0.00	0.00
1998	2	18	49	75.20	53.60	35.01	359.22	8.50	2.63	0.00
1998	2	19	50	73.40	53.60	32.94	359.22	11.40	0.83	0.00
1998	2	20	51	73.40	46.40	32.20	359.22	12.30	0.00	0.00
1998	2	21	52	77.00	57.20	38.55	359.22	14.31	5.25	0.00
1998	2	22	53	84.20	48.20	32.58	359.22	8.27	0.43	0.00
1998	2	23	54	84.20	50.00	32.20	359.22	7.60	0.00	0.00
1998	2	24	55	84.20	57.20	32.38	359.22	15.88	0.20	0.00
1998	2	25	56	89.60	64.40	33.12	359.22	14.98	1.03	0.00
1998	2	26	57	78.80	57.20	34.11	359.22	14.09	2.13	0.00
1998	2	27	58	75.20	51.80	34.86	359.22	8.94	2.70	0.00
1998	2	28	59	71.60	55.40	36.25	359.22	10.96	4.00	0.00
1998	3	1	60	69.80	44.60	32.20	421.77	7.60	0.00	0.00
1998	3	2	61	73.40	48.20	33.76	421.77	11.18	1.35	0.00
1998	3	3	62	66.20	51.80	40.30	421.77	14.31	7.00	0.00
1998	3	4	63	84.20	60.80	38.68	421.77	13.42	5.40	0.00
1998	3	5	64	87.80	68.00	39.94	421.77	9.61	6.80	0.00
1998	3	6	65	69.80	64.40	42.37	421.77	13.86	9.30	0.00
1998	3	7	66	89.60	60.80	37.08	421.77	10.73	4.93	0.00
1998	3	8	67	64.40	51.80	33.37	421.77	22.36	1.30	0.00
1998	3	9	68	64.40	42.80	32.85	421.77	8.94	0.73	0.00
1998	3	10	69	59.00	39.20	33.91	421.77	12.52	1.90	0.00
1998	3	11	70	57.20	44.60	42.26	421.77	10.96	9.18	0.44
1998	3	12	71	53.60	46.40	43.00	421.77	13.42	10.00	0.36
1998	3	13	72	53.60	44.60	41.47	421.77	8.27	8.30	0.00
1998	3	14	73	66.20	51.80	43.00	421.77	8.94	10.00	0.07
1998	3	15	74	75.20	64.40	42.80	421.77	19.01	9.78	0.25
1998	3	16	75	78.80	55.40	35.37	421.77	12.52	3.03	0.00
1998	3	17	76	80.60	53.60	32.20	421.77	8.94	0.00	0.00
1998	3	18	77	82.40	60.80	36.36	421.77	7.83	4.13	0.00
1998	3	19	78	77.00	59.00	36.72	421.77	15.65	4.53	0.00
1998	3	20	79	69.80	46.40	34.68	421.77	8.50	2.50	0.00
1998	3	21	80	68.00	53.60	36.27	421.77	7.60	4.03	0.00

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1998	3	22	81	78.80	50.00	32.49	421.77	7.83	0.33	0.00
1998	3	23	82	86.00	55.40	34.25	421.77	15.65	1.78	0.00
1998	3	24	83	89.60	60.80	32.58	421.77	16.77	0.43	0.00
1998	3	25	84	86.00	64.40	36.72	421.77	19.01	4.53	0.00
1998	3	26	85	86.00	68.00	35.58	421.77	22.36	3.50	0.00
1998	3	27	86	87.80	68.00	33.30	421.77	12.52	1.23	0.00
1998	3	28	87	89.60	68.00	33.93	421.77	16.55	1.93	0.00
1998	3	29	88	95.00	68.00	34.18	421.77	15.88	2.20	0.00
1998	3	30	89	100.40	71.60	33.39	421.77	18.11	1.33	0.00
1998	3	31	90	78.80	60.80	32.65	421.77	15.43	0.50	0.00
1998	4	1	91	84.20	50.00	32.76	514.09	13.86	0.63	0.00
1998	4	2	92	89.60	59.00	34.19	514.09	9.17	1.95	0.00
1998	4	3	93	87.80	68.00	32.58	514.09	11.63	0.43	0.00
1998	4	4	94	82.40	57.20	32.67	514.09	13.86	0.53	0.00
1998	4	5	95	84.20	57.20	32.65	514.09	13.86	0.50	0.00
1998	4	6	96	84.20	64.40	38.25	514.09	12.75	5.33	0.00
1998	4	7	97	93.20	68.00	36.20	514.09	10.51	4.03	0.00
1998	4	8	98	87.80	69.80	33.84	514.09	14.98	1.83	0.00
1998	4	9	99	84.20	57.20	32.38	514.09	8.72	0.20	0.00
1998	4	10	100	84.20	57.20	32.20	514.09	13.64	0.00	0.00
1998	4	11	101	84.20	59.00	32.20	514.09	17.66	0.00	0.00
1998	4	12	102	91.40	64.40	32.76	514.09	16.99	0.63	0.00
1998	4	13	103	91.40	66.20	33.75	514.09	12.52	1.73	0.00
1998	4	14	104	91.40	71.60	35.17	514.09	12.97	3.30	0.00
1998	4	15	105	98.60	71.60	37.64	514.09	12.97	5.23	0.00
1998	4	16	106	87.80	73.40	39.56	514.09	14.09	6.38	0.00
1998	4	17	107	75.20	62.60	41.27	514.09	14.31	8.08	0.04
1998	4	18	108	77.00	57.20	38.95	514.09	12.97	5.70	0.00
1998	4	19	109	82.40	55.40	32.20	514.09	9.61	0.00	0.00
1998	4	20	110	84.20	57.20	32.67	514.09	14.53	0.53	0.00
1998	4	21	111	78.80	60.80	36.77	514.09	13.86	4.38	0.00
1998	4	22	112	82.40	62.60	35.91	514.09	9.17	3.63	0.00
1998	4	23	113	87.80	59.00	32.20	514.09	11.18	0.00	0.00
1998	4	24	114	91.40	64.40	35.35	514.09	18.34	3.00	0.00
1998	4	25	115	91.40	66.20	34.56	514.09	18.78	2.13	0.00
1998	4	26	116	95.00	71.60	37.93	514.09	11.63	5.23	0.00
1998	4	27	117	80.60	71.60	40.30	514.09	15.88	7.00	0.00
1998	4	28	118	80.60	59.00	34.99	514.09	11.18	2.60	0.00
1998	4	29	119	84.20	62.60	35.33	514.09	10.06	2.98	0.00
1998	4	30	120	89.60	60.80	35.19	514.09	8.27	2.83	0.00
1998	5	1	121	96.80	64.40	32.94	514.09	12.30	0.83	0.00
1998	5	2	122	104.00	69.80	32.76	553.07	12.75	0.63	0.00
1998	5	3	123	102.20	71.60	32.94	553.07	13.42	0.83	0.00
1998	5	4	124	87.80	73.40	40.57	553.07	12.07	7.30	0.00
1998	5	5	125	93.20	71.60	39.04	553.07	11.18	5.80	0.00
1998	5	6	126	104.00	71.60	36.50	553.07	10.29	4.28	0.00
1998	5	7	127	105.80	71.60	34.20	553.07	10.73	2.23	0.00
1998	5	8	128	102.20	75.20	38.77	553.07	11.40	5.50	0.00
1998	5	9	129	98.60	75.20	37.73	553.07	13.19	5.00	0.00
1998	5	10	130	98.60	66.20	32.58	553.07	12.30	0.43	0.00
1998	5	11	131	95.00	69.80	36.61	553.07	15.65	4.20	0.00

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1998	5	12	132	89.60	69.80	40.10	553.07	14.09	6.98	0.00
1998	5	13	133	93.20	77.00	41.81	553.07	14.53	8.68	0.00
1998	5	14	134	96.80	77.00	42.82	553.07	13.64	9.80	0.00
1998	5	15	135	86.00	77.00	42.24	553.07	10.06	9.15	0.00
1998	5	16	136	95.00	77.00	41.20	553.07	12.07	8.00	0.00
1998	5	17	137	96.80	73.40	39.27	553.07	15.43	6.05	0.00
1998	5	18	138	95.00	69.80	32.85	553.07	15.65	0.73	0.00
1998	5	19	139	98.60	68.00	33.96	553.07	13.86	1.45	0.00
1998	5	20	140	102.20	69.80	33.56	553.07	13.42	1.25	0.00
1998	5	21	141	102.20	69.80	37.08	553.07	14.98	4.93	0.00
1998	5	22	142	104.00	71.60	34.30	553.07	16.55	1.95	0.00
1998	5	23	143	100.40	71.60	38.97	553.07	14.09	5.73	0.00
1998	5	24	144	96.80	75.20	39.13	553.07	16.55	5.90	0.00
1998	5	25	145	96.80	77.00	41.34	553.07	16.10	8.35	0.00
1998	5	26	146	93.20	78.80	42.62	553.07	16.77	9.58	0.00
1998	5	27	147	95.00	77.00	38.00	553.07	15.20	5.30	0.00
1998	5	28	148	100.40	73.40	32.94	553.07	14.09	0.83	0.00
1998	5	29	149	102.20	75.20	33.12	553.07	14.09	1.03	0.00
1998	5	30	150	100.40	73.40	32.67	553.07	13.64	0.53	0.00
1998	5	31	151	102.20	75.20	32.20	553.07	13.64	0.00	0.00
1998	6	1	152	104.00	75.20	32.20	553.07	13.86	0.00	0.00
1998	6	2	153	102.20	75.20	32.58	581.92	16.55	0.43	0.00
1998	6	3	154	104.00	77.00	32.29	581.92	16.32	0.10	0.00
1998	6	4	155	111.20	78.80	33.48	581.92	16.77	1.43	0.02
1998	6	5	156	95.00	80.60	38.77	581.92	13.42	5.50	0.00
1998	6	6	157	82.40	73.40	42.82	581.92	14.76	9.80	0.00
1998	6	7	158	91.40	75.20	41.20	581.92	18.34	8.00	0.00
1998	6	8	159	104.00	78.80	36.54	581.92	21.02	4.33	0.00
1998	6	9	160	102.20	80.60	36.72	581.92	19.01	4.53	0.00
1998	6	10	161	102.20	80.60	38.59	581.92	19.45	5.30	0.02
1998	6	11	162	96.80	71.60	40.44	581.92	11.40	7.35	0.00
1998	6	12	163	104.00	82.40	37.96	581.92	14.98	4.60	0.00
1998	6	13	164	109.40	80.60	33.15	581.92	16.77	1.05	0.00
1998	6	14	165	109.40	80.60	34.92	581.92	9.61	2.53	0.00
1998	6	15	166	109.40	82.40	35.22	581.92	11.85	2.85	0.00
1998	6	16	167	105.80	78.80	34.43	581.92	14.98	1.98	0.00
1998	6	17	168	105.80	80.60	36.66	581.92	19.45	4.45	0.00
1998	6	18	169	104.00	82.40	35.55	581.92	18.11	3.23	0.00
1998	6	19	170	104.00	82.40	35.40	581.92	18.34	3.05	0.00
1998	6	20	171	104.00	80.60	32.76	581.92	18.56	0.63	0.00
1998	6	21	172	102.20	78.80	35.46	581.92	17.44	3.13	0.00
1998	6	22	173	102.20	80.60	35.58	581.92	17.66	3.25	0.00
1998	6	23	174	102.20	78.80	34.72	581.92	16.99	2.30	0.00
1998	6	24	175	100.40	77.00	34.68	581.92	18.11	2.25	0.00
1998	6	25	176	98.60	75.20	34.16	581.92	14.98	1.68	0.00
1998	6	26	177	100.40	77.00	34.16	581.92	11.85	1.68	0.00
1998	6	27	178	98.60	82.40	36.32	581.92	12.75	4.08	0.00
1998	6	28	179	102.20	80.60	38.21	581.92	16.55	4.88	0.00
1998	6	29	180	93.20	82.40	39.72	581.92	17.44	6.55	0.00
1998	6	30	181	100.40	80.60	39.27	581.92	18.34	6.05	0.00
1998	7	1	182	100.40	80.60	35.13	581.92	18.56	2.75	0.00

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1998	7	2	183	98.60	77.00	34.59	623.50	14.09	2.15	0.00
1998	7	3	184	91.40	78.80	39.56	623.50	9.84	6.38	0.00
1998	7	4	185	98.60	80.60	39.45	623.50	18.78	6.25	0.00
1998	7	5	186	104.00	80.60	35.31	623.50	17.22	2.95	0.00
1998	7	6	187	105.80	78.80	32.29	623.50	14.76	0.10	0.00
1998	7	7	188	104.00	77.00	34.07	623.50	14.76	1.58	0.00
1998	7	8	189	102.20	77.00	32.85	623.50	17.44	0.73	0.00
1998	7	9	190	100.40	78.80	34.74	623.50	18.34	2.33	0.00
1998	7	10	191	100.40	78.80	33.43	623.50	16.55	1.25	0.00
1998	7	11	192	102.20	80.60	33.15	623.50	16.55	1.05	0.00
1998	7	12	193	104.00	80.60	32.76	623.50	14.09	0.63	0.00
1998	7	13	194	105.80	80.60	34.61	623.50	10.73	2.18	0.19
1998	7	14	195	104.00	77.00	35.13	623.50	12.97	2.75	0.02
1998	7	15	196	98.60	75.20	39.49	623.50	9.39	6.30	0.00
1998	7	16	197	100.40	77.00	34.07	623.50	14.76	1.58	0.00
1998	7	17	198	102.20	77.00	34.16	623.50	13.86	1.68	0.00
1998	7	18	199	102.20	78.80	34.50	623.50	14.98	2.05	0.00
1998	7	19	200	100.40	78.80	35.73	623.50	15.88	3.43	0.00
1998	7	20	201	100.40	78.80	34.50	623.50	17.44	2.05	0.00
1998	7	21	202	102.20	80.60	34.07	623.50	16.77	1.58	0.00
1998	7	22	203	102.20	78.80	33.06	623.50	16.55	0.95	0.00
1998	7	23	204	102.20	78.80	33.87	623.50	16.99	1.35	0.00
1998	7	24	205	102.20	80.60	34.25	623.50	18.78	1.78	0.00
1998	7	25	206	100.40	80.60	35.76	623.50	19.01	3.45	0.00
1998	7	26	207	98.60	78.80	35.87	623.50	15.88	3.58	0.00
1998	7	27	208	98.60	78.80	34.74	623.50	17.22	2.33	0.00
1998	7	28	209	100.40	78.80	35.01	623.50	17.44	2.63	0.00
1998	7	29	210	100.40	77.00	33.96	623.50	18.56	1.45	0.00
1998	7	30	211	102.20	80.60	35.31	623.50	20.57	2.95	0.00
1998	7	31	212	100.40	78.80	33.96	623.50	18.34	1.45	0.00
1998	8	1	213	100.40	78.80	33.96	543.94	12.97	1.45	0.00
1998	8	2	214	100.40	78.80	33.24	543.94	12.97	1.15	0.00
1998	8	3	215	102.20	78.80	32.94	543.94	13.86	0.83	0.00
1998	8	4	216	96.80	78.80	35.78	543.94	12.30	3.48	0.00
1998	8	5	217	96.80	78.80	36.43	543.94	11.18	4.20	0.00
1998	8	6	218	91.40	75.20	40.86	543.94	12.52	7.83	0.00
1998	8	7	219	91.40	75.20	40.77	543.94	6.93	7.73	0.00
1998	8	8	220	98.60	78.80	36.21	543.94	15.20	3.95	0.00
1998	8	9	221	100.40	77.00	34.16	543.94	15.65	1.68	0.00
1998	8	10	222	100.40	78.80	33.15	543.94	14.53	1.05	0.00
1998	8	11	223	102.20	78.80	33.06	543.94	12.52	0.95	0.00
1998	8	12	224	102.20	77.00	33.76	543.94	13.19	1.35	0.00
1998	8	13	225	102.20	80.60	34.09	543.94	12.52	2.10	0.47
1998	8	14	226	89.60	73.40	35.82	543.94	13.86	3.53	0.00
1998	8	15	227	89.60	73.40	38.19	543.94	7.60	4.85	0.41
1998	8	16	228	95.00	73.40	37.40	543.94	14.09	3.78	0.07
1998	8	17	229	95.00	73.40	41.79	543.94	11.63	8.75	0.00
1998	8	18	230	96.80	78.80	40.59	543.94	13.86	7.53	0.00
1998	8	19	231	96.80	77.00	35.73	543.94	11.18	3.43	0.01
1998	8	20	232	95.00	77.00	36.18	543.94	10.73	3.93	0.00
1998	8	21	233	93.20	75.20	38.55	543.94	12.52	5.25	0.00

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1998	8	22	234	86.00	75.20	40.62	543.94	16.77	7.55	0.00
1998	8	23	235	96.80	75.20	40.35	543.94	10.96	7.25	0.00
1998	8	24	236	98.60	78.80	38.91	543.94	14.98	5.65	0.00
1998	8	25	237	98.60	78.80	35.06	543.94	14.76	2.68	0.00
1998	8	26	238	96.80	78.80	36.79	543.94	11.85	4.60	0.00
1998	8	27	239	98.60	77.00	35.28	543.94	12.97	2.93	0.00
1998	8	28	240	96.80	77.00	35.22	543.94	10.29	2.85	0.00
1998	8	29	241	96.80	78.80	35.10	543.94	8.05	2.73	0.00
1998	8	30	242	91.40	77.00	35.67	543.94	10.96	3.35	0.00
1998	8	31	243	95.00	75.20	35.67	543.94	10.06	3.35	0.00
1998	9	1	244	95.00	77.00	36.52	459.97	11.63	4.30	0.00
1998	9	2	245	96.80	77.00	37.92	459.97	9.84	4.78	0.00
1998	9	3	246	95.00	78.80	40.17	459.97	10.73	7.05	0.00
1998	9	4	247	96.80	78.80	36.79	459.97	12.30	4.60	0.00
1998	9	5	248	91.40	73.40	38.03	459.97	10.29	4.68	0.11
1998	9	6	249	91.40	75.20	38.73	459.97	10.06	5.45	0.00
1998	9	7	250	95.00	75.20	38.82	459.97	10.29	5.55	0.11
1998	9	8	251	87.80	77.00	39.33	459.97	13.64	6.13	0.00
1998	9	9	252	89.60	75.20	39.04	459.97	14.31	5.80	0.00
1998	9	10	253	82.40	73.40	40.98	459.97	18.11	7.80	0.04
1998	9	11	254	78.80	71.60	42.82	459.97	19.45	9.80	0.00
1998	9	12	255	89.60	73.40	40.73	459.97	11.40	7.68	0.00
1998	9	13	256	98.60	77.00	36.52	459.97	9.84	4.30	0.00
1998	9	14	257	96.80	77.00	35.73	459.97	11.63	3.43	0.41
1998	9	15	258	86.00	75.20	40.64	459.97	12.30	7.58	0.41
1998	9	16	259	89.60	75.20	39.99	459.97	11.18	6.85	1.06
1998	9	17	260	77.00	71.60	42.08	459.97	11.85	8.98	0.00
1998	9	18	261	87.80	73.40	40.91	459.97	10.51	7.88	0.00
1998	9	19	262	89.60	73.40	37.16	459.97	6.48	4.38	0.00
1998	9	20	263	93.20	77.00	33.06	459.97	9.84	0.95	0.00
1998	9	21	264	95.00	77.00	32.85	459.97	11.85	0.73	0.51
1998	9	22	265	93.20	75.20	36.61	459.97	11.18	4.40	0.09
1998	9	23	266	86.00	75.20	37.40	459.97	10.51	4.30	0.09
1998	9	24	267	89.60	73.40	35.55	459.97	7.60	3.23	0.00
1998	9	25	268	89.60	73.40	39.83	459.97	9.61	6.68	0.00
1998	9	26	269	91.40	77.00	37.64	459.97	10.96	4.90	0.00
1998	9	27	270	91.40	75.20	34.68	459.97	9.84	2.25	0.00
1998	9	28	271	95.00	75.20	33.06	459.97	7.83	0.95	0.00
1998	9	29	272	95.00	75.20	33.06	459.97	9.61	0.95	0.00
1998	9	30	273	93.20	75.20	33.24	459.97	12.30	1.15	0.00
1998	10	1	274	91.40	78.80	35.96	355.35	15.43	3.68	0.00
1998	10	2	275	93.20	78.80	37.82	355.35	16.99	5.10	0.00
1998	10	3	276	95.00	77.00	33.46	355.35	14.76	1.40	0.00
1998	10	4	277	95.00	78.80	34.95	355.35	16.55	2.55	0.00
1998	10	5	278	96.80	78.80	34.52	355.35	21.69	2.08	1.60
1998	10	6	279	82.40	60.80	40.52	355.35	16.77	7.40	0.00
1998	10	7	280	78.80	57.20	33.87	355.35	10.06	1.35	0.00
1998	10	8	281	80.60	59.00	32.20	355.35	4.70	0.00	0.00
1998	10	9	282	82.40	59.00	32.20	355.35	8.05	0.00	0.00
1998	10	10	283	82.40	62.60	32.76	355.35	12.30	0.63	0.00
1998	10	11	284	87.80	66.20	34.50	355.35	9.84	2.05	0.00

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1998	10	12	285	87.80	73.40	36.34	355.35	10.29	4.10	0.00
1998	10	13	286	84.20	71.60	38.57	355.35	10.51	5.28	0.00
1998	10	14	287	84.20	64.40	32.67	355.35	10.96	0.53	0.00
1998	10	15	288	86.00	66.20	35.62	355.35	14.76	3.30	0.00
1998	10	16	289	89.60	69.80	36.52	355.35	19.23	4.30	0.00
1998	10	17	290	89.60	77.00	40.59	355.35	15.88	7.53	0.48
1998	10	18	291	78.80	64.40	39.38	355.35	18.78	5.98	0.13
1998	10	19	292	64.40	60.80	43.00	355.35	11.85	10.00	0.12
1998	10	20	293	69.80	62.60	43.00	355.35	7.83	10.00	0.38
1998	10	21	294	69.80	59.00	43.00	355.35	13.64	10.00	0.00
1998	10	22	295	71.60	59.00	40.25	355.35	13.42	7.10	0.00
1998	10	23	296	69.80	55.40	33.06	355.35	9.17	0.95	0.00
1998	10	24	297	75.20	51.80	34.50	355.35	6.48	2.05	0.00
1998	10	25	298	78.80	64.40	39.40	355.35	7.16	6.20	0.00
1998	10	26	299	84.20	64.40	35.49	355.35	10.73	3.15	0.00
1998	10	27	300	84.20	69.80	41.04	355.35	11.18	8.03	0.00
1998	10	28	301	82.40	68.00	39.11	355.35	12.75	5.88	0.00
1998	10	29	302	84.20	69.80	35.67	355.35	14.09	3.35	0.00
1998	10	30	303	82.40	69.80	39.18	355.35	15.65	5.95	0.00
1998	10	31	304	86.00	71.60	40.10	355.35	19.01	6.98	0.15
1998	11	1	305	77.00	64.40	35.60	273.78	12.30	3.28	0.00
1998	11	2	306	77.00	57.20	34.50	273.78	6.48	2.05	0.00
1998	11	3	307	77.00	64.40	41.90	273.78	9.84	8.78	0.00
1998	11	4	308	75.20	59.00	40.98	273.78	15.43	7.95	0.58
1998	11	5	309	59.00	50.00	43.00	273.78	13.19	10.00	0.12
1998	11	6	310	53.60	48.20	43.00	273.78	9.84	10.00	0.04
1998	11	7	311	66.20	50.00	39.94	273.78	6.26	6.70	0.00
1998	11	8	312	68.00	59.00	42.80	273.78	6.71	9.78	0.00
1998	11	9	313	82.40	68.00	40.21	273.78	14.98	7.10	0.00
1998	11	10	314	75.20	57.20	35.92	273.78	14.53	3.88	0.00
1998	11	11	315	66.20	53.60	38.59	273.78	9.17	5.30	0.10
1998	11	12	316	60.80	57.20	42.91	273.78	8.94	9.90	0.31
1998	11	13	317	60.80	59.00	42.91	273.78	10.29	9.90	0.11
1998	11	14	318	73.40	59.00	37.35	273.78	10.29	5.23	0.00
1998	11	15	319	75.20	55.40	32.29	273.78	5.59	0.10	0.00
1998	11	16	320	80.60	53.60	33.21	273.78	5.37	1.13	0.00
1998	11	17	321	78.80	62.60	37.26	273.78	8.50	5.13	0.00
1998	11	18	322	78.80	64.40	38.29	273.78	10.29	5.63	0.00
1998	11	19	323	78.80	69.80	40.21	273.78	10.96	7.10	0.01
1998	11	20	324	73.40	59.00	43.00	273.78	11.40	10.00	0.00
1998	11	21	325	62.60	57.20	42.80	273.78	10.06	9.78	0.00
1998	11	22	326	75.20	60.80	36.72	273.78	7.16	4.53	0.00
1998	11	23	327	75.20	64.40	40.75	273.78	7.16	7.60	0.00
1998	11	24	328	75.20	60.80	37.47	273.78	5.14	5.35	0.00
1998	11	25	329	82.40	68.00	36.45	273.78	6.48	4.23	0.00
1998	11	26	330	78.80	66.20	39.24	273.78	5.59	6.03	0.00
1998	11	27	331	80.60	66.20	38.00	273.78	11.85	5.30	0.00
1998	11	28	332	78.80	64.40	36.16	273.78	11.40	3.90	0.00
1998	11	29	333	84.20	68.00	37.08	273.78	14.98	4.93	0.00
1998	11	30	334	80.60	62.60	34.07	273.78	9.84	1.58	0.00
1998	12	1	335	78.80	60.80	39.38	207.53	6.71	6.18	0.00

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1998	12	2	336	80.60	66.20	36.52	207.53	14.76	4.30	0.00
1998	12	3	337	82.40	66.20	36.12	207.53	12.75	3.85	0.00
1998	12	4	338	82.40	66.20	34.63	207.53	8.50	2.70	0.00
1998	12	5	339	82.40	69.80	38.20	207.53	14.31	5.53	0.00
1998	12	6	340	82.40	68.00	36.34	207.53	13.42	4.10	0.00
1998	12	7	341	75.20	62.60	40.44	207.53	11.18	7.35	0.00
1998	12	8	342	60.80	48.20	36.90	207.53	12.30	4.73	0.00
1998	12	9	343	55.40	51.80	43.00	207.53	9.61	10.00	0.10
1998	12	10	344	53.60	46.40	43.00	207.53	14.76	10.00	0.01
1998	12	11	345	48.20	41.00	40.73	207.53	15.20	7.48	0.00
1998	12	12	346	60.80	39.20	32.20	207.53	12.07	0.00	0.00
1998	12	13	347	68.00	37.40	32.38	207.53	7.83	0.20	0.00
1998	12	14	348	73.40	37.40	32.20	207.53	8.05	0.00	0.00
1998	12	15	349	64.40	39.20	33.24	207.53	6.48	1.15	0.00
1998	12	16	350	69.80	42.80	32.67	207.53	5.14	0.53	0.00
1998	12	17	351	66.20	48.20	35.87	207.53	7.60	3.58	0.00
1998	12	18	352	71.60	55.40	39.65	207.53	12.97	6.48	0.00
1998	12	19	353	80.60	46.40	33.46	207.53	5.81	1.40	0.00
1998	12	20	354	78.80	59.00	38.59	207.53	10.06	5.30	0.00
1998	12	21	355	80.60	64.40	37.26	207.53	11.40	5.13	0.00
1998	12	22	356	64.40	33.80	42.64	207.53	16.10	9.60	0.01
1998	12	23	357	35.60	33.80	43.00	207.53	10.51	10.00	0.00
1998	12	24	358	39.20	33.80	41.97	207.53	11.63	8.85	0.00
1998	12	25	359	44.60	33.80	38.97	207.53	6.04	5.73	0.00
1998	12	26	360	62.60	26.60	32.20	207.53	6.04	0.00	0.00
1998	12	27	361	71.60	42.80	35.78	207.53	5.59	3.48	0.00
1998	12	28	362	71.60	41.00	32.76	207.53	7.83	0.63	0.00
1998	12	29	363	75.20	41.00	32.38	207.53	9.39	0.20	0.00
1998	12	30	364	71.60	44.60	36.32	207.53	9.84	3.58	0.00
1998	12	31	365	68.00	55.40	40.14	207.53	7.16	7.03	0.00
1999	1	1	1	78.80	55.40	39.57	277.05	8.50	6.55	0.03
1999	1	2	2	68.00	44.60	33.64	277.05	15.65	1.60	0.00
1999	1	3	3	46.40	37.40	38.37	277.05	12.75	5.45	0.00
1999	1	4	4	46.40	33.80	40.35	277.05	10.73	7.05	0.00
1999	1	5	5	64.40	33.80	35.08	277.05	10.51	3.20	0.00
1999	1	6	6	69.80	50.00	36.70	277.05	6.04	4.00	0.00
1999	1	7	7	78.80	48.20	39.96	277.05	9.39	6.83	0.00
1999	1	8	8	77.00	55.40	33.91	277.05	7.38	1.90	0.00
1999	1	9	9	62.60	42.80	38.43	277.05	17.89	5.13	0.00
1999	1	10	10	60.80	53.60	32.20	277.05	9.61	0.00	0.00
1999	1	11	11	71.60	41.00	36.05	277.05	12.30	3.28	0.00
1999	1	12	12	75.20	51.80	33.69	277.05	10.96	1.65	0.00
1999	1	13	13	66.20	50.00	36.07	277.05	9.39	4.00	0.00
1999	1	14	14	64.40	44.60	36.25	277.05	12.30	3.50	0.00
1999	1	15	15	69.80	37.40	32.20	277.05	7.60	0.00	0.00
1999	1	16	16	78.80	51.80	32.38	277.05	7.83	0.20	0.00
1999	1	17	17	84.20	51.80	35.04	277.05	7.16	3.15	0.00
1999	1	18	18	80.60	48.20	32.38	277.05	7.83	0.20	0.00
1999	1	19	19	80.60	60.80	37.42	277.05	10.73	4.90	0.00
1999	1	20	20	84.20	60.80	34.63	277.05	10.96	2.70	0.00
1999	1	21	21	87.80	62.60	34.23	277.05	11.18	2.25	0.00

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1999	1	22	22	75.20	55.40	32.20	277.05	20.79	0.00	0.00
1999	1	23	23	71.60	44.60	32.20	277.05	8.27	0.00	0.00
1999	1	24	24	78.80	50.00	32.56	277.05	12.52	0.40	0.00
1999	1	25	25	78.80	51.80	32.79	277.05	14.76	0.65	0.00
1999	1	26	26	78.80	55.40	32.20	277.05	16.99	0.00	0.00
1999	1	27	27	80.60	55.40	32.83	277.05	17.22	0.70	0.00
1999	1	28	28	80.60	57.20	38.55	277.05	14.98	6.05	0.00
1999	1	29	29	71.60	55.40	38.07	277.05	13.86	5.33	0.00
1999	1	30	30	69.80	42.80	34.20	277.05	9.61	2.23	0.00
1999	1	31	31	69.80	44.60	36.39	277.05	4.47	3.65	0.00
1999	2	1	32	77.00	50.00	36.95	359.22	11.40	4.28	0.00
1999	2	2	33	75.20	60.80	41.31	359.22	10.51	8.33	0.02
1999	2	3	34	75.20	55.40	41.11	359.22	6.71	8.10	0.00
1999	2	4	35	75.20	59.00	38.61	359.22	10.29	5.53	0.00
1999	2	5	36	84.20	66.20	40.37	359.22	15.20	7.28	0.00
1999	2	6	37	86.00	68.00	37.89	359.22	12.97	5.33	0.00
1999	2	7	38	84.20	64.40	36.48	359.22	6.48	3.75	0.00
1999	2	8	39	87.80	66.20	37.80	359.22	11.40	5.23	0.00
1999	2	9	40	87.80	66.20	38.28	359.22	9.39	5.75	0.00
1999	2	10	41	86.00	66.20	37.87	359.22	16.10	5.30	0.00
1999	2	11	42	77.00	57.20	38.95	359.22	16.99	5.70	0.00
1999	2	12	43	60.80	41.00	36.48	359.22	11.85	3.75	0.00
1999	2	13	44	66.20	35.60	32.20	359.22	7.16	0.00	0.00
1999	2	14	45	71.60	44.60	32.20	359.22	13.64	0.00	0.00
1999	2	15	46	78.80	48.20	33.91	359.22	15.43	1.90	0.00
1999	2	16	47	68.00	57.20	38.25	359.22	13.19	5.13	0.00
1999	2	17	48	75.20	55.40	37.06	359.22	9.39	4.40	0.00
1999	2	18	49	86.00	53.60	34.50	359.22	10.06	2.55	0.00
1999	2	19	50	80.60	59.00	37.35	359.22	12.97	4.73	0.00
1999	2	20	51	86.00	64.40	35.58	359.22	12.52	3.75	0.00
1999	2	21	52	68.00	50.00	32.38	359.22	12.07	0.20	0.00
1999	2	22	53	71.60	46.40	33.96	359.22	12.52	1.95	0.00
1999	2	23	54	78.80	51.80	34.00	359.22	8.72	2.00	0.00
1999	2	24	55	82.40	60.80	38.52	359.22	15.43	5.23	0.00
1999	2	25	56	82.40	64.40	38.19	359.22	13.64	5.65	0.00
1999	2	26	57	78.80	64.40	40.14	359.22	10.96	7.03	0.00
1999	2	27	58	87.80	66.20	36.95	359.22	11.63	4.28	0.00
1999	2	28	59	82.40	57.20	35.61	359.22	12.97	3.03	0.00
1999	3	1	60	87.80	57.20	32.56	421.77	9.17	0.40	0.00
1999	3	2	61	93.20	64.40	34.00	421.77	13.86	2.00	0.00
1999	3	3	62	73.40	55.40	32.20	421.77	14.09	0.00	0.00
1999	3	4	63	84.20	55.40	38.50	421.77	15.65	6.00	0.00
1999	3	5	64	87.80	66.20	40.01	421.77	11.63	6.88	0.00
1999	3	6	65	86.00	64.40	39.25	421.77	10.96	6.58	0.00
1999	3	7	66	84.20	62.60	41.02	421.77	17.66	8.00	0.00
1999	3	8	67	91.40	71.60	36.32	421.77	14.76	4.08	0.00
1999	3	9	68	87.80	64.40	37.60	421.77	12.07	5.00	0.00
1999	3	10	69	84.20	68.00	40.39	421.77	13.86	7.30	0.00
1999	3	11	70	80.60	68.00	40.66	421.77	12.75	7.60	0.00
1999	3	12	71	87.80	71.60	39.78	421.77	14.09	6.63	0.00
1999	3	13	72	68.00	55.40	33.98	421.77	19.90	1.98	0.00

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1999	3	14	73	69.80	46.40	32.20	421.77	12.07	0.00	0.00
1999	3	15	74	77.00	48.20	33.69	421.77	10.73	1.65	0.00
1999	3	16	75	80.60	55.40	36.95	421.77	16.99	4.28	0.00
1999	3	17	76	86.00	64.40	39.22	421.77	19.01	6.00	0.06
1999	3	18	77	78.80	59.00	40.50	421.77	13.19	7.43	0.14
1999	3	19	78	71.60	59.00	42.62	421.77	12.97	9.58	0.03
1999	3	20	79	68.00	59.00	41.31	421.77	8.94	8.13	0.00
1999	3	21	80	77.00	53.60	34.27	421.77	9.17	2.30	0.00
1999	3	22	81	78.80	55.40	35.87	421.77	14.76	3.08	0.00
1999	3	23	82	87.80	68.00	40.95	421.77	12.97	7.93	0.00
1999	3	24	83	82.40	68.00	40.95	421.77	10.96	7.83	0.00
1999	3	25	84	78.80	66.20	40.86	421.77	13.64	7.83	0.00
1999	3	26	85	69.80	60.80	42.33	421.77	13.64	9.25	1.97
1999	3	27	86	78.80	60.80	42.53	421.77	18.78	9.48	0.02
1999	3	28	87	75.20	59.00	39.04	421.77	10.06	6.60	0.00
1999	3	29	88	66.20	57.20	40.75	421.77	11.63	7.70	0.00
1999	3	30	89	69.80	57.20	40.12	421.77	8.94	7.00	0.00
1999	3	31	90	77.00	57.20	39.42	421.77	12.52	6.23	0.00
1999	4	1	91	80.60	68.00	41.31	514.09	13.86	8.33	0.00
1999	4	2	92	80.60	73.40	42.35	514.09	12.97	9.28	0.00
1999	4	3	93	89.60	75.20	38.91	514.09	12.75	6.05	0.00
1999	4	4	94	93.20	71.60	37.08	514.09	8.50	4.43	0.00
1999	4	5	95	84.20	71.60	35.80	514.09	14.98	3.00	0.00
1999	4	6	96	87.80	60.80	38.01	514.09	11.18	5.45	0.00
1999	4	7	97	91.40	73.40	40.19	514.09	15.20	7.08	0.00
1999	4	8	98	96.80	69.80	36.25	514.09	13.42	3.50	0.00
1999	4	9	99	95.00	69.80	39.02	514.09	11.85	5.78	0.00
1999	4	10	100	93.20	73.40	38.48	514.09	13.64	5.98	0.00
1999	4	11	101	84.20	73.40	40.35	514.09	12.30	7.25	0.00
1999	4	12	102	89.60	71.60	41.13	514.09	14.09	8.03	0.00
1999	4	13	103	93.20	71.60	38.66	514.09	15.43	6.18	0.00
1999	4	14	104	96.80	66.20	33.69	514.09	13.64	1.65	0.00
1999	4	15	105	78.80	60.80	36.77	514.09	16.10	4.08	0.00
1999	4	16	106	69.80	55.40	37.31	514.09	12.75	4.68	0.00
1999	4	17	107	78.80	50.00	32.65	514.09	13.19	0.50	0.00
1999	4	18	108	84.20	57.20	34.27	514.09	12.52	2.30	0.00
1999	4	19	109	89.60	64.40	32.79	514.09	14.76	0.65	0.00
1999	4	20	110	89.60	66.20	33.91	514.09	17.66	1.90	0.00
1999	4	21	111	96.80	69.80	37.31	514.09	19.23	4.68	0.00
1999	4	22	112	102.20	69.80	32.79	514.09	12.97	0.65	0.00
1999	4	23	113	96.80	73.40	40.98	514.09	12.75	7.95	0.00
1999	4	24	114	89.60	75.20	40.03	514.09	14.53	6.90	0.00
1999	4	25	115	87.80	73.40	41.36	514.09	15.65	8.18	0.11
1999	4	26	116	87.80	71.60	37.08	514.09	12.97	4.43	0.00
1999	4	27	117	98.60	68.00	36.30	514.09	9.39	3.55	0.00
1999	4	28	118	95.00	69.80	36.86	514.09	16.77	4.18	0.00
1999	4	29	119	84.20	75.20	41.19	514.09	15.43	8.03	0.00
1999	4	30	120	82.40	73.40	41.52	514.09	18.34	8.55	0.03
1999	5	1	121	80.60	69.80	42.82	514.09	16.55	9.80	0.02
1999	5	2	122	78.80	69.80	42.35	553.07	15.65	9.28	0.00
1999	5	3	123	87.80	73.40	41.49	553.07	15.65	8.33	0.00

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1999	5	4	124	104.00	77.00	37.17	553.07	14.98	4.53	0.00
1999	5	5	125	96.80	68.00	32.20	553.07	12.52	0.00	0.00
1999	5	6	126	89.60	68.00	32.38	553.07	11.63	0.20	0.00
1999	5	7	127	93.20	64.40	32.20	553.07	11.63	0.00	0.00
1999	5	8	128	95.00	69.80	38.30	553.07	14.76	5.78	0.00
1999	5	9	129	95.00	77.00	41.61	553.07	17.22	8.55	0.00
1999	5	10	130	95.00	71.60	40.32	553.07	14.53	7.23	0.00
1999	5	11	131	98.60	68.00	39.96	553.07	11.40	6.83	0.34
1999	5	12	132	91.40	66.20	39.56	553.07	12.52	6.78	0.00
1999	5	13	133	95.00	69.80	37.85	553.07	11.85	5.28	0.00
1999	5	14	134	98.60	77.00	39.96	553.07	15.88	6.83	0.00
1999	5	15	135	100.40	77.00	40.01	553.07	17.66	6.88	0.00
1999	5	16	136	95.00	77.00	39.51	553.07	18.34	6.33	0.00
1999	5	17	137	95.00	77.00	38.60	553.07	14.76	5.85	0.15
1999	5	18	138	84.20	66.20	39.58	553.07	15.20	6.40	0.00
1999	5	19	139	89.60	68.00	36.21	553.07	12.30	3.45	0.00
1999	5	20	140	91.40	71.60	37.62	553.07	16.32	5.03	0.00
1999	5	21	141	96.80	73.40	38.03	553.07	18.11	5.48	0.00
1999	5	22	142	95.00	75.20	37.40	553.07	15.20	4.78	0.00
1999	5	23	143	93.20	75.20	37.26	553.07	14.76	4.63	0.00
1999	5	24	144	95.00	73.40	37.53	553.07	13.19	4.93	0.00
1999	5	25	145	96.80	73.40	38.48	553.07	16.10	5.98	1.15
1999	5	26	146	95.00	66.20	37.58	553.07	17.44	4.98	0.00
1999	5	27	147	91.40	68.00	37.98	553.07	10.51	5.43	0.47
1999	5	28	148	91.40	68.00	38.79	553.07	14.76	6.33	0.78
1999	5	29	149	93.20	64.40	38.48	553.07	12.97	5.98	0.00
1999	5	30	150	95.00	75.20	37.58	553.07	13.19	4.98	0.00
1999	5	31	151	96.80	77.00	37.98	553.07	13.86	5.43	0.00
1999	6	1	152	98.60	75.20	38.48	553.07	14.98	5.98	0.00
1999	6	2	153	96.80	77.00	40.19	581.92	15.65	7.08	0.00
1999	6	3	154	95.00	75.20	37.20	581.92	17.89	4.55	0.00
1999	6	4	155	98.60	75.20	36.57	581.92	18.56	3.85	0.00
1999	6	5	156	100.40	77.00	36.77	581.92	19.01	4.08	0.00
1999	6	6	157	96.80	78.80	40.21	581.92	19.90	7.10	0.00
1999	6	7	158	95.00	73.40	37.44	581.92	15.43	4.83	0.00
1999	6	8	159	96.80	73.40	36.12	581.92	15.20	3.35	0.00
1999	6	9	160	96.80	75.20	37.02	581.92	16.10	4.35	0.00
1999	6	10	161	96.80	75.20	37.92	581.92	15.88	5.35	0.00
1999	6	11	162	100.40	77.00	36.95	581.92	16.32	4.28	0.00
1999	6	12	163	100.40	78.80	37.08	581.92	14.53	4.43	0.28
1999	6	13	164	91.40	68.00	40.37	581.92	11.63	7.28	0.24
1999	6	14	165	87.80	75.20	39.92	581.92	12.07	6.78	0.01
1999	6	15	166	89.60	71.60	40.84	581.92	9.39	7.80	0.10
1999	6	16	167	91.40	73.40	38.16	581.92	8.50	5.63	0.07
1999	6	17	168	89.60	71.60	37.96	581.92	9.39	5.00	0.00
1999	6	18	169	89.60	71.60	39.54	581.92	11.18	6.35	0.19
1999	6	19	170	87.80	75.20	39.27	581.92	11.40	6.45	1.55
1999	6	20	171	86.00	73.40	42.44	581.92	11.40	9.38	0.19
1999	6	21	172	87.80	75.20	41.22	581.92	14.53	8.23	0.00
1999	6	22	173	93.20	75.20	40.64	581.92	15.20	7.58	0.00
1999	6	23	174	93.20	78.80	37.94	581.92	16.10	5.38	0.02

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1999	6	24	175	95.00	77.00	40.10	581.92	12.97	6.98	0.00
1999	6	25	176	96.80	77.00	38.46	581.92	12.52	5.95	0.00
1999	6	26	177	95.00	78.80	40.10	581.92	15.20	6.98	0.00
1999	6	27	178	98.60	80.60	38.16	581.92	17.66	5.63	0.00
1999	6	28	179	100.40	78.80	36.03	581.92	17.44	3.25	0.00
1999	6	29	180	100.40	78.80	37.26	581.92	16.55	4.63	0.00
1999	6	30	181	100.40	78.80	35.28	581.92	18.11	2.93	0.00
1999	7	1	182	98.60	77.00	35.71	581.92	18.56	2.90	0.00
1999	7	2	183	96.80	78.80	36.84	623.50	17.66	4.15	0.12
1999	7	3	184	87.80	77.00	41.04	623.50	13.64	8.03	0.98
1999	7	4	185	84.20	71.60	40.93	623.50	11.18	7.90	0.04
1999	7	5	186	91.40	73.40	39.83	623.50	12.75	6.88	0.00
1999	7	6	187	89.60	71.60	37.51	623.50	10.29	4.90	0.00
1999	7	7	188	93.20	73.40	37.42	623.50	6.93	4.80	0.00
1999	7	8	189	91.40	75.20	37.67	623.50	11.63	5.08	0.00
1999	7	9	190	96.80	73.40	35.89	623.50	13.42	3.10	0.00
1999	7	10	191	93.20	77.00	36.59	623.50	15.20	3.88	0.00
1999	7	11	192	96.80	73.40	38.12	623.50	12.97	5.58	0.09
1999	7	12	193	95.00	75.20	36.86	623.50	13.64	4.18	0.00
1999	7	13	194	96.80	75.20	36.48	623.50	15.88	3.75	0.00
1999	7	14	195	100.40	77.00	34.47	623.50	17.22	2.53	0.00
1999	7	15	196	98.60	73.40	32.97	623.50	15.88	0.85	0.00
1999	7	16	197	96.80	75.20	36.93	623.50	15.20	4.25	0.00
1999	7	17	198	86.00	75.20	37.24	623.50	14.98	4.60	0.00
1999	7	18	199	89.60	75.20	39.04	623.50	12.97	5.80	0.00
1999	7	19	200	95.00	73.40	37.56	623.50	10.06	4.95	0.06
1999	7	20	201	93.20	73.40	37.51	623.50	14.09	4.90	0.00
1999	7	21	202	93.20	75.20	38.50	623.50	16.99	6.00	0.00
1999	7	22	203	96.80	73.40	36.25	623.50	15.20	3.50	0.00
1999	7	23	204	98.60	73.40	33.15	623.50	14.53	1.05	0.00
1999	7	24	205	100.40	75.20	37.69	623.50	12.30	5.10	0.00
1999	7	25	206	96.80	77.00	38.66	623.50	11.40	6.18	0.00
1999	7	26	207	98.60	77.00	33.69	623.50	17.44	1.65	0.00
1999	7	27	208	98.60	78.80	37.35	623.50	16.32	4.73	0.00
1999	7	28	209	100.40	77.00	35.94	623.50	16.55	3.15	0.00
1999	7	29	210	102.20	78.80	32.97	623.50	16.32	0.85	0.00
1999	7	30	211	104.00	77.00	33.42	623.50	15.88	1.35	0.00
1999	7	31	212	104.00	78.80	37.42	623.50	17.22	4.80	0.00
1999	8	1	213	102.20	78.80	36.77	543.94	15.43	4.08	0.00
1999	8	2	214	100.40	78.80	36.86	543.94	12.07	4.18	0.00
1999	8	3	215	98.60	77.00	36.86	543.94	11.40	4.18	0.00
1999	8	4	216	100.40	77.00	36.66	543.94	11.18	3.95	0.00
1999	8	5	217	100.40	77.00	33.15	543.94	10.06	1.05	0.00
1999	8	6	218	100.40	75.20	35.53	543.94	13.19	2.70	0.00
1999	8	7	219	100.40	77.00	35.71	543.94	13.42	2.90	0.00
1999	8	8	220	100.40	78.80	35.62	543.94	13.64	2.80	0.00
1999	8	9	221	102.20	78.80	32.38	543.94	15.43	0.20	0.00
1999	8	10	222	102.20	78.80	35.94	543.94	16.10	3.15	0.00
1999	8	11	223	100.40	78.80	35.53	543.94	16.77	2.70	0.00
1999	8	12	224	102.20	78.80	33.33	543.94	16.55	1.25	0.00
1999	8	13	225	102.20	77.00	33.91	543.94	15.88	1.90	0.00

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1999	8	14	226	105.80	77.00	33.51	543.94	12.52	1.45	0.00
1999	8	15	227	102.20	75.20	35.62	543.94	10.73	2.80	0.00
1999	8	16	228	100.40	75.20	36.23	543.94	10.06	3.48	0.49
1999	8	17	229	93.20	75.20	36.99	543.94	10.06	4.33	0.00
1999	8	18	230	98.60	75.20	34.09	543.94	10.96	2.10	0.00
1999	8	19	231	98.60	75.20	34.18	543.94	10.06	2.20	0.00
1999	8	20	232	98.60	77.00	37.38	543.94	9.39	4.75	0.00
1999	8	21	233	98.60	78.80	40.10	543.94	9.39	6.98	0.20
1999	8	22	234	89.60	73.40	40.01	543.94	9.84	6.88	2.10
1999	8	23	235	80.60	71.60	43.00	543.94	23.48	10.00	1.76
1999	8	24	236	89.60	71.60	41.97	543.94	15.43	8.85	0.00
1999	8	25	237	89.60	73.40	40.75	543.94	10.29	7.70	0.00
1999	8	26	238	95.00	75.20	37.89	543.94	9.17	5.33	0.00
1999	8	27	239	96.80	75.20	36.39	543.94	11.40	3.65	0.00
1999	8	28	240	96.80	77.00	35.62	543.94	10.96	2.80	0.00
1999	8	29	241	96.80	77.00	35.53	543.94	8.72	2.70	0.00
1999	8	30	242	98.60	77.00	36.21	543.94	7.38	3.45	0.00
1999	8	31	243	96.80	77.00	35.94	543.94	9.39	3.15	0.00
1999	9	1	244	93.20	73.40	33.84	459.97	10.51	1.83	0.00
1999	9	2	245	95.00	75.20	33.91	459.97	11.63	1.90	0.00
1999	9	3	246	96.80	71.60	36.07	459.97	13.19	3.30	0.00
1999	9	4	247	96.80	78.80	35.56	459.97	16.77	2.98	0.00
1999	9	5	248	91.40	77.00	36.18	459.97	13.42	3.43	0.35
1999	9	6	249	87.80	73.40	38.61	459.97	9.17	5.33	0.12
1999	9	7	250	87.80	73.40	38.23	459.97	8.50	4.90	0.10
1999	9	8	251	84.20	73.40	39.00	459.97	6.48	5.75	0.00
1999	9	9	252	91.40	75.20	38.73	459.97	7.16	5.65	0.00
1999	9	10	253	93.20	73.40	33.87	459.97	11.85	1.85	0.00
1999	9	11	254	93.20	75.20	36.68	459.97	14.53	3.98	0.00
1999	9	12	255	93.20	75.20	37.42	459.97	12.52	4.80	0.00
1999	9	13	256	91.40	75.20	36.23	459.97	10.96	3.48	0.00
1999	9	14	257	89.60	71.60	37.22	459.97	9.61	4.58	0.00
1999	9	15	258	89.60	73.40	36.61	459.97	9.61	3.90	0.00
1999	9	16	259	89.60	71.60	33.69	459.97	10.06	1.65	0.00
1999	9	17	260	89.60	68.00	34.38	459.97	11.18	2.43	0.00
1999	9	18	261	91.40	69.80	34.09	459.97	9.17	2.10	0.00
1999	9	19	262	93.20	69.80	32.20	459.97	8.05	0.00	0.00
1999	9	20	263	96.80	71.60	32.20	459.97	7.16	0.00	0.00
1999	9	21	264	87.80	71.60	33.06	459.97	12.30	0.95	0.00
1999	9	22	265	80.60	69.80	38.12	459.97	10.51	5.58	0.00
1999	9	23	266	87.80	59.00	32.56	459.97	9.17	0.40	0.00
1999	9	24	267	91.40	66.20	33.15	459.97	13.64	1.05	0.00
1999	9	25	268	93.20	75.20	36.81	459.97	14.76	4.13	0.00
1999	9	26	269	95.00	75.20	34.90	459.97	16.55	2.50	0.00
1999	9	27	270	93.20	73.40	35.70	459.97	16.10	3.13	0.00
1999	9	28	271	93.20	73.40	37.02	459.97	10.73	4.35	0.38
1999	9	29	272	80.60	60.80	41.67	459.97	13.42	8.53	0.00
1999	9	30	273	78.80	64.40	37.44	459.97	8.05	4.83	0.00
1999	10	1	274	86.00	62.60	32.20	355.35	10.96	0.00	0.00
1999	10	2	275	89.60	68.00	35.71	355.35	12.97	2.90	0.00
1999	10	3	276	89.60	73.40	37.67	355.35	8.94	5.08	0.00

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1999	10	4	277	89.60	71.60	37.13	355.35	9.84	4.48	0.00
1999	10	5	278	89.60	69.80	34.09	355.35	9.61	2.10	0.00
1999	10	6	279	84.20	66.20	33.33	355.35	10.06	1.25	0.00
1999	10	7	280	87.80	64.40	34.09	355.35	12.75	2.10	0.00
1999	10	8	281	89.60	68.00	36.30	355.35	11.18	3.55	0.00
1999	10	9	282	87.80	68.00	32.79	355.35	13.42	0.65	0.00
1999	10	10	283	89.60	62.60	33.87	355.35	8.05	1.85	0.00
1999	10	11	284	87.80	66.20	36.79	355.35	8.27	4.10	0.00
1999	10	12	285	87.80	69.80	36.77	355.35	5.81	4.08	0.00
1999	10	13	286	87.80	66.20	36.75	355.35	7.83	4.05	0.01
1999	10	14	287	87.80	71.60	40.28	355.35	9.17	7.18	0.00
1999	10	15	288	89.60	73.40	38.32	355.35	14.76	5.40	0.00
1999	10	16	289	93.20	73.40	36.41	355.35	14.53	3.68	0.95
1999	10	17	290	77.00	55.40	41.27	355.35	16.10	8.08	0.49
1999	10	18	291	55.40	48.20	42.91	355.35	15.20	9.90	0.00
1999	10	19	292	66.20	48.20	36.97	355.35	11.85	4.30	0.00
1999	10	20	293	71.60	48.20	32.79	355.35	8.05	0.65	0.00
1999	10	21	294	75.20	50.00	32.20	355.35	5.37	0.00	0.00
1999	10	22	295	80.60	51.80	32.20	355.35	6.93	0.00	0.00
1999	10	23	296	91.40	53.60	32.20	355.35	8.27	0.00	0.00
1999	10	24	297	80.60	55.40	32.20	355.35	7.60	0.00	0.00
1999	10	25	298	82.40	53.60	35.71	355.35	8.94	2.90	0.00
1999	10	26	299	82.40	55.40	33.91	355.35	9.61	1.90	0.00
1999	10	27	300	82.40	55.40	34.09	355.35	12.52	2.10	0.00
1999	10	28	301	82.40	62.60	36.36	355.35	13.42	3.63	0.00
1999	10	29	302	82.40	66.20	38.30	355.35	15.43	5.78	0.00
1999	10	30	303	75.20	62.60	34.16	355.35	17.89	2.18	0.00
1999	10	31	304	80.60	53.60	32.20	355.35	10.96	0.00	0.00
1999	11	1	305	84.20	53.60	32.20	273.78	7.83	0.00	0.00
1999	11	2	306	71.60	55.40	34.23	273.78	11.63	2.25	0.00
1999	11	3	307	71.60	48.20	32.20	273.78	8.50	0.00	0.00
1999	11	4	308	80.60	53.60	33.91	273.78	12.07	1.90	0.00
1999	11	5	309	82.40	62.60	36.81	273.78	14.76	4.13	0.00
1999	11	6	310	84.20	64.40	37.31	273.78	11.18	4.68	0.00
1999	11	7	311	78.80	60.80	34.68	273.78	9.39	2.50	0.00
1999	11	8	312	78.80	57.20	34.09	273.78	9.84	2.10	0.00
1999	11	9	313	82.40	59.00	35.62	273.78	12.52	2.80	0.00
1999	11	10	314	80.60	62.60	37.33	273.78	8.05	4.70	0.11
1999	11	11	315	80.60	64.40	39.20	273.78	8.27	5.98	0.00
1999	11	12	316	78.80	64.40	38.68	273.78	6.71	5.40	0.00
1999	11	13	317	80.60	57.20	32.79	273.78	5.59	0.65	0.00
1999	11	14	318	78.80	59.00	37.60	273.78	6.48	4.60	0.00
1999	11	15	319	80.60	55.40	36.48	273.78	6.48	3.75	0.00
1999	11	16	320	80.60	53.60	34.90	273.78	7.60	2.50	0.00
1999	11	17	321	80.60	60.80	36.84	273.78	9.61	4.15	0.00
1999	11	18	322	84.20	62.60	34.79	273.78	12.97	2.88	0.00
1999	11	19	323	84.20	66.20	34.29	273.78	9.17	2.33	0.00
1999	11	20	324	75.20	59.00	35.31	273.78	7.38	3.45	0.00
1999	11	21	325	84.20	64.40	35.53	273.78	13.42	2.70	0.00
1999	11	22	326	84.20	64.40	36.14	273.78	13.19	3.38	0.00
1999	11	23	327	78.80	60.80	37.04	273.78	11.85	4.38	0.00

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
1999	11	24	328	62.60	53.60	41.54	273.78	14.31	8.38	0.00
1999	11	25	329	60.80	46.40	37.17	273.78	10.96	4.53	0.00
1999	11	26	330	69.80	41.00	32.20	273.78	9.39	0.00	0.00
1999	11	27	331	77.00	48.20	32.20	273.78	10.96	0.00	0.00
1999	11	28	332	77.00	57.20	32.56	273.78	7.83	0.40	0.00
1999	11	29	333	75.20	55.40	36.57	273.78	6.93	3.85	0.00
1999	11	30	334	71.60	55.40	40.10	273.78	9.17	6.98	0.00
1999	12	1	335	75.20	55.40	38.03	207.53	13.42	5.48	0.00
1999	12	2	336	78.80	62.60	36.27	207.53	14.98	3.53	0.00
1999	12	3	337	84.20	60.80	32.20	207.53	17.22	0.00	0.00
1999	12	4	338	75.20	57.20	33.10	207.53	17.89	1.00	0.00
1999	12	5	339	64.40	46.40	32.20	207.53	13.86	0.00	0.00
1999	12	6	340	66.20	39.20	33.91	207.53	8.94	1.90	0.00
1999	12	7	341	73.40	46.40	37.60	207.53	11.85	4.20	0.00
1999	12	8	342	80.60	60.80	34.38	207.53	12.75	2.43	0.00
1999	12	9	343	69.80	51.80	33.96	207.53	16.77	1.95	0.00
1999	12	10	344	66.20	39.20	33.78	207.53	10.06	1.75	0.00
1999	12	11	345	80.60	55.40	39.22	207.53	14.09	6.00	0.00
1999	12	12	346	69.80	51.80	34.18	207.53	17.44	2.20	0.00
1999	12	13	347	66.20	41.00	32.20	207.53	11.18	0.00	0.00
1999	12	14	348	78.80	44.60	33.69	207.53	11.85	1.65	0.00
1999	12	15	349	60.80	39.20	32.97	207.53	10.96	0.85	0.00
1999	12	16	350	64.40	41.00	33.60	207.53	7.16	1.55	0.00
1999	12	17	351	73.40	44.60	32.20	207.53	8.94	0.00	0.00
1999	12	18	352	66.20	48.20	32.20	207.53	12.30	0.00	0.00
1999	12	19	353	73.40	44.60	36.23	207.53	10.29	3.48	0.16
1999	12	20	354	60.80	44.60	42.64	207.53	14.76	9.60	0.00
1999	12	21	355	48.20	41.00	41.67	207.53	11.85	8.53	0.00
1999	12	22	356	48.20	39.20	42.24	207.53	9.39	9.15	0.02
1999	12	23	357	53.60	44.60	43.00	207.53	11.40	10.00	0.01
1999	12	24	358	53.60	44.60	42.80	207.53	7.16	9.78	0.00
1999	12	25	359	62.60	51.80	42.06	207.53	6.04	8.95	0.03
1999	12	26	360	57.20	53.60	43.00	207.53	5.81	10.00	0.00
1999	12	27	361	69.80	55.40	41.61	207.53	8.72	8.55	0.00
1999	12	28	362	68.00	42.80	35.62	207.53	8.05	2.80	0.00
1999	12	29	363	75.20	41.00	33.69	207.53	6.48	1.65	0.00
1999	12	30	364	82.40	50.00	34.90	207.53	6.93	2.50	0.00
1999	12	31	365	77.00	53.60	32.20	207.53	8.27	0.00	0.00
2000	1	1	1	82.40	57.20	36.97	277.05	11.63	4.30	0.00
2000	1	2	2	82.40	62.60	37.42	277.05	13.64	4.80	0.00
2000	1	3	3	73.40	53.60	35.71	277.05	14.53	2.90	0.00
2000	1	4	4	60.80	41.00	32.20	277.05	12.52	0.00	0.00
2000	1	5	5	62.60	37.40	32.56	277.05	10.29	0.40	0.00
2000	1	6	6	77.00	46.40	36.05	277.05	12.97	3.28	0.01
2000	1	7	7	62.60	50.00	42.82	277.05	12.97	9.80	0.00
2000	1	8	8	66.20	48.20	40.64	277.05	10.51	7.58	0.00
2000	1	9	9	80.60	48.20	33.15	277.05	7.16	1.05	0.00
2000	1	10	10	82.40	44.60	33.15	277.05	7.38	1.05	0.00
2000	1	11	11	82.40	57.20	35.31	277.05	12.07	3.45	0.00
2000	1	12	12	78.80	64.40	40.28	277.05	11.63	7.18	0.00
2000	1	13	13	73.40	53.60	38.61	277.05	9.84	5.73	0.03

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2000	1	14	14	62.60	55.40	42.44	277.05	10.96	9.38	0.00
2000	1	15	15	73.40	55.40	40.95	277.05	8.94	7.83	0.00
2000	1	16	16	75.20	57.20	36.61	277.05	11.63	3.90	0.00
2000	1	17	17	78.80	59.00	34.27	277.05	10.29	2.30	0.00
2000	1	18	18	82.40	59.00	32.20	277.05	10.06	0.00	0.00
2000	1	19	19	87.80	55.40	36.21	277.05	8.27	3.45	0.00
2000	1	20	20	71.60	57.20	33.33	277.05	12.97	1.25	0.00
2000	1	21	21	77.00	53.60	40.03	277.05	11.85	6.90	0.00
2000	1	22	22	80.60	59.00	37.22	277.05	8.72	4.58	0.00
2000	1	23	23	86.00	55.40	36.50	277.05	9.39	3.78	0.00
2000	1	24	24	68.00	53.60	35.80	277.05	9.84	3.00	0.00
2000	1	25	25	75.20	50.00	36.59	277.05	10.06	3.88	0.00
2000	1	26	26	64.40	53.60	42.91	277.05	13.19	9.90	0.00
2000	1	27	27	73.40	42.80	40.41	277.05	15.88	7.33	0.00
2000	1	28	28	48.20	39.20	40.77	277.05	14.53	7.73	0.00
2000	1	29	29	44.60	37.40	42.91	277.05	10.06	9.90	0.00
2000	1	30	30	53.60	39.20	42.91	277.05	10.51	9.90	0.00
2000	1	31	31	57.20	46.40	43.00	277.05	8.72	10.00	0.05
2000	2	1	32	64.40	50.00	43.00	359.22	11.85	10.00	1.43
2000	2	2	33	53.60	44.60	43.00	359.22	12.97	10.00	0.00
2000	2	3	34	68.00	46.40	35.22	359.22	9.61	3.35	0.00
2000	2	4	35	66.20	48.20	32.20	359.22	12.30	0.00	0.00
2000	2	5	36	60.80	41.00	34.90	359.22	8.50	2.50	0.00
2000	2	6	37	71.60	48.20	38.88	359.22	8.72	5.63	0.00
2000	2	7	38	68.00	57.20	38.12	359.22	7.16	5.18	0.00
2000	2	8	39	75.20	50.00	32.79	359.22	6.04	0.65	0.00
2000	2	9	40	80.60	59.00	39.22	359.22	15.65	6.00	0.00
2000	2	10	41	87.80	59.00	35.96	359.22	12.30	3.18	0.00
2000	2	11	42	86.00	60.80	37.60	359.22	7.16	5.00	0.00
2000	2	12	43	73.40	62.60	39.87	359.22	9.84	6.73	0.00
2000	2	13	44	86.00	66.20	37.83	359.22	10.29	5.25	0.00
2000	2	14	45	89.60	57.20	32.38	359.22	9.84	0.20	0.00
2000	2	15	46	84.20	66.20	39.78	359.22	13.19	6.63	0.00
2000	2	16	47	82.40	66.20	39.87	359.22	10.06	6.73	0.00
2000	2	17	48	80.60	69.80	40.84	359.22	14.76	7.80	0.00
2000	2	18	49	86.00	68.00	38.50	359.22	12.52	6.00	0.14
2000	2	19	50	73.40	59.00	42.82	359.22	13.42	9.80	0.00
2000	2	20	51	73.40	60.80	42.35	359.22	9.61	9.28	0.00
2000	2	21	52	82.40	62.60	39.96	359.22	16.55	6.83	0.00
2000	2	22	53	84.20	68.00	39.96	359.22	19.45	6.83	0.00
2000	2	23	54	80.60	66.20	40.46	359.22	14.98	7.38	0.00
2000	2	24	55	84.20	68.00	40.41	359.22	19.23	7.33	0.00
2000	2	25	56	91.40	66.20	35.94	359.22	14.98	3.15	0.00
2000	2	26	57	78.80	60.80	36.57	359.22	14.53	3.85	0.00
2000	2	27	58	77.00	51.80	32.20	359.22	10.51	0.00	0.00
2000	2	28	59	80.60	51.80	36.68	359.22	14.76	3.98	0.00
2000	2	29	60	86.00	64.40	36.66	421.77	12.52	3.95	0.00
2000	3	1	61	87.80	66.20	38.95	421.77	12.75	5.70	0.00
2000	3	2	62	91.40	68.00	37.74	421.77	16.10	5.15	0.00
2000	3	3	63	82.40	64.40	37.92	421.77	13.42	5.35	0.00
2000	3	4	64	68.00	55.40	40.66	421.77	13.19	7.60	0.00

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2000	3	5	65	78.80	60.80	41.13	421.77	14.31	7.93	0.00
2000	3	6	66	82.40	68.00	40.86	421.77	15.88	7.73	0.00
2000	3	7	67	93.20	69.80	39.33	421.77	18.56	6.13	0.00
2000	3	8	68	82.40	64.40	38.84	421.77	12.97	5.58	0.00
2000	3	9	69	89.60	68.00	38.86	421.77	10.06	5.60	0.00
2000	3	10	70	87.80	71.60	39.83	421.77	10.51	7.08	0.00
2000	3	11	71	77.00	57.20	34.97	421.77	14.98	3.08	0.00
2000	3	12	72	73.40	48.20	33.15	421.77	11.85	1.05	0.01
2000	3	13	73	69.80	55.40	39.76	421.77	13.64	6.40	2.25
2000	3	14	74	69.80	57.20	42.62	421.77	14.76	9.58	0.00
2000	3	15	75	75.20	55.40	37.29	421.77	8.05	4.65	0.00
2000	3	16	76	91.40	60.80	34.36	421.77	12.52	2.40	0.00
2000	3	17	77	64.40	50.00	43.00	421.77	14.09	10.00	0.00
2000	3	18	78	78.80	55.40	38.37	421.77	6.71	5.45	0.00
2000	3	19	79	73.40	61.70	37.08	421.77	12.52	4.43	0.00
2000	3	20	80	78.80	55.40	39.74	421.77	17.66	6.58	0.00
2000	3	21	81	89.60	71.60	40.35	421.77	14.98	7.25	0.00
2000	3	22	82	86.00	71.60	40.50	421.77	21.69	7.43	0.00
2000	3	23	83	84.20	69.80	38.19	421.77	15.88	5.65	0.00
2000	3	24	84	87.80	69.80	39.02	421.77	13.42	6.18	0.00
2000	3	25	85	87.80	68.00	39.58	421.77	12.52	6.40	0.00
2000	3	26	86	93.20	68.00	37.58	421.77	10.29	4.98	0.00
2000	3	27	87	87.80	69.80	38.25	421.77	10.06	4.93	0.00
2000	3	28	88	95.00	68.00	38.03	421.77	14.09	5.48	0.00
2000	3	29	89	93.20	69.80	38.19	421.77	11.40	5.65	0.00
2000	3	30	90	89.60	62.60	36.43	421.77	13.86	3.70	0.00
2000	3	31	91	84.20	66.20	40.35	514.09	16.10	7.25	0.73
2000	4	1	92	87.80	62.60	41.70	514.09	11.63	8.65	0.01
2000	4	2	93	62.60	57.20	42.91	514.09	12.30	9.90	0.15
2000	4	3	94	82.40	55.40	37.42	514.09	13.64	4.80	0.00
2000	4	4	95	77.00	51.80	32.20	514.09	7.60	0.00	0.00
2000	4	5	96	86.00	53.60	32.20	514.09	16.32	0.00	0.00
2000	4	6	97	91.40	60.80	32.20	514.09	14.31	0.00	0.00
2000	4	7	98	95.00	66.20	32.56	514.09	9.84	0.40	0.00
2000	4	8	99	80.60	64.40	38.46	514.09	16.10	5.95	0.00
2000	4	9	100	80.60	51.80	34.00	514.09	13.64	2.00	0.00
2000	4	10	101	82.40	68.00	42.26	514.09	16.99	9.18	0.00
2000	4	11	102	87.80	69.80	40.01	514.09	16.77	6.88	0.40
2000	4	12	103	75.20	59.00	42.06	514.09	14.76	8.95	0.00
2000	4	13	104	80.60	60.80	40.03	514.09	8.50	6.90	0.00
2000	4	14	105	87.80	60.80	34.59	514.09	14.76	2.65	0.00
2000	4	15	106	89.60	68.00	38.97	514.09	18.11	5.73	0.00
2000	4	16	107	86.00	73.40	41.70	514.09	10.73	8.65	0.00
2000	4	17	108	87.80	71.60	41.31	514.09	12.75	8.13	0.00
2000	4	18	109	93.20	71.60	40.19	514.09	14.53	7.08	0.00
2000	4	19	110	96.80	71.60	38.79	514.09	16.10	6.33	0.00
2000	4	20	111	87.80	69.80	38.75	514.09	14.53	5.88	0.00
2000	4	21	112	87.80	64.40	34.45	514.09	11.18	2.50	0.00
2000	4	22	113	91.40	68.00	39.92	514.09	14.76	6.78	0.00
2000	4	23	114	100.40	69.80	37.71	514.09	10.29	5.13	0.00
2000	4	24	115	95.00	71.60	32.20	514.09	12.30	0.00	0.00

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2000	4	25	116	89.60	66.20	37.40	514.09	14.31	4.78	0.00
2000	4	26	117	91.40	68.00	39.94	514.09	13.42	6.80	0.00
2000	4	27	118	95.00	69.80	37.20	514.09	15.43	4.55	0.00
2000	4	28	119	82.40	73.40	41.31	514.09	12.97	8.23	0.00
2000	4	29	120	95.00	73.40	40.01	514.09	16.32	7.28	0.00
2000	4	30	121	98.60	75.20	39.58	514.09	17.66	6.80	0.03
2000	5	1	122	82.40	69.80	40.37	553.07	15.43	7.08	0.05
2000	5	2	123	75.20	64.40	41.58	553.07	12.97	8.43	0.00
2000	5	3	124	89.60	64.40	37.98	553.07	11.85	5.43	0.00
2000	5	4	125	98.60	69.80	36.54	553.07	16.10	3.83	0.00
2000	5	5	126	96.80	75.20	39.42	553.07	17.44	6.23	0.00
2000	5	6	127	95.00	73.40	37.53	553.07	16.32	4.93	0.00
2000	5	7	128	96.80	73.40	38.70	553.07	16.77	6.23	0.00
2000	5	8	129	96.80	73.40	36.42	553.07	16.10	3.85	0.00
2000	5	9	130	98.60	75.20	38.50	553.07	15.43	6.00	0.00
2000	5	10	131	96.80	75.20	37.83	553.07	14.76	5.25	0.00
2000	5	11	132	105.80	77.00	37.35	553.07	16.55	4.73	0.00
2000	5	12	133	102.20	78.80	37.08	553.07	15.65	4.43	0.25
2000	5	13	134	87.80	68.00	39.51	553.07	14.31	6.33	0.00
2000	5	14	135	87.80	71.60	39.90	553.07	12.07	6.75	0.00
2000	5	15	136	93.20	71.60	37.26	553.07	13.86	4.63	0.00
2000	5	16	137	102.20	71.60	36.59	553.07	18.56	3.88	0.00
2000	5	17	138	98.60	73.40	37.89	553.07	20.57	5.33	0.00
2000	5	18	139	100.40	75.20	36.12	553.07	17.44	3.35	2.12
2000	5	19	140	95.00	69.80	40.37	553.07	16.77	7.28	0.08
2000	5	20	141	80.60	68.00	42.08	553.07	8.50	8.98	0.00
2000	5	21	142	91.40	73.40	39.45	553.07	10.96	6.25	0.00
2000	5	22	143	93.20	71.60	37.24	553.07	11.40	4.60	0.00
2000	5	23	144	98.60	73.40	32.97	553.07	13.64	0.85	0.00
2000	5	24	145	102.20	75.20	32.38	553.07	15.88	0.20	0.00
2000	5	25	146	98.60	77.00	36.93	553.07	16.99	4.25	0.01
2000	5	26	147	98.60	78.80	39.85	553.07	17.66	6.70	0.00
2000	5	27	148	93.20	73.40	40.95	553.07	15.88	7.93	0.00
2000	5	28	149	91.40	69.80	40.01	553.07	9.39	6.88	0.00
2000	5	29	150	95.00	75.20	36.77	553.07	11.63	4.08	0.00
2000	5	30	151	96.80	75.20	36.57	553.07	15.88	3.85	0.00
2000	5	31	152	96.80	75.20	38.10	553.07	17.22	5.55	0.00
2000	6	1	153	93.20	77.00	40.50	581.92	15.65	7.43	0.00
2000	6	2	154	95.00	75.20	40.21	581.92	16.32	7.10	0.00
2000	6	3	155	98.60	78.80	40.28	581.92	14.98	7.18	0.01
2000	6	4	156	98.60	75.20	38.39	581.92	15.20	5.88	0.18
2000	6	5	157	87.80	69.80	40.95	581.92	10.73	7.93	0.04
2000	6	6	158	89.60	73.40	40.57	581.92	10.29	7.50	0.00
2000	6	7	159	89.60	71.60	39.09	581.92	10.06	6.05	0.00
2000	6	8	160	93.20	69.80	37.31	581.92	8.94	4.68	0.01
2000	6	9	161	91.40	75.20	40.48	581.92	14.98	7.40	0.01
2000	6	10	162	87.80	75.20	40.21	581.92	15.20	7.10	0.24
2000	6	11	163	87.80	77.00	39.83	581.92	14.09	6.68	0.00
2000	6	12	164	93.20	75.20	39.56	581.92	15.65	6.38	0.00
2000	6	13	165	93.20	75.20	38.91	581.92	15.65	5.85	0.00
2000	6	14	166	89.60	77.00	40.01	581.92	19.23	6.88	0.00

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2000	6	15	167	93.20	78.80	40.39	581.92	16.32	7.30	0.00
2000	6	16	168	98.60	75.20	39.45	581.92	18.11	6.25	0.00
2000	6	17	169	96.80	80.60	40.66	581.92	17.66	7.60	0.10
2000	6	18	170	95.00	80.60	41.13	581.92	16.77	8.13	0.01
2000	6	19	171	95.00	77.00	40.21	581.92	16.55	7.10	0.00
2000	6	20	172	95.00	78.80	39.56	581.92	18.56	6.38	0.00
2000	6	21	173	96.80	75.20	36.59	581.92	17.66	3.88	0.00
2000	6	22	174	95.00	75.20	36.97	581.92	17.66	4.30	0.00
2000	6	23	175	100.40	77.00	37.35	581.92	17.66	4.73	0.00
2000	6	24	176	100.40	75.20	36.59	581.92	16.10	3.88	0.00
2000	6	25	177	98.60	77.00	35.71	581.92	18.34	2.90	0.00
2000	6	26	178	96.80	77.00	37.04	581.92	15.88	4.38	0.00
2000	6	27	179	96.80	77.00	36.59	581.92	15.43	3.88	0.00
2000	6	28	180	100.40	77.00	36.48	581.92	14.53	3.75	0.00
2000	6	29	181	100.40	75.20	36.48	581.92	14.98	3.75	0.00
2000	6	30	182	98.60	75.20	36.21	581.92	15.20	3.45	0.00
2000	7	1	183	100.40	78.80	32.20	623.50	15.88	0.00	0.00
2000	7	2	184	100.40	78.80	35.53	623.50	17.22	2.70	0.00
2000	7	3	185	98.60	77.00	34.68	623.50	17.66	2.50	0.00
2000	7	4	186	98.60	77.00	34.23	623.50	17.66	2.25	0.00
2000	7	5	187	98.60	73.40	33.78	623.50	14.76	1.75	0.00
2000	7	6	188	98.60	75.20	34.45	623.50	15.88	2.50	0.00
2000	7	7	189	100.40	78.80	36.48	623.50	16.77	3.75	0.00
2000	7	8	190	98.60	75.20	33.69	623.50	14.09	1.65	0.00
2000	7	9	191	98.60	77.00	36.36	623.50	15.43	3.63	0.00
2000	7	10	192	100.40	78.80	34.09	623.50	16.55	2.10	0.00
2000	7	11	193	102.20	77.00	32.79	623.50	16.99	0.65	0.00
2000	7	12	194	102.20	77.00	35.94	623.50	16.55	3.15	0.00
2000	7	13	195	104.00	75.20	34.18	623.50	13.19	2.20	0.00
2000	7	14	196	104.00	75.20	33.33	623.50	11.63	1.25	0.00
2000	7	15	197	105.80	77.00	35.80	623.50	10.73	3.00	0.00
2000	7	16	198	104.00	77.00	36.30	623.50	12.97	3.55	0.00
2000	7	17	199	100.40	77.00	35.98	623.50	16.32	3.20	0.00
2000	7	18	200	100.40	77.00	36.39	623.50	14.98	3.65	0.00
2000	7	19	201	102.20	78.80	34.27	623.50	16.99	2.30	0.00
2000	7	20	202	104.00	77.00	36.48	623.50	25.49	3.75	0.00
2000	7	21	203	102.20	75.20	36.12	623.50	21.47	3.35	0.00
2000	7	22	204	102.20	77.00	36.57	623.50	13.42	3.85	0.00
2000	7	23	205	102.20	77.00	36.39	623.50	10.51	3.65	0.00
2000	7	24	206	102.20	80.60	37.22	623.50	12.07	4.58	0.00
2000	7	25	207	100.40	77.00	34.65	623.50	14.76	2.73	0.00
2000	7	26	208	100.40	78.80	35.71	623.50	15.65	2.90	0.00
2000	7	27	209	102.20	77.00	35.37	623.50	14.76	3.03	0.00
2000	7	28	210	98.60	77.00	33.78	623.50	14.98	1.75	0.00
2000	7	29	211	98.60	75.20	33.87	623.50	14.09	1.85	0.30
2000	7	30	212	96.80	78.80	37.42	623.50	13.19	4.80	0.13
2000	7	31	213	93.20	71.60	41.34	543.94	10.29	8.35	0.00
2000	8	1	214	96.80	77.00	38.64	543.94	11.18	6.15	0.00
2000	8	2	215	96.80	78.80	39.92	543.94	10.96	6.78	0.00
2000	8	3	216	100.40	75.20	37.13	543.94	13.86	4.48	0.00
2000	8	4	217	91.40	77.00	37.96	543.94	14.31	5.00	0.00

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2000	8	5	218	96.80	75.20	39.65	543.94	14.76	6.48	0.00
2000	8	6	219	100.40	77.00	35.71	543.94	16.55	2.90	0.00
2000	8	7	220	100.40	77.00	35.94	543.94	16.77	3.15	0.22
2000	8	8	221	95.00	77.00	37.87	543.94	12.30	4.90	0.00
2000	8	9	222	96.80	75.20	37.58	543.94	15.88	4.98	0.00
2000	8	10	223	98.60	75.20	36.50	543.94	12.52	3.78	0.00
2000	8	11	224	98.60	75.20	36.03	543.94	12.30	3.25	0.00
2000	8	12	225	100.40	78.80	37.04	543.94	10.73	4.38	0.00
2000	8	13	226	100.40	75.20	36.68	543.94	9.17	3.98	0.00
2000	8	14	227	96.80	73.40	37.15	543.94	12.07	4.50	0.03
2000	8	15	228	86.00	73.40	40.75	543.94	14.31	7.70	0.00
2000	8	16	229	96.80	77.00	38.12	543.94	13.64	5.58	0.00
2000	8	17	230	100.40	77.00	33.87	543.94	13.42	1.85	0.00
2000	8	18	231	98.60	75.20	33.91	543.94	12.97	1.90	0.00
2000	8	19	232	96.80	73.40	35.24	543.94	12.75	2.88	0.00
2000	8	20	233	98.60	77.00	35.53	543.94	15.43	2.70	0.00
2000	8	21	234	96.80	77.00	36.99	543.94	16.32	4.33	0.48
2000	8	22	235	93.20	75.20	37.15	543.94	13.19	4.50	0.00
2000	8	23	236	96.80	73.40	37.44	543.94	11.63	4.83	0.00
2000	8	24	237	98.60	75.20	36.63	543.94	11.85	3.93	0.00
2000	8	25	238	98.60	77.00	36.23	543.94	12.97	3.48	0.00
2000	8	26	239	98.60	77.00	35.62	543.94	14.98	2.80	0.00
2000	8	27	240	100.40	77.00	34.90	543.94	15.88	2.50	0.00
2000	8	28	241	100.40	78.80	35.62	543.94	15.88	2.80	0.00
2000	8	29	242	98.60	77.00	37.04	543.94	16.10	4.38	0.00
2000	8	30	243	100.40	77.00	36.57	543.94	15.43	3.85	0.00
2000	8	31	244	102.20	77.00	33.24	459.97	14.76	1.15	0.00
2000	9	1	245	107.60	78.80	35.71	459.97	14.76	2.90	0.00
2000	9	2	246	104.00	78.80	33.15	459.97	12.07	1.05	0.00
2000	9	3	247	102.20	77.00	32.20	459.97	10.06	0.00	0.00
2000	9	4	248	102.20	77.00	33.33	459.97	10.73	1.25	0.00
2000	9	5	249	107.60	78.80	33.69	459.97	8.72	1.65	0.00
2000	9	6	250	105.80	80.60	34.18	459.97	11.63	2.20	0.00
2000	9	7	251	96.80	75.20	36.97	459.97	10.51	4.30	0.00
2000	9	8	252	95.00	71.60	36.36	459.97	9.61	3.63	0.00
2000	9	9	253	96.80	73.40	34.27	459.97	8.05	2.30	0.00
2000	9	10	254	100.40	77.00	34.52	459.97	11.40	2.58	0.00
2000	9	11	255	98.60	78.80	34.20	459.97	13.64	2.23	0.00
2000	9	12	256	100.40	78.80	34.23	459.97	14.09	2.25	0.00
2000	9	13	257	93.20	75.20	39.81	459.97	12.52	6.65	0.02
2000	9	14	258	89.60	75.20	39.63	459.97	10.73	6.45	0.00
2000	9	15	259	91.40	77.00	40.95	459.97	7.38	7.93	0.00
2000	9	16	260	96.80	75.20	37.40	459.97	10.96	4.78	0.00
2000	9	17	261	91.40	57.20	32.20	459.97	7.38	0.00	0.00
2000	9	18	262	91.40	66.20	32.20	459.97	8.50	0.00	0.00
2000	9	19	263	95.00	69.80	33.51	459.97	12.52	1.45	0.00
2000	9	20	264	96.80	69.80	36.12	459.97	9.39	3.35	0.00
2000	9	21	265	95.00	75.20	38.64	459.97	11.63	5.75	0.00
2000	9	22	266	100.40	77.00	36.12	459.97	16.10	3.35	0.00
2000	9	23	267	100.40	80.60	35.53	459.97	16.77	2.70	0.13
2000	9	24	268	100.40	77.00	38.48	459.97	16.32	5.98	0.58

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2000	9	25	269	75.20	60.80	41.56	459.97	16.55	8.50	0.00
2000	9	26	270	78.80	55.40	33.69	459.97	9.61	1.65	0.00
2000	9	27	271	82.40	55.40	33.15	459.97	7.38	1.05	0.00
2000	9	28	272	84.20	59.00	32.20	459.97	8.72	0.00	0.00
2000	9	29	273	86.00	57.20	32.20	459.97	7.83	0.00	0.00
2000	9	30	274	89.60	60.80	32.20	355.35	7.83	0.00	0.00
2000	10	1	275	91.40	64.40	32.20	355.35	8.72	0.00	0.00
2000	10	2	276	95.00	69.80	32.20	355.35	11.63	0.00	0.00
2000	10	3	277	95.00	73.40	34.29	355.35	13.86	2.33	0.00
2000	10	4	278	95.00	71.60	33.60	355.35	14.09	1.55	0.00
2000	10	5	279	95.00	75.20	37.51	355.35	13.64	4.90	0.06
2000	10	6	280	87.80	68.00	38.95	355.35	11.40	5.70	1.59
2000	10	7	281	66.20	51.80	43.00	355.35	16.32	10.00	0.18
2000	10	8	282	50.00	42.80	42.82	355.35	16.55	9.80	0.78
2000	10	9	283	44.60	41.00	42.91	355.35	11.85	9.90	0.19
2000	10	10	284	48.20	41.00	43.00	355.35	10.73	10.00	0.03
2000	10	11	285	55.40	48.20	43.00	355.35	9.39	10.00	0.02
2000	10	12	286	69.80	55.40	42.62	355.35	5.81	9.58	0.00
2000	10	13	287	82.40	64.40	40.21	355.35	9.17	7.10	0.00
2000	10	14	288	82.40	69.80	40.21	355.35	12.97	7.10	0.00
2000	10	15	289	87.80	71.60	40.48	355.35	13.19	7.40	0.00
2000	10	16	290	87.80	73.40	37.74	355.35	13.42	5.15	0.11
2000	10	17	291	87.80	69.80	37.56	355.35	11.63	4.95	0.07
2000	10	18	292	77.00	68.00	41.56	355.35	10.96	8.50	0.00
2000	10	19	293	82.40	62.60	38.37	355.35	9.84	5.85	0.00
2000	10	20	294	78.80	69.80	40.66	355.35	12.75	7.60	0.00
2000	10	21	295	82.40	69.80	41.34	355.35	14.09	8.35	0.00
2000	10	22	296	87.80	71.60	38.77	355.35	16.77	5.50	0.00
2000	10	23	297	87.80	75.20	40.84	355.35	16.99	7.80	0.19
2000	10	24	298	84.20	73.40	40.73	355.35	12.75	7.68	0.00
2000	10	25	299	84.20	69.80	37.38	355.35	14.09	4.75	0.00
2000	10	26	300	84.20	68.00	36.95	355.35	12.97	4.28	0.00
2000	10	27	301	87.80	69.80	39.36	355.35	15.43	6.15	0.00
2000	10	28	302	84.20	69.80	39.13	355.35	17.44	5.90	0.00
2000	10	29	303	84.20	69.80	37.17	355.35	11.63	4.53	0.00
2000	10	30	304	86.00	71.60	37.51	355.35	15.20	4.70	0.00
2000	10	31	305	86.00	71.60	39.13	273.78	18.34	5.90	0.00
2000	11	1	306	78.80	71.60	41.31	273.78	12.07	8.13	0.00
2000	11	2	307	82.40	68.00	40.39	273.78	7.16	7.30	0.01
2000	11	3	308	80.60	69.80	42.35	273.78	11.40	9.28	0.00
2000	11	4	309	73.40	68.00	42.82	273.78	8.50	9.80	1.31
2000	11	5	310	80.60	64.40	42.35	273.78	12.07	9.28	0.00
2000	11	6	311	78.80	59.00	32.92	273.78	8.94	0.80	0.00
2000	11	7	312	68.00	53.60	41.54	273.78	13.19	8.38	0.03
2000	11	8	313	53.60	44.60	40.23	273.78	18.11	7.13	0.00
2000	11	9	314	62.60	39.20	32.20	273.78	6.71	0.00	0.00
2000	11	10	315	64.40	42.80	38.97	273.78	10.96	5.73	0.00
2000	11	11	316	80.60	59.00	40.68	273.78	9.17	7.63	0.00
2000	11	12	317	84.20	68.00	41.79	273.78	12.07	8.65	0.00
2000	11	13	318	62.60	50.00	40.73	273.78	14.53	7.68	0.00
2000	11	14	319	55.40	46.40	40.23	273.78	10.73	7.13	0.00

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2000	11	15	320	60.80	48.20	42.26	273.78	9.39	9.18	0.02
2000	11	16	321	69.80	53.60	42.82	273.78	10.73	9.80	0.41
2000	11	17	322	59.00	46.40	43.00	273.78	13.64	10.00	0.86
2000	11	18	323	46.40	44.60	42.91	273.78	12.75	9.90	0.00
2000	11	19	324	59.00	42.80	34.36	273.78	10.96	2.40	0.00
2000	11	20	325	62.60	41.00	33.15	273.78	6.48	1.05	0.00
2000	11	21	326	64.40	42.80	36.36	273.78	7.38	3.63	0.05
2000	11	22	327	69.80	55.40	42.64	273.78	10.96	9.60	0.00
2000	11	23	328	80.60	62.60	36.90	273.78	15.88	4.23	0.00
2000	11	24	329	68.00	51.80	36.79	273.78	16.55	4.10	0.00
2000	11	25	330	68.00	44.60	32.20	273.78	6.26	0.00	0.00
2000	11	26	331	68.00	46.40	32.79	273.78	6.26	0.65	0.00
2000	11	27	332	71.60	53.60	38.05	273.78	7.60	5.10	0.00
2000	11	28	333	75.20	62.60	40.17	273.78	5.81	7.05	0.00
2000	11	29	334	73.40	60.80	40.50	273.78	10.29	7.43	0.00
2000	11	30	335	62.60	57.20	42.53	207.53	7.83	9.48	0.00
2000	12	1	336	69.80	60.80	41.64	207.53	10.06	8.65	0.00
2000	12	2	337	60.80	50.00	42.35	207.53	13.86	9.28	0.31
2000	12	3	338	50.00	39.20	42.91	207.53	12.07	9.90	0.01
2000	12	4	339	46.40	39.20	42.91	207.53	8.05	9.90	0.00
2000	12	5	340	51.80	46.40	43.00	207.53	7.83	10.00	0.00
2000	12	6	341	59.00	48.20	39.92	207.53	12.52	6.78	0.00
2000	12	7	342	62.60	37.40	33.15	207.53	8.05	1.05	0.00
2000	12	8	343	69.80	42.80	32.56	207.53	6.71	0.40	0.00
2000	12	9	344	71.60	44.60	37.35	207.53	5.59	4.73	0.00
2000	12	10	345	73.40	55.40	38.55	207.53	7.38	6.05	0.00
2000	12	11	346	75.20	51.80	39.20	207.53	8.94	6.38	0.05
2000	12	12	347	50.00	32.00	43.00	207.53	14.53	10.00	0.03
2000	12	13	348	41.00	32.00	42.62	207.53	8.50	9.58	0.03
2000	12	14	349	48.20	39.20	42.28	207.53	6.93	9.20	0.04
2000	12	15	350	53.60	46.40	42.91	207.53	6.93	9.90	0.00
2000	12	16	351	71.60	48.20	36.97	207.53	10.73	4.80	0.00
2000	12	17	352	64.40	39.20	32.20	207.53	13.64	0.00	0.00
2000	12	18	353	64.40	48.20	34.27	207.53	13.86	2.30	0.00
2000	12	19	354	60.80	35.60	32.20	207.53	7.83	0.00	0.00
2000	12	20	355	68.00	39.20	35.53	207.53	13.42	2.70	0.00
2000	12	21	356	55.40	41.00	34.27	207.53	15.20	2.30	0.01
2000	12	22	357	44.60	37.40	40.75	207.53	7.83	7.50	0.02
2000	12	23	358	55.40	42.80	43.00	207.53	7.83	10.00	0.01
2000	12	24	359	60.80	53.60	42.82	207.53	6.93	9.80	0.02
2000	12	25	360	53.60	50.00	43.00	207.53	10.29	10.00	0.01
2000	12	26	361	57.20	39.20	42.24	207.53	14.31	9.15	0.00
2000	12	27	362	50.00	39.20	39.81	207.53	17.44	6.65	0.00
2000	12	28	363	62.60	35.60	36.13	207.53	7.16	3.53	0.00
2000	12	29	364	57.20	35.60	33.51	207.53	9.39	1.45	0.00
2000	12	30	365	57.20	37.40	33.91	207.53	8.27	1.90	0.00
2000	12	31	366	55.40	39.20	42.21	207.53	9.84	9.13	0.00
2001	1	1	1	48.20	41.00	42.91	277.05	13.86	9.90	0.00
2001	1	2	2	41.00	33.80	43.00	277.05	13.86	10.00	0.00
2001	1	3	3	50.00	35.60	40.35	277.05	8.94	7.25	0.00
2001	1	4	4	68.00	35.60	34.90	277.05	7.16	2.50	0.00

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2001	1	5	5	73.40	41.00	34.27	277.05	5.81	2.30	0.00
2001	1	6	6	77.00	46.40	36.50	277.05	8.05	3.78	0.00
2001	1	7	7	77.00	53.60	40.01	277.05	12.75	6.88	0.00
2001	1	8	8	57.20	44.60	39.74	277.05	9.84	6.58	0.03
2001	1	9	9	57.20	44.60	42.08	277.05	9.84	8.98	0.50
2001	1	10	10	62.60	44.60	41.45	277.05	10.06	8.28	0.00
2001	1	11	11	64.40	44.60	38.55	277.05	5.37	6.05	0.01
2001	1	12	12	60.80	46.40	40.10	277.05	11.40	6.78	0.02
2001	1	13	13	68.00	53.60	42.64	277.05	13.42	9.60	0.00
2001	1	14	14	69.80	55.40	40.84	277.05	8.50	7.80	0.01
2001	1	15	15	57.20	50.00	42.44	277.05	9.17	9.38	0.01
2001	1	16	16	54.14	50.00	43.00	277.05	8.05	10.00	0.05
2001	1	17	17	55.40	44.60	42.91	277.05	14.76	9.90	0.30
2001	1	18	18	44.60	39.20	42.62	277.05	13.64	9.58	0.00
2001	1	19	19	51.80	39.20	38.34	277.05	15.88	5.43	0.00
2001	1	20	20	59.00	33.80	32.20	277.05	10.96	0.00	0.00
2001	1	21	21	62.60	37.40	34.90	277.05	11.63	2.50	0.00
2001	1	22	22	60.80	35.60	33.51	277.05	6.71	1.45	0.00
2001	1	23	23	64.40	37.40	37.33	277.05	8.72	4.70	0.00
2001	1	24	24	66.20	53.60	40.93	277.05	8.72	7.90	0.00
2001	1	25	25	66.20	57.20	42.44	277.05	12.52	9.38	0.00
2001	1	26	26	69.80	59.00	41.04	277.05	7.16	8.03	0.00
2001	1	27	27	73.40	62.60	41.79	277.05	18.34	8.65	0.00
2001	1	28	28	82.40	51.80	40.41	277.05	18.34	7.23	0.02
2001	1	29	29	73.40	46.40	38.39	277.05	11.18	5.88	0.00
2001	1	30	30	77.00	53.60	37.60	277.05	9.84	4.60	0.00
2001	1	31	31	60.80	53.60	40.35	277.05	11.63	7.25	0.21
2001	2	1	32	57.20	46.40	41.40	359.22	12.07	8.23	0.11
2001	2	2	33	51.80	46.40	42.80	359.22	8.94	9.78	0.00
2001	2	3	34	60.80	42.80	33.89	359.22	10.06	1.88	0.00
2001	2	4	35	68.00	48.20	32.47	359.22	10.29	0.30	0.00
2001	2	5	36	69.80	42.80	36.14	359.22	9.61	3.38	0.00
2001	2	6	37	78.80	55.40	33.60	359.22	13.86	1.55	0.00
2001	2	7	38	80.60	57.20	36.77	359.22	15.88	4.08	0.00
2001	2	8	39	80.60	66.20	40.86	359.22	19.01	7.83	0.00
2001	2	9	40	69.80	55.40	41.11	359.22	18.34	8.10	0.00
2001	2	10	41	55.40	42.80	42.35	359.22	12.75	9.28	0.00
2001	2	11	42	50.00	46.40	43.00	359.22	9.39	10.00	0.01
2001	2	12	43	62.60	48.20	43.00	359.22	7.83	10.00	0.09
2001	2	13	44	71.60	57.20	41.70	359.22	6.48	8.65	0.00
2001	2	14	45	78.80	64.40	41.58	359.22	12.30	8.43	0.00
2001	2	15	46	84.20	69.80	39.04	359.22	14.98	6.60	0.02
2001	2	16	47	73.40	53.60	35.22	359.22	17.44	3.35	0.00
2001	2	17	48	60.80	42.80	33.33	359.22	11.40	1.25	0.00
2001	2	18	49	66.20	37.40	33.51	359.22	8.72	1.45	0.00
2001	2	19	50	75.20	48.20	35.53	359.22	11.63	2.70	0.00
2001	2	20	51	80.60	57.20	37.15	359.22	10.51	4.50	0.00
2001	2	21	52	80.60	66.20	39.81	359.22	12.07	6.65	0.00
2001	2	22	53	75.20	66.20	42.24	359.22	12.75	9.15	0.00
2001	2	23	54	82.40	66.20	41.70	359.22	18.34	8.65	0.00
2001	2	24	55	91.40	66.20	38.39	359.22	15.20	5.88	0.00

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2001	2	25	56	77.00	62.60	39.92	359.22	10.29	6.78	0.00
2001	2	26	57	78.80	66.20	40.77	359.22	10.51	7.73	0.00
2001	2	27	58	84.20	71.60	40.86	359.22	12.07	7.83	0.03
2001	2	28	59	71.60	46.40	40.75	359.22	13.42	7.50	0.08
2001	3	1	60	50.00	42.80	42.62	421.77	12.75	9.58	0.11
2001	3	2	61	55.40	48.20	42.53	421.77	6.48	9.48	0.27
2001	3	3	62	68.00	51.80	39.15	421.77	11.85	5.93	0.00
2001	3	4	63	75.20	48.20	32.79	421.77	10.51	0.65	0.00
2001	3	5	64	77.00	50.00	33.69	421.77	8.05	1.65	0.00
2001	3	6	65	69.80	51.80	38.82	421.77	10.96	5.55	0.00
2001	3	7	66	73.40	55.40	39.27	421.77	14.31	6.45	0.00
2001	3	8	67	78.80	60.80	39.65	421.77	11.85	6.88	0.00
2001	3	9	68	68.00	55.40	37.80	421.77	11.18	5.23	0.00
2001	3	10	69	69.80	50.00	39.24	421.77	12.75	6.03	0.00
2001	3	11	70	80.60	64.40	42.35	421.77	10.73	9.28	0.00
2001	3	12	71	82.40	62.60	36.81	421.77	12.52	4.13	0.00
2001	3	13	72	82.40	60.80	38.59	421.77	10.06	5.30	0.01
2001	3	14	73	80.60	64.40	39.60	421.77	10.96	6.43	0.00
2001	3	15	74	77.00	53.60	32.20	421.77	10.96	0.00	0.00
2001	3	16	75	71.60	50.00	36.45	421.77	13.42	3.73	0.00
2001	3	17	76	62.60	53.60	42.17	421.77	14.09	9.08	0.04
2001	3	18	77	60.80	46.40	43.00	421.77	13.64	10.00	0.00
2001	3	19	78	66.20	46.40	38.30	421.77	12.97	5.78	0.00
2001	3	20	79	73.40	42.80	32.20	421.77	6.71	0.00	0.00
2001	3	21	80	82.40	50.00	32.20	421.77	11.63	0.00	0.00
2001	3	22	81	87.80	57.20	34.27	421.77	14.09	2.30	0.00
2001	3	23	82	86.00	57.20	33.91	421.77	14.76	1.90	0.28
2001	3	24	83	78.80	62.60	40.66	421.77	13.19	7.60	0.22
2001	3	25	84	59.00	51.80	43.00	421.77	11.40	10.00	0.01
2001	3	26	85	62.60	55.40	43.00	421.77	10.06	10.00	0.42
2001	3	27	86	59.00	50.00	43.00	421.77	11.63	10.00	0.00
2001	3	28	87	55.40	48.20	41.83	421.77	11.40	8.70	0.01
2001	3	29	88	71.60	51.80	39.04	421.77	10.73	5.70	0.02
2001	3	30	89	71.60	55.40	41.40	421.77	11.40	8.23	0.00
2001	3	31	90	86.00	60.80	39.96	421.77	9.84	6.83	0.00
2001	4	1	91	82.40	66.20	40.50	514.09	13.86	7.23	0.00
2001	4	2	92	91.40	69.80	39.69	514.09	13.42	6.53	0.00
2001	4	3	93	93.20	73.40	40.12	514.09	10.96	7.00	0.00
2001	4	4	94	87.80	73.40	40.98	514.09	8.94	7.95	0.00
2001	4	5	95	93.20	71.60	37.56	514.09	13.19	4.95	0.00
2001	4	6	96	93.20	71.60	38.77	514.09	18.11	5.50	0.00
2001	4	7	97	86.00	69.80	39.40	514.09	10.29	6.20	0.00
2001	4	8	98	95.00	69.80	36.72	514.09	15.43	4.03	0.00
2001	4	9	99	93.20	71.60	37.76	514.09	17.66	5.18	0.00
2001	4	10	100	95.00	71.60	37.24	514.09	17.22	4.60	0.00
2001	4	11	101	84.20	68.00	39.94	514.09	16.77	6.80	0.00
2001	4	12	102	91.40	69.80	41.46	514.09	8.72	8.45	0.00
2001	4	13	103	93.20	75.20	40.57	514.09	12.75	7.50	0.00
2001	4	14	104	95.00	73.40	36.23	514.09	14.53	3.48	0.00
2001	4	15	105	96.80	73.40	36.86	514.09	12.75	4.18	0.00
2001	4	16	106	91.40	71.60	37.58	514.09	12.52	4.98	0.00

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2001	4	17	107	78.80	59.00	39.63	514.09	16.32	6.45	0.00
2001	4	18	108	69.80	53.60	42.80	514.09	10.51	9.78	0.00
2001	4	19	109	84.20	62.60	42.24	514.09	12.75	9.15	0.00
2001	4	20	110	91.40	71.60	37.76	514.09	18.56	5.18	0.00
2001	4	21	111	91.40	73.40	40.14	514.09	17.66	7.03	0.00
2001	4	22	112	93.20	73.40	37.04	514.09	21.47	4.38	0.12
2001	4	23	113	78.80	64.40	41.27	514.09	13.19	8.08	0.15
2001	4	24	114	71.60	60.80	41.61	514.09	14.98	8.65	0.00
2001	4	25	115	82.40	55.40	36.48	514.09	9.17	3.75	0.00
2001	4	26	116	77.00	55.40	40.03	514.09	10.29	6.90	0.00
2001	4	27	117	78.80	62.60	40.28	514.09	12.30	7.18	0.00
2001	4	28	118	82.40	60.80	37.92	514.09	10.29	5.35	0.00
2001	4	29	119	84.20	62.60	38.41	514.09	11.40	5.10	0.00
2001	4	30	120	86.00	62.60	38.01	514.09	11.63	5.45	0.00
2001	5	1	121	87.80	69.80	37.69	514.09	14.09	5.10	0.00
2001	5	2	122	93.20	68.00	37.58	553.07	16.77	4.98	0.00
2001	5	3	123	82.40	73.40	42.44	553.07	17.66	9.38	0.00
2001	5	4	124	87.80	71.60	40.93	553.07	17.89	7.90	0.00
2001	5	5	125	89.60	75.20	40.66	553.07	14.09	7.60	0.35
2001	5	6	126	91.40	69.80	40.66	553.07	14.76	7.60	0.00
2001	5	7	127	87.80	62.60	38.03	553.07	12.07	5.48	0.00
2001	5	8	128	87.80	66.20	38.50	553.07	11.18	5.20	0.00
2001	5	9	129	87.80	66.20	36.30	553.07	11.63	3.55	0.00
2001	5	10	130	91.40	66.20	35.53	553.07	14.53	2.70	0.00
2001	5	11	131	91.40	69.80	37.49	553.07	16.32	4.88	0.00
2001	5	12	132	89.60	69.80	36.41	553.07	12.07	3.68	0.00
2001	5	13	133	87.80	68.00	36.27	553.07	12.52	3.53	0.00
2001	5	14	134	89.60	66.20	37.42	553.07	13.86	4.40	0.00
2001	5	15	135	95.00	68.00	36.30	553.07	14.76	3.55	0.00
2001	5	16	136	100.40	71.60	36.30	553.07	16.77	3.55	0.00
2001	5	17	137	100.40	71.60	36.75	553.07	17.22	4.05	0.00
2001	5	18	138	104.00	71.60	36.66	553.07	15.65	3.95	0.00
2001	5	19	139	86.00	75.20	39.69	553.07	11.18	6.53	0.06
2001	5	20	140	102.20	75.20	34.65	553.07	9.61	2.73	0.00
2001	5	21	141	91.40	73.40	38.43	553.07	14.76	5.13	0.00
2001	5	22	142	84.20	66.20	38.12	553.07	13.86	5.58	0.00
2001	5	23	143	89.60	62.60	35.22	553.07	12.30	2.60	0.00
2001	5	24	144	100.40	69.80	33.69	553.07	14.09	1.65	0.00
2001	5	25	145	95.00	73.40	37.96	553.07	14.76	5.20	0.00
2001	5	26	146	96.80	77.00	37.13	553.07	16.32	4.48	0.00
2001	5	27	147	98.60	77.00	36.18	553.07	15.20	3.43	0.00
2001	5	28	148	100.40	75.20	33.60	553.07	18.56	1.55	0.00
2001	5	29	149	98.60	73.40	35.80	553.07	19.01	3.00	0.00
2001	5	30	150	96.80	75.20	37.67	553.07	15.88	5.08	0.00
2001	5	31	151	96.80	77.00	38.37	553.07	12.07	5.85	0.00
2001	6	1	152	102.20	77.00	36.84	553.07	14.09	4.15	0.00
2001	6	2	153	102.20	78.80	36.57	581.92	16.77	3.85	0.00
2001	6	3	154	100.40	78.80	35.87	581.92	17.44	3.08	0.00
2001	6	4	155	98.60	77.00	37.80	581.92	19.23	5.23	0.00
2001	6	5	156	96.80	75.20	38.93	581.92	11.63	6.48	0.00
2001	6	6	157	104.00	75.20	35.80	581.92	10.73	3.00	0.00

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2001	6	7	158	100.40	78.80	35.85	581.92	12.52	3.55	0.02
2001	6	8	159	96.80	71.60	38.10	581.92	11.18	5.55	0.00
2001	6	9	160	93.20	75.20	36.79	581.92	11.18	4.10	0.00
2001	6	10	161	98.60	77.00	34.05	581.92	9.17	2.05	0.00
2001	6	11	162	104.00	77.00	34.27	581.92	13.42	2.30	0.00
2001	6	12	163	104.00	78.80	34.59	581.92	15.43	2.40	0.00
2001	6	13	164	102.20	82.40	37.17	581.92	18.34	4.53	0.57
2001	6	14	165	104.00	75.20	39.27	581.92	16.32	6.05	0.22
2001	6	15	166	89.60	73.40	40.86	581.92	14.31	7.83	0.00
2001	6	16	167	89.60	75.20	40.77	581.92	8.50	7.73	0.00
2001	6	17	168	93.20	75.20	37.40	581.92	11.18	4.78	0.00
2001	6	18	169	93.20	75.20	39.09	581.92	12.52	6.25	0.00
2001	6	19	170	95.00	73.40	36.59	581.92	15.88	3.88	0.00
2001	6	20	171	96.80	75.20	36.86	581.92	14.53	4.18	0.00
2001	6	21	172	98.60	75.20	36.59	581.92	14.98	3.88	0.00
2001	6	22	173	98.60	77.00	36.00	581.92	12.75	3.23	0.00
2001	6	23	174	100.40	77.00	35.94	581.92	12.97	3.15	0.07
2001	6	24	175	98.60	77.00	37.76	581.92	15.43	5.18	0.00
2001	6	25	176	96.80	73.40	37.92	581.92	14.31	5.35	0.00
2001	6	26	177	98.60	78.80	35.53	581.92	16.55	2.90	0.00
2001	6	27	178	95.00	75.20	33.15	581.92	17.66	1.05	0.00
2001	6	28	179	98.60	73.40	34.90	581.92	14.76	2.50	0.00
2001	6	29	180	100.40	75.20	33.78	581.92	17.44	1.75	0.00
2001	6	30	181	98.60	78.80	36.61	581.92	15.43	3.90	0.00
2001	7	1	182	95.00	78.80	37.69	581.92	15.43	5.10	1.04
2001	7	2	183	87.80	71.60	39.81	623.50	13.86	6.65	0.06
2001	7	3	184	91.40	69.80	39.85	623.50	10.51	6.70	0.00
2001	7	4	185	89.60	73.40	39.04	623.50	10.73	5.80	0.00
2001	7	5	186	95.00	75.20	38.46	623.50	13.19	5.75	0.00
2001	7	6	187	100.40	77.00	34.09	623.50	15.88	2.10	0.00
2001	7	7	188	98.60	77.00	33.42	623.50	15.43	1.35	0.00
2001	7	8	189	100.40	77.00	33.69	623.50	16.32	1.65	0.00
2001	7	9	190	100.40	77.00	33.69	623.50	15.88	1.65	0.00
2001	7	10	191	100.40	77.00	33.91	623.50	13.64	1.90	0.00
2001	7	11	192	102.20	75.20	33.91	623.50	14.09	1.90	0.00
2001	7	12	193	100.40	77.00	34.27	623.50	15.88	2.30	0.00
2001	7	13	194	100.40	77.00	34.27	623.50	14.76	2.30	0.00
2001	7	14	195	102.20	78.80	34.45	623.50	11.85	2.50	0.00
2001	7	15	196	104.00	77.00	32.56	623.50	14.31	0.40	0.00
2001	7	16	197	100.40	78.80	36.07	623.50	15.65	3.30	0.00
2001	7	17	198	100.40	80.60	36.41	623.50	16.55	3.68	0.00
2001	7	18	199	100.40	80.60	34.09	623.50	15.65	2.10	0.00
2001	7	19	200	100.40	78.80	35.80	623.50	16.32	3.00	0.00
2001	7	20	201	102.20	78.80	33.33	623.50	15.88	1.25	0.00
2001	7	21	202	102.20	78.80	32.20	623.50	15.43	0.00	0.00
2001	7	22	203	104.00	77.00	33.69	623.50	13.19	1.65	0.00
2001	7	23	204	100.40	78.80	35.08	623.50	13.42	2.70	0.00
2001	7	24	205	100.40	78.80	35.96	623.50	13.86	3.18	0.00
2001	7	25	206	98.60	78.80	36.59	623.50	14.76	3.88	0.00
2001	7	26	207	100.40	78.80	35.13	623.50	16.10	3.25	0.00
2001	7	27	208	102.20	78.80	36.12	623.50	16.32	3.35	0.00

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
2001	7	28	209	100.40	78.80	36.39	623.50	15.43	3.65	0.00
2001	7	29	210	102.20	78.80	34.09	623.50	15.43	2.10	0.00
2001	7	30	211	100.40	80.60	36.14	623.50	16.55	3.38	0.00
2001	7	31	212	98.60	78.80	36.86	623.50	18.11	4.18	0.00
2001	8	1	213	98.60	78.80	36.05	543.94	14.31	3.28	0.01
2001	8	2	214	96.80	77.00	37.13	543.94	11.85	4.48	0.13
2001	8	3	215	89.60	75.20	39.02	543.94	9.84	6.08	0.00
2001	8	4	216	96.80	77.00	37.13	543.94	10.06	4.48	0.00
2001	8	5	217	100.40	75.20	33.69	543.94	10.51	1.65	0.00
2001	8	6	218	98.60	78.80	36.81	543.94	11.18	4.13	0.00
2001	8	7	219	98.60	78.80	34.74	543.94	14.09	2.83	0.00
2001	8	8	220	98.60	78.80	36.75	543.94	17.22	4.05	0.00
2001	8	9	221	102.20	80.60	35.71	543.94	17.66	2.90	0.00
2001	8	10	222	100.40	78.80	36.75	543.94	18.11	4.05	0.00
2001	8	11	223	100.40	78.80	36.07	543.94	17.22	3.30	0.00
2001	8	12	224	102.20	78.80	34.90	543.94	17.22	2.50	0.00
2001	8	13	225	100.40	80.60	34.90	543.94	15.65	2.50	0.00
2001	8	14	226	100.40	78.80	35.80	543.94	15.20	3.00	0.00
2001	8	15	227	100.40	80.60	35.53	543.94	13.19	2.70	0.00
2001	8	16	228	102.20	80.60	33.51	543.94	16.32	1.45	0.00
2001	8	17	229	104.00	80.60	33.24	543.94	18.56	1.15	0.00
2001	8	18	230	102.20	78.80	34.59	543.94	15.20	2.40	0.79
2001	8	19	231	96.80	80.60	38.04	543.94	14.98	5.03	2.02
2001	8	20	232	96.80	77.00	38.30	543.94	11.40	5.78	0.00
2001	8	21	233	96.80	77.00	36.77	543.94	16.55	4.08	0.00
2001	8	22	234	98.60	78.80	36.50	543.94	16.77	3.78	0.00
2001	8	23	235	98.60	78.80	37.40	543.94	16.99	4.78	0.00
2001	8	24	236	98.60	77.00	36.77	543.94	14.98	4.08	0.00
2001	8	25	237	98.60	78.80	36.05	543.94	16.77	3.28	0.00
2001	8	26	238	98.60	80.60	34.27	543.94	16.77	2.30	0.00
2001	8	27	239	95.00	69.80	38.93	543.94	13.86	5.68	0.14
2001	8	28	240	82.40	71.60	41.00	543.94	15.65	7.78	0.05
2001	8	29	241	87.80	71.60	41.61	543.94	9.84	8.50	1.77
2001	8	30	242	91.40	73.40	40.19	543.94	13.64	7.08	0.02
2001	8	31	243	91.40	73.40	40.95	543.94	9.17	7.93	0.00
2001	9	1	244	93.20	75.20	39.90	459.97	8.05	6.75	0.00
2001	9	2	245	96.80	78.80	36.41	459.97	8.27	3.68	0.00
2001	9	3	246	98.60	78.80	33.96	459.97	11.18	1.95	0.05
2001	9	4	247	91.40	75.20	40.21	459.97	12.97	7.10	1.80
2001	9	5	248	93.20	69.80	38.86	459.97	13.42	5.80	0.00
2001	9	6	249	95.00	75.20	35.66	459.97	14.31	2.90	0.00
2001	9	7	250	98.60	77.00	32.79	459.97	17.22	0.65	0.00
2001	9	8	251	98.60	78.80	34.05	459.97	15.88	2.05	0.39
2001	9	9	252	91.40	68.00	40.37	459.97	16.32	7.28	0.02
2001	9	10	253	80.60	69.80	42.26	459.97	10.51	9.18	0.01
2001	9	11	254	87.80	71.60	38.86	459.97	9.84	5.60	0.00
2001	9	12	255	89.60	75.20	38.95	459.97	7.60	5.70	0.00
2001	9	13	256	89.60	73.40	35.08	459.97	7.16	2.70	0.00
2001	9	14	257	89.60	73.40	36.59	459.97	9.61	3.88	0.00
2001	9	15	258	91.40	69.80	35.89	459.97	10.29	3.10	0.00
2001	9	16	259	91.40	73.40	35.64	459.97	11.63	3.33	0.00

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2001	9	17	260	93.20	73.40	34.27	459.97	14.76	2.30	0.00
2001	9	18	261	96.80	73.40	35.62	459.97	12.75	2.80	0.00
2001	9	19	262	95.00	75.20	36.23	459.97	12.97	3.48	0.00
2001	9	20	263	95.00	77.00	36.00	459.97	12.97	3.23	0.00
2001	9	21	264	89.60	78.80	40.41	459.97	10.96	7.33	0.39
2001	9	22	265	84.20	71.60	40.59	459.97	10.06	7.53	0.25
2001	9	23	266	86.00	69.80	39.58	459.97	7.83	6.40	0.00
2001	9	24	267	87.80	69.80	36.86	459.97	12.52	4.18	0.00
2001	9	25	268	78.80	60.80	33.24	459.97	12.07	1.15	0.00
2001	9	26	269	80.60	59.00	35.89	459.97	7.83	3.10	0.00
2001	9	27	270	84.20	60.80	36.07	459.97	6.71	3.30	0.00
2001	9	28	271	86.00	62.60	33.51	459.97	7.38	1.45	0.00
2001	9	29	272	86.00	64.40	34.09	459.97	8.05	2.10	0.00
2001	9	30	273	84.20	60.80	36.21	459.97	9.39	3.45	0.00
2001	10	1	274	80.60	57.20	37.04	355.35	8.05	4.38	0.00
2001	10	2	275	82.40	64.40	38.41	355.35	10.29	5.10	0.00
2001	10	3	276	86.00	69.80	40.48	355.35	15.43	7.40	0.00
2001	10	4	277	89.60	73.40	38.46	355.35	16.32	5.95	0.00
2001	10	5	278	91.40	73.40	39.72	355.35	12.30	6.55	0.00
2001	10	6	279	77.00	60.80	36.84	355.35	14.09	4.15	0.00
2001	10	7	280	75.20	57.20	39.85	355.35	10.96	6.50	0.00
2001	10	8	281	86.00	71.60	41.61	355.35	13.86	8.65	0.00
2001	10	9	282	89.60	75.20	41.34	355.35	17.89	8.35	0.00
2001	10	10	283	93.20	75.20	40.66	355.35	16.77	7.60	0.00
2001	10	11	284	89.60	77.00	39.33	355.35	11.40	6.13	0.00
2001	10	12	285	93.20	66.20	36.07	355.35	12.07	3.30	0.00
2001	10	13	286	80.60	64.40	34.14	355.35	16.77	2.15	0.00
2001	10	14	287	86.00	59.00	32.20	355.35	10.96	0.00	0.00
2001	10	15	288	89.60	62.60	32.56	355.35	10.73	0.40	0.00
2001	10	16	289	75.20	57.20	35.18	355.35	12.97	2.88	0.00
2001	10	17	290	77.00	48.20	32.20	355.35	7.60	0.00	0.00
2001	10	18	291	82.40	55.40	32.20	355.35	12.30	0.00	0.00
2001	10	19	292	86.00	62.60	34.36	355.35	13.42	2.40	0.00
2001	10	20	293	84.20	66.20	35.89	355.35	12.97	3.10	0.00
2001	10	21	294	86.00	66.20	33.33	355.35	12.07	1.25	0.00
2001	10	22	295	91.40	66.20	32.20	355.35	12.30	0.00	0.00
2001	10	23	296	89.60	69.80	34.80	355.35	10.06	2.63	0.00
2001	10	24	297	96.80	69.80	34.95	355.35	8.72	3.05	0.00
2001	10	25	298	86.00	71.60	37.35	355.35	14.09	4.73	0.00
2001	10	26	299	82.40	64.40	37.62	355.35	14.53	4.83	0.00
2001	10	27	300	80.60	59.00	37.04	355.35	11.18	4.38	0.00
2001	10	28	301	80.60	60.80	33.78	355.35	12.30	1.75	0.00
2001	10	29	302	80.60	55.40	32.97	355.35	10.51	0.85	0.00
2001	10	30	303	80.60	55.40	34.90	355.35	9.84	2.50	0.00
2001	10	31	304	80.60	62.60	38.08	355.35	11.63	5.35	0.00
2001	11	1	305	87.80	66.20	36.99	273.78	13.42	4.33	0.00
2001	11	2	306	86.00	69.80	37.04	273.78	13.86	4.38	0.05
2001	11	3	307	80.60	68.00	38.28	273.78	10.29	5.75	0.00
2001	11	4	308	80.60	62.60	36.68	273.78	8.72	3.98	0.00
2001	11	5	309	82.40	59.00	33.93	273.78	7.38	1.93	0.00
2001	11	6	310	78.80	53.60	33.91	273.78	9.61	1.90	0.00

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2001	11	7	311	82.40	62.60	35.96	273.78	9.17	3.18	0.00
2001	11	8	312	82.40	62.60	37.51	273.78	10.29	4.90	0.11
2001	11	9	313	73.40	62.60	41.25	273.78	10.73	8.25	0.00
2001	11	10	314	75.20	62.60	41.94	273.78	8.50	8.83	0.00
2001	11	11	315	77.00	64.40	40.10	273.78	10.06	6.98	0.00
2001	11	12	316	82.40	66.20	39.58	273.78	13.42	6.40	0.00
2001	11	13	317	80.60	64.40	36.79	273.78	15.88	4.10	0.00
2001	11	14	318	82.40	68.00	39.87	273.78	16.55	6.73	0.60
2001	11	15	319	82.40	71.60	38.34	273.78	14.31	5.83	2.12
2001	11	16	320	69.80	60.80	42.35	273.78	12.52	9.28	0.00
2001	11	17	321	71.60	62.60	41.85	273.78	8.72	8.73	0.00
2001	11	18	322	78.80	68.00	40.21	273.78	10.51	7.10	0.08
2001	11	19	323	78.80	55.40	40.12	273.78	12.30	7.00	0.00
2001	11	20	324	53.60	48.20	42.82	273.78	13.19	9.80	0.00
2001	11	21	325	60.80	51.80	41.49	273.78	8.72	8.33	0.00
2001	11	22	326	73.40	51.80	33.51	273.78	10.51	1.45	0.00
2001	11	23	327	86.00	60.80	34.65	273.78	11.40	2.73	0.00
2001	11	24	328	75.20	59.00	33.33	273.78	8.27	1.25	0.00
2001	11	25	329	77.00	57.20	32.56	273.78	9.61	0.40	0.00
2001	11	26	330	80.60	66.20	36.99	273.78	8.72	4.33	0.00
2001	11	27	331	68.00	51.80	41.47	273.78	13.64	8.30	0.08
2001	11	28	332	50.00	32.00	42.91	273.78	20.12	9.90	0.00
2001	11	29	333	53.60	32.00	37.06	273.78	13.86	4.40	0.00
2001	11	30	334	64.40	42.80	32.97	273.78	9.39	0.85	0.51
2001	12	1	335	57.20	51.80	41.70	207.53	9.17	8.55	0.06
2001	12	2	336	62.60	57.20	43.00	207.53	7.60	10.00	0.00
2001	12	3	337	73.40	59.00	41.56	207.53	6.93	8.50	0.00
2001	12	4	338	78.80	64.40	39.78	207.53	14.98	6.63	0.00
2001	12	5	339	80.60	66.20	38.07	207.53	13.19	5.53	0.00
2001	12	6	340	77.00	68.00	41.79	207.53	8.50	8.65	0.00
2001	12	7	341	78.80	66.20	40.84	207.53	10.73	7.80	0.59
2001	12	8	342	69.80	48.20	42.55	207.53	13.19	9.50	0.03
2001	12	9	343	51.80	46.40	41.45	207.53	8.27	8.28	0.00
2001	12	10	344	60.80	41.00	36.41	207.53	9.17	3.68	0.05
2001	12	11	345	60.80	50.00	42.82	207.53	9.61	9.80	0.01
2001	12	12	346	66.20	57.20	42.35	207.53	9.84	9.28	0.00
2001	12	13	347	66.20	50.00	39.06	207.53	13.19	6.23	0.00
2001	12	14	348	62.60	42.80	36.32	207.53	9.61	3.58	0.01
2001	12	15	349	66.20	51.80	42.37	207.53	6.71	9.30	0.00
2001	12	16	350	68.00	57.20	41.09	207.53	9.17	7.88	0.00
2001	12	17	351	68.00	48.20	33.06	207.53	10.51	0.95	0.00
2001	12	18	352	69.80	41.00	34.38	207.53	8.94	2.43	0.00
2001	12	19	353	66.20	44.60	35.53	207.53	9.39	2.70	0.00
2001	12	20	354	64.40	42.80	33.91	207.53	7.38	1.90	0.00
2001	12	21	355	71.60	48.20	33.87	207.53	11.63	1.85	0.00
2001	12	22	356	69.80	57.20	33.84	207.53	10.06	1.83	0.00
2001	12	23	357	66.20	51.80	33.69	207.53	10.06	1.65	0.01
2001	12	24	358	55.40	37.40	39.00	207.53	12.07	5.75	0.00
2001	12	25	359	55.40	41.00	35.33	207.53	9.61	3.48	0.00
2001	12	26	360	60.80	39.20	32.20	207.53	6.93	0.00	0.00
2001	12	27	361	68.00	41.00	32.20	207.53	11.63	0.00	0.00

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2001	12	28	362	69.80	42.80	33.69	207.53	8.50	1.65	0.00
2001	12	29	363	68.00	42.80	32.20	207.53	10.73	0.00	0.00
2001	12	30	364	59.00	37.40	35.58	207.53	12.07	3.25	0.00
2001	12	31	365	48.20	41.00	42.08	207.53	12.75	8.98	0.00
2002	1	1	1	44.60	39.20	43.00	277.05	13.86	10.00	0.00
2002	1	2	2	46.40	35.60	40.32	277.05	11.85	7.03	0.00
2002	1	3	3	51.80	30.20	35.22	277.05	9.17	2.60	0.00
2002	1	4	4	57.20	33.80	40.86	277.05	9.39	7.63	0.00
2002	1	5	5	64.40	48.20	36.66	277.05	17.44	4.45	0.00
2002	1	6	6	66.20	41.00	32.20	277.05	6.48	0.00	0.00
2002	1	7	7	64.40	41.00	33.15	277.05	9.61	1.05	0.00
2002	1	8	8	71.60	42.80	32.20	277.05	10.51	0.00	0.00
2002	1	9	9	78.80	50.00	32.20	277.05	12.07	0.00	0.00
2002	1	10	10	71.60	53.60	38.61	277.05	10.96	5.33	0.00
2002	1	11	11	62.60	55.40	42.44	277.05	14.98	9.38	0.00
2002	1	12	12	68.00	48.20	36.33	277.05	9.39	3.83	0.00
2002	1	13	13	68.00	41.00	34.90	277.05	9.84	2.50	0.00
2002	1	14	14	69.80	44.60	32.38	277.05	10.06	0.20	0.00
2002	1	15	15	73.40	41.00	32.79	277.05	12.30	0.65	0.00
2002	1	16	16	77.00	59.00	39.13	277.05	9.84	6.70	0.00
2002	1	17	17	80.60	59.00	33.15	277.05	10.51	1.05	0.00
2002	1	18	18	78.80	57.20	38.50	277.05	12.30	6.00	0.00
2002	1	19	19	71.60	55.40	37.11	277.05	14.09	4.45	0.00
2002	1	20	20	69.80	44.60	37.44	277.05	9.39	4.83	0.00
2002	1	21	21	73.40	55.40	41.34	277.05	9.39	8.15	0.00
2002	1	22	22	80.60	66.20	38.75	277.05	12.30	5.48	0.00
2002	1	23	23	86.00	69.80	35.44	277.05	13.64	3.60	0.00
2002	1	24	24	73.40	53.60	37.89	277.05	16.55	5.33	0.00
2002	1	25	25	62.60	42.80	33.91	277.05	11.18	1.90	0.00
2002	1	26	26	68.00	48.20	38.28	277.05	8.72	5.55	0.00
2002	1	27	27	75.20	50.00	34.36	277.05	10.51	2.40	0.00
2002	1	28	28	82.40	59.00	38.05	277.05	13.19	4.70	0.00
2002	1	29	29	84.20	66.20	34.65	277.05	18.56	2.73	0.00
2002	1	30	30	91.40	69.80	36.45	277.05	18.34	3.73	0.00
2002	1	31	31	75.20	62.60	40.19	277.05	16.32	7.08	0.00
2002	2	1	32	60.80	44.60	41.76	359.22	13.64	8.63	0.00
2002	2	2	33	57.20	42.80	39.42	359.22	8.05	6.23	0.00
2002	2	3	34	69.80	42.80	38.28	359.22	8.27	5.75	0.00
2002	2	4	35	60.80	51.80	40.89	359.22	11.63	7.85	0.09
2002	2	5	36	53.60	46.40	43.00	359.22	13.86	10.00	0.00
2002	2	6	37	62.60	44.60	40.08	359.22	12.97	6.85	0.00
2002	2	7	38	69.80	39.20	32.20	359.22	4.25	0.00	0.00
2002	2	8	39	71.60	44.60	32.20	359.22	11.63	0.00	0.00
2002	2	9	40	78.80	51.80	32.20	359.22	16.77	0.00	0.00
2002	2	10	41	60.80	50.00	40.75	359.22	18.11	7.50	0.00
2002	2	11	42	59.00	39.20	36.59	359.22	7.83	3.88	0.00
2002	2	12	43	64.40	42.80	40.12	359.22	7.60	6.80	0.00
2002	2	13	44	62.60	42.80	40.21	359.22	8.94	7.10	0.00
2002	2	14	45	73.40	50.00	38.34	359.22	11.40	5.43	0.00
2002	2	15	46	78.80	51.80	36.86	359.22	11.63	4.18	0.00
2002	2	16	47	66.20	48.20	36.50	359.22	9.61	3.78	0.00

