AP - 038

STAGE 1 WORKPLAN

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STAGE I ABATEMENT PLAN

GLADIOLA STATION
LEA COUNTY, NEW MEXICO

Prepared for:

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AUGUST 23, 2005
REF. NO. 041244

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JONATHAN K. HAMILTON
Remediation Project Manager
Downstream – Safety, Health & Environment

August 23, 2005

Mr. Roger Anderson
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

Re: Stage 1 Abatement Plan
Gladiola Station
Lea County, New Mexico

Dear Mr. Anderson:

ExxonMobil Refining & Supply - Global Remediation (EMGR), is pleased to present this Stage 1 Abatement Plan for the Gladiola Station project per your June 21, 2005 correspondence. The Stage 1 Abatement Plan was prepared by Conestoga-Rovers & Associates on behalf of EMGR in conjunction with the Oil Conservation Divisions Rule 19 (19.15.1.19 NMAC). EMGR is prepared to begin work upon written approval of the Stage 1 Abatement Plan.

Please feel free to contact me if you have any questions.

Sincerely,

Jonathan K. Hamilton
Global Remediation Project Manager

Attachments: Stage 1 Abatement Plan

Cc Mr. Larry Johnson, OCD Hobbs Office
Mr. Tommy Burrus, Landowner
CRA Midland
Electronic File

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1.0 INTRODUCTION

This Stage 1 Abatement Plan is submitted on behalf of ExxonMobil Refining & Supply - Global Remediation (EMGR) for the Gladiola Station (Site) located in Section 5, Township 12 South, Range 38 East, Lea County, New Mexico. The property is currently owned by the 07 Ranch. This Stage 1 Abatement Plan has been prepared at the request of the New Mexico Oil Conservation Division (NMOCD) in a correspondence dated June 21, 2005. A copy of this correspondence is provided in APPENDIX A.

1.1 PURPOSE OF STAGE 1 ABATEMENT PLAN

The purpose of this Stage 1 Abatement Plan (Plan) is to provide the NMOCD with a summary of previous Site investigations performed, a description of current Site conditions, and proposed Site investigations to assess vertical & horizontal extent of soil impacts, and a groundwater monitoring plan for the Site.

1.2 ORGANIZATION OF STAGE 1 ABATEMENT PLAN

This Plan contains the following components:

- A Site description and brief summary of previous investigations;
- A description of Site activities completed in the past two years;
- A description of Proposed Site Activities;
- A proposed groundwater monitoring plan;
- A quality assurance plan; and
- A site health and safety plan.

If appropriate, a Stage 2 Abatement Plan will be prepared at the NMOCD's request to propose remedial measures to be implemented at the site following approval of this Plan.

2.0 SITE CONDITIONS

The following sections describe the site location, adjacent land use, site history, and regional and site specific geology and hydrogeology. This section also provides a brief summary of previous site investigations.

2.1 SITE LOCATION AND DESCRIPTION

The legal description of the Site is the SE/4 of Section 5, Township 12 South, Range 38 East, Lea County, New Mexico (FIGURE 1). The Site is situated to the south of Tank #2857 (owned by Oxy Permian). The Site consists of approximately 0.54 acres and was operated as a crude oil pipeline pumping station under ExxonMobil Pipeline Company (EMPCo) until its purchase by Trojan Pipeline L.P (Trojan) in February 2004. Trojan changed their name to Centurion Pipeline L.P. (Centurion) in July 2004. The Site is currently operated by Centurion.

The topography in the Site area and adjoining land gently and regionally dip to the southeast. In general, the area is relatively flat and has a dry topography. The ground surface is mostly vegetated by native range grass.

A water well search provided in APPENDIX A identifies three water wells within a one-half mile radius of the Site. One water well most likely is completed in the same water bearing unit as the Site, the second is completed in a deeper water bearing unit, and the third water well has no completion information available.

2.2 ADJACENT LAND USE

The Site is surrounded generally by undeveloped rangeland and an aboveground storage tank (Tank #2857) to the north of the Site.

2.3 SITE HISTORY

On November 11, 2002, a release of approximately 15-barrels of sweet crude oil occurred as a result of a sump overflow/bleeder valve leak. Records indicate that 5 barrels of the sweet crude oil were recovered.

Initial excavation activities were performed at the Site by E.D. Walton in August 2003. A soil boring investigation conducted by B&H Maintenance &

Construction, Inc. (B&H) in August 2003 to assess the horizontal and vertical extent of hydrocarbon impacts at the Site. Upon completion of the investigation, a document entitled *Soil Coring Investigation Report* was prepared by B&H and submitted to EMPCo to demonstrate the total petroleum hydrocarbon (TPH) concentrations at the Site (APPENDIX B).

On October 8, 2003, Conestoga-Rovers & Associates (formerly BNC Environmental Services, Inc.) and EMGR personnel conducted a Site visit and noted two remedial excavation areas (one onsite area and one offsite area). Four soil stockpiles associated with the onsite and offsite excavations were also identified on the station property. These soil stockpiles are the result of the excavation activities resulting from the November 18, 2002 release.

In May 2004, CRA (formerly BNC Environmental Services, Inc.) continued both soil and groundwater investigation activities at the Site. Seven boreholes (three of seven of which were converted to monitoring wells) were installed at the Site and confirmed dissolved-phase hydrocarbons in both the soil and the groundwater of the shallow perched aquifer. Results from the investigations are presented in the Soil and Groundwater Assessment Report submitted by BNC (APPENDIX C).

CRA conducted two subsequent groundwater gauging events on November 30, 2004 and on May 5, 2005 (TABLE II). On both occasions, measurable light non-aqueous phase hydrocarbons (LNAPL) were encountered in all three monitoring wells.

2.4 GEOLOGY AND HYDROGEOLOGY

2.4.1 Regional Geology/Hydrogeology

The following information on the regional geology/hydrogeology is taken primarily from State of New Mexico, State Engineer Office *Technical Report No. 13: Water Levels in New Mexico, 1951-55, 1959.*

Based on literature review and other public knowledge of the area, the Gladiola Station is located in northern Lea County, New Mexico within the Llano Estacado (staked plains) physiographic province. Surface soils at the site are Quaternary age wind blown (eolian) sediments comprised of sands, silts, and clays. This sediment ranges from zero to 20-feet in thickness in this portion of Lea County. The Quaternary sediment unconformiably overlies the Tertiary age

Ogallala formation. The Ogallala formation is comprised of sands, silts, caliche, gravel, and some clays and ranges in thickness from 50- to 300-feet. Groundwater in northern Lea County is primarily produced from the Ogallala formation. The saturated thickness ranges from 25- to 200- feet with the depth to water ranging from less than 30- to approximately 260-feet.

The Ogallala formation unconformiably overlies the Triassic age Dockum group. The Dockum group consists of red shale and sandstone and is commonly referred to as "red beds". The red beds can exceed 1,000-feet in thickness in this region and may produce small amounts of water at the bottom of the formation.

Water wells in the vicinity of the site have a total depth of approximately 100-feet with depth to water ranging from 35- to 70-feet below ground surface.

2.4.2 Site Geology/Hydrogeology

The surface soils encountered at the Site are silty clays approximately 2- to 3-feet thick. This surface soil is consistent with the surface soil description (Quaternary sediment) for this physiographic province. The next three soil types encountered at the Site are consistent with the description of the Ogallala formation (caliche, limestone, and silty sands). The Dockum group was not encountered at the Site.

The first occurrence of groundwater encountered at the Site is found within the Ogallala formation and would likely be classified as the Ogallala Aquifer. The literature description of the Ogallala Aquifer matches the characteristics of this water table (produces small amounts good quality of water). The depth-to-water in this water table is approximately 33- to 37-feet below ground surface.

2.5 CURRENT SITE CONDITIONS

Currently, two remedial excavation areas (one onsite area and one offsite area) are present at the Site. Four soil stockpiles associated with the excavation areas have also been identified. The generation of the soil stockpiles was classified as non-exempt waste and was subject to hazardous waste characterization. A composite waste characterization sample (Sample ID Gladiola WCS) was obtained from the soil stockpiles on July 7, 2004. The sample was analyzed for the following:

- Benzene, Ethylbenzene, Toluene, and total Xylenes (BTEX) by EPA Method 8021B;

- Total Petroleum Hydrocarbons (TPH) by EPA Method 8015B Modified;
- TCLP RCRA Metals by EPA Methods 6010B and 7470A; and
- Reactivity, Corrosivity, and Ignitability (RCI) by ASTM Method D92-01 and EPA Methods SW9045C, SW7.3.3.2 and SW7.3.4.2.

Based on the analytical results displayed in TABLE I, the sample did not exhibit any hazardous characteristics. The Site Details Map presented in FIGURE 2 illustrates the two remedial excavations (onsite & offsite), the four soil stockpiles associated with the excavation areas and the waste characterization sample location. The analytical reporting results, testing methods, laboratory quality control reports and chain-of-custody documentation are provided as APPENDIX D.

In May 2004, a soil boring program consisting of seven total borings was initiated at the Site. An air-rotary drilling rig was used to advance soil borings from the surface to depths ranging from 30- to 45- feet bgs. Due to TPH impacts at the vadose-zone in the three borings (SB-2, SB-5, SB-6), each boring was converted to a monitoring well (MW-1, MW-2, MW-3), respectively.

CRA has continued groundwater gauging events on a semi-annual basis at the Site in November 2004 and May 2005 (TABLE II). Free-phase product thicknesses were recorded in each of the three monitoring well for both events. A maximum free-phase product thickness was recorded at 2.43-feet in MW-1 in November 2004 and at 0.77-feet in MW-1 in May 2005. A summary of the groundwater gauging data is presented in TABLE III. FIGURES 3 and 4 show calculated groundwater elevations and interpreted flow directions for the shallow perched aquifer on November 30, 2004 and May 5, 2005, respectively. As shown in the two figures, the apparent flow of the aquifer continues to follow an east-northeast direction.

2.6 PREVIOUS SITE INVESTIGATIONS

The Gladiola Station property is the subject of two previous site investigations related to the November 11, 2002 sweet crude oil release. Following is a summary from the two previous investigations:

Date: August 2003

Title: ***Soil Coring Investigation Report,*** **Gladiola Station, Lea County, New Mexico**

Author: B & H Environmental Services

Important Work Activities and Data:

- Conducted a site visit on July 31, 2003 and initiated TPH investigation activities;
- Advanced four soil corings (TP 1, TP 2, TP 3, & TP 4) Between July 31- and August 7, 2003 ranging from 5- to 23-feet below ground surface near the vicinity of the source area; and
- Concluded that petroleum hydrocarbons impacts in soil coring TP-1 at 23-feet (510 ppm) exceeded acceptable State of New Mexico regulatory levels (100 ppm).

Date: August 20, 2004

Title: *Soil and Groundwater Assessment Report,* Gladiola Station, Section 5, T-12-S, R-38-E, Lea County, New Mexico

Author: BNC Environmental Services, Inc. (currently d.b.a. CRA)

Important Work Activities and Data:

- Conducted a site visit on October 8, 2003 to continue TPH investigation activities;
- Conducted an onsite water well search and identified three water wells within a one-half mile of the Site utilized for livestock;
- Advanced four soil borings (SB-1, SB-3, SB-4 and SB-7) and three soil borings/monitoring wells (SB-2/MW-1, SB-5/MW-2, SB-6/MW-3);
- Collected soil samples from the four soil borings and the three soil borings/monitoring wells. Sample results exhibited concentrations that exceeded NMOCD RRAL for TPH (DRO/GRO) and ranged from 255 to 5,000 mg/kg;
- Collected groundwater samples from monitoring wells MW-1, MW-2, and MW-3 and were analyzed for BTEX by EPA Method 8021B, polycyclic hydrocarbon (PAH) concentrations by EPA Method 8310, arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver (RCRA Metals) concentrations by EPA Method 6010 and 7470 and general groundwater quality parameters including total alkalinity, chloride, sulfate, and total dissolved solids (TDS);

- Exceeded regulatory limits for benzene concentrations in all three monitoring wells (6.600, 0.019, 0.140, respectively);
- Exceeded regulatory limits for toluene, eythlbenzene and xylene concentrations (1.100, 0.440, and 1.120, respectively) in MW-1;
- Exceeded regulatory limits for total naphthalene concentrations (0.087 and 0.050 mg/l, respectively) in monitoring wells MW-1 & MW-2;
- Exceeded regulatory limits for barium (2.71 mg/l) in MW-1; and
- Collected a composite waste characterization sample of soil stockpiles which did not exhibit hazardous characteristics.

3.0 PROPOSED SITE INVESTIGATIONS

3.1 PROPOSED SOIL BORING PROGRAM

3.1.1 Soil Boring Installations

Although soil excavation and sampling activities have been performed at the Site, current conditions indicate supplementary assessment activities are warranted. The hydrocarbon release is situated in a fractured caliche (calcium carbonate) substrate and analytical data collected to date indicate that affected soils above regulatory levels extend beyond 23-feet bgs. The horizontal extent of affected soils is not clearly identified.

A soil boring program consisting of three borings is proposed to evaluate the nature and extent of soil impacts at the release site. Soil borings will be terminated either when groundwater is encountered or upon field screening two consecutive soil samples below 15-feet that indicate the absence of hydrocarbons. An air-rotary rig, operated by a State of New Mexico licensed water well driller, will be utilized to install the proposed soil borings at the site. A CRA geologist will log the subsurface lithology and supervise field operations. Drill cuttings generated as part of the soil boring program will be placed on the existing stockpiles of affected soils at the site.

3.1.2 Soil Screening and Sampling

A 1-foot grab sample will be collected in 5-foot intervals unless field observations indicate an increase in sampling frequency is warranted. Each 1-foot soil sample collected from the coring tool will be divided into two samples: one sample will be sealed in a new plastic re-sealable bag; and the other sample will be immediately placed into a laboratory-supplied, 4-ounce soil jar equipped with a Teflon-lined lid and placed on ice in an insulated cooler. The bagged sample will be allowed time to volatize, leaving a headspace for volatile organic compounds (VOCs) to collect. After sufficient time for volatilization has elapsed, the headspace will be screened for the presence of VOCs using a Photo-ionization detector (PID). In addition, CRA's field geologist will described the lithology using the Unified Soil Classification System and log visual and olfactory observations as well as PID readings for evaluation of the presence of hydrocarbons.

Soil samples will be submitted to Test America in Nashville Tennessee and analyzed for TPH concentrations by EPA Method 8015 modified for diesel range

organics (DRO) and gasoline range organics (GRO) as well as, BTEX concentrations by EPA Method 8021B and chlorides by EPA Method E300 MOD. For budgeting purposes, the soil sample exhibiting the highest VOC measurement within the vadose zone and the vadose zone sample immediately above the phreatic zone will be submitted for laboratory analysis. A composite sample of the drill cuttings will be submitted for Reactivity, Corrosivity, and Ignitibility (RCI), TPH (GRO/DRO), BTEX, and Total Metals (RCRA 8 Metals) analysis for waste characterization.

3.2 PROPOSED MONITORING WELL PROGRAM

3.2.1 Monitoring Well Installations

The primary objective of the proposed monitoring well program is to further evaluate the extent of existing hydrocarbon affected groundwater at the location of the release. CRA is proposing to install four, 4-inch groundwater monitoring wells to an approximate depth of 40-feet bgs utilizing air rotary methods (FIGURE 5). Discrete, undisturbed soil samples will be collected in 5-foot intervals by removing the drilling bit and installing a steel soil-sampling coring barrel (1-foot in length) and rotating it into the soil or by pushing a split-spoon device. In addition, drill cuttings samples will be collected, logged, and field screened with a PID on a continuous basis during program. Drill cuttings will be placed on plastic and characterized for future waste management.

3.2.2 Monitoring Well Specifications

Monitoring wells will be drilled and completed to specifications as required by the New Mexico Office of the State Engineer by a New Mexico-licensed water well driller. Four-inch, flush-threaded, Schedule 40 PVC casing is selected for use at the site for all wells. Each well will be constructed of 20 feet of 0.020-inch screened-casing placed at the bottom of each well, extending several feet above the soil/groundwater interface. The well annulus will be filled with a sand filter pack to approximately 2-feet above the top of the screen interval, a bentonite seal will be placed on top of the sand and the well annulus cemented to the surface to mitigate surface runoff from entering the water table through the annulus. In addition, a State of New Mexico licensed surveyor will be utilized to prepare a site map and determine horizontal and vertical control for each monitoring well.

Monitoring well information will be documented in well record forms submitted to the New Mexico Office of the State Engineer.

3.2.3 Monitoring Well Development

Monitoring wells will be developed by removal of sufficient volumes of water to clear the well casing and annulus of sediment. Within 24-hours of completion of well development activities, the monitoring wells will be gauged with an oil/water interface probe to measure static water levels and measure any thickness of LNAPL present in the wells. Once static water levels have been obtained, each well not containing LNAPL will be purged the equivalent of three casing volumes or until dry using a new, disposable bailer. Purge water from the sampling activities will be transferred to DOT-approved 55-gallon steel drums onsite for proper waste management and disposal.

3.2.4 Monitoring Well Sampling

Representative groundwater samples will be collected, placed in appropriated laboratory supplied containers, and preserved on ice in insulated coolers. Groundwater samples will be chilled to a temperature of approximately 4° C (40°F) for laboratory analyses and will be submitted to Test America for analyses of BTEX by EPA Method 8021B, and Total Napthalene concentrations by EPA Method 8310. Selections of sample analyses were based on an initial groundwater assessment activities conducted at the site in May 2004. All other polycyclic aromatic hydrocarbons (PAH's), metals and general groundwater quality parameters (i.e. total dissolved solids, total alkalinity, chloride & sulfate) concentrations were either below laboratory detection levels or below their New Mexico Water Quality Control Commission (NMWQCC) maximum allowable toxic pollutant concentration human health standard for groundwater in the initial groundwater analysis.

3.3 WASTE MANAGEMENT

An estimated 400 cubic yards of soils from the remedial excavations are stockpiled at four different locations with the Gladiola Station. The soils are identified for disposal at an NMOCD-permitted facility. The waste characterization sample previously collected during CRA's initial site assessment demonstrated that the waste did not exhibit hazard characteristics. The NMOCD

C-138 form entitled *Request for Approval to Accept Solid Waste* was submitted in 2004 by the landfarm and subsequently was approved by the NMOCD. Additionally, the certificate of waste status form identifies the material as "non-exempt waste". The form is provided in APPENDIX E.

Prior to beginning the soil disposal and backfilling activities, the monitoring wells within the work area will be clearly marked to prevent accidental damage from the earth moving equipment. The soil disposal activities will consist of loading and transporting the stockpile material to an approved EMGR waste management facility and backhauling fill material and topsoil to backfill the existing excavations. J&L Landfarm, Inc. (J&L) in Hobbs, New Mexico is identified on Form C-138 as the waste management facility and is the closest EMGR approved waste facility to the Site.

4.0 GROUNDWATER MONITORING PLAN

The proposed monitoring plan for the Site includes the measurements of groundwater level elevations and free-phase product thickness in all monitoring wells at the Site, and monitoring of appropriate dissolved-phase hydrocarbon parameters.

4.1 GROUNDWATER ELEVATION AND FREE-PHASE PRODUCT GAUGING

Groundwater levels and free-phase product thicknesses will be measured and recorded in all monitoring wells at the Site utilizing an electronic oil/water interface probe. The accuracy on the interface probe is to the nearest hundredth of a foot. Fluid levels will be measured and recorded quarterly for a minimum of eight consecutive quarters.

4.2 SAMPLING PROTOCOL

Subsequent to recording fluid levels as appropriate, groundwater samples free of LNAPL will be purged and collected utilizing either the low-flow methodology (EPA/504/S-95/504) or by removing three well volumes with a new disposable bailer depending on Site conditions. If low-flow sampling is appropriate, the bladder pump will be decontaminated with a soap (Liquinox®)/potable water wash, a potable water rinse, and a final deionized water rinse after collecting samples from each well.

Groundwater samples collected from wells free of LNAPL will be submitted for laboratory analysis of dissolved-phase hydrocarbon parameters as discussed below.

4.3 DISSOLVED-PHASE HYDROCARBON MONITORING

4.3.1 Sampling Locations

Dissolved-phase groundwater monitoring at the Site will include collection of samples from all monitoring wells that do not contain free-phase product. Monitoring wells onsite anticipated to be sampled are as follows:

- MW-1, MW-2, and MW-3; and
- The four proposed monitoring wells (MW-4, MW-5, MW-6, and MW-7).

4.3.2 Sampling Frequency

Dissolved-phase groundwater monitoring will be conducted on a quarterly basis as per NMOCD guidelines.

4.3.3 Dissolved-Phase Hydrocarbon Analytical Parameters

Dissolved-Phase groundwater monitoring samples will be submitted for laboratory analysis of the following:

- Benzene, Ethylbenzene, Toluene, and total Xylenes (BTEX) by EPA Method 8021B; and
- Total Petroleum Hydrocarbons (TPH GRO/DRO) by EPA Method 8015 Mod.
- Total Napthalene by EPA Method 8310.

4.4 WASTE MANAGEMENT

All purged water generated from groundwater sampling activities will be stored in DOT-approved 55-gallon steel drums onsite until laboratory analysis of samples has been completed. Purge water will be properly disposed of at an approved facility pending laboratory analysis.

5.0 GROUNDWATER MONITORING/REPORTING SCHEDULE

5.1 MONITORING SCHEDULE

The following groundwater monitoring activities will be conducted on a quarterly basis for a minimum of eight consecutive quarters following the NMOCD schedule approval:

- Measurement of depth to free-phase product (if present) in all monitoring wells;
- Measurement of depth to groundwater in all wells; and
- Collection and analysis of groundwater samples using either three casing volumes or EPA-approved low-flow methodology depending upon field conditions.

Analytical samples will be collected and analyzed for dissolved-phase hydrocarbons as described in Section 4.3.3. The initial quarter sampling event sd it pertains to this Stage 1 Abatement Plan is anticipated to commence during the third quarter of the 2005 calendar year. The commencement of the scheduled groundwater sampling events is dependent on the timing of the regulatory approval.

5.2 REPORTING SCHEDULE

Groundwater monitoring reports will be submitted to the NMOCD during the first quarter of each calendar year. The reports will summarize groundwater monitoring activities at the Site for the previous year.

6.0 QUALITY ASSURANCE PLAN

6.1 SAMPLING AND PRESERVATION PROCEDURES

Sampling and preservation procedures will be mandated by each respective laboratory method. In order to preserve the integrity of the sample before it is analyzed, proper sample containment, preservation methods, holding times, and shipping and chain-of-custody procedures will be followed. Samples bottles, preservation methods, and holding times are given in TABLE III. All sample containers will be prepared according to EPA protocol. The laboratory will supply samples containers.

A sample label will be clearly marked with indelible ink and affixed to all sample containers before being preserved on ice. Sample labels will include sample type, sampler initials, sampling locations, sample identification number, time and date.

A chain-of-custody form will be used to record the number of samples collected and the corresponding laboratory analyses. Information on this form includes site name, time and date of sample, sample identification number, type of sample, analysis required, sampler's name, preservatives used, and any special instructions. Each chain-of-custody form will be signed by the sampler.

All groundwater samples will be chilled to a temperature of approximately 4° C (40° F) in insulated coolers. Sufficient packing material will be used to separate the bottles, filling any voids. The cooler will be sealed with a custody seal and the samples will be shipped for priority overnight delivery to the analytical laboratory. A chain-of-custody form in re-sealable plastic bag will accompany the samples in the cooler.

6.2 LABORATORY ANALYTICAL PROCEDURES

Test methods for analytical procedures will be performed according to procedures outlined in EPA SW-846, *Test Methods for Evaluating Solid Waste*, November 1986.

6.3 QUALITY CONTROL

Quality control in the field begins with adherence to the specified sampling protocols presented in Section 3.0, but is monitored by a variety of samples taken with sufficient frequency to test the quality of measurement results. To measure field-related components of quality and reproducibility, field duplicates, matrix spike/matrix spike duplicate (MS/MSD) pairs, and decontamination (equipment) blanks will be collected. TABLE IV lists the frequency and estimated total number of quality control samples. The purpose and procedures for these samples are described below.

6.3.1 Field Duplicates

Duplicate field samples provide a way to measure reproducibility of analytical results. The analysis of duplicate samples involves replicating sample collection and the associated sampling handing activities, as well as the sample preparation and analysis. Variability in duplicate sample results typically includes a component attributable to inherent non-homogeneity of the sample matrix. Duplicates will be collected at a 10% frequency (one duplicate per every 10 samples).

6.3.2 Matrix Spike/ Matrix Spike Duplicate Pairs

Matrix spike samples are field samples in which known amounts of the analytes of interest are added at the Test America laboratory prior to extraction for analysis. Both a spiked and an unspiked sample aliquot are analyzed and compared. Since actual samples are used for the recovery determination, any differences in recovery are accountable to matrix interference.

Spike recovery (usually expressed as a percentage of the amount spiked), can be considered a measure of accuracy of the sample matrix. For a single sample, this includes the combined effects of bias, or systematic error, or variability due to imprecision. Analytical precision is measure by calculating the relative percent difference between the analysis of a matrix spike sample and a matrix spike duplicate. MS/MSD will be collected at a 5% frequency (one MS/MSD for every 20 samples.

6.4 DECONTAMINATION/AMBIENT BLANKS

Decontamination blanks, or equipment rinsates, are used to assess the thoroughness of field decontamination procedures. They also reflect the combined effects of sample collection, handling, transportation, storage, and analysis. They are collected by passing distilled water over or through decontaminated sampling equipment into a sample container.

Ambient blank samples are collected to determine whether ambient concentrations of target analytes are contributing to sample detections. Ambient blanks are collected by pouring deionized water directly into a sample container in the same manner that groundwater samples are collected.

Since it is often not feasible to resample when field blanks indicate possible cross-contamination, field blank data are used to estimate the limitations of the associated analytical data.

The presence of the analytes of interest in either the equipment, ambient, or laboratory blank suggests that corresponding field samples may have been similarly contaminated and that results for these analytes should be considered accordingly. If the blank data show a given analyte at widely varying concentrations, or at concentrations comparable to those for field samples, the field sample results are qualified with a "B" for that analyte to indicate its presence in blank samples. Field blanks will be collected at a 5% frequency (one for every 20 samples).

7.0 SITE HEALTH AND SAFETY PLAN

The purpose of a Site-specific Health and Safety Plan (HASP) is to provide policies and procedures to protect personnel from potential health hazards during subsurface and surface investigations associated with work activities at the Site. Additionally, the HASP will be prepared to minimize accidents and injuries that may occur during normal daily activities. This HASP will be prepared in accordance with OSHA's 29 CFR Part 1910.120 (Hazardous Waste Operations and Emergency Response). Also incorporated into the document will be ExxonMobil's Operation Integrity Management System (OIMS) and EMPCo's Safe Work Practice specific procedures and forms to assist in maintaining a safe work site.

The major components of the HASP will include hazards assessment and mitigation, personal protective equipment, and emergency procedures. Sections 3.0 and 4.0 of this plan will provide specific guidance for conducting field activities as well as waste management.

7.1 HAZARD ASSESSMENT AND MITIGATION

This section of the Site Health and Safety Plan addresses potential on-site hazards that may be encountered during field activities described below. The section also summarizes tasks that will be performed and associated hazards that may be encountered.

7.1.1 Description of Field Activities

The HASP will cover the soil and groundwater investigation activities to be conducted by CRA and subcontractor personnel. These activities are as follows:

a) mobilization and demobilization of labor, materials, and equipment to and from the Site; and
b) soil and groundwater assessment activities.

7.1.2 Physical Hazards

Physical hazards that may be present during assessment activities at the Site include slip/trip/hit/fall injuries, noise, heat stress, chemical hazards, and biological hazards. In addition, personnel must be aware that the protective

equipment worn may limit dexterity and visibility and may increase the difficulty of performing some tasks.

7.1.3 Slip/trip/hit/fall Hazards

Slip/trip/hit/fall (S/T/H/F) injuries are the most frequent of all injuries to workers. They occur for a wide variety of reasons, but can be minimized by the following practices:

- spot check the work area to identify hazards;
- establish and utilize a pathway which is most free of slip and trip hazards;
- beware of trip hazards such as wet floors, slippery floors, and uneven surfaces or terrain;
- carry only loads which you can see over;
- keep work areas clean and free of clutter, especially in storage rooms and walkways; and
- communicate hazards to on-Site personnel.

7.1.4 Noise

Project activities, such as use of power tools and material handling equipment, that generate noise levels exceeding the decibel range (85dBA) will require the use of hearing protection with a Noise Reduction Rating (NRR) of at least 20 when noise levels exceed 85 dBA. Hearing protection (earplugs/muffs) will be available to personnel and visitors that would require entry into these areas.

When it is difficult to hear a coworker at normal conversation distance, the noise level is approaching or exceeding 85 dBA, and hearing protection is necessary. All Site personnel who may be exposed to noise must also receive baseline and annual audiograms and training as to the causes and prevention of hearing loss as part of their Corporate Hearing Conservation Program.

7.1.5 Heat Stress

Recognition and Symptoms

Temperature stress is one of the most common illnesses at work sites. Acclimatization and frequent rest periods must be established for conducting

activities where temperature stress may occur. Below are listed signs and symptoms of heat stress. Personnel should follow appropriate guidelines if any site workers exhibit these symptoms:

- Heat Rash – Redness of skin. Frequent rest and change of clothing;
- Heat Cramps – Painful muscle spasms in hands, feet, and/or abdomen. Administer water and drinks containing electrolytes by mouth, unless there are medical restrictions;
- Heat Exhaustion – Clammy, moist, pale skin, along with dizziness, nausea, rapid pulse, fainting. Remove to cooler area and administer fluids; and
- Heat Stroke – Hot dry skin; red, spotted or bluish; high body temperature of 104°F, mental confusion, loss of consciousness, convulsions or coma. Immediately cool victim by immersion in cool water. Wrap with wet sheet while fanning, sponge with cool liquid while fanning; treat for shock. DO NOT DELAY TREATMENT. COOL BODY WHILE AWAITING AMBULANCE.

Work Practices

The following procedures will be carried out to reduce heat stress:

- acclimatization;
- work/rest regimes;
- liquids that replace electrolytes available during rest; and
- use of buddy system.

Acclimatization

The level of heat stress at which excessive heat strain will result depends on the heat tolerance capabilities of the worker. Each worker has an upper limit for heat stress beyond which the resulting heat strain can cause the worker to become a heat casualty. In most workers, appropriate repeated exposure to elevated heat stress causes a series of physiologic adaptations called acclimatization, whereby the body becomes more efficient in coping with the heat stress. Work/rest regimes will be partially determined by the degree of acclimatization provided.

Worker Information and Training

All new and current employees who work in areas where there is a reasonable likelihood of heat injury or illness should be kept informed, through continuing education programs:

- heat stress hazards;
- predisposing factors and relevant signs and symptoms of heat injury and illness;
- potential health effects of excessive heat stress and first aid procedures;
- proper precautions for work in heat stress areas;
- worker responsibilities for following proper work practices and control procedures to help protect the health and safety of themselves and their fellow workers, including instruction to immediately report to the employer the development of signs or symptoms of heat stress overexposure; and
- effects of therapeutic drugs, over-the-counter medications, or social drugs may increase the risk of heat injury or illness by reducing heat tolerance.

7.1.6 Chemical Hazards

The chemical hazards associated with conducting Site operations include the potential contact with on Site chemicals including affected soil and groundwater, products used in decontamination of equipment, and support products such as fuel. Material Safety Data Sheets will be maintained by the project manager of the Site and will be included as an appendix in the HASP.

The potential routes of exposure from these products during normal use may occur through inhalation of vapors or direct contact with, or absorption of, the materials. Additional information regarding the Site COCs is presented below.

Crude Oil

Total Petroleum Hydrocarbons (TPH) is a term used to describe a broad family of several hundred chemical compounds that originally come from crude oil. In this sense, TPH is really a mixture of chemicals. They are called hydrocarbons because almost all of them are made entirely from hydrogen and carbon. Crude oils can vary in how much of each chemical they contain. Most products that

contain TPH will burn. Some are clear or light-colored liquids or semi-solids that do not evaporate. Many of these products have characteristic gasoline, kerosene, or oily odors. Because modern society uses so many petroleum-based products (for example, gasoline, kerosene, fuel oil, mineral oil, asphalt), contamination of the environment by them is potentially widespread. Contamination caused by petroleum products will contain a variety of these hydrocarbons. Because there are so many, it is not usually practical to measure each one individually. However, it is useful to measure the total amount of all hydrocarbons found together in a particular sample of soil, water, or air.

High vapor concentrations are irritating to the eyes and respiratory tract and may cause headaches, dizziness, unconsciousness, and other central nervous system effects including death. Skin contact with hot product may cause thermal burns. Prolonged or repeated contact with this product at warm or ambient temperatures tends to remove skin oils, possibly leading to irritation and dermatitis. Eye contact with hot product may cause thermal burns. Contact with this product at warm or ambient temperatures may cause eye irritation but will not damage eye tissue.

Crude oil may contain benzene as a natural constituent. Benzene has been classified as a known human carcinogen by the American Conference of Governmental Industrial Hygienists (ACGIH) based on the increased incidence of leukemia in certain oil refinery workers. OSHA lists benzene as a human carcinogen and its exposure limit as a single chemical is 1.0 ppm/8 hours. However, ExxonMobil projects will follow the more stringent occupational exposure limit value of 0.5 ppm for an 8-hour time weighted average (TWA) and 2.5 ppm for a 15-minute short-term exposure limit (STEL).

Hydrogen Sulfide

Hydrogen sulfide is a colorless, toxic gas that is identified by the offensive odor of rotten eggs at low concentrations. It is heavier than air, flammable, and is generally a component of landfill gas. Hydrogen sulfide can cause irritation of eyes, nose and throat, beginning at approximately 10 ppm. Long-term exposure (30 minutes or longer) to high concentrations can cause drowsiness, staggering, and nausea which can lead to death, due to respiratory system failure.

The odor of hydrogen sulfide can be detected at approximately 0.03 ppm and become offensive at 3 ppm, and causes irritation at 10 ppm. An especially dangerous situation is brief exposure to concentrations of 50 ppm, which can

cause a person to lose the sense of smell. This has been described in accident reports as "I first smelled hydrogen sulfide, and then it went away." This is called olfactory fatigue. The toxic effect of hydrogen sulfide paralyzes the respiratory control center, which leads to suffocation and then death.

Hydrogen sulfide has a wide flammable range (LEL 4.0%, UEL 44.0 %). This property, coupled with its heavier-than-air density, makes it a hazard in trenches and low-lying areas.

Hydrogen sulfide is regulated by OSHA on a 20 ppm ceiling concentration. A ceiling concentration means that this level can not be exceeded during any part of the work period. OSHA has also established a Permissible Exposure Limit (PEL) concentration at 10 ppm, and an Immediately Dangerous to Life or Health (IDLH) concentration of 100 ppm.

Employees are directed to shut down ignition sources and leave the area if hydrogen sulfide is detected above 10 ppm. Generally, natural cross-ventilation will reduce hydrogen sulfide to acceptable levels. Re-entry and continuation of work may be done only under controlled conditions involving monitoring equipment and in supplied air respirators if levels exceed, or are likely to exceed, 10 ppm.

Special precautions will need to be implemented when these types of materials are encountered. The SPM should be present to conduct air monitoring on a continuous basis so that the proper level of personal protection is established for the material handling activities.

7.1.7 Biological Hazards

Biological hazards can include unfortunate contact with insects, poisonous plants, and reptiles. The following biological hazards may be encountered at this site:

- Mosquitoes
- Wasps
- Honey Bees
- Mud Dauber Wasps
- Fire Ants
- Poisonous Spiders

- Snakes

7.2 PERSONAL PROTECTIVE EQUIPMENT (PPE)

7.2.1 General

This section shall cover the applicable PPE requirements which shall include eye, face, head, foot, and respiratory protection. The purpose of PPE is to shield or isolate individuals from the chemical and physical hazards that may be encountered during work activities.

7.2.2 Types of Personal Protective Equipment (PPE)

The following types of PPE will be available for use at the project Site:

- Hard Hats - Regulated by 29 CFR Part 1910.135; specified in the American National Standards Institute, Inc. (ANSI) Z89.1, Safety Requirements for Industrial Head Protection;
- Face Shields, Safety Glasses, and Safety Goggles - Regulated by 29 CFR Part 1910.133(a); specified in ANSI Z87.1, Eye and Face Protection;
- Foot Protection - Regulated by 29 CFR Part 1910.136; specified in ANSI Z41.1, Safety Toe Footwear;
- Hand Protection;
- Respiratory Protection - Regulated by 29 CFR Part 1910.134; specified in ANSI Z88.2, Standards for Respiratory Protection; and
- Protective Clothing.

In general, Site activities will be initiated in Level D. The level of protection selected must correspond to the known, or suspect, level of hazard in the work area.

7.2.3 Types of Protective Material

Protective clothing is constructed of a variety of different materials for protection against exposure to specific chemicals. No universal protective material exists. All will decompose, be permeated, or otherwise fail to protect under certain circumstances.

Fortunately most manufacturers list guidelines for the use of their products. These guidelines usually concern gloves or coveralls and, generally, only measure rate of degradation (failure to maintain structure). It should be noted that a protective material may not necessarily degrade but may allow a particular chemical to permeate its surface.

For this reason, guidelines must be used with caution. When permeation tables are available, they should be used in conjunction with degradation tables.

In order to obtain optimum usage from PPE, the following procedures are to be followed by Site personnel using PPE:

- When using disposable coveralls, don a clean, new garment after each rest break or at the beginning of each shift;
- Inspect all clothing, gloves, and boots both prior to and during use for:
  - Imperfect seams;
  - Non-uniform coatings;
  - Tears;
  - Poorly functioning closures; and
- Inspect reusable garments, boots, and gloves both prior to and during use for:
  - Visible signs of chemical permeation,
  - Swelling;
  - Discoloration;
  - Stiffness;
  - Brittleness;
  - Cracks;
  - Any sign of puncture; and
  - Any sign of abrasion.

Reusable gloves, boots, or coveralls exhibiting any of the characteristics listed above will be discarded. PPE used in areas known or suspected to exhibit elevated concentrations of chemicals should not be reused.

7.2.4 Respiratory Protection

Under certain action levels, personnel conducting the Site activities may require respiratory protection. If required, personnel will wear an air-purifying respirator and follow the procedures and guidelines as described below and follow CRA's Respiratory Protection Program.

All personnel required to use this apparatus are instructed in how to properly fit a respirator to achieve the required face-piece-to-face seal for respiratory protective purposes. Conditions, which could affect this face seal, are the presence of beards, sideburns, eyeglasses, and the absence of upper or lower dentures.

All employees are subjected to a preliminary fit test with annual fit tests thereafter in accordance with OSHA regulations 29 CFR Part 1910.134. In addition employees are also required to be medically fit to wear a respirator as determined by a licensed physician.

The air-purifying respirator cartridges selected for use during work at this Site are a combination organic vapor cartridge with a P-100 particulate filter. This combination has the overall ability to protect against total organic vapors, dusts, mists, and fumes.

When air purifying respirators are in use for 8-hours of continuous use, all cartridges will be changed at a minimum of twice a day. Changes will also be made when personnel begin to experience increased inhalation resistance and prior to breakthrough.

7.3 EMERGENCY PROCEDURES

In the event of an emergency, site contacts will be notified as listed in Table V. Directions to the Nor Lea General Hospital are as follows:

- From the Gladiola Station, travel south on CR 169 3.1-miles to US 380;
- Then turn west on US 380 and travel 7.0-miles to SR 206 (Main St);
- Next travel south on SR 206 (Main St) 19- miles to US 82 (SR 18);
- Then travel Southwest on US 82 (SR18) 1.8-miles to E. Gum Avenue;
- Turn west on E. Gum 0.3-miles to W. Juniper Ave;
- Turn north on W. Juniper Avenue and travel 0.3-miles to N. Main; and
- Finally travel northeast 0.1-miles to Nor Lea General Hospital.

8.0 REFERENCES

State of New Mexico Engineer Technical Report No. 13, 1951-1955. 1959. Reeder, H.O. and Others.

All of Which is Respectfully Submitted,
Conestoga-Rovers & Associates

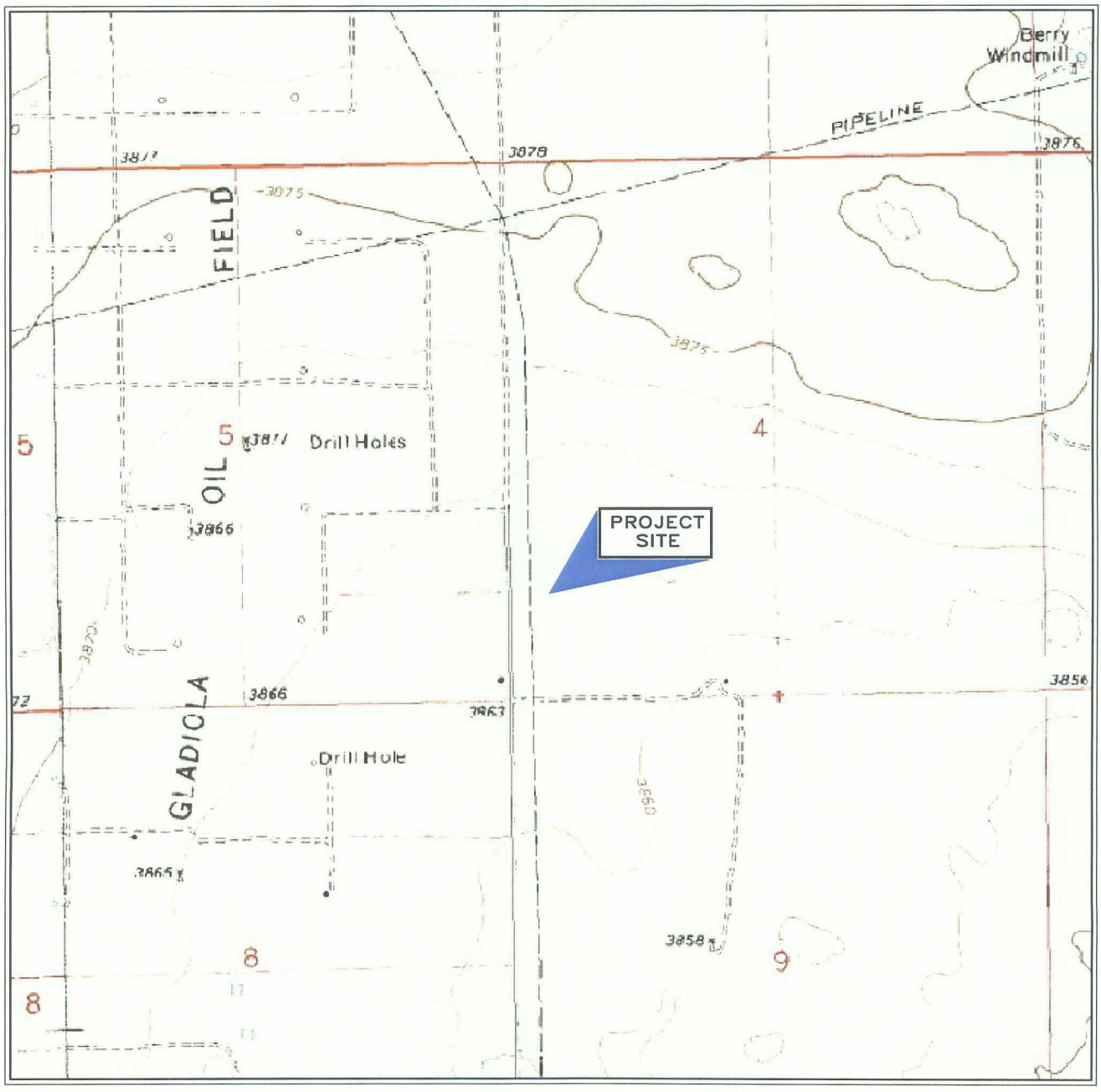
Aaron M. Hale
Project Geologist

Thomas C. Larson
Senior Project Manager

BRONCO QUADRANGLE
TEXAS

LAT=33° 18' 12"
LONG=103° 06' 35"

PHOTOREVISED 1970



0 1/4 1/2 1

(Miles)

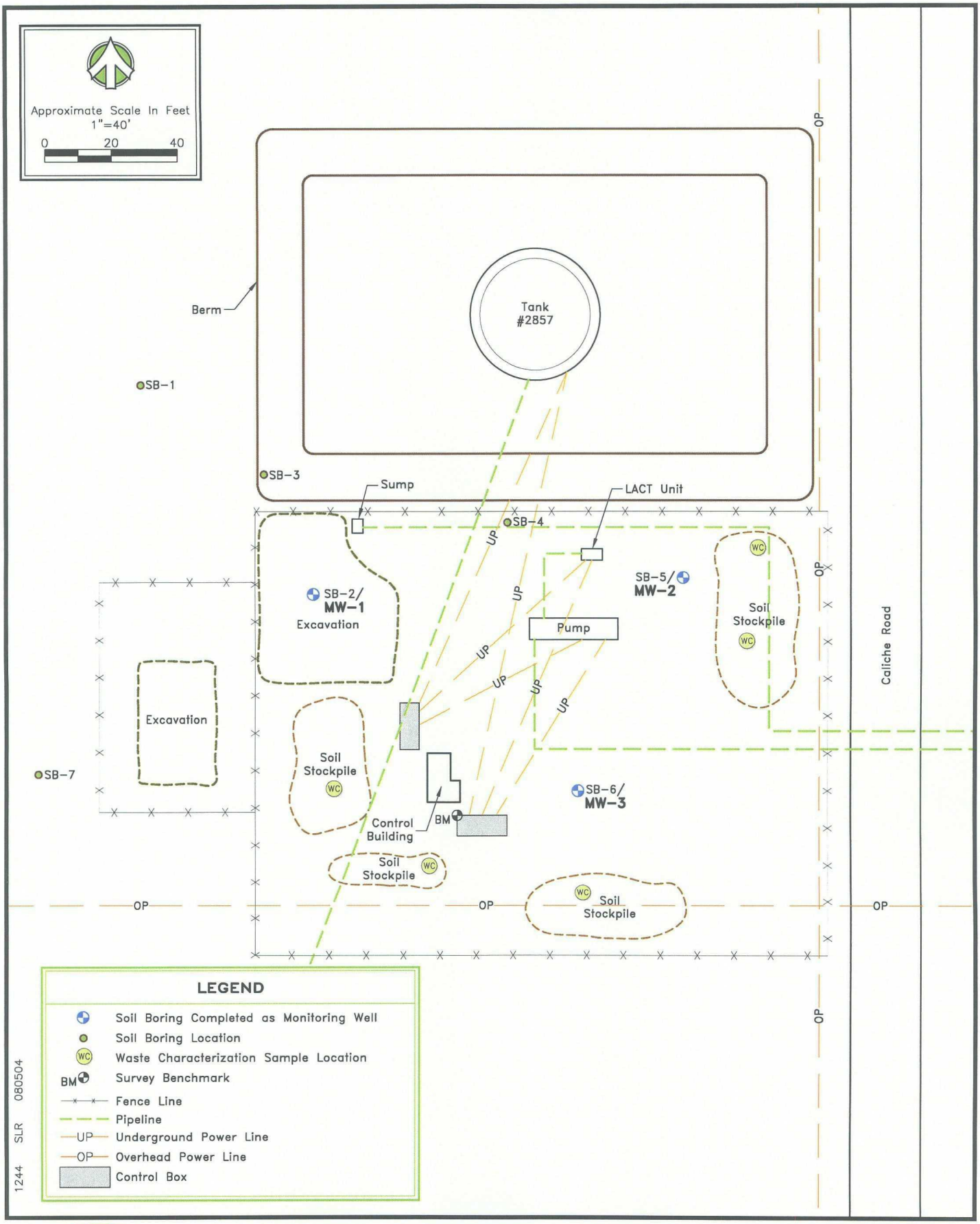
0 1600 3200 4800 6400

(Feet)

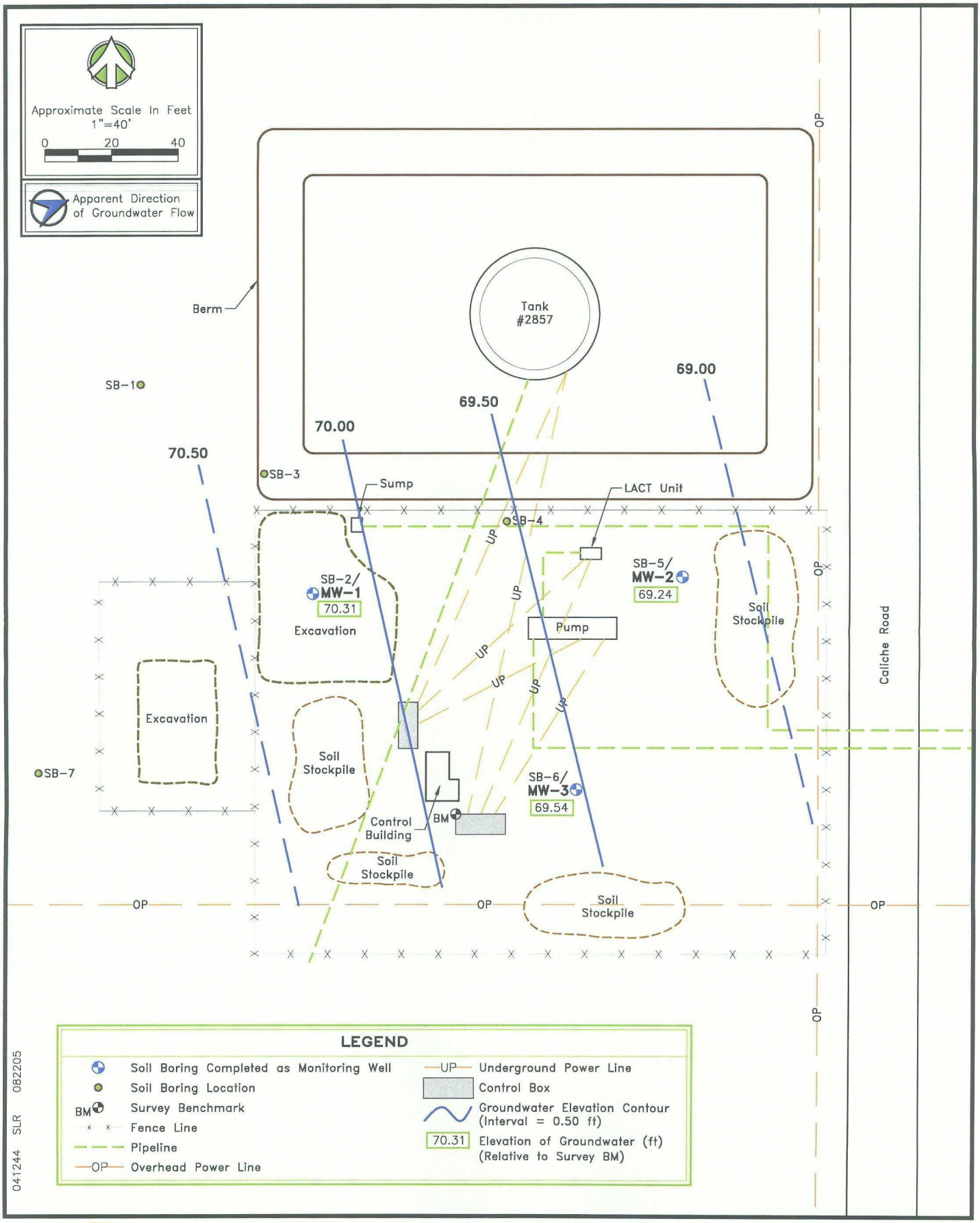
NORTH

041244 SLR 080205

SITE LOCATION MAP	JOB No. 041244
EXXONMOBIL GLOBAL REMEDIATION GLADIOLA STATION LEA COUNTY, NEW MEXICO	FIGURE 1



SITE DETAILS	JOB No. 041244
EXXONMOBIL GLOBAL REMEDIATION GLADIOLA STATION LEA COUNTY, NEW MEXICO	FIGURE 2



041244 SLR 082205

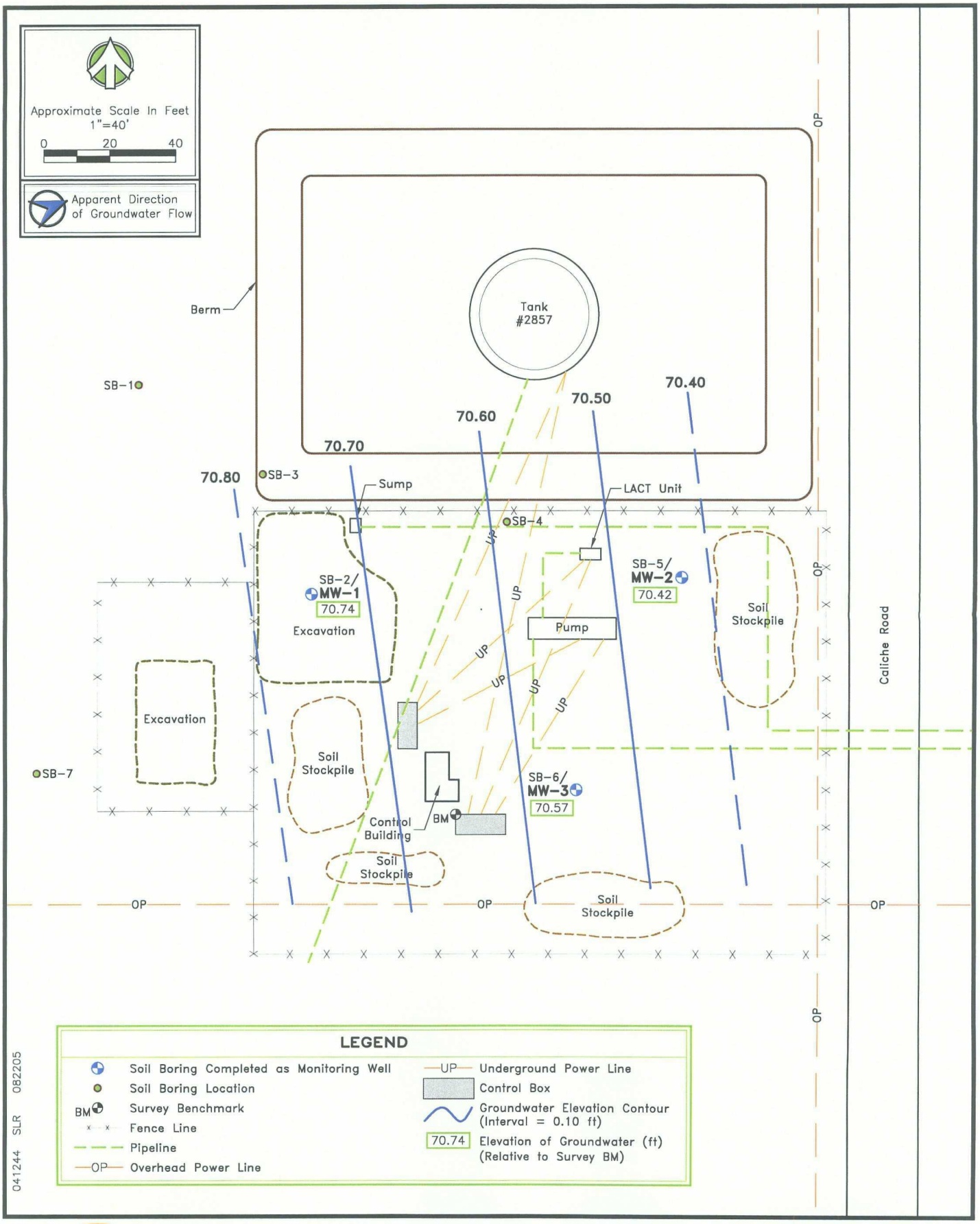
CRA

GROUNDWATER GRADIENT MAP – NOVEMBER 30, 2004

EXXONMOBIL GLOBAL REMEDIATION
GLADIOLA STATION LEA COUNTY, NEW MEXICO

JOB No. 041244

FIGURE 3

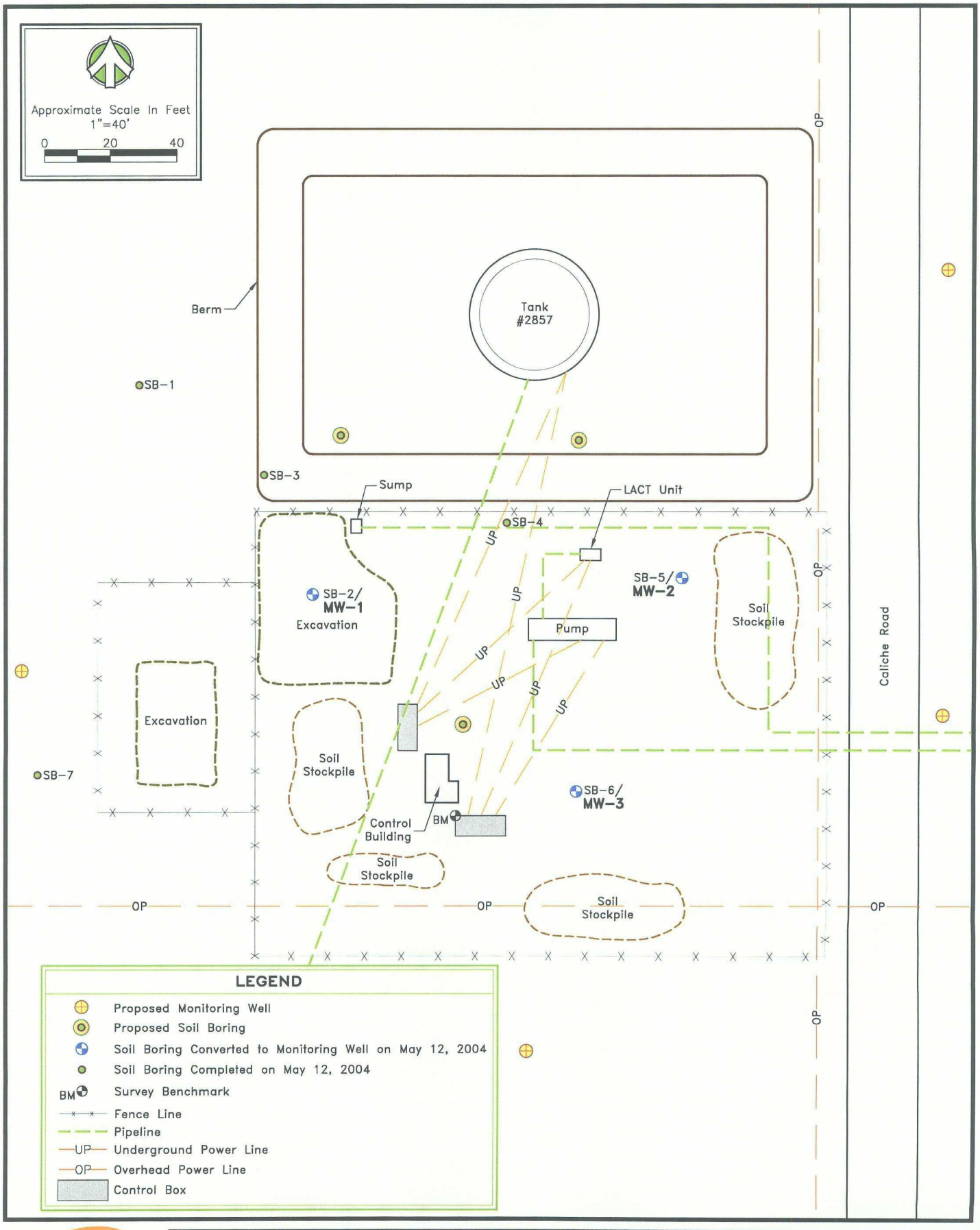


GROUNDWATER GRADIENT MAP – MAY 5, 2005

EXXONMOBIL GLOBAL REMEDIATION
GLADIOLA STATION LEA COUNTY, NEW MEXICO

JOB No. 041244

FIGURE 4



041244 SLR 082205

PROPOSED MONITORING WELL & SOIL BORING LOCATIONS MAP

EXXONMOBIL GLOBAL REMEDIATION
GLADIOLA STATION LEA COUNTY, NEW MEXICO

JOB No. 041244

FIGURE 5

TABLE I

SUMMARY OF SOIL ANALYTICAL DATA - Waste Characterization
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

SAMPLE		Gladiola WCS
DATE		7/7/2004
TYPE		Soil
RCI	REACTIVE SULFIDE (mg/Kg)	<10
	REACTIVE CYANIDE (mg/Kg)	<0.5
	CORROSIVITY pH Units	8.09
	IGNITABILITY °F	>212
BTEX	Benzene (mg/Kg)	<0.001
	Toluene (mg/Kg)	<0.001
	Ethylbenzene (mg/Kg)	<0.001
	Total Xylenes (mg/Kg)	<0.001
	BTEX (mg/Kg)	BDL
TPH	GRO (mg/Kg)	<0.1
	DRO (mg/Kg)	620
	Total TPH (mg/Kg)	620
TCLP RCRA METALS	Arsenic (mg/L)	<0.2
	Barium (mg/L)	1.52
	Cadmium (mg/L)	<0.02
	Chromium (mg/L)	<0.02
	Lead (mg/L)	<0.1
	Mercury (mg/L)	<0.0002
	Selenium (mg/L)	<0.2
	Silver (mg/L)	<0.02

NOTES:

RCI by ASTM Method D 92-01 and EPA methods SW9045C, SW7.3.3.2 and SW7.3.4.2.

BTEX by EPA Method 8021B.

TPH by EPA Method 8015B Modified.

TCLP RCRA Metals by EPA Methods 6010B and 7470A.

TABLE II

SUMMARY OF GROUNDWATER ELEVATION DATA
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

WELL (*TOC Elev.*)	DATE	Depth of Well	Depth to Water	Depth to LNAPL	LNAPL Thickness	Groundwater Elevation	Screen Interval
MW-1	5/17/2004	43.21	32.74	---	---	66.65	22.71 - 42.71
99.39	11/30/2004	---	30.83	28.40	2.43	70.31	---
	5/5/2005	---	29.20	28.43	0.77	70.74	---
MW-2	5/17/2004	48.09	37.04	---	---	66.42	27.59 - 47.59
103.46	11/30/2004	---	35.61	33.68	1.93	69.24	---
	5/5/2005	---	33.36	32.91	0.45	70.42	---
MW-3	5/17/2004	44.70	32.79	---	---	66.51	24.20 - 44.20
99.30	11/30/2004	---	30.08	29.64	0.44	69.54	---
	5/5/2005	---	28.90	28.66	0.24	70.57	---

Notes:
Top of casing survey completed on 5/17/2004 by BNC.
All depths measured from TOC.
TOC - top of casing.
bgs - below ground surface.