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
2002	2	17	48	71.60	46.40	37.53	359.22	11.18	4.93	0.00
2002	2	18	49	78.80	57.20	40.59	359.22	16.32	7.53	0.00
2002	2	19	50	78.80	64.40	40.21	359.22	12.52	7.10	0.00
2002	2	20	51	80.60	50.00	33.78	359.22	7.16	1.75	0.00
2002	2	21	52	86.00	51.80	33.98	359.22	15.65	1.98	0.00
2002	2	22	53	68.00	50.00	34.07	359.22	15.43	2.08	0.00
2002	2	23	54	77.00	44.60	32.20	359.22	10.29	0.00	0.00
2002	2	24	55	84.20	55.40	32.38	359.22	16.99	0.20	0.00
2002	2	25	56	82.40	57.20	32.97	359.22	10.51	0.85	0.00
2002	2	26	57	65.30	39.20	41.54	359.22	18.78	8.38	0.00
2002	2	27	58	51.80	30.20	36.59	359.22	10.96	3.88	0.00
2002	2	28	59	57.20	41.00	41.61	359.22	11.63	8.45	0.03
2002	3	1	60	68.00	51.80	41.76	421.77	7.16	8.63	0.00
2002	3	2	61	62.60	42.80	39.99	421.77	17.89	6.85	0.00
2002	3	3	62	48.20	35.60	39.09	421.77	14.53	6.05	0.00
2002	3	4	63	57.20	32.00	34.90	421.77	10.73	2.50	0.00
2002	3	5	64	62.60	42.80	38.52	421.77	14.31	5.23	0.00
2002	3	6	65	78.80	55.40	38.79	421.77	13.64	5.93	0.00
2002	3	7	66	80.60	60.80	37.74	421.77	16.77	5.15	0.00
2002	3	8	67	86.00	68.00	42.17	421.77	15.88	9.08	0.00
2002	3	9	68	75.20	60.80	40.84	421.77	16.32	7.80	0.00
2002	3	10	69	59.00	48.20	42.62	421.77	13.86	9.58	0.02
2002	3	11	70	71.60	50.00	40.14	421.77	10.73	6.93	0.00
2002	3	12	71	82.40	53.60	32.20	421.77	8.50	0.00	0.00
2002	3	13	72	86.00	57.20	35.34	421.77	15.88	3.23	0.00
2002	3	14	73	96.80	64.40	34.98	421.77	14.76	2.83	0.00
2002	3	15	74	95.00	64.40	37.22	421.77	14.09	4.58	0.00
2002	3	16	75	82.40	57.20	38.68	421.77	15.43	6.20	0.00
2002	3	17	76	84.20	57.20	41.54	421.77	9.84	8.38	0.00
2002	3	18	77	86.00	71.60	41.43	421.77	15.20	8.45	0.00
2002	3	19	78	95.00	69.80	38.12	421.77	18.11	5.58	0.00
2002	3	20	79	73.40	57.20	35.35	421.77	19.23	3.00	0.00
2002	3	21	80	78.80	50.00	32.20	421.77	11.63	0.00	0.00
2002	3	22	81	64.40	46.40	36.50	421.77	14.31	3.78	0.00
2002	3	23	82	73.40	50.00	37.85	421.77	15.65	5.28	0.00
2002	3	24	83	89.60	60.80	36.50	421.77	17.22	3.78	0.00
2002	3	25	84	82.40	60.80	38.30	421.77	15.88	5.78	0.00
2002	3	26	85	69.80	53.60	42.24	421.77	12.30	9.15	0.00
2002	3	27	86	77.00	55.40	39.38	421.77	12.30	6.38	0.00
2002	3	28	87	87.80	62.60	41.29	421.77	13.19	8.30	0.00
2002	3	29	88	82.40	69.80	41.11	421.77	13.86	8.10	0.00
2002	3	30	89	93.20	71.60	35.07	421.77	15.43	2.93	0.00
2002	3	31	90	84.20	60.80	35.71	421.77	12.97	2.90	0.00
2002	4	1	91	84.20	57.20	34.59	514.09	11.18	2.40	0.00
2002	4	2	92	93.20	62.60	35.80	514.09	13.42	3.00	0.01
2002	4	3	93	77.00	60.80	41.47	514.09	13.86	8.30	0.00
2002	4	4	94	66.20	57.20	43.00	514.09	12.30	10.00	0.05
2002	4	5	95	66.20	57.20	43.00	514.09	11.18	10.00	0.01
2002	4	6	96	80.60	60.80	42.24	514.09	14.98	9.15	0.00
2002	4	7	97	93.20	71.60	38.32	514.09	17.22	5.80	0.00
2002	4	8	98	95.00	66.20	34.11	514.09	11.63	2.13	0.00

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2002	4	9	99	86.00	64.40	36.79	514.09	13.64	4.10	0.00
2002	4	10	100	82.40	64.40	39.67	514.09	11.18	6.50	0.00
2002	4	11	101	86.00	66.20	36.99	514.09	14.53	4.33	0.00
2002	4	12	102	95.00	66.20	33.06	514.09	15.20	0.95	0.00
2002	4	13	103	91.40	68.00	38.32	514.09	14.31	5.00	0.20
2002	4	14	104	89.60	66.20	40.48	514.09	14.31	7.40	0.00
2002	4	15	105	91.40	71.60	40.03	514.09	16.10	6.90	0.00
2002	4	16	106	98.60	73.40	37.40	514.09	15.88	4.78	0.00
2002	4	17	107	95.00	73.40	36.95	514.09	19.68	4.28	0.00
2002	4	18	108	93.20	73.40	39.04	514.09	18.56	5.80	0.00
2002	4	19	109	91.40	73.40	39.78	514.09	16.99	6.63	0.00
2002	4	20	110	93.20	73.40	38.12	514.09	17.66	5.58	0.00
2002	4	21	111	93.20	73.40	40.10	514.09	15.88	6.98	0.00
2002	4	22	112	93.20	73.40	39.22	514.09	15.65	6.00	0.00
2002	4	23	113	93.20	71.60	37.94	514.09	16.55	5.38	0.00
2002	4	24	114	98.60	71.60	36.32	514.09	14.76	3.58	0.00
2002	4	25	115	95.00	73.40	39.31	514.09	16.77	6.10	0.00
2002	4	26	116	95.00	73.40	38.91	514.09	16.55	6.05	0.00
2002	4	27	117	100.40	75.20	35.19	514.09	18.11	3.33	0.00
2002	4	28	118	100.40	75.20	32.65	514.09	15.65	0.50	0.00
2002	4	29	119	102.20	75.20	35.04	514.09	15.43	3.15	0.00
2002	4	30	120	105.80	69.80	32.97	514.09	16.99	0.85	0.00
2002	5	1	121	107.60	73.40	34.09	514.09	14.98	2.10	0.00
2002	5	2	122	105.80	77.00	32.97	553.07	13.64	0.85	0.00
2002	5	3	123	95.00	77.00	36.54	553.07	14.98	3.83	0.00
2002	5	4	124	98.60	78.80	40.86	553.07	15.20	7.83	0.00
2002	5	5	125	98.60	77.00	38.16	553.07	17.89	5.63	0.00
2002	5	6	126	96.80	78.80	38.91	553.07	18.34	6.05	0.00
2002	5	7	127	98.60	77.00	35.55	553.07	18.56	3.23	0.00
2002	5	8	128	102.20	77.00	32.38	553.07	18.78	0.20	0.00
2002	5	9	129	98.60	77.00	33.53	553.07	17.22	1.48	0.00
2002	5	10	130	95.00	77.00	37.49	553.07	18.11	4.88	0.00
2002	5	11	131	95.00	77.00	37.94	553.07	21.69	5.38	0.00
2002	5	12	132	98.60	80.60	39.72	553.07	18.34	6.55	0.00
2002	5	13	133	86.00	66.20	41.53	553.07	16.10	8.45	0.00
2002	5	14	134	82.40	62.60	39.94	553.07	10.96	6.80	0.00
2002	5	15	135	91.40	68.00	38.95	553.07	18.11	5.70	0.00
2002	5	16	136	96.80	75.20	38.14	553.07	17.44	5.20	1.49
2002	5	17	137	98.60	68.00	40.14	553.07	13.42	7.03	0.00
2002	5	18	138	80.60	66.20	37.67	553.07	14.76	5.08	0.00
2002	5	19	139	82.40	60.80	33.91	553.07	9.84	1.90	0.00
2002	5	20	140	80.60	53.60	36.41	553.07	13.19	3.68	0.00
2002	5	21	141	86.00	66.20	36.61	553.07	15.43	3.90	0.00
2002	5	22	142	89.60	69.80	36.09	553.07	19.01	3.33	0.00
2002	5	23	143	91.40	73.40	38.46	553.07	19.01	5.95	0.00
2002	5	24	144	93.20	73.40	39.38	553.07	18.34	6.38	0.19
2002	5	25	145	93.20	75.20	39.85	553.07	17.22	6.70	0.09
2002	5	26	146	91.40	71.60	39.77	553.07	17.22	6.78	0.00
2002	5	27	147	95.00	71.60	39.72	553.07	16.99	6.55	0.00
2002	5	28	148	91.40	68.00	38.46	553.07	16.10	5.75	0.00
2002	5	29	149	95.00	73.40	36.59	553.07	11.18	3.88	0.00

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2002	5	30	150	102.20	71.60	36.07	553.07	9.84	3.30	0.00
2002	5	31	151	93.20	75.20	35.71	553.07	13.42	2.90	0.00
2002	6	1	152	91.40	73.40	34.65	553.07	10.73	2.73	0.00
2002	6	2	153	93.20	71.60	36.14	581.92	13.42	3.38	0.00
2002	6	3	154	96.80	73.40	37.33	581.92	15.20	4.70	0.00
2002	6	4	155	95.00	78.80	38.23	581.92	17.66	5.30	0.00
2002	6	5	156	95.00	75.20	38.68	581.92	13.64	5.40	0.00
2002	6	6	157	96.80	78.80	38.34	581.92	11.63	5.83	0.00
2002	6	7	158	95.00	73.40	36.18	581.92	10.06	3.43	0.00
2002	6	8	159	96.80	77.00	35.80	581.92	16.10	3.00	0.00
2002	6	9	160	96.80	80.60	38.68	581.92	18.34	5.40	0.00
2002	6	10	161	96.80	78.80	37.96	581.92	18.56	4.60	0.00
2002	6	11	162	95.00	78.80	37.96	581.92	17.44	5.00	0.00
2002	6	12	163	98.60	77.00	36.48	581.92	16.10	3.75	0.00
2002	6	13	164	96.80	77.00	36.68	581.92	14.53	3.98	0.00
2002	6	14	165	96.80	77.00	35.88	581.92	12.07	3.33	0.00
2002	6	15	166	100.40	78.80	34.09	581.92	11.85	2.10	0.00
2002	6	16	167	100.40	77.00	34.09	581.92	15.65	2.10	0.00
2002	6	17	168	100.40	77.00	33.69	581.92	11.40	1.65	0.00
2002	6	18	169	98.60	78.80	32.94	581.92	17.44	0.83	0.00
2002	6	19	170	96.80	77.00	35.17	581.92	17.22	2.30	0.00
2002	6	20	171	98.60	78.80	37.74	581.92	17.89	5.15	0.00
2002	6	21	172	98.60	78.80	38.05	581.92	15.43	4.70	0.00
2002	6	22	173	93.20	75.20	34.74	581.92	12.30	2.83	0.00
2002	6	23	174	95.00	75.20	32.79	581.92	10.06	0.65	0.00
2002	6	24	175	98.60	75.20	36.12	581.92	10.96	3.35	0.00
2002	6	25	176	100.40	77.00	35.87	581.92	13.64	3.08	0.00
2002	6	26	177	102.20	78.80	35.71	581.92	13.42	2.90	0.00
2002	6	27	178	93.20	78.80	40.59	581.92	15.65	7.53	0.55
2002	6	28	179	95.00	75.20	39.22	581.92	12.75	6.00	0.88
2002	6	29	180	87.80	75.20	40.64	581.92	10.29	7.58	0.31
2002	6	30	181	82.40	71.60	40.66	581.92	15.65	7.60	0.00
2002	7	1	182	93.20	75.20	41.33	581.92	16.10	8.30	0.00
2002	7	2	183	95.00	78.80	39.20	623.50	18.34	5.98	0.05
2002	7	3	184	93.20	77.00	40.99	623.50	18.56	7.93	0.02
2002	7	4	185	89.60	73.40	41.58	623.50	14.31	8.43	0.00
2002	7	5	186	93.20	77.00	41.02	623.50	16.99	8.00	0.00
2002	7	6	187	96.80	78.80	39.74	623.50	15.43	6.58	0.00
2002	7	7	188	95.00	77.00	36.93	623.50	9.84	4.25	0.00
2002	7	8	189	96.80	78.80	37.04	623.50	10.73	4.38	0.09
2002	7	9	190	89.60	75.20	39.81	623.50	12.30	6.65	0.62
2002	7	10	191	84.20	73.40	41.07	623.50	13.42	8.05	0.00
2002	7	11	192	93.20	73.40	40.48	623.50	8.50	7.40	0.00
2002	7	12	193	95.00	75.20	36.39	623.50	10.51	3.65	0.00
2002	7	13	194	98.60	77.00	35.22	623.50	10.96	2.60	0.00
2002	7	14	195	93.20	77.00	40.37	623.50	12.30	7.28	0.60
2002	7	15	196	86.00	75.20	41.07	623.50	10.29	8.05	0.16
2002	7	16	197	84.20	75.20	41.29	623.50	10.96	8.30	0.00
2002	7	17	198	91.40	75.20	39.76	623.50	13.64	6.60	0.00
2002	7	18	199	95.00	75.20	37.96	623.50	15.65	5.00	0.00
2002	7	19	200	96.80	75.20	34.09	623.50	16.32	2.10	0.00

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2002	7	20	201	96.80	77.00	37.13	623.50	14.76	4.48	0.00
2002	7	21	202	96.80	77.00	37.20	623.50	16.10	4.55	0.00
2002	7	22	203	93.20	77.00	38.86	623.50	16.10	5.60	0.18
2002	7	23	204	95.00	77.00	40.46	623.50	12.07	7.38	0.00
2002	7	24	205	96.80	75.20	37.33	623.50	12.07	4.70	0.00
2002	7	25	206	98.60	77.00	34.90	623.50	11.18	2.50	0.00
2002	7	26	207	98.60	77.00	35.35	623.50	14.31	2.50	0.00
2002	7	27	208	100.40	78.80	32.88	623.50	16.77	0.75	0.00
2002	7	28	209	100.40	78.80	34.27	623.50	17.89	2.30	0.00
2002	7	29	210	98.60	80.60	35.62	623.50	16.77	2.80	0.00
2002	7	30	211	100.40	80.60	36.95	623.50	16.32	4.28	0.00
2002	7	31	212	98.60	78.80	36.07	623.50	17.66	3.30	0.00
2002	8	1	213	100.40	77.00	35.22	543.94	16.55	2.60	0.00
2002	8	2	214	98.60	78.80	35.22	543.94	16.10	2.60	0.00
2002	8	3	215	98.60	77.00	33.91	543.94	12.52	1.90	0.00
2002	8	4	216	96.80	78.80	35.89	543.94	10.51	3.10	0.00
2002	8	5	217	93.20	77.00	38.37	543.94	11.18	5.65	0.00
2002	8	6	218	96.80	75.20	36.45	543.94	9.84	3.73	0.00
2002	8	7	219	98.60	78.80	34.74	543.94	10.06	2.83	0.00
2002	8	8	220	96.80	82.40	35.96	543.94	10.06	3.68	0.89
2002	8	9	221	89.60	77.00	38.19	543.94	11.18	5.45	0.00
2002	8	10	222	95.00	78.80	38.28	543.94	12.52	5.75	0.00
2002	8	11	223	95.00	77.00	39.72	543.94	10.51	6.55	0.00
2002	8	12	224	96.80	77.00	35.17	543.94	10.73	2.73	0.00
2002	8	13	225	96.80	78.80	36.05	543.94	18.34	3.28	0.00
2002	8	14	226	95.00	77.00	36.88	543.94	12.75	4.20	0.00
2002	8	15	227	96.80	80.60	39.38	543.94	16.32	6.18	0.00
2002	8	16	228	96.80	80.60	36.70	543.94	17.89	4.00	0.00
2002	8	17	229	98.60	78.80	36.39	543.94	16.99	3.65	0.00
2002	8	18	230	100.40	78.80	37.11	543.94	17.22	4.45	0.00
2002	8	19	231	98.60	78.80	36.45	543.94	17.89	3.73	0.00
2002	8	20	232	102.20	80.60	34.18	543.94	17.89	2.20	0.00
2002	8	21	233	98.60	80.60	36.21	543.94	17.89	3.45	0.00
2002	8	22	234	98.60	77.00	35.80	543.94	16.32	3.00	0.00
2002	8	23	235	98.60	77.00	35.62	543.94	15.20	2.80	0.00
2002	8	24	236	100.40	78.80	33.33	543.94	16.10	1.25	0.00
2002	8	25	237	102.20	80.60	33.69	543.94	12.07	1.65	0.00
2002	8	26	238	102.20	78.80	32.79	543.94	12.75	0.65	0.00
2002	8	27	239	102.20	78.80	32.56	543.94	14.76	0.40	0.00
2002	8	28	240	100.40	77.00	35.94	543.94	14.98	3.15	0.07
2002	8	29	241	93.20	77.00	35.13	543.94	12.07	3.25	0.00
2002	8	30	242	93.20	73.40	37.76	543.94	9.39	5.18	0.00
2002	8	31	243	91.40	75.20	39.92	543.94	10.29	6.78	0.30
2002	9	1	244	91.40	77.00	38.64	459.97	9.39	5.35	0.00
2002	9	2	245	95.00	75.20	38.10	459.97	8.72	5.55	0.00
2002	9	3	246	95.00	75.20	36.66	459.97	9.39	3.95	0.53
2002	9	4	247	91.40	78.80	39.02	459.97	11.18	5.78	0.00
2002	9	5	248	93.20	75.20	37.04	459.97	10.96	4.38	0.00
2002	9	6	249	95.00	73.40	36.25	459.97	11.63	3.50	0.03
2002	9	7	250	91.40	75.20	39.76	459.97	12.75	6.60	0.04
2002	9	8	251	87.80	75.20	41.34	459.97	12.07	8.35	4.60

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2002	9	9	252	78.80	71.60	42.44	459.97	14.09	9.38	0.69
2002	9	10	253	84.20	71.60	41.79	459.97	15.20	8.65	0.00
2002	9	11	254	87.80	73.40	41.04	459.97	12.07	8.03	0.00
2002	9	12	255	89.60	73.40	35.57	459.97	6.71	2.90	0.00
2002	9	13	256	91.40	71.60	32.20	459.97	10.06	0.00	0.00
2002	9	14	257	91.40	73.40	36.68	459.97	12.07	3.98	0.79
2002	9	15	258	82.40	69.80	42.62	459.97	13.19	9.58	0.14
2002	9	16	259	75.20	71.60	43.00	459.97	9.61	10.00	0.00
2002	9	17	260	86.00	71.60	40.93	459.97	6.93	7.90	0.00
2002	9	18	261	91.40	75.20	37.96	459.97	14.09	5.00	0.00
2002	9	19	262	89.60	77.00	40.12	459.97	13.19	7.00	0.00
2002	9	20	263	86.00	66.20	35.71	459.97	10.29	2.90	0.00
2002	9	21	264	87.80	68.00	32.20	459.97	7.16	0.00	0.00
2002	9	22	265	87.80	68.00	33.33	459.97	10.51	1.25	0.00
2002	9	23	266	80.60	69.80	39.02	459.97	12.97	5.78	0.00
2002	9	24	267	82.40	68.00	33.24	459.97	14.53	1.15	0.00
2002	9	25	268	86.00	62.60	34.02	459.97	10.96	2.03	0.00
2002	9	26	269	87.80	66.20	33.60	459.97	5.14	1.55	0.00
2002	9	27	270	93.20	68.00	32.20	459.97	8.05	0.00	0.00
2002	9	28	271	87.80	68.00	33.91	459.97	11.85	1.90	0.00
2002	9	29	272	87.80	69.80	38.41	459.97	10.06	5.10	0.00
2002	9	30	273	91.40	73.40	39.45	459.97	13.64	6.25	0.00
2002	10	1	274	91.40	73.40	38.28	355.35	15.65	5.35	0.00
2002	10	2	275	91.40	73.40	37.42	355.35	14.09	4.80	0.00
2002	10	3	276	91.40	75.20	38.18	355.35	10.96	5.00	0.00
2002	10	4	277	98.60	75.20	34.56	355.35	12.30	2.63	0.00
2002	10	5	278	91.40	75.20	36.79	355.35	12.07	4.10	0.00
2002	10	6	279	93.20	73.40	34.27	355.35	13.64	2.30	0.00
2002	10	7	280	91.40	73.40	37.69	355.35	11.63	5.10	0.00
2002	10	8	281	89.60	73.40	39.63	355.35	15.65	6.45	1.44
2002	10	9	282	82.40	69.80	37.87	355.35	12.75	4.90	0.00
2002	10	10	283	84.20	69.80	37.80	355.35	9.17	5.23	0.00
2002	10	11	284	89.60	66.20	36.54	355.35	9.17	3.83	0.00
2002	10	12	285	91.40	71.60	36.09	355.35	9.84	3.33	0.00
2002	10	13	286	78.80	64.40	39.72	355.35	13.86	6.55	0.00
2002	10	14	287	64.40	59.00	43.00	355.35	12.52	10.00	0.00
2002	10	15	288	69.80	59.00	41.81	355.35	10.73	8.68	0.00
2002	10	16	289	78.80	53.60	35.53	355.35	7.16	2.70	0.00
2002	10	17	290	78.80	60.80	40.41	355.35	12.30	7.33	0.00
2002	10	18	291	86.00	71.60	40.80	355.35	16.55	7.75	0.00
2002	10	19	292	82.40	69.80	37.08	355.35	12.30	4.43	0.00
2002	10	20	293	73.40	66.20	42.53	355.35	10.29	9.48	0.00
2002	10	21	294	87.80	68.00	39.99	355.35	10.29	6.85	0.12
2002	10	22	295	86.00	69.80	40.37	355.35	10.51	7.28	1.51
2002	10	23	296	75.20	64.40	42.35	355.35	8.72	9.28	0.05
2002	10	24	297	80.60	69.80	42.17	355.35	12.52	9.08	0.03
2002	10	25	298	75.20	69.80	41.27	355.35	7.60	8.08	0.19
2002	10	26	299	66.20	62.60	38.50	355.35	11.63	5.00	0.00
2002	10	27	300	69.80	60.80	42.53	355.35	5.81	9.48	0.03
2002	10	28	301	73.40	68.00	42.73	355.35	4.92	9.70	0.00
2002	10	29	302	78.80	66.20	39.31	355.35	8.50	6.00	0.00

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2002	10	30	303	82.40	60.80	34.56	355.35	6.93	2.63	0.09
2002	10	31	304	68.00	59.00	42.17	355.35	13.86	9.08	0.63
2002	11	1	305	62.60	57.20	43.00	273.78	11.18	10.00	0.28
2002	11	2	306	62.60	57.20	43.00	273.78	10.96	10.00	0.07
2002	11	3	307	62.60	57.20	43.00	273.78	8.94	10.00	0.62
2002	11	4	308	59.00	53.60	42.82	273.78	14.31	9.80	0.00
2002	11	5	309	75.20	50.00	34.99	273.78	9.84	3.10	0.00
2002	11	6	310	69.80	50.00	32.20	273.78	7.60	0.00	0.00
2002	11	7	311	71.60	48.20	33.51	273.78	8.94	1.45	0.00
2002	11	8	312	75.20	50.00	34.59	273.78	11.40	2.40	0.00
2002	11	9	313	84.20	59.00	32.20	273.78	7.60	0.00	0.00
2002	11	10	314	87.80	62.60	33.19	273.78	6.93	1.10	0.00
2002	11	11	315	80.60	60.80	32.38	273.78	10.29	0.20	0.00
2002	11	12	316	71.60	55.40	33.71	273.78	12.30	1.68	0.00
2002	11	13	317	69.80	51.80	32.20	273.78	9.84	0.00	0.00
2002	11	14	318	75.20	53.60	33.51	273.78	8.72	1.45	0.00
2002	11	15	319	69.80	57.20	35.55	273.78	11.40	3.23	0.00
2002	11	16	320	66.20	51.80	36.66	273.78	13.42	3.95	0.00
2002	11	17	321	77.00	46.40	32.20	273.78	10.29	0.00	0.00
2002	11	18	322	75.20	50.00	34.90	273.78	10.73	2.50	0.00
2002	11	19	323	73.40	48.20	33.51	273.78	9.17	1.45	0.00
2002	11	20	324	73.40	48.20	33.24	273.78	7.38	1.15	0.00
2002	11	21	325	75.20	48.20	32.20	273.78	9.61	0.00	0.00
2002	11	22	326	77.00	50.00	32.20	273.78	7.60	0.00	0.00
2002	11	23	327	77.00	50.00	32.20	273.78	11.63	0.00	0.00
2002	11	24	328	75.20	55.40	33.69	273.78	8.27	1.65	0.00
2002	11	25	329	62.60	53.60	40.21	273.78	10.29	6.90	0.00
2002	11	26	330	57.20	42.80	43.00	273.78	16.77	10.00	0.00
2002	11	27	331	48.20	44.60	42.62	273.78	10.51	9.58	0.00
2002	11	28	332	53.60	46.40	42.44	273.78	8.50	9.38	0.00
2002	11	29	333	57.20	50.00	42.44	273.78	5.37	9.38	0.00
2002	11	30	334	75.20	53.60	38.84	273.78	9.61	5.58	0.00
2002	12	1	335	68.00	50.00	37.69	207.53	9.39	4.70	0.00
2002	12	2	336	77.00	55.40	37.71	207.53	6.48	5.13	0.00
2002	12	3	337	77.00	62.60	40.50	207.53	8.27	7.33	0.18
2002	12	4	338	66.20	46.40	41.58	207.53	13.19	8.43	0.00
2002	12	5	339	55.40	39.20	36.68	207.53	12.30	3.98	0.00
2002	12	6	340	55.40	35.60	32.97	207.53	5.37	0.85	0.00
2002	12	7	341	57.20	41.00	40.21	207.53	7.38	6.90	0.02
2002	12	8	342	66.20	53.60	42.24	207.53	4.25	9.15	0.11
2002	12	9	343	60.80	48.20	42.21	207.53	13.86	9.13	0.00
2002	12	10	344	59.00	39.20	33.78	207.53	7.60	1.75	0.00
2002	12	11	345	59.00	42.80	38.97	207.53	11.18	5.93	0.05
2002	12	12	346	75.20	51.80	36.70	207.53	12.07	4.50	0.00
2002	12	13	347	71.60	42.80	34.27	207.53	4.92	2.30	0.00
2002	12	14	348	73.40	41.00	32.79	207.53	8.50	0.65	0.00
2002	12	15	349	73.40	53.60	32.20	207.53	7.38	0.00	0.00
2002	12	16	350	78.80	53.60	33.64	207.53	6.93	1.60	0.00
2002	12	17	351	84.20	59.00	32.79	207.53	14.53	0.65	0.00
2002	12	18	352	82.40	60.80	32.20	207.53	12.52	0.00	0.00
2002	12	19	353	69.80	51.80	32.79	207.53	14.31	0.65	0.00

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2002	12	20	354	66.20	39.20	32.20	207.53	8.50	0.00	0.00
2002	12	21	355	73.40	46.40	32.20	207.53	8.27	0.00	0.00
2002	12	22	356	73.40	46.40	37.96	207.53	9.61	5.00	0.03
2002	12	23	357	80.60	57.20	39.18	207.53	14.31	6.35	0.00
2002	12	24	358	57.20	44.60	35.72	207.53	13.86	3.08	0.00
2002	12	25	359	59.00	39.20	39.63	207.53	8.94	6.45	0.02
2002	12	26	360	50.00	44.60	42.82	207.53	10.06	9.80	0.00
2002	12	27	361	64.40	33.80	38.79	207.53	6.04	5.53	0.00
2002	12	28	362	69.80	42.80	34.70	207.53	7.16	2.78	0.00
2002	12	29	363	80.60	62.60	39.72	207.53	14.53	6.45	0.00
2002	12	30	364	84.20	59.00	39.90	207.53	18.78	6.75	0.00
2002	12	31	365	71.60	51.80	32.38	207.53	14.09	0.20	0.00
2003	1	1	1	77.00	48.20	33.51	277.05	10.96	1.45	0.00
2003	1	2	2	62.60	44.60	32.56	277.05	13.19	0.40	0.00
2003	1	3	3	66.20	37.40	32.20	277.05	6.71	0.00	0.00
2003	1	4	4	71.60	44.60	32.56	277.05	10.51	0.40	0.00
2003	1	5	5	75.20	48.20	34.18	277.05	5.81	2.20	0.00
2003	1	6	6	73.40	55.40	39.76	277.05	12.97	6.60	0.00
2003	1	7	7	62.60	50.00	41.29	277.05	10.73	8.30	0.00
2003	1	8	8	69.80	50.00	36.23	277.05	8.05	3.48	0.00
2003	1	9	9	75.20	55.40	38.10	277.05	6.71	5.55	0.00
2003	1	10	10	66.20	53.60	40.50	277.05	13.19	7.43	0.56
2003	1	11	11	55.40	44.60	42.80	277.05	10.29	9.78	0.21
2003	1	12	12	48.20	42.80	42.82	277.05	13.19	9.80	0.00
2003	1	13	13	51.80	44.60	42.91	277.05	5.59	9.90	0.00
2003	1	14	14	57.20	46.40	40.14	277.05	6.04	7.03	0.00
2003	1	15	15	66.20	44.60	39.47	277.05	10.96	6.28	0.00
2003	1	16	16	62.60	48.20	33.64	277.05	13.19	1.60	0.00
2003	1	17	17	48.20	35.60	37.40	277.05	9.61	4.78	0.00
2003	1	18	18	55.40	33.80	33.15	277.05	6.04	1.05	0.00
2003	1	19	19	69.80	41.00	33.78	277.05	9.17	1.75	0.00
2003	1	20	20	77.00	53.60	32.65	277.05	10.29	0.50	0.00
2003	1	21	21	86.00	53.60	32.79	277.05	7.38	0.65	0.00
2003	1	22	22	62.60	50.00	39.42	277.05	13.86	6.23	0.00
2003	1	23	23	51.80	42.80	35.22	277.05	11.63	3.35	0.01
2003	1	24	24	46.40	33.80	42.28	277.05	10.96	9.20	0.05
2003	1	25	25	46.40	41.00	43.00	277.05	8.50	10.00	0.03
2003	1	26	26	50.00	46.40	43.00	277.05	10.73	10.00	0.00
2003	1	27	27	57.20	46.40	42.80	277.05	8.27	9.78	0.08
2003	1	28	28	66.20	51.80	41.31	277.05	10.06	8.13	0.00
2003	1	29	29	64.40	53.60	39.74	277.05	10.73	6.38	0.00
2003	1	30	30	64.40	46.40	34.92	277.05	7.60	3.03	0.00
2003	1	31	31	68.00	50.00	41.16	277.05	9.17	8.05	0.00
2003	2	1	32	71.60	50.00	39.13	359.22	9.17	5.90	0.00
2003	2	2	33	77.00	60.80	42.08	359.22	13.19	8.98	0.00
2003	2	3	34	86.00	62.60	35.27	359.22	14.53	3.25	0.00
2003	2	4	35	64.40	50.00	38.50	359.22	11.63	5.60	0.03
2003	2	5	36	59.00	51.80	42.82	359.22	8.72	9.80	0.00
2003	2	6	37	66.20	57.20	41.09	359.22	10.73	7.88	0.65
2003	2	7	38	55.40	37.40	42.91	359.22	14.76	9.90	0.08
2003	2	8	39	42.80	37.40	43.00	359.22	9.17	10.00	0.00

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2003	2	9	40	59.00	42.80	41.04	359.22	7.60	7.93	0.00
2003	2	10	41	69.80	44.60	32.38	359.22	7.38	0.20	0.00
2003	2	11	42	77.00	51.80	36.16	359.22	10.51	3.40	0.00
2003	2	12	43	77.00	64.40	42.26	359.22	8.94	9.18	0.00
2003	2	13	44	82.40	68.00	41.43	359.22	15.65	8.45	0.11
2003	2	14	45	78.80	68.00	41.11	359.22	10.29	8.10	0.22
2003	2	15	46	80.60	59.00	38.70	359.22	12.52	6.23	0.00
2003	2	16	47	60.80	48.20	32.38	359.22	12.30	0.20	0.00
2003	2	17	48	71.60	42.80	32.20	359.22	11.18	0.00	0.00
2003	2	18	49	78.80	53.60	34.74	359.22	14.53	2.83	0.00
2003	2	19	50	73.40	64.40	41.88	359.22	11.40	8.75	0.01
2003	2	20	51	66.20	55.40	43.00	359.22	12.97	10.00	0.06
2003	2	21	52	64.40	53.60	40.50	359.22	13.19	7.43	0.00
2003	2	22	53	75.20	48.20	32.65	359.22	9.39	0.50	0.00
2003	2	23	54	82.40	55.40	32.97	359.22	12.30	0.85	0.13
2003	2	24	55	66.20	38.30	41.92	359.22	17.22	8.80	0.03
2003	2	25	56	39.20	32.00	43.00	359.22	14.31	10.00	0.00
2003	2	26	57	50.00	35.60	42.26	359.22	9.17	9.18	0.00
2003	2	27	58	57.20	39.20	40.80	359.22	8.94	7.55	0.00
2003	2	28	59	68.00	41.00	37.60	359.22	10.06	5.00	0.00
2003	3	1	60	59.00	55.40	40.39	421.77	9.39	7.10	0.08
2003	3	2	61	57.20	55.40	35.53	421.77	10.73	1.70	0.19
2003	3	3	62	59.00	51.80	41.92	421.77	11.18	8.80	0.00
2003	3	4	63	71.60	50.00	39.94	421.77	9.39	6.80	0.00
2003	3	5	64	66.20	55.40	42.91	421.77	9.61	9.90	0.00
2003	3	6	65	69.80	53.60	40.68	421.77	12.75	7.43	0.00
2003	3	7	66	84.20	50.00	33.51	421.77	10.06	1.45	0.00
2003	3	8	67	77.00	51.80	40.26	421.77	11.18	7.08	0.00
2003	3	9	68	82.40	66.20	41.20	421.77	8.50	8.20	0.00
2003	3	10	69	77.00	64.40	40.86	421.77	12.07	7.73	0.00
2003	3	11	70	77.00	64.40	43.00	421.77	12.30	10.00	0.00
2003	3	12	71	80.60	69.80	42.24	421.77	9.17	9.15	0.00
2003	3	13	72	77.00	69.80	41.88	421.77	7.60	8.75	0.00
2003	3	14	73	80.60	66.20	40.48	421.77	8.94	7.40	0.00
2003	3	15	74	75.20	64.40	40.93	421.77	8.94	7.90	0.00
2003	3	16	75	80.60	64.40	40.35	421.77	9.84	7.05	0.00
2003	3	17	76	91.40	64.40	36.75	421.77	11.40	4.40	0.00
2003	3	18	77	80.60	64.40	34.80	421.77	17.22	2.05	0.00
2003	3	19	78	82.40	55.40	32.88	421.77	12.75	0.75	0.00
2003	3	20	79	78.80	55.40	33.71	421.77	12.97	1.68	0.00
2003	3	21	80	78.80	51.80	32.79	421.77	12.07	0.65	0.02
2003	3	22	81	71.60	57.20	39.33	421.77	11.63	6.13	0.00
2003	3	23	82	80.60	55.40	34.45	421.77	8.27	2.50	0.00
2003	3	24	83	80.60	60.80	40.37	421.77	14.31	7.08	0.48
2003	3	25	84	82.40	66.20	41.22	421.77	9.84	8.03	0.00
2003	3	26	85	78.80	57.20	33.10	421.77	11.63	1.00	0.00
2003	3	27	86	93.20	57.20	32.20	421.77	14.09	0.00	0.00
2003	3	28	87	71.60	59.00	35.01	421.77	18.34	3.13	0.00
2003	3	29	88	64.40	53.60	38.91	421.77	15.20	6.05	0.00
2003	3	30	89	68.00	39.20	32.49	421.77	6.71	0.33	0.00
2003	3	31	90	78.80	48.20	33.69	421.77	15.43	1.65	0.00

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2003	4	1	91	82.40	55.40	32.76	514.09	17.66	0.63	0.00
2003	4	2	92	80.60	60.80	35.19	514.09	16.77	3.33	0.00
2003	4	3	93	87.80	64.40	36.05	514.09	13.42	3.28	0.00
2003	4	4	94	84.20	69.80	40.30	514.09	11.18	7.20	0.00
2003	4	5	95	89.60	69.80	38.48	514.09	12.07	5.98	0.00
2003	4	6	96	86.00	73.40	42.06	514.09	10.73	8.95	0.00
2003	4	7	97	82.40	66.20	41.36	514.09	7.60	8.18	0.00
2003	4	8	98	73.40	57.20	40.50	514.09	15.20	7.43	0.00
2003	4	9	99	75.20	48.20	36.21	514.09	8.94	3.45	0.00
2003	4	10	100	84.20	51.80	39.04	514.09	11.40	5.80	0.02
2003	4	11	101	80.60	57.20	39.60	514.09	13.64	6.43	0.00
2003	4	12	102	86.00	60.80	33.55	514.09	13.64	1.50	0.00
2003	4	13	103	86.00	64.40	39.31	514.09	15.20	6.10	0.00
2003	4	14	104	87.80	68.00	40.93	514.09	17.89	7.90	0.00
2003	4	15	105	86.00	69.80	39.87	514.09	17.89	6.73	0.00
2003	4	16	106	93.20	71.60	37.59	514.09	9.84	5.23	0.00
2003	4	17	107	93.20	69.80	36.54	514.09	14.09	3.83	0.00
2003	4	18	108	89.60	69.80	41.25	514.09	17.44	8.25	0.00
2003	4	19	109	91.40	71.60	40.84	514.09	14.98	7.80	0.50
2003	4	20	110	80.60	64.40	42.80	514.09	12.52	9.78	0.03
2003	4	21	111	73.40	64.40	43.00	514.09	11.63	10.00	0.01
2003	4	22	112	82.40	68.00	41.97	514.09	13.64	8.85	0.00
2003	4	23	113	84.20	71.60	42.24	514.09	14.53	9.15	0.00
2003	4	24	114	95.00	73.40	40.41	514.09	10.06	7.33	0.00
2003	4	25	115	98.60	69.80	35.06	514.09	9.17	2.68	0.00
2003	4	26	116	93.20	68.00	33.33	514.09	12.30	1.25	0.00
2003	4	27	117	87.80	68.00	36.61	514.09	14.98	3.90	0.00
2003	4	28	118	80.60	69.80	42.17	514.09	13.86	9.08	0.54
2003	4	29	119	86.00	68.00	41.18	514.09	12.07	7.98	0.00
2003	4	30	120	95.00	68.90	37.80	514.09	12.75	5.23	0.00
2003	5	1	121	95.00	73.40	38.48	514.09	10.51	5.18	0.00
2003	5	2	122	89.60	75.20	41.02	553.07	11.40	7.80	0.00
2003	5	3	123	87.80	75.20	40.47	553.07	12.30	7.23	0.00
2003	5	4	124	96.80	75.20	41.97	553.07	14.09	8.85	0.00
2003	5	5	125	100.40	77.00	37.87	553.07	12.07	5.30	0.00
2003	5	6	126	98.60	77.00	38.64	553.07	11.63	5.35	0.00
2003	5	7	127	102.20	78.80	35.98	553.07	12.07	3.70	0.00
2003	5	8	128	105.80	78.80	34.38	553.07	17.44	2.43	0.00
2003	5	9	129	102.20	78.80	37.60	553.07	18.34	5.00	0.00
2003	5	10	130	98.60	77.00	38.40	553.07	11.85	5.75	0.00
2003	5	11	131	87.80	78.80	40.66	553.07	11.63	7.40	0.00
2003	5	12	132	95.00	77.00	42.08	553.07	13.19	8.98	0.00
2003	5	13	133	98.60	75.20	37.60	553.07	16.10	4.60	0.00
2003	5	14	134	105.80	73.40	33.69	553.07	16.55	1.65	0.00
2003	5	15	135	109.40	77.00	33.03	553.07	16.10	0.93	0.00
2003	5	16	136	105.80	78.80	32.83	553.07	13.64	0.70	0.00
2003	5	17	137	100.40	78.80	33.96	553.07	11.85	1.95	0.00
2003	5	18	138	100.40	75.20	32.20	553.07	12.75	0.00	0.00
2003	5	19	139	105.80	77.00	33.98	553.07	14.31	1.98	0.00
2003	5	20	140	98.60	75.20	35.33	553.07	14.76	2.98	0.00
2003	5	21	141	91.40	69.80	35.94	553.07	10.73	3.65	0.00

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2003	5	22	142	91.40	71.60	38.86	553.07	14.31	5.60	0.00
2003	5	23	143	96.80	75.20	36.32	553.07	12.30	3.70	0.00
2003	5	24	144	98.60	71.60	34.55	553.07	13.64	2.35	0.00
2003	5	25	145	102.20	75.20	36.53	553.07	16.32	4.05	0.05
2003	5	26	146	82.40	75.20	39.33	553.07	13.19	6.13	0.67
2003	5	27	147	93.20	71.60	38.50	553.07	10.51	5.20	0.00
2003	5	28	148	91.40	71.60	40.12	553.07	10.96	7.00	0.00
2003	5	29	149	96.80	71.60	33.44	553.07	7.38	1.38	0.00
2003	5	30	150	98.60	73.40	33.44	553.07	12.75	1.38	0.00
2003	5	31	151	102.20	75.20	33.98	553.07	13.86	1.98	0.00
2003	6	1	152	100.40	71.60	34.99	553.07	13.42	2.60	0.53
2003	6	2	153	102.20	80.60	37.80	581.92	14.76	5.23	0.00
2003	6	3	154	100.40	77.00	36.16	581.92	12.97	3.40	0.00
2003	6	4	155	98.60	71.60	35.76	581.92	11.85	3.45	0.03
2003	6	5	156	93.20	78.80	36.54	581.92	13.19	3.83	0.00
2003	6	6	157	96.80	73.40	35.85	581.92	12.52	3.55	0.00
2003	6	7	158	98.60	73.40	33.24	581.92	8.94	1.15	0.00
2003	6	8	159	100.40	77.00	34.56	581.92	14.31	2.63	0.00
2003	6	9	160	100.40	78.80	39.83	581.92	15.88	6.68	2.07
2003	6	10	161	91.40	71.60	36.66	581.92	14.98	4.25	0.00
2003	6	11	162	102.20	78.80	33.98	581.92	14.31	1.98	0.00
2003	6	12	163	104.00	78.80	34.47	581.92	15.65	2.53	1.23
2003	6	13	164	102.20	73.40	36.89	581.92	17.44	4.45	0.16
2003	6	14	165	91.40	71.60	38.21	581.92	10.29	5.68	0.04
2003	6	15	166	93.20	69.80	35.60	581.92	11.40	3.28	0.00
2003	6	16	167	93.20	69.80	35.98	581.92	9.61	3.33	0.00
2003	6	17	168	95.00	73.40	33.53	581.92	7.38	1.48	0.00
2003	6	18	169	96.80	75.20	33.42	581.92	9.61	1.35	0.00
2003	6	19	170	98.60	77.00	34.14	581.92	9.17	1.65	0.00
2003	6	20	171	98.60	77.00	32.85	581.92	11.18	0.73	0.00
2003	6	21	172	100.40	77.00	32.76	581.92	10.51	0.63	0.00
2003	6	22	173	102.20	80.60	35.27	581.92	14.53	2.85	0.00
2003	6	23	174	102.20	78.80	36.26	581.92	16.77	3.75	0.00
2003	6	24	175	104.00	82.40	38.77	581.92	18.56	5.50	0.00
2003	6	25	176	105.80	82.40	35.33	581.92	19.68	2.98	0.00
2003	6	26	177	102.20	78.80	36.57	581.92	13.42	3.85	0.00
2003	6	27	178	98.60	77.00	35.33	581.92	11.18	2.98	0.00
2003	6	28	179	98.60	77.00	35.28	581.92	9.84	2.93	1.66
2003	6	29	180	96.80	75.20	38.82	581.92	12.52	5.95	0.01
2003	6	30	181	91.40	75.20	41.07	581.92	8.27	8.05	0.00
2003	7	1	182	95.00	80.60	39.85	581.92	6.93	6.70	0.42
2003	7	2	183	91.40	75.20	40.77	623.50	9.84	7.73	0.00
2003	7	3	184	86.00	73.40	40.82	623.50	10.29	7.78	0.60
2003	7	4	185	84.20	73.40	40.66	623.50	11.85	7.60	2.61
2003	7	5	186	82.40	73.40	41.22	623.50	9.84	8.23	0.00
2003	7	6	187	93.20	77.00	40.50	623.50	16.32	7.43	0.00
2003	7	7	188	93.20	77.00	37.69	623.50	17.22	5.10	0.00
2003	7	8	189	93.20	77.00	37.35	623.50	15.43	4.53	0.00
2003	7	9	190	93.20	77.00	36.90	623.50	14.76	4.23	0.00
2003	7	10	191	96.80	78.80	34.32	623.50	12.75	1.85	0.00
2003	7	11	192	98.60	78.80	34.41	623.50	11.63	1.95	0.00

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2003	7	12	193	96.80	77.00	34.03	623.50	12.30	1.78	0.00
2003	7	13	194	96.80	75.20	33.42	623.50	10.06	1.35	0.00
2003	7	14	195	96.80	75.20	33.39	623.50	9.17	1.33	0.18
2003	7	15	196	96.80	69.80	35.98	623.50	14.09	3.70	0.07
2003	7	16	197	98.60	75.20	36.61	623.50	17.44	4.40	0.10
2003	7	17	198	96.80	78.80	36.14	623.50	13.86	3.88	0.00
2003	7	18	199	96.80	73.40	33.66	623.50	9.39	1.63	0.00
2003	7	19	200	98.60	77.00	33.03	623.50	11.40	0.93	0.00
2003	7	20	201	98.60	77.00	33.12	623.50	11.85	1.03	0.00
2003	7	21	202	100.40	77.00	33.08	623.50	14.98	0.98	0.00
2003	7	22	203	102.20	78.80	32.67	623.50	15.43	0.53	0.00
2003	7	23	204	100.40	80.60	34.00	623.50	14.31	1.88	0.00
2003	7	24	205	102.20	80.60	32.85	623.50	14.31	0.73	0.00
2003	7	25	206	100.40	78.80	35.55	623.50	17.44	2.73	0.00
2003	7	26	207	100.40	78.80	34.88	623.50	16.99	2.48	0.00
2003	7	27	208	100.40	78.80	38.07	623.50	15.88	5.13	0.06
2003	7	28	209	98.60	75.20	41.25	623.50	12.52	8.25	0.01
2003	7	29	210	98.60	77.00	39.65	623.50	10.96	6.48	0.00
2003	7	30	211	98.60	80.60	37.46	623.50	12.30	4.73	0.00
2003	7	31	212	102.20	80.60	33.82	623.50	14.76	1.80	0.00
2003	8	1	213	102.20	78.80	32.29	543.94	13.19	0.10	0.00
2003	8	2	214	104.00	78.80	32.20	543.94	14.53	0.00	0.00
2003	8	3	215	104.00	78.80	32.67	543.94	15.20	0.53	0.00
2003	8	4	216	104.00	78.80	32.94	543.94	16.55	0.83	0.00
2003	8	5	217	105.80	78.80	32.49	543.94	16.10	0.33	0.00
2003	8	6	218	104.00	73.40	33.62	543.94	11.85	1.58	0.00
2003	8	7	219	107.60	77.00	32.49	543.94	10.29	0.33	0.00
2003	8	8	220	107.60	80.60	32.76	543.94	8.94	0.63	0.00
2003	8	9	221	109.40	82.40	34.79	543.94	10.73	2.38	0.00
2003	8	10	222	102.20	82.40	36.72	543.94	11.40	4.03	0.00
2003	8	11	223	105.80	78.80	33.96	543.94	8.94	1.95	0.01
2003	8	12	224	98.60	78.80	35.73	543.94	12.52	3.23	0.03
2003	8	13	225	95.00	75.20	37.56	543.94	12.97	4.95	0.21
2003	8	14	226	84.20	73.40	39.09	543.94	9.39	6.05	0.01
2003	8	15	227	93.20	73.40	39.55	543.94	8.94	6.45	0.00
2003	8	16	228	89.60	77.00	36.84	543.94	14.09	4.05	0.00
2003	8	17	229	96.80	73.40	35.22	543.94	7.83	2.85	0.00
2003	8	18	230	100.40	77.00	32.85	543.94	12.30	0.73	0.00
2003	8	19	231	98.60	78.80	35.49	543.94	14.53	3.15	0.00
2003	8	20	232	100.40	78.80	34.36	543.94	16.32	2.40	0.00
2003	8	21	233	100.40	78.80	35.28	543.94	14.76	2.93	0.00
2003	8	22	234	100.40	77.00	35.17	543.94	12.30	2.80	0.01
2003	8	23	235	100.40	78.80	37.69	543.94	10.29	5.10	0.05
2003	8	24	236	98.60	78.80	36.48	543.94	9.84	3.75	0.05
2003	8	25	237	98.60	77.00	39.54	543.94	8.72	6.35	0.00
2003	8	26	238	100.40	78.80	35.90	543.94	10.96	3.35	0.00
2003	8	27	239	102.20	78.80	34.50	543.94	12.52	2.30	0.00
2003	8	28	240	102.20	78.80	33.03	543.94	13.86	0.93	0.00
2003	8	29	241	102.20	77.00	33.94	543.94	12.97	1.68	0.16
2003	8	30	242	102.20	78.80	33.98	543.94	9.84	1.98	0.02
2003	8	31	243	96.80	80.60	36.61	543.94	9.61	3.90	0.01

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2003	9	1	244	91.40	78.80	39.92	459.97	8.72	6.78	0.26
2003	9	2	245	87.80	75.20	39.94	459.97	8.72	6.80	0.02
2003	9	3	246	93.20	75.20	37.87	459.97	7.83	5.10	0.19
2003	9	4	247	91.40	75.20	39.47	459.97	7.83	6.28	0.00
2003	9	5	248	91.40	73.40	37.58	459.97	8.05	4.98	0.00
2003	9	6	249	93.20	69.80	34.63	459.97	6.93	2.20	0.00
2003	9	7	250	95.00	71.60	32.97	459.97	8.72	0.85	0.00
2003	9	8	251	96.80	73.40	38.46	459.97	12.30	5.95	0.00
2003	9	9	252	98.60	78.80	37.38	459.97	14.09	4.75	0.00
2003	9	10	253	100.40	80.60	35.06	459.97	16.77	2.68	0.00
2003	9	11	254	98.60	80.60	38.88	459.97	13.64	5.83	0.69
2003	9	12	255	87.80	68.00	37.17	459.97	9.17	4.53	0.00
2003	9	13	256	93.20	71.60	34.50	459.97	12.30	2.30	1.16
2003	9	14	257	93.20	73.40	39.51	459.97	12.75	6.33	0.16
2003	9	15	258	87.80	69.80	38.98	459.97	10.29	6.45	0.01
2003	9	16	259	89.60	71.60	36.34	459.97	8.27	3.98	0.00
2003	9	17	260	91.40	75.20	38.97	459.97	10.29	5.73	0.11
2003	9	18	261	91.40	75.20	40.30	459.97	12.07	7.20	0.63
2003	9	19	262	78.80	69.80	42.62	459.97	11.40	9.58	0.19
2003	9	20	263	82.40	71.60	42.80	459.97	11.18	9.78	0.40
2003	9	21	264	75.20	71.60	41.81	459.97	7.16	8.68	0.00
2003	9	22	265	80.60	69.80	41.58	459.97	8.05	8.43	0.00
2003	9	23	266	86.00	71.60	40.28	459.97	6.48	7.18	0.00
2003	9	24	267	87.80	75.20	41.81	459.97	10.29	8.68	0.00
2003	9	25	268	87.80	75.20	41.34	459.97	10.06	8.25	0.02
2003	9	26	269	87.80	75.20	40.53	459.97	8.05	7.45	0.17
2003	9	27	270	87.80	75.20	39.69	459.97	6.71	6.53	0.00
2003	9	28	271	89.60	71.60	33.71	459.97	8.50	1.68	0.00
2003	9	29	272	86.00	64.40	32.94	459.97	7.60	0.83	0.00
2003	9	30	273	86.00	60.80	33.96	459.97	7.60	1.45	0.00
2003	10	1	274	86.00	60.80	32.20	355.35	8.27	0.00	0.00
2003	10	2	275	82.40	60.80	34.50	355.35	10.06	2.05	0.00
2003	10	3	276	87.80	60.80	35.15	355.35	9.17	2.78	0.00
2003	10	4	277	89.60	71.60	40.75	355.35	11.85	7.70	0.00
2003	10	5	278	89.60	73.40	39.15	355.35	11.63	5.93	0.00
2003	10	6	279	91.40	75.20	39.63	355.35	8.94	6.45	0.07
2003	10	7	280	89.60	73.40	39.94	355.35	10.06	6.80	0.02
2003	10	8	281	87.80	71.60	40.59	355.35	12.52	7.53	0.00
2003	10	9	282	87.80	75.20	41.20	355.35	9.61	8.20	0.15
2003	10	10	283	87.80	78.80	41.66	355.35	9.84	8.55	0.16
2003	10	11	284	87.80	75.20	41.29	355.35	12.30	8.30	4.75
2003	10	12	285	91.40	69.80	43.00	355.35	11.40	10.00	0.08
2003	10	13	286	78.80	69.80	42.55	355.35	4.70	9.50	0.00
2003	10	14	287	84.20	68.00	39.81	355.35	9.61	6.65	0.00
2003	10	15	288	82.40	59.00	36.75	355.35	8.05	4.18	0.00
2003	10	16	289	86.00	57.20	36.88	355.35	6.71	4.20	0.00
2003	10	17	290	87.80	73.40	35.55	355.35	8.50	2.73	0.00
2003	10	18	291	82.40	60.80	34.29	355.35	8.05	2.33	0.00
2003	10	19	292	80.60	62.60	32.20	355.35	6.93	0.00	0.00
2003	10	20	293	84.20	62.60	32.20	355.35	5.59	0.00	0.00
2003	10	21	294	86.00	62.60	32.20	355.35	4.92	0.00	0.00

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2003	10	22	295	87.80	64.40	32.74	355.35	6.04	0.60	0.00
2003	10	23	296	89.60	59.00	32.20	355.35	7.16	0.00	0.00
2003	10	24	297	89.60	60.80	33.26	355.35	9.61	1.18	0.00
2003	10	25	298	84.20	69.80	38.61	355.35	9.17	5.60	0.62
2003	10	26	299	75.20	50.00	42.91	355.35	15.20	9.90	0.01
2003	10	27	300	71.60	48.20	37.65	355.35	10.29	5.05	0.00
2003	10	28	301	82.40	50.00	32.20	355.35	6.48	0.00	0.00
2003	10	29	302	87.80	57.20	33.78	355.35	11.85	1.75	0.00
2003	10	30	303	87.80	66.20	37.96	355.35	13.42	5.33	0.00
2003	10	31	304	91.40	75.20	39.58	355.35	13.86	6.40	0.00
2003	11	1	305	87.80	73.40	39.78	273.78	12.30	6.63	0.01
2003	11	2	306	87.80	71.60	39.94	273.78	10.73	6.80	0.00
2003	11	3	307	89.60	73.40	38.32	273.78	11.63	5.40	0.00
2003	11	4	308	84.20	71.60	40.77	273.78	10.96	7.73	0.00
2003	11	5	309	84.20	71.60	41.36	273.78	9.84	8.18	0.00
2003	11	6	310	87.80	66.20	40.39	273.78	11.63	7.30	0.00
2003	11	7	311	64.40	55.40	43.00	273.78	13.64	10.00	0.11
2003	11	8	312	57.20	53.60	43.00	273.78	9.61	10.00	0.01
2003	11	9	313	62.60	55.40	43.00	273.78	9.17	10.00	0.10
2003	11	10	314	73.40	59.00	41.65	273.78	5.37	8.50	0.00
2003	11	11	315	82.40	64.40	38.46	273.78	9.39	5.15	0.00
2003	11	12	316	86.00	73.40	40.35	273.78	10.51	7.25	0.01
2003	11	13	317	77.00	68.00	40.66	273.78	11.85	7.60	0.26
2003	11	14	318	73.40	57.20	41.76	273.78	8.05	8.63	0.00
2003	11	15	319	82.40	71.60	40.30	273.78	8.05	7.20	0.00
2003	11	16	320	84.20	69.80	40.01	273.78	8.94	6.88	0.06
2003	11	17	321	82.40	68.00	41.02	273.78	9.61	8.00	0.02
2003	11	18	322	82.40	60.80	33.28	273.78	15.65	1.20	0.00
2003	11	19	323	77.00	46.40	32.38	273.78	9.17	0.20	0.00
2003	11	20	324	77.00	50.00	32.29	273.78	9.84	0.10	0.00
2003	11	21	325	82.40	51.80	32.20	273.78	11.18	0.00	0.00
2003	11	22	326	84.20	57.20	32.20	273.78	15.65	0.00	0.00
2003	11	23	327	80.96	55.40	33.66	273.78	15.65	1.63	0.00
2003	11	24	328	59.00	39.20	32.20	273.78	7.38	0.00	0.00
2003	11	25	329	69.80	39.20	33.26	273.78	9.61	1.18	0.00
2003	11	26	330	75.20	50.00	38.55	273.78	5.14	5.25	0.00
2003	11	27	331	80.60	55.40	33.53	273.78	14.31	1.48	0.00
2003	11	28	332	64.40	39.20	32.20	273.78	8.94	0.00	0.00
2003	11	29	333	69.80	35.60	32.20	273.78	8.94	0.00	0.00
2003	11	30	334	77.00	48.20	32.20	273.78	8.72	0.00	0.00
2003	12	1	335	84.20	55.40	35.85	207.53	9.17	3.55	0.00
2003	12	2	336	78.80	64.40	38.55	207.53	9.17	5.65	0.00
2003	12	3	337	71.60	57.20	34.36	207.53	8.72	2.40	0.00
2003	12	4	338	71.60	57.20	41.76	207.53	6.93	8.63	0.00
2003	12	5	339	64.40	55.40	41.90	207.53	10.96	8.78	0.00
2003	12	6	340	62.60	41.00	34.34	207.53	6.26	2.38	0.00
2003	12	7	341	71.60	42.80	32.56	207.53	10.29	0.40	0.00
2003	12	8	342	82.40	51.80	32.29	207.53	10.51	0.10	0.00
2003	12	9	343	78.80	57.20	32.92	207.53	18.34	0.80	0.00
2003	12	10	344	64.40	39.20	32.20	207.53	7.83	0.00	0.00
2003	12	11	345	73.40	46.40	37.69	207.53	10.73	5.10	0.00

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2003	12	12	346	73.40	53.60	36.57	207.53	7.16	3.95	0.00
2003	12	13	347	71.60	53.60	35.08	207.53	11.18	3.20	0.00
2003	12	14	348	78.80	44.60	32.20	207.53	10.29	0.00	0.00
2003	12	15	349	80.60	53.60	32.20	207.53	13.86	0.00	0.00
2003	12	16	350	64.40	44.60	32.92	207.53	16.32	0.80	0.00
2003	12	17	351	66.20	33.80	32.20	207.53	6.93	0.00	0.00
2003	12	18	352	71.60	35.60	32.20	207.53	8.05	0.00	0.00
2003	12	19	353	66.20	37.40	32.20	207.53	5.14	0.00	0.00
2003	12	20	354	71.60	37.40	32.20	207.53	8.27	0.00	0.00
2003	12	21	355	78.80	48.20	32.20	207.53	11.63	0.00	0.00
2003	12	22	356	80.60	55.40	33.28	207.53	9.84	1.20	0.00
2003	12	23	357	69.80	48.20	32.20	207.53	13.19	0.00	0.00
2003	12	24	358	66.20	35.60	33.62	207.53	7.83	1.58	0.00
2003	12	25	359	69.80	50.00	36.45	207.53	8.27	3.73	0.00
2003	12	26	360	91.40	55.40	33.03	207.53	10.06	0.93	0.00
2003	12	27	361	82.40	60.80	32.74	207.53	13.64	0.60	0.04
2003	12	28	362	68.00	53.60	41.67	207.53	12.97	8.53	0.00
2003	12	29	363	64.40	39.20	33.98	207.53	9.61	1.98	0.00
2003	12	30	364	71.60	35.60	32.20	207.53	9.39	0.00	0.00
2003	12	31	365	80.60	46.40	38.10	207.53	11.40	4.75	0.00
2004	1	1	1	78.80	64.40	40.91	277.05	10.96	7.88	0.00
2004	1	2	2	86.00	66.20	35.37	277.05	14.31	3.03	0.00
2004	1	3	3	84.20	66.20	36.05	277.05	15.65	3.78	0.00
2004	1	4	4	84.20	66.20	37.20	277.05	13.42	4.80	0.00
2004	1	5	5	69.80	51.80	42.82	277.05	14.76	9.80	0.00
2004	1	6	6	51.80	42.80	42.06	277.05	13.64	8.95	0.06
2004	1	7	7	46.40	39.20	42.26	277.05	6.93	9.18	0.02
2004	1	8	8	57.20	42.80	41.34	277.05	7.16	8.15	0.00
2004	1	9	9	69.80	46.40	35.50	277.05	8.94	3.05	0.00
2004	1	10	10	66.20	42.80	32.20	277.05	8.94	0.00	0.00
2004	1	11	11	73.40	41.00	34.02	277.05	10.51	2.03	0.00
2004	1	12	12	71.60	55.40	41.18	277.05	8.94	7.98	0.00
2004	1	13	13	75.20	60.80	39.54	277.05	6.48	6.35	0.04
2004	1	14	14	69.80	64.40	41.34	277.05	7.83	8.35	0.01
2004	1	15	15	75.20	64.40	42.44	277.05	8.94	9.38	0.23
2004	1	16	16	71.60	60.80	41.81	277.05	10.06	8.68	0.00
2004	1	17	17	80.60	59.00	39.51	277.05	13.19	6.33	0.00
2004	1	18	18	64.40	48.20	32.85	277.05	17.22	0.73	0.00
2004	1	19	19	62.60	37.40	32.20	277.05	6.48	0.00	0.00
2004	1	20	20	66.20	41.00	33.91	277.05	9.84	1.90	0.20
2004	1	21	21	60.80	54.50	43.00	277.05	9.17	10.00	0.15
2004	1	22	22	53.60	50.00	38.14	277.05	8.27	4.60	0.14
2004	1	23	23	55.40	48.20	41.11	277.05	7.60	7.90	0.23
2004	1	24	24	69.80	53.60	41.22	277.05	11.63	8.03	0.00
2004	1	25	25	80.60	51.80	33.17	277.05	7.60	1.08	0.00
2004	1	26	26	77.00	51.80	32.20	277.05	12.52	0.00	0.00
2004	1	27	27	60.80	37.40	32.20	277.05	8.05	0.00	0.02
2004	1	28	28	57.20	39.20	38.68	277.05	10.06	5.30	0.04
2004	1	29	29	62.60	53.60	42.44	277.05	5.37	9.38	0.00
2004	1	30	30	71.60	51.80	38.16	277.05	8.72	5.63	0.00
2004	1	31	31	66.20	48.20	35.72	277.05	8.50	3.15	0.00

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2004	2	1	32	73.40	55.40	37.94	359.22	8.50	4.98	0.00
2004	2	2	33	69.80	50.00	33.37	359.22	10.29	1.30	0.00
2004	2	3	34	62.60	42.80	38.86	359.22	10.73	5.60	0.13
2004	2	4	35	80.60	57.20	41.45	359.22	10.73	8.28	0.00
2004	2	5	36	73.40	53.60	35.90	359.22	13.42	3.85	0.00
2004	2	6	37	64.40	50.00	36.99	359.22	10.29	4.33	0.00
2004	2	7	38	68.00	39.20	33.46	359.22	6.71	1.40	0.00
2004	2	8	39	68.00	51.80	42.64	359.22	14.76	9.60	0.00
2004	2	9	40	71.60	55.40	38.59	359.22	6.71	5.30	0.01
2004	2	10	41	64.40	50.00	43.00	359.22	9.84	10.00	0.00
2004	2	11	42	55.40	50.00	43.00	359.22	8.50	10.00	0.02
2004	2	12	43	53.60	46.40	43.00	359.22	12.97	10.00	0.35
2004	2	13	44	44.60	39.20	43.00	359.22	9.17	10.00	0.00
2004	2	14	45	64.40	37.40	34.27	359.22	11.63	2.30	0.00
2004	2	15	46	66.20	39.20	32.38	359.22	7.38	0.20	0.00
2004	2	16	47	73.40	41.00	32.20	359.22	7.83	0.00	0.00
2004	2	17	48	78.80	44.60	32.20	359.22	8.05	0.00	0.00
2004	2	18	49	78.80	48.20	32.20	359.22	12.07	0.00	0.00
2004	2	19	50	84.20	55.40	34.16	359.22	18.78	2.18	0.00
2004	2	20	51	84.20	53.60	32.65	359.22	11.85	0.50	0.00
2004	2	21	52	77.00	53.60	35.13	359.22	12.07	3.25	0.00
2004	2	22	53	78.80	62.60	40.23	359.22	12.52	7.13	0.01
2004	2	23	54	84.20	62.60	36.71	359.22	6.93	4.25	2.25
2004	2	24	55	73.40	55.40	37.80	359.22	10.06	5.10	0.00
2004	2	25	56	62.60	48.74	33.82	359.22	19.90	1.80	0.00
2004	2	26	57	66.20	39.20	32.20	359.22	6.71	0.00	0.00
2004	2	27	58	75.20	46.40	32.20	359.22	13.86	0.00	0.00
2004	2	28	59	71.60	57.20	42.55	359.22	17.22	9.50	0.00
2004	2	29	60	78.80	62.60	39.29	421.77	14.09	6.08	0.57
2004	3	1	61	75.20	60.80	40.10	421.77	11.85	6.78	0.00
2004	3	2	62	80.60	62.60	41.13	421.77	11.40	7.93	0.00
2004	3	3	63	84.20	69.80	42.24	421.77	16.55	9.15	0.00
2004	3	4	64	89.60	69.80	40.23	421.77	19.45	7.13	0.00
2004	3	5	65	84.20	60.80	38.39	421.77	8.50	5.88	0.00
2004	3	6	66	82.40	59.00	33.53	421.77	8.72	1.48	0.00
2004	3	7	67	84.20	57.20	33.64	421.77	6.93	1.60	0.00
2004	3	8	68	80.60	55.40	32.20	421.77	10.73	0.00	0.00
2004	3	9	69	82.40	55.40	33.33	421.77	6.26	1.25	0.00
2004	3	10	70	84.20	55.40	32.20	421.77	12.52	0.00	0.01
2004	3	11	71	73.40	62.60	40.39	421.77	15.43	7.10	0.97
2004	3	12	72	73.40	62.60	42.53	421.77	15.43	9.48	0.82
2004	3	13	73	71.60	60.80	42.82	421.77	11.40	9.80	1.65
2004	3	14	74	69.80	62.60	42.44	421.77	9.39	9.38	0.37
2004	3	15	75	71.60	62.60	41.38	421.77	7.16	8.20	0.00
2004	3	16	76	80.60	62.60	39.74	421.77	6.04	6.48	0.00
2004	3	17	77	87.80	62.60	34.63	421.77	13.64	2.70	0.00
2004	3	18	78	84.20	68.00	41.36	421.77	11.85	8.18	0.00
2004	3	19	79	86.00	71.60	41.31	421.77	10.96	8.13	0.00
2004	3	20	80	84.20	69.80	39.76	421.77	12.07	6.60	0.00
2004	3	21	81	84.20	68.00	36.23	421.77	10.29	3.98	0.00
2004	3	22	82	80.60	60.80	39.81	421.77	10.51	6.65	0.00

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2004	3	23	83	82.40	62.60	40.98	421.77	13.42	7.95	0.00
2004	3	24	84	80.60	60.20	42.12	421.77	14.98	9.03	0.00
2004	3	25	85	82.40	68.00	41.63	421.77	14.76	8.48	0.00
2004	3	26	86	84.20	69.80	41.22	421.77	15.43	8.23	0.00
2004	3	27	87	82.40	69.80	41.36	421.77	15.88	8.18	0.00
2004	3	28	88	84.20	69.80	41.47	421.77	9.84	8.30	0.39
2004	3	29	89	71.60	60.80	39.58	421.77	11.18	6.40	0.00
2004	3	30	90	82.40	55.40	35.28	421.77	7.16	2.93	0.00
2004	3	31	91	87.80	55.40	32.97	514.09	7.60	0.85	0.00
2004	4	1	92	87.80	62.60	32.85	514.09	12.30	0.73	0.02
2004	4	2	93	84.20	69.80	40.44	514.09	13.64	7.35	0.00
2004	4	3	94	80.60	66.20	39.96	514.09	12.07	6.83	1.72
2004	4	4	95	82.40	64.40	41.02	514.09	13.86	8.00	0.00
2004	4	5	96	75.20	60.80	42.64	514.09	7.83	9.60	0.00
2004	4	6	97	82.40	68.00	37.71	514.09	9.17	5.13	0.00
2004	4	7	98	87.80	64.40	35.69	514.09	5.14	3.38	0.00
2004	4	8	99	80.60	69.80	36.93	514.09	10.06	4.50	0.00
2004	4	9	100	84.20	62.60	36.79	514.09	9.84	4.10	0.05
2004	4	10	101	89.60	62.60	41.67	514.09	12.52	8.53	0.19
2004	4	11	102	62.60	51.80	43.00	514.09	14.98	10.00	0.05
2004	4	12	103	69.80	50.00	39.45	514.09	14.98	6.25	0.00
2004	4	13	104	73.40	48.20	32.20	514.09	8.27	0.00	0.00
2004	4	14	105	82.40	53.60	32.20	514.09	11.63	0.00	0.00
2004	4	15	106	84.20	60.80	32.38	514.09	14.09	0.20	0.00
2004	4	16	107	84.20	64.40	35.29	514.09	15.88	3.05	0.00
2004	4	17	108	86.00	64.40	39.11	514.09	15.65	5.88	0.00
2004	4	18	109	86.00	69.80	40.35	514.09	16.99	7.25	0.00
2004	4	19	110	86.00	69.80	40.55	514.09	17.44	7.48	0.00
2004	4	20	111	87.80	68.00	38.01	514.09	15.88	4.65	0.00
2004	4	21	112	91.40	68.00	32.20	514.09	10.96	0.00	0.00
2004	4	22	113	89.60	71.60	38.79	514.09	12.30	5.53	0.00
2004	4	23	114	87.80	75.20	41.45	514.09	12.07	8.28	0.15
2004	4	24	115	84.20	68.00	40.91	514.09	11.40	7.68	0.09
2004	4	25	116	77.00	66.20	42.44	514.09	8.50	9.38	0.08
2004	4	26	117	78.80	68.00	39.65	514.09	8.50	6.48	0.00
2004	4	27	118	84.20	64.40	34.70	514.09	8.94	2.28	0.03
2004	4	28	119	82.40	66.20	39.78	514.09	15.43	6.63	0.00
2004	4	29	120	89.60	69.80	36.70	514.09	12.52	4.50	0.00
2004	4	30	121	89.60	73.40	39.99	514.09	11.63	6.65	0.15
2004	5	1	122	78.80	62.60	40.05	553.07	14.31	6.83	0.00
2004	5	2	123	78.80	53.60	32.20	553.07	10.73	0.00	0.00
2004	5	3	124	84.20	55.40	32.20	553.07	8.50	0.00	0.00
2004	5	4	125	86.00	57.20	32.20	553.07	12.75	0.00	0.00
2004	5	5	126	87.80	64.40	35.01	553.07	14.31	2.63	0.00
2004	5	6	127	86.00	69.80	40.23	553.07	14.31	7.13	0.58
2004	5	7	128	86.00	69.80	40.57	553.07	13.19	7.50	0.00
2004	5	8	129	86.00	68.00	39.63	553.07	12.07	6.45	0.00
2004	5	9	130	89.60	69.80	40.93	553.07	10.73	7.90	0.00
2004	5	10	131	91.40	71.60	39.54	553.07	14.98	6.35	0.00
2004	5	11	132	89.60	71.60	40.93	553.07	15.20	7.70	0.00
2004	5	12	133	100.40	77.00	41.58	553.07	14.31	8.43	0.00

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2004	5	13	134	93.20	78.80	40.46	553.07	12.97	7.18	0.00
2004	5	14	135	89.60	66.20	37.20	553.07	11.85	4.55	0.00
2004	5	15	136	87.80	62.60	39.22	553.07	8.94	6.00	0.00
2004	5	16	137	91.40	66.20	33.62	553.07	12.97	1.58	0.00
2004	5	17	138	93.20	69.80	37.15	553.07	14.98	4.50	0.00
2004	5	18	139	95.00	75.20	37.89	553.07	14.98	5.33	0.00
2004	5	19	140	95.00	73.40	37.38	553.07	14.53	4.75	0.00
2004	5	20	141	95.00	73.40	38.88	553.07	16.99	5.63	0.00
2004	5	21	142	95.00	73.40	39.63	553.07	15.43	6.45	0.00
2004	5	22	143	96.80	73.40	35.58	553.07	17.44	3.25	0.00
2004	5	23	144	96.80	73.40	36.72	553.07	15.65	4.03	0.00
2004	5	24	145	98.60	75.20	36.43	553.07	17.89	4.20	0.00
2004	5	25	146	98.60	75.20	34.99	553.07	17.44	3.10	0.00
2004	5	26	147	98.60	75.20	34.50	553.07	18.34	2.55	0.00
2004	5	27	148	100.40	75.20	35.51	553.07	15.65	3.68	0.00
2004	5	28	149	98.60	77.00	37.62	553.07	10.51	5.03	0.00
2004	5	29	150	100.40	78.80	35.56	553.07	17.89	3.48	0.00
2004	5	30	151	98.60	78.80	34.23	553.07	12.97	2.25	0.00
2004	5	31	152	109.40	75.20	32.97	553.07	8.05	0.85	0.00
2004	6	1	153	107.60	78.80	32.20	581.92	13.64	0.00	0.00
2004	6	2	154	104.00	78.80	32.58	581.92	17.89	0.43	0.02
2004	6	3	155	100.40	78.80	37.06	581.92	14.31	4.40	0.00
2004	6	4	156	98.60	77.00	37.65	581.92	12.75	5.05	0.00
2004	6	5	157	100.40	77.00	33.98	581.92	17.66	1.98	0.00
2004	6	6	158	100.40	77.00	37.11	581.92	17.44	4.45	0.00
2004	6	7	159	89.60	78.80	39.74	581.92	17.44	6.58	0.09
2004	6	8	160	96.80	73.40	40.68	581.92	19.23	7.63	0.01
2004	6	9	161	96.80	77.00	40.35	581.92	18.56	7.25	0.00
2004	6	10	162	98.60	78.80	37.98	581.92	16.55	5.43	0.00
2004	6	11	163	93.20	78.80	39.45	581.92	17.22	6.25	0.00
2004	6	12	164	98.60	78.80	37.44	581.92	16.99	4.83	0.00
2004	6	13	165	100.40	77.00	37.51	581.92	12.07	4.90	0.00
2004	6	14	166	100.40	77.00	34.99	581.92	11.40	2.60	0.00
2004	6	15	167	100.40	75.20	35.40	581.92	12.75	3.05	0.00
2004	6	16	168	104.00	78.80	35.58	581.92	15.43	3.25	0.00
2004	6	17	169	100.40	80.60	36.66	581.92	14.76	3.95	0.00
2004	6	18	170	104.00	78.80	33.44	581.92	14.98	1.38	0.00
2004	6	19	171	104.00	73.40	32.74	581.92	13.19	0.60	0.00
2004	6	20	172	100.40	75.20	33.89	581.92	14.31	1.88	0.00
2004	6	21	173	105.80	77.00	33.24	581.92	14.76	1.15	0.27
2004	6	22	174	93.20	75.20	39.38	581.92	14.98	6.18	0.00
2004	6	23	175	91.40	73.40	36.79	581.92	7.16	4.10	0.00
2004	6	24	176	100.40	73.40	35.22	581.92	7.16	2.85	0.03
2004	6	25	177	100.40	75.20	39.87	581.92	9.17	6.73	0.00
2004	6	26	178	93.20	71.60	39.63	581.92	9.39	6.45	0.00
2004	6	27	179	98.60	73.40	37.56	581.92	12.75	4.95	0.00
2004	6	28	180	98.60	78.80	37.11	581.92	15.88	4.45	0.41
2004	6	29	181	93.20	78.80	40.86	581.92	13.86	7.73	0.14
2004	6	30	182	95.00	73.40	39.87	581.92	11.40	6.73	0.00
2004	7	1	183	98.60	73.40	36.05	623.50	11.40	3.78	0.00
2004	7	2	184	100.40	87.80	32.58	623.50	13.86	0.43	0.00

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2004	7	3	185	102.20	77.00	32.56	623.50	13.42	0.40	0.00
2004	7	4	186	100.40	77.00	32.47	623.50	15.65	0.30	0.00
2004	7	5	187	100.40	77.00	35.76	623.50	14.09	3.45	0.00
2004	7	6	188	102.20	78.80	34.54	623.50	16.55	2.10	0.00
2004	7	7	189	100.40	78.80	34.81	623.50	14.31	2.40	0.00
2004	7	8	190	102.20	78.80	33.12	623.50	16.32	1.03	0.00
2004	7	9	191	102.20	78.80	35.40	623.50	16.32	3.05	0.00
2004	7	10	192	98.60	78.80	37.31	623.50	16.10	4.68	0.00
2004	7	11	193	93.20	73.40	36.23	623.50	13.19	3.48	0.07
2004	7	12	194	95.00	73.40	39.65	623.50	12.07	6.48	0.00
2004	7	13	195	96.80	75.20	38.86	623.50	13.42	5.60	0.00
2004	7	14	196	102.20	73.40	33.55	623.50	9.61	1.50	0.00
2004	7	15	197	102.20	75.20	32.29	623.50	10.73	0.10	0.00
2004	7	16	198	102.20	77.00	32.94	623.50	11.40	0.83	0.00
2004	7	17	199	102.20	77.00	33.66	623.50	10.73	1.63	0.00
2004	7	18	200	105.80	77.00	32.85	623.50	10.29	0.73	0.00
2004	7	19	201	104.00	78.80	35.13	623.50	8.50	2.75	0.00
2004	7	20	202	104.00	80.60	32.94	623.50	10.51	0.83	0.20
2004	7	21	203	98.60	78.80	34.95	623.50	14.98	3.05	0.90
2004	7	22	204	100.40	75.20	37.08	623.50	12.52	4.43	0.02
2004	7	23	205	98.60	73.40	36.95	623.50	12.52	4.78	0.00
2004	7	24	206	98.60	77.00	36.97	623.50	12.97	4.30	0.00
2004	7	25	207	98.60	77.00	35.40	623.50	9.61	3.05	0.00
2004	7	26	208	96.80	78.80	36.26	623.50	9.61	3.75	0.00
2004	7	27	209	98.60	78.80	36.84	623.50	11.40	4.15	0.00
2004	7	28	210	102.20	77.00	32.76	623.50	14.09	0.63	0.00
2004	7	29	211	102.20	78.80	33.89	623.50	12.52	1.88	0.00
2004	7	30	212	98.60	78.80	37.27	623.50	10.29	4.88	0.00
2004	7	31	213	102.20	78.80	35.31	543.94	11.85	2.95	0.00
2004	8	1	214	100.40	77.00	32.85	543.94	9.61	0.73	0.00
2004	8	2	215	102.20	78.80	33.12	543.94	9.39	1.03	0.00
2004	8	3	216	102.20	78.80	33.53	543.94	10.06	1.48	0.00
2004	8	4	217	102.20	78.80	33.08	543.94	10.73	0.98	0.00
2004	8	5	218	102.20	78.80	32.97	543.94	8.50	0.85	0.00
2004	8	6	219	104.00	78.80	32.67	543.94	8.72	0.53	0.00
2004	8	7	220	102.20	78.80	33.42	543.94	8.72	1.35	0.00
2004	8	8	221	102.20	78.80	33.98	543.94	13.19	1.98	0.02
2004	8	9	222	96.80	78.80	37.71	543.94	12.07	5.13	0.33
2004	8	10	223	91.40	77.00	37.51	543.94	4.47	4.90	0.00
2004	8	11	224	96.80	78.80	34.73	543.94	10.06	2.55	0.01
2004	8	12	225	93.20	71.60	34.34	543.94	11.63	2.38	0.00
2004	8	13	226	96.80	71.60	32.38	543.94	8.94	0.20	0.00
2004	8	14	227	96.80	73.40	34.09	543.94	13.64	2.10	0.00
2004	8	15	228	93.20	71.60	33.75	543.94	13.86	1.60	0.00
2004	8	16	229	95.00	69.80	34.32	543.94	9.84	2.35	0.00
2004	8	17	230	98.60	73.40	36.75	543.94	9.84	4.05	0.00
2004	8	18	231	100.40	75.20	33.78	543.94	13.64	1.75	0.00
2004	8	19	232	105.80	78.80	35.08	543.94	16.99	2.70	0.00
2004	8	20	233	104.00	80.60	33.53	543.94	15.43	1.48	0.00
2004	8	21	234	100.40	80.60	37.33	543.94	14.76	4.70	0.01
2004	8	22	235	102.20	80.60	39.18	543.94	14.09	6.35	0.01

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2004	8	23	236	102.20	80.60	38.93	543.94	13.19	6.48	0.00
2004	8	24	237	105.80	80.60	32.20	543.94	15.43	0.00	0.00
2004	8	25	238	105.80	80.60	32.29	543.94	15.65	0.10	0.00
2004	8	26	239	105.80	82.40	32.20	543.94	17.44	0.00	0.00
2004	8	27	240	105.80	80.60	33.98	543.94	17.22	1.98	0.16
2004	8	28	241	102.20	77.00	33.78	543.94	12.97	1.75	1.61
2004	8	29	242	91.40	69.80	38.48	543.94	11.18	5.98	0.00
2004	8	30	243	91.40	73.40	36.48	543.94	8.50	3.75	0.54
2004	8	31	244	93.20	73.40	37.67	459.97	9.84	5.08	0.35
2004	9	1	245	82.40	73.40	40.21	459.97	9.84	7.10	0.35
2004	9	2	246	77.00	71.60	41.65	459.97	7.16	8.50	0.00
2004	9	3	247	89.60	71.60	40.21	459.97	6.26	7.10	0.09
2004	9	4	248	91.40	73.40	39.40	459.97	10.51	6.20	0.00
2004	9	5	249	96.80	77.00	35.87	459.97	9.84	3.58	1.38
2004	9	6	250	96.80	77.00	35.36	459.97	9.61	3.25	3.81
2004	9	7	251	89.60	71.60	38.37	459.97	11.63	5.45	0.00
2004	9	8	252	89.60	66.20	33.62	459.97	8.27	1.58	0.00
2004	9	9	253	89.60	69.80	37.06	459.97	6.04	4.40	0.00
2004	9	10	254	91.40	71.60	38.07	459.97	5.81	5.53	0.00
2004	9	11	255	95.00	75.20	36.59	459.97	8.50	3.88	0.00
2004	9	12	256	96.80	75.20	34.35	459.97	6.48	2.13	0.00
2004	9	13	257	95.00	73.40	33.30	459.97	7.16	1.23	0.00
2004	9	14	258	96.80	75.20	34.39	459.97	9.17	2.18	0.00
2004	9	15	259	96.80	77.00	35.40	459.97	11.85	3.05	0.00
2004	9	16	260	98.60	77.00	34.27	459.97	9.39	1.80	0.00
2004	9	17	261	96.80	75.20	35.22	459.97	10.06	2.85	0.00
2004	9	18	262	93.20	77.00	36.28	459.97	12.07	3.65	0.00
2004	9	19	263	96.80	75.20	37.15	459.97	12.07	4.50	0.00
2004	9	20	264	95.00	75.20	35.22	459.97	10.51	2.85	0.00
2004	9	21	265	95.00	73.40	36.61	459.97	11.85	3.90	0.00
2004	9	22	266	96.80	73.40	36.68	459.97	8.94	3.98	0.04
2004	9	23	267	93.20	73.40	34.92	459.97	7.83	2.53	0.00
2004	9	24	268	95.00	73.40	35.53	459.97	6.71	3.20	0.00
2004	9	25	269	91.40	73.40	35.06	459.97	10.29	2.68	0.07
2004	9	26	270	84.20	73.40	40.48	459.97	8.72	7.40	0.03
2004	9	27	271	82.40	73.40	40.28	459.97	4.25	6.98	0.00
2004	9	28	272	89.60	68.00	36.84	459.97	6.26	4.15	0.00
2004	9	29	273	91.40	68.00	33.03	459.97	6.04	0.93	0.00
2004	9	30	274	95.00	69.80	32.58	355.35	12.75	0.43	0.00
2004	10	1	275	98.60	77.00	38.28	355.35	10.96	5.75	0.00
2004	10	2	276	96.80	77.00	37.31	355.35	9.61	4.68	0.00
2004	10	3	277	89.60	73.40	39.54	355.35	9.39	6.35	0.00
2004	10	4	278	93.20	73.40	37.47	355.35	7.83	4.85	1.78
2004	10	5	279	82.40	69.80	40.50	355.35	9.17	7.43	0.00
2004	10	6	280	87.80	71.60	35.31	355.35	6.48	2.95	0.00
2004	10	7	281	89.60	71.60	38.32	355.35	7.38	5.20	0.00
2004	10	8	282	87.80	71.60	36.63	355.35	9.61	3.93	0.00
2004	10	9	283	87.80	68.00	34.30	355.35	8.50	2.08	0.00
2004	10	10	284	89.60	64.40	32.20	355.35	6.48	0.00	0.00
2004	10	11	285	89.60	64.40	32.20	355.35	4.47	0.00	0.00
2004	10	12	286	87.80	69.80	37.60	355.35	9.39	5.00	0.00

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2004	10	13	287	86.00	71.60	38.12	355.35	10.51	5.58	0.00
2004	10	14	288	77.00	64.40	38.12	355.35	12.30	5.58	0.00
2004	10	15	289	87.80	55.40	32.20	355.35	6.71	0.00	0.00
2004	10	16	290	93.20	62.60	32.20	355.35	7.83	0.00	0.00
2004	10	17	291	98.60	69.80	32.29	355.35	10.73	0.10	0.00
2004	10	18	292	98.60	75.20	34.36	355.35	10.06	2.40	0.00
2004	10	19	293	100.40	75.20	34.09	355.35	6.93	2.10	0.00
2004	10	20	294	98.60	77.00	35.88	355.35	9.39	3.83	0.00
2004	10	21	295	98.60	77.00	38.57	355.35	11.18	5.28	0.00
2004	10	22	296	96.80	78.80	38.55	355.35	14.76	5.65	0.00
2004	10	23	297	89.60	77.00	39.87	355.35	7.38	6.73	0.00
2004	10	24	298	93.20	75.20	38.01	355.35	9.84	5.45	0.00
2004	10	25	299	95.00	77.00	35.26	355.35	16.99	2.90	0.00
2004	10	26	300	95.00	75.20	38.05	355.35	13.86	5.50	0.00
2004	10	27	301	87.80	75.20	36.63	355.35	14.76	3.93	0.00
2004	10	28	302	95.00	75.20	37.11	355.35	15.65	4.45	0.00
2004	10	29	303	96.80	77.00	36.10	355.35	13.42	4.08	0.00
2004	10	30	304	95.00	73.40	33.39	355.35	15.43	1.33	0.07
2004	10	31	305	93.20	69.80	35.06	273.78	16.10	2.68	0.04
2004	11	1	306	82.40	64.40	38.84	273.78	8.72	5.58	0.00
2004	11	2	307	66.20	53.60	35.33	273.78	22.81	3.48	0.00
2004	11	3	308	69.80	48.20	32.20	273.78	16.55	0.00	0.00
2004	11	4	309	78.80	48.20	32.20	273.78	5.81	0.00	0.00
2004	11	5	310	78.80	46.40	32.20	273.78	4.70	0.00	0.00
2004	11	6	311	84.20	50.00	32.20	273.78	6.48	0.00	0.00
2004	11	7	312	89.60	53.60	32.56	273.78	8.05	0.40	0.00
2004	11	8	313	86.00	60.80	32.47	273.78	10.29	0.30	0.00
2004	11	9	314	84.20	62.60	34.00	273.78	12.30	2.00	0.00
2004	11	10	315	87.80	60.80	32.38	273.78	11.18	0.20	0.00
2004	11	11	316	77.00	59.00	34.27	273.78	11.18	2.30	0.00
2004	11	12	317	64.40	55.40	41.40	273.78	10.73	8.23	0.14
2004	11	13	318	57.20	50.00	43.00	273.78	12.30	10.00	0.41
2004	11	14	319	60.80	51.80	43.00	273.78	7.83	10.00	0.19
2004	11	15	320	71.60	55.40	43.00	273.78	8.27	10.00	0.50
2004	11	16	321	82.40	64.40	41.79	273.78	11.40	8.75	0.14
2004	11	17	322	78.80	60.80	39.42	273.78	7.16	6.23	0.00
2004	11	18	323	80.60	59.00	32.94	273.78	5.14	0.83	0.00
2004	11	19	324	77.00	64.40	39.72	273.78	6.48	6.55	0.00
2004	11	20	325	77.00	68.00	39.96	273.78	6.71	6.83	0.01
2004	11	21	326	82.40	68.00	41.43	273.78	7.38	8.35	1.06
2004	11	22	327	80.60	69.80	41.49	273.78	8.72	8.33	0.00
2004	11	23	328	89.60	62.60	39.09	273.78	8.50	6.15	0.00
2004	11	24	329	71.60	53.60	32.20	273.78	15.43	0.00	0.00
2004	11	25	330	75.20	48.20	32.20	273.78	9.61	0.00	0.00
2004	11	26	331	80.60	59.00	35.46	273.78	10.29	3.13	0.00
2004	11	27	332	78.80	51.80	32.38	273.78	8.94	0.20	0.00
2004	11	28	333	82.40	51.80	33.80	273.78	12.07	1.78	0.00
2004	11	29	334	95.00	68.00	34.89	273.78	9.84	2.73	0.00
2004	11	30	335	69.80	44.60	40.19	207.53	16.77	6.88	0.00
2004	12	1	336	64.40	41.00	36.16	207.53	8.50	3.90	0.00
2004	12	2	337	66.20	48.20	40.81	207.53	7.83	7.73	0.00

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2004	12	3	338	64.40	57.20	42.82	207.53	8.27	9.80	0.00
2004	12	4	339	66.20	55.40	43.00	207.53	6.71	10.00	0.00
2004	12	5	340	69.80	57.20	41.02	207.53	7.16	7.80	0.00
2004	12	6	341	73.40	60.80	40.95	207.53	10.51	7.73	0.00
2004	12	7	342	78.80	53.60	32.65	207.53	8.72	0.50	0.00
2004	12	8	343	75.20	53.60	36.40	207.53	7.16	3.73	0.00
2004	12	9	344	89.60	50.00	32.20	207.53	8.27	0.00	0.00
2004	12	10	345	80.60	53.60	32.20	207.53	9.84	0.00	0.00
2004	12	11	346	82.40	46.40	32.20	207.53	8.05	0.00	0.00
2004	12	12	347	87.80	53.60	32.20	207.53	7.38	0.00	0.00
2004	12	13	348	64.40	53.60	40.66	207.53	13.86	7.40	0.00
2004	12	14	349	59.00	41.00	34.81	207.53	12.75	2.90	0.00
2004	12	15	350	64.40	33.80	33.24	207.53	7.60	1.15	0.00
2004	12	16	351	64.40	48.20	41.63	207.53	11.18	8.48	0.00
2004	12	17	352	64.40	44.60	36.81	207.53	9.84	4.13	0.00
2004	12	18	353	66.20	42.80	35.22	207.53	3.80	2.85	0.00
2004	12	19	354	71.60	41.00	34.02	207.53	6.71	2.03	0.00
2004	12	20	355	75.20	42.80	32.38	207.53	14.53	0.20	0.00
2004	12	21	356	84.20	51.80	32.20	207.53	6.04	0.00	0.00
2004	12	22	357	71.60	42.80	33.64	207.53	14.98	1.60	0.00
2004	12	23	358	46.40	37.40	40.17	207.53	11.85	7.05	0.11
2004	12	24	359	42.80	32.00	42.53	207.53	13.64	9.48	0.00
2004	12	25	360	59.00	28.40	33.17	207.53	5.14	1.08	0.00
2004	12	26	361	68.00	33.80	32.20	207.53	7.16	0.00	0.00
2004	12	27	362	73.40	37.40	33.62	207.53	10.96	1.58	0.00
2004	12	28	363	78.80	50.00	34.81	207.53	10.73	2.40	0.00
2004	12	29	364	80.60	55.40	32.47	207.53	11.63	0.30	0.00
2004	12	30	365	75.20	57.20	39.31	207.53	11.40	6.10	0.00
2004	12	31	366	84.20	59.00	33.51	207.53	12.07	1.45	0.00
2005	1	1	1	82.40	64.40	39.04	277.05	13.64	5.80	0.00
2005	1	2	2	84.20	64.40	39.20	277.05	11.18	5.98	0.00
2005	1	3	3	87.80	71.60	40.08	277.05	13.42	6.95	0.00
2005	1	4	4	87.80	68.00	36.84	277.05	18.78	4.40	0.00
2005	1	5	5	84.20	62.60	37.65	277.05	14.09	5.05	0.00
2005	1	6	6	62.60	46.40	43.00	277.05	12.30	10.00	0.00
2005	1	7	7	64.40	42.80	39.67	277.05	7.60	6.30	0.00
2005	1	8	8	64.40	44.60	40.21	277.05	6.71	6.90	0.00
2005	1	9	9	71.60	55.40	41.79	277.05	5.81	8.65	0.00
2005	1	10	10	86.00	62.60	36.12	277.05	14.09	4.10	0.00
2005	1	11	11	86.00	60.80	32.83	277.05	10.51	0.70	0.00
2005	1	12	12	82.40	64.40	33.89	277.05	16.10	1.88	0.00
2005	1	13	13	69.80	50.90	33.10	277.05	16.99	1.00	0.00
2005	1	14	14	64.40	39.20	32.20	277.05	8.94	0.00	0.00
2005	1	15	15	62.60	42.80	35.94	277.05	7.83	3.65	0.00
2005	1	16	16	60.80	37.40	32.20	277.05	10.06	0.00	0.00
2005	1	17	17	62.60	33.80	37.08	277.05	8.50	4.43	0.11
2005	1	18	18	57.20	51.80	42.82	277.05	10.73	9.80	0.02
2005	1	19	19	62.60	50.00	42.62	277.05	5.14	9.58	0.00
2005	1	20	20	73.40	53.60	38.95	277.05	4.02	5.70	0.00
2005	1	21	21	80.60	50.00	36.18	277.05	5.37	3.93	0.00
2005	1	22	22	82.40	57.20	35.37	277.05	10.73	3.03	0.00

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2005	1	23	23	57.20	44.60	36.93	277.05	12.75	4.25	0.00
2005	1	24	24	66.20	41.00	33.46	277.05	9.17	1.40	0.00
2005	1	25	25	84.20	48.20	32.20	277.05	5.37	0.00	0.00
2005	1	26	26	84.20	53.60	32.20	277.05	4.92	0.00	1.03
2005	1	27	27	69.80	57.20	42.10	277.05	9.39	9.00	0.00
2005	1	28	28	64.40	53.60	39.67	277.05	7.16	6.30	0.02
2005	1	29	29	57.20	53.60	42.64	277.05	8.72	9.60	0.12
2005	1	30	30	59.00	50.00	43.00	277.05	10.06	10.00	0.06
2005	1	31	31	51.80	46.40	42.91	277.05	14.09	9.90	0.06
2005	2	1	32	48.20	44.60	42.91	359.22	11.85	9.90	0.00
2005	2	2	33	51.80	44.60	40.48	359.22	12.75	7.20	0.02
2005	2	3	34	51.80	42.80	39.51	359.22	7.38	6.33	0.00
2005	2	4	35	55.40	46.40	39.58	359.22	3.35	6.40	0.08
2005	2	5	36	55.40	50.00	42.91	359.22	6.26	9.90	0.11
2005	2	6	37	69.80	50.00	40.80	359.22	6.48	7.55	0.00
2005	2	7	38	75.20	59.00	41.20	359.22	8.05	8.20	0.01
2005	2	8	39	69.80	59.00	42.64	359.22	7.16	9.60	0.00
2005	2	9	40	69.80	55.40	43.00	359.22	12.30	10.00	0.00
2005	2	10	41	55.40	51.80	43.00	359.22	10.73	10.00	0.00
2005	2	11	42	62.60	51.80	42.91	359.22	4.25	9.90	0.05
2005	2	12	43	69.80	53.60	41.63	359.22	7.38	8.48	0.00
2005	2	13	44	84.20	53.60	34.86	359.22	7.16	2.95	0.00
2005	2	14	45	87.80	51.80	32.20	359.22	5.14	0.00	0.00
2005	2	15	46	91.40	60.80	32.47	359.22	10.96	0.30	0.00
2005	2	16	47	75.20	64.40	40.19	359.22	9.84	6.88	0.00
2005	2	17	48	69.80	53.60	42.82	359.22	14.53	9.80	0.07
2005	2	18	49	57.20	53.60	43.00	359.22	8.94	10.00	0.03
2005	2	19	50	62.60	51.80	42.91	359.22	6.04	9.90	0.00
2005	2	20	51	78.80	60.80	40.03	359.22	6.48	6.70	0.00
2005	2	21	52	84.20	59.00	35.35	359.22	5.59	3.50	0.00
2005	2	22	53	80.60	66.20	41.27	359.22	7.60	8.08	0.00
2005	2	23	54	87.80	60.80	35.08	359.22	6.26	3.20	0.00
2005	2	24	55	73.40	57.20	39.94	359.22	14.09	6.80	0.00
2005	2	25	56	57.20	51.80	43.00	359.22	10.73	10.00	0.78
2005	2	26	57	55.40	50.00	43.00	359.22	8.72	10.00	0.00
2005	2	27	58	78.80	50.00	35.53	359.22	6.48	3.70	0.00
2005	2	28	59	75.20	53.60	32.65	359.22	7.83	0.50	0.00
2005	3	1	60	80.60	53.60	34.57	421.77	12.52	2.38	0.00
2005	3	2	61	73.40	64.40	40.55	421.77	10.06	7.38	0.00
2005	3	3	62	78.80	57.20	39.38	421.77	8.94	6.08	0.00
2005	3	4	63	80.60	57.20	40.86	421.77	12.97	7.83	0.91
2005	3	5	64	69.80	62.60	41.90	421.77	12.07	8.78	0.12
2005	3	6	65	69.80	59.00	42.46	421.77	7.38	9.40	0.01
2005	3	7	66	84.20	64.40	38.84	421.77	8.94	5.58	0.00
2005	3	8	67	73.40	53.60	37.06	421.77	10.96	4.40	0.00
2005	3	9	68	77.00	50.00	33.26	421.77	8.27	1.18	0.00
2005	3	10	69	82.40	55.40	32.65	421.77	8.05	0.50	0.00
2005	3	11	70	80.60	57.20	32.74	421.77	11.63	0.60	0.00
2005	3	12	71	86.00	57.20	32.29	421.77	12.30	0.10	0.00
2005	3	13	72	96.80	62.60	32.20	421.77	13.42	0.00	0.00
2005	3	14	73	73.40	51.80	34.27	421.77	10.51	2.30	0.01

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2005	3	15	74	71.60	55.40	41.29	421.77	10.29	8.10	0.08
2005	3	16	75	59.00	47.30	40.12	421.77	15.88	6.80	0.00
2005	3	17	76	69.80	42.80	32.20	421.77	6.48	0.00	0.00
2005	3	18	77	86.00	50.00	32.20	421.77	11.63	0.00	0.00
2005	3	19	78	84.20	60.80	36.99	421.77	9.84	4.33	0.00
2005	3	20	79	87.80	64.40	38.75	421.77	8.05	5.48	0.00
2005	3	21	80	87.80	66.20	36.52	421.77	11.85	4.30	0.00
2005	3	22	81	86.00	57.20	33.21	421.77	9.17	1.13	0.00
2005	3	23	82	89.60	55.40	32.20	421.77	12.07	0.00	0.00
2005	3	24	83	87.80	62.60	33.42	421.77	10.29	1.35	0.00
2005	3	25	84	87.80	66.20	39.63	421.77	9.17	6.45	0.00
2005	3	26	85	89.60	60.80	39.49	421.77	12.75	6.30	0.00
2005	3	27	86	73.40	51.80	34.45	421.77	19.45	2.50	0.00
2005	3	28	87	87.80	50.00	32.20	421.77	12.30	0.00	0.00
2005	3	29	88	93.20	62.60	32.94	421.77	12.07	0.83	0.00
2005	3	30	89	93.20	68.00	34.61	421.77	10.51	2.68	0.00
2005	3	31	90	89.60	66.20	34.56	421.77	9.61	2.63	0.00
2005	4	1	91	77.00	59.00	34.79	514.09	20.79	2.88	0.00
2005	4	2	92	80.60	44.60	32.20	514.09	7.60	0.00	0.00
2005	4	3	93	82.40	55.40	32.67	514.09	13.19	0.53	0.00
2005	4	4	94	84.20	62.60	32.38	514.09	12.52	0.20	0.00
2005	4	5	95	100.40	66.20	32.20	514.09	10.29	0.00	0.00
2005	4	6	96	89.60	60.80	32.20	514.09	14.31	0.00	0.00
2005	4	7	97	87.80	57.20	32.20	514.09	11.63	0.00	0.00
2005	4	8	98	91.40	55.40	32.20	514.09	8.50	0.00	0.00
2005	4	9	99	96.80	66.20	32.29	514.09	14.09	0.10	0.00
2005	4	10	100	93.20	73.40	37.29	514.09	14.53	4.65	0.00
2005	4	11	101	89.60	68.00	34.00	514.09	14.31	2.00	0.00
2005	4	12	102	91.40	57.20	32.20	514.09	9.17	0.00	0.00
2005	4	13	103	95.00	60.80	32.20	514.09	10.73	0.00	0.00
2005	4	14	104	91.40	64.40	32.20	514.09	12.75	0.00	0.00
2005	4	15	105	84.20	64.40	33.03	514.09	12.30	0.93	0.00
2005	4	16	106	87.80	62.60	35.80	514.09	12.75	3.50	0.00
2005	4	17	107	80.60	69.80	38.75	514.09	13.42	5.48	0.00
2005	4	18	108	82.40	69.80	37.60	514.09	14.09	5.00	0.00
2005	4	19	109	93.20	69.80	34.54	514.09	14.98	2.60	0.00
2005	4	20	110	87.80	73.40	38.48	514.09	12.07	5.18	0.00
2005	4	21	111	87.80	73.40	39.74	514.09	9.61	6.58	0.00
2005	4	22	112	96.80	69.80	32.92	514.09	7.16	0.80	0.00
2005	4	23	113	78.80	66.20	37.53	514.09	11.85	4.93	0.07
2005	4	24	114	84.20	57.20	33.12	514.09	11.40	1.03	0.11
2005	4	25	115	87.80	64.40	37.49	514.09	7.38	4.88	0.00
2005	4	26	116	89.60	64.40	33.28	514.09	8.05	1.20	0.00
2005	4	27	117	95.00	64.40	32.29	514.09	12.52	0.10	0.00
2005	4	28	118	96.80	71.60	32.83	514.09	12.07	0.70	0.00
2005	4	29	119	104.00	71.60	32.83	514.09	11.85	0.70	0.00
2005	4	30	120	82.40	66.20	35.42	514.09	13.64	3.58	0.00
2005	5	1	121	87.80	60.80	32.29	514.09	9.61	0.10	0.00
2005	5	2	122	80.60	60.80	38.70	553.07	10.06	5.83	0.00
2005	5	3	123	80.60	69.80	40.75	553.07	10.73	7.70	0.05
2005	5	4	124	75.20	68.00	42.35	553.07	9.84	9.28	0.00

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2005	5	5	125	84.20	68.00	41.11	553.07	8.72	8.10	0.00
2005	5	6	126	89.60	89.80	40.12	553.07	14.76	7.00	0.00
2005	5	7	127	89.60	73.40	40.10	553.07	14.31	6.88	0.00
2005	5	8	128	98.60	73.40	38.68	553.07	11.63	5.40	0.00
2005	5	9	129	100.40	73.40	35.80	553.07	9.84	3.50	0.00
2005	5	10	130	96.80	77.00	37.29	553.07	15.43	4.90	0.00
2005	5	11	131	96.80	77.00	36.23	553.07	16.99	3.98	0.00
2005	5	12	132	96.80	75.20	35.22	553.07	18.56	2.85	0.00
2005	5	13	133	96.80	77.00	37.44	553.07	14.98	4.83	0.00
2005	5	14	134	96.80	73.40	36.82	553.07	11.63	4.38	0.41
2005	5	15	135	93.20	66.20	34.92	553.07	10.29	2.53	0.39
2005	5	16	136	84.20	66.20	34.29	553.07	8.27	2.33	0.00
2005	5	17	137	93.20	69.80	35.28	553.07	10.96	2.93	0.00
2005	5	18	138	100.40	73.40	33.37	553.07	13.42	1.30	0.00
2005	5	19	139	96.80	77.00	37.60	553.07	11.40	5.00	0.00
2005	5	20	140	96.80	73.40	35.15	553.07	8.94	2.78	0.00
2005	5	21	141	102.20	73.40	32.29	553.07	6.48	0.10	0.00
2005	5	22	142	102.20	75.20	32.20	553.07	9.17	0.00	0.00
2005	5	23	143	102.20	73.40	33.19	553.07	10.73	1.10	0.00
2005	5	24	144	102.20	73.40	32.56	553.07	10.73	0.40	0.00
2005	5	25	145	104.00	75.20	32.20	553.07	11.63	0.00	0.00
2005	5	26	146	96.80	78.80	35.98	553.07	10.51	3.70	0.00
2005	5	27	147	95.00	75.20	35.85	553.07	10.73	3.55	0.05
2005	5	28	148	100.40	78.80	32.85	553.07	12.07	0.73	0.00
2005	5	29	149	102.20	71.60	33.96	553.07	7.83	1.95	0.00
2005	5	30	150	100.40	75.20	32.38	553.07	7.83	0.20	0.00
2005	5	31	151	105.80	75.20	32.29	553.07	8.72	0.10	0.00
2005	6	1	152	102.20	75.20	32.38	553.07	12.52	0.20	0.00
2005	6	2	153	105.80	75.20	33.48	581.92	13.19	1.43	0.00
2005	6	3	154	102.20	82.40	33.17	581.92	14.09	1.08	0.00
2005	6	4	155	102.20	80.60	33.57	581.92	14.98	1.53	0.00
2005	6	5	156	100.40	78.80	35.08	581.92	14.53	2.70	0.00
2005	6	6	157	100.40	78.80	35.35	581.92	12.52	3.00	0.00
2005	6	7	158	102.20	82.40	34.05	581.92	14.31	2.05	0.00
2005	6	8	159	102.20	82.40	35.53	581.92	14.09	3.20	0.00
2005	6	9	160	104.00	80.60	33.03	581.92	15.20	0.93	0.00
2005	6	10	161	102.20	80.60	35.06	581.92	19.45	3.18	0.00
2005	6	11	162	104.00	78.80	35.67	581.92	15.20	3.35	0.00
2005	6	12	163	98.60	80.60	38.73	581.92	14.76	5.45	0.00
2005	6	13	164	105.80	82.40	36.45	581.92	11.40	4.23	0.00
2005	6	14	165	105.80	78.80	32.83	581.92	12.97	0.70	0.00
2005	6	15	166	104.00	78.80	32.58	581.92	10.51	0.43	0.00
2005	6	16	167	105.80	78.80	32.20	581.92	10.29	0.00	0.00
2005	6	17	168	107.60	78.80	32.20	581.92	12.52	0.00	0.00
2005	6	18	169	107.60	80.60	32.29	581.92	13.64	0.10	0.00
2005	6	19	170	105.80	77.00	33.03	581.92	12.52	0.93	0.00
2005	6	20	171	102.20	78.80	33.12	581.92	10.73	1.03	0.00
2005	6	21	172	98.60	73.40	32.38	581.92	9.84	0.20	0.00
2005	6	22	173	100.40	73.40	33.44	581.92	8.27	1.38	0.00
2005	6	23	174	100.40	75.20	33.15	581.92	10.73	1.05	0.00
2005	6	24	175	102.20	75.20	32.94	581.92	10.96	0.83	0.05

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2005	6	25	176	100.40	75.20	34.23	581.92	10.29	1.75	0.00
2005	6	26	177	100.40	77.00	33.44	581.92	11.18	1.38	0.00
2005	6	27	178	102.20	75.20	33.06	581.92	11.18	0.95	0.00
2005	6	28	179	102.20	75.20	32.76	581.92	10.96	0.63	0.00
2005	6	29	180	102.20	78.80	33.26	581.92	11.18	1.18	0.00
2005	6	30	181	105.80	80.60	32.76	581.92	12.30	0.63	0.00
2005	7	1	182	107.60	80.60	32.29	581.92	14.31	0.10	0.00
2005	7	2	183	109.40	80.60	32.29	623.50	12.30	0.10	0.00
2005	7	3	184	109.40	80.60	32.20	623.50	14.98	0.00	0.00
2005	7	4	185	107.60	80.60	32.29	623.50	15.88	0.10	0.00
2005	7	5	186	105.80	78.80	33.66	623.50	9.84	1.63	0.00
2005	7	6	187	107.60	80.60	32.20	623.50	9.39	0.00	0.00
2005	7	7	188	109.40	80.60	32.20	623.50	11.18	0.00	0.00
2005	7	8	189	109.40	80.60	32.92	623.50	12.75	0.80	0.00
2005	7	9	190	105.80	82.40	32.58	623.50	9.17	0.43	0.00
2005	7	10	191	104.00	78.80	32.76	623.50	9.17	0.63	0.00
2005	7	11	192	105.80	80.60	33.08	623.50	9.84	0.98	0.00
2005	7	12	193	105.80	80.60	33.21	623.50	11.85	1.13	0.00
2005	7	13	194	105.80	80.60	33.21	623.50	10.29	1.13	0.00
2005	7	14	195	107.60	82.40	32.67	623.50	10.96	0.53	0.00
2005	7	15	196	91.40	80.60	35.04	623.50	11.63	2.90	0.18
2005	7	16	197	91.40	75.20	34.65	623.50	8.27	2.73	0.00
2005	7	17	198	100.40	78.80	33.87	623.50	11.85	1.85	0.00
2005	7	18	199	104.00	80.60	33.26	623.50	15.43	1.18	0.00
2005	7	19	200	102.20	80.60	33.53	623.50	10.51	1.48	2.15
2005	7	20	201	89.60	75.20	37.83	623.50	12.30	5.25	0.08
2005	7	21	202	91.40	77.00	36.21	623.50	9.17	3.45	0.00
2005	7	22	203	98.60	78.80	34.17	623.50	6.26	1.93	0.00
2005	7	23	204	98.60	78.80	34.05	623.50	8.94	2.05	0.06
2005	7	24	205	95.00	80.60	34.74	623.50	11.18	2.83	0.00
2005	7	25	206	93.20	78.80	34.46	623.50	10.51	2.25	0.00
2005	7	26	207	98.60	77.00	33.89	623.50	12.52	1.88	0.76
2005	7	27	208	100.40	78.80	37.56	623.50	12.07	4.95	0.00
2005	7	28	209	96.80	78.80	34.68	623.50	6.93	2.75	0.00
2005	7	29	210	100.40	77.00	33.03	623.50	8.72	0.93	0.00
2005	7	30	211	98.60	77.00	32.92	623.50	8.05	0.80	0.00
2005	7	31	212	98.60	77.00	32.20	623.50	8.27	0.00	0.00
2005	8	1	213	98.60	77.00	32.49	543.94	7.16	0.33	0.00
2005	8	2	214	98.60	78.80	33.21	543.94	8.27	1.13	0.00
2005	8	3	215	98.60	80.60	33.08	543.94	9.61	0.98	0.00
2005	8	4	216	98.60	82.40	34.97	543.94	9.84	2.58	0.00
2005	8	5	217	98.60	80.60	32.76	543.94	9.17	0.63	0.00
2005	8	6	218	100.40	80.60	33.98	543.94	8.94	1.98	0.00
2005	8	7	219	100.40	78.80	32.58	543.94	9.61	0.43	0.00
2005	8	8	220	102.20	80.60	32.65	543.94	13.19	0.50	0.00
2005	8	9	221	100.40	80.60	32.94	543.94	12.30	0.83	0.03
2005	8	10	222	96.80	80.60	33.19	543.94	11.85	1.10	0.00
2005	8	11	223	102.20	80.60	34.08	543.94	14.09	1.83	0.00
2005	8	12	224	102.20	80.60	33.39	543.94	15.88	1.33	0.00
2005	8	13	225	104.00	82.40	34.55	543.94	15.88	2.35	0.00
2005	8	14	226	102.20	82.40	33.87	543.94	17.66	1.60	0.00

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2005	8	15	227	100.40	82.40	34.81	543.94	14.98	2.40	0.00
2005	8	16	228	102.20	80.60	34.74	543.94	12.75	2.33	0.00
2005	8	17	229	102.20	78.80	32.85	543.94	12.30	0.73	0.00
2005	8	18	230	102.20	80.60	32.74	543.94	14.53	0.60	0.00
2005	8	19	231	102.20	82.40	32.94	543.94	13.86	0.83	0.00
2005	8	20	232	102.20	80.60	33.35	543.94	14.09	1.28	0.00
2005	8	21	233	102.20	78.80	33.53	543.94	11.40	1.48	0.00
2005	8	22	234	102.20	80.60	33.08	543.94	9.17	0.98	0.00
2005	8	23	235	104.00	80.60	32.85	543.94	8.72	0.73	0.00
2005	8	24	236	104.00	80.60	32.49	543.94	12.07	0.33	0.00
2005	8	25	237	104.00	80.60	32.67	543.94	10.51	0.53	0.00
2005	8	26	238	104.00	82.40	32.65	543.94	8.72	0.50	0.00
2005	8	27	239	105.80	82.40	32.94	543.94	7.83	0.83	0.00
2005	8	28	240	102.20	82.40	33.17	543.94	8.72	1.08	0.00
2005	8	29	241	104.00	80.60	33.17	543.94	8.50	1.08	0.00
2005	8	30	242	104.00	80.60	32.38	543.94	4.92	0.20	0.00
2005	8	31	243	108.86	80.60	32.56	543.94	7.38	0.40	0.00
2005	9	1	244	104.00	80.60	33.15	459.97	9.84	1.05	0.00
2005	9	2	245	91.40	77.00	32.74	459.97	7.83	0.60	0.00
2005	9	3	246	98.60	75.20	34.74	459.97	7.38	2.83	0.00
2005	9	4	247	96.80	77.00	35.24	459.97	7.60	2.88	0.00
2005	9	5	248	98.60	78.80	33.08	459.97	7.38	0.98	0.00
2005	9	6	249	98.60	78.80	33.15	459.97	9.17	1.05	0.00
2005	9	7	250	96.80	75.20	33.12	459.97	8.94	1.03	0.00
2005	9	8	251	95.00	75.20	33.80	459.97	6.48	1.78	0.00
2005	9	9	252	93.20	77.00	35.76	459.97	8.50	3.45	0.00
2005	9	10	253	96.80	77.00	35.76	459.97	8.05	3.45	0.40
2005	9	11	254	96.80	78.80	39.11	459.97	9.84	5.88	0.00
2005	9	12	255	100.40	77.00	37.26	459.97	10.51	4.63	0.00
2005	9	13	256	102.20	80.60	33.69	459.97	12.52	1.65	0.00
2005	9	14	257	102.20	80.60	32.49	459.97	14.98	0.33	0.00
2005	9	15	258	105.80	80.60	32.83	459.97	14.98	0.70	0.00
2005	9	16	259	104.00	82.40	33.62	459.97	12.75	1.58	0.00
2005	9	17	260	105.80	80.60	33.55	459.97	14.09	1.50	0.00
2005	9	18	261	104.00	78.80	32.47	459.97	14.53	0.30	0.00
2005	9	19	262	102.20	78.80	32.85	459.97	12.30	0.73	0.00
2005	9	20	263	100.40	75.20	33.44	459.97	6.71	1.38	0.00
2005	9	21	264	102.20	78.80	32.29	459.97	6.48	0.10	0.00
2005	9	22	265	102.20	75.20	32.67	459.97	4.92	0.53	0.00
2005	9	23	266	105.80	77.00	32.49	459.97	7.83	0.33	0.00
2005	9	24	267	105.80	78.80	32.20	459.97	7.16	0.00	0.00
2005	9	25	268	109.40	77.00	32.20	459.97	6.48	0.00	0.00
2005	9	26	269	105.80	77.00	32.20	459.97	9.17	0.00	0.00
2005	9	27	270	105.80	78.80	32.20	459.97	7.38	0.00	0.00
2005	9	28	271	107.60	80.60	32.29	459.97	8.50	0.10	0.00
2005	9	29	272	104.00	78.80	32.85	459.97	9.39	0.73	0.00
2005	9	30	273	98.60	73.40	34.18	459.97	10.06	2.08	0.00
2005	10	1	274	98.60	75.20	34.79	355.35	10.73	2.38	0.00
2005	10	2	275	100.40	75.20	33.33	355.35	10.73	1.25	0.78
2005	10	3	276	93.20	78.80	36.17	355.35	7.16	3.65	0.97
2005	10	4	277	96.80	75.20	35.20	355.35	7.83	3.08	0.00

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2005	10	5	278	96.80	75.20	36.26	355.35	7.83	3.75	0.00
2005	10	6	279	93.20	69.80	35.76	355.35	9.84	3.45	0.00
2005	10	7	280	69.80	59.00	38.75	355.35	15.20	5.48	0.00
2005	10	8	281	82.40	60.80	32.56	355.35	4.47	0.40	0.00
2005	10	9	282	93.20	64.40	32.38	355.35	10.51	0.20	0.00
2005	10	10	283	93.20	73.40	34.41	355.35	8.72	2.45	1.87
2005	10	11	284	84.20	73.40	40.03	355.35	9.84	6.90	0.00
2005	10	12	285	87.80	71.60	40.93	355.35	6.71	7.80	0.07
2005	10	13	286	87.80	75.20	38.16	355.35	11.63	5.23	0.74
2005	10	14	287	82.40	71.60	39.49	355.35	7.60	6.30	0.00
2005	10	15	288	87.80	71.60	36.44	355.35	3.58	3.95	0.00
2005	10	16	289	87.80	71.60	34.32	355.35	6.71	2.35	0.00
2005	10	17	290	89.60	66.20	32.20	355.35	4.70	0.00	0.00
2005	10	18	291	91.40	66.20	32.20	355.35	6.93	0.00	0.00
2005	10	19	292	93.20	69.80	32.20	355.35	9.61	0.00	0.00
2005	10	20	293	93.20	69.80	32.20	355.35	7.16	0.00	0.00
2005	10	21	294	91.40	71.60	33.35	355.35	6.26	1.28	0.00
2005	10	22	295	87.80	64.40	33.01	355.35	6.48	0.90	0.00
2005	10	23	296	87.80	64.40	32.56	355.35	10.06	0.40	0.00
2005	10	24	297	66.20	53.60	37.83	355.35	11.85	5.25	0.00
2005	10	25	298	78.80	44.60	32.20	355.35	3.80	0.00	0.00
2005	10	26	299	84.20	55.40	32.20	355.35	11.18	0.00	0.38
2005	10	27	300	82.40	66.20	39.78	355.35	12.30	6.63	0.01
2005	10	28	301	78.80	60.80	36.62	355.35	11.63	4.15	0.00
2005	10	29	302	77.00	64.40	39.76	355.35	7.16	6.60	0.00
2005	10	30	303	84.20	66.20	37.56	355.35	8.27	4.95	0.00
2005	10	31	304	87.80	66.20	39.36	355.35	10.51	6.15	0.00
2005	11	1	305	78.80	53.60	32.65	273.78	5.59	0.50	0.00
2005	11	2	306	82.40	46.40	32.20	273.78	6.71	0.00	0.00
2005	11	3	307	84.20	55.40	32.20	273.78	8.94	0.00	0.00
2005	11	4	308	87.80	60.80	32.29	273.78	9.61	0.10	0.00
2005	11	5	309	89.60	64.40	32.20	273.78	7.83	0.00	0.00
2005	11	6	310	93.20	68.00	32.20	273.78	9.17	0.00	0.00
2005	11	7	311	91.40	73.40	35.89	273.78	8.27	3.60	0.00
2005	11	8	312	91.40	71.60	36.52	273.78	8.94	4.30	0.00
2005	11	9	313	91.40	73.40	35.40	273.78	9.61	3.05	0.23
2005	11	10	314	84.20	71.60	34.18	273.78	7.83	2.20	0.00
2005	11	11	315	89.60	71.60	35.08	273.78	10.29	2.70	0.00
2005	11	12	316	89.60	73.40	36.19	273.78	10.06	4.18	0.00
2005	11	13	317	89.60	73.40	35.78	273.78	8.72	3.48	0.00
2005	11	14	318	89.60	71.60	35.04	273.78	11.40	2.65	0.00
2005	11	15	319	91.40	64.40	36.07	273.78	13.42	3.80	0.00
2005	11	16	320	64.40	48.20	32.83	273.78	10.73	0.70	0.00
2005	11	17	321	69.80	42.80	32.29	273.78	9.39	0.10	0.00
2005	11	18	322	64.40	53.60	41.63	273.78	8.50	8.48	0.00
2005	11	19	323	64.40	57.20	42.62	273.78	4.47	9.58	0.00
2005	11	20	324	71.60	51.80	33.08	273.78	10.51	0.98	0.00
2005	11	21	325	80.60	46.40	32.20	273.78	6.04	0.00	0.00
2005	11	22	326	84.20	46.40	32.20	273.78	3.58	0.00	0.00
2005	11	23	327	87.80	46.40	32.20	273.78	4.02	0.00	0.00
2005	11	24	328	82.40	55.40	32.20	273.78	4.70	0.00	0.00

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2005	11	25	329	82.40	59.00	33.93	273.78	8.50	1.93	0.00
2005	11	26	330	87.80	62.60	34.20	273.78	6.26	2.23	0.00
2005	11	27	331	98.60	60.80	32.20	273.78	12.97	0.00	0.00
2005	11	28	332	73.40	51.80	32.20	273.78	8.50	0.00	0.00
2005	11	29	333	71.60	37.40	32.20	273.78	3.13	0.00	0.00
2005	11	30	334	80.60	46.40	32.49	273.78	9.39	0.33	0.01
2005	12	1	335	71.60	57.20	39.76	207.53	6.04	6.40	0.00
2005	12	2	336	80.60	51.80	37.08	207.53	6.71	4.43	0.00
2005	12	3	337	87.80	60.80	34.45	207.53	6.26	2.50	0.00
2005	12	4	338	77.00	66.20	39.60	207.53	10.06	6.43	0.00
2005	12	5	339	66.20	48.20	33.37	207.53	10.73	1.30	0.00
2005	12	6	340	69.80	39.20	34.07	207.53	7.38	2.08	0.03
2005	12	7	341	62.60	39.20	42.08	207.53	10.96	8.98	0.00
2005	12	8	342	42.80	35.60	42.44	207.53	13.86	9.38	0.00
2005	12	9	343	53.60	42.80	42.26	207.53	5.81	9.18	0.00
2005	12	10	344	64.40	51.80	39.92	207.53	2.68	6.78	0.00
2005	12	11	345	68.00	48.20	32.20	207.53	5.37	0.00	0.00
2005	12	12	346	75.20	46.40	33.46	207.53	5.14	1.40	0.00
2005	12	13	347	78.80	53.60	37.22	207.53	9.84	4.58	0.02
2005	12	14	348	73.40	57.20	38.39	207.53	10.06	5.08	0.00
2005	12	15	349	64.40	46.40	33.37	207.53	8.72	1.30	0.13
2005	12	16	350	55.40	42.80	42.17	207.53	10.06	9.08	0.03
2005	12	17	351	50.00	41.90	42.44	207.53	8.27	9.38	0.00
2005	12	18	352	55.40	48.20	41.27	207.53	6.26	8.08	0.00
2005	12	19	353	57.20	51.80	42.26	207.53	6.26	9.18	0.00
2005	12	20	354	64.40	53.60	41.67	207.53	4.92	8.53	0.00
2005	12	21	355	66.20	51.80	35.24	207.53	6.48	3.38	0.00
2005	12	22	356	73.40	41.00	32.56	207.53	7.16	0.40	0.00
2005	12	23	357	80.60	46.40	32.20	207.53	7.83	0.00	0.00
2005	12	24	358	78.80	48.20	32.20	207.53	10.51	0.00	0.00
2005	12	25	359	80.60	42.80	32.20	207.53	5.37	0.00	0.00
2005	12	26	360	87.80	51.80	32.20	207.53	9.61	0.00	0.00
2005	12	27	361	91.40	53.60	32.20	207.53	5.81	0.00	0.00
2005	12	28	362	84.20	48.20	32.20	207.53	5.37	0.00	0.00
2005	12	29	363	87.80	51.80	32.20	207.53	8.27	0.00	0.00
2005	12	30	364	82.40	60.80	35.26	207.53	6.04	3.40	0.00
2005	12	31	365	80.60	55.40	34.90	207.53	5.37	3.00	0.00
2006	1	1	1	91.40	64.40	34.99	277.05	7.60	3.10	0.00
2006	1	2	2	89.60	53.60	32.20	277.05	4.25	0.00	0.00
2006	1	3	3	91.40	55.40	32.20	277.05	8.05	0.00	0.00
2006	1	4	4	78.80	64.40	37.76	277.05	6.93	4.78	0.00
2006	1	5	5	73.40	53.60	32.20	277.05	10.51	0.00	0.00
2006	1	6	6	73.40	44.60	32.20	277.05	6.48	0.00	0.00
2006	1	7	7	80.60	44.60	32.20	277.05	9.61	0.00	0.00
2006	1	8	8	86.00	53.60	32.20	277.05	10.29	0.00	0.00
2006	1	9	9	84.20	55.40	32.38	277.05	8.05	0.20	0.00
2006	1	10	10	69.80	51.80	32.83	277.05	10.96	0.70	0.00
2006	1	11	11	78.80	44.60	32.20	277.05	8.72	0.00	0.00
2006	1	12	12	78.80	60.80	34.72	277.05	9.39	2.80	0.00
2006	1	13	13	71.60	51.80	32.20	277.05	9.61	0.00	0.00
2006	1	14	14	73.40	41.00	32.20	277.05	6.04	0.00	0.00

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2006	1	15	15	78.80	51.80	32.20	277.05	7.38	0.00	0.00
2006	1	16	16	89.60	59.00	32.29	277.05	11.63	0.10	0.00
2006	1	17	17	66.20	48.20	32.20	277.05	14.76	0.00	0.00
2006	1	18	18	78.80	44.60	32.20	277.05	12.97	0.00	0.00
2006	1	19	19	82.40	54.68	32.20	277.05	14.09	0.00	0.00
2006	1	20	20	82.40	57.20	32.20	277.05	8.50	0.00	0.00
2006	1	21	21	66.20	57.20	41.00	277.05	11.63	7.78	0.00
2006	1	22	22	60.80	51.80	39.47	277.05	9.17	6.28	0.00
2006	1	23	23	64.40	48.20	37.85	277.05	6.71	4.88	0.00
2006	1	24	24	73.40	44.60	32.20	277.05	5.14	0.00	0.00
2006	1	25	25	71.60	51.80	32.20	277.05	5.81	0.00	0.00
2006	1	26	26	77.00	57.20	32.29	277.05	8.94	0.10	0.00
2006	1	27	27	78.80	59.00	36.15	277.05	14.09	3.63	0.00
2006	1	28	28	78.80	64.40	33.89	277.05	9.61	1.88	0.00
2006	1	29	29	87.80	50.00	33.28	277.05	4.25	1.20	0.00
2006	1	30	30	82.40	51.80	32.20	277.05	8.27	0.00	0.00
2006	1	31	31	82.40	46.40	32.20	277.05	10.29	0.00	0.00
2006	2	1	32	87.80	64.40	34.95	359.22	9.39	3.05	0.00
2006	2	2	33	89.60	51.80	32.20	359.22	7.60	0.00	0.00
2006	2	3	34	84.20	53.60	32.20	359.22	11.85	0.00	0.00
2006	2	4	35	80.60	46.40	32.20	359.22	5.59	0.00	0.00
2006	2	5	36	86.00	53.60	32.20	359.22	12.30	0.00	0.00
2006	2	6	37	75.20	55.40	32.20	359.22	14.76	0.00	0.00
2006	2	7	38	73.40	46.40	32.20	359.22	5.14	0.00	0.00
2006	2	8	39	75.20	48.20	32.20	359.22	8.27	0.00	0.00
2006	2	9	40	78.80	53.60	32.20	359.22	11.40	0.00	0.00
2006	2	10	41	80.60	57.20	35.19	359.22	14.09	3.33	0.00
2006	2	11	42	60.80	44.60	32.38	359.22	10.29	0.20	0.00
2006	2	12	43	69.80	35.60	32.20	359.22	6.26	0.00	0.00
2006	2	13	44	75.20	39.20	32.20	359.22	7.38	0.00	0.00
2006	2	14	45	82.40	48.20	32.20	359.22	7.60	0.00	0.00
2006	2	15	46	91.40	60.80	32.20	359.22	9.61	0.00	0.00
2006	2	16	47	91.40	66.20	32.74	359.22	10.96	0.60	0.00
2006	2	17	48	71.60	48.20	40.55	359.22	13.86	7.38	0.00
2006	2	18	49	48.20	39.20	40.62	359.22	11.85	7.55	0.00
2006	2	19	50	46.40	37.40	40.55	359.22	8.72	7.48	0.00
2006	2	20	51	53.60	42.80	41.90	359.22	7.16	8.78	0.00
2006	2	21	52	68.00	48.20	39.54	359.22	5.81	6.35	0.02
2006	2	22	53	75.20	55.40	38.55	359.22	6.04	5.25	0.03
2006	2	23	54	71.60	60.80	41.56	359.22	11.18	8.40	0.03
2006	2	24	55	71.60	60.80	41.22	359.22	5.81	8.13	0.01
2006	2	25	56	87.80	62.60	39.02	359.22	9.61	5.78	0.00
2006	2	26	57	73.40	59.00	37.16	359.22	9.61	4.38	0.00
2006	2	27	58	82.40	51.80	32.65	359.22	11.63	0.50	0.00
2006	2	28	59	89.60	60.80	32.20	359.22	9.84	0.00	0.00
2006	3	1	60	93.20	62.60	33.28	421.77	9.61	1.20	0.00
2006	3	2	61	96.80	64.40	33.10	421.77	10.51	1.00	0.00
2006	3	3	62	86.00	69.80	37.46	421.77	12.30	4.70	0.00
2006	3	4	63	87.80	66.20	38.48	421.77	12.75	5.18	0.00
2006	3	5	64	91.40	66.20	34.70	421.77	10.29	2.78	0.00
2006	3	6	65	91.40	66.20	34.11	421.77	9.39	2.13	0.00