TABLE III

SAMPLE CONTAINER, PRESERVATION AND HOLDING TIME REQUIREMENTS
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

Type	Analysis	Quantity	Container	Preservative	Holding Times
Soil	BTEX EPA Method 8021B	1 each	4 oz jar	Neat	14 days
Soil	TPH EPA Method 8015 Mod. (DRO/GRO)	1 each	4 oz jar	Neat	14 days
Soil	Chlorides EPA Method 300M	1 each	4 oz jar	Neat	28 days
Water	BTEX EPA Method 8021B	2 each	40-mL VOA Vials	HCL or HgCL	14 days
Water	TPH EPA Method 8015 Mod. (DRO/GRO)	4 each	40-mL VOA Vials	HCL	14 days
Water	Total Napthalene by EPA Method 8310	1 each	1-Liter	Neat	7 days

TABLE IV

REQUENCY AND ESTIMATED TOTAL NUMBER OFQUALITY CONTROL SAMPLES
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

Sample Type	Feqeny	Water
Duplicate	10%	2
MS/MSD	5%	1
Decontamination/ Ambient Blank	5%	1

TABLE V

EMERGENCY SITE CONTACTS
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

Contact	Function	Telephone Number
Aaron Hale	CRA Project Manager	Office: (432) 686-0086 Cell: (432) 638-9916
Jonathan Hamilton	EMGR Contact	Office: (281) 834-4731 Cell: (281) 703-9877
Aaron Hale	CRA Health and Safety Officer	Office: (432) 686-0086 Cell: (432) 638-9916
Tom Larson	Alternate CRA Health and Safety Officer	Office: (432) 681-3116 Cell: (432) 553-1681
Nor Lea General Hospital	Hospital -Emergency Services	(505) 396-6611 or 911
Burt Anderson	Centurion Pipeline Site Contact	Office: (432) 686-1474 Cell: (432) 528-8135

NEW MEXICO ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

BILL RICHARDSON
Governor
Joanna Prukop
Cabinet Secretary

Mark E. Fesmire, P.E.
Director
Oil Conservation Division

June 21, 2005

CERTIFIED MAIL
RETURN RECEIPT NO: 7923 4474

Mr. Jonathan Hamilton
ExxonMobil Refining and Supply Company
Global Remediation
2800 Decker Drive
MOB NW-46
Baytown, TX 77520

RE: REQUIREMENT TO SUBMIT STAGE 1 ABATEMENT PLAN
GLADIOLA STATION

Dear Mr. Hamilton:

On August 20, 2004, ExxonMobil Refining & Supply - Global Remediation (EMGR) submitted a *Soil and Groundwater Assessment Report* to the New Mexico Oil Conservation Division (OCD). On May 12, 2005, EMGR submitted a draft work plan in which it proposed to conduct supplemental investigative and remedial activities. The report and work plan were submitted to the OCD on EMGR's behalf by Conestoga-Rovers & Associates (formerly BNC Environmental Services, Inc.). After review, the OCD has determined that EMGR may be in violation of several regulatory requirements. The OCD will not approve EMGR's proposed work plan and hereby requires EMGR to submit a Stage 1 Abatement Plan in accordance with OCD's Rule 19 (19.15.1.19 NMAC) by no later than August 26, 2005.

EMGR's 2004 report documents a minor release of approximately 15 barrels of crude oil on November 16, 2002, at the ExxonMobil Gladiola Station. EMGR's report indicates that both soil and ground water have been impacted by this release. OCD's Rule 116 (Subsection B of 19.15.3.116 NMAC) requires the Responsible Person (RP) to verbally report all releases within twenty-four (24) hours of discovery to both the OCD's district office for the area within which the release takes place and to the OCD's Environmental Bureau Chief. The verbal notice must include all of the information specified on division Form C-141. In addition, the RP is also

required to submit a written notification within fifteen (15) days to both the OCD's district office for the area within which the release takes place and to the OCD's Environmental Bureau Chief by completing and filing division Form C-141. The written notification must verify the prior verbal notification and provide any appropriate additions or corrections to the information contained in the prior verbal notification. To date, OCD has not received the required verbal and written notices.

EMGR's proposed 2005 work plan indicates that the extent of the hydrocarbon-impacted soil has been delineated but that the extent of the hydrocarbon-impacted ground water has not been delineated. The OCD agrees that EMGR has not delineated the ground water contamination; however, the OCD rejects EMGR's assertion that the soil contamination has been delineated. EMGR has not defined both the lateral and vertical extent of soil contamination as required (see Section III.B of OCD's 1993 guidelines). EMGR should not backfill the excavations until further notice from the OCD.

Pursuant to Subsections C and E of OCD's Rule 19 (19.15.1.19 NMAC), the OCD requires that EMGR submit a Stage 1 abatement plan proposal by August 26, 2005. The State 1 abatement plan proposal shall be submitted to the OCD Santa Fe Office with a copy provided to the OCD Hobbs District Office. OCD has reviewed EMGR's report and has determined that several deficiencies and other problems must be addressed. EMGR's report refers to a workplan and reports prepared by BCN or others. EMGR must submit these documents with its Stage 1 Abatement Plan. EMGR must also provide a form C-141 to me and the OCD's Hobbs district office by July 8, 2005. Neither EMGR's 2004 report nor its 2005 work plan proposal adequately addresses the type and amount of soil contamination that was discovered (see of Section III.B of OCD's 1993 guidance). Therefore, EMGR must submit all information, including field notes, photos, *etc.*, collected by it or its contractors during its immediate response to the crude oil release to the OCD by July 8, 2005.

All future submittals to the OCD must be sent from EMGR rather than being submitted by a consultant. EMGR should provide two paper copies and one electronic copy of all future workplans and/or reports.

If you have any questions, please contact Glenn von Gonten of my staff at (505) 476-3488.

Sincerely,

Roger C. Anderson
Environmental Bureau Chief

cc: Mr. Larry Johnson, OCD Hobbs District Office

ExxonMobil
Pipeline

Soil Coring Investigation Report

Gladiola Station

Lea County, New Mexico

B & H Environmental Services
Maintenance and Construction
2858 Steven Road Odessa, Texas 79764
915-550-8210

B & H MAINTENANCE
& CONSTRUCTION, INC.

PIPELINE, TELECOMMUNICATIONS AND PLANT CONSTRUCTION
ENVIRONMENTAL AND REMEDIATION SERVICES

505 394-2588
1-800 782-5901
FAX 505 394-2299
P0. BOX 970
EUNICE, NM 88231

505 887-9755
505 887-7931
FAX 505 887-0369
P0. BOX 98
CARLSBAD, NM 88220

915 550-8210
FAX 915 368-4031
2858 STEVEN ROAD
WEST LOOP 338
ODESSA, TX 79764

505 634-0460
FAX 505 634-0462
P.O. BOX 185
245 HWY. 544
BLOOMFIELD, NM 87413

ExxonMobil Pipeline Company
Midland West Area
Gladiola Station
Lea County, New Mexico
Soil Coring TPH Investigation

Executive Summary

Introduction

On July 29, 2003 ExxonMobil Pipeline Company (EMPCO) representatives Mike Hargrove and Robert Day met with B&H Maintenance and Construction, Inc. (B&H) environmental representatives Derek Robinson and Stacy Stribling in regards to a soil coring investigation to be conducted at the EMPCO Gladiola Station in Lea County, New Mexico. A plan of action was discussed at this time and a work schedule was established in regards to the soil coring investigation.

Scope

On July 31, 2003 B&H representatives Derek Robinson, Stacy Stribling, and Bryan Clay attended the required EMPCO safety orientation at the Seminole Station office and then traveled to the Gladiola Station in Lea County, New Mexico to begin the soil coring investigation. The leak source was a sump that had overflowed. The coring criteria was determined to drill and test for Total Petroleum Hydrocarbons (TPH) until the levels were under 100ppm. The first coring test point was twenty feet south of the sump. This coring point is in an area that had been partially excavated in removing the original spill area. Coring test point one began in a hard inundated caliche and limestone rock bed that underlies the entire region. The coring proved to be difficult because the hard thick limestone that was encountered between nine feet below grade to twenty-three feet below grade which was the total depth. Coring test point two was thirty feet southwest of the sump still within the previously excavated area and the same rock conditions were encountered. The total depth of test point two was ten feet. Test point three was thirty feet west of the sump and outside of the facility fence; the total depth of this coring point was ten feet. Test point four was twenty feet northwest of the sump and the total depth was ten feet. All test points show TPH levels below 100ppm except for test point number one. Because of the extreme difficulty in drilling it was determined by Robert Day of EMPCO that enough data had been collected to compile this report.

indicate that the excavation of the known spill uncovered historical contamination. This contamination was determined to be historical due to the sub-surface conditions encountered, the nature and timely response to the spill, and the physical properties of the hydrocarbon contamination. This investigation would also indicate that the majority of the historical contamination has been excavated along with the excavation of the sump overflow spill affected area.

B&H ENVIRONMENTAL SERVICES
2858 STEVEN ROAD ODESSA, TEXAS 79764 915-550-8210

ANALYTICAL REPORT FORM

CLIENT: ExxonMobil Pipeline

SITE: Gladiola Station

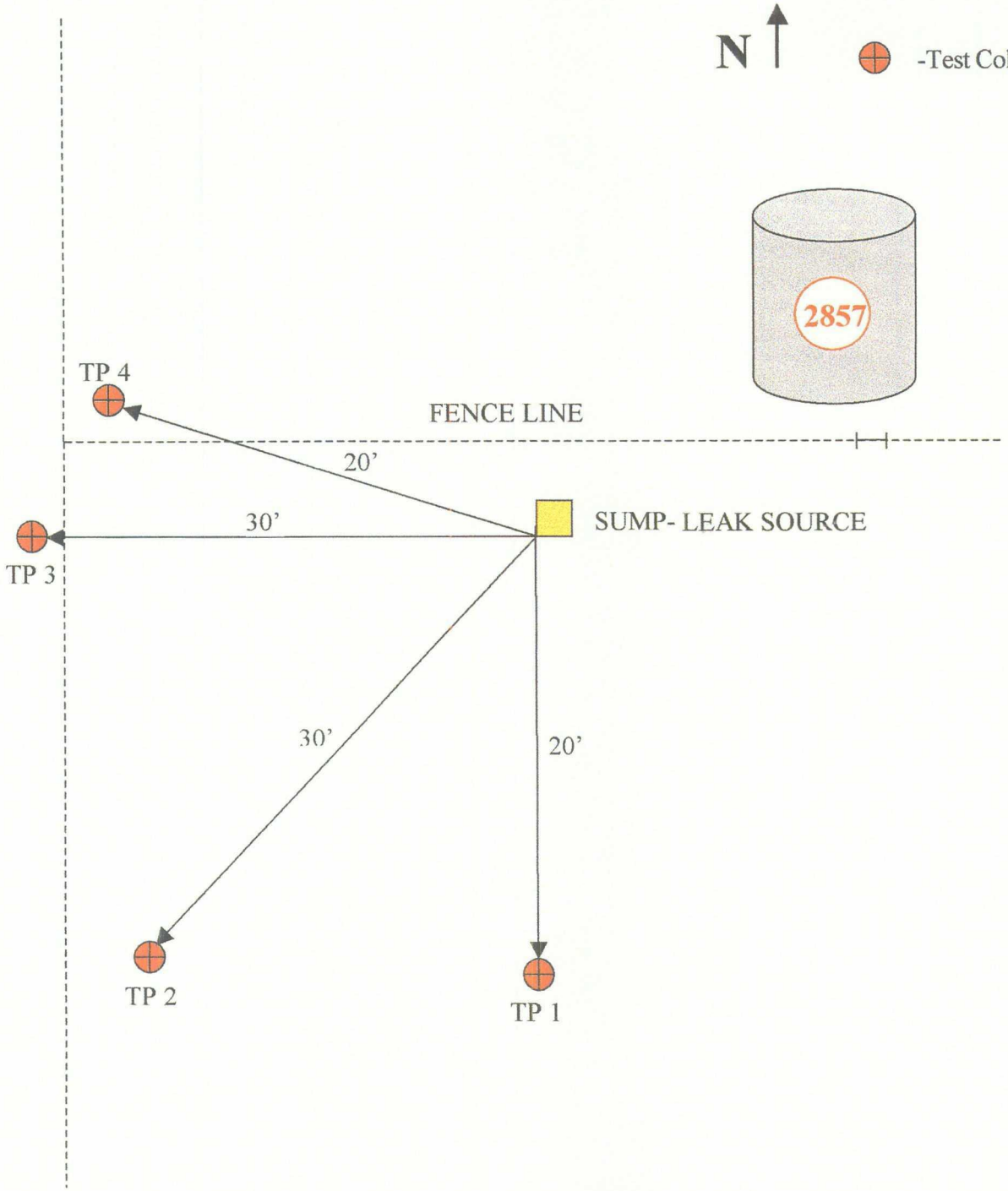
DATE OF COLLECTION: 7/31/03-8/7/03 **DATE OF ANALYSIS:** 7/31/03-8/7/03

ANALYST: Bryan Clay **ANALYST I.D.#** 0166

SAMPLE ID	SAMPLE TYPE	SAMPLE DATE	SAMPLE DEPTH	TPH/ppm
TP 1	GRAB	7/31/03	5'	6210
TP 1	GRAB	8/1/03	8'	1570
TP 1	GRAB	8/1/03	9'	570
TP 1	GRAB	8/4/03	10'	2470
TP 1	GRAB	8/4/03	12'	7520
TP 1	GRAB	8/4/03	15'	2300
TP 1	GRAB	8/4/03	18'	889
TP 1	GRAB	8/5/03	19'	584
TP 1	GRAB	8/7/03	22'	350
TP 1	GRAB	8/7/03	23'	510
TP 2	GRAB	8/5/03	5'	38
TP 2	GRAB	8/5/03	10'	44
TP 3	GRAB	8/6/03	5'	17
TP 3	GRAB	8/6/03	10'	25
TP 4	GRAB	8/7/03	5'	195
TP 4	GRAB	8/7/03	10'	63

ANALYST NOTES:

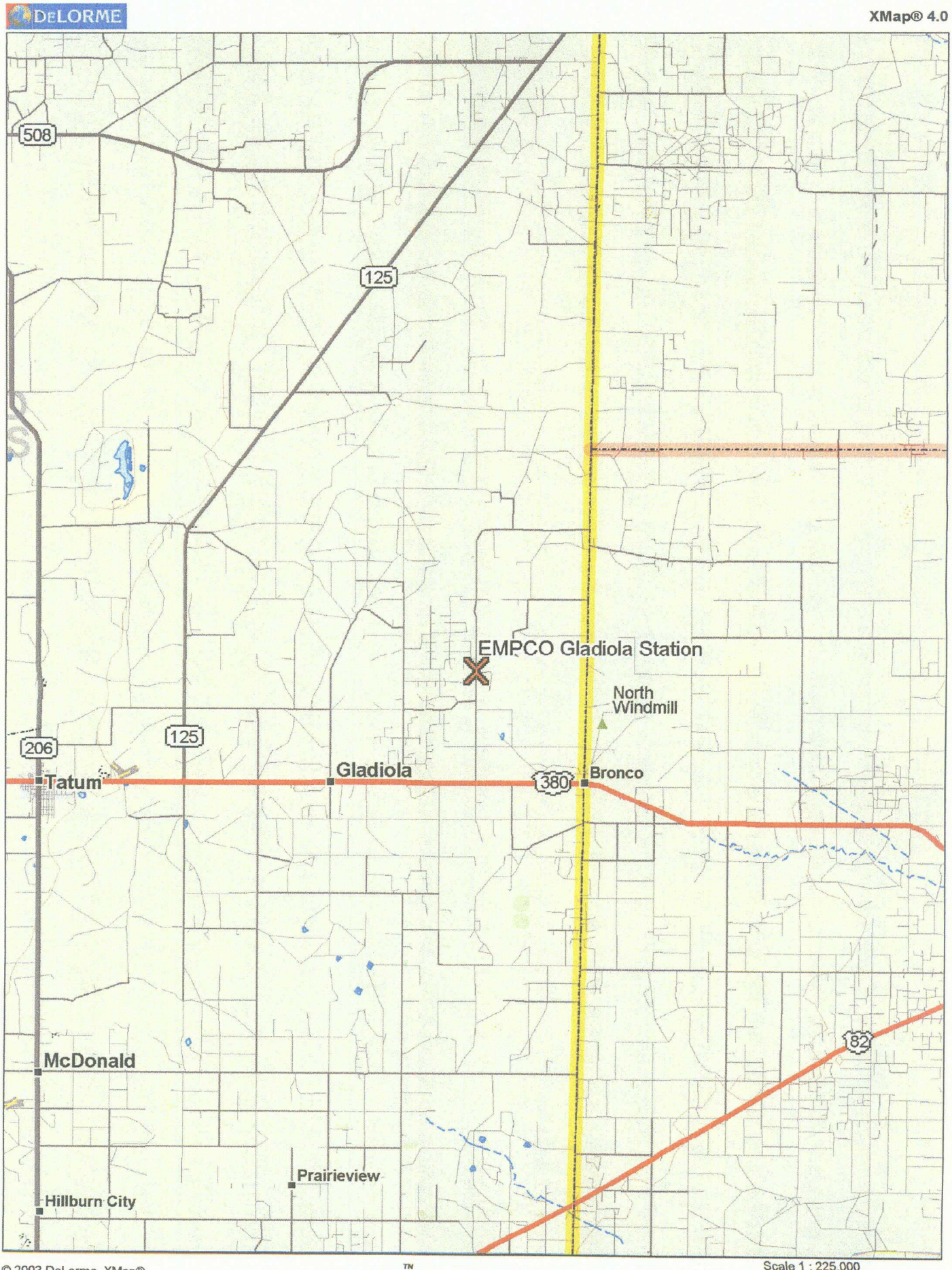
ANALYST SIGNATURE:



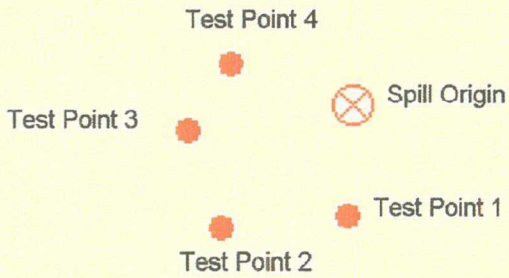
TPH Analysis

Sample Point	Sample Depth	Sample Analysis
TP 1	23'	510 ppm
TP 2	10'	44 ppm
TP 3	10'	25 ppm
TP 4	10'	63 ppm

Company: **ExxonMobil Pipeline Company** **P.O. Box 670** **Seminole, Texas 79360**	**Project:** **Gladiola Station** **33° 18'12 N – 103° 06'35 W** **Lea County, New Mexico**	**B & H Environmental Services** **2858 Steven Road** **Odessa, Texas 79764** **915-550-8210**


DeLORME
XMap® 4.0
508
125
125
206
EMPCO Gladiola Station
North
Windmill
Tatum
Gladiola
380
Bronco
82
McDonald
Prairieview
Hillburn City
© 2003 DeLorme. XMap®.
www.delorme.com
TN
MN (8.7°E)
Scale 1 : 225,000
1" = 3.55 mi
Data Zoom 9-7

DeLORME XMap® 4.0



TN
MN (8.7°E)

Scale 1 : 400
0 12 24 36 48 60 ft
0 2 4 6 8 10 m
1" = 33.3 ft Data Zoom 18-0

EMPCO Gladiola Station Coring Investigation

Lat/Long
WGS 1984

N

Scale 1:100
0 0.003
Kilometers

R080715A.SSF
8/11/2003

GPS Pathfinder® Office
Trimble™

Spill Source-Sump in bottom right corner with yellow cover

Overview of the excavated area looking northwest

Coring Test Point One-Looking south from the sump

Coring Test Point Two-Looking southwest from the sump

Coring Test Point Three-Looking northwest with the sump on the right

Coring Test Point Four- Looking southeast toward the sump

B&H ONSITE SAFETY REVIEW

Contractor(s): Bryan Clay, Derek Robinson, Story Drilling

Review Location: Gladiola Station **Date:** 7-31-05 **Time:** 10:45 a

Task Description(s): Core Drilling & Sampling

Name and Organization of Reviewer: Exxon Mobil

Accident / Injury Potential: High ____ Moderate ✓ Low ____

Review Worksheet

Key: MR = Meets Requirements NI = Needs Improvement NA = Not Applicable

Review Categories (Review Items)	MR	NI	NA
Personal Protective Equipment (PPE)			
Hard Hats	✓		
Safety Glasses / Goggles	✓		
Respiratory Protection			✓
Face Shield			✓
Welding Helmet			✓
Fire Retardant Clothing			✓
Gloves	✓		
Safety Toed Shoes/Boots	✓		
Hearing Protection	✓		
Body Harness & Lanyard			✓
Disposable Coveralls			✓
Permits Required			
Hot Work Permit			✓
Confined Space Entry Permit			✓
Regulated Confined Space Permit			✓
Safety & Emergency Systems Permit			✓
Daily Excavation Inspection Report			✓
Personnel Basket Pre-Op. Checklist			✓
Critical Lift Evaluation			✓
Permits posted/available on site			✓
Scaffolding			
Stability			✓
Floor / Planking			✓
Railing / Midrails / Toeboards			✓
Access Ladders			✓
Daily Inspection with Complete Tag			✓
Wokers Trained in Scaffold Safety			✓

Review Categories (Review Items)	MR	NI	NA
Excavations			
Competent Person on Site	✓		
Underground Lines Identified	✓		
Gas pipeline pressures reduced to 50 PSIG or less prior to excavation for leak repair.			✓
Liquid hydrocarbon line pressures reduced to no more than 25 PSIG above the vapor pressure of the product prior to excavation for leak repair.			✓
Proper means of egress	✓		
Soil Type determined			
Proper shoring/sheidling/sloping			
Spoil pile 2 ft. from edge	✓		
Barricades / barriers in place	✓		
Misc. Safety Equipment			
Fire Extinguishers: proper no. & size	✓		
GFCI			✓
Personal H2S monitors worn	✓		
Multi-gas monitors (LEL, O2, Etc.)			✓
NORM meter			✓
Ventilation			
Air quality			✓
Air movement			✓
Exhaust air monitored for hazards			✓
Sign posted for hazardous exhaust			✓

Key: MR = Meets Requirements NI = Needs Improvement NA = Not Applicable

Review Categories (Review Items)	Evaluation MR	NI	NA
Fall Protection			
Equipment available	✓		
Equipment use	✓		
Fire Protection			
Class "A" hazards			✓
Class "B" hazards			✓
Class "C" hazards			✓
Fire Extinguishers			
Rating	✓		
Size	✓		
Number present	✓		
Fire watch			
Trained	✓		
Number present	✓		
Emergency Procedures	✓		
Bonding	✓		
Energy Isolation (LO/TO)			
Employee Training			✓
All energy sources identified			✓
All energy sources isolated			✓
Isolation verified			✓
Proper lock and tag use			✓
Return to operations procedure			✓
LO/TO audit completed on this job?			✓
Barricades and Barriers			
In place and maintained	✓		
Guarding			
Power tools	✓		
Mechanical	✓		
Elevated platform			✓
Floor opening or hole in ground			✓
Chemical			✓
Hazard Communication			
Employee training	✓		
MSDS availability			✓
Container labeling			✓

Review Categories (Review Items)	Evaluation MR	NI	NA
Ladders			
Area fixed ladders			✓
Straight / Extension			✓
Portable step			✓
Material Handling Equipment (cranes, fork lift, etc.)			
Cranes			
Inspections			
Operator qualification			
Load chart			
Hoists			
Inspected			
Proper rating for job			
Slings: Chain; synthetic			
Inspected			
Ratings affixed			
Condition			
Coupling Devices			
Appropriate for task			
Inspected			
General condition			
Personnel Baskets			
General condition			
Rating information affixed			
Personnel fall protection			
Tag lines			
Anti two blocking device			
Fork Lifts			
Qualified operator			
Safety restraints			
Operating Speed			
Load orientation on forks			
Ariel (personnel) lifts			
Operator qualification			
Equipment inspection			
Safe operation			
Driving Surfaces			
Conjested area			
Good traction			
Driver awareness of hazards	✓		
Backing	✓		

Key: MR = Meets Requirements NI = Needs Improvement NA = Not Applicable

Review Categories (Review Items)	Evaluation MR	NI	NA	Review Categories (Review Items)	Evaluation MR	NI	NA
Electrical							
Welding Leads	—	—	✓				
Extension cords	—	—	✓				
Electrical PPE	—	—	✓				
Grounding / GFCI	—	—	✓				
Body Positioning				**English Language Policy**			
Awkward position for long periods	✓	—	—	English language is understood and spoken sufficently to promote worksite safety	✓	—	—
Proper lifting techniques used	✓	—	—				
Tool Conditions				**Recognizable Hazards**			
No broken handles	✓	—	—	Flammable liquids properly stored	—	—	✓
"Wrench handle extensions"	✓	—	—	Congested work area	✓	—	—
Portable hand grinders have guards	—	—	✓	Housekeeping	✓	—	—
Electric cords	—	—	✓	Energized electrical lines	✓	—	—
Striking surfaces are dressed	✓	—	—	Paint checked for lead	—	—	✓
Damaged tools are discarded	✓	—	—	Overhead work hazards	✓	—	—

Post review conference with workers

Describe corrective action taken during or immediately following the review.

Describe corrective action planned and person responsible for assuring the action is completed.

Signature of Reviewer(s): _____

Signature of Worksite Supervisor: _____

Emergency Drill

Date: _____ Location: _____

Statement of Hypothetical Problem or Emergency:

Response to Situation:

Materials Reviewed and Discussed (CTAs, MSDS, EHS P&Ps, Operating Manuals):

Comments:

Participant Names (Please Write Clearly)

Mr. Bill Olson
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

August 20, 2004

SUBJECT: Soil and Groundwater Assessment Report
ExxonMobil Refining & Supply - Global Remediation
Gladiola Station
Section 5, T-12-S, R-38-E
Lea County, New Mexico

Dear Mr. Olson:

Enclosed is one final copy of the Soil and Groundwater Assessment Report for the Gladiola Station located in Lea County, New Mexico, prepared by BNC Environmental Services, Inc. (BNC) on behalf ExxonMobil Refining & Supply - Global Remediation (EMGR).

If you have any questions regarding this correspondence, please contact me at (432) 686-0086.

Respectfully submitted,
BNC Environmental Services, Inc.

Aaron M. Hale
Project Geologist

Attachment: Soil and Groundwater Assessment Report
ExxonMobil Refining & Supply - Global Remediation
Gladiola Station
Section 5, T-12-S, R-38-E
Lea County, New Mexico

Cc: Jonathan Hamilton – EMGR Baytown, Texas
Bill Von Drehle – Centurion Pipeline L.P., Houston, Texas
Burt Anderson – Centurion Pipeline L.P., Midland, Texas
NMOCD – District 1, Hobbs, New Mexico
Tommy Burris – Landowner

BNC SERVICES

BNC Environmental Services, Inc.

SOIL AND GROUNDWATER ASSESSMENT REPORT

GLADIOLA STATION
SECTION 5, T-12-S, R-38-E
LEA COUNTY, NEW MEXICO

PREPARED FOR:

Mr. Jonathan Hamilton
EXXONMOBIL REFINING AND SUPPLY COMPANY
GLOBAL REMEDIATION
2800 Decker Dr., Room NW-46
Baytown, Texas 77520

PREPARED BY:

BNC Environmental Services, Inc.
2135 S. Loop 250 West
Midland, Texas 79703

Luke D. Markham
Project Manager

Aaron M. Hale
Project Geologist

Thomas C. Larson
Operations Manager

SOIL AND GROUNDWATER ASSESSMENT REPORT

GLADIOLA STATION
SECTION 5, T-12-S, R-38-E
LEA COUNTY, NEW MEXICO

August 20, 2004

TABLE OF CONTENTS

SECTION I INTRODUCTION

This Soil and Groundwater Assessment Report presents soil and groundwater assessment data collected by BNC Environmental Services, Inc. (BNC) at the former ExxonMobil Pipeline Company (EMPCo) Gladiola Station leased property owned by the O7 Ranch. The assessment activities were conducted on behalf of ExxonMobil Refining and Supply – Global Remediation (EMGR) personnel.

The Gladiola Station crude oil pipeline release site (hereafter referred to as the "Site") is located in eastern Lea County, New Mexico (FIGURE 1). The legal description of the Site is the SE/4 of Section 5, T-12-S, R-38-E. The Site is situated to the south of Tank # 2857. The Site consists of approximately 0.54 acres and was operated as a crude oil pipeline pumping station under EMPCo until its purchase by Trojan Pipeline L.P. (Trojan) in February, 2004. Trojan changed their name to Centurion Pipeline L.P. (Centurion) in July, 2004. The Site is currently operated by Centurion.

The subject release occurred on November 18, 2002 and was the result of a sump over-flow/bleeder valve leak. A *Leak, Maintenance and Exposed Pipe Report* dated November 18, 2002 indicated the crude oil release consisted of 15 barrels lost and 5 barrels recovered.

Initial excavation activities were performed at the Site by E.D. Walton followed by a soil boring investigation conducted by B&H Maintenance & Construction, Inc. (B&H) in August 2003. Upon completion of the investigation, a document entitled *Soil Coring Investigation Report* was prepared by B&H and submitted to EMPCo to demonstrate the total petroleum hydrocarbon (TPH) concentrations at the Site. The Site Details map is presented in FIGURE 2. BNC and EMGR personnel conducted a Site visit on October 8, 2003 and noted an onsite remedial excavation (40 feet in length, 30 feet in width and three feet in depth) as well as an offsite remedial excavation (20 feet in length, 20 feet in width and three feet in depth). In addition, four soil stockpiles were identified within the station property. These soil stockpiles are the result of excavation activities associated with the November 18, 2002 release. Subsequently, BNC prepared and submitted a *Gladiola Station Crude Oil Release Site 2004 Work Scope and Cost Estimate* dated October 31, 2003 to EMGR personnel and proposed further assessment of soil impacts at the Site.

On May 12, 2004, BNC and White Drilling Company mobilized to the Site and conducted the soil and groundwater assessment activities documented within this report. Soil hydrocarbon impacts were encountered in excess of NMOCD regulatory guidelines. Groundwater hydrocarbon impacts were encountered in excess of New Mexico Water Quality Control Commission (NMWQCC) regulatory guidelines.

BNC personnel conducted an onsite water well search and identified three water wells within a one-half mile radius of the Site utilized for livestock. The wells are located north, northeast and northwest of the Site at distances greater than 2,000 feet. An OIMS, System 2 – Attachment 2.3, Sensitive Receptor Survey was also conducted and consequently documented that no water well were located on the Gladiola Station property or land immediately adjacent to the Site.

The following sections summarize the soil and groundwater assessment activities. Figures and tables are utilized to support the summary of findings associated with the assessment activities.

SECTION II REGULATORY FRAMEWORK AND SITE CLASSIFICATION

The NMOCD has regulatory jurisdiction over oil and gas production operations including crude oil pipeline spills and closure activities in the State of New Mexico. This project was conducted under the regulatory jurisdiction of the NMOCD, which requires that soil impacted by a crude oil spill be remediated in such a manner that the potential for future affects to groundwater or the environment are minimized. The NMOCD hydrocarbon soil remediation levels are determined by ranking criteria on a site-by-site basis, which is outlined in the NMOCD *Guidelines for Remediation of Spills, Leaks, and Releases*, dated August 13, 1993. The ranking criteria are based on three site characteristics: depth to groundwater, wellhead protection and distance to surface water.

The NMOCD guidelines require groundwater to be analyzed for potential contaminants contained in the waste stream as defined by the NMWQCC regulations. In addition, the NMWQCC regulations present the Human Health Standards for Groundwater. The NMWQCC board is comprised of a representative from eight New Mexico "constituent agencies" (including the NMOCD) and four members appointed by the Governor of New Mexico.

Data collected during the soil and groundwater assessment indicate that the depth-to-groundwater at the Site ranges from 30 to 40 feet bgs. Based on these Site characteristics and associated NMOCD-ranking criteria presented in the table below, the following soil hydrocarbon remediation levels apply at the Site: benzene- 10 parts-per-million (ppm), benzene, toluene, ethylbenzene and xylene (Total BTEX) - 50 ppm and TPH- 100 ppm. Analytical results for soil data are reported in milligrams per kilograms (mg/kg) which are equivalent to the ppm reporting units.

Ranking Criteria and Scoring

CHARACTERISTIC	SELECTION	SCORE
Depth to Groundwater	<50 feet	20
Wellhead Protection Area	>1,000 feet	0
Distance to Surface Water	>1,000 feet	0

Total Score= 20

Soil Remediation Levels

Contaminant of Concern	>19 Score	10-19 Score	0-9 Score
Benzene (mg/Kg)	10	10	10
Total BTEX (mg/Kg)	50	50	50
TPH (mg/Kg)	100	1,000	5,000

Groundwater samples collected as part of assessment activities were evaluated utilizing New Mexico Water Quality Control Commission (NMWQCC) Standards for the following analytical parameters (reported in milligrams per liter, mg/L):

NMWQCC Human Health Standards for Groundwater

Contaminant of Concern	TDS Concentration of less than 10,000 mg/L
Benzene (mg/L)	0.01
Toluene (mg/L)	0.75
Ethylbenzene (mg/L)	0.75
Total Xylenes (mg/L)	0.62
Benzo (a) Pyrene (mg/L)	0.0007
[1] Total Naphthalene (mg/L)	0.030
Arsenic (mg/L)	0.1
Barium (mg/L)	1.0
Cadmium (mg/L)	0.01
Chromium (mg/L)	0.05
Lead (mg/L)	0.05
Mercury (mg/L)	0.002
Selenium (mg/L)	0.05
Silver (mg/L)	0.05

[1] Total Naphthalene plus monomethylnaphthalenes.

The topography in the Site area and adjoining land gently and regionally dip to the southeast. In general, the area is relatively flat and has a dry topography. Adjacent land use surrounding the release site is rangeland. The ground surface is mostly vegetated by native range grass. A water well search (APPENDIX A) identified three water wells within a one-half mile radius of the Site. One water well is completed in the same water bearing unit as the Site, the second is completed in a deeper water bearing unit, and the third water well has no completion information available.

Five soil borings were initially proposed to a total depth of 40 feet bgs to evaluate the nature and extent of soil impacts at the Site. During the soil assessment activities, Site conditions warranted the installation of two additional soil borings and the conversion of three soil borings to groundwater monitoring wells to evaluate hydrocarbon impacts to the groundwater and assess the hydraulic gradient and direction of groundwater flow (FIGURE 3). Drilling activities were conducted on May 12 through May 14, 2004.

Field Methodology

An air-rotary drilling rig was used to advance soil borings/monitoring wells from the surface to depths ranging from 30 to 45 feet bgs. Prior to drilling, all soil boring/monitoring well locations were approved by EMGR personnel and marked appropriately. The utility notification service was also notified and provided 48 hours to mark their utilities if present. Prior to drilling, each soil boring/monitoring well location was probed and hand-cleared to an approximate depth of four feet bgs. The hand-cleared soil boring locations were greater than three inches in diameter, larger than the diameter of the largest down hole tool. The OIMS System 2-Attachment 2.2, Pre-Drilling Protocol was strictly adhered to during all operations. Soil borings were terminated once the boring was advanced approximately ten feet below the top of the water table. Monitoring wells MW-1 (SB-2), MW-2 (SB-5) and MW-3 (SB-6) were advanced into the saturation zone and completed at depths ranging from 40 to 45 feet bgs.

Discrete, undisturbed soil samples were retrieved in 5-foot intervals by removing the drilling bit and installing a steel soil-sampling coring barrel (1-foot in length) and rotating it into the soil or by pushing a split-spoon sampling device. Compressed air was not used during the sample coring. In addition, drill cutting samples were collected, logged and field screened with a photo-ionization detector (PID) on a continuous basis during the boring advancements. The drill cuttings generated during the assessment were placed on the existing impacted soil stockpiles for subsequent management. Each 1-foot soil sample retrieved from the coring tool was divided into two samples: one sample was sealed in a new plastic re-sealable bag; and the other sample was immediately placed into a laboratory-supplied, four-ounce soil jar equipped with a Teflon-lined lid and placed on ice in an insulated cooler. The bagged sample was allowed to volatize, leaving a headspace for volatile organic compounds (VOCs) to collect. After sufficient time had elapsed to allow for volatilization, the headspace was screened for the presence of VOCs using a PID. In addition, BNC's field geologist described each sample using the Unified Soil Classification System and logged visual and olfactory observations as well as PID readings for evaluation of the presence of hydrocarbons. Soil samples collected for laboratory analysis were based on physical observations, field VOC measurements and the professional judgment of the BNC field geologist. All soil samples were chilled to a temperature of approximately 4°C (40°F), submitted to SPL in Houston, Texas and analyzed for TPH concentrations by EPA Method 8015 modified for diesel range organics (DRO) and gasoline range organics (GRO) as well as, BTEX concentrations by EPA Method 8021B. The coolers were sealed for shipment and proper chain-of-custody documentation accompanied the samples to the laboratory.

Prior to advancing the first boring, between samples and between soil boring/monitoring wells, the pertinent areas of the drilling rig and sampling tools were steam-cleaned to minimize the potential for cross-contamination. After drilling and sampling activities were completed, the borings were permanently plugged with bentonite to prevent subsurface impact from surface runoff.

Monitoring wells were drilled and completed to specifications required by the New Mexico Office of the State Engineer by a New Mexico-licensed water well driller. Two-inch, flush-threaded, schedule 40 PVC casing was selected for use at the Site for all wells. Each well consisted of 20 feet of 0.020-inch screened-casing placed at the bottom of each well allowing for 10 feet of screened-casing below the static depth-to-water and 10 feet of screened-casing above the static depth-to-water. The well annulus was filled with an 8/16 sand filter pack to approximately two feet above the top of the screen interval, a bentonite seal was placed on top of the sand and the well annulus was cemented to the surface to prevent surface runoff from entering the water table through the annulus. Boring logs and monitoring well completion details including the soil boring legend and notes are presented in FIGURES 4, 5, 6, 7, and 8. In addition, New Mexico Well Records are supplied in APPENDIX B.

Monitoring wells were developed by removal of sufficient volumes of water to clear the well casing and annulus of sediment. Subsequent to well development and prior to sample collection, the monitoring wells were gauged and purged dry or until a minimum of three well volumes had been removed. The development water was stored in drums and left onsite for subsequent management. Groundwater samples collected during the assessment were placed in appropriate sample containers supplied by the laboratory, preserved on ice in insulated coolers and chilled to a temperature of approximately 4°C (40°F) for laboratory analysis. The groundwater samples were submitted to SPL located in Houston, Texas for analysis of BTEX by EPA Method 8021B, polycyclic aromatic hydrocarbon (PAH) concentrations by EPA Method 8310, arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver (RCRA Metals) concentrations by EPA Method 6010 and 7470 and general groundwater quality parameters including total alkalinity, chloride, sulfate and total dissolved solids (TDS). The coolers were sealed for shipment and proper chain-of-custody documentation accompanied the samples to the laboratory. The groundwater constituents selected for laboratory analysis were based on telephone conversations with Mr. Bill Olsen of the NMOCD.

Subsurface Lithology

Soil samples were logged by a BNC field geologist and the general subsurface lithologies observed in the samples are presented below. The interval thicknesses, depths, and occurrences for the following soil types are presented within the boring logs and details for each soil boring/monitoring well. The four subsurface soil types encountered during the assessment include the following descriptions:

- Soil Type #1 is a Silty Clay, dark red brown, sandy, clayey, some caliche pebbles to 0.5 inch, slighty moist, organic, clay has low plasticity;
- Soil Type #2 is a Silty Sand (Caliche), light gray green, poor to well indurated, iron staining, dry to wet, fractured with lag gravel up to three inches in diameter;
- Soil Type #3 is a Limestone, olive gray, dense, hard, cryptocrystalline, cherty, massive; and
- Soil Type #4 is a Silty Sand, medium red brown, slight iron staining, dry, fractured, and very poorly consolidated.

Soil and Groundwater Assessment Results

Twenty soil samples were collected from varying depths within the monitoring wells and soil borings and submitted to SPL for BTEX and TPH (DRO/GRO) analysis. The submitted samples were selected to evaluate the highest possible contaminant concentration(s) in each soil boring/monitoring well and to assess the vertical and horizontal extent of hydrocarbon impacts.

TABLE I displays the soil sample analytical results for BTEX and TPH (DRO/GRO) from the four soil borings and three soil borings/monitoring wells advanced at the Site during the assessment. The NMOCD recommended remediation action levels (RRALs) are also presented for comparison to the analytical results. Soil samples collected from various intervals within soil borings SB-2 (monitoring well MW-1), SB-4 and SB-5 (monitoring well MW-2) exhibited concentrations that exceeded the NMOCD RRAL for TPH (DRO/GRO) and ranged in concentration from 255 to 5,000 mg/Kg. Copies of the certified analytical reports and chain-of-custody documentation are attached in APPENDIX C.

Waste generated at this site is classified as non-exempt and is subject to hazardous waste characterization. A composite waste characterization sample was obtained from the soil stockpiles (FIGURE 2) on July 7, 2004 (TABLE II). The sample, identified as "Gladiola WCS" was analyzed for BTEX, TPH, TCLP RCRA Metals, and reactivity, corrosivity and ignitability (RCI). Based on the analytical results, the sample did not exhibit any hazardous characteristics. The analytical reporting results, testing methods, laboratory quality control reports and chain-of-custody documentation are provided in APPENDIX C.

Groundwater gauging data collected on May 17, 2004 (TABLE III) indicate the direction of groundwater flow at the Site is toward the east-northeast. Depth-to-groundwater in the three monitoring wells ranged from 32.74 to 37.04 feet below the top of casing. This gauging data and the depth of groundwater encountered during the drilling activities indicate that the first occurrence of groundwater beneath the Site exhibits unconfined conditions.

The groundwater sample analytical results for BTEX, PAH and RCRA Metals and groundwater quality are presented in TABLE IV, V and VI, respectively. The NMWQCC maximum allowable toxic pollutant concentrations for human health standards for groundwater are also presented for comparison to the analytical results. Monitoring wells MW-1, MW-2 and MW-3 exhibited benzene concentrations that exceeded regulatory limits (6.600, 0.019 and 0.140 mg/L, respectively). Monitoring well MW-1 also exhibited toluene, ethylbenzene and xylene concentrations that exceeded regulatory limits (1.100, 0.440 and 1.120 mg/L, respectively). In addition, PAH analyses exhibited total naphthalene concentrations in monitoring wells MW-1 and MW-2 that exceeded regulatory limits (0.087 and 0.050 mg/L, respectively). All RCRA Metals and groundwater quality analytical parameters were below regulatory limits with the exception of barium in MW-1 (2.71 mg/L). Barium concentrations may be attributed to naturally occurring conditions. Copies of the certified analytical reports and chain-of-custody documentation are attached in APPENDIX C.

Based on record reviews and soil and groundwater assessment activities performed at the Site, BNC presents the following summary of findings:

- The Gladiola Station crude oil pipeline release site is located in eastern Lea County, New Mexico. The subject release occurred on November 18, 2002 and was the result of a sump over-flow/bleeder valve leak. A *Leak, Maintenance and Exposed Pipe Report* dated November 18, 2002 indicated the release consisted of 15 barrels lost and 5 barrels recovered;

- Based on Site characteristics and associated NMOCD-ranking criteria, the following soil hydrocarbon recommended remediation levels apply at the Site: benzene- 10 ppm, BTEX- 50 ppm and TPH- 100 ppm. In addition, groundwater samples collected as part of the assessment activities were evaluated utilizing NMWQCC standards;

- Initial excavation activities were performed at the Site by E.D. Walton followed by a soil boring investigation conducted by B&H in August 2003. A document entitled *Soil Coring Investigation Report* was prepared by B&H and submitted to EMPCo to demonstrate the TPH concentrations at the Site. BNC and EMGR personnel conducted a Site visit on October 8, 2003 and noted onsite/offsite remedial excavations, as well as corresponding soil stockpiles. Subsequently, BNC prepared and submitted a Work Scope and Cost Estimate dated October 31, 2003 to EMGR personnel and proposed further assessment of soil impacts at the Site;

- On May 12, 2004, BNC mobilized to the Site and conducted soil and groundwater assessment activities including the installation of four soil borings (SB-1, SB-3, SB-4 and SB-7) and three soil borings/monitoring wells (SB-2/MW-1, SB-5/MW-2 and SB-6/MW-3);

- Soil samples collected from soil borings SB-2 (monitoring well MW-1), SB-4 and SB-5 (monitoring well MW-2) exhibited concentrations that exceeded the NMOCD RRAL for TPH (DRO/GRO) and ranged in concentration from 255 to 5,000 mg/Kg;

- Groundwater samples collected from monitoring wells MW-1, MW-2 and MW-3 exhibited benzene concentrations that exceeded regulatory limits (6.600, 0.019 and 0.140 mg/L, respectively). Monitoring well MW-1 also exhibited toluene, ethylbenzene and xylene concentrations that exceeded regulatory limits (1.100, 0.440 and 1.120 mg/L, respectively). In addition, PAH analyses exhibited total naphthalene concentrations in monitoring wells MW-1 and MW-2 that exceeded regulatory limits (0.087 and 0.050 mg/L, respectively). All metals and groundwater quality analytical parameters were below regulatory limits with the exception of barium in MW-1 (2.71 mg/L); and,

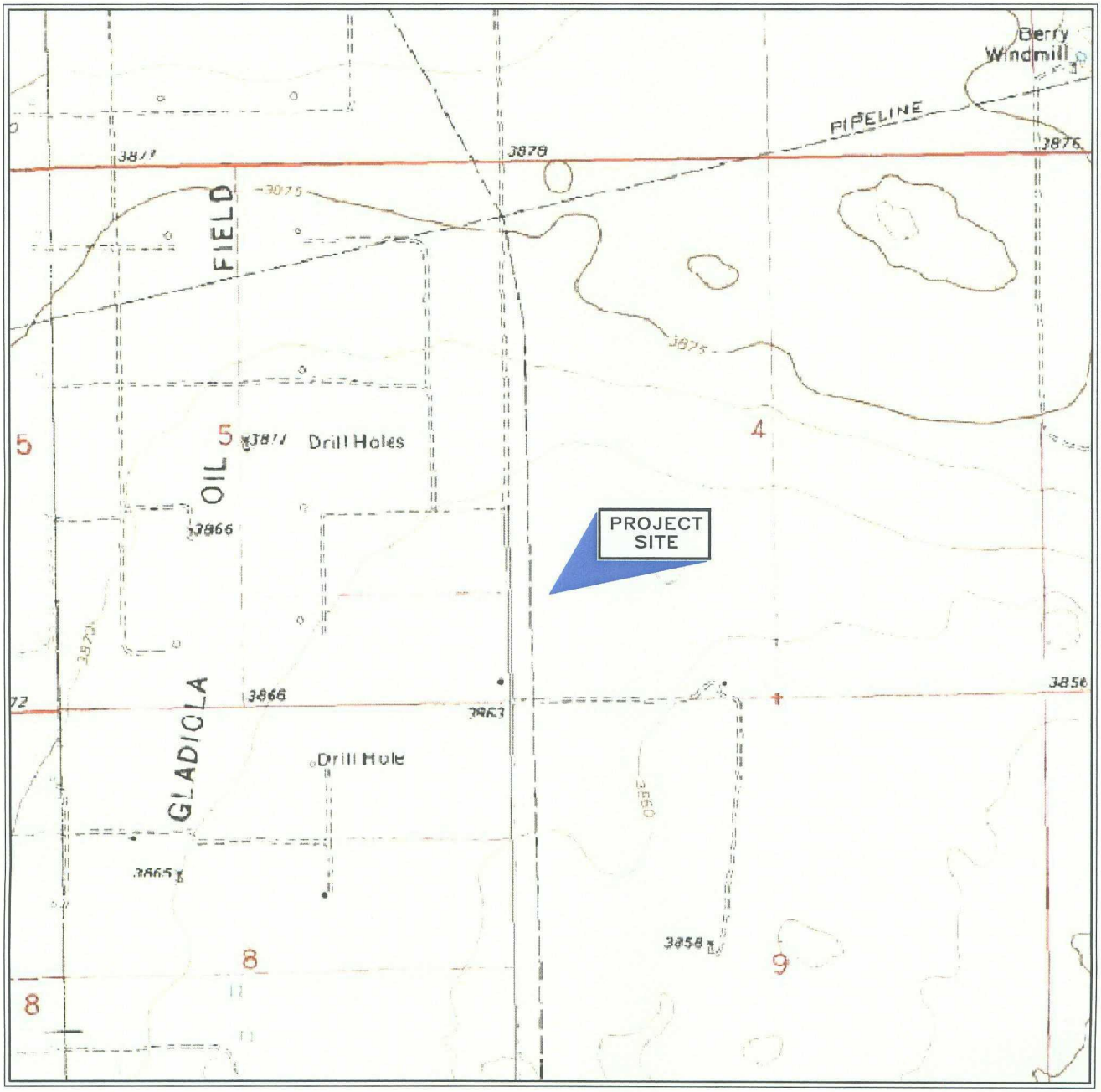
- A composite waste characterization sample of soil stockpiles indicated that the stockpiles do not exhibit hazardous characteristics.

The results of this soil and groundwater assessment activities at Gladiola Station demonstrate that the extent of hydrocarbon-impacted groundwater has not been fully delineated. Additional groundwater delineation and remediation activities are currently under consideration.

BRONCO QUADRANGLE
TEXAS

LAT=33° 18' 12"
LONG=103° 06' 35"

PHOTOREVISED 1970



0 1/4 1/2 1

(Miles)

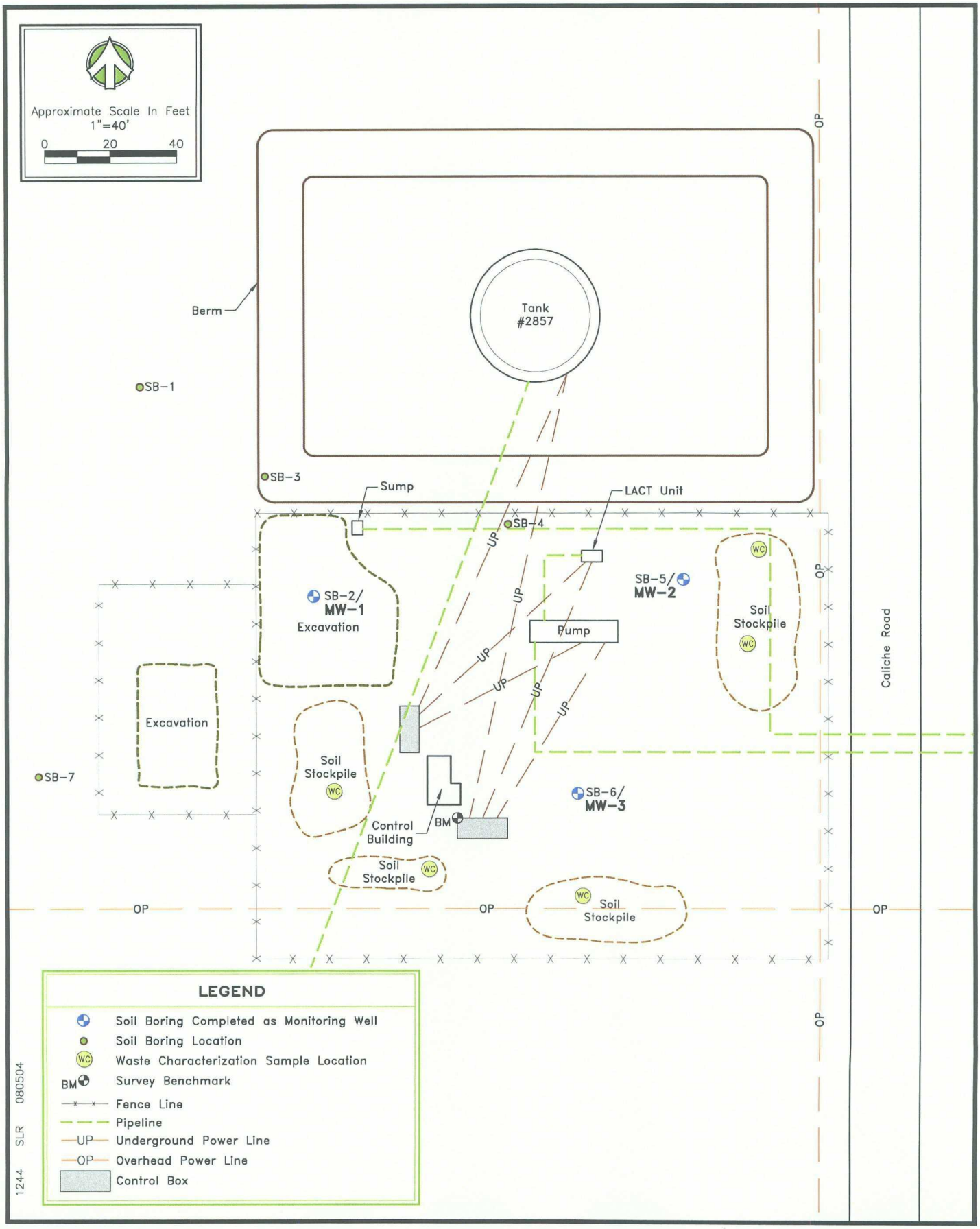
0 1600 3200 4800 6400

(Feet)

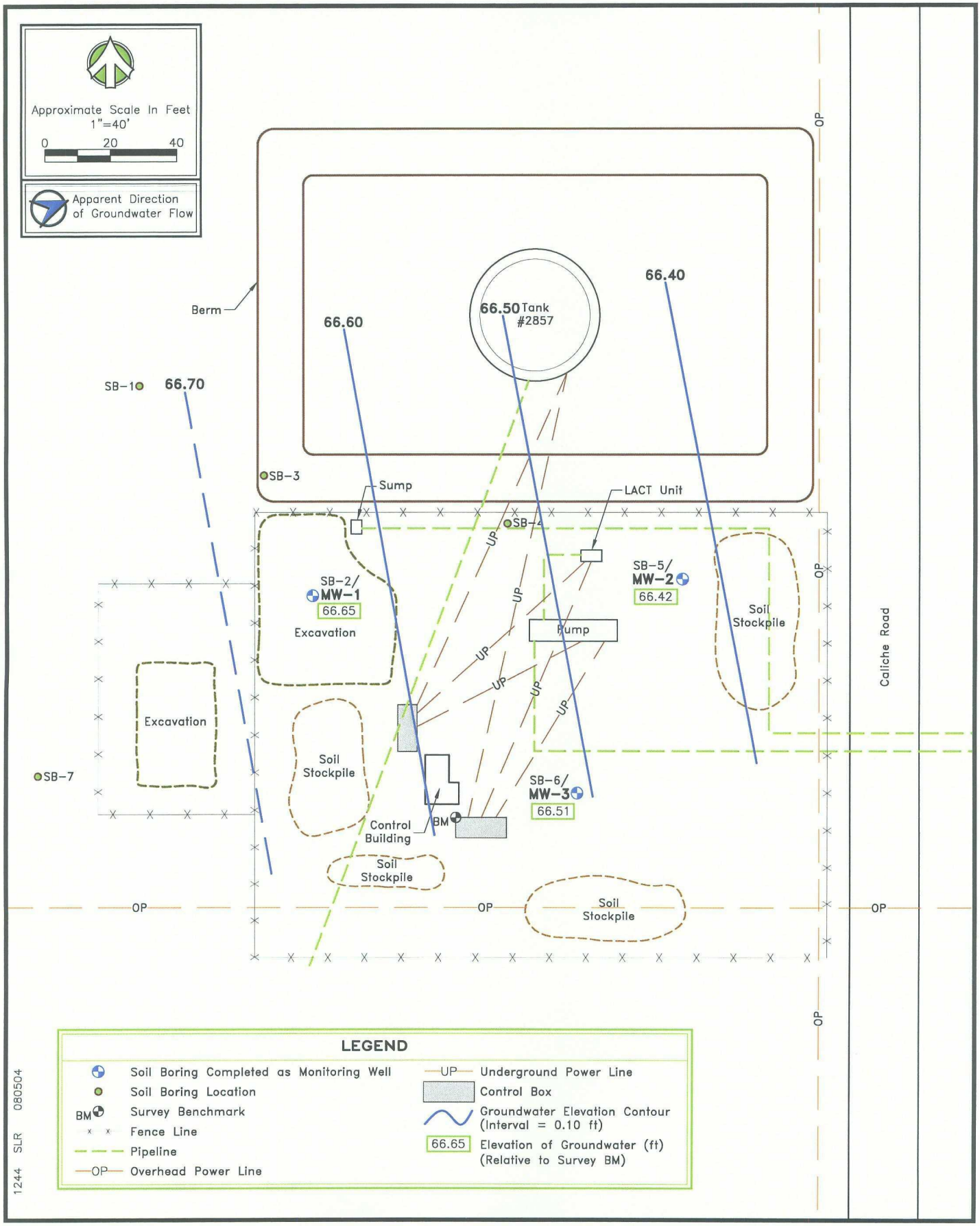
NORTH

1244 PGP 5/24/04

SITE LOCATION MAP	JOB No. 1244
EXXONMOBIL GLOBAL REMEDIATION GLADIOLA STATION LEA COUNTY, NEW MEXICO	FIGURE 1



BNC	SITE DETAILS	JOB No. 1244
	EXXONMOBIL GLOBAL REMEDIATION GLADIOLA STATION LEA COUNTY, NEW MEXICO	FIGURE 2



BNC

GROUNDWATER GRADIENT MAP – MAY 17, 2004

EXXONMOBIL GLOBAL REMEDIATION
GLADIOLA STATION LEA COUNTY, NEW MEXICO

JOB No. 1244

FIGURE 3

SOIL TYPE

Silty Clay: Dark Red Brown, Sandy, Clayey, Some Caliche Pebbles to 0.5", Slightly Moist, Organics, Clay has low Plasticity

Silty Sand: (Caliche) Light Gray Green, Poor to well Indurated, Iron Staining, Dry to Wet, Fractured, Lag Gravel to 3" at Depth

Limestone: Olive Gray, Dense, Hard, Cryptocrystalline, Cherty, Massive

Silty Sand: Medium Red Brown, Slightly Iron Stained, Dry, Fractured, Very Poorly Consolidated.

Indicates sample selected for laboratory analysis.

Indicates sample interval. Sample was obtained by hand (probe samples).

Indicates sample interval. Sample was obtained by split spoon.

Indicates sample interval. Sample was obtained by core.

Indicates sample interval. Sample was obtained by drill bit cuttings..

B	Benzene Concentration (mg/Kg)
BTEX	Benzene, Toluene, Ethylbenzene and Xylenes Concentration (mg/Kg)
TPH	Total Petroleum Hydrocarbons (DRO/GRO) Concentration (mg/Kg)
BDL	Below Detection Limits
PID	Headspace readings in ppm obtained with a photo-ionization detector.

NOTES

1. The soil borings were advanced on May 12 through 14, 2004.
2. The lines between soil types indicated on the logs represent approximate boundaries. Actual transitions may be gradual.
3. The depths indicated are referenced from the ground surface.
4. Soil borings were grouted with a cement and bentonite mixture.

1244 SB Log SLR 080604

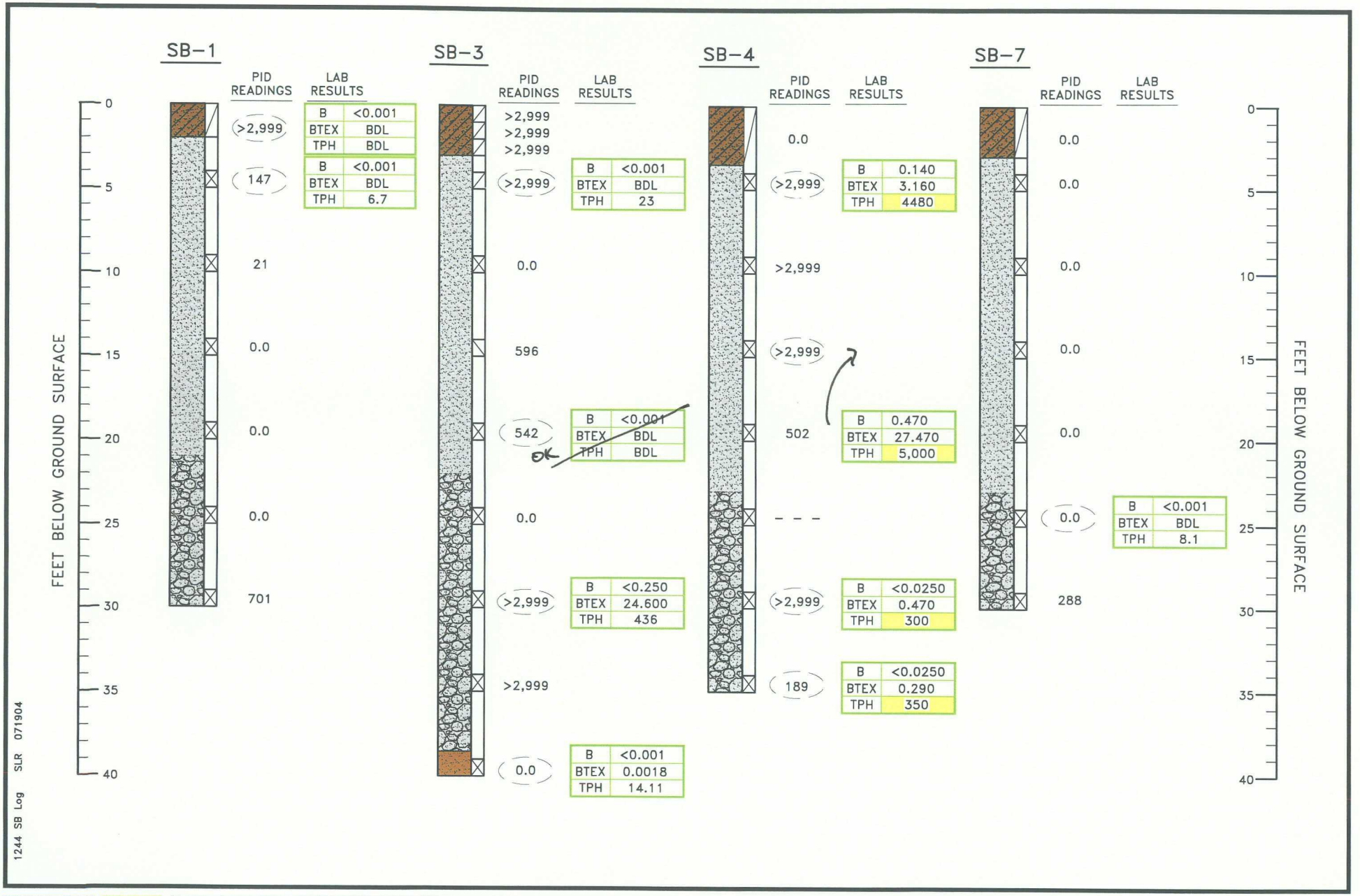
BNC

SOIL BORING LEGEND AND NOTES

EXXONMOBIL GLOBAL REMEDIATION
GLADIOLA STATION ANDREWS, TEXAS

JOB No. 1244

FIGURE 4



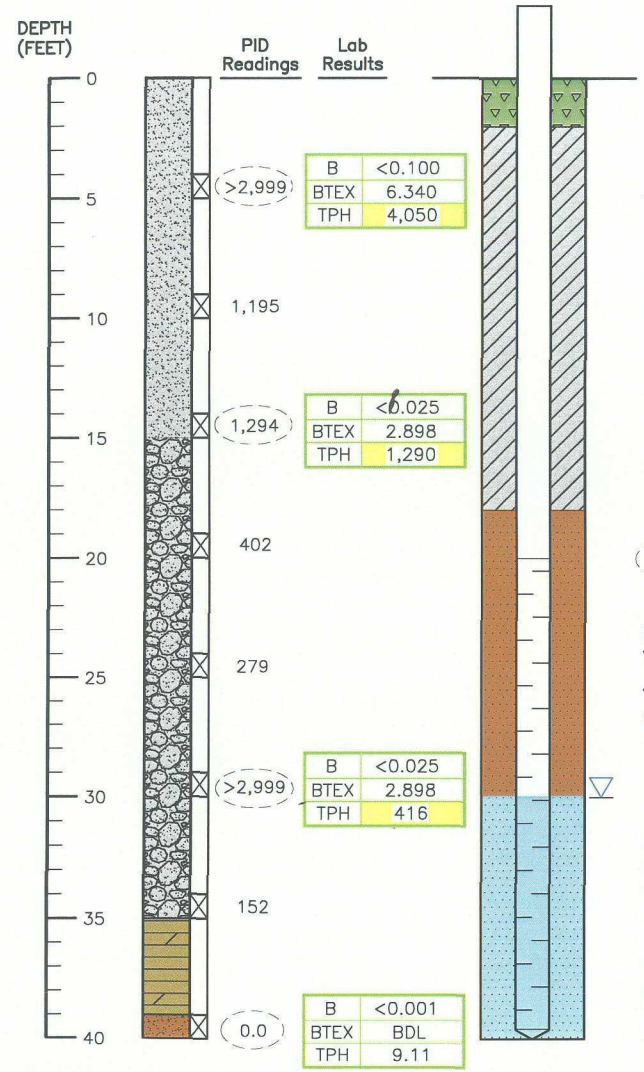
LOGS AND DETAILS FOR SOIL BORINGS SB-1, SB-3, SB-4 and SB-7

EXXONMOBIL GLOBAL REMEDIATION
GLADIOLA STATION ANDREWS, TEXAS

JOB No. 1244

FIGURE 5

MONITORING WELL MW–1 (SB–2)



Monitoring Well Details (MW–1)

Thickness of Bentonite Seal	16 ft
Length of PVC Well Screen	20 ft
Depth of PVC Well	40 ft
Depth of Exploratory Hole	40 ft
Depth to Groundwater (During drilling)	~30 ft
Depth to Groundwater	29.91 ft.
Elev of Groundwater	0

Indicates sample selected for laboratory analysis.