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2006	3	7	66	93.20	71.60	34.25	421.77	15.88	2.28	0.00
2006	3	8	67	98.60	68.00	33.57	421.77	14.53	1.53	0.00
2006	3	9	68	91.40	69.80	32.20	421.77	11.18	0.00	0.00
2006	3	10	69	100.40	69.80	32.20	421.77	9.17	0.00	0.00
2006	3	11	70	98.60	68.00	33.10	421.77	7.60	1.00	0.00
2006	3	12	71	96.80	73.40	33.80	421.77	9.39	1.78	0.00
2006	3	13	72	82.40	66.20	34.54	421.77	12.07	2.60	0.00
2006	3	14	73	84.20	55.40	32.83	421.77	12.97	0.70	0.00
2006	3	15	74	77.00	66.20	39.15	421.77	12.07	5.93	0.00
2006	3	16	75	89.60	68.00	35.22	421.77	6.26	2.85	0.00
2006	3	17	76	87.80	69.80	35.40	421.77	11.85	3.05	0.00
2006	3	18	77	93.20	71.60	33.48	421.77	16.99	1.43	0.00
2006	3	19	78	95.00	71.60	32.92	421.77	10.06	0.80	0.00
2006	3	20	79	87.80	68.00	33.82	421.77	11.63	1.80	0.00
2006	3	21	80	82.40	59.00	32.47	421.77	8.05	0.30	0.00
2006	3	22	81	68.00	53.60	38.21	421.77	12.30	4.88	0.00
2006	3	23	82	66.20	51.80	37.17	421.77	14.98	4.53	0.00
2006	3	24	83	68.00	39.20	32.20	421.77	6.71	0.00	0.00
2006	3	25	84	77.00	46.40	32.20	421.77	10.06	0.00	0.00
2006	3	26	85	75.20	55.40	39.13	421.77	15.65	5.90	0.00
2006	3	27	86	80.60	69.80	39.29	421.77	13.19	6.08	0.00
2006	3	28	87	87.80	68.00	37.71	421.77	12.07	4.73	0.21
2006	3	29	88	91.40	66.20	37.74	421.77	11.18	5.15	0.00
2006	3	30	89	91.40	66.20	35.06	421.77	12.52	3.18	0.00
2006	3	31	90	91.40	71.60	36.23	421.77	11.18	3.98	0.00
2006	4	1	91	95.00	75.20	36.59	514.09	13.64	4.38	0.00
2006	4	2	92	96.80	73.40	33.75	514.09	9.17	1.73	0.00
2006	4	3	93	100.40	71.60	32.83	514.09	9.61	0.70	0.00
2006	4	4	94	96.80	68.00	32.20	514.09	12.07	0.00	0.00
2006	4	5	95	96.80	71.60	33.82	514.09	15.43	1.80	0.00
2006	4	6	96	98.60	71.60	32.49	514.09	10.06	0.33	0.00
2006	4	7	97	100.40	71.60	33.62	514.09	9.17	1.58	0.00
2006	4	8	98	84.20	64.40	32.20	514.09	13.42	0.00	0.00
2006	4	9	99	89.60	57.20	32.20	514.09	7.38	0.00	0.00
2006	4	10	100	91.40	62.60	32.94	514.09	12.97	0.83	0.00
2006	4	11	101	91.40	69.80	36.45	514.09	13.19	4.23	0.00
2006	4	12	102	89.60	71.60	34.59	514.09	13.64	2.40	0.00
2006	4	13	103	91.40	71.60	34.88	514.09	11.63	2.98	0.00
2006	4	14	104	96.80	66.20	32.20	514.09	13.86	0.00	0.00
2006	4	15	105	100.40	71.60	32.47	514.09	15.43	0.30	0.00
2006	4	16	106	102.20	71.60	32.20	514.09	7.83	0.00	0.00
2006	4	17	107	107.60	73.40	32.29	514.09	10.29	0.10	0.00
2006	4	18	108	107.60	73.40	32.29	514.09	10.73	0.10	0.00
2006	4	19	109	105.80	77.00	32.20	514.09	13.64	0.00	0.00
2006	4	20	110	93.20	77.00	35.09	514.09	14.98	2.95	0.00
2006	4	21	111	93.20	78.80	36.84	514.09	10.73	4.40	0.00
2006	4	22	112	96.80	73.40	34.95	514.09	12.97	2.80	0.00
2006	4	23	113	93.20	77.00	35.78	514.09	14.31	3.48	0.00
2006	4	24	114	98.60	77.00	35.40	514.09	12.07	3.30	0.17
2006	4	25	115	102.20	73.40	34.23	514.09	9.17	2.25	0.00
2006	4	26	116	86.00	78.80	37.51	514.09	11.85	4.10	0.00

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2006	4	27	117	87.80	73.40	38.59	514.09	12.75	5.30	0.00
2006	4	28	118	96.80	78.80	36.26	514.09	17.66	3.75	0.00
2006	4	29	119	95.00	73.40	33.37	514.09	14.09	1.30	0.00
2006	4	30	120	98.60	62.60	32.20	514.09	9.17	0.00	0.00
2006	5	1	121	100.40	73.40	32.20	514.09	13.42	0.00	0.00
2006	5	2	122	100.40	77.00	33.01	553.07	16.10	0.90	0.00
2006	5	3	123	98.60	75.20	34.00	553.07	15.20	2.00	0.92
2006	5	4	124	100.40	75.20	34.07	553.07	11.40	2.08	0.00
2006	5	5	125	96.80	78.80	37.96	553.07	12.07	5.00	0.00
2006	5	6	126	93.20	78.80	37.67	553.07	9.61	4.68	0.00
2006	5	7	127	93.20	78.80	36.51	553.07	10.06	4.03	0.00
2006	5	8	128	102.20	77.00	34.00	553.07	11.18	2.00	0.00
2006	5	9	129	104.00	78.80	32.38	553.07	8.27	0.20	0.00
2006	5	10	130	111.20	80.60	32.29	553.07	13.86	0.10	0.00
2006	5	11	131	91.40	69.80	32.92	553.07	13.19	0.80	0.00
2006	5	12	132	93.20	64.40	32.20	553.07	11.63	0.00	0.00
2006	5	13	133	102.20	73.40	32.38	553.07	12.97	0.20	4.43
2006	5	14	134	105.80	69.80	33.64	553.07	15.20	1.60	0.00
2006	5	15	135	87.80	69.80	36.45	553.07	11.18	3.73	0.00
2006	5	16	136	89.60	66.20	34.79	553.07	5.59	2.88	0.00
2006	5	17	137	96.80	66.20	32.29	553.07	4.92	0.10	0.00
2006	5	18	138	98.60	71.60	32.20	553.07	6.48	0.00	0.00
2006	5	19	139	102.20	73.40	32.29	553.07	10.51	0.10	0.00
2006	5	20	140	100.40	73.40	32.29	553.07	14.31	0.10	0.00
2006	5	21	141	96.80	73.40	34.56	553.07	13.86	2.63	0.00
2006	5	22	142	98.60	75.20	34.77	553.07	13.42	2.35	0.00
2006	5	23	143	98.60	75.20	33.19	553.07	14.98	1.10	0.00
2006	5	24	144	100.40	75.20	33.12	553.07	13.64	1.03	0.00
2006	5	25	145	102.20	78.80	33.12	553.07	14.53	1.03	0.00
2006	5	26	146	100.40	78.80	33.80	553.07	16.55	1.78	0.00
2006	5	27	147	100.40	80.60	35.40	553.07	16.77	3.30	0.00
2006	5	28	148	96.80	78.80	36.93	553.07	14.31	4.50	0.00
2006	5	29	149	100.40	75.20	33.48	553.07	12.97	1.43	0.00
2006	5	30	150	98.60	77.00	34.72	553.07	10.29	2.80	0.00
2006	5	31	151	96.80	73.40	34.81	553.07	10.51	2.90	0.00
2006	6	1	152	89.60	73.40	34.48	553.07	12.07	2.28	0.13
2006	6	2	153	89.60	73.40	34.86	581.92	8.50	2.70	0.00
2006	6	3	154	96.80	71.60	33.98	581.92	6.04	1.98	0.00
2006	6	4	155	98.60	73.40	32.29	581.92	10.29	0.10	0.00
2006	6	5	156	100.40	75.20	32.20	581.92	12.30	0.00	0.00
2006	6	6	157	102.20	77.00	32.56	581.92	11.85	0.40	0.00
2006	6	7	158	102.20	75.20	32.29	581.92	11.18	0.10	0.00
2006	6	8	159	102.20	75.20	32.58	581.92	10.96	0.43	0.00
2006	6	9	160	100.40	75.20	32.38	581.92	9.84	0.20	0.00
2006	6	10	161	102.20	75.20	32.20	581.92	11.85	0.00	0.00
2006	6	11	162	102.20	75.20	32.20	581.92	13.42	0.00	0.00
2006	6	12	163	102.20	75.20	33.62	581.92	11.40	1.58	0.00
2006	6	13	164	105.80	75.20	32.29	581.92	7.83	0.10	0.00
2006	6	14	165	105.80	80.60	32.29	581.92	9.39	0.10	0.00
2006	6	15	166	104.00	80.60	32.49	581.92	17.44	0.33	0.00
2006	6	16	167	104.00	80.60	33.91	581.92	19.23	1.90	0.00

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2006	6	17	168	104.00	84.20	37.38	581.92	17.22	4.65	0.00
2006	6	18	169	102.20	82.40	35.99	581.92	12.52	3.45	0.00
2006	6	19	170	105.80	80.60	33.35	581.92	9.61	1.28	0.00
2006	6	20	171	105.80	80.60	33.62	581.92	13.42	1.58	0.00
2006	6	21	172	102.20	80.60	33.67	581.92	16.55	1.38	0.00
2006	6	22	173	102.20	80.60	34.81	581.92	16.10	2.40	0.00
2006	6	23	174	102.20	78.80	33.80	581.92	12.07	1.78	0.00
2006	6	24	175	102.20	80.60	32.47	581.92	9.61	0.30	0.00
2006	6	25	176	102.20	80.60	32.67	581.92	7.38	0.53	0.66
2006	6	26	177	98.60	75.20	33.84	581.92	8.50	1.83	0.00
2006	6	27	178	93.20	75.20	32.67	581.92	6.48	0.53	0.00
2006	6	28	179	98.60	75.20	32.76	581.92	8.94	0.63	0.00
2006	6	29	180	98.60	75.20	33.69	581.92	8.72	1.65	0.23
2006	6	30	181	100.40	73.40	34.18	581.92	12.52	2.20	0.57
2006	7	1	182	93.20	73.40	35.00	581.92	9.84	2.85	0.00
2006	7	2	183	89.60	73.40	34.89	623.50	9.39	2.73	0.19
2006	7	3	184	93.20	77.00	36.03	623.50	9.61	3.75	0.00
2006	7	4	185	98.60	75.20	34.70	623.50	9.39	2.28	0.00
2006	7	5	186	98.60	78.80	36.81	623.50	8.50	4.63	0.00
2006	7	6	187	98.60	78.80	33.57	623.50	9.17	1.53	0.00
2006	7	7	188	93.20	78.80	35.76	623.50	9.61	3.45	0.09
2006	7	8	189	93.20	78.80	38.14	623.50	7.83	5.20	0.00
2006	7	9	190	98.60	78.80	34.01	623.50	12.30	1.75	0.00
2006	7	10	191	100.40	78.80	32.29	623.50	16.55	0.10	0.00
2006	7	11	192	104.00	80.60	32.20	623.50	17.22	0.00	0.00
2006	7	12	193	102.20	80.60	32.65	623.50	15.43	0.50	0.00
2006	7	13	194	102.20	77.00	32.38	623.50	12.97	0.20	0.00
2006	7	14	195	100.40	78.80	34.64	623.50	12.75	2.45	0.00
2006	7	15	196	100.40	78.80	32.49	623.50	12.07	0.33	0.00
2006	7	16	197	102.20	78.80	32.38	623.50	8.94	0.20	0.00
2006	7	17	198	104.00	80.60	32.47	623.50	10.73	0.30	0.00
2006	7	18	199	105.80	78.80	32.20	623.50	10.51	0.00	0.00
2006	7	19	200	102.20	80.60	32.94	623.50	12.30	0.83	0.00
2006	7	20	201	100.40	80.60	32.94	623.50	11.18	0.83	0.00
2006	7	21	202	102.20	78.80	32.67	623.50	12.07	0.53	0.00
2006	7	22	203	104.00	78.80	32.38	623.50	8.94	0.20	0.00
2006	7	23	204	100.40	80.60	32.20	623.50	8.27	0.00	0.00
2006	7	24	205	100.40	80.60	33.42	623.50	11.40	1.35	0.00
2006	7	25	206	100.40	78.80	34.90	623.50	10.51	2.50	0.00
2006	7	26	207	102.20	77.00	32.49	623.50	9.84	0.33	0.11
2006	7	27	208	95.00	80.60	36.00	623.50	13.42	3.23	0.00
2006	7	28	209	102.20	80.60	34.14	623.50	17.66	2.15	0.00
2006	7	29	210	100.40	80.60	34.97	623.50	15.43	2.58	0.00
2006	7	30	211	102.20	77.00	32.49	623.50	13.64	0.33	0.00
2006	7	31	212	104.00	80.60	32.83	623.50	16.99	0.70	0.00
2006	8	1	213	100.40	82.40	32.47	543.94	18.56	0.30	0.00
2006	8	2	214	100.40	80.60	33.37	543.94	13.64	1.30	0.00
2006	8	3	215	100.40	80.60	34.68	543.94	13.86	2.50	0.00
2006	8	4	216	100.40	80.60	35.35	543.94	10.73	3.00	0.00
2006	8	5	217	100.40	80.60	32.83	543.94	8.27	0.70	0.00
2006	8	6	218	100.40	78.80	33.71	543.94	10.29	1.68	0.02

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2006	8	7	219	98.60	80.60	34.74	543.94	10.73	2.83	0.00
2006	8	8	220	100.40	78.80	33.28	543.94	10.06	1.20	0.00
2006	8	9	221	102.20	78.80	32.76	543.94	10.06	0.63	0.00
2006	8	10	222	104.00	80.60	32.20	543.94	11.85	0.00	0.00
2006	8	11	223	105.80	82.40	32.56	543.94	12.97	0.40	0.00
2006	8	12	224	102.20	80.60	32.74	543.94	14.98	0.60	0.00
2006	8	13	225	102.20	82.40	33.33	543.94	14.98	1.25	0.00
2006	8	14	226	102.20	82.40	33.75	543.94	14.98	1.73	0.00
2006	8	15	227	104.00	82.40	32.56	543.94	13.64	0.40	0.00
2006	8	16	228	105.80	80.60	32.38	543.94	12.52	0.20	0.00
2006	8	17	229	105.80	80.60	32.20	543.94	11.85	0.00	0.00
2006	8	18	230	102.20	80.60	32.65	543.94	8.27	0.50	0.00
2006	8	19	231	102.20	78.80	32.88	543.94	7.60	0.75	0.00
2006	8	20	232	102.20	80.60	32.65	543.94	9.39	0.50	0.00
2006	8	21	233	104.00	80.60	33.53	543.94	10.73	1.48	0.00
2006	8	22	234	100.40	80.60	33.51	543.94	9.39	1.45	0.00
2006	8	23	235	104.00	78.80	33.62	543.94	8.27	1.58	0.00
2006	8	24	236	105.80	82.40	33.35	543.94	10.51	1.28	0.00
2006	8	25	237	107.60	82.40	33.80	543.94	12.52	1.78	0.00
2006	8	26	238	105.80	82.40	33.71	543.94	15.20	1.68	0.00
2006	8	27	239	105.80	82.40	33.17	543.94	16.10	1.08	0.00
2006	8	28	240	107.60	82.40	32.20	543.94	15.20	0.00	0.00
2006	8	29	241	102.20	80.60	33.26	543.94	8.94	1.18	0.00
2006	8	30	242	102.20	80.60	33.35	543.94	10.06	1.28	0.00
2006	8	31	243	102.20	78.80	32.38	543.94	11.85	0.20	0.00
2006	9	1	244	102.20	78.80	32.38	459.97	12.75	0.20	0.00
2006	9	2	245	100.40	77.00	32.88	459.97	10.96	0.75	0.03
2006	9	3	246	98.60	78.80	33.78	459.97	9.39	1.75	0.00
2006	9	4	247	98.60	75.20	33.91	459.97	7.83	1.90	0.00
2006	9	5	248	93.20	78.80	33.80	459.97	9.39	1.78	0.00
2006	9	6	249	91.40	75.20	35.08	459.97	5.81	2.70	0.00
2006	9	7	250	96.80	73.40	32.20	459.97	6.26	0.00	0.00
2006	9	8	251	91.40	80.60	34.81	459.97	10.73	2.40	0.00
2006	9	9	252	91.40	77.00	38.91	459.97	9.17	5.65	0.06
2006	9	10	253	96.80	80.60	38.97	459.97	8.50	5.73	0.37
2006	9	11	254	96.80	77.00	38.19	459.97	9.39	4.85	0.81
2006	9	12	255	86.00	75.20	39.69	459.97	7.16	6.53	0.00
2006	9	13	256	89.60	75.20	38.86	459.97	6.26	5.60	0.00
2006	9	14	257	93.20	75.20	36.25	459.97	8.05	4.00	0.00
2006	9	15	258	98.60	80.60	36.44	459.97	13.19	3.95	0.00
2006	9	16	259	100.40	82.40	34.91	459.97	15.88	2.75	0.80
2006	9	17	260	91.40	75.20	36.70	459.97	7.83	4.50	0.00
2006	9	18	261	93.20	75.20	36.44	459.97	7.16	3.95	0.00
2006	9	19	262	93.20	73.40	32.29	459.97	7.83	0.10	0.00
2006	9	20	263	91.40	69.80	32.20	459.97	6.48	0.00	0.00
2006	9	21	264	98.60	75.20	33.69	459.97	12.07	1.65	0.00
2006	9	22	265	100.40	78.80	32.20	459.97	14.98	0.00	0.00
2006	9	23	266	96.80	82.40	37.53	459.97	11.85	4.93	3.51
2006	9	24	267	87.80	71.60	42.17	459.97	11.85	9.08	0.00
2006	9	25	268	84.20	69.80	36.14	459.97	6.04	3.88	0.00
2006	9	26	269	87.80	68.00	32.20	459.97	5.59	0.00	0.00

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2006	9	27	270	91.40	69.80	32.20	459.97	9.61	0.00	0.00
2006	9	28	271	96.80	73.40	33.37	459.97	8.72	1.30	0.57
2006	9	29	272	89.60	69.80	34.27	459.97	10.06	2.30	0.00
2006	9	30	273	93.20	75.20	32.65	459.97	12.75	0.50	0.00
2006	10	1	274	93.20	75.20	33.78	355.35	12.07	1.75	0.00
2006	10	2	275	91.40	75.20	33.71	355.35	12.07	1.68	0.00
2006	10	3	276	89.60	75.20	32.67	355.35	9.17	0.53	0.00
2006	10	4	277	89.60	73.40	35.25	355.35	7.38	3.13	0.00
2006	10	5	278	91.40	71.60	33.12	355.35	6.48	1.03	0.00
2006	10	6	279	91.40	71.60	33.62	355.35	4.02	1.58	0.00
2006	10	7	280	91.40	73.40	32.56	355.35	5.81	0.40	0.00
2006	10	8	281	91.40	71.60	32.56	355.35	7.60	0.40	0.00
2006	10	9	282	89.60	73.40	36.17	355.35	7.83	3.65	0.01
2006	10	10	283	93.20	75.20	38.88	355.35	10.06	5.63	0.00
2006	10	11	284	87.80	71.60	38.39	355.35	6.26	5.08	0.00
2006	10	12	285	93.20	78.80	37.38	355.35	7.60	4.75	0.90
2006	10	13	286	82.40	66.20	41.20	355.35	11.63	8.00	0.06
2006	10	14	287	75.20	69.80	41.72	355.35	7.83	8.58	0.00
2006	10	15	288	87.80	73.40	40.64	355.35	5.59	7.58	0.00
2006	10	16	289	91.40	75.20	36.61	355.35	8.94	4.40	0.00
2006	10	17	290	96.80	69.80	32.56	355.35	6.48	0.40	0.00
2006	10	18	291	93.20	80.60	38.84	355.35	6.04	5.58	0.06
2006	10	19	292	82.40	66.20	37.96	355.35	10.96	5.00	0.00
2006	10	20	293	78.80	64.40	39.00	355.35	7.38	5.75	0.00
2006	10	21	294	80.60	71.60	41.29	355.35	5.59	8.10	0.00
2006	10	22	295	77.00	64.40	40.50	355.35	9.17	7.43	0.00
2006	10	23	296	73.40	60.80	41.99	355.35	5.81	8.88	0.00
2006	10	24	297	78.80	64.40	41.36	355.35	6.04	8.18	0.00
2006	10	25	298	82.40	71.60	39.65	355.35	7.60	6.38	0.00
2006	10	26	299	95.00	73.40	33.12	355.35	5.81	1.03	0.00
2006	10	27	300	82.40	66.20	33.17	355.35	17.22	1.08	0.00
2006	10	28	301	82.40	50.00	32.20	355.35	4.92	0.00	0.00
2006	10	29	302	84.20	53.60	32.20	355.35	10.51	0.00	0.00
2006	10	30	303	87.80	60.80	32.20	355.35	9.84	0.00	0.00
2006	10	31	304	87.80	66.20	32.38	355.35	6.71	0.20	0.00
2006	11	1	305	87.80	69.80	38.09	273.78	9.39	5.03	0.00
2006	11	2	306	66.20	60.80	42.55	273.78	11.40	9.50	0.00
2006	11	3	307	73.40	53.60	40.53	273.78	7.16	7.35	0.00
2006	11	4	308	78.80	64.40	40.80	273.78	8.50	7.75	0.00
2006	11	5	309	84.20	71.60	40.39	273.78	9.84	7.30	0.00
2006	11	6	310	87.80	71.60	37.26	273.78	5.81	4.63	0.00
2006	11	7	311	84.20	62.60	32.20	273.78	7.16	0.00	0.00
2006	11	8	312	89.60	64.40	34.09	273.78	9.17	2.10	0.00
2006	11	9	313	93.20	71.60	34.70	273.78	9.39	2.78	0.00
2006	11	10	314	93.20	71.60	34.54	273.78	6.93	2.60	0.00
2006	11	11	315	78.80	60.80	32.92	273.78	11.63	0.80	0.00
2006	11	12	316	78.80	51.80	36.34	273.78	8.94	4.10	0.00
2006	11	13	317	78.80	69.80	41.00	273.78	5.59	7.78	0.00
2006	11	14	318	89.60	62.60	33.10	273.78	5.59	1.00	0.00
2006	11	15	319	75.20	53.60	32.20	273.78	16.77	0.00	0.00
2006	11	16	320	73.40	44.60	32.20	273.78	6.04	0.00	0.00

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2006	11	17	321	82.40	48.20	32.20	273.78	7.83	0.00	0.00
2006	11	18	322	82.40	51.80	32.20	273.78	5.81	0.00	0.00
2006	11	19	323	78.80	55.40	32.56	273.78	6.71	0.40	0.00
2006	11	20	324	73.40	48.20	32.20	273.78	5.37	0.00	0.00
2006	11	21	325	73.40	48.20	32.20	273.78	7.83	0.00	0.00
2006	11	22	326	80.60	48.20	32.20	273.78	8.27	0.00	0.00
2006	11	23	327	84.20	55.40	32.20	273.78	9.61	0.00	0.00
2006	11	24	328	82.40	57.20	32.20	273.78	10.29	0.00	0.00
2006	11	25	329	84.20	59.00	32.38	273.78	12.07	0.20	0.00
2006	11	26	330	84.20	60.80	36.35	273.78	12.52	3.85	0.00
2006	11	27	331	84.20	64.40	35.40	273.78	10.29	3.05	0.00
2006	11	28	332	87.80	66.20	33.12	273.78	9.61	1.03	0.00
2006	11	29	333	89.96	71.60	35.54	273.78	14.98	3.45	0.00
2006	11	30	334	73.94	46.40	34.54	273.78	25.27	2.60	0.00
2006	12	1	335	62.60	35.60	32.20	207.53	7.16	0.00	0.00
2006	12	2	336	66.20	50.00	39.85	207.53	9.84	6.50	0.04
2006	12	3	337	55.40	46.40	40.26	207.53	11.63	7.15	0.00
2006	12	4	338	57.20	39.20	34.77	207.53	5.37	2.85	0.00
2006	12	5	339	62.60	42.80	39.76	207.53	6.71	6.40	0.00
2006	12	6	340	73.40	51.98	36.27	207.53	3.58	4.03	0.74
2006	12	7	341	66.20	50.00	40.64	207.53	10.96	7.38	0.24
2006	12	8	342	50.00	39.20	36.78	207.53	8.05	4.33	0.02
2006	12	9	343	50.00	41.00	42.80	207.53	4.25	9.78	0.02
2006	12	10	344	60.80	46.40	42.91	207.53	4.70	9.90	0.00
2006	12	11	345	66.20	55.40	42.46	207.53	3.13	9.40	0.00
2006	12	12	346	71.60	53.60	37.73	207.53	5.59	5.00	0.00
2006	12	13	347	73.40	46.40	34.09	207.53	3.13	2.10	0.00
2006	12	14	348	73.40	60.80	39.51	207.53	3.80	6.33	0.00
2006	12	15	349	77.00	60.80	39.22	207.53	4.02	5.80	0.00
2006	12	16	350	80.60	62.60	34.27	207.53	10.51	2.30	0.00
2006	12	17	351	78.80	68.00	39.85	207.53	10.29	6.60	0.00
2006	12	18	352	82.40	69.80	40.66	207.53	9.61	7.60	0.00
2006	12	19	353	77.00	69.80	38.61	207.53	9.17	5.73	0.00
2006	12	20	354	75.20	60.80	35.58	207.53	10.51	3.50	0.00
2006	12	21	355	64.40	53.60	40.55	207.53	6.26	7.28	0.00
2006	12	22	356	73.40	46.40	32.20	207.53	6.93	0.00	2.29
2006	12	23	357	57.20	46.40	42.01	207.53	13.42	8.90	0.39
2006	12	24	358	57.20	46.40	37.20	207.53	10.06	4.80	0.00
2006	12	25	359	60.80	44.60	33.55	207.53	15.65	1.50	0.00
2006	12	26	360	66.20	37.40	32.20	207.53	5.37	0.00	0.00
2006	12	27	361	73.40	46.40	32.20	207.53	12.97	0.00	0.00
2006	12	28	362	80.60	59.00	32.65	207.53	17.89	0.50	0.14
2006	12	29	363	71.60	55.40	39.13	207.53	14.09	5.90	0.48
2006	12	30	364	64.40	53.60	34.00	207.53	4.25	2.00	0.00
2006	12	31	365	71.60	46.40	32.29	207.53	7.60	0.10	0.00
2007	1	1	1	62.60	41.00	32.20	277.05	6.71	0.00	0.00
2007	1	2	2	57.20	41.00	39.92	277.05	8.27	6.68	0.90
2007	1	3	3	55.40	48.20	42.91	277.05	7.83	9.90	0.03
2007	1	4	4	71.60	44.60	35.44	277.05	6.93	3.60	0.00
2007	1	5	5	87.80	46.40	33.10	277.05	5.37	1.00	0.01
2007	1	6	6	66.20	51.80	42.28	277.05	12.07	9.20	0.00

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2007	1	7	7	69.80	46.40	34.09	277.05	12.52	2.10	0.00
2007	1	8	8	66.20	39.20	32.20	277.05	5.37	0.00	0.00
2007	1	9	9	66.20	42.80	32.49	277.05	4.47	0.33	0.00
2007	1	10	10	73.40	42.80	32.76	277.05	9.61	0.63	0.00
2007	1	11	11	77.00	57.20	32.29	277.05	10.51	0.10	0.00
2007	1	12	12	78.80	66.20	36.55	277.05	10.51	4.08	0.00
2007	1	13	13	80.60	69.80	39.92	277.05	9.17	6.78	0.00
2007	1	14	14	73.40	57.20	42.28	277.05	9.39	9.20	0.01
2007	1	15	15	55.40	39.20	42.82	277.05	15.88	9.80	0.01
2007	1	16	16	39.20	33.80	42.82	277.05	12.75	9.80	0.00
2007	1	17	17	39.20	35.60	42.91	277.05	6.48	9.90	0.00
2007	1	18	18	44.96	37.40	42.91	277.05	3.80	9.90	0.24
2007	1	19	19	48.20	44.60	43.00	277.05	8.05	10.00	0.09
2007	1	20	20	50.00	44.60	42.64	277.05	5.81	9.60	0.00
2007	1	21	21	69.80	41.00	34.74	277.05	5.14	2.83	0.00
2007	1	22	22	57.20	48.20	42.80	277.05	9.61	9.78	0.18
2007	1	23	23	48.20	42.80	42.91	277.05	9.84	9.90	1.20
2007	1	24	24	46.40	42.80	43.00	277.05	9.39	10.00	0.00
2007	1	25	25	62.60	46.40	40.19	277.05	6.26	6.88	0.03
2007	1	26	26	64.40	51.80	42.73	277.05	6.26	9.70	0.49
2007	1	27	27	73.40	55.40	36.25	277.05	8.50	4.50	0.00
2007	1	28	28	57.20	42.80	32.38	277.05	6.93	0.20	0.00
2007	1	29	29	53.60	44.60	41.74	277.05	5.59	8.60	0.00
2007	1	30	30	59.00	51.80	43.00	277.05	7.83	10.00	0.00
2007	1	31	31	66.20	51.80	40.66	277.05	7.60	7.40	0.00
2007	2	1	32	69.80	53.60	38.77	359.22	6.71	5.40	0.00
2007	2	2	33	55.40	48.20	41.09	359.22	8.94	7.88	0.00
2007	2	3	34	57.20	42.80	41.88	359.22	5.81	8.75	0.00
2007	2	4	35	66.20	48.20	40.21	359.22	4.02	7.10	0.00
2007	2	5	36	68.00	53.60	39.20	359.22	6.04	5.98	0.00
2007	2	6	37	75.20	53.60	34.92	359.22	7.38	3.03	0.00
2007	2	7	38	80.60	57.20	34.72	359.22	6.93	2.80	0.00
2007	2	8	39	82.40	60.80	37.44	359.22	8.27	4.83	0.00
2007	2	9	40	77.00	53.60	41.83	359.22	10.06	8.70	0.00
2007	2	10	41	53.60	46.40	42.62	359.22	10.73	9.58	0.02
2007	2	11	42	53.60	46.40	43.00	359.22	6.48	10.00	0.02
2007	2	12	43	69.80	53.60	39.76	359.22	4.02	6.40	0.00
2007	2	13	44	73.40	50.00	32.20	359.22	9.39	0.00	0.00
2007	2	14	45	53.60	42.80	39.45	359.22	10.06	6.25	0.00
2007	2	15	46	55.40	37.40	35.69	359.22	10.06	3.88	0.00
2007	2	16	47	62.60	33.80	32.20	359.22	9.17	0.00	0.00
2007	2	17	48	71.60	42.80	32.20	359.22	10.51	0.00	0.00
2007	2	18	49	69.80	42.80	32.29	359.22	8.50	0.10	0.00
2007	2	19	50	82.40	48.20	32.20	359.22	10.29	0.00	0.00
2007	2	20	51	87.80	62.60	32.38	359.22	12.07	0.20	0.12
2007	2	21	52	82.40	60.80	33.98	359.22	5.37	1.98	0.00
2007	2	22	53	82.40	60.80	33.39	359.22	10.51	1.33	0.00
2007	2	23	54	82.40	69.80	40.12	359.22	13.86	6.80	0.00
2007	2	24	55	82.40	64.40	32.29	359.22	13.19	0.10	0.00
2007	2	25	56	78.80	48.20	32.20	359.22	5.59	0.00	0.00
2007	2	26	57	89.60	51.80	32.20	359.22	6.48	0.00	0.00

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2007	2	27	58	87.80	62.60	34.45	359.22	10.51	2.50	0.00
2007	2	28	59	89.60	69.80	37.31	359.22	11.40	4.78	0.00
2007	3	1	60	77.00	60.98	33.73	421.77	11.40	1.70	0.00
2007	3	2	61	80.60	50.00	32.20	421.77	7.60	0.00	0.00
2007	3	3	62	73.40	53.60	33.42	421.77	10.73	1.35	0.00
2007	3	4	63	66.20	39.20	32.20	421.77	7.60	0.00	0.00
2007	3	5	64	72.86	39.20	32.20	421.77	5.37	0.00	0.00
2007	3	6	65	77.00	46.40	32.20	421.77	10.73	0.00	0.00
2007	3	7	66	82.40	55.40	32.20	421.77	10.06	0.00	0.00
2007	3	8	67	84.20	59.00	32.20	421.77	12.30	0.00	0.00
2007	3	9	68	84.20	64.40	35.43	421.77	7.60	3.33	0.00
2007	3	10	69	86.00	64.40	32.38	421.77	11.63	0.20	0.00
2007	3	11	70	82.40	69.80	40.35	421.77	13.19	7.25	0.21
2007	3	12	71	73.40	62.60	42.62	421.77	8.27	9.58	0.47
2007	3	13	72	75.20	64.40	42.10	421.77	5.37	9.00	0.00
2007	3	14	73	93.20	64.40	36.16	421.77	6.71	4.40	0.00
2007	3	15	74	82.40	66.20	38.95	421.77	8.50	5.60	0.00
2007	3	16	75	82.40	64.40	38.46	421.77	8.94	5.55	0.00
2007	3	17	76	80.60	62.60	37.98	421.77	9.84	5.03	0.00
2007	3	18	77	87.80	66.20	37.42	421.77	15.20	4.80	0.00
2007	3	19	78	84.20	69.80	37.98	421.77	14.98	5.03	0.00
2007	3	20	79	78.80	71.60	40.48	421.77	12.75	7.40	0.00
2007	3	21	80	84.20	71.60	39.54	421.77	12.97	6.35	0.00
2007	3	22	81	84.20	73.40	40.03	421.77	15.43	6.90	0.00
2007	3	23	82	84.20	71.60	37.53	421.77	19.01	4.93	0.00
2007	3	24	83	84.20	73.40	40.41	421.77	15.20	7.33	0.01
2007	3	25	84	82.40	71.60	38.10	421.77	11.85	5.55	0.02
2007	3	26	85	87.80	69.80	39.06	421.77	13.64	5.83	0.00
2007	3	27	86	91.40	68.00	35.28	421.77	10.06	2.93	0.00
2007	3	28	87	91.40	69.80	33.71	421.77	16.10	1.68	0.00
2007	3	29	88	87.80	73.40	39.63	421.77	10.51	6.45	0.00
2007	3	30	89	87.80	75.20	38.91	421.77	15.43	5.65	0.01
2007	3	31	90	84.20	66.20	35.44	421.77	11.40	3.60	0.04
2007	4	1	91	87.80	57.20	33.42	514.09	7.16	1.35	0.00
2007	4	2	92	91.40	71.60	32.38	514.09	11.40	0.20	0.05
2007	4	3	93	93.20	69.80	34.92	514.09	8.05	3.03	0.03
2007	4	4	94	82.40	64.40	35.62	514.09	9.84	3.30	0.00
2007	4	5	95	78.80	62.60	38.86	514.09	7.60	5.50	0.00
2007	4	6	96	78.80	57.20	38.14	514.09	10.29	4.80	0.08
2007	4	7	97	68.00	39.20	42.82	514.09	15.88	9.80	0.05
2007	4	8	98	57.20	39.20	42.62	514.09	7.83	9.58	0.01
2007	4	9	99	64.40	51.80	43.00	514.09	6.48	10.00	0.00
2007	4	10	100	86.00	59.00	38.86	514.09	5.14	5.40	0.00
2007	4	11	101	91.40	62.60	32.20	514.09	7.83	0.00	0.00
2007	4	12	102	87.80	60.80	32.94	514.09	13.64	0.83	0.00
2007	4	13	103	98.60	75.20	35.69	514.09	13.64	3.88	0.00
2007	4	14	104	84.20	62.60	33.71	514.09	19.45	1.68	0.00
2007	4	15	105	78.80	50.00	32.20	514.09	8.27	0.00	0.00
2007	4	16	106	82.40	55.40	36.14	514.09	15.43	3.88	0.00
2007	4	17	107	87.80	66.20	37.00	514.09	10.51	4.58	0.00
2007	4	18	108	93.20	60.80	32.20	514.09	4.25	0.00	0.00

City of Laredo Landfill

Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
2007	4	19	109	89.60	68.00	32.38	514.09	12.30	0.20	0.00
2007	4	20	110	89.60	69.80	32.38	514.09	13.64	0.20	0.00
2007	4	21	111	89.60	66.20	35.53	514.09	15.88	3.20	0.00
2007	4	22	112	89.60	71.60	39.51	514.09	12.75	6.33	0.00
2007	4	23	113	91.40	73.40	39.51	514.09	12.30	6.33	0.00
2007	4	24	114	87.80	75.20	35.62	514.09	15.88	3.30	0.00
2007	4	25	115	95.00	68.00	33.80	514.09	10.96	1.78	0.00
2007	4	26	116	96.80	62.60	32.20	514.09	10.73	0.00	0.00
2007	4	27	117	84.20	71.60	38.68	514.09	12.30	5.40	0.01
2007	4	28	118	84.20	73.40	38.19	514.09	10.96	5.65	0.00
2007	4	29	119	95.00	73.40	36.17	514.09	12.97	3.65	0.23
2007	4	30	120	91.40	75.20	39.54	514.09	13.64	6.35	0.00
2007	5	1	121	96.80	75.20	34.95	514.09	12.52	2.55	0.47
2007	5	2	122	91.40	75.20	40.01	553.07	13.19	6.88	0.00
2007	5	3	123	89.60	70.88	35.24	553.07	6.93	3.38	0.00
2007	5	4	124	96.80	77.00	36.01	553.07	11.63	3.98	0.00
2007	5	5	125	91.40	78.80	37.85	553.07	13.42	4.88	0.00
2007	5	6	126	100.40	80.60	36.91	553.07	13.86	4.48	0.91
2007	5	7	127	96.80	78.80	37.38	553.07	16.55	4.75	0.12
2007	5	8	128	91.40	68.00	35.37	553.07	16.10	3.03	0.52
2007	5	9	129	89.60	68.00	35.85	553.07	12.97	3.55	0.28
2007	5	10	130	86.00	66.20	37.80	553.07	5.14	5.23	0.00
2007	5	11	131	87.80	69.80	33.48	553.07	8.27	1.43	0.00
2007	5	12	132	89.60	69.80	32.67	553.07	4.47	0.53	0.00
2007	5	13	133	91.40	69.80	32.47	553.07	5.14	0.30	0.00
2007	5	14	134	95.00	68.00	32.20	553.07	9.84	0.00	0.00
2007	5	15	135	93.20	69.80	32.38	553.07	12.75	0.20	0.00
2007	5	16	136	91.40	73.40	34.61	553.07	7.38	2.18	0.00
2007	5	17	137	89.60	73.40	36.93	553.07	11.85	4.25	0.49
2007	5	18	138	75.20	66.20	40.75	553.07	6.48	7.70	0.00
2007	5	19	139	80.60	69.80	40.75	553.07	8.50	7.70	0.00
2007	5	20	140	84.20	71.60	40.75	553.07	11.63	7.70	0.07
2007	5	21	141	84.20	71.60	39.90	553.07	12.75	6.75	0.00
2007	5	22	142	93.20	73.40	38.93	553.07	12.07	5.68	0.00
2007	5	23	143	91.40	73.40	37.50	553.07	12.07	5.13	0.00
2007	5	24	144	91.40	77.00	38.07	553.07	14.53	5.13	0.09
2007	5	25	145	82.40	71.60	39.87	553.07	8.05	6.73	0.00
2007	5	26	146	91.40	71.60	35.94	553.07	7.83	3.65	0.00
2007	5	27	147	89.60	69.80	34.41	553.07	8.72	2.45	0.00
2007	5	28	148	95.00	69.80	33.35	553.07	5.81	1.28	0.00
2007	5	29	149	100.40	73.40	32.29	553.07	11.63	0.10	0.49
2007	5	30	150	100.40	73.40	33.73	553.07	8.72	1.70	0.00
2007	5	31	151	96.80	77.00	34.16	553.07	12.52	2.18	0.00
2007	6	1	152	98.60	75.20	34.88	553.07	15.43	2.98	0.00
2007	6	2	153	93.20	75.20	36.64	581.92	12.07	4.18	0.00
2007	6	3	154	100.40	75.20	32.58	581.92	9.61	0.43	0.00
2007	6	4	155	96.80	73.40	33.03	581.92	8.27	0.93	0.00
2007	6	5	156	98.60	69.80	33.44	581.92	10.29	1.38	0.00
2007	6	6	157	105.80	78.80	33.19	581.92	15.88	1.10	0.00
2007	6	7	158	107.60	80.60	32.29	581.92	16.99	0.10	0.00
2007	6	8	159	100.40	82.40	35.62	581.92	14.98	3.30	1.44

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langley's)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
2007	6	9	160	100.40	80.60	35.78	581.92	11.18	3.48	0.00
2007	6	10	161	100.40	80.60	33.89	581.92	14.31	1.88	0.00
2007	6	11	162	100.40	75.20	32.56	581.92	14.09	0.40	0.00
2007	6	12	163	100.40	75.20	33.39	581.92	10.96	1.33	0.00
2007	6	13	164	100.40	77.00	32.49	581.92	8.72	0.33	0.00
2007	6	14	165	100.40	78.80	32.38	581.92	8.72	0.20	0.00
2007	6	15	166	104.00	78.80	32.76	581.92	10.73	0.63	0.00
2007	6	16	167	98.60	80.60	35.17	581.92	9.61	2.80	4.29
2007	6	17	168	93.20	71.60	34.70	581.92	9.84	2.78	0.00
2007	6	18	169	100.40	80.60	32.38	581.92	13.19	0.20	0.00
2007	6	19	170	100.40	82.40	32.56	581.92	12.75	0.40	0.58
2007	6	20	171	89.60	73.40	35.26	581.92	10.29	2.90	0.42
2007	6	21	172	89.60	73.40	36.27	581.92	7.38	3.53	1.10
2007	6	22	173	84.20	71.60	37.56	581.92	8.94	4.95	0.09
2007	6	23	174	84.20	71.60	39.65	581.92	9.61	6.28	0.00
2007	6	24	175	93.20	75.20	38.07	581.92	8.94	5.13	0.00
2007	6	25	176	96.80	80.60	35.98	581.92	13.19	3.70	0.00
2007	6	26	177	98.60	80.60	34.86	581.92	16.32	2.45	0.00
2007	6	27	178	93.20	78.80	33.28	581.92	9.61	1.20	0.11
2007	6	28	179	93.20	78.80	34.08	581.92	9.61	1.83	0.00
2007	6	29	180	93.20	73.40	32.58	581.92	6.48	0.43	0.00
2007	6	30	181	93.20	75.20	33.98	581.92	8.05	1.98	0.00
2007	7	1	182	96.80	75.20	37.17	581.92	11.40	4.53	4.27
2007	7	2	183	91.40	73.40	36.15	623.50	8.50	3.63	0.00
2007	7	3	184	86.00	78.80	36.09	623.50	9.84	3.33	0.37
2007	7	4	185	84.20	77.00	38.12	623.50	8.50	4.78	0.00
2007	7	5	186	91.40	73.40	35.31	623.50	1.79	2.95	0.28
2007	7	6	187	93.20	78.80	33.48	623.50	6.04	1.43	1.23
2007	7	7	188	89.60	73.40	39.06	623.50	5.81	5.83	0.00
2007	7	8	189	95.00	78.80	33.12	623.50	9.39	1.03	0.00
2007	7	9	190	96.80	78.80	33.62	623.50	11.18	1.58	0.00
2007	7	10	191	96.80	80.60	33.21	623.50	12.97	1.13	0.00
2007	7	11	192	96.80	80.60	35.22	623.50	11.40	3.10	0.00
2007	7	12	193	98.60	80.60	34.02	623.50	12.30	2.03	0.00
2007	7	13	194	100.40	77.00	32.38	623.50	10.29	0.20	0.00
2007	7	14	195	96.80	77.00	32.38	623.50	8.05	0.20	0.00
2007	7	15	196	93.20	78.80	33.73	623.50	6.04	1.70	0.00
2007	7	16	197	96.80	75.20	36.12	623.50	6.93	3.85	0.03
2007	7	17	198	87.80	71.60	37.78	623.50	11.18	4.40	0.09
2007	7	18	199	87.80	73.40	34.90	623.50	10.51	2.50	0.21
2007	7	19	200	80.60	73.40	39.87	623.50	7.16	6.73	0.37
2007	7	20	201	93.20	77.00	37.85	623.50	11.18	4.88	0.38
2007	7	21	202	87.98	77.00	38.14	623.50	8.72	5.20	0.01
2007	7	22	203	93.20	77.00	34.73	623.50	8.72	2.55	0.00
2007	7	23	204	93.20	77.00	32.38	623.50	5.14	0.20	0.65
2007	7	24	205	95.00	73.40	34.18	623.50	10.51	2.20	0.18
2007	7	25	206	91.40	73.40	36.21	623.50	12.97	3.45	0.02
2007	7	26	207	87.80	73.40	38.86	623.50	6.71	5.60	0.07
2007	7	27	208	91.40	80.60	37.06	623.50	7.38	4.00	0.00
2007	7	28	209	93.20	75.20	34.29	623.50	5.59	2.33	0.15
2007	7	29	210	93.20	78.80	35.91	623.50	9.39	3.63	0.00

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2007	7	30	211	95.00	78.80	36.10	623.50	10.29	3.58	0.00
2007	7	31	212	96.80	78.80	35.60	623.50	10.73	3.28	0.00
2007	8	1	213	96.80	77.00	33.01	543.94	8.72	0.90	0.00
2007	8	2	214	96.80	78.80	32.76	543.94	8.50	0.63	0.00
2007	8	3	215	96.80	78.80	32.49	543.94	9.17	0.33	0.00
2007	8	4	216	96.80	78.80	32.76	543.94	10.51	0.63	0.00
2007	8	5	217	100.40	78.80	32.67	543.94	12.52	0.53	0.00
2007	8	6	218	100.40	78.80	32.38	543.94	13.64	0.20	0.00
2007	8	7	219	98.60	78.80	34.14	543.94	14.31	2.15	0.00
2007	8	8	220	102.20	80.60	33.89	543.94	13.64	1.88	0.00
2007	8	9	221	98.60	77.00	33.30	543.94	10.73	1.23	0.00
2007	8	10	222	98.60	75.20	32.38	543.94	9.39	0.20	0.00
2007	8	11	223	98.60	78.80	33.21	543.94	8.27	1.13	0.00
2007	8	12	224	98.60	78.80	32.79	543.94	5.37	0.65	0.08
2007	8	13	225	98.60	80.60	32.94	543.94	3.80	0.83	0.00
2007	8	14	226	96.80	77.00	32.58	543.94	6.26	0.43	0.00
2007	8	15	227	98.60	77.00	32.47	543.94	4.92	0.30	0.00
2007	8	16	228	96.80	77.00	34.79	543.94	6.71	2.38	0.00
2007	8	17	229	102.20	82.40	32.94	543.94	11.18	0.83	0.00
2007	8	18	230	102.20	80.60	32.67	543.94	14.98	0.53	0.00
2007	8	19	231	102.20	78.80	33.21	543.94	13.42	1.13	0.00
2007	8	20	232	100.40	78.80	33.08	543.94	12.30	0.98	0.00
2007	8	21	233	100.40	78.80	34.05	543.94	12.52	2.05	1.30
2007	8	22	234	93.20	75.20	34.61	543.94	8.50	2.68	0.05
2007	8	23	235	96.80	80.60	34.70	543.94	8.50	2.28	0.00
2007	8	24	236	96.80	82.40	35.22	543.94	10.96	2.85	0.00
2007	8	25	237	95.00	77.00	33.87	543.94	7.16	1.85	0.00
2007	8	26	238	96.80	77.00	33.12	543.94	9.17	1.03	0.18
2007	8	27	239	91.40	75.20	34.41	543.94	6.04	2.45	0.00
2007	8	28	240	88.88	77.90	33.87	543.94	6.26	1.85	0.01
2007	8	29	241	93.20	77.00	33.48	543.94	6.93	1.43	0.02
2007	8	30	242	91.40	78.80	35.18	543.94	5.14	2.55	0.05
2007	8	31	243	93.20	73.40	34.05	543.94	4.92	2.05	0.78
2007	9	1	244	91.40	73.40	37.11	459.97	6.48	4.45	0.10
2007	9	2	245	89.60	71.60	35.94	459.97	6.26	3.65	0.88
2007	9	3	246	86.00	73.40	36.84	459.97	7.38	4.15	0.62
2007	9	4	247	91.40	77.00	37.78	459.97	10.51	5.20	0.00
2007	9	5	248	93.20	78.80	36.91	459.97	11.63	4.48	0.00
2007	9	6	249	96.80	77.00	35.25	459.97	12.07	3.13	0.00
2007	9	7	250	96.80	75.20	33.44	459.97	11.18	1.38	0.00
2007	9	8	251	96.80	78.80	35.99	459.97	10.06	3.45	0.00
2007	9	9	252	96.80	78.80	34.21	459.97	7.83	1.98	0.00
2007	9	10	253	96.80	77.00	33.53	459.97	4.47	1.48	0.00
2007	9	11	254	93.20	75.20	34.18	459.97	6.71	1.70	0.00
2007	9	12	255	89.60	73.40	39.22	459.97	6.93	6.00	0.00
2007	9	13	256	95.00	73.40	32.94	459.97	3.58	0.83	0.00
2007	9	14	257	96.80	78.80	33.12	459.97	8.72	1.03	0.00
2007	9	15	258	96.80	75.20	33.80	459.97	8.05	1.78	0.04
2007	9	16	259	93.20	73.40	33.89	459.97	4.92	1.88	0.00
2007	9	17	260	96.80	75.20	34.27	459.97	6.26	2.30	0.00
2007	9	18	261	98.60	77.00	33.96	459.97	8.50	1.95	0.00

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2007	9	19	262	96.80	75.20	33.33	459.97	8.94	1.25	0.00
2007	9	20	263	93.20	73.40	34.18	459.97	7.60	2.20	0.00
2007	9	21	264	96.80	71.60	32.76	459.97	4.92	0.63	0.00
2007	9	22	265	96.80	75.20	33.15	459.97	8.27	1.05	0.00
2007	9	23	266	96.80	71.60	33.89	459.97	8.72	1.88	0.00
2007	9	24	267	96.80	73.40	32.29	459.97	9.61	0.10	0.00
2007	9	25	268	98.60	73.40	32.20	459.97	7.38	0.00	0.00
2007	9	26	269	98.60	75.20	33.48	459.97	6.48	1.43	0.00
2007	9	27	270	100.40	77.00	32.47	459.97	6.71	0.30	0.00
2007	9	28	271	96.80	75.20	33.35	459.97	8.05	1.28	0.62
2007	9	29	272	93.20	75.20	37.29	459.97	8.05	4.65	0.00
2007	9	30	273	96.80	75.20	36.39	459.97	8.94	3.78	0.00
2007	10	1	274	93.20	77.00	33.60	355.35	8.50	1.55	0.00
2007	10	2	275	96.80	75.20	32.94	355.35	9.17	0.83	0.00
2007	10	3	276	95.00	75.20	32.67	355.35	8.27	0.53	0.00
2007	10	4	277	96.80	71.60	32.29	355.35	8.27	0.10	0.00
2007	10	5	278	96.80	69.80	32.20	355.35	7.83	0.00	0.00
2007	10	6	279	96.80	73.40	32.20	355.35	10.96	0.00	0.00
2007	10	7	280	95.00	73.40	33.15	355.35	8.27	1.05	0.10
2007	10	8	281	91.40	71.60	34.95	355.35	6.71	2.55	0.00
2007	10	9	282	95.00	75.20	34.12	355.35	6.71	1.88	0.00
2007	10	10	283	95.00	75.20	35.90	355.35	4.25	3.35	0.00
2007	10	11	284	96.80	75.20	33.57	355.35	7.83	1.53	0.00
2007	10	12	285	93.20	73.40	34.45	355.35	8.05	2.50	0.00
2007	10	13	286	95.00	69.80	32.20	355.35	11.85	0.00	0.00
2007	10	14	287	98.60	75.20	34.29	355.35	14.53	2.33	0.00
2007	10	15	288	93.20	73.40	34.02	355.35	9.17	2.03	0.00
2007	10	16	289	96.80	77.00	37.08	355.35	9.39	4.43	0.00
2007	10	17	290	96.80	73.40	32.38	355.35	8.05	0.20	0.00
2007	10	18	291	96.80	75.20	34.27	355.35	7.83	2.30	0.00
2007	10	19	292	98.60	73.40	33.37	355.35	8.05	1.30	0.00
2007	10	20	293	96.80	71.60	32.56	355.35	10.96	0.40	0.00
2007	10	21	294	93.20	69.80	34.11	355.35	11.63	2.13	0.00
2007	10	22	295	82.40	60.80	35.82	355.35	19.45	3.53	0.00
2007	10	23	296	78.80	46.40	32.20	355.35	9.39	0.00	0.00
2007	10	24	297	89.60	51.80	32.20	355.35	9.61	0.00	0.00
2007	10	25	298	84.20	53.60	32.20	355.35	9.84	0.00	0.00
2007	10	26	299	87.80	51.80	32.20	355.35	8.27	0.00	0.00
2007	10	27	300	82.40	53.60	32.20	355.35	7.38	0.00	0.00
2007	10	28	301	80.60	51.80	32.20	355.35	6.04	0.00	0.00
2007	10	29	302	80.60	51.80	32.20	355.35	4.02	0.00	0.00
2007	10	30	303	82.40	53.60	32.20	355.35	4.25	0.00	0.00
2007	10	31	304	87.80	59.00	32.65	355.35	5.81	0.50	0.00
2007	11	1	305	84.20	62.60	34.54	273.78	4.92	2.60	0.00
2007	11	2	306	87.80	62.60	32.49	273.78	8.27	0.33	0.00
2007	11	3	307	87.80	66.20	36.57	273.78	8.27	3.85	0.00
2007	11	4	308	89.60	69.80	35.19	273.78	8.27	3.33	0.00
2007	11	5	309	89.60	66.20	32.20	273.78	9.84	0.00	0.15
2007	11	6	310	77.00	60.80	38.48	273.78	10.51	5.18	0.03
2007	11	7	311	73.40	55.40	39.94	273.78	4.70	6.60	0.00
2007	11	8	312	86.00	62.60	34.81	273.78	5.81	2.90	0.00

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langley's)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
2007	11	9	313	89.60	64.40	32.20	273.78	7.83	0.00	0.00
2007	11	10	314	89.60	71.60	33.80	273.78	14.98	1.78	0.00
2007	11	11	315	89.60	66.20	32.29	273.78	15.20	0.10	0.00
2007	11	12	316	89.60	68.00	32.38	273.78	10.96	0.20	0.00
2007	11	13	317	91.40	69.80	34.38	273.78	9.39	2.43	0.00
2007	11	14	318	89.60	66.20	32.29	273.78	8.05	0.10	0.00
2007	11	15	319	73.40	55.40	36.79	273.78	12.97	4.60	0.00
2007	11	16	320	77.00	48.20	32.47	273.78	8.72	0.30	0.01
2007	11	17	321	82.40	64.40	34.09	273.78	5.59	2.10	0.00
2007	11	18	322	89.60	62.60	32.29	273.78	4.47	0.10	0.02
2007	11	19	323	84.20	62.60	35.24	273.78	6.71	3.38	0.00
2007	11	20	324	89.60	68.00	35.17	273.78	11.63	3.30	0.00
2007	11	21	325	93.20	69.80	32.29	273.78	9.17	0.10	0.00
2007	11	22	326	66.20	53.60	42.91	273.78	14.53	9.90	0.09
2007	11	23	327	51.80	44.60	42.62	273.78	7.83	9.58	0.08
2007	11	24	328	51.80	44.60	43.00	273.78	10.29	10.00	0.02
2007	11	25	329	59.00	46.40	38.66	273.78	9.17	5.38	0.00
2007	11	26	330	71.60	37.40	32.20	273.78	4.02	0.00	0.00
2007	11	27	331	71.60	44.60	32.20	273.78	7.60	0.00	0.00
2007	11	28	332	73.40	51.80	33.37	273.78	6.93	1.30	0.02
2007	11	29	333	66.20	59.00	41.63	273.78	5.14	8.48	0.15
2007	11	30	334	75.20	60.80	42.82	273.78	4.92	9.80	0.00
2007	12	1	335	87.80	73.40	38.66	207.53	15.43	5.38	0.00
2007	12	2	336	86.00	66.20	33.39	207.53	10.29	1.33	0.00
2007	12	3	337	71.60	50.00	32.20	207.53	10.29	0.00	0.00
2007	12	4	338	77.00	42.80	32.20	207.53	4.47	0.00	0.00
2007	12	5	339	87.80	50.00	32.20	207.53	4.70	0.00	0.00
2007	12	6	340	84.20	60.80	36.48	207.53	9.84	4.50	0.00
2007	12	7	341	89.60	71.60	36.07	207.53	10.96	4.30	0.00
2007	12	8	342	89.60	71.60	36.61	207.53	13.42	4.40	0.00
2007	12	9	343	87.80	73.40	39.22	207.53	14.76	6.00	0.01
2007	12	10	344	80.60	60.80	40.19	207.53	9.39	7.08	0.00
2007	12	11	345	91.40	73.40	35.15	207.53	14.09	3.28	0.01
2007	12	12	346	75.20	53.60	43.00	207.53	11.18	10.00	0.00
2007	12	13	347	62.60	53.60	42.82	207.53	7.38	9.80	0.00
2007	12	14	348	66.20	55.40	42.35	207.53	7.38	9.28	0.00
2007	12	15	349	68.00	48.20	34.72	207.53	18.78	2.80	0.00
2007	12	16	350	60.80	33.80	32.20	207.53	4.47	0.00	0.00
2007	12	17	351	66.20	33.80	34.36	207.53	7.83	2.40	0.00
2007	12	18	352	77.00	46.40	32.20	207.53	3.58	0.00	0.00
2007	12	19	353	84.20	57.20	35.17	207.53	7.60	3.30	0.00
2007	12	20	354	84.20	53.60	32.74	207.53	8.05	0.60	0.00
2007	12	21	355	89.60	48.20	32.20	207.53	12.75	0.00	0.00
2007	12	22	356	75.20	51.80	32.20	207.53	16.55	0.00	0.00
2007	12	23	357	62.60	37.40	32.20	207.53	6.04	0.00	0.00
2007	12	24	358	68.00	39.20	32.20	207.53	6.71	0.00	0.00
2007	12	25	359	73.40	35.60	32.20	207.53	7.60	0.00	0.00
2007	12	26	360	69.80	44.60	32.20	207.53	13.42	0.00	0.00
2007	12	27	361	78.80	37.40	32.20	207.53	11.63	0.00	0.00
2007	12	28	362	68.00	50.00	32.83	207.53	8.94	0.70	0.00
2007	12	29	363	69.80	39.20	32.20	207.53	7.16	0.00	0.00

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2007	12	30	364	75.20	46.40	34.09	207.53	5.59	2.10	0.00
2007	12	31	365	84.20	48.20	32.92	207.53	8.05	0.80	0.00
2008	1	1	1	60.80	51.80	41.85	277.05	12.75	8.73	0.00
2008	1	2	2	59.00	35.60	33.91	277.05	7.83	1.90	0.00
2008	1	3	3	64.40	32.00	32.20	277.05	8.27	0.00	0.00
2008	1	4	4	78.80	46.40	34.16	277.05	8.72	2.18	0.00
2008	1	5	5	82.40	55.40	32.20	277.05	8.72	0.00	0.00
2008	1	6	6	87.80	60.80	32.20	277.05	14.09	0.00	0.00
2008	1	7	7	89.60	64.40	32.20	277.05	9.84	0.00	0.00
2008	1	8	8	86.00	62.60	34.27	277.05	11.63	2.30	0.00
2008	1	9	9	73.40	46.40	32.20	277.05	6.26	0.00	0.00
2008	1	10	10	78.80	53.60	34.90	277.05	8.50	3.00	0.00
2008	1	11	11	78.80	44.60	32.20	277.05	6.71	0.00	0.00
2008	1	12	12	78.80	48.20	32.92	277.05	9.61	0.80	0.00
2008	1	13	13	69.80	39.20	32.20	277.05	7.83	0.00	0.00
2008	1	14	14	64.40	42.80	36.61	277.05	11.85	4.40	0.34
2008	1	15	15	60.80	48.20	41.61	277.05	9.61	8.65	0.04
2008	1	16	16	69.80	48.20	38.14	277.05	5.14	5.20	0.00
2008	1	17	17	53.60	42.80	41.47	277.05	11.18	8.30	0.08
2008	1	18	18	44.60	39.20	42.91	277.05	8.94	9.90	0.00
2008	1	19	19	57.20	42.80	36.34	277.05	8.94	4.60	0.00
2008	1	20	20	62.60	33.80	35.60	277.05	9.61	3.78	0.00
2008	1	21	21	78.80	57.20	38.57	277.05	9.17	5.28	0.00
2008	1	22	22	78.80	53.60	34.09	277.05	6.71	2.10	0.01
2008	1	23	23	55.40	44.60	43.00	277.05	8.94	10.00	0.05
2008	1	24	24	48.20	42.80	43.00	277.05	9.84	10.00	0.06
2008	1	25	25	48.20	41.00	42.91	277.05	6.04	9.90	0.00
2008	1	26	26	71.60	46.40	34.63	277.05	1.57	2.70	0.00
2008	1	27	27	75.20	48.20	33.73	277.05	6.26	1.70	0.00
2008	1	28	28	80.60	60.80	38.57	277.05	9.17	5.28	0.00
2008	1	29	29	84.20	62.60	32.20	277.05	6.26	0.00	0.00
2008	1	30	30	64.40	46.40	39.81	277.05	8.72	6.65	0.00
2008	1	31	31	69.80	50.00	34.81	277.05	16.10	2.90	0.00
2008	2	1	32	71.60	37.40	32.20	359.22	9.84	0.00	0.00
2008	2	2	33	80.60	50.00	32.20	359.22	5.59	0.00	0.00
2008	2	3	34	89.60	60.80	34.09	359.22	7.38	2.10	0.00
2008	2	4	35	98.60	66.20	32.38	359.22	11.40	0.20	0.00
2008	2	5	36	98.60	66.20	33.35	359.22	15.65	1.28	0.00
2008	2	6	37	69.80	46.40	32.20	359.22	7.16	0.00	0.00
2008	2	7	38	78.80	46.40	32.20	359.22	7.83	0.00	0.00
2008	2	8	39	89.60	46.40	32.20	359.22	6.48	0.00	0.00
2008	2	9	40	87.80	55.40	33.64	359.22	6.26	1.60	0.00
2008	2	10	41	83.84	64.40	36.21	359.22	11.18	3.95	0.00
2008	2	11	42	87.80	64.40	34.61	359.22	13.64	2.68	0.00
2008	2	12	43	78.80	59.00	32.92	359.22	12.75	0.80	0.00
2008	2	13	44	75.20	44.60	32.20	359.22	10.06	0.00	0.00
2008	2	14	45	87.80	55.40	32.20	359.22	12.52	0.00	0.00
2008	2	15	46	87.80	62.60	33.12	359.22	11.18	1.03	0.00
2008	2	16	47	75.20	51.80	40.01	359.22	13.64	6.78	0.00
2008	2	17	48	84.20	42.80	32.20	359.22	5.37	0.00	0.00
2008	2	18	49	71.60	51.80	34.25	359.22	10.06	2.28	0.00

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2008	2	19	50	69.80	57.20	42.55	359.22	9.84	9.50	0.02
2008	2	20	51	78.80	62.60	40.37	359.22	4.92	7.08	0.00
2008	2	21	52	89.96	66.20	35.87	359.22	6.71	4.08	0.00
2008	2	22	53	87.80	60.80	33.91	359.22	7.83	1.90	0.00
2008	2	23	54	93.20	57.20	33.91	359.22	12.75	1.90	0.00
2008	2	24	55	91.40	64.40	34.18	359.22	6.71	2.20	0.00
2008	2	25	56	98.60	64.40	33.19	359.22	11.40	1.10	0.00
2008	2	26	57	80.60	57.20	32.20	359.22	18.11	0.00	0.00
2008	2	27	58	71.60	44.60	32.20	359.22	8.72	0.00	0.00
2008	2	28	59	84.20	48.20	32.20	359.22	15.20	0.00	0.00
2008	2	29	60	89.60	60.80	32.20	421.77	10.96	0.00	0.00
2008	3	1	61	84.20	66.20	35.15	421.77	10.73	2.78	0.00
2008	3	2	62	93.20	69.80	35.98	421.77	19.01	3.70	0.00
2008	3	3	63	73.40	51.80	32.74	421.77	26.61	0.60	0.00
2008	3	4	64	73.40	37.40	32.20	421.77	6.71	0.00	0.00
2008	3	5	65	86.00	48.20	32.20	421.77	9.61	0.00	0.00
2008	3	6	66	78.80	48.20	34.07	421.77	15.88	2.08	0.00
2008	3	7	67	66.20	42.80	32.20	421.77	13.64	0.00	0.00
2008	3	8	68	78.80	41.00	32.20	421.77	10.06	0.00	0.00
2008	3	9	69	89.60	53.60	32.20	421.77	14.31	0.00	0.07
2008	3	10	70	78.80	57.20	37.53	421.77	11.85	4.93	0.00
2008	3	11	71	78.80	46.40	32.29	421.77	4.70	0.10	0.00
2008	3	12	72	84.20	51.80	32.20	421.77	10.96	0.00	0.00
2008	3	13	73	89.60	64.40	33.10	421.77	9.84	1.00	0.00
2008	3	14	74	104.00	66.20	33.91	421.77	8.05	1.90	0.00
2008	3	15	75	100.40	59.00	32.20	421.77	9.17	0.00	0.00
2008	3	16	76	100.40	62.60	34.07	421.77	12.07	2.08	0.00
2008	3	17	77	100.40	77.00	32.38	421.77	22.58	0.20	0.00
2008	3	18	78	82.40	62.60	33.19	421.77	23.48	1.10	0.00
2008	3	19	79	80.60	53.60	32.20	421.77	12.97	0.00	0.00
2008	3	20	80	82.40	48.20	32.20	421.77	9.39	0.00	0.00
2008	3	21	81	87.80	55.40	32.29	421.77	11.18	0.10	0.00
2008	3	22	82	87.80	60.80	32.20	421.77	11.18	0.00	0.00
2008	3	23	83	75.20	60.80	34.48	421.77	11.40	2.28	0.00
2008	3	24	84	78.80	48.20	32.88	421.77	9.61	0.75	0.00
2008	3	25	85	87.80	55.40	33.35	421.77	14.76	1.28	0.00
2008	3	26	86	96.80	66.20	33.82	421.77	14.76	1.80	0.00
2008	3	27	87	96.80	66.20	32.20	421.77	13.64	0.00	0.00
2008	3	28	88	93.20	71.60	34.18	421.77	8.94	2.20	0.00
2008	3	29	89	91.40	75.20	36.64	421.77	12.30	4.18	0.00
2008	3	30	90	93.20	75.20	38.37	421.77	12.07	5.05	0.00
2008	3	31	91	89.60	75.20	36.70	514.09	11.18	4.00	0.00
2008	4	1	92	98.60	73.40	34.63	514.09	9.84	2.70	0.00
2008	4	2	93	91.40	68.00	36.88	514.09	10.29	4.20	0.00
2008	4	3	94	96.80	71.60	35.63	514.09	14.76	3.55	0.00
2008	4	4	95	91.40	71.60	32.47	514.09	13.86	0.30	0.00
2008	4	5	96	87.80	53.60	32.20	514.09	8.05	0.00	0.00
2008	4	6	97	93.20	62.60	34.25	514.09	8.94	2.28	0.00
2008	4	7	98	100.40	71.60	34.27	514.09	14.53	2.30	0.00
2008	4	8	99	98.60	73.40	33.80	514.09	12.97	1.78	0.00
2008	4	9	100	96.80	78.80	34.63	514.09	15.65	2.20	0.00

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2008	4	10	101	98.60	75.20	32.38	514.09	12.07	0.20	0.00
2008	4	11	102	93.20	68.00	34.07	514.09	12.07	2.08	0.00
2008	4	12	103	82.40	57.20	32.38	514.09	10.06	0.20	0.00
2008	4	13	104	87.80	55.40	32.20	514.09	6.26	0.00	0.00
2008	4	14	105	87.80	55.40	32.20	514.09	8.72	0.00	0.00
2008	4	15	106	89.60	60.80	32.20	514.09	14.09	0.00	0.00
2008	4	16	107	93.20	64.40	32.83	514.09	18.56	0.70	0.00
2008	4	17	108	98.60	69.80	32.20	514.09	17.44	0.00	0.21
2008	4	18	109	84.20	60.80	34.18	514.09	11.85	2.20	0.00
2008	4	19	110	93.20	57.20	32.20	514.09	12.52	0.00	0.00
2008	4	20	111	95.00	69.80	37.34	514.09	13.19	4.58	0.00
2008	4	21	112	96.80	75.20	34.83	514.09	10.29	2.93	0.00
2008	4	22	113	100.40	78.80	37.60	514.09	10.73	5.00	0.00
2008	4	23	114	95.00	75.20	37.47	514.09	16.10	4.45	0.10
2008	4	24	115	98.60	73.40	35.40	514.09	15.20	3.30	0.00
2008	4	25	116	89.60	78.80	39.54	514.09	10.73	6.35	0.00
2008	4	26	117	89.60	68.00	39.22	514.09	10.73	6.00	0.06
2008	4	27	118	82.40	62.60	39.11	514.09	12.97	5.88	0.06
2008	4	28	119	80.60	55.40	35.28	514.09	7.83	3.43	0.00
2008	4	29	120	89.60	55.40	32.20	514.09	10.51	0.00	0.00
2008	4	30	121	96.80	64.40	32.20	514.09	16.99	0.00	0.00
2008	5	1	122	105.80	73.40	34.47	553.07	11.63	2.53	0.00
2008	5	2	123	98.60	75.20	34.09	553.07	12.30	2.10	0.00
2008	5	3	124	91.40	75.20	34.56	553.07	12.52	2.63	0.00
2008	5	4	125	87.80	71.60	39.06	553.07	12.07	5.83	2.61
2008	5	5	126	89.60	73.40	37.47	553.07	15.65	4.85	0.17
2008	5	6	127	93.20	71.60	37.65	553.07	16.99	5.05	0.00
2008	5	7	128	98.60	73.40	32.38	553.07	10.51	0.20	0.00
2008	5	8	129	102.20	71.60	32.29	553.07	6.26	0.10	0.00
2008	5	9	130	98.60	75.20	32.49	553.07	9.84	0.33	0.00
2008	5	10	131	105.80	78.80	32.83	553.07	7.60	0.70	0.00
2008	5	11	132	91.40	80.60	37.31	553.07	12.52	4.68	0.00
2008	5	12	133	95.00	75.20	39.56	553.07	11.63	6.38	0.00
2008	5	13	134	102.20	77.00	32.94	553.07	8.72	0.83	0.00
2008	5	14	135	100.40	80.60	33.84	553.07	9.61	1.83	0.00
2008	5	15	136	91.40	73.40	32.65	553.07	8.50	0.50	0.44
2008	5	16	137	82.40	66.20	39.69	553.07	11.63	6.53	0.02
2008	5	17	138	82.40	66.20	37.11	553.07	7.16	4.45	0.00
2008	5	18	139	91.40	64.40	32.20	553.07	5.59	0.00	0.00
2008	5	19	140	98.60	69.80	32.20	553.07	2.68	0.00	0.00
2008	5	20	141	104.00	73.40	32.38	553.07	7.16	0.20	0.00
2008	5	21	142	100.40	77.00	34.18	553.07	12.97	2.20	0.00
2008	5	22	143	105.80	80.60	34.45	553.07	12.97	2.50	0.00
2008	5	23	144	107.60	80.60	32.85	553.07	9.61	0.73	0.00
2008	5	24	145	104.00	80.60	32.67	553.07	14.09	0.53	0.00
2008	5	25	146	101.66	80.60	34.80	553.07	14.98	2.63	0.00
2008	5	26	147	102.20	80.60	35.40	553.07	16.77	3.05	0.00
2008	5	27	148	102.20	80.60	33.35	553.07	17.22	1.28	0.00
2008	5	28	149	100.40	78.80	34.83	553.07	13.42	2.43	0.00
2008	5	29	150	98.60	73.40	32.49	553.07	11.40	0.33	0.00
2008	5	30	151	100.40	73.40	32.58	553.07	12.75	0.43	0.00

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2008	5	31	152	102.20	78.80	32.58	553.07	14.53	0.43	0.00
2008	6	1	153	104.00	77.00	32.20	581.92	14.53	0.00	0.00
2008	6	2	154	104.00	78.80	33.03	581.92	15.65	0.93	0.00
2008	6	3	155	105.80	78.80	32.38	581.92	17.89	0.20	0.00
2008	6	4	156	105.80	78.80	32.56	581.92	21.24	0.40	0.00
2008	6	5	157	102.20	80.60	34.47	581.92	24.15	2.53	0.00
2008	6	6	158	102.20	82.40	36.44	581.92	19.45	3.95	0.00
2008	6	7	159	100.40	80.60	35.64	581.92	17.66	3.33	0.10
2008	6	8	160	100.40	78.80	34.99	581.92	17.44	2.60	0.00
2008	6	9	161	100.40	78.80	35.67	581.92	16.55	3.35	0.00
2008	6	10	162	102.20	78.80	35.08	581.92	14.98	2.70	0.00
2008	6	11	163	102.20	77.00	34.00	581.92	16.55	2.00	0.00
2008	6	12	164	102.20	78.80	33.17	581.92	16.55	1.08	0.00
2008	6	13	165	104.00	78.80	34.23	581.92	13.19	2.25	0.00
2008	6	14	166	100.40	78.80	33.71	581.92	12.30	1.68	0.00
2008	6	15	167	104.00	78.80	32.38	581.92	12.30	0.20	0.00
2008	6	16	168	105.80	78.80	32.20	581.92	13.19	0.00	0.00
2008	6	17	169	104.00	80.60	34.36	581.92	11.40	2.40	0.00
2008	6	18	170	102.20	78.80	32.38	581.92	8.27	0.20	0.00
2008	6	19	171	107.60	77.00	32.20	581.92	12.75	0.00	0.00
2008	6	20	172	102.20	78.80	33.57	581.92	10.51	1.53	0.05
2008	6	21	173	102.20	80.60	32.47	581.92	9.84	0.30	0.04
2008	6	22	174	102.20	78.80	33.03	581.92	8.27	0.93	0.00
2008	6	23	175	104.00	78.80	32.49	581.92	10.73	0.33	0.00
2008	6	24	176	102.20	78.80	32.58	581.92	15.43	0.43	0.00
2008	6	25	177	102.20	80.60	32.29	581.92	17.89	0.10	0.00
2008	6	26	178	102.20	78.80	33.21	581.92	17.22	1.13	0.00
2008	6	27	179	104.00	80.60	32.38	581.92	17.89	0.20	0.00
2008	6	28	180	104.00	80.60	32.58	581.92	17.66	0.43	0.00
2008	6	29	181	102.20	80.60	32.38	581.92	17.44	0.20	0.00
2008	6	30	182	100.40	80.60	32.85	581.92	14.09	0.73	0.05
2008	7	1	183	89.60	77.00	33.30	623.50	8.50	1.23	0.00
2008	7	2	184	93.20	78.80	33.89	623.50	12.30	1.88	1.14
2008	7	3	185	96.80	75.20	34.68	623.50	11.85	2.50	0.00
2008	7	4	186	87.80	73.40	34.45	623.50	10.29	2.50	0.00
2008	7	5	187	87.80	75.20	35.76	623.50	9.39	3.45	0.83
2008	7	6	188	89.60	73.40	35.76	623.50	11.85	3.45	0.41
2008	7	7	189	82.40	73.40	38.48	623.50	11.63	5.18	0.17
2008	7	8	190	87.80	75.20	37.17	623.50	11.63	4.53	0.02
2008	7	9	191	96.80	75.20	35.98	623.50	10.96	3.70	0.00
2008	7	10	192	95.00	78.80	35.42	623.50	13.19	3.08	0.00
2008	7	11	193	98.60	77.00	32.85	623.50	15.43	0.73	0.00
2008	7	12	194	98.60	75.20	33.48	623.50	14.09	1.43	0.00
2008	7	13	195	100.40	75.20	32.56	623.50	11.40	0.40	0.00
2008	7	14	196	100.40	77.00	33.82	623.50	10.06	1.80	0.00
2008	7	15	197	100.40	78.80	32.20	623.50	11.63	0.00	0.00
2008	7	16	198	100.40	78.80	32.74	623.50	12.75	0.60	0.00
2008	7	17	199	96.80	78.80	35.22	623.50	12.30	2.85	0.02
2008	7	18	200	98.60	75.20	33.57	623.50	12.75	1.53	0.00
2008	7	19	201	96.80	77.00	35.06	623.50	13.42	2.68	0.00
2008	7	20	202	98.60	77.00	34.77	623.50	12.97	2.35	0.00

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2008	7	21	203	102.20	78.80	32.49	623.50	11.18	0.33	0.00
2008	7	22	204	102.20	75.20	32.85	623.50	8.50	0.73	0.04
2008	7	23	205	87.80	75.20	34.16	623.50	12.97	2.18	1.76
2008	7	24	206	87.80	75.20	39.85	623.50	21.02	6.70	0.00
2008	7	25	207	96.80	80.60	37.98	623.50	17.66	5.03	0.00
2008	7	26	208	98.60	77.00	34.43	623.50	12.30	2.48	0.00
2008	7	27	209	98.60	75.20	32.38	623.50	10.06	0.20	0.00
2008	7	28	210	98.60	77.00	32.58	623.50	11.18	0.43	0.00
2008	7	29	211	98.60	75.20	32.38	623.50	12.07	0.20	0.00
2008	7	30	212	96.80	78.80	37.29	623.50	10.29	4.65	0.00
2008	7	31	213	98.60	80.60	35.02	543.94	10.29	2.88	0.00
2008	8	1	214	98.60	82.40	35.44	543.94	12.75	3.10	0.00
2008	8	2	215	100.40	80.60	34.07	543.94	12.75	2.08	0.00
2008	8	3	216	100.40	78.80	32.20	543.94	11.85	0.00	0.00
2008	8	4	217	100.40	78.80	32.29	543.94	6.93	0.10	0.00
2008	8	5	218	102.20	78.80	32.38	543.94	7.60	0.20	0.00
2008	8	6	219	100.40	80.60	32.56	543.94	13.64	0.40	0.00
2008	8	7	220	100.40	80.60	32.38	543.94	15.65	0.20	0.00
2008	8	8	221	102.20	78.80	33.21	543.94	12.07	1.13	0.00
2008	8	9	222	102.20	78.80	32.38	543.94	11.18	0.20	0.00
2008	8	10	223	104.00	78.80	32.20	543.94	12.52	0.00	0.00
2008	8	11	224	102.20	80.60	32.38	543.94	12.30	0.20	0.00
2008	8	12	225	100.40	80.60	32.47	543.94	9.84	0.30	0.00
2008	8	13	226	102.20	80.60	32.47	543.94	6.93	0.30	0.00
2008	8	14	227	100.40	78.80	32.47	543.94	6.26	0.30	0.00
2008	8	15	228	100.40	78.80	32.56	543.94	10.06	0.40	0.04
2008	8	16	229	102.20	80.60	34.27	543.94	10.51	1.80	1.14
2008	8	17	230	95.00	75.20	37.38	543.94	8.05	4.75	0.18
2008	8	18	231	89.60	73.40	40.32	543.94	8.50	7.23	0.09
2008	8	19	232	93.20	78.80	37.38	543.94	6.48	4.75	0.00
2008	8	20	233	96.80	77.00	33.73	543.94	6.26	1.70	0.00
2008	8	21	234	96.80	78.80	33.30	543.94	11.18	1.23	1.69
2008	8	22	235	93.20	80.60	37.56	543.94	9.84	4.95	2.65
2008	8	23	236	80.60	75.20	37.20	543.94	9.84	4.55	0.12
2008	8	24	237	32.00	32.00	37.62	543.94	10.96	4.13	0.00
2008	8	25	238	91.40	75.20	34.65	543.94	6.04	2.23	0.01
2008	8	26	239	91.40	75.20	32.76	543.94	6.26	0.63	1.10
2008	8	27	240	89.60	77.00	33.73	543.94	8.94	1.70	0.21
2008	8	28	241	91.40	77.00	36.55	543.94	10.29	4.08	1.60
2008	8	29	242	93.20	75.20	34.25	543.94	10.73	2.28	0.05
2008	8	30	243	86.00	77.00	35.76	543.94	8.27	2.95	0.00
2008	8	31	244	91.40	75.20	34.81	459.97	4.47	2.90	0.00
2008	9	1	245	95.00	75.20	32.88	459.97	1.79	0.75	0.00
2008	9	2	246	98.60	78.80	32.29	459.97	3.58	0.10	0.00
2008	9	3	247	95.00	80.60	32.85	459.97	5.59	0.73	0.00
2008	9	4	248	91.40	78.80	33.12	459.97	4.70	1.03	0.00
2008	9	5	249	93.20	75.20	33.26	459.97	4.70	1.18	0.00
2008	9	6	250	93.20	75.20	33.12	459.97	6.26	1.03	0.10
2008	9	7	251	91.40	73.40	35.82	459.97	6.48	3.03	0.27
2008	9	8	252	91.40	77.00	35.91	459.97	8.27	3.13	0.29
2008	9	9	253	91.40	75.20	37.62	459.97	4.70	5.03	0.00

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2008	9	10	254	91.40	78.80	36.12	459.97	8.05	3.85	0.00
2008	9	11	255	93.20	78.80	33.24	459.97	8.94	1.15	0.00
2008	9	12	256	93.20	77.00	33.15	459.97	5.14	1.05	0.00
2008	9	13	257	100.40	80.60	32.58	459.97	6.71	0.43	2.21
2008	9	14	258	96.80	75.20	34.27	459.97	7.83	2.30	0.00
2008	9	15	259	78.80	71.60	35.51	459.97	10.06	3.18	0.00
2008	9	16	260	80.60	66.20	32.74	459.97	6.26	0.60	0.00
2008	9	17	261	84.20	64.40	32.29	459.97	2.01	0.10	0.00
2008	9	18	262	82.40	68.00	32.38	459.97	4.02	0.20	0.00
2008	9	19	263	87.80	66.20	32.76	459.97	2.24	0.63	0.00
2008	9	20	264	89.60	68.00	32.29	459.97	2.01	0.10	0.00
2008	9	21	265	91.40	69.80	34.11	459.97	4.02	2.13	0.05
2008	9	22	266	89.60	73.40	36.16	459.97	4.92	3.90	0.05
2008	9	23	267	91.40	75.20	36.98	459.97	6.71	4.55	0.88
2008	9	24	268	82.40	73.40	37.76	459.97	4.02	4.78	0.00
2008	9	25	269	87.80	69.80	32.88	459.97	4.02	0.75	0.00
2008	9	26	270	87.80	64.40	32.38	459.97	1.34	0.20	0.00
2008	9	27	271	87.80	64.40	32.76	459.97	1.79	0.63	0.00
2008	9	28	272	89.60	66.20	32.20	459.97	2.01	0.00	0.00
2008	9	29	273	89.60	66.20	32.49	459.97	2.68	0.33	0.00
2008	9	30	274	93.20	64.40	32.20	355.35	2.24	0.00	0.00
2008	10	1	275	95.00	64.40	32.20	355.35	2.46	0.00	0.00
2008	10	2	276	93.20	68.00	32.20	355.35	4.25	0.00	0.00
2008	10	3	277	93.20	69.80	32.20	355.35	10.51	0.00	0.00
2008	10	4	278	89.60	66.20	32.38	355.35	9.17	0.20	0.00
2008	10	5	279	91.40	71.60	36.75	355.35	13.86	4.05	0.00
2008	10	6	280	91.40	77.00	34.61	355.35	10.29	2.68	0.00
2008	10	7	281	93.20	73.40	34.16	355.35	8.05	2.18	0.00
2008	10	8	282	89.60	60.80	32.20	355.35	4.02	0.00	0.00
2008	10	9	283	89.60	60.80	32.20	355.35	7.83	0.00	0.00
2008	10	10	284	91.40	68.00	33.01	355.35	10.73	0.90	0.00
2008	10	11	285	93.20	75.20	37.98	355.35	11.40	5.43	0.01
2008	10	12	286	91.40	77.00	40.86	355.35	14.76	7.63	0.05
2008	10	13	287	91.40	78.80	39.72	355.35	11.18	6.55	0.00
2008	10	14	288	91.40	73.40	35.40	355.35	8.94	3.05	0.00
2008	10	15	289	89.60	71.60	38.19	355.35	5.81	5.25	0.02
2008	10	16	290	78.80	69.80	40.98	355.35	8.27	7.75	0.00
2008	10	17	291	84.20	64.40	32.38	355.35	4.02	0.20	0.00
2008	10	18	292	84.20	59.00	32.20	355.35	4.02	0.00	0.00
2008	10	19	293	87.80	60.80	32.20	355.35	4.47	0.00	0.00
2008	10	20	294	87.80	62.60	32.20	355.35	8.27	0.00	0.00
2008	10	21	295	86.00	62.60	32.74	355.35	6.71	0.60	0.00
2008	10	22	296	89.60	64.40	32.83	355.35	7.83	0.70	0.00
2008	10	23	297	75.20	62.60	34.07	355.35	6.26	2.08	0.00
2008	10	24	298	82.40	55.40	32.20	355.35	6.48	0.00	0.00
2008	10	25	299	84.20	62.60	36.45	355.35	6.04	4.23	0.00
2008	10	26	300	89.60	71.60	36.36	355.35	8.27	4.13	0.32
2008	10	27	301	75.20	57.20	36.71	355.35	11.18	4.25	0.00
2008	10	28	302	75.20	46.40	32.38	355.35	5.59	0.20	0.00
2008	10	29	303	82.40	51.80	32.20	355.35	10.51	0.00	0.00
2008	10	30	304	82.40	60.80	33.28	355.35	10.06	1.20	0.00

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2008	10	31	305	84.20	64.40	33.62	273.78	7.16	1.58	0.00
2008	11	1	306	87.80	62.60	32.83	273.78	3.80	0.70	0.00
2008	11	2	307	86.00	60.80	32.97	273.78	6.71	0.85	0.00
2008	11	3	308	87.80	64.40	33.53	273.78	10.06	1.48	0.00
2008	11	4	309	89.60	66.20	33.35	273.78	11.18	1.28	0.00
2008	11	5	310	89.60	69.80	33.73	273.78	14.31	1.70	0.00
2008	11	6	311	82.40	62.60	35.15	273.78	7.16	3.28	0.00
2008	11	7	312	82.40	55.40	32.47	273.78	6.26	0.30	0.00
2008	11	8	313	82.40	51.80	32.20	273.78	4.02	0.00	0.00
2008	11	9	314	77.00	60.80	40.44	273.78	8.94	7.35	0.00
2008	11	10	315	87.80	71.60	35.98	273.78	8.50	3.70	0.00
2008	11	11	316	87.80	68.00	32.20	273.78	6.93	0.00	0.00
2008	11	12	317	86.00	64.40	33.39	273.78	7.16	1.33	0.00
2008	11	13	318	75.20	64.40	36.52	273.78	4.02	4.30	0.00
2008	11	14	319	86.00	62.60	35.44	273.78	4.47	3.60	0.00
2008	11	15	320	71.60	50.00	32.56	273.78	11.18	0.40	0.00
2008	11	16	321	71.60	39.20	32.20	273.78	0.67	0.00	0.00
2008	11	17	322	75.20	42.80	32.20	273.78	2.68	0.00	0.00
2008	11	18	323	78.80	44.60	32.20	273.78	1.57	0.00	0.00
2008	11	19	324	80.60	51.80	32.20	273.78	5.59	0.00	0.01
2008	11	20	325	80.60	57.20	35.00	273.78	6.71	2.85	0.24
2008	11	21	326	60.80	46.40	42.53	273.78	10.29	9.48	0.00
2008	11	22	327	60.80	48.20	42.44	273.78	3.58	9.38	0.00
2008	11	23	328	78.80	57.20	38.25	273.78	2.46	5.33	0.00
2008	11	24	329	75.20	63.86	38.23	273.78	6.48	5.30	0.00
2008	11	25	330	73.40	50.00	33.28	273.78	2.91	1.20	0.00
2008	11	26	331	78.80	55.40	35.96	273.78	4.92	4.18	0.00
2008	11	27	332	82.40	62.60	35.44	273.78	1.79	3.60	0.00
2008	11	28	333	75.20	62.60	34.90	273.78	6.26	3.00	0.04
2008	11	29	334	80.60	59.00	33.91	273.78	6.04	1.90	0.00
2008	11	30	335	75.20	46.40	32.20	207.53	6.48	0.00	0.00
2008	12	1	336	71.96	44.96	32.20	207.53	6.71	0.00	0.00
2008	12	2	337	79.88	42.98	32.20	207.53	11.40	0.00	0.00
2008	12	3	338	80.96	59.90	32.20	207.53	8.27	0.00	0.00
2008	12	4	339	63.86	44.96	32.20	207.53	10.29	0.00	0.00
2008	12	5	340	60.98	41.90	33.73	207.53	7.38	1.70	0.00
2008	12	6	341	73.94	38.84	32.20	207.53	1.34	0.00	0.00
2008	12	7	342	77.90	44.96	32.47	207.53	6.04	0.30	0.00
2008	12	8	343	83.84	59.90	35.89	207.53	10.96	4.10	0.01
2008	12	9	344	88.88	51.98	35.33	207.53	12.07	3.48	0.27
2008	12	10	345	55.94	37.94	34.63	207.53	18.11	2.70	0.00
2008	12	11	346	70.88	34.88	32.20	207.53	6.48	0.00	0.00
2008	12	12	347	71.96	41.90	32.20	207.53	7.60	0.00	0.00
2008	12	13	348	77.90	48.92	32.20	207.53	12.75	0.00	0.00
2008	12	14	349	86.90	57.92	32.20	207.53	8.27	0.00	0.02
2008	12	15	350	66.92	45.86	41.02	207.53	10.51	7.80	0.00
2008	12	16	351	50.00	39.92	42.24	207.53	6.71	9.15	0.00
2008	12	17	352	57.92	43.88	42.82	207.53	4.92	9.80	0.03
2008	12	18	353	70.88	53.96	42.44	207.53	4.02	9.38	0.00
2008	12	19	354	74.84	62.96	40.17	207.53	5.14	7.05	0.00
2008	12	20	355	80.96	61.88	37.94	207.53	1.79	4.58	0.00

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2008	12	21	356	68.00	42.98	41.02	207.53	13.86	7.80	0.02
2008	12	22	357	43.88	35.96	41.97	207.53	4.92	8.85	0.04
2008	12	23	358	53.96	35.96	40.66	207.53	4.47	7.40	0.00
2008	12	24	359	69.98	46.94	38.66	207.53	5.81	5.38	0.00
2008	12	25	360	77.90	57.92	38.75	207.53	3.80	5.48	0.00
2008	12	26	361	87.98	68.90	36.68	207.53	15.43	4.48	0.00
2008	12	27	362	81.86	59.90	33.37	207.53	14.53	1.30	0.00
2008	12	28	363	65.84	48.92	37.71	207.53	7.16	5.13	0.00
2008	12	29	364	71.96	38.84	32.20	207.53	0.89	0.00	0.00
2008	12	30	365	78.98	51.98	34.54	207.53	5.59	2.60	0.00
2008	12	31	366	69.98	60.98	41.45	207.53	5.37	8.28	0.00
2009	1	1	1	74.84	54.86	39.02	277.05	4.02	5.78	0.01
2009	1	2	2	79.88	57.92	35.35	277.05	2.91	3.50	0.00
2009	1	3	3	86.00	64.94	32.20	277.05	11.40	0.00	0.00
2009	1	4	4	81.86	55.94	38.57	277.05	9.61	5.28	0.00
2009	1	5	5	54.86	51.98	41.67	277.05	7.60	8.53	0.00
2009	1	6	6	72.86	50.90	34.09	277.05	2.01	2.10	0.00
2009	1	7	7	79.88	41.00	32.20	277.05	4.70	0.00	0.00
2009	1	8	8	82.94	47.84	32.20	277.05	2.68	0.00	0.00
2009	1	9	9	86.00	64.94	37.64	277.05	11.85	4.90	0.00
2009	1	10	10	68.90	56.84	37.59	277.05	11.85	5.23	0.00
2009	1	11	11	63.86	46.94	33.24	277.05	8.05	1.15	0.00
2009	1	12	12	70.88	34.88	32.20	277.05	2.24	0.00	0.00
2009	1	13	13	64.94	42.98	32.20	277.05	7.38	0.00	0.00
2009	1	14	14	72.86	39.92	32.20	277.05	8.27	0.00	0.00
2009	1	15	15	69.98	52.88	39.42	277.05	6.93	6.23	0.00
2009	1	16	16	59.90	50.90	41.70	277.05	9.61	8.55	0.00
2009	1	17	17	74.84	52.88	37.53	277.05	4.02	4.93	0.00
2009	1	18	18	78.98	47.84	32.20	277.05	7.60	0.00	0.00
2009	1	19	19	83.84	45.86	32.20	277.05	7.38	0.00	0.00
2009	1	20	20	75.92	45.86	32.20	277.05	5.37	0.00	0.00
2009	1	21	21	78.98	38.84	32.20	277.05	4.47	0.00	0.00
2009	1	22	22	81.86	47.84	32.20	277.05	8.94	0.00	0.00
2009	1	23	23	87.98	59.00	32.20	277.05	7.38	0.00	0.00
2009	1	24	24	68.90	55.94	34.45	277.05	8.94	2.50	0.00
2009	1	25	25	63.86	50.90	39.74	277.05	8.27	6.58	0.00
2009	1	26	26	86.90	60.98	36.06	277.05	11.85	3.53	0.00
2009	1	27	27	86.00	44.96	34.92	277.05	13.19	3.03	0.00
2009	1	28	28	65.84	42.98	33.55	277.05	7.83	1.50	0.00
2009	1	29	29	70.88	45.86	32.20	277.05	5.37	0.00	0.00
2009	1	30	30	68.00	42.98	32.20	277.05	5.14	0.00	0.00
2009	1	31	31	69.98	38.84	32.29	277.05	5.59	0.10	0.00
2009	2	1	32	82.94	50.00	32.20	359.22	3.58	0.00	0.00
2009	2	2	33	70.88	50.00	32.20	359.22	10.96	0.00	0.00
2009	2	3	34	78.98	36.86	32.20	359.22	2.68	0.00	0.00
2009	2	4	35	78.98	46.94	32.20	359.22	9.84	0.00	0.00
2009	2	5	36	80.96	52.88	32.56	359.22	12.30	0.40	0.00
2009	2	6	37	86.00	59.00	32.20	359.22	14.98	0.00	0.00
2009	2	7	38	84.92	64.40	32.67	359.22	18.56	0.53	0.00
2009	2	8	39	78.98	62.96	33.87	359.22	20.35	1.85	0.00
2009	2	9	40	84.92	59.90	32.20	359.22	6.71	0.00	0.00

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2009	2	10	41	89.96	66.92	32.65	359.22	13.64	0.50	0.00
2009	2	11	42	81.86	50.90	32.20	359.22	8.05	0.00	0.00
2009	2	12	43	84.92	51.98	32.47	359.22	10.51	0.30	0.00
2009	2	13	44	87.98	68.00	34.70	359.22	5.81	2.78	0.00
2009	2	14	45	77.90	62.96	34.47	359.22	10.73	2.53	0.00
2009	2	15	46	63.86	59.00	42.17	359.22	8.50	9.08	0.21
2009	2	16	47	62.96	55.94	41.49	359.22	7.16	8.33	0.04
2009	2	17	48	77.00	56.84	40.28	359.22	4.47	6.98	0.00
2009	2	18	49	82.94	64.94	36.73	359.22	6.71	4.28	0.00
2009	2	19	50	71.96	59.00	32.49	359.22	9.39	0.33	0.00
2009	2	20	51	77.90	46.94	35.31	359.22	9.61	2.95	0.00
2009	2	21	52	78.98	57.92	37.26	359.22	10.96	4.63	0.00
2009	2	22	53	68.90	37.94	32.20	359.22	6.71	0.00	0.00
2009	2	23	54	77.90	41.00	32.20	359.22	9.39	0.00	0.00
2009	2	24	55	88.88	54.86	32.20	359.22	10.73	0.00	0.00
2009	2	25	56	96.98	60.80	32.20	359.22	9.61	0.00	0.00
2009	2	26	57	93.92	68.00	35.62	359.22	10.29	3.80	0.00
2009	2	27	58	96.98	65.84	33.62	359.22	8.05	1.58	0.00
2009	2	28	59	74.84	55.94	34.09	359.22	16.10	2.10	0.00
2009	3	1	60	65.84	42.98	32.20	421.77	8.27	0.00	0.00
2009	3	2	61	77.90	42.98	32.20	421.77	7.83	0.00	0.00
2009	3	3	62	84.92	52.88	32.20	421.77	13.64	0.00	0.00
2009	3	4	63	89.96	57.92	32.20	421.77	14.53	0.00	0.00
2009	3	5	64	90.86	61.88	32.20	421.77	13.86	0.00	0.00
2009	3	6	65	88.88	66.92	34.70	421.77	18.34	2.78	0.00
2009	3	7	66	90.86	66.92	33.26	421.77	14.09	1.18	0.00
2009	3	8	67	86.00	68.90	34.38	421.77	10.96	2.43	0.00
2009	3	9	68	91.94	70.88	33.80	421.77	14.53	1.78	0.00
2009	3	10	69	90.86	68.90	33.96	421.77	10.06	1.95	0.00
2009	3	11	70	84.92	50.90	37.65	421.77	12.52	5.05	0.03
2009	3	12	71	50.90	45.86	39.42	421.77	11.40	6.23	0.03
2009	3	13	72	53.96	46.94	41.97	421.77	7.83	8.85	0.19
2009	3	14	73	55.94	48.92	39.22	421.77	6.48	6.00	0.00
2009	3	15	74	71.96	43.88	34.36	421.77	2.46	2.40	0.00
2009	3	16	75	87.98	47.84	32.20	421.77	2.24	0.00	0.00
2009	3	17	76	87.98	59.90	34.63	421.77	9.61	2.70	0.00
2009	3	18	77	89.96	61.88	34.34	421.77	10.51	2.38	0.00
2009	3	19	78	87.98	60.98	32.56	421.77	9.39	0.40	0.00
2009	3	20	79	87.98	59.00	32.92	421.77	11.18	0.80	0.00
2009	3	21	80	87.98	62.96	34.41	421.77	13.64	2.45	0.00
2009	3	22	81	89.96	68.90	38.41	421.77	16.55	5.10	0.00
2009	3	23	82	93.92	69.98	35.15	421.77	19.01	3.28	0.00
2009	3	24	83	88.88	72.86	36.42	421.77	11.40	3.93	0.00
2009	3	25	84	91.94	70.88	34.70	421.77	6.93	2.78	0.00
2009	3	26	85	98.96	70.88	33.28	421.77	8.50	1.20	0.00
2009	3	27	86	91.94	64.94	34.43	421.77	15.20	2.48	0.00
2009	3	28	87	79.88	51.98	32.20	421.77	11.63	0.00	0.00
2009	3	29	88	88.88	50.00	32.20	421.77	9.61	0.00	0.00
2009	3	30	89	100.94	63.86	32.20	421.77	11.40	0.00	0.00
2009	3	31	90	86.90	69.98	34.18	421.77	12.07	2.20	0.00
2009	4	1	91	89.96	65.84	32.20	514.09	12.52	0.00	0.00

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2009	4	2	92	88.88	65.84	32.20	514.09	17.89	0.00	0.00
2009	4	3	93	90.86	54.86	32.20	514.09	11.18	0.00	0.00
2009	4	4	94	98.96	65.84	33.01	514.09	8.72	0.90	0.00
2009	4	5	95	88.88	70.88	32.74	514.09	14.31	0.60	0.00
2009	4	6	96	73.94	54.86	32.20	514.09	12.75	0.00	0.00
2009	4	7	97	80.96	55.94	32.20	514.09	6.48	0.00	0.00
2009	4	8	98	95.90	56.84	32.20	514.09	11.85	0.00	0.00
2009	4	9	99	104.90	68.00	32.58	514.09	10.96	0.43	0.00
2009	4	10	100	90.86	66.92	33.98	514.09	9.84	1.98	0.00
2009	4	11	101	86.00	70.88	40.41	514.09	12.97	7.33	0.00
2009	4	12	102	91.94	73.94	35.89	514.09	11.18	4.10	0.00
2009	4	13	103	88.88	59.90	32.20	514.09	8.50	0.00	0.00
2009	4	14	104	90.86	60.98	32.20	514.09	11.40	0.00	0.00
2009	4	15	105	95.00	63.86	34.27	514.09	14.76	2.30	0.00
2009	4	16	106	93.92	70.88	39.42	514.09	14.31	6.13	0.42
2009	4	17	107	93.92	72.86	38.14	514.09	11.40	5.20	0.01
2009	4	18	108	86.90	70.88	37.29	514.09	7.83	4.65	0.00
2009	4	19	109	91.94	68.90	34.72	514.09	9.61	2.80	0.00
2009	4	20	110	88.88	59.90	32.20	514.09	6.48	0.00	0.00
2009	4	21	111	95.90	62.96	32.20	514.09	9.39	0.00	0.00
2009	4	22	112	99.86	66.20	32.20	514.09	14.09	0.00	0.00
2009	4	23	113	95.90	69.98	32.20	514.09	16.55	0.00	0.00
2009	4	24	114	95.00	73.94	34.25	514.09	14.09	2.28	0.00
2009	4	25	115	95.90	77.90	39.54	514.09	18.34	6.35	0.00
2009	4	26	116	95.90	78.98	38.95	514.09	20.79	5.70	0.00
2009	4	27	117	95.00	72.86	37.83	514.09	16.77	5.25	0.00
2009	4	28	118	95.00	71.96	39.18	514.09	14.98	5.95	0.00
2009	4	29	119	95.00	79.88	38.57	514.09	18.11	5.28	0.00
2009	4	30	120	97.88	75.92	34.52	514.09	13.86	2.58	0.00
2009	5	1	121	100.94	75.92	34.27	514.09	15.88	2.30	0.00
2009	5	2	122	100.94	75.92	33.35	553.07	12.30	1.28	0.00
2009	5	3	123	104.00	77.00	32.38	553.07	6.71	0.20	0.00
2009	5	4	124	100.94	78.98	34.41	553.07	10.51	2.45	0.00
2009	5	5	125	102.92	75.92	34.34	553.07	13.86	2.38	0.00
2009	5	6	126	106.88	77.90	32.29	553.07	10.51	0.10	0.00
2009	5	7	127	105.98	77.90	33.82	553.07	12.07	1.80	0.00
2009	5	8	128	108.86	77.90	32.83	553.07	15.88	0.70	0.00
2009	5	9	129	104.00	77.90	32.65	553.07	16.10	0.50	0.00
2009	5	10	130	100.94	79.88	35.13	553.07	13.19	2.75	0.00
2009	5	11	131	101.84	78.98	35.31	553.07	13.64	2.95	0.00
2009	5	12	132	102.92	78.98	33.39	553.07	15.65	1.33	0.00
2009	5	13	133	104.90	78.80	33.21	553.07	17.22	1.13	0.00
2009	5	14	134	97.88	77.90	33.66	553.07	16.32	1.63	0.00
2009	5	15	135	99.86	77.90	34.79	553.07	16.32	2.38	0.94
2009	5	16	136	87.98	69.98	37.56	553.07	10.73	4.95	0.00
2009	5	17	137	84.92	69.98	40.44	553.07	11.18	7.35	0.00
2009	5	18	138	87.98	64.94	32.58	553.07	7.16	0.43	0.00
2009	5	19	139	86.90	62.96	32.38	553.07	6.48	0.20	0.00
2009	5	20	140	73.94	70.88	33.53	553.07	8.50	1.48	0.00
2009	5	21	141	87.98	81.86	33.17	553.07	10.73	1.08	0.00
2009	5	22	142	90.86	69.98	34.32	553.07	6.04	2.10	0.05

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2009	5	23	143	93.92	71.96	33.39	553.07	4.02	1.33	0.00
2009	5	24	144	97.88	72.86	34.38	553.07	6.04	2.43	0.14
2009	5	25	145	104.90	72.86	32.76	553.07	7.16	0.63	0.31
2009	5	26	146	97.88	70.88	33.84	553.07	11.63	1.83	0.46
2009	5	27	147	96.98	75.92	35.04	553.07	8.94	2.65	1.33
2009	5	28	148	92.84	68.90	33.46	553.07	8.72	1.40	0.00
2009	5	29	149	95.00	72.86	33.62	553.07	8.05	1.58	0.00
2009	5	30	150	93.92	73.94	32.85	553.07	8.50	0.73	0.40
2009	5	31	151	95.00	72.86	34.57	553.07	9.84	2.38	0.00
2009	6	1	152	95.90	73.94	35.01	553.07	7.60	3.13	0.00
2009	6	2	153	97.88	72.86	32.20	581.92	10.29	0.00	0.03
2009	6	3	154	99.86	73.94	32.92	581.92	6.71	0.80	0.00
2009	6	4	155	96.98	70.88	32.58	581.92	5.81	0.43	0.00
2009	6	5	156	98.96	73.94	32.29	581.92	6.48	0.10	0.00
2009	6	6	157	99.86	75.20	32.20	581.92	12.52	0.00	0.00
2009	6	7	158	98.96	75.92	34.11	581.92	13.64	2.13	0.00
2009	6	8	159	97.88	77.90	35.67	581.92	13.42	3.60	0.00
2009	6	9	160	97.88	77.90	34.54	581.92	12.97	2.60	0.00
2009	6	10	161	101.84	79.88	33.71	581.92	15.43	1.68	0.00
2009	6	11	162	104.90	90.86	32.83	581.92	15.20	0.70	0.00
2009	6	12	163	105.98	79.88	34.36	581.92	12.75	2.40	0.00
2009	6	13	164	104.90	78.98	32.92	581.92	13.19	0.80	0.00
2009	6	14	165	104.90	78.98	33.82	581.92	14.53	1.80	0.00
2009	6	15	166	104.90	79.88	33.21	581.92	16.99	1.13	0.00
2009	6	16	167	104.00	79.88	32.83	581.92	16.32	0.70	0.00
2009	6	17	168	100.40	80.96	35.08	581.92	16.77	2.70	0.00
2009	6	18	169	100.94	80.60	37.35	581.92	17.66	4.73	0.00
2009	6	19	170	100.94	82.40	35.22	581.92	19.01	2.85	0.00
2009	6	20	171	104.00	80.96	33.98	581.92	19.45	1.98	0.00
2009	6	21	172	102.92	80.96	34.82	581.92	15.88	2.65	0.00
2009	6	22	173	104.00	79.88	32.85	581.92	15.43	0.73	0.00
2009	6	23	174	101.84	78.98	33.48	581.92	11.85	1.43	0.00
2009	6	24	175	99.86	79.88	32.38	581.92	6.93	0.20	0.00
2009	6	25	176	105.98	77.90	32.29	581.92	6.04	0.10	0.00
2009	6	26	177	105.98	80.96	32.20	581.92	10.73	0.00	0.00
2009	6	27	178	104.90	80.96	32.38	581.92	10.51	0.20	0.00
2009	6	28	179	104.90	79.88	32.67	581.92	10.96	0.53	0.00
2009	6	29	180	105.98	79.88	32.38	581.92	8.50	0.20	0.28
2009	6	30	181	107.96	81.86	32.56	581.92	9.39	0.40	0.00
2009	7	1	182	104.00	81.86	32.20	581.92	9.39	0.00	0.00
2009	7	2	183	104.00	79.88	32.85	623.50	10.73	0.73	0.00
2009	7	3	184	106.88	80.96	33.30	623.50	13.86	1.23	0.00
2009	7	4	185	108.86	80.96	32.20	623.50	14.98	0.00	0.00
2009	7	5	186	109.94	80.96	32.29	623.50	14.98	0.10	0.00
2009	7	6	187	105.98	81.86	33.30	623.50	7.83	1.23	0.00
2009	7	7	188	105.98	82.94	32.20	623.50	8.50	0.00	0.00
2009	7	8	189	108.86	81.86	32.38	623.50	6.48	0.20	0.00
2009	7	9	190	107.96	79.88	32.56	623.50	11.63	0.40	0.00
2009	7	10	191	104.90	79.88	32.49	623.50	14.53	0.33	0.00
2009	7	11	192	100.94	79.88	33.30	623.50	13.42	1.23	0.00
2009	7	12	193	104.00	79.88	32.97	623.50	11.40	0.85	0.00

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2009	7	13	194	105.98	79.88	32.29	623.50	13.64	0.10	0.00
2009	7	14	195	106.88	78.98	32.20	623.50	15.20	0.00	0.00
2009	7	15	196	107.96	80.96	32.47	623.50	14.76	0.30	0.00
2009	7	16	197	105.98	79.88	32.74	623.50	10.96	0.60	0.00
2009	7	17	198	106.88	79.88	32.20	623.50	10.73	0.00	0.00
2009	7	18	199	104.90	80.96	33.24	623.50	8.72	1.15	0.00
2009	7	19	200	104.90	80.96	32.58	623.50	8.72	0.43	0.00
2009	7	20	201	107.96	80.96	32.29	623.50	13.64	0.10	0.00
2009	7	21	202	105.98	82.94	32.29	623.50	14.76	0.10	0.00
2009	7	22	203	106.88	80.96	32.38	623.50	13.64	0.20	0.00
2009	7	23	204	105.98	79.88	32.29	623.50	13.42	0.10	0.00
2009	7	24	205	105.98	77.00	32.29	623.50	12.52	0.10	0.00
2009	7	25	206	105.98	77.90	32.20	623.50	13.19	0.00	0.00
2009	7	26	207	106.88	80.96	32.20	623.50	12.07	0.00	0.00
2009	7	27	208	106.88	81.86	32.20	623.50	15.43	0.00	0.00
2009	7	28	209	106.88	80.96	32.20	623.50	15.43	0.00	0.00
2009	7	29	210	104.00	82.94	32.20	623.50	13.42	0.00	0.00
2009	7	30	211	106.88	83.84	32.20	623.50	14.98	0.00	0.00
2009	7	31	212	101.84	86.00	36.33	623.50	8.72	3.83	0.00
2009	8	1	213	108.86	82.94	32.20	543.94	16.55	0.00	0.00
2009	8	2	214	106.88	81.86	32.29	543.94	14.09	0.10	0.00
2009	8	3	215	106.88	77.90	32.20	543.94	12.52	0.00	0.00
2009	8	4	216	105.80	80.96	32.29	543.94	12.30	0.10	0.00
2009	8	5	217	106.88	80.96	32.20	543.94	12.97	0.00	0.00
2009	8	6	218	106.88	79.88	32.20	543.94	11.85	0.00	0.00
2009	8	7	219	104.90	77.90	32.56	543.94	13.86	0.40	0.00
2009	8	8	220	104.00	79.88	33.80	543.94	14.53	1.78	0.00
2009	8	9	221	104.00	80.96	32.56	543.94	17.44	0.40	0.00
2009	8	10	222	104.90	82.94	32.47	543.94	18.34	0.30	0.00
2009	8	11	223	106.88	80.96	32.29	543.94	13.42	0.10	0.00
2009	8	12	224	106.88	79.88	32.29	543.94	10.29	0.10	0.01
2009	8	13	225	102.92	79.88	32.29	543.94	10.51	0.10	0.00
2009	8	14	226	104.90	80.96	32.65	543.94	12.30	0.50	0.00
2009	8	15	227	105.98	79.88	32.29	543.94	12.30	0.10	0.00
2009	8	16	228	104.90	79.88	32.47	543.94	10.96	0.30	0.00
2009	8	17	229	104.00	79.88	32.38	543.94	13.42	0.20	0.00
2009	8	18	230	102.92	80.96	32.79	543.94	14.76	0.65	0.00
2009	8	19	231	102.92	80.96	32.29	543.94	14.09	0.10	0.00
2009	8	20	232	106.88	80.96	32.20	543.94	14.98	0.00	0.00
2009	8	21	233	104.90	82.94	32.29	543.94	12.52	0.10	0.00
2009	8	22	234	104.90	78.98	33.06	543.94	8.94	0.95	0.00
2009	8	23	235	107.96	79.88	32.20	543.94	11.18	0.00	0.00
2009	8	24	236	104.90	78.98	32.20	543.94	12.75	0.00	0.00
2009	8	25	237	101.84	78.98	32.97	543.94	10.06	0.85	0.00
2009	8	26	238	104.00	78.98	32.38	543.94	11.18	0.20	0.00
2009	8	27	239	105.98	75.92	32.49	543.94	9.39	0.33	0.15
2009	8	28	240	105.98	77.00	34.07	543.94	6.71	2.08	0.00
2009	8	29	241	96.98	74.84	32.94	543.94	5.14	0.83	0.91
2009	8	30	242	96.98	74.84	33.60	543.94	4.92	1.55	0.01
2009	8	31	243	91.94	74.84	33.12	543.94	2.01	1.03	0.01
2009	9	1	244	88.88	77.00	32.56	459.97	5.59	0.40	0.07

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2009	9	2	245	95.90	74.84	33.98	459.97	4.47	1.98	0.00
2009	9	3	246	97.88	77.00	32.58	459.97	9.17	0.43	0.11
2009	9	4	247	91.94	75.92	33.30	459.97	7.16	1.23	0.17
2009	9	5	248	87.98	74.84	35.31	459.97	7.16	2.95	0.01
2009	9	6	249	93.92	74.84	33.78	459.97	3.35	1.75	0.00
2009	9	7	250	95.90	74.84	33.28	459.97	4.25	1.20	0.00
2009	9	8	251	93.92	77.00	32.97	459.97	7.16	0.85	0.00
2009	9	9	252	97.88	79.88	33.57	459.97	8.50	1.53	0.09
2009	9	10	253	92.84	75.92	37.11	459.97	6.04	4.45	0.04
2009	9	11	254	91.94	77.00	38.19	459.97	6.04	5.65	0.00
2009	9	12	255	93.92	75.92	37.20	459.97	9.39	4.55	0.00
2009	9	13	256	91.94	72.86	32.83	459.97	12.97	0.70	0.00
2009	9	14	257	95.00	74.84	32.74	459.97	8.72	0.60	0.00
2009	9	15	258	101.84	72.86	32.20	459.97	3.13	0.00	0.00
2009	9	16	259	99.86	75.92	32.76	459.97	6.26	0.63	0.00
2009	9	17	260	97.88	77.00	32.29	459.97	10.06	0.10	0.00
2009	9	18	261	95.90	73.94	32.85	459.97	6.04	0.73	0.21
2009	9	19	262	92.84	75.92	33.44	459.97	5.37	1.38	0.00
2009	9	20	263	95.00	73.94	33.62	459.97	5.59	1.58	0.00
2009	9	21	264	100.94	78.98	32.49	459.97	11.63	0.33	0.32
2009	9	22	265	90.86	66.92	37.33	459.97	12.30	4.80	0.23
2009	9	23	266	68.90	61.88	42.46	459.97	11.18	9.40	0.00
2009	9	24	267	69.98	60.98	42.80	459.97	8.94	9.78	0.00
2009	9	25	268	83.84	64.94	42.08	459.97	5.14	8.98	0.00
2009	9	26	269	89.96	71.96	34.43	459.97	0.45	2.48	0.00
2009	9	27	270	96.98	75.92	35.10	459.97	8.05	2.73	0.00
2009	9	28	271	96.98	77.90	34.50	459.97	11.63	2.30	1.44
2009	9	29	272	86.90	72.86	36.27	459.97	6.71	4.03	0.00
2009	9	30	273	95.90	75.92	36.03	459.97	8.27	3.75	0.00
2009	10	1	274	97.88	77.90	34.72	355.35	6.26	2.80	0.00
2009	10	2	275	86.00	75.92	35.42	355.35	8.05	3.58	0.00
2009	10	3	276	96.98	77.00	36.39	355.35	7.16	4.15	0.03
2009	10	4	277	95.90	79.88	34.54	355.35	6.93	2.60	0.00
2009	10	5	278	100.94	79.88	32.97	355.35	8.94	0.85	0.00
2009	10	6	279	100.94	82.94	35.35	355.35	14.53	3.50	0.00
2009	10	7	280	99.86	81.86	35.24	355.35	16.77	2.88	0.00
2009	10	8	281	99.86	82.94	38.10	355.35	21.24	4.75	0.42
2009	10	9	282	86.90	65.84	33.44	355.35	12.75	1.38	0.00
2009	10	10	283	70.88	59.00	39.49	355.35	8.94	6.20	0.06
2009	10	11	284	63.86	59.90	42.80	355.35	8.50	9.78	0.00
2009	10	12	285	78.98	62.96	40.98	355.35	3.13	7.75	0.05
2009	10	13	286	91.94	72.86	40.41	355.35	2.91	7.23	0.00
2009	10	14	287	97.88	75.92	32.79	355.35	5.59	0.65	0.00
2009	10	15	288	102.92	75.92	32.20	355.35	4.25	0.00	0.00
2009	10	16	289	86.00	68.90	36.48	355.35	11.63	4.50	0.00
2009	10	17	290	84.92	60.98	32.56	355.35	11.40	0.40	0.00
2009	10	18	291	84.92	56.84	32.20	355.35	7.16	0.00	0.00
2009	10	19	292	86.90	63.86	32.47	355.35	12.75	0.30	0.00
2009	10	20	293	87.98	66.92	32.29	355.35	14.09	0.10	0.02
2009	10	21	294	86.90	74.84	34.32	355.35	14.98	2.35	0.32
2009	10	22	295	79.88	65.84	36.82	355.35	8.72	4.38	0.00

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2009	10	23	296	79.88	56.84	32.97	355.35	6.04	0.85	0.00
2009	10	24	297	81.86	63.86	38.16	355.35	7.60	5.23	0.00
2009	10	25	298	90.86	65.84	36.93	355.35	9.39	4.25	0.29
2009	10	26	299	77.90	59.90	40.91	355.35	11.63	7.68	0.00
2009	10	27	300	77.90	50.90	32.56	355.35	4.92	0.40	0.00
2009	10	28	301	95.00	62.60	32.20	355.35	18.78	0.00	0.00
2009	10	29	302	88.88	65.84	33.37	355.35	16.32	1.30	0.00
2009	10	30	303	75.92	59.00	37.47	355.35	8.05	4.85	0.00
2009	10	31	304	79.88	46.94	32.20	355.35	3.35	0.00	0.00
2009	11	1	305	81.86	48.92	32.20	273.78	3.13	0.00	0.00
2009	11	2	306	82.94	52.88	32.20	273.78	3.35	0.00	0.00
2009	11	3	307	79.88	53.96	32.20	273.78	2.68	0.00	0.00
2009	11	4	308	83.84	52.88	32.20	273.78	2.46	0.00	0.00
2009	11	5	309	84.92	55.94	33.64	273.78	3.58	1.60	0.00
2009	11	6	310	84.92	54.86	32.74	273.78	4.92	0.60	0.00
2009	11	7	311	86.90	60.98	32.74	273.78	7.60	0.60	0.02
2009	11	8	312	83.84	68.00	36.75	273.78	4.92	4.30	0.00
2009	11	9	313	79.88	66.92	39.69	273.78	7.38	6.53	0.00
2009	11	10	314	82.94	59.90	33.12	273.78	5.14	1.03	0.00
2009	11	11	315	83.84	57.92	33.24	273.78	2.46	1.15	0.00
2009	11	12	316	82.94	55.94	32.20	273.78	3.58	0.00	0.00
2009	11	13	317	87.98	59.90	32.20	273.78	9.84	0.00	0.00
2009	11	14	318	90.86	64.94	32.20	273.78	10.29	0.00	0.00
2009	11	15	319	88.88	68.00	33.26	273.78	6.04	1.18	0.00
2009	11	16	320	73.94	51.98	33.91	273.78	13.42	1.90	0.00
2009	11	17	321	72.86	43.88	32.20	273.78	5.14	0.00	0.00
2009	11	18	322	77.90	43.88	32.20	273.78	6.04	0.00	0.00
2009	11	19	323	80.96	57.92	38.55	273.78	9.39	5.25	0.40
2009	11	20	324	72.86	56.84	41.99	273.78	9.84	8.88	0.00
2009	11	21	325	75.92	46.94	32.20	273.78	8.05	0.00	0.00
2009	11	22	326	75.92	50.00	35.26	273.78	4.02	3.40	0.00
2009	11	23	327	82.94	55.94	34.88	273.78	6.93	2.98	0.00
2009	11	24	328	68.90	59.90	41.25	273.78	8.94	8.15	0.00
2009	11	25	329	68.90	46.94	34.25	273.78	4.70	2.28	0.00
2009	11	26	330	70.88	53.96	34.65	273.78	1.79	2.73	0.02
2009	11	27	331	71.96	48.92	32.67	273.78	5.59	0.53	0.00
2009	11	28	332	82.94	52.88	32.20	273.78	5.37	0.00	0.00
2009	11	29	333	79.88	65.84	32.92	273.78	8.05	0.80	0.98
2009	11	30	334	66.92	48.92	42.08	273.78	12.07	8.98	0.45
2009	12	1	335	51.98	43.88	41.11	207.53	8.50	7.90	0.00
2009	12	2	336	64.94	41.90	32.65	207.53	7.16	0.50	0.00
2009	12	3	337	48.92	42.98	40.62	207.53	6.71	7.55	0.00
2009	12	4	338	50.00	36.86	37.31	207.53	10.73	4.68	0.00
2009	12	5	339	52.88	31.10	32.20	207.53	6.26	0.00	0.00
2009	12	6	340	71.96	42.98	33.19	207.53	2.24	1.10	0.00
2009	12	7	341	59.90	54.86	42.64	207.53	7.38	9.60	0.01
2009	12	8	342	72.86	54.86	40.30	207.53	2.91	7.00	0.00
2009	12	9	343	61.88	43.88	36.16	207.53	9.61	4.40	0.00
2009	12	10	344	48.92	37.94	39.15	207.53	5.14	5.83	0.13
2009	12	11	345	48.92	44.96	43.00	207.53	7.16	10.00	0.01
2009	12	12	346	56.84	46.94	42.64	207.53	5.14	9.60	0.00

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2009	12	13	347	63.86	46.94	41.00	207.53	2.46	7.78	0.03
2009	12	14	348	63.86	57.92	43.00	207.53	3.80	10.00	0.89
2009	12	15	349	61.88	48.92	42.82	207.53	8.72	9.80	0.36
2009	12	16	350	50.00	43.88	42.01	207.53	6.93	8.90	0.00
2009	12	17	351	64.94	45.86	38.19	207.53	7.16	4.85	0.00
2009	12	18	352	60.98	47.84	39.40	207.53	2.68	6.00	0.00
2009	12	19	353	63.86	47.84	37.62	207.53	4.47	5.03	0.00
2009	12	20	354	68.90	43.88	33.33	207.53	3.13	1.25	0.00
2009	12	21	355	73.94	46.94	32.20	207.53	10.29	0.00	0.00
2009	12	22	356	74.84	55.94	33.55	207.53	8.05	1.50	0.01
2009	12	23	357	80.96	59.90	32.67	207.53	6.26	0.53	0.09
2009	12	24	358	63.86	48.92	33.28	207.53	17.44	1.20	0.00
2009	12	25	359	57.92	39.92	32.20	207.53	5.37	0.00	0.00
2009	12	26	360	62.96	39.92	36.60	207.53	4.02	4.13	0.00
2009	12	27	361	63.86	44.96	34.99	207.53	6.48	3.10	0.00
2009	12	28	362	55.94	44.96	41.27	207.53	6.04	8.08	0.19
2009	12	29	363	51.98	44.96	42.91	207.53	4.47	9.90	0.06
2009	12	30	364	64.40	44.96	39.13	207.53	4.70	5.70	0.00
2009	12	31	365	78.98	48.92	32.20	207.53	8.72	0.00	0.00
2010	1	1	1	59.90	41.00	32.20	277.05	8.50	0.00	0.00
2010	1	2	2	61.88	36.86	34.88	277.05	4.47	2.98	0.00
2010	1	3	3	61.88	51.98	42.06	277.05	7.16	8.95	0.00
2010	1	4	4	57.92	43.88	37.64	277.05	9.84	4.90	0.00
2010	1	5	5	56.84	37.94	36.05	277.05	4.92	4.28	0.00
2010	1	6	6	68.00	48.92	39.58	277.05	3.80	6.20	0.00
2010	1	7	7	56.84	38.84	40.39	277.05	10.29	7.10	0.00
2010	1	8	8	39.92	32.00	35.92	277.05	10.06	3.88	0.00
2010	1	9	9	51.98	26.06	32.20	277.05	2.01	0.00	0.00
2010	1	10	10	56.84	28.04	32.20	277.05	4.70	0.00	0.00
2010	1	11	11	57.92	36.86	40.19	277.05	1.79	7.08	0.14
2010	1	12	12	57.92	53.96	42.82	277.05	2.01	9.80	0.12
2010	1	13	13	60.98	53.96	42.82	277.05	4.70	9.80	0.08
2010	1	14	14	63.86	56.84	42.28	277.05	5.81	9.20	1.25
2010	1	15	15	60.98	50.90	42.53	277.05	14.98	9.48	0.01
2010	1	16	16	66.92	48.92	36.43	277.05	10.06	4.20	0.00
2010	1	17	17	75.92	44.96	32.20	277.05	4.25	0.00	0.00
2010	1	18	18	73.94	54.86	35.71	277.05	4.47	3.90	0.00
2010	1	19	19	84.92	59.00	34.81	277.05	8.50	2.90	0.00
2010	1	20	20	77.90	63.86	35.62	277.05	2.91	3.80	0.00
2010	1	21	21	83.84	55.94	32.20	277.05	3.13	0.00	0.00
2010	1	22	22	87.98	59.90	35.08	277.05	15.88	3.20	0.00
2010	1	23	23	79.88	59.00	34.34	277.05	10.96	2.38	0.00
2010	1	24	24	72.86	52.88	33.44	277.05	10.29	1.38	0.00
2010	1	25	25	73.94	41.90	32.20	277.05	2.01	0.00	0.00
2010	1	26	26	74.84	50.00	36.95	277.05	11.63	4.28	0.02
2010	1	27	27	70.88	59.90	41.88	277.05	10.96	8.75	0.01
2010	1	28	28	78.98	66.92	39.54	277.05	18.11	6.35	0.03
2010	1	29	29	69.98	47.84	37.85	277.05	18.11	4.88	0.00
2010	1	30	30	60.98	38.84	32.20	277.05	8.94	0.00	0.00
2010	1	31	31	57.92	35.96	32.29	277.05	7.60	0.10	0.00
2010	2	1	32	60.98	45.86	40.19	359.22	7.38	6.98	0.15

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2010	2	2	33	55.94	48.92	43.00	359.22	6.26	10.00	1.27
2010	2	3	34	59.00	53.96	43.00	359.22	4.02	10.00	0.02
2010	2	4	35	60.98	56.84	43.00	359.22	5.37	10.00	0.00
2010	2	5	36	77.90	51.98	36.48	359.22	3.35	4.50	0.00
2010	2	6	37	77.00	48.92	34.90	359.22	7.16	3.00	0.00
2010	2	7	38	73.94	60.98	41.79	359.22	12.07	8.65	0.00
2010	2	8	39	77.90	55.94	38.93	359.22	13.86	5.68	0.00
2010	2	9	40	55.94	46.94	35.76	359.22	10.29	3.45	0.01
2010	2	10	41	55.94	43.88	35.64	359.22	9.61	3.33	0.31
2010	2	11	42	48.92	41.90	42.82	359.22	8.72	9.80	0.00
2010	2	12	43	61.88	43.88	34.99	359.22	7.83	3.10	0.00
2010	2	13	44	64.94	41.90	32.20	359.22	7.38	0.00	0.00
2010	2	14	45	74.84	45.86	32.74	359.22	4.47	0.60	0.00
2010	2	15	46	59.00	44.96	35.42	359.22	9.61	3.58	0.00
2010	2	16	47	64.94	36.86	32.20	359.22	0.89	0.00	0.00
2010	2	17	48	68.00	39.92	32.20	359.22	4.70	0.00	0.01
2010	2	18	49	62.96	48.92	38.05	359.22	10.06	5.10	0.02
2010	2	19	50	65.84	52.88	42.01	359.22	4.25	8.90	0.00
2010	2	20	51	75.92	59.90	42.44	359.22	8.05	9.38	0.00
2010	2	21	52	80.96	61.88	37.11	359.22	6.04	4.70	0.00
2010	2	22	53	74.84	51.98	32.74	359.22	9.61	0.60	0.04
2010	2	23	54	55.94	42.98	41.45	359.22	16.99	8.28	0.00
2010	2	24	55	62.96	34.88	32.20	359.22	8.05	0.00	0.00
2010	2	25	56	75.92	41.00	32.20	359.22	13.19	0.00	0.00
2010	2	26	57	73.94	45.86	32.20	359.22	12.30	0.00	0.00
2010	2	27	58	71.96	41.90	32.20	359.22	3.35	0.00	0.00
2010	2	28	59	73.94	45.86	33.01	359.22	14.76	0.90	0.00
2010	3	1	60	77.00	48.92	33.17	421.77	16.32	1.08	0.00
2010	3	2	61	66.92	42.98	32.20	421.77	8.05	0.00	0.00
2010	3	3	62	74.84	45.86	32.20	421.77	8.27	0.00	0.00
2010	3	4	63	73.94	52.88	34.11	421.77	12.97	2.13	0.00
2010	3	5	64	63.86	57.92	42.55	421.77	11.63	9.50	0.00
2010	3	6	65	68.90	61.88	42.91	421.77	11.18	9.90	0.00
2010	3	7	66	75.92	64.94	41.99	421.77	13.42	8.88	0.00
2010	3	8	67	81.86	68.90	39.33	421.77	11.40	6.13	0.00
2010	3	9	68	86.90	64.94	34.99	421.77	3.58	3.10	0.00
2010	3	10	69	91.94	66.92	33.82	421.77	9.84	1.80	0.00
2010	3	11	70	84.92	61.88	32.20	421.77	9.39	0.00	0.00
2010	3	12	71	79.88	51.98	32.20	421.77	7.16	0.00	0.00
2010	3	13	72	84.92	45.86	32.20	421.77	3.13	0.00	0.00
2010	3	14	73	84.92	57.92	32.38	421.77	10.51	0.20	0.03
2010	3	15	74	77.90	59.90	37.67	421.77	11.85	4.68	0.18
2010	3	16	75	65.84	52.88	40.77	421.77	15.65	7.73	0.00
2010	3	17	76	77.90	48.92	32.20	421.77	7.16	0.00	0.00
2010	3	18	77	83.84	50.00	32.20	421.77	7.16	0.00	0.00
2010	3	19	78	81.86	59.00	34.43	421.77	14.31	2.48	0.17
2010	3	20	79	68.90	50.90	39.27	421.77	18.56	6.05	0.00
2010	3	21	80	74.84	39.92	32.20	421.77	10.73	0.00	0.00
2010	3	22	81	80.96	42.98	32.20	421.77	4.25	0.00	0.00
2010	3	23	82	81.86	57.92	32.76	421.77	14.31	0.63	0.00
2010	3	24	83	82.94	65.84	36.84	421.77	8.27	4.40	0.00