B = Benzene Concentration (mg/Kg)
BTEX = BTEX Concentration (mg/Kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/Kg)
TPH = TPH (GRO/DRO)
BDL = Below Detection Limits

Concrete Surface Seal

Bentonite Pellet Seal

Sand Pack

LEGEND

Silty Clay: Dark Red Brown, Sandy, Clayey, Some Caliche Pebbles to 0.5", Slightly Moist, Organics, Clay has low Plasticity

Silty Sand: (Caliche) Light Gray Green, Poor to well Indurated, Iron Staining, Dry to Wet, Fractured, Lag Gravel to 3" at Depth

Limestone: Olive Gray, Dense, Hard, Cryptocrystalline, Cherty, Massive

Silty Sand: Medium Red Brown, Slightly Iron Stained, Dry, Fractured, Very Poorly Consolidated.

Indicates sample interval. Sample was obtained by Drill Bit Cuttings.

Indicates sample interval. Sample was obtained by Core Barrel.

Indicates the groundwater level measured during drilling.

PID Head–space readings in ppm obtained with a photo–ionization detector.

ND Indicates the concentration was not detected.

NOTES

1. The monitoring well was installed on May 13, 2004 using 6.125–inch diameter air rotaty drill Rig.
2. The well was constructed with 2–inch ID, 0.020–inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between soil types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground level.

1244 MWLog SLR 080604

BNC

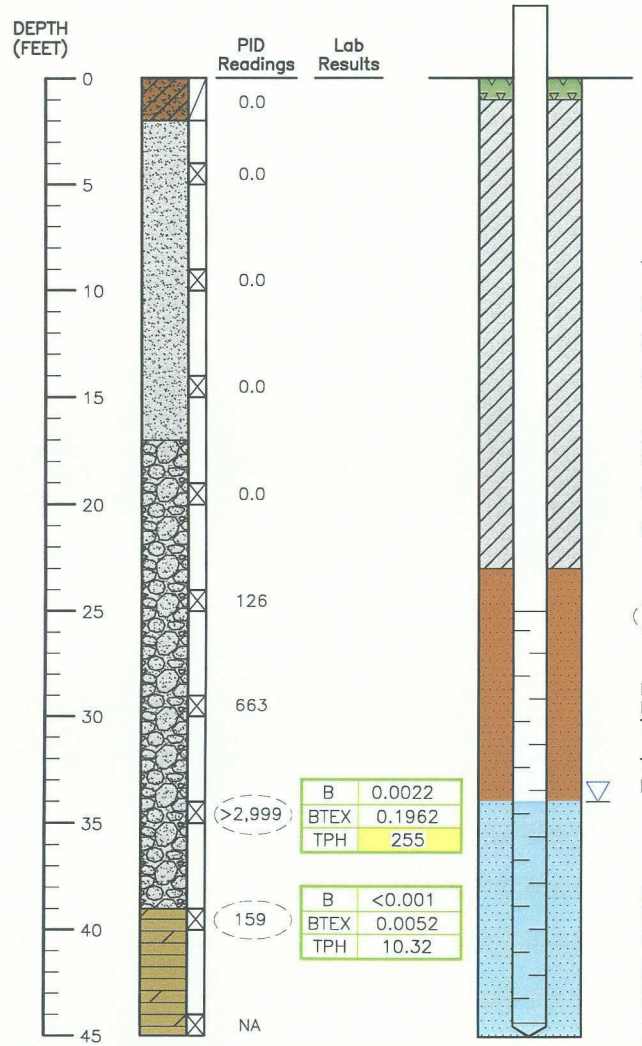
LOG AND DETAILS OF MONITORING WELL MW–1 (SB–2)

EXXONMOBIL GLOBAL REMEDIATION
GLADIOLA STATION ANDREWS, TEXAS

JOB No. 1244

FIGURE 6

MONITORING WELL MW–2 (SB–5)



Monitoring Well Details (MW–2)

Thickness of Bentonite Seal	22 ft
Length of PVC Well Screen	20 ft
Depth of PVC Well	45 ft
Depth of Exploratory Hole	45 ft
Depth to Groundwater (During drilling)	~34 ft
Depth to Groundwater	33.75 ft
Elev of Groundwater	0 ft

Indicates sample selected for laboratory analysis.

B = Benzene Concentration (mg/Kg)
BTEX = BTEX Concentration (mg/Kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/Kg)
TPH = TPH (GRO/DRO)
BDL = Below Detection Limits

Concrete Surface Seal

Bentonite Pellet Seal

Sand Pack

LEGEND

Silty Clay: Dark Red Brown, Sandy, Clayey, Some Caliche Pebbles to 0.5", Slightly Moist, Organics, Clay has low Plasticity

Silty Sand: (Caliche) Light Gray Green, Poor to well Indurated, Iron Staining, Dry to Wet, Fractured, Lag Gravel to 3" at Depth

Limestone: Olive Gray, Dense, Hard, Cryptocrystalline, Cherty, Massive

Silty Sand: Medium Red Brown, Slightly Iron Stained, Dry, Fractured, Very Poorly Consolidated.

Indicates sample interval. Sample was obtained by Drill Bit Cuttings.

Indicates sample interval. Sample was obtained by hand (probe samples).

Indicates sample interval. Sample was obtained by Core Barrel.

Indicates the groundwater level measured during drilling.

PID Head–space readings in ppm obtained with a photo–ionization detector.

ND Indicates the concentration was not detected.

NOTES

1. The monitoring well was installed on May 13, 2004 using 6.125–inch diameter air rotary drill rig.
2. The well was constructed with 2–inch ID, 0.020–inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between soil types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface unless otherwise noted.

1244 MWLog SLR 080604

BNC

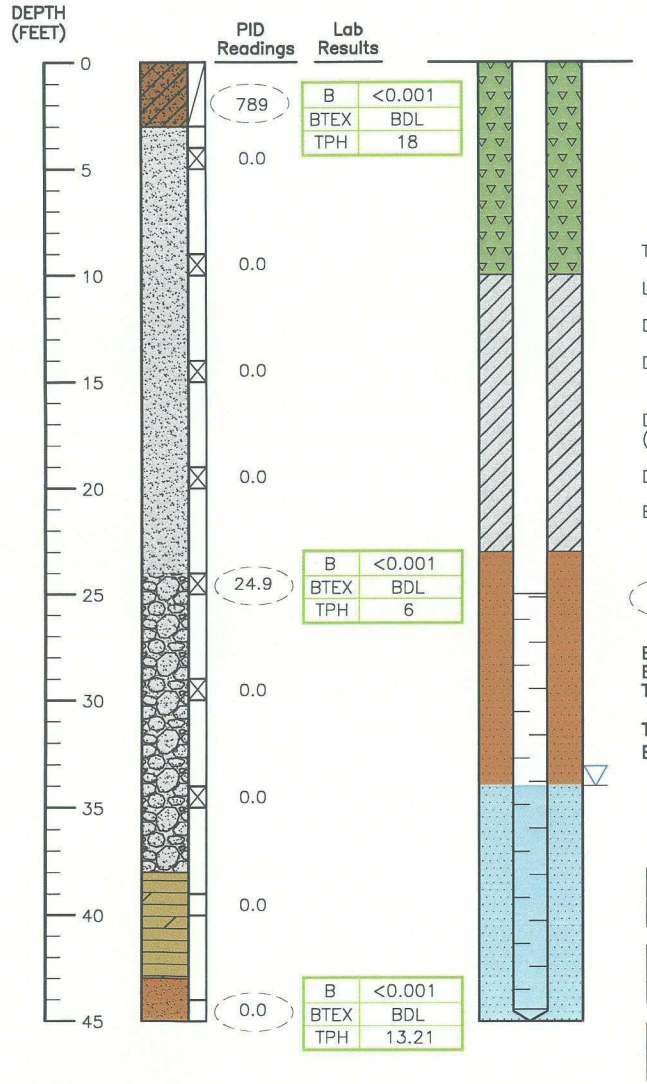
LOG AND DETAILS OF MONITORING WELL MW–2 (SB–5)

EXXONMOBIL GLOBAL REMEDIATION
GLADIOLA STATION ANDREWS, TEXAS

JOB No. 1244

FIGURE 7

MONITORING WELL MW–3 (SB–6)



1244 MWLog SLR 080604

Monitoring Well Details (MW–3)

Thickness of Bentonite Seal	13 ft
Length of PVC Well Screen	20 ft
Depth of PVC Well	45 ft
Depth of Exploratory Hole	45 ft
Depth to Groundwater (During drilling)	~34 ft
Depth to Groundwater	33.25 ft
Elev of Groundwater	0 ft

Indicates sample selected for laboratory analysis.

B = Benzene Concentration (mg/Kg)
BTEX = BTEX Concentration (mg/Kg)
TPH = Total Petroleum Hydrocarbon Concentration (mg/Kg)
TPH = TPH (GRO/DRO)
BDL = Below Detection Limits

Concrete Surface Seal

Bentonite Pellet Seal

Sand Pack

LEGEND

Silty Clay: Dark Red Brown, Sandy, Clayey, Some Caliche Pebbles to 0.5", Slightly Moist, Organics, Clay has low Plasticity

Silty Sand: (Caliche) Light Gray Green, Poor to well Indurated, Iron Staining, Dry to Wet, Fractured, Lag Gravel to 3" at Depth

Limestone: Olive Gray, Dense, Hard, Cryptocrystalline, Cherty, Massive

Silty Sand: Medium Red Brown, Slightly Iron Stained, Dry, Fractured, Very Poorly Consolidated.

Indicates sample interval. Sample was obtained by Drill Bit Cuttings.

Indicates sample interval. Sample was obtained by hand (probe samples).

Indicates sample interval. Sample was obtained by Core Barrel.

Indicates the groundwater level measured during drilling.

PID Head–space readings in ppm obtained with a photo–ionization detector.

ND Indicates the concentration was not detected.

NOTES

1. The monitoring well was installed on May 13, 2004 using 6.125–inch diameter air rotary drill rig.
2. The well was constructed with 2–inch ID, 0.020–inch factory slotted, threaded joint, Schedule 40 PVC pipe.
3. The lines between soil types shown on the profile log represent approximate boundaries. Actual transitions may be gradual.
4. The depths indicated are referenced from the ground surface unless otherwise noted.

LOG AND DETAILS OF MONITORING WELL MW–3 (SB–6)

EXXONMOBIL GLOBAL REMEDIATION
GLADIOLA STATION ANDREWS, TEXAS

JOB No. 1244

FIGURE 8

TABLE I

SUMMARY OF SOIL ANALYTICAL DATA – BTEX/TPH
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

SAMPLE ID	DATE	DEPTH (feet)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	XYLENES (mg/Kg)	TOTAL BTEX (mg/Kg)	TPH (8015 Modified)		
								TPH DRO (mg/Kg)	TPH GRO (mg/Kg)	TPH (GRO/DRO) (mg/Kg)
New Mexico Oil Conservation Division Recommended Remediation Action Levels (Total Ranking Score >19)										
			10 mg/Kg	---	---	---	50.0 mg/Kg	---	---	100 mg/Kg
Excavation Confirmation Samples										
SB - 1	5/14/2004	0 - 2	<0.001	<0.001	<0.001	<0.001	BDL	<5	<0.1	BDL
	5/14/2004	4 - 5	<0.001	<0.001	<0.001	<0.001	BDL	**6.7**	<0.1	**6.7**
SB - 2	5/13/2004	4 - 5	<0.100	<0.100	**2.100**	**4.240**	**6.340**	**3,300**	**750**	**4,050**
(MW-1)	5/13/2004	14 - 15	<0.025	<0.025	**0.610**	**2.288**	**2.898**	**1,200**	**190**	**1,390**
	5/13/2004	29 - 30	<0.025	**0.063**	**0.470**	**1.380**	**1.913**	**360**	**56**	**416**
	5/13/2004	39 - 40	<0.001	<0.001	<0.001	<0.001	BDL	**9**	**0.11**	**9.11**
SB - 3	5/12/2004	4 - 5	<0.001	<0.001	<0.001	<0.001	BDL	**23**	<0.1	**23**
	5/12/2004	19 - 20	<0.001	<0.001	<0.001	<0.001	BDL	<5	<0.1	BDL
	5/12/2004	29 - 30	<0.250	**2.200**	**6.200**	**16.200**	**24.600**	**56**	**380**	**436**
	5/12/2004	39 - 40	<0.001	<0.001	<0.001	**0.0018**	**0.0018**	**14**	**0.11**	**14.11**
SB - 4	5/13/2004	4 - 5	**0.140**	**0.110**	**1.500**	**1.410**	**3.160**	**4,000**	**480**	**4,480**
	5/13/2004	14 - 15	**0.470**	<0.100	**5.800**	**21.200**	**27.470**	**3,900**	**1,100**	**5,000**
	5/13/2004	29 - 30	<0.025	<0.025	**0.180**	**0.290**	**0.470**	**270**	**30**	**300**
	5/13/2004	34 - 35	<0.025	<0.025	**0.110**	**0.180**	**0.290**	**330**	**20**	**350**
SB - 5	5/13/2004	34 - 35	**0.0022**	**0.018**	**0.073**	**0.103**	**0.1962**	**240**	**15**	**255**
(MW-2)	5/13/2004	39 - 40	<0.001	<0.001	**0.0018**	**0.0034**	**0.0052**	**9.7**	**0.62**	**10.32**
SB - 6	5/13/2004	0 - 3	<0.001	<0.001	<0.001	<0.001	BDL	**18**	<0.1	**18**
(MW-3)	5/13/2004	24 - 25	<0.001	<0.001	<0.001	<0.001	BDL	**6**	<0.1	**6**
	5/13/2004	44 - 45	<0.001	<0.001	<0.001	<0.001	BDL	**13**	**0.21**	**13.21**
SB - 7	5/14/2004	24 - 25	<0.001	<0.001	<0.001	<0.001	BDL	**8.1**	<0.1	**8.1**

Notes:

BTEX analysis by EPA Method 8021.

TPH analysis by EPA Method 8015 Modified.

BDL- Below Detection Limits.

Bold concentrations above lab reporting limits.

Highlighted Concentrations above NMOCD RRALS.

TABLE II

SUMMARY OF SOIL ANALYTICAL DATA – Waste Characterization
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

SAMPLE		Gladiola WCS
DATE		7/7/2004
TYPE		Soil
RCI	REACTIVE SULFIDE (mg/Kg)	<10
	REACTIVE CYANDIDE (mg/Kg)	<0.5
	CORROSIVITY pH Units	8.09
	IGNITABILITY °F	>212
BTEX	Benzene (mg/Kg)	<0.001
	Toluene (mg/Kg)	<0.001
	Ethylbenzene (mg/Kg)	<0.001
	Total Xylenes (mg/Kg)	<0.001
	BTEX (mg/Kg)	BDL
TPH	GRO (mg/Kg)	<0.1
	DRO (mg/Kg)	620
	Total TPH (mg/Kg)	620
TCLP RCRA METALS	Arsenic (mg/L)	<0.2
	Barium (mg/L)	1.52
	Cadmium (mg/L)	<0.02
	Chromium (mg/L)	<0.02
	Lead (mg/L)	<0.1
	Mercury (mg/L)	<0.0002
	Selenium (mg/L)	<0.2
	Silver (mg/L)	<0.02

NOTES:

RCI by ASTM Method D 92-01 and EPA methods SW9045C, SW7.3.3.2 and SW7.3.4.2.

BTEX by EPA Method 8021B.

TPH by EPA Method 8015B Modified.

TCLP RCRA Metals by EPA Methods 6010B and 7470A.

TABLE III

GROUNDWATER ELEVATION DATA
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

WELL (*TOC Elev.*)	DATE	Depth of Well	Depth to Water	Depth to LNAPL	LNAPL Thickness	Groundwater Elevation	Screen Interval
MW-1 *99.39*	5/17/2004	43.21	32.74	---	---	66.65	22.71 - 42.71
MW-2 *103.46*	5/17/2004	48.09	37.04	---	---	66.42	27.59 - 47.59
MW-3 *99.30*	5/17/2004	44.70	32.79	---	---	66.51	24.20 - 44.20

Notes:
Top of casing survey completed on 5/17/2004 by BNC.
All depths measured from TOC.
TOC - top of casing.
bgs - below ground surface.

TABLE IV

SUMMARY OF GROUNDWATER ANALYTICAL DATA – BTEX
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

SAMPLE ID	DATE	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	XYLENES (mg/L)	Total BTEX (mg/L)
New Mexico Water Quality Control Commission Maximum Allowable Toxic Pollutant Concentration Human Health Standards for Groundwater						
		0.010 mg/L	0.75 mg/L	0.75 mg/L	0.62 mg/L	---
MW-1	5/17/2004	**6.600**	**1.100**	**0.440**	**1.120**	**9.260**
MW-2	5/17/2004	**0.019**	<0.001	**0.033**	**0.0641**	**0.1161**
MW-3	5/17/2004	**0.140**	<0.001	**0.016**	**0.091**	**0.247**

Notes:

BTEX analysis by EPA Method 8021B.

Bold concentrations above lab reporting limits.

Higlighted concentrations above NMWQCC Human Health Standards fro Groundwater.

TABLE V

SUMMARY OF GROUNDWATER ANALYTICAL DATA - PAH
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

Sample	Date	1-Methylnaphthalene (mg/L)	2-Methylnaphthalene (mg/L)	Acenaphthene (mg/L)	Acenaphthylene (mg/L)	Anthracene (mg/L)	Benz(a) Anthracene (mg/L)	Benzo(a) Pyrene (mg/L)	Benzo(b) Fluoranthene (mg/L)	Benzo (g,h,i) Perylene (mg/L)	Benzo(k) Fluoranthene (mg/L)	Florene (mg/L)	Dibenzo (a,h) Anthracene (mg/L)	Indeno (1,2,3-cd) Pyrene (mg/L)	Chrysene (mg/L)	Phenanthrene (mg/L)	Fluoranthrene (mg/L)	Pyrene (mg/L)	Napthalene (mg/L)	' Total Napthalene
New Mexico Water Quality Control Commission Maximum Allowable Toxic Pollutant Concentration Human Health Standards for Groundwater								**0.0007 mg/L**												**0.030 mg/L**
MW-1	5/17/2004	**0.025**	**0.027**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	**0.035**	**0.087**
MW-2	5/17/2004	**0.015**	**0.016**	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	<0.0005	**0.0015**	<0.0005	<0.0005	<0.0005	**0.00056**	<0.0005	<0.0005	**0.019**	**0.050**
MW-3	5/17/2004	**0.00083**	**0.0008**	**0.00015**	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	**0.00057**	<0.0001	<0.0001	<0.0001	**0.00014**	<0.0001	<0.0001	**0.00043**	**0.002**

Notes:

PAH analysis by EPA Method 8310.

Bold concentrations above lab reporting limits.

Higlighted concentrations above NMWQCC Human Health Standards fro Groundwater.

TABLE VI

SUMMARY OF GROUNDWATER ANALYTICAL DATA - METALS AND GROUNDWATER QUALITY
GLADIOLA STATION
LEA COUNTY, NEW MEXICO

Sample I. D. No.	Date	RCRA Metals								Groundwater Quality			
		Arsenic (dissolved) (mg/L)	[1] Barium (dissolved) (mg/L)	Cadmium (dissolved) (mg/L)	Chromium (dissolved) (mg/L)	Lead (dissolved) (mg/L)	Mercury (dissolved) (mg/L)	Selenium (dissolved) (mg/L)	Silver (dissolved) (mg/L)	Total Alkalinity ($CaCO_3$) (mg/L)	Chloride (mg/L)	Sulfate (mg/L)	Total Dissolved Solids (mg/L)
New Mexico Water Quality Control Commission Maximum Allowable Toxic Pollutant Concentration Human Health Standards for Groundwater		**0.1 mg/L**	**1.0 mg/L**	**0.01 mg/L**	**0.05 mg/L**	**0.05 mg/L**	**0.002 mg/L**	**0.05 mg/L**	**0.05 mg/L**			[2] **250 mg/L**	[2] **600 mg/L**
MW-1	5/17/2004	**0.0168**	**2.71**	<0.005	<0.010	<0.005	<0.0002	<0.005	<0.010	1,010	24	1.7	1,130
MW-2	5/17/2004	<0.005	**0.0867**	<0.005	<0.010	<0.005	<0.0002	<0.005	<0.010	586	25	25	668
MW-3	5/17/2004	**0.00745**	**0.640**	<0.005	<0.010	<0.005	<0.0002	<0.005	<0.010	607	18	7.4	722

Notes:

Metals Analysis by EPA Methods 6010B and 7470A.

Groundwater Quality by EPA Methods 160.1, 300.0, and 310.1.

Bold concentrations above lab reporting limits.

Highlighted concentrations above NMWQC Human Health Standards fro Groundwater.

[1] May be naturally occurring.

[2] Other Standard for Domestic Water Supply. Not a Human Health Standard for Groundwater

Corporation
TelALL Phase I Support Services
1502 West Ave Suite C, Austin, TX 78701
Tel: (800) 583-0004 Fax: (512) 472-4466

2/20/2004

Will Murley
BNC Environmental Services
2135 S. Loop 250 West
Midland TX 79703

Re: Water Well Search BNCM6617

Will Murley

Thank you for contacting TelALL Corporation for the attached water well search. We have searched for water wells within .5 miles of the subject site. The following is a description of our sources.

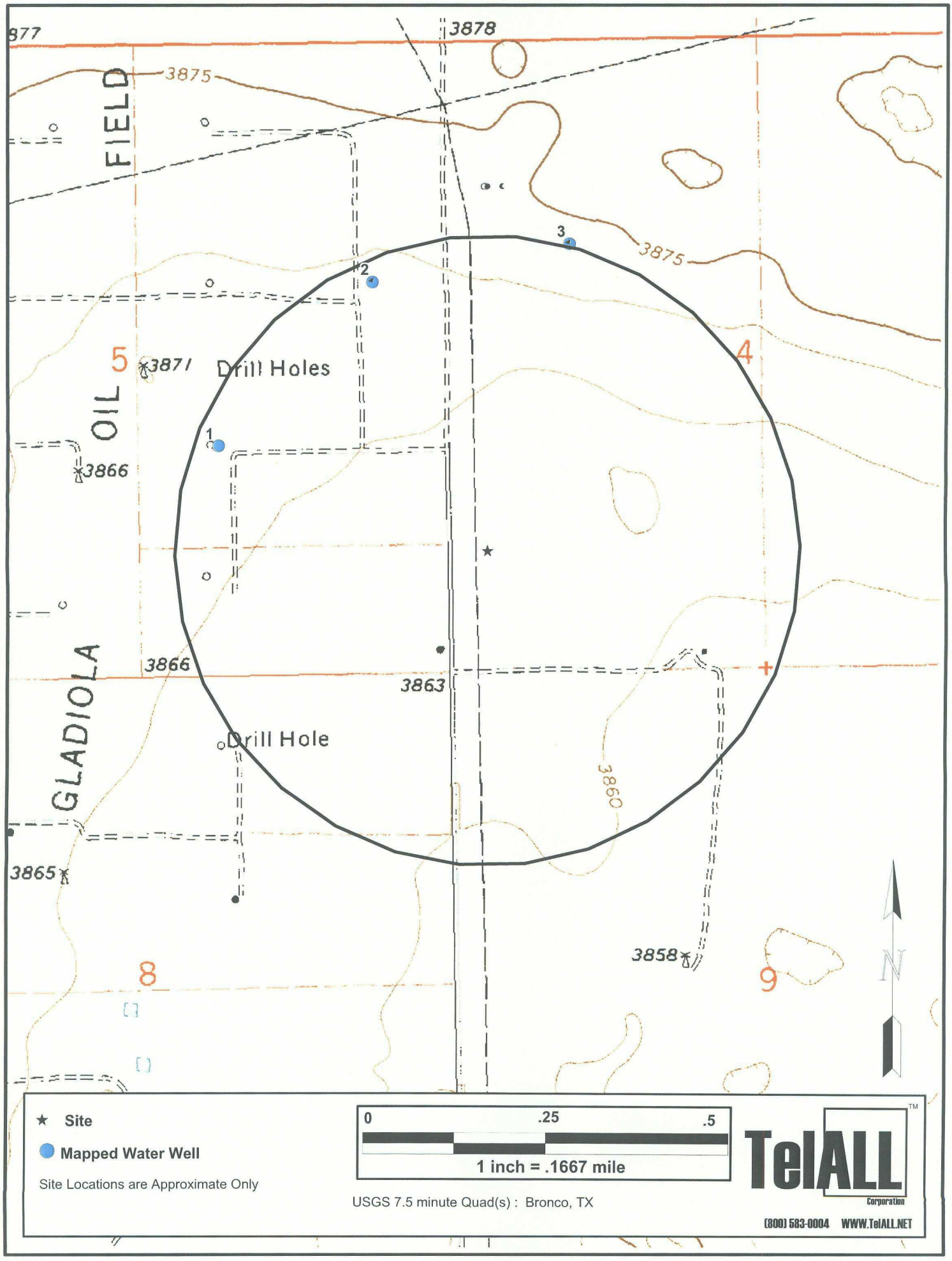
W.A.T.E.R.S. (Water Administration Technical Engineering Resource System)

The Office of the State Engineer (OSE) and the Interstate Stream Commission (ISC) maintain this database for administering the state's water resources. The agencies have power over the supervision, measurement, appropriation and distribution of almost all surface and ground water in New Mexico, including streams and rivers that cross state boundaries. The State Engineer is also secretary to the Interstate Stream Commission and oversees the staff of both agencies.

USGS

The USGS maintains information on 1.5 million wells nationwide to investigate the occurrence, quantity, quality, distribution, and movement of surface and underground waters. State and local governments, public and private utilities, and other Federal agencies are involved with managing the water resources.

If you have any questions, please contact the TelALL Corporation at 800-583-0004.



★ Site

● Mapped Water Well

Site Locations are Approximate Only

0 .25 .5

1 inch = .1667 mile

USGS 7.5 minute Quad(s) : Bronco, TX

TelALL™ Corporation

(800) 583-0004 WWW.TelALL.NET

L 03395 APPRO

Map # 1

L 03395 APPRO

File Number L 03395

Record Number 115820

Location Information

Township:	12S
Range	38E
Section	5
Q	4
Q2	1
Q3	
Zone	
Lat/Long	675289 / 3686780

Well Information

Well Use	PRO
Diversion	3
Easting	675340
Northing	3686577
Start Date	10/28/1956
Finish Date	10/28/1956
Well Depth	110
Water Depth	70

L 03640 APPRO

Map # 2

L 03640 APPRO

File Number L 03640

Record Number 114287

Location Information

Township:	12S		
Range	38E		
Section	5		
Q	2		
Q2	4		
Q3			
Zone			
Lat/Long	675683	/	3687191

Well Information

Well Use	PRO
Diversion	3
Easting	675734
Northing	3686988
Start Date	8/2/1957
Finish Date	8/2/1957
Well Depth	95
Water Depth	35

L 03977 APPRO EXP

Map # 3

L 03977 APPRO EXP

File Number L 03977

Record Number 117829

Location Information

Township:	12S		
Range	38E		
Section	4		
Q	1		
Q2	3		
Q3	2		
Zone			
Lat/Long	676184	/	3687298

Well Information

Well Use	DOM
Diversion	3
Easting	676235
Northing	3687095
Start Date	
Finish Date	
Well Depth	0
Water Depth	0

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: ExxonMobil Work Phone: _____
Contact: Jonathan Hamilton Home Phone: _____
Address: 2800 Decker Dr., Room NW-46
City: Baytown State: TX Zip: 77520

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 33 d 18' m 02.6" s Longitude: 103 d 06' m 41.0" s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)

E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey

F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.

G. Other: 3 miles west of TX/NM Stateline on Hwy. 380, 3 miles N. on Copeland Rd.

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): ExxonMobil

3. DRILLING CONTRACTOR

License Number: #WD 1456
Name: White Drilling Company, Inc. Work Phone: (325)893-2950
Agent: William Atkins, John White Home Phone: _____
Mailing Address: P.O. Box 906
City: Clyde State: TX Zip: 79510

4. DRILLING RECORD SB-1

Drilling began: 5/14/04 ; Completed: 5/14/04 ; Type tools: Air Rotary ;
Size of hole: 6 1/8 in.; Total depth of well: 30.0 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: Dry ft.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-1

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
n/a				

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From	To
n/a								

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
30.0	0.0	6 1/8		6.912	hand mix/13 sacks of cement

8. PLUGGING RECORD

Plugging Contractor: White Drilling Co., Inc.
Address: P.O. Box 906, Clyde, TX 79510
Plugging Method: Hand Mix
Date ~~Well~~ Plugged: 5/12/04
Environmental Soil Boring
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feetof Cement
1	0.0	30.0	6.912
2			
3			
4			
5			

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-1

9. LOG OF HOLE

Depth in Feet From	To	Thickness in feet	Color and Type of Material Encountered
0.0	2.0	2.0	Dark brown clayey sand.
2.0	15.0	13.0	Tan sand & caliche.
15.0	26.0	11.0	Light brown sand w/limestone.
26.0	30.0	4.0	Tan sand & caliche w/limestone.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-1

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Hydrocarbon present in soil.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

William B. Wilson — Driller

5/24/04 (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad ____; FWL ____; FSL ____; Use _____; Location No. _____

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: ExxonMobil Work Phone: _____
Contact: Jonathan Hamilton Home Phone: _____
Address: 2800 Decker Dr., Room NW-46
City: Baytown State: TX Zip: 77520

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 33 d 18' m 02.6" s Longitude: 103 d 06' m 41.0" s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)

E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey

F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.