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2010	3	25	84	77.90	59.90	34.25	421.77	12.52	2.28	0.00
2010	3	26	85	82.94	50.90	32.20	421.77	8.50	0.00	0.00
2010	3	27	86	87.98	57.92	32.38	421.77	8.72	0.20	0.00
2010	3	28	87	78.98	57.92	34.52	421.77	11.18	2.58	0.00
2010	3	29	88	83.84	46.94	32.20	421.77	2.68	0.00	0.00
2010	3	30	89	88.88	55.94	32.20	421.77	12.52	0.00	0.00
2010	3	31	90	93.92	61.88	32.20	421.77	14.31	0.00	0.00
2010	4	1	91	91.94	66.92	35.71	514.09	15.65	3.90	0.00
2010	4	2	92	91.94	72.86	35.69	514.09	9.84	3.88	0.00
2010	4	3	93	88.88	68.00	35.42	514.09	8.72	3.58	0.00
2010	4	4	94	93.92	72.86	38.77	514.09	12.30	5.40	0.00
2010	4	5	95	93.92	73.94	38.84	514.09	15.20	5.58	0.00
2010	4	6	96	95.90	70.88	36.10	514.09	13.86	4.08	0.00
2010	4	7	97	84.92	66.92	37.73	514.09	9.84	5.00	0.00
2010	4	8	98	78.98	53.96	32.20	514.09	7.38	0.00	0.00
2010	4	9	99	72.86	54.86	32.56	514.09	8.05	0.40	0.00
2010	4	10	100	91.94	59.90	32.67	514.09	12.52	0.53	0.54
2010	4	11	101	84.92	70.88	42.08	514.09	11.85	8.98	1.18
2010	4	12	102	78.98	68.00	40.98	514.09	10.29	7.85	0.62
2010	4	13	103	75.92	66.92	42.53	514.09	12.07	9.48	0.65
2010	4	14	104	79.88	69.98	41.94	514.09	13.19	8.83	1.66
2010	4	15	105	77.00	69.98	41.04	514.09	12.07	7.83	0.12
2010	4	16	106	83.84	68.90	40.95	514.09	4.92	7.83	0.00
2010	4	17	107	81.86	69.98	39.54	514.09	5.37	6.35	0.00
2010	4	18	108	80.96	63.86	36.32	514.09	8.94	4.08	0.00
2010	4	19	109	81.86	63.86	33.71	514.09	6.71	1.68	0.00
2010	4	20	110	79.88	62.96	39.15	514.09	6.26	5.93	0.00
2010	4	21	111	81.86	66.92	39.87	514.09	12.97	6.73	0.00
2010	4	22	112	87.98	71.96	40.37	514.09	15.20	7.08	0.00
2010	4	23	113	96.98	71.96	34.72	514.09	6.71	2.80	0.00
2010	4	24	114	90.86	61.88	32.47	514.09	10.51	0.30	0.00
2010	4	25	115	91.94	61.88	32.29	514.09	4.25	0.10	0.00
2010	4	26	116	95.90	66.92	32.38	514.09	11.40	0.20	0.00
2010	4	27	117	77.90	64.94	33.21	514.09	11.40	1.13	0.00
2010	4	28	118	86.90	65.84	39.27	514.09	8.50	6.05	0.00
2010	4	29	119	95.00	66.92	33.12	514.09	14.98	1.03	0.00
2010	4	30	120	96.98	74.84	34.27	514.09	10.96	2.30	0.00
2010	5	1	121	88.88	70.88	34.88	514.09	10.96	2.98	0.00
2010	5	2	122	90.86	68.90	35.24	553.07	6.04	3.38	0.00
2010	5	3	123	92.84	63.86	32.29	553.07	8.72	0.10	0.00
2010	5	4	124	96.98	59.90	32.29	553.07	4.25	0.10	0.00
2010	5	5	125	100.94	65.84	32.29	553.07	10.29	0.10	0.00
2010	5	6	126	101.84	68.90	32.20	553.07	13.19	0.00	0.00
2010	5	7	127	100.94	72.86	32.29	553.07	9.17	0.10	0.00
2010	5	8	128	88.88	77.00	38.23	553.07	14.09	5.30	0.00
2010	5	9	129	97.88	72.86	37.92	553.07	13.42	5.35	0.00
2010	5	10	130	99.86	79.88	35.92	553.07	16.10	3.88	0.00
2010	5	11	131	102.92	77.00	33.46	553.07	15.43	1.40	0.00
2010	5	12	132	99.86	77.00	32.56	553.07	19.01	0.40	0.00
2010	5	13	133	95.90	75.92	35.31	553.07	17.22	2.95	0.03
2010	5	14	134	95.00	75.92	37.29	553.07	16.32	4.65	0.02

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2010	5	15	135	90.86	69.98	38.64	553.07	11.85	5.75	1.57
2010	5	16	136	90.86	72.86	38.95	553.07	8.27	5.70	0.00
2010	5	17	137	95.90	77.00	33.80	553.07	8.72	1.78	1.67
2010	5	18	138	86.90	68.00	34.27	553.07	11.85	2.30	0.00
2010	5	19	139	95.00	71.96	34.72	553.07	11.18	2.80	0.00
2010	5	20	140	95.90	77.90	37.74	553.07	11.63	5.15	0.00
2010	5	21	141	95.00	79.88	39.18	553.07	13.19	5.95	0.00
2010	5	22	142	95.90	79.88	37.40	553.07	16.77	4.78	0.00
2010	5	23	143	95.90	79.88	38.01	553.07	18.56	5.45	0.00
2010	5	24	144	91.94	80.96	39.96	553.07	16.55	6.83	0.06
2010	5	25	145	86.90	71.96	39.29	553.07	12.97	6.08	0.05
2010	5	26	146	90.86	73.94	38.68	553.07	10.06	5.40	0.00
2010	5	27	147	91.94	72.86	34.63	553.07	6.04	2.70	0.00
2010	5	28	148	95.90	72.86	32.20	553.07	6.26	0.00	0.00
2010	5	29	149	97.88	71.96	32.20	553.07	8.50	0.00	0.00
2010	5	30	150	91.94	77.00	32.65	553.07	8.94	0.50	0.00
2010	5	31	151	95.90	72.86	33.15	553.07	7.16	1.05	0.00
2010	6	1	152	97.88	74.84	33.44	553.07	9.84	1.38	1.29
2010	6	2	153	99.86	71.96	36.18	581.92	11.85	3.93	0.00
2010	6	3	154	92.84	70.88	32.49	581.92	9.39	0.33	0.00
2010	6	4	155	97.88	71.96	32.38	581.92	6.48	0.20	0.00
2010	6	5	156	101.84	77.90	35.35	581.92	10.29	3.50	0.00
2010	6	6	157	97.88	78.98	32.29	581.92	10.29	0.10	0.00
2010	6	7	158	97.88	78.98	34.74	581.92	10.06	2.83	0.00
2010	6	8	159	93.92	73.94	33.44	581.92	8.72	1.38	0.00
2010	6	9	160	101.84	81.86	36.15	581.92	11.40	4.13	0.00
2010	6	10	161	100.94	81.86	34.43	581.92	16.10	2.48	0.00
2010	6	11	162	100.94	82.94	33.80	581.92	17.22	1.78	0.00
2010	6	12	163	100.94	83.84	37.15	581.92	19.01	4.50	0.00
2010	6	13	164	102.92	81.86	35.62	581.92	19.23	3.30	0.00
2010	6	14	165	104.00	81.86	34.32	581.92	17.66	2.35	0.00
2010	6	15	166	100.94	79.88	33.12	581.92	16.10	1.03	0.00
2010	6	16	167	100.94	77.90	33.21	581.92	14.76	1.13	0.00
2010	6	17	168	99.86	77.00	33.91	581.92	15.43	1.90	0.00
2010	6	18	169	102.92	79.88	32.29	581.92	17.22	0.10	0.00
2010	6	19	170	102.92	81.86	35.79	581.92	14.98	3.23	0.00
2010	6	20	171	102.92	77.90	33.35	581.92	12.75	1.28	0.00
2010	6	21	172	101.84	77.00	32.88	581.92	12.75	0.75	0.00
2010	6	22	173	101.84	77.90	33.15	581.92	12.30	1.05	0.00
2010	6	23	174	100.94	77.90	32.76	581.92	12.30	0.63	0.00
2010	6	24	175	100.94	77.00	33.44	581.92	11.18	1.38	0.00
2010	6	25	176	100.94	79.88	33.21	581.92	12.07	1.13	0.00
2010	6	26	177	102.92	79.88	33.51	581.92	14.98	1.45	0.00
2010	6	27	178	101.84	78.98	33.71	581.92	13.19	1.68	0.01
2010	6	28	179	102.92	81.86	35.22	581.92	9.39	2.85	0.34
2010	6	29	180	95.90	78.98	34.07	581.92	6.04	2.08	0.76
2010	6	30	181	88.88	78.80	39.38	581.92	14.53	6.18	2.58
2010	7	1	182	82.94	75.92	40.64	581.92	14.53	7.48	0.83
2010	7	2	183	93.92	78.98	36.71	623.50	11.85	4.25	0.00
2010	7	3	184	92.84	79.88	38.97	623.50	15.65	5.73	0.00
2010	7	4	185	95.90	81.86	38.16	623.50	15.65	5.63	0.00

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2010	7	5	186	93.92	79.88	38.79	623.50	14.98	5.93	0.00
2010	7	6	187	95.90	77.00	34.23	623.50	10.29	2.25	0.00
2010	7	7	188	95.90	75.92	32.74	623.50	5.37	0.60	0.60
2010	7	8	189	86.90	77.90	39.99	623.50	9.17	6.85	0.35
2010	7	9	190	89.96	77.90	38.84	623.50	13.64	5.98	0.00
2010	7	10	191	93.92	78.98	35.96	623.50	9.17	3.68	0.00
2010	7	11	192	95.90	78.98	34.47	623.50	12.07	2.53	0.00
2010	7	12	193	96.98	77.90	32.20	623.50	12.97	0.00	0.00
2010	7	13	194	97.88	80.96	34.74	623.50	15.20	2.83	0.00
2010	7	14	195	98.96	80.96	35.89	623.50	14.31	3.60	0.00
2010	7	15	196	97.88	79.88	33.62	623.50	11.63	1.58	0.00
2010	7	16	197	97.88	78.98	34.63	623.50	9.17	2.70	0.00
2010	7	17	198	97.88	78.98	32.49	623.50	6.26	0.33	0.00
2010	7	18	199	97.88	78.98	32.88	623.50	6.26	0.75	0.00
2010	7	19	200	97.88	79.88	33.44	623.50	12.30	1.38	0.00
2010	7	20	201	98.96	78.98	34.30	623.50	13.42	2.08	0.00
2010	7	21	202	93.92	78.98	34.23	623.50	7.38	2.25	0.00
2010	7	22	203	92.84	77.00	33.55	623.50	6.04	1.50	0.02
2010	7	23	204	91.94	79.88	36.61	623.50	7.16	3.90	0.00
2010	7	24	205	96.98	77.00	35.31	623.50	9.39	2.95	0.00
2010	7	25	206	96.98	77.00	33.62	623.50	6.04	1.58	0.04
2010	7	26	207	93.92	77.00	32.83	623.50	4.02	0.70	0.03
2010	7	27	208	95.00	75.92	34.82	623.50	7.38	2.65	0.22
2010	7	28	209	90.86	77.90	34.16	623.50	11.63	2.18	0.00
2010	7	29	210	95.90	75.92	35.53	623.50	12.07	3.20	0.00
2010	7	30	211	99.86	77.00	32.92	623.50	9.84	0.80	0.00
2010	7	31	212	98.96	77.00	33.55	623.50	9.17	1.50	0.00
2010	8	1	213	101.84	75.92	33.10	543.94	8.05	1.00	0.00
2010	8	2	214	100.94	74.84	32.47	543.94	9.61	0.30	0.00
2010	8	3	215	100.94	78.98	33.21	543.94	9.39	1.13	0.00
2010	8	4	216	100.94	79.88	32.58	543.94	9.84	0.43	0.00
2010	8	5	217	100.94	77.90	32.74	543.94	8.72	0.60	0.00
2010	8	6	218	101.84	78.98	32.74	543.94	8.27	0.60	0.00
2010	8	7	219	102.92	78.98	32.94	543.94	9.61	0.83	0.00
2010	8	8	220	100.94	79.88	33.66	543.94	13.19	1.63	0.00
2010	8	9	221	102.92	80.96	33.82	543.94	12.30	1.80	0.21
2010	8	10	222	104.00	80.96	33.21	543.94	10.51	1.13	0.00
2010	8	11	223	102.92	80.96	32.74	543.94	7.38	0.60	0.00
2010	8	12	224	100.94	81.86	33.19	543.94	6.93	1.10	0.00
2010	8	13	225	102.92	80.96	32.58	543.94	11.18	0.43	0.00
2010	8	14	226	102.92	81.86	33.21	543.94	14.76	1.13	0.00
2010	8	15	227	105.98	81.86	33.53	543.94	12.75	1.48	0.00
2010	8	16	228	104.00	78.98	32.49	543.94	7.83	0.33	0.00
2010	8	17	229	104.00	80.96	32.76	543.94	7.16	0.63	0.00
2010	8	18	230	104.00	81.86	32.74	543.94	10.29	0.60	0.00
2010	8	19	231	104.00	81.86	32.58	543.94	12.97	0.43	0.00
2010	8	20	232	105.98	80.96	32.20	543.94	16.77	0.00	0.00
2010	8	21	233	102.92	80.96	34.34	543.94	14.53	1.88	0.00
2010	8	22	234	104.00	79.88	32.20	543.94	10.51	0.00	0.00
2010	8	23	235	105.98	78.98	32.20	543.94	8.50	0.00	0.27
2010	8	24	236	107.96	79.88	32.20	543.94	5.59	0.00	0.01

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2010	8	25	237	97.88	81.86	35.42	543.94	7.38	3.08	0.00
2010	8	26	238	97.88	75.92	33.21	543.94	4.02	1.13	0.00
2010	8	27	239	98.96	79.88	32.67	543.94	3.80	0.53	0.00
2010	8	28	240	99.86	74.84	32.76	543.94	4.47	0.63	0.00
2010	8	29	241	101.84	77.90	34.14	543.94	7.38	2.15	0.00
2010	8	30	242	104.90	80.96	34.36	543.94	15.20	2.40	0.00
2010	8	31	243	102.92	79.88	34.16	543.94	10.06	2.18	0.00
2010	9	1	244	102.92	79.88	33.24	459.97	8.94	1.15	0.00
2010	9	2	245	102.92	80.96	32.94	459.97	8.94	0.83	0.35
2010	9	3	246	88.88	78.98	35.31	459.97	6.26	2.95	0.13
2010	9	4	247	93.92	75.92	36.93	459.97	7.60	4.25	0.00
2010	9	5	248	97.88	72.86	33.48	459.97	4.70	1.43	0.44
2010	9	6	249	93.92	75.92	35.85	459.97	4.92	3.55	0.62
2010	9	7	250	93.92	77.90	37.11	459.97	6.26	4.70	0.00
2010	9	8	251	98.96	81.86	35.31	459.97	12.52	2.95	0.00
2010	9	9	252	99.86	81.86	35.69	459.97	13.42	3.38	0.00
2010	9	10	253	98.96	80.96	36.75	459.97	11.40	4.05	0.00
2010	9	11	254	101.84	81.86	35.07	459.97	9.61	2.93	0.36
2010	9	12	255	99.86	78.98	35.31	459.97	7.16	2.95	0.00
2010	9	13	256	99.86	77.90	33.12	459.97	6.04	1.03	0.15
2010	9	14	257	100.94	77.90	33.21	459.97	6.93	1.13	0.00
2010	9	15	258	99.86	78.98	33.30	459.97	7.38	1.23	0.00
2010	9	16	259	98.96	77.00	33.12	459.97	9.39	1.03	1.10
2010	9	17	260	95.00	75.92	37.11	459.97	4.70	4.45	0.10
2010	9	18	261	86.90	75.92	40.37	459.97	10.51	7.28	2.26
2010	9	19	262	77.00	73.94	42.44	459.97	10.96	9.38	0.56
2010	9	20	263	86.00	74.84	40.05	459.97	8.50	6.93	0.27
2010	9	21	264	86.00	77.90	39.11	459.97	6.93	5.88	0.00
2010	9	22	265	91.94	75.92	37.71	459.97	9.39	5.13	0.02
2010	9	23	266	92.84	77.00	36.99	459.97	10.29	4.33	0.00
2010	9	24	267	92.84	77.00	34.25	459.97	4.92	2.28	0.21
2010	9	25	268	91.94	74.84	35.43	459.97	2.68	3.33	0.00
2010	9	26	269	89.96	72.86	33.98	459.97	5.81	1.98	0.00
2010	9	27	270	82.94	68.90	33.37	459.97	6.48	1.30	0.00
2010	9	28	271	89.96	61.88	32.20	459.97	0.45	0.00	0.00
2010	9	29	272	92.84	64.94	32.20	459.97	0.67	0.00	0.00
2010	9	30	273	92.84	68.00	32.20	459.97	1.79	0.00	0.00
2010	10	1	274	91.94	63.86	32.20	355.35	1.57	0.00	0.00
2010	10	2	275	90.86	68.00	32.20	355.35	6.48	0.00	0.00
2010	10	3	276	88.88	59.90	32.20	355.35	3.13	0.00	0.00
2010	10	4	277	84.92	59.90	32.20	355.35	6.48	0.00	0.00
2010	10	5	278	84.92	61.88	32.74	355.35	6.48	0.60	0.00
2010	10	6	279	86.00	60.98	32.29	355.35	3.35	0.10	0.00
2010	10	7	280	86.90	60.98	32.20	355.35	4.25	0.00	0.00
2010	10	8	281	86.90	60.98	32.20	355.35	4.02	0.00	0.00
2010	10	9	282	88.88	64.94	32.20	355.35	6.93	0.00	0.00
2010	10	10	283	91.94	68.90	33.33	355.35	8.50	1.25	0.00
2010	10	11	284	92.84	68.90	32.20	355.35	8.50	0.00	0.00
2010	10	12	285	93.92	70.88	33.39	355.35	3.58	1.33	0.00
2010	10	13	286	91.94	69.98	32.29	355.35	6.26	0.10	0.00
2010	10	14	287	86.00	62.96	32.20	355.35	4.70	0.00	0.00

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2010	10	15	288	86.90	54.86	32.20	355.35	1.79	0.00	0.00
2010	10	16	289	87.98	57.92	32.20	355.35	4.92	0.00	0.00
2010	10	17	290	89.96	64.94	32.20	355.35	8.50	0.00	0.00
2010	10	18	291	91.94	66.92	32.20	355.35	9.17	0.00	0.00
2010	10	19	292	91.94	68.90	32.29	355.35	9.84	0.10	0.00
2010	10	20	293	89.96	68.90	35.88	355.35	6.71	3.33	0.00
2010	10	21	294	91.94	70.88	34.83	355.35	12.75	2.93	0.00
2010	10	22	295	92.84	74.84	35.17	355.35	12.75	3.30	0.00
2010	10	23	296	90.86	74.84	35.67	355.35	12.07	3.35	0.00
2010	10	24	297	90.86	69.98	32.38	355.35	5.81	0.20	0.00
2010	10	25	298	97.88	69.98	32.65	355.35	10.06	0.50	0.00
2010	10	26	299	95.90	70.88	32.74	355.35	8.94	0.60	0.00
2010	10	27	300	92.84	65.84	34.81	355.35	3.13	2.90	0.00
2010	10	28	301	81.86	66.92	36.84	355.35	10.51	4.40	0.00
2010	10	29	302	77.90	51.98	32.20	355.35	3.13	0.00	0.00
2010	10	30	303	84.92	52.88	32.20	355.35	5.81	0.00	0.00
2010	10	31	304	92.84	60.98	32.20	355.35	4.92	0.00	0.00
2010	11	1	305	95.00	66.92	32.20	273.78	5.37	0.00	0.00
2010	11	2	306	81.86	64.94	33.55	273.78	14.09	1.50	0.00
2010	11	3	307	79.88	54.86	34.54	273.78	13.86	2.60	0.00
2010	11	4	308	77.00	55.94	32.20	273.78	10.29	0.00	0.00
2010	11	5	309	75.92	44.96	32.20	273.78	2.91	0.00	0.00
2010	11	6	310	78.98	45.86	32.20	273.78	5.81	0.00	0.00
2010	11	7	311	80.96	48.92	32.20	273.78	6.26	0.00	0.00
2010	11	8	312	82.94	53.96	32.20	273.78	7.60	0.00	0.00
2010	11	9	313	84.92	59.00	32.20	273.78	13.19	0.00	0.00
2010	11	10	314	86.90	60.98	32.20	273.78	8.72	0.00	0.00
2010	11	11	315	86.90	64.94	34.92	273.78	12.07	2.53	0.00
2010	11	12	316	87.98	68.00	34.74	273.78	8.50	2.83	0.00
2010	11	13	317	72.86	59.90	39.74	273.78	8.50	6.58	0.00
2010	11	14	318	68.00	60.98	42.62	273.78	4.92	9.58	0.00
2010	11	15	319	84.92	56.84	37.42	273.78	3.58	4.90	0.00
2010	11	16	320	78.98	53.96	32.20	273.78	3.13	0.00	0.00
2010	11	17	321	86.90	53.96	32.20	273.78	9.39	0.00	0.00
2010	11	18	322	71.96	50.90	32.20	273.78	5.81	0.00	0.00
2010	11	19	323	77.90	46.94	32.20	273.78	5.14	0.00	0.00
2010	11	20	324	86.00	57.92	33.19	273.78	7.60	1.10	0.00
2010	11	21	325	88.88	70.88	35.08	273.78	14.76	3.20	0.00
2010	11	22	326	89.96	70.88	35.42	273.78	11.18	3.58	0.00
2010	11	23	327	86.00	72.86	40.50	273.78	7.38	7.43	0.00
2010	11	24	328	90.86	71.96	35.24	273.78	14.31	3.38	0.00
2010	11	25	329	89.96	59.90	34.09	273.78	11.18	2.10	0.06
2010	11	26	330	65.84	46.94	36.12	273.78	11.18	4.10	0.00
2010	11	27	331	68.90	37.94	32.20	273.78	2.91	0.00	0.00
2010	11	28	332	78.98	45.86	32.20	273.78	7.83	0.00	0.00
2010	11	29	333	83.84	61.88	33.10	273.78	7.38	1.00	0.00
2010	11	30	334	68.00	44.60	32.65	273.78	15.20	0.50	0.00
2010	12	1	335	69.98	34.88	32.20	207.53	4.92	0.00	0.00
2010	12	2	336	77.00	44.96	32.20	207.53	2.68	0.00	0.00
2010	12	3	337	81.86	51.98	32.20	207.53	5.37	0.00	0.00
2010	12	4	338	86.00	59.00	34.18	207.53	4.02	2.20	0.00

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2010	12	5	339	66.92	56.84	41.72	207.53	11.40	8.58	0.00
2010	12	6	340	62.96	48.92	40.01	207.53	5.59	6.88	0.00
2010	12	7	341	73.94	47.84	38.75	207.53	7.16	5.48	0.00
2010	12	8	342	65.84	46.94	32.20	207.53	7.38	0.00	0.00
2010	12	9	343	72.86	41.90	32.20	207.53	9.39	0.00	0.00
2010	12	10	344	80.96	47.84	32.20	207.53	4.25	0.00	0.00
2010	12	11	345	88.88	51.98	32.20	207.53	9.61	0.00	0.00
2010	12	12	346	68.00	43.88	32.20	207.53	5.14	0.00	0.00
2010	12	13	347	68.90	36.86	32.20	207.53	4.02	0.00	0.00
2010	12	14	348	77.90	45.86	32.20	207.53	10.29	0.00	0.00
2010	12	15	349	82.94	55.94	32.20	207.53	10.06	0.00	0.00
2010	12	16	350	80.96	54.86	33.73	207.53	8.05	1.70	0.00
2010	12	17	351	66.92	45.86	33.57	207.53	8.50	1.53	0.00
2010	12	18	352	64.94	38.84	32.20	207.53	3.13	0.00	0.00
2010	12	19	353	75.92	41.90	32.20	207.53	4.92	0.00	0.00
2010	12	20	354	88.88	56.84	35.17	207.53	4.70	3.30	0.00
2010	12	21	355	86.00	61.88	38.86	207.53	5.37	5.60	0.00
2010	12	22	356	77.90	66.92	39.96	207.53	5.37	6.83	0.00
2010	12	23	357	81.86	63.86	38.70	207.53	11.85	5.43	0.00
2010	12	24	358	77.90	55.94	38.86	207.53	11.18	5.60	0.00
2010	12	25	359	62.96	44.96	34.00	207.53	13.19	2.00	0.00
2010	12	26	360	56.84	32.00	32.20	207.53	2.68	0.00	0.00
2010	12	27	361	69.98	37.94	33.82	207.53	6.71	1.80	0.00
2010	12	28	362	73.94	54.86	38.75	207.53	8.72	5.48	0.00
2010	12	29	363	81.86	62.96	35.56	207.53	8.05	3.48	0.00
2010	12	30	364	84.92	59.90	32.29	207.53	6.26	0.10	0.00
2010	12	31	365	75.92	60.80	36.10	207.53	8.27	4.08	0.00
2011	1	1	1	66.92	50.90	35.42	277.05	8.50	3.58	0.00
2011	1	2	2	68.90	36.86	33.01	277.05	5.81	0.90	0.00
2011	1	3	3	68.00	53.96	42.44	277.05	6.93	9.38	0.00
2011	1	4	4	77.00	59.90	39.49	277.05	0.67	6.10	0.00
2011	1	5	5	79.88	56.84	37.33	277.05	6.48	4.80	0.00
2011	1	6	6	77.90	46.94	32.20	277.05	0.67	0.00	0.00
2011	1	7	7	81.86	50.00	32.20	277.05	3.35	0.00	0.02
2011	1	8	8	68.90	54.86	40.28	277.05	9.39	6.98	1.48
2011	1	9	9	77.90	50.00	34.36	277.05	8.94	2.40	0.00
2011	1	10	10	61.88	47.84	40.66	277.05	11.18	7.40	0.10
2011	1	11	11	46.94	41.00	42.80	277.05	10.96	9.78	0.00
2011	1	12	12	44.96	39.92	42.53	277.05	8.05	9.48	0.00
2011	1	13	13	41.90	38.84	43.00	277.05	2.01	10.00	0.02
2011	1	14	14	47.84	39.20	43.00	277.05	2.24	10.00	0.09
2011	1	15	15	53.96	47.84	43.00	277.05	6.71	10.00	0.01
2011	1	16	16	71.60	51.80	37.73	277.05	6.48	5.00	0.00
2011	1	17	17	73.94	46.40	39.94	277.05	3.35	6.60	0.00
2011	1	18	18	81.86	57.92	35.98	277.05	7.83	4.20	0.00
2011	1	19	19	74.84	48.92	33.10	277.05	7.38	1.00	0.00
2011	1	20	20	64.94	42.98	39.92	277.05	8.94	6.58	0.00
2011	1	21	21	61.88	35.96	32.20	277.05	2.24	0.00	0.00
2011	1	22	22	71.60	35.60	32.20	277.05	5.81	0.00	0.00
2011	1	23	23	68.90	47.84	37.08	277.05	6.71	4.93	0.00
2011	1	24	24	68.90	50.90	39.04	277.05	4.25	5.70	0.00

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2011	1	25	25	64.94	44.96	32.20	277.05	9.84	0.00	0.00
2011	1	26	26	69.98	37.94	32.20	277.05	3.58	0.00	0.00
2011	1	27	27	70.88	45.86	32.20	277.05	1.34	0.00	0.00
2011	1	28	28	77.00	46.40	32.20	277.05	5.37	0.00	0.00
2011	1	29	29	80.60	59.00	34.00	277.05	7.60	2.00	0.00
2011	1	30	30	87.98	60.98	34.74	277.05	5.14	2.83	0.00
2011	1	31	31	87.98	60.98	33.55	277.05	11.40	1.50	0.00
2011	2	1	32	70.88	36.86	34.36	359.22	18.11	2.40	0.00
2011	2	2	33	36.86	29.12	43.00	359.22	13.64	10.00	0.05
2011	2	3	34	32.00	26.06	42.73	359.22	8.72	9.70	0.00
2011	2	4	35	48.92	24.08	33.64	359.22	7.83	1.60	0.00
2011	2	5	36	68.00	29.12	32.20	359.22	4.25	0.00	0.00
2011	2	6	37	79.88	38.84	32.20	359.22	6.48	0.00	0.00
2011	2	7	38	64.94	44.96	32.20	359.22	10.29	0.00	0.00
2011	2	8	39	75.92	42.98	32.47	359.22	15.65	0.30	0.00
2011	2	9	40	62.96	34.88	40.30	359.22	17.44	7.00	0.00
2011	2	10	41	50.90	31.10	32.20	359.22	6.04	0.00	0.00
2011	2	11	42	61.88	30.02	32.20	359.22	1.57	0.00	0.00
2011	2	12	43	68.90	32.00	32.20	359.22	0.67	0.00	0.00
2011	2	13	44	78.98	42.98	32.20	359.22	8.05	0.00	0.00
2011	2	14	45	84.92	52.88	32.38	359.22	5.59	0.20	0.00
2011	2	15	46	86.90	63.86	34.68	359.22	10.51	2.75	0.00
2011	2	16	47	87.98	68.00	37.60	359.22	14.31	5.00	0.00
2011	2	17	48	88.88	68.90	38.86	359.22	11.40	5.50	0.00
2011	2	18	49	88.88	66.92	36.21	359.22	10.29	4.20	0.00
2011	2	19	50	88.88	66.92	38.75	359.22	8.50	5.48	0.00
2011	2	20	51	91.94	65.84	35.08	359.22	0.00	3.20	0.00
2011	2	21	52	86.00	63.86	32.92	359.22	0.00	0.80	0.00
2011	2	22	53	82.94	62.96	39.11	359.22	0.00	5.88	0.00
2011	2	23	54	88.88	69.98	39.11	359.22	0.45	5.88	0.00
2011	2	24	55	90.86	69.98	34.61	359.22	0.00	2.68	0.00
2011	2	25	56	91.94	52.88	32.20	359.22	0.00	0.00	0.00
2011	2	26	57	90.86	68.00	37.34	359.22	0.00	4.58	0.00
2011	2	27	58	101.84	71.96	35.53	359.22	0.00	3.70	0.00
2011	2	28	59	83.84	64.40	32.47	359.22	0.00	0.30	0.00
2011	3	1	60	81.86	51.98	32.20	421.77	0.89	0.00	0.00
2011	3	2	61	84.92	52.88	33.26	421.77	3.58	1.18	0.00
2011	3	3	62	87.98	55.94	32.65	421.77	9.61	0.50	0.00
2011	3	4	63	86.90	62.96	34.52	421.77	10.29	2.58	0.00
2011	3	5	64	77.00	56.84	33.73	421.77	12.52	1.70	0.00
2011	3	6	65	74.84	44.96	32.20	421.77	8.27	0.00	0.00
2011	3	7	66	86.90	53.96	32.20	421.77	12.52	0.00	0.00
2011	3	8	67	95.00	65.84	34.18	421.77	11.18	2.20	0.00
2011	3	9	68	86.00	65.84	34.32	421.77	10.96	2.35	0.00
2011	3	10	69	80.96	50.90	32.20	421.77	6.71	0.00	0.00
2011	3	11	70	84.92	50.00	32.20	421.77	13.42	0.00	0.00
2011	3	12	71	89.96	60.98	32.20	421.77	13.64	0.00	0.00
2011	3	13	72	87.98	64.94	32.85	421.77	11.85	0.73	0.00
2011	3	14	73	90.86	68.90	36.63	421.77	9.61	4.43	0.00
2011	3	15	74	80.96	63.86	39.33	421.77	10.51	6.13	0.00
2011	3	16	75	91.94	68.00	39.04	421.77	14.98	5.60	0.00

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2011	3	17	76	93.92	70.88	34.27	421.77	15.20	2.30	0.00
2011	3	18	77	93.92	69.98	34.09	421.77	14.98	2.10	0.00
2011	3	19	78	90.86	70.88	36.70	421.77	17.66	4.50	0.00
2011	3	20	79	90.86	70.88	38.41	421.77	15.43	5.10	0.00
2011	3	21	80	91.94	70.88	35.65	421.77	17.22	3.58	0.00
2011	3	22	81	93.92	69.98	33.44	421.77	16.99	1.38	0.00
2011	3	23	82	93.92	65.84	32.20	421.77	9.39	0.00	0.00
2011	3	24	83	92.84	68.90	34.36	421.77	12.07	2.40	0.00
2011	3	25	84	93.92	68.90	33.10	421.77	10.29	1.00	0.00
2011	3	26	85	97.88	69.98	32.20	421.77	8.27	0.00	0.00
2011	3	27	86	98.96	71.96	32.83	421.77	7.83	0.70	0.00
2011	3	28	87	88.88	69.98	37.71	421.77	11.18	5.13	0.00
2011	3	29	88	86.00	72.86	38.84	421.77	9.61	5.58	0.00
2011	3	30	89	77.00	60.98	42.08	421.77	9.17	8.98	0.00
2011	3	31	90	91.94	66.92	33.64	421.77	7.60	1.60	0.00
2011	4	1	91	97.88	69.98	34.54	514.09	10.73	2.60	0.00
2011	4	2	92	97.88	74.84	35.44	514.09	10.73	3.60	0.00
2011	4	3	93	99.86	77.00	37.61	514.09	14.98	4.88	0.00
2011	4	4	94	97.88	70.88	32.38	514.09	18.11	0.20	0.00
2011	4	5	95	84.92	54.86	32.20	514.09	9.61	0.00	0.00
2011	4	6	96	93.92	60.98	32.20	514.09	14.31	0.00	0.00
2011	4	7	97	101.84	70.88	32.47	514.09	10.06	0.30	0.00
2011	4	8	98	104.90	73.94	32.38	514.09	12.07	0.20	0.00
2011	4	9	99	102.92	73.94	32.65	514.09	17.89	0.50	0.00
2011	4	10	100	105.98	74.84	32.38	514.09	17.66	0.20	0.00
2011	4	11	101	90.86	71.96	33.26	514.09	19.23	1.18	0.00
2011	4	12	102	91.94	61.88	32.20	514.09	11.18	0.00	0.00
2011	4	13	103	95.90	63.86	32.29	514.09	12.52	0.10	0.00
2011	4	14	104	100.94	73.94	32.92	514.09	8.50	0.80	0.00
2011	4	15	105	92.84	73.94	32.83	514.09	11.63	0.70	0.00
2011	4	16	106	88.88	57.92	32.20	514.09	11.85	0.00	0.00
2011	4	17	107	90.86	62.96	34.43	514.09	11.63	2.48	0.00
2011	4	18	108	102.92	71.96	32.20	514.09	11.40	0.00	0.00
2011	4	19	109	104.90	75.92	32.29	514.09	10.73	0.10	0.00
2011	4	20	110	100.94	77.00	33.82	514.09	12.97	1.80	0.00
2011	4	21	111	101.84	78.98	34.43	514.09	15.65	2.48	0.00
2011	4	22	112	99.86	77.90	33.89	514.09	16.32	1.88	0.00
2011	4	23	113	100.94	77.90	32.29	514.09	17.89	0.10	0.00
2011	4	24	114	95.90	77.90	36.51	514.09	16.99	4.03	0.00
2011	4	25	115	106.88	77.00	33.03	514.09	11.85	0.93	0.00
2011	4	26	116	110.84	75.92	33.55	514.09	9.84	1.50	0.00
2011	4	27	117	98.96	77.00	32.20	514.09	13.42	0.00	0.00
2011	4	28	118	93.92	64.94	32.20	514.09	11.63	0.00	0.00
2011	4	29	119	96.98	64.94	33.33	514.09	16.99	1.25	0.00
2011	4	30	120	104.90	77.90	34.27	514.09	12.07	2.30	0.00
2011	5	1	121	106.88	78.98	32.20	514.09	13.42	0.00	0.00
2011	5	2	122	82.94	54.86	38.77	553.07	17.66	5.30	0.00
2011	5	3	123	83.84	52.88	32.20	553.07	10.29	0.00	0.00
2011	5	4	124	86.90	56.84	32.76	553.07	9.39	0.63	0.00
2011	5	5	125	93.92	59.00	32.20	553.07	9.17	0.00	0.00
2011	5	6	126	98.96	69.98	32.20	553.07	12.07	0.00	0.00

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2011	5	7	127	104.90	74.84	32.56	553.07	13.42	0.40	0.00
2011	5	8	128	107.96	74.84	32.20	553.07	14.98	0.00	0.00
2011	5	9	129	106.88	77.00	32.20	553.07	16.55	0.00	0.00
2011	5	10	130	102.92	77.00	32.38	553.07	16.32	0.20	0.00
2011	5	11	131	102.92	81.86	36.00	553.07	15.88	3.23	1.54
2011	5	12	132	88.88	70.88	34.36	553.07	11.40	2.40	0.00
2011	5	13	133	99.86	69.98	34.02	553.07	7.16	2.03	0.00
2011	5	14	134	93.92	72.86	33.12	553.07	10.29	1.03	0.21
2011	5	15	135	81.86	60.98	40.17	553.07	9.84	7.05	0.00
2011	5	16	136	90.86	70.88	40.03	553.07	6.26	6.70	0.00
2011	5	17	137	95.00	68.90	34.09	553.07	13.86	2.10	0.00
2011	5	18	138	100.94	77.90	38.77	553.07	14.76	5.50	0.00
2011	5	19	139	102.92	79.88	38.39	553.07	14.31	5.08	0.00
2011	5	20	140	102.92	79.88	36.01	553.07	8.72	3.98	0.00
2011	5	21	141	100.94	78.98	34.34	553.07	9.61	2.38	0.00
2011	5	22	142	105.98	81.86	34.82	553.07	16.32	2.65	0.00
2011	5	23	143	105.98	79.88	33.46	553.07	13.42	1.40	0.00
2011	5	24	144	106.88	79.88	32.20	553.07	14.98	0.00	0.00
2011	5	25	145	105.98	79.88	32.38	553.07	8.94	0.20	0.00
2011	5	26	146	105.98	81.86	33.17	553.07	12.07	1.08	0.00
2011	5	27	147	109.94	77.00	32.20	553.07	15.65	0.00	0.00
2011	5	28	148	110.84	79.88	32.20	553.07	16.32	0.00	0.00
2011	5	29	149	106.88	77.90	32.29	553.07	20.12	0.10	0.00
2011	5	30	150	105.98	81.86	33.48	553.07	20.79	1.43	0.00
2011	5	31	151	104.00	82.94	36.03	553.07	15.65	3.75	0.00
2011	6	1	152	101.84	73.40	32.49	553.07	13.86	0.33	0.00
2011	6	2	153	104.00	73.94	32.94	581.92	12.97	0.83	0.00
2011	6	3	154	100.94	72.86	32.76	581.92	12.97	0.63	0.00
2011	6	4	155	99.86	74.84	33.89	581.92	11.63	1.88	0.00
2011	6	5	156	102.92	71.96	32.67	581.92	8.05	0.53	0.00
2011	6	6	157	106.88	73.94	32.20	581.92	7.38	0.00	0.00
2011	6	7	158	105.98	75.92	32.20	581.92	11.85	0.00	0.00
2011	6	8	159	104.90	77.00	32.38	581.92	13.64	0.20	0.00
2011	6	9	160	104.90	75.92	32.38	581.92	13.64	0.20	0.00
2011	6	10	161	105.98	75.92	32.38	581.92	14.09	0.20	0.00
2011	6	11	162	104.90	75.92	32.85	581.92	12.52	0.73	0.00
2011	6	12	163	105.98	77.90	32.20	581.92	13.42	0.00	0.00
2011	6	13	164	107.96	77.90	32.20	581.92	13.42	0.00	0.00
2011	6	14	165	107.96	78.98	32.20	581.92	12.52	0.00	0.00
2011	6	15	166	109.94	79.88	32.20	581.92	16.10	0.00	0.00
2011	6	16	167	109.94	80.96	32.20	581.92	16.55	0.00	0.00
2011	6	17	168	113.00	82.94	32.20	581.92	17.66	0.00	0.00
2011	6	18	169	110.84	81.86	32.20	581.92	18.56	0.00	0.00
2011	6	19	170	110.84	81.86	32.20	581.92	19.90	0.00	0.00
2011	6	20	171	108.86	81.86	33.03	581.92	18.56	0.93	0.00
2011	6	21	172	106.88	82.94	33.44	581.92	16.77	1.38	0.13
2011	6	22	173	89.96	73.94	35.52	581.92	10.51	3.43	0.00
2011	6	23	174	99.86	75.92	37.08	581.92	6.48	4.93	0.00
2011	6	24	175	102.92	77.00	33.66	581.92	8.05	1.63	0.00
2011	6	25	176	105.98	79.88	34.88	581.92	11.40	2.48	0.00
2011	6	26	177	105.98	78.98	33.26	581.92	14.76	1.18	0.00

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2011	6	27	178	106.88	79.88	33.26	581.92	14.31	1.18	0.00
2011	6	28	179	106.88	79.88	33.71	581.92	12.52	1.68	0.00
2011	6	29	180	104.90	77.90	33.48	581.92	8.94	1.43	0.52
2011	6	30	181	87.98	77.00	33.89	581.92	7.38	1.88	0.04
2011	7	1	182	98.96	74.84	33.96	581.92	9.17	1.95	0.19
2011	7	2	183	99.86	77.90	35.76	623.50	8.27	3.45	0.00
2011	7	3	184	100.94	74.84	33.17	623.50	9.17	1.08	0.00
2011	7	4	185	102.92	75.92	32.56	623.50	10.96	0.40	0.00
2011	7	5	186	102.92	77.00	32.85	623.50	10.51	0.73	0.00
2011	7	6	187	104.00	75.92	32.29	623.50	10.51	0.10	0.00
2011	7	7	188	104.90	77.00	32.20	623.50	10.29	0.00	0.00
2011	7	8	189	105.98	75.92	32.20	623.50	11.40	0.00	0.00
2011	7	9	190	105.98	78.98	32.79	623.50	14.31	0.65	0.00
2011	7	10	191	104.90	78.98	33.71	623.50	14.76	1.68	0.00
2011	7	11	192	105.98	81.86	33.03	623.50	14.53	0.93	0.00
2011	7	12	193	102.92	80.96	32.38	623.50	15.43	0.20	0.00
2011	7	13	194	101.84	77.90	32.85	623.50	14.09	0.73	0.00
2011	7	14	195	101.84	78.98	32.47	623.50	14.98	0.30	0.00
2011	7	15	196	104.90	78.98	32.20	623.50	15.20	0.00	0.00
2011	7	16	197	102.92	79.88	32.92	623.50	14.09	0.80	0.01
2011	7	17	198	101.84	77.00	34.57	623.50	12.52	2.38	0.00
2011	7	18	199	102.92	77.90	32.38	623.50	9.39	0.20	0.00
2011	7	19	200	105.98	79.88	32.74	623.50	12.07	0.60	0.00
2011	7	20	201	105.98	80.96	32.38	623.50	12.52	0.20	0.00
2011	7	21	202	102.92	79.88	33.30	623.50	16.55	1.23	0.00
2011	7	22	203	104.00	81.86	33.39	623.50	16.10	1.33	0.00
2011	7	23	204	104.00	80.96	32.85	623.50	15.88	0.73	0.00
2011	7	24	205	104.90	80.96	32.65	623.50	14.53	0.50	0.00
2011	7	25	206	104.00	77.90	32.29	623.50	10.73	0.10	0.00
2011	7	26	207	104.00	78.98	32.20	623.50	12.97	0.00	0.00
2011	7	27	208	104.00	79.88	32.20	623.50	14.53	0.00	0.00
2011	7	28	209	104.90	80.96	32.83	623.50	14.53	0.70	0.00
2011	7	29	210	101.84	77.90	32.65	623.50	9.84	0.50	0.00
2011	7	30	211	98.96	81.86	36.17	623.50	12.07	3.65	0.00
2011	7	31	212	101.84	77.00	33.62	623.50	10.51	1.58	0.00
2011	8	1	213	104.00	77.90	32.29	543.94	9.84	0.10	0.00
2011	8	2	214	106.88	79.88	32.56	543.94	10.96	0.40	0.00
2011	8	3	215	106.88	79.88	32.20	543.94	12.07	0.00	0.00
2011	8	4	216	107.96	79.88	32.29	543.94	13.86	0.10	0.00
2011	8	5	217	106.88	80.96	32.29	543.94	13.64	0.10	0.00
2011	8	6	218	104.90	79.88	32.67	543.94	12.52	0.53	0.00
2011	8	7	219	104.90	80.96	32.76	543.94	14.53	0.63	0.00
2011	8	8	220	106.88	80.96	32.20	543.94	15.88	0.00	0.00
2011	8	9	221	106.88	81.86	32.20	543.94	14.53	0.00	0.00
2011	8	10	222	106.88	82.94	33.28	543.94	12.75	1.20	0.00
2011	8	11	223	106.88	83.84	34.09	543.94	12.52	2.10	0.00
2011	8	12	224	104.00	83.84	35.89	543.94	13.19	3.60	0.00
2011	8	13	225	104.90	79.88	32.29	543.94	13.64	0.10	0.00
2011	8	14	226	104.00	79.88	33.35	543.94	12.75	1.28	0.00
2011	8	15	227	104.00	79.88	32.85	543.94	11.40	0.73	0.00
2011	8	16	228	104.90	79.88	32.47	543.94	13.42	0.30	0.00

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2011	8	17	229	104.90	79.88	32.49	543.94	14.09	0.33	0.00
2011	8	18	230	104.90	78.98	32.20	543.94	11.85	0.00	0.00
2011	8	19	231	105.98	78.98	32.29	543.94	12.97	0.10	0.00
2011	8	20	232	104.00	77.90	32.29	543.94	11.40	0.10	0.00
2011	8	21	233	102.92	77.90	33.33	543.94	11.85	1.25	0.00
2011	8	22	234	102.92	78.98	33.17	543.94	11.85	1.08	0.00
2011	8	23	235	105.98	78.98	32.29	543.94	10.51	0.10	0.00
2011	8	24	236	104.90	79.88	32.29	543.94	9.61	0.10	0.13
2011	8	25	237	102.92	79.88	32.85	543.94	8.27	0.73	0.00
2011	8	26	238	100.94	75.92	35.31	543.94	7.83	2.95	0.00
2011	8	27	239	104.00	75.92	32.67	543.94	5.81	0.53	0.00
2011	8	28	240	107.96	78.98	32.83	543.94	5.37	0.70	0.00
2011	8	29	241	108.86	82.94	32.20	543.94	11.18	0.00	0.00
2011	8	30	242	104.90	77.90	32.20	543.94	10.29	0.00	0.01
2011	8	31	243	102.92	77.90	33.89	543.94	11.85	1.88	0.00
2011	9	1	244	100.94	77.90	33.48	459.97	8.94	1.43	0.00
2011	9	2	245	102.92	77.90	33.26	459.97	7.38	1.18	0.00
2011	9	3	246	104.00	78.98	33.42	459.97	6.71	1.35	0.00
2011	9	4	247	105.98	79.88	32.85	459.97	11.63	0.73	0.00
2011	9	5	248	97.88	83.84	32.38	459.97	13.19	0.20	0.00
2011	9	6	249	95.00	62.96	32.20	459.97	6.71	0.00	0.00
2011	9	7	250	96.98	68.00	32.20	459.97	6.71	0.00	0.00
2011	9	8	251	96.98	68.00	32.20	459.97	6.04	0.00	0.00
2011	9	9	252	98.96	70.88	32.20	459.97	7.60	0.00	0.00
2011	9	10	253	99.86	71.96	32.20	459.97	9.17	0.00	0.00
2011	9	11	254	100.94	73.94	32.20	459.97	9.84	0.00	0.00
2011	9	12	255	102.92	74.84	32.20	459.97	10.29	0.00	0.00
2011	9	13	256	102.92	77.90	32.79	459.97	9.84	0.65	0.00
2011	9	14	257	101.84	77.90	32.56	459.97	12.30	0.40	0.00
2011	9	15	258	99.86	77.90	33.98	459.97	13.64	1.98	0.00
2011	9	16	259	97.88	77.90	38.05	459.97	12.52	5.10	0.00
2011	9	17	260	99.86	78.98	34.86	459.97	12.97	2.45	0.05
2011	9	18	261	98.96	75.92	35.22	459.97	7.60	2.85	0.04
2011	9	19	262	96.98	70.88	34.23	459.97	6.93	2.25	0.00
2011	9	20	263	98.96	74.84	32.49	459.97	6.48	0.33	0.00
2011	9	21	264	99.86	74.84	33.17	459.97	8.94	1.08	0.00
2011	9	22	265	96.98	73.94	32.56	459.97	7.38	0.40	0.00
2011	9	23	266	95.00	73.94	32.65	459.97	6.04	0.50	0.00
2011	9	24	267	99.86	74.84	32.38	459.97	7.60	0.20	0.00
2011	9	25	268	104.90	77.00	32.20	459.97	11.18	0.00	0.00
2011	9	26	269	104.90	75.92	32.20	459.97	10.73	0.00	0.00
2011	9	27	270	100.94	75.92	33.01	459.97	9.61	0.90	0.00
2011	9	28	271	101.84	77.00	32.92	459.97	8.27	0.80	0.06
2011	9	29	272	98.96	72.86	33.87	459.97	7.60	1.85	0.00
2011	9	30	273	93.92	69.98	32.20	459.97	8.50	0.00	0.00
2011	10	1	274	90.86	68.90	33.15	355.35	8.05	1.05	0.00
2011	10	2	275	89.96	68.00	32.38	355.35	8.27	0.20	0.00
2011	10	3	276	88.88	64.94	32.20	355.35	8.50	0.00	0.00
2011	10	4	277	90.86	62.96	32.29	355.35	9.39	0.10	0.00
2011	10	5	278	92.84	70.88	33.57	355.35	12.75	1.53	0.00
2011	10	6	279	93.92	72.86	32.56	355.35	13.64	0.40	0.00

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2011	10	7	280	95.90	74.84	33.51	355.35	16.32	1.45	0.00
2011	10	8	281	92.84	77.90	37.38	355.35	17.66	4.75	0.35
2011	10	9	282	80.96	66.92	40.26	355.35	13.42	7.15	0.00
2011	10	10	283	81.86	68.90	40.98	355.35	8.05	7.75	0.00
2011	10	11	284	86.00	69.98	35.61	355.35	6.04	3.53	0.00
2011	10	12	285	95.00	71.96	32.20	355.35	8.27	0.00	0.00
2011	10	13	286	92.84	71.96	33.51	355.35	8.50	1.45	0.00
2011	10	14	287	91.94	62.96	32.20	355.35	6.26	0.00	0.00
2011	10	15	288	90.86	62.96	32.20	355.35	7.83	0.00	0.00
2011	10	16	289	91.94	68.00	33.06	355.35	6.04	0.95	0.00
2011	10	17	290	95.00	69.98	32.20	355.35	9.84	0.00	0.00
2011	10	18	291	80.96	68.90	32.20	355.35	15.88	0.00	0.00
2011	10	19	292	79.88	52.88	32.20	355.35	7.16	0.00	0.00
2011	10	20	293	87.98	55.94	32.20	355.35	11.40	0.00	0.00
2011	10	21	294	91.94	64.94	32.20	355.35	10.73	0.00	0.00
2011	10	22	295	90.86	68.90	32.20	355.35	13.19	0.00	0.00
2011	10	23	296	92.84	68.90	32.20	355.35	9.39	0.00	0.00
2011	10	24	297	92.84	68.90	32.20	355.35	10.73	0.00	0.00
2011	10	25	298	90.86	68.00	32.20	355.35	10.96	0.00	0.00
2011	10	26	299	91.94	68.00	32.20	355.35	12.30	0.00	0.00
2011	10	27	300	91.94	60.98	32.20	355.35	15.20	0.00	0.00
2011	10	28	301	68.90	54.86	33.89	355.35	14.76	1.88	0.00
2011	10	29	302	70.88	46.94	32.20	355.35	2.68	0.00	0.00
2011	10	30	303	81.86	50.00	32.20	355.35	6.26	0.00	0.00
2011	10	31	304	82.94	57.92	33.03	355.35	8.27	0.93	0.00
2011	11	1	305	86.00	60.98	32.20	273.78	10.73	0.00	0.00
2011	11	2	306	91.94	65.84	32.56	273.78	10.96	0.40	0.00
2011	11	3	307	75.92	55.94	36.07	273.78	13.64	4.30	0.00
2011	11	4	308	72.86	45.86	32.20	273.78	6.26	0.00	0.00
2011	11	5	309	84.92	52.88	33.28	273.78	11.40	1.20	0.00
2011	11	6	310	88.88	70.88	38.79	273.78	13.42	5.93	0.00
2011	11	7	311	86.90	75.92	39.49	273.78	16.55	6.30	0.00
2011	11	8	312	86.90	66.92	34.11	273.78	11.85	2.13	0.00
2011	11	9	313	66.92	56.84	40.46	273.78	12.30	7.18	0.00
2011	11	10	314	66.92	45.86	33.46	273.78	7.83	1.40	0.00
2011	11	11	315	72.86	39.92	32.20	273.78	8.05	0.00	0.00
2011	11	12	316	82.94	52.88	32.20	273.78	7.60	0.00	0.00
2011	11	13	317	88.88	62.96	32.20	273.78	8.94	0.00	0.00
2011	11	14	318	87.98	69.98	34.11	273.78	11.18	2.13	0.33
2011	11	15	319	82.94	61.88	34.61	273.78	9.17	2.68	0.00
2011	11	16	320	86.90	55.94	32.20	273.78	5.37	0.00	0.00
2011	11	17	321	68.90	54.86	35.08	273.78	10.51	3.20	0.00
2011	11	18	322	79.88	54.86	38.34	273.78	6.93	5.43	0.00
2011	11	19	323	91.94	65.84	32.20	273.78	9.61	0.00	0.00
2011	11	20	324	91.94	71.96	32.92	273.78	12.75	0.80	0.00
2011	11	21	325	91.94	71.96	32.56	273.78	15.88	0.40	0.00
2011	11	22	326	84.92	60.98	33.37	273.78	11.18	1.30	0.00
2011	11	23	327	74.84	50.90	32.20	273.78	6.71	0.00	0.00
2011	11	24	328	79.88	50.90	34.09	273.78	8.05	2.10	0.00
2011	11	25	329	83.84	57.92	33.98	273.78	11.63	1.98	0.00
2011	11	26	330	79.88	59.90	34.09	273.78	16.10	2.10	0.00

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Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
2011	11	27	331	61.88	46.94	32.29	273.78	17.89	0.10	0.00
2011	11	28	332	77.00	37.40	32.20	273.78	5.37	0.00	0.00
2011	11	29	333	78.80	44.60	32.20	273.78	7.38	0.00	0.00
2011	11	30	334	71.60	42.80	32.20	273.78	6.71	0.00	0.00
2011	12	1	335	81.86	55.40	32.38	207.53	13.64	0.20	0.00
2011	12	2	336	78.98	60.98	35.88	207.53	12.97	3.33	0.00
2011	12	3	337	81.86	66.92	32.29	207.53	15.88	0.10	0.00
2011	12	4	338	71.96	51.98	38.86	207.53	11.85	5.50	0.00
2011	12	5	339	59.90	45.86	36.97	207.53	13.64	4.80	0.00
2011	12	6	340	51.98	39.92	39.67	207.53	12.52	6.30	0.00
2011	12	7	341	59.90	31.10	32.20	207.53	3.58	0.00	0.00
2011	12	8	342	66.92	36.86	32.20	207.53	8.72	0.00	0.00
2011	12	9	343	70.88	48.92	34.63	207.53	6.48	2.70	2.69
2011	12	10	344	63.86	45.86	42.82	207.53	12.07	9.80	0.24
2011	12	11	345	48.92	44.96	43.00	207.53	6.26	10.00	0.12
2011	12	12	346	54.86	47.84	43.00	207.53	4.02	10.00	0.02
2011	12	13	347	71.96	54.86	41.54	207.53	5.81	8.38	0.00
2011	12	14	348	83.84	68.90	39.13	207.53	13.64	5.70	0.00
2011	12	15	349	69.98	59.90	42.64	207.53	8.72	9.60	0.00
2011	12	16	350	60.98	54.86	43.00	207.53	11.40	10.00	0.04
2011	12	17	351	55.94	50.00	43.00	207.53	7.83	10.00	0.09
2011	12	18	352	52.88	51.98	43.00	207.53	3.35	10.00	0.00
2011	12	19	353	74.84	52.88	39.76	207.53	12.75	6.40	0.00
2011	12	20	354	64.94	50.90	33.28	207.53	10.96	1.20	0.02
2011	12	21	355	60.98	50.00	41.11	207.53	6.71	7.90	0.00
2011	12	22	356	68.00	46.94	34.09	207.53	7.60	2.10	0.12
2011	12	23	357	50.90	41.90	39.76	207.53	10.96	6.40	0.56
2011	12	24	358	46.94	43.88	42.82	207.53	12.07	9.80	0.00
2011	12	25	359	54.86	37.94	34.09	207.53	12.97	2.10	0.00
2011	12	26	360	59.90	41.90	32.29	207.53	6.93	0.10	0.00
2011	12	27	361	70.88	38.84	32.20	207.53	4.25	0.00	0.00
2011	12	28	362	70.88	44.96	32.20	207.53	5.37	0.00	0.00
2011	12	29	363	77.00	41.00	32.20	207.53	5.14	0.00	0.00
2011	12	30	364	81.86	46.94	32.20	207.53	5.59	0.00	0.00
2011	12	31	365	80.96	44.96	32.20	207.53	3.58	0.00	0.00
2012	1	1	1	68.90	51.98	34.26	277.05	11.85	2.29	0.00
2012	1	2	2	61.88	39.92	32.20	277.05	6.04	0.00	0.00
2012	1	3	3	65.84	37.94	32.20	277.05	6.93	0.00	0.00
2012	1	4	4	71.96	46.94	32.20	277.05	5.59	0.00	0.00
2012	1	5	5	66.92	47.84	33.42	277.05	5.81	1.36	0.00
2012	1	6	6	77.00	47.84	32.20	277.05	6.48	0.00	0.00
2012	1	7	7	70.88	54.86	33.61	277.05	7.83	1.57	0.00
2012	1	8	8	72.86	50.90	39.16	277.05	5.14	5.93	0.00
2012	1	9	9	68.90	46.94	36.68	277.05	14.98	4.48	0.00
2012	1	10	10	68.00	39.92	32.20	277.05	10.51	0.00	0.00
2012	1	11	11	80.96	41.00	32.20	277.05	6.48	0.00	0.00
2012	1	12	12	60.98	41.00	32.29	277.05	12.07	0.11	0.00
2012	1	13	13	59.00	32.00	32.20	277.05	3.13	0.00	0.00
2012	1	14	14	66.92	34.88	32.20	277.05	3.80	0.00	0.00
2012	1	15	15	66.92	50.90	38.97	277.05	9.39	5.62	0.00
2012	1	16	16	77.90	62.96	35.67	277.05	11.40	3.86	0.00

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2012	1	17	17	82.94	61.88	33.42	277.05	10.51	1.36	0.00
2012	1	18	18	64.94	46.94	36.68	277.05	9.84	4.48	0.00
2012	1	19	19	81.86	51.98	32.39	277.05	6.48	0.21	0.00
2012	1	20	20	80.96	62.96	35.39	277.05	6.71	3.54	0.00
2012	1	21	21	77.90	59.00	34.36	277.05	5.59	2.40	0.00
2012	1	22	22	83.84	63.86	37.73	277.05	7.83	5.00	0.00
2012	1	23	23	70.88	57.92	34.17	277.05	9.17	2.19	0.01
2012	1	24	24	79.88	62.96	41.41	277.05	10.06	8.23	0.01
2012	1	25	25	72.86	53.96	34.64	277.05	16.55	2.71	0.00
2012	1	26	26	75.92	48.92	32.67	277.05	8.72	0.53	0.00
2012	1	27	27	80.96	43.88	32.20	277.05	9.61	0.00	0.00
2012	1	28	28	65.84	52.88	39.82	277.05	13.42	6.56	0.00
2012	1	29	29	65.84	45.86	41.22	277.05	6.71	8.02	0.04
2012	1	30	30	66.92	54.86	40.38	277.05	5.37	7.29	0.00
2012	1	31	31	75.92	53.96	35.11	277.05	4.47	3.24	0.00
2012	2	1	32	79.88	59.90	32.29	359.22	4.92	0.11	0.00
2012	2	2	33	77.90	62.96	37.96	359.22	9.84	5.00	0.00
2012	2	3	34	80.96	68.00	37.01	359.22	11.18	4.59	0.09
2012	2	4	35	70.88	53.96	42.35	359.22	11.18	9.28	0.07
2012	2	5	36	53.96	46.94	42.53	359.22	10.06	9.48	0.00
2012	2	6	37	59.00	47.84	40.56	359.22	8.05	7.29	0.00
2012	2	7	38	62.96	46.94	42.44	359.22	7.16	9.37	0.00
2012	2	8	39	59.00	54.86	41.97	359.22	8.27	8.85	0.01
2012	2	9	40	54.86	48.92	41.97	359.22	6.48	8.85	0.00
2012	2	10	41	62.96	52.88	40.84	359.22	7.16	7.61	0.00
2012	2	11	42	63.86	43.88	33.60	359.22	9.61	1.56	0.24
2012	2	12	43	50.00	39.92	42.62	359.22	9.39	9.58	0.11
2012	2	13	44	62.96	41.00	39.53	359.22	6.04	6.15	0.00
2012	2	14	45	70.88	46.94	35.58	359.22	5.37	3.75	0.00
2012	2	15	46	79.88	63.86	38.42	359.22	6.93	5.11	0.00
2012	2	16	47	70.88	60.98	37.04	359.22	9.84	4.38	0.08
2012	2	17	48	62.96	59.00	43.00	359.22	9.17	10.00	0.02
2012	2	18	49	71.96	55.94	35.58	359.22	16.10	3.75	0.00
2012	2	19	50	69.98	45.86	32.57	359.22	7.60	0.42	0.00
2012	2	20	51	69.98	50.90	35.20	359.22	5.37	3.33	0.00
2012	2	21	52	79.88	53.96	34.73	359.22	6.04	2.81	0.00
2012	2	22	53	86.90	66.92	35.48	359.22	5.14	3.65	0.00
2012	2	23	54	82.94	63.86	33.14	359.22	5.59	1.04	0.03
2012	2	24	55	69.98	54.86	36.21	359.22	13.42	3.96	0.13
2012	2	25	56	57.92	45.86	38.41	359.22	7.38	5.10	0.00
2012	2	26	57	68.90	43.88	38.61	359.22	10.06	5.32	0.05
2012	2	27	58	73.94	62.96	42.62	359.22	8.94	9.58	0.00
2012	2	28	59	83.84	66.92	38.33	359.22	13.86	5.32	0.00
2012	2	29	60	80.96	64.94	34.73	421.77	8.05	2.81	0.00
2012	3	1	61	86.00	61.88	35.20	421.77	6.26	3.34	0.00
2012	3	2	62	84.92	68.00	32.20	421.77	9.84	0.00	0.00
2012	3	3	63	71.96	53.96	35.01	421.77	16.99	3.12	0.00
2012	3	4	64	78.98	41.90	32.20	421.77	8.27	0.00	0.00
2012	3	5	65	81.86	52.88	32.20	421.77	14.31	0.00	0.00
2012	3	6	66	82.94	56.84	32.29	421.77	18.78	0.11	0.00
2012	3	7	67	88.88	68.00	38.31	421.77	19.68	5.31	0.00

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2012	3	8	68	93.92	56.84	33.70	421.77	14.31	1.67	0.00
2012	3	9	69	54.86	43.88	42.91	421.77	19.45	9.90	0.05
2012	3	10	70	54.86	44.96	43.00	421.77	7.38	10.00	0.04
2012	3	11	71	77.90	51.98	35.86	421.77	6.26	4.07	0.00
2012	3	12	72	81.86	55.94	33.42	421.77	8.27	1.35	0.00
2012	3	13	73	88.88	68.00	39.45	421.77	12.07	6.26	0.00
2012	3	14	74	88.88	70.88	39.35	421.77	14.76	6.15	0.00
2012	3	15	75	88.88	68.90	37.41	421.77	13.64	4.79	0.00
2012	3	16	76	88.88	68.90	36.16	421.77	15.43	3.65	0.00
2012	3	17	77	87.98	70.88	39.54	421.77	17.44	6.35	0.00
2012	3	18	78	86.90	70.88	36.64	421.77	15.20	4.18	0.00
2012	3	19	79	93.92	73.94	35.67	421.77	20.79	3.86	0.23
2012	3	20	80	77.00	57.92	39.17	421.77	14.98	5.94	0.00
2012	3	21	81	81.86	57.92	32.95	421.77	5.81	0.83	0.00
2012	3	22	82	89.96	57.92	32.20	421.77	10.73	0.00	0.00
2012	3	23	83	93.92	59.00	32.20	421.77	8.27	0.00	0.00
2012	3	24	84	93.92	68.90	34.26	421.77	10.06	2.29	0.00
2012	3	25	85	91.94	69.98	34.64	421.77	11.63	2.71	0.00
2012	3	26	86	86.00	68.90	39.72	421.77	12.07	6.56	0.00
2012	3	27	87	87.98	72.86	40.66	421.77	13.19	7.60	0.84
2012	3	28	88	86.90	62.96	36.30	421.77	10.96	4.06	0.28
2012	3	29	89	86.00	68.90	39.54	421.77	8.94	6.36	0.00
2012	3	30	90	91.94	63.86	32.20	421.77	8.50	0.00	0.00
2012	3	31	91	96.98	63.86	32.20	514.09	7.60	0.00	0.00
2012	4	1	92	93.92	70.88	34.08	514.09	10.73	2.09	0.00
2012	4	2	93	97.88	65.84	32.67	514.09	11.85	0.53	0.00
2012	4	3	94	91.94	71.96	34.17	514.09	9.61	2.19	0.00
2012	4	4	95	90.86	68.90	34.45	514.09	6.04	2.50	0.00
2012	4	5	96	95.90	68.90	32.67	514.09	7.60	0.53	0.00
2012	4	6	97	92.84	72.86	33.61	514.09	11.63	1.57	0.00
2012	4	7	98	88.88	70.88	35.65	514.09	11.85	3.34	0.00
2012	4	8	99	86.90	68.00	36.75	514.09	8.94	4.06	0.00
2012	4	9	100	88.88	66.92	32.85	514.09	9.17	0.73	0.00
2012	4	10	101	88.88	63.86	32.48	514.09	10.06	0.31	0.00
2012	4	11	102	89.96	68.90	34.61	514.09	10.73	2.18	0.00
2012	4	12	103	89.96	73.40	38.04	514.09	15.65	4.69	0.00
2012	4	13	104	90.86	74.84	39.64	514.09	16.55	6.46	0.00
2012	4	14	105	96.98	73.94	35.20	514.09	19.23	3.33	0.00
2012	4	15	106	95.00	75.92	33.60	514.09	16.32	1.56	0.06
2012	4	16	107	80.96	66.92	40.01	514.09	12.97	6.88	0.00
2012	4	17	108	89.96	64.94	35.67	514.09	8.94	3.85	0.00
2012	4	18	109	89.96	63.86	33.42	514.09	8.72	1.35	0.00
2012	4	19	110	91.94	64.94	32.20	514.09	12.30	0.00	0.00
2012	4	20	111	89.96	70.88	32.95	514.09	14.09	0.83	0.00
2012	4	21	112	89.60	59.90	32.20	514.09	8.94	0.00	0.00
2012	4	22	113	93.92	59.90	32.20	514.09	6.26	0.00	0.00
2012	4	23	114	92.84	64.94	32.20	514.09	12.30	0.00	0.00
2012	4	24	115	93.92	64.94	33.33	514.09	13.64	1.26	0.00
2012	4	25	116	101.84	68.90	32.20	514.09	13.42	0.00	0.00
2012	4	26	117	104.00	70.88	32.20	514.09	15.20	0.00	0.00
2012	4	27	118	99.86	70.88	32.20	514.09	18.34	0.00	0.00

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2012	4	28	119	95.00	72.86	33.04	514.09	18.11	0.94	0.00
2012	4	29	120	90.86	74.84	34.26	514.09	17.44	2.29	0.00
2012	4	30	121	92.84	77.90	40.48	514.09	15.88	7.40	0.24
2012	5	1	122	91.94	72.86	37.88	553.07	11.63	5.31	0.00
2012	5	2	123	92.84	72.86	37.69	553.07	11.63	5.10	0.00
2012	5	3	124	95.00	75.92	36.66	553.07	13.19	3.96	0.00
2012	5	4	125	98.96	74.84	34.36	553.07	10.51	2.40	0.00
2012	5	5	126	98.96	77.90	32.48	553.07	11.85	0.32	0.00
2012	5	6	127	100.94	73.94	32.86	553.07	12.07	0.73	0.00
2012	5	7	128	101.84	74.84	33.70	553.07	13.19	1.67	0.32
2012	5	8	129	82.94	68.90	37.59	553.07	14.76	4.59	0.00
2012	5	9	130	79.88	68.90	38.23	553.07	5.81	4.90	0.09
2012	5	10	131	93.92	70.88	39.92	553.07	14.53	6.78	0.13
2012	5	11	132	92.84	65.84	36.05	553.07	7.60	4.28	0.00
2012	5	12	133	90.86	70.88	32.95	553.07	9.61	0.83	0.00
2012	5	13	134	87.98	68.00	37.23	553.07	8.50	4.59	0.49
2012	5	14	135	89.96	69.98	35.18	553.07	9.61	2.82	0.49
2012	5	15	136	80.96	65.84	37.78	553.07	10.51	5.21	0.00
2012	5	16	137	87.98	64.94	32.86	553.07	6.26	0.73	0.00
2012	5	17	138	91.94	65.84	32.86	553.07	7.60	0.73	0.00
2012	5	18	139	93.92	68.00	32.29	553.07	14.09	0.11	0.00
2012	5	19	140	93.92	69.98	32.76	553.07	14.76	0.62	0.00
2012	5	20	141	93.92	69.98	35.28	553.07	12.97	2.92	0.00
2012	5	21	142	92.84	69.98	32.86	553.07	7.60	0.73	0.00
2012	5	22	143	96.98	69.98	32.20	553.07	9.84	0.00	0.00
2012	5	23	144	102.92	72.86	32.29	553.07	15.43	0.11	0.00
2012	5	24	145	105.98	73.94	32.29	553.07	12.52	0.11	0.00
2012	5	25	146	105.98	75.92	32.67	553.07	15.88	0.52	0.00
2012	5	26	147	98.96	77.00	35.27	553.07	17.22	2.92	0.00
2012	5	27	148	97.88	77.00	37.42	553.07	15.20	4.80	0.00
2012	5	28	149	99.86	77.00	33.33	553.07	12.97	1.25	0.00
2012	5	29	150	102.92	77.00	33.05	553.07	11.63	0.94	0.00
2012	5	30	151	104.00	77.00	32.86	553.07	14.31	0.74	0.00
2012	5	31	152	104.90	77.00	32.48	553.07	16.10	0.31	0.00
2012	6	1	153	96.98	77.00	34.90	581.92	11.63	2.50	0.00
2012	6	2	154	100.94	75.92	32.29	581.92	14.53	0.11	0.00
2012	6	3	155	99.86	78.98	33.61	581.92	15.88	1.56	0.00
2012	6	4	156	99.86	75.92	36.02	581.92	10.73	3.75	0.00
2012	6	5	157	95.00	72.86	33.04	581.92	8.05	0.94	0.00
2012	6	6	158	100.94	84.92	32.85	581.92	9.39	0.73	0.00
2012	6	7	159	98.96	75.92	32.86	581.92	9.39	0.73	0.00
2012	6	8	160	97.88	75.92	34.62	581.92	9.61	2.19	0.00
2012	6	9	161	101.84	74.84	32.39	581.92	9.39	0.21	0.00
2012	6	10	162	108.86	78.98	32.20	581.92	13.19	0.00	0.00
2012	6	11	163	106.88	79.88	32.20	581.92	14.98	0.00	0.00
2012	6	12	164	102.92	81.86	34.90	581.92	15.43	2.50	0.00
2012	6	13	165	102.92	80.96	33.89	581.92	14.53	1.88	0.00
2012	6	14	166	104.90	78.98	32.76	581.92	15.65	0.63	0.00
2012	6	15	167	102.92	78.98	33.14	581.92	16.55	1.04	0.00
2012	6	16	168	101.84	78.98	35.37	581.92	13.86	3.02	0.00
2012	6	17	169	99.86	77.00	33.98	581.92	9.39	1.98	0.00

City of Laredo Landfill

Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
2012	6	18	170	101.84	77.00	33.04	581.92	13.42	0.94	0.00
2012	6	19	171	101.84	79.88	33.33	581.92	17.44	1.25	0.00
2012	6	20	172	98.96	77.00	32.58	581.92	17.44	0.42	0.20
2012	6	21	173	90.86	74.84	33.51	581.92	9.61	1.46	0.00
2012	6	22	174	96.98	73.94	33.70	581.92	7.38	1.67	0.00
2012	6	23	175	99.86	73.94	33.70	581.92	7.60	1.67	0.00
2012	6	24	176	101.84	75.92	33.51	581.92	8.27	1.46	0.00
2012	6	25	177	105.98	78.98	32.67	581.92	6.48	0.52	0.00
2012	6	26	178	109.94	81.86	32.48	581.92	7.38	0.32	0.00
2012	6	27	179	106.88	82.94	33.05	581.92	9.39	0.94	0.00
2012	6	28	180	101.84	78.98	33.04	581.92	12.30	0.94	0.00
2012	6	29	181	102.92	78.98	32.95	581.92	10.29	0.83	0.23
2012	6	30	182	91.94	73.40	35.20	581.92	9.61	3.34	0.00
2012	7	1	183	90.86	70.88	35.66	623.50	11.40	3.34	0.00
2012	7	2	184	97.88	79.88	35.37	623.50	18.11	3.02	0.00
2012	7	3	185	98.96	77.90	33.93	623.50	17.89	1.67	0.00
2012	7	4	186	101.84	77.90	32.76	623.50	18.11	0.63	0.00
2012	7	5	187	100.94	78.98	33.70	623.50	14.53	1.67	0.00
2012	7	6	188	101.84	77.90	32.67	623.50	13.42	0.52	0.00
2012	7	7	189	99.86	77.90	33.32	623.50	11.18	1.25	0.00
2012	7	8	190	102.92	77.90	33.04	623.50	11.18	0.94	0.00
2012	7	9	191	104.00	78.98	32.67	623.50	11.40	0.52	0.00
2012	7	10	192	93.92	80.96	32.95	623.50	9.84	0.83	0.13
2012	7	11	193	86.90	77.00	34.78	623.50	5.81	2.61	0.20
2012	7	12	194	87.98	73.94	35.28	623.50	4.25	2.92	0.00
2012	7	13	195	98.96	77.00	33.51	623.50	7.16	1.46	0.01
2012	7	14	196	99.86	77.90	33.32	623.50	7.83	1.25	0.00
2012	7	15	197	99.86	77.90	32.76	623.50	11.40	0.63	0.00
2012	7	16	198	97.88	75.92	32.29	623.50	14.53	0.11	0.00
2012	7	17	199	97.88	78.98	32.67	623.50	13.42	0.52	0.00
2012	7	18	200	95.00	78.98	34.81	623.50	11.18	2.40	0.00
2012	7	19	201	97.88	77.90	33.42	623.50	12.07	1.35	0.00
2012	7	20	202	100.94	77.90	32.29	623.50	12.07	0.11	0.00
2012	7	21	203	102.92	77.00	32.29	623.50	9.61	0.11	0.00
2012	7	22	204	102.92	77.90	32.67	623.50	12.52	0.52	0.00
2012	7	23	205	100.94	78.98	32.67	623.50	14.53	0.52	0.00
2012	7	24	206	102.92	78.98	32.29	623.50	15.88	0.11	0.00
2012	7	25	207	102.92	78.98	32.39	623.50	15.43	0.21	0.00
2012	7	26	208	101.84	79.88	32.58	623.50	16.10	0.42	1.01
2012	7	27	209	99.86	73.94	34.36	623.50	14.53	2.40	0.00
2012	7	28	210	100.94	78.98	34.81	623.50	10.51	2.40	0.00
2012	7	29	211	101.84	77.90	33.04	623.50	9.17	0.94	0.00
2012	7	30	212	104.00	78.98	32.20	623.50	10.73	0.00	0.00
2012	7	31	213	104.00	78.98	32.20	543.94	10.96	0.00	0.00
2012	8	1	214	105.98	77.90	32.20	543.94	10.96	0.00	0.00
2012	8	2	215	104.90	78.98	32.20	543.94	11.40	0.00	0.00
2012	8	3	216	104.00	79.88	32.29	543.94	14.09	0.11	0.00
2012	8	4	217	101.84	79.88	34.08	543.94	15.20	2.09	0.07
2012	8	5	218	97.88	79.88	34.99	543.94	11.18	2.61	0.00
2012	8	6	219	99.86	77.90	32.48	543.94	8.05	0.31	0.00
2012	8	7	220	100.94	78.98	32.58	543.94	7.38	0.42	0.00

City of Laredo Landfill

Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langleys)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
2012	8	8	221	101.84	79.88	32.76	543.94	10.51	0.63	0.00
2012	8	9	222	101.84	79.88	32.58	543.94	9.39	0.42	0.00
2012	8	10	223	102.92	79.88	32.20	543.94	8.05	0.00	0.00
2012	8	11	224	104.00	80.96	32.48	543.94	9.61	0.31	0.00
2012	8	12	225	102.92	79.88	32.39	543.94	11.40	0.21	0.00
2012	8	13	226	101.84	79.88	32.39	543.94	12.30	0.21	0.00
2012	8	14	227	101.84	78.98	32.29	543.94	12.75	0.11	0.00
2012	8	15	228	104.90	79.88	32.20	543.94	16.77	0.00	0.00
2012	8	16	229	104.00	79.88	32.20	543.94	16.99	0.00	0.00
2012	8	17	230	102.92	79.88	33.23	543.94	12.52	1.15	0.00
2012	8	18	231	101.84	79.88	32.95	543.94	13.42	0.84	0.00
2012	8	19	232	99.86	79.88	33.80	543.94	11.40	1.77	0.00
2012	8	20	233	98.96	73.94	33.05	543.94	7.60	0.94	0.00
2012	8	21	234	98.96	75.92	32.95	543.94	9.61	0.83	0.00
2012	8	22	235	99.86	77.00	34.78	543.94	9.39	2.61	0.00
2012	8	23	236	100.94	77.00	33.05	543.94	9.17	0.94	0.00
2012	8	24	237	100.94	78.98	32.95	543.94	12.97	0.83	0.00
2012	8	25	238	100.94	78.98	32.29	543.94	16.77	0.11	0.00
2012	8	26	239	100.94	79.88	33.23	543.94	15.20	1.15	0.00
2012	8	27	240	99.86	75.92	32.58	543.94	8.27	0.42	0.03
2012	8	28	241	99.86	79.88	32.86	543.94	6.04	0.73	0.00
2012	8	29	242	100.94	82.94	32.86	543.94	6.48	0.73	0.00
2012	8	30	243	104.00	80.96	33.80	543.94	6.48	1.77	0.00
2012	8	31	244	104.90	79.88	32.67	459.97	12.52	0.52	0.00
2012	9	1	245	99.86	79.88	33.14	459.97	14.53	1.05	0.00
2012	9	2	246	101.84	80.96	34.64	459.97	15.20	2.71	0.00
2012	9	3	247	104.00	77.90	32.20	459.97	14.09	0.00	0.00
2012	9	4	248	104.90	79.88	32.20	459.97	13.19	0.00	0.00
2012	9	5	249	104.90	77.90	32.20	459.97	12.07	0.00	0.00
2012	9	6	250	104.00	77.90	32.77	459.97	9.61	0.63	0.00
2012	9	7	251	104.00	78.98	32.29	459.97	10.06	0.11	0.00
2012	9	8	252	99.86	77.90	33.23	459.97	10.06	1.15	0.00
2012	9	9	253	93.92	73.94	32.48	459.97	8.50	0.32	0.00
2012	9	10	254	95.90	71.96	32.20	459.97	7.60	0.00	0.00
2012	9	11	255	95.90	69.98	32.29	459.97	7.60	0.11	0.00
2012	9	12	256	100.94	77.90	32.76	459.97	14.98	0.62	0.00
2012	9	13	257	96.98	77.90	33.60	459.97	14.31	1.56	0.13
2012	9	14	258	81.86	70.88	41.03	459.97	11.85	8.02	0.02
2012	9	15	259	84.92	69.98	41.78	459.97	9.61	8.65	0.34
2012	9	16	260	77.00	66.92	41.50	459.97	7.83	8.33	0.00
2012	9	17	261	32.00	32.00	32.20	459.97	8.05	0.00	0.00
2012	9	18	262	93.20	82.94	33.14	459.97	8.94	1.04	0.00
2012	9	19	263	93.92	71.96	33.04	459.97	5.37	0.94	0.00
2012	9	20	264	93.92	71.96	33.51	459.97	7.60	1.46	0.00
2012	9	21	265	95.00	68.90	32.20	459.97	7.38	0.00	0.00
2012	9	22	266	95.90	65.84	32.67	459.97	6.93	0.52	0.00
2012	9	23	267	96.98	73.94	34.72	459.97	7.83	2.30	0.00
2012	9	24	268	95.90	71.96	33.42	459.97	10.06	1.36	0.00
2012	9	25	269	95.90	73.94	33.42	459.97	14.09	1.36	0.00
2012	9	26	270	95.90	77.00	35.55	459.97	14.98	3.23	0.01
2012	9	27	271	95.00	75.92	34.50	459.97	11.18	2.29	0.18

City of Laredo Landfill

Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langley's)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
2012	9	28	272	93.92	77.00	34.99	459.97	12.97	2.60	3.79
2012	9	29	273	91.94	72.86	37.60	459.97	12.52	5.00	0.00
2012	9	30	274	86.90	69.98	34.93	355.35	12.97	2.82	0.00
2012	10	1	275	86.00	65.84	33.42	355.35	4.70	1.36	0.00
2012	10	2	276	86.90	66.92	32.39	355.35	8.05	0.21	0.00
2012	10	3	277	96.98	66.92	32.20	355.35	10.06	0.00	0.00
2012	10	4	278	100.94	72.86	32.20	355.35	13.19	0.00	0.00
2012	10	5	279	95.90	70.88	32.20	355.35	11.85	0.00	0.00
2012	10	6	280	91.94	68.00	32.20	355.35	10.06	0.00	0.00
2012	10	7	281	75.92	57.92	41.69	355.35	12.75	8.54	0.00
2012	10	8	282	68.90	56.84	42.81	355.35	6.93	9.79	0.00
2012	10	9	283	88.88	66.92	39.53	355.35	9.17	6.15	0.00
2012	10	10	284	93.92	75.92	37.69	355.35	11.40	5.10	0.00
2012	10	11	285	95.90	75.92	35.18	355.35	13.86	2.81	0.00
2012	10	12	286	95.00	75.92	36.75	355.35	14.09	4.06	0.00
2012	10	13	287	97.88	78.98	36.21	355.35	17.22	3.95	0.00
2012	10	14	288	84.92	77.00	36.59	355.35	9.17	4.38	0.00
2012	10	15	289	86.90	73.94	35.15	355.35	7.38	3.02	0.00
2012	10	16	290	89.96	72.86	33.42	355.35	7.16	1.36	0.00
2012	10	17	291	100.94	72.86	32.29	355.35	8.27	0.11	0.00
2012	10	18	292	90.86	71.96	32.58	355.35	9.61	0.42	0.00
2012	10	19	293	86.90	69.98	35.84	355.35	8.05	3.55	0.00
2012	10	20	294	95.00	72.86	34.55	355.35	11.85	2.61	0.00
2012	10	21	295	95.90	74.84	32.29	355.35	14.53	0.11	0.00
2012	10	22	296	95.00	73.94	32.20	355.35	15.65	0.00	0.00
2012	10	23	297	92.84	74.84	35.09	355.35	13.19	2.71	0.00
2012	10	24	298	91.94	73.94	35.82	355.35	12.30	3.76	0.00
2012	10	25	299	93.92	72.86	32.39	355.35	9.84	0.21	0.14
2012	10	26	300	79.88	54.86	40.85	355.35	12.07	7.61	0.00
2012	10	27	301	63.86	52.88	41.87	355.35	8.72	8.75	0.00
2012	10	28	302	68.00	55.94	38.88	355.35	6.04	5.62	0.00
2012	10	29	303	75.92	46.94	32.20	355.35	4.70	0.00	0.00
2012	10	30	304	82.94	56.84	32.20	355.35	8.94	0.00	0.00
2012	10	31	305	87.98	61.88	33.51	273.78	5.14	1.46	0.00
2012	11	1	306	89.96	66.92	33.61	273.78	6.48	1.57	0.00
2012	11	2	307	89.96	68.00	32.20	273.78	9.61	0.00	0.00
2012	11	3	308	89.96	68.00	32.20	273.78	8.72	0.00	0.00
2012	11	4	309	86.00	68.90	34.63	273.78	6.26	2.70	0.00
2012	11	5	310	88.88	63.86	32.20	273.78	2.91	0.00	0.00
2012	11	6	311	84.92	64.94	32.20	273.78	7.38	0.00	0.00
2012	11	7	312	87.98	62.96	32.20	273.78	8.50	0.00	0.00
2012	11	8	313	89.96	66.92	32.20	273.78	14.76	0.00	0.00
2012	11	9	314	88.88	66.92	32.20	273.78	18.56	0.00	0.00
2012	11	10	315	86.00	69.98	32.39	273.78	16.77	0.21	0.00
2012	11	11	316	88.88	70.88	32.39	273.78	13.64	0.21	0.00
2012	11	12	317	72.86	59.90	39.82	273.78	14.31	6.67	0.12
2012	11	13	318	59.90	50.90	42.15	273.78	9.39	9.06	0.00
2012	11	14	319	60.98	51.98	42.72	273.78	3.35	9.69	0.00
2012	11	15	320	65.84	57.92	43.00	273.78	5.14	10.00	0.00
2012	11	16	321	66.92	59.90	42.91	273.78	5.59	9.90	0.00
2012	11	17	322	73.94	59.00	39.82	273.78	4.70	6.67	0.00

City of Laredo Landfill

Year Local	Month Local	Day Local	Day of the Year	Temperature F / High	Temperature F / Low	Dew Point F / Mean	Solar radiation (langley's)	Wind Speed (mph) / Mean	Cloud Cover Factor / Avg	Precipitation / Inch
2012	11	18	323	74.84	57.92	40.37	273.78	8.50	7.08	0.00
2012	11	19	324	77.90	68.00	41.40	273.78	7.83	8.23	0.00
2012	11	20	325	80.96	61.88	34.73	273.78	4.70	2.82	0.00
2012	11	21	326	81.86	59.90	32.48	273.78	7.83	0.32	0.00
2012	11	22	327	82.94	60.98	35.53	273.78	9.61	3.44	0.38
2012	11	23	328	78.98	62.96	36.12	273.78	7.83	3.86	0.00
2012	11	24	329	68.90	57.92	36.14	273.78	6.48	4.38	0.00
2012	11	25	330	75.92	52.88	32.20	273.78	8.50	0.00	0.00
2012	11	26	331	75.92	59.90	33.14	273.78	5.59	1.04	0.00
2012	11	27	332	68.90	53.96	32.95	273.78	8.05	0.83	0.00
2012	11	28	333	70.88	45.86	32.20	273.78	5.37	0.00	0.00
2012	11	29	334	70.88	54.86	40.47	273.78	5.14	7.19	0.00
2012	11	30	335	78.98	63.86	39.26	207.53	4.25	6.04	0.00
2012	12	1	336	84.92	68.00	36.40	207.53	10.96	4.17	0.00
2012	12	2	337	82.94	69.98	36.92	207.53	10.51	4.48	0.00
2012	12	3	338	84.92	68.90	35.76	207.53	10.51	3.96	0.00
2012	12	4	339	82.94	65.84	33.51	207.53	5.81	1.46	0.00
2012	12	5	340	77.00	54.86	32.20	207.53	6.26	0.00	0.00
2012	12	6	341	81.86	53.96	32.20	207.53	8.50	0.00	0.00
2012	12	7	342	84.92	61.88	34.83	207.53	8.94	2.92	0.00
2012	12	8	343	79.88	68.00	38.32	207.53	4.92	5.00	0.00
2012	12	9	344	81.86	66.92	34.74	207.53	8.27	2.82	0.00
2012	12	10	345	66.92	48.92	35.29	207.53	12.07	3.44	0.00
2012	12	11	346	53.60	39.92	37.63	207.53	5.81	4.90	0.00
2012	12	12	347	66.92	34.88	32.20	207.53	4.25	0.00	0.00
2012	12	13	348	64.94	46.94	40.56	207.53	7.60	7.29	0.08
2012	12	14	349	77.00	62.96	40.09	207.53	11.63	6.77	0.00
2012	12	15	350	72.86	63.86	36.37	207.53	6.04	4.37	0.00
2012	12	16	351	74.84	60.98	33.99	207.53	5.14	1.99	0.00
2012	12	17	352	78.98	51.98	32.20	207.53	6.04	0.00	0.00
2012	12	18	353	88.88	52.88	32.20	207.53	10.96	0.00	0.00
2012	12	19	354	86.90	66.92	34.73	207.53	10.29	2.81	0.00
2012	12	20	355	70.88	45.86	32.20	207.53	16.10	0.00	0.00
2012	12	21	356	61.88	37.94	32.20	207.53	4.92	0.00	0.00
2012	12	22	357	74.84	42.98	35.33	207.53	6.93	3.22	0.00
2012	12	23	358	77.00	54.86	32.20	207.53	4.02	0.00	0.00
2012	12	24	359	81.86	56.84	32.20	207.53	4.02	0.00	0.00
2012	12	25	360	78.98	50.90	32.48	207.53	15.65	0.32	0.00
2012	12	26	361	53.96	34.88	32.20	207.53	8.50	0.00	0.00
2012	12	27	362	64.94	36.86	34.54	207.53	5.59	2.60	0.00
2012	12	28	363	72.86	41.90	33.42	207.53	10.73	1.35	0.00
2012	12	29	364	54.86	39.92	32.20	207.53	6.48	0.00	0.00
2012	12	30	365	56.84	43.88	38.60	207.53	4.70	5.31	0.06
2012	12	31	366	64.94	52.88	36.68	207.53	4.92	4.48	0.00

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

ALTERNATIVE COVER DEMONSTRATION
SOILS DATA

ATTACHMENT III.12 – APPENDIX A-3

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

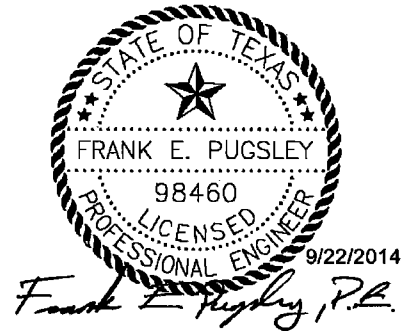
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

SEPTEMBER 2014

Prepared by:

CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741





**CITY OF LAREDO LANDFILL
SUMMARY OF SOIL DATA**

MATERIAL NUMBER	PROCTOR VALUE		DESCRIPTION	LL	PL	PI	#4	#40	#200	S.G	SOIL CLASSIFICATION	HYDRAULIC CONDUCTIVITY
TP-1 (2.5'-4')	NA	@	Light Yellowish Brown Clayey Sand - roadway elevation - (27.49207, -99.41090)	35	20	15	98.3	96.7	34.3	2.67	SC	NA
TP-1 (7'-8')	NA	@	Light Yellowish Brown Clayey Sand - roadway elevation - (27.49207, -99.41090)	35	18	17	97.4	94.1	40.9	2.71	SC	NA
TP-2 (0'-1.5')	103.4	@	Olive Gray Clayey Sand with Broken Shells - 20-30' below roadway elevation, - (27.49159, -99.40945)	38	18	20	79.1	59.8	26.4	2.71	SC	2.0E-07
TP-3 (0'-1.5')	101.1	@	Dark Yellowish Brown Sandy Lean Clay - 20-30' below roadway elevation - (27.49121, -99.40992)	44	18	26	99.6	96.8	51.6	2.83	CL	4.3E-08
TP-4 (0'-1.5')	110.7	@	Gray Clayey Sand - 20-30' below roadway elevation - (27.49167, -99.40835)	40	19	21	98.9	93.9	35.9	2.86	SC	4.1E-08
TP-5 (0'-1.5')	NA	@	Dark Yellowish Brown Clayey Sand, SC - 20-30' below roadway elevation - (27.49029, -99.40794)	45	17	28	99.4	97.4	41.2	2.89	SC	NA
TP-6 (0'-1.5')	NA	@	Brownish Yellow Clayey Sand - roadway elevation - (27.49475, -99.41479)	46	17	29	99.5	98.5	28.5	2.78	SC	NA
TP-6 (3'-5')	NA	@	Brownish Yellow Clayey Sand - roadway elevation - (27.49475, -99.41479)	38	22	16	99.6	98.7	29.3	2.67	SC	NA

LABORATORY COMPACTION CHARACTERISTICS OF SOIL REPORT

Terracon

Report Number: 35137109.0002

Service Date: 07/11/13

Report Date: 07/11/13

25809 I-30 South
Bryant, AR 72022
501-847-9292

Client

Arredondo, Zepeda & Bruntz LLC
Attn: Alfonso Garza
11355 McCree Road
Dallas, TX 75238

Project

City of Laredo Landfill
1110 Houston Street
Laredo, TX

Project Number 35137109

Material Information

Source of Material: TP-2 (0'-1.5')

Proposed Use:

Sample Information

Sample Date:

Sampled By:

Sample Location: 20-30' below roadway elevation

Sample Description: PENDING PROCTOR

Laboratory Test Data

Test Procedure:

Test Method: Method A

Sample Preparation: Wet

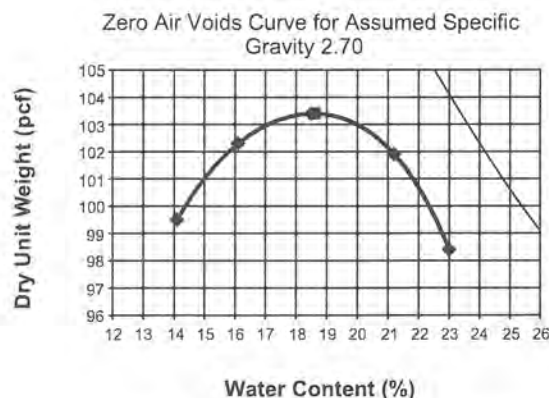
Rammer Type: Mechanical

Maximum Dry Unit Weight (pcf): 103.4

Optimum Water Content (%): 18.6

	Result	Specifications
Liquid Limit:	38	
Plastic Limit:	18	
Plasticity Index:	20	
In-Place Moisture (%):		

USCS:



Comments:

Services:

Terracon Rep.:

Reported To:

Contractor:

Report Distribution:

Reviewed By:

McCormick, David

Test Methods: ASTM D698

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

CR0004 ATT:12A43

LABORATORY COMPACTION CHARACTERISTICS OF SOIL REPORT

Terracon

Report Number: 35137109.0001

Service Date: 07/03/13

Report Date: 07/03/13

25809 I-30 South

Bryant, AR 72022

501-847-9292

Client

Arredondo, Zepeda & Bruntz LLC
Attn: Alfonso Garza
11355 McCree Road
Dallas, TX 75238

Project

City of Laredo Landfill
1110 Houston Street
Laredo, TX

Project Number 35137109

Material Information

Source of Material: TP-3 (0'-1.5')

Proposed Use:

Sample Information

Sample Date:

Sampled By:

Sample Location: 20-30' below roadway elevation

Sample Description: PENDING PROCTOR

Laboratory Test Data

Test Procedure:

Test Method: Method A

Sample Preparation: Wet

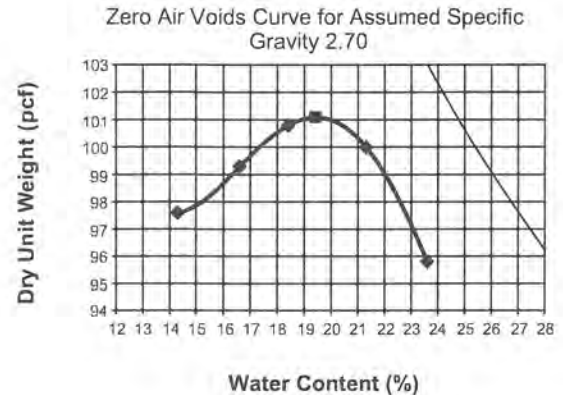
Rammer Type: Mechanical

Maximum Dry Unit Weight (pcf): 101.1

Optimum Water Content (%): 19.4

	Result	Specifications
Liquid Limit:	44	
Plastic Limit:	18	
Plasticity Index:	26	
In-Place Moisture (%):		

USCS:



Comments:

Services:

Terracon Rep.:

Reported To:

Contractor:

Report Distribution:

Reviewed By: _____

McCormick, David

Test Methods: AASHTO T99

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

LABORATORY COMPACTION CHARACTERISTICS OF SOIL REPORT

Terracon

Report Number: 35137109.0003

Service Date: 07/11/13

Report Date: 07/11/13

25809 I-30 South
Bryant, AR 72022
501-847-9292

Client

Arredondo, Zepeda & Bruntz LLC
Attn: Alfonso Garza
11355 McCree Road
Dallas, TX 75238

Project

City of Laredo Landfill
1110 Houston Street
Laredo, TX

Project Number 35137109

Material Information

Source of Material: TP-4(0'-1.5')

Proposed Use:

Sample Information

Sample Date:

Sampled By:

Sample Location: 20-30' below roadway elevation

Sample Description: PENDING PROCTOR

Laboratory Test Data

Test Procedure:

Test Method: Method A

Sample Preparation: Wet

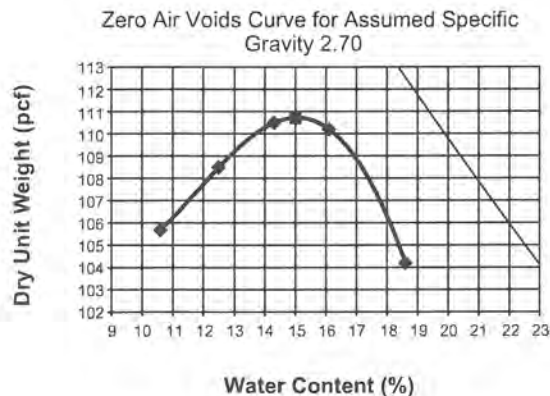
Rammer Type: Mechanical

Maximum Dry Unit Weight (pcf): 110.7

Optimum Water Content (%): 15.0

	Result	Specifications
Liquid Limit:	40	
Plastic Limit:	19	
Plasticity Index:	21	
In-Place Moisture (%):		

USCS:



Comments:

Services:

Terracon Rep.:

Reported To:

Contractor:

Report Distribution:

Reviewed By:

McCormick, David

Test Methods: ASTM D698

The tests were performed in general accordance with applicable ASTM, AASHTO, or DOT test methods. This report is exclusively for the use of the client indicated above and shall not be reproduced except in full without the written consent of our company. Test results transmitted herein are only applicable to the actual samples tested at the location(s) referenced and are not necessarily indicative of the properties of other apparently similar or identical materials.

**ASTM D 5084
Constant Volume Apparatus**

Project Number: 35137109 Sample No. Date: 07-24-2013
 Project : City fo Laredo Landfill Location: TP-2
 Description: Dark gray Lean Clay Tested by: MM/SAM

Before Test

Specimin Data	
Length(in)	2.67
Diameter(in)	2.92
Length(cm)	6.78
Diameter(cm)	7.42
Specific Gravity	2.75
Wet Weight(gm)	559.00
Area(cm^2)	43.20
Volume(cc)	293.00

Moisture Data	
Wet Wt.+Tare(gm)	180.4
Dry Wt.+Tare(gm)	161.15
Tare Weight(gm)	58.6
Moisture(%)	18.77

Weight/Volume Data	
Wet Weight(pcf)	119.1
Dry Weight(pcf)	100.3
Vol.Voids(cc)	121.5
Void Ratio	0.708
Saturation(%)	72.9
Cell(psi)	65
Backpressure(psi)	60

After Test

Specimin Data	
Length(in)	2.67
Diameter(in)	2.93
Length(cm)	6.78
Diameter(cm)	7.44
Wet Weight(gm)	589.88
Area(cm)	43.50
Volume(cc)	295.01

Moisture Data	
Wet Wt. + Tare	187.11
Dry Wt. + Tare	160.4
Tare Weight	59.31
Moisture(%)	26.42

Weight/Volume Data	
Wet Weight(pcf)	124.8
Dry Weight(pcf)	98.7
Vol.Voids(cc)	125.7
Void Ratio	0.743
Saturation(%)	97.9
a-in (cm^2)	0.7671
a-out (cm^2)	0.0314

BEFORE	
DIA	LENGTH
2.920	2.670
2.920	2.670
2.920	2.670
2.920	2.670
AFTER	
DIA	LENGTH
2.930	2.670
2.930	2.670
2.930	2.670
2.930	2.670

Average

Average

Test Constants	
M1=	0.03018
M2=	1.040953
S=	0.155902
G=	12.542
C=	3.752E-04

Actual Date (mm/dd/yy)	Actual Time (hh:mm:ss)	Elapsed Time (seconds)	Temperature (Fahren.) (Cels)		a - in Outflow (mm)	a - out Inflow (mm)	Gradient	Trial Constant T	Hydraulic Conductivity (20C,cm/sec)
7/22/2013	1:00:00 PM	0	73.4	23.0	217	8.81	41.6	0.05000	2.2E-07
7/22/2013	1:10:00 PM	600	73.4	23.0	155	11.35	28.7		
7/22/2013	1:10:00 PM	0	73.4	23.0	155	11.35	28.7	0.07246	2.0E-07
7/22/2013	1:20:00 PM	600	73.4	23.0	115.5	12.97	20.5		
7/22/2013	1:20:00 PM	0	73.4	23.0	115.5	12.97	20.5	0.10152	1.9E-07
7/22/2013	1:30:00 PM	600	73.4	23.0	88.5	14.07	14.9		
7/22/2013	1:30:00 PM	0	73.4	23.0	88.5	14.07	14.9	0.13986	1.9E-07
7/22/2013	1:40:00 PM	600	73.4	23.0	68.5	14.89	10.7		
Coefficient of permeability, k _{20°} (cm/sec)									2.0E-07

ASTM D 5084 Constant Volume Apparatus

Project Number: 35137109 Sample No. 0001 Date: 07-24-2013
Project : City fo Laredo Landfill Location: TP-3
Description: Tan and gray Lean Clay Tested by: MM/SAM

Before Test

Specimin Data

Length(in)	2.83
Diameter(in)	2.81
Length(cm)	7.19
Diameter(cm)	7.14

Specific Gravity	2.75
Wet Weight(gm)	535.50
Area(cm^2)	40.01
Volume(cc)	287.60

Moisture Data

Wet Wt.+Tare(gm)	180.5
Dry Wt.+Tare(gm)	157.49
Tare Weight(gm)	42.6
Moisture(%)	20.03

Weight/Volume Data

Wet Weight(pcf)	116.2
Dry Weight(pcf)	96.8
Vol.Voids(cc)	125.0
Void Ratio	0.769
Saturation(%)	71.6
Cell(psi)	65
Backpressure(psi)	60

After Test

Specimin Data

Length(in)	2.84
Diameter(in)	2.82
Length(cm)	7.21
Diameter(cm)	7.15

Wet Weight(gm)	564.50
Area(cm)	40.20
Volume(cc)	289.99

Moisture Data

Wet Wt. + Tare	298.52
Dry Wt. + Tare	245.9
Tare Weight	63.12
Moisture(%)	28.79

Weight/Volume Data

Wet Weight(pcf)	121.5
Dry Weight(pcf)	94.4
Vol.Voids(cc)	131.0
Void Ratio	0.823
Saturation(%)	96.1
a-in (cm^2)	0.7671
a-out (cm^2)	0.0314

BEFORE

DIA	LENGTH
2.790	2.830
2.820	2.830
2.820	2.830

2.810	2.830

Average

AFTER

DIA	LENGTH
2.810	2.840
2.820	2.840
2.820	2.840

2.817	2.840

Average

Test Constants

M1=	0.03018
M2=	1.040953
S=	0.179442
G=	12.542
C=	4.318E-04

Actual Date (mm/dd/yy)	Actual Time (hh:mm:ss)	Elapsed Time (seconds)	Temperature (Fahren.) (Cels)		a - in Outflow (mm)	a - out Inflow (mm)	Gradient	Trial Constant T	Hydraulic Conductivity (20C,cm/sec)
7/23/2013	9:00:00 AM	0	73.4	23.0	185.5	10.10	32.9		
7/23/2013	9:30:00 AM	1800	73.4	23.0	155	11.35	27.0	0.05935	4.5E-08
7/23/2013	9:30:00 AM	0	73.4	23.0	155	11.35	27.0		
7/23/2013	10:00:00 AM	1800	73.4	23.0	129.5	12.39	22.0	0.07246	4.6E-08
7/23/2013	10:00:00 AM	0	73.4	23.0	129.5	12.39	22.0		
7/23/2013	10:30:00 AM	1800	73.4	23.0	110.5	13.17	18.3	0.08889	4.1E-08
7/23/2013	10:30:00 AM	0	73.4	23.0	110.5	13.17	18.3		
7/23/2013	11:00:00 AM	1800	73.4	23.0	95	13.80	15.2	0.10695	4.0E-08
Coefficient of permeability, k_{20° (cm/sec)									4.3E-08

ASTM D 5084
Constant Volume Apparatus

Project Number: 35137109 Sample No. 0003 Date: 07-24-2013
Project : City fo Laredo Landfill Location: TP-4
Description: Gray Lean Clay Tested by: MM/SAM

Before Test

Specimin Data

Length(in)	2.97
Diameter(in)	2.85
Length(cm)	7.54
Diameter(cm)	7.24

Specific Gravity 2.75 Assumed

Wet Weight(gm)	611.20
Area(cm^2)	41.16
Volume(cc)	310.48

Moisture Data 3F

Wet Wt.+Tare(gm)	195.5
Dry Wt.+Tare(gm)	176.72
Tare Weight(gm)	59.3
Moisture(%)	15.99

Weight/Volume Data

Wet Weight(pcf)	122.9
Dry Weight(pcf)	105.8
Vol.Voids(cc)	118.5
Void Ratio	0.617
Saturation(%)	71.3
Cell(psi)	65
Backpressure(psi)	60

After Test

Specimin Data

Length(in)	2.98
Diameter(in)	2.85
Length(cm)	7.57
Diameter(cm)	7.23

Wet Weight(gm)	632.50
Area(cm)	41.06
Volume(cc)	310.80

Moisture Data U

Wet Wt. + Tare	183.07
Dry Wt. + Tare	160.2
Tare Weight	61.66
Moisture(%)	23.21

Weight/Volume Data

Wet Weight(pcf)	127.0
Dry Weight(pcf)	103.1
Vol.Voids(cc)	124.5
Void Ratio	0.669
Saturation(%)	95.5
a-in (cm^2)	0.7671
a-out (cm^2)	0.0314

BEFORE

DIA	LENGTH
2.850	2.970
2.840	2.970
2.860	2.970

2.850 2.970 Average

AFTER

DIA	LENGTH
2.850	2.980
2.850	2.980
2.840	2.980

2.847 2.980 Average

Test Constants

M1=	0.03018
M2=	1.040953
S=	0.18434
G=	12.542
C=	4.436E-04

Actual Date (mm/dd/yy)	Actual Time (hh:mm:ss)	Elapsed Time (seconds)	Temperature (Fahren.) (Cels)		a - in Outflow (mm)	a - out Inflow (mm)	Gradient	Trial Constant T	Hydraulic Conductivity (20C,cm/sec)
7/22/2013	9:00:00 AM	0	73.4	23.0	204	9.34	34.8		
7/22/2013	10:00:00 AM	3600	73.4	23.0	145.5	11.74	23.9	0.05348	4.3E-08
7/22/2013	10:00:00 AM	0	73.4	23.0	145.5	11.74	23.9		
7/22/2013	10:30:00 AM	1800	73.4	23.0	124.5	12.60	20.0	0.07782	4.1E-08
7/22/2013	10:30:00 AM	0	73.4	23.0	124.5	12.60	20.0		
7/22/2013	11:00:00 AM	1800	73.4	23.0	106.5	13.33	16.7	0.09302	4.2E-08
7/22/2013	11:00:00 AM	0	73.4	23.0	106.5	13.33	16.7		
7/22/2013	11:30:00 AM	1800	73.4	23.0	92.5	13.91	14.1	0.11173	3.9E-08

Coefficient of permeability, k_{20° (cm/sec)

4.1E-08



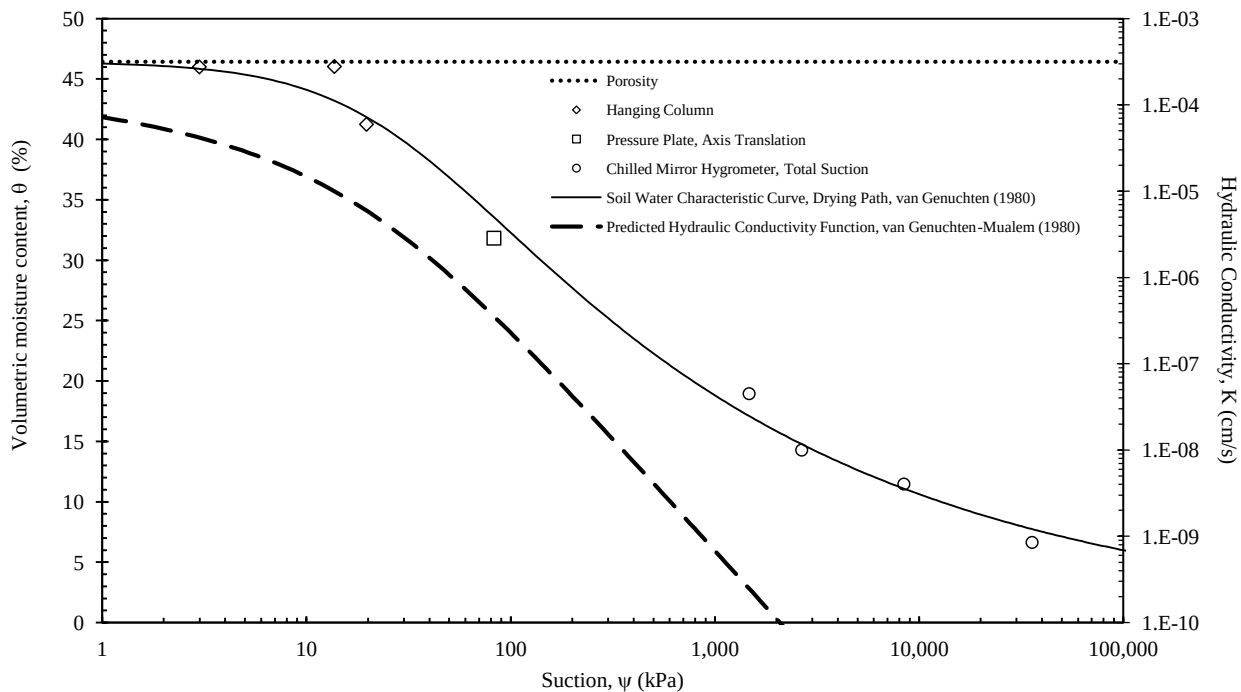
Soil Water Characteristic Curve and Predicted Hydraulic Conductivity Function

Client: CP & Y
Project: City of Laredo
Sample: TP-2

TRI Log#: E2377-30-06
Test Method: ASTM D 6836, Methods B & D

Initial Sample Conditions	
Avg. Sample Height (cm)	3.86
Avg. Sample Diameter (cm)	7.14
Initial Water Content (%)	17.5
Dry Density (g/cm ³)	1.42
G _s (Assumed)	2.65
Degree of Saturation, S _{r, initial} (%)	53.5
Void Ratio, e	0.87
Porosity, n	0.46
Volumetric Water Content, θ (%)	24.8
Saturated Hydraulic Conductivity (cm/s)	1.5E-05

van Genuchten Model	
θ_r (cm ³ /cm ³)	0.0
α (cm H ₂ O ⁻¹)	0.004
n	1.25



Note 1: Specimens were prepared via kneading compaction utilizing a Harvard compaction tamper.

Note 2: The value of saturated hydraulic conductivity utilized in the prediction of the hydraulic conductivity function was determined by ASTM D 5084.

Jeffrey A. Kuhn, Ph.D., P.E., 8/27/2013
Analysis & Quality Review/Date
Tested by: Olga Vasquez

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material. TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



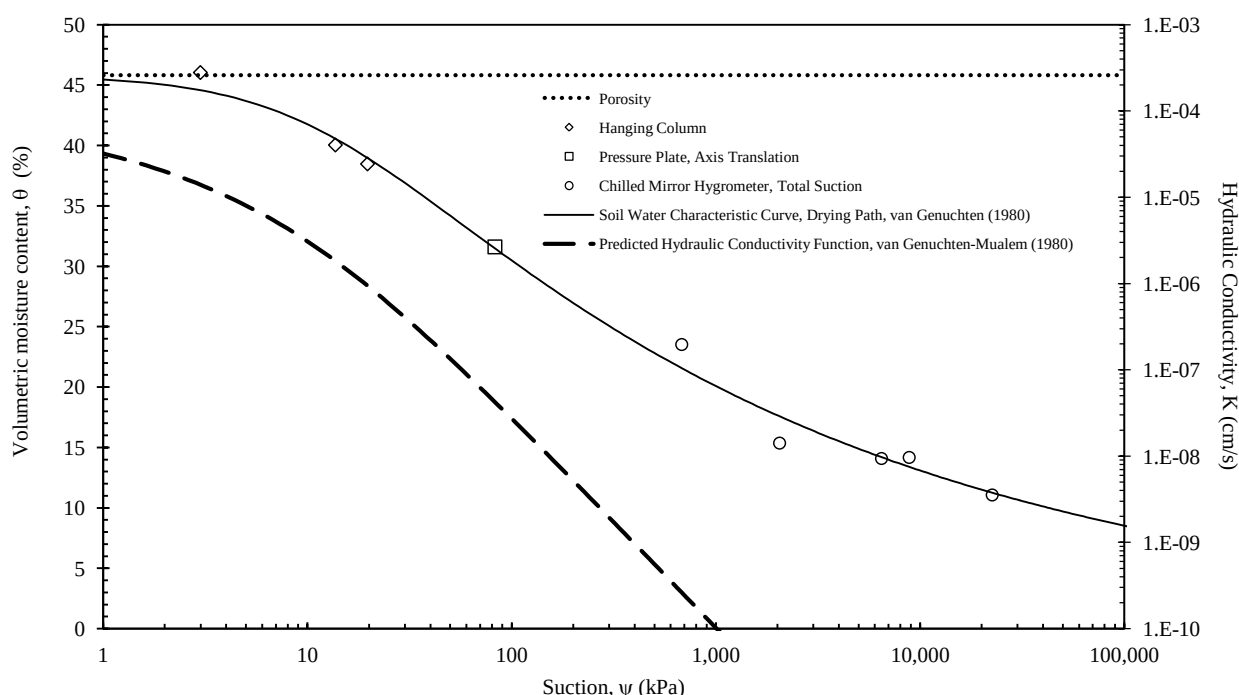
Soil Water Characteristic Curve and Predicted Hydraulic Conductivity Function

Client: CP & Y
Project: City of Laredo
Sample: TP-3

TRI Log#: E2377-30-06
Test Method: ASTM D 6836, Methods B & D

Initial Sample Conditions	
Avg. Sample Height (cm)	3.73
Avg. Sample Diameter (cm)	7.14
Initial Water Content (%)	18.4
Dry Density (g/cm^3)	1.44
G_s (Assumed)	2.65
Degree of Saturation, $S_{r, \text{initial}}$ (%)	57.6
Void Ratio, e	0.85
Porosity, n	0.46
Volumetric Water Content, θ (%)	26.4
Saturated Hydraulic Conductivity (cm/s)	8.1E-06

van Genuchten Model	
θ_r (cm^3/cm^3)	0.0
α ($\text{cm H}_2\text{O}^{-1}$)	0.008
n	1.19



Note 1: Specimens were prepared via kneading compaction utilizing a Harvard compaction tamper.

Note 2: The value of saturated hydraulic conductivity utilized in the prediction of the hydraulic conductivity function was determined by ASTM D 5084.

Jeffrey A. Kuhn, Ph.D., P.E., 8/28/2013

Analysis & Quality Review/Date

Tested by: Olga Vasquez

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material.

TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.



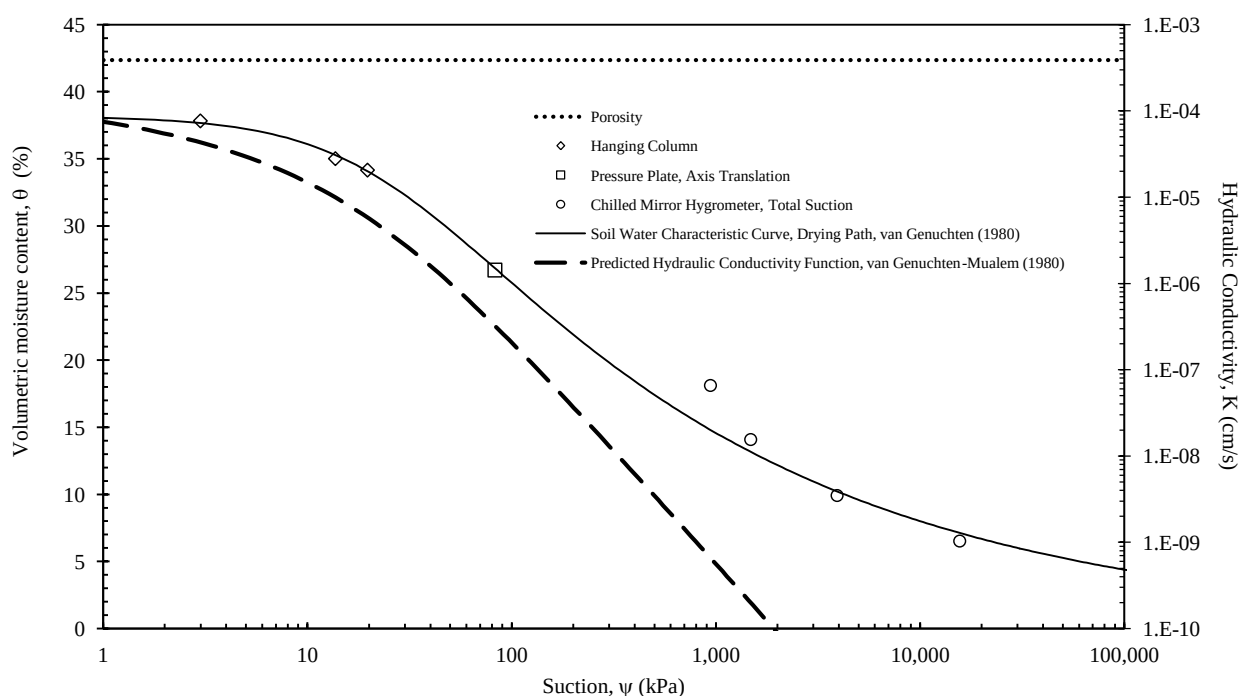
Soil Water Characteristic Curve and Predicted Hydraulic Conductivity Function

Client: CP & Y
Project: City of Laredo
Sample: TP-4

TRI Log#: E2377-30-06
Test Method: ASTM D 6836, Methods B & D

Initial Sample Conditions	
Avg. Sample Height (cm)	3.86
Avg. Sample Diameter (cm)	7.14
Initial Water Content (%)	13.9
Dry Density (g/cm ³)	1.53
G _s (Assumed)	2.65
Degree of Saturation, S _{r, initial} (%)	50.1
Void Ratio, e	0.74
Porosity, n (Effective, 0.42 Total)	0.38
Volumetric Water Content, θ (%)	21.2
Saturated Hydraulic Conductivity (cm/s)	2.3E-06

van Genuchten Model	
θ_r (cm ³ /cm ³)	0.0
α (cm H ₂ O ⁻¹)	0.004
n	1.26



Note 1: Specimens were prepared via kneading compaction utilizing a Harvard compaction tamper.

Note 2: The value of saturated hydraulic conductivity utilized in the prediction of the hydraulic conductivity function was determined by ASTM D 5084.

Jeffrey A. Kuhn, Ph.D., P.E., 8/30/2013

Analysis & Quality Review/Date

Tested by: Olga Vasquez

The testing herein is based upon accepted industry practice as well as the test method listed. Test results reported herein do not apply to samples other than those tested. TRI neither accepts responsibility for nor makes claim as to the final use and purpose of the material.

TRI observes and maintains client confidentiality. TRI limits reproduction of this report, except in full, without prior approval of TRI.

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

ALTERNATIVE COVER DEMONSTRATION
UNSAT-H INPUT AND OUTPUT

ATTACHMENT III.12 – APPENDIX A-4

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

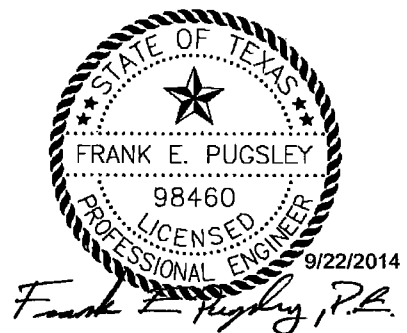
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

SEPTEMBER 2014

Prepared by:

CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741



laredo.lis

```

!-----
!                               Program DATAINH                               !
!                               Version 3.01                                   !
!-----

```

Input Filename: E:\UNSATH_V301\laredo.inp
 Date Processed: 19 Sep 2013
 Time Processed: 09:29:47.88
 Title:
 Laredo Landfill: Soil Sample TP2

General options:

```

IPLANT =    0      NGRAV =    1      IDTEND =  366
IFDEND =  366      IDTBEG =    1      ISTEAD =    0
  IYS = 1983      NYEARS =   30
IFLIST =    1      NFLIST =   30
NPRINT =    0      STOPHR = 0.000E+00
ISMETH =    0      INMAX =    4      ISWDIF =    1      DMAXBA = 0.130E-02
DELMAX = 1.000E+00 DELMIN = 1.000E-04 OUTTIM = 1.000E+00
RFAC = 1.000E+00  RAINIF = 1.000E-03  DHTOL = 0.000E+00
DHMAX = 0.000E+00 DHFACT = 0.000E+00
  KOPT =    4      KEST =    3      WTF = 0.000E+00
ITOPBC =    0      IEVOPT =    1      NFHOUR =    2      LOWER =    1
HIRRI = 5.000E-01  HDRY = 1.000E+06  HTOP = 0.000E+00  RHA = 0.000E+00
IETOPT =    1      ICLoud =    0      ISHOPT =    1
IRAIN =    1      HPR = 1.000E+00

```

Hysteresis options:

```

IHYS =    0      AIRTOL = 0.000E+00  HYSTOL = 0.000E+00  HYSMXH = 0.000E+00

```

Heat flow options:

```

IHEAT =    0      ICONVH =    0      DMAXHE = 0.000E+00
UPPERH =    0      TSMEAN = 0.000E+00  TSAMP = 0.000E+00  QHCTOP = 0.000E+00
LOWERH =    0      QHLEAK = 0.000E+00  TGRAD = 0.000E+00

```

Vapor flow options:

```

IVAPOR =    1      TORT = 6.600E-01  TSOIL = 2.969E+02  VAPDIF = 2.400E-01

```

Grid options:

```

MATN =    1      NPT =   30

```

Soil hydraulic properties:

KOPT = 4: van Genuchten hydraulic functions

```

Material No.    1
THETA = f(H), Soil Sample TP2 - Water Retention Parameters
  THET = 0.46300      THTR = 3.60000E-02  ALPHA = 4.00000E-03
    N = 1.2500      M = 0.20000
K = f(H), Soil Sample TP2 - Conductivity Parameters
  RKMOD = 2.0000      SK = 5.40000E-02  A = 4.00000E-03
    N = 1.2500      M = 0.20000      EPIT = 0.50000

```

Surface node bounding values:

```

HIRRI = 5.000E-01  THETA = 4.630E-01  K = 3.358E-02  C = -9.025E-05
HDRY = 1.000E+06  THETA = 8.969E-02  K = 7.569E-13  C = -1.342E-08

```

Initial Conditions:

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NDAY = 0

NODE	Z	MAT	HEAD	CONDUCTIVITY	CAPACITY	THETA	TEMP
1	0.10	1	2.4364E+05	3.0813E-11	-7.8401E-08	0.1124	296.9
2	0.20	1	1.9124E+05	5.8178E-11	-1.0611E-07	0.1172	296.9
3	0.30	1	1.4590E+05	1.1836E-10	-1.4880E-07	0.1229	296.9
4	0.40	1	1.1026E+05	2.4684E-10	-2.1114E-07	0.1292	296.9
5	0.50	1	8.5175E+04	4.8595E-10	-2.9148E-07	0.1354	296.9
6	0.60	1	6.8577E+04	8.5817E-10	-3.8209E-07	0.1409	296.9
7	0.70	1	5.7532E+04	1.3604E-09	-4.7576E-07	0.1456	296.9
8	2.00	1	1.4690E+04	4.8658E-08	-2.6054E-06	0.1900	296.9
9	4.00	1	9.9955E+03	1.3304E-07	-4.1970E-06	0.2055	296.9
10	6.00	1	8.0265E+03	2.3568E-07	-5.5007E-06	0.2149	296.9
11	10.00	1	6.9014E+03	3.4912E-07	-6.6223E-06	0.2217	296.9
12	11.00	1	6.1640E+03	4.6823E-07	-7.6054E-06	0.2269	296.9
13	13.00	1	5.2540E+03	7.0849E-07	-9.2424E-06	0.2346	296.9
14	15.00	1	4.7235E+03	9.3310E-07	-1.0519E-05	0.2398	296.9
15	20.00	1	4.3897E+03	1.1275E-06	-1.1495E-05	0.2435	296.9
16	25.00	1	4.2706E+03	1.2105E-06	-1.1884E-05	0.2448	296.9
17	30.00	1	4.1759E+03	1.2825E-06	-1.2210E-05	0.2460	296.9
18	35.00	1	4.1017E+03	1.3432E-06	-1.2477E-05	0.2469	296.9
19	40.00	1	4.0455E+03	1.3918E-06	-1.2686E-05	0.2476	296.9
20	45.00	1	4.0055E+03	1.4279E-06	-1.2839E-05	0.2481	296.9
21	50.00	1	3.9803E+03	1.4513E-06	-1.2937E-05	0.2484	296.9
22	55.00	1	3.9692E+03	1.4618E-06	-1.2980E-05	0.2486	296.9
23	58.00	1	3.9687E+03	1.4622E-06	-1.2982E-05	0.2486	296.9
24	59.50	1	3.9687E+03	1.4622E-06	-1.2982E-05	0.2486	296.9
25	60.00	1	3.9686E+03	1.4623E-06	-1.2983E-05	0.2486	296.9
26	60.50	1	3.9686E+03	1.4623E-06	-1.2983E-05	0.2486	296.9
27	60.70	1	3.9686E+03	1.4623E-06	-1.2983E-05	0.2486	296.9
28	60.80	1	3.9686E+03	1.4623E-06	-1.2983E-05	0.2486	296.9
29	60.90	1	3.9686E+03	1.4623E-06	-1.2983E-05	0.2486	296.9
30	61.00	1	3.9686E+03	1.4623E-06	-1.2983E-05	0.2486	296.9

Total Initial Storage (cm) = 1.448448E+01

ET parameters:

NFHOURL = 2: User subroutine for hourly PET provided

0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0150	0.0440
0.0699	0.0911	0.1061	0.1139	0.1139	0.1061	0.0911	0.0699
0.0440	0.0150	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100

IETOPT = 1 and IHEAT = 0:

PET calculated from meteorological data
using subroutine CALPET

ALBEDO = 1.500E-01

ALT = 1.584E+02 (m)

ZU = 1.820E+00 (m)

PMB = 1.016E+03 (mb)

Lower Boundary Option:

LOWER = 1: unit gradient

Multiyear Option

Sim Year PET input file name
1 weather1983.dat

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2  weather1984.dat
3  weather1985.dat
4  weather1986.dat
5  weather1987.dat
6  weather1988.dat
7  weather1989.dat
8  weather1990.dat
9  weather1991.dat
10 weather1992.dat
11 weather1993.dat
12 weather1994.dat
13 weather1995.dat
14 weather1996.dat
15 weather1997.dat
16 weather1998.dat
17 weather1999.dat
18 weather2000.dat
19 weather2001.dat
20 weather2002.dat
21 weather2003.dat
22 weather2004.dat
23 weather2005.dat
24 weather2006.dat
25 weather2007.dat
26 weather2008.dat
27 weather2009.dat
28 weather2010.dat
29 weather2011.dat
30 weather2012.dat

```

IETOPT = 1: Meteorological Data

IDAY	Temperature			Solar	Wind	Cloud	Prec.
	Max	Min	Dew	Rad	Speed	Cover	in
	F	F	F	ly/d	mph	tenth	
1.	54.	41.	40.2	277.	11.8	6.9	0.01
2.	57.	33.	32.2	277.	9.2	0.0	0.00
3.	58.	34.	33.7	277.	3.6	1.7	0.00
4.	54.	39.	41.2	277.	4.7	8.0	0.00
5.	59.	47.	40.5	277.	2.7	7.3	0.00
6.	70.	43.	36.9	277.	5.6	4.3	0.00
7.	67.	56.	40.8	277.	4.0	7.6	0.00
8.	63.	49.	39.9	277.	5.8	6.6	0.02
9.	74.	43.	35.6	277.	3.1	3.2	0.00
10.	69.	46.	35.6	277.	6.7	3.3	0.00
11.	72.	42.	34.5	277.	4.5	2.5	0.00
12.	70.	44.	35.4	277.	6.5	3.0	0.00
13.	70.	47.	36.6	277.	8.3	3.9	0.00
14.	72.	55.	39.0	277.	6.3	5.8	0.00
15.	64.	48.	42.8	277.	8.1	9.8	0.09
16.	59.	49.	43.0	277.	4.0	10.0	0.00
17.	64.	54.	43.0	277.	6.3	10.0	0.00
18.	60.	51.	43.0	277.	7.8	10.0	0.16
19.	51.	42.	43.0	277.	8.7	10.0	0.04
20.	46.	40.	43.0	277.	8.5	10.0	0.30
21.	53.	44.	40.6	277.	5.1	7.3	0.00
22.	61.	37.	33.4	277.	2.0	1.4	0.00
23.	69.	41.	34.6	277.	3.8	2.7	0.00
24.	75.	44.	33.9	277.	6.5	1.9	0.00
25.	68.	42.	35.9	277.	5.6	3.1	0.00
26.	68.	47.	34.4	277.	11.6	2.4	0.00
27.	65.	39.	32.2	277.	5.8	0.0	0.00

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28.	72.	43.	35.1	277.	7.6	3.2	0.00
29.	80.	46.	32.6	277.	2.7	0.4	0.00
30.	76.	52.	40.5	277.	14.3	7.5	0.00
31.	78.	58.	39.4	277.	9.8	6.2	0.00
32.	69.	47.	35.7	359.	5.8	2.9	0.00
33.	67.	41.	34.3	359.	4.5	2.4	0.00
34.	57.	48.	41.5	359.	15.9	8.4	0.00
35.	57.	48.	43.0	359.	4.9	10.0	0.13
36.	57.	47.	43.0	359.	8.9	10.0	0.04
37.	58.	45.	40.1	359.	6.9	7.0	0.05
38.	65.	40.	34.4	359.	8.1	2.4	0.00
39.	74.	51.	40.4	359.	5.6	7.2	0.00
40.	81.	59.	32.9	359.	10.3	0.8	0.00
41.	78.	49.	32.2	359.	4.7	0.0	0.00
42.	57.	52.	41.6	359.	6.0	8.5	0.41
43.	67.	45.	39.5	359.	4.0	6.3	0.01
44.	68.	44.	34.0	359.	10.3	2.0	0.00
45.	75.	47.	32.8	359.	13.0	0.7	0.00
46.	63.	51.	41.2	359.	14.8	8.0	0.75
47.	71.	46.	33.5	359.	7.4	1.5	0.00
48.	73.	48.	34.4	359.	4.0	2.4	0.00
49.	77.	50.	32.2	359.	2.7	0.0	0.00
50.	85.	56.	34.2	359.	15.9	2.3	0.00
51.	77.	56.	32.6	359.	11.4	0.4	0.00
52.	70.	48.	32.2	359.	10.5	0.0	0.00
53.	76.	46.	33.0	359.	5.6	0.9	0.00
54.	75.	47.	32.6	359.	2.9	0.4	0.00
55.	78.	57.	39.9	359.	6.7	6.8	0.00
56.	65.	54.	42.6	359.	11.6	9.5	0.96
57.	58.	51.	42.3	359.	6.5	9.2	0.12
58.	67.	45.	37.4	359.	3.4	4.8	0.00
59.	80.	49.	32.2	359.	4.0	0.0	0.00
60.	85.	54.	32.2	422.	8.1	0.0	0.00
61.	82.	64.	39.2	422.	16.1	6.0	0.00
62.	87.	69.	39.8	422.	14.3	6.6	0.00
63.	80.	65.	39.8	422.	13.4	6.7	0.00
64.	81.	58.	33.8	422.	11.4	1.8	0.00
65.	85.	62.	34.4	422.	7.4	2.4	0.00
66.	88.	53.	32.2	422.	3.8	0.0	0.00
67.	85.	54.	33.3	422.	9.6	1.3	0.00
68.	69.	59.	40.4	422.	11.8	7.3	0.00
69.	77.	50.	32.2	422.	4.7	0.0	0.00
70.	73.	51.	33.0	422.	12.3	0.9	0.00
71.	68.	50.	40.6	422.	9.4	7.3	0.01
72.	74.	59.	39.9	422.	6.7	6.8	0.00
73.	81.	61.	37.4	422.	4.9	4.8	0.00
74.	76.	62.	41.0	422.	9.6	7.8	0.07
75.	71.	55.	36.2	422.	14.3	3.4	0.00
76.	72.	50.	32.2	422.	13.9	0.0	0.00
77.	75.	46.	32.8	422.	8.9	0.7	0.00
78.	85.	60.	37.5	422.	11.0	4.9	0.00
79.	71.	55.	33.9	422.	11.8	1.9	0.00
80.	63.	44.	39.1	422.	10.7	5.9	0.00
81.	62.	52.	43.0	422.	11.0	10.0	0.18
82.	65.	53.	40.7	422.	8.9	7.5	0.04
83.	74.	50.	35.1	422.	11.6	3.2	0.00
84.	83.	56.	41.0	422.	18.8	7.8	0.00
85.	83.	57.	34.0	422.	13.0	2.0	0.00
86.	80.	51.	32.2	422.	4.9	0.0	0.00
87.	78.	49.	32.8	422.	13.6	0.7	0.00
88.	82.	58.	36.8	422.	13.9	4.1	0.00
89.	87.	63.	38.3	422.	7.2	5.0	0.00
90.	92.	63.	32.8	422.	11.2	0.7	0.00

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91.	90.	64.	32.2	514.	15.7	0.0	0.00	
92.	75.	53.	32.2	514.	3.6	0.0	0.00	
93.	87.	55.	32.6	514.	20.1	0.4	0.00	
94.	95.	65.	37.3	514.	14.3	4.6	0.00	
95.	76.	56.	41.2	514.	11.8	8.0	0.00	
96.	72.	50.	36.8	514.	11.0	4.1	0.00	
97.	70.	55.	37.3	514.	9.2	4.6	0.00	
98.	65.	53.	40.9	514.	11.8	7.6	0.00	
99.	79.	42.	32.2	514.	4.0	0.0	0.00	
100.	86.	56.	32.2	514.	9.6	0.0	0.00	
101.	89.	64.	32.2	514.	19.9	0.0	0.00	
102.	90.	65.	33.3	514.	11.6	1.2	0.00	
103.	90.	68.	34.9	514.	10.3	3.0	0.00	
104.	76.	60.	34.7	514.	13.0	2.8	0.00	
105.	74.	51.	32.2	514.	9.4	0.0	0.00	
106.	78.	47.	32.2	514.	8.3	0.0	0.00	
107.	82.	54.	32.6	514.	11.4	0.4	0.00	
108.	94.	59.	32.2	514.	9.2	0.0	0.00	
109.	92.	64.	32.2	514.	9.8	0.0	0.00	
110.	91.	70.	34.6	514.	15.4	2.7	0.00	
111.	90.	70.	39.3	514.	10.7	6.1	0.00	
112.	92.	72.	37.1	514.	8.9	4.4	0.00	
113.	87.	65.	32.2	514.	11.4	0.0	0.00	
114.	84.	60.	32.2	514.	6.0	0.0	0.00	
115.	86.	57.	32.4	514.	13.0	0.2	0.00	
116.	84.	65.	35.5	514.	18.3	3.1	0.00	
117.	90.	66.	36.6	514.	8.3	3.9	0.00	
118.	94.	71.	40.8	514.	15.0	7.7	0.00	
119.	93.	75.	40.9	514.	15.2	7.9	0.00	
120.	96.	75.	39.3	514.	15.0	6.1	0.00	
121.	103.	76.	40.2	514.	16.6	7.1	0.00	
122.	106.	75.	33.4	553.	10.7	1.4	0.00	
123.	90.	74.	37.1	553.	11.4	4.4	0.00	
124.	89.	60.	32.2	553.	11.8	0.0	0.00	
125.	90.	60.	32.2	553.	15.4	0.0	0.00	
126.	93.	68.	33.8	553.	16.8	1.8	0.00	
127.	89.	75.	40.7	553.	11.0	7.5	0.00	
128.	90.	71.	39.2	553.	11.8	6.0	0.00	
129.	77.	69.	41.8	553.	14.1	8.7	0.00	
130.	86.	69.	41.8	553.	13.9	8.7	0.24	
131.	88.	74.	39.6	553.	12.3	6.4	0.00	
132.	91.	75.	39.1	553.	12.7	5.9	0.00	
133.	94.	75.	39.1	553.	15.4	5.9	0.00	
134.	95.	76.	38.7	553.	12.3	5.4	0.00	
135.	81.	64.	39.9	553.	10.7	6.6	0.05	
136.	90.	61.	35.9	553.	12.5	3.1	0.00	
137.	90.	68.	40.9	553.	13.6	7.7	0.00	
138.	86.	74.	41.5	553.	6.7	8.4	0.00	
139.	90.	76.	41.3	553.	11.4	8.1	0.00	
140.	100.	78.	39.8	553.	10.3	6.6	0.00	
141.	96.	73.	36.9	553.	11.8	4.3	0.09	
142.	95.	71.	35.6	553.	8.9	3.5	0.00	
143.	89.	74.	39.4	553.	12.7	6.2	0.00	
144.	91.	74.	39.0	553.	9.6	5.7	0.00	
145.	93.	72.	39.5	553.	12.3	6.3	0.00	
146.	87.	72.	41.9	553.	7.4	8.7	0.60	
147.	85.	71.	41.4	553.	7.8	8.4	0.29	
148.	82.	70.	42.2	553.	4.9	9.2	0.22	
149.	88.	67.	40.0	553.	3.1	6.9	0.03	
150.	92.	70.	33.9	553.	8.3	1.9	0.00	
151.	92.	71.	36.3	553.	12.5	3.5	0.00	
152.	88.	63.	40.2	553.	14.1	7.1	0.00	
153.	95.	74.	38.0	582.	14.8	5.4	0.00	

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154.	96.	78.	39.9	582.	11.2	6.8	0.00
155.	96.	77.	39.8	582.	11.0	6.6	0.00
156.	94.	76.	38.3	582.	12.1	5.4	0.08
157.	88.	67.	39.8	582.	14.3	6.7	0.42
158.	86.	66.	38.9	582.	3.6	6.1	0.00
159.	92.	69.	33.0	582.	10.3	0.9	0.00
160.	90.	70.	37.3	582.	12.5	4.7	0.00
161.	93.	74.	38.6	582.	18.6	6.1	0.00
162.	94.	76.	38.7	582.	19.4	5.9	0.00
163.	94.	74.	34.4	582.	16.1	2.4	0.00
164.	95.	74.	38.3	582.	15.0	5.4	0.00
165.	94.	78.	39.4	582.	13.0	6.2	0.00
166.	95.	75.	38.5	582.	11.0	5.2	0.66
167.	88.	69.	40.8	582.	9.6	7.7	0.06
168.	91.	72.	39.8	582.	7.6	6.7	0.00
169.	97.	74.	33.7	582.	12.5	1.7	0.00
170.	95.	75.	36.9	582.	10.3	4.3	0.00
171.	96.	74.	36.6	582.	9.6	3.9	0.00
172.	96.	75.	35.0	582.	8.9	2.6	0.00
173.	95.	75.	37.0	582.	6.9	4.0	0.00
174.	95.	77.	36.2	582.	7.4	3.4	0.00
175.	94.	77.	37.9	582.	6.3	5.1	0.05
176.	95.	74.	36.4	582.	4.0	3.6	0.02
177.	101.	77.	33.3	582.	8.1	1.3	0.00
178.	102.	79.	32.2	582.	13.4	0.0	0.00
179.	97.	81.	38.6	582.	11.2	6.1	0.00
180.	100.	80.	33.6	582.	13.6	1.6	0.00
181.	98.	79.	36.4	582.	14.8	3.7	0.00
182.	97.	80.	38.7	582.	19.2	5.4	0.48
183.	98.	80.	38.2	623.	19.0	5.7	0.00
184.	97.	82.	37.4	623.	21.7	4.8	0.00
185.	95.	79.	38.3	623.	19.7	5.0	0.00
186.	97.	80.	37.4	623.	13.4	4.8	0.00
187.	97.	79.	36.9	623.	9.4	4.2	0.00
188.	95.	77.	37.7	623.	9.4	4.7	0.00
189.	95.	78.	37.6	623.	10.5	5.0	0.00
190.	94.	76.	38.1	623.	6.9	4.8	0.00
191.	93.	75.	38.4	623.	10.3	5.1	0.06
192.	85.	74.	39.9	623.	7.4	6.7	0.94
193.	89.	73.	39.6	623.	8.7	6.4	0.01
194.	91.	74.	39.9	623.	7.4	6.7	0.00
195.	90.	76.	40.3	623.	8.9	7.2	0.00
196.	96.	77.	40.2	623.	7.4	7.1	0.00
197.	95.	79.	39.8	623.	17.2	6.7	0.02
198.	96.	79.	39.5	623.	17.2	6.3	0.00
199.	92.	76.	38.8	623.	13.9	5.6	0.00
200.	87.	74.	41.5	623.	8.9	8.3	0.13
201.	92.	75.	40.8	623.	10.3	7.7	0.00
202.	96.	77.	37.3	623.	10.3	4.6	0.00
203.	97.	75.	32.2	623.	9.6	0.0	0.00
204.	97.	75.	33.7	623.	15.7	1.7	0.00
205.	99.	78.	32.5	623.	17.9	0.3	0.00
206.	101.	77.	32.7	623.	17.4	0.5	0.00
207.	99.	76.	32.2	623.	14.5	0.0	0.00
208.	100.	77.	33.5	623.	15.2	1.5	0.00
209.	99.	78.	35.3	623.	17.9	2.9	0.00
210.	98.	79.	37.9	623.	13.4	4.9	0.00
211.	97.	76.	37.0	623.	9.2	4.3	0.01
212.	98.	77.	36.5	623.	8.7	3.7	0.00
213.	96.	77.	36.5	544.	9.8	3.8	0.00
214.	97.	76.	36.9	544.	8.3	4.3	0.00
215.	98.	75.	37.0	544.	6.9	4.0	0.00
216.	91.	73.	38.7	544.	12.7	5.4	0.07

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217.	87.	70.	39.7	544.	5.1	6.5	0.94
218.	89.	75.	39.0	544.	4.5	5.8	0.05
219.	96.	75.	35.9	544.	4.9	3.1	0.00
220.	97.	77.	36.9	544.	9.8	4.2	0.00
221.	97.	78.	36.1	544.	9.2	3.3	0.00
222.	97.	79.	36.7	544.	12.7	4.0	0.00
223.	98.	78.	37.0	544.	13.0	4.4	0.00
224.	96.	79.	38.2	544.	14.1	5.7	0.00
225.	97.	80.	40.1	544.	13.9	7.0	0.00
226.	92.	76.	40.2	544.	5.6	7.1	0.00
227.	98.	77.	34.3	544.	8.7	2.3	0.00
228.	100.	79.	37.4	544.	8.3	4.8	0.00
229.	97.	78.	34.7	544.	7.6	2.7	0.00
230.	99.	77.	38.5	544.	8.3	5.2	0.00
231.	102.	80.	36.2	544.	16.1	3.5	0.00
232.	98.	79.	36.7	544.	17.7	4.0	0.00
233.	98.	77.	34.0	544.	13.4	2.1	0.00
234.	99.	78.	33.7	544.	12.5	1.7	0.00
235.	99.	77.	32.2	544.	13.6	0.0	0.00
236.	99.	77.	34.2	544.	13.2	2.2	0.00
237.	95.	78.	36.5	544.	10.1	3.8	0.00
238.	96.	76.	35.4	544.	7.6	3.0	0.00
239.	100.	77.	34.5	544.	9.2	2.5	0.00
240.	92.	77.	38.3	544.	11.6	5.0	0.00
241.	93.	78.	39.5	544.	13.6	6.3	0.25
242.	97.	76.	36.9	544.	7.8	4.2	0.00
243.	100.	76.	33.1	544.	6.3	1.1	0.00
244.	103.	78.	34.6	460.	7.6	2.6	0.00
245.	97.	78.	37.8	460.	7.6	5.2	0.05
246.	97.	75.	34.5	460.	8.3	2.5	0.00
247.	97.	76.	33.3	460.	11.0	1.3	0.00
248.	100.	78.	36.2	460.	15.0	3.5	0.00
249.	100.	80.	36.1	460.	17.2	3.4	0.00
250.	94.	75.	38.4	460.	15.9	5.1	1.02
251.	88.	74.	39.1	460.	12.7	5.9	0.91
252.	93.	76.	40.1	460.	10.3	7.0	0.00
253.	88.	77.	41.0	460.	9.2	7.8	0.04
254.	91.	75.	40.4	460.	7.6	7.3	0.01
255.	94.	74.	34.5	460.	5.6	2.5	0.00
256.	95.	75.	37.0	460.	7.4	4.3	0.00
257.	91.	73.	35.8	460.	9.4	3.5	0.00
258.	92.	71.	37.2	460.	4.9	4.6	0.00
259.	96.	76.	34.5	460.	9.8	2.5	0.00
260.	96.	77.	34.4	460.	13.0	2.4	0.00
261.	93.	79.	41.1	460.	12.7	8.0	0.00
262.	98.	78.	35.0	460.	14.3	2.6	0.00
263.	99.	75.	35.3	460.	12.7	3.5	0.20
264.	74.	59.	41.8	460.	8.9	8.6	0.03
265.	83.	55.	32.2	460.	6.7	0.0	0.00
266.	86.	60.	32.2	460.	9.6	0.0	0.00
267.	87.	62.	33.5	460.	9.2	1.5	0.00
268.	90.	63.	40.4	460.	7.4	7.4	0.00
269.	91.	75.	40.8	460.	9.8	7.7	0.00
270.	88.	72.	38.9	460.	8.7	5.6	0.00
271.	95.	70.	38.4	460.	10.5	5.1	0.00
272.	85.	71.	42.4	460.	8.3	9.4	0.59
273.	84.	72.	41.8	460.	9.4	8.7	0.00
274.	88.	69.	34.7	355.	9.2	2.8	0.00
275.	91.	70.	32.8	355.	12.7	0.7	0.00
276.	91.	72.	37.6	355.	11.6	5.0	0.00
277.	95.	74.	33.0	355.	7.2	0.9	0.00
278.	96.	74.	32.4	355.	7.6	0.2	0.00
279.	94.	75.	36.4	355.	11.8	3.7	0.00

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280.	94.	77.	34.8	355.	14.1	2.9	0.00
281.	94.	77.	39.0	355.	14.5	5.8	0.00
282.	83.	67.	41.2	355.	9.2	8.2	1.26
283.	81.	66.	36.7	355.	3.8	4.0	0.00
284.	88.	68.	33.6	355.	6.5	1.5	0.00
285.	78.	66.	38.4	355.	9.8	5.5	0.69
286.	80.	57.	32.2	355.	8.7	0.0	0.00
287.	84.	59.	32.2	355.	13.2	0.0	0.00
288.	87.	63.	34.6	355.	10.1	2.6	0.00
289.	88.	69.	38.4	355.	8.7	5.1	0.00
290.	89.	74.	40.4	355.	8.7	7.3	0.00
291.	89.	75.	40.0	355.	12.5	6.8	0.04
292.	90.	75.	38.1	355.	21.2	4.8	0.00
293.	86.	75.	38.2	355.	13.4	4.8	0.00
294.	78.	65.	42.1	355.	10.1	9.0	0.00
295.	84.	63.	36.5	355.	3.1	3.8	0.00
296.	87.	64.	33.0	355.	4.2	0.9	0.00
297.	86.	65.	32.2	355.	13.2	0.0	0.00
298.	79.	62.	34.9	355.	7.6	3.0	0.00
299.	76.	57.	32.4	355.	6.9	0.2	0.00
300.	79.	53.	32.2	355.	6.3	0.0	0.00
301.	80.	56.	36.4	355.	8.7	3.7	0.00
302.	83.	66.	36.5	355.	6.0	3.3	0.00
303.	81.	65.	38.3	355.	6.3	5.0	0.00
304.	83.	65.	36.5	355.	6.5	3.8	0.00
305.	85.	69.	37.4	274.	10.1	4.8	0.00
306.	87.	71.	39.6	274.	11.6	6.4	0.01
307.	85.	73.	40.3	274.	12.1	7.2	0.00
308.	85.	71.	39.9	274.	5.8	6.8	0.00
309.	81.	69.	38.0	274.	5.6	5.5	0.43
310.	83.	67.	38.5	274.	2.7	5.2	0.07
311.	85.	65.	34.5	274.	3.4	2.4	0.00
312.	80.	69.	41.4	274.	12.3	8.2	0.00
313.	82.	63.	39.5	274.	11.2	6.3	0.00
314.	70.	50.	32.8	274.	5.4	0.7	0.00
315.	71.	47.	32.2	274.	5.8	0.0	0.00
316.	84.	53.	32.2	274.	6.0	0.0	0.00
317.	91.	55.	32.2	274.	2.5	0.0	0.00
318.	91.	60.	32.9	274.	3.6	0.8	0.00
319.	74.	57.	32.2	274.	7.4	0.0	0.00
320.	75.	50.	32.2	274.	8.5	0.0	0.00
321.	80.	56.	36.2	274.	8.1	3.4	0.00
322.	85.	65.	39.3	274.	13.9	6.1	0.00
323.	80.	59.	33.2	274.	13.9	1.2	0.00
324.	75.	48.	32.2	274.	7.4	0.0	0.00
325.	83.	58.	32.4	274.	12.7	0.2	0.00
326.	90.	69.	37.0	274.	13.2	4.4	0.00
327.	70.	56.	34.8	274.	14.3	2.6	0.00
328.	70.	48.	33.3	274.	4.0	1.2	0.00
329.	77.	46.	32.2	274.	14.8	0.0	0.00
330.	88.	59.	37.4	274.	19.9	4.8	0.00
331.	66.	50.	36.1	274.	6.5	3.3	0.00
332.	66.	38.	32.2	274.	4.7	0.0	0.00
333.	72.	54.	41.9	274.	6.5	8.8	0.00
334.	81.	65.	41.6	274.	6.3	8.4	0.00
335.	62.	49.	43.0	208.	7.4	10.0	0.09
336.	56.	50.	43.0	208.	1.8	10.0	0.05
337.	82.	54.	34.8	208.	5.4	2.9	0.01
338.	83.	54.	32.4	208.	13.9	0.2	0.00
339.	79.	61.	39.4	208.	10.7	6.2	0.00
340.	63.	48.	34.1	208.	8.3	2.1	0.00
341.	69.	43.	32.2	208.	7.4	0.0	0.00
342.	76.	47.	33.0	208.	6.3	0.9	0.00

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343.	78.	62.	36.2	208.	4.5	3.9	0.00
344.	84.	71.	32.2	208.	4.7	0.0	0.00
345.	82.	54.	32.2	208.	7.2	0.0	0.00
346.	78.	48.	34.0	208.	11.0	2.0	0.00
347.	73.	50.	33.8	208.	11.6	1.8	0.00
348.	69.	45.	33.1	208.	8.5	1.1	0.00
349.	71.	43.	32.2	208.	8.7	0.0	0.00
350.	63.	41.	36.7	208.	11.8	4.5	0.00
351.	54.	37.	35.9	208.	8.3	4.1	0.00
352.	48.	36.	43.0	208.	8.5	10.0	0.00
353.	42.	31.	43.0	208.	9.4	10.0	0.00
354.	41.	36.	43.0	208.	6.5	10.0	0.00
355.	48.	37.	43.0	208.	5.4	10.0	0.00
356.	43.	28.	41.9	208.	11.0	8.7	0.00
357.	43.	31.	42.6	208.	6.3	9.6	0.00
358.	33.	22.	40.4	208.	12.7	7.1	0.00
359.	31.	17.	33.1	208.	4.2	1.1	0.00
360.	33.	22.	39.0	208.	5.1	5.7	0.00
361.	57.	24.	33.5	208.	3.1	1.5	0.00
362.	56.	33.	34.0	208.	11.0	2.1	0.00
363.	40.	25.	32.8	208.	15.2	0.7	0.00
364.	44.	17.	32.2	208.	3.4	0.0	0.00
365.	61.	27.	39.3	208.	7.8	6.1	0.00

Potential Evaporation Values (no plants):

DAY	PEVAPO	DAY	PEVAPO	DAY	PEVAPO	DAY	PEVAPO	DAY	PEVAPO
1	0.3444	2	0.3113	3	0.2087	4	0.2342	5	0.2860
6	0.4029	7	0.4337	8	0.4054	9	0.3298	10	0.4580
11	0.3634	12	0.4388	13	0.5309	14	0.5403	15	0.4809
16	0.3483	17	0.4923	18	0.4655	19	0.2675	20	0.1780
21	0.2712	22	0.1991	23	0.3184	24	0.4746	25	0.3749
26	0.6479	27	0.3352	28	0.4940	29	0.3232	30	0.9092
31	0.7969	32	0.4970	33	0.3964	34	0.6334	35	0.4110
36	0.4715	37	0.4237	38	0.4855	39	0.5843	40	0.9194
41	0.5032	42	0.4656	43	0.4222	44	0.6361	45	0.8649
46	0.7687	47	0.5693	48	0.4583	49	0.4001	50	1.2756
51	0.9101	52	0.7069	53	0.5230	54	0.3939	55	0.7171
56	0.7437	57	0.4779	58	0.3946	59	0.4784	60	0.8313
61	1.4214	62	1.4589	63	1.2526	64	1.0444	65	0.8767
66	0.5858	67	0.9355	68	0.9412	69	0.5623	70	0.9177
71	0.7114	72	0.7593	73	0.7158	74	0.9615	75	1.0282
76	0.9635	77	0.7262	78	1.1010	79	0.9223	80	0.6147
81	0.7088	82	0.6978	83	0.8889	84	1.4466	85	1.1507
86	0.5983	87	1.0200	88	1.2027	89	0.9093	90	1.1846
91	1.5854	92	0.5982	93	1.7055	94	1.5971	95	1.0826
96	0.9101	97	0.8706	98	0.8775	99	0.5794	100	1.0465
101	1.8735	102	1.3202	103	1.2758	104	1.1976	105	0.8690
106	0.8135	107	1.0953	108	1.1152	109	1.1894	110	1.6837
111	1.3548	112	1.2447	113	1.2632	114	0.8381	115	1.2701
116	1.7066	117	1.1207	118	1.7405	119	1.8033	120	1.8036
121	2.0487	122	1.5381	123	1.4714	124	1.3051	125	1.5594
126	1.8177	127	1.4782	128	1.4873	129	1.4529	130	1.5742
131	1.5347	132	1.6112	133	1.8510	134	1.6253	135	1.2283
136	1.3887	137	1.5902	138	1.1538	139	1.5391	140	1.5584
141	1.5608	142	1.2968	143	1.5778	144	1.3625	145	1.5701
146	1.1952	147	1.1931	148	0.9868	149	0.8523	150	1.1890
151	1.5332	152	1.5163	153	1.8325	154	1.6280	155	1.5950
156	1.6314	157	1.6152	158	0.8824	159	1.3521	160	1.5448
161	2.1036	162	2.2126	163	1.8954	164	1.8463	165	1.7354
166	1.5405	167	1.3420	168	1.2464	169	1.6345	170	1.4794

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171	1.4187	172	1.3555	173	1.2067	174	1.2475	175	1.1809
176	0.9640	177	1.3122	178	1.7882	179	1.6600	180	1.8227
181	1.9101	182	2.2980	183	2.3580	184	2.5865	185	2.3298
186	1.8627	187	1.5056	188	1.4771	189	1.5848	190	1.2648
191	1.5137	192	1.2390	193	1.3587	194	1.2929	195	1.4247
196	1.3691	197	2.1535	198	2.1634	199	1.7921	200	1.3915
201	1.5433	202	1.5598	203	1.4270	204	1.9508	205	2.1869
206	2.1618	207	1.8691	208	1.9711	209	2.2147	210	1.8608
211	1.4626	212	1.4332	213	1.4199	214	1.2998	215	1.1853
216	1.5703	217	0.9827	218	0.9690	219	0.9949	220	1.4344
221	1.3728	222	1.6906	223	1.7177	224	1.8180	225	1.8369
226	1.1018	227	1.3221	228	1.3565	229	1.2349	230	1.3365
231	2.0392	232	2.1141	233	1.7153	234	1.6524	235	1.7134
236	1.7060	237	1.4378	238	1.2171	239	1.3787	240	1.5356
241	1.7354	242	1.2619	243	1.0988	244	1.1754	245	1.1823
246	1.1700	247	1.3808	248	1.7982	249	2.0128	250	1.7710
251	1.4589	252	1.3701	253	1.2599	254	1.1475	255	0.9277
256	1.1115	257	1.2098	258	0.8836	259	1.2987	260	1.5649
261	1.6074	262	1.7091	263	1.5731	264	0.9138	265	0.7825
266	1.0290	267	1.0420	268	1.0221	269	1.3186	270	1.1472
271	1.3176	272	1.1360	273	1.1977	274	1.0134	275	1.2880
276	1.2696	277	0.9157	278	0.9470	279	1.3278	280	1.5229
281	1.5830	282	1.0039	283	0.5979	284	0.7951	285	0.9585
286	0.7903	287	1.1212	288	1.0107	289	1.0016	290	1.0867
291	1.3632	292	1.9986	293	1.3676	294	0.9869	295	0.5530
296	0.6049	297	1.2084	298	0.7833	299	0.6576	300	0.6129
301	0.8033	302	0.7394	303	0.7527	304	0.7693	305	0.9797
306	1.1402	307	1.1783	308	0.7349	309	0.6660	310	0.4724
311	0.4746	312	1.0961	313	0.9661	314	0.4211	315	0.4237
316	0.5517	317	0.3684	318	0.4715	319	0.5878	320	0.6004
321	0.6832	322	1.1852	323	1.0410	324	0.5304	325	0.9880
326	1.2438	327	0.8971	328	0.3542	329	0.8843	330	1.5218
331	0.4488	332	0.2965	333	0.5610	334	0.7128	335	0.3929
336	0.2324	337	0.4717	338	0.9442	339	0.8170	340	0.4206
341	0.3899	342	0.4204	343	0.4527	344	0.4837	345	0.5449
346	0.6779	347	0.6770	348	0.4539	349	0.4591	350	0.4519
351	0.2385	352	0.1051	353	0.0000	354	0.0401	355	0.1207
356	0.0000	357	0.0177	358	0.0000	359	0.0000	360	0.0000
361	0.0982	362	0.2745	363	0.0192	364	0.0078	365	0.1732

Totals: PEVAPO = 389.0763

Precipitation/irrigation parameters:

IRAIN = 1: precipitation data provided

Rainfall/Irrigation Details

Day	Time (hr)	Amount (cm)	Application Type	Efficiency	Changes In Rate/Head
1	0.000	0.0254	1	1.000	2
	1.000	0.0000			
8	0.000	0.0508	1	1.000	2
	1.000	0.0000			
15	0.000	0.2286	1	1.000	2
	1.000	0.0000			
18	0.000	0.4064	1	1.000	2
	1.000	0.0000			
19	0.000	0.1016	1	1.000	2
	1.000	0.0000			
20	0.000	0.7620	1	1.000	2
	1.000	0.0000			

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35	0.000	0.3302	1	1.000	2
	1.000	0.0000			
36	0.000	0.1016	1	1.000	2
	1.000	0.0000			
37	0.000	0.1270	1	1.000	2
	1.000	0.0000			
42	0.000	1.0000	1	1.000	3
	1.000	0.0414			
	2.000	0.0000			
43	0.000	0.0254	1	1.000	2
	1.000	0.0000			
46	0.000	1.0000	1	1.000	3
	1.000	0.9050			
	2.000	0.0000			
56	0.000	2.0000	1	1.000	3
	2.000	0.4384			
	3.000	0.0000			
57	0.000	0.3048	1	1.000	2
	1.000	0.0000			
71	0.000	0.0254	1	1.000	2
	1.000	0.0000			
74	0.000	0.1778	1	1.000	2
	1.000	0.0000			
81	0.000	0.4572	1	1.000	2
	1.000	0.0000			
82	0.000	0.1016	1	1.000	2
	1.000	0.0000			
130	0.000	0.6096	1	1.000	2
	1.000	0.0000			
135	0.000	0.1270	1	1.000	2
	1.000	0.0000			
141	0.000	0.2286	1	1.000	2
	1.000	0.0000			
146	0.000	1.0000	1	1.000	3
	1.000	0.5240			
	2.000	0.0000			
147	0.000	0.7366	1	1.000	2
	1.000	0.0000			
148	0.000	0.5588	1	1.000	2
	1.000	0.0000			
149	0.000	0.0762	1	1.000	2
	1.000	0.0000			
156	0.000	0.2032	1	1.000	2
	1.000	0.0000			
157	0.000	1.0000	1	1.000	3
	1.000	0.0668			
	2.000	0.0000			
166	0.000	1.0000	1	1.000	3
	1.000	0.6764			
	2.000	0.0000			
167	0.000	0.1524	1	1.000	2
	1.000	0.0000			
175	0.000	0.1270	1	1.000	2
	1.000	0.0000			
176	0.000	0.0508	1	1.000	2
	1.000	0.0000			
182	0.000	1.0000	1	1.000	3
	1.000	0.2192			
	2.000	0.0000			
191	0.000	0.1524	1	1.000	2
	1.000	0.0000			
192	0.000	2.0000	1	1.000	3
	2.000	0.3876			

			laredo.lis	
	3.000	0.0000		
193	0.000	0.0254	1	1.000 2
	1.000	0.0000		
197	0.000	0.0508	1	1.000 2
	1.000	0.0000		
200	0.000	0.3302	1	1.000 2
	1.000	0.0000		
211	0.000	0.0254	1	1.000 2
	1.000	0.0000		
216	0.000	0.1778	1	1.000 2
	1.000	0.0000		
217	0.000	2.0000	1	1.000 3
	2.000	0.3876		
	3.000	0.0000		
218	0.000	0.1270	1	1.000 2
	1.000	0.0000		
241	0.000	0.6350	1	1.000 2
	1.000	0.0000		
245	0.000	0.1270	1	1.000 2
	1.000	0.0000		
250	0.000	2.0000	1	1.000 3
	2.000	0.5908		
	3.000	0.0000		
251	0.000	2.0000	1	1.000 3
	2.000	0.3114		
	3.000	0.0000		
253	0.000	0.1016	1	1.000 2
	1.000	0.0000		
254	0.000	0.0254	1	1.000 2
	1.000	0.0000		
263	0.000	0.5080	1	1.000 2
	1.000	0.0000		
264	0.000	0.0762	1	1.000 2
	1.000	0.0000		
272	0.000	1.0000	1	1.000 3
	1.000	0.4986		
	2.000	0.0000		
282	0.000	3.0000	1	1.000 3
	3.000	0.2004		
	4.000	0.0000		
285	0.000	1.0000	1	1.000 3
	1.000	0.7526		
	2.000	0.0000		
291	0.000	0.1016	1	1.000 2
	1.000	0.0000		
306	0.000	0.0254	1	1.000 2
	1.000	0.0000		
309	0.000	1.0000	1	1.000 3
	1.000	0.0922		
	2.000	0.0000		
310	0.000	0.1778	1	1.000 2
	1.000	0.0000		
335	0.000	0.2286	1	1.000 2
	1.000	0.0000		
336	0.000	0.1270	1	1.000 2
	1.000	0.0000		
337	0.000	0.0254	1	1.000 2
	1.000	0.0000		

NWATER (number of days of rain/irrigation) = 59

Total water Applied (cm) = 3.723640E+01

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Program DATAINH terminated normally.

laredo.lis

```

!-----
!                               Program DATAINH                               !
!                               Version 3.01                               !
!-----

```

Input Filename: E:\UNSATH_V301\laredo.inp
 Date Processed: 19 Sep 2013
 Time Processed: 11:25:01.34
 Title:
 Laredo Landfill: Soil sample TP3

General options:

```

IPLANT =    0      NGRAV =    1      IDTEND =  366
IFDEND =  366      IDTBEG =    1      ISTEAD =    0
  IYS = 1983      NYEARS =   30
IFLIST =    1      NFLIST =   30
NPRINT =    0      STOPHR = 0.000E+00
ISMETH =    0      INMAX =    4      ISWDIF =    1      DMAXBA = 0.130E-02
DELMAX = 1.000E+00 DELMIN = 1.000E-04 OUTTIM = 1.000E+00
RFACT = 1.000E+00 RAINIF = 1.000E-03  DHTOL = 0.000E+00
DHMAX = 0.000E+00 DHFACT = 0.000E+00
  KOPT =    4      KEST =    3      WTF = 0.000E+00
ITOPBC =    0      IEVOPT =    1      NFHOUR =    2      LOWER =    1
HIRRI = 5.000E-01  HDRY = 1.000E+06  HTOP = 0.000E+00  RHA = 0.000E+00
IETOPT =    1      ICLOUD =    0      ISHOPT =    1
IRAIN =    1      HPR = 1.000E+00

```

Hysteresis options:

```

IHYS =    0      AIRTOL = 0.000E+00  HYSTOL = 0.000E+00  HYSMXH = 0.000E+00

```

Heat flow options:

```

IHEAT =    0      ICONVH =    0      DMAXHE = 0.000E+00
UPPERH =    0      TSMEAN = 0.000E+00  TSAMP = 0.000E+00  QHCTOP = 0.000E+00
LOWERH =    0      QHLEAK = 0.000E+00  TGRAD = 0.000E+00

```

Vapor flow options:

```

IVAPOR =    1      TORT = 6.600E-01  TSOIL = 2.969E+02  VAPDIF = 2.400E-01

```

Grid options:

```

MATN =    1      NPT =    30

```

Soil hydraulic properties:

KOPT = 4: van Genuchten hydraulic functions

```

Material No.    1
THETA = f(H), Soil Sample TP3 - Water Retention Parameters
  THET = 0.45500      THTR = 8.30000E-02  ALPHA = 8.00000E-03
    N = 1.1900      M = 0.15966
K = f(H), Soil Sample TP3 - Conductivity Parameters
  RKMOD = 2.0000      SK = 2.96000E-02  A = 8.00000E-03
    N = 1.1900      M = 0.15966      EPIT = 0.50000

```

surface node bounding values:

```

HIRRI = 5.000E-01  THETA = 4.549E-01  K = 1.250E-02  C = -1.977E-04
HDRY = 1.000E+06  THETA = 1.504E-01  K = 1.650E-13  C = -1.281E-08

```

Initial Conditions:

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NDAY = 0

NODE	Z	MAT	HEAD	CONDUCTIVITY	CAPACITY	THETA	TEMP
1	0.10	1	2.4364E+05	5.4361E-12	-6.8773E-08	0.1712	296.9
2	0.20	1	1.9124E+05	9.8983E-12	-9.1738E-08	0.1754	296.9
3	0.30	1	1.4590E+05	1.9337E-11	-1.2658E-07	0.1802	296.9
4	0.40	1	1.1026E+05	3.8673E-11	-1.7663E-07	0.1855	296.9
5	0.50	1	8.5175E+04	7.3250E-11	-2.4012E-07	0.1907	296.9
6	0.60	1	6.8577E+04	1.2523E-10	-3.1073E-07	0.1952	296.9
7	0.70	1	5.7532E+04	1.9338E-10	-3.8289E-07	0.1990	296.9
8	2.00	1	1.4690E+04	5.6537E-09	-1.9374E-06	0.2333	296.9
9	4.00	1	9.9955E+03	1.4626E-08	-3.0564E-06	0.2447	296.9
10	6.00	1	8.0265E+03	2.5123E-08	-3.9608E-06	0.2515	296.9
11	10.00	1	6.9014E+03	3.6446E-08	-4.7330E-06	0.2564	296.9
12	11.00	1	6.1640E+03	4.8135E-08	-5.4066E-06	0.2601	296.9
13	13.00	1	5.2540E+03	7.1299E-08	-6.5234E-06	0.2655	296.9
14	15.00	1	4.7235E+03	9.2608E-08	-7.3909E-06	0.2692	296.9
15	20.00	1	4.3897E+03	1.1086E-07	-8.0532E-06	0.2718	296.9
16	25.00	1	4.2706E+03	1.1860E-07	-8.3166E-06	0.2727	296.9
17	30.00	1	4.1759E+03	1.2531E-07	-8.5376E-06	0.2735	296.9
18	35.00	1	4.1017E+03	1.3094E-07	-8.7184E-06	0.2742	296.9
19	40.00	1	4.0455E+03	1.3545E-07	-8.8601E-06	0.2747	296.9
20	45.00	1	4.0055E+03	1.3879E-07	-8.9635E-06	0.2750	296.9
21	50.00	1	3.9803E+03	1.4095E-07	-9.0299E-06	0.2752	296.9
22	55.00	1	3.9692E+03	1.4192E-07	-9.0594E-06	0.2753	296.9
23	58.00	1	3.9687E+03	1.4196E-07	-9.0607E-06	0.2753	296.9
24	59.50	1	3.9687E+03	1.4196E-07	-9.0607E-06	0.2753	296.9
25	60.00	1	3.9686E+03	1.4197E-07	-9.0610E-06	0.2753	296.9
26	60.50	1	3.9686E+03	1.4197E-07	-9.0610E-06	0.2753	296.9
27	60.70	1	3.9686E+03	1.4197E-07	-9.0610E-06	0.2753	296.9
28	60.80	1	3.9686E+03	1.4197E-07	-9.0610E-06	0.2753	296.9
29	60.90	1	3.9686E+03	1.4197E-07	-9.0610E-06	0.2753	296.9
30	61.00	1	3.9686E+03	1.4197E-07	-9.0610E-06	0.2753	296.9

Total Initial Storage (cm) = 1.629975E+01

ET parameters:

NFHOURL = 2: User subroutine for hourly PET provided

0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0150	0.0440
0.0699	0.0911	0.1061	0.1139	0.1139	0.1061	0.0911	0.0699
0.0440	0.0150	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100

IETOPT = 1 and IHEAT = 0:

PET calculated from meteorological data
using subroutine CALPET

ALBEDO = 1.500E-01
ALT = 1.584E+02 (m)
ZU = 1.820E+00 (m)
PMB = 1.016E+03 (mb)

Lower Boundary Option:

LOWER = 1: unit gradient

Multiyear Option

Sim Year PET input file name
1 weather1983.dat

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```

2  weather1984.dat
3  weather1985.dat
4  weather1986.dat
5  weather1987.dat
6  weather1988.dat
7  weather1989.dat
8  weather1990.dat
9  weather1991.dat
10 weather1992.dat
11 weather1993.dat
12 weather1994.dat
13 weather1995.dat
14 weather1996.dat
15 weather1997.dat
16 weather1998.dat
17 weather1999.dat
18 weather2000.dat
19 weather2001.dat
20 weather2002.dat
21 weather2003.dat
22 weather2004.dat
23 weather2005.dat
24 weather2006.dat
25 weather2007.dat
26 weather2008.dat
27 weather2009.dat
28 weather2010.dat
29 weather2011.dat
30 weather2012.dat

```

IETOPT = 1: Meteorological Data

IDAY	Temperature			Solar	Wind	Cloud	Prec.
	Max	Min	Dew	Rad	Speed	Cover	
	F	F	F	ly/d	mph	tenth	in
----	----	----	----	----	----	----	----
1.	54.	41.	40.2	277.	11.8	6.9	0.01
2.	57.	33.	32.2	277.	9.2	0.0	0.00
3.	58.	34.	33.7	277.	3.6	1.7	0.00
4.	54.	39.	41.2	277.	4.7	8.0	0.00
5.	59.	47.	40.5	277.	2.7	7.3	0.00
6.	70.	43.	36.9	277.	5.6	4.3	0.00
7.	67.	56.	40.8	277.	4.0	7.6	0.00
8.	63.	49.	39.9	277.	5.8	6.6	0.02
9.	74.	43.	35.6	277.	3.1	3.2	0.00
10.	69.	46.	35.6	277.	6.7	3.3	0.00
11.	72.	42.	34.5	277.	4.5	2.5	0.00
12.	70.	44.	35.4	277.	6.5	3.0	0.00
13.	70.	47.	36.6	277.	8.3	3.9	0.00
14.	72.	55.	39.0	277.	6.3	5.8	0.00
15.	64.	48.	42.8	277.	8.1	9.8	0.09
16.	59.	49.	43.0	277.	4.0	10.0	0.00
17.	64.	54.	43.0	277.	6.3	10.0	0.00
18.	60.	51.	43.0	277.	7.8	10.0	0.16
19.	51.	42.	43.0	277.	8.7	10.0	0.04
20.	46.	40.	43.0	277.	8.5	10.0	0.30
21.	53.	44.	40.6	277.	5.1	7.3	0.00
22.	61.	37.	33.4	277.	2.0	1.4	0.00
23.	69.	41.	34.6	277.	3.8	2.7	0.00
24.	75.	44.	33.9	277.	6.5	1.9	0.00
25.	68.	42.	35.9	277.	5.6	3.1	0.00
26.	68.	47.	34.4	277.	11.6	2.4	0.00
27.	65.	39.	32.2	277.	5.8	0.0	0.00

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28.	72.	43.	35.1	277.	7.6	3.2	0.00
29.	80.	46.	32.6	277.	2.7	0.4	0.00
30.	76.	52.	40.5	277.	14.3	7.5	0.00
31.	78.	58.	39.4	277.	9.8	6.2	0.00
32.	69.	47.	35.7	359.	5.8	2.9	0.00
33.	67.	41.	34.3	359.	4.5	2.4	0.00
34.	57.	48.	41.5	359.	15.9	8.4	0.00
35.	57.	48.	43.0	359.	4.9	10.0	0.13
36.	57.	47.	43.0	359.	8.9	10.0	0.04
37.	58.	45.	40.1	359.	6.9	7.0	0.05
38.	65.	40.	34.4	359.	8.1	2.4	0.00
39.	74.	51.	40.4	359.	5.6	7.2	0.00
40.	81.	59.	32.9	359.	10.3	0.8	0.00
41.	78.	49.	32.2	359.	4.7	0.0	0.00
42.	57.	52.	41.6	359.	6.0	8.5	0.41
43.	67.	45.	39.5	359.	4.0	6.3	0.01
44.	68.	44.	34.0	359.	10.3	2.0	0.00
45.	75.	47.	32.8	359.	13.0	0.7	0.00
46.	63.	51.	41.2	359.	14.8	8.0	0.75
47.	71.	46.	33.5	359.	7.4	1.5	0.00
48.	73.	48.	34.4	359.	4.0	2.4	0.00
49.	77.	50.	32.2	359.	2.7	0.0	0.00
50.	85.	56.	34.2	359.	15.9	2.3	0.00
51.	77.	56.	32.6	359.	11.4	0.4	0.00
52.	70.	48.	32.2	359.	10.5	0.0	0.00
53.	76.	46.	33.0	359.	5.6	0.9	0.00
54.	75.	47.	32.6	359.	2.9	0.4	0.00
55.	78.	57.	39.9	359.	6.7	6.8	0.00
56.	65.	54.	42.6	359.	11.6	9.5	0.96
57.	58.	51.	42.3	359.	6.5	9.2	0.12
58.	67.	45.	37.4	359.	3.4	4.8	0.00
59.	80.	49.	32.2	359.	4.0	0.0	0.00
60.	85.	54.	32.2	422.	8.1	0.0	0.00
61.	82.	64.	39.2	422.	16.1	6.0	0.00
62.	87.	69.	39.8	422.	14.3	6.6	0.00
63.	80.	65.	39.8	422.	13.4	6.7	0.00
64.	81.	58.	33.8	422.	11.4	1.8	0.00
65.	85.	62.	34.4	422.	7.4	2.4	0.00
66.	88.	53.	32.2	422.	3.8	0.0	0.00
67.	85.	54.	33.3	422.	9.6	1.3	0.00
68.	69.	59.	40.4	422.	11.8	7.3	0.00
69.	77.	50.	32.2	422.	4.7	0.0	0.00
70.	73.	51.	33.0	422.	12.3	0.9	0.00
71.	68.	50.	40.6	422.	9.4	7.3	0.01
72.	74.	59.	39.9	422.	6.7	6.8	0.00
73.	81.	61.	37.4	422.	4.9	4.8	0.00
74.	76.	62.	41.0	422.	9.6	7.8	0.07
75.	71.	55.	36.2	422.	14.3	3.4	0.00
76.	72.	50.	32.2	422.	13.9	0.0	0.00
77.	75.	46.	32.8	422.	8.9	0.7	0.00
78.	85.	60.	37.5	422.	11.0	4.9	0.00
79.	71.	55.	33.9	422.	11.8	1.9	0.00
80.	63.	44.	39.1	422.	10.7	5.9	0.00
81.	62.	52.	43.0	422.	11.0	10.0	0.18
82.	65.	53.	40.7	422.	8.9	7.5	0.04
83.	74.	50.	35.1	422.	11.6	3.2	0.00
84.	83.	56.	41.0	422.	18.8	7.8	0.00
85.	83.	57.	34.0	422.	13.0	2.0	0.00
86.	80.	51.	32.2	422.	4.9	0.0	0.00
87.	78.	49.	32.8	422.	13.6	0.7	0.00
88.	82.	58.	36.8	422.	13.9	4.1	0.00
89.	87.	63.	38.3	422.	7.2	5.0	0.00
90.	92.	63.	32.8	422.	11.2	0.7	0.00

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						laredo.lis		
91.	90.	64.	32.2	514.	15.7	0.0	0.00	
92.	75.	53.	32.2	514.	3.6	0.0	0.00	
93.	87.	55.	32.6	514.	20.1	0.4	0.00	
94.	95.	65.	37.3	514.	14.3	4.6	0.00	
95.	76.	56.	41.2	514.	11.8	8.0	0.00	
96.	72.	50.	36.8	514.	11.0	4.1	0.00	
97.	70.	55.	37.3	514.	9.2	4.6	0.00	
98.	65.	53.	40.9	514.	11.8	7.6	0.00	
99.	79.	42.	32.2	514.	4.0	0.0	0.00	
100.	86.	56.	32.2	514.	9.6	0.0	0.00	
101.	89.	64.	32.2	514.	19.9	0.0	0.00	
102.	90.	65.	33.3	514.	11.6	1.2	0.00	
103.	90.	68.	34.9	514.	10.3	3.0	0.00	
104.	76.	60.	34.7	514.	13.0	2.8	0.00	
105.	74.	51.	32.2	514.	9.4	0.0	0.00	
106.	78.	47.	32.2	514.	8.3	0.0	0.00	
107.	82.	54.	32.6	514.	11.4	0.4	0.00	
108.	94.	59.	32.2	514.	9.2	0.0	0.00	
109.	92.	64.	32.2	514.	9.8	0.0	0.00	
110.	91.	70.	34.6	514.	15.4	2.7	0.00	
111.	90.	70.	39.3	514.	10.7	6.1	0.00	
112.	92.	72.	37.1	514.	8.9	4.4	0.00	
113.	87.	65.	32.2	514.	11.4	0.0	0.00	
114.	84.	60.	32.2	514.	6.0	0.0	0.00	
115.	86.	57.	32.4	514.	13.0	0.2	0.00	
116.	84.	65.	35.5	514.	18.3	3.1	0.00	
117.	90.	66.	36.6	514.	8.3	3.9	0.00	
118.	94.	71.	40.8	514.	15.0	7.7	0.00	
119.	93.	75.	40.9	514.	15.2	7.9	0.00	
120.	96.	75.	39.3	514.	15.0	6.1	0.00	
121.	103.	76.	40.2	514.	16.6	7.1	0.00	
122.	106.	75.	33.4	553.	10.7	1.4	0.00	
123.	90.	74.	37.1	553.	11.4	4.4	0.00	
124.	89.	60.	32.2	553.	11.8	0.0	0.00	
125.	90.	60.	32.2	553.	15.4	0.0	0.00	
126.	93.	68.	33.8	553.	16.8	1.8	0.00	
127.	89.	75.	40.7	553.	11.0	7.5	0.00	
128.	90.	71.	39.2	553.	11.8	6.0	0.00	
129.	77.	69.	41.8	553.	14.1	8.7	0.00	
130.	86.	69.	41.8	553.	13.9	8.7	0.24	
131.	88.	74.	39.6	553.	12.3	6.4	0.00	
132.	91.	75.	39.1	553.	12.7	5.9	0.00	
133.	94.	75.	39.1	553.	15.4	5.9	0.00	
134.	95.	76.	38.7	553.	12.3	5.4	0.00	
135.	81.	64.	39.9	553.	10.7	6.6	0.05	
136.	90.	61.	35.9	553.	12.5	3.1	0.00	
137.	90.	68.	40.9	553.	13.6	7.7	0.00	
138.	86.	74.	41.5	553.	6.7	8.4	0.00	
139.	90.	76.	41.3	553.	11.4	8.1	0.00	
140.	100.	78.	39.8	553.	10.3	6.6	0.00	
141.	96.	73.	36.9	553.	11.8	4.3	0.09	
142.	95.	71.	35.6	553.	8.9	3.5	0.00	
143.	89.	74.	39.4	553.	12.7	6.2	0.00	
144.	91.	74.	39.0	553.	9.6	5.7	0.00	
145.	93.	72.	39.5	553.	12.3	6.3	0.00	
146.	87.	72.	41.9	553.	7.4	8.7	0.60	
147.	85.	71.	41.4	553.	7.8	8.4	0.29	
148.	82.	70.	42.2	553.	4.9	9.2	0.22	
149.	88.	67.	40.0	553.	3.1	6.9	0.03	
150.	92.	70.	33.9	553.	8.3	1.9	0.00	
151.	92.	71.	36.3	553.	12.5	3.5	0.00	
152.	88.	63.	40.2	553.	14.1	7.1	0.00	
153.	95.	74.	38.0	582.	14.8	5.4	0.00	

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154.	96.	78.	39.9	582.	11.2	6.8	0.00	
155.	96.	77.	39.8	582.	11.0	6.6	0.00	
156.	94.	76.	38.3	582.	12.1	5.4	0.08	
157.	88.	67.	39.8	582.	14.3	6.7	0.42	
158.	86.	66.	38.9	582.	3.6	6.1	0.00	
159.	92.	69.	33.0	582.	10.3	0.9	0.00	
160.	90.	70.	37.3	582.	12.5	4.7	0.00	
161.	93.	74.	38.6	582.	18.6	6.1	0.00	
162.	94.	76.	38.7	582.	19.4	5.9	0.00	
163.	94.	74.	34.4	582.	16.1	2.4	0.00	
164.	95.	74.	38.3	582.	15.0	5.4	0.00	
165.	94.	78.	39.4	582.	13.0	6.2	0.00	
166.	95.	75.	38.5	582.	11.0	5.2	0.66	
167.	88.	69.	40.8	582.	9.6	7.7	0.06	
168.	91.	72.	39.8	582.	7.6	6.7	0.00	
169.	97.	74.	33.7	582.	12.5	1.7	0.00	
170.	95.	75.	36.9	582.	10.3	4.3	0.00	
171.	96.	74.	36.6	582.	9.6	3.9	0.00	
172.	96.	75.	35.0	582.	8.9	2.6	0.00	
173.	95.	75.	37.0	582.	6.9	4.0	0.00	
174.	95.	77.	36.2	582.	7.4	3.4	0.00	
175.	94.	77.	37.9	582.	6.3	5.1	0.05	
176.	95.	74.	36.4	582.	4.0	3.6	0.02	
177.	101.	77.	33.3	582.	8.1	1.3	0.00	
178.	102.	79.	32.2	582.	13.4	0.0	0.00	
179.	97.	81.	38.6	582.	11.2	6.1	0.00	
180.	100.	80.	33.6	582.	13.6	1.6	0.00	
181.	98.	79.	36.4	582.	14.8	3.7	0.00	
182.	97.	80.	38.7	582.	19.2	5.4	0.48	
183.	98.	80.	38.2	623.	19.0	5.7	0.00	
184.	97.	82.	37.4	623.	21.7	4.8	0.00	
185.	95.	79.	38.3	623.	19.7	5.0	0.00	
186.	97.	80.	37.4	623.	13.4	4.8	0.00	
187.	97.	79.	36.9	623.	9.4	4.2	0.00	
188.	95.	77.	37.7	623.	9.4	4.7	0.00	
189.	95.	78.	37.6	623.	10.5	5.0	0.00	
190.	94.	76.	38.1	623.	6.9	4.8	0.00	
191.	93.	75.	38.4	623.	10.3	5.1	0.06	
192.	85.	74.	39.9	623.	7.4	6.7	0.94	
193.	89.	73.	39.6	623.	8.7	6.4	0.01	
194.	91.	74.	39.9	623.	7.4	6.7	0.00	
195.	90.	76.	40.3	623.	8.9	7.2	0.00	
196.	96.	77.	40.2	623.	7.4	7.1	0.00	
197.	95.	79.	39.8	623.	17.2	6.7	0.02	
198.	96.	79.	39.5	623.	17.2	6.3	0.00	
199.	92.	76.	38.8	623.	13.9	5.6	0.00	
200.	87.	74.	41.5	623.	8.9	8.3	0.13	
201.	92.	75.	40.8	623.	10.3	7.7	0.00	
202.	96.	77.	37.3	623.	10.3	4.6	0.00	
203.	97.	75.	32.2	623.	9.6	0.0	0.00	
204.	97.	75.	33.7	623.	15.7	1.7	0.00	
205.	99.	78.	32.5	623.	17.9	0.3	0.00	
206.	101.	77.	32.7	623.	17.4	0.5	0.00	
207.	99.	76.	32.2	623.	14.5	0.0	0.00	
208.	100.	77.	33.5	623.	15.2	1.5	0.00	
209.	99.	78.	35.3	623.	17.9	2.9	0.00	
210.	98.	79.	37.9	623.	13.4	4.9	0.00	
211.	97.	76.	37.0	623.	9.2	4.3	0.01	
212.	98.	77.	36.5	623.	8.7	3.7	0.00	
213.	96.	77.	36.5	544.	9.8	3.8	0.00	
214.	97.	76.	36.9	544.	8.3	4.3	0.00	
215.	98.	75.	37.0	544.	6.9	4.0	0.00	
216.	91.	73.	38.7	544.	12.7	5.4	0.07	

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217.	87.	70.	39.7	544.	5.1	6.5	0.94
218.	89.	75.	39.0	544.	4.5	5.8	0.05
219.	96.	75.	35.9	544.	4.9	3.1	0.00
220.	97.	77.	36.9	544.	9.8	4.2	0.00
221.	97.	78.	36.1	544.	9.2	3.3	0.00
222.	97.	79.	36.7	544.	12.7	4.0	0.00
223.	98.	78.	37.0	544.	13.0	4.4	0.00
224.	96.	79.	38.2	544.	14.1	5.7	0.00
225.	97.	80.	40.1	544.	13.9	7.0	0.00
226.	92.	76.	40.2	544.	5.6	7.1	0.00
227.	98.	77.	34.3	544.	8.7	2.3	0.00
228.	100.	79.	37.4	544.	8.3	4.8	0.00
229.	97.	78.	34.7	544.	7.6	2.7	0.00
230.	99.	77.	38.5	544.	8.3	5.2	0.00
231.	102.	80.	36.2	544.	16.1	3.5	0.00
232.	98.	79.	36.7	544.	17.7	4.0	0.00
233.	98.	77.	34.0	544.	13.4	2.1	0.00
234.	99.	78.	33.7	544.	12.5	1.7	0.00
235.	99.	77.	32.2	544.	13.6	0.0	0.00
236.	99.	77.	34.2	544.	13.2	2.2	0.00
237.	95.	78.	36.5	544.	10.1	3.8	0.00
238.	96.	76.	35.4	544.	7.6	3.0	0.00
239.	100.	77.	34.5	544.	9.2	2.5	0.00
240.	92.	77.	38.3	544.	11.6	5.0	0.00
241.	93.	78.	39.5	544.	13.6	6.3	0.25
242.	97.	76.	36.9	544.	7.8	4.2	0.00
243.	100.	76.	33.1	544.	6.3	1.1	0.00
244.	103.	78.	34.6	460.	7.6	2.6	0.00
245.	97.	78.	37.8	460.	7.6	5.2	0.05
246.	97.	75.	34.5	460.	8.3	2.5	0.00
247.	97.	76.	33.3	460.	11.0	1.3	0.00
248.	100.	78.	36.2	460.	15.0	3.5	0.00
249.	100.	80.	36.1	460.	17.2	3.4	0.00
250.	94.	75.	38.4	460.	15.9	5.1	1.02
251.	88.	74.	39.1	460.	12.7	5.9	0.91
252.	93.	76.	40.1	460.	10.3	7.0	0.00
253.	88.	77.	41.0	460.	9.2	7.8	0.04
254.	91.	75.	40.4	460.	7.6	7.3	0.01
255.	94.	74.	34.5	460.	5.6	2.5	0.00
256.	95.	75.	37.0	460.	7.4	4.3	0.00
257.	91.	73.	35.8	460.	9.4	3.5	0.00
258.	92.	71.	37.2	460.	4.9	4.6	0.00
259.	96.	76.	34.5	460.	9.8	2.5	0.00
260.	96.	77.	34.4	460.	13.0	2.4	0.00
261.	93.	79.	41.1	460.	12.7	8.0	0.00
262.	98.	78.	35.0	460.	14.3	2.6	0.00
263.	99.	75.	35.3	460.	12.7	3.5	0.20
264.	74.	59.	41.8	460.	8.9	8.6	0.03
265.	83.	55.	32.2	460.	6.7	0.0	0.00
266.	86.	60.	32.2	460.	9.6	0.0	0.00
267.	87.	62.	33.5	460.	9.2	1.5	0.00
268.	90.	63.	40.4	460.	7.4	7.4	0.00
269.	91.	75.	40.8	460.	9.8	7.7	0.00
270.	88.	72.	38.9	460.	8.7	5.6	0.00
271.	95.	70.	38.4	460.	10.5	5.1	0.00
272.	85.	71.	42.4	460.	8.3	9.4	0.59
273.	84.	72.	41.8	460.	9.4	8.7	0.00
274.	88.	69.	34.7	355.	9.2	2.8	0.00
275.	91.	70.	32.8	355.	12.7	0.7	0.00
276.	91.	72.	37.6	355.	11.6	5.0	0.00
277.	95.	74.	33.0	355.	7.2	0.9	0.00
278.	96.	74.	32.4	355.	7.6	0.2	0.00
279.	94.	75.	36.4	355.	11.8	3.7	0.00

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280.	94.	77.	34.8	355.	14.1	2.9	0.00
281.	94.	77.	39.0	355.	14.5	5.8	0.00
282.	83.	67.	41.2	355.	9.2	8.2	1.26
283.	81.	66.	36.7	355.	3.8	4.0	0.00
284.	88.	68.	33.6	355.	6.5	1.5	0.00
285.	78.	66.	38.4	355.	9.8	5.5	0.69
286.	80.	57.	32.2	355.	8.7	0.0	0.00
287.	84.	59.	32.2	355.	13.2	0.0	0.00
288.	87.	63.	34.6	355.	10.1	2.6	0.00
289.	88.	69.	38.4	355.	8.7	5.1	0.00
290.	89.	74.	40.4	355.	8.7	7.3	0.00
291.	89.	75.	40.0	355.	12.5	6.8	0.04
292.	90.	75.	38.1	355.	21.2	4.8	0.00
293.	86.	75.	38.2	355.	13.4	4.8	0.00
294.	78.	65.	42.1	355.	10.1	9.0	0.00
295.	84.	63.	36.5	355.	3.1	3.8	0.00
296.	87.	64.	33.0	355.	4.2	0.9	0.00
297.	86.	65.	32.2	355.	13.2	0.0	0.00
298.	79.	62.	34.9	355.	7.6	3.0	0.00
299.	76.	57.	32.4	355.	6.9	0.2	0.00
300.	79.	53.	32.2	355.	6.3	0.0	0.00
301.	80.	56.	36.4	355.	8.7	3.7	0.00
302.	83.	66.	36.5	355.	6.0	3.3	0.00
303.	81.	65.	38.3	355.	6.3	5.0	0.00
304.	83.	65.	36.5	355.	6.5	3.8	0.00
305.	85.	69.	37.4	274.	10.1	4.8	0.00
306.	87.	71.	39.6	274.	11.6	6.4	0.01
307.	85.	73.	40.3	274.	12.1	7.2	0.00
308.	85.	71.	39.9	274.	5.8	6.8	0.00
309.	81.	69.	38.0	274.	5.6	5.5	0.43
310.	83.	67.	38.5	274.	2.7	5.2	0.07
311.	85.	65.	34.5	274.	3.4	2.4	0.00
312.	80.	69.	41.4	274.	12.3	8.2	0.00
313.	82.	63.	39.5	274.	11.2	6.3	0.00
314.	70.	50.	32.8	274.	5.4	0.7	0.00
315.	71.	47.	32.2	274.	5.8	0.0	0.00
316.	84.	53.	32.2	274.	6.0	0.0	0.00
317.	91.	55.	32.2	274.	2.5	0.0	0.00
318.	91.	60.	32.9	274.	3.6	0.8	0.00
319.	74.	57.	32.2	274.	7.4	0.0	0.00
320.	75.	50.	32.2	274.	8.5	0.0	0.00
321.	80.	56.	36.2	274.	8.1	3.4	0.00
322.	85.	65.	39.3	274.	13.9	6.1	0.00
323.	80.	59.	33.2	274.	13.9	1.2	0.00
324.	75.	48.	32.2	274.	7.4	0.0	0.00
325.	83.	58.	32.4	274.	12.7	0.2	0.00
326.	90.	69.	37.0	274.	13.2	4.4	0.00
327.	70.	56.	34.8	274.	14.3	2.6	0.00
328.	70.	48.	33.3	274.	4.0	1.2	0.00
329.	77.	46.	32.2	274.	14.8	0.0	0.00
330.	88.	59.	37.4	274.	19.9	4.8	0.00
331.	66.	50.	36.1	274.	6.5	3.3	0.00
332.	66.	38.	32.2	274.	4.7	0.0	0.00
333.	72.	54.	41.9	274.	6.5	8.8	0.00
334.	81.	65.	41.6	274.	6.3	8.4	0.00
335.	62.	49.	43.0	208.	7.4	10.0	0.09
336.	56.	50.	43.0	208.	1.8	10.0	0.05
337.	82.	54.	34.8	208.	5.4	2.9	0.01
338.	83.	54.	32.4	208.	13.9	0.2	0.00
339.	79.	61.	39.4	208.	10.7	6.2	0.00
340.	63.	48.	34.1	208.	8.3	2.1	0.00
341.	69.	43.	32.2	208.	7.4	0.0	0.00
342.	76.	47.	33.0	208.	6.3	0.9	0.00

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343.	78.	62.	36.2	208.	4.5	3.9	0.00
344.	84.	71.	32.2	208.	4.7	0.0	0.00
345.	82.	54.	32.2	208.	7.2	0.0	0.00
346.	78.	48.	34.0	208.	11.0	2.0	0.00
347.	73.	50.	33.8	208.	11.6	1.8	0.00
348.	69.	45.	33.1	208.	8.5	1.1	0.00
349.	71.	43.	32.2	208.	8.7	0.0	0.00
350.	63.	41.	36.7	208.	11.8	4.5	0.00
351.	54.	37.	35.9	208.	8.3	4.1	0.00
352.	48.	36.	43.0	208.	8.5	10.0	0.00
353.	42.	31.	43.0	208.	9.4	10.0	0.00
354.	41.	36.	43.0	208.	6.5	10.0	0.00
355.	48.	37.	43.0	208.	5.4	10.0	0.00
356.	43.	28.	41.9	208.	11.0	8.7	0.00
357.	43.	31.	42.6	208.	6.3	9.6	0.00
358.	33.	22.	40.4	208.	12.7	7.1	0.00
359.	31.	17.	33.1	208.	4.2	1.1	0.00
360.	33.	22.	39.0	208.	5.1	5.7	0.00
361.	57.	24.	33.5	208.	3.1	1.5	0.00
362.	56.	33.	34.0	208.	11.0	2.1	0.00
363.	40.	25.	32.8	208.	15.2	0.7	0.00
364.	44.	17.	32.2	208.	3.4	0.0	0.00
365.	61.	27.	39.3	208.	7.8	6.1	0.00

Potential Evaporation Values (no plants):

DAY	PEVAPO	DAY	PEVAPO	DAY	PEVAPO	DAY	PEVAPO	DAY	PEVAPO
1	0.3444	2	0.3113	3	0.2087	4	0.2342	5	0.2860
6	0.4029	7	0.4337	8	0.4054	9	0.3298	10	0.4580
11	0.3634	12	0.4388	13	0.5309	14	0.5403	15	0.4809
16	0.3483	17	0.4923	18	0.4655	19	0.2675	20	0.1780
21	0.2712	22	0.1991	23	0.3184	24	0.4746	25	0.3749
26	0.6479	27	0.3352	28	0.4940	29	0.3232	30	0.9092
31	0.7969	32	0.4970	33	0.3964	34	0.6334	35	0.4110
36	0.4715	37	0.4237	38	0.4855	39	0.5843	40	0.9194
41	0.5032	42	0.4656	43	0.4222	44	0.6361	45	0.8649
46	0.7687	47	0.5693	48	0.4583	49	0.4001	50	1.2756
51	0.9101	52	0.7069	53	0.5230	54	0.3939	55	0.7171
56	0.7437	57	0.4779	58	0.3946	59	0.4784	60	0.8313
61	1.4214	62	1.4589	63	1.2526	64	1.0444	65	0.8767
66	0.5858	67	0.9355	68	0.9412	69	0.5623	70	0.9177
71	0.7114	72	0.7593	73	0.7158	74	0.9615	75	1.0282
76	0.9635	77	0.7262	78	1.1010	79	0.9223	80	0.6147
81	0.7088	82	0.6978	83	0.8889	84	1.4466	85	1.1507
86	0.5983	87	1.0200	88	1.2027	89	0.9093	90	1.1846
91	1.5854	92	0.5982	93	1.7055	94	1.5971	95	1.0826
96	0.9101	97	0.8706	98	0.8775	99	0.5794	100	1.0465
101	1.8735	102	1.3202	103	1.2758	104	1.1976	105	0.8690
106	0.8135	107	1.0953	108	1.1152	109	1.1894	110	1.6837
111	1.3548	112	1.2447	113	1.2632	114	0.8381	115	1.2701
116	1.7066	117	1.1207	118	1.7405	119	1.8033	120	1.8036
121	2.0487	122	1.5381	123	1.4714	124	1.3051	125	1.5594
126	1.8177	127	1.4782	128	1.4873	129	1.4529	130	1.5742
131	1.5347	132	1.6112	133	1.8510	134	1.6253	135	1.2283
136	1.3887	137	1.5902	138	1.1538	139	1.5391	140	1.5584
141	1.5608	142	1.2968	143	1.5778	144	1.3625	145	1.5701
146	1.1952	147	1.1931	148	0.9868	149	0.8523	150	1.1890
151	1.5332	152	1.5163	153	1.8325	154	1.6280	155	1.5950
156	1.6314	157	1.6152	158	0.8824	159	1.3521	160	1.5448
161	2.1036	162	2.2126	163	1.8954	164	1.8463	165	1.7354
166	1.5405	167	1.3420	168	1.2464	169	1.6345	170	1.4794

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171	1.4187	172	1.3555	173	1.2067	174	1.2475	175	1.1809
176	0.9640	177	1.3122	178	1.7882	179	1.6600	180	1.8227
181	1.9101	182	2.2980	183	2.3580	184	2.5865	185	2.3298
186	1.8627	187	1.5056	188	1.4771	189	1.5848	190	1.2648
191	1.5137	192	1.2390	193	1.3587	194	1.2929	195	1.4247
196	1.3691	197	2.1535	198	2.1634	199	1.7921	200	1.3915
201	1.5433	202	1.5598	203	1.4270	204	1.9508	205	2.1869
206	2.1618	207	1.8691	208	1.9711	209	2.2147	210	1.8608
211	1.4626	212	1.4332	213	1.4199	214	1.2998	215	1.1853
216	1.5703	217	0.9827	218	0.9690	219	0.9949	220	1.4344
221	1.3728	222	1.6906	223	1.7177	224	1.8180	225	1.8369
226	1.1018	227	1.3221	228	1.3565	229	1.2349	230	1.3365
231	2.0392	232	2.1141	233	1.7153	234	1.6524	235	1.7134
236	1.7060	237	1.4378	238	1.2171	239	1.3787	240	1.5356
241	1.7354	242	1.2619	243	1.0988	244	1.1754	245	1.1823
246	1.1700	247	1.3808	248	1.7982	249	2.0128	250	1.7710
251	1.4589	252	1.3701	253	1.2599	254	1.1475	255	0.9277
256	1.1115	257	1.2098	258	0.8836	259	1.2987	260	1.5649
261	1.6074	262	1.7091	263	1.5731	264	0.9138	265	0.7825
266	1.0290	267	1.0420	268	1.0221	269	1.3186	270	1.1472
271	1.3176	272	1.1360	273	1.1977	274	1.0134	275	1.2880
276	1.2696	277	0.9157	278	0.9470	279	1.3278	280	1.5229
281	1.5830	282	1.0039	283	0.5979	284	0.7951	285	0.9585
286	0.7903	287	1.1212	288	1.0107	289	1.0016	290	1.0867
291	1.3632	292	1.9986	293	1.3676	294	0.9869	295	0.5530
296	0.6049	297	1.2084	298	0.7833	299	0.6576	300	0.6129
301	0.8033	302	0.7394	303	0.7527	304	0.7693	305	0.9797
306	1.1402	307	1.1783	308	0.7349	309	0.6660	310	0.4724
311	0.4746	312	1.0961	313	0.9661	314	0.4211	315	0.4237
316	0.5517	317	0.3684	318	0.4715	319	0.5878	320	0.6004
321	0.6832	322	1.1852	323	1.0410	324	0.5304	325	0.9880
326	1.2438	327	0.8971	328	0.3542	329	0.8843	330	1.5218
331	0.4488	332	0.2965	333	0.5610	334	0.7128	335	0.3929
336	0.2324	337	0.4717	338	0.9442	339	0.8170	340	0.4206
341	0.3899	342	0.4204	343	0.4527	344	0.4837	345	0.5449
346	0.6779	347	0.6770	348	0.4539	349	0.4591	350	0.4519
351	0.2385	352	0.1051	353	0.0000	354	0.0401	355	0.1207
356	0.0000	357	0.0177	358	0.0000	359	0.0000	360	0.0000
361	0.0982	362	0.2745	363	0.0192	364	0.0078	365	0.1732

Totals: PEVAPO = 389.0763

Precipitation/irrigation parameters:

IRAIN = 1: precipitation data provided

Rainfall/Irrigation Details

Day	Time (hr)	Amount (cm)	Application Type	Efficiency	Changes In Rate/Head
---	---	---	---	---	---
1	0.000	0.0254	1	1.000	2
	1.000	0.0000			
8	0.000	0.0508	1	1.000	2
	1.000	0.0000			
15	0.000	0.2286	1	1.000	2
	1.000	0.0000			
18	0.000	0.4064	1	1.000	2
	1.000	0.0000			
19	0.000	0.1016	1	1.000	2
	1.000	0.0000			
20	0.000	0.7620	1	1.000	2
	1.000	0.0000			

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35	0.000	0.3302	1	1.000	2
	1.000	0.0000			
36	0.000	0.1016	1	1.000	2
	1.000	0.0000			
37	0.000	0.1270	1	1.000	2
	1.000	0.0000			
42	0.000	1.0000	1	1.000	3
	1.000	0.0414			
	2.000	0.0000			
43	0.000	0.0254	1	1.000	2
	1.000	0.0000			
46	0.000	1.0000	1	1.000	3
	1.000	0.9050			
	2.000	0.0000			
56	0.000	2.0000	1	1.000	3
	2.000	0.4384			
	3.000	0.0000			
57	0.000	0.3048	1	1.000	2
	1.000	0.0000			
71	0.000	0.0254	1	1.000	2
	1.000	0.0000			
74	0.000	0.1778	1	1.000	2
	1.000	0.0000			
81	0.000	0.4572	1	1.000	2
	1.000	0.0000			
82	0.000	0.1016	1	1.000	2
	1.000	0.0000			
130	0.000	0.6096	1	1.000	2
	1.000	0.0000			
135	0.000	0.1270	1	1.000	2
	1.000	0.0000			
141	0.000	0.2286	1	1.000	2
	1.000	0.0000			
146	0.000	1.0000	1	1.000	3
	1.000	0.5240			
	2.000	0.0000			
147	0.000	0.7366	1	1.000	2
	1.000	0.0000			
148	0.000	0.5588	1	1.000	2
	1.000	0.0000			
149	0.000	0.0762	1	1.000	2
	1.000	0.0000			
156	0.000	0.2032	1	1.000	2
	1.000	0.0000			
157	0.000	1.0000	1	1.000	3
	1.000	0.0668			
	2.000	0.0000			
166	0.000	1.0000	1	1.000	3
	1.000	0.6764			
	2.000	0.0000			
167	0.000	0.1524	1	1.000	2
	1.000	0.0000			
175	0.000	0.1270	1	1.000	2
	1.000	0.0000			
176	0.000	0.0508	1	1.000	2
	1.000	0.0000			
182	0.000	1.0000	1	1.000	3
	1.000	0.2192			
	2.000	0.0000			
191	0.000	0.1524	1	1.000	2
	1.000	0.0000			
192	0.000	2.0000	1	1.000	3
	2.000	0.3876			

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	3.000	0.0000		
193	0.000	0.0254	1	1.000 2
	1.000	0.0000		
197	0.000	0.0508	1	1.000 2
	1.000	0.0000		
200	0.000	0.3302	1	1.000 2
	1.000	0.0000		
211	0.000	0.0254	1	1.000 2
	1.000	0.0000		
216	0.000	0.1778	1	1.000 2
	1.000	0.0000		
217	0.000	2.0000	1	1.000 3
	2.000	0.3876		
	3.000	0.0000		
218	0.000	0.1270	1	1.000 2
	1.000	0.0000		
241	0.000	0.6350	1	1.000 2
	1.000	0.0000		
245	0.000	0.1270	1	1.000 2
	1.000	0.0000		
250	0.000	2.0000	1	1.000 3
	2.000	0.5908		
	3.000	0.0000		
251	0.000	2.0000	1	1.000 3
	2.000	0.3114		
	3.000	0.0000		
253	0.000	0.1016	1	1.000 2
	1.000	0.0000		
254	0.000	0.0254	1	1.000 2
	1.000	0.0000		
263	0.000	0.5080	1	1.000 2
	1.000	0.0000		
264	0.000	0.0762	1	1.000 2
	1.000	0.0000		
272	0.000	1.0000	1	1.000 3
	1.000	0.4986		
	2.000	0.0000		
282	0.000	3.0000	1	1.000 3
	3.000	0.2004		
	4.000	0.0000		
285	0.000	1.0000	1	1.000 3
	1.000	0.7526		
	2.000	0.0000		
291	0.000	0.1016	1	1.000 2
	1.000	0.0000		
306	0.000	0.0254	1	1.000 2
	1.000	0.0000		
309	0.000	1.0000	1	1.000 3
	1.000	0.0922		
	2.000	0.0000		
310	0.000	0.1778	1	1.000 2
	1.000	0.0000		
335	0.000	0.2286	1	1.000 2
	1.000	0.0000		
336	0.000	0.1270	1	1.000 2
	1.000	0.0000		
337	0.000	0.0254	1	1.000 2
	1.000	0.0000		

NWATER (number of days of rain/irrigation) = 59

Total water Applied (cm) = 3.723640E+01

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Program DATAINH terminated normally.

laredo.lis

```

!-----
!                               Program DATAINH                               !
!                               Version 3.01                               !
!-----

```

Input Filename: E:\UNSATH_V301\laredo.inp
 Date Processed: 19 Sep 2013
 Time Processed: 13:13:24.35
 Title:
 Laredo Landfill: Soil Sample TP4

General options:

```

IPLANT =    0      NGRAV =    1
IFDEND =   366      IDTBEG =    1      IDTEND =   366
IYS =   1983      NYEARS =   30      ISTEAD =    0
IFLIST =    1      NFLIST =   30
NPRINT =    0      STOPHR = 0.000E+00
ISMETH =    0      INMAX =    4      ISWDIF =    1      DMAXBA = 0.130E-02
DELMAX = 1.000E+00 DELMIN = 1.000E-04 OUTTIM = 1.000E+00
RFACT = 1.000E+00 RAINIF = 1.000E-03 DHTOL = 0.000E+00
DHMAX = 0.000E+00 DHFACT = 0.000E+00
KOPT =    4      KEST =    3      WTF = 0.000E+00
ITOPBC =    0      IEVOPT =    1      NFHOUR =    2      LOWER =    1
HIRRI = 5.000E-01  HDRY = 1.000E+06  HTOP = 0.000E+00  RHA = 0.000E+00
IETOPT =    1      ICLOUD =    0      ISHOPT =    1
IRAIN =    1      HPR = 1.000E+00

```

Hysteresis options:

```

IHYS =    0      AIRTOL = 0.000E+00  HYSTOL = 0.000E+00  HYSMXH = 0.000E+00

```

Heat flow options:

```

IHEAT =    0      ICONVH =    0      DMAXHE = 0.000E+00
UPPERH =    0      TSMEAN = 0.000E+00  TSAMP = 0.000E+00  QHCTOP = 0.000E+00
LOWERH =    0      QHLEAK = 0.000E+00  TGRAD = 0.000E+00

```

Vapor flow options:

```

IVAPOR =    1      TORT = 6.600E-01  TSOIL = 2.969E+02  VAPDIF = 2.400E-01

```

Grid options:

```

MATN =    1      NPT =    30

```

Soil hydraulic properties:

KOPT = 4: van Genuchten hydraulic functions

Material No. 1

THETA = f(H), Soil Sample TP4 - Water Retention Parameters

```

THET = 0.38000      THTR = 2.50000E-02  ALPHA = 4.00000E-03
N = 1.2600      M = 0.20635

```

K = f(H), Soil Sample TP4 - Conductivity Parameters

```

RKMOD = 2.0000      SK = 8.28000E-02  A = 4.00000E-03
N = 1.2600      M = 0.20635  EPIT = 0.50000

```

Surface node bounding values:

```

HIRRI = 5.000E-01  THETA = 3.800E-01  K = 5.316E-02  C = -7.334E-05
HDRY = 1.000E+06  THETA = 6.609E-02  K = 1.004E-12  C = -1.068E-08

```

Initial Conditions:

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NDAY = 0

NODE	Z	MAT	HEAD	CONDUCTIVITY	CAPACITY	THETA	TEMP
1	0.10	1	2.4364E+05	4.2344E-11	-6.3281E-08	0.0843	296.9
2	0.20	1	1.9124E+05	8.0438E-11	-8.5853E-08	0.0882	296.9
3	0.30	1	1.4590E+05	1.6476E-10	-1.2072E-07	0.0928	296.9
4	0.40	1	1.1026E+05	3.4602E-10	-1.7178E-07	0.0979	296.9
5	0.50	1	8.5175E+04	6.8562E-10	-2.3776E-07	0.1029	296.9
6	0.60	1	6.8577E+04	1.2174E-09	-3.1235E-07	0.1075	296.9
7	0.70	1	5.7532E+04	1.9383E-09	-3.8961E-07	0.1113	296.9
8	2.00	1	1.4690E+04	7.1750E-08	-2.1634E-06	0.1480	296.9
9	4.00	1	9.9955E+03	1.9809E-07	-3.4988E-06	0.1608	296.9
10	6.00	1	8.0265E+03	3.5289E-07	-4.5960E-06	0.1687	296.9
11	10.00	1	6.9014E+03	5.2476E-07	-5.5419E-06	0.1744	296.9
12	11.00	1	6.1640E+03	7.0582E-07	-6.3721E-06	0.1787	296.9
13	13.00	1	5.2540E+03	1.0723E-06	-7.7567E-06	0.1851	296.9
14	15.00	1	4.7235E+03	1.4161E-06	-8.8376E-06	0.1895	296.9
15	20.00	1	4.3897E+03	1.7145E-06	-9.6654E-06	0.1926	296.9
16	25.00	1	4.2706E+03	1.8419E-06	-9.9951E-06	0.1938	296.9
17	30.00	1	4.1759E+03	1.9526E-06	-1.0272E-05	0.1947	296.9
18	35.00	1	4.1017E+03	2.0459E-06	-1.0498E-05	0.1955	296.9
19	40.00	1	4.0455E+03	2.1207E-06	-1.0676E-05	0.1961	296.9
20	45.00	1	4.0055E+03	2.1762E-06	-1.0806E-05	0.1965	296.9
21	50.00	1	3.9803E+03	2.2123E-06	-1.0889E-05	0.1968	296.9
22	55.00	1	3.9692E+03	2.2284E-06	-1.0926E-05	0.1969	296.9
23	58.00	1	3.9687E+03	2.2291E-06	-1.0928E-05	0.1969	296.9
24	59.50	1	3.9687E+03	2.2291E-06	-1.0928E-05	0.1969	296.9
25	60.00	1	3.9686E+03	2.2293E-06	-1.0928E-05	0.1969	296.9
26	60.50	1	3.9686E+03	2.2293E-06	-1.0928E-05	0.1969	296.9
27	60.70	1	3.9686E+03	2.2293E-06	-1.0928E-05	0.1969	296.9
28	60.80	1	3.9686E+03	2.2293E-06	-1.0928E-05	0.1969	296.9
29	60.90	1	3.9686E+03	2.2293E-06	-1.0928E-05	0.1969	296.9
30	61.00	1	3.9686E+03	2.2293E-06	-1.0928E-05	0.1969	296.9

Total Initial Storage (cm) = 1.144443E+01

ET parameters:

NFHOURL = 2: User subroutine for hourly PET provided

0.0100	0.0100	0.0100	0.0100	0.0100	0.0100	0.0150	0.0440
0.0699	0.0911	0.1061	0.1139	0.1139	0.1061	0.0911	0.0699
0.0440	0.0150	0.0100	0.0100	0.0100	0.0100	0.0100	0.0100

IETOPT = 1 and IHEAT = 0:

PET calculated from meteorological data
using subroutine CALPET

ALBEDO = 1.500E-01
ALT = 1.584E+02 (m)
ZU = 1.820E+00 (m)
PMB = 1.016E+03 (mb)

Lower Boundary Option:

LOWER = 1: unit gradient

Multiyear Option

sim Year PET input file name
1 weather1983.dat

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```

2 weather1984.dat
3 weather1985.dat
4 weather1986.dat
5 weather1987.dat
6 weather1988.dat
7 weather1989.dat
8 weather1990.dat
9 weather1991.dat
10 weather1992.dat
11 weather1993.dat
12 weather1994.dat
13 weather1995.dat
14 weather1996.dat
15 weather1997.dat
16 weather1998.dat
17 weather1999.dat
18 weather2000.dat
19 weather2001.dat
20 weather2002.dat
21 weather2003.dat
22 weather2004.dat
23 weather2005.dat
24 weather2006.dat
25 weather2007.dat
26 weather2008.dat
27 weather2009.dat
28 weather2010.dat
29 weather2011.dat
30 weather2012.dat

```

IETOPT = 1: Meteorological Data

IDAY	Temperature			Solar	wind	Cloud	Prec.
	Max	Min	Dew	Rad	Speed	Cover	in
	F	F	F	ly/d	mph	tenth	
1.	54.	41.	40.2	277.	11.8	6.9	0.01
2.	57.	33.	32.2	277.	9.2	0.0	0.00
3.	58.	34.	33.7	277.	3.6	1.7	0.00
4.	54.	39.	41.2	277.	4.7	8.0	0.00
5.	59.	47.	40.5	277.	2.7	7.3	0.00
6.	70.	43.	36.9	277.	5.6	4.3	0.00
7.	67.	56.	40.8	277.	4.0	7.6	0.00
8.	63.	49.	39.9	277.	5.8	6.6	0.02
9.	74.	43.	35.6	277.	3.1	3.2	0.00
10.	69.	46.	35.6	277.	6.7	3.3	0.00
11.	72.	42.	34.5	277.	4.5	2.5	0.00
12.	70.	44.	35.4	277.	6.5	3.0	0.00
13.	70.	47.	36.6	277.	8.3	3.9	0.00
14.	72.	55.	39.0	277.	6.3	5.8	0.00
15.	64.	48.	42.8	277.	8.1	9.8	0.09
16.	59.	49.	43.0	277.	4.0	10.0	0.00
17.	64.	54.	43.0	277.	6.3	10.0	0.00
18.	60.	51.	43.0	277.	7.8	10.0	0.16
19.	51.	42.	43.0	277.	8.7	10.0	0.04
20.	46.	40.	43.0	277.	8.5	10.0	0.30
21.	53.	44.	40.6	277.	5.1	7.3	0.00
22.	61.	37.	33.4	277.	2.0	1.4	0.00
23.	69.	41.	34.6	277.	3.8	2.7	0.00
24.	75.	44.	33.9	277.	6.5	1.9	0.00
25.	68.	42.	35.9	277.	5.6	3.1	0.00
26.	68.	47.	34.4	277.	11.6	2.4	0.00
27.	65.	39.	32.2	277.	5.8	0.0	0.00

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28.	72.	43.	35.1	277.	7.6	3.2	0.00
29.	80.	46.	32.6	277.	2.7	0.4	0.00
30.	76.	52.	40.5	277.	14.3	7.5	0.00
31.	78.	58.	39.4	277.	9.8	6.2	0.00
32.	69.	47.	35.7	359.	5.8	2.9	0.00
33.	67.	41.	34.3	359.	4.5	2.4	0.00
34.	57.	48.	41.5	359.	15.9	8.4	0.00
35.	57.	48.	43.0	359.	4.9	10.0	0.13
36.	57.	47.	43.0	359.	8.9	10.0	0.04
37.	58.	45.	40.1	359.	6.9	7.0	0.05
38.	65.	40.	34.4	359.	8.1	2.4	0.00
39.	74.	51.	40.4	359.	5.6	7.2	0.00
40.	81.	59.	32.9	359.	10.3	0.8	0.00
41.	78.	49.	32.2	359.	4.7	0.0	0.00
42.	57.	52.	41.6	359.	6.0	8.5	0.41
43.	67.	45.	39.5	359.	4.0	6.3	0.01
44.	68.	44.	34.0	359.	10.3	2.0	0.00
45.	75.	47.	32.8	359.	13.0	0.7	0.00
46.	63.	51.	41.2	359.	14.8	8.0	0.75
47.	71.	46.	33.5	359.	7.4	1.5	0.00
48.	73.	48.	34.4	359.	4.0	2.4	0.00
49.	77.	50.	32.2	359.	2.7	0.0	0.00
50.	85.	56.	34.2	359.	15.9	2.3	0.00
51.	77.	56.	32.6	359.	11.4	0.4	0.00
52.	70.	48.	32.2	359.	10.5	0.0	0.00
53.	76.	46.	33.0	359.	5.6	0.9	0.00
54.	75.	47.	32.6	359.	2.9	0.4	0.00
55.	78.	57.	39.9	359.	6.7	6.8	0.00
56.	65.	54.	42.6	359.	11.6	9.5	0.96
57.	58.	51.	42.3	359.	6.5	9.2	0.12
58.	67.	45.	37.4	359.	3.4	4.8	0.00
59.	80.	49.	32.2	359.	4.0	0.0	0.00
60.	85.	54.	32.2	422.	8.1	0.0	0.00
61.	82.	64.	39.2	422.	16.1	6.0	0.00
62.	87.	69.	39.8	422.	14.3	6.6	0.00
63.	80.	65.	39.8	422.	13.4	6.7	0.00
64.	81.	58.	33.8	422.	11.4	1.8	0.00
65.	85.	62.	34.4	422.	7.4	2.4	0.00
66.	88.	53.	32.2	422.	3.8	0.0	0.00
67.	85.	54.	33.3	422.	9.6	1.3	0.00
68.	69.	59.	40.4	422.	11.8	7.3	0.00
69.	77.	50.	32.2	422.	4.7	0.0	0.00
70.	73.	51.	33.0	422.	12.3	0.9	0.00
71.	68.	50.	40.6	422.	9.4	7.3	0.01
72.	74.	59.	39.9	422.	6.7	6.8	0.00
73.	81.	61.	37.4	422.	4.9	4.8	0.00
74.	76.	62.	41.0	422.	9.6	7.8	0.07
75.	71.	55.	36.2	422.	14.3	3.4	0.00
76.	72.	50.	32.2	422.	13.9	0.0	0.00
77.	75.	46.	32.8	422.	8.9	0.7	0.00
78.	85.	60.	37.5	422.	11.0	4.9	0.00
79.	71.	55.	33.9	422.	11.8	1.9	0.00
80.	63.	44.	39.1	422.	10.7	5.9	0.00
81.	62.	52.	43.0	422.	11.0	10.0	0.18
82.	65.	53.	40.7	422.	8.9	7.5	0.04
83.	74.	50.	35.1	422.	11.6	3.2	0.00
84.	83.	56.	41.0	422.	18.8	7.8	0.00
85.	83.	57.	34.0	422.	13.0	2.0	0.00
86.	80.	51.	32.2	422.	4.9	0.0	0.00
87.	78.	49.	32.8	422.	13.6	0.7	0.00
88.	82.	58.	36.8	422.	13.9	4.1	0.00
89.	87.	63.	38.3	422.	7.2	5.0	0.00
90.	92.	63.	32.8	422.	11.2	0.7	0.00

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91.	90.	64.	32.2	514.	15.7	0.0	0.00	
92.	75.	53.	32.2	514.	3.6	0.0	0.00	
93.	87.	55.	32.6	514.	20.1	0.4	0.00	
94.	95.	65.	37.3	514.	14.3	4.6	0.00	
95.	76.	56.	41.2	514.	11.8	8.0	0.00	
96.	72.	50.	36.8	514.	11.0	4.1	0.00	
97.	70.	55.	37.3	514.	9.2	4.6	0.00	
98.	65.	53.	40.9	514.	11.8	7.6	0.00	
99.	79.	42.	32.2	514.	4.0	0.0	0.00	
100.	86.	56.	32.2	514.	9.6	0.0	0.00	
101.	89.	64.	32.2	514.	19.9	0.0	0.00	
102.	90.	65.	33.3	514.	11.6	1.2	0.00	
103.	90.	68.	34.9	514.	10.3	3.0	0.00	
104.	76.	60.	34.7	514.	13.0	2.8	0.00	
105.	74.	51.	32.2	514.	9.4	0.0	0.00	
106.	78.	47.	32.2	514.	8.3	0.0	0.00	
107.	82.	54.	32.6	514.	11.4	0.4	0.00	
108.	94.	59.	32.2	514.	9.2	0.0	0.00	
109.	92.	64.	32.2	514.	9.8	0.0	0.00	
110.	91.	70.	34.6	514.	15.4	2.7	0.00	
111.	90.	70.	39.3	514.	10.7	6.1	0.00	
112.	92.	72.	37.1	514.	8.9	4.4	0.00	
113.	87.	65.	32.2	514.	11.4	0.0	0.00	
114.	84.	60.	32.2	514.	6.0	0.0	0.00	
115.	86.	57.	32.4	514.	13.0	0.2	0.00	
116.	84.	65.	35.5	514.	18.3	3.1	0.00	
117.	90.	66.	36.6	514.	8.3	3.9	0.00	
118.	94.	71.	40.8	514.	15.0	7.7	0.00	
119.	93.	75.	40.9	514.	15.2	7.9	0.00	
120.	96.	75.	39.3	514.	15.0	6.1	0.00	
121.	103.	76.	40.2	514.	16.6	7.1	0.00	
122.	106.	75.	33.4	553.	10.7	1.4	0.00	
123.	90.	74.	37.1	553.	11.4	4.4	0.00	
124.	89.	60.	32.2	553.	11.8	0.0	0.00	
125.	90.	60.	32.2	553.	15.4	0.0	0.00	
126.	93.	68.	33.8	553.	16.8	1.8	0.00	
127.	89.	75.	40.7	553.	11.0	7.5	0.00	
128.	90.	71.	39.2	553.	11.8	6.0	0.00	
129.	77.	69.	41.8	553.	14.1	8.7	0.00	
130.	86.	69.	41.8	553.	13.9	8.7	0.24	
131.	88.	74.	39.6	553.	12.3	6.4	0.00	
132.	91.	75.	39.1	553.	12.7	5.9	0.00	
133.	94.	75.	39.1	553.	15.4	5.9	0.00	
134.	95.	76.	38.7	553.	12.3	5.4	0.00	
135.	81.	64.	39.9	553.	10.7	6.6	0.05	
136.	90.	61.	35.9	553.	12.5	3.1	0.00	
137.	90.	68.	40.9	553.	13.6	7.7	0.00	
138.	86.	74.	41.5	553.	6.7	8.4	0.00	
139.	90.	76.	41.3	553.	11.4	8.1	0.00	
140.	100.	78.	39.8	553.	10.3	6.6	0.00	
141.	96.	73.	36.9	553.	11.8	4.3	0.09	
142.	95.	71.	35.6	553.	8.9	3.5	0.00	
143.	89.	74.	39.4	553.	12.7	6.2	0.00	
144.	91.	74.	39.0	553.	9.6	5.7	0.00	
145.	93.	72.	39.5	553.	12.3	6.3	0.00	
146.	87.	72.	41.9	553.	7.4	8.7	0.60	
147.	85.	71.	41.4	553.	7.8	8.4	0.29	
148.	82.	70.	42.2	553.	4.9	9.2	0.22	
149.	88.	67.	40.0	553.	3.1	6.9	0.03	
150.	92.	70.	33.9	553.	8.3	1.9	0.00	
151.	92.	71.	36.3	553.	12.5	3.5	0.00	
152.	88.	63.	40.2	553.	14.1	7.1	0.00	
153.	95.	74.	38.0	582.	14.8	5.4	0.00	

154.	96.	78.	39.9	582.	11.2	6.8	0.00
155.	96.	77.	39.8	582.	11.0	6.6	0.00
156.	94.	76.	38.3	582.	12.1	5.4	0.08
157.	88.	67.	39.8	582.	14.3	6.7	0.42
158.	86.	66.	38.9	582.	3.6	6.1	0.00
159.	92.	69.	33.0	582.	10.3	0.9	0.00
160.	90.	70.	37.3	582.	12.5	4.7	0.00
161.	93.	74.	38.6	582.	18.6	6.1	0.00
162.	94.	76.	38.7	582.	19.4	5.9	0.00
163.	94.	74.	34.4	582.	16.1	2.4	0.00
164.	95.	74.	38.3	582.	15.0	5.4	0.00
165.	94.	78.	39.4	582.	13.0	6.2	0.00
166.	95.	75.	38.5	582.	11.0	5.2	0.66
167.	88.	69.	40.8	582.	9.6	7.7	0.06
168.	91.	72.	39.8	582.	7.6	6.7	0.00
169.	97.	74.	33.7	582.	12.5	1.7	0.00
170.	95.	75.	36.9	582.	10.3	4.3	0.00
171.	96.	74.	36.6	582.	9.6	3.9	0.00
172.	96.	75.	35.0	582.	8.9	2.6	0.00
173.	95.	75.	37.0	582.	6.9	4.0	0.00
174.	95.	77.	36.2	582.	7.4	3.4	0.00
175.	94.	77.	37.9	582.	6.3	5.1	0.05
176.	95.	74.	36.4	582.	4.0	3.6	0.02
177.	101.	77.	33.3	582.	8.1	1.3	0.00
178.	102.	79.	32.2	582.	13.4	0.0	0.00
179.	97.	81.	38.6	582.	11.2	6.1	0.00
180.	100.	80.	33.6	582.	13.6	1.6	0.00
181.	98.	79.	36.4	582.	14.8	3.7	0.00
182.	97.	80.	38.7	582.	19.2	5.4	0.48
183.	98.	80.	38.2	623.	19.0	5.7	0.00
184.	97.	82.	37.4	623.	21.7	4.8	0.00
185.	95.	79.	38.3	623.	19.7	5.0	0.00
186.	97.	80.	37.4	623.	13.4	4.8	0.00
187.	97.	79.	36.9	623.	9.4	4.2	0.00
188.	95.	77.	37.7	623.	9.4	4.7	0.00
189.	95.	78.	37.6	623.	10.5	5.0	0.00
190.	94.	76.	38.1	623.	6.9	4.8	0.00
191.	93.	75.	38.4	623.	10.3	5.1	0.06
192.	85.	74.	39.9	623.	7.4	6.7	0.94
193.	89.	73.	39.6	623.	8.7	6.4	0.01
194.	91.	74.	39.9	623.	7.4	6.7	0.00
195.	90.	76.	40.3	623.	8.9	7.2	0.00
196.	96.	77.	40.2	623.	7.4	7.1	0.00
197.	95.	79.	39.8	623.	17.2	6.7	0.02
198.	96.	79.	39.5	623.	17.2	6.3	0.00
199.	92.	76.	38.8	623.	13.9	5.6	0.00
200.	87.	74.	41.5	623.	8.9	8.3	0.13
201.	92.	75.	40.8	623.	10.3	7.7	0.00
202.	96.	77.	37.3	623.	10.3	4.6	0.00
203.	97.	75.	32.2	623.	9.6	0.0	0.00
204.	97.	75.	33.7	623.	15.7	1.7	0.00
205.	99.	78.	32.5	623.	17.9	0.3	0.00
206.	101.	77.	32.7	623.	17.4	0.5	0.00
207.	99.	76.	32.2	623.	14.5	0.0	0.00
208.	100.	77.	33.5	623.	15.2	1.5	0.00
209.	99.	78.	35.3	623.	17.9	2.9	0.00
210.	98.	79.	37.9	623.	13.4	4.9	0.00
211.	97.	76.	37.0	623.	9.2	4.3	0.01
212.	98.	77.	36.5	623.	8.7	3.7	0.00
213.	96.	77.	36.5	544.	9.8	3.8	0.00
214.	97.	76.	36.9	544.	8.3	4.3	0.00
215.	98.	75.	37.0	544.	6.9	4.0	0.00
216.	91.	73.	38.7	544.	12.7	5.4	0.07

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217.	87.	70.	39.7	544.	5.1	6.5	0.94
218.	89.	75.	39.0	544.	4.5	5.8	0.05
219.	96.	75.	35.9	544.	4.9	3.1	0.00
220.	97.	77.	36.9	544.	9.8	4.2	0.00
221.	97.	78.	36.1	544.	9.2	3.3	0.00
222.	97.	79.	36.7	544.	12.7	4.0	0.00
223.	98.	78.	37.0	544.	13.0	4.4	0.00
224.	96.	79.	38.2	544.	14.1	5.7	0.00
225.	97.	80.	40.1	544.	13.9	7.0	0.00
226.	92.	76.	40.2	544.	5.6	7.1	0.00
227.	98.	77.	34.3	544.	8.7	2.3	0.00
228.	100.	79.	37.4	544.	8.3	4.8	0.00
229.	97.	78.	34.7	544.	7.6	2.7	0.00
230.	99.	77.	38.5	544.	8.3	5.2	0.00
231.	102.	80.	36.2	544.	16.1	3.5	0.00
232.	98.	79.	36.7	544.	17.7	4.0	0.00
233.	98.	77.	34.0	544.	13.4	2.1	0.00
234.	99.	78.	33.7	544.	12.5	1.7	0.00
235.	99.	77.	32.2	544.	13.6	0.0	0.00
236.	99.	77.	34.2	544.	13.2	2.2	0.00
237.	95.	78.	36.5	544.	10.1	3.8	0.00
238.	96.	76.	35.4	544.	7.6	3.0	0.00
239.	100.	77.	34.5	544.	9.2	2.5	0.00
240.	92.	77.	38.3	544.	11.6	5.0	0.00
241.	93.	78.	39.5	544.	13.6	6.3	0.25
242.	97.	76.	36.9	544.	7.8	4.2	0.00
243.	100.	76.	33.1	544.	6.3	1.1	0.00
244.	103.	78.	34.6	460.	7.6	2.6	0.00
245.	97.	78.	37.8	460.	7.6	5.2	0.05
246.	97.	75.	34.5	460.	8.3	2.5	0.00
247.	97.	76.	33.3	460.	11.0	1.3	0.00
248.	100.	78.	36.2	460.	15.0	3.5	0.00
249.	100.	80.	36.1	460.	17.2	3.4	0.00
250.	94.	75.	38.4	460.	15.9	5.1	1.02
251.	88.	74.	39.1	460.	12.7	5.9	0.91
252.	93.	76.	40.1	460.	10.3	7.0	0.00
253.	88.	77.	41.0	460.	9.2	7.8	0.04
254.	91.	75.	40.4	460.	7.6	7.3	0.01
255.	94.	74.	34.5	460.	5.6	2.5	0.00
256.	95.	75.	37.0	460.	7.4	4.3	0.00
257.	91.	73.	35.8	460.	9.4	3.5	0.00
258.	92.	71.	37.2	460.	4.9	4.6	0.00
259.	96.	76.	34.5	460.	9.8	2.5	0.00
260.	96.	77.	34.4	460.	13.0	2.4	0.00
261.	93.	79.	41.1	460.	12.7	8.0	0.00
262.	98.	78.	35.0	460.	14.3	2.6	0.00
263.	99.	75.	35.3	460.	12.7	3.5	0.20
264.	74.	59.	41.8	460.	8.9	8.6	0.03
265.	83.	55.	32.2	460.	6.7	0.0	0.00
266.	86.	60.	32.2	460.	9.6	0.0	0.00
267.	87.	62.	33.5	460.	9.2	1.5	0.00
268.	90.	63.	40.4	460.	7.4	7.4	0.00
269.	91.	75.	40.8	460.	9.8	7.7	0.00
270.	88.	72.	38.9	460.	8.7	5.6	0.00
271.	95.	70.	38.4	460.	10.5	5.1	0.00
272.	85.	71.	42.4	460.	8.3	9.4	0.59
273.	84.	72.	41.8	460.	9.4	8.7	0.00
274.	88.	69.	34.7	355.	9.2	2.8	0.00
275.	91.	70.	32.8	355.	12.7	0.7	0.00
276.	91.	72.	37.6	355.	11.6	5.0	0.00
277.	95.	74.	33.0	355.	7.2	0.9	0.00
278.	96.	74.	32.4	355.	7.6	0.2	0.00
279.	94.	75.	36.4	355.	11.8	3.7	0.00

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280.	94.	77.	34.8	355.	14.1	2.9	0.00
281.	94.	77.	39.0	355.	14.5	5.8	0.00
282.	83.	67.	41.2	355.	9.2	8.2	1.26
283.	81.	66.	36.7	355.	3.8	4.0	0.00
284.	88.	68.	33.6	355.	6.5	1.5	0.00
285.	78.	66.	38.4	355.	9.8	5.5	0.69
286.	80.	57.	32.2	355.	8.7	0.0	0.00
287.	84.	59.	32.2	355.	13.2	0.0	0.00
288.	87.	63.	34.6	355.	10.1	2.6	0.00
289.	88.	69.	38.4	355.	8.7	5.1	0.00
290.	89.	74.	40.4	355.	8.7	7.3	0.00
291.	89.	75.	40.0	355.	12.5	6.8	0.04
292.	90.	75.	38.1	355.	21.2	4.8	0.00
293.	86.	75.	38.2	355.	13.4	4.8	0.00
294.	78.	65.	42.1	355.	10.1	9.0	0.00
295.	84.	63.	36.5	355.	3.1	3.8	0.00
296.	87.	64.	33.0	355.	4.2	0.9	0.00
297.	86.	65.	32.2	355.	13.2	0.0	0.00
298.	79.	62.	34.9	355.	7.6	3.0	0.00
299.	76.	57.	32.4	355.	6.9	0.2	0.00
300.	79.	53.	32.2	355.	6.3	0.0	0.00
301.	80.	56.	36.4	355.	8.7	3.7	0.00
302.	83.	66.	36.5	355.	6.0	3.3	0.00
303.	81.	65.	38.3	355.	6.3	5.0	0.00
304.	83.	65.	36.5	355.	6.5	3.8	0.00
305.	85.	69.	37.4	274.	10.1	4.8	0.00
306.	87.	71.	39.6	274.	11.6	6.4	0.01
307.	85.	73.	40.3	274.	12.1	7.2	0.00
308.	85.	71.	39.9	274.	5.8	6.8	0.00
309.	81.	69.	38.0	274.	5.6	5.5	0.43
310.	83.	67.	38.5	274.	2.7	5.2	0.07
311.	85.	65.	34.5	274.	3.4	2.4	0.00
312.	80.	69.	41.4	274.	12.3	8.2	0.00
313.	82.	63.	39.5	274.	11.2	6.3	0.00
314.	70.	50.	32.8	274.	5.4	0.7	0.00
315.	71.	47.	32.2	274.	5.8	0.0	0.00
316.	84.	53.	32.2	274.	6.0	0.0	0.00
317.	91.	55.	32.2	274.	2.5	0.0	0.00
318.	91.	60.	32.9	274.	3.6	0.8	0.00
319.	74.	57.	32.2	274.	7.4	0.0	0.00
320.	75.	50.	32.2	274.	8.5	0.0	0.00
321.	80.	56.	36.2	274.	8.1	3.4	0.00
322.	85.	65.	39.3	274.	13.9	6.1	0.00
323.	80.	59.	33.2	274.	13.9	1.2	0.00
324.	75.	48.	32.2	274.	7.4	0.0	0.00
325.	83.	58.	32.4	274.	12.7	0.2	0.00
326.	90.	69.	37.0	274.	13.2	4.4	0.00
327.	70.	56.	34.8	274.	14.3	2.6	0.00
328.	70.	48.	33.3	274.	4.0	1.2	0.00
329.	77.	46.	32.2	274.	14.8	0.0	0.00
330.	88.	59.	37.4	274.	19.9	4.8	0.00
331.	66.	50.	36.1	274.	6.5	3.3	0.00
332.	66.	38.	32.2	274.	4.7	0.0	0.00
333.	72.	54.	41.9	274.	6.5	8.8	0.00
334.	81.	65.	41.6	274.	6.3	8.4	0.00
335.	62.	49.	43.0	208.	7.4	10.0	0.09
336.	56.	50.	43.0	208.	1.8	10.0	0.05
337.	82.	54.	34.8	208.	5.4	2.9	0.01
338.	83.	54.	32.4	208.	13.9	0.2	0.00
339.	79.	61.	39.4	208.	10.7	6.2	0.00
340.	63.	48.	34.1	208.	8.3	2.1	0.00
341.	69.	43.	32.2	208.	7.4	0.0	0.00
342.	76.	47.	33.0	208.	6.3	0.9	0.00

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343.	78.	62.	36.2	208.	4.5	3.9	0.00	
344.	84.	71.	32.2	208.	4.7	0.0	0.00	
345.	82.	54.	32.2	208.	7.2	0.0	0.00	
346.	78.	48.	34.0	208.	11.0	2.0	0.00	
347.	73.	50.	33.8	208.	11.6	1.8	0.00	
348.	69.	45.	33.1	208.	8.5	1.1	0.00	
349.	71.	43.	32.2	208.	8.7	0.0	0.00	
350.	63.	41.	36.7	208.	11.8	4.5	0.00	
351.	54.	37.	35.9	208.	8.3	4.1	0.00	
352.	48.	36.	43.0	208.	8.5	10.0	0.00	
353.	42.	31.	43.0	208.	9.4	10.0	0.00	
354.	41.	36.	43.0	208.	6.5	10.0	0.00	
355.	48.	37.	43.0	208.	5.4	10.0	0.00	
356.	43.	28.	41.9	208.	11.0	8.7	0.00	
357.	43.	31.	42.6	208.	6.3	9.6	0.00	
358.	33.	22.	40.4	208.	12.7	7.1	0.00	
359.	31.	17.	33.1	208.	4.2	1.1	0.00	
360.	33.	22.	39.0	208.	5.1	5.7	0.00	
361.	57.	24.	33.5	208.	3.1	1.5	0.00	
362.	56.	33.	34.0	208.	11.0	2.1	0.00	
363.	40.	25.	32.8	208.	15.2	0.7	0.00	
364.	44.	17.	32.2	208.	3.4	0.0	0.00	
365.	61.	27.	39.3	208.	7.8	6.1	0.00	

Potential Evaporation Values (no plants):

DAY	PEVAPO	DAY	PEVAPO	DAY	PEVAPO	DAY	PEVAPO	DAY	PEVAPO
1	0.3444	2	0.3113	3	0.2087	4	0.2342	5	0.2860
6	0.4029	7	0.4337	8	0.4054	9	0.3298	10	0.4580
11	0.3634	12	0.4388	13	0.5309	14	0.5403	15	0.4809
16	0.3483	17	0.4923	18	0.4655	19	0.2675	20	0.1780
21	0.2712	22	0.1991	23	0.3184	24	0.4746	25	0.3749
26	0.6479	27	0.3352	28	0.4940	29	0.3232	30	0.9092
31	0.7969	32	0.4970	33	0.3964	34	0.6334	35	0.4110
36	0.4715	37	0.4237	38	0.4855	39	0.5843	40	0.9194
41	0.5032	42	0.4656	43	0.4222	44	0.6361	45	0.8649
46	0.7687	47	0.5693	48	0.4583	49	0.4001	50	1.2756
51	0.9101	52	0.7069	53	0.5230	54	0.3939	55	0.7171
56	0.7437	57	0.4779	58	0.3946	59	0.4784	60	0.8313
61	1.4214	62	1.4589	63	1.2526	64	1.0444	65	0.8767
66	0.5858	67	0.9355	68	0.9412	69	0.5623	70	0.9177
71	0.7114	72	0.7593	73	0.7158	74	0.9615	75	1.0282
76	0.9635	77	0.7262	78	1.1010	79	0.9223	80	0.6147
81	0.7088	82	0.6978	83	0.8889	84	1.4466	85	1.1507
86	0.5983	87	1.0200	88	1.2027	89	0.9093	90	1.1846
91	1.5854	92	0.5982	93	1.7055	94	1.5971	95	1.0826
96	0.9101	97	0.8706	98	0.8775	99	0.5794	100	1.0465
101	1.8735	102	1.3202	103	1.2758	104	1.1976	105	0.8690
106	0.8135	107	1.0953	108	1.1152	109	1.1894	110	1.6837
111	1.3548	112	1.2447	113	1.2632	114	0.8381	115	1.2701
116	1.7066	117	1.1207	118	1.7405	119	1.8033	120	1.8036
121	2.0487	122	1.5381	123	1.4714	124	1.3051	125	1.5594
126	1.8177	127	1.4782	128	1.4873	129	1.4529	130	1.5742
131	1.5347	132	1.6112	133	1.8510	134	1.6253	135	1.2283
136	1.3887	137	1.5902	138	1.1538	139	1.5391	140	1.5584
141	1.5608	142	1.2968	143	1.5778	144	1.3625	145	1.5701
146	1.1952	147	1.1931	148	0.9868	149	0.8523	150	1.1890
151	1.5332	152	1.5163	153	1.8325	154	1.6280	155	1.5950
156	1.6314	157	1.6152	158	0.8824	159	1.3521	160	1.5448
161	2.1036	162	2.2126	163	1.8954	164	1.8463	165	1.7354
166	1.5405	167	1.3420	168	1.2464	169	1.6345	170	1.4794

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171	1.4187	172	1.3555	173	1.2067	174	1.2475	175	1.1809
176	0.9640	177	1.3122	178	1.7882	179	1.6600	180	1.8227
181	1.9101	182	2.2980	183	2.3580	184	2.5865	185	2.3298
186	1.8627	187	1.5056	188	1.4771	189	1.5848	190	1.2648
191	1.5137	192	1.2390	193	1.3587	194	1.2929	195	1.4247
196	1.3691	197	2.1535	198	2.1634	199	1.7921	200	1.3915
201	1.5433	202	1.5598	203	1.4270	204	1.9508	205	2.1869
206	2.1618	207	1.8691	208	1.9711	209	2.2147	210	1.8608
211	1.4626	212	1.4332	213	1.4199	214	1.2998	215	1.1853
216	1.5703	217	0.9827	218	0.9690	219	0.9949	220	1.4344
221	1.3728	222	1.6906	223	1.7177	224	1.8180	225	1.8369
226	1.1018	227	1.3221	228	1.3565	229	1.2349	230	1.3365
231	2.0392	232	2.1141	233	1.7153	234	1.6524	235	1.7134
236	1.7060	237	1.4378	238	1.2171	239	1.3787	240	1.5356
241	1.7354	242	1.2619	243	1.0988	244	1.1754	245	1.1823
246	1.1700	247	1.3808	248	1.7982	249	2.0128	250	1.7710
251	1.4589	252	1.3701	253	1.2599	254	1.1475	255	0.9277
256	1.1115	257	1.2098	258	0.8836	259	1.2987	260	1.5649
261	1.6074	262	1.7091	263	1.5731	264	0.9138	265	0.7825
266	1.0290	267	1.0420	268	1.0221	269	1.3186	270	1.1472
271	1.3176	272	1.1360	273	1.1977	274	1.0134	275	1.2880
276	1.2696	277	0.9157	278	0.9470	279	1.3278	280	1.5229
281	1.5830	282	1.0039	283	0.5979	284	0.7951	285	0.9585
286	0.7903	287	1.1212	288	1.0107	289	1.0016	290	1.0867
291	1.3632	292	1.9986	293	1.3676	294	0.9869	295	0.5530
296	0.6049	297	1.2084	298	0.7833	299	0.6576	300	0.6129
301	0.8033	302	0.7394	303	0.7527	304	0.7693	305	0.9797
306	1.1402	307	1.1783	308	0.7349	309	0.6660	310	0.4724
311	0.4746	312	1.0961	313	0.9661	314	0.4211	315	0.4237
316	0.5517	317	0.3684	318	0.4715	319	0.5878	320	0.6004
321	0.6832	322	1.1852	323	1.0410	324	0.5304	325	0.9880
326	1.2438	327	0.8971	328	0.3542	329	0.8843	330	1.5218
331	0.4488	332	0.2965	333	0.5610	334	0.7128	335	0.3929
336	0.2324	337	0.4717	338	0.9442	339	0.8170	340	0.4206
341	0.3899	342	0.4204	343	0.4527	344	0.4837	345	0.5449
346	0.6779	347	0.6770	348	0.4539	349	0.4591	350	0.4519
351	0.2385	352	0.1051	353	0.0000	354	0.0401	355	0.1207
356	0.0000	357	0.0177	358	0.0000	359	0.0000	360	0.0000
361	0.0982	362	0.2745	363	0.0192	364	0.0078	365	0.1732

Totals: PEVAPO = 389.0763

Precipitation/irrigation parameters:

IRAIN = 1: precipitation data provided

Rainfall/Irrigation Details

Day	Time (hr)	Amount (cm)	Application Type	Efficiency	Changes In Rate/Head
1	0.000	0.0254	1	1.000	2
	1.000	0.0000			
8	0.000	0.0508	1	1.000	2
	1.000	0.0000			
15	0.000	0.2286	1	1.000	2
	1.000	0.0000			
18	0.000	0.4064	1	1.000	2
	1.000	0.0000			
19	0.000	0.1016	1	1.000	2
	1.000	0.0000			
20	0.000	0.7620	1	1.000	2
	1.000	0.0000			

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35	0.000	0.3302	1	1.000	2
	1.000	0.0000			
36	0.000	0.1016	1	1.000	2
	1.000	0.0000			
37	0.000	0.1270	1	1.000	2
	1.000	0.0000			
42	0.000	1.0000	1	1.000	3
	1.000	0.0414			
	2.000	0.0000			
43	0.000	0.0254	1	1.000	2
	1.000	0.0000			
46	0.000	1.0000	1	1.000	3
	1.000	0.9050			
	2.000	0.0000			
56	0.000	2.0000	1	1.000	3
	2.000	0.4384			
	3.000	0.0000			
57	0.000	0.3048	1	1.000	2
	1.000	0.0000			
71	0.000	0.0254	1	1.000	2
	1.000	0.0000			
74	0.000	0.1778	1	1.000	2
	1.000	0.0000			
81	0.000	0.4572	1	1.000	2
	1.000	0.0000			
82	0.000	0.1016	1	1.000	2
	1.000	0.0000			
130	0.000	0.6096	1	1.000	2
	1.000	0.0000			
135	0.000	0.1270	1	1.000	2
	1.000	0.0000			
141	0.000	0.2286	1	1.000	2
	1.000	0.0000			
146	0.000	1.0000	1	1.000	3
	1.000	0.5240			
	2.000	0.0000			
147	0.000	0.7366	1	1.000	2
	1.000	0.0000			
148	0.000	0.5588	1	1.000	2
	1.000	0.0000			
149	0.000	0.0762	1	1.000	2
	1.000	0.0000			
156	0.000	0.2032	1	1.000	2
	1.000	0.0000			
157	0.000	1.0000	1	1.000	3
	1.000	0.0668			
	2.000	0.0000			
166	0.000	1.0000	1	1.000	3
	1.000	0.6764			
	2.000	0.0000			
167	0.000	0.1524	1	1.000	2
	1.000	0.0000			
175	0.000	0.1270	1	1.000	2
	1.000	0.0000			
176	0.000	0.0508	1	1.000	2
	1.000	0.0000			
182	0.000	1.0000	1	1.000	3
	1.000	0.2192			
	2.000	0.0000			
191	0.000	0.1524	1	1.000	2
	1.000	0.0000			
192	0.000	2.0000	1	1.000	3
	2.000	0.3876			

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	3.000	0.0000			
193	0.000	0.0254	1	1.000	2
	1.000	0.0000			
197	0.000	0.0508	1	1.000	2
	1.000	0.0000			
200	0.000	0.3302	1	1.000	2
	1.000	0.0000			
211	0.000	0.0254	1	1.000	2
	1.000	0.0000			
216	0.000	0.1778	1	1.000	2
	1.000	0.0000			
217	0.000	2.0000	1	1.000	3
	2.000	0.3876			
	3.000	0.0000			
218	0.000	0.1270	1	1.000	2
	1.000	0.0000			
241	0.000	0.6350	1	1.000	2
	1.000	0.0000			
245	0.000	0.1270	1	1.000	2
	1.000	0.0000			
250	0.000	2.0000	1	1.000	3
	2.000	0.5908			
	3.000	0.0000			
251	0.000	2.0000	1	1.000	3
	2.000	0.3114			
	3.000	0.0000			
253	0.000	0.1016	1	1.000	2
	1.000	0.0000			
254	0.000	0.0254	1	1.000	2
	1.000	0.0000			
263	0.000	0.5080	1	1.000	2
	1.000	0.0000			
264	0.000	0.0762	1	1.000	2
	1.000	0.0000			
272	0.000	1.0000	1	1.000	3
	1.000	0.4986			
	2.000	0.0000			
282	0.000	3.0000	1	1.000	3
	3.000	0.2004			
	4.000	0.0000			
285	0.000	1.0000	1	1.000	3
	1.000	0.7526			
	2.000	0.0000			
291	0.000	0.1016	1	1.000	2
	1.000	0.0000			
306	0.000	0.0254	1	1.000	2
	1.000	0.0000			
309	0.000	1.0000	1	1.000	3
	1.000	0.0922			
	2.000	0.0000			
310	0.000	0.1778	1	1.000	2
	1.000	0.0000			
335	0.000	0.2286	1	1.000	2
	1.000	0.0000			
336	0.000	0.1270	1	1.000	2
	1.000	0.0000			
337	0.000	0.0254	1	1.000	2
	1.000	0.0000			

NWATER (number of days of rain/irrigation) = 59

Total water Applied (cm) = 3.723640E+01

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Program DATAINH terminated normally.

Soil Sample TP2 OUTPUT										
Year	Precipitation, cm.	PET, cm.	P/PET	Evaporation, cm.	Transpiration, cm.	Runoff, cm.	Water Storage, cm	Percolation, cm.	Mass Balance Error, cm.	Percolation + Mass Balance Error, mm.
1	37.24	389.08	0.10	25.50	0.00	12.17	14.17	1.20E-02	-1.35E-01	1.47
2	32.18	418.15	0.08	18.69	0.00	13.31	14.45	1.10E-02	-1.02E-01	1.13
3	89.21	394.03	0.23	37.98	0.00	49.38	16.46	2.40E-02	-1.91E-01	2.15
4	47.14	413.38	0.11	28.35	0.00	18.73	16.64	5.00E-02	-1.71E-01	2.21
5	46.63	452.72	0.10	31.83	0.00	16.64	14.92	3.80E-02	-1.54E-01	1.92
6	35.97	425.57	0.08	23.37	0.00	13.09	14.54	2.10E-02	-1.32E-01	1.53
7	39.68	414.76	0.10	22.70	0.00	16.67	14.96	1.50E-02	-1.29E-01	1.44
8	58.57	416.40	0.14	31.28	0.00	26.96	15.44	1.70E-02	-1.57E-01	1.74
9	47.80	386.58	0.12	28.44	0.00	18.57	16.37	2.80E-02	-1.66E-01	1.94
10	52.98	366.19	0.14	34.89	0.00	18.80	15.81	4.90E-02	-1.89E-01	2.38
11	33.45	395.97	0.08	23.37	0.00	11.98	14.01	2.70E-02	-1.24E-01	1.51
12	54.71	429.59	0.13	32.82	0.00	20.57	15.51	1.60E-02	-1.81E-01	1.97
13	61.06	435.53	0.14	32.83	0.00	27.93	15.96	2.20E-02	-1.69E-01	1.91
14	58.27	461.00	0.13	28.78	0.00	29.60	15.96	4.00E-02	-1.50E-01	1.90
15	53.52	422.53	0.13	33.57	0.00	20.34	15.71	4.40E-02	-1.90E-01	2.34
16	26.42	467.68	0.06	20.01	0.00	7.77	14.44	2.70E-02	-1.21E-01	1.48
17	42.01	462.15	0.09	22.97	0.00	19.41	14.17	1.30E-02	-1.10E-01	1.23
18	42.39	471.45	0.09	23.37	0.00	18.62	14.72	1.20E-02	-1.51E-01	1.63
19	44.96	456.11	0.10	26.19	0.00	18.70	14.90	1.10E-02	-1.33E-01	1.44
20	48.74	461.51	0.11	25.46	0.00	23.20	15.11	1.20E-02	-1.40E-01	1.52
21	65.23	431.87	0.15	35.19	0.00	29.70	15.61	2.80E-02	-1.94E-01	2.22
22	69.14	439.22	0.16	35.94	0.00	32.80	16.12	5.50E-02	-1.74E-01	2.29
23	34.95	412.26	0.08	21.58	0.00	15.04	14.53	3.80E-02	-1.22E-01	1.60
24	49.17	431.12	0.11	21.55	0.00	26.23	16.05	1.60E-02	-1.37E-01	1.53
25	75.62	387.42	0.20	40.79	0.00	35.40	15.66	5.80E-02	-2.36E-01	2.94
26	57.86	407.81	0.14	28.12	0.00	29.95	15.56	4.50E-02	-1.55E-01	2.00
27	34.29	415.53	0.08	22.65	0.00	11.85	15.48	2.90E-02	-1.62E-01	1.91
28	66.62	385.40	0.17	34.45	0.00	32.49	15.33	3.90E-02	-2.06E-01	2.45
29	23.57	435.44	0.05	13.16	0.00	11.38	14.39	3.00E-02	-6.73E-02	0.97
30	28.65	427.82	0.07	18.72	0.00	11.54	12.90	9.00E-03	-1.18E-01	1.27

Soil Sample TP3 OUTPUT										
Year	Precipitation, cm.	PET, cm.	P/PET	Evaporation, cm.	Transpiration, cm.	Runoff, cm.	Water Storage, cm	Percolation, cm.	Mass Balance Error, cm.	Percolation + Mass Balance Error, mm.
1	37.24	389.08	0.10	15.69	0.00	23.10	14.90	1.00E-03	-0.15183	1.53
2	32.18	418.15	0.08	11.83	0.00	20.94	14.48	1.00E-03	-0.15119	1.52
3	89.21	394.03	0.23	19.29	0.00	70.11	14.53	1.00E-03	-0.24461	2.46
4	47.14	413.38	0.11	16.02	0.00	31.44	14.42	1.00E-03	-0.21467	2.16
5	46.63	452.72	0.10	18.98	0.00	28.80	13.46	1.00E-03	-0.19111	1.92
6	35.97	425.57	0.08	14.09	0.00	22.60	12.94	1.00E-03	-0.19342	1.94
7	39.68	414.76	0.10	13.43	0.00	26.39	12.98	0.00E+00	-0.17563	1.76
8	58.57	416.40	0.14	17.06	0.00	42.26	12.43	0.00E+00	-0.20504	2.05
9	47.80	386.58	0.12	15.91	0.00	31.63	12.93	0.00E+00	-0.2291	2.29
10	52.98	366.19	0.14	20.44	0.00	33.35	12.38	0.00E+00	-0.26171	2.62
11	33.45	395.97	0.08	14.47	0.00	19.79	11.75	0.00E+00	-0.18576	1.86
12	54.71	429.59	0.13	18.92	0.00	35.94	11.84	0.00E+00	-0.24135	2.41
13	61.06	435.53	0.14	18.04	0.00	43.47	11.61	0.00E+00	-0.22253	2.23
14	58.27	461.00	0.13	14.41	0.00	44.34	11.32	0.00E+00	-0.18858	1.89
15	53.52	422.53	0.13	19.65	0.00	34.20	11.25	0.00E+00	-0.2598	2.60
16	26.42	467.68	0.06	12.04	0.00	15.02	10.78	0.00E+00	-0.1697	1.70
17	42.01	462.15	0.09	13.21	0.00	29.30	10.45	0.00E+00	-0.17104	1.71
18	42.39	471.45	0.09	13.62	0.00	28.90	10.48	0.00E+00	-0.15695	1.57
19	44.96	456.11	0.10	15.57	0.00	29.81	10.25	0.00E+00	-0.17566	1.76
20	48.74	461.51	0.11	13.86	0.00	35.18	10.12	0.00E+00	-0.17437	1.74
21	65.23	431.87	0.15	20.42	0.00	45.07	10.17	0.00E+00	-0.30327	3.03
22	69.14	439.22	0.16	20.23	0.00	49.13	10.21	0.00E+00	-0.26388	2.64
23	34.95	412.26	0.08	11.98	0.00	23.61	9.73	0.00E+00	-0.16022	1.60
24	49.17	431.12	0.11	11.20	0.00	37.82	10.05	0.00E+00	-0.17242	1.72
25	75.62	387.42	0.20	22.48	0.00	53.50	9.99	0.00E+00	-0.29904	2.99
26	57.86	407.81	0.14	15.90	0.00	42.25	9.92	0.00E+00	-0.21719	2.17
27	34.29	415.53	0.08	13.44	0.00	20.94	10.06	0.00E+00	-0.23392	2.34
28	66.62	385.40	0.17	18.60	0.00	48.62	9.76	0.00E+00	-0.29833	2.98
29	23.57	435.44	0.05	7.50	0.00	16.19	9.74	0.00E+00	-0.09336	0.93
30	28.65	427.82	0.07	11.94	0.00	17.32	9.31	0.00E+00	-0.17553	1.76

Soil Sample TP4 OUTPUT										
Year	Precipitation, cm.	PET, cm.	P/PET	Evaporation, cm.	Transpiration, cm.	Runoff, cm.	Water Storage, cm	Percolation, cm.	Mass Balance Error, cm.	Percolation + Mass Balance Error, mm.
1	37.24	389.08	0.10	27.79	0.00	9.12	11.86	2.60E-02	-1.17E-01	1.43
2	32.18	418.15	0.08	20.68	0.00	10.77	12.65	3.00E-02	-8.38E-02	1.14
3	89.21	394.03	0.23	43.39	0.00	44.64	13.80	1.83E-01	-1.49E-01	3.32
4	47.14	413.38	0.11	31.78	0.00	15.19	13.99	1.14E-01	-1.36E-01	2.50
5	46.63	452.72	0.10	34.63	0.00	13.96	12.06	1.02E-01	-1.21E-01	2.23
6	35.97	425.57	0.08	25.51	0.00	10.57	12.03	3.80E-02	-1.09E-01	1.47
7	39.68	414.76	0.10	25.02	0.00	14.03	12.71	4.20E-02	-1.03E-01	1.45
8	58.57	416.40	0.14	34.77	0.00	23.50	13.04	8.70E-02	-1.27E-01	2.14
9	47.80	386.58	0.12	31.64	0.00	15.42	13.83	8.70E-02	-1.31E-01	2.18
10	52.98	366.19	0.14	38.86	0.00	15.11	12.86	1.44E-01	-1.58E-01	3.02
11	33.45	395.97	0.08	25.42	0.00	9.58	11.36	4.90E-02	-9.50E-02	1.44
12	54.71	429.59	0.13	36.36	0.00	16.52	13.28	5.50E-02	-1.45E-01	2.00
13	61.06	435.53	0.14	36.76	0.00	24.26	13.35	1.02E-01	-1.32E-01	2.34
14	58.27	461.00	0.13	32.26	0.00	26.20	13.13	1.33E-01	-1.16E-01	2.49
15	53.52	422.53	0.13	36.61	0.00	17.29	12.80	9.70E-02	-1.49E-01	2.46
16	26.42	467.68	0.06	21.43	0.00	6.12	11.72	4.30E-02	-9.51E-02	1.38
17	42.01	462.15	0.09	25.24	0.00	16.66	11.88	3.80E-02	-8.51E-02	1.23
18	42.39	471.45	0.09	26.18	0.00	15.60	12.57	3.90E-02	-1.13E-01	1.52
19	44.96	456.11	0.10	28.75	0.00	16.06	12.77	4.60E-02	-1.05E-01	1.51
20	48.74	461.51	0.11	28.31	0.00	20.37	12.88	6.50E-02	-1.09E-01	1.74
21	65.23	431.87	0.15	38.95	0.00	26.28	12.90	1.28E-01	-1.58E-01	2.86
22	69.14	439.22	0.16	39.85	0.00	29.01	13.17	1.57E-01	-1.50E-01	3.07
23	34.95	412.26	0.08	23.69	0.00	12.66	11.81	6.60E-02	-9.75E-02	1.64
24	49.17	431.12	0.11	23.65	0.00	23.54	13.85	3.50E-02	-1.00E-01	1.35
25	75.62	387.42	0.20	45.18	0.00	31.76	12.48	2.52E-01	-1.08E-01	3.60
26	57.86	407.81	0.14	31.20	0.00	26.51	12.65	1.04E-01	-1.20E-01	2.24
27	34.29	415.53	0.08	24.77	0.00	9.36	12.90	4.30E-02	-1.38E-01	1.81
28	66.62	385.40	0.17	38.40	0.00	28.65	12.46	1.63E-01	-1.51E-01	3.14
29	23.57	435.44	0.05	14.51	0.00	9.60	11.94	4.10E-02	-5.82E-02	0.99
30	28.65	427.82	0.07	19.93	0.00	9.89	10.83	1.50E-02	-7.69E-02	0.92

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

ALTERNATIVE COVER DEMONSTRATION
SOIL LOSS CALCULATIONS

ATTACHMENT III.12 – APPENDIX B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

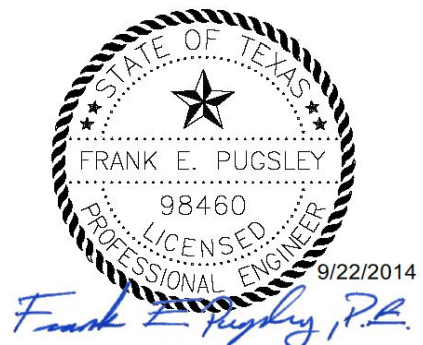
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

SEPTEMBER 2014

Prepared by:

CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741





1820 Regal Row
Dallas, Texas 75235
214-638-0500

Project # LARE1301

Client	<u>Laredo Municipal Solid Waste Landfill</u>	Prepared By	<u>BW</u>	on	<u>8/30/2013</u>
Project	<u>Permit Amendment Application</u>	Reviewed By	<u>FP</u>	on	<u>11/6/2013</u>
Subject	<u>Soil Loss Calculations</u>	Approved By	<u>FP</u>	on	<u>9/22/2014</u>

A Required

Evaluate the expected soil loss from the Final Cover consistent with 30 TAC §330.305(d)(2).

B Method

The expected soil loss is calculated using the RUSLE. The annual soil loss is calculated for each slope configuration. This total annual soil loss is compared to the permissible soil loss of 3 tons/acre/year for final cover and 50 tons/acre/year for intermediate cover; as referenced from the TCEQ's "Guidance for Addressing Erosional Stability During all Phases of Landfill Operation", as prepared March, 2013.

C References

- 1 United States Department of Agriculture, Agricultural Handbook No. 703
- 2 TCEQ, Guidance for Addressing Erosional Stability During all Phases of Landfill Operation, as prepared March, 2013

D Input

$$A = RKLSCP$$

Where:

A	=	Soil Loss (tons/acre/year)
R	=	Rainfall/Runoff Factor
K	=	Soil Erodibility Factor
LS	=	Slope Length/Steepness Factor
C	=	Cover Management Factor
P	=	Erosion Control Practice Factor

Rainfall Factor

The R factor represents the average storm erosive index value over a 22-year record. R is an indication of the two most important characteristics of a storm determining its erosivity: amount of rainfall and peak intensity sustained over an extended period. Using Exhibit 1 - Average annual R factor, The applicable R factor for Webb County, Texas is:

$$R = 225$$

Soil Erodibility Factor

The K factor is soil erodibility factor which represents both susceptibility of soil to erosion as a function of the soils physical and chemical properties. Using Exhibit 1, Table 1 - K Factor, Rock free - Webb County, Texas, the applicable K factor for the Laredo Landfill area is:

$$K = 0.21$$

Slope Length and Steepness Factors

The slope length factor, L, and the slope steepness factor, S, represent the erosion of the soil due to both slope length and degree of slope.

- L = Slope Length Factor
 $(\lambda/72.6)^m$
 λ = Horizontal Projection of the Slope
m = Slope-Length Exponent
 $\beta/(1+\beta)$
 β = Ratio of Rill to Interrill Erosion
 $(\sin \theta/0.0896) / [3*(\sin \theta)^{0.8} + 0.56]$
 θ = Slope Angle in Degrees

	Case	Slope	θ	β	m	$\lambda_{\max}$	L
1	Top Slope	5%	2.90	0.68	0.40	210	1.53
2	Sideslope	25%	14.00	1.77	0.64	160	1.66

- S = Slope Steepness Factor
 $S = 10.8 \sin \theta + 0.03$ for $\sin \theta < 0.09$
 $S = 16.8 \sin \theta - 0.50$ for $\sin \theta \geq 0.09$

	Slope	Slope	θ	$\sin \theta$	S
1	Top Slope	5%	2.90	0.0505929	0.58
2	Sideslope	25%	14.00	0.2419219	3.56

Cover Management Factor

The C factor represents the effects of plants, soil cover, soil biomass, and soil disturbing activities on erosion. For intermediate cover the City will seed or sod the cover. A conservative 25% vegetative cover was assumed. For final cover the City will seed or sod after installation. A conservative 75% vegetative cover was assumed. Since vegetation is hard to grow and sustain at the Laredo Landfill and optional rock armor (190 tons per acre) on the final cover side slopes may be used for erosion control. The top surface will remain 75% vegetated.

- C = 0.32 25% vegetated cover
C = 0.035 75% vegetated cover
C = 0.019 95% rock cover (4" thick rock armor)

Erosion Control Practice Factor

The erosion control practice factor, P, measures the effect of control practices that reduce the erosion potential of the runoff by influencing drainage patterns, runoff concentration, and runoff velocity. For purposes of calculating soil loss, the P factor is:

$$\begin{aligned} P &= 0.5 && \text{Landslope 2\% to 7\%} \\ P &= 0.9 && \text{Landslope 19\% to 24\%} \end{aligned}$$

E Calculation

Case		R	K	L	S	C	P	A (tons/acre/year)
Interim	5% Slope	225	0.21	1.53	0.58	0.32	0.5	6.69
	25% Vegetated							
Interim	4H:1V Slope	225	0.21	1.66	3.56	0.32	0.9	80.38
	25% Vegetated							
Final	5% Slope	225	0.21	1.53	0.58	0.035	0.5	0.73
	75% Vegetated							
Final	4H:1V Slope	225	0.21	1.66	3.56	0.035	0.5	4.88
	75% Vegetated							
Final	4H:1V Slope	225	0.21	1.66	3.56	0.019	0.9	4.77
	Rock armor							

F Conclusion

The above soil loss calculations represent the all scenarios in which erosion may happen on a landfill cover system. As shown for all cases, the soil loss for both the top slope and sideslope is less than the permissible soil loss of 50 tons/acre/year for intermediate cover and less than 3 tons/acre/year for final cover.

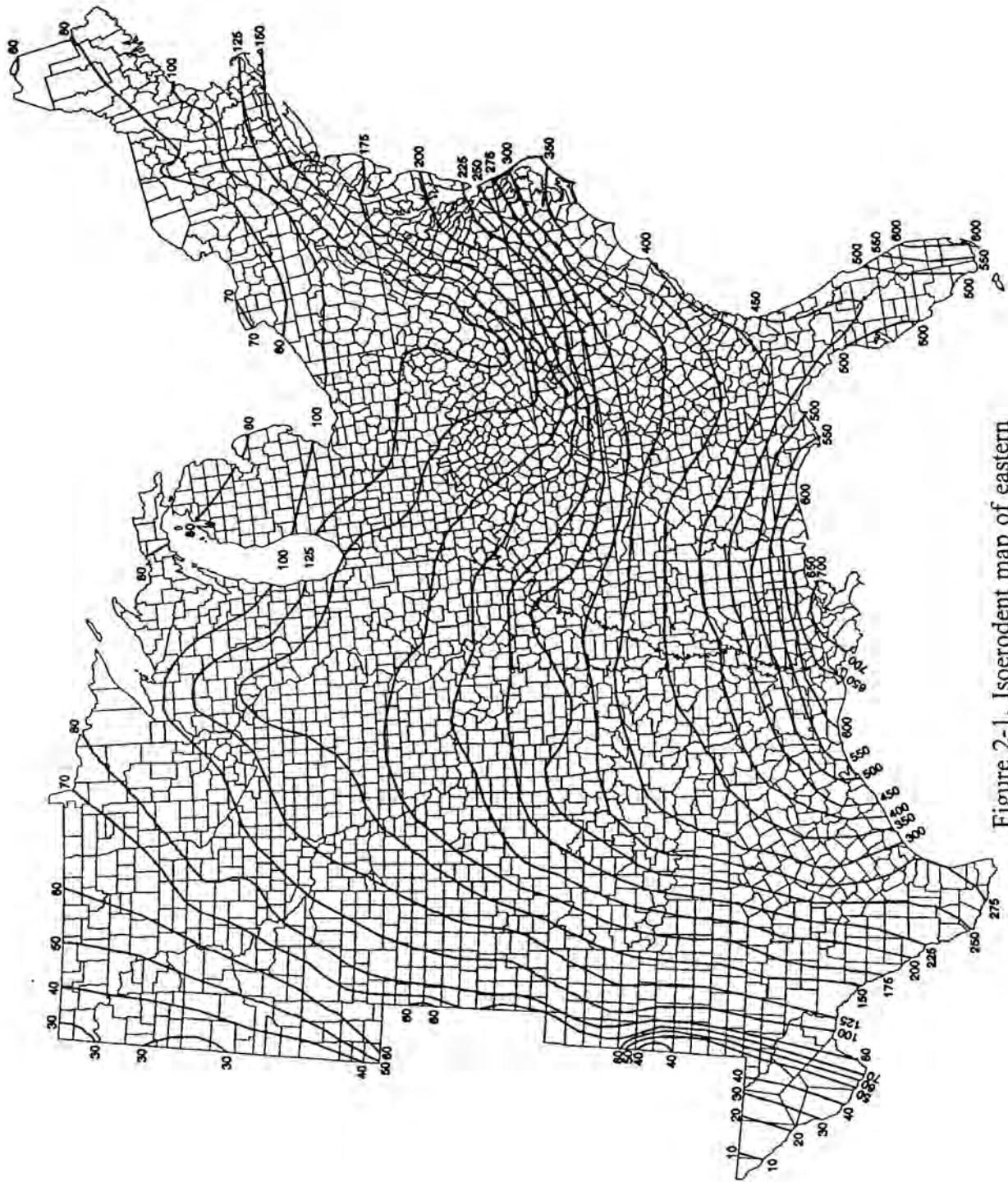


Figure 2-1. Isoerodent map of eastern United States. Units are hundreds $\text{ft} \cdot \text{tonf} \cdot \text{in} (\text{ac} \cdot \text{h} \cdot \text{yr})^{-1}$.

K Factor, Whole Soil—Webb County, Texas
(Laredo Landfill)



Natural Resources
Conservation Service

Web Soil Survey
National Cooperative Soil Survey
ATL12B-5

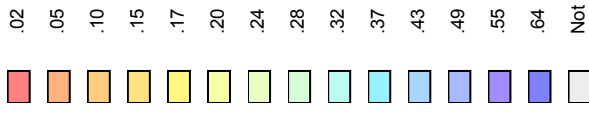
9/19/2013
Page 1 of 3

MAP LEGEND

Area of Interest (AOI)
 Area of Interest (AOI)

Soils

Soil Rating Polygons



Soil Rating Lines



Background



Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:31,700.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL: <http://websoilsurvey.nrcs.usda.gov>
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Webb County, Texas
 Survey Area Data: Version 9, Sep 21, 2012

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 12, 2010—Jan 22, 2011

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

K Factor, Whole Soil

K Factor, Whole Soil— Summary by Map Unit — Webb County, Texas (TX479)				
Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
CaB	Catarina clay, 0 to 2 percent slopes	.32	25.4	9.3%
CfA	Catarina clay, occasionally flooded	.32	25.1	9.2%
JQD	Jimenez-Quemado complex, undulating	.10	133.9	49.0%
MCE	Maverick-Catarina complex, gently rolling	.32	89.1	32.6%
Totals for Area of Interest			273.5	100.0%

Description

Erosion factor K indicates the susceptibility of a soil to sheet and rill erosion by water. Factor K is one of six factors used in the Universal Soil Loss Equation (USLE) and the Revised Universal Soil Loss Equation (RUSLE) to predict the average annual rate of soil loss by sheet and rill erosion in tons per acre per year. The estimates are based primarily on percentage of silt, sand, and organic matter and on soil structure and saturated hydraulic conductivity (Ksat). Values of K range from 0.02 to 0.69. Other factors being equal, the higher the value, the more susceptible the soil is to sheet and rill erosion by water.

"Erosion factor Kw (whole soil)" indicates the erodibility of the whole soil. The estimates are modified by the presence of rock fragments.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Layer Options (Horizon Aggregation Method): Surface Layer (Not applicable)

Cover Factor C Values for Established Plants (data from NEH chapter 3 and Wischmeier and Smith 1978)

			Percentage of surface covered by residue in contact with the soil:					
	Percent cover ¹	Plant type	0%	20	40	60	80	95+
C factor for grass, grasslike plants, or decaying compacted plant litter.	0	Grass	0.45	0.2	0.1	0.042	0.013	0.003
C factor for broadleaf herbaceous plants (including most weeds with little lateral root networks), or undecayed residues.	0	Weeds	0.45	0.24	0.15	0.091	0.043	0.011
Tall weeds or short brush with average drop height ² of ≥ 20 inches	25	Grass	0.36	0.17	0.09	0.038	0.013	0.003
		Weeds	0.36	0.2	0.13	0.083	0.041	0.011
	50	Grass	0.26	0.13	0.07	0.035	0.012	0.003
		Weeds	0.26	0.16	0.11	0.076	0.039	0.011
	75	Grass	0.17	0.1	0.06	0.032	0.011	0.003
		Weeds	0.17	0.12	0.09	0.068	0.038	0.011
Mechanically prepared sites, with no live vegetation and no topsoil, and no litter mixed in.	0	None	0.94	0.44	0.3	0.2	0.1	Not given

¹ percent cover is the portion of the total area surface that would be hidden from view by canopy if looking straight downward.

² drop height is the average fall height of water drops falling from the canopy to the ground.

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

CLOSURE PLAN FIGURES
ATTACHMENT III.12 – APPENDIX C

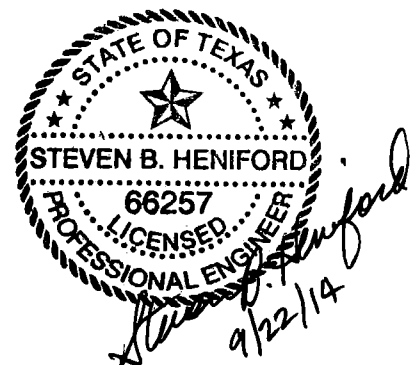
TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

Applicant:
City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

September 2014

Prepared by:
Arredondo, Zepeda & Brunz, LLC
11355 McCree Road
Dallas, TX 75238
F-10098

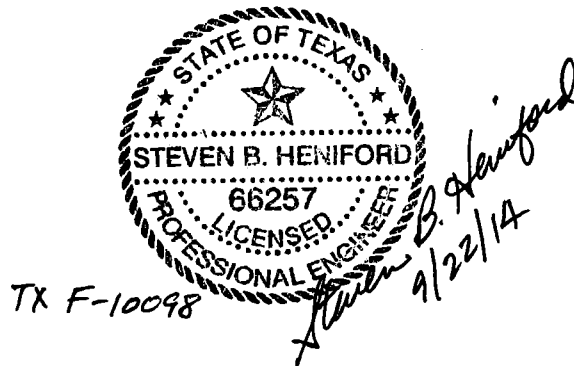


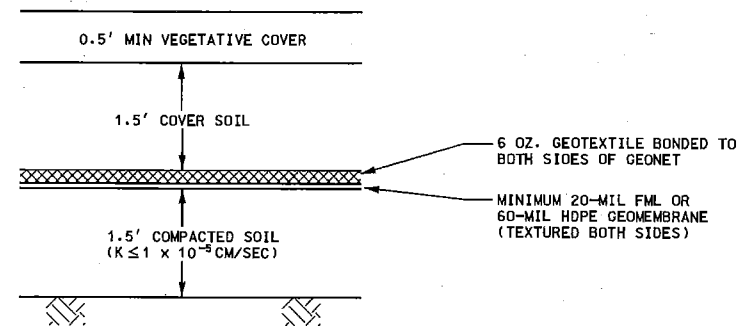
**LAREDO LANDFILL
PART III
Attachment 12, Appendix C
Closure Plan Figures**

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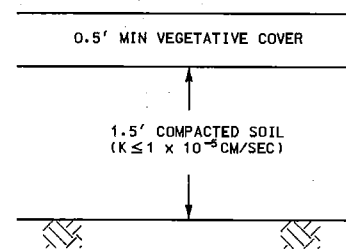




STANDARD FINAL COVER PROFILE
(SUBTITLE D AREAS)

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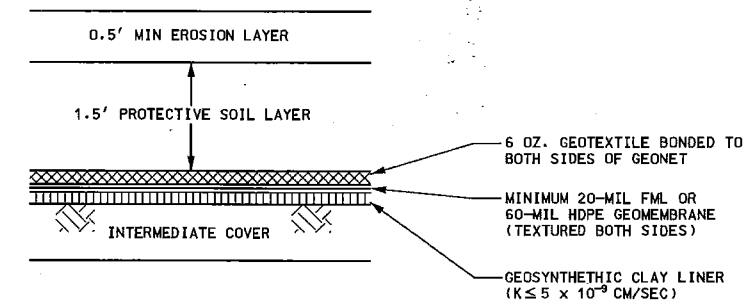
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STANDARD FINAL COVER PROFILE
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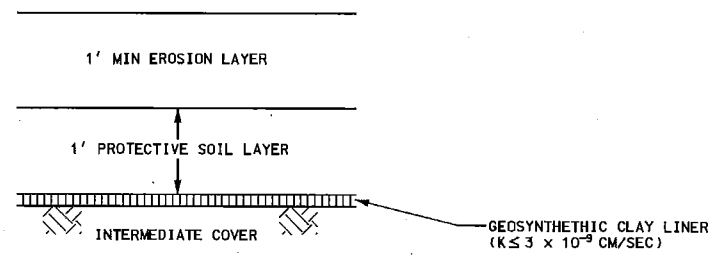
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ALTERNATIVE FINAL COVER PROFILE
(SUBTITLE D AREAS)

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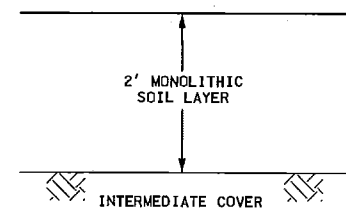
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ALTERNATE FINAL COVER PROFILE
(PRE-SUBTITLE D & TYPE IV AREAS)

NTS

4
12.1



ALTERNATE FINAL COVER PROFILE
(WATER BALANCE)

NTS

5
12.1

AZ&B ARREDONDO, ZEPEDA & BRUNZ, LLC
TYPE FIRM REG. # F-10098
CIVIL • ENVIRONMENTAL • SURVEYING
CONSTRUCTION MANAGEMENT • MUNICIPAL

REV		DATE	DESCRIPTION	DES BY	APP BY
CITY PROJ. No.			LAREDO LANDFILL VERTICAL EXPANSION		
AZB PROJ. No. 212029			PERMIT AMENDMENT APPLICATION No. MSW-1693B		
DATE: AUGUST 2014			WEBB COUNTY, TEXAS		
DES BY	SH				
DRN BY	AZB				
CHK BY	SH				
APP BY	MC				

FOR PERMIT PURPOSES ONLY

STATE OF TEXAS

STEVEN B. HENIFORD

66257

REGISTERED PROFESSIONAL ENGINEER

9/22/14

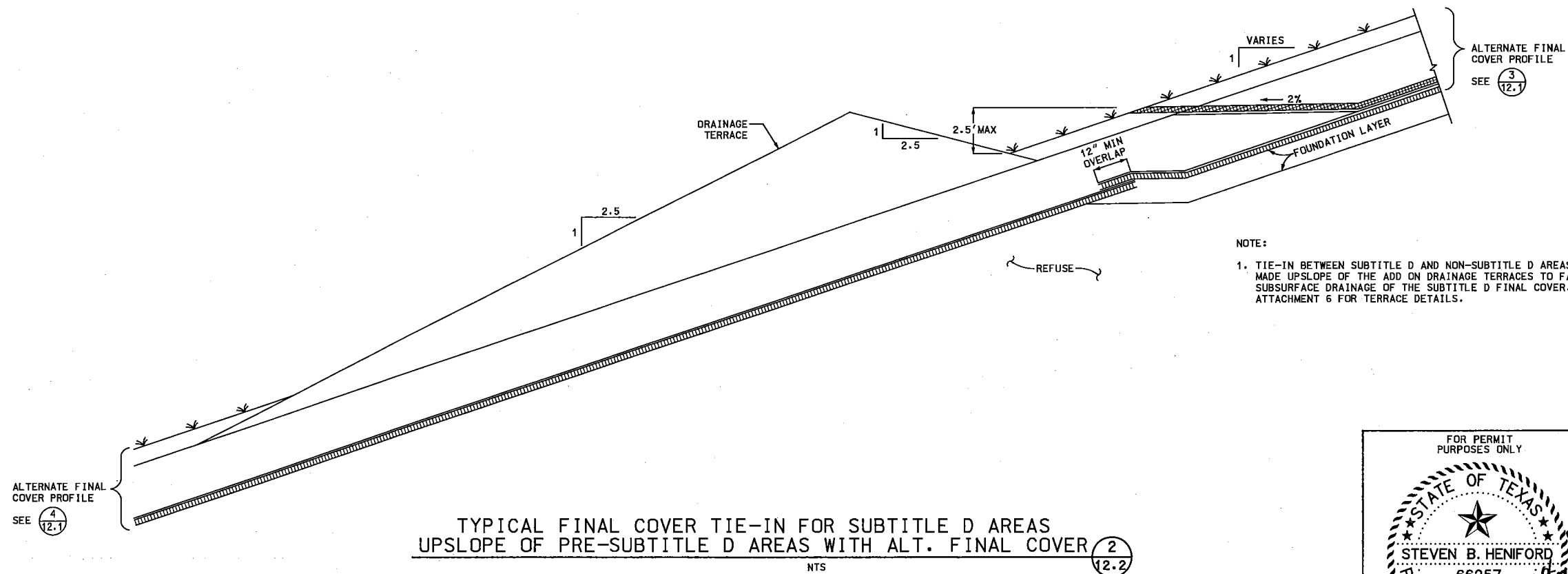
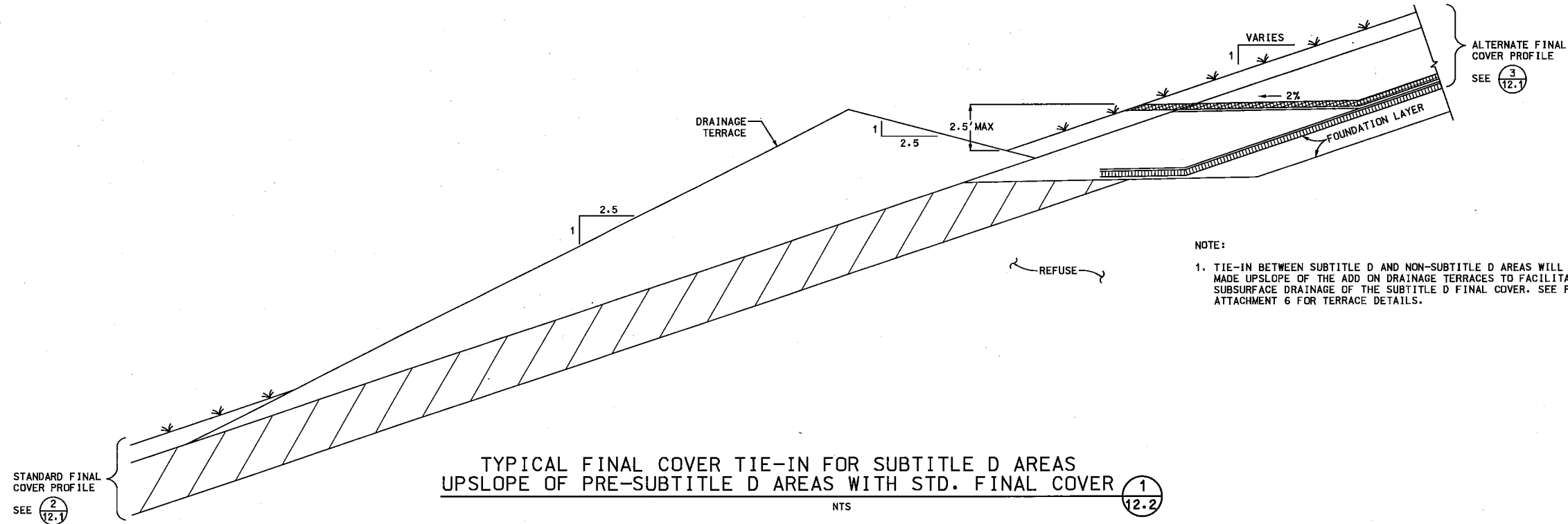
CITY OF LAREDO

SHEET OF

FILE:

ATTACHMENT:

III-12



FOR PERMIT PURPOSES ONLY		REV		DATE	DESCRIPTION	DES BY	APP BY
CITY PROJ. No.		AZB PROJ. No.		LAREDO LANDFILL VERTICAL EXPANSION		PERMIT AMENDMENT APPLICATION No. MSW-1693B	
DATE: AUGUST 2014		DATE: AUGUST 2014		WEBB COUNTY, TEXAS			
DES BY	SH	DRN BY	AZB	CHK BY	SH	APP BY	MC
STEVEN B. HENIFORD REGISTERED PROFESSIONAL ENGINEER 66257				FINAL COVER TIE-IN DETAILS FIGURE III-12.2			
CITY OF LAREDO				SHEET OF FILE: ATTACHMENT: III-12			

AZ&B ARREDONDO, ZEPEDA & BRUNZ, LLC
TPE FIRM REG. # F-10098
CIVIL • ENVIRONMENTAL • SURVEYING
CONSTRUCTION MANAGEMENT • MUNICIPAL

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

POST CLOSURE PLAN
ATTACHMENT IIL.13

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

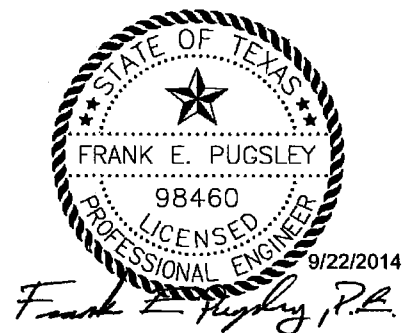
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

September 2014

Prepared by:

CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741



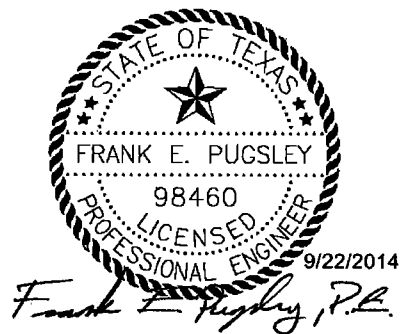
POST CLOSURE PLAN
CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL

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1. Introduction

The following closure requirements were written to comply with TCEQ Municipal Solid Waste Management Regulations in 30 TAC §330.63(i), §330.463, §330.465, and with EPA's RCRA Subtitle D regulations.

The City of Laredo will be responsible for a total post-closure care period of 30 years, except as specified by Section 3 of this Post Closure Plan. Provisions include a regularly scheduled program to monitor groundwater, landfill gas, maintain berms, cover, vegetation, and site aesthetics; and to repair erosion and subsidence problems promptly. Annual inspection will be in accordance with the Site Operating Plan. The TCEQ and the City shall retain right of entry for the post closure period for inspections, maintenance and/or remediation activities as needed to maintain the integrity of the closed facility.

2. Post Closure Care Requirements

In accordance with §330.463, the City of Laredo shall meet the following requirements during post closure.

2.1. Post Closure Care Requirements §330.463(b)

After a licensed Professional Engineer has certified the completion of closure requirements for the Landfill and it has been accepted by the Executive Director, the City of Laredo shall conduct post-closure care maintenance for the unit or facility for 30 years, except as specified by Section 3 of this Post Closure Plan. Post-closure care maintenance shall consist, at a minimum, of the following.

- The City shall retain the right of entry to and maintain all rights-of-way to the Landfill and conduct maintenance and/or remediation activities as needed in order to maintain the integrity and effectiveness of all final cover, facility vegetation and drainage control systems, to correct any effects of settlement, subsidence, ponded water, erosion or other events or failures detrimental to the integrity of the closed unit and to prevent any surface run-on and run-off from eroding or otherwise damaging the final cover system.
- The City will continue to maintain and operate the leachate collection system in accordance with the regulations in §330.331 and §330.333. The Executive Director may allow the City to stop managing leachate if the City can demonstrate that leachate no longer poses a threat to human health and the environment.
- The City shall monitor groundwater in accordance the Groundwater Sampling and Anylysis Plan (GWSAP) Attachment III-11)
- The City shall maintain and operate the gas monitoring system in accordance with the requirements of §330.371(e).

3. Length of Post Closure Care §330.463(b)(2)

The length of the post-closure care period may be

- decreased by the Executive Director if the owner or operator submits to the Executive Director for review and approval a documented certification, signed by a licensed Professional Engineer and including all applicable documentation necessary to support the certification, that demonstrates that the reduced period is sufficient to protect human health and the environment; or,
- increased by the Executive Director if it is determined that the lengthened period is necessary to protect human health and the environment. If there is evidence of a release of leachate from a municipal solid waste unit, the Executive Director may require an investigation into the nature and extent of the release and an assessment of measures necessary to correct any impact to groundwater.

4. Monitoring and Maintenance Activities §330.463(b)(3)(A)

The City shall place a copy of the Post Closure Plan in the operating record immediately upon approval by TCEQ. For the complete post closure maintenance period the City shall perform the following:

- Maintain and operate the leachate collection system until such time as the Executive Director determines that leachate no longer poses a threat to human health and the environment.
- Make semiannual visits to the site to monitor the groundwater in accordance with the GWSAP.
- Make Quarterly visits to the site to monitor the landfill gas.
- During the first 5 years make monthly visits to:
 - Inspect the site for erosion of the final cover, lack of appropriate vegetative growth, any ponding of water on the closed unit, and any evidence of gas or leachate migration;
 - Correct any deficiencies noted; and
 - Prepare a report of the site visit and actions taken and place it in the facility records.
- For the remaining twenty five years, inspection visits shall be semiannually for all monitoring and inspection activities, with the exception of gas monitoring, which shall remain quarterly.

5. Post Closure Care Contact Information §330.463(b)(3)(B)

The name, address, and telephone number of the office or person responsible for overseeing and/or conducting the post-closure care maintenance activities at the closed unit or facility during the post-closure period. Currently, the person responsible for post closure maintenance is:

Manager, Solid Waste Services
City of Laredo
P.O. Box 1965
Laredo, Texas 78044
(956) 795-2510

6. Planned Uses §330.463(b)(3)(C)

In accordance with §330.465, portions of the site may be used as public parkland, or other suitable land uses during or after the post closure period. Post-closure uses shall not in any way jeopardize the integrity of the landfill cover, liner, stormwater systems, leachate systems, or gas systems.

7. Closure Cost Estimate §330.463(b)(3)(D)

A detailed written estimate, in current dollars, of the cost of post-closure care maintenance and any corrective action as described in the post-closure care plan, required by the Executive Director of the TCEQ, is presented in Table 1.

TABLE 1
POST CLOSURE CARE COST ESTIMATE

Engineering Costs				
Cost Item	Unit	Cost	Quantity	Total Cost
Post Closure Plan	Acre	\$100.00	200	\$20,000.00
Site Inspection & Record Keeping	Lump Sum	\$4,000.00	1	\$4,000.00
Correctional Plans & Specifications	Acre	\$250.00	200	\$50,000.00
Subtotal				\$74,000.00
10% Contingency				\$7,400.00
Engineering Total				\$81,400.00

Site Monitoring Costs				
Cost Item	Unit	Cost	Quantity	Total Cost
Ground Water Monitoring (12 Wells, Annual)	Each	\$2,500.00	12	\$30,000.00
Gas Monitoring (21 Probes Quarterly)	Per Quarter	\$1,500.00	4	\$6,000.00
Leachate Disposal (50 gallons/day/acre)	Per Gallon	\$0.05	31,250	\$1,562.50
Final Cover Inspection for Vegetation (5 Years)	Quarterly	\$500.00	20	\$10,000.00
Subtotal				\$47,562.50
10% Contingency				\$4,756.25
Site Monitoring Total				\$52,318.75

Construction Costs				
Cost Item	Unit	Cost	Quantity	Total Cost
Site Maintenance, Correctional Construction	Acre	\$130.00	200	\$26,000.00
Subtotal				\$26,000.00
10% Contingency				\$2,600.00
Construction Total				\$28,600.00

Annual Cost for Post Closure Care	\$162,318.75
Total Cost 30-year	\$4,869,562.50

8. Certification of Completion of Post Closure §330.465

In accordance with §330.465, Following completion of the post-closure care maintenance period, the City of Laredo shall submit to the Executive Director for review and approval a certification signed by an independent, licensed Professional Engineer, verifying that post closure care has been completed in accordance with the approved post closure care plan. The submittal to the Executive Director shall include all applicable documentation necessary for the certification of completion of post closure care.

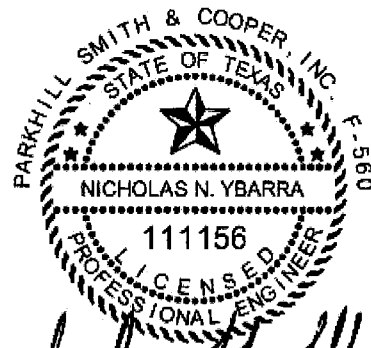
Upon completion of the post closure care period for the final unit at the facility, the City shall also submit to the Executive Director a request for voluntary revocation of the facility permit.

**City of Laredo Landfill Permit Amendment 1693B
City of Laredo, Texas
Permit Amendment MSW Permit 1693B
Laredo, Texas
Webb County, Texas
September 2014**

**PART III
Attachment 14
Gas Management Plan**

Prepared by:

Parkhill, Smith & Cooper, Inc.



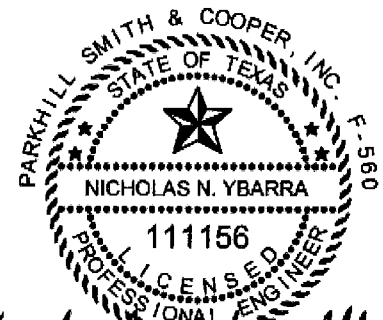
Nicholas N. Ybarra

09/12/14

**LAREDO LANDFILL
Gas Management Plan**

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Nicholas N. Ybarra
09/12/14

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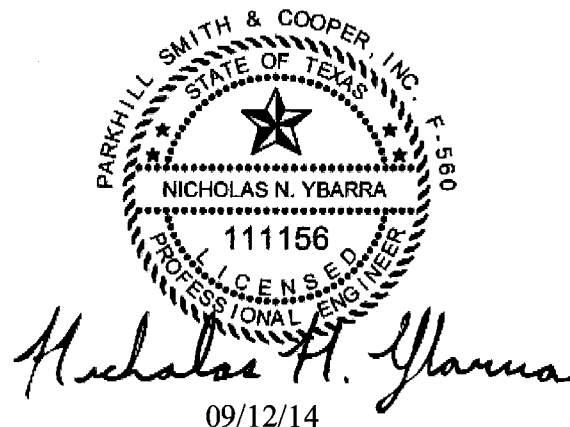
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1.0 INTRODUCTION

The purpose of this Landfill Gas Management Plan (LGMP) is to provide a management guide for monitoring and controlling landfill gas generated by the City of Laredo's landfill ("Landfill"). The LGMP specifically addresses background information related to gas generation including site specific information; gas generation characteristics; landfill gas monitoring procedures; and a contingency plan to manage gas when generation exceeds safe levels.

This plan has been prepared in accordance with the requirement of the Texas Commission on Environmental Quality (TCEQ) as prescribed in 30 TAC §330.371-Landfill Gas Management.

The monitoring and management programs described in this plan will ensure that the concentration of methane generated by facility (i) does not exceed 25% (1.25% by volume) of the lower explosive limit for methane in the facility structures (excluding gas control or recovery system components); and (ii) does not exceed the lower explosive limit (the lowest percent by volume or 5% by volume of a mixture of explosive gases in air that will propagate a flame at 25 degrees Celsius and atmospheric pressure) for methane at the facility property boundary.

2.0 BACKGROUND INFORMATION



2.1 General

The landfill is a 203.12 acre site located north of SH 359 and is approximately 2 miles East of the SH 359 and Loop 20 intersection in Webb County. The landfill is located within Laredo's city limits.

2.1.1 Pre-2013 Permit Amendment Conditions

The landfill has been in operation since March 10, 1986 (Permit No. MSW-1693) and is constructed as an area fill. Portions of the landfill were constructed prior to Subtitle D regulations. The landfill has areas constructed with a compacted clay liner only; with a clay liner and geosynthetic liner; and with a geosynthetic clay liner (gcl) and geosynthetic liner. The areas of the landfill that have a Subtitle D liner also have leachate collection systems installed. The fourth phase of the original design is a construction/demolition fill area. This area was constructed with a compacted clay liner and only one third of the area has been filled. It is the city's intent as part of this permit amendment to convert this Type IV area to a Type I area.



Three phases of the original landfill design were permitted as Type I areas authorized to accept municipal solid waste. Wastes authorized to be accepted in this phase include municipal solid waste resulting from or incidental to municipal, community, commercial, institutional, and recreational activities; MSW resulting from construction or demolition projects; Class 2 industrial solid waste; Class 3 industrial solid waste; and special waste that has been properly defined. The acceptance of Class 2 industrial solid waste and/or special waste is contingent upon waste being handled in accordance with the city's permit. Wastes that are prohibited at the site

include Class 1 Industrial Solid Waste until it complies with the requirements of 30 TAC §330.171. Regulated hazardous wastes, except for waste from conditionally exempt small quantity generators, are not accepted at the facility. Polychlorinated Biphenyls (PCBs) wastes as defined in 30 §TAC 330.3, Class 2 and Class 3 industrial solid waste that interferes with the site operations, radioactive wastes, lead-acid batteries, Chlorofluorocarbon (CFC) - containing equipment, whole tires, and used oil and oil filters are not accepted at the facility.

In 1999, a permit amendment was approved that increased the height of the landfill elevation from 548 feet to 640.5 feet. Approximately 150 acres out of 200 acres are designated as disposal operation landfill area.

A 345kv electric power line easement intersects the landfill in a north/south direction and an abandoned gas pipeline easement intersects the property in an east/west direction. Operations are currently taking place in Phase 2 of the landfill. Phase 3 is scheduled for construction in 2014. Operations in Phase 3 will take place in either 2014 or 2015.

2.1.2 Proposed Amendment Site Configuration

Future landfill cells will be constructed with Subtitle D liners (or equivalent) and leachate collection systems to protect groundwater and surface water resources. The liner may include either a standard Subtitle D liner system or may use geosynthetic clay liner in place of clay. Leachate collected from the system will be treated at the city's waste water treatment facility, recirculated over areas where there is a standard Subtitle D liner, or hauled to another publicly owned treatment works (POTW).

The height of the landfill will be increased as previously mentioned. In areas where the vertical expansion occurs over non-Subtitle D lined areas, the city will install a liner to direct leachate generated from waste that is put in place above the 1999 permitted elevations to a permitted leachate collection system.

2.1.2.1 Landfill Liner

Prior to changes in state and federal landfill regulations going into effect in 1988, it was Laredo's practice, consistent with industry standards of the time, to utilize compacted in-situ material for the landfill liner. Cells constructed in Phase 1 and one cell in Phase 2 were constructed prior to the implementation of Subtitle D regulations. Table III-14.1 presents a summary of liner configurations for the four currently permitted phases of the landfill. The existing Phase 4 (Type IV cell) utilizes an approved liner consisting of a geosynthetic clay liner (GCL). Construction is underway in Phase 3 which will be a GCL with 60 mil HDPE. Refer to Attachment 15, Leachate Collection Plan for a detailed discussion of liner systems.

**Table III-14.1
Cell Dimensions**

Cell Identification	Size (square acres)	Liner Design	Status (2013)
Phase 1			
Cell 1	3.91	In-situ compacted clay	Constructed
Cell 2	3.2	In-situ compacted clay	Constructed
Cell 3	2.96	In-situ compacted clay	Constructed
Cell 4	2.62	In-situ compacted clay	Constructed
Cell 5	2.15	In-situ compacted clay	Constructed
Cell 6	2.15	In-situ compacted clay	Constructed
Cell 7	2.15	In-situ compacted clay	Constructed
Cell 8	2.15	In-situ compacted clay	Constructed
Cell 9	2.15	In-situ compacted clay	Constructed
Cell 10	2.15	In-situ compacted clay	Constructed
Cell 11	2.15	In-situ compacted clay	Constructed
Cell 12	2.15	In-situ compacted clay	Constructed
Cell 13	2.90	In-situ compacted clay	Constructed
Cell 14	2.75	In-situ compacted clay	Constructed
Cell 15	2.69	In-situ compacted clay	Constructed
Cell 16	2.58	In-situ compacted clay	Constructed
Cell 17	7.90	GCL, 60 mil HDPE	Constructed
Cell 18	9.86	GCL, 60 mil HDPE	Constructed
Phase 2			
Cell 1	5.24	In-situ compacted clay	Constructed
Cell 2	5.24	GCL, 60 mil HDPE	Constructed
Cell 3	3.58	2' clay, 60 mil HDPE	Constructed
Cell 4	2.75	2' clay, GCL, 60 mil HDPE	Constructed
Cell 5/6	7.94	GCL, 60 mil HDPE	Constructed
Cell 7/8	6.25	GCL, 60 mil HDPE	Constructed
Cell 9/10	6.42	GCL, 60 mil HDPE	Constructed
Cell 11/12	6.48	GCL, 60 mil HDPE	Constructed
Cell 13/14	18.90	GCL, 60 mil HDPE	Constructed
Phase 3			
Cell 1	9.2	GCL, 60 mil HDPE	Not constructed – anticipated construction 2013/2014
Cell 2	13.56	GCL, 60 mil HDPE	Not constructed – construction will be initiated after permit amendment

Cell Identification	Size (square acres)	Liner Design	Status (2013)
Phase 4			
Cell 1	6.56	GCL (existing waste to be overlain with GCL and Geocomposite)	Constructed with the exception of overlay liner
Cell 2	2.51	GCL, 60 mil HDPE	Not constructed
Cell 3	6.19	GCL, 60 mil HDPE	Not constructed
Phase 5			
Cell 1	3.77	GCL, 60 mil HDPE	Not constructed

2.1.2.2 Landfill Final Cover

Once areas have been filled, a final cover system will be constructed. The final cover options available to the city will include: (1) a standard Subtitle D final cover system; (2) the use of GCL as an alternative to clay; and (3) a "water balance" cover that provides sufficient cover with soil versus the use of plastic material to enhance long-term slope stability. The city will maintain vegetation to the extent practical given Laredo's lack of rainfall and poor soils, or use a rock armor option in place of vegetation. The city will continuously monitor the site's slopes through closure and post-closure care for erosion, and make necessary improvements to maintain the integrity of the final cover. Refer to the Final Cover Plan for more details.

2.2 Site Operations

Since the landfill's initial opening, the city has continuously upgraded its operations to meet state and federal rule changes in the construction of liners, leachate collection systems, intermediate and final cover and landfill gas management plans. In 1999, the landfill permit was amended to increase the height of the landfill. The design and the operation of the landfill meet existing TCEQ and federal standards.

This additional capacity will increase the landfill from roughly 4.8 million cubic yards to 8.9 million cubic yards. The newly developed area will be identified as an expanded Phase 2 (between original Phases 2 and 3) and Phase 5 (between original Phases 1 and 4).

2.2.1 Current Gas Management System

The landfill operates under Title V Air Permit Number 02371 and holds a TCEQ general operating permit (GOP) number 517. The Laredo landfill is considered a Category-2 MSWLF which is defined as follows.

- A design capacity greater than or equal to 2.5 million megagrams,
- A design capacity greater than or equal to 2.5 million cubic meters, and

- A calculated uncontrolled non-methane organic compound (NMOC) emission rate less than 50 megagrams per year that is operated in accordance with 40 CFR Part 60, Subpart WWW or Chapter 113, Subchapter D of this title 30 of the TAC.

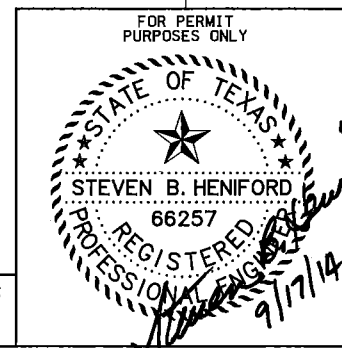
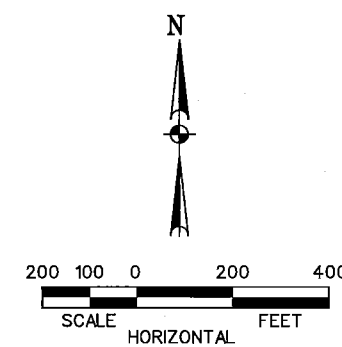
Because the landfill is subject to the requirements of 40 CFR 60 Subpart WWW (Standards of Performance for Municipal Solid Waste Landfills) it is also required to have a Title V permit in accordance with 40 CFR Parts 70 and 71. Since the landfill's capacity exceeds 2.5 megagrams (MMg), it is subject to 40 CFR 60.752(b) which requires the landfill to determine annually if its uncontrolled nonmethane organic compounds (NMOC) emission rate exceeds 50 MMg per year. The NMOC may be determined by calculations using the Tier I approach or by measurement of NMOC using the Tier II approach if the value exceeds 50 MMg per year.

In accordance with Title 30 of the TAC Sections 330.371 (landfill gas management) and 330.159 (landfill gas control), and the city's 1999 gas management plan the city monitors landfill gas around the perimeter of the landfill. In 2003, the city identified methane gas above the state regulatory limit of 5% by volume in air along the north permit boundary of the landfill. In response, the city submitted a permit modification which was approved by the TCEQ on August 8, 2003 to mitigate the migration of the landfill gas via the installation of landfill gas extraction wells. The installation of additional wells was completed in 2004. The current landfill gas management system includes a total of 20 gas collection wells that are located on the northern section of the site (refer to Figure III-14.1). These wells are connected to a pipeline which transports the gas to a flare facility located on the north side of the landfill. There are also a total of 18 gas monitoring probes located around the perimeter of the site (refer to Figure III-14.1).



LEGEND

- PERMIT BOUNDARY
- PHASE BOUNDARY
- CELL BOUNDARY
- 10' CONTOUR
- GW#10° EXISTING GAS WELL
- GP-6° EXISTING GAS PROBE
- EXISTING GAS COLLECTION PIPING
- STATE PLANE COORDINATES



REV	DATE	DESCRIPTION	DES BY	APP BY
1	08/01/2014	PERMIT AMENDMENT APPLICATION No. MSW-1693B		
2	08/01/2014	WEBB COUNTY, TEXAS		
3	08/01/2014	LANDFILL GAS MANAGEMENT PLAN		
4	08/01/2014	FIGURE III-14.1		
5	08/01/2014			
6	08/01/2014			
7	08/01/2014			
8	08/01/2014			
9	08/01/2014			
10	08/01/2014			
11	08/01/2014			
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AZ&B ARREDONDO, ZEPEDA & BRUNZ, LLC
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 CONSTRUCTION MANAGEMENT • MUNICIPAL

CITY OF LAREDO

SHEET OF
 FILE:
 ATTACHMENT:
 III-14

2.3 Site Information

2.3.1 Geology

The landfill facility is located on an outcrop of the Laredo Formation. The Laredo Formation is a geologic unit occurring in the Claiborne Group of the Eocene Series within the Tertiary System. The Geologic Atlas of Texas, Laredo Sheet, 1976, characterizes the Laredo Formation as sandstone and clay with thick sandstone members in the upper and lower surface. The formation is described as very fine to fine-grained, in part glauconitic, micaceous, ferruginous, cross-bedded, dominantly red and brown with clay in the middle. It weathers to an orange-yellow color with dark gray limestone layers and concretions, some of which are fossiliferous with abundant marine megafossils. The average thickness beneath the facility is about 620 feet. The site geology has been previously described in various site investigation reports, Huntingdon, 1994, F. G. Bryant, 1983, and Rust E&I (REI), 1997.

The upper Laredo Formation beneath the facility was further informally subdivided into four hydrogeologic units known as Layers I-IV during the 1997 subsurface investigation conducted by REI.

2.3.2 Hydrogeologic Conditions

Groundwater conditions at the Laredo facility have been described in a total of four reports prepared as part of three subsurface investigations and on-going monitoring events. First, the groundwater conditions were studied by Frank G. Bryant and Associates, Inc. in September 1983. Their report indicates that groundwater was not present above the 40 feet below ground surface. The further investigation shows the groundwater range between 40.5 feet to 48.8 feet below ground surface. In January 1999, groundwater was measured and ranged from 423.15' msl near the southeastern corner of the facility, to 475.60' msl, near the southwestern corner of the facility. However, groundwater generally flows from the southwest corner to the north and northeast. In a July 2014 groundwater monitoring event, groundwater was measured between 430' msl to 472' msl.

2.3.3 Hydraulic Conditions

Topography at the site shows the highest elevation is approximately 540' msl in the southwest corner, and the lowest elevation of approximately 470' msl is near the northeast corner. The maximum elevation change across the site is approximately 94'. The highest proposed final contour would be 664' msl at the west landfill and 652' msl at the east landfill as shown on Figure III.1.2 – Overall Site Development Plan.

2.3.4 On-Site Structure

The gatehouse and the flare building are the only onsite structures at the landfill. The gatehouse is occupied whenever the landfill is in operation; the flare building is only occupied periodically during inspection and routine maintenance. Neither of these structures is located over filled areas and no waste is planned to be filled at these locations in the future.

2.3.5 Easement, Right-of-Way and Utilities

There is one easement recorded within the Laredo facility permit boundary. The easement owners and descriptions follows:

- Central Power & Light P.O. Box 2121 Corpus Christi, TX 78403. Tel: 1-800-274-2611
- The 70 foot wide overhead electric transmission line easement bisects the site in a north-south direction. Disposal operations will not occur within 25 feet of the easement.

2.3.6 Drainage

The newly modified onsite detention ponds will be at the southeast corner, the northwest corner and north part of the landfill along the utility easement to capture the increasing runoff from the newly developed Laredo landfill. The location of easement and detention ponds are depicted in Attachments III-1 and III-6.

2.3.7 Surrounding Land Use

The Landfill Gas Management Plan (LGMP) also identifies surrounding land use as it relates to the landfill. There is currently a mixture of ranch land, vacant property, commercial, light industrial and residential uses within a 1-mile radius of the site. A description of each surrounding quadrant is detailed below:

- Northeast Side: This area consists of ranch land with the Texas Mexican Railroad right-of-way. There are also 13 stock tanks in this area.
- East Side: This area is primarily ranch land with seven stock tanks, three businesses, and five residences.
- West Side: This area includes a mixture of residential, commercial, and industrial land. The Larga Vista Subdivision consists of approximately 120 homes, as well as the Larga Vista Head Start School. There is also an industrial park situated in this area that consists of approximately 20 businesses. Lastly, there are a few additional scattered businesses and six stock tanks in this area.
- Southwest Side: This area includes a mixture of ranch land, commercial (Bordertown Flea Market), industrial (Enron, Chevron, and Leckendeyer Oil), and scattered residential. This area also includes nine stock tanks.

2.3.8 Off-Site Structures within 1,000 Feet of Facility Boundary

There are off-site structures within 1,000 feet of the landfill facility boundary. According to Section 2.3.7 Surrounding Land Use, the ranch land with the Texas Mexican Railroad right-of-way is approximately 250 feet north of the northern boundary of the site. Moreover, there are two oil and/or gas production facilities located to the north and south of the landfill within 500 feet as identified by Texas Railroad Commission (TRC).

3.0 LANDFILL GAS (LFG)

As waste decomposes gas is generated within a landfill. Landfill gas (LFG) is a by-product of this decomposition or in this case, biodegradation process of municipal solid waste. There are two stages of decomposition. The first stage transforms complex materials into simple organic materials. During the second stage, the simple organics are consumed by bacteria and converted into methane (CH_4) and carbon dioxide (CO_2). Although two primary components of LFG are methane and carbon dioxide, there are also trace amounts of oxygen (O_2), water (H_2O), nitrogen (N_2), hydrogen sulfide (H_2S) and small amount of non-methane organic compounds (NMOC) in LFG. However, when gas generation reaches steady-state conditions at disposal facilities, typical LFG consists of approximately equal amounts of methane (CH_4) and carbon dioxide (CO_2); and only trace amounts of NMOC (normally, less than two percent) according to AP-42 dated September 2008.

Landfill gas generation rates depend on the rate of decomposition for which the characteristics are affected by the following conditions.

- Moisture content of the waste
- Temperature
- Permeability of soil cover and cover material
- Amount of precipitation
- Composition of the refuse
- Refuse particle size
- Compaction and amount of the refuse
- Age of refuse
- PH of the waste
- Landfilling practices

The landfill gas can vary according to the site specific conditions. However, the general landfill gas compositions of 45% to 60% methane and 40% to 60% carbon dioxide are not uncommon.

Landfill gas that is produced within the municipal solid waste landfill will generally drift from the landfill. Landfill gasses can migrate through the soils or through ambient air (dispersion). The production of landfill gas results in pressure gradients (advection) and concentration gradients (diffusion) between the landfill and the surrounding environment. Landfill gas will migrate from the source area (landfill) along the path of least resistance due to pressure, density, and concentration gradients. Methane is lighter than air and carbon dioxide is heavier than air. However, they will not separate by their individual density but rather move as a mass in accordance with the density of the mixture and other gradients such as temperature and partial pressure. This usually results in landfill gas moving upward through the landfill surface into the landfill gas collection system or through the surface soils into ambient air. The upward movement of landfill gas can be inhibited by compacted waste or landfill cover materials. This can result in landfill gas migrating horizontally through the waste mass into surrounding soils, utility conduits or structures if an adequate gas collection system is not designed and constructed.

Due to primary health and safety concerns with off-site migration of landfill gas, the Texas Commission on Environmental Quality (TCEQ) has published the regulation, particularly 30 TAC §330.371 - Landfill Gas Management, in order to eliminate the potential gas hazard. The regulation requires the monitoring and testing of the facility gas and permitted boundary of the landfill.

The City of Laredo landfill will demonstrate compliance with the TCEQ 30 TAC - 330.371 requirement through this site specific Landfill Gas Management Plan (LGMP).

The key items incorporated in this guideline are as follows:

- Gas Monitoring Procedure
- Permanent Probe and Bar-hole Probe Design and Operation
- Data Record and Report
- Contingency Plan
- Safety Plan

4.0 LANDFILL GAS MONITORING

4.1 Proposed Landfill Gas Monitoring Procedure

Due to the explosive nature of LFG it is necessary to monitor areas within the landfill boundary. In order to eliminate the potential hazards from LFG, the city will implement a monitoring procedure to meet the monitoring requirement of the Texas Commission on Environmental Quality (TCEQ) as listed in 30 § TAC 330.371. The procedure will include the use of either soil gas vapor probes (SGVP), permanent monitoring probes, or both, to monitor and measure any subsurface migration of methane gas. SGVPs may be used as an initial screening device for determining the optimal location boring locations and identify permanent probe locations.

TCEQ requires quarterly monitoring at individual, permanent monitoring gas probe locations. If necessary, bar-hole probes can also be used to help determine the location and size of any migration limits of landfill gas. The bar-hole probes will also aid in the determination of the effectiveness of any implemented landfill gas control measures.

The Laredo landfill has an existing permanent monitoring gas probe (GP) network already in place. There are 18 permanent probes around the site's boundary to detect the explosive gas concentrations. Refer to Figure III-14.1.

The first installation of 13 gas probes began monitoring methane levels around the early 1990s. The other eight permanent gas probes at the site with Subtitle D permit modification were placed around 2004. These additional eight probes were installed in order to reach the proposed top of liner depths and to supplement information provided by the first 13 probes. This will ensure the monitoring achieves less distance for gas migration. Locations of these existing 21 monitoring gas probes (GP) were based upon the proximity of habitable structures, depth and location of solid waste and easements, access, site geology, and groundwater depths. A revision to the Gas Plan, dated March 2006, reduced the number of probes from 21 to 18. GP 15, GP 16 and GP 17 are no longer being monitored on a quarterly basis. GP 8R, GP 7, GP 14, and GP 6 are located

along the eastern perimeter of the landfill. GP 8R is located at the location of the abandoned pipeline to monitor possible migration through this area. GP 13 and GP 20 are located at the western end of the abandoned pipeline. GP 9, GP 10, and GP 18 are located along the southern boundary of the landfill. GP 10 is located near the scale house to monitor possible migration to this facility. GP 19, GP 12, GP 20, GP 13, GP 21, and GP 1 are located on the western perimeter of the landfill. The probes will identify possible migration to sites to the west of the landfill. GP 2, GP 3, GP 4, and GP 5R monitor possible gas migration on the northern perimeter.

The existing permanent 18 MP locations indicated above are shown on Figure III-14.1.

4.1.1 SGVP and Permanent Probe Design and Installation

The existing 21 permanent monitoring gas probes have two components: 1) riser pipe and 2) screened section. Both sections are made from 1-inch diameter schedule 40PVC pipe. The riser section consists of a solid pipe 3-5 feet above the ground and extends to 20-30 feet below the ground surface. The tip of the underground riser pipe is connected with the screened section to reach the final depth of each GP. The existing GPs location is detailed in Table III-14-2 - Existing GP Elevation Detail in Laredo Landfill.

The final design depth of the initial permanent GP installation will be determined during construction from the probe hole boring logs. If necessary, a field change for each GP will be made and recorded on-site. A typical single screen probe is shown in Figure III-14.2 - Typical Landfill Gas Probe and Multi Level Probe Detail. If the two permeable strata layers are penetrated, the multi-level or nested probed may be desirable in that location, as detailed for the multi-level probe also shown in Figure III-14.2. Copies of the record drawings and associated information will be submitted to the TCEQ, when the Laredo landfill needs to install the new permanent GP.

Table III-14.2
Existing GP Elevation Detail in Laredo Landfill

Monitoring Gas Probe ID	Total GP Depth (ft)
GP-1	26.0
GP-2	30.9
GP-3	31.8
GP-4	31.0
GP-5R	32.2
GP-6	26.5
GP-7	18.1
GP-8R	47.0
GP-9	30.0
GP-10	31.4
GP-11	31.0
GP-12	29.0
GP-13	29.0
GP-14	35.0
GP-18	45.0
GP-19	70.0
GP-20	40.0
GP-21	NA
Scale House	

In the event additional GPs are needed, the guidelines in this section should be used for design and installation.

A licensed Professional Engineer (PE) must review all applicable test procedures, shop drawings, reports, manufacturer instructions and the manufacture's certificates to verify that methane monitoring system equipment conforms to the manufacturing requirement and industry standard prior to SGVP construction. Typical SGVP construction leaves probe tips embedded at the desired sampling depth together with sampling tubes connected to the tips which runs to the surface for sample collection. During construction, a qualified system inspector will inspect the probe installation to prevent failure of the system. The SGVP can be used as the site permit boundary monitoring system instead of permanent GP. However, when any such SGVP location detects methane gas above 5%, a permanent GP must be installed.

The process prior to installation of the permanent GP is similar to the SGVP installation. A permanent GP is drilled by the qualified drilling contractor. The following characteristics will be considered in the design and installation of the new permanent GP:

- Geology
- Proximity of on-site and nearby structures
- Permanent low seasonal underground water table
- Depth of the solid waste

4.1.2 Monitoring SGVPs and Permanent Gas Monitoring Probes

Methane monitoring will be conducted by means of testing GPs. The monitoring frequency of each permanent probe may be increased if explosive gas exceeds 5% explosive gas by volume. The equipment to monitor the gas probe should be able to measure methane gas pressure and atmospheric pressure, methane gas temperature and ambient air temperature, methane gas level, and water depth in the probe. The minimum parameters needed to monitor explosive gas probes are:

- Static Gas Pressure - A suitable pressure gauge such as the Dwyer Series 2000 Magnehelic Gauge (Appendix B), or equivalent.
- Explosive Gas - A suitable monitoring device must have Dual Range Methane Monitoring with the ability to measure the combustible explosive gas indicator (CGI) and infrared gas detection device or equivalent.

The result of the pressure measured in the gas probe can fluctuate, causing inaccuracies if venting has occurred during the monitoring.

A Landtec Gem™ 2000 natural gas indicator or equivalent may be used as an alternative when the present oxygen is monitored and measured in the GP to ensure the adequate oxygen level for the precise reading result. The Landtec Gem™ 2000 also requires that the GP shall have at least 30 seconds constant methane gas level by using the hand pump to sufficiently evacuate the GP. This device measures a wide range (0 to 100% by volume of methane in air) first. If the device shows a result of methane below 5% by volume, then a second test will be performed. Its range is much smaller (0 to 5% by volume of methane in air). The second test is required to obtain an accurate methane reading.

The monitoring information, including the GP location, date, time, condition of GP, GP pressure, methane level, ambient air temperature and ambient air pressure is recorded at each test on the field data form as shown on the Appendix 14A - Field Data Form. If methane gas in any location is above the TCEQ limit (LEL) the data is immediately verified and reported as described in Section 5.0 CONTINGENCY PLAN.

The city will sample for specific trace gases if required by the ED.

4.1.3 Bar-hole Probe Installation and Monitoring Procedure

The city will use bar-hole probes as a support mechanism to obtain the additional methane gas migration data at shallow areas. This probe will help to determine any methane migration after the permanent GP at the landfill's point of compliance detects the methane gas. The monitoring bar-hole probe activities are performed under the supervision of the landfill site manager or site supervisor.

Prior to bar-hole probing, staff will prevent the metal plunger bar contacting and possibly damaging any subsurface utilities especially around the structure (gatehouse) on site. Only the person with good knowledge of the site will perform this task. A review of utility maps showing clearly any marked utilities will be conducted prior to bar-hole probing. If the water or mud covers the bar-hole probe location, a nearby dry location should be selected or the probing procedure should stop temporarily for that particular probing location until it is dried out. All precaution shall be taken to eliminate the moisture in the monitoring instrument. Any unusual or abnormal probe location should be noted in the field data form as shown in Appendix 14A - Field Data Form.

The bar-hole sampling procedure will involve pushing the metal plunger bar with ½" or ¾" diameter probe two to three feet below the ground surface to ensure the reading is from the ground atmosphere versus surface atmosphere. Upon removal of the plunger bar, a probe connected to a MDU 420 Data logging monitor dual range natural gas indicator, or equivalent, will be inserted into the bar-hole and sealed to prevent the ambient air getting into the sample. The methane level and any necessary data from each desired bar-hole probe location will be taken and recorded into the field data form as show in Appendix 14A - Field Data Form. Prior to measuring the lower range (0%-5% of methane in air), the equipment will measure the higher range (0% to 100% of methane in air) to prevent damage to the sensor if a high amount of methane is present. The bar-hole probe hole will be covered with native soil, after the monitoring is completed.

If explosive gas concentration is detected at or above the LEL at any bar-hole location, the additional bar-holes will be used to check the distance of the gas migration. The additional probe locations will be added in the pattern, at 5 foot increments, to detect the methane level. The 5-feet incremental monitoring must be continued until the reading shows 0% methane level. Information obtained from this procedure will be plotted to determine the extent of gas migration. If no methane gas migrates beyond the permit area, the information will be detailed in the Quarterly Report. If the above LEL methane migration is detected off-site, the detailed information along with the proposed mitigation measurement will be addressed as described in section 5.0 CONTINGENCY PLAN.

4.1.4 Continuous Monitoring of On-Site Structures

The gatehouse is the only occupied structure at the landfill. The gatehouse is not located over a current or planned disposal area. This only permanent on-site occupied structure will be monitored for the potential migration of explosive gas by the using the hand-held explosive gas indicators such as Thermo GasTech Innova Model LS or equivalent. The gatehouse or any future structures will be monitored routinely on a quarterly basis.

Any verifiable detection of methane in the gatehouse above the TCEQ requirement will be immediately addressed and reported as described in section 5.0 CONTINGENCY PLAN. In addition the monitoring information such as date, time and condition of each area in gatehouse will be recorded on the field data form as shown on the Appendix 14A - Field Data Form.

4.1.5 Utility Vent Installation and Monitoring

Permanent gas vents will be installed on any future subsurface utility that crosses the permit boundary of the landfill. Both monitoring and installation activities will be under the supervision of site manager or site supervisor in order to comply with city and TCEQ requirements. A typical utility vent detail drawing will be prepared at the time of installation. The drawing will include all underground utilities and ground surface either near or at the utility vent. In addition, the city will need to obtain the approval from utility owners before utility vent installation.

Utility vents will be monitored quarterly in conjunction with the regularly monitored gas probes around the perimeter site and conform to TCEQ requirements. The exceeding explosive gas level will be addressed and reported in accordance with section 5.0 CONTINGENCY PLAN.

4.1.6 Reporting of Data and Record Keeping

All quarterly monitoring data acquired during the monitoring will be recorded and noted on the field data form as show on Appendix 14A - Field Data Form and kept in the site's operating record. The excess explosive gas level in any location will be reported to TCEQ and necessary organization or personnel. The methane versus time chart will be updated and included in the quarterly report and placed within seven days after the detecting of above methane gas concentration in the Site Operating Record (SOR) at any monitoring locations.

Documentation of the exceeded methane limit required by TCEQ will be submitted to:

- Municipal Solid Waste Permit Section, MC 124
Texas Commission on Environmental Quality (TCEQ)
P.O. Box 13087
Austin, TX 78711-3087
(512) 239-2335

The report will also include all the information related to the methane gas migration and control as well as records of any contingency plans that were implemented as a result of migration as explained in section 5.0 CONTINGENCY PLAN. Photocopies of completed quarterly reports will be placed in the SOR for at least two years.

A separate calibration log for each device will be placed on-site and will include the following information:

- Location of equipment with serial number and model number
- Date and time of calibration
- Name of personnel who calibrates the equipment according to the manufacturing manual
- Type of calibration
- Results of calibration

4.2 Schedule for Installation of Monitoring Elements

The existing 18 permanent GP are already installed as explained in Section 4.1 Proposed Landfill Gas Monitoring Procedure. No additional GP are required at this time. If the city determines that the additional permanent GP, beyond 18 GP shown in Figure III-14.1 - Original Cell and Phase Layout with Monitoring Gas Probes Location, are needed, a permit modification request will be prepared and submitted to the TCEQ showing probe recorded drawing, location and installation schedule. After approval from TCEQ, the city will install the probes and submit the as-built documentation after the installation completion.

4.3 Plan Implementation Schedule

The city is at present implementing this Landfill Gas Management Plan (LGMP) as approved with the 1999 permit amendment, which has since been modified. The existing gas control system will continue to serve the landfill and implement this LGMP unless the requirement of Federal New Source Performance Standards and Emission Guidelines modify to different standards.

4.4 Maintenance and Calibration of Monitoring Elements

The city will implement the following maintenance schedule and calibration procedures for the GP elements at the landfill. Training of personnel will be conducted to ensure the integrity of the system.

4.4.1 Maintenance of Permanent Monitoring Probes

A visual inspection of the permanent probes will be conducted on a quarterly basis during the monitoring schedule as required by TCEQ. The frequency of the inspection will increase if an exceeded explosive gas level is detected during the GP monitoring events to protect human health. The visual inspection will include: a) GP label, b) lock, c) condition of protection cover, and d) GP surrounding such as water and stress vegetation.

Any abnormalities or damage to the GP will require immediate re-calibration according to the manufacturer's manual and the GP will be repaired as needed. If the GP is beyond repair, the GP replacement will be installed as described in section 4.1.1 SGVP and Permanent Probe Design and Installation. All the activities will be noted and reported on the field data log for the further determination.

4.4.2 Maintenance of Bar-Hole Probe Equipment

The bar-hole probe equipment will be maintained and visually inspected during the monitoring schedule. The visual inspection will be similar to the GP inspection in Section 4.4.1 Maintenance of Permanent Monitoring Probes. The visual inspection and maintenance of bar-hole probe monitoring will ensure the following: a) plunger bar is clean, b) plunger bar is in good condition with out any damage, and c) the gas monitoring is free of damage and calibrated to conform to the manufacturing manual Section 4.4.3 Calibration of Monitoring Instruments.

4.4.3 Calibration of Monitoring Instruments

- ***Continuous Monitoring Devices***

Continuous monitoring devices such as the Sierra Model 4101-28 Combustion Gas Monitoring, or equivalent, will be maintained and calibrated according to manufacturer's recommendation (Appendix 14C). Maintenance will be conducted quarterly and will include the following:

- Verification of power connection to the monitor.
- Ensuring that the outside air does not flow into the monitor.
- Correct Calibration – The manufacturer's instruction manual recommends exposing the sensor to a sample of calibration gas.

- ***Portable Monitoring Devices***

Portable monitoring equipment such as the Thermo GasTech Innova Model LS gas indicator, or equivalent, will be maintained and according to manufacturer's manual (Appendix 14C). This device calibration will be also conducted during the monitoring period or quarterly basis.

- ***Dwyer Series 2000 Magnehelic Gauge***

Maintenance of the mahnehelic gauge will consist of a visual inspection of the gauge and inlet lines for damage. The gauge will also be set to zero with the external zero adjustment screw as required. Calibration of the instrument against a second pressure

gauge shall be conducted quarterly or more frequently if methane gas is detected above LEL in any location. This calibration must be performed according to the manufacturer's manual and recommendation (Appendix 14D).

4.5 Post-Closure Landfill Gas Management

The city will maintain the Landfill Gas Monitoring and Control Plan for 30 years following certification of the final closure. The city may request a reduction in monitoring events should no gas migration beyond the property boundary or into on-site structures be demonstrated.

The gas monitoring and control system may be revised as needed. No post-closure land use will interfere with the gas monitoring system and all utility trenches within the facility shall be vented and monitored.

5.0 CONTINGENCY PLAN

The Laredo landfill will implement the following contingency plan if the landfill gas at any monitoring location exceeds the allowable limits set by the TCEQ (30 § TAC 330.371(a)(2)). The explosive gas reading that is below level of the regulation limit will be recorded in the SOR as the record log for future determination. These records do not have to be reported in the MSW Permit Section.

The immediate action in the event of the explosive gases routine monitoring at the dangerous levels (excess 5% methane by volume) is to protect human health, notify the Commission, local and county officials, emergency officials and the public as necessary. The specific response depends on the circumstances of the situation.

- *Building/Structure.* If monitoring the structure (gatehouse) in the landfill indicates that 1.25% methane by volume has been exceeded, then the gatehouse will be evacuated by all personnel immediately. City personnel will not be allowed to reenter the gatehouse until additional measures are taken as described in Section 5.2 Verification Procedure below.
- *Property Boundary.* If the explosive gases are identified as exceeding the Lower Explosive Limit (LEL) or above 5% methane by volume at the boundary in any monitoring probes, the immediate emergency response for evacuation procedure will start for all personnel, except the individual performing the monitoring, to leave the vicinity immediately. The site manager and monitoring personnel will determine whether the gatehouse, off-site structure, off-site ranch or off-site facility are at risk and need to start the evacuation procedure.

Location of existing and proposed landfill gas probes, as indicated in Section 4.0, become the relative point of compliance with respect to landfill gas monitoring.

5.1 Contingency Plan Guidelines

This contingency plan guideline will outline the procedure if the methane gas is detected above the allowable maximum limits of 5% methane by volume at the landfill boundary (at any landfill gas probes) and 1.25% methane by volume in the gatehouse. The City of Laredo landfill plan will follow these three actions required by 30 TAC §330.371(c) as described below:

Action 1: Immediately take all necessary steps to ensure protection of human health and notify the executive director, local and county officials, emergency officials, and the public;

Action 2: Within seven (7) days of detection, place in the operating record the concentration of methane gas levels detected and a description of the steps taken to protect human health; and

Action 3: Within 60 days of detection implement a remediation plan for the methane gas releases, place a copy of the plan in the operating record, provide a copy to the executive director, and notify the executive director that the plan has been implemented. The plan shall describe the nature and extent of the problem and the proposed remedy. After review, the executive director may require additional remedial measures.

Consistent with the above requirements, notification will be made either in person or by telephone followed by facsimile transmission or certified mail, return receipt requested within 72 hours of the incident. The applicable contact persons are listed below:

- Municipal Solid Waste Permit Section, MC 124
Texas Commission on Environmental Quality (TCEQ)
P.O. Box 13087
Austin, TX 78711-3087
(512) 239-2335
- The Section Manager, Compliance & Enforcement Section
Enforcement Division/Waste Enforcement Section, MC 128
Texas Commission on Environmental Quality (TCEQ)
P.O. Box 13087
Austin, TX 78711-3087
(512) 239-3308
- Texas Commission on Environmental Quality
Region 16 - Waste Program Manager
707 E. Calton Rd., Ste. 304
Laredo, Texas 78041-3887
(956) 791-6611
- City of Laredo Fire Department
Station 2
(956) 795-2522

- Owners of the utilities within approximately 1000 ft of the affected location(s) at the landfill facility. The utilities which cross or lie within 1000 ft of the landfill is only the Central Power & Light. If the detection happens near the overhead electric line, Central Power & Light will be contact at Central Power & Light P.O. Box 2121 Corpus Christi, TX 78403. Tel: 1-800-274-2611
- Neighboring residents within approximately 1,000 ft of the affected location(s) at the landfill facility. The City of Laredo landfill will maintain a list of property owners and residences within 1000 ft of the permit boundary.
- The fire department, police department, and/or ambulance will be informed/called if necessary.

5.2 Verification Procedures

Once emergency measures have been taken to protect human health, monitoring personnel will immediately begin verification procedures. This procedure is intended to confirm the corrected reading of the excessive gases level at the detected location.

- *Buildings/Structures.* Verification of detected excessive levels in the only structure (gatehouse) will be accomplished by following procedure:
 - Calibrated portable gas detection equipment will be used to measure the explosive gas level throughout the gatehouse. The measuring will be taken in the entire perimeter of the building and each room, especially confined spaces and utility connections.

If the exceeded level of the explosive gases are no longer detected, the City of Laredo personnel may return to the gatehouse as determined by the site manager and engineer. If a malfunction or incorrect measurements and readings are suspected, the monitoring personnel may need to check the equipment and ensure the calibration is correct. However, to set aside the suspicion of human error or malfunctioning equipment, daily follow-up readings by the portable gas detection equipment will be taken daily for one week after the incident as determined by the site manager and engineer. If the daily reading for one week shows the result of the explosive gas level less than 25% of LEL, daily monitoring can be stopped with approval from the site manager and engineer. At that time, quarterly routine monitoring as required by TCEQ will resume.

- *Property Boundary.* Location of existing and proposed landfill gas probes, as indicated in Section 4.0 and shown in Figure III-14.1 - Original Cell and Phase Layout with Monitoring Gas Probes Location effectively become the relevant point of compliance with respect to landfill gas monitoring. Verification of detected excessive levels in monitoring gas probes will be accomplished by following procedure:
 - Recalibrate gas detection equipment according to manufacturer's recommended procedures.

- Immediately re-measure the explosive gas concentration in the monitoring probe and once more within 12 hours after original detection.

If the exceeded level of the explosive gases is not detected during the verification procedures, the daily follow-up reading by the portable gas detection equipment will be taken daily for one week after the incident as determined by the site manager and engineer. If the daily reading for one week shows the result of explosive gas levels less than LEL, daily monitoring can be stopped with the approval from the site manager and engineer. At that time, quarterly routine monitoring as required by TCEQ will resume.

In the event that exceeded levels of explosive gases is detected during the verification procedures or during the follow-up procedures, notification and remediation procedures will be implemented to the 2 major areas of the landfill using 3 actions as previously mentioned in Section 5.1 Contingency Plan Guidelines.

5.3 Property Boundary at Landfill Gas Probes

The City of Laredo landfill's proposed contingency plan is described in the following paragraphs.

5.3.1 Immediate Action

Immediate action will start as soon as the monitoring personnel detect the exceeded explosive gas level at the existing and proposed gas probes. The detail actions are described as following:

- The landfill operation and personnel working within the vicinity will be evacuated
- The site manager, landfill supervisor, engineer, personnel listed in Section 5.1 of this LFGMP, utility owners and neighboring residents within 1,000 ft of the exceed gas limit location will be informed
- The daily follow-up measure at the above gas limit location will be monitored for the period of one week to confirm the accuracy of the original reading.
- After the confirmed reading of an exceeded level of explosive gas, the area around the affected location such as property boundary, utility trench, on and off-site building and any structure shall be tested to determine the explosive gas migration by appropriate personnel using handheld gas detector or barhole sampling as suitable.

5.3.2 Action within 7 Days

The site manager, landfill supervisor or engineer will prepare a brief report within seven (7) days of the original detection of explosive gas above the limit level. The report will be placed into the on-site record and at a minimum will include the following information:

- Date, location and gas level at the original exceed gas limit.
- Result of the additional monitoring.
- Summary of the immediate actions as described in Section 5.3.1.

5.3.3 Action within 60 Days

Within 60 days of the original detected location, the remediation plan and implementation will be prepared and addressed to be placed into the on-site record and will include the following information:

- Nature and extent of the methane gas migration problem.
- Proposed permanent remedial action(s) may include installation of passive or active gas control system.
- A copy of the remediation plan will be provided to the necessary personnel/organization involved with the issue such as TCEQ.
- The concerned officials will be informed and all the important actions will be taken and implemented to eliminate the problem in the timely manner.

5.4 On-Site Structures

5.4.1 Immediate Action

Immediate action will start as soon as the monitoring personnel detect the exceeded explosive gas level at gatehouse or property boundary. The action is described as the following:

- The affected building would be vacated until it is safe to return to the building which will be determined by the site manager and engineer.
- The appropriate personnel as listed in Section 5.1 will be informed.
- The appropriate personnel from the City of Laredo landfill will determine the source of the excessive gas immediately following the evacuation. The source could be at the utility connection, crack or the crawl space.
- After the remedial action has been taken, the gatehouse would be monitored on a daily basis for one week. This monitoring is intended to track any migration of explosive gas around the structure.

5.4.2 Action within 7 Days

The site manager, landfill supervisor or engineer will prepare a brief report within 7 days of the original detection of explosive gas above the limit level. The report will be placed into the on-site record and at a minimum will include the following information:

- Date, location and gas level at the original exceed gas limit.
- Result of the additional monitoring.
- Summary of the immediate actions as described in Section 5.4.1.

5.4.3 Action within 60 Days

Within 60 days of the original detection location, the remediation plan and implementation will be prepared and addressed to be placed into the on-site record and will include the following information:

- Nature and extent of the methane gas migration problem
- Proposed permanent remedial action(s) may include installation of passive or active gas control system
- A copy of the remediation plan will be provided to the necessary personnel/organization involved with the issue such as TCEQ
- The concerned officials will be informed and all the important actions will be taken and implemented to eliminate the problem in the timely manner.

5.5 Underground Utility Trench Vent Monitoring

The city's proposed contingency plan is to install the utility trench vent to monitor the methane gas for the future underground utilities. This contingency plan is similar to the property boundary in Section 5.3 Property Boundary at landfill gas probes.

The future of the trench vent monitoring including the record drawing will need the approval from TCEQ before installation. The sampling of the future vent will be conducted quarterly.

If the methane gas exceeds the LEL level during the quarterly monitoring of these vents, the obtained samples will be sent for analysis and to determine the source. The utility owner will be informed within one business day of the methane gas detection for assistance in determining the source.

6.0 LFG CONTROL SYSTEM INSTALLATION AND MONITORING

Landfill gas will generally move away from the landfill area. Landfill gasses can migrate through the soils or through ambient air to the least resistance due to pressure, density, and concentration gradients. This usually results in landfill gas moving upward through the landfill surface into the landfill gas collection system or through the surface soils into ambient air, surrounding soils, utility conduits or structures if an adequate gas collection system is not designed and constructed. The LFG control system can be categorized to two basic types: 1) passive gas control system, and 2) active gas control system.

6.1 Passive Gas Control System

A passive gas control system is to control subsurface migration in small sections of the landfill by using the venting system. Passive gas control systems rely on the natural LFG pressure within the landfill that creates a sufficient pressure so LFG flows from the landfill into the gas collection wells. Then, the passive vents release some pressure of landfill gas within the waste to reduce the build-up gas to the atmosphere. This type of system is appropriate for the areas where few residential and commercial establishments are located.

There are three methods to determine a good location for passive gas control vents.

1) Surface monitoring and observations

The best location for installing the passive vents is to observe the typical landfill surface and compare this with unusual landfill sites such as venting cracks, stressed vegetation and odors.

2) Subsurface pressure

Passive gas vents can be installed to release the pressure where the increased pressure has been detected.

3) Location

Passive vents may be installed near the permanent probe, barhole probe, or gas house that contained the excessive explosive gas

6.1.1 Monitoring

The monitoring of any passive gas system will be performed at least on the quarterly basis as set by the TCEQ (30 § TAC 330.371). This frequency of monitoring will be increased to a monthly basis if the reading results show gas accumulation or gas migration. Monitoring methods will be conformed to Section 4.0 Landfill Gas Monitoring. The gas odor will be monitored on the landfill site with the monitoring of the gas system. If the methane odors are at the higher level, the appropriate methods to protect the human health will be taken such as using odor masking, odor neutralizing agent or installation of additional active gas control vent.

However, when the pressure in the landfill is inadequate to push the gas to the venting, passive gas control systems fail to remove landfill gas effectively. Therefore, passive gas control systems are not considered reliable enough for use in areas with a high risk of gas migration, especially where methane can collect to explosive levels in buildings and confined spaces.

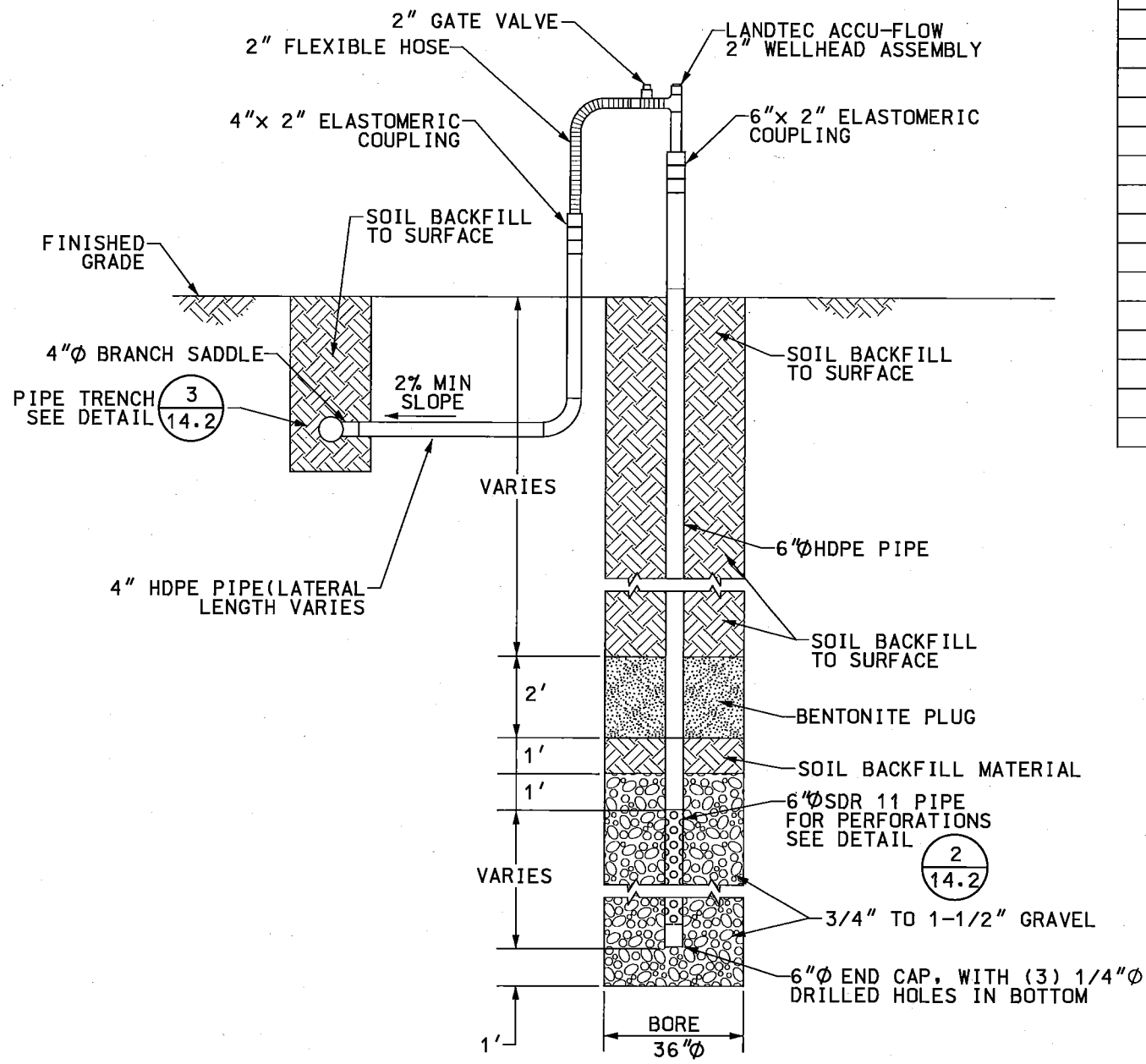
6.2 Active Gas Control System

An active gas control system is considered the most effective means of landfill gas collection. The active gas control system includes vertical and horizontal gas collection wells similar to passive collection systems. This system is more complex to design, operate and maintain than a passive gas system.

An active gas control system consists of a collection system plus a utilization or control system. The City of Laredo landfill was designed with and currently operates this type of system on the northern area of the landfill near GP-3, GP-4 and GP-5 as described and shown in the letter "Certification Statement to Texas Commission on Environmental Quality Pertaining to Permit Modification" dated June 6, 2003. These systems consist of 20 LFG Collection Wells. In addition, the letter to the TCEQ dated Sept 1, 2005, states the City of Laredo landfill installed 8 vacuum curtain well systems in the gas control system to migrate the accumulated methane concentration from GP-5 as required by TCEQ. A total of 20 LFG collection wells and vacuum curtain well systems are shown in the Figure III-14.1 Gas Collection System Layout. Figure 14.3 illustrates a typical landfill gas collection well.

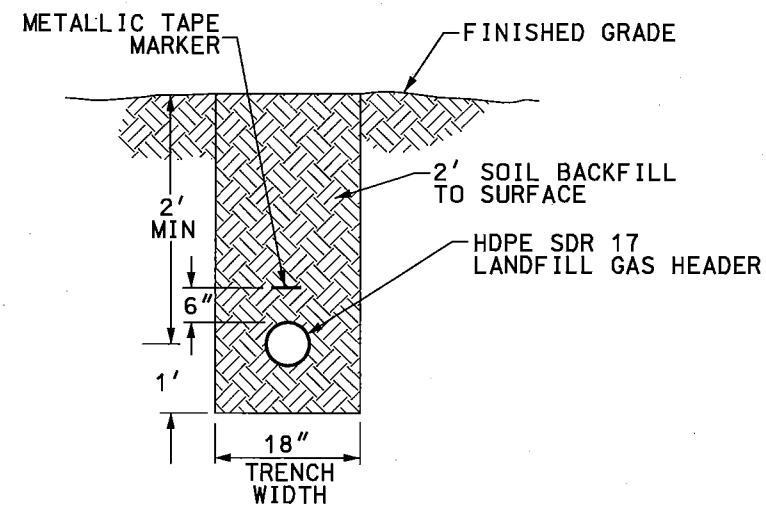
The future design of the system components to connect the existing system or stand alone system depends upon the site specific conditions. If an additional active gas control system is required, the City of Laredo landfill will secure all necessary authorization prior to installation, including but not limited to a standard air permit pursuant to Title 30 § TAC Chapter 116, Subchapter F and Title 30 § TAC section 305.70(j)(21).

The main components of an active gas control system for the City of Laredo landfill consist of 2 parts; 1) Gas Collection and 2) Gas Control system.

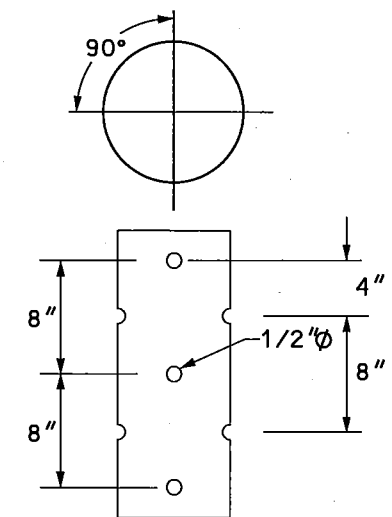


1
14.2
GAS WELL
NTS

WELL SCHEDULE			
WELL ID	NORTHING	EASTING	SURFACE ELEVATION
GW-1	17071313.87	688654.83	502.4
GW-2	17071289.31	688792.65	498.0
GW-3	17071248.56	688912.78	500.6
GW-4	17071218.70	689641.53	505.0
GW-5	17071207.26	689791.34	505.8
GW-6	17071182.36	689944.69	505.7
GW-7	17071132.71	690415.40	508.0
GW-8	17071134.27	690558.67	506.0
GW-9	17071096.26	690664.27	502.2
GW-10	17070955.42	690713.25	493.0
GW-11	17071217.81	690584.90	529.6
GW-12	17070931.08	690249.63	480.8
GW-13	17071034.00	690477.56	533.7
GW-14	17071042.30	690240.77	529.0
GW-15	17071070.66	690027.13	526.0
GW-16	17071117.64	689835.66	523.9
GW-17	17071062.54	689705.26	525.8
GW-18	17071062.36	689209.66	495.9
GW-19	17071142.93	688820.36	524.0
GW-20	17071243.86	688716.66	514.0



3
14.2
PIPE TRENCH
NTS



2
14.2
PIPE PERFORATION
NTS

AZ&B ARREDONDO, ZEPEDA & BRUNZ, LLC
CIVIL • ENVIRONMENTAL • SURVEYING
CONSTRUCTION MANAGEMENT • MUNICIPAL

FOR PERMIT PURPOSES ONLY		REV		DATE	DESCRIPTION	DES BY	APP BY
		CITY PROJ. No.		LAREDO LANDFILL VERTICAL EXPANSION			
		AZB PROJ. No. 212029		PERMIT AMENDMENT APPLICATION No. MSW-1693B			
		DATE: AUGUST 2014		WEBB COUNTY, TEXAS			
		DES BY SH		GAS COLLECTION SYSTEM DETAILS			
DRN BY AZB				FIGURE III-14.3			
CHK BY SH							
APP BY MC							
CITY OF LAREDO				SHEET OF			
				FILE:			
				ATTACHMENT:		III-14	

6.2.1 Gas Collection System

The main components of a gas collection system are typically vertical gas wells, valves to regulate gas flow, multiple gas collection headers with appropriate fittings and supports, and the moisture/condensate removal and collection system. The location of the vertical wells is determined in a manner similar to locating the passive gas control system as discussed in Section 6.1 Passive Gas Control System.

6.2.2 Gas Control System

The two common types of gas control or utilization systems are:

- Landfill gas flare system
- Co-generation systems

Selection of the control system depends on several factors including landfill gas flow rates, quantity, and the cost benefit analysis. In order to determine the appropriate control system, the methane should have an economical collection system and/or be utilized as a fuel source.

If feasible, a co-generation system may be installed. Typically, this type of system includes a gas treatment plant, gas turbine(s) or internal combustion engine(s) and generating set(s), and other ancillary equipment. Any co-generation system will be registered separately as a Type IX municipal solid waste facility prior to implementation. Permit modification or registration would be filed depending on the type of system and selected ownership arrangement if the facility converts from a passive to and active gas collection system.

If the methane cannot be collected and utilized economically, a system consisting of one or more open gas flare units will be installed similar to the existing system located at the northern area of the City of Laredo landfill site. A flare system consists of gas blower(s), flares, moisture separators, and a detailed safety system. If an additional flare is required, a permit modification will be obtained. The city will continue to monitor gas generation and if it appears technically feasible, the city may incorporate a gas co-generation system into the gas collection system.

6.2.3 Gas Control System Back Up Plan

As required by 30 TAC 330.371(g)(3), if the main active gas control system breaks down or becomes ineffective the system will become a passive gas control system until repairs or necessary construction is completed to ensure the main system is functioning effectively.

7.0 SAFETY

Methane is a gas in the sub-surface, common in many residential developments where organic material, such as grass, leaves, wood, manure, etc., is present in the soil. Methane is a colorless, odorless gas and is widely found in nature. It is non-toxic. However, it is combustible and potentially explosive at concentrations above 55,000 parts per million (ppm).

A landfill, by the nature of the wastes placed in it, generates landfill gas, comprised primarily of methane. This gas can pose serious health and safety risks for facility operators as well as the community. These risks occur both during the operation of the landfill and after it has been closed. For this reason a Safety Plan must be implemented to ensure overall safety.

The City of Laredo LFMP shall utilize this Safety Plan prior to implementing any gas monitoring procedure. All landfill monitoring personnel should have knowledge of the potential hazards of the landfill gas being monitored. Although methane gas is colorless and odorless, it can present several types of harms.

- Physiological Harms - Intoxication by certain gas components might cause vomiting, facial flushing, headache and ultimately suffocation when oxygen is displaced by landfill gas.
- Chemical Harms - Corrosion of components of the gas extraction system such as piping, fittings, flanges etc.
- Sensorial Harms – Trace amounts of gas components such as hydrogen sulfide, organic sulfur components etc. can hamper breathing.
- Ecological Harms - The release of methane gas into the atmosphere has increased dramatically over the past century. Scientists have linked this release with global warming.

In addition to the site safety plan, landfill monitoring personnel, at a minimum, should have working knowledge of the following:

- The danger of methane gas.
- The buddy system practice.
- Personal Protection Equipment - Wearing the appropriate hard hat and safety glasses when entering the landfill for gas monitoring.
- Locations of fire extinguishers, hoses and other safety equipment.
- How to determine whether or not additional safety systems and/or equipment are necessary; such as a gas mask or ventilation equipment.
- Proper calibration and operation techniques for monitoring instruments.
- Flammable Hazards - Smoking during gas monitoring is not permitted
- Underground utilities prior to bar-hole probing.
- Communication Protocol - Informing the supervisor or site manager of any possible hazards.

The site manager or landfill supervisor should include the above safety items in the Site Safety Plan and maintain the document(s) on-site.

APPENDIX 14A: Field Data Form

FIELD DATA FORM

FORM 1 - MONITORING GAS PROBE (GP) ON THE PERIMETER

Date:		Inspectors Name:		Instrument (ppm) - S/No.:		Instrument (%) - S/No.:		
				Instrument (ppm) - M/No.:		Instrument (%) - M/No.:		
Temperature at Start:			Weather Condition:		Legend: T = Trace, W = Water D = Destroyed, -1 = No Reading Taken			
Temperature at End:								
GP #	Time	Barometric Pressure	Pressure (In. of H ₂ O)	Methane (%/ppm)	Oxygen (%) Option	Background (ppm)	Sampled (Yes or No)	Remark
1								
2								
3								
4								
5								
6								
7								
8								
9								
10								
11								

12								
13								
14								
15								
16								
17								
18								
19								
20								
21								



Appendix 14B: Gas Monitoring Equipment Specifications

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

LEACHATE AND CONTAMINATED WATER PLAN
ATTACHMENT III.15

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

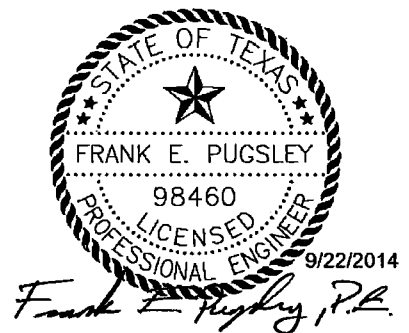
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

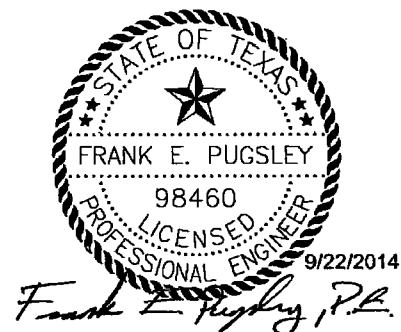
SEPTEMBER 2014

Prepared by:

CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741



LEACHATE AND CONTAMINATED WATER PLAN
CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
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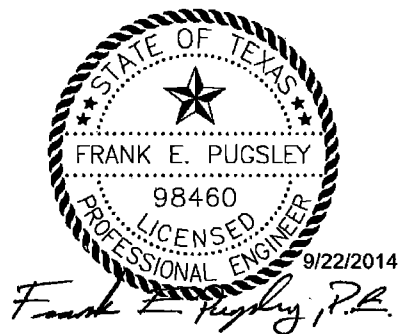
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III.15.3 LEACHATE COLLECTION SYSTEM DETAILS
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III.15.5 LEACHATE COLLECTION SYSTEM FORCEMAIN DETAILS
III.15.6 LEACHATE COLLECTION SYSTEM SEPARATION LINER

APPENDICES

APPENDIX A – HELP MODEL
APPENDIX B – LCS DESIGN CALCULATIONS



1. Introduction

This Leachate and Contaminated Water Management Plan has been prepared for the City of Laredo Municipal Solid Waste Landfill consistent with 30 TAC §§330.65(c), 330.207, 330.227, 330.331, and 330.333. This plan provides the details of the collection, storage, treatment, and disposal of contaminated water and leachate from the leachate collection system (LCS) and site operations.

1.1. Existing Conditions

The existing LCS consists of 6" PVC or HDPE leachate laterals that collect leachate from the bottom of all Subtitle D, Type I waste cells and direct it to collection sumps located at the low point of each cell. Pumps, located in 12" leachate riser pipes, pump the leachate from the sump into a forcemain that ultimately discharges into a leachate storage tank. Due to the proposed expansion of the landfill, modifications to the existing LCS will be made. The modifications include;

- Addition of five sumps to be located in Phases 3, 4, and 5;
- Relocation and extension of the sump and cleanout risers in Cell 17 and 18 of Phase 1;
- Removal and relocation of the existing leachate forcemain located within the footprint of the proposed Phase 5, and;
- Relocation of the leachate storage tank.

A plan of the existing LCS and the proposed modifications are provided in Part III, Figures III.15.1 and III.15.2, respectively.

2. Leachate Management

2.1. Leachate Generation

Leachate is generated as water infiltrates and percolates through layers of solid waste and the field capacity, or the capacity of solid waste to absorb moisture, is exceeded. The quantity of leachate that is generated depends on the amount and characteristics of the waste, climatic conditions, cell size and phasing of the disposal area, operational techniques applied at the landfill, and the cover system. The Hydrologic Evaluation of Landfill Performance (HELP) model was used to predict the quantity of leachate that will be generated at the Laredo Municipal Solid Waste Landfill. The HELP model is a hydrologic model of water movement across, into, through and out of landfills. The model accepts weather, soil and design data and uses solution techniques that account for the effects of surface storage, runoff, infiltration, evapotranspiration, vegetative growth, lateral drainage, leachate recirculation, and unsaturated vertical drainage. Leachate generation was evaluated for both active and closed landfill conditions. The worst case used for design of the LCS is 20.64 gallons/acre/day during the Interim stage of landfill operations. A summary of the HELP model output is provided in Table 1. Detailed information on the HELP model input and output is included in Appendix A to this plan – HELP Model.

TABLE 1 – HELP MODEL OUTPUT SUMMARY

Landfill Operational Stage	Maximum Head on Liner (in)	Maximum Leachate Generation inches/acre/day	Maximum Leachate Generation gpd/acre
Active Stage - 20' of waste and daily cover	0.003	0.00015	4.07
Interim Stage - 140' of waste and intermediate cover	0.006	0.00076	20.64
Closed Stage - 203' of waste and final cover	0.001	0.00001	0.27

Please note that the HELP model is run as a worst case scenario for design of the LCS. At no time will the entire landfill footprint produce the maximum quantity of leachate. Any permanent part of the LCS collection system including leachate collection pipes, sumps, and force mains shall be designed to convey the worst case volume as calculated by the HELP model. Other items in the LCS including leachate pumps, storage tanks, and leachate disposal methods will be operated and sized as required by historical operational needs. These items may be replaced and resized if they become insufficient to control the quantity of leachate produced.

2.2. Leachate Collection System Requirements

There are three types of landfill cells at the City of Laredo Municipal Solid Waste Landfill. Each type of cell has different requirements for the collection of leachate. The following are the 3 types of Landfill Cells;

- Subtitle D Type I Landfill Cells
- Subtitle D Type IV Landfill Cells
- Pre-Subtitle D Landfill Cells

2.2.1. Subtitle D Type I Landfill Cells

In accordance with §330.331(a)(2) and §330.333, the LCS for Subtitle D, Type I landfill cells has been designed to meet the following requirements:

- Maintain less than 30 cm (12 inches) depth of leachate over the liner. (See Section 2.1, Table 2 of this Plan for information on leachate head on liner.)
- Be constructed of materials that are chemically resistant to the leachate expected to be generated. (The components of the LCS have been designed with materials that are inert to leachates typically produced by municipal solid waste facilities. Drainage nets will be high density polyethylene (HDPE) and pipes will be HDPE or Polyvinyl Chloride (PVC). Aggregates will be resistant to carbonate loss. Geotextiles have been designed with factors of safety for biological and chemical clogging.)

- Be of sufficient strength and thickness to prevent collapse under the pressures exerted by overlying wastes, waste cover materials, and by any equipment used at the landfill. (*See Appendix B – LCS Design Calculations*).
- Be designed and operated to function through the scheduled closure and post-closure care period of the landfill considering the following factors;
 - drainage media specifications and performance (see section 2.3.2) pipe material and strength (see section 2.3.4)
 - pipe network spacing and grading (see section 2.3.4)
 - capacity of sumps (see section 2.3.5)
 - collection sump materials and strength (see section 2.3.5)
 - estimated rate of leachate removal (see section 2.3.6), and
 - be resistant to clogging and capable of being cleaned (LCS cleanouts shall be placed to allow cleaning as necessary. They will be placed as shown on Figure III.15.2)

All previously constructed Subtitle D cells were constructed with a LCS; and sump riser pipes for leachate extraction. The existing waste pack elevation in these cells is past the interim height condition, or worst case operating condition in regards to maximum leachate head on liner; thus, leachate head over the liner in these cells will not increase by this proposed vertical expansion.

2.2.2. Subtitle D Type IV Landfill Cells

In accordance with §330.331(d) there is no requirement for a LCS in Type IV landfill cells. Currently, Cells 1, 2 and 3 of Phase 4 are designated as Type IV landfill cells. The proposed expansion modifies Cells 2 and 3 into Type I Cells. Cell 1 of Phase 4 will be the only remaining Type IV cell at the Laredo Landfill. However, this cell will be covered with a separation liner (see Figure III.15.6) and Type I waste will be filled over the entire Phase 4. The separation liner will be graded to allow leachate generated from the proposed fill to be collected in the proposed sumps located in Cells 2 and 3, and in Phase 5.

2.2.3. Pre-Subtitle D Landfill Cells

There is no requirement for a LCS in Pre-Subtitle D Landfill Cells. Cells 1 thru 16 of Phase 1 and Cell 1 of Phase 2 are constructed with Pre-Subtitle D liners. No leachate collection is provided in these areas.

Due to the vertical expansion, some areas of Phase 1, located above Pre-Subtitle D bottom liners will be filled. These areas will be covered with a separation liner (see Figure III.15.6). The liner will be graded to allow leachate from this fill to discharge into the sumps of Cells 17 and 18 of Phase 1, and Phase 5 .

2.3. Leachate Collection System Design

The LCS for Type I landfill cells will consist of the following items:

- Drainage Layer
- Leachate Aggregate
- Geotextile
- Leachate Collection Piping and Trenches
- Leachate Collection Sumps
- Sump and Cleanout Risers
- Leachate Forcemain and Pump
- Leachate Storage

2.3.1. Drainage Layer

The leachate drainage layer is placed above the composite liner to allow leachate to flow horizontally to perforated collection pipes. The leachate drainage layer will consist of a geonet system as shown on Figure III.15.3. A geonet layer is typically made of a polyethylene 3-dimensional grid which provides a zone for conveying the accumulated leachate to the perforated collection pipe. The geonet is overlaid by a geotextile (see section 2.3.3) to separate cover soil from the geonet and thus maintain an adequate hydraulic conductivity of the system. The geonet may also be a geocomposite which has the geotextile bonded both sides. The drainage layer is sloped a minimum of 2% to promote liquid flow toward the leachate collection pipes and ultimately to the sumps for extraction. Leachate collection design calculations are presented in Appendix B – LCS Design Calculations. The geocomposite properties are provided in Part III, Attachment 10 — Soils and Liner Quality Control Plan (SLQCP).