G. Other: 3 miles west of TX/NM Stateline on Hwy. 380, 3 miles N. on Copeland Rd.

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): ExxonMobil

3. DRILLING CONTRACTOR

License Number: #WD 1456
Name: White Drilling Company, Inc. Work Phone: (325)893-2950
Agent: William Atkins, John White Home Phone: _____
Mailing Address: P.O. Box 906
City: Clyde State: TX Zip: 79510

4. DRILLING RECORD SB-3

Drilling began: 5/12/04 ; Completed: 5/12/04 ; Type tools: Air Rotary ;
Size of hole: 6 1/8 in.; Total depth of well: 40.0 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: Dry ft.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-3

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
n/a				

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From	To
n/a								

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
40.0	0.0	6 1/8		9.216	hand mix/17 sacks of Cement

8. PLUGGING RECORD

Plugging Contractor: White Drilling Co., Inc.
Address: P.O. Box 906, Clyde, TX 79510
Plugging Method: Hand Mix
Date ~~Well~~ Plugged: 5/12/04
Environmental Soil Boring
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feetof Cement
1	0.0	40.0	9.216
2			
3			
4			
5			

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-3

9. LOG OF HOLE

Depth in Feet From	To	Thickness in feet	Color and Type of Material Encountered
0.0	2.0	2.0	Dark brown sandy clay.
2.0	6.5	4.5	Tan sand & caliche.
6.5	18.0	11.5	Tan sand.
18.0	28.0	10.0	Tan sand w/tan limestone gravel.
28.0	38.5	10.5	Tan sand.
38.5	40.0	1.5	Tan chert & limestone.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-3

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Hydrocarbon present in soil.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

William B. Atkins — Driller

5-21-04 — (mm/dd/year)

FOR STATE ENGINEER USE ONLY

Quad ____; FWL ____; FSL ____; Use _____; Location No. _____

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: ExxonMobil Work Phone: _____
Contact: Jonathan Hamilton Home Phone: _____
Address: 2800 Decker Dr., Room NW-46
City: Baytown State: TX Zip: 77520

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 33 d 18' m 02.6" s Longitude: 103 d 06' m 41.0" s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)

E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey

F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.

G. Other: 3 miles west of TX/NM Stateline on Hwy. 380, 3 miles N. on Copeland Rd.

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): ExxonMobil

3. DRILLING CONTRACTOR

License Number: #WD 1456
Name: White Drilling Company, Inc. Work Phone: (325)893-2950
Agent: William Atkins, John White Home Phone: _____
Mailing Address: P.O. Box 906
City: Clyde State: TX Zip: 79510

4. DRILLING RECORD #SB-4

Drilling began: 5/13/04 ; Completed: 5/13/04 ; Type tools: Air Rotary ;
Size of hole: 6 1/8 in.; Total depth of well: 35.0 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: Dry ft.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-4

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
n/a				

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From	To
n/a								

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
35.0	0.0	6 1/8		8.064	hand mix/14 sacks of cement

8. PLUGGING RECORD

Plugging Contractor: White Drilling Co., Inc.
Address: P.O. Box 906, Clyde, TX 79510
Plugging Method: Hand Mix
Date ~~Well~~ Plugged: 5/12/04
Environmental Soil Boring
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feetof Cement
1	0.0	35.0	8.064
2			
3			
4			
5			

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-4

9. LOG OF HOLE

Depth in Feet From	To	Thickness in feet	Color and Type of Material Encountered
0.0	2.0	2.0	Dark brown sand.
2.0	19.0	17.0	Tan sand & caliche.
19.0	22.0	3.0	Light brown sand caliche w/limestone.
22.0	35.0	13.0	Tan sand & limestone w/caliche.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-4
10. ADDITIONAL STATEMENTS OR EXPLANATIONS:
Hydrocarbon present in soil.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

William B. Atkins
Driller

5/21/04
(mm/dd/year)

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FOR STATE ENGINEER USE ONLY

Quad ____; FWL ____; FSL ____; Use _____; Location No. _____

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: ExxonMobil Work Phone: _____
Contact: Jonathan Hamilton Home Phone: _____
Address: 2800 Decker Dr., Room NW-46
City: Baytown State: TX Zip: 77520

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 33 d 18' m 02.6" s Longitude: 103 d 06' m 41.0" s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)

E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey

F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.

G. Other: 3 miles west of TX/NM Stateline on Hwy. 380, 3 miles N. on Copeland Rd.

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): ExxonMobil

3. DRILLING CONTRACTOR

License Number: #WD 1456
Name: White Drilling Company, Inc. Work Phone: (325)893-2950
Agent: William Atkins, John White Home Phone: _____
Mailing Address: P.O. Box 906
City: Clyde State: TX Zip: 79510

4. DRILLING RECORD SB-7

Drilling began: 5/14/04 ; Completed: 5/14/04 ; Type tools: Air Rotary ;
Size of hole: 6 1/8 in.; Total depth of well: 30.0 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: Dry ft.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-7

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
n/a				

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From	To
n/a								

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
40.0	0.0	6 1/8		6.912	hand mix/13 sacks of cement

8. PLUGGING RECORD

Plugging Contractor: White Drilling Co., Inc.
Address: P.O. Box 906, Clyde, TX 79510
Plugging Method: Hand Mix
Date ~~Well~~ Plugged: 5/12/04
Environmental Soil Boring
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feetof Cement
1	0.0	30.0	6.912
2			
3			
4			
5			

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-7
9. LOG OF HOLE

Depth in Feet From	To	Thickness in feet	Color and Type of Material Encountered
0.0	2.0	2.0	Brown sand.
2.0	19.0	17.0	Tan sand & caliche.
19.0	27.0	8.0	Light brown sand w/limestone.
27.0	30.0	3.0	Tan sand limestone & caliche.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

SB-7

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

William B. Atkins
Driller

5/21/09
(mm/dd/year)

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FOR STATE ENGINEER USE ONLY

Quad ____; FWL ____; FSL ____; Use _____; Location No. _____

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: ExxonMobil Work Phone: _____
Contact: Jonathan Hamilton Home Phone: _____
Address: 2800 Decker Dr., Room NW-46
City: Baytown State: TX Zip: 77520

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 33 d 18' m 02.6" s Longitude: 103 d 06' m 41.0" s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)

E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey

F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.

G. Other: 3 miles west of TX/NM Stateline on Hwy. 380, 3 miles N. on Copeland Rd.

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): ExxonMobil

3. DRILLING CONTRACTOR

License Number: #WD 1456
Name: White Drilling Company, Inc. Work Phone: (325)893-2950
Agent: William Atkins, John White Home Phone: _____
Mailing Address: P.O. Box 906
City: Clyde State: TX Zip: 79510

4. DRILLING RECORD TMW-1

Drilling began: 5/13/04 ; Completed: 5/13/04 ; Type tools: Air Rotary ;
Size of hole: 6 1/8 in.; Total depth of well: 40.0 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 29.9 ft.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

TMW-1

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
29.9	29.9	1	Tan sand & limestone & caliche	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From	To
2.0	sch. 40	4	0.0	20.0	20.0	PVC Riser		
2.0	sch. 40	4	20.0	40.0	20.0	PVC Screen (.020)	20.0	40.0

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
40.0	18.0	6 1/8	9		8/16 sand/pour
18.0	0.0	6 1/8	6		Bentonite Pellets/pour

8. PLUGGING RECORD

Plugging Contractor: _____
Address: _____
Plugging Method: _____
Date Well Plugged: _____

Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feetof Cement
1			
2			
3			
4			
5			

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

TMW-1

9. LOG OF HOLE

Depth in Feet From	To	Thickness in feet	Color and Type of Material Encountered
0.0	1.0	1.0	Tan sand & caliche.
1.0	12.0	11.0	Tan sand.
12.0	22.0	10.0	Light brown sand.
22.0	34.0	12.0	Tan sand & limestone & caliche.
34.0	34.5	0.5	Chert & limestone.
34.5	35.0	0.5	Tan sand & limestone.
35.0	36.5	1.5	Chert & limestone.
36.5	40.0	3.5	Brown sandy caliche w/limestone layers.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

TMW-1

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Hydrocarbon present in soil & water.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

William B. Atkins — Driller

5/24/04 — (mm/dd/year)

==========

FOR STATE ENGINEER USE ONLY

Quad ____; FWL ____; FSL ____; Use _____; Location No. _____

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: ExxonMobil Work Phone: _____
Contact: Jonathan Hamilton Home Phone: _____
Address: 2800 Decker Dr., Room NW-46
City: Baytown State: TX Zip: 77520

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 33 d 18' m 02.6" s Longitude: 103 d 06' m 41.0" s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)

E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey

F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.

G. Other: 3 miles west of TX/NM Stateline on Hwy. 380, 3 miles N. on Copeland Rd.

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): ExxonMobil

3. DRILLING CONTRACTOR

License Number: #WD 1456
Name: White Drilling Company, Inc. Work Phone: (325)893-2950
Agent: William Atkins, John White Home Phone: _____
Mailing Address: P.O. Box 906
City: Clyde State: TX Zip: 79510

4. DRILLING RECORD TMW-2

Drilling began: 5/13/04 ; Completed: 5/13/04 ; Type tools: Air Rotary ;
Size of hole: 6 1/8 in.; Total depth of well: 45.0 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 33.75 ft.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

TMW-2

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
33.75	33.75	1	Tan sand & limestone gravel	

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From	To
2.0	sch.40	4	0.0	25.0	25.0	PVC Riser		
2.0	sch.40	4	25.0	45.0	20.0	PVC Screen (.020	25.0	45.0

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
45.0	23.0	6 1/8	9		8/16 sand/pour
23.0	0.0	6 1/8	7	5.2992	cement - hand mix

8. PLUGGING RECORD

Plugging Contractor: _____

Address: _____

Plugging Method: _____

Date Well Plugged: _____

Plugging approved by: _____

State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feetof Cement
1			
2			
3			
4			
5			

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

TMW-2

9. LOG OF HOLE

Depth in Feet From	To	Thickness in feet	Color and Type of Material Encountered
0.0	2.0	2.0	Brown sand.
2.0	17.0	15.0	Tan sand & caliche.
17.0	27.0	10.0	Light brown sand, limestone gravel & caliche.
27.0	38.0	11.0	Tan sand limestone gravel & caliche.
38.0	41.0	3.0	Chert & tan limestone.
41.0	45.0	4.0	Tan sand & caliche w/limestone layers.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

TMW-2

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

Hydrocarbon present in soil & water.

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

William B. Wilkins — Driller

5/12/09 — (mm/dd/year)

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FOR STATE ENGINEER USE ONLY

Quad ____; FWL ____; FSL ____; Use _____; Location No. _____

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name: ExxonMobil Work Phone: _____
Contact: Jonathan Hamilton Home Phone: _____
Address: 2800 Decker Dr., Room NW-46
City: Baytown State: TX Zip: 77520

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section: ____ Township: ____ Range: ____ N.M.P.M.
in _____ County.

B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____

C. Latitude: 33 d 18' m 02.6" s Longitude: 103 d 06' m 41.0" s

D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)

E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey

F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.

G. Other: 3 miles west of TX/NM Stateline on Hwy. 380, 3 miles N. on Copeland Rd.

H. Give State Engineer File Number if existing well: _____

I. On land owned by (required): ExxonMobil

3. DRILLING CONTRACTOR

License Number: #WD 1456
Name: White Drilling Company, Inc. Work Phone: (325)893-2950
Agent: William Atkins, John White Home Phone: _____
Mailing Address: P.O. Box 906
City: Clyde State: TX Zip: 79510

4. DRILLING RECORD TMW-3

Drilling began: 5/13/04 ; Completed: 5/13/04 ; Type tools: Air Rotary ;
Size of hole: 6 1/8 in.; Total depth of well: 45.0 ft.;
Completed well is: shallow (shallow, artesian);
Depth to water upon completion of well: 33.25 ft.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

TMW-3

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of water-bearing formation	Estimated Yield (GPM)
33.25	33.25	1	Tan sand, limestone gravel	& caliche.

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From	To
2.0	sch.40	4	0.0	25.0	25.0	PVC Riser		
2.0	sch.40	4	25.0	45.0	20.0	PVC Screen.020	25.0	45.0

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
45.0	23.0	6 1/8	9		8/16 sand
23.0	10.0	6 1/8	5		bentonite pellets/pour
10.0	0.0	6 1/8	4	2.304	cement/hand mix

8. PLUGGING RECORD

Plugging Contractor: _____
Address: _____
Plugging Method: _____
Date Well Plugged: _____

Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feetof Cement
1			
2			
3			
4			
5			

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

TMW-3

9. LOG OF HOLE

Depth in Feet From	To	Thickness in feet	Color and Type of Material Encountered
0.0	2.0	2.0	Brown sand.
2.0	17.0	15.0	Tan sand & caliche.
17.0	27.0	10.0	Light brown sand, limestone gravel & caliche.
27.0	38.0	11.0	Tan sand limestone gravel & caliche.
38.0	41.0	3.0	Chert & tan limestone.
41.0	45.0	4.0	Tan sand & caliche w/limestone layers.

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

TMW-3

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

William B. Ritchie
Driller

5/20/04
(mm/dd/year)

==========

FOR STATE ENGINEER USE ONLY

Quad ____; FWL ____; FSL ____; Use _____; Location No. _____

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

ExxonMobil Global Remediation

Certificate of Analysis Number:

04050596

Report To:		Project Name:	Gladiola Station
BNC Environmental Services		Site:	Lea County, NM
Aaron Hale		Site Address:	
2135 S. Loop 250 West			
Midland		PO Number:	4504690348 Line 80
TX		State:	New Mexico
79703-		State Cert. No.:	
ph: (432) 686-0086	fax:	Date Reported:	6/2/04

This Report Contains A Total Of Pages

Excluding This Page

6/2/04

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:

ExxonMobil Global Remediation

Certificate of Analysis Number:

04050596

Report To:		Project Name:	Gladiola Station
BNC Environmental Services		Site:	Lea County, NM
Aaron Hale		Site Address:	
2135 S. Loop 250 West			
Midland		PO Number:	4504690348 Line 80
TX		State:	New Mexico
79703-		State Cert. No.:	
ph: (432) 686-0086	fax:	Date Reported:	6/2/04

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Sonia West

6/2/04

Sonia West
Senior Project Manager

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

ExxonMobil Global Remediation

Certificate of Analysis Number:

04050596

Report To: BNC Environmental Services
Aaron Hale
2135 S. Loop 250 West

Midland
TX
79703-
ph: (432) 686-0086 fax:

Fax To:

Project Name: Gladiola Station
Site: Lea County, NM
Site Address:

PO Number: 4504690348 Line 80
State: New Mexico
State Cert. No.:
Date Reported: 6/2/04

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
SB-3 4-5	04050596-02	Soil	5/12/04 3:51:00 PM	5/15/04 10:00:00 AM	2895	☐
SB-3 19-20	04050596-03	Soil	5/12/04 4:02:00 PM	5/15/04 10:00:00 AM	2895	☐
SB-3 29-30	04050596-04	Soil	5/12/04 4:20:00 PM	5/15/04 10:00:00 AM	2895	☐
SB-3 39-40	04050596-06	Soil	5/12/04 4:38:00 PM	5/15/04 10:00:00 AM	2895	☐
SB-2 4-5	04050596-07	Soil	5/13/04 9:13:00 AM	5/15/04 10:00:00 AM	2895	☐
SB-2 14-15	04050596-09	Soil	5/13/04 9:21:00 AM	5/15/04 10:00:00 AM	2895	☐
SB-2 29-30	04050596-10	Soil	5/13/04 10:00:00 AM	5/15/04 10:00:00 AM	2895	☐
SB-2 39-40	04050596-11	Soil	5/13/04 12:00:00 PM	5/15/04 10:00:00 AM	2897	☐
SB-4 4-5	04050596-12	Soil	5/13/04 1:25:00 PM	5/15/04 10:00:00 AM	2897	☐
SB-4 14-15	04050596-14	Soil	5/13/04 1:31:00 PM	5/15/04 10:00:00 AM	2897	☐
SB-4 29-30	04050596-15	Soil	5/13/04 1:57:00 PM	5/15/04 10:00:00 AM	2897	☐
SB-4 34-35	04050596-16	Soil	5/13/04 2:09:00 PM	5/15/04 10:00:00 AM	2897	☐
SB-5 34-35	04050596-17	Soil	5/13/04 3:17:00 PM	5/15/04 10:00:00 AM	2897	☐
SB-5 39-40	04050596-18	Soil	5/13/04 3:28:00 PM	5/15/04 10:00:00 AM	2897	☐
SB-6 0-3	04050596-19	Soil	5/13/04 4:30:00 PM	5/15/04 10:00:00 AM	2897	☐
SB-6 24-25	04050596-20	Soil	5/13/04 4:55:00 PM	5/15/04 10:00:00 AM	2897	☐
SB-6 44-45	04050596-21	Soil	5/13/04 5:23:00 PM	5/15/04 10:00:00 AM	2402	☐
SB-7 24-25	04050596-22	Soil	5/14/04 9:50:00 AM	5/15/04 10:00:00 AM	2402	☐
SB-1 0-2	04050596-23	Soil	5/14/04 10:21:00 AM	5/15/04 10:00:00 AM	2402	☐
SB-1 4-5	04050596-24	Soil	5/14/04 10:28:00 AM	5/15/04 10:00:00 AM	2402	☐

Sonia West

6/2/04

Sonia West
Senior Project Manager

Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-3 4-5 **Collected:** 05/12/2004 15:51 **SPL Sample ID:** 04050596-02

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	23		5		1		05/22/04 17:08	AM	2233067
Surr: n-Pentacosane	90.6	%	20-154		1		05/22/04 17:08	AM	2233067

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		05/17/04 22:20	JWW	2226361
Surr: 1,4-Difluorobenzene	111	%	63-122		1		05/17/04 22:20	JWW	2226361
Surr: 4-Bromofluorobenzene	90.3	%	39-150		1		05/17/04 22:20	JWW	2226361
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		05/17/04 22:20	JWW	2226097
Toluene	ND		1		1		05/17/04 22:20	JWW	2226097
Ethylbenzene	ND		1		1		05/17/04 22:20	JWW	2226097
m,p-Xylene	ND		1		1		05/17/04 22:20	JWW	2226097
o-Xylene	ND		1		1		05/17/04 22:20	JWW	2226097
Xylenes,Total	ND		1		1		05/17/04 22:20	JWW	2226097
Surr: 1,4-Difluorobenzene	102	%	77-126		1		05/17/04 22:20	JWW	2226097
Surr: 4-Bromofluorobenzene	105	%	66-145		1		05/17/04 22:20	JWW	2226097

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-3 19-20 **Collected:** 05/12/2004 16:02 **SPL Sample ID:** 04050596-03

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	ND		5		1		05/24/04 12:22	AM	2233441
Surr: n-Pentacosane	120	%	20-154		1		05/24/04 12:22	AM	2233441

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		05/17/04 22:52	JWW	2226362
Surr: 1,4-Difluorobenzene	109	%	63-122		1		05/17/04 22:52	JWW	2226362
Surr: 4-Bromofluorobenzene	93.0	%	39-150		1		05/17/04 22:52	JWW	2226362
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		05/17/04 22:52	JWW	2226099
Toluene	ND		1		1		05/17/04 22:52	JWW	2226099
Ethylbenzene	ND		1		1		05/17/04 22:52	JWW	2226099
m,p-Xylene	ND		1		1		05/17/04 22:52	JWW	2226099
o-Xylene	ND		1		1		05/17/04 22:52	JWW	2226099
Xylenes,Total	ND		1		1		05/17/04 22:52	JWW	2226099
Surr: 1,4-Difluorobenzene	102	%	77-126		1		05/17/04 22:52	JWW	2226099
Surr: 4-Bromofluorobenzene	106	%	66-145		1		05/17/04 22:52	JWW	2226099

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/2/04 3:21:54 PM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-3 29-30 **Collected:** 05/12/2004 16:20 **SPL Sample ID:** 04050596-04

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	56		5		1		05/22/04 17:47	AM	2233068
Surr: n-Pentacosane	86.2	%	20-154		1		05/22/04 17:47	AM	2233068

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	380		25		250		05/20/04 15:09	JWW	2228862
Surr: 1,4-Difluorobenzene	120	%	63-142		250		05/20/04 15:09	JWW	2228862
Surr: 4-Bromofluorobenzene	431 MI	%	50-159		250	*	05/20/04 15:09	JWW	2228862
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		250		250		05/20/04 15:09	JWW	2228867
Toluene	2200		250		250		05/20/04 15:09	JWW	2228867
Ethylbenzene	6200		250		250		05/20/04 15:09	JWW	2228867
m,p-Xylene	12000		250		250		05/20/04 15:09	JWW	2228867
o-Xylene	4200		250		250		05/20/04 15:09	JWW	2228867
Xylenes,Total	16200		250		250		05/20/04 15:09	JWW	2228867
Surr: 1,4-Difluorobenzene	103	%	77-126		250		05/20/04 15:09	JWW	2228867
Surr: 4-Bromofluorobenzene	205 MI	%	66-145		250	*	05/20/04 15:09	JWW	2228867

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/2/04 3:21:55 PM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-3 39-40 **Collected:** 05/12/2004 16:38 **SPL Sample ID:** 04050596-06

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	14		5		1		05/22/04 15:50	AM	2233063
Surr: n-Pentacosane	67.6	%	20-154		1		05/22/04 15:50	AM	2233063

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	0.11		0.1		1		05/17/04 23:24	JWW	2226363
Surr: 1,4-Difluorobenzene	109	%	63-122		1		05/17/04 23:24	JWW	2226363
Surr: 4-Bromofluorobenzene	118	%	39-150		1		05/17/04 23:24	JWW	2226363
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		05/17/04 23:24	JWW	2226101
Toluene	ND		1		1		05/17/04 23:24	JWW	2226101
Ethylbenzene	ND		1		1		05/17/04 23:24	JWW	2226101
m,p-Xylene	1.8		1		1		05/17/04 23:24	JWW	2226101
o-Xylene	ND		1		1		05/17/04 23:24	JWW	2226101
Xylenes,Total	1.8		1		1		05/17/04 23:24	JWW	2226101
Surr: 1,4-Difluorobenzene	101	%	77-126		1		05/17/04 23:24	JWW	2226101
Surr: 4-Bromofluorobenzene	110	%	66-145		1		05/17/04 23:24	JWW	2226101

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-2 4-5 **Collected:** 05/13/2004 9:13 **SPL Sample ID:** 04050596-07

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	3300		250		50		05/22/04 8:03	AM	2233027
Surr: n-Pentacosane	D	%	20-154		50	*	05/22/04 8:03	AM	2233027

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	750		50		500		05/19/04 10:36	JWW	2228709
Surr: 1,4-Difluorobenzene	123	%	63-142		500		05/19/04 10:36	JWW	2228709
Surr: 4-Bromofluorobenzene	545 MI	%	50-159		500	*	05/19/04 10:36	JWW	2228709
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		100		100		05/18/04 2:04	JWW	2226103
Toluene	ND		100		100		05/18/04 2:04	JWW	2226103
Ethylbenzene	2100		100		100		05/18/04 2:04	JWW	2226103
m,p-Xylene	3900		100		100		05/18/04 2:04	JWW	2226103
o-Xylene	340		100		100		05/18/04 2:04	JWW	2226103
Xylenes,Total	4240		100		100		05/18/04 2:04	JWW	2226103
Surr: 1,4-Difluorobenzene	107	%	77-126		100		05/18/04 2:04	JWW	2226103
Surr: 4-Bromofluorobenzene	410 MI	%	66-145		100	*	05/18/04 2:04	JWW	2226103

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - *Analyte detected in the associated Method Blank*
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-2 14-15 **Collected:** 05/13/2004 9:21 **SPL Sample ID:** 04050596-09

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	1200		100		20		05/22/04 8:42	AM	2233032
Surr: n-Pentacosane	D	%	20-154		20	*	05/22/04 8:42	AM	2233032

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	190		10		100		05/19/04 11:08	JWW	2228710
Surr: 1,4-Difluorobenzene	119	%	63-142		100		05/19/04 11:08	JWW	2228710
Surr: 4-Bromofluorobenzene	615 MI	%	50-159		100	*	05/19/04 11:08	JWW	2228710
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		25		25		05/18/04 2:36	JWW	2226105
Toluene	ND		25		25		05/18/04 2:36	JWW	2226105
Ethylbenzene	610		25		25		05/18/04 2:36	JWW	2226105
m,p-Xylene	2200		25		25		05/18/04 2:36	JWW	2226105
o-Xylene	88		25		25		05/18/04 2:36	JWW	2226105
Xylenes,Total	2288		25		25		05/18/04 2:36	JWW	2226105
Surr: 1,4-Difluorobenzene	105	%	77-126		25		05/18/04 2:36	JWW	2226105
Surr: 4-Bromofluorobenzene	403 MI	%	66-145		25	*	05/18/04 2:36	JWW	2226105

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/2/04 3:21:58 PM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-2 29-30 **Collected:** 05/13/2004 10:00 **SPL Sample ID:** 04050596-10

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	360		25		5		05/22/04 9:20	AM	2233037
Surr: n-Pentacosane	163	%	20-154		5	*	05/22/04 9:20	AM	2233037

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	56		2.5		25		05/18/04 3:08	JWW	2226365
Surr: 1,4-Difluorobenzene	116	%	63-122		25		05/18/04 3:08	JWW	2226365
Surr: 4-Bromofluorobenzene	741 MI	%	39-150		25	*	05/18/04 3:08	JWW	2226365
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		25		25		05/18/04 3:08	JWW	2226108
Toluene	63		25		25		05/18/04 3:08	JWW	2226108
Ethylbenzene	470		25		25		05/18/04 3:08	JWW	2226108
m,p-Xylene	1000		25		25		05/18/04 3:08	JWW	2226108
o-Xylene	380		25		25		05/18/04 3:08	JWW	2226108
Xylenes,Total	1380		25		25		05/18/04 3:08	JWW	2226108
Surr: 1,4-Difluorobenzene	100	%	77-126		25		05/18/04 3:08	JWW	2226108
Surr: 4-Bromofluorobenzene	229 MI	%	66-145		25	*	05/18/04 3:08	JWW	2226108

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/2/04 3:21:59 PM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-2 39-40 **Collected:** 05/13/2004 12:00 **SPL Sample ID:** 04050596-11

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	9		5	1		05/22/04 2:52	AM	2233016
Surr: n-Pentacosane	74.9	%	20-154	1		05/22/04 2:52	AM	2233016

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS			**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	0.11		0.1	1		05/18/04 4:12	JWW	2226366
Surr: 1,4-Difluorobenzene	107	%	63-122	1		05/18/04 4:12	JWW	2226366
Surr: 4-Bromofluorobenzene	93.7	%	39-150	1		05/18/04 4:12	JWW	2226366
PURGEABLE AROMATICS			**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1	1		05/18/04 4:12	JWW	2226110
Toluene	ND		1	1		05/18/04 4:12	JWW	2226110
Ethylbenzene	ND		1	1		05/18/04 4:12	JWW	2226110
m,p-Xylene	ND		1	1		05/18/04 4:12	JWW	2226110
o-Xylene	ND		1	1		05/18/04 4:12	JWW	2226110
Xylenes,Total	ND		1	1		05/18/04 4:12	JWW	2226110
Surr: 1,4-Difluorobenzene	99.7	%	77-126	1		05/18/04 4:12	JWW	2226110
Surr: 4-Bromofluorobenzene	105	%	66-145	1		05/18/04 4:12	JWW	2226110

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-4 4-5 **Collected:** 05/13/2004 13:25 **SPL Sample ID:** 04050596-12

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	4000		250		50		05/22/04 9:59	AM	2233042
Surr: n-Pentacosane	D	%	20-154		50	*	05/22/04 9:59	AM	2233042

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	480		25		250		05/19/04 11:40	JWW	2228711
Surr: 1,4-Difluorobenzene	144 MI	%	63-142		250	*	05/19/04 11:40	JWW	2228711
Surr: 4-Bromofluorobenzene	841 MI	%	50-159		250	*	05/19/04 11:40	JWW	2228711
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	140		100		100		05/18/04 4:45	JWW	2226111
Toluene	110		100		100		05/18/04 4:45	JWW	2226111
Ethylbenzene	1500		100		100		05/18/04 4:45	JWW	2226111
m,p-Xylene	1300		100		100		05/18/04 4:45	JWW	2226111
o-Xylene	110		100		100		05/18/04 4:45	JWW	2226111
Xylenes,Total	1410		100		100		05/18/04 4:45	JWW	2226111
Surr: 1,4-Difluorobenzene	106	%	77-126		100		05/18/04 4:45	JWW	2226111
Surr: 4-Bromofluorobenzene	406 MI	%	66-145		100	*	05/18/04 4:45	JWW	2226111

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-4 14-15 **Collected:** 05/13/2004 13:31 **SPL Sample ID:** 04050596-14

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	3900		250		50		05/22/04 10:38	AM	2233046
Surr: n-Pentacosane	D	%	20-154		50	*	05/22/04 10:38	AM	2233046

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	1100		50		500		05/20/04 14:41	JWW	2228861
Surr: 1,4-Difluorobenzene	120	%	63-142		500		05/20/04 14:41	JWW	2228861
Surr: 4-Bromofluorobenzene	588 MI	%	50-159		500	*	05/20/04 14:41	JWW	2228861
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	470		100		100		05/18/04 5:16	JWW	2226113
Toluene	ND		100		100		05/18/04 5:16	JWW	2226113
Ethylbenzene	5800		100		100		05/18/04 5:16	JWW	2226113
m,p-Xylene	19000		100		100		05/18/04 5:16	JWW	2226113
o-Xylene	2200		100		100		05/18/04 5:16	JWW	2226113
Xylenes,Total	21200		100		100		05/18/04 5:16	JWW	2226113
Surr: 1,4-Difluorobenzene	116	%	77-126		100		05/18/04 5:16	JWW	2226113
Surr: 4-Bromofluorobenzene	513 MI	%	66-145		100	*	05/18/04 5:16	JWW	2226113

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/2/04 3:22:03 PM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-4 29-30 **Collected:** 05/13/2004 13:57 **SPL Sample ID:** 04050596-15

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	270		25		5		05/22/04 11:18	AM	2233052
Surr: n-Pentacosane	152	%	20-154		5		05/22/04 11:18	AM	2233052

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	30		2.5		25		05/18/04 5:48	JWW	2226367
Surr: 1,4-Difluorobenzene	111	%	63-122		25		05/18/04 5:48	JWW	2226367
Surr: 4-Bromofluorobenzene	474 MI	%	39-150		25	*	05/18/04 5:48	JWW	2226367
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		25		25		05/18/04 5:48	JWW	2226114
Toluene	ND		25		25		05/18/04 5:48	JWW	2226114
Ethylbenzene	180		25		25		05/18/04 5:48	JWW	2226114
m,p-Xylene	290		25		25		05/18/04 5:48	JWW	2226114
o-Xylene	ND		25		25		05/18/04 5:48	JWW	2226114
Xylenes,Total	290		25		25		05/18/04 5:48	JWW	2226114
Surr: 1,4-Difluorobenzene	99.5	%	77-126		25		05/18/04 5:48	JWW	2226114
Surr: 4-Bromofluorobenzene	177 MI	%	66-145		25	*	05/18/04 5:48	JWW	2226114

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
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MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-4 34-35 **Collected:** 05/13/2004 14:09 **SPL Sample ID:** 04050596-16

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	330		25		5		05/22/04 11:56	AM	2233056
Surr: n-Pentacosane	164	%	20-154		5	*	05/22/04 11:56	AM	2233056