2.3.2. Leachate Aggregate

Leachate aggregate will be placed in the collection trenches and in the sumps. The aggregate shall consist of manufactured or natural materials having the properties listed in Part III, Attachment 10 – SLQCP.

2.3.3. Geotextile

The drainage aggregate will be covered by a geotextile to prevent migration of the protective cover soil into the LCS. The geotextile will be inert to commonly encountered chemicals, hydrocarbons, and mildew, and will be rot resistant. Geotextile design calculations are presented in Appendix B – LCS Design Calculations. The geotextile properties are provided in Part III, Attachment 10 – SLQCP.

2.3.4. Leachate Collection Piping and Trenches

The leachate piping includes perforated collection trench pipes and the solid sidewall riser pipes. Leachate collection trench pipes convey leachate from the drainage layer to the leachate sump. From the sump, sidewall risers will extend to the top of the perimeter berm to provide access for

cleaning the leachate collection pipes and for sump pump access. The leachate piping shall meet the criteria listed in Part III, Attachment 10 – SLQCP.

Each collection trench contains a perforated leachate collection pipe surrounded by drainage aggregate as noted above. A geotextile will wrap the drainage aggregate to provide control of sediment entering the collection drain. The collection pipes are 6-in diameter, perforated with 1/2 in. diameter holes. The perforated collection pipes shall slope a minimum of 1.0% to the sump. A 6" leachate collection pipe at 1.0% slope will convey a maximum of 363,468 gallons/day of leachate. The largest leachate producing area collected by one collection pipe is located in Cell 13 and 14 of Phase 2 (approximately 18 acres). This area would theoretically produce a maximum leachate flow of 11,250 gallons/day of leachate. A 6" collection pipe is sufficient, in all locations, to carry the maximum leachate flow produced by the Laredo Landfill.

Cleanouts are provided at the top of the sideslopes to allow access to the collection pipe network. Sump risers are also provided at the top of the sideslopes for sump pump access. The cleanouts and sump pump risers are constructed of non-perforated pipe with minimum diameters of 6-in and 12-in respectively. The non-perforated cleanout pipe is joined to the perforated collection pipe in the sump. The non-perforated sump riser is joined to a short perforated sump collector pipe in the sump which houses the sump pump.

The following table provides information about the existing and proposed leachate pipe materials.

**TABLE 2
LEACHATE COLLECTION PIPE SIZE & MATERIAL**

Phase	Pipe	Size	Material	Perforated
1 & 2 (Existing)	Leachate Collection	6"	PVC SCH 80	Yes
	Cleanout Riser	6"	PVC SCH 80	No
	Sump Collection	12"	PVC SCH 40	Yes
	Sump Riser	12"	PVC SCH 40	No
3, 4 & 5 (Future)	Leachate Collection	6"	PVC SCH 80 or HDPE SDR 11	Yes
	Cleanout Riser	6"	PVC SCH 80 or HDPE SDR 11	No
	Sump Collection	12"	PVC SCH 80 or HDPE SDR 11	Yes
	Sump Riser	12"	PVC SCH 80 or HDPE SDR 11	No

LCS details are provided in Figure III.15.3. Leachate collection pipe design calculations are provided in Attachment B – LCS Design Calculations.

2.3.5. Leachate Collection Sumps

Leachate entering the drainage layer and collection pipes is subsequently conveyed to leachate collection sumps. The sumps will be constructed to minimum dimensions shown on Figure III.15.3. In accordance with §330.333(3)(B), minimum sump capacity is approximately 11,000 gallons. The bottom of each sump is lined with an extra layer of geomembrane for added protection. The sump shall be backfilled with leachate drainage aggregate. The leachate drainage aggregate within the sump is identical to that specified in Section 2.3.2 of this plan. Additional geotextile is placed between the leachate drainage aggregate contained in the sump and the geomembrane liner, as shown on Figure III.15.3. The sumps will store the leachate until it is pumped into onsite leachate storage tank(s) and/or transported off-site for disposal. The pumps will be operated to prevent leachate levels from rising above the top of the sump. Sump pumps can be set to maintain leachate levels below the lip elevation of the sump or to limit maximum depth of the leachate to the geocomposite layer thickness. Brief excursions above the sump may occur, but never in excess of 12" above the lip of the sump. Sump capacity and material strength calculations are presented in Attachment B – LCS Design Calculations.

2.3.6. Sump and Cleanout Risers

Sump riser pipes are located along the disposal area perimeter directly up the sideslope from the sumps. Sump riser pipes provide means for lowering submersible pumps down the sideslope incline into the leachate collection sumps. The lower portion of the sump riser pipe within the sump is perforated to allow leachate to flow to the pumps. Cleanout risers, adjacent to the sump riser pipes on the side slopes, provide access to the leachate collection piping for cleaning purposes. The riser system will terminate at a concrete pad or vault designed to contain accidental spillage should the pump need to be serviced or the collection system be cleaned.

Due to the lateral expansion into proposed Phase 5, the sump and cleanout risers for existing Cells 17 and 18 of Phase 1 will be extended and routed to the proposed limits of waste at the edge of proposed Phase 5. A new pad or vault will be constructed at the end of the new riser. Care shall be taken when installing the pump as to not damage the interior of the riser pipe. See Figure III.15.4

Extraction of leachate from the collection sumps is accomplished by electric or pneumatic submersible pumps. Submersible pumps are operated manually or automatically, depending on what conveyance method is used; manually to load tanker trucks, or automatically with level switches to discharge to a storage or recirculation system. A delivery rate of 10 gpm to 200 gpm at operating head conditions is generally desirable. The pumping rate will be determined in the field based on actual leachate accumulations in the sump. For the first two months after installation, the sumps will be checked weekly to verify compliance. At least once a month, thereafter, leachate levels will be checked at all sumps. After twelve consecutive months of compliance, the manual verification may be modified to quarterly checks. Leachate levels will be checked using either a water level meter or pneumatic bubbler. A water level indicator, such as Slope Indicator model 51417402 or equivalent, has a probe attached to a tape indicating distance in ft. with units to 0.01 ft. This will be the method most likely to be used in recently constructed areas of the facility, or locations not provided with an automatic pump for extraction of leachate.

The probe may be lowered down the sideslope riser until it indicates that it has contacted liquid. In order to get the probe down the inclined riser, it may be necessary to place the probe on a small, wheeled device, or attach it to a small diameter PVC pipe and extend the pipe down the riser by attaching subsequent segments of pipe. By using the invert elevation of the top of the riser (determined by survey after construction), the measured distance along the riser to leachate, and the known angle of the riser pipe, it is possible to determine the elevation of the leachate.

The automated leachate removal system will either be controlled by a bubbler system or a transducer system. A typical pneumatic bubbler-system to determine leachate levels, such as QED Environmental Systems, Inc. Level Mate Model L375 or equivalent, is intended for use with automatic pumping systems, but may also be used without the pump. The system operates by sending a slow, steady stream of air down small diameter tubing (0.25 in. for the model stated) inserted in the riser. The last segment of the tubing is rigid and fixed at a known elevation. The instrument measures the pressure resisting the air leaving the tube and determines the depth of liquid above the tip of the tube, and displays this information on a gauge at the surface. Knowing the elevation of the tip, elevation of leachate may readily be determined and compared to elevation of adjacent liner as discussed above.

Pressure transducers may be used to control the automatic pumping system in the leachate sumps. The pressure transducers are calibrated prior to installation in the sump and are sensitive to the pressure applied as the level of leachate increases and decreases in the sump.

The system will be set up to automatically begin pumping prior to reaching the regulatory maximum level and will turn off prior to pumping the sump dry.

2.3.7. Leachate Forcemain

A forcemain may be installed to allow leachate to be pumped directly from the sump to a storage tank or recirculation system. The forcemain will consist of a single wall 4" PVC SCH 80 pipe with restrained joints or single wall 4" HDPE SDR 11 pipe with welded joints (or equivalent). The PVC pipe will contain UV inhibitors which allow the PVC to be exposed to sunlight with minimal degradation in mechanical properties. The integrity of the forcemain will be verified by leak testing. Leak testing will be performed by pressurizing the forcemain with water or leachate to at least a pressure of 30 psig. A volume loss of less than or equal to two gallons over a two hour test period will be considered a passing test. A failing leak test will result in the system being checked and retested until the source of leakage is corrected and a passing leak test is performed.

On a monthly basis, a visual inspection of the forcemain route will be performed. Visual inspections will seek evidence of leaks such as wet soil, exposed pipe, construction activity near the forcemain route, etc. If the visual inspection reveals evidence of leachate, the forcemain will be leak tested.

Due to the lateral expansion into proposed Phase 5, the existing leachate forcemain located south of existing Phase 1 and north of existing Phase 4 will be removed. The proposed replacement leachate forcemain will be installed as shown on Figure III.15.2 and per the details shown on Figure III.15.5.

2.3.8. Leachate Storage

Should the recirculation of leachate not be possible due to periods of excessive rainfall, excess leachate volumes, or for maintenance reasons, the leachate will be pumped into storage tanks, vacuum trucks or tanker trucks.

Storage tanks can be temporary or permanent and shall be suitable for the storage of leachate. Storage tanks typically range in size from 1,000 to 20,000 gallons. Secondary containment must be provided for the leachate storage tanks. Lined areas of the landfill provide secondary containment. If a tank is located in an unlined area, double wall tanks shall be used as available. Should double wall tanks not be available, a temporary containment area, consisting of but not limited to, an earthen floor and containment berms completely covered with a minimum 30 mil PVC or HDPE liner shall be installed. Secondary containment shall be sized to contain 100% of the tank volume plus one foot of freeboard.

Leachate may be transported in City of Laredo vacuum trucks or tanker trucks with capacities ranging from 1,000 to 11,000 gallons. The trucks may haul the leachate offsite for disposal at the city's treatment plant or to a recirculation point on site.

Transferring leachate to a vacuum or tanker truck requires close operator attention. The operator will adhere to all site, safety, and reporting requirements listed in Part IV – Site Operating Plan. A truck loading area will be provided at all permanent storage tanks. It shall be paved and graded to prevent stormwater run-on from entering the loading area. The loading area shall contain a sump to collect rainfall and any spills of leachate during transfer. The sump will be emptied using a submersible pump or vacuum truck. Liquids removed from the loading area sump will be treated as leachate.

If transfer of leachate into a truck is required at a location without a paved loading area, a portable trough, disposable or temporary spill pads, or other equivalent means shall be provided at the hose connection locations to minimize spills when leachate is being pumped.

Any soil contacted by leachate will be excavated and disposed of in the landfill.

2.4. Leachate Treatment and Disposal

The landfill utilizes three methods for the treatment and disposal of leachate. One method is the recirculation of leachate into the waste. If the recirculation of leachate is not possible, the leachate will be transferred to a wastewater treatment plant for disposal. Should the City construct a sanitary sewer line near the landfill, leachate may be pumped to and discharged into the sanitary sewer.

2.4.1. Leachate Recirculation.

Leachate can be managed through recirculation at the Laredo Landfill; however, there are certain constraints on where the recirculation can occur and the quantities which can be recirculated. As discussed in 30 TAC §330.177, leachate may only be recirculated to cells which have a

composite liner system consisting of a minimum two-foot thick clay liner and synthetic liner. Leachate may not be recirculated to cells with alternate liner designs.

The recirculation will be accomplished by reintroducing the collected leachate back into the disposal unit. Typical recirculation methods include but are not limited to spray application on the working face, saturation fields and drip irrigation. Clean surface water or groundwater will not be recirculated. The recirculation will be accomplished in a manner that prevents ponding or significant accumulations of leachate in any one area.

A typical approach for recirculation of leachate is as follows:

1. A tanker truck, such as a 3,000 gallon capacity water truck with a spray bar is filled either directly from the sump or from a temporary or permanent leachate storage tank;
2. The tanker truck sprays leachate within the active area;
3. The leachate truck is used to accept more leachate from sumps as necessary and process is repeated; and
4. Leachate truck is emptied so potential for leakage or spillage is nonexistent.

3. Contaminated Water Management

3.1. Contaminated Water Generation

Surfacewater that comes into contact with waste or leachate is considered to be contaminated water. Best management practices will be used to minimize contaminated water generation. These practices extend to surface water management, cell construction, cover practices, and waste acceptance.

The size of active disposal areas will be kept as small as practical and daily and intermediate cover will be placed over filled areas to minimize the area of exposed waste. Temporary diversion/containment berms will be constructed around areas of exposed waste to minimize the amount of surface water that comes into contact with the waste. The uncontaminated stormwater will be directed into the site's perimeter drainage system. Design calculations and typical details for temporary diversion/containment berms are presented in Part III – Attachment 6.

Procedures for verifying the adequacy of daily and intermediate cover placement are provided in Part IV — Site Operating Plan. If waste is exposed in areas where daily or intermediate cover has been previously placed, runoff from these areas will be considered to be contaminated water.

3.2. Contaminated Water Collection

The same temporary diversion/containment berms that prevent surface water from entering areas of exposed waste collect and contain surface water that has come into contact with waste. In addition to the planned containment berms around the active face, temporary containment berms will be constructed wherever needed to collect contaminated water. Design calculations and typical details for temporary diversion/containment berms are presented in Part III – Attachment

6. The calculations show the dimensions for typical conditions, but additional storage capacity will be provided as site operating conditions dictate.

3.3. Contaminated Water Disposal

Contaminated water will be transported to the City's off-site wastewater treatment plant, pumped into the leachate storage tank and treated as leachate, or managed through alternate methods as approved by TCEQ depending on the nature of the contaminated water.

4. Spill Response

Response to an emergency such as a spill of leachate or contaminated water shall include, as appropriate:

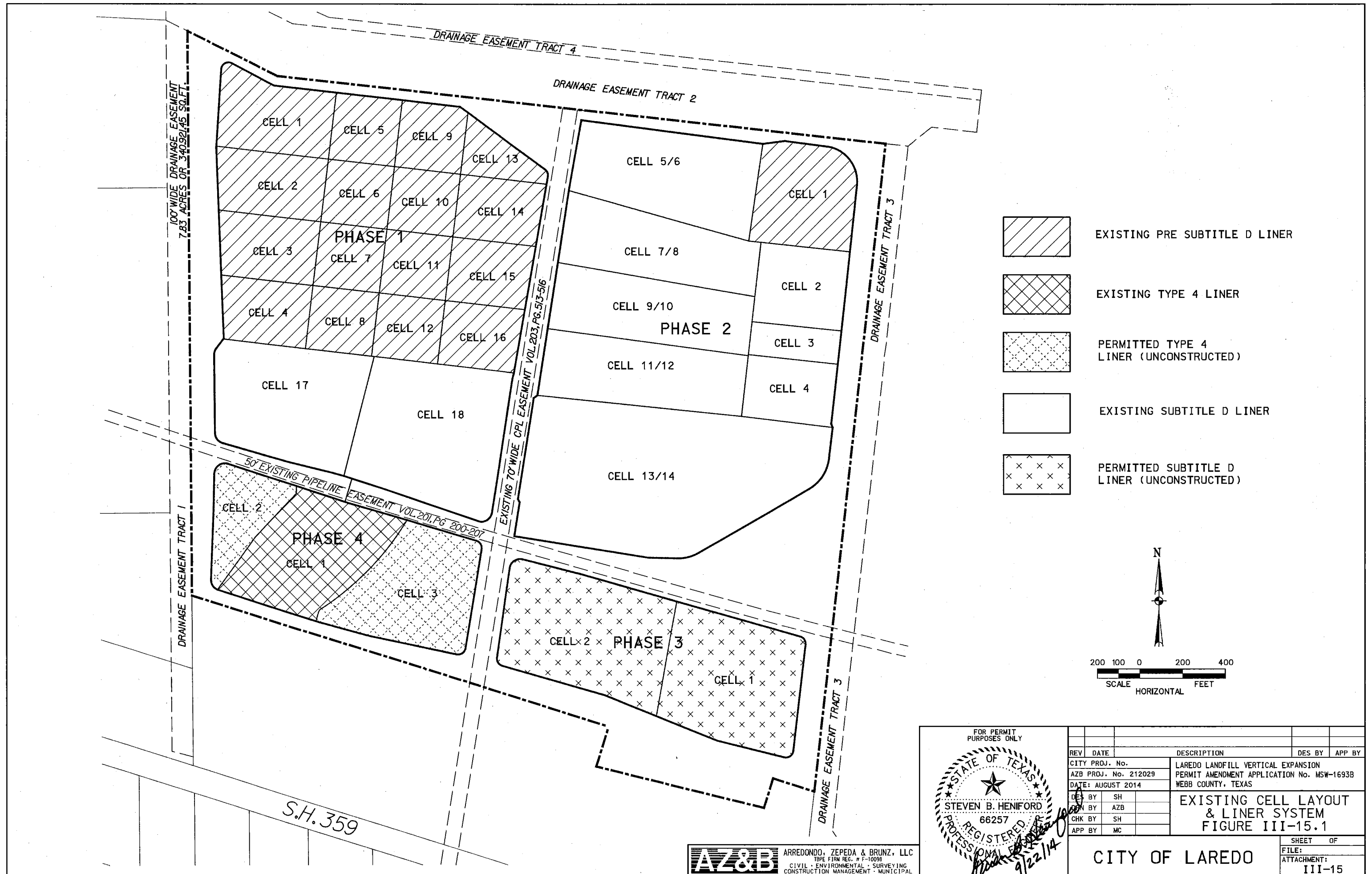
- Shutoff pumps as appropriate, perform temporary repairs to the storage tank, tanker truck, or vacuum truck;
- Construction of temporary soil berms to contain the leachate or contaminated waters;
- Use of pumps or vacuum trucks to collect spilled liquids;
- Solidification of the liquids with fly ash, flue dust, cement, or like materials followed by placement in the landfill;
- Excavation, removal, and landfilling of any impacted soils or materials; and
- Permanent repairs to storage tank, tanker truck, vacuum truck, or forcemain as necessary.

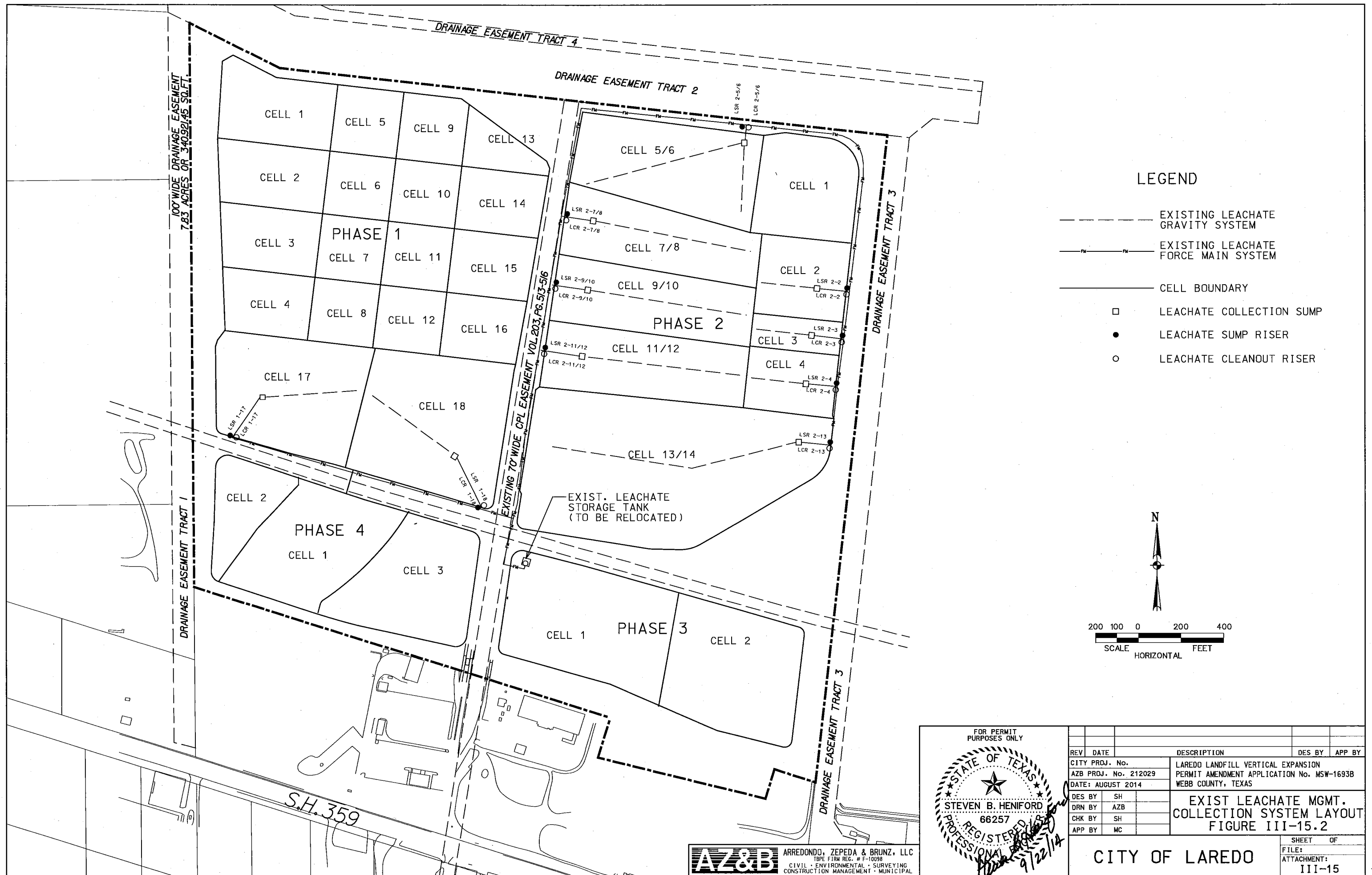
5. Maintenance

Maintenance performed on the leachate management system includes repairing or replacing leachate pumps as necessary to ensure leachate level conditions discussed in this plan, section 2.3.5. Leachate collection lines may need periodic flushing to dislodge biological mass or fines that have clogged the pipe perforations. This will typically be performed by an outside contractor with equipment sufficient to flush the entire length of leachate collection lines.

6. Monitoring

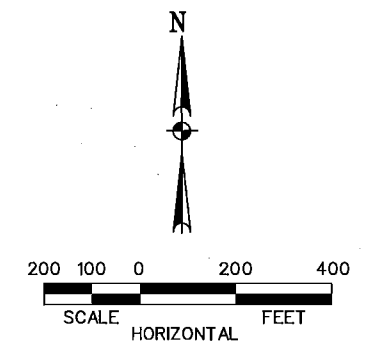
Leachate head levels will be measured on an as needed basis, but at a minimum, they will be measured as outlined in Section 2.3.6. Leachate removal will occur as necessary to maintain leachate level conditions discussed in section 2.5.3 in this plan. If excess head levels are encountered, the site will immediately begin actions to reduce the levels.



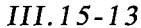


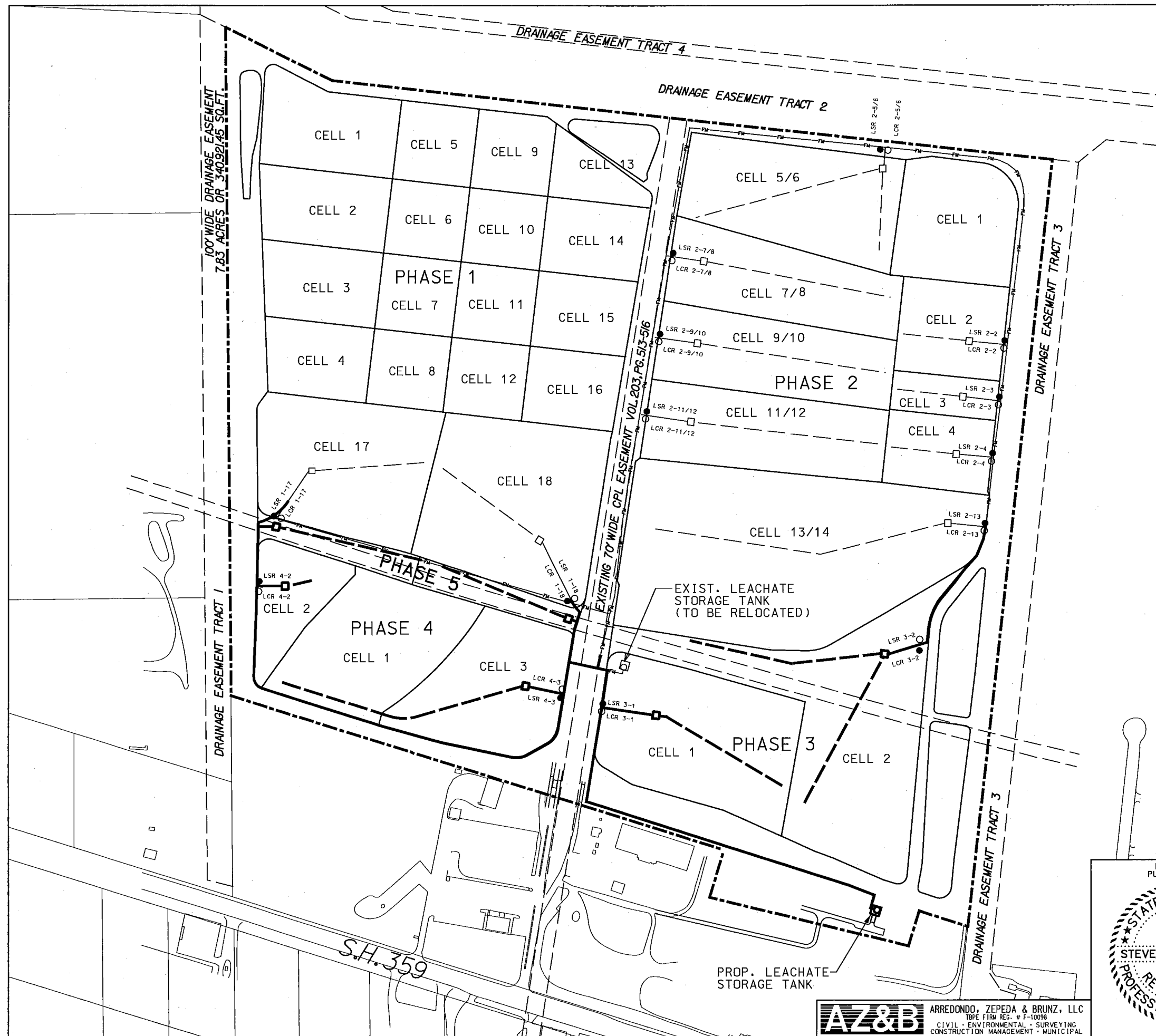
LEGEND

- EXISTING LEACHATE GRAVITY SYSTEM
- EXISTING LEACHATE FORCE MAIN SYSTEM
- CELL BOUNDARY
- LEACHATE COLLECTION SUMP
- LEACHATE SUMP RISER
- LEACHATE CLEANOUT RISER



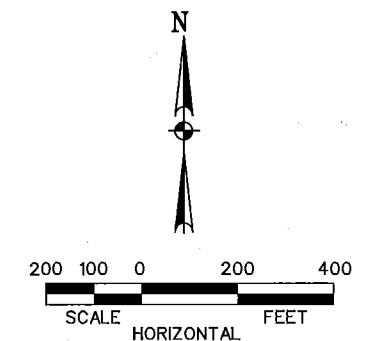
REV		DATE	DESCRIPTION	DES BY	APP BY
CITY PROJ. No.		LAREDO LANDFILL VERTICAL EXPANSION			
AZB PROJ. No. 212029		PERMIT AMENDMENT APPLICATION No. MSW-1693B			
DATE: AUGUST 2014		WEBB COUNTY, TEXAS			
DES BY	SH	EXIST LEACHATE MGMT.			
DRN BY	AZB	COLLECTION SYSTEM LAYOUT			
CHK BY	SH	FIGURE III-15.2			
APP BY	MC				
CITY OF LAREDO		SHEET OF			
		FILE:			
		ATTACHMENT:			
		III-15			



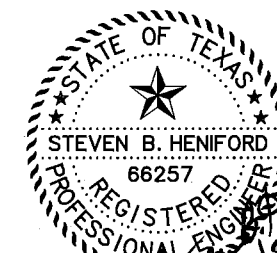


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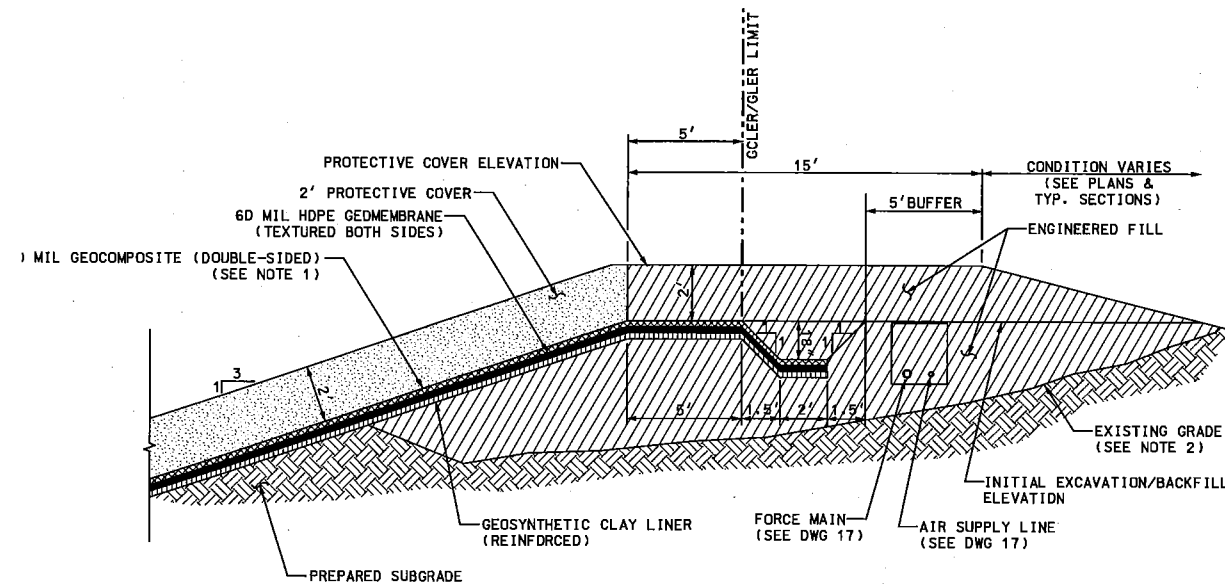
- EXISTING LEACHATE GRAVITY SYSTEM
- EXISTING LEACHATE FORCE MAIN SYSTEM
- PROPOSED LEACHATE GRAVITY SYSTEM
- PROPOSED LEACHATE FORCE MAIN SYSTEM
- CELL BOUNDARY
- LEACHATE COLLECTION SUMP
- LEACHATE SUMP RISER
- LEACHATE CLEANOUT RISER



FOR PERMIT PURPOSES ONLY		REV		DATE	DESCRIPTION	DES BY	APP BY
CITY PROJ. No.		AZB PROJ. No.		LAREDO LANDFILL VERTICAL EXPANSION		PERMIT AMENDMENT APPLICATION No. MSW-1693B	
DATE: AUGUST 2014		DATE: AUGUST 2014		WEBB COUNTY, TEXAS		PROPOSED LEACHATE MGMT. COLLECTION SYSTEM LAYOUT	
DES BY SH		CHK BY SH		APP BY MC		FIGURE III-15.4	
CITY OF LAREDO		SHEET OF		FILE:		ATTACHMENT:	
						III-15	



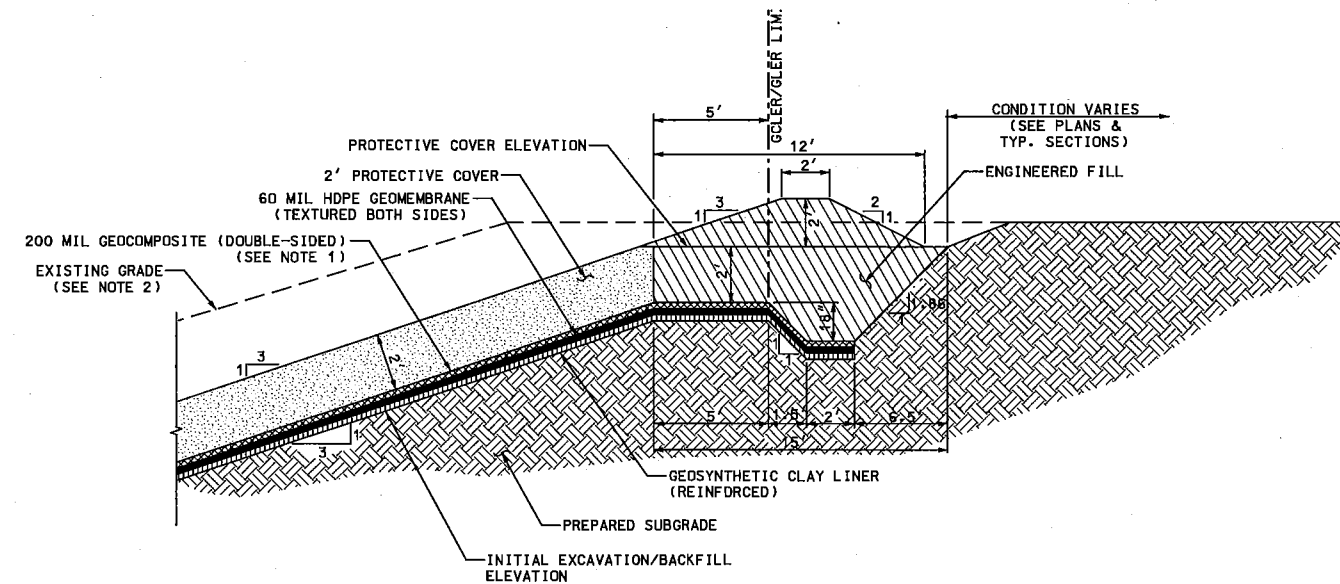
AZ&B ARREDONDO, ZEPEDA & BRUNZ, LLC
 1816 FIRM REG. # F-10098
 CIVIL - ENVIRONMENTAL - SURVEYING
 CONSTRUCTION MANAGEMENT - MUNICIPAL



LANDFILL ANCHOR TRENCH (FILL)

NTS

A
15.6



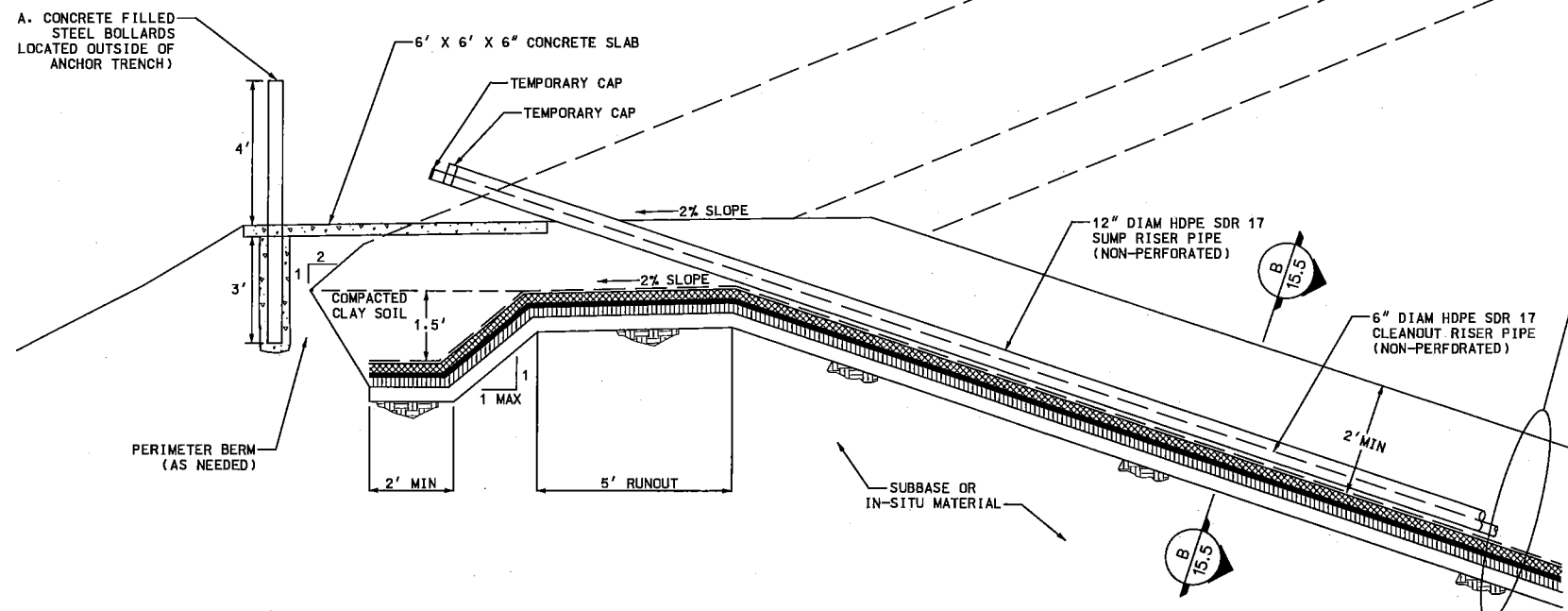
LINER ANCHOR TRENCH (CUT)

NTS

B
15.6

NOTES

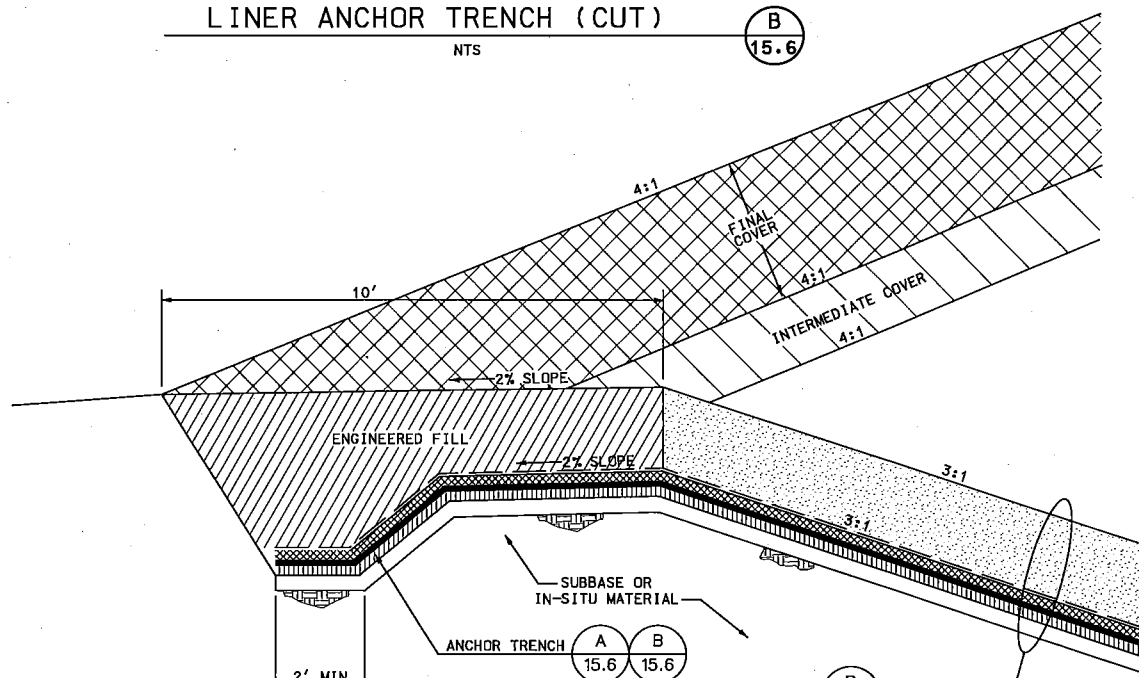
1. GEOCOMPOSITE TERMINATES IN BOTTOM OF ANCHOR TRENCH.
2. THE EXCAVATION/BACKFILL TRANSITION IS DEPICTED ON DRAWINGS 4 AND 5. ALL BACKFILL ABOVE EXISTING GRADE IS CLASSIFIED AS ENGINEERED FILL AND SHALL BE COMPACTED TO 95% OF OPTIMUM STD. PROCTOR DENSITY.



LEACHATE RISER CONFIGURATION AT LANDFILL PERIMETER

NTS

C
15.6



FINAL COVER CONNECTION TO BASE LINER

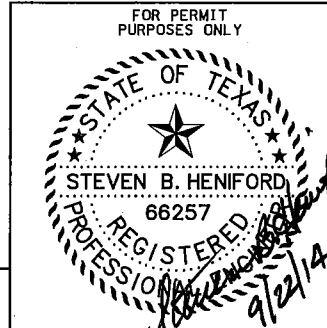
NTS

B
15.5

D
15.6



ARREDONDO, ZEPEDA & BRUNZ, LLC
TYPE FIRM REG. # F-10098
CIVIL - ENVIRONMENTAL - SURVEYING
CONSTRUCTION MANAGEMENT - MUNICIPAL

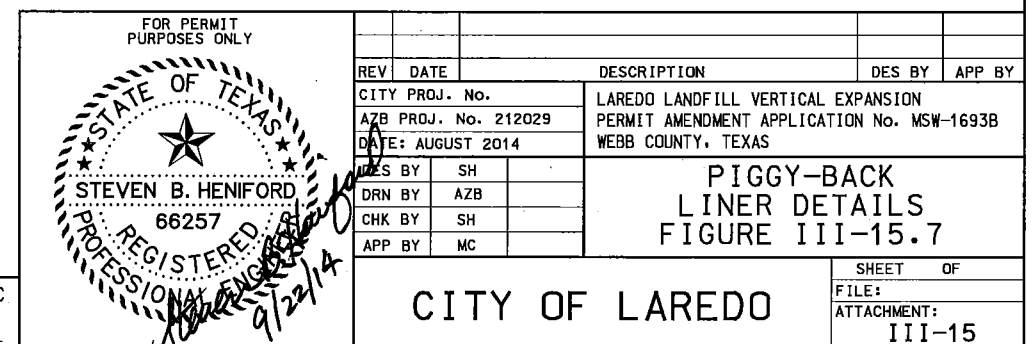
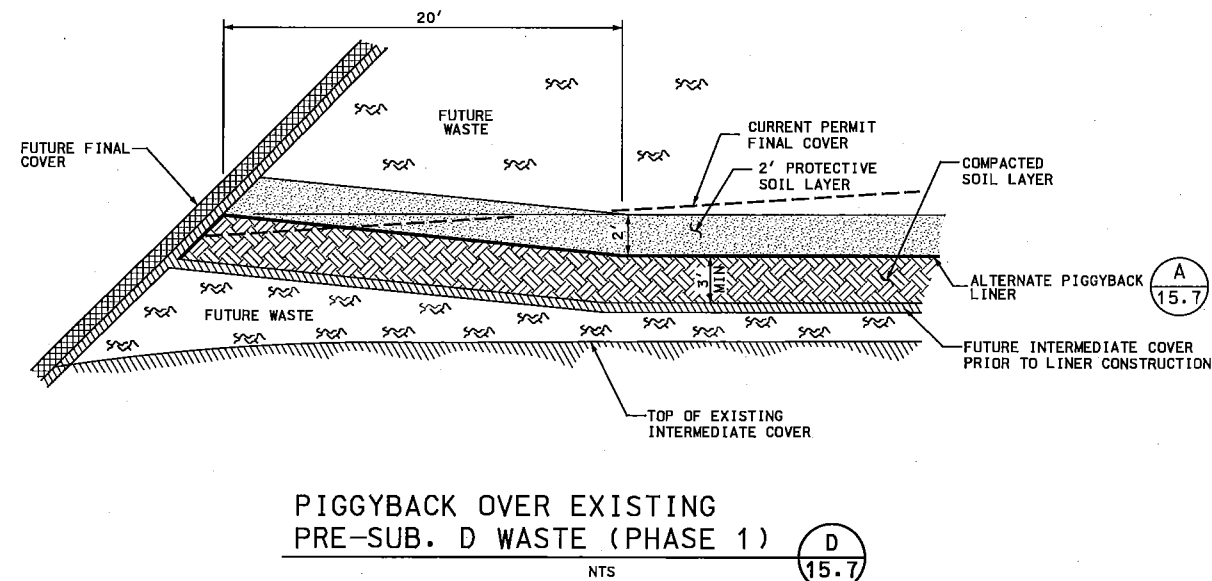
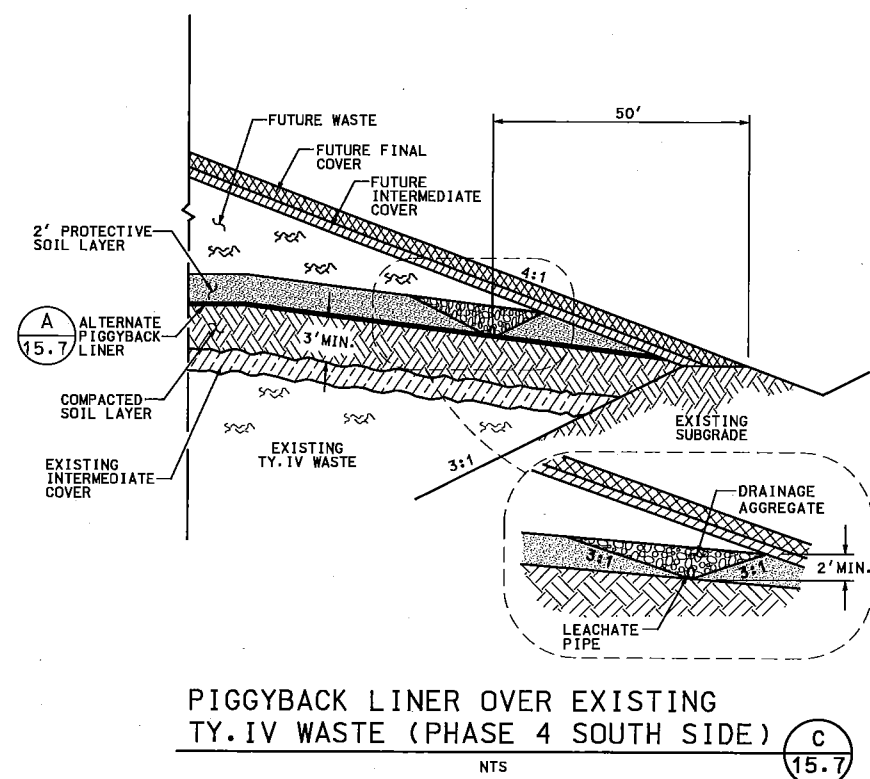
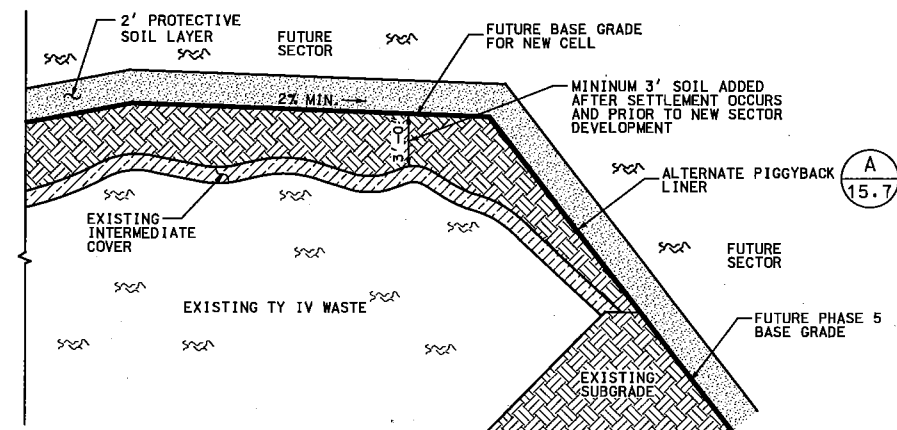
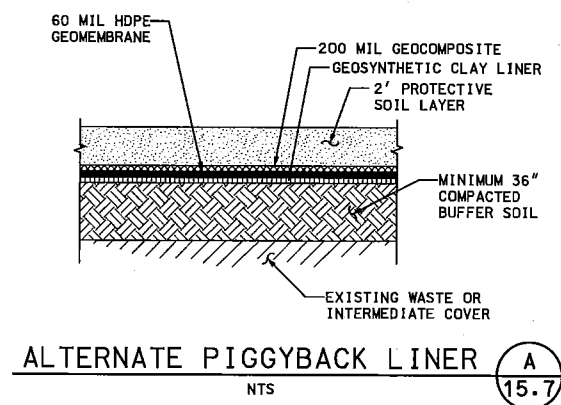


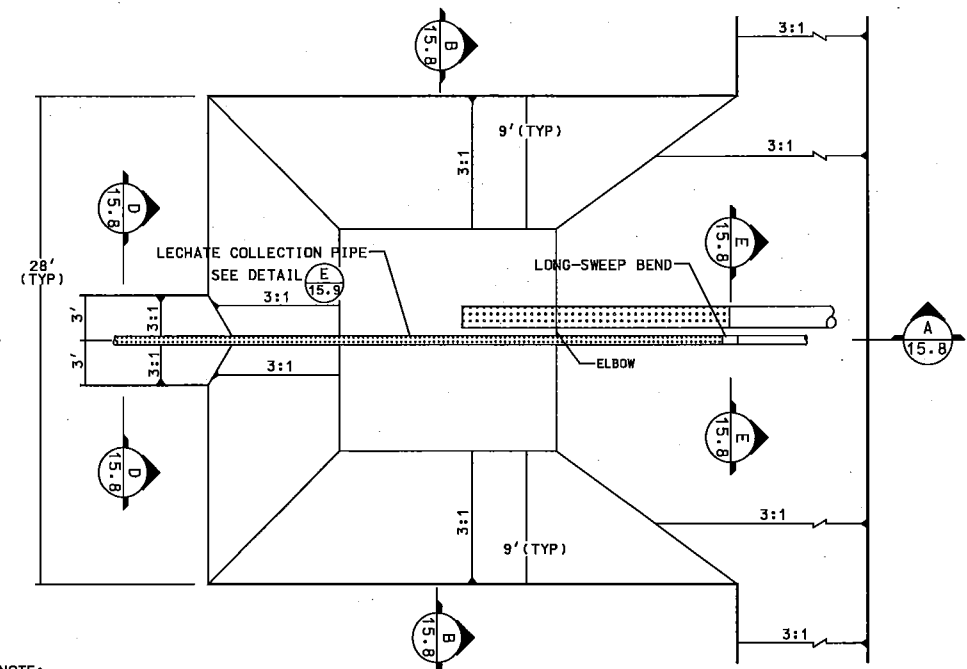
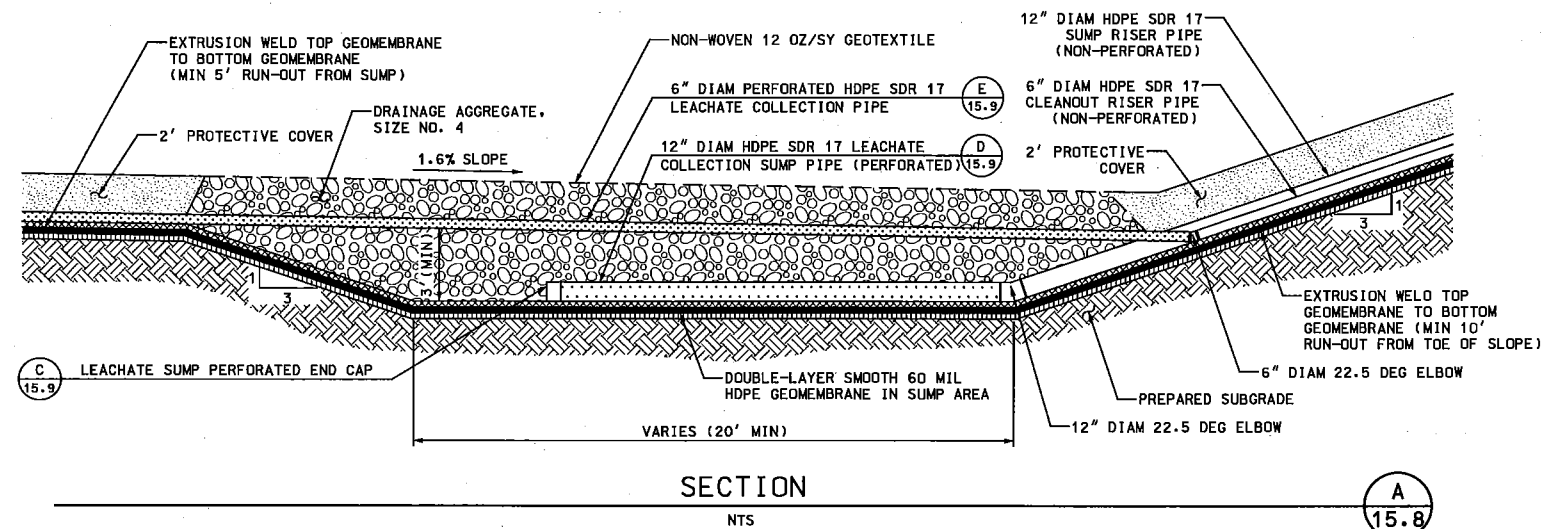
REV	DATE	DESCRIPTION	DES BY	APP BY
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2	08/01/14	WEBB COUNTY, TEXAS	SH	MC
3	08/01/14		SH	MC
4	08/01/14		SH	MC
5	08/01/14		SH	MC
6	08/01/14		SH	MC
7	08/01/14		SH	MC
8	08/01/14		SH	MC
9	08/01/14		SH	MC
10	08/01/14		SH	MC

CITY OF LAREDO

LINER TIE-IN
DETAILS
FIGURE III-15.6

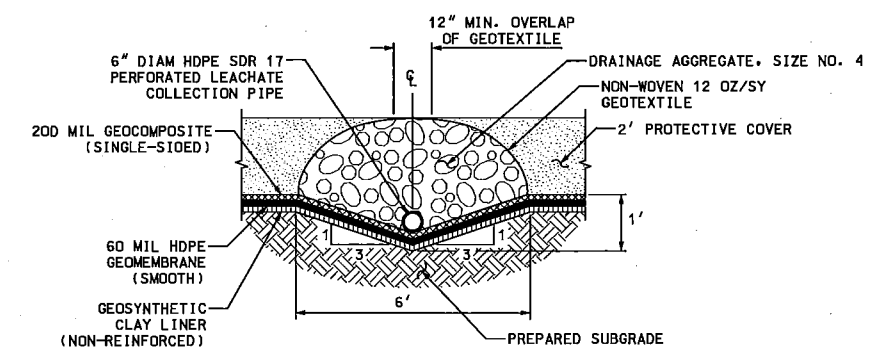
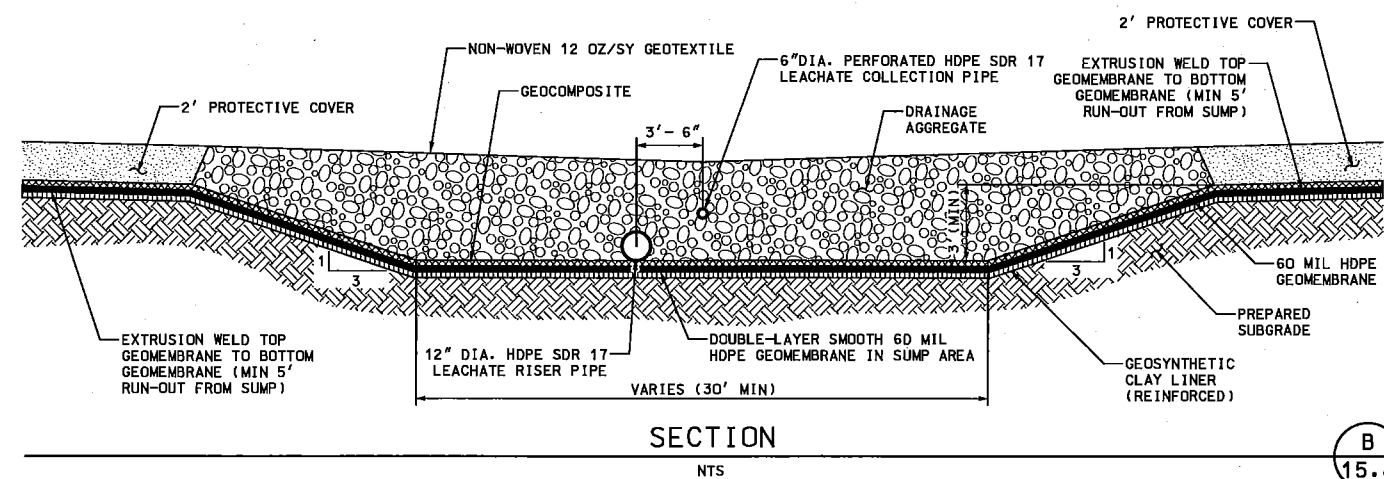
SHEET OF
FILE:
ATTACHMENT:
III-15



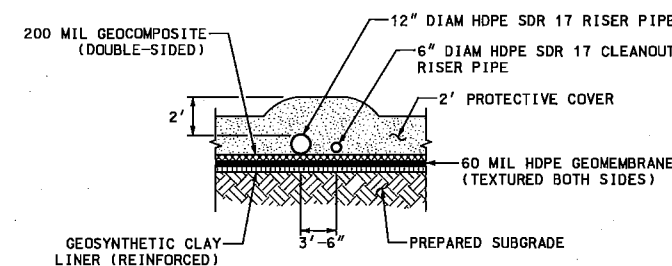
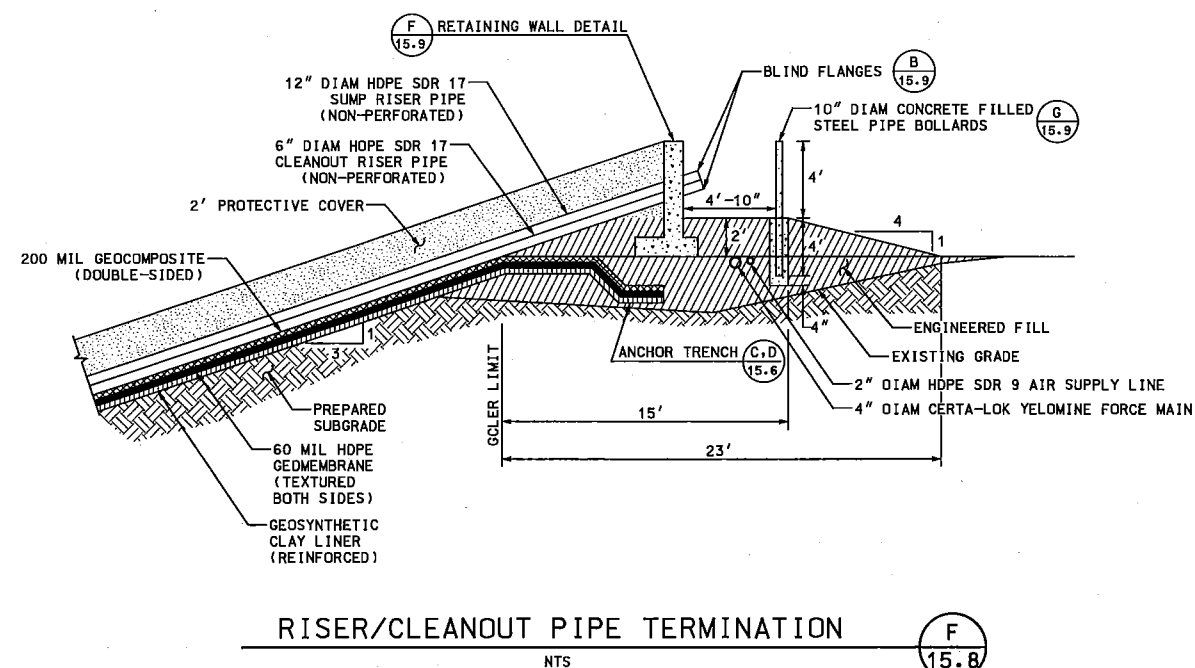


NOTE:
1. EXTEND 60-MIL, HDPE TEXTURED GEOMEMBRANE 5' BEYOND THE EDGE OF SUMP & WELD TO SMOOTH GEOMEMBRANE.

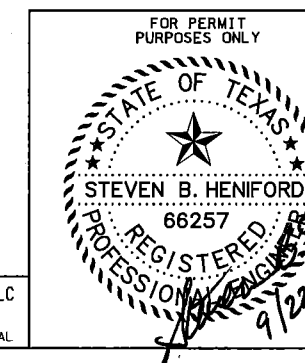
LEACHATE COLLECTION SUMP PLAN
NTS



LEACHATE COLLECTION TRENCH
NTS

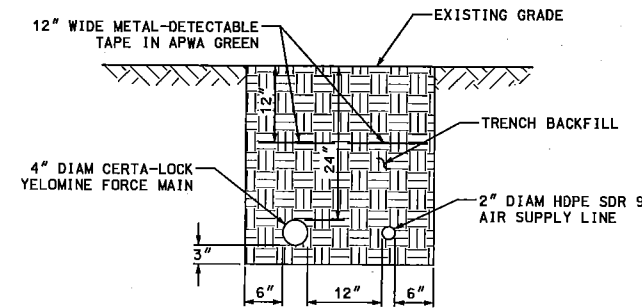


SIDESLOPE RISER
NTS

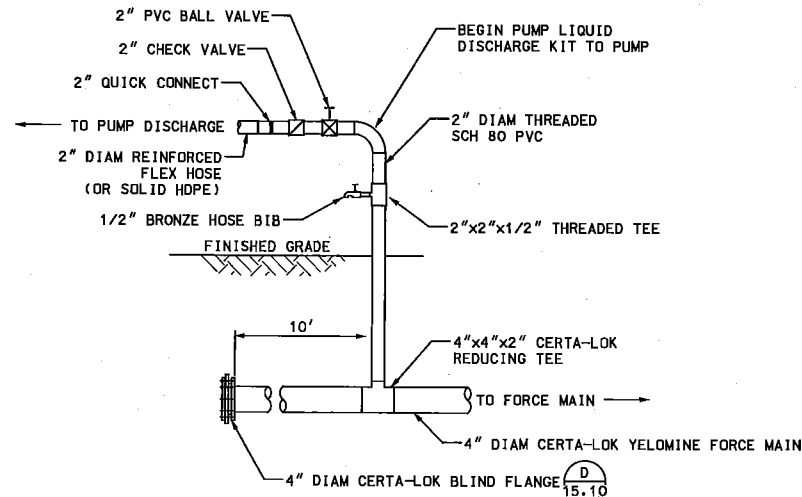


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3	08/01/14	FIGURE III-15.8	SH	MC
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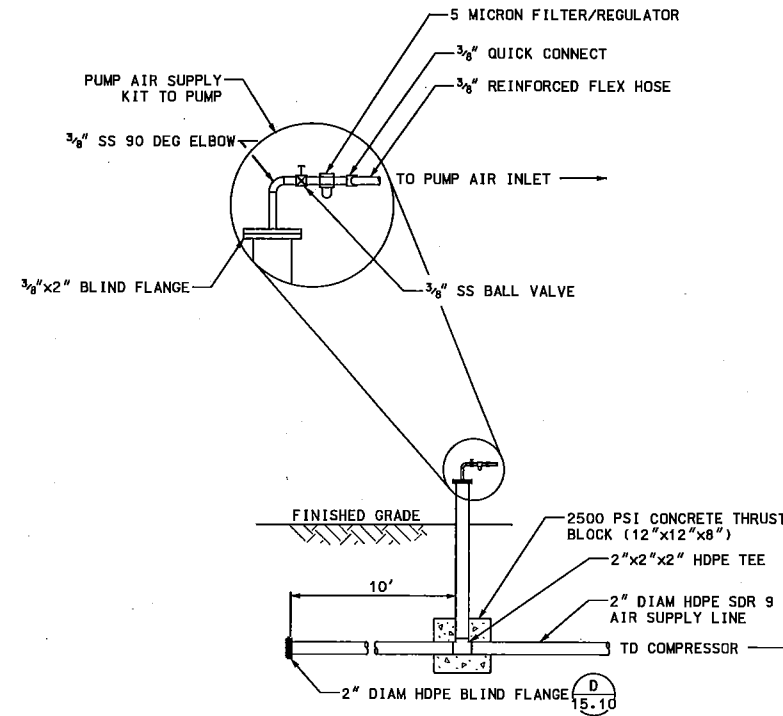
AZ&B ARREDONDO, ZEPEOA & BRUNZ, LLC
TYPE FIRM REG. # F-10039
CIVIL • ENVIRONMENTAL • SURVEYING
CONSTRUCTION MANAGEMENT • MUNICIPAL



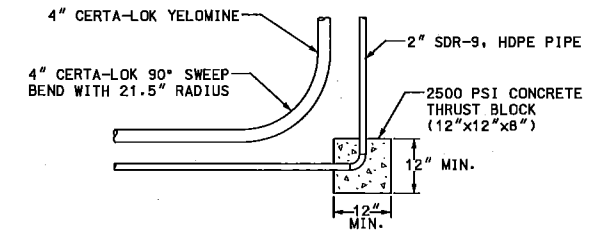
FORCE MAIN TRENCH DETAL (A) 15.10



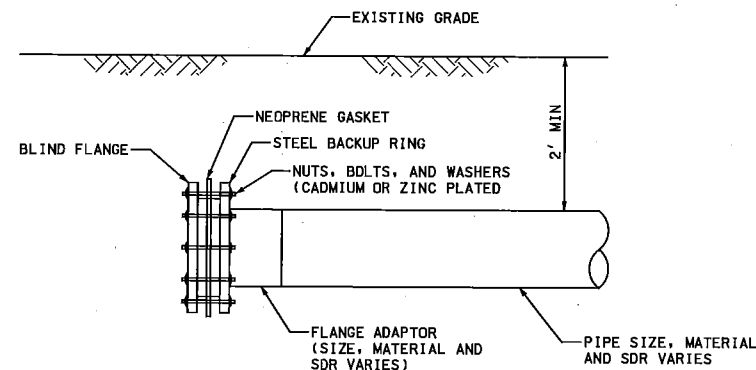
FORCE MAIN TERMINATION (B) 15.10



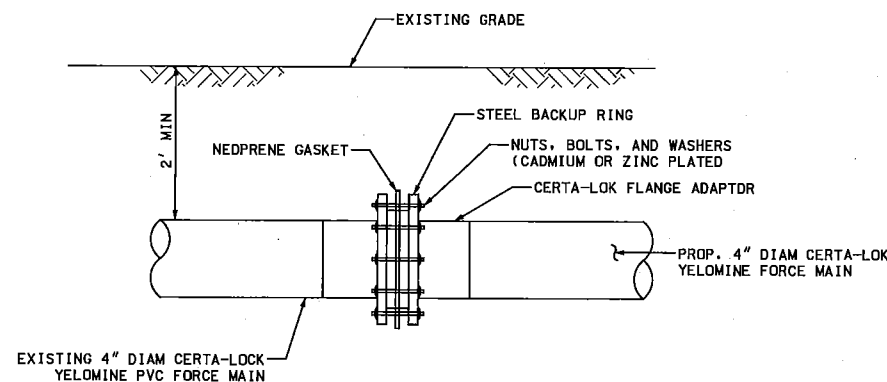
AIR SUPPLY LINE TERMINATION (C) 15.10



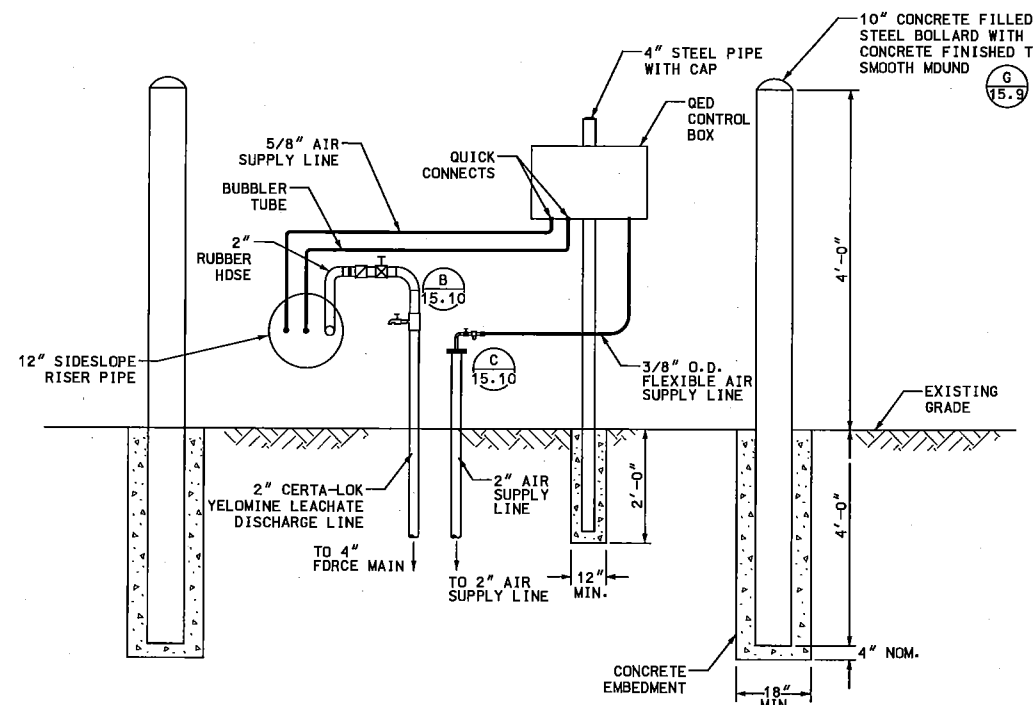
TYPICAL SWEEP DETAIL (C) 15.10



BLIND FLANGE DETAL (D) 15.10



FLANGE CONNECTION (TYP) (E) 15.10



TYPICAL FORCE MAIN AND AIR SUPPLY LINE AT SUMP RISER TERMINATION (C) 15.10

REV		DATE	DESCRIPTION	DES BY	APP BY
CITY PROJ. No.		212029	LAREDO LANDFILL VERTICAL EXPANSION		
AZB PROJ. No.		212029	PERMIT AMENDMENT APPLICATION No. MSW-1693B		
DATE:		AUGUST 2014	WEBB COUNTY, TEXAS		
DES BY	SH		LEACHATE MGMT. COLLECTION		
DRN BY	AZB		SYSTEM FORCE MAIN DETAILS		
CHK BY	SH		FIGURE III-15.10		
APP BY	MC				

SHEET OF	
FILE:	ATTACHMENT:
III-15	

AZ&B ARREDONDO, ZEPEDA & BRUNZ, LLC
 TYPE FIRM REG. # F-10098
 CIVIL - ENVIRONMENTAL - SURVEYING
 CONSTRUCTION MANAGEMENT - MUNICIPAL

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

HELP MODEL
ATTACHMENT III.15 – APPENDIX A

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

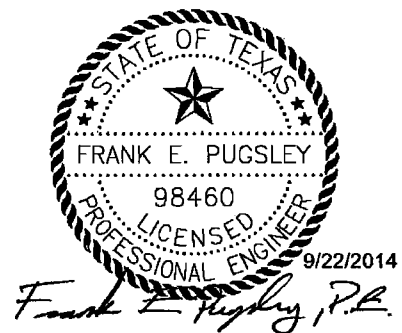
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

SEPTEMBER 2014

Prepared by:

CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741

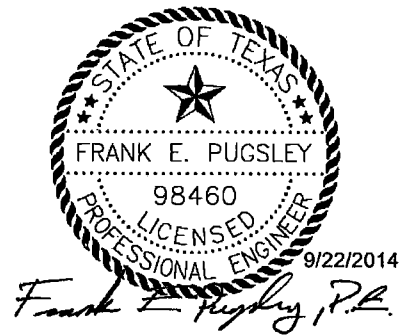


HELP MODEL
CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
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1. Introduction

This Appendix provides details of the use of the Hydrologic Evaluation of Landfill Performance (HELP) Model. The HELP Model provides data regarding flow and accumulation of liquids in layers of landfills. It is a quasi-two-dimensional hydrologic numerical software model originally developed by the U. S. Environmental Protection Agency (EPA) for use by landfill operators to determine the behavior of leachate at their facilities. The latest version, 3.07, is available for free download from the U. S. Army Corps of Engineers. The HELP Model applies a numerical solution technique to model water movement across, into, through, and out of each layer of a landfill. Using input data about climate, soil, and landfill design, the model accounts for the effects of surface storage, runoff, infiltration, percolation, soil moisture storage, evapotranspiration, and lateral drainage.

2. Model Setup

The HELP Model software requires significant input data from the user to properly implement its numerical hydrologic solution. In addition to local climate data, HELP Model users must input soil parameters and qualities of each layer of landfill design, including cover material, the waste column, and the liner and leachate collection systems. This permit application includes data from multiple runs of the HELP Model encompassing a variety of waste thicknesses, cover completion statuses, and liner constructions.

2.1. Climate

The HELP Model requires climate data to perform calculations primarily to include infiltrated precipitation in the liquid analysis and to predict liquids lost to evapotranspiration. To simplify usage of the model, the HELP software includes a subroutine that generates synthetic data for a number of climate characteristics in nearly 200 cities. These parameters include precipitation, temperature, and solar radiation. The City of Laredo is not included in the list of available cities. However, average monthly precipitation and temperature values for the City of Laredo combined with the precipitation generation coefficients for San Antonio, Texas (nearest listed city) were used to generate 30 years of rainfall and temperature data. The solar radiation data produced by the model is from Corpus Christi. This city has the latitude (27.77) to that of Laredo, Texas (27.52). These inputs provide for a accurate analysis.

2.2. Model Profile

The site was modeled for the following situations:

- Active stage with 20 feet of waste and daily cover.
- Interim stage with 140 feet of waste and intermediate cover.
- Closed stage with 203 feet of waste and final cover.

The active stage is modeled for 1 year, the interim stage modeled for ten years, and the closed stage modeled for 30 years.

The HELP Model runs include the following profile material¹ layers listed from the cover downwards.

- Cover – Daily, Intermediate, or Final²
- Waste Layer
- Protective Cover Layer
- Leachate Collection Layer
- Geomembrane Liner
- Geocomposite Clay Liner

2.3. Input Summary

The following table summarizes the input variables for each waste profile.

¹ The HELP model contains default information for 42 different materials in a file known in the model as “Texture Number.” The software designers used this field to simplify model usage by providing standard values for Total Porosity, Field Capacity, Wilting Point, and Saturated Hydraulic Conductivity, for a group of 42 different materials commonly used in landfill construction and operations. Some examples of included materials are sand-clay mixture (10), silt-clay mixture (14), Barrier Soil (16), MSW (18), Moderately Compacted Clay (25), HDPE (35), etc.

² A water balance alternate cover system was used in the HELP model - see Alternate Final Cover Demonstration (See Attachment III.12A). This cover system was used to model an realistic cross section of the landfill since the City intends on to use this type of cover system over the entire landfill. Additionally, cover systems do not affect the worst case HELP Model results. The maximum lateral drainage collected and maximum head on liner occur during the active stage of landfill development without a final cover system installed.

**TABLE 1
HELP MODEL INPUT SUMMARY**

		ACTIVE (20' waste)	INTERIM (140' waste)	FINAL (203' waste)
GENERAL INFORMATION	Case No.	1	2	3
	No. of Years	1	10	30
	Ground Cover	BARE	BARE	BARE
	SCS Runoff Curve No.	94.1	94.1	93.5
	Model Area (acre)	1	1	1
	Runoff Area (%)	0	0	0
	Maxium Leaf Area Index	0	0	0
	Evaporative Zone Index	10	10	10
FINAL COVER WATER BALANCE (Texture = 24)	Thickness (in)			24
	Porosity (vol/vol)			0.365
	Field Capacity (vol/vol)			0.305
	Wilting Point (vol/vol)			0.202
	Init. Moisture Content (vol/vol)			0.267
	Hyd. Conductivity (cm/s)			1.00E-07
INTERMEDIATE COVER (Texture = 24)	Thickness (in)		12	
	Porosity (vol/vol)		0.3650	
	Field Capacity (vol/vol)		0.3050	
	Wilting Point (vol/vol)		0.2020	
	Init. Moisture Content (vol/vol)		0.2290	
	Hyd. Conductivity (cm/s)		2.70E-06	
DAILY COVER (Texture = 24)	Thickness (in)	6		
	Porosity (vol/vol)	0.3650		
	Field Capacity (vol/vol)	0.3050		
	Wilting Point (vol/vol)	0.2020		
	Init. Moisture Content (vol/vol)	0.2127		
	Hyd. Conductivity (cm/s)	2.70E-06		
WASTE (Texture = 18)	Thickness (in)	240	1680	2436
	Porosity (vol/vol)	0.6710	0.6710	0.6710
	Field Capacity (vol/vol)	0.2920	0.2920	0.2920
	Wilting Point (vol/vol)	0.0770	0.0770	0.0770
	Init. Moisture Content (vol/vol)	0.2886	0.2920	0.2920
	Hyd. Conductivity (cm/s)	1.00E-03	1.00E-03	1.00E-03
PROTECTIVE COVER (Texture = 24)	Thickness (in)	24	24	24
	Porosity (vol/vol)	0.3650	0.3650	0.3650
	Field Capacity (vol/vol)	0.3050	0.3050	0.3050
	Wilting Point (vol/vol)	0.2020	0.2020	0.2020
	Init. Moisture Content (vol/vol)	0.3050	0.3050	0.3050
	Hyd. Conductivity (cm/s)	2.70E-06	2.70E-06	2.70E-06

LEACHATE COLLECTION (Texture = 34)	Thickness (in)	0.18	0.16	0.12
	Porosity (vol/vol)	0.8500	0.8500	0.8500
	Field Capacity (vol/vol)	0.0100	0.0100	0.0100
	Wilting Point (vol/vol)	0.0050	0.0050	0.0050
	Init. Moisture Content (vol/vol)	0.0100	0.0100	0.0100
	Hyd. Conductivity (cm/s)	33.00	33.00	33.00
	Slope (%)	2	2	2
	Slope Length (ft)	300	300	300
FLEXIBLE MEMBRANE (Texture = 35)	Thickness (in)	0.06	0.06	0.06
	Hyd. Conductivity (cm/s)	2.00E-13	2.00E-13	2.00E-13
	Pinhole Density (holes/acre)	1	1	1
	Install. Defects (holes/acre)	1	1	1
	Placement Quality	3 - GOOD	3 - GOOD	3 - GOOD
GEOSYNTHETIC CLAY LINER (Texture = 17)	Thickness (in)	0.24	0.24	0.24
	Porosity (vol/vol)	0.7500	0.7500	0.7500
	Field Capacity (vol/vol)	0.7470	0.7470	0.7470
	Wilting Point (vol/vol)	0.4000	0.4000	0.4000
	Init. Moisture Content (vol/vol)	0.7500	0.7500	0.7500
	Hyd. Conductivity (cm/s)	5.00E-09	5.00E-09	5.00E-09
PRECIPITATION	Average Annual (in)	14.66	19.50	20.05
RUNOFF	Average Annual (in)	0.00	12.08	12.30
EVAPOTRANSPIRATION	Average Annual (in)	14.53	7.41	7.74
LATERAL DRAINAGE	Peak Daily (in/ac/day)	0.00015	0.00076	0.00001
	Peak Daily (gal/ac/day)	4.07	20.64	0.27
HEAD ON LINER	Peak (in)	0.003	0.006	0.001
FINAL MSW MOISTURE CONTENT	(vol/vol)	0.289	0.292	0.292

3. Model Results

The HELP model calculates the average monthly, the average annual and the peak daily precipitation, runoff, evapotranspiration, lateral drainage, percolation through the barrier, and head buildup for average annual and peak daily conditions. The HELP analysis results including the initial moisture content of waste and peak daily head buildup for the 3 waste profiles are summarized below. A copy of the HELP model output is included

TABLE 2
HELP MODEL OUTPUT SUMMARY

Landfill Operational Stage	Maximum Head on Liner (in)	Maximum Leachate Generation inches/acre/day	Maximum Leachate Generation gpd/acre
Active Stage - 20' of waste and daily cover	0.003	0.00015	4.07
Interim Stage - 140' of waste and intermediate cover	0.006	0.00076	20.64
Closed Stage - 203' of waste and final cover	0.001	0.00001	0.27

Based upon the results of the HELP analysis, a maximum head of 0.006 in. will occur during the interim stage of the landfill operation. The maximum head buildup calculated is less than the thickness of the drainage layer and less than the regulatory limit of 30 cm; therefore, the proposed leachate collection system will be in compliance with the regulations.

CITY OF LAREDO
MUNICIPAL SOLID WASTE LANDFILL
LAREDO, TEXAS
WEBB COUNTY

ALTERNATIVE COVER DEMONSTRATION
LCS CALCULATIONS

ATTACHMENT III.15 – APPENDIX B

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY

PERMIT NO.: 1693B

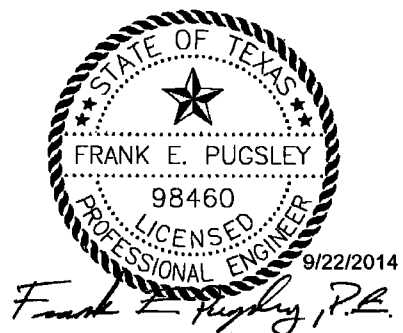
Applicant:

City of Laredo Municipal Solid Waste Landfill
Solid Waste Services Department
6912 Highway 359
Laredo, TX 78044

SEPTEMBER 2014

Prepared by:

CP&Y, Inc.
1820 Regal Row
Dallas, TX 75235
F-1741





1820 Regal Row
Dallas, Texas 75235
214-638-0500

Project # LARE1301

Client Laredo Municipal Solid Waste Landfill
Project Permit Amendment Application
Subject Leachate Pipe Capacity Calculations

Prepared By BW on 4/30/2013
Reviewed By FP on 11/6/2013
Approved By FP on 9/22/2014

A Leachate Collection Pipe Flow Capacity

$$Q = \frac{1.49}{n} A R_h^{\frac{2}{3}} S_o^{\frac{1}{2}}$$

Pipe Size = 6 in SCH 80 Perforated PVC

Where:

Q = flow, cfs
n = manning's coefficient 0.013 for PVC
A = cross sectional flow area, ft²
R_h = hydraulic radius, ft
S_o = slope, ft/ft 1% minimum

$$A_{full} = \pi \cdot r^2$$

$$A = 0.196 \text{ ft}^2$$

$$R_h = \frac{A}{P_{wet}}$$

Where:

P = wetted perimeter, ft

$$R_h = 0.125 \text{ ft}$$

$$Q = 0.5623 \text{ cfs}$$
$$= 1.3545 \text{ in/day}$$



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214-638-0500

Project # LARE1301

Client Laredo Municipal Solid Waste Landfill
Project Permit Amendment Application
Subject PVC Leachate Pipe Strength Calculations

Prepared By BW on 4/30/2013
Reviewed By FP on 11/6/2013
Approved By FP on 9/22/2014

Sources:

- 1 Howard, Amster K., "Modulus of Soil Reaction (E') Values for Buried Flexible Pipe," Journal of Geotechnical Engineering Division, ASCE, Vol. 103, No. GT, Proceedings Paper 12700 (Jan. 1977).
- 2 Merritt, F. S., Standard Handbook for Civil Engineers, McGraw-Hill (1983).
- 3 Moser, A. P., Buried Pipe Design, McGraw-Hill (1990).
- 4 UniBell, Handbook of PVC Pipe, Uni-Bell PVC Pipe Association, Dallas, Texas, 1991
- 5 Plastic Pipe Design Manual by: Vylon Pipe

A Dead Load Static Soil Pressure

$$P_E = w H$$

Where:

P_E = soil pressure @ pipe crown, lb/ft²

w = soil density, lb/ft³

H = height of soil above pipe crown, ft

Landfill Corss Section - Worst Case

Layer	Depth	Density
Top Soil	1 ft	125 lb/ft ³
Clay	5 ft	125 lb/ft ³
Daily Cover	20 ft	125 lb/ft ³
Waste	177 ft	40 lb/ft ³
Protective Cover	2 ft	125 lb/ft ³

$$P_E = 10,580 \text{ lb/ft}^2 = 73.472 \text{ psi}$$

B Live load Pressure

$$P_L = 1.5 \frac{I_I W_L H^3}{\pi (X^2 + H^2)^{2.5}}$$

Where:

P_L = live load pressure @ pipe crown, lb/ft²

I_I = impact factor = 2

W_L = wheel load, lb = 32000 lbs for HS-20 Truck

H = vertical distance from pipe crown to wheel load application surface, ft = 2

X = horizontal distance from center of pipe crown to center of wheel load, ft = 0

P_L = 7,643 lb/ft² = 53.079 psi

C Deflection Calculation

$$\Delta = \frac{D_L \cdot K \cdot P_y}{(.149 \cdot PS) + (0.061 \cdot E')} \cdot 100$$

Where:

Δ = % deflection

D_L = deflection lag factor, 1.5

K = bedding factor, 0.1

P_y = prisim load, psi 73.472 (worst case loading)

E' = modulus of soil reaction, psi 3,000

PS = pipe stiffness, psi 6" SCH 80 = 607
12" SCH 40 = 64

Deflection must be less than 7.5%

% Deflection 6" SCH 40 = 4.0% OK!

% Deflection 12" SCH 80 = 5.7% OK!

D Pipe Buckling

$$P_{cr} = \frac{.447 \cdot PS}{(1 - \nu^2)}$$

Where:

P_{cr} = unconfined buckling pressure, psi

ν = poisson's ratio 0.38 for PVC

P_{cr} 6" SCH 80 = 317.12 psi

P_{cr} 12" SCH 40 = 33.44 psi

$$P_b = 1.15 \sqrt{P_{cr} \cdot E'}$$

Where:

P_b = confined buckling pressure, psi

P_{cr} = unconfined buckling pressure, psi

E' = modulus of soil reaction, psi 3,000

P_b 6" SCH 80 = 1,121.7 psi = F.S. 15.27

P_b 12" SCH 40 = 364.22 psi = F.S. 4.96

E Wall Crushing Resistance

$$\sigma = \frac{T}{A}$$

Where:

σ = compressive stress, psi

A = area of pipe wall, in²/in

T = wall thrust, lb/in

6" SCH 40 = 0.28 in

12" SCH 80 = 0.687 in

$$T = \frac{P_y \cdot D_o}{2}$$

Where:

P_y = vertical soil pressure, psi 73.472 (worst case loading)

D_o = outside diameter, in 6" = 6.625 in

12" = 12.75 in

T 6" SCH 80 = 243.38 psi

T 12" SCH 40 = 468.39 psi

Maximum σ = 2000 psi

σ 6" SCH 80 = 869.2 = F.S. 2.30

σ 12" SCH 40 = 681.78 = F.S. 2.93



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Project # LARE1301

Client Laredo Municipal Solid Waste Landfill
Project Permit Amendment Application
Subject HDPE Leachate Pipe Strength Calculations

Prepared By BW on 4/30/2013
Reviewed By FP on 11/6/2013
Approved By FP on 9/22/2014

Sources:

- 1 Howard, Amster K., "Modulus of Soil Reaction (E') Values for Buried Flexible Pipe," Journal of Geotechnical Engineering Division, ASCE, Vol. 103, No. GT, Proceedings Paper 12700 (Jan. 1977).
- 2 Merritt, F. S., Standard Handbook for Civil Engineers, McGraw-Hill (1983).
- 3 Moser, A. P., Buried Pipe Design, McGraw-Hill (1990).
- 5 Plastic Pipe Design Manual by: Vylon Pipe

A Dead Load Static Soil Pressure

$$P_E = w H$$

Where:

P_E = soil pressure @ pipe crown, lb/ft²

w = soil density, lb/ft³

H = height of soil above pipe crown, ft

Landfill Corss Section - Worst Case

Layer	Depth	Density
Top Soil	1 ft	125 lb/ft ³
Clay	5 ft	125 lb/ft ³
Daily Cover	20 ft	125 lb/ft ³
Waste	177 ft	40 lb/ft ³
Protective Cover	2 ft	125 lb/ft ³

$$P_E = 10,580 \text{ lb/ft}^2$$

B Live load Pressure

$$P_L = 1.5 \frac{I_I W_L H^3}{\pi (X^2 + H^2)^{2.5}}$$

Where:

P_L = live load pressure @ pipe crown, lb/ft²

I_I = impact factor = 2

W_L = wheel load, lb = 32000 lbs for HS-20 Truck

H = vertical distance from pipe crown to wheel load application surface, ft = 2

X = horizontal distance from center of pipe crown to center of wheel load, ft = 0

$$P_L = 7,643 \text{ lb/ft}^2$$

C Total Load Pressure

$$P_T = P_E + P_L$$

$$P_T = 18,223 \text{ lb/ft}^2$$

D Wall Crushing Resistance

$$N_C = \frac{460800}{P_T DR}$$

Where:

N_C = safety factor against wall crushing

DR = dimension ratio

$$N_C \text{ DR } 9 = 2.81 \quad \text{OK!}$$

$$N_C \text{ DR } 11 = 2.30 \quad \text{OK!}$$

$$N_C \text{ DR } 17 = 1.49 \quad \text{FAIL!}$$

E Wall Buckling Resistance

$$N_B = \frac{144 P_{WC}}{P_T}$$

Where:

N_B = safety factor against wall buckling

P_{WC} = constrained buckling pressure, psi

$$P_{WC} = 5.65 \sqrt{\frac{R B' E' E}{12 (DR - 1)^3}}$$

Where:

H' = height of groundwater above pipe, ft 0

H = soil cover above pipe, ft 205

E' = modulus of soil reaction, psi 3,000 (Table 10, WL120-0705)

E = modulus of elasticity, psi 28,200 (Table 17, WL120-0705)

B' = elastic support factor, psi = 1

$$B' = \frac{1}{1 + 10.87312^{(-0.065 H)}}$$

R = reduction factor for buoyancy = 1

Source: P

$$R = 1 - 0.33 \frac{H'}{H} \text{ ylon Pipe}$$

$N_B DR \quad 9 = 5.24 \quad \text{OK!}$

$N_B DR \quad 11 = 3.75 \quad \text{OK!}$

$N_B DR \quad 17 = 1.85 \quad \text{FAIL!}$

F Percent Deflection

$$\left(\frac{\Delta X}{D_M} \right) = \frac{P_T}{144} \left(\frac{K D_L}{\frac{2E}{3} \left(\frac{1}{DR-1} \right)^3 + 0.061 E'} \right) 100$$

Where:

$\Delta X / D_M$ = % deflection

K = bedding factor, 0.1

D_L = deflection lag factor, 1.5 (Table 11, WL120-0705)

% Deflection DR 9 = 8.6%

% Deflection DR 11 = 9.4%

% Deflection DR 17 = 10.1%

$$\left(\frac{\Delta X}{D_M} \right) \leq \frac{\varepsilon (DR - 1.06)}{1.06 f_D}$$

Where:

ε = wall strain percent $\leq$ 8% for non pressure PE3408

f_D = deformation shape factor 6 (typical)

DR 9	8.6% $\leq$ 10.0%	OK!
DR 11	9.4% $\leq$ 12.5%	OK!
DR 17	10.1% $\leq$ 20.1%	OK!

City of Laredo Landfill Permit Amendment 1693B
City of Laredo, Texas
Permit Amendment MSW Permit 1693B
Laredo, Texas
Webb County, Texas
August 2014

PART IV
Site Operating Plan



LAREDO LANDFILL PART IV Site Operating Plan

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IV-3 Forms



1.0 Introduction

The Site Operating Plan (SOP) consists of the procedures to be followed by the City of Laredo Landfill personnel for the operation of the Landfill. These procedures comply with the requirements of Subchapter F (30 TAC 330) of the Texas Commission on Environmental Quality (TCEQ) Municipal Solid Waste Management Regulations (MSWMR).

The specific operational procedures outlined in this Site Operating Plan (SOP) will be used and acknowledged by all site personnel. The Site Development Plan (SDP) for the disposal facility and a current set of MSWMR will be maintained at the site office in an easily accessible location to allow the site operating personnel to review as needed. The City further acknowledges that the SDP, the SOP, the gas management plan and all other documents related to this permit amendment are operating requirements and part of the operating record. The City acknowledges that any deviation from the permit and incorporated plans or other related documents associated with the permit is a violation of Subchapter 30 TAC 330.

The SOP is intended to provide landfill personnel with operating guidance for those activities taking place within the Permit Boundary. These activities include municipal solid waste (MSW) acceptance and disposal, tire shredding, containerized liquid acceptance and disposal, and special waste management. Other activities taking place within the Permit Boundary include scale house operations including waste screening, leachate collection and management, landfill gas control, surface water management, and daily, intermediate and final cover operations, and erosion control.

2.0 Record Keeping Requirements

A SOP will be maintained at the Landfill Office, located at 6912 Texas Highway 359, Laredo, Texas. The SOP is a complete collection of facility permit documents, design plans, operating procedures, required monitoring data and waste receipt information. The Site Operating Record (SOR) will be maintained in an organized manner and made current for the life of the site and during the 30-year (minimum) post-closure care period. In accordance with 330.113(d), the SOR will be furnished upon request to the TCEQ and made available for TCEQ inspection at any time. Information required to be in the SOR will be placed in the SOR within 7 days of completion or receipt.

It is understood that the Executive Director (ED) may set alternative schedules for recordkeeping and notifications.

The City will record and place all analytical data as described below in the operating record within seven days of completion or receipt.

Documents that will be maintained as part of the Landfill's SOR will include the following:

- a) The Permit, and any amendments or modifications to the Permit which will include the following documents
 - i. Site Development Plan

- ii. Site Operating Plan
- iii. Final Closure Plan
- iv. Post-Closure Care Plan
- v. Landfill Gas Management Plan
- vi. Leachate and Contaminated Water Management Plan
- vii. Location restriction demonstrations
- b) Monitoring Reports
 - i. Results from gas monitoring and remediation
 - ii. Groundwater or corrective action documentation, certification, findings, monitoring and testing & analytical data
- c) Unit design documentation for placement of leachate or gas condensate
- d) Closure, post-closure care plan, and any related monitoring, testing & analytical data
- e) Cost estimates and financial assurance documentation
- f) Operational, modification approvals, technical assistance correspondence and responses
- g) Special waste documents
 - i. Manifests
 - ii. Trip tickets
 - iii. Special waste acceptance request forms
- h) Rate and total amount applied of spray applied alternative daily cover (ADC)
- i) Any other documents specified by the permit or Executive Director of the TCEQ
- j) Training records in accordance with 335.586 (d) & (e)
- k) Personnel operating licenses issued under Chapter 30, Subchapter F
- l) Copies of all correspondence and responses with the TCEQ related to the operation of the Landfill, modifications to the permit, approvals, and other matters pertaining to technical assistance
- m) All survey notes and data
- n) Records related to waste acceptance rate
 - i. Gate receipts
 - ii. Annual waste acceptance rate
 - iii. Annual and quarterly waste summary reports required by 330.675
- o) SLER's, FMLERs, GCLER's, the Type I SLQCP and the Type IV SLQCP and all bid documents and construction plans.
- p) Inspection records, training procedures and notification procedures relating to the landfill operation, excluding the receipt of regulated hazardous waste and PCB waste, and other prohibited waste
- q) Unauthorized disposal and material removal records
- r) Records of all personnel training, including types, dates, certifications and operator licenses
- s) Wastewater Treatment Plant (WWTP) sludge manifests
- t) Windblown litter collection records
- u) Equipment maintenance records and manufacturers data
- v) Leachate management records, consistent with the Leachate and Contaminated Water Plan
- w) Current methane measurements, reports and required submittals consistent with the Landfill Gas Management Plan

- x) Documentation of the placement of daily, intermediate and Final cover as required and provided in the Cover Application Record and Inspection Logs, including detection of significant erosion and date of completion of repairs, including reasons for any delays
- y) Alternative operating hours, if applicable
- z) All other inspections, monitoring events, activity log (including all inspections and maintenance requirements
- aa) Inspection schedule for monitoring safety and emergency equipment

2.1 Annual Waste Acceptance Rate

The estimated peak waste acceptance rate for the Landfill is 540,000 tons per year (TPY). The City maintains sufficient staff and equipment to properly manage waste quantities accepted at this rate. This rate assumes waste being accepted at an average rate of 1500 tons per day, assuming 365 days of operation per year, with five holidays when no waste is accepted. Staffing and equipment is maintained to manage peaks which occur during the operation of the Landfill. The Solid Waste Manager will maintain records to document the annual waste acceptance rate for the Landfill. Documentation will include maintaining quarterly solid waste summary reports and annual solid waste summary reports, in accordance with 30 TAC 330.675, in the SOR.

If the waste acceptance rate exceeds 540,000 tpy, and the waste increase is not due to a temporary occurrence, the City will submit a permit modification in accordance with 305.70(ki) to modify the annual waste acceptance rate. The permit modification will be submitted within 90 days of the exceedance as established by the sum of the previous four quarterly summary reports. The permit modification will propose any needed changes in the SOP to manage the increased waste acceptance rate to protect human health and the environment. The increased waste acceptance rate may justify requiring permit conditions that are different from or absent in the existing permit.

If an exceedance of the annual waste acceptance rate occurs, the following provisions of the SOP will be evaluated and modified as applicable.

- a. Number of operating personnel
- b. Number and type of equipment
- c. Waste compaction procedures
- d. Odor prevention plan and control
- e. Waste unloading procedures
- f. Waste screening procedures
- g. Control of windblown waste and litter
- h. Soil management, placement, fire-fighting soil stockpile size and location and compaction of daily, intermediate and final cover

2.2 Soil Liner Evaluation Report (SLER)

The City will submit the Soil Liner Evaluation Report (SLER) to the TCEQ 14 days prior to waste disposal operations for each new disposal area.

3.0 Personnel Responsibilities and Training

3.1 Personnel Responsibilities

Under normal operating conditions, the City accepts considerably more waste on weekdays versus weekends. Therefore, staffing levels during weekends is less than during weekday operations. The City will provide on-site management of the facility operations with the following minimal personnel.

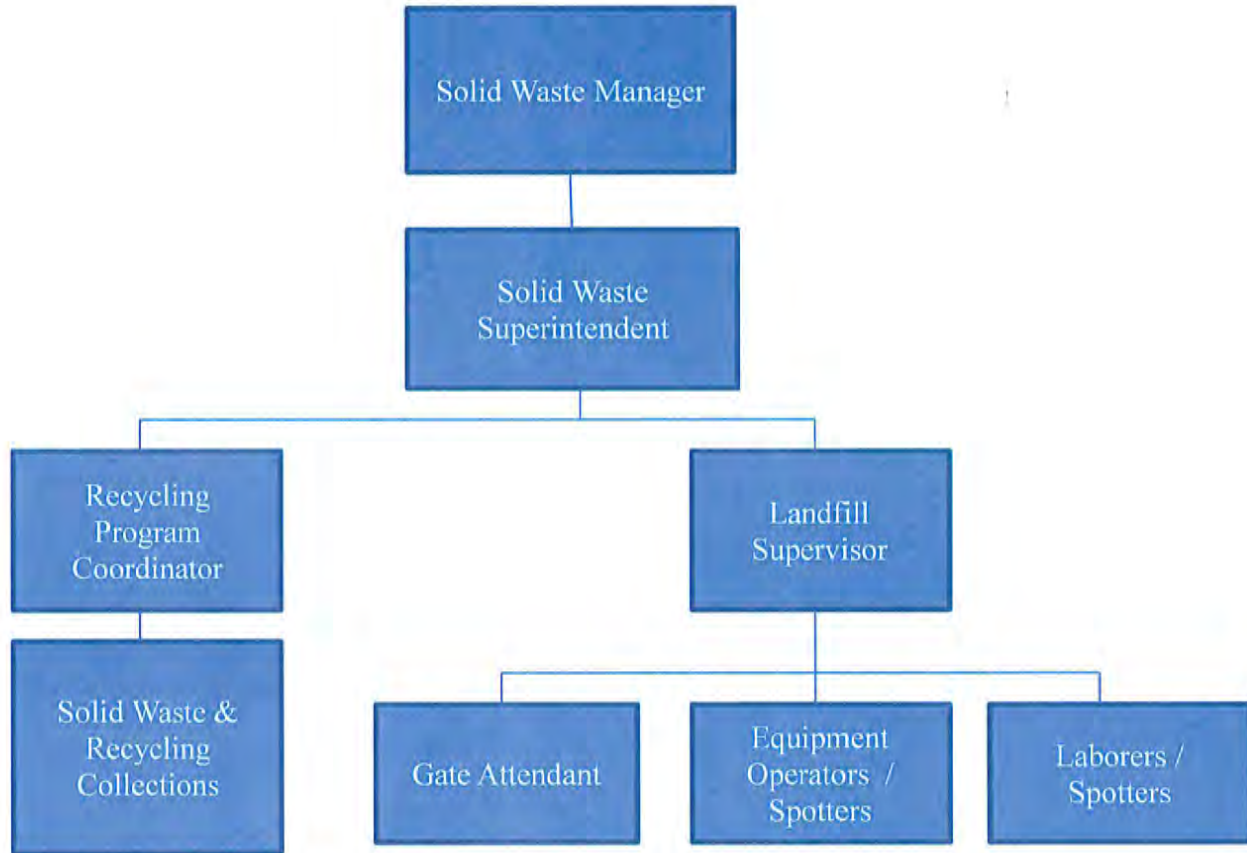
- 1 Solid Waste Manager
- 1 Landfill Supervisor
- 4 Equipment Operators (weekday)
- 2 Equipment Operators (weekend)
- 2 Gatehouse Attendants
- 2 Laborers (weekday)
- 1 Laborer (weekend)

Either the Solid Waste Manager or the Landfill Supervisor will be present at the site during operating hours. The organizational chart for the site personnel is provided in Figure IV.1.

Solid Waste Manager/Landfill Supervisor: The Solid Waste Manager and/or Landfill Supervisor will be responsible for the general operation, personnel management, planning, scheduling, reporting and maintaining record keeping. It is their responsibility to ensure that the operating procedures at the site are performed in accordance with those incorporated into the SOP, Landfill permit, TCEQ MSWMR, Storm Water Pollution Prevention Plan, Spill Prevention Control Plan and other appropriate state or federal regulations. They will also have the authority and the responsibility to reject unauthorized loads, have unauthorized materials removed by transport and assess appropriate surcharges for having unauthorized material removed by site personnel or a contractor. The Solid Waste Manager is also responsible for implementation of the staff training program. The Solid Waste Manager/Landfill Supervisor will serve as the emergency coordinator for the Landfill.

Qualifications: The Solid Waste Manager/Landfill Supervisor will be required to have adequate landfill operations experience, a high school diploma, and be familiar with TCEQ regulations and the various uses and capabilities of landfill equipment. The Solid Waste Manager and Landfill Supervisor will maintain a current TCEQ Class A Municipal Solid Waste Operator's license.

Figure IV.1
Laredo Solid Waste Management
Organization Chart



Equipment Operators: The Equipment Operators will be responsible for the operations of site equipment. As the personnel most closely involved with the actual disposal operations, these employees are responsible for being alert to any potentially dangerous conditions, or careless or improper actions on the part of non-employees or other persons while on the premises and reporting such observations to the Solid Waste Manager or Landfill Supervisor. The Equipment Operators may act as Spotters to direct unloading in an orderly and safe fashion at the active operations area.

Qualifications: Equipment Operators will be required to have six month (minimum) experience in equipment operations or on-the-job training by the Landfill Supervisor and to know the limitations and use of landfill equipment. Additional training requirements for Equipment Operators are further described in Table IV.1.

Gatehouse Attendants: The Gatehouse Attendants are primarily responsible for maintaining records of vehicles entering the facility and waste tonnages disposed at the Landfill. The Gatehouse Attendant will be trained to visually check for unauthorized wastes and to carry out these duties as outlined in the section "Detection and Prevention of Disposal of Prohibited Wastes". Other duties will include collecting waste disposal fees and directing incoming traffic at the gate.

Qualifications: Gatehouse Attendants will be required to have experience and education commensurate with the job requirements, as described above, and computer literacy skills. If the new employee does not have previous landfill experience, he/she will be required to complete a training program or supervised on-the-job training specific to their job responsibilities, prior to working in an unsupervised position.

Spotters/Load Inspectors: An Equipment Operator or Gate Attendant will be designated as a Spotter/Load Inspector during Landfill Operations. There will be a Load Inspector at the working face at all times. Load Inspectors will inspect and observe each load that is disposed at the working face and perform random load inspections. Spotters/Load Inspectors will report the delivery of any prohibited waste to the Solid Waste Manager or Landfill Supervisor.

Spotters/Load Inspectors will be trained in the following.

- Recognition of prohibited waste
- Procedures for managing prohibited wastes (if detected)
- Fire prevention procedures
- Specific training as described in Section 3.2 – Personnel Training

Qualifications: Spotters/Load Inspectors will be required to have experience and education commensurate with job requirement. If the new employee does not have previous landfill experience, he/she will be required to complete a training program or supervised on-the-job training specific to their job responsibilities prior to working in an unsupervised position. Training requirements for Spotters/Load Inspectors are described in Table IV.1.

General Laborers: The General Laborers duties will include the following.

- Assisting Equipment Operators
- Serving as spotters/load inspectors
- Picking up litter and windblown waste
- General facility maintenance as needed

Additionally, other personnel may be employed as needed as direct employees or contractors in categories such as equipment maintenance, mechanics and construction contractors.

Qualifications: General Laborers will be required to have six months (minimum) experience if employed for maintenance, construction or other skilled labor positions. If employed for general site cleanup, litter abatement, or other non-skilled labor, the employee will not be required to have previous experience. All General Laborers will complete on-the-job training specific to

their job responsibilities, prior to working in an unsupervised position, as described in Section 3.2.

Training requirements for General Laborers are described in Table IV.1.

Additional personnel will be added as they are needed. An adequate level of staffing will be maintained at the Landfill at all times so that all operations will be conducted in compliance with the TCEQ's regulations and the Landfill's permit provisions and the annual waste acceptance rate.

3.2 Personnel Training

Landfill personnel will be trained in the contents of this SOP and will complete a program or on-the-job training specific to their job responsibilities and title. Training will be designed to provide landfill personnel with the knowledge to respond effectively to emergencies by familiarizing the landfill personnel with emergency procedures, emergency equipment and emergency systems. Any personnel inspecting or observing loads will be trained to recognize prohibited wastes. Training will also be designed to educate landfill personnel in waste handling procedures, inspection procedures, and record keeping requirements. The training program or on-the-job training will address the following topics, where applicable.

- Procedures for using, inspecting, repairing and replacing landfill emergency and monitoring equipment.
- Emergency communications procedures and alarm systems
- Response procedures for fire and explosions
- Response procedures to surface water contamination incidents
- Procedures for shutdown of operations
- Applicable rules, safety procedures, contingency plans and permit requirements
- Customer notifications and load inspection procedures
- Identification of prohibited wastes, as described in this SOP
- Waste handling procedures (acceptable and prohibited wastes)
- Health and safety
- Record keeping
- Contingency Plan implementation

Personnel training will be directed by a person trained in waste management procedures and will include instruction in waste management procedures relevant to their position. Landfill personnel will complete training within six months after employment at the Landfill. Employees will not work in unsupervised positions until they complete a training program or on-the-job training. In addition, landfill personnel will receive annual reviews of their initial training. Specific training requirements for landfill personnel are provided in Table IV.1.

The Solid Waste Manager will maintain the following documents and records related to personnel training.

- Job title for each position at the Landfill, and the name of the employee with that position

- A written job description for each position, including requisite skills, education, and other qualifications and responsibilities.
- A written description of the type and amount of introductory training and continuing training that will be required for each employee
- Records that document that the landfill personnel have completed the training and job experience required above.

The above documentation for training will be placed in the SOR. Training records for on-site personnel will be kept until closure of the Landfill. Training records on former employees will be kept for at least three years from the date of the employee last worked at the Landfill.

Training records may accompany personnel transferred within the City of Laredo.

Table IV.1
Training Requirements

Personnel Description	On-the-job training	SOP	Emergency/Monitoring Equipment	Emergency Communications	Fire Protection Plan	Groundwater & Surface Water Contamination	Load Inspection Procedures	Prohibited Waste Identification	Waste Handling Procedures	Odor Management Plan	Prevention of Ponding Water	Record Keeping Procedures	Safety Training/Emergency
Solid Waste Manager	X	X	X	X	X	X	X	X	X	X	X	X	X
Landfill Supervisor	X	X	X	X	X	X	X	X	X	X	X	X	X
Gate Attendant	X	X		X	X		X	X		X		X	X
Equipment Operator	X	X		X	X	X	X	X	X	X	X	X	X
Spotter/Load Inspector	X	X	X	X	X	X	X	X	X			X	X
General Laborer	X	X		X				X					X

4.0 Equipment

Equipment requirements may vary in accordance with the method and scope of Landfill activities at any given time. Additional or alternate units of equipment will be provided as necessary for operational efficiency. If equipment should break down, the City can either lease equipment locally or replace the piece of equipment. The Landfill will maintain a fleet of heavy equipment based on waste acceptance rates as provided in Table IV.2.

Table IV.2
Laredo Landfill Equipment List

Equipment (1)	0-1500 tpd	1501-3500 tpd	3501- 5000 tpd
Compactors CAT 826G or equivalent	2	2	3
Dozers CAT D8N or equivalent	2	2	3
Motor Grader – CAT 140H or equivalent	1	1	2
Scrapers – Cat 623G or equivalent	2	2	2
Water Truck – CAT G5000 or equivalent	1	1	2

The annual waste acceptance rate will be determined by the sum of waste acceptance listed on the previous four TCEQ quarterly summary reports (as required by 330.125(h)).

Equipment functions are described below.

- Compactors – trash compaction
- Dozers – movement and placement of waste and soil; may also be used to assist with waste compaction and fire-fighting support; building berms; building and repairing roads
- Motor grader – maintaining and constructing roadways, grading of daily intermediate and final cover
- Scraper – moving soils and gravel for daily, intermediate and final cover; construction of berms; and building and repairing on-site roads and drainage features;
- Water truck – dust control, supplement watering of vegetation

The number, sizes and types of equipment may be modified as determined by the Solid Waste Manager in order to adequately perform the disposal operations and for Landfill personnel to operate at the maximum annual waste acceptance rate, as provided in Section 2.1. In addition to the above list, miscellaneous pickup trucks, vans and other light utility vehicles as well as pumps, instruments, and safety and training equipment are maintained on site as necessary. The Solid Waste Manager will make arrangements for additional equipment or rental equipment for efficient operation of the Landfill on an as needed basis.

Equipment will be routinely maintained, promptly repaired, replaced or supplemented with additional heavy machinery as required for effective operations. On-site construction may be performed by an outside contractor that will provide the additional construction equipment required, including a soil compactor. If on-site personnel perform the construction, additional

equipment will be obtained on as-needed basis from the Department of Public Works. This equipment may include additional front-end loaders, dump trucks, maintainers and soil compactors.

5.0 Site Development Sequence

The site's development sequence as planned for the Landfill is described below. Exhibits illustrating the sequence of development are presented in Attachment II-6.

As of 2014, waste is disposed in Phase 2 on the east side of the Landfill. Phase 3 of the Landfill is located to the south of Phase 2 and will be used for waste disposal after operations have ceased in Phase 2. Phase 3 has been redesigned to allow for the sequence of development to be changed and the leachate collection system to be revised from the 1999 permit amendment design. Leachate sump riser pipes will be located on the east and west side of Phase 3.

The approval of the Permit Amendment will alter the sequence of development and will include final development of Phase 3, including the excavation of the area already permitted and newly permitted areas and the construction of a liner over the abandoned pipeline easement. Prior to the construction of Cell 2 of Phase 3, ponds C1 and C2 will be constructed along with any channel improvements associated with the ponds. Cell 2 of Phase 3 will then be filled to approximately existing grade level. Fill operations will then proceed to fill from the southern edge of Phase 3 to reach final elevations on the east side of the Landfill.

Once the east side has reached capacity, fill operations will begin at the center of the west side of the Landfill. A liner will be constructed over the area that was previously used for construction/demolition waste. Liners will also be constructed in areas not developed in Phase 4. Leachate pipes and sump riser pipes will be constructed. Fill operations will then take place in Phase 4.

Phase 5- the area between Phases 1 and 4 where the abandoned pipeline is located- will be constructed next. Any remnants of the remaining pipeline will be removed. The remaining pipeline will be sealed to eliminate any migration of either groundwater or landfill gas. The Phase 5 area will be lined and a leachate collection system will also be installed.

The final area to be developed will be areas on the west side of the Landfill that were previously filled over pre-Subtitle D lined areas. A piggy-back liner system as designed in the Leachate Management Plan (Attachment III-15) will be constructed. Waste will be filled to final elevations on the west side of the Landfill.

Interim and final cover will be placed over completed areas in accordance with the SOP and the Final Closure Plan.

6.0 Local, State and Federal Regulations

The following section discusses various local, state and federal regulations which may apply to the development and operation of the Laredo Landfill.

6.1 Local Jurisdiction

The Laredo Landfill is located within the City of Laredo's municipal boundary. The property for the Landfill is zoned as M-2 – Heavy Manufacturing District. Per the City's Zoning Ordinance, requirements for this zoning classification include the following.

Section 24.65.16 M-2 HEAVY MANUFACTURING DISTRICT

1. All manufacturing activities shall be not less than 200' from any R-District.
2. All manufacturing uses requiring a special use permit for flammable products shall be at least 600' from any R-District and 200' from any B-District.
3. Manufacturing or warehousing activities, including storage and handling of hazardous materials.

The City has the responsibility to meet all local regulations related to zoning restrictions, stormwater protection and other current and future regulations.

6.2 State Jurisdiction

The City of Laredo and landfill personnel will comply with all applicable sections of the TCEQ MSWMR's Chapter 330.

The City will comply with all sampling and monitoring requirements of the Texas Pollution Discharge Elimination System (TPDES) General Permit number TXR050000. The City has submitted a Notice of Intent (NOI) and has been authorized to discharge uncontaminated stormwater associated with the Landfill activities. Additionally, landfill personnel have implemented a Storm Water Pollution Prevention Plan (SWP3) consistent with the TPDES General Permit.

In addition to the above mentioned state regulations, it is the responsibility of the City to comply with any additional state regulations which were not discussed or any state regulations which may be promulgated in the future.

6.3 Federal Jurisdiction

A wetlands investigation was conducted as part of the 1999 Landfill Permit Amendment. This investigation identified 2.96 acres of waters of the United States, including wetlands which existed on the site. A permit application was submitted by the City in February 1999 to the United States Army Corps of Engineers (USACE) to impact and/or fill waters of the United States, including wetlands, for the purpose of the landfill expansion. The City completed the permitting process with the USACE and implemented a wetland mitigation program allowing the City to fill in the previously identified waters of the US and wetlands. A recent review of the site did not identify any wetlands or waters of the US that require mitigation.

The City will comply with all applicable federal air regulations in 40 CFR Part 60, as applicable.

In addition to the above mentioned federal regulations, it is the responsibility of the City to comply with any additional applicable federal regulations which were not discussed or any applicable federal regulations which may be promulgated in the future.

7.0 Detection and Prevention of Disposal of Prohibited Wastes

7.1 Prohibited Waste Exclusion Program

The City has elected to use the Waste Screening Program designed by the Solid Waste Association of North America (SWANA) to prevent the receipt of regulated hazardous and other prohibited waste at the site. A complete copy of the program will be kept in the SOR and is available for inspection. This proactive policy minimizes the potential that hazardous or otherwise unacceptable waste will be transported to the site for disposal. A summary of the plan as it applies to this site follows.

The Landfill Supervisor and senior management staff will complete a formal training class on the recognition and handling of hazardous wastes. Courses are offered by the Texas Engineering Extension Service (TEEX) and Solid Waste Association of North America (SWANA), among others. The Landfill Supervisor will provide on-site or off-site training classes for all personnel which will include the following items:

The City accepts whole used tires for both storage and transport to an acceptable recycler or chips the tires on site and uses the used tires for either ADC or for re-sale. The tire chipping and storage operation is discussed later in this SOP. The following wastes are currently prohibited from disposal at the Landfill:

- Regulated hazardous waste
- Class I industrial solid waste
- Waste containing PCBs (concentrations greater than 50 ppm)
- Waste with free liquids and bulk or non-containerized liquid waste (as determined by the paint filter test)
- Containers holding liquid waste, except as provided in 330.5(e)(6)(B), and except as to be crushed to release liquids as approved at the containerized liquids crushing pads
- Lead acid batteries
- Used oil filters, except as provided under 330.136
- Whole used or scrap tires (except as provided in Appendix A – ADC Operating Plan)
- CFC compounds or large items or white goods which contain CFCs

Training for landfill employees shall include the following topics:

- The identification of signage or labeling for regulated wastes (US Department of Transportation Charts and Classification Material)
- Visual displays of hazardous wastes, containers, etc. and how they might appear commingled with other wastes

- A listing of types of vehicles (haulers) and what types of wastes could be expected. The gatehouse attendant and the spotter/load inspectors should be particularly familiar with this topic
- Instructions for the gatehouse attendant, the load inspectors, and the working face crew to be alert for liquids leaking, strange odors, vapors, smoke, sealed containers over 5 gallons in size, and nervous or no-cooperative drivers, all of which can indicate illegal wastes
- Instructions for the working face crew in marking off an area where hazardous wastes were encountered
- Instructions for the crew in the wearing of the necessary safety equipment before handling the wastes and applicable waste handling procedures
- First aid training for all personnel

In-house classes will be held at least once per year. Documentation of all courses, attending personnel, applicable certificates and follow-up courses will be kept in the SOR.

The Solid Waste Manager or Landfill Supervisor will implement a system to randomly inspect the waste stream of one percent of all non-exempt vehicles per week. An exempt vehicle meets one of the following criteria:

- All transporters who file adequate documentation (i.e. certification) that the unauthorized wastes are avoided in routing of collection vehicles and that the routes are exclusively residential
- A transporter that can assure that the generator (some commercial wastes in a residential route) properly classifies the waste. The transporter routinely checks the generator for compliance
- Individual citizen customers not related to a commercial business. (The spotter/ load inspector will, however, visually inspect these loads.)

Documentation of all random inspections will be kept in the SOR.

The Solid Waste Manager or Landfill Supervisor will require all transporters to comply with 330.32(d) which states that each transporter delivering waste to a solid waste management facility shall provide documentation to the operator that the transporter has so arranged routes to eliminate non-allowable waste disposed of by the transporter immediately after their discharge or that, at the option of the disposal facility operator, the transporter shall pay any applicable surcharges to have the disposal facility operator coordinate the required immediate removal of the waste for the transporter.

Implementation of the program provides protection from the potential dangers that hazardous waste could pose to employees, the public, or the environment through improper management. It also serves as a hazardous waste and PCB screening mechanism to minimize the potential for these waste streams to enter the facility. A copy of the program and all related records, including training, will be maintained in the SOR.

7.2 Load Inspection Procedures

Scale house personnel will visually inspect all incoming loads at the scales and spotters will observe each load disposed of at the Landfill. Should any indications of prohibited wastes be detected, the Solid Waste Manager or Landfill Supervisor and appropriate Landfill personnel will be summoned to conduct a comprehensive evaluation of the loads. Trained staff, under the guidance of the Solid Waste Manager or Landfill Supervisor will conduct the screening. The following measures will be utilized during load inspections:

- The driver will be directed to a load inspection area over an approved lined area, where the load will be discharged from the vehicle
- The inspector will break up the waste pile and inspect the material for any hazardous or prohibited waste
- Suspicious waste will be flagged and samples may be taken for laboratory analysis
- Known prohibited waste will be placed back into the vehicle and the driver will be instructed to depart the Landfill. Should any regulated waste be detected or suspected, the entire load will be refused.

In addition to the above procedure, incoming loads (including compactor vehicles) are inspected on a random basis. The Solid Waste Manager or Landfill Supervisor is responsible for determining the random inspection schedule, in accordance with Section 7.1 of the SOP. The driver of the randomly selected load will be notified at the gatehouse, directed to a load inspection area, and the procedure for inspection of incoming loads, as described above, will be implemented. Additional waste monitoring and inspections will take place as described in this SOP.

7.3 Managing Prohibited Wastes

In the event of a discharge of prohibited wastes at the Landfill, the waste will be returned promptly to the transporter or generator of the waste. If this is not possible, the City will employ a contractor or equipment, personnel and materials as necessary to transfer the waste to a proper disposal facility. Prohibited wastes shall be removed from the working face immediately upon identification and placed back in the offending transporter's vehicle, if possible. If returning the material to the offending transporter is not possible, the unauthorized waste will be placed in a suitable collection bin, or segregated area, for storage until proper disposal can be arranged. All events related to prohibited waste at the Landfill will be documented in the SOR, including types of waste, generator/transporter, and date of receipt, if known.

Unknown wastes undergoing analysis must be properly segregated and protected against the elements, secured against unauthorized removal and isolated from the other waste activities. The Solid Waste Manager will attempt to identify the individual, company, and/or entity that deposited the suspected prohibited waste and to have this entity return to the site and assume full responsibility for proper disposal of the waste.

If regulated hazardous waste or PCB waste are detected, the TCEQ region office will be notified via telephone within 24 hours and the TCEQ Austin Office MSW Section will be notified in writing with a copy to the TCEQ region office within 14 days. Additionally, the hauler will be

required to remove the hazardous waste from the site. Prior to removal, the hauler must obtain an EPA identification number, package the waste in accordance with Texas Department of Transportation regulations, and properly manifest the waste, designating a permitted facility to treat, store, or dispose of the hazardous waste. If the transporter cannot be determined, the waste will be isolated and a qualified hazardous material contractor will be called to promptly remove the material. The TCEQ will also be notified of any unauthorized waste removal from the Landfill. A record of unauthorized waste removed from the Landfill will be maintained in the SOR.

7.4 Record Keeping

The Solid Waste Manager is required to maintain and include in the SOR the following documentation:

- Load inspection reports
- Records of hazardous waste or PCB waste notifications
- Personnel training records
- Daily cover logs

Load inspection reports are completed for each inspected load. At a minimum, the reports will include the date and time of the inspection, name of the hauling company and driver, type of vehicle, source of the load, contents of the load, indicators of prohibited waste, results of the inspection and whether the inspection was a regularly scheduled or random inspection.

TCEQ notification is required whenever a hazardous or PCB waste is detected. Records of the notification are kept in the SOR, and will include the date and time of notification, the individual contacted, and the information reported.

7.5 Training

The Solid Waste Manager and the Landfill Supervisor will maintain a comprehensive understanding of the SOP. Equipment Operators, spotters, and gate attendant will be trained the following areas:

- Customer notification and load inspection procedures
- Identification of hazardous, PCB and other prohibited wastes.
- Waste handling procedures
- Health and safety procedures and personnel protection equipment (PPE)

The Solid Waste Manager and Landfill Supervisor will also be trained in record keeping requirements.

8.0 Fire Prevention and Control

The purpose of this section is to set forth the Fire Protection Plan (FPP) for the Landfill. This FPP addresses each operational activity that stores, processes or disposes of combustible materials. These operational activities include: Fire Prevention; General Rules for Fire Incidents and Specific Fire Fighting Procedures 30 TAC §330.129 requests the Fire Protection Plan to demonstrate that the working face can be covered with 6" layer of soil in a one hour period, or an alternative means of fire protection has been approved by the Executive Director of the TCEQ. The FPP set forth below is an alternative, based on the combined use of soil and water with the ability to engage the City of Laredo Fire Department on an as-needed basis.

8.1 Fire Prevention

The following actions must be taken regularly by designated personnel to prevent fires:

- No burning of solid waste will be permitted at the site, except for brush and trees in accordance with 330.15(d).
- Burning waste must be prevented from being discharged into the active area of the Landfill. The Gate attendant and Equipment Operators will be alert for signs of burning waste, such as smoke, steam, or heat being released from incoming waste loads.
- Accidental fires will be promptly extinguished, using the fire procedures described in Section 8.2 of this SOP.
- Fuel spills will be contained and cleaned up immediately.
- In order to minimize any hazards regarding fire, all employees will be instructed in fire control of small fires and procedures described in this SOP.
- All heavy machinery at the site will be equipped with fire extinguishers.
- High pressure hot water or steam may be used at the working face to remove combustible waste and caked material from Landfill equipment to help prevent equipment overheating.
- Dead trees, brush or vegetation, other than materials processed for recycling (e.g. mulch), adjacent to the Landfill will be removed promptly, and grass and weeds mowed so that forest, grass, or brush fires cannot spread to the Landfill.
- Smoking is not permitted on the active areas of the Landfill site or near yard, brush and wood waste mulching operations.
- The City will periodically moisten brush, wood waste and tire stockpiles with water during extended periods of dry weather.
- Soil cover and/or non-flammable alternative covers will be used on a daily basis.

A stockpile of soil of sufficient size to cover the working face will be maintained on the site within 1885' (i.e., in order to cover the working face within one hour, as provided in the following demonstration) of the working face or active disposal area for smothering fires. A dozer (or equivalent compactor) will be available for use in placing soil to smother any fires which may occur. The stockpile will be sized to cover the working face with a 6" layer of earthen material.

Demonstration of Stockpile adequacy: As noted, the typical size of the working face will be approximately 30,000 square feet. For covering this size of working face, the required stockpile will be 560 cubic yards.

The soil will be transported to the working face by scrapers or other on-site earth movers. The dozers will be used to distribute the soil across the working face to smother the fire within one hour of being detected. These pieces of equipment are maintained on-site as part of daily operations.

The following assumptions and calculations demonstrate the required distance from the working face that soil should be stockpiled to provide a 6" layer within one hour.

- Volume of daily cover: 560 cubic yards
- Size of scraper: 20 cubic yards
- Number of scrapers: 2
- Number of trips: 28 (14 round trips per scraper)
- Average Scraper speed: 10 miles per hour
- Time to cover working face: 60 minutes
- Distance from working face: 1,885'

8.2 General Rules For Fire Incidents

All site personnel will observe the following general rules in the event that a fire is detected at the site:

- Contact Solid Waste Manager or Landfill Supervisor.
- Contact the City of Laredo Fire Department by calling 911.
- Alert other facility personnel.
- Assess extent of the fire and possibilities for the fire to spread and alternatives for extinguishing the fire.
- Do not attempt to fight the fire alone.
- Do not attempt to fight the fire without adequate personal protection equipment.
- If it appears that the fire can be safely fought with available fire-fighting devices until arrival of the Fire Department, attempt to contain or extinguish the fire.
- Upon arrival of Fire Department personnel, they should be directed to the fire and provided with assistance as appropriate.
- Be familiar with the use of and limitation of fire-fighting equipment.
- If detected soon enough, a small fire may be fought with hand-held extinguisher. Fire extinguishers are located on a pole near the gate house and each piece of operating equipment. Fire extinguishers will be periodically inspected.

Once per year, all landfill personnel will be trained in landfill fire-fighting techniques by the City of Laredo Fire Department, depending on the availability of the Fire Department staff.

Documentation of the training will be kept in the SOR.

First aid equipment will be kept at the office and gate house in case of injury

In case of serious injuries, personnel will contact 911

8.3 Specific Fire Fighting Procedures

8.3.1 MSW Working Face Fire

If a fire ignites at the working face, immediate action should be taken to isolate the burning area from vehicle traffic and the burning material pushed away quickly or firebreaks cut around the fire to prevent the fire from spreading. If it is not possible or unsafe to move or isolate the burning material, efforts to cover the area with soil must be initiated immediately to smother the fire. A stockpile of cover soil will be maintained near the working face for fire control.

Generally, smothering with soil can be quickly employed to put out a fire at the Landfill. The faster that soil can be placed over the fire, the more effective this method will be in controlling and extinguishing the fire. Sufficient equipment as described above will be provided and maintained on-site to move and smother a fire with soil.

Water from the water truck also can be used to fight the fire. Foam used as ADC may also be used for extinguishing fires. Equipment operators or other trained personnel will maneuver the water truck to a safe location upwind of the fire, and discharge water onto the burning waste and surrounding uncovered waste.

The Solid Waste Manager or Landfill Supervisor will contact or direct a designee to contact the fire department for support if Landfill personnel are unsuccessful or unable to safely fight and extinguish the fire. Landfill personnel and equipment will be utilized to assist the Laredo Fire Department as needed and as appropriate.

8.3.2 Vehicle or Equipment Fire

If a fire occurs on a vehicle or piece of equipment, the vehicle or equipment will be brought to a safe stop. If safety of personnel will allow, the vehicle must be parked away from fuel supplies, uncovered solid wastes, and other vehicles or equipment. The engine should be turned off, the unit de-engaged, and the fire suppression system deployed on the unit as quickly as possible. The person(s) that observe a fire should alert the Solid Waste Manager or the Landfill Supervisor and the scale attendant on duty of the emergency via two way radio immediately. The Solid Waste Manager or Landfill Supervisor will coordinate fire-fighting activities and responsibilities. Available personnel and management will respond immediately and safely, and, as soon possible, cordon off the location to isolate the area from traffic and customers, assess the hazard, and attempt to extinguish the fire using fire extinguishers and/or the water truck. The Solid Waste Manager or Landfill Supervisor will contact or direct a designee to contact the Laredo Fire Department for support should Landfill personnel be unsuccessful or unable to safely fight and extinguish the fire.

8.3.3 Structure Fire

The Fire Department will immediately be contacted in the event of a fire in any building or structure. If it appears the fire can be safely fought, Landfill personnel will attempt to extinguish the fire with fire extinguishers and by applying water from the water truck. The Solid Waste Manager or their designee will coordinate the fire-fighting activities and responsibilities and may take measures using Landfill equipment to diminish heat and segregate materials to minimize the potential for the fire to spread until the Fire Department personnel and equipment arrive at the site.

8.3.4 Tire Storage Area Fire

If a fire occurs at the tire storage and processing facility, the steps described in 8.2 – General Rules for Fire Incidents will be implemented. Additionally, if it appears that a fire at the facility can be safely fought, Landfill personnel will attempt to extinguish the fire by spraying with water from the water truck; using the equipment to diminish heat and segregate materials; and /or constructing fire breaks around the fire to minimize the potential for the fire to spread until arrival of the local fire department. Site personnel and equipment will be utilized to assist the local fire department as needed and as appropriate. If the fire is small enough, it may be fought with hand held extinguishers.

Personnel will dial 911 to report fires or other emergencies at the site requiring assistance from off-site sources such as the Laredo Fire Department, Police Department or ambulance.

8.3.5 TCEQ Notification

If a fire occurs that is not extinguished within 10 minutes of detection, the TCEQ's Regional Office will be contacted immediately after detection but no later than four hours by telephone, and in writing within 14 days, with a description of the fire and the resulting response.

9.0 Access Control

Access to the Landfill is limited to one entrance from SH 359. Vehicles also exit the Landfill through this entrance. The Gate Attendants control access to the Landfill and monitor all vehicles entering and exiting the Landfill during operations.

Site access control will consist of a perimeter fence of at least three strand barbed wire fence welded to 6' chicken wire around the entire perimeter of the Landfill with control features at the entrance, including a lockable gate. The fence along the eastern perimeter is different and consists of a 9' tall metal plate fence, as agreed upon between the City and the owner of property to the east of the Landfill in relation to a drainage easement agreement.

Site personnel will inspect the entrance gate and perimeter fencing quarterly, report any failure and see that any damage is quickly repaired. Security features, including the entry gate, and locks will be kept in proper working order, maintained and quickly replaced if inoperable and/or irreparable. Maintenance will be performed to site security mechanisms, as necessary, to

maintain access control. If the perimeter fence or gate has been damaged (i.e. breached), the TCEQ regional office will be notified within 24 hours of detection. The breach will be temporarily repaired within a 24 hour period (weather permitting), and all will be permanently repaired within 8 days of detection; then a copy of the notice to the TCEQ region office will be maintained in the SOR. Refer to Table IV.3 of this SOP for site inspection and maintenance schedule.

Gate house personnel at the main entrance will control site access whenever the entry gate is open. When the site is closed, the entry gate will be closed to prevent unauthorized and uncontrollable waste disposal, and the gate will be locked when non-personnel (such as construction or engineering staff) are present at the site. Vehicular access to the site at points other than the entry gate will be prevented by the perimeter fencing. No unauthorized private or commercial solid waste vehicles will be allowed access to any areas other than the active portion of the Landfill. Within the site, signs will be placed along the Landfill haul road and access road at a frequency adequate for users to be able to understand where active disposal areas are and which roads are to be used. Roads not being used for access to disposal areas will be marked for no entry and blocked using barriers, as applicable.

10.0 Safety/Unloading of Wastes

10.1 Site Safety

The Landfill personnel at the site will be instructed in safety procedures related to solid waste disposal. The specific safety rules and regulations listed below will be read and acknowledged by each employee. A summary of the following rules and regulations will be posted prominently on the employee bulletin board:

- Personnel will immediately report all unsafe equipment or conditions that could possibly cause an accident to the Solid Waste Manager or Landfill Supervisor.
- Personnel will not operate any equipment unless they have been trained on that equipment or have had the correct procedures demonstrated to them by competent personnel.
- Gasoline or other flammable material will not be used as a cleaning agent.
- Personnel will wear all personal safety devices such as hard hats, gloves, safety glasses, safety shoes, etc. required by the Solid Waste Manager or Landfill Supervisor.
- The circumventing of safety devices, such as removing safety belts, or operating equipment without fan blade covers will not be allowed.

10.2 Unloading of Wastes

The unloading of waste in unauthorized areas is prohibited. The Gatehouse Attendant will direct the trucks to the appropriate disposal areas. Traffic cones and/or signs will be used to further direct the trucks to the working face. The Equipment Operators and/or spotter / load inspector will show the trucks where to unload. Any waste accidentally deposited in an unauthorized area will be removed promptly and properly disposed.

Unloading of wastes to be placed in the facility will only take place at the designated working face under the supervision of site personnel. The Solid Waste Manager and Equipment Operators will be trained to maintain the daily working face at the smallest practical size. The typical size of the working face will be approximately 20,000 square feet. Generally, there will be only one working face. The maximum size of the working face will be 30,000 square feet.

The unloading areas will be confined to a minimum area consistent with the incoming waste stream.

Load Inspectors/Spotters will be on duty during operating hours to direct unloading of waste. The Load Inspector/Spotter may be a dedicated Gatehouse Attendant, and Equipment operator or other approved site personnel. Spotters will monitor the incoming waste on the trucks, and will be at the unloading area during operating hours to observe the unloading of waste that is disposed at the Landfill. These personnel will have a basic understanding of prohibited waste (as described earlier). These personnel have the authority and responsibility to reject unauthorized loads, have unauthorized material removed by the transporter and/or assess appropriate surcharges, and have unauthorized materials removed by on-site personnel or otherwise properly managed. Any prohibited waste detected by site personnel will be returned promptly to the transporter or generator of the waste. Landfill personnel will report questionable waste or other issues of concern immediately to the Solid Waste Manager or designee.

Only those persons operating vehicles that comply with City requirements will be authorized by the Landfill Supervisor to dispose of waste at the site. Enforcement of these rules is the responsibility of the Solid Waste Manager or Landfill Supervisor.

All vehicles and equipment used for the collection and transportation of municipal solid waste will be constructed, operated, and maintained to prevent loss of solid waste material during transport and to minimize health and safety hazards to solid waste management personnel and the public.

Collection vehicles not constructed with an enclosed transport body will use other devices such as nets or tarpaulins to prevent accidental spillage.

11.0 Operating Hours

The Laredo Landfill may be open seven days a week. In accordance with 330.118, the Laredo Landfill can operate for the acceptance of waste between the hours of 7 am to 7 pm. The landfill may operate any hours within these at the discretion of the site management. The hours of operation will be posted on the sign at the entrance to the Landfill.

Operation of heavy equipment for compaction of waste, application of daily and intermediate cover, regrading, or construction activities will only occur between 5 am and 9 pm.

Transportation of material or heavy equipment operation will not be conducted between 9 pm and 5 am.

If the hours of operation (i.e. for the acceptance of waste) needs to be extended beyond the 7 am to 7 pm limits to accommodate special occasions or community events, holidays, cleanup from natural disasters, unforeseen circumstances, and /or increases of incoming volumes of waste, the City will contact the TCEQ region office. The TCEQ may approve alternate operating hours for up to five days in a calendar year period. The Solid Waste Manager will record the dates and times of alternate or additional operating hours in the SOR.

12.0 Site Signs

A conspicuous sign is maintained at the site entrance. This sign states in letters at least 3" high, the type of site (Type I), the hours and days of operation, an emergency 24-hour contact phone number, the local emergency fire department, and the TCEQ Permit number (MSW 1693B). The requirements of 30 TAC §330.119 specify an overall sign dimension of at least 4' by 4'. Other signs are posted at the site entrance stating the following:

- All incoming vehicles shall be covered, enclosed, or tarped or they will be subject to a surcharge or turned away.
- No hazardous wastes are accepted at this site.
- No smoking or open flames beyond this point.

Within the site, signs will be placed along the Landfill haul road at a frequency adequate for users to be able to understand where disposal areas are located and which roads are to be used. Roads not being used for access to the disposal area will be blocked or otherwise marked for no entry, where necessary.

13.0 Control of Windblown Material

The site will be operated in such a way as to minimize windblown material. In an effort to prevent windblown waste, all waste transported into the facility are required to have in place adequate cover or other means of containment of the waste they transport. The adequacy of containment of incoming wastes is checked at the scale house.

The Landfill access control includes fencing around the perimeter of the site. A 25' wind screen is located on the southern and eastern boundaries and portions of the northern boundary to prevent windblown material from blowing off-site from Phases 2 and 3. The City will evaluate the need for an additional fence when operations move to Phases 1 and 4. On a daily basis, laborers are responsible for collecting any windblown material on the site.

The landfill operations include using daily cover material to avoid prolonged exposure of waste and to reduce the potential for windblown waste.

14.0 Protection of On-site Utilities and Easements

No unloading, disposal, processing or storage of waste will occur within any easement, buffer zone, or right-of-way (ROW) that crosses the site, in accordance with 330.121(a). No solid waste disposal will occur within 25' of the center line of any utility line or pipeline easement unless otherwise authorized by the executive director of the TCEQ. All easements will be clearly marked with posts extending at least 6' above ground and spaced at intervals no greater than 300', in accordance with 30 TAC 330.121(b).

Additionally, consistent with 330.121(b) a minimum separating distance of 50' shall be maintained between solid waste disposal operations and the permit boundary of the landfill in areas that are not receiving "new" waste under this permit amendment. The 50' buffer is located along the northern boundary. The 125' buffer zone will be located along the southern, western, and eastern boundaries. A buffer zone of a minimum of 125' shall be maintained in area where "new" waste is disposed. A specific discussion of buffer zones is presented in Part II. The buffer zone will provide for safe passage for fire-fighting and other emergency vehicles.

15.0 Benchmarks and Markers

The benchmark and all required site grid markers will be maintained so that they are visible during operating hours. Landfill markers will be inspected on a monthly basis. Markers that are removed or destroyed will be replaced within 15 days of removal or destruction. In construction areas where markers have been destroyed, the marker will be replaced within 15 days of the construction activities. All markers will be repainted as necessary to retain visibility.

Landfill markers generally consist of durable posts (wooden, steel or plastic) extending at least 6' above ground level to clearly identify significant on-site features such as easements. All markers are color coded as follows:

1. Easement and ROW markers (Green) – Easement and right-of-way markers have been placed along either the centerline or the limits of an easement and along the boundary of a right-of-way at intervals of 300' and at each corner within the site at the intersection of the site boundary.
2. Site Grid System markers (White) – A site grid system has been installed at the facility. The grid system encompasses at least the area expected to be filled within the next 3-year period. Although grid markers will be maintained during the active life of the site, post-closure maintenance of the grid system is recommended but not required. The grid system, similar to a typical city map grid, consists of lettered markers along two opposite sides, and numbered markers along the other two sides. Markers will be spaced no greater than 100 ft apart measured along perpendicular lines. Where markers cannot be seen from opposite boundaries, intermediate markers will be installed, where feasible. The location of the site grid markers is shown in Attachment III-1.
3. SLER, FMLER or GCLER Area markers (Red) – SLER, FMLER, or GCLER area markers will be placed so that all areas for which a SLER, FMLER or GCLER has been submitted and approved by the TCEQ are readily determinable. Such markers are to provide site workers immediate knowledge of the extent of approved disposal areas.

These markers will be located so that they are not destroyed during operations which may extend into the next SLER, FMLER, or GCLER. The location of these markers will be tied into the site grid system and will be reported on each SLER, FMLER, or GCLER submitted. SLER, FMLER, or GCLER markers will not be placed inside construction areas or inside the evaluated areas.

4. 100 year Flood Limit Protections markers (Blue) – Flood protection markers are required for all areas within the site which are within the 100-year floodplain.
5. Boundary Markers (Black) – Site boundary markers are placed at each corner of the site and along each boundary line at intervals no greater than 300 ft. Fencing may be placed within these markers as required.
6. Buffer Zone Markers (Yellow) – Markers identifying the buffer zone are placed along each buffer zone boundary at all corners and between corners at intervals of 300’.

One permanent benchmark has been established for the site at the northeast property corner. The benchmark is a bronze disk set in concrete with the survey date and elevation stamped on it. The location of the benchmark is shown on Figure III-1.1.

16.0 Materials Along the Route to the Site

The Solid Waste Manager will take steps to ensure that vehicles hauling waste to the site are properly secured or provided with a tarpaulin, net or other means to properly secure the load in order to prevent the escape of any part of the load by blowing or spilling. The Solid Waste Manager (or his designee) will take actions such as posting signs, reporting offenders to proper law enforcement officers, adding surcharges, or similar measures.

The City is responsible for the cleanup of waste materials spilled along and within the right-of-way of all public access roads (SH 359) serving the site for a distance of two miles in either direction from the site entrance. However, TxDOT has indicated its intent to clean spilled materials along the highway on a regular basis. The City will assist TxDOT cleanup for a distance of 2 miles in either direction of the site entrance, upon TxDOT request. Currently, TxDOT collects material spilled along SH 359 on a weekly basis. Consistent with 30 TAC 330.123, the City is requesting a weekly frequency as an alternative to daily cleanup of spilled materials. The City will cleanup spilled materials along public access roads serving the site on a weekly basis in the event TxDOT is unable to perform their respective cleanup activities.

17.0 Disposal of Large Items

Large, heavy or bulky items which cannot be incorporated in the regular spreading, compaction and covering operations will be recycled or crushed by compacting equipment. This will prevent bridging and localized subsidence in the fill area. Large, heavy and bulky items include, but are not limited to, white goods (household appliances), air conditioner units, and large metal pieces. Typical landfill operations include diversion of white goods from the working face to the storage area.

A special storage area designated for white goods recycling will be maintained near the gatehouse, as shown in Attachment III-1. These items will be recycled as demand warrants, but

will not be stored in excess of 180 days. Coolants (such as Freon-containing chlorofluorocarbons) will be evacuated from air conditioners and refrigerators by a trained professional.

18.0 Air Criteria

18.1 Air Emissions

This facility is subject to TCEQ rules and regulations concerning burning and air pollution control. Open burning is prohibited on site. The facility is not located in an ozone non-attainment area as outlined in 30 TAC 115.152.

Federal New Source Performance Standards (NSPS) and Emissions Guidelines (EG) for Municipal Solid Waste Landfills were promulgated March 12, 1995. The City is aware of these requirements and will comply with them in full.

All appropriate air permitting requirements will be satisfied consistent with current TCEQ requirements. Any new operating provisions for the site resulting from air permitting compliance will be addressed with the TCEQ's approved timeframe.

Items containing chlorinated fluorocarbons (CFC's) or coolant such as Freon (e.g. refrigerators, air conditioners, etc.) will not be disposed of in the landfill unless all CFC's have been evacuated. The items may be placed in a staging area within the white goods salvage area until a certified technician removes the CFC's. The City has personnel qualified to remove CFC's. The items may then be placed in the disposal area or may be removed from the site for salvage as described in Section 21 of this SOP.

The following procedures will be implemented at the landfill to control air pollution:

- No open burning of waste will be permitted at the facility
- The City will develop operations that are consistent with the State Implementation Plan (SIP) developed under the Federal Clean Air Act 110, as amended and 330.5(d).
- Control of dust emissions as necessary from haul roads, borrow operations and the working face by misting with water during periods of dry weather
- Freshly disposed waste will be covered with daily cover at the end of each operation day.
- Any ponded water at the site will be controlled to avoid its becoming a nuisance as described in Section 27 of this SOP
- Accidental fires will be controlled as outlined in Section 8.0 of this SOP
- Landfill personnel will implement an Odor Management Plan, consistent with 30 TAC 330.125(b)

18.2 Odor Management Plan

In the event that objectionable odors occur, appropriate measures will be taken to alleviate the condition. In addition to the above procedures, the following Odor Management Plan will be implemented at the landfill:

- Removal and disposal of odorous materials from the recycling area.
- Promptly disposing incoming waste.
- Identification of wastes that require special attention (i.e., sludge and dead animals).
- Notification regarding loads with significant odors by the Gate Attendant to the working face personnel.
- Immediately covering and compacting odorous waste with other waste or daily cover. These items may have a specified time of day when they are received, as not to disrupt regular landfill operations.
- Keeping the size of the working face to a minimum so waste can be covered quickly
- Prevent ponded water at the site as detailed in Section 27.01 of this SOP.
- Repairing damage or erosion of intermediate and final cover within 5 days of detection (weather permitting) consistent with Section 26.0 of this SOP.
- Control landfill gas emissions as detailed in Attachment III-14 – Landfill Gas Management Plan.
- Clean-up spills of odorous materials immediately.

19.0 Vector Control

Experience has shown that proper compaction of waste and the use of daily cover methods will eliminate the need for any additional methods of vector control under normal circumstances. However, the Solid Waste Manager (or his designee) at the site will evaluate the situation and will be ready to take additional action should it be required. Professional exterminators will be contacted, if necessary, to eliminate rodents or other pests that may appear at the site.

To control birds, the following measures will be undertaken:

- Reduce the amounts of ponding taking place at the Landfill.
- Place cover material on top of waste at the end of each operating day.
- Use audio deterrents to harass birds at the Landfill.

20.0 Site Access Roads and Wet-Weather Operations

The facility entrance road is an all-weather roadway. The site does not currently nor does it propose to have a separate wet weather area. Laredo has a very dry climate, approximately 18" of rain per year. If rain significantly slows operations, the landfill will close to the general public. This procedure has proven effective in the past, and has also proven not to cause unreasonable down-times during the infrequent "wet weather conditions" which occur at the site.

To help minimize the tracking of mud and debris from the facility onto public roads, the site entrance road is constructed with 800' of all-weather asphalt surface from the entrance at SH 359 to 30' past the gate house. During periods of inclement weather, the Landfill Supervisor will inspect the main access road on a daily basis and will clear mud and debris tracked onto the pavement by washing, blading or sweeping at least daily when mud or debris has accumulated.

During dry weather, the landfill personnel will control dust by sprinkling the roads and ramps. The water used for dust control must be uncontaminated. Leachate may not be used. Acceptable water sources are the sedimentation ponds or any other source of uncontaminated water available at the site.

All site roads are maintained and re-graded, as necessary to minimize depressions, ruts and potholes. Stockpiles of crushed stone, concrete, rubble, masonry demolition debris, or other similarly material will be available for maintaining access roads, as needed. Any litter encountered along the site access roads will be collected daily in accordance with Section 13 of this SOP.

As a routine procedure, a stockpile of cover material will be maintained within 1185' of the working area (as described in Section 8.1). This will provide daily cover on a contingency basis for such conditions as inclement weather, unanticipated down-time of cover hauling equipment and fire/hot load control at the working face. In the unlikely event that service to the disposal facility is interrupted, vehicles will be directed to other permitted operating facilities.

21.0 Salvaging and Scavenging

Salvaging will be permitted at the Landfill under the guidance of the Solid Waste Manager as controlled removal of waste materials for utilization, recycling or sale. The public or unauthorized persons will not be allowed to engage in salvaging operations. Class 1 industrial and special wastes will be excluded from salvaging. Also, as required by 30 TAC Section 330.128, pesticides, fungicides, rodenticide and herbicide containers will be excluded from salvaging. Salvaging shall not be allowed to interfere with prompt disposal of solid waste or create public health nuisances, to preclude discharge of any pollutants from the area and to prevent an excessive accumulation of material at the site. Scavenging shall not be allowed.

22.0 Endangered Species

According to the criterion in 30 TAC 330.53(b)(13)(B) the impact of a solid waste disposal facility upon endangered or threatened species shall be considered. The facility and the operation of the facility shall not result in the destruction or adverse modification of the critical habitat of endangered or threatened species, or cause or contribute to the taking of any endangered or threatened species. Refer to Attachment II-15 for a more detailed description of the site pertaining to Endangered Species and correspondence with both the US Fish & Wildlife Service and the Texas Parks and Wildlife Department.

23.0 Landfill Gas Management Plan

Monitoring for the presence of methane gas at the site will be conducted quarterly, at a minimum. In particular, the site boundary will be monitored to identify whether there exists the possibility of off-site methane migration or perimeter methane concentrations exceeding the lower explosive limit, or 5% in air. Additionally, on-site structures will be checked to confirm that methane concentrations do not exceed 25% of the lower explosive limit, or 1.25% in air.

The allowable limits and details of the landfill gas monitoring and recovery are more fully described in Attachment III-14, Landfill Gas Management Plan.

In the event that methane levels are detected that exceed allowable lower limits, the TCEQ and local officials will be notified and steps will be implemented to ensure the protection of human health. Documentation of the landfill gas management and of the steps taken for human protection will be placed in the site's Operating Record within 7 days. A remediation plan for any methane gas detection as described in the Landfill Gas Management Plan will be implemented within 60 days of the incident. This remediation plan will be submitted to TCEQ to describe the proposed remediation activities. The required reports and other submittals will be included in the site's Operating Record and submitted to the TCEQ.

Construction activities shall include a trench safety plan that addresses the potential for landfill gas.

24.0 Abandoned Oil and Water Wells

In the event that an existing or abandoned oil or water well is discovered on the site, the TCEQ will be immediately notified in writing of the location of the well and the Landfill Supervisor will follow the abandonment requirements as stated in 330.131. The well will be capped, plugged and closed within 30 days of its discovery in accordance with all applicable rules and regulations. The TCEQ will be notified of the abandonment.

If an existing or abandoned crude oil, natural gas or other well associated with mineral recovery is identified on site, the Landfill Supervisor will provide written notification to the TCEQ of the location of the well(s) within 30 days of discovery. Within 30 days of plugging such well(s), the City will subsequently provide written certification to the TCEQ that the well(s) have been properly capped, plugged, and closed in accordance with all applicable rules and regulations of the Texas Railroad Commission.

A copy of any well plugging report (oil, gas or water) required to be submitted to the appropriate state agency(ies) also will be submitted to the TCEQ within 30 days after a well has been plugged. In addition, a permit modification also will be submitted (if applicable) identifying any proposed changes to the liner installation plan as a result of any well abandonment.

The ED may approve any well used to supply water at the Landfill that is located within the permit boundary if it is determined that the well is outside the waste footprint, it is not impacted by landfill operations, it can be demonstrated that well design and installation will prevent any cross-contamination from the waste management unit to the water well production zone and between any water bearing zones, and an approved sampling plan to include frequency and parameters is in place.

Any proposed changes to the liner installation plan as a result of any well abandonment will be submitted to the ED for approval as a permit modification.

25.0 Compaction of Waste

Compaction of waste will be accomplished by repeated passages of a compactor over the waste material. Adequate compaction will be accomplished to minimize future consolidation and differential settlement and provide for the proper application of daily, intermediate and final cover. The compactor will compact and shape the waste in a working lift thickness of approximately 2' to 3' and will track on the material sufficiently to minimize voids to produce a compact mass.

Equipment will not be allowed to travel directly over the composite liner system or the granular leachate drainage system, but must move around to temporary access roads, placed waste, or the protective soil cover. The first 5' of waste placed over the liner and leachate collection system will be carefully placed and compacted to prevent any damage to the composite liner system, or the leachate piping system. To protect the liner, for the first 5' of waste over the liner, the City will avoid disposing of large construction materials or bulky waste.

26.0 Daily, Intermediate and Final Cover

26.1 Daily Cover

Cover will be placed each day of operation at a minimum of once per 24 hours on the top and sides of the exposed waste placed in the latest working area in the Type I disposal cells. Prior to converting the Type IV disposal area (Phase IV) to a Type I operation, and if only construction and demolition materials are disposed in this area, daily cover will be placed over the waste material at a minimum of once per week. The cover material will be comprised of 6" of clean, uncontaminated soil supplied to the working face site that is well-compacted and not previously mixed with garbage, rubbish or other solid waste. Alternative daily cover as described in the Alternative Daily Cover Operating Plan (See Appendix to this SOP) is also an approved daily cover option. For soil material, a nominal thickness of 6" of daily cover material will be placed in one lift and compacted sufficiently to minimize rutting and erosion, prevent the blowing of waste materials, minimize odors and prevent access to the waste by insects, rodents, and other animals. Run-off from daily cover soil will be consistent with TCEQ rules. A more detailed discussion of interim run-on and run-off control is discussed in Attachment III-15. The smallest practical working face will be maintained during operations. To provide adequate daily cover of the working face the following procedures will be implemented by the Solid Waste Manager:

- The daily cover will be sloped to drain.
- The daily cover will be compacted with a minimum of two passes by a bulldozer or compactor to minimize infiltration of storm water, graded to drain and will not have waste visibly protruding through it.
- Visually verify during placement that an ADC (as approved by TCEQ) or soil a minimum of 6" of clean soil cover (compacted thickness) has been placed. The Solid Waste Manager (or his designee) will document, on a daily basis, the cover thickness and condition in the Cover Application Log.
- Following wet weather, inspect all daily cover areas for erosion, exposed waste or other damage, and repair as necessary.

- Inspect for leachate seeps from daily cover. Seepage water from waste below the daily cover will be managed as contaminated water.
- Inactive areas with 6" of daily cover will be inspected monthly for erosion, ponded water, seeps, protruding waste, or other detrimental conditions that may cause contaminated runoff from the daily cover. After a period of no more than 180 days, an additional 6" of earthen material not previously mixed with garbage, rubbish or other solid waste will be placed over the daily cover. This 12" thick layer of cover soil will be classified as intermediate cover.

26.2 Intermediate Cover

All areas that will receive additional waste but will be inactive for longer than 180 days will be covered with intermediate cover. Intermediate cover will include 6" of well-compacted earthen material not previously mixed with garbage, rubbish, or other solid waste on top of the existing 6" of daily cover for a total of not less than 12" of cover. Due to the desert climate of the area, the intermediate cover will not be seeded, or sodded following its application. Erosion control will be accomplished through structural controls, which may include earthen diversion berms and dikes, drainage swales and channels, retention ponds, and riprap for gradients with excessive sloping in accordance with the Erosion and Sedimentation Control Plan included in the Appendix to the Surface Water Drainage Analysis. The intermediate cover will be graded to prevent ponding of water and other erosion control features will be maintained. Runoff from areas which have intact intermediate cover will not be considered as having come in contact with the waste or leachate.

When areas with intermediate cover become active disposal areas again, the top 6" of intermediate cover soil may be removed for use as daily or intermediate cover on the other areas, provided the soil can be removed without disturbing any underlying waste.

26.3 Final Cover

The final completion plan illustrating the final contours of the facility is shown as Figure III-12.1. The proposed aerial fill will be completed within sideslopes not steeper than 4 (H):1(V) and a crown slope of 5%. Drainage terraces will intercept run-off from the top surface of the final cover and direct it to rundown channels. These lined channels convey rainfall runoff down the sideslopes and into the perimeter drainage system. The proposed configuration of the drainage terraces and rundown channels is shown in Attachment III-6.

The final cover system for cells that contain only a constructed clay liner, in-situ liner (pre-Subtitle D) is comprised of a barrier layer consisting of a Geosynthetic Clay Liner (GCL) having a hydraulic conductivity less than or equal to 5×10^{-9} cm/sec, a protective / drainage layer consisting of 1' of cover soil and an erosion layer consisting of 1' of topsoil capable of supporting vegetation.

Three alternative final covers options are presented in the Closure Plan: Alternative Final Cover with Composite Bottom Liner, Alternative Final Cover with Soil Bottom Liner and Water Balance Alternative Cover System.

- The Alternative Final Cover with Geocomposite Bottom Liner is consistent with the approved final cover system that was approved in the 1999 permit amendment. This alternative final cover system is for disposal areas with a composite geomembrane bottom liner system (Subtitle D). A geosynthetic clay liner with a hydraulic conductivity less than or equal to 5×10^{-9} cm/sec will serve as the barrier layer.
- The Alternative Final Cover with Soil Bottom Liner is also consistent with the approved 1999 amendment. This cover system is for areas of construction where pre-Subtitle D liners were constructed and the Type IV area where no municipal solid waste is disposed. This cover consists of a GCL with a hydraulic conductivity less than or equal to 3×10^{-9} cm/sec, overlain by a protective layer consisting of 12" of cover soil and an erosion layer consisting of 12" of topsoil capable of supporting vegetation.
- The Water Balance cover system has been designed in accordance with 30 TAC 330.457(d) and TCEQ's "Guidance for Requesting a Water Balance Alternative Cover for a Municipal Solid Waste Landfill" revised January 2012. This alternative cover may be utilized over any portion of the Landfill regardless of the bottom liner system. The Water Balance final cover system will consist of a 24" monolithic soil layer, compacted to 85% Standard Proctor Density, which is capable of supporting native vegetation.

26.4 Erosion of Cover

An Erosion and Sedimentation Control Plan, including in the Appendix to the Surface Water Drainage Analysis, was developed to provide control measures for existing and proposed on-site gradient slopes and drainage. Eroded areas are considered to be deep enough to jeopardize the final or intermediate cover if it exceeds 4" in depth as measured from the vertical plane from the erosion features and the 90-degree intersection of this plane with the horizontal slope face or surface. Erosion of final or intermediate cover will be repaired within five days of detection by restoring the cover material, grading, compacting and seeding unless the TCEQ authorizes otherwise, based on the extent of the drainage requiring more time to repair or the repairs are delayed because of weather conditions. The periodic inspections and restorations are required during the entire operational life for the post-closure maintenance period and will be conducted in accordance with 30 TAC 330.463(a) (1).