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	20		2.5		25		05/18/04 6:21	JWW	2226368
Surr: 1,4-Difluorobenzene	107	%	63-122		25		05/18/04 6:21	JWW	2226368
Surr: 4-Bromofluorobenzene	345 MI	%	39-150		25	*	05/18/04 6:21	JWW	2226368
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		25		25		05/18/04 6:21	JWW	2226115
Toluene	ND		25		25		05/18/04 6:21	JWW	2226115
Ethylbenzene	110		25		25		05/18/04 6:21	JWW	2226115
m,p-Xylene	180		25		25		05/18/04 6:21	JWW	2226115
o-Xylene	ND		25		25		05/18/04 6:21	JWW	2226115
Xylenes,Total	180		25		25		05/18/04 6:21	JWW	2226115
Surr: 1,4-Difluorobenzene	98.7	%	77-126		25		05/18/04 6:21	JWW	2226115
Surr: 4-Bromofluorobenzene	153 MI	%	66-145		25	*	05/18/04 6:21	JWW	2226115

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/2/04 3:22:05 PM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-5 34-35 **Collected:** 05/13/2004 15:17 **SPL Sample ID:** 04050596-17

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	240		50		10		05/22/04 6:45	AM	2233024
Surr: n-Pentacosane	148	%	20-154		10		05/22/04 6:45	AM	2233024

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	15		2.5		25		05/19/04 17:11	JWW	2228770
Surr: 1,4-Difluorobenzene	91.9	%	63-142		25		05/19/04 17:11	JWW	2228770
Surr: 4-Bromofluorobenzene	255 MI	%	50-159		25	*	05/19/04 17:11	JWW	2228770
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	2.2		1		1		05/19/04 11:44	JWW	2227159
Toluene	18		1		1		05/19/04 11:44	JWW	2227159
Ethylbenzene	73		1		1		05/19/04 11:44	JWW	2227159
m,p-Xylene	90		1		1		05/19/04 11:44	JWW	2227159
o-Xylene	13		1		1		05/19/04 11:44	JWW	2227159
Xylenes,Total	103		1		1		05/19/04 11:44	JWW	2227159
Surr: 1,4-Difluorobenzene	105	%	77-126		1		05/19/04 11:44	JWW	2227159
Surr: 4-Bromofluorobenzene	395 MI	%	66-145		1	*	05/19/04 11:44	JWW	2227159

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
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J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-5 39-40 **Collected:** 05/13/2004 15:28 **SPL Sample ID:** 04050596-18

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	9.7		5		1		05/22/04 3:31	AM	2233017
Surr: n-Pentacosane	84.3	%	20-154		1		05/22/04 3:31	AM	2233017

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	0.62		0.1		1		05/18/04 7:57	JWW	2226497
Surr: 1,4-Difluorobenzene	106	%	63-122		1		05/18/04 7:57	JWW	2226497
Surr: 4-Bromofluorobenzene	240 MI	%	39-150		1	*	05/18/04 7:57	JWW	2226497
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		05/18/04 7:57	JWW	2226118
Toluene	ND		1		1		05/18/04 7:57	JWW	2226118
Ethylbenzene	1.8		1		1		05/18/04 7:57	JWW	2226118
m,p-Xylene	3.4		1		1		05/18/04 7:57	JWW	2226118
o-Xylene	ND		1		1		05/18/04 7:57	JWW	2226118
Xylenes,Total	3.4		1		1		05/18/04 7:57	JWW	2226118
Surr: 1,4-Difluorobenzene	100	%	77-126		1		05/18/04 7:57	JWW	2226118
Surr: 4-Bromofluorobenzene	133	%	66-145		1		05/18/04 7:57	JWW	2226118

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-6 0-3 **Collected:** 05/13/2004 16:30 **SPL Sample ID:** 04050596-19

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	18		5		1		05/22/04 16:29	AM	2233065
Surr: n-Pentacosane	88.9	%	20-154		1		05/22/04 16:29	AM	2233065

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		05/19/04 4:07	JWW	2228752
Surr: 1,4-Difluorobenzene	92.7	%	63-142		1		05/19/04 4:07	JWW	2228752
Surr: 4-Bromofluorobenzene	94.3	%	50-159		1		05/19/04 4:07	JWW	2228752
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		05/19/04 4:07	JWW	2227148
Toluene	ND		1		1		05/19/04 4:07	JWW	2227148
Ethylbenzene	ND		1		1		05/19/04 4:07	JWW	2227148
m,p-Xylene	ND		1		1		05/19/04 4:07	JWW	2227148
o-Xylene	ND		1		1		05/19/04 4:07	JWW	2227148
Xylenes,Total	ND		1		1		05/19/04 4:07	JWW	2227148
Surr: 1,4-Difluorobenzene	101	%	77-126		1		05/19/04 4:07	JWW	2227148
Surr: 4-Bromofluorobenzene	106	%	66-145		1		05/19/04 4:07	JWW	2227148

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-6 24-25 **Collected:** 05/13/2004 16:55 **SPL Sample ID:** 04050596-20

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	6		5		1		05/22/04 4:09	AM	2233019
Surr: n-Pentacosane	76.7	%	20-154		1		05/22/04 4:09	AM	2233019

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		05/19/04 4:35	JWW	2228754
Surr: 1,4-Difluorobenzene	91.7	%	63-142		1		05/19/04 4:35	JWW	2228754
Surr: 4-Bromofluorobenzene	93.3	%	50-159		1		05/19/04 4:35	JWW	2228754
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		05/19/04 4:35	JWW	2227149
Toluene	ND		1		1		05/19/04 4:35	JWW	2227149
Ethylbenzene	ND		1		1		05/19/04 4:35	JWW	2227149
m,p-Xylene	ND		1		1		05/19/04 4:35	JWW	2227149
o-Xylene	ND		1		1		05/19/04 4:35	JWW	2227149
Xylenes,Total	ND		1		1		05/19/04 4:35	JWW	2227149
Surr: 1,4-Difluorobenzene	99.4	%	77-126		1		05/19/04 4:35	JWW	2227149
Surr: 4-Bromofluorobenzene	106	%	66-145		1		05/19/04 4:35	JWW	2227149

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

6/2/04 3:22:10 PM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: SB-6 44-45 **Collected:** 05/13/2004 17:23 **SPL Sample ID:** 04050596-21

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	13		5		1		05/22/04 15:11	AM	2233062
Surr: n-Pentacosane	86.7	%	20-154		1		05/22/04 15:11	AM	2233062

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	0.21		0.1		1		05/19/04 5:03	JWW	2228756
Surr: 1,4-Difluorobenzene	92.0	%	63-142		1		05/19/04 5:03	JWW	2228756
Surr: 4-Bromofluorobenzene	91.3	%	50-159		1		05/19/04 5:03	JWW	2228756
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		05/19/04 5:03	JWW	2227150
Toluene	ND		1		1		05/19/04 5:03	JWW	2227150
Ethylbenzene	ND		1		1		05/19/04 5:03	JWW	2227150
m,p-Xylene	ND		1		1		05/19/04 5:03	JWW	2227150
o-Xylene	ND		1		1		05/19/04 5:03	JWW	2227150
Xylenes,Total	ND		1		1		05/19/04 5:03	JWW	2227150
Surr: 1,4-Difluorobenzene	100	%	77-126		1		05/19/04 5:03	JWW	2227150
Surr: 4-Bromofluorobenzene	107	%	66-145		1		05/19/04 5:03	JWW	2227150

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID: SB-7 24-25 **Collected:** 05/14/2004 9:50 **SPL Sample ID:** 04050596-22

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	8.1		5		1		05/22/04 4:48	AM	2233020
Surr: n-Pentacosane	82.2	%	20-154		1		05/22/04 4:48	AM	2233020

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		05/19/04 5:32	JWW	2228758
Surr: 1,4-Difluorobenzene	92.0	%	63-142		1		05/19/04 5:32	JWW	2228758
Surr: 4-Bromofluorobenzene	89.0	%	50-159		1		05/19/04 5:32	JWW	2228758
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		05/19/04 5:32	JWW	2227151
Toluene	ND		1		1		05/19/04 5:32	JWW	2227151
Ethylbenzene	ND		1		1		05/19/04 5:32	JWW	2227151
m,p-Xylene	ND		1		1		05/19/04 5:32	JWW	2227151
o-Xylene	ND		1		1		05/19/04 5:32	JWW	2227151
Xylenes,Total	ND		1		1		05/19/04 5:32	JWW	2227151
Surr: 1,4-Difluorobenzene	100	%	77-126		1		05/19/04 5:32	JWW	2227151
Surr: 4-Bromofluorobenzene	106	%	66-145		1		05/19/04 5:32	JWW	2227151

Sonia West

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Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
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J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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8880 INTERCHANGE DRIVE
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Client Sample ID: SB-1 0-2 **Collected:** 05/14/2004 10:21 **SPL Sample ID:** 04050596-23

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	ND		5		1		05/22/04 5:27	AM	2233022
Surr: n-Pentacosane	68.2	%	20-154		1		05/22/04 5:27	AM	2233022

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		05/19/04 6:00	JWW	2228759
Surr: 1,4-Difluorobenzene	93.0	%	63-142		1		05/19/04 6:00	JWW	2228759
Surr: 4-Bromofluorobenzene	91.0	%	50-159		1		05/19/04 6:00	JWW	2228759
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		05/19/04 6:00	JWW	2227152
Toluene	ND		1		1		05/19/04 6:00	JWW	2227152
Ethylbenzene	ND		1		1		05/19/04 6:00	JWW	2227152
m,p-Xylene	ND		1		1		05/19/04 6:00	JWW	2227152
o-Xylene	ND		1		1		05/19/04 6:00	JWW	2227152
Xylenes,Total	ND		1		1		05/19/04 6:00	JWW	2227152
Surr: 1,4-Difluorobenzene	101	%	77-126		1		05/19/04 6:00	JWW	2227152
Surr: 4-Bromofluorobenzene	106	%	66-145		1		05/19/04 6:00	JWW	2227152

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Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID: SB-1 4-5 **Collected:** 05/14/2004 10:28 **SPL Sample ID:** 04050596-24

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	6.7		5		1		05/22/04 6:06	AM	2233023
Surr: n-Pentacosane	76.6	%	20-154		1		05/22/04 6:06	AM	2233023

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	05/18/2004 11:47	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		05/19/04 0:49	JWW	2228579
Surr: 1,4-Difluorobenzene	92.3	%	63-122		1		05/19/04 0:49	JWW	2228579
Surr: 4-Bromofluorobenzene	97.0	%	39-150		1		05/19/04 0:49	JWW	2228579
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		05/19/04 0:49	JWW	2227210
Toluene	ND		1		1		05/19/04 0:49	JWW	2227210
Ethylbenzene	ND		1		1		05/19/04 0:49	JWW	2227210
m,p-Xylene	ND		1		1		05/19/04 0:49	JWW	2227210
o-Xylene	ND		1		1		05/19/04 0:49	JWW	2227210
Xylenes,Total	ND		1		1		05/19/04 0:49	JWW	2227210
Surr: 1,4-Difluorobenzene	98.1	%	77-126		1		05/19/04 0:49	JWW	2227210
Surr: 4-Bromofluorobenzene	109	%	66-145		1		05/19/04 0:49	JWW	2227210

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Diesel Range Organics
Method: SW8015B
WorkOrder: 04050596
Lab Batch ID: 38039

Method Blank

RunID: HP_V_040522A-2233013 Units: mg/Kg
Analysis Date: 05/22/2004 0:56 Analyst: AM
Preparation Date: 05/18/2004 11:47 Prep By: DMN Method SW3550B

Analyte	Result	Rep Limit
Diesel Range Organics	ND	5.0
Surr: n-Pentacosane	90.3	20-154

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050596-02A	SB-3 4-5
04050596-03A	SB-3 19-20
04050596-04A	SB-3 29-30
04050596-06A	SB-3 39-40
04050596-07A	SB-2 4-5
04050596-09A	SB-2 14-15
04050596-10A	SB-2 29-30
04050596-11A	SB-2 39-40
04050596-12A	SB-4 4-5
04050596-14A	SB-4 14-15
04050596-15A	SB-4 29-30
04050596-16A	SB-4 34-35
04050596-17A	SB-5 34-35
04050596-18A	SB-5 39-40
04050596-19A	SB-6 0-3
04050596-20A	SB-6 24-25
04050596-21A	SB-6 44-45
04050596-22A	SB-7 24-25
04050596-23A	SB-1 0-2
04050596-24A	SB-1 4-5

Laboratory Control Sample (LCS)

RunID: HP_V_040522A-2233014 Units: mg/Kg
Analysis Date: 05/22/2004 1:35 Analyst: AM
Preparation Date: 05/18/2004 11:47 Prep By: DMN Method SW3550B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Diesel Range Organics	83	54.0	65.2	65	150

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050596-02
RunID: HP_V_040522A-2233058 Units: mg/Kg
Analysis Date: 05/22/2004 12:35 Analyst: AM
Preparation Date: 05/18/2004 11:47 Prep By: DMN Method SW3550B

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Diesel Range Organics **WorkOrder:** 04050596
Method: SW8015B **Lab Batch ID:** 38039

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics	ND	83	D	D	83	D	D	D	50	21	175

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 04050596
Lab Batch ID: R111647

Method Blank

RunID: HP_O_040517A-2226085 Units: ug/Kg
Analysis Date: 05/17/2004 15:19 Analyst: JWW

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	100.3	77-126
Surr: 4-Bromofluorobenzene	100.7	66-145

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050596-02A	SB-3 4-5
04050596-03A	SB-3 19-20
04050596-06A	SB-3 39-40
04050596-07A	SB-2 4-5
04050596-09A	SB-2 14-15
04050596-10A	SB-2 29-30
04050596-11A	SB-2 39-40
04050596-12A	SB-4 4-5
04050596-14A	SB-4 14-15
04050596-15A	SB-4 29-30
04050596-16A	SB-4 34-35
04050596-18A	SB-5 39-40

Laboratory Control Sample (LCS)

RunID: HP_O_040517A-2226083 Units: ug/Kg
Analysis Date: 05/17/2004 14:16 Analyst: JWW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	51.7	103	70	130
Ethylbenzene	50	52.9	106	70	130
Toluene	50	52.0	104	70	130
m,p-Xylene	100	105	105	70	130
o-Xylene	50	53.4	107	70	130
Xylenes,Total	150	158.4	105.6	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050557-01
RunID: HP_O_040517A-2226086 Units: ug/Kg
Analysis Date: 05/17/2004 16:29 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	18.2	89.4	20	19.6	96.6	7.62	32	38	136

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 04050596
Lab Batch ID: R111647

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050557-01
RunID: HP_O_040517A-2226086 Units: ug/Kg
Analysis Date: 05/17/2004 16:29 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Ethylbenzene	ND	20	18.4	91.1	20	19.4	96.0	5.20	32	21	138
Toluene	ND	20	18.3	91.3	20	19.6	98.0	7.11	34	29	137
m,p-Xylene	ND	40	36.8	89.8	40	38.2	93.3	3.69	34	10	143
o-Xylene	ND	20	18.3	91.3	20	19.3	96.6	5.70	32	21	139
Xylenes,Total	ND	60	55.1	90.3	60	57.5	94.4	4.36	34	10	143

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Gasoline Range Organics
Method: SW8015B
WorkOrder: 04050596
Lab Batch ID: R111660

Method Blank

RunID: HP_O_040517B-2226356 Units: mg/Kg
Analysis Date: 05/17/2004 15:19 Analyst: JWW

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	105.7	63-122
Surr: 4-Bromofluorobenzene	90.7	39-150

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050596-02A	SB-3 4-5
04050596-03A	SB-3 19-20
04050596-06A	SB-3 39-40
04050596-10A	SB-2 29-30
04050596-11A	SB-2 39-40
04050596-15A	SB-4 29-30
04050596-16A	SB-4 34-35
04050596-18A	SB-5 39-40

Laboratory Control Sample (LCS)

RunID: HP_O_040517B-2226355 Units: mg/Kg
Analysis Date: 05/17/2004 14:48 Analyst: JWW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.940	94.0	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050557-01
RunID: HP_O_040517B-2226357 Units: mg/Kg
Analysis Date: 05/17/2004 17:33 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	0.150	0.9	0.944	88.2	0.9	1.00	94.8	6.13	50	26	147

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 04050596
Lab Batch ID: R111699

Method Blank

RunID: HP_R_040519A-2227147 Units: ug/Kg
Analysis Date: 05/19/2004 3:39 Analyst: JWW

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	96.3	77-126
Surr: 4-Bromofluorobenzene	95.8	66-145

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050596-17A	SB-5 34-35
04050596-19A	SB-6 0-3
04050596-20A	SB-6 24-25
04050596-21A	SB-6 44-45
04050596-22A	SB-7 24-25
04050596-23A	SB-1 0-2

Laboratory Control Sample (LCS)

RunID: HP_R_040519A-2227146 Units: ug/Kg
Analysis Date: 05/19/2004 2:42 Analyst: JWW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	46.3	92.7	70	130
Ethylbenzene	50	46.9	93.9	70	130
Toluene	50	46.9	93.8	70	130
m,p-Xylene	100	94.4	94.4	70	130
o-Xylene	50	47.2	94.5	70	130
Xylenes,Total	150	141.6	94.39	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050596-20
RunID: HP_R_040519A-2228610 Units: ug/Kg
Analysis Date: 05/19/2004 18:08 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	15.5	77.5	20	16.1	80.4	3.79	32	38	136
Ethylbenzene	ND	20	15.9	79.5	20	16.3	81.4	2.42	32	21	138
Toluene	ND	20	16.0	79.8	20	16.4	81.9	2.70	34	29	137

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 04050596
Lab Batch ID: R111699

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050596-20
RunID: HP_R_040519A-2228610 Units: ug/Kg
Analysis Date: 05/19/2004 18:08 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	ND	40	32.4	80.9	40	32.9	82.3	1.66	34	10	143
o-Xylene	ND	20	16.5	82.4	20	17.3	86.6	5.01	32	21	139
Xylenes,Total	ND	60	48.9	81.4	60	50.2	83.7	2.80	34	10	143

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 04050596
Lab Batch ID: R111703

Method Blank

RunID: HP_R_040518A-2227187 Units: ug/Kg
Analysis Date: 05/18/2004 11:35 Analyst: JWW

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050596-24A	SB-1 4-5

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	98.1	77-126
Surr: 4-Bromofluorobenzene	98.3	66-145

Laboratory Control Sample (LCS)

RunID: HP_R_040518A-2227186 Units: ug/Kg
Analysis Date: 05/18/2004 10:38 Analyst: JWW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	48.2	96.4	70	130
Ethylbenzene	50	49.1	98.1	70	130
Toluene	50	48.9	97.9	70	130
m,p-Xylene	100	98.6	98.6	70	130
o-Xylene	50	50.2	100	70	130
Xylenes,Total	150	148.8	99.19	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050499-02
RunID: HP_R_040518A-2227188 Units: ug/Kg
Analysis Date: 05/18/2004 12:03 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	14.3	71.6	20	14.9	74.5	4.08	32	38	136
Ethylbenzene	ND	20	14.2	70.8	20	14.3	71.7	1.27	32	21	138
Toluene	ND	20	14.4	72.2	20	14.7	73.6	1.91	34	29	137

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 04050596
Lab Batch ID: R111703

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050499-02
RunID: HP_R_040518A-2227188 Units: ug/Kg
Analysis Date: 05/18/2004 12:03 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	ND	40	28.3	70.8	40	28.3	70.8	0.00318	34	10	143
o-Xylene	ND	20	13.6	68.2	20	13.6	68.1	0.135	32	21	139
Xylenes,Total	ND	60	41.9	69.9	60	41.9	69.9	0.0460	34	10	143

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Gasoline Range Organics
Method: SW8015B
WorkOrder: 04050596
Lab Batch ID: R111706

Method Blank

RunID: HP_R_040518B-2227293 Units: mg/Kg
Analysis Date: 05/18/2004 11:35 Analyst: JWW

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050596-24A	SB-1 4-5

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	89.7	63-122
Surr: 4-Bromofluorobenzene	78.3	39-150

Laboratory Control Sample (LCS)

RunID: HP_R_040518B-2227288 Units: mg/Kg
Analysis Date: 05/18/2004 11:07 Analyst: JWW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.904	90.4	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050499-02
RunID: HP_R_040518B-2227300 Units: mg/Kg
Analysis Date: 05/18/2004 13:00 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	0.9	0.874	97.1	0.9	0.858	95.3	1.85	50	26	147

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Gasoline Range Organics
Method: SW8015B
WorkOrder: 04050596
Lab Batch ID: R111790

Method Blank

RunID: HP_O_040519A-2228705 Units: mg/Kg
Analysis Date: 05/19/2004 7:34 Analyst: JWW

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	106.0	63-142
Surr: 4-Bromofluorobenzene	87.3	50-159

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050596-07A	SB-2 4-5
04050596-09A	SB-2 14-15
04050596-12A	SB-4 4-5

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: HP_O_040519A-2228704 Units: mg/Kg
Analysis Date: 05/19/2004 7:02 Analyst: JWW

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Gasoline Range Organics	1	1.00	100	1.00	0.892	89.2	11.7	50	70	130

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Gasoline Range Organics
Method: SW8015B

WorkOrder: 04050596
Lab Batch ID: R111793

Method Blank

RunID: HP_R_040519B-2228750 Units: mg/Kg
Analysis Date: 05/19/2004 3:39 Analyst: JWW

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	89.0	63-142
Surr: 4-Bromofluorobenzene	79.7	50-159

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050596-17A	SB-5 34-35
04050596-19A	SB-6 0-3
04050596-20A	SB-6 24-25
04050596-21A	SB-6 44-45
04050596-22A	SB-7 24-25
04050596-23A	SB-1 0-2

Laboratory Control Sample (LCS)

RunID: HP_R_040519B-2228749 Units: mg/Kg
Analysis Date: 05/19/2004 3:11 Analyst: JWW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.874	87.4	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050596-20
RunID: HP_R_040519B-2228772 Units: mg/Kg
Analysis Date: 05/19/2004 19:04 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	0.9	0.811	84.6	0.9	0.862	90.3	6.13	50	26	147

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Gasoline Range Organics
Method: SW8015B

WorkOrder: 04050596
Lab Batch ID: R111800

Method Blank

RunID: HP_R_040520A-2228852 Units: mg/Kg
Analysis Date: 05/20/2004 10:55 Analyst: JWW

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050596-04A	SB-3 29-30
04050596-14A	SB-4 14-15

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	89.0	63-142
Surr: 4-Bromofluorobenzene	83.0	50-159

Laboratory Control Sample (LCS)

RunID: HP_R_040520A-2228851 Units: mg/Kg
Analysis Date: 05/20/2004 9:59 Analyst: JWW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.902	90.2	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050656-01
RunID: HP_R_040520A-2229495 Units: mg/Kg
Analysis Date: 05/20/2004 21:34 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	0.9	0.682	75.8	0.9	0.685	76.1	0.410	50	26	147

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 04050596
Lab Batch ID: R111801

Method Blank

RunID: HP_R_040520B-2228866 Units: ug/Kg
Analysis Date: 05/20/2004 10:55 Analyst: JWW

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050596-04A	SB-3 29-30

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	96.4	77-126
Surr: 4-Bromofluorobenzene	98.4	66-145

Laboratory Control Sample (LCS)

RunID: HP_R_040520B-2228865 Units: ug/Kg
Analysis Date: 05/20/2004 10:27 Analyst: JWW

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	47.6	95.2	70	130
Ethylbenzene	50	48.2	96.3	70	130
Toluene	50	48.1	96.1	70	130
m,p-Xylene	100	96.8	96.8	70	130
o-Xylene	50	48.3	96.6	70	130
Xylenes,Total	150	145.1	96.73	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050656-01
RunID: HP_R_040520B-2229525 Units: ug/Kg
Analysis Date: 05/20/2004 20:38 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	20	14.1	70.5	20	16.1	80.4	13.1	32	38	136
Ethylbenzene	ND	20	11.6	57.8	20	13.5	67.3	15.3	32	21	138
Toluene	ND	20	13.5	67.7	20	15.2	76.2	11.8	34	29	137

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 04050596
Lab Batch ID: R111801

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050656-01
RunID: HP_R_040520B-2229525 Units: ug/Kg
Analysis Date: 05/20/2004 20:38 Analyst: JWW

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	6.18	40	22.3	40.4	40	26.8	51.5	18.2	34	10	143
o-Xylene	ND	20	11.3	56.5	20	12.7	63.7	12.0	32	21	139
Xylenes,Total	6.18	60	33.6	45.7	60	39.5	55.6	16.2	34	10	143

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

Sample Receipt Checklist

And

Chain of Custody

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	**04050596**	Received By:	**R_R**
Date and Time Received:	**5/15/04 10:00:00 AM**	Carrier name:	**FedEx**
Temperature:	**3.0°C**	Chilled by:	**Water Ice**

1.	**Shipping container/cooler in good condition?**	Yes ☑	No ☐	Not Present	☐
2.	**Custody seals intact on shippping container/cooler?**	Yes ☑	No ☐	Not Present	☐
3.	**Custody seals intact on sample bottles?**	Yes ☐	No ☐	Not Present	☑
4.	**Chain of custody present?**	Yes ☑	No ☐		
5.	**Chain of custody signed when relinquished and receiv**	Yes ☑	No ☐		
6.	**Chain of custody agrees with sample labels?**	Yes ☑	No ☐		
7.	**Samples in proper container/bottle?**	Yes ☑	No ☐		
8.	**Sample containers intact?**	Yes ☑	No ☐		
9.	**Sufficient sample volume for indicated test?**	Yes ☑	No ☐		
10.	**All samples received within holding time?**	Yes ☑	No ☐		
11.	**Container/Temp Blank temperature in compliance?**	Yes ☑	No ☐		
12.	**Water - VOA vials have zero headspace**	Yes ☐	No ☐	Not Applicable	☑
13.	**Water - pH acceptable upon receipt?**	Yes ☐	No ☐	Not Applicable	☑

SPL Representative: _____ **Contact Date & Time:** _____

Client Name Contacted: _____

Non Conformance Issues: _____

Client Instructions: _____

04050596

EXXONMOBIL

SPL WORKORDER NO. 2895 Page 1 of 3

ExxonMobil Engineer: J. HAMILTON Phone: 432-686-0086

Consultant Co. Name: BNC ENV. Contact: A. HALE

Address: 2135 N. LOOP 250 WEST Fax: 432-686-0186

MIDLAND, TX 79703

RAS #: Facility/State ID#(TN Only):

AFE#(Terminal Only): Consultant Project #: 1244

Location: GLADIOLA STATION (City) (State)

☐ EE ☐ C&M ☐ SDT

0160 ExxonMobil Oil Corp ☐ 0944 ExxonMobil Marketing & Ref. Co. ☐

0614 ExxonMobil Pipeline Co. ☐ 0231 Mobil Oil Pipeline Co. ☒

Purchase Order No.:

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX H_2O	MATRIX SOIL	MATRIX AIR	OTHER	PRESERVATIVE	NO. OF CONTAINERS	CONTAINER SIZE	TPH/GC 8015 GRO ☒ 8015 DRO ☒	BTEX 8021 ☒ 602 ☐	MTBE 8021 ☐ 8260 ☐	OXYGENATES (7) 8260 ☐	O&G IR 413.1 ☐ GRAV. 413.2 ☐ 1664 ☐	VOL. 8260 ☐ 624 ☐	SEMI-VOL. 8270 ☐ 625 ☐	PNA/PAH 8100 ☐ 8310 ☐ 8270 ☐	PCB/PEST 8081/8082 ☐ PCB ONLY ☐	TCLP FULL ☐ VOA ☐ SEMI-VOA ☐ PEST ☐ HERB ☐	METALS, TOTAL RCRA ☐ METALS TCLP ☐	PB, TOTAL 200.7 ☐ 6010 ☐ PB, TCLP ☐	PB, DISSOLVED ☐ PB, TOTAL ☐ (200.7/6010	REACTIVITY ☐ CORROSIVITY ☐ FLASHPOINT ☐	PURGEABLE HYDRCCARBON 8021 ☐ 601 ☐	TPHH/IR 418.1 ☐	TOX/TOH ☐	OTHER		HOLD
SB 3 1-2	5/12/04	1535		✓		✓			ICE	1	4oz	~~✓~~	~~✓~~																		✓
SB 3 4-5		1551		✓		✓				1		✓	✓																		
SB 3 19-20		1602		✓		✓				1		✓	✓																		
SB 3 29-30		1620		✓		✓				1		✓	✓																		
SB 3 34-35		1629		✓		✓				1		~~✓~~	~~✓~~																		✓
SB 3 39-40		1638		✓		✓				1		✓	✓																		
SB 2 4-5	5/13/04	0913		✓		✓				1		✓	✓																		
SB 2 9-10		0917		✓		✓				1		~~✓~~	~~✓~~																		✓
SB 2 14-15		0921		✓		✓				1		✓	✓																		
SB 2 29-30		1000		✓		✓				1		✓	✓																		

ANALYSIS REQUEST: (CHECK APPROPRIATE BOX) — OTHER

TAT (* - Contact us Prior to Sending Samples)

24 HR. * 48 HR. *

72 HR. * 5 BUS. *

8 BUS. 10 BUS. ✓

15 BUS. 30 BUS.

QA/QC Level

STANDARD "A"

ENHANCED "B"

FULL DATA "C"

TRRP DATA "C"

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

PDF ☐ ☐ EDD

REMARKS: HOLD SB 2 9-10, SB 3 34-35 SB 3 1-2

EXXONMOBIL CONTRACT NO. C57160

Way Bill #: Cooler Temp: 3.0°C

CUSTODY RECORD

	Date	Time	Received By:
Relinquished By Sampler: Will Munday	5/14/04	1500	
Relinquished:	5/15/04	1000	Received By:
Relinquished	Date	Time	Received By:

Triplicate: Original * White Lab's Copy * Green Client Copy * Yellow

0405076

EXXONMOBIL

SPL WORKORDER NO. 2891 Page 2 of 3

ExxonMobil Engineer: _____ Phone: _____

Consultant Co. Name: _____ Contact: _____

Address: _____ Fax: _____

RAS #: _____ Facility/State ID#(TN Only): _____

AFE#(Terminal Only): _____ Consultant Project #: _____

Location: _____ (City) _____ (State) _____

☐ EE ☐ C&M ☐ SDT

0160 ExxonMobil Oil Corp ☐ 0944 ExxonMobil Marketing & Ref. Co. ☐

0614 ExxonMobil Pipeline Co. ☐ 0231 Mobil Oil Pipeline Co. ☒

Purchase Order No.: _____

ANALYSIS REQUEST: (CHECK APPROPRIATE BOX)

OTHER

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX H_2O	MATRIX SOIL	MATRIX AIR	OTHER	PRESERVATIVE	NO. OF CONTAINERS	CONTAINER SIZE	TPH/GC 8015 GRO ☐ 8015 DRO ☐	BTEX 8021 ☐ 602 ☐	MTBE 8021 ☐ 8260 ☐	OXYGENATES (7) 8260 ☐	O&G IR 413.1 ☐ GRAV. 413.2 ☐ 1664 ☐	VOL. 8260 ☐ 624 ☐	SEMI-VOL. 8270 ☐ 625 ☐	PNA/PAH 8100 ☐ 8310 ☐ 8270 ☐	PCB/PEST 8081/8082 ☐ PCB ONLY ☐	TCLP FULL ☐ VOA ☐ SEMI-VOA ☐ PEST ☐ HERB ☐	METALS, TOTAL RCRA ☐ METALS TCLP ☐	PB, TOTAL 200.7 ☐ 6010 ☐ PB, TCLP ☐	PB, DISSOLVED ☐ PB, TOTAL ☐ (200.7/6010	REACTIVITY ☐ CORROSIVITY ☐ FLASHPOINT ☐	PURGEABLE HYDROCARBON 8021 ☐ 601 ☐	TPHH/IR 418.1 ☐	TOX/TOH ☐			HOLD	
SB 3 39-40	5/13/04	1200		✓		✓			ICE	1	4oz	✓	✓																			
SB 4 4-5		1325		✓		✓				1		✓	✓																			
SB 4 9-10		1328		✓		✓				1		✓	✓																		✓	
SB 4 14-15		1331		✓		✓				1		✓	✓																			
SB 4 29-30		1357		✓		✓				1		✓	✓																			
SB 4 34-35		1409		✓		✓				1		✓	✓																			
SB 5 34-35		1517		✓		✓				1		✓	✓																			
SB 5 39-40		1528		✓		✓				1		✓	✓																			
SB 6 0-3		1630	✓			✓				1		✓	✓																			
SB 6 24-25	✓	1655		✓		✓			✓	1	✓	✓	✓																			