26.5 Cover Application Log

The Landfill will keep a cover application record on-site readily available for inspection by TCEQ representatives and authorized agents or employees of local governments having jurisdiction. This record will specify the date cover (no exposed waste) was accomplished, how it was accomplished, and the last area covered. This applies to daily, intermediate and alternative daily cover. For final cover, this record will specify the area covered, the date cover was applied, and the thickness applied that date. Each entry will be certified by the signature of the Solid Waste Manager or Landfill Supervisor that the work was accomplished as stated in the record.

27.0 Surface Water Control

27.1 Ponding Water Prevention Plan

Ponding of water over waste on the Landfill shall be prevented by proper grading. In the event ponded water occurs in the active sector, it will be eliminated as quickly as practical and the area in which the ponding occurred shall be filled in and regraded within seven days of the occurrence. Ponded water that occurs over waste filled areas will be removed quickly, and the affected area will be regraded within seven days of occurrence of ponding.

Water that ponds in excavated areas that does not come into contact with waste, contaminated water or contaminated soil will be allowed to evaporate, be drained or pumped into drainage ditches or detention ponds, or be pumped out and used for dust suppression. Water that has contacted waste, contaminated water or contaminated soil will be disposed of properly in accordance with the Leachate and Contaminated Water Plan. Contaminated water will not be directly discharged without specific written authorization from the TCEQ.

The City will manage the working face to prevent water from collecting and ponding through the use of run-on berms and temporary toe berms as specified in the Leachate and Contaminated Water Plan of the Site Development Plan. Water that may pond at the working face will be removed and disposed of properly. Following major rain events, the City will assess the site to identify areas of potential or actual ponding. Corrective work will be performed as required by this SOP.

Within seven days of extended wet weather conditions, the City will assess the site to determine where ponding has occurred and take corrective action as required by this SOP.

Site assessment events, discoveries of ponding and corrective actions will be documented. Documentation will be kept in the SOR.

28.0 Special Wastes

The special waste acceptance procedures to be followed at the Landfill are included in Part IV, Attachment IV-1 - Special Waste Acceptance Plan.

28.1 Disposal of Industrial Wastes

It is not anticipated that Class I non-hazardous industrial waste, other than regulated asbestos-containing material, will be accepted for disposal at the Landfill. However, the City may wish to accept Class I non-hazardous industrial waste in the future. At that time, the permitted design will be modified to conform to the regulations for accepting Class I non-hazardous industrial wastes. Class II and Class III industrial waste as defined in 30 TAC 330.2 will be accepted for disposal in accordance with the current requirements and/or authorizations of the TCEQ. Special waste (including Class II and Class III industrial waste) disposal requirements are contained in 30 TAC 330.136. All Class II and Class III waste will be reviewed under the City

of Laredo Special Waste Program and outlined in the Detection and Prevention of Disposal of Prohibited Waste Section of this SOP.

28.2 Screening Plan

The landfill cells are separated from SH 359 by a minimum distance of 800'. The separation area is owned by the City and is characterized by rolling terrain with the eastern portion of the site screened by natural terrain and the Recycling Facility Building. A screening fence is maintained along the western boundary of the landfill. The drainage easement the City maintains provides additional separation between the Landfill and surrounding areas to the east, west, and north of the Landfill.

Because of the separation distance from the highway, previous Site Development Plans have not contained specific screening features.

To promote good appearance of the Landfill, filling operations in Phase 3 and 4 areas will occur at the south ends of the cells first and orient the working faces to slope northward whenever possible. As a result the landfill will generally appear as a soil covered embankment which progressively rises during landfill development.

28.3 Leachate Handling

The design of the facility and operations will provide for environmentally safe management of leachate and contaminated water. Details are provided in Part III, Attachment 15, the Leachate and Contaminated Water Management Plan. Plans for Stormwater Pollution Prevention and for the NPDES permit have also been produced, and a copy is kept in the Site's Operating Record.

The best management technique for contaminated surface water control is to eliminate its formation. This will be accomplished by controlling the size of the working face, maintaining at least 1' of cover over filled areas which have not received waste for 180 days, constructing temporary diversion berms upslope from the active fill area, and applying final cover as final grades are reached.

Any surface water or rainfall which comes in contact with the active face or leachate will be collected within containment berms or leachate collection systems. Leachate may be hauled to a wastewater treatment plant, re-circulated into cells which have a composite liner system consisting of a minimum of 2' clay liner or GCL and synthetic liner, or may be disposed as approved in writing by TCEQ. Procedures for re-circulating and disposing of the leachate or contaminated water are included in Attachment III-15, the Leachate and Contaminated Water Management Plan.

No contaminated water will be discharged from the site without specific written authorization from the TCEQ.

28.4 Inspection and Maintenance Schedule

Table IV-3 describes the inspection and maintenance schedule for the Laredo Sanitary Landfill. Documentation of all inspections and maintenance will be maintained in the SOR as described in Section 1.1. The City will remedy any deterioration or malfunction of equipment or structures that the inspection reveals in a reasonable timely fashion. The City will maintain an inspection log that will be part of the SOR.

Table IV.3
INSPECTION AND MAINTENANCE SCHEDULE

Item	Task	Schedule
Fence/Gate	Inspect perimeter fence and gate for damage, gaps, intrusions, etc. Make temporary repairs within 24 hours (weather permitting) and permanent repairs within the time frame approved by the TCEQ regional office.	Quarterly
Emergency Equipment	Inspect availability of equipment for staff; fire extinguisher status; other required equipment	Quarterly
Emergency Equipment	Emergency & monitoring equipment, and communications or alarm systems	Quarterly
Windblown Waste	Inspect working fence area, wind fences, access roads, entrance area and perimeter fence for windblown waste. Clean up upon detection	Daily
Waste Spilled en route to the Landfill	Inspect entrance area, Highway 359 at least 2 miles in either direction from the site entrance for loose trash. Clean up upon detection	Weekly
Landfill Markers	Inspect all landfill markers for damage, color coding and general location. Correct or replace damaged markers within 15 days of discovery	Monthly
Site Access Road	Inspect access road for damage from vehicle traffic, erosion, or excessive mud and/or waste accumulation. Maintain, as needed with crushed rock or stone	Daily (Wet Weather)
Dust Control	Inspect for proper placement and presence of waste. Remedy deficiencies as needed.	Daily (Dry Weather)
Daily Cover	Inspect for proper placement and presence of waste. Remedy deficiencies as needed	Daily
Intermediate Cover	Inspect for erosion, vegetation or approved alternative and for presence of exposed waste. Remedy deficiency within 5 days, weather permitting	Monthly
Final Cover	Inspect for vegetation or approved final cover erosion, and for presence of exposed waste. Maintenance will be ongoing throughout the post-closure care period. Remedy deficiencies within 5 days, weather permitting.	Monthly
Erosion Control	Inspect the intermediate and final cover for signs of erosion. Damaged areas will be repaired within 5 days (weather permitting) of detection by restoring cover material, grading, compaction and / or seeding or sodding, or placement of approved erosion control measures.	Monthly
Disease Vector Control	Inspect landfill facility for insects and rodent populations and report them to the Solid Waste Manager.	Weekly
Ponding Water	Inspect landfill cover for potential ponding water locations. Grade and compact potential areas within seven days, weather permitting.	Weekly (following wet weather conditions)
Leachate	Measure depth of leachate in sump(s) or more frequently as required by the TCEQ	Once per quarter.

**City of Laredo Landfill Permit Amendment
1693B
City of Laredo, Texas
Permit Amendment MSW Permit 1693B
Laredo, Texas
Webb County, Texas
August 2014**

**PART IV
Attachment 1
Site Operating Plan
Special Waste Management**



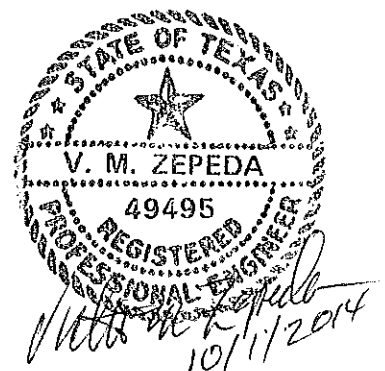
V. M. Zepeda 10/1/2014
TBPE FIRM # F10098

LAREDO LANDFILL

PART IV Attachment 1

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1.0 Introduction

The following Special Waste Acceptance Plan (SWAP) is designed to provide guidance to facility operators related to the acceptance, inspection and management of special wastes. The City is authorized to accept municipal solid waste as defined in TAC 303.3. The SOP defines actions to be undertaken for inspection, acceptance and disposal of municipal solid wastes. The SWAP specifically relates to the management of those wastes defined by TCEQ as "special wastes." These special wastes are defined as "solid waste or combination of solid waste that because of its quantity, concentration, physical or chemical characteristics, or biological properties requires special handling and disposal to protect the human health or the environment."

The TCEQ rules specifically state that the receipt of treated medical waste, dead animals, asbestos and certain empty containers do not require prior written approval, if managed in accordance with the provisions stated in the rules. Special waste not identified in 330.171 (c)-(d) require prior written approval from the ED before being accepted at the Landfill. It is understood that approvals will be waste-specific.

The SWAP addresses requirements of the TCEQ rules that allow site-specific authorization to accept special waste meeting acceptance criteria set forth in the SOP. In general wastes determined to be nonhazardous as defined by the USEPA in 40 CFR Part 261 or by applicable state solid waste regulations including all applicable permit conditions for the facility, and meeting the acceptance criteria of the SWAP may be accepted at the Landfill.

The City understands that failure to operate the site in compliance with TCEQ rules or any special conditions imposed by the ED may result in revocation of the authorization to accept Class 1 Waste.

2.0 Special Waste

Special wastes that are allowed to be accepted at the Landfill include the following:

- Hazardous waste from conditionally exempt small-quantity generators meeting the requirements of 30 TAC § 335.78
- Class 1 industrial non-hazardous waste
- Untreated medical waste
- Municipal waste water plant sludge, other types of domestic sewage treatment plant sludge and water-supply treatment plant sludge
- Septic tank pumpings
- Grease and grit trap wastes
- Wastes from commercial or industrial wastewater treatment plants; air pollution control facilities and tanks, drums or containers used for shipping or storing any material that has been listed as a hazardous constituent in 40 CFR Part 261, Appendix VII but has not been listed as a commercial chemical product in 40 CFR 261.33 (c) or (f);
- Slaughterhouse wastes;

- Drugs, contaminated foods, or contaminated beverages, other than those contained in normal household wastes
- Pesticides (insecticide, herbicide, fungicide or rodenticide) containers
- Discarded materials containing asbestos
- Incinerator ash
- Soil contaminated by petroleum products, crude oils, or chemicals in concentrations of greater than 1,500 milligrams per kilogram total petroleum hydrocarbons; or contaminated by constituents of concern that exceed the concentrations listed in Table 1 of 335.521(a)(1);
- Used oil;
- Waste from oil, gas, and geothermal activities subject to regulations by the Texas Railroad Commission when those wastes are to be processed, treated, or disposed of at a solid waste management facility; Waste generated outside the boundaries of Texas that contains:
 - Any industrial waste
 - Any waste associated with oil, gas, and geothermal exploration, production, or development activities; or
 - Any items listed as a special waste in this paragraph
- Used oil filters from internal combustion engines

3.0 Evaluation

Before accepting special waste for disposal at the facility, the waste generator must have the following: (1) TCEQ waste code (for industrial wastes), (2) TCEQ registration number (for industrial waste) (3) TCEQ authorization (if applicable), and (4) approved special waste form (a copy is attached to this Appendix). The Special Waste Form (SWF) can be obtained for the Laredo Solid Waste Department or online from the City's webpage. A completed copy of the SWF must be furnished to the City prior to delivery of the special waste. Each special waste must be evaluated to ensure that is acceptable for disposal at the Landfill. The following guidelines are provided to assist in reviewing special wastes.

3.1 Hazardous Waste Determination

Only waste determined to be nonhazardous as defined by the USA EPA in 40 CFR 261 or by applicable state solid waste regulations will be accepted at the Landfill.

3.1.1 Listed Wastes

"Listed wastes" are industrial wastes listed by name as hazardous by the USEPA. Any Listed Waste defined by the USEPA or TCEQ as "hazardous" will not be accepted at the Landfill. Listed Wastes are categorized by the USEPA in the CFR as the following:

- 40 CFR 261.31 lists 13 hazardous wastes resulting from non-specific sources. These include spent solvents, sludges, and similar materials. It is important to closely evaluate dried paints, paint strippings, and spray paint booth waste for the potential to fall under this category. If a waste falls under this category it is considered an F-listed waste.

- 40 CFR 261.32 lists 76 hazardous wastes resulting from non-specific sources. These wastes include various types of sludges, still bottoms spent catalysts, and other materials from specific industrial operations. If a waste falls under this category it is considered a K-listed waste.
- 40 CFR 261.33(e) lists 196 chemical products defined as acute hazardous wastes. If a waste falls under this category it is considered a P-waste.
- 40 CFR 261.33 (f) lists 200 chemical products that are classified as toxic wastes. If a waste falls under this category it is considered a U-waste.

3.1.2 Characteristics of Hazardous Wastes

Waste can be designated as hazardous based upon characteristics of the respective waste. A waste may be classified as hazardous if it exhibits the following characteristics as defined by TAC 330.2 and 330.5. The source for the following descriptions is the TCEQ document "Guidelines for the Classification and Coding of Industrial and Hazardous Wastes" (Revised 02/05).

The City will not be accepting soils contaminated by petroleum products, crude oils, or chemicals in concentrations of greater than 1,500 milligrams per kilogram (mg/kg) total petroleum hydrocarbons, or contaminated by constituents of concern that exceed the concentrations listed in Table 1, constituents of Concern and Their Maximum Leachable Concentrations in 30 TAC 335.521(a)(1) of this title.

3.1.2.1 Ignitability

Wastes that are hazardous because they may ignite include the following:

- Liquid wastes (other than those aqueous waste containing less than 24 percent alcohol by volume) that have a flash point less than 60OC (140OF). (The test method is the Pensky-Martens closed cup tester, using the test method specified in ASTM Standard D-93-79 or D-93-80, or a Setaflash closed cup tester, using the test method specified in ASTM Standard D-3278-78.)
- Nonliquid wastes that, under standard temperature and pressure, are capable of causing fire through friction, absorption of moisture, or spontaneous chemical changes and, when ignited, burn so vigorously and persistently that they create a hazard.
- Wastes that meet the definition of an ignitable compressed gas (see 49 CFR Section 173.300).
- Wastes that meet the definition of an oxidizer (see 49 CFR Section 173.151).

3.1.2.2 Corrosiveness

Wastes that are hazardous because they are corrosive include the following:

- Aqueous wastes with a pH of 2 units or below or of 12.5 units or above;

- Liquid wastes that corrode steel at a rate greater than 6.35 mm (0.250 inches) per year.

3.1.2.3 Reactivity

A waste is considered reactive if it meets any of the following conditions:

- It is capable of detonation or explosive decomposition or reaction
 - at standard temperature and pressure,
 - if subjected to a strong ignition source, or
 - if heated under confinement.
- When mixed with water, it is
 - potentially explosive,
 - reacts violently, or
 - generates toxic gases or vapors.
- If a cyanide or sulfide-bearing waste is exposed to pH conditions between 2 and 12.5, it can generate enough toxic gases, vapors, or fumes to present a danger to human health or the environment. Generally, if a waste generates **250** ppm or more of reactive cyanides or **500** ppm or more of reactive sulfides, it is considered a reactive waste. (It should be noted that these levels of reactive compounds are just guidance. Each waste must be evaluated for reactivity on a case-by-case basis).
- It is normally unstable and readily undergoes violent change without detonating.
- It is a forbidden explosive (as defined in 49 CFR 173.51, or a Class A explosive as defined in 49 CFR 173.53).
- It is a Class B explosive (see 49 CFR Section 173.88).

3.1.2.4 Toxicity

A waste is toxic if the toxicity characteristic leaching procedure (TCLP) shows that a representative sample from the waste contains one or more constituents at or above the levels as described in EPA Method 1311 (SW-846).

3.1.2.5 Analytical Requirements

Analytical data or process knowledge confirming that the waste is acceptable for disposal at the Landfill will be included with a completed Special Waste Form (a sample is provided in Appendix IV-1). Any analytical data in support of acceptance of special waste must meet the following criteria:

- Analytical data must be less than 12 months old
- The analytical report must be final copy, legible, complete and signed
- The analytical data must correlate with the information provided in the Special Waste Screening Form
- The results must have the units of measurement identified
- The detection levels should be included for the results that are "non-detected."

- The reference of methods employed must accompany the analytical data
- Analytical sampling, analysis, and interpretations must be in strict accordance with current local, state and federal regulatory requirements.

3.2 Special Waste Acceptance Criteria

The Special Waste Analyst will utilize waste specific chemical and physical characteristic information submitted by the generator on the Special Waste Form and accompanying analytical test results to determine acceptability of a waste for disposal at the Landfill. The Special Waste Form request a statement as to whether or not each waste is a Class I industrial waste as defined in 330.3 of 30 TAC 330, and requires the generator to provide information on the quantities and rate at which the waste is produced or frequency of disposal. The Special Waste Analyst will be responsible for maintaining and utilizing current regulations and regulatory guidelines and constituents limits for evaluation of wastes. The Special Waste Analyst also will be responsible for knowing and applying applicable future changes to state and Federal disposal regulations, review and acceptance procedures.

Class 1 waste must be accompanied by a manifest that must be signed by the City and copies will be maintained for a three year period.

The City will not accept Class 1 waste without written approval and a manifest per 30 TAC 335.10. Request for authorization to accept Class 1 solid waste will be submitted to the ED in writing. The request for authorization will include a description of chemical and physical characteristics of the waste per 335.587, a hazardous waste statement and the quantities, rate and frequency of disposal. A Class 1 waste acceptance report will be submitted by the 25th of each month to the TCEQ.

The City will accept Class 2 waste provided the acceptance of this waste does not interfere with Landfill operations and its acceptance is in accordance with an applicable limitations in 30 TAC 330.5(a)(2) and the waste acceptance plan. The City may accept Class 3 waste provided the acceptance of this waste does not interfere with Landfill operations.

The city will not intentionally and knowingly accept for disposal used oil filters from internal combustion engines.

This Special Waste Management Plan includes management practices and contingency plans for Class 1 wastes that will be accepted at the facility.

The City will not accept Class 1 industrial wastes in excess of 20% of the total amount of waste (not including Class 1 wastes) accepted during the current or previous year. The amount of waste is determined by weight, as it is reported to the TCEQ in its quarterly and annual reports.

Process knowledge may be used to confirm that a waste stream is nonhazardous. Process knowledge is the combination of historic and procedural data that substantiates a nonhazardous classification of a particular process or waste stream. The following items are examples of data that may be used to support a process knowledge determination:

- Historical analysis of representative samples from the waste stream
- Review of constituents present in the stream and their physical properties
- Review of the process characteristics to insure the process does not introduce any hazardous characteristics.
- Review of MSD sheets for the components and manufacturer's literature
- Identification of potential contaminants, by-products or decomposition products

The City acknowledges that the ED may authorize the receipt of special waste with a written concurrence from the City, however the City is not required to accept the special waste if a request by a generator is made to the City. The City also understands that the ED may revoke authorization to accept special waste if the City does not maintain compliance with these rules or conditions imposed in the authorizations to accept special waste.

3.2.1 The Special Waste Form

The Special Waste Form must be submitted to the City prior to be delivery of the special waste. The Special Waste Form will be evaluated by the Special Waste Analyst. The SWF must be completely filled out and be legible. The SWF requires the generator to provide the following information:

- Generator Information including address, site location, and contact person
- Description of waste characteristics
- Description of process which produced waste
- Physical and chemical properties
- Volume of waste
- Type of delivery container
- Waste chemical composition
- Physical characteristics (solid, semi-solid, liquid, flash point)
- Texas registration number
- Texas waste code number
- Signatures

3.2.2 Site Specific Evaluation

It will be confirmed that all special waste acceptance is acceptable in accordance with the TCEQ landfill permit and local regulations.

The Special Waste Analyst may request additional information from the generator before rendering a decision. This may include additional analytical, process description, MSDS, or other applicable information. After review of the SWF is completed, the Special Waste Analyst will complete the appropriate section of the SWF, and copies of the approval shall be provided to the generator.

4.0 Pre-receipt and recordkeeping

The City must receive a completed and approved SWF prior to the acceptance of the waste for disposal. The City will keep the SWF on file in the SOR for a period of 30 years after the site has been officially closed.

Landfill personnel will visually compare the material presented for disposal to the SWF to confirm that the physical characteristics (i.e. color, odor and appearance of the material) match those detailed on the SWF. In the event that the physical characteristics of the waste differ from the approved waste stream, the waste load will be rejected. The generator will be notified of the reasons for rejecting the load. Additional process and chemical analyses may be required to further characterize the waste.

5.0 Recertification Frequency

Generators of special waste are required to recertify their waste, at a minimum of every three years after the original analytical date unless otherwise specified in the plan. This requirement is needed to verify that the waste has not significantly changed from the initial characterization. This requirement does not apply to wastes that are accepted for disposal on a one-time basis (i.e. spill clean-up)

The Landfill may require the generator to recertify their waste more frequently than three years. This is especially important for waste streams that are variable due to process variations or if changes in the manufacturing process have occurred

6.0 Disposal Procedures

The Landfill personnel will exercise appropriate care and safeguards when disposing special wastes. Only onsite personnel who have received special waste training will be utilized for disposal of special wastes. Specific handling/disposal procedures for certain wastes (e.g. Dead animals, certain empty containers) will be in accordance with TCEQ rules regarding their proper disposal. The US Drug Enforcement Agency will be contacted for specific destruction and disposal requirements of controlled substances (e.g. non-hazardous drugs, prescription medication).

Disposal requirements for industrial waste will be in accordance with 30 TAC § 330.173 – Disposal of Industrial Wastes. A summary of special waste handling and disposal procedures is included in Table 5-1.

In the event that there is a spill during the delivery and /or disposal operations of the proposed special waste, the landfill personnel will first attempt to stop the release at the source. Then the Landfill personnel will recover or clean up the spilled material. Any cover soils that have come in contact with the special waste will be collected and disposed of at the active working face. The affected area will then be recovered consistent with the SOP.

6.1 Inspections

Each load of special waste delivered to the Landfill for disposal will receive a visual QA/QC inspection to verify contents and characteristics of the waste. The frequency of inspections is consistent with 40 CFR 264.303. In addition to visual QA/QC inspections, additional QA/QC testing, such as pH, ignitability and reactivity with water, may be performed on representative samples of the waste. QA/QC results will be recorded and maintained at the landfill office. The City recognizes that the ED may require visual screening as part of the Special Waste approval.

Wastes containing free liquids (as determined using the EPA Method 9095 Paint Filter Liquids Test) will be required to be stabilized to pass the paint filter test prior to acceptance and disposal in the Landfill.

The gate house personnel will contact the Landfill Supervisor that special waste has been delivered and the specific type of waste that has been accepted.

6.2 Disposal of Special Wastes

The following provides a description of management practices for all special wastes that may be accepted at the Landfill. Table IVA-1 provides a description of the waste and a description of management practices, including whether special equipment or personnel are required to manage the specific special waste types. The wastes identified in Table IVA-1 are listed under 330.171 (c) and may be accepted at the Landfill.

Wastes with strong odors, which may include dead animals and slaughterhouse wastes, shall be placed in a select area at the working face and covered with at least three feet of other solid waste or two feet of soil immediately upon receipt.

6.2.1 Leachate and Gas Condensate Disposal

Leachate and gas condensate may be recirculated at the Landfill in areas that have a standard Subtitle D liner. The recirculation plan is described in the Leachate and Contaminated Water Plan. In summary, these wastes are managed through one of the following methods.

Leachate can be managed through recirculation at the Landfill; however there are certain constraints on where the recirculation can occur and the quantities which can be recirculated. As discussed in 30 TAC 330.177, leachate may only be recirculated to cells which have a composite liner system consisting of a minimum of two-foot thick clay liner and a synthetic liner. Leachate may only be recirculated with alternative liner designs.

The recirculation will be accomplished by reintroducing the collected leachate back into the disposal unit. Typical recirculation methods include but are not limited to spray application on the working face, saturation fields and drip irrigation. Clean surface water or groundwater will not be recirculated. The recirculation will be accomplished in a manner that prevents ponding or significant accumulations of leachate in any one area.

A typical approach for recirculation of leachate is as follows:

- A tanker truck such as a 3,000 gallon capacity water truck with a spray bar is filled either directly from the sump or from a temporary or permanent leachate storage tank;
- The tanker truck sprays leachate within the active area;
- The leachate truck is used to accept more leachate from sumps as necessary and process is repeated; and
- Leachate truck is emptied so potential for leachate or spillage is nonexistent.

Table IV-A1 presents a summary of management practices for special wastes that may be accepted at the Landfill.

Table IV-A1
Special Waste Management Practices

Waste	Description	Management Practices
Sludges	Sludges, grease trap waste, grit trap waste, or liquid waste from municipal sources will be accepted if the material has been treated or processed and has passed the paint filter test and is certified to contain no free liquids	Disposed at the active face of the Landfill consistent with the provisions of control and unloading of waste as described in the SOP.
Dead Animals	Dead animals or slaughterhouse waste	Dead animals and slaughterhouse wastes will be buried at the working face and covered with a minimum of 3 feet of other solid waste or a minimum of 2 feet of soil immediately upon receipt and disposal. Additional waste or soil cover will be added if objectionable odors are created by the disposed dead animals or slaughterhouse wastes.
Empty Containers	Empty containers, which have been used for pesticides, herbicides, fungicides or rodenticides will be accepted and disposed of in accordance with 330.171(c) (5)	Empty containers accepted at the working face will be covered by the end of the same working day they are received. Those containers for which triple-rinsing is not feasible or practical (e.g., paper bags, cardboard containers) may be disposed of by placing them in the working face and covering them with three feet of waste by the end of the day they were received. Containers from industrial locations must be classified as a Class 2 or Class 3 waste.

Non-regulated Asbestos-Containing Materials	Non-regulated asbestos containing materials RACM will not be accepted at the facility	These non-RACM may be accepted for disposal provided the wastes are placed on the active working face and are covered in accordance with the SOP. Under no circumstances shall any material containing non-RACM be placed on any surface or roadway which is subject to vehicular traffic or disposed of by any other means by which the material could be crumbled into a friable state.
Class 2 Industrial Waste	Class 2 Industrial waste is any individual solid waste or combination of industrial solid wastes that cannot be described as Class 1 or Class 3, as defined in 335.506. Examples of Class 2 Industrial Waste include "plant trash" or waste originating in the facility offices or plant production areas that re composed of paper and/or wooden packaging materials, glass, aluminum foil, aluminum cans, aluminum scrap, stainless steel, steel, iron scrap, plastics Styrofoam, rope, twine, uncontaminated rubber, uncontaminated wooden materials, equipment belts, wiring, uncontaminated cloth, metal buildings, empty containers with a holding capacity of five gallons or less, uncontaminated floor sweepings, or food packaging, that are produced as a result of plant production.	Class 2 Industrial wastes as described in this table will be managed as municipal solid waste. As a Special Waste, however, they are subject to notification and screening protocols described in this Special Waste Management Plan.

Class 3 Industrial Wastes	Class 3 Industrial Solid Waste is defined as any inert and essentially insoluble industrial solid waste, including materials such as rock, brick, glass, dirt and certain plastics and rubber, etc. that are not readily decomposable as defined in 335.507 (related to Class 3 waste determination.	Class 3 industrial wastes that are accepted will be inspected per the requirements of this Special Waste Management Plan. Materials will be managed as municipal solid waste if found to be acceptable.
Class 1 Industrial Solid Waste	Class 1 Industrial Solid Waste that is defined as Class 1 only because of its asbestos content will be accepted	Disposed in the manner defined in this SOP
Health Care Facility Waste	Special Waste from Health care related facilities that have been treated in accordance with procedures specified in Subchapter Y of TCEQ regulations	Following inspection and screening, these materials will be accepted and managed as municipal solid waste
Materials from oil, gas and geothermal activities	Materials subject to regulation by the Texas Railroad Commission when these materials are to be processed, treated or disposed of at the facility	Disposed of at the active face consistent with the SOP. No specific equipment is required for disposal of this material.
Soil and sorbent material contaminated by petroleum substances	Materials as defined in 30 TAC 335.1 (related to definition of petroleum substances) or chemicals listed in 30 TAC 335.521(a)(1) related to constituents of concern and their maximum leachable concentrations)	Dispose of at the active face consistent with the SOP
Municipal hazardous waste from conditionally exempt small quantity generators	Hazardous waste from conditional small quantity generators meeting the requirements of 30 TAC 330.3(148)A	Disposed of at the active face consistent with the SOP

Nonhazardous drugs, contaminated foods, and contaminated beverages	Nonhazardous drugs (not including manufacturing wastes) and contaminated food and beverages other than those continue din normal household waste	Verify a minimum of 1 foot of waste or 6 inches of soil is placed over nonhazardous material.
Incinerator ash	Ash produced from incinerators	Verify disposal of ash material occurs on non-windy days
Abrasive wastes	Blasting grit, steel shot, etc.	Disposed of at the active face consistent with the SOP
Demolition debris contaminated with lead	Demolition debris contaminated with lead for structured which have received one or more cots of lead based paint	Disposed of at the active face consistent with the this SOP

7.0 Unauthorized and Rejected Waste Procedures

If it is determined that following the inspection of the waste, it is determined to be unacceptable, the hauler will be notified. Reasons for non-acceptance may include:

- An industrial or special waste arrives without a required waste manifest
- An industrial or special waste arrives and the waste material does not match the description on the waste manifest
- An industrial or special waste arrives and the waste differs from the approved waste based on the QA/QC review or other monitoring
- The volume of the waste is not consistent with the manifest for the load

The gate house attendant, Landfill Supervisor or Landfill Superintendent and waste generator shall work together to try and resolve waste discrepancies. All discrepancies must be resolved before the waste may be accepted for disposal.

In the event that a special waste load at the landfill gate is detained for possible rejection, the Landfill and the waste generator shall work together to try and resolve waste discrepancies. All discrepancies must be resolved before the waste may be accepted for disposal.

In the event that a special waste load at the landfill gate is detained for possible rejection, it will be detained at the landfill entrance. If the discrepancies cannot be resolved with the generator or hauler, the load will be rejected. The generator is then fully responsible for the load and its management.

In the event that a special waste load is found to be unauthorized upon its unloading, the waste will be segregated and/or isolated. The generators will be contacted to remove the unauthorized waste and any other materials contaminated by the unloading of the waste. If the rejected load could jeopardize the protection of human health or the environment, immediate containment and

isolation of the waste will be conducted. The generator will be notified and the TCEQ Regional Office will be informed. Both the generator and the TCEQ will be involved in preparing the removal and remediation plan.

8.0 Emergency and Spill Contingency Summary 30 TAC § 330.171(b)(2)(D)

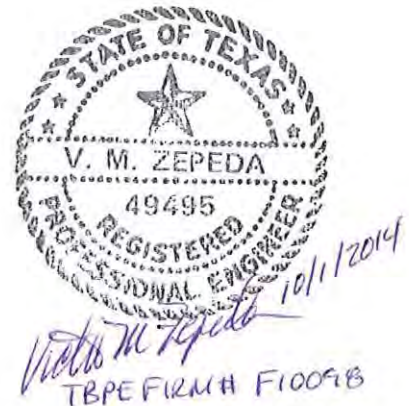
The following summary is presented for actions to be taken with respect to the possible special waste spills and or emergency situations. In the event that a special waste load is spilled in an area that is not the approved disposal area, the waste will be segregated and/or isolated. If the waste is approved for disposal, on-site equipment will be utilized to reload the spilled waste and any ground surface contamination by the waste, and transported to the approved disposal area. If the waste is found to be an unauthorized waste for disposal, the generator will be contacted to remove the unauthorized waste and any other contamination caused by its spilling. If the spilled waste could jeopardize the protection of human health or the environment, immediate containment and isolation of the waste will be conducted. The generator will be notified, a record will be made in the SOR and the TCEQ Regional Office will be informed. Both the generator and the TCEQ will be involved in preparing the removal and remedial action plan.

9.0 Record Keeping and Reporting

Any and all documents, manifests, shipping documents, trip tickets, etc. involving special waste shall be maintained in the SOR.

**City of Laredo Landfill Permit Amendment 1693B
City of Laredo, Texas
Permit Amendment MSW Permit 1693B
Laredo, Texas
Webb County, Texas
August 2014**

**PART IV
Attachment 2
Alternate Daily Cover Operating Plan**



**LAREDO LANDFILL
PART IV
Attachment 2
Permit Amendment**

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LIST OF APPENDICES

Appendix A Material Safety Data Sheets

Appendix B Posi-Shell ADC Demonstration



1.0 Introduction

In order to meet daily cover requirements under the Site Operating Plan (SOP), the City of Laredo uses either 6" of soil or approved alternative daily cover (ADC) materials. The City is approved to use cementitious slurry. The City has demonstrated that this material is effective in meeting all the requirements for daily cover material, including reducing windblown material, is chemically acceptable and protects against odors, rodents, birds and other nuisances. The following presents a description of other ADC materials that the City may use for meeting daily cover requirements.

The ADC operating plan includes the following as required by state regulations:

- A description and minimum thickness of the alternative material to be used,
- Its effect on vectors, fires, odors and windblown litter and waste
- The application and operational methods to be utilized at the site when using the alternatives
- Chemical composition of the material and the Material Safety Data Sheet(s) for the alternative material, and
- Any other pertinent characteristics, features or other factors related to the use of this alternative material

Alternative daily cover materials proposed to be used at the Landfill are:

- Synthetic material tarps, both reusable and sacrificial
- Shredded brush material
- Shredded or chipped tires
- Commercial foam products
- Dried water treatment screenings
- Construction / demolition wastes
- Petroleum contaminated soils
- Slurry Tackifier (Hydromulch) or Cementitious Slurry

As required by 30 TAC 330.133(c), the City will submit a request for a temporary authorization to use ADC materials that it has not yet demonstrated. Once the authorization has been granted, the City will submit status reports on a two-month period. The duration of the temporary authorization period will be specified by the TCEQ. The status reports are to include information regarding the effectiveness of the alternative material, any problems encountered, and corrective actions required as a result of such problems. In accordance with 30 TAC 330.133(c)(2), status reports will be eliminated if no uncontrollable problems occur and the City is provided permanent approval to use the ADC by the TCEQ.

The City has secured a temporary authorization and permit modification from the TCEQ for the use of Posi-Shell for both use as a daily cover material and as an intermediate cover material. The use of Posi-Shell for both daily and intermediate cover is described in this ADC Plan.

2.0 Description and Thickness of Alternative Material

The following table provides a summary of alternative daily cover materials that the City may use in the future. The table describes the types of material to be used and thickness applied in accordance with 330.2.1. Each of these materials will require a separate temporary authorization from TCEQ. Material Safety Data Sheets will be submitted along with the temporary authorization. Each of these ADC options was included as part of the latest submittal of the City's Site Operating Plan.

Table IV.2.1

ADC Option	Material Description	Application Thickness
Reusable Synthetic material – tarps	There are many reusable synthetic tarps currently being used as alternative daily cover. The City proposes to utilize ENSTAR 6.5 oz tarp, a high density woven polyethylene coated fabric. Another tarp is DuraShield 12,000FR manufactured by THOR Tarp. This tarp is also woven polyethylene coated fabric that contains a fire retardant.	Tarps range in thickness, but have a typical thickness in the range of 20 mils of polyethylene coated fabric. Tarps may also contain a fire retardant.
Sacrificial Synthetic Tarps	Sacrificial tarps may include woven or polyethylene material	Adequate thickness and durability to keep waste covered for daily operations.
Shredded brush material	Brush material includes tree trimmings, grass clippings and other garden wastes. Brush and tree trimmings will be chipped to a size comparable to soil. This material will be mixed with on-site soils or petroleum contaminated soil in order to reduce its potential as a fire hazard prior to its application to the working face.	Applied at a rate of 6" when used.
Shredded or chipped tires	Used tires will be shredded or chipped to a maximum size of 6 inches. Shredded tires may be processed at the Landfill in accordance with the SOP. This material will be mixed with on-site soils or	A six inch thickness will be utilized for this alternative daily cover material.

	petroleum contaminated soil in order to reduce its potential as a fire hazard prior to its application at the working face. Alternatively, soil cover will be placed over the working face area at least every fourth day for additional fire protection.	
Commercial foam products	Foam products include non-hardening and hardening foams that are applied with spray equipment	Foams will be applied at a rate of 6" inches. The average duration time that the material may be used as cover ranges from 15 hours to 3 to 7 days.
Dried water treatment screenings	This material must be dried to a degree that it can pass the paint filter test and such that it is has soil like prosperities.	The screenings will be placed to a 6" thickness.
Construction / demolition wastes	Construction and demolition wastes are defined as materials directly or indirectly the by-products of construction work or that result from demolition of buildings and other structures, including but not limited to gypsum board, wood, excelsior, rubber and plastics. No putrescible wastes will knowingly be included in any construction-demolition waste used as alternative daily cover.	If the incoming material consists of asphalt, rock, concrete, brick or other material, the material should have an average size less than 6" and should be applied to a thickness of no less than 12". Plastic materials must be reduced to an average size not to exceed three inches when utilized as alternative daily cover material. A 6" layer of this material would need to be applied as an alternative daily cover.
Petroleum contaminated soil	Soil contaminated by petroleum products, crude oils or chemicals may be used as alternative daily cover at the Landfill. The criteria for acceptance of these soils for ADC is identical to the required criteria to accept the soils for disposal in the Special Waste Acceptance Plan.	When used for ADC, petroleum contaminated soils will be applied in a 6" minimum thickness.

Slurry Tackifier (hydromulch) or cementitious slurry	Aqueous slurry of fibers and binding agent. The City has demonstrated the use of Posi-Shell at the Landfill. The slurry tackifier material consists of cellulose fiber mulch and a binding agent. The fiber mulch is from recycled fiber stock with a binding agent that may be composed of guar gum powder. The tackifier is sprayed as a coating layer of sufficient thickness to completely cover the wastes, thereby controlling fires, vectors, odors, and windblown wastes. A typical cementitious slurry is Posi-Shell manufactured by the Landfill Service Corporation. Siarlmor products may also be used. The cementitious slurry is sprayed product with a mineral binder, cellulose fibers and possolonic material acting as a binding agent.	The finished cover for cementitious slurry should be $\frac{1}{4}$ to $\frac{3}{16}$ inches in thickness. This thickness applies to short-term coverage application rates, as described in the SOP. Material safety data sheets for fiber and binding agent used at the site will be kept in the SOR.

3.0 Effect on Vectors, Fires, Odors and Windblown Litter

Table IV.2.2

ADC Material	Vectors	Fires	Odors	Windblown Litter
Synthetic Material Tarps	Adequate coverage over all waste.	Tarp materials are to be of non-combustible materials.	Adequate coverage over waste will limit odor generation. Tarps have no odors of their own.	Placement of anchors such as soil or other non-putrescible materials will control windblown litter.
Shredded brush material	A layer of brush in accordance	Brush is combustible,	Adequate coverage over	Adequate coverage over

	with size and thickness requirements stated above will control vectors.	however through moisture control and if used on a daily basis, the potential for fires is limited. The fire control plan in the SOP defines how fires will be addressed if brush should cause a fire. Use of brush with additional soils can also reduce fire potential of this ADC option.	waste will limit odor generation.	waste will limit windblown material.
Shredded or chipped tires	When applied at a thickness of 6", the material will control vectors in the same manner as soil due to the similarities to soil.	The materials are combustible, however the possibilities of tires catching fire when used for only one day are remote. To reduce fire potential, soil or petroleum contaminated soils will be mixed with the shredded tires.	Tires will not cause odor generation when used as daily cover.	When applied at 6", the material will control windblown material in the same manner as 6" of soil.
Commercial foam products	When applied to completely cover the waste, commercial foams will deter insects or other vectors from accessing the waste.	Foams are manufactured to include a fire retardant.	Foams provide a barrier to generation of odors from the waste. They have proven not to create any nuisance odors of their own.	When applied over the entire waste pile, the product will control windblown waste.

Dried water treatment screenings	When applied at a rate of 6" thickness, this material will act like soil or petroleum contaminated soils in being able to reduce vectors.	The material is not flammable.	The material will not contribute to odor generation.	When applied over the entire waste pile, the material will control windblown material in the same manner as soil.
Construction / demolition waste	The C&D material must not contain any putrescible waste that may attract vectors. The material must also be shredded to provide adequate cover over the waste pile to prevent access to the waste pile by vectors.	The C&D materials generally accepted will be fire resistant. If it contains large percentage of wood material, the C&D will be blended with soil or petroleum contaminated soil.	The material will not contribute to odor generation.	When applied over the entire waste pile, the material will control windblown material in the same manner as soil.
Petroleum contaminated soils	When applied at a rate of 6" thickness, the PTC will prevent vectors in the same manner as soil.	The low allowable petroleum product concentration of less than 1,500 ppm TPH limits flammability of the PTC.	The low petroleum content will reduce any odors generated from the PTC.	When applied at a rate of 6" thickness, the PTC protects against windblown material.
Slurry Tackifier or Cementitious Slurry	When applied evenly across the waste pile, the slurry will harden and protect against vectors.	The material has a fire retardant to reduce fire potential.	No noxious odors are generated as a result of the use of the material.	When applied evenly, the material will protect against windblown material.

4.0 Application and Operational Methods

Synthetic material tarps: Using standard landfill equipment and site personnel, the tarp is placed over the waste and secured using soil, rock or other heavy items. The tarps are removed

in the morning using similar equipment. If the active face has an irregular shape or is larger than the size of the available tarps, soil cover must be applied to the active face perimeter. To minimize tears, the tarp will not be forcibly dragged across the active face. Tarps would overlap each other on the active face.

Shredded brush material. Chipped brush is deposited onto the Landfill working face using similar equipment used for spreading soil cover material. Prior to placement, Landfill personnel will evaluate the material to make sure it meets size requirements. The material can be mixed with soil or petroleum contaminated soil (in accordance with the Special Waste Management Plan).

Shredded or chipped tires: This material will have a soil-like quality prior to use as an alternative daily cover material. On-site soils or petroleum contaminated soils suitable for use as ADC will be mixed with this material prior to its use as an ADC in order to reduce its potential flammability. This material will be applied to the same thickness as soil (6").

Tire piles at the site consisting of shredded tire pieces or scrap tires shall be not greater than 15' high, nor shall the pile cover an area greater than 8,000 square feet. There shall be a minimum 20' lane totally encircling the tire piles at all time. This will serve as a fire lane and shall be accessible at all times. Tire piles will be no closer than 500' from the active face and a buffer of 100' will be maintained between tire piles and permit boundary.

Commercial foam products: The specific types of foam have dedicated equipment for applying foam to the working face. The City will apply per the guidelines established by the manufacturer. Operators will apply in an even manner to the depths that are required for the specific material to meet the equivalent of 6" of soil.

Dried water treatment screenings: This material will have the consistency, size and moisture content consistent with soils used for daily cover. Existing landfill equipment will be used to spread this material to a thickness of 6".

Construction Debris: This material will be spread using existing landfill equipment. Once the material is shredded to reduce the size of the material, it will be applied in combination with soil or petroleum contaminated soil. The material will be placed at a minimum thickness of 6". To reduce the potential for fire, material will be stored at a minimum of 200' from the working face. The storage pile will be accessible to fire-fighting equipment. To further reduce fire potential, the material will be blended with either soil or petroleum contaminated soil.

Petroleum contaminated soil: PCS will be applied to the active face using standard landfill equipment. The alternative daily cover material will be spread in an identical manner as standard soil daily cover. Care will be taken to keep the contaminated soil separate from uncontaminated soil.

Slurry Tackifier (hydromulch) or Cementitious Slurry: This slurry will be applied with a trailer mounted device (Finn Model T-90 ADC applicator, PSA 2000 applicator or similar

hydromulch applicator). The applicator is to be pulled by a pickup truck, bulldozer or other landfill equipment. The slurry is mixed with the reservoirs of the application equipment. A typical tackifier mixing ratio is approximately one 50-pound bag of fiber mulch and 1.25 pounds of binding agent to every 100 gallons of water. The materials are mixed by mechanical agitation until they form a smooth homogenous slurry. The materials stay in suspension after they are mixed allowing a uniform spray application. The slurry dries to form a uniform coating on top of the waste. Drying time is typically 30 minutes to one hour depending on weather conditions.

The following procedures will be used for daily application of slurry tackifier mix:

- Fill the ADC application equipment with water
- Add a minimum of one 50-pound bag of fiber mulch and approximately 1.25 pounds of binding agent for every 100 gallons of water, or an amount as directed by the manufacturer.
- Allow the material to mix until they form a homogenous slurry – 15 minutes is typical
- Apply the compacted refuse by spraying directing onto the working face. Use proper application nozzle to provide consistent coverage.

The spray slurry mix is not recommended to be applied if it is raining. However, once it is applied, the slurry coverage will be maintained (through the binding agent) during rain events. In windy conditions the slurry may need to be sprayed from two directions to ensure proper coverage (i.e. apply an additional layer perpendicular to the rows of the first layer). The materials may be sprayed up to 150'. Cementitious slurry (Posi-Shell) will be formulated in loads from 2,500 to 3,350 gallons which may cover up to 20,000 square feet. This application rate is for short-term coverage or durations of 24 hours or less. The mix design will be as recommended by the supplier based on the cementitious component used.

5.0 Chemical Composition of the Material

Synthetic material tarps. A material safety data sheet for ENSTAR (a typical synthetic tarp) and Dura Shield 12,000 FR is attached to Appendix A.

Shredded brush material. The material is outlined in section 2 of the ADC Operating Plan.

Shredded or chipped tires. This material is outlined in Section 2 of the ADC Operating Plan.

Commercial foam products. Material data sheets are included in Appendix A.

Dried water treatment screenings. This material is described in Section 2 of the ADC Operating Plan.

Construction / demolition waste. These materials are described in Section 2 of the ADC Operating Plan.

Petroleum contaminated soils. All soils used as alternative daily cover material will meet the TCEQ soils policy or policies applicable to the site at the time of application. Only soils that

have been specifically authorized for use as an alternative cover material by TCEQ will be used as ADC. A description of acceptable petroleum contaminated soils is presented below.

Soil materials contaminated with petroleum, pesticides or metals that are accepted at the Landfill as special waste or soil contaminated with Class 2 industrial waste may be used as ADC. Consistent with 330.165(d)(4)(A), contaminated soil used as ADC will not contain polychlorinated biphenyl wastes that are subject to the disposal requirements of 40 Code of Federal Regulations Part 761. Consistent with 330.165(d)(4)(B), the TPH of the petroleum contaminated soil must be equal to or below 1500 milligrams per kilogram. Soils contaminated with pesticides will be tested for TCLP pesticides and herbicides and TCLP metals (RCRA 8 metals). Contaminated soils used as ADC will not contain constituents of concern exceeding the concentration totals in Table 1 of 335.521(a)(1). The contaminated soil chemical characteristics will be attached to the generator waste profile sheet that accompanies the waste at the time of acceptance and will be maintained in the SOR.

6.0 ADC Verification and Inspection Procedures

At the end of each working day, landfill personnel will inspect the working face to confirm that the minimum thickness of an approved ADC has been placed over the working face in accordance with this ADC operating plan. For Posi-Shell, the Landfill staff will verify the thickness of the material. Landfill personnel will routinely assess the effectiveness of each ADC in controlling vectors, fires, odors and windblown waste. Daily application of ADC will be documented and maintained in the site operating record (SOR).

Status reports on the ADCs have previously been submitted in accordance with 30 TAC 330.165(d)(2) and are no longer required for Posi-Shell applications. Should additional ADCs be proposed for the Landfill, a modification will be filed with the TCEQ with specific reporting requirements defined in the modification.



MATERIAL SAFETY DATA SHEET

MATERIAL:**OSHA 29CFR 1910.1200****POSI-PAK® TYPE P-100 FIBERS****DATE OF PREPARATION: NOVEMBER 2012**

SECTION I -- IDENTITY

Distributor's Name and Address:

LSC Environmental Products, LLC
2183 Pennsylvania Avenue
Apalachin, NY 13732

Emergency Telephone:

(607) 625-3050

Chemical Name and Synonyms:

Generic Name:

Polyester Staple

Trade Name:

Posi-Pak® Type P-100 Fibers

SECTION II -- HAZARDOUS INGREDIENTS

Ingredient:

Polyethylene terephthalate polymer and one or more surface finishes
(organic lubricants).

CAS No.:

25038-59-9

Hazard:

No known physical or health hazards associated with this product.

Note:

Polyester Staple is a family of fiber products having similar hazard and physical property characteristics. The polymer immobilizes the constituents of the polymer system (delusterants, catalyst residues, etc.) which, therefore, present no likelihood of exposure under normal conditions of processing and handling.

SECTION III -- PHYSICAL DATA

Melting Point:

Approx. 500° F (260° C)

SECTION IV -- CHEMICAL DATA

Polyethylene terephthalate is chemically stable and resistant to attack by oils, solvents, weak acids, and weak alkalis.

SECTION V -- FIRE AND EXPLOSION HAZARD DATA

Polyester Staple will burn if exposed to flame. Decomposition products generated from molten polymer may be subject to autoignition. Combustion products will be comprised of carbon, hydrogen, and oxygen. The exact composition will depend on the conditions of combustion.

SECTION VI -- HEALTH HAZARD DATA

This product has not been fully evaluated for toxicological properties. Preliminary evaluation of chemical components used in the finish and toxicological testing of the polymer have given no indication that health problems would occur in normal handling and use.

Similar products have given no indication that health problems would occur in normal handling and use.

SECTION VII -- REACTIVITY DATA

N/A

SECTION VIII -- SPILL PROCEDURES

N/A

SECTION IX -- EXPOSURES OF CONCERN

Inhalation of finish mist above the recommended 3 mg/m³ 8-hour TWA would be an exposure of concern.

SECTION X -- HANDLING AND USE PRECAUTIONS

Personal hygiene measures, such as washing hands and face immediately after working with the fibers and before eating, smoking, or using lavatory facilities, are recommended.

SECTION XI -- INDUSTRIAL HYGIENE CONTROL MEASURES

Adequate ventilation is recommended to maintain finish mist levels below 3 mg/m³ 8-hour TWA and minimize exposure.

Fire fighters should protect themselves from decomposition and combustion products that may include carbon monoxide and other toxic gases.

SECTION XII -- SPECIAL PRECAUTIONS

N/A

SECTION XIII -- DISPOSAL AND SHIPPING INFORMATION

These products are not classified as hazardous wastes under the Resource Conservation and Recovery Act, and unless prohibited by state or local regulation, can be disposed of in a municipal landfill or incinerated. Any finish oils contained in plant wastewater should be biodegradable in conventional biological wastewater treatment systems.

These fibers are not classified by the Department of Transportation as a hazardous material.

***N/A = Not Applicable. **N/D = Not Determined**

All information presented herein is believed to be accurate; however, it is the user's responsibility to determine in advance of need that the information is current and suitable for their circumstances.

No warranty or guarantee, expressed or implied, is made by LSC Environmental Products, LLC as to this information or as to the safety, toxicity, or effect of the use of this product.



MATERIAL SAFETY DATA SHEET

MATERIAL:**PSM-200 SETTING AGENT™****OSHA 29CFR 1910.1200****DATE OF PREPARATION: NOVEMBER 2012**

SECTION I -- IDENTITY

Distributor's Name and Address:

LSC Environmental Products, LLC
2183 Pennsylvania Avenue
Apalachin, NY 13732

Emergency Telephone:

(607) 625-3050

Chemical Name and Synonyms:

Sodium Montmorillonite Clay with
Additives

Generic Name:

(SMC) (CAS No. 1318-93-0)
SMC with proprietary additives
(CAS No. 1318-93-0)

Trade Name:

Posi-Shell® PSM 200 Setting Agent

SECTION II -- HAZARDOUS INGREDIENTS

Ingredient:

Crystalline Silica (SiO₂) as Quartz

CAS No.:

14808-60-7

Hazard:

Low concentrations of crystalline silica in the form of quartz may be present in airborne SMC dust. See Section VI for discussion of health hazard.

Note:

Although the typical quartz content of western SMC is in the range of 2 to 6% most of the quartz particles are larger than the 10μ respirable threshold size. The actual respirable quartz concentration in airborne SMC dust will depend upon SMC source, fineness of product, moisture content of product, local humidity and wind condition at point of use and other use specific factors.

SECTION III -- PHYSICAL DATA

Boiling Point (°F):

N/A

Vapor Pressure (mm. Hg):

N/A

Vapor Density (Air=1):	N/A
Solubility in Water:	Insoluble, forms colloidal suspension
Density (at 20° C):	55 lbs/cu ft as product
Specific Gravity (H2O=1):	2.45-2.55
Melting Point:	Approx. 1450° C
Evaporation Rate (Butyl Acetate=1):	N/A
pH:	8-10 (5% aqueous suspension)

SECTION IV -- CHEMICAL DATA

PSM-200 is a blend of sodium montmorillonite clay and proprietary adhesive ingredients.

SECTION V -- FIRE AND EXPLOSION HAZARD DATA

Flash Point:	N/A
Special Fire Fighting Procedures:	N/A
Unusual Fire and Explosion Hazards:	None. Product will not support combustion.
Extinguishing Media:	None for product. Any media can be used for the packaging. Product becomes slippery when wet.
Flammable Limits:	LEL: N/A UEL: N/A

SECTION VI -- HEALTH HAZARD DATA

Routes of Exposure and Effects:

Skin:	Possible drying resulting in dermatitis.
Eyes:	Mechanical irritant.
Inhalation:	<i>Acute</i> (short term) exposure to dust levels exceeding the PEL may cause irritation of respiratory tract resulting in a dry cough. <i>Chronic</i> (long term) exposure to airborne SMC dust containing respirable size (=10µ) quartz particles, where respirable quartz particle levels are higher than TLVs, may lead to development of silicosis or other respiratory problems. Persistent dry cough and labored breathing upon exertion may be symptomatic.
Ingestion:	No adverse effects.

Permissible Exposure Limits:
(for air contaminants)

OSHA PEL (8 HR. TWA)	ACGIH TLV

SMC as "Particulates not otherwise regulated" (formerly nuisance dust)

Total dust	15mg/m ³	N/D
Respirable dust	5mg/m ³	N/D
Crystalline Quartz (respirable)	0.1mg/m ³	0.1mg/m ³
Carcinogenicity:	SMC is not listed by ACGIH, IARC, NTP, or OSHA. IARC, 1997, concludes that there is sufficient evidence in humans for the carcinogenicity of inhaled crystalline silica from occupational sources (IARC Class 1), that carcinogenicity was not detected in all industrial circumstances studied and that carcinogenicity may depend on characteristics of the crystalline silica or on external factors affecting its biological activity. NTP classifies respirable crystalline silica as "known to be a human carcinogen" (NTP 9th Report on Carcinogens - 2000). ACGIH classifies crystalline silica quartz as a suspected human carcinogen (A2).	
Acute Oral LD50:	N/D	
Acute Dermal LD50:	N/D	
Aquatic Toxicology LC50:	N/D	
Emergency and First Aid Procedures:		
Skin:	Wash with soap and water until clean.	
Eyes:	Flush with water until irritation ceases.	
Inhalation:	Move to area free from dust. If symptoms of irritation persist, contact physician. Inhalation may aggravate existing respiratory illness.	

SECTION VII -- REACTIVITY DATA

Stability:	Stable
Hazardous Polymerization:	None
Incompatibility:	None
Hazardous Decomposition Products:	None

SECTION VIII -- SPILL PROCEDURES

Steps to be Taken if Material is Released or Spilled:	Avoid breathing dust; wear dust mask. Vacuum up to avoid generating airborne dust. Avoid using water. Product slippery when wetted.

SECTION IX -- EXPOSURES OF CONCERN

N/A

SECTION X -- HANDLING AND USE PRECAUTIONS

Waste Disposal Methods:	Product should be disposed of in accordance with applicable local, state, and federal regulations.

Handling and Storage Precautions: Use NIOSH/MSHA respirator approved for silica bearing dust when free silica containing airborne SMC dust levels exceed PEL/TLVs. Clean up spills promptly to avoid making dust. Storage area floors may become slippery if wetted.

SECTION XI -- INDUSTRIAL HYGIENE CONTROL MEASURES

Ventilation Requirements: Mechanical, general room ventilation. Use local ventilation to maintain PELs/TLVs.

Respirator: Use respirators approved by NIOSH/MSHA for silica bearing dust.

Eye Protection: Generally not necessary. Personal preference.

Gloves: Generally not necessary. Personal preference.

Other Protective Clothing or Equipment: None.

SECTION XII -- SPECIAL PRECAUTIONS

Avoid prolonged inhalation of airborne dust.

SECTION XIII -- DISPOSAL AND SHIPPING INFORMATION

Shipping Name:	N/A (Not Regulated)
Hazardous Substance:	N/A
Hazard Class:	N/A
Caution Labeling:	N/A

***N/A = Not Applicable. **N/D = Not Determined**

All information presented herein is believed to be accurate; however, it is the user's responsibility to determine in advance of need that the information is current and suitable for their circumstances.

No warranty or guarantee, expressed or implied, is made by LSC Environmental Products, LLC as to this information or as to the safety, toxicity, or effect of the use of this product.



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CLIENT: Landfill Services Corporation

Date Sampled: 12/19/00

CLIENT'S SAMPLE ID: POSI-SHELL

Date sample received: 12/27/00

AES sample #: 001227AN01

Samples taken by: G.E./D.B.

Location: Chemung County

MATRIX: Solid Sample

grab

<u>PARAMETER PERFORMED</u>	<u>METHOD</u>	<u>RESULT</u>	<u>UNITS</u>	<u>NOTEBOOK REF</u>	<u>TEST DATE</u>
Flammability Potential	ASTM D 4982-95	Negative		TF-H-22	12/27/00



American Standards Testing Bureau, Inc.

40 WATER STREET, NEW YORK, N.Y. 10004

PHONE: (212) 943-3156

FAX: (212) 825-2250

July 20, 1995

Landfill Service Corporation
2183 Pennsylvania Avenue
Apalachin, NY 13732

Att: Mr. George Nealon

Gentlemen:

RE: Heat & Visible Smoke Release Rates for Posi-Shell
ASTB P. #1235-536; LR. #29807

Pursuant to your recent request, ASTB/New York received and tested the heat and visible smoke release rates for one (1) Posi-Shell Cover System product as per the requirements of ASTM E-1354. The nominal heat fluxes were 25, 35 and 50 kW/m², respectively, and all specimens were tested in the horizontal orientation.

The Posi-Shell sample tested did not ignite at 25, 35 or 50 kW/m². At the most extreme heat flux, 50 kW/m², the mass loss of the specimen was 8.9%, although little or no smoke was observed. The measured peak and average values of the heat and visible smoke release rates at 50 kW/m² are:

PEAK AND AVERAGE VALUES (50 kW/m ²)	PEAK	TIME	AVERAGE
Heat Release Rate (kW/m ²)	6.9	167	3.6
Eff. Heat of Comb. (MJ/kg)	827.8	512	2.7
Specific Ext. Area (m ² /kg)	4.2	17	0.4
CO (kg/kg)	0.0	600	0.0
CO ₂ (kg/kg)	0.8	380	0.0

Since ignition did not occur, the heat release rate, total heat released and effective heat of combustion are not considered to be useful data but are reported for completeness. In summary, the Posi-Shell examined must be classified as non-combustible, non-fuel contributing and non-smoke releasing material.

Respectfully submitted,

AMERICAN STANDARDS TESTING BUREAU, INC.

S. C. Brooks
S. C. Brooks, P.E.
Project Engineer

V. Morfopoulos
V. Morfopoulos, Eng.Sc.D.
Technical Director

SCB/VM/dk
Enc.

AN INDEPENDENT TECHNICAL AGENCY FOR CERTIFICATION, CONSULTING, RESEARCH AND DEVELOPMENT, SAMPLING AND TESTING
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(800) 848-4983 ♦ (518) 434-4546 ♦ Fax (518) 434-0891

October 22, 2008

Rob Francis
Landfill Service Corporation
2183 Pennsylvania Avenue
Apalachin, NY 13732

Work Order No: 081010021

TEL: (607) 625-3050

FAX: (607) 625-2689

RE:

Dear Rob Francis:

Adirondack Environmental Services, Inc received 1 sample on 10/10/2008 for the analyses presented in the following report.

There were no problems with the analyses and all associated QC met EPA or laboratory specifications, except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Tara Daniels
Laboratory Manager

ELAP#: 10709
AIHA#: 100307

Qualifiers:	ND - Not Detected at the Reporting Limit	S - Spike Recovery outside accepted recovery limits
	J - Analyte detected below quantitation limits	R - RPD outside accepted recovery limits
	B - Analyte detected in the associated Method Blank	T - Tentitively Identified Compound-Estimated Conc.
	X - Value exceeds Maximum Contaminant Level	E - Value above quantitation range
		Page 1 of 2

Adirondack Environmental Services, Inc

Date: 22-Oct-08

CLIENT: Landfill Service Corporation
Work Order: 081010021
Reference: /
PO#:

Client Sample ID: Posi-Shell AF-Basic
Collection Date:
Lab Sample ID: 081010021-001
Matrix: SOLID

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
TCLP MERCURY SW1311/7470A						Analyst: SM
(Prep: SW7470A - 10/17/2008)						
Mercury-TCLP	< 0.020	0.020		mg/L	1	10/17/2008
TCLP METALS - ICP SW1311/6010A						Analyst: KH
(Prep: SW1311 - 10/16/2008)						
Arsenic-TCLP	< 0.05	0.05		mg/L	1	10/21/2008 1:52:00 PM
Barium-TCLP	0.29	0.10		mg/L	1	10/21/2008 1:52:00 PM
Cadmium-TCLP	< 0.05	0.05		mg/L	1	10/21/2008 1:52:00 PM
Chromium-TCLP	< 0.05	0.05		mg/L	1	10/21/2008 1:52:00 PM
Lead-TCLP	< 0.05	0.05		mg/L	1	10/21/2008 1:52:00 PM
Selenium-TCLP	< 0.05	0.05		mg/L	1	10/21/2008 1:52:00 PM
Silver-TCLP	< 0.10	0.10		mg/L	1	10/21/2008 1:52:00 PM

Qualifiers: ND - Not Detected at the Reporting Limit
J - Analyte detected below quantitation limits
B - Analyte detected in the associated Method Blank
X - Value exceeds Maximum Contaminant Level

S - Spike Recovery outside accepted recovery limits
R - RPD outside accepted recovery limits
T - Tentatively Identified Compound-Estimated Conc.
E - Value above quantitation range

Page 2 of 2



Landfill Service
CORPORATION

081010021

October 9, 2008

Adirondack Environmental Services Inc.
314 Pearl Street
Albany, NY 12207

Dear Chris Hess,

Please conduct an TCLP test on the sample of Posi-Shell AF-Basic that was enclosed. As soon as the results are ready, please e-mail the reports to rfrancis@landfill.com . along with mailing the hard copies.

Thank you,


Rob Francis
Field Operations Manager
Landfill Service Corporation
1-800-800-7671

*just TCLP -
metals. only*
① 10/10/08

Received for Laboratory by Adelin Malesuthi 10/10/08 10:25 AM
Posi-shell

001 Sample ID: AF-BASIC





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TERMS, CONDITIONS & LIMITATIONS

All service rendered by the **Adirondack Environmental Services, Inc.** are undertaken and all rates are based upon the following terms:

- (a) Neither **Adirondack Environmental Services, Inc.**, nor any of its employees, agents or sub-contractors shall be liable for any loss or damage arising out of **Adirondack Environmental Services, Inc.**'s performance or nonperformance, whether by way of negligence or breach of contract, or otherwise, in any amount greater than twice the amount billed to the customer for the work leading to the claim of the customer. Said remedy shall be the sole and exclusive remedy against **Adirondack Environmental Services, Inc.** arising out of its work.
- (b) All claims made must be in writing within forty-five (45) days after delivery of the **Adirondack Environmental Services, Inc.** report regarding said work or such claim shall be deemed or irrevocably waived.
- (c) **Adirondack Environmental Services, Inc.** reports are submitted in writing and are for our customers only. Our customers are considered to be only those entities being billed for our services. Acquisition of an **Adirondack Environmental Services, Inc.** report by other than our customer does not constitute a representation of **Adirondack Environmental Services, Inc.** as to the accuracy of the contents thereof.
- (d) In no event shall **Adirondack Environmental Services, Inc.**, its employees, agents or sub-contractors be responsible for consequential or special damages of any kind or in any amount.
- (e) No deviation from the terms set forth herein shall bind **Adirondack Environmental Services, Inc.** unless in writing and signed by a Director of **Adirondack Environmental Services, Inc.**
- (f) Results pertain only to items analyzed. Information supplied by client is assumed to be correct. This information may be used on reports and in calculations and **Adirondack Environmental Services, Inc.** is not responsible for the accuracy of this information.
- (g) Payments by credit card are subject to a 3% additional charge.



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CLIENT: Landfill Services Corporation

Date Sampled: 12/19/00

CLIENT'S SAMPLE ID: POSI-SHELL

Date sample received: 12/27/00

AES sample #: 001227AN01

Samples taken by: G.E./D.B.

Location: Chemung County

MATRIX: Solid Sample

grab

<u>PARAMETER PERFORMED</u>	<u>METHOD</u>	<u>RESULT</u>	<u>UNITS</u>	<u>NOTEBOOK REF</u>	<u>TEST DATE</u>
Flammability Potential	ASTM D 4982-95	Negative		TF-H-22	12/27/00



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CLIENT: Landfill Technologies, Inc.

Date Sampled: 07/24/95

CLIENT'S SAMPLE ID: POSI-SHELL (WET)

Date sample received: 07/24/95

AES sample #: 950724 001

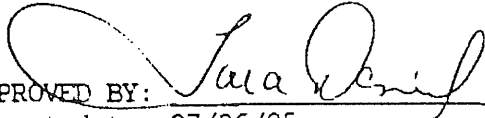
Samples taken by: Dave Hansen

Location: Albany, NY

MATRIX: Product Test

grab

<u>PARAMETER PERFORMED</u>	<u>METHOD</u>	<u>RESULT</u>	<u>UNITS</u>	<u>NOTEBOOK REF</u>	<u>TEST DATE</u>
Paint Filter	SW-846	Negative		MC-X-8	07/24/95

APPROVED BY: 
Report date: 07/26/95



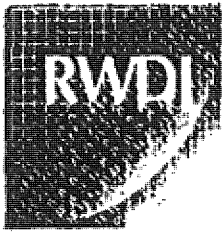
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Albany, New York 12207
518-434-4546/434-0891 FAX

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CLIENT: Landfill Technologies, Inc. Date Sampled: June 1991
CLIENT'S SAMPLE ID: PS-1Y (POSI-SHELL, 1 YEAR OLD) Date sample received: 06/16/92
AES sample #: 920616 J07 Samples taken by: David Hansen Location: Albany Landfill
MATRIX: solid waste grab

<u>PARAMETER PERFORMED</u>	<u>METHOD</u>	<u>RESULT</u>	<u>UNITS</u>	<u>NOTEBOOK REF</u>	<u>TEST DATE</u>
TCLP Extraction	EPA-1311	Complete		EPT-D-4	06/19/92
Arsenic-TCLP Extract	EPA-6010	<0.5	mg/l	ICP-Y-18	07/01/92
Barium-TCLP Extract	EPA-6010	0.08	mg/l	ICP-Y-18	07/01/92
Cadmium-TCLP Extract	EPA-6010	<0.01	mg/l	ICP-Y-18	07/01/92
Chromium-TCLP Extract	EPA-6010	0.08	mg/l	ICP-Y-30B	07/18/92
Lead-TCLP Extract	EPA-6010	<0.5	mg/l	ICP-Y-18	07/01/92
Mercury-TCLP Extract	EPA-7470	<0.02	mg/l	MET-FAB-39	06/24/92
Selenium-TCLP Extract	EPA-6010	<0.1	mg/l	ICP-Y-18	07/01/92
Silver-TCLP Extract	EPA-6010	<0.05	mg/l	ICP-Y-18	07/01/92

Adirondack Environmental Services, Inc.



**ASSESSMENT OF COVER APPLICATION TO
REDUCE AIR EMISSIONS FROM HAZARDOUS
WASTE
LAIDLAW - CORUNNA FACILITY
SARNIA, ONTARIO**

Project Number: 97-411
Date: December 22, 1997
Submitted By: Rowan Williams Davies & Irwin Inc.
Project Manager - Brian Handy, B.Sc., C. Chem.
Project Coordinator - Adam Quipp, DET
Principal - David Chadder, Hon. B.Sc., QEP

Submitted to: Mr. Blake Nesbitt
Laidlaw Environmental Services Limited

**Rowan Williams
Davies & Irwin Inc.**
Consulting Engineers
650 Woodlawn Road West
Guelph, Ontario
Canada N1K 1B8
Tel: (519) 823-1311
Fax: (519) 823-1316
Email: info@rwdi.com
Website: <http://www.rwdi.com>

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1. INTRODUCTION

Rowan Williams Davies & Irwin Inc. (RWDI) was retained by Laidlaw Environmental Services Limited (Laidlaw) to undertake an assessment of Posi-Shell, a cover material, to reduce air emissions of volatile organic compounds (VOC's), aldehydes, ketones and alcohols from the exposed waste at Laidlaw's Corunna Facility. Posi-Shell is described by its supplier as an aggregate of (recycled) cementitious mineral binder, liquid (water), recycled plastic and cellulose fibres. After curing, the cover is considered to provide a non-permeable cover over the exposed waste, minimising any chemical emissions.

The objectives of this study was to provide an independent assessment of the cover's ability to suppress odorous emissions up to three weeks after application.

The basic tasks undertaken in this study are described below:

- select three sampling locations on the exposed waste at the pit face of the landfill;
- determine the emission rate of target compounds, prior to application, using an isolation flux chamber;
- determine the emission rates of the target compounds one day, two days, one week, two weeks and three weeks after application; and
- assess the emission reduction efficiency of the foam.

2. METHODOLOGY

2.1 Selected Target Compounds

Table 1 presents the list of selected target compounds. The list was based on sampling and headspace analysis conducted by Laidlaw at three Test-Bucket locations on the landfill pit face (Pit Cell #17) during July 11 and 14, 1997 [1]. Figure 1 shows a site map with the three sample locations. Shows a site plan of the facility including the three sample locations. The list represents a cross-section of contaminants that are common to the waste stream at the Corunna facility.

Table 1: List of Target Compounds.

Acetone	o-Xylene
Benzene	p-m-Xylene
Butanediol	Propanal
1-Butanol	Propanol
2-Butanol	Styrene
Butenal	Tetrachlorethylene
Chlorobenzene	1,3,5-Trimethyl Benzene
Cyclohexane	1,2,4-Trimethyl Benzene
Ethyl Benzene	1,2,3-Trimethyl Benzene
Heptane	Toluene
Methyl Ethyl Ketone	Acetaldehyde
2-Methyl Hexane	Difuro-Furan
3-Methyl Hexane	Dichloromethane
Methyl Isobutyl Ketone	Ethanol
Methyl Pentanone	Methyl Butanol

2.2 Sampling Protocol

In the original work plan submitted by RWDI to Laidlaw, it was proposed to conduct continuous VOC measurements over the surface of the pit face, using a PhotoVac Microfid Model MP 1001, in order to select locations with significant emissions which were also safely accessible. These measurements were conducted on July 22, 1997; however, they proved to be inconclusive in locating areas of peak emissions because of relatively low and uniform VOC concentrations above

the pit face. Therefore, it was decided to locate the sampling points in close proximity to the existing Laidlaw Test-Drum locations (see Section 2.1).

The flux chamber was then used to collect samples at these three locations. The flux chamber is shown schematically in Figure 2. It was constructed according to the designer's specifications [2]. The chamber is 71 cm in diameter and 31 cm high and is constructed of 14 gauge stainless steel. All interior and exterior fittings were stainless steel and all lines were made from Teflon tubing. The chamber was equipped with five exit ports (labelled A to E in Figure 2), air and waste temperature probes and a chamber differential pressure gauge. The flux chamber was placed on the surface of the waste and the bottom edge of the chamber was forced a short depth into the waste surface. The interface between the chamber and the surface was covered with common sand to provide the best seal possible. The flux chamber was operated under a slight positive pressure to further prevent outside air entering underneath and into the chamber.

The flux chamber was operated within parameters recommended by the designers [2]. The flux chamber was purged with ultra-high purity nitrogen gas for a minimum of 30 minutes at a rate of 17 l/min ($2.83 \times 10^{-4} \text{ m}^3/\text{s}$). This removed any residual outside air present in the chamber after it was placed on the surface of the waste. The purpose of diluting the chamber air was to establish an equilibrium between gas emissions from the sample surface and the sweep gas entering the chamber. The purge gas was introduced into the flux chamber using Teflon tubing equipped with fifteen, 0.635 mm diameter, downward-facing vent holes. The flow of purge gas (sweep rate) was regulated using a Matheson rotameter, which was calibrated using a Gilibrator automated bubble meter, which is a primary standard airflow calibrator. The total amount of purged gas introduced into the chamber was such that about 99% of the original air was purged from the flux chamber. Once the flux chamber had been purged, samples were drawn from the chamber through the exhaust port using a sample train consisting of a vacuum pump and a calibrated mass flow controller. The samples were collected by on a multi-phase carbon adsorbent TO1 tubes with Tenax provided by Laidlaw Environmental. The on-site Laidlaw laboratory conducted the analysis for the compounds shown in Table 1.

The concentration for each compound, C, was determined using Equation 1:

$$C = M/V \quad (1)$$

where: *C* = VOC concentration (ng/m³);

M = mass on tube (ng); and

V = total volume of air sampled (m³).

The emission flux rate (ng/m²/s) was determined using Equation 2:

$$E = \frac{C Q}{A} \quad (2)$$

where: *E* = VOC flux rate (ng/m²/s);

Q = sweep rate of nitrogen into the flux chamber = 2.83×10^{-4} m³/s; and

A = surface area enclosed by the flux chamber = 0.40 m².

The flux chamber requires low wind speeds to sample properly. Strong winds may create a region of low pressure on the downwind side of the flux chamber. Winds were light during the flux chamber sampling and no provisions for wind breaks were required.

3. RESULTS

3.1 Sampling Results

The site selection and initial sampling, before cover application, was carried out on July 22, 1997. Covering of the pit face (approximately 90% of the exposed waste) was carried out by the supplier, Landfill Service Corporation, on July 23. After the cover was applied and the curing process was underway, sampling was repeated one day (July 24), two days (July 25), one week (July 31), two weeks (August 7) and three weeks (August 14) after covering. Sections 3.1.1 to 3.1.6 presents pertinent sampling information and the results. Sections 3.2 presents a summary of the results and emission reduction efficiency. All field note information taken during the study have been included in summary tables. All times are given in Eastern Daylight (Savings) Time (EDT).

3.1.1 Site Selection and Pre-Cover Application Sampling

Sample site selection and sampling prior to cover application was conducted on July 22. Table 2 presents a description of the sampling site locations.

Table 2: Sampling Locations.

Sample Number	Location
Site 1	Two metres west of Laidlaw Test-Bucket #3
Site 2	Two metres west of Laidlaw Test-Bucket #2
Site 3	½-metre south of Laidlaw Test-Bucket #1

The sampling parameters (start time, end time, etc.) are presented in Table 3.

Table 3: Sampling Parameters - July 22, 1997.

Parameter	Site 1	Site 2	Site 3
Purge Start (hours)	1355	1455	1552
Sweep Rate (l/min)	17.2	17.2	17.2
Sample Start (hours)	1436	1531	1629
Sample End (hours)	1451	1548	1644
Sample Flow Rate (ml/min)	300	300	300
Internal Pressure ("H ₂ O)	0.055	0.050	0.050
Waste Temperature (C)	31	31	36
Ambient Temperature (C)	25	25	27
Wind Speed (m/s)	2.0	2.8	3.0
Weather Conditions	Sunny/Clear	Sunny/Clear	Sunny/Clear
Sample Tube Number	D	B	E

Table 4 presents the pre-cover sampling results. The table shows the emission rate in ng/m²/s for the target compounds at each sampling location.

Table 4: Pre-Cover Initial Sampling Results - July 22, 1997.

Target Compound	Emission Rate (ng/m ² /s)		
	Site 1	Site 2	Site 3
Acetone	11.8	2.61	14.5
Benzene	0.80	0.58	0.96
1-Butanol	0.64	0.00	1.44
Butanediol	5.58	0.00	18.8
2-Butanol	0.00	0.00	1.91
Butenal	0.48	0.00	0.48
Chlorobenzene	0.16	0.00	0.48
Cyclohexane	0.48	0.00	0.48
Ethyl Benzene	4.62	0.73	3.99
Heptane	0.00	0.00	0.80
Methyl Ethyl Ketone	0.48	1.31	4.15
2-Methyl Hexane	0.00	0.00	0.32
3-Methyl Hexane	0.16	0.00	0.64
Methyl Isobutyl Ketone	2.55	1.31	3.20
Methyl Pentanone	2.55	0.00	0.00
o-Xylene	0.96	0.00	0.00
p,m-Xylene	7.81	1.74	14.8
Propanal	0.00	0.00	7.81
Propanol	0.00	0.00	0.00
Styrene	6.86	1.31	5.74
Tetrachlorethylene	0.48	0.00	10.7
1,3,5-Trimethyl Benzene	0.48	0.00	3.51
1,2,4-Trimethyl Benzene	1.12	0.00	1.43
1,2,3-Trimethyl Benzene	1.12	0.00	2.39
Toluene	13.6	5.51	15.6
Acetaldehyde	0.00	0.00	0.00
Difuro-Furan	0.00	0.00	0.00
Dichloromethane	0.00	0.00	0.00
Ethanol	0.00	0.00	0.00
Methyl Butanol	0.00	0.00	0.00

The table shows that there is some variability between sample sites. This is especially noticeable at sampling Site 2, which generally shows much lower emission rates than the other two sites. Some species predominate in the emissions, for example, acetone, butanediol, ethyl benzene, methyl ethyl ketone, methyl isobutyl ketone, xylene, styrene, tetrachloroethylene and toluene.

3.1.2 One Day After Cover Application - July 24

Cover was applied to the waste material on July 23. Approximately 90% of the pit face was covered. The cover had "cured" to a stable surface by July 24, but it was still wet in spots and the cover appeared to be thin in various locations. It also had a distinct odour. Table 5 presents a description of the cover at the three sampling locations.

Table 5: Description of Sampling Locations on July 24.

Sampling Location	Description
Site 1	- Even grey colour - No surface cracks - Approximately 2 cm. thick
Site 2	- 10% grey, 90% lime green colour - Approximately 5% of surface cracked - Approximately 1.5 cm. thick
Site 3	- 90% grey, 5% green colour - No surface cracks - Approximately 1.5 cm. thick

Table 6 presents the sampling parameters on July 24.

Table 6: Sampling Parameters - July 24

Parameter	Site 1	Site 2	Site 3
Purge Start (hours)	0850	1027	1203
Sweep Rate (l/min)	17.2	17.2	17.2
Sample Start (hours)	0924	1057	1235
Sample End (hours)	1024	1200	1335
Sample Flow Rate (ml/min)	300	300	300
Internal Pressure ("H ₂ O)	0.050	0.045	0.040
Waste Temperature (C)	20	23	23
Ambient Temperature (C)	20	21	23
Wind Speed (m/s)	1.8	2.6	1.8
Weather Conditions	Overcast	Overcast	Overcast
Sample Tube Number	F	B	E

Table 7 presents the sampling results for July 24, 1997, one day after cover application. The table shows the emission rate in ng/m²/s for the target compounds at each sampling location.

Table 7: Sampling Results - July 24, 1997.

Target Compound	Emission Rate (ng/m ² /s)		
	Site 1	Site 2	Site 3
Acetone	1.28	4.32	6.20
Benzene	0.20	0.36	0.00
1-Butanol	0.20	0.24	0.84
Butanediol	1.48	3.56	0.12
2-Butanol	0.44	0.00	0.40
Butenal	0.00	0.00	0.00
Chlorobenzene	0.00	0.08	0.08
Cyclohexane	0.00	0.00	0.00
Ethyl Benzene	0.20	1.56	0.24
Heptane	0.00	0.00	0.00
Methyl Ethyl Ketone	0.64	1.40	1.92
2-Methyl Hexane	0.00	0.00	0.00
3-Methyl Hexane	0.00	0.00	0.00
Methyl Isobutyl Ketone	0.24	1.76	0.36
Methyl Pentanone	0.00	0.00	0.00
o-Xylene	0.00	0.00	0.00
p-,m-Xylene	0.16	3.96	0.40
Propanal	0.00	0.00	0.00
Propanol	0.00	0.00	0.40
Styrene	0.20	4.44	0.24
Tetrachlorethylene	0.00	0.24	0.28
1,3,5-Trimethyl Benzene	0.00	0.40	0.16
1,2,4-Trimethyl Benzene	0.00	0.12	0.72
1,2,3-Trimethyl Benzene	0.00	0.24	0.20
Toluene	0.60	8.44	0.84
Acetaldehyde	1.08	0.00	0.00
Difuro-Furan	0.00	1.16	0.00
Dichloromethane	0.00	0.00	0.00
Ethanol	0.00	0.00	0.00
Methyl Butanol	0.00	0.00	8.88

The table shows that, similar to the results on July 22, emissions of some species predominate; however, in general, the emissions rates are greatly reduced. Table 8 shows the percent reduction in the emission rates from July 22 to July 24.

Table 8: Percent Reduction In Emission Rates from July 22 to July 24.

Target Compound	Emission Rate Reduction (%)		
	Site 1	Site 2	Site 3
Acetone	89.2	-65.6	57.3
Benzene	74.9	37.9	100.0
1-Butanol	68.6	NA	41.5
Butanediol	73.5	NA	99.4
2-Butanol	NA	NA	79.1
Butenal	100.0	NA	100.0
Chlorobenzene	100.0	NA	83.3
Cyclohexane	100.0	NA	100.0
Ethyl Benzene	95.7	-115.2	94.0
Heptane	NA	NA	100.0
Methyl Ethyl Ketone	-33.8	-7.3	53.7
2-Methyl Hexane	NA	NA	100.0
3-Methyl Hexane	100.0	NA	100.0
Methyl Isobutyl Ketone	90.6	-34.9	88.7
Methyl Pentanone	100.0	NA	NA
o-Xylene	100.0	NA	NA
p-,m-Xylene	98.0	-127.7	97.3
Propanal	NA	NA	100.0
Propanol	NA	NA	NA
Styrene	97.1	-240.3	95.8
Tetrachlorethylene	100.0	NA	88.6
1,3,5-Trimethyl Benzene	100.0	NA	95.4
1,2,4-Trimethyl Benzene	100.0	NA	49.8
1,2,3-Trimethyl Benzene	100.0	NA	91.6
Toluene	95.6	-53.2	94.6
Acetaldehyde	NA	NA	NA
Difuro-Furan	NA	NA	NA
Dichloromethane	NA	NA	OA
Ethanol	NA	NA	NA
Methyl Butanol	NA	NA	NA
Average	87.5	-75.8	86.8
NA: Emission Rate Below Detection Level			

The table shows that, on average, the emission rates are reduced by 87.5% at Site 1 and 86.8% at Site 3. However, Site 2 shows some anomalous results, where the emission rates actually increased by 75.8%. The reason for this is unclear, but the surface at Site 2 was found to be different in appearance than at Sites 1 or 3 (i.e., large surface cracks and lime green in colour as opposed to grey at the other locations). It may also be due to the low initial sampling results, which may have been a sampling anomaly.

3.1.3 Two Days After Cover Application - July 25

Table 9 presents the sampling parameters on July 25.

Table 9: Sampling Parameters - July 25.

Parameter	Site 1	Site 2	Site 3
Purge Start (hours)	1015	1150	1327
Sweep Rate (l/min)	17.2	17.2	17.2
Sample Start (hours)	1048	1223	1403
Sample End (hours)	1148	1324	1508
Sample Flow Rate (ml/min)	300	300	300
Internal Pressure (H_2O)	0.08	0.06	0.09
Waste Temperature (C)	24	31	36
Ambient Temperature (C)	24	25	28
Wind Speed (m/s)	0.5	1.7	1.6
Weather Conditions	Foggy	Sunny/Hot	Sunny/Hot
Sample Tube Number	E	D	F

The cover cover appeared to be slightly harder and exhibited less odour. Table 10 presents the sampling results for July 25, 1997, two days after cover application. The table shows the emission rate in $\text{ng}/\text{m}^2/\text{s}$ for the target compounds at each sampling location. The internal chamber pressures were found to be higher than recommended by the designer. Correction factors, supplied by the designers, were applied to the emission rates to account for this slight overpressure condition.

Table 10: Sampling Results - July 25, 1997.

Target Compound	Emission Rate (ng/m ² /s)		
	Site 1	Site 2	Site 3
Acetone	7.91	4.41	10.03
Benzene	0.70	0.32	0.55
1-Butanol	0.61	0.00	0.99
Butanediol	0.00	1.81	26.12
2-Butanol	0.00	0.00	0.22
Butenal	0.17	0.24	0.00
Chlorobenzene	0.17	0.08	0.33
Cyclohexane	0.00	0.00	0.00
Ethyl Benzene	0.35	1.38	0.55
Heptane	0.00	0.24	0.00
Methyl Ethyl Ketone	0.17	0.20	0.11
2-Methyl Hexane	0.00	0.12	0.00
3-Methyl Hexane	0.00	0.00	0.00
Methyl Isobutyl Ketone	0.87	1.50	1.21
Methyl Pentanone	0.26	1.14	4.96
o-Xylene	0.00	0.00	0.55
p-,m-Xylene	0.44	3.11	1.43
Propanal	0.00	0.00	0.00
Propanol	0.00	0.00	5.29
Styrene	0.44	4.68	0.00
Tetrachlorethylene	0.00	0.51	1.43
1,3,5-Trimethyl Benzene	0.00	0.32	0.00
1,2,4-Trimethyl Benzene	0.00	0.71	0.00
1,2,3-Trimethyl Benzene	0.00	0.39	0.00
Toluene	1.30	7.79	2.75
Acetaldehyde	5.13	0.00	6.50
Difuro-Furan	0.00	0.00	0.00
Dichloromethane	0.00	0.63	0.00
Ethanol	0.00	0.00	7.72
Methyl Butanol	0.00	0.00	0.00

Similar to the previous days sampling results, the emission rates are still greatly reduced compared to the pre-covering results on July 22. Table 11 shows the percent reduction in the emission rates from July 22 to July 25.

Table 11: Percent Reduction In Emission Rates from July 22 to July 25.

Target Compound	Emission Rate Reduction (%)		
	Site 1	Site 2	Site 3
Acetone	32.9	-68.9	76.8
Benzene	12.7	45.7	80.7
1-Butanol	4.6	NA	76.8
Butanediol	99.9	NA	53.5
2-Butanol	NA	NA	96.1
Butenal	63.6	NA	99.9
Chlorobenzene	NA	NA	76.8
Cyclohexane	99.9	NA	99.9
Ethyl Benzene	92.5	-90.0	95.4
Heptane	NA	NA	99.9
Methyl Ethyl Ketone	63.6	84.9	99.1
2-Methyl Hexane	NA	NA	99.9
3-Methyl Hexane	99.9	NA	99.9
Methyl Isobutyl Ketone	65.9	-14.6	87.3
Methyl Pentanone	89.8	NA	NA
o-Xylene	99.9	NA	NA
p,m-Xylene	94.4	-78.7	96.8
Propanal	NA	NA	99.9
Propanol	NA	NA	NA
Styrene	93.7	-258.9	99.9
Tetrachlorethylene	99.9	NA	95.5
1,3,5-Trimethyl Benzene	99.9	NA	99.9
1,2,4-Trimethyl Benzene	99.9	NA	99.9
1,2,3-Trimethyl Benzene	99.9	NA	99.9
Toluene	95.6	-41.4	94.1
Acetaldehyde	NA	NA	NA
Difuro-Furan	NA	NA	NA
Dichloromethane	NA	NA	NA
Ethanol	NA	NA	NA
Methyl Butanol	NA	NA	NA
Average	75.3	-52.7	82.3
NA: Emission Rate Below Detection Level			

The table shows that at Sites 1 and 2, the average reduction in the emission rates has decreased slightly (i.e., 87.5% to 75.3% at Site 1 and 86.8% to 82.3.8% at Site 2. This slight decrease may be due to the fact that any suppression of emissions due to moisture is absent as the waste and cover dries out and the fact that the cover has not yet completely cured, statistical variations in the analysis, or because of additional curing of the cover producing a more impervious surface. Site 2 still shows anomalous results with an increase in the average emission rate; however, the increase was slightly smaller (i.e., 52.7% , down from 75.8%) then was found after first day

(post-cover).

3.1.4 One Week After Cover Application - July 31

Table 12 presents the sampling parameters on July 31.

Table 12: Sampling Parameters - July 31.

Parameter	Site 1	Site 2	Site 3
Purge Start (hours)	1020	1155	1328
Sweep Rate (l/min)	17.2	17.2	17.2
Sample Start (hours)	1040	1225	1353
Sample End (hours)	1140	1325	1453
Sample Flow Rate (ml/min)	300	300	300
Internal Pressure ("H ₂ O)	0.04	0.06	0.06
Waste Temperature (C)	31	40	42
Ambient Temperature (C)	23	26	28
Wind Speed (m/s)	1.0	1.7	2.0
Weather Conditions	Sunny	Sunny/Hot	Sunny/Hot
Sample Tube Number	C	D	E

The cover surface was noticeably harder, with very little odour. Also no additional cracking of the surface was evident. Table 13 presents the sampling results for July 31, 1997, one week after cover application. The table shows the emission rate in ng/m²/s for the target compounds at each sampling location.

Table 13: Sampling Results - July 31, 1997.

Target Compound	Emission Rate (ng/m ² /s)		
	Site 1	Site 2	Site 3
Acetone	4.92	5.08	10.92
Benzene	0.40	0.08	2.76
1-Butanol	0.28	0.00	1.96
Butanediol	0.00	0.00	0.00
2-Butanol	0.40	0.00	0.24
Butenal	0.00	0.00	0.52
Chlorobenzene	0.00	0.00	0.00
Cyclohexane	0.00	0.00	0.00
Ethyl Benzene	1.56	0.00	0.12
Heptane	0.00	0.00	0.00
Methyl Ethyl Ketone	2.44	0.00	0.12
2-Methyl Hexane	0.00	0.00	0.00
3-Methyl Hexane	0.00	0.00	0.00
Methyl Isobutyl Ketone	1.20	0.00	0.44
Methyl Pentanone	0.00	0.00	0.00
o-Xylene	0.00	0.00	0.12
p-,m-Xylene	1.56	0.00	0.36
Propanal	0.00	0.00	0.00
Propanol	0.00	0.00	0.00
Styrene	1.56	0.00	0.00
Tetrachlorethylene	0.28	0.08	0.40
1,3,5-Trimethyl Benzene	0.00	0.00	0.00
1,2,4-Trimethyl Benzene	0.00	0.00	0.00
1,2,3-Trimethyl Benzene	0.00	0.00	0.00
Toluene	4.04	0.08	0.84
Acetaldehyde	0.00	0.00	0.00
Difuro-Furan	0.00	0.00	0.00
Dichloromethane	0.76	2.52	0.00
Ethanol	0.00	0.00	0.00
Methyl Butanol	7.60	0.00	0.16

The results show that, although the cover surface had appeared to have undergone additional curing, the emission rates have increased for the majority of compounds compared to the measurements conducted a week ago on July 25. However, emissions from Site 2 have significantly decreased. This is also evident in Table 14, which shows the percent reduction in the emission rates from July 22 to July 31.

Table 14: Percent Reduction In Emission Rates from July 22 to July 31.

Target Compound	Emission Rate Reduction (%)		
	Site 1	Site 2	Site 3
Acetone	58.3	-94.7	24.7
Benzene	49.8	86.2	-188.5
1-Butanol	56.1	NA	-36.6
Butanediol	73.5	NA	99.9
2-Butanol	NA	NA	87.5
Butenal	99.9	NA	-8.7
Chlorobenzene	99.9	NA	99.9
Cyclohexane	99.9	NA	99.9
Ethyl Benzene	66.3	99.9	97.0
Heptane	NA	NA	99.9
Methyl Ethyl Ketone	-410.1	99.9	97.1
2-Methyl Hexane	NA	NA	99.9
3-Methyl Hexane	99.9	NA	99.9
Methyl Isobutyl Ketone	53.0	99.9	86.2
Methyl Pentanone	99.9	NA	NA
o-Xylene	99.9	NA	NA
p-m-Xylene	80.0	99.9	97.6
Propanal	NA	NA	99.9
Propanol	NA	NA	NA
Styrene	77.2	99.9	99.9
Tetrachlorethylene	41.5	NA	96.3
1,3,5-Trimethyl Benzene	99.9	NA	99.9
1,2,4-Trimethyl Benzene	99.9	NA	99.9
1,2,3-Trimethyl Benzene	99.9	NA	99.9
Toluene	70.2	98.5	94.6
Acetaldehyde	NA	NA	NA
Difuro-Furan	NA	NA	NA
Dichloromethane	NA	NA	NA
Ethanol	NA	NA	NA
Methyl Butanol	NA	NA	NA
Average	55.7	73.7	70.3
NA: Emission Rate Below Detection Level			

The table shows that the average reduction in the emission rate has changed from 75.3% on July 25 to 55.7% on July 31 at Site 1. Similarly, at Site 3, the average emission rate has changed from 82.3% on July 25 to 70.3% on July 31. However, the emission rate at Site 2 is now comparable to the other sites with an emission rate reduction, compared to the initial measurements on July 22 of 73.7%. The reason for the slight increase in the emissions at Sites 2 and 3 is unclear. There was no indication from observation of the cover surface that deterioration had taken place. In fact, the surface was found to be harder and looked more likely to be less permeable. Therefore, the

difference may be due to just statistical variation in the analysis from sample to sample. There is also no explanation in the results from Site 2, as again there was no evidence of change in the cover surface at this location.

3.1.5 Two Weeks After Cover Application - August 7

Table 15 presents the sampling parameters on August 7.

Table 15: Sampling Parameters - August 7.

Parameter	Site 1	Site 2	Site 3
Purge Start (hours)	0910	1122	1303
Sweep Rate (l/min)	17.2	17.2	17.2
Sample Start (hours)	1020	1153	1344
Sample End (hours)	1120	1301	1444
Sample Flow Rate (ml/min)	300	300	300
Internal Pressure ($\sim$ H ₂ O)	0.02	0.04	0.03
Waste Temperature (C)	22	30	30
Ambient Temperature (C)	24	26	26
Wind Speed (m/s)	1.5	2.5	2.0
Weather Conditions	Sunny	Sunny/Hot	Sunny/Hot
Sample Tube Number	B	D	F

There was little change in the cover surface from that observed on July 31. A few cracks had appeared, but they were relatively small. Table 16 presents the sampling results for August 7, two weeks after cover application. The table shows the emission rate in ng/m²/s for the target compounds at each sampling location.

Table 16: Sampling Results - August 7.

Target Compound	Emission Rate (ng/m ² /s)		
	Site 1	Site 2	Site 3
Acetone	1.84	6.60	6.04
Benzene	0.12	0.00	0.20
1-Butanol	0.12	0.00	0.20
Butanediol	0.00	0.00	0.00
2-Butanol	0.00	0.36	0.56
Butenal	0.00	0.00	0.00
Chlorobenzene	0.00	0.00	0.00
Cyclohexane	0.00	0.00	0.00
Ethyl Benzene	0.52	2.36	0.20
Heptane	0.00	0.32	0.00
Methyl Ethyl Ketone	0.76	0.00	2.32
2-Methyl Hexane	0.00	0.00	0.00
3-Methyl Hexane	0.00	0.00	0.00
Methyl Isobutyl Ketone	0.44	2.20	0.44
Methyl Pentanone	0.00	0.00	0.00
o-Xylene	0.00	0.00	0.20
p-m-Xylene	0.60	5.32	0.68
Propanal	0.00	0.00	0.00
Propanol	0.00	0.00	0.00
Styrene	0.36	4.84	0.00
Tetrachlorethylene	0.16	0.68	0.64
1,3,5-Trimethyl Benzene	0.00	0.56	0.00
1,2,4-Trimethyl Benzene	0.00	0.48	0.00
1,2,3-Trimethyl Benzene	0.00	0.00	0.00
Toluene	2.40	10.12	1.68
Acetaldehyde	0.00	0.00	0.00
Difuro-Furan	0.00	0.00	0.00
Dichloromethane	0.32	1.36	0.00
Ethanol	0.00	0.00	0.00
Methyl Butanol	1.04	5.40	1.64

The emission rates in Table 16 are similar to the emission rates measured on July 24 and 25. Therefore it appears that the results on July 31 may have been an anomaly. This is evident in Table 17, which shows the percent reduction in the emission rates from July 22 to August 7.

Table 17: Percent Reduction In Emission Rates from July 22 to August 7.

Target Compound	Emission Rate Reduction (%)		
	Site 1	Site 2	Site 3
Acetone	84.9	-153.0	58.4
Benzene	84.9	99.9	79.1
1-Butanol	81.2	NA	86.1
Butanediol	99.9	NA	99.9
2-Butanol	NA	NA	70.7
Butenal	99.9	NA	99.9
Chlorobenzene	99.9	NA	99.9
Cyclohexane	99.9	NA	99.9
Ethyl Benzene	88.8	-225.6	95.0
Heptane	NA	NA	99.9
Methyl Ethyl Ketone	-58.9	99.9	44.0
2-Methyl Hexane	NA	NA	99.9
3-Methyl Hexane	99.9	NA	99.9
Methyl Isobutyl Ketone	82.8	-68.6	86.2
Methyl Pentanone	99.9	NA	NA
o-Xylene	99.9	NA	NA
p,m-Xylene	92.3	-205.9	95.4
Propanal	NA	NA	99.9
Propanol	NA	NA	NA
Styrene	94.7	-271.0	99.9
Tetrachlorethylene	66.6	NA	94.0
1,3,5-Trimethyl Benzene	99.9	NA	99.9
1,2,4-Trimethyl Benzene	99.9	NA	99.9
1,2,3-Trimethyl Benzene	99.9	NA	99.9
Toluene	82.3	-83.7	89.2
Acetaldehyde	NA	NA	NA
Difuro-Furan	NA	NA	NA
Dichloromethane	NA	NA	NA
Ethanol	NA	NA	NA
Methyl Butanol	NA	NA	NA
Average	84.9	-101.0	90.8
NA: Emission Rate Below Detection Level			

The table shows that the average reduction in the emission rate is similar to the reductions measured on July 24 and 25. The average emission rate reduction at Site 1 was 84.9%, compared to 87.5% on July 24, 88.3% on July 25 and 55.7% on August 7. At Site 3, the average emission rate reduction was 90.8%, compared to 86.8% on July 24, 92.2% on July 25 and 70.3% on July 31. However, the average emission rate at Site 2 is again showing an increase compared to the original measurements on July 22. Therefore, it appears that the measurements conducted on July 31 were anomalous.

3.1.6 Three Weeks After Cover Application - August 14

Table 18 presents the sampling parameters on August 14.

Table 18: Sampling Parameters - August 14.

Parameter	Site 1	Site 2	Site 3
Purge Start (hours)	1030	1225	1400
Sweep Rate (l/min)	17.2	17.2	17.2
Sample Start (hours)	1122	1256	1344
Sample End (hours)	1222	1356	1444
Sample Flow Rate (ml/min)	300	300	300
Internal Pressure ("H ₂ O)	0.025	0.05	0.045
Waste Temperature (C)	24	29	30
Ambient Temperature (C)	25	25	26
Wind Speed (m/s)	2.5	2.7	2.5
Weather Conditions	Sunny	Sunny/Hot	Sunny/Hot
Sample Tube Number	D	E	F

Similar to the observations made on August 7, there was little change in the cover surface. Table 19 presents the sampling results for August 14, three weeks after cover application. The table shows the emission rate in ng/m²/s for the target compounds at each sampling location.

Table 19: Sampling Results - August 14.

Target Compound	Emission Rate (ng/m ³ /s)		
	Site 1	Site 2	Site 3
Acetone	0.36	3.12	4.76
Benzene	0.08	0.36	0.16
1-Butanol	0.00	0.00	0.28
Butanediol	0.00	0.00	0.00
2-Butanol	0.20	0.00	1.24
Butenal	0.00	0.68	0.20
Chlorobenzene	0.00	0.00	0.00
Cyclohexane	0.00	0.00	0.00
Ethyl Benzene	0.04	1.84	0.08
Heptane	0.00	0.00	0.00
Methyl Ethyl Ketone	0.20	0.96	2.16
2-Methyl Hexane	0.00	0.00	0.00
3-Methyl Hexane	0.00	0.00	0.00
Methyl Isobutyl Ketone	0.16	1.08	0.32
Methyl Pentanone	0.00	0.00	0.00
o-Xylene	0.00	0.00	0.00
p-,m-Xylene	0.08	3.16	0.16
Propanal	0.00	0.00	0.00
Propanol	0.00	0.00	0.00
Styrene	0.00	2.88	0.08
Tetrachlorethylene	0.00	0.28	0.00
1,3,5-Trimethyl Benzene	0.00	0.00	0.00
1,2,4-Trimethyl Benzene	0.00	0.00	0.00
1,2,3-Trimethyl Benzene	0.00	0.00	0.00
Toluene	0.20	7.20	0.48
Acetaldehyde	0.00	0.00	0.00
Difuro-Furan	0.00	0.00	0.00
Dichloromethane	0.00	1.12	0.00
Ethanol	0.00	0.00	0.00
Methyl Butanol	0.36	4.84	12.96

The emission rates in Table 19 are similar to the emission rates measured the previous week on August 7. In fact, with the exception of methyl butanol at Site 3, the emission rates are all slightly lower. This is also shown in Table 20, which presents the percent reduction in the emission rates from July 22 to August 17.

Table 20: Percent Reduction In Emission Rates from July 22 to August 14.

Target Compound	Emission Rate Reduction (%)		
	Site 1	Site 2	Site 3
Acetone	96.9	-19.6	67.2
Benzene	90.0	37.9	83.3
1-Butanol	99.9	NA	80.5
Butanediol	99.9	NA	99.9
2-Butanol	NA	NA	35.2
Butenal	99.9	NA	58.2
Chlorobenzene	99.9	NA	99.9
Cyclohexane	99.9	NA	99.9
Ethyl Benzene	99.1	-153.9	98.0
Heptane	NA	NA	99.9
Methyl Ethyl Ketone	58.2	26.4	47.9
2-Methyl Hexane	NA	NA	99.9
3-Methyl Hexane	99.9	NA	99.9
Methyl Isobutyl Ketone	93.7	17.2	90.0
Methyl Pentanone	99.9	NA	NA
o-Xylene	99.9	NA	NA
p,m-Xylene	99.0	-81.7	98.9
Propanal	NA	NA	99.9
Propanol	NA	NA	NA
Styrene	99.9	-120.8	98.6
Tetrachlorethylene	99.9	NA	99.9
1,3,5-Trimethyl Benzene	99.9	NA	99.9
1,2,4-Trimethyl Benzene	99.9	NA	99.9
1,2,3-Trimethyl Benzene	99.9	NA	99.9
Toluene	98.5	-30.7	96.9
Acetaldehyde	NA	NA	NA
Difuro-Furan	NA	NA	NA
Dichloromethane	NA	NA	NA
Ethanol	NA	NA	NA
Methyl Butanol	NA	NA	NA
Average	96.7	-40.6	88.8
NA: Emission Rate Below Detection Level			

The table shows similar results to the previous weeks measurements at Sites 1 and 3. There was a slight improvement at Site 1 where the average reduction increased from 84.9% to 96.7%. At Site 2 the average reduction dropped from 90.8 % to 88.8%, primarily due to the increased emissions of methyl butanol. Site 2 showed the similar emissions increase compared to the initial measurements on July 22.

3.2 Summary of Results

Table 21 presents a summary of the percent reduction in emissions for selected compounds during all five sampling periods. Compounds that were not detected during any of the sampling periods (e.g., dichloromethane, ethanol, etc.) were omitted from the table. Summary results for Site 2 have not been presented due to the anomalous nature of the data. It is suspected that the anomalous results from Site 2 were due to either poor application of cover at this location (see Table 5, Section 3.1.2) or a chemical reaction between the cover and the waste.

Table 21: Summary of Percent Reduction in Emissions of Target Compounds After Cover Application.

Target Compound	Site 1	Site 3	Site 1	Site 3	Site 1	Site 3	Site 1	Site 3	Site 1	Site 3
	Period After Cover Application									
	1 Day (July 24)		2 Days (July 25)		1 Week (July 31)		2 Weeks (Aug. 7)		3 Weeks (Aug. 14)	
Acetone	89.2	57.3	69.1	76.8	58.3	24.7	84.4	58.4	96.9	67.2
Benzene	74.9	100	59.9	80.7	49.8	-188.5	84.9	79.1	90.0	83.3
1-Butanol	68.6	41.5	56.1	76.8	56.1	-36.6	81.2	86.1	99.9	80.5
Butanediol	73.5	99.4	99.9	53.5	73.5	99.9	99.9	99.9	99.9	99.9
2-Butanol	NA	79.1	NA	96.1	NA	87.5	NA	70.7	NA	35.2
Butanal	100	NA	83.3	99.9	99.9	-8.7	99.9	99.9	99.9	58.2
Chlorobenzene	100	NA	49.8	76.8	99.9	99.9	99.9	99.9	99.9	99.9
Cyclohexane	100	100	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
Ethyl Benzene	95.7	94.0	96.5	95.4	66.3	97.0	88.8	95.0	99.1	98.0
Heptane	NA	100	NA	99.9	NA	99.9	NA	99.9	NA	99.9
Methyl Ethyl Ketone	-33.8	53.7	83.3	99.1	-410.1	97.1	-58.9	44.0	58.2	47.9
2-Methyl Hexane	NA	100	NA	99.9	NA	99.9	NA	99.9	NA	99.9
3-Methyl Hexane	100	100	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
Methyl Isobutyl Ketone	90.6	88.7	84.3	87.3	53.0	82.2	82.8	86.2	93.7	90.0
Methyl Pentanone	99.9	NA	95.3	NA	99.9	NA	99.9	NA	99.9	NA
o-Xylene	100	NA	99.9	NA	99.9	NA	99.9	NA	99.9	NA
m & p-Xylene	98.0	97.3	97.4	96.8	80.0	97.6	92.3	95.4	99.9	98.9
Propanal	NA	99.9	NA	99.9	NA	99.9	NA	99.9	NA	99.9
Styrene	97.1	95.8	97.1	99.9	77.2	99.9	94.7	99.9	99.9	98.6
Tetrachlorethylene	100	97.4	99.9	95.5	41.5	96.3	66.6	94.0	99.9	99.9
1,3,5-Trimethyl Benzene	100	95.4	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
1,2,4-Trimethyl Benzene	100	49.8	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
1,2,3-Trimethyl Benzene	100	91.6	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
Toluene	95.6	94.6	95.6	94.1	70.2	94.6	82.3	89.2	98.5	96.9
Maximum Reduction (%)	100	100	99.9	99.9	99.9	99.9	99.9	99.9	99.9	99.9
Minimum Reduction (%)	-33.8	41.5	69.1	53.5	-410.1	-188.5	-58.9	44.0	58.2	35.2
Average Reduction (%)	87.5	86.8	84.9	92.2	55.7	70.3	84.9	90.8	96.7	88.8

The summary table shows that, for the two sites considered, over the 21-day study period, the average emission reduction ranged from 88.8 and 96.7 %. The effectiveness is slightly less for some of the more volatile species (e.g., acetone), where the emission reduction was more variable. However, this may be due to sampling artifacts other than actual variations in the effectiveness of the cover. Figures 3 and 4 show the emission rates for four select compounds; acetone, m&p-xylene, styrene and toluene, at Sites 1 and 3, respectively, over the 21-day sampling period. The emission rates were lowest immediately after the Posi-Shell was applied. By Day 2, (post-cover),

the emissions had generally increased, but a steady reduction was found in emissions over the next 3 weeks at Site 1. The findings were similar at Site 3 however, there was slightly more variability for some of the select compounds. The figures clearly show an overall reduction in emission rates over the study period particularly after the cover material had the opportunity to cure. Therefore, it appears that, during the 21-day period of this study, the Posi-Shell cover material appeared to be an effective barrier, reducing airborne emissions from the stored waste.

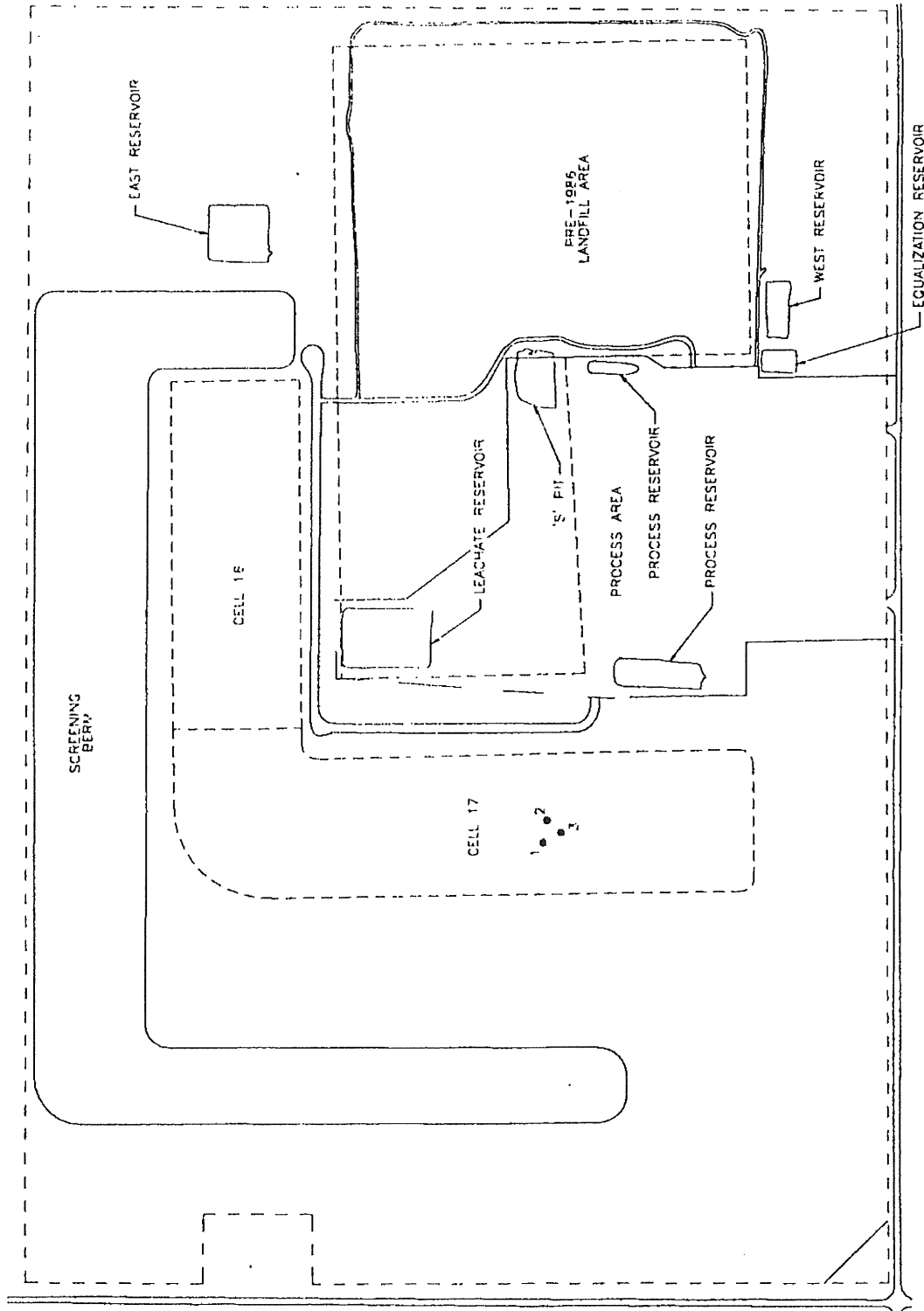
4. CONCLUSIONS

RWDI performed an assessment of a cover application material called Posi-Shell to reduce air emissions of volatile organic compounds, aldehydes, ketones and alcohols from the exposed waste at Laidlaw's Corunna Facility. The study involved sampling the emissions of target compounds from the pit face using an isolation flux chamber. Three sample positions were studied.

The results indicated that, over the 21-day study period, emissions of the target compounds from the two sites at the pit face were reduced by about 89 to 97%. Anomalous findings were encountered at the second location which appeared to be related to a chemical reaction with the waste that may have changed the binding characteristics of the Posi-Shell. With minor exceptions, the cover appeared to form a resilient surface, free from major cracks, after curing. When properly applied, the cover application was demonstrated to be an effective cover material, capable of dramatically reducing emissions for the target compounds.

5. REFERENCES

1. Fax transmittal from Mr. Blake Nesbitt, Laidlaw Environmental Services, to Mr. David Chadder, RWDI on July 15, 1997.
2. Reinhart, D. R., D. C. Cooper and B. L. Walker. 1992. **"Flux Chamber Design and Operation for the Measurement of Solid Waste Landfill Gas Emission Rates"**. Journal of Air and Waste Management Association. 42:1067-70.



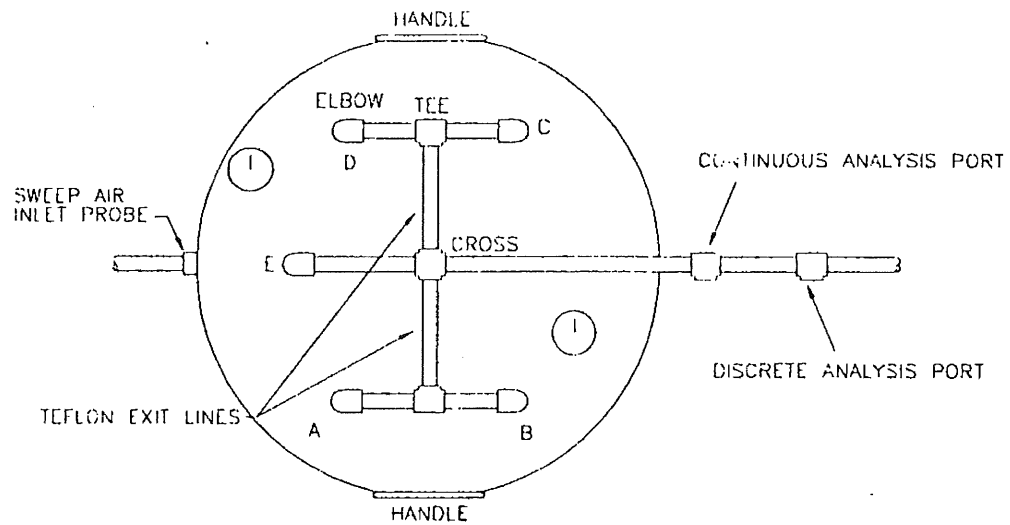
Flux Chamber Sample Locations

Laidlaw Cover Application - Corunna, Ontario

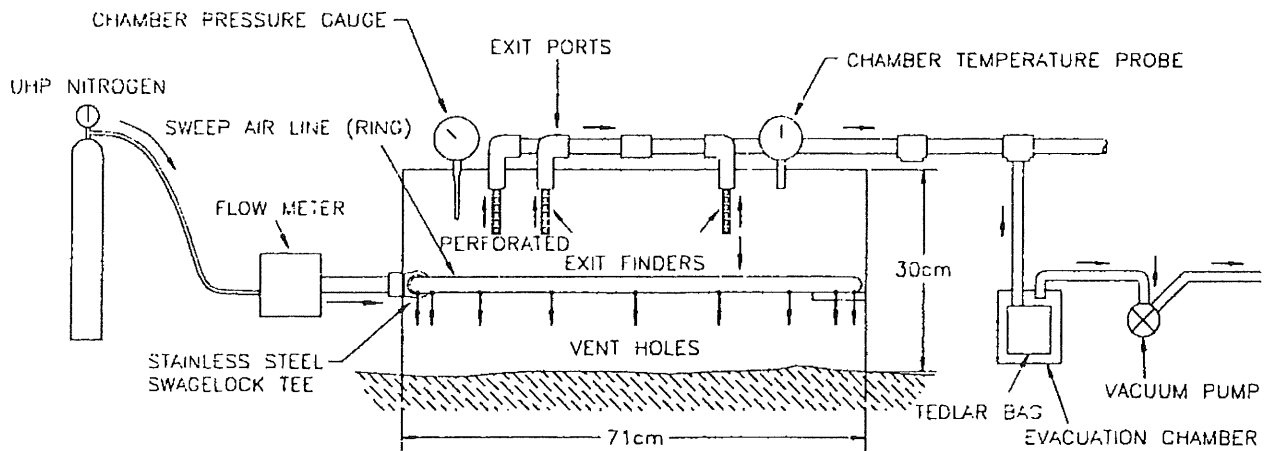
Job No. 97-411

Drawn by: SML	Figure: 1
Scale: Approx. 1:7,000	
Date: Oct. 30, 1997	

RWDI



Top View



Side View

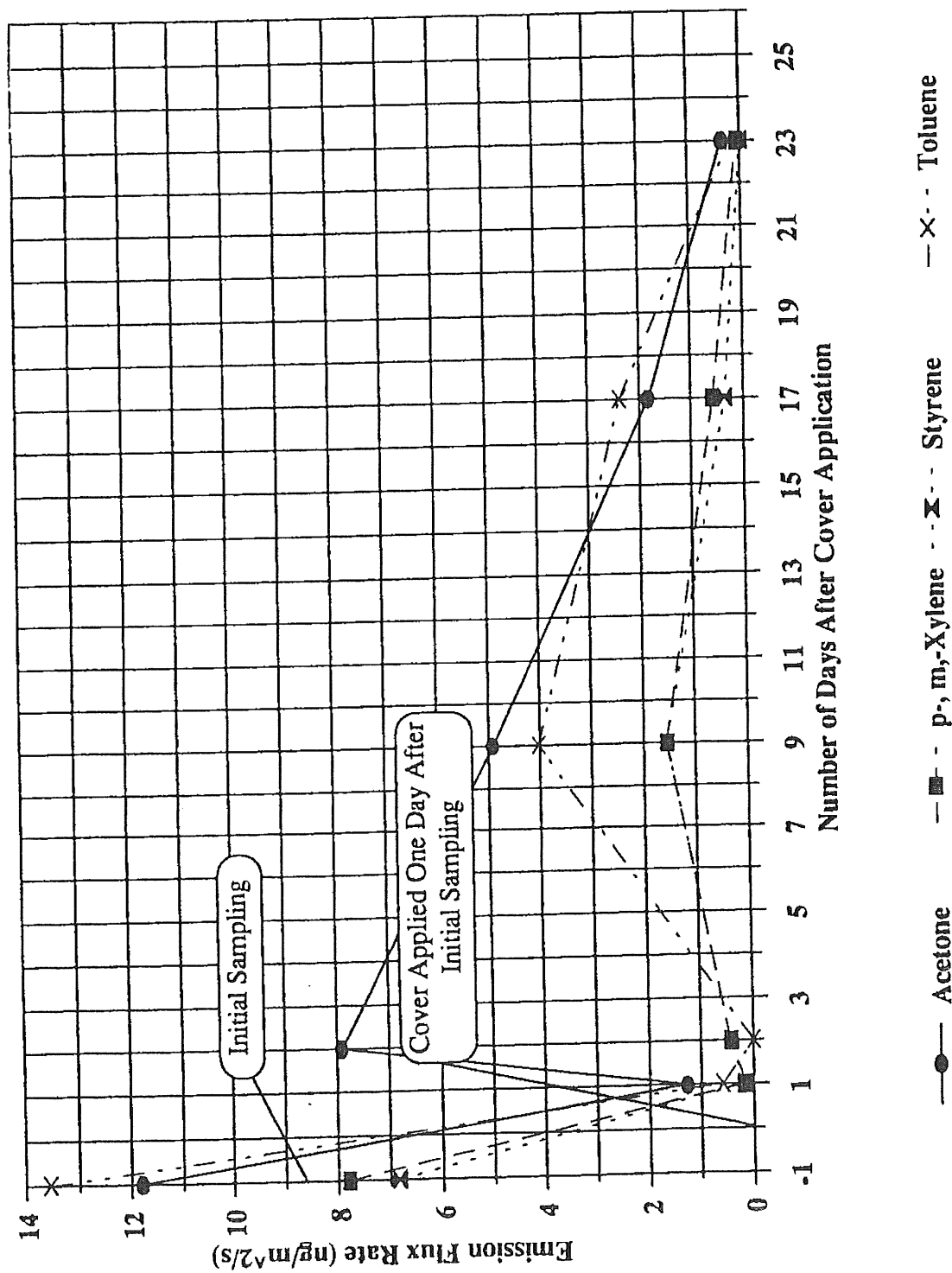
Schematic Drawing
Flux Chamber Sampling Assembly

Laidlaw Cover Application - Corunna, Ontario

Job No. 97-411

Drawn by: SML	Figure: 2
Scale: N.T.S.	
Date: Oct. 29, 1997	

RWDI



Emission Flux Rates for Select Compounds - Site 1

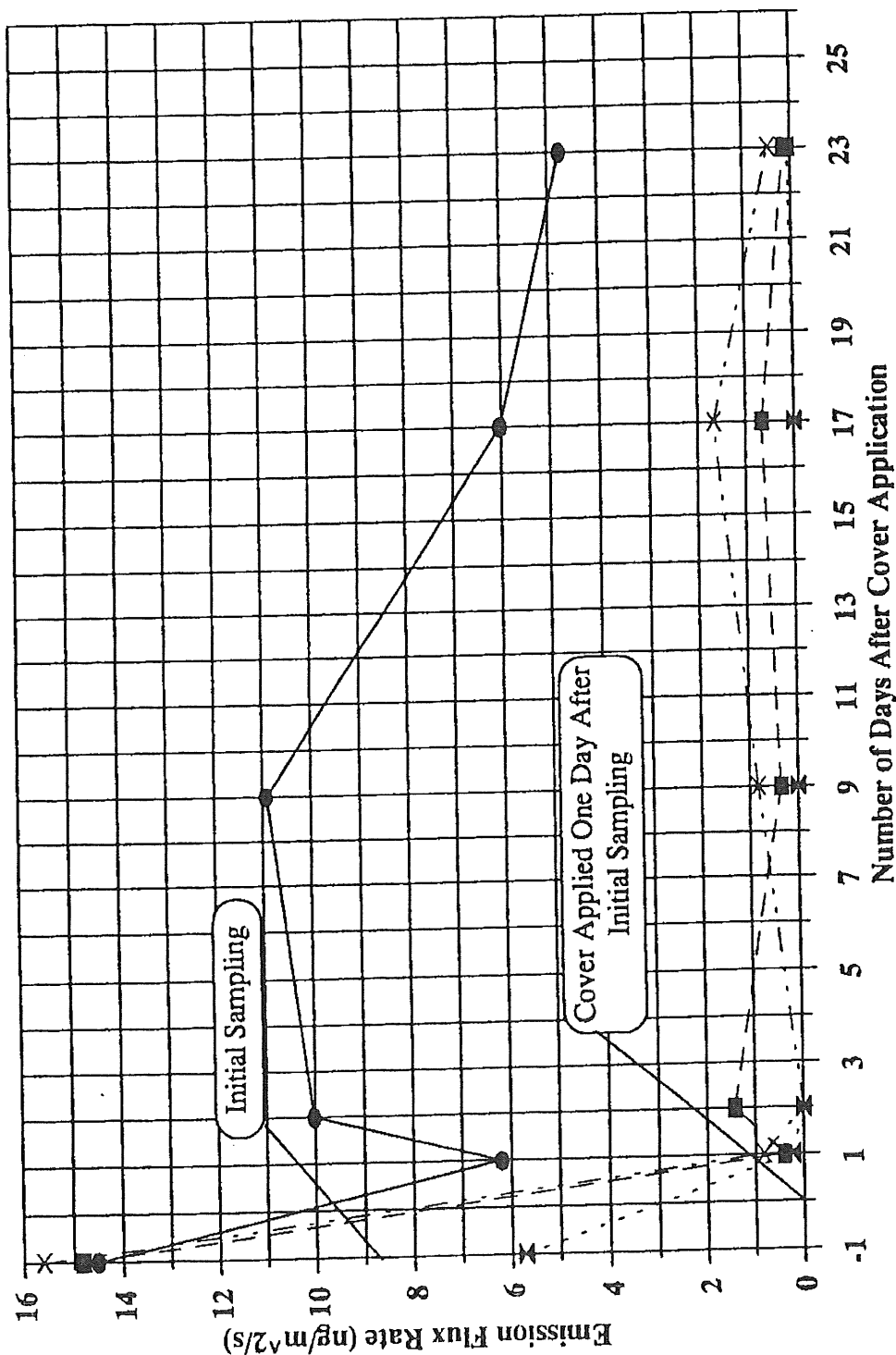
Figure: 3

RWDI

Date: Oct. 30, 1997

Job No. 97-411

Lalduw Cover Application - Corunna, Ontario



—●— Acetone —■— p-, m-, Xylene —x— Styrene —*— Toluene

Emission Flux Rates for Select Compounds - Site 3

Figure: 4

Date: Oct. 30, 1997

Laidlaw Cover Application - Corunna, Ontario

Job No. 97-411

RWDI

City of Laredo Landfill Permit Amendment 1693B
City of Laredo, Texas
Permit Amendment MSW Permit 1693B
Laredo, Texas
Webb County, Texas
August 2014

PART IV
Attachment 3
Forms

LAREDO LANDFILL
PART IV
Attachment 3
Forms

TABLE OF CONTENTS

List of Attachments

Waste Screening Report
Special Waste Profile Form (WPF)
Whole Used or Scrap Tire Manifest
Monitoring Gas Probe (MP) on the Perimeter
Methane Gas Monitoring



City of Laredo Landfill
P.O. Box 1965
Laredo, Texas 78044-1965
(956) 795-2515 Fax (956) 795-2024

Inspection No. _____

WASTE SCREENING REPORT
CITY OF LAREDO LANDFILL
PERMIT No. 1693-A

Date:		Time:		Inspector:		Ticket No.	
Purpose of Screening. () Random Selection () Suspected unauthorized Waste () Other							
TRANSPORTER INFORMATION							
Company Name:							
Address:							
Telephone Number:							
Driver's Name:							
Truck No. & I.D.:							
DETECTION INFORMATION							
In general, this load consist of				and the following were detected:			
Containers:							
Powder/Dust:							
Odors:							
Liquids:							
Heat:							
Marked PCB or Hazardous Waste:							
Special Wastes:							
Sample Taken (Identify):				Deposition of Waste:			
Recommendations:							
Action Taken:							
() Notified TCEQ		Date/Time:		Person Notified:			
Inspector:				Transporter:			

MENDES PRINTING 722-2222

**SPECIAL WASTE PROFILE FORM (WPF)
CITY OF LAREDO SANITARY LANDFILL (MSW-1693A)**

This form must be reviewed and approved by the City of Laredo before any special waste is transported to the landfill for disposal. Please complete and return to: Special Waste Coordinator, City of Laredo, Solid Waste Department, P.O.Box 1965, Laredo TX 78044-1964 or fax to (956) 795-2024. If you have any questions, call (956) 795-2556.

1. GENERATOR INFORMATION			
Generators Name:			
Generator Mailing Address:			
Generating Site Location:			
Generator Contact:		Phone:	Fax:
Contact Mailing Address:		Phone:	Fax:
2. DESCRIPTION OF WASTE CHARACTERISTICS REQUIRING SPECIAL WASTE HANDLING:			
3. DESCRIPTION OF PROCESS WHICH PRODUCES THE WASTE:			
4. PHYSICAL AND CHEMICAL PROPERTIES			
Volume of Waste (cy, lb, kg, or tons)		Type of Delivery Container or Vehicle	Frequency of Delivery to Landfill
Waste/Chemical Composition:	% of Waste (total must add to 100%)	Physical Characteristic of Waste (color, texture, appearance):	
		☐ Solid ☐ Semi-solid ☐ Free Liquids ☐ Yes ☐ No ☐ Liquid ☐ Powder Flash Point: C° F° pH:	
List attached chemical analysis results (include sample documentation, quality control data for each analysis, and chain of custody)			
Material Safety Data Sheet, and/or process knowledge used to characterize the waste:			
Texas Registration No.		Texas Waste Code No.	
----- (only for industrial generator)		----- (only for industrial generator)	

GENERATOR/REPRESENTATIVE

I certify that the above information is correct and complete to the best of my knowledge, and the waste is not hazardous as per 40 CFR 261.1 or a Class I non-hazardous waste as per 30TAC 335.505. The responsibility for proper disposal of waste always remains with the waste generator. I,

_____ am employed by _____ and am authorized to sign this request for:
 (NAME) Please Print (COMPANY NAME)

_____ _____ _____
 (SIGNATURE) (PHONE NUMBER) (DATE)

CITY OF LAREDO SANITARY LANDFILL (OFFICE USE ONLY)

_____ _____ _____
 (NAME) (SIGNATURE) (DATE)

_____ APPROVED or DENIED \$ _____
 (TITLE) 52-68-103

Nº 14707

Whole Used or Scrap Tire Manifest

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY • P.O. BOX 13087 • Austin, TX. 78711 • (512) 239-1000

1. GENERATOR INFORMATION AND CERTIFICATION.

Date and Time of Pickup _____

Registration Number/Type of Generator _____

Area Code/Telephone Number _____

Company Name _____

Street Address _____

City _____ State _____ Zip _____

No. Passenger Tires _____ No. Truck Tires _____ No. OTR Tires _____

OR _____ Lbs. _____
Weight of Tires _____ Tons _____
Has the generator been charged for the service: ☐ Yes ☐ No

I certify that the information provided above is true and correct I am aware falsification of this manifest may result in suspension, revocation, or denial of renewal of my generator registration.

Print Name: _____

Signature: _____

2. TRANSPORTER INFORMATION AND CERTIFICATION:

Company Name _____

Registration Number _____ Driver's License Number _____

Print Name: _____

Signature: _____

3. SECONDARY TRANSPORTER INFORMATION AND CERTIFICATION:

Company Name _____

Registration Number _____ Drivers License Number _____

Print Name: _____

Signature: _____

* By my signature I certify that the information provided above is true and correct and that only written in Item 1 of the manifest are contained in this lined. I am aware that falsification of this manifest may result in suspension, revocation, or denial of renewal of my transporter registration.

ADJUSTMENT BOX

of Tires Picked Up: _____

Passenger Tires

Truck Tires

OTR Tires

OR

Weight of Tires _____ Lbs. _____ Tons _____

Remove for Reuse: _____

Passenger Tires

Truck Tires

OTR Tires

OR

Weight of Tires _____ Lbs. _____ Tons _____

Location and Intended Use of Removed Tires:

4. PROCESSOR INFORMATION AND CERTIFICATION:

Registration Number _____ Date and Time of Pickup _____

No. Passenger Tires _____ No. Truck Tires _____ No. OTR Tires _____

OR _____ Lbs. _____
Weight of Tires _____ Tons _____

Area Code/Telephone Number _____

Company Name _____

Street Address _____

City _____ State _____ Zip _____

5. STORAGE/DISPOSAL SITE INFORMATION AND CERTIFICATION:

Registration Number _____ Date and Time of Pickup _____

No. Passenger Tires _____ No. Truck Tires _____ No. OTR Tires _____

OR _____ Lbs. _____
Weight of Tires _____ Tons _____

Area Code/Telephone Number _____

Company Name _____

Street Address _____

City _____ State _____ Zip _____

I certify that the information provided above is true and correct and that I have been authorized by the Texas Commission on Environmental Quality to accept whole used or scrap tires for storage, processing, or disposal. I am aware that falsification of this manifest may result in enforcement action.

Signature: _____

Signature: _____

Print Name: _____

Print Name: _____

A copy of each transaction must be retained by each party for a period of three years. The processor or disposal facility operator must mail a copy of the completed manifest back to the generator. Following each transaction, the copy separated from the manifest should be the bottom copy. (Green-Generator; yellow-transporter; blue-processor; pink-disposal facility; white original-generator).

(TNRCC 10304.0122-998)

IV.3-3

Arredondo, Zepeda & Brunz, LLC
Version 0

FIELD DATA FORM

FORM 1 - MONITORING GAS PROBE (MP) ON THE PERIMETER

Date:		Inspectors Name:		Instrument (ppm) - S/No.:		Instrument (%) - S/No.:	
				Instrument (ppm) - M/No.:		Instrument (%) - M/No.:	
Temperature at Start:			Weather Condition:		Legend: T = Trace, W = Water D = Destroyed, -1 = No Reading Taken		
Temperature at End:							
MP #	Time	Barometric Pressure	Pressure (In. of H ₂ O)	Methane (%/ppm)	Oxygen (%) Option	Background (ppm)	Sampled (Yes or No)
1							
2							
3							
4							
5							
6							
7							
8							
9							
10							
11							
12							
13							
14							
15							
16							
17							
18							
19							
20							
21							

METHANE GAS MONITORING

Date: _____

Personnel: _____

Event: (Circle one)

Monthly

Quarterly

Equipment _____ GEM 500 Meter

_____ GAS Tech GT Land Surveyor

Used: _____ Dwyer Pressure Gauge

_____ Water Level Meter

LEL Meter Calibrated by: _____

Temperature: _____ °F

Barometric Pressure: _____ Inches

Wind Speed: _____

Wind Direction: _____

Airport No.: 724-5481

FIELD DATA

GMP ID	Time	LEL (%)	Percent Methane by Volume	Pressure (inches of H ² O)	Depth to Bottom of Probe (feet)	Depth to Liquid in Probe (feet)	Depth of Liquid (feet)
1					26.0		
2					30.9		
3					31.8		
4					31.0		
5R					32.2		
6					26.5		
7					18.1		
8R					47.0		
9					30.0		
10					31.4		
11					31.0		
12					29.0		
13					29.0		
14					35.0		
18					45.0		
19					70.0		
20					40.0		
21					40.0		
Scale House				N/A	N/A	N/A	N/A