TAT (* - Contact us Prior to Sending Samples)

24 HR. _____ * 48 HR. _____ *

72 HR. _____ * 5 BUS. _____ *

8 BUS. _____ 10 BUS. ✓

15 BUS. _____ 30 BUS. _____

QA/QC Level

STANDARD "A" _____

ENHANCED "B" _____

FULL DATA "C" _____

TRRP DATA "C" _____

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

PDF ☐ ☐ EDD

REMARKS: HOLD SB 4 9-10

EXXONMOBIL CONTRACT NO. C57160

Way Bill #: _____ Cooler Temp: 3.0°

CUSTODY RECORD

	Date	Time	
Relinquished By Sampler: Will Munday	5/14/04	1500	Received By:
Relinquished:	5/15/04	1000	Received By:
Relinquished	Date	Time	Received By:

Triplicate: Original * White Lab's Copy * Green Client Copy * Yellow

04050546

EXXONMOBIL

SPL WORKORDER NO. 2402 Page 3 of 3

ExxonMobil Engineer: _____ Phone: _____

Consultant Co. Name: _____ Contact: _____

Address: _____ Fax: _____

RAS #: _____ Facility/State ID#(TN Only): _____

AFE#(Terminal Only): _____ Consultant Project #: _____

Location: _____ (City) _____ (State) _____

☐ EE ☐ C&M ☐ SDT

0160 ExxonMobil Oil Corp ☐ 0944 ExxonMobil Marketing & Ref. Co. ☐

0614 ExxonMobil Pipeline Co. ☐ 0231 Mobil Oil Pipeline Co. ☒

Purchase Order No.: _____

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX H_2O	MATRIX SOIL	MATRIX AIR	OTHER	PRESERVATIVE	NO. OF CONTAINERS	CONTAINER SIZE	TPH/GC 8015 GRO ☐ 8015 DRO ☐	BTEX 8021 ☐ 602 ☐	MTBE 8021 ☐ 8260 ☐	OXYGENATES (7) 8260 ☐	O&G IR 413.1 ☐ GRAV. 413.2 ☐ 1664 ☐	VOL. 8260 ☐ 624 ☐	SEMI-VOL. 8270 ☐ 625 ☐	PNA/PAH 8100 ☐ 8310 ☐ 8270 ☐	PCB/PEST 8081/8082 ☐ PCB ONLY ☐	TCLP FULL ☐ VOA ☐ SEMI-VOA ☐ PEST ☐ HERB ☐	METALS, TOTAL RCRA ☐ METALS TCLP ☐	PB, TOTAL 200.7 ☐ 6010 ☐ PB, TCLP ☐	PB, DISSOLVED ☐ PB, TOTAL ☐ (200.7/6010	REACTIVITY ☐ CORROSIVITY ☐ FLASHPOINT ☐	PURGEABLE HYDROCARBON 8021 ☐ 601 ☐	TPHH/IR 418.1 ☐	TOX/TOH ☐	OTHER
SB 6 44-45	5/13/04	1723		✓		✓			ICE	1	4oz	✓	✓																
SB 7 24-25	5/14/04	0950		✓		✓				1		✓	✓																
SB 1 0-2		1021	✓			✓				1		✓	✓																
SB 1 4-5		1028		✓		✓				1		✓	✓																

TAT (* - Contact us Prior to Sending Samples)

24 HR. _____ * 48 HR. _____ *

72 HR. _____ * 5 BUS. _____ *

8 BUS. _____ 10 BUS. ✓

15 BUS. _____ 30 BUS. _____

QA/QC Level

STANDARD "A" _____

ENHANCED "B" _____

FULL DATA "C" _____

TRRP DATA "C" _____

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)

PDF ☐ ☐ EDD

REMARKS:

EXXONMOBIL CONTRACT NO. C57160

Way Bill #: _____ Cooler Temp: 3.0°

CUSTODY RECORD

	Date	Time	
Relinquished By Sampler: Will Munday			Received By:
Relinquished:	5/15/04	1000	Received By: Paul Penny
Relinquished			Received By:

Triplicate: Original * White Lab's Copy * Green Client Copy * Yellow

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

ExxonMobil Global Remediation

Certificate of Analysis Number:

04050741

Report To:		Project Name:	Gladiola Station
BNC Environmental Services		Site:	Lea County, NM
Aaron Hale		Site Address:	
2135 S. Loop 250 West			
Midland		PO Number:	4504690348 Line 80
TX		State:	New Mexico
79703-		State Cert. No.:	
ph: (432) 686-0086	fax:	Date Reported:	5/28/04

This Report Contains A Total Of Pages

Excluding This Page

6/1/04

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:

ExxonMobil Global Remediation

Certificate of Analysis Number:

04050741

Report To:		Project Name:	Gladiola Station
BNC Environmental Services		Site:	Lea County, NM
Aaron Hale		Site Address:	
2135 S. Loop 250 West			
Midland		PO Number:	4504690348 Line 80
TX		State:	New Mexico
79703-		State Cert. No.:	
ph: (432) 686-0086	fax:	Date Reported:	5/28/04

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Due to limited sample volume, no Matrix Spike (MS) or Matrix Spike Duplicate (MSD) was extracted with Batch ID: 38187 for the Polynuclear Aromatic Hydrocarbons analysis by SW846 Method 8310. A Laboratory Control Sample (LCS) and a Laboratory Control Sample Duplicate (LCSD) were extracted with the analytical batch and serve as the batch quality control (QC). Spike recoveries for the LCS and LCSD were within QC limits.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Sonia West

6/1/04

Sonia West
Senior Project Manager

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

ExxonMobil Global Remediation

Certificate of Analysis Number:

04050741

Report To: BNC Environmental Services
Aaron Hale
2135 S. Loop 250 West

Midland
TX
79703-
ph: (432) 686-0086 fax:

Fax To:

Project Name: Gladiola Station
Site: Lea County, NM
Site Address:

PO Number: 4504690348 Line 80
State: New Mexico
State Cert. No.:
Date Reported: 5/28/04

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
MW-1	04050741-01	Water	5/17/04 2:50:00 PM	5/19/04 9:30:00 AM	2403	☐
MW-2	04050741-02	Water	5/17/04 3:30:00 PM	5/19/04 9:30:00 AM	2403	☐
MW-3	04050741-03	Water	5/17/04 3:20:00 PM	5/19/04 9:30:00 AM	2403	☐
Trip Blank	04050741-04	Water	5/17/04	5/19/04 9:30:00 AM	2403	☐

Sonia West

6/1/04

Sonia West
Senior Project Manager

Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

6/1/04 3:43:12 PM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: MW-1 **Collected:** 05/17/2004 14:50 **SPL Sample ID:** 04050741-01

Site: Lea County, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
ALKALINITY (AS CACO3), TOTAL			**MCL**	**E310.1**	**Units: mg/L**		
Alkalinity, Total (As CaCO3)	1010	2	1		05/25/04 18:00	ESK	2236807
ION CHROMATOGRAPHY			**MCL**	**E300.0**	**Units: mg/L**		
Chloride	24	1	5		05/26/04 14:12	CV	2239204
Sulfate	1.7	0.2	1		05/26/04 17:46	CV	2239221
MERCURY, DISSOLVED			**MCL**	**SW7470A**	**Units: mg/L**		
Mercury	ND	0.0002	1		05/26/04 15:49	JAB	2238952

Prep Method	Prep Date	Prep Initials	Prep Factor
SW7470A	05/25/2004 8:30	JAB	1.00

METALS BY METHOD 6010B, DISSOLVED			MCL	SW6010B	Units: mg/L		
Arsenic	0.0168	0.005		1	05/25/04 16:59	NS	2238496
Lead	ND	0.005		1	05/25/04 16:59	NS	2238496
Selenium	ND	0.005		1	05/25/04 16:59	NS	2238496
Barium	2.71	0.005		1	05/25/04 16:19	MW	2237045
Cadmium	ND	0.005		1	05/25/04 16:19	MW	2237045
Chromium	ND	0.01		1	05/25/04 16:19	MW	2237045
Silver	ND	0.01		1	05/25/04 16:19	MW	2237045

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3005A	05/20/2004 8:00	SE	1.00

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: MW-1 **Collected:** 05/17/2004 14:50 **SPL Sample ID:** 04050741-01

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
POLYNUCLEAR AROMATIC HYDROCARBONS				**MCL**	**SW8310**	**Units: ug/L**		
1-Methylnaphthalene	25		8	40		05/27/04 12:12	DL	2239891
2-Methylnaphthalene	27		8	40		05/27/04 12:12	DL	2239891
Acenaphthene	ND		0.5	5		05/27/04 4:05	DL	2239885
Acenaphthylene	ND		0.5	5		05/27/04 4:05	DL	2239885
Anthracene	ND		0.5	5		05/27/04 4:05	DL	2239885
Benz(a)anthracene	ND		0.5	5		05/27/04 4:05	DL	2239885
Benzo(a)pyrene	ND		0.5	5		05/27/04 4:05	DL	2239885
Benzo(b)fluoranthene	ND		0.5	5		05/27/04 4:05	DL	2239885
Benzo(g,h,i)perylene	ND		0.5	5		05/27/04 4:05	DL	2239885
Benzo(k)fluoranthene	ND		0.5	5		05/27/04 4:05	DL	2239885
Chrysene	ND		0.5	5		05/27/04 4:05	DL	2239885
Dibenzo(a,h)anthracene	ND		0.5	5		05/27/04 4:05	DL	2239885
Fluoranthene	ND		0.5	5		05/27/04 4:05	DL	2239885
Fluorene	ND		0.5	5		05/27/04 4:05	DL	2239885
Indeno(1,2,3-cd)pyrene	ND		0.5	5		05/27/04 4:05	DL	2239885
Naphthalene	35		4	40		05/27/04 12:12	DL	2239891
Phenanthrene	ND		0.5	5		05/27/04 4:05	DL	2239885
Pyrene	ND		0.5	5		05/27/04 4:05	DL	2239885
Surr: 1-Fluoronaphthalene	46.1	%	18-130	5		05/27/04 4:05	DL	2239885
Surr: 1-Fluoronaphthalene	D	%	18-130	40		05/27/04 12:12	DL	2239891
Surr: Phenanthrene-d10	D	%	21-111	40		05/27/04 12:12	DL	2239891
Surr: Phenanthrene-d10	70.9	%	21-111	5		05/27/04 4:05	DL	2239885

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3510C	05/22/2004 8:09	K_L	1.00

PURGEABLE AROMATICS				**MCL**	**SW8021B**	**Units: ug/L**		
Benzene	6600		25	25		05/27/04 17:13	RLS	2241534
Toluene	1100		25	25		05/27/04 17:13	RLS	2241534
Ethylbenzene	440		25	25		05/27/04 17:13	RLS	2241534
m,p-Xylene	800		25	25		05/27/04 17:13	RLS	2241534
o-Xylene	320		25	25		05/27/04 17:13	RLS	2241534
Xylenes,Total	1120		25	25		05/27/04 17:13	RLS	2241534
Surr: 1,4-Difluorobenzene	102	%	39-163	25		05/27/04 17:13	RLS	2241534
Surr: 4-Bromofluorobenzene	107	%	57-157	25		05/27/04 17:13	RLS	2241534

TOTAL DISSOLVED SOLIDS				**MCL**	**E160.1**	**Units: mg/L**		
Total Dissolved Solids (Residue,Filterable)	1130		40	4		05/22/04 14:00	ESK	2231841

Sonia West

Sonia West
Project Manager

Qualifiers:
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MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: MW-2 **Collected:** 05/17/2004 15:30 **SPL Sample ID:** 04050741-02

Site: Lea County, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
ALKALINITY (AS CACO3), TOTAL			**MCL**	**E310.1**	**Units: mg/L**		
Alkalinity, Total (As CaCO3)	586	2	1		05/25/04 18:00	ESK	2236808
ION CHROMATOGRAPHY			**MCL**	**E300.0**	**Units: mg/L**		
Chloride	25	1	5		05/26/04 14:25	CV	2239205
Sulfate	25	1	5		05/26/04 14:25	CV	2239205
MERCURY, DISSOLVED			**MCL**	**SW7470A**	**Units: mg/L**		
Mercury	ND	0.0002	1		05/26/04 15:52	JAB	2238953

Prep Method	Prep Date	Prep Initials	Prep Factor
SW7470A	05/25/2004 8:30	JAB	1.00

METALS BY METHOD 6010B, DISSOLVED			MCL	SW6010B	Units: mg/L		
Arsenic	ND	0.005		1	05/25/04 17:04	NS	2238497
Lead	ND	0.005		1	05/25/04 17:04	NS	2238497
Selenium	ND	0.005		1	05/25/04 17:04	NS	2238497
Barium	0.0867	0.005		1	05/25/04 16:23	MW	2237046
Cadmium	ND	0.005		1	05/25/04 16:23	MW	2237046
Chromium	ND	0.01		1	05/25/04 16:23	MW	2237046
Silver	ND	0.01		1	05/25/04 16:23	MW	2237046

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3005A	05/20/2004 8:00	SE	1.00

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
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J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: MW-2 **Collected:** 05/17/2004 15:30 **SPL Sample ID:** 04050741-02

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
POLYNUCLEAR AROMATIC HYDROCARBONS			**MCL**	**SW8310**		**Units: ug/L**		
1-Methylnaphthalene	15		4	20		05/27/04 12:49	DL	2239892
2-Methylnaphthalene	16		4	20		05/27/04 12:49	DL	2239892
Acenaphthene	ND		0.5	5		05/27/04 4:43	DL	2239886
Acenaphthylene	ND		0.5	5		05/27/04 4:43	DL	2239886
Anthracene	ND		0.5	5		05/27/04 4:43	DL	2239886
Benz(a)anthracene	ND		0.5	5		05/27/04 4:43	DL	2239886
Benzo(a)pyrene	ND		0.5	5		05/27/04 4:43	DL	2239886
Benzo(b)fluoranthene	ND		0.5	5		05/27/04 4:43	DL	2239886
Benzo(g,h,i)perylene	ND		0.5	5		05/27/04 4:43	DL	2239886
Benzo(k)fluoranthene	ND		0.5	5		05/27/04 4:43	DL	2239886
Chrysene	ND		0.5	5		05/27/04 4:43	DL	2239886
Dibenzo(a,h)anthracene	ND		0.5	5		05/27/04 4:43	DL	2239886
Fluoranthene	ND		0.5	5		05/27/04 4:43	DL	2239886
Fluorene	1.5		0.5	5		05/27/04 4:43	DL	2239886
Indeno(1,2,3-cd)pyrene	ND		0.5	5		05/27/04 4:43	DL	2239886
Naphthalene	19		2	20		05/27/04 12:49	DL	2239892
Phenanthrene	0.56		0.5	5		05/27/04 4:43	DL	2239886
Pyrene	ND		0.5	5		05/27/04 4:43	DL	2239886
Surr: 1-Fluoronaphthalene	28.8	%	18-130	5		05/27/04 4:43	DL	2239886
Surr: 1-Fluoronaphthalene	D	%	18-130	20		05/27/04 12:49	DL	2239892
Surr: Phenanthrene-d10	D	%	21-111	20		05/27/04 12:49	DL	2239892
Surr: Phenanthrene-d10	20.4MI	%	21-111	5	*	05/27/04 4:43	DL	2239886

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3510C	05/22/2004 8:09	K_L	1.00

PURGEABLE AROMATICS			**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	19		1	1		05/26/04 20:40	RLS	2240995
Toluene	ND		1	1		05/26/04 20:40	RLS	2240995
Ethylbenzene	33		1	1		05/26/04 20:40	RLS	2240995
m,p-Xylene	55		1	1		05/26/04 20:40	RLS	2240995
o-Xylene	9.1		1	1		05/26/04 20:40	RLS	2240995
Xylenes,Total	64.1		1	1		05/26/04 20:40	RLS	2240995
Surr: 1,4-Difluorobenzene	103	%	39-163	1		05/26/04 20:40	RLS	2240995
Surr: 4-Bromofluorobenzene	126	%	57-157	1		05/26/04 20:40	RLS	2240995
TOTAL DISSOLVED SOLIDS			**MCL**	**E160.1**		**Units: mg/L**		
Total Dissolved Solids (Residue,Filterable)	668		40	4		05/22/04 14:00	ESK	2231842

Sonia West

Sonia West
Project Manager

Qualifiers:
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>MCL - Result Over Maximum Contamination Limit(MCL)
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MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: MW-3 **Collected:** 05/17/2004 15:20 **SPL Sample ID:** 04050741-03

Site: Lea County, NM

Analyses/Method	Result	Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
ALKALINITY (AS CACO3), TOTAL			**MCL**	**E310.1**	**Units: mg/L**		
Alkalinity, Total (As CaCO3)	607	2	1		05/25/04 18:00	ESK	2236809
ION CHROMATOGRAPHY			**MCL**	**E300.0**	**Units: mg/L**		
Chloride	18	0.2	1		05/26/04 18:24	CV	2239224
Sulfate	7.4	0.2	1		05/26/04 18:24	CV	2239224
MERCURY, DISSOLVED			**MCL**	**SW7470A**	**Units: mg/L**		
Mercury	ND	0.0002	1		05/26/04 15:54	JAB	2238954

Prep Method	Prep Date	Prep Initials	Prep Factor
SW7470A	05/25/2004 8:30	JAB	1.00

METALS BY METHOD 6010B, DISSOLVED			**MCL**	**SW6010B**	**Units: mg/L**		
Arsenic	0.00745	0.005	1		05/26/04 13:53	NS	2239140
Lead	ND	0.005	1		05/25/04 17:20	NS	2238500
Selenium	ND	0.005	1		05/25/04 17:20	NS	2238500
Barium	0.64	0.005	1		05/25/04 16:35	MW	2237049
Cadmium	ND	0.005	1		05/25/04 16:35	MW	2237049
Chromium	ND	0.01	1		05/25/04 16:35	MW	2237049
Silver	ND	0.01	1		05/25/04 16:35	MW	2237049

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3005A	05/20/2004 8:00	SE	1.00

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: MW-3 **Collected:** 05/17/2004 15:20 **SPL Sample ID:** 04050741-03

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
POLYNUCLEAR AROMATIC HYDROCARBONS			**MCL**	**SW8310**		**Units: ug/L**		
1-Methylnaphthalene	0.83		0.2	1		05/27/04 11:34	DL	2239890
2-Methylnaphthalene	0.8		0.2	1		05/27/04 11:34	DL	2239890
Acenaphthene	0.15		0.1	1		05/27/04 11:34	DL	2239890
Acenaphthylene	ND		0.1	1		05/27/04 11:34	DL	2239890
Anthracene	ND		0.1	1		05/27/04 11:34	DL	2239890
Benz(a)anthracene	ND		0.1	1		05/27/04 11:34	DL	2239890
Benzo(a)pyrene	ND		0.1	1		05/27/04 11:34	DL	2239890
Benzo(b)fluoranthene	ND		0.1	1		05/27/04 11:34	DL	2239890
Benzo(g,h,i)perylene	ND		0.1	1		05/27/04 11:34	DL	2239890
Benzo(k)fluoranthene	ND		0.1	1		05/27/04 11:34	DL	2239890
Chrysene	ND		0.1	1		05/27/04 11:34	DL	2239890
Dibenzo(a,h)anthracene	ND		0.1	1		05/27/04 11:34	DL	2239890
Fluoranthene	ND		0.1	1		05/27/04 11:34	DL	2239890
Fluorene	0.57		0.1	1		05/27/04 11:34	DL	2239890
Indeno(1,2,3-cd)pyrene	ND		0.1	1		05/27/04 11:34	DL	2239890
Naphthalene	0.43		0.1	1		05/27/04 11:34	DL	2239890
Phenanthrene	0.14		0.1	1		05/27/04 11:34	DL	2239890
Pyrene	ND		0.1	1		05/27/04 11:34	DL	2239890
Surr: 1-Fluoronaphthalene	60.0	%	18-130	1		05/27/04 11:34	DL	2239890
Surr: Phenanthrene-d10	87.2	%	21-111	1		05/27/04 11:34	DL	2239890

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3510C	05/22/2004 8:09	K_L	1.00

PURGEABLE AROMATICS			**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	140		1	1		05/26/04 21:08	RLS	2240996
Toluene	ND		1	1		05/26/04 21:08	RLS	2240996
Ethylbenzene	16		1	1		05/26/04 21:08	RLS	2240996
m,p-Xylene	72		1	1		05/26/04 21:08	RLS	2240996
o-Xylene	19		1	1		05/26/04 21:08	RLS	2240996
Xylenes,Total	91		1	1		05/26/04 21:08	RLS	2240996
Surr: 1,4-Difluorobenzene	100	%	39-163	1		05/26/04 21:08	RLS	2240996
Surr: 4-Bromofluorobenzene	109	%	57-157	1		05/26/04 21:08	RLS	2240996

TOTAL DISSOLVED SOLIDS			**MCL**	**E160.1**		**Units: mg/L**		
Total Dissolved Solids (Residue,Filterable)	722		20	2		05/22/04 14:00	ESK	2231843

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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Client Sample ID: Trip Blank **Collected:** 05/17/2004 0:00 **SPL Sample ID:** 04050741-04

Site: Lea County, NM

Analyses/Method	Result		Rep.Limit		Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/L**		
Benzene	ND		1		1		05/26/04 21:35	RLS	2240997
Toluene	ND		1		1		05/26/04 21:35	RLS	2240997
Ethylbenzene	ND		1		1		05/26/04 21:35	RLS	2240997
m,p-Xylene	ND		1		1		05/26/04 21:35	RLS	2240997
o-Xylene	ND		1		1		05/26/04 21:35	RLS	2240997
Xylenes,Total	ND		1		1		05/26/04 21:35	RLS	2240997
Surr: 1,4-Difluorobenzene	101	%	39-163		1		05/26/04 21:35	RLS	2240997
Surr: 4-Bromofluorobenzene	101	%	57-157		1		05/26/04 21:35	RLS	2240997

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - *Analyte detected in the associated Method Blank*
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

HOUSTON LABORATORY
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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 04050741
Lab Batch ID: R112421

Method Blank

RunID: VARE_040526D-2240991 Units: ug/L
Analysis Date: 05/26/2004 18:22 Analyst: RLS

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050741-02A	MW-2
04050741-03A	MW-3
04050741-04A	Trip Blank

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	101.1	39-163
Surr: 4-Bromofluorobenzene	100.7	57-157

Laboratory Control Sample (LCS)

RunID: VARE_040526D-2240988 Units: ug/L
Analysis Date: 05/26/2004 17:00 Analyst: RLS

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	52.7	105	81	125
Ethylbenzene	50	51.9	104	85	119
Toluene	50	51.9	104	87	120
m,p-Xylene	100	103	103	86	118
o-Xylene	50	51.7	103	83	122
Xylenes,Total	150	154.7	103.1	83	122

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050741-02
RunID: VARE_040526D-2240989 Units: ug/L
Analysis Date: 05/26/2004 17:27 Analyst: RLS

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	18.9	20	32.3	66.9	20	34.9	80.2	7.90	26	43	155
Ethylbenzene	32.9	20	43.2	51.2	20	43.5	52.9	0.774	34	51	142
Toluene	ND	20	20.1	95.7	20	19.4	92.2	3.63	25	57	142

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 04050741
Lab Batch ID: R112421

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050741-02
RunID: VARE_040526D-2240989 Units: ug/L
Analysis Date: 05/26/2004 17:27 Analyst: RLS

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	54.7	40	78.4	59.2	40	81.0	65.7	3.27	27	47	154
o-Xylene	9.15	20	26.3	85.7	20	27.0	89.2	2.65	25	61	138
Xylenes, Total	63.87	60	104.7	68.04	60	108.0	73.56	3.115	27	47	154

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B

WorkOrder: 04050741
Lab Batch ID: R112451

Method Blank

RunID: VARE_040527A-2241522 Units: ug/L
Analysis Date: 05/27/2004 7:13 Analyst: RLS

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050741-01A	MW-1

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	103.9	39-163
Surr: 4-Bromofluorobenzene	101.8	57-157

Laboratory Control Sample (LCS)

RunID: VARE_040527A-2241519 Units: ug/L
Analysis Date: 05/27/2004 5:50 Analyst: RLS

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	53.5	107	81	125
Ethylbenzene	50	52.3	105	85	119
Toluene	50	52.3	105	87	120
m,p-Xylene	100	103	103	86	118
o-Xylene	50	52.4	105	83	122
Xylenes,Total	150	155.4	103.6	83	122

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050737-01
RunID: VARE_040527A-2241520 Units: ug/L
Analysis Date: 05/27/2004 6:18 Analyst: RLS

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	189	20	188	N/C	20	195	N/C	N/C	26	43	155
Ethylbenzene	36.4	20	51.6	76.1	20	53.9	87.6	4.37	34	51	142
Toluene	122	20	127	N/C	20	132	N/C	N/C	25	57	142

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 04050741
Lab Batch ID: R112451

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050737-01
RunID: VARE_040527A-2241520 Units: ug/L
Analysis Date: 05/27/2004 6:18 Analyst: RLS

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	139	40	158	46.7 *	40	166	65.9	4.74	27	47	154
o-Xylene	74.2	20	85.4	56.3 *	20	88.9	73.7	4.00	25	61	138
Xylenes,Total	213.6	60	243.4	49.91	60	254.9	68.51	4.480	27	47	154

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Polynuclear Aromatic Hydrocarbons
Method: SW8310
WorkOrder: 04050741
Lab Batch ID: 38187

Method Blank

RunID: 2_040526B-2239879 Units: ug/L
Analysis Date: 05/27/2004 0:19 Analyst: DL
Preparation Date: 05/22/2004 8:09 Prep By: K_L Method SW3510C

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050741-01B	MW-1
04050741-02B	MW-2
04050741-03B	MW-3

Analyte	Result	Rep Limit
1-Methylnaphthalene	ND	0.20
2-Methylnaphthalene	ND	0.20
Acenaphthene	ND	0.10
Acenaphthylene	ND	0.10
Anthracene	ND	0.10
Benz(a)anthracene	ND	0.10
Benzo(a)pyrene	ND	0.10
Benzo(b)fluoranthene	ND	0.10
Benzo(g,h,i)perylene	ND	0.10
Benzo(k)fluoranthene	ND	0.10
Chrysene	ND	0.10
Dibenzo(a,h)anthracene	ND	0.10
Fluoranthene	ND	0.10
Fluorene	ND	0.10
Indeno(1,2,3-cd)pyrene	ND	0.10
Naphthalene	ND	0.10
Phenanthrene	ND	0.10
Pyrene	ND	0.10
Surr: 1-Fluoronaphthalene	66.1	18-130
Surr: Phenanthrene-d10	74.3	21-111

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: 2_040526B-2239880 Units: ug/L
Analysis Date: 05/27/2004 0:57 Analyst: DL
Preparation Date: 05/22/2004 8:09 Prep By: K_L Method SW3510C

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
1-Methylnaphthalene	0.5	0.326	65.3	0.500	0.349	69.9	6.8	30	35	125
2-Methylnaphthalene	0.5	0.326	65.2	0.500	0.337	67.5	3.5	30	35	125
Acenaphthene	0.5	0.344	68.9	0.500	0.353	70.5	2.4	30	35	125
Acenaphthylene	0.5	0.304	60.9	0.500	0.315	62.9	3.3	30	35	122
Anthracene	0.5	0.266	53.3	0.500	0.274	54.8	2.7	30	29	126
Benz(a)anthracene	0.5	0.376	75.2	0.500	0.379	75.9	0.9	30	39	119
Benzo(a)pyrene	0.5	0.374	74.7	0.500	0.378	75.5	1.0	30	34	125
Benzo(b)fluoranthene	0.5	0.389	77.9	0.500	0.390	78.0	0.1	30	42	127
Benzo(g,h,i)perylene	0.5	0.382	76.4	0.500	0.380	75.9	0.6	30	37	125
Benzo(k)fluoranthene	0.5	0.390	78.1	0.500	0.390	77.9	0.2	30	42	125
Chrysene	0.5	0.374	74.9	0.500	0.378	75.6	0.9	30	40	144

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Polynuclear Aromatic Hydrocarbons **WorkOrder:** 04050741
Method: SW8310 **Lab Batch ID:** 38187

Laboratory Control Sample/Laboratory Control Sample Duplicate (LCS/LCSD)

RunID: 2_040526B-2239880 Units: ug/L
Analysis Date: 05/27/2004 0:57 Analyst: DL
Preparation Date: 05/22/2004 8:09 Prep By: K_L Method SW3510C

Analyte	LCS Spike Added	LCS Result	LCS Percent Recovery	LCSD Spike Added	LCSD Result	LCSD Percent Recovery	RPD	RPD Limit	Lower Limit	Upper Limit
Dibenzo(a,h)anthracene	0.5	0.397	79.4	0.500	0.394	78.7	0.9	30	42	130
Fluoranthene	0.5	0.363	72.6	0.500	0.373	74.5	2.6	30	38	126
Fluorene	0.5	0.346	69.1	0.500	0.358	71.5	3.4	30	37	130
Indeno(1,2,3-cd)pyrene	0.5	0.357	71.3	0.500	0.356	71.1	0.3	30	39	130
Naphthalene	0.5	0.365	73.0	0.500	0.367	73.5	0.7	30	36	130
Phenanthrene	0.5	0.359	71.9	0.500	0.370	73.9	2.8	30	38	128
Pyrene	0.5	0.373	74.6	0.500	0.382	76.4	2.3	30	39	137

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Metals by Method 6010B, Dissolved
Method: SW6010B
WorkOrder: 04050741
Lab Batch ID: 38139

Method Blank

RunID: TJA_040525D-2237037 Units: mg/L
Analysis Date: 05/25/2004 15:47 Analyst: MW
Preparation Date: 05/20/2004 8:00 Prep By: SE Method SW3005A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050741-01C	MW-1
04050741-02C	MW-2
04050741-03C	MW-3

Analyte	Result	Rep Limit
Barium	ND	0.005
Cadmium	ND	0.005
Chromium	ND	0.01
Silver	ND	0.01

Laboratory Control Sample (LCS)

RunID: TJA_040525D-2237038 Units: mg/L
Analysis Date: 05/25/2004 15:51 Analyst: MW
Preparation Date: 05/20/2004 8:00 Prep By: SE Method SW3005A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Barium	1	0.9680	96.80	80	120
Cadmium	1	1.092	109.2	80	120
Chromium	1	1.058	105.8	80	120
Silver	1	0.8715	87.15	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050677-12
RunID: TJA_040525D-2237040 Units: mg/L
Analysis Date: 05/25/2004 15:59 Analyst: MW
Preparation Date: 05/20/2004 8:00 Prep By: SE Method SW3005A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Barium	ND	1	0.9699	96.99	1	0.9645	96.45	0.5573	20	75	125
Cadmium	ND	1	1.074	107.4	1	1.065	106.5	0.8559	20	75	125
Chromium	ND	1	1.042	104.2	1	1.037	103.7	0.5666	20	75	125
Silver	ND	1	1.071	107.1	1	0.8254	82.54	25.94 *	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Metals by Method 6010B, Dissolved
Method: SW6010B
WorkOrder: 04050741
Lab Batch ID: 38139-T

Method Blank

RunID: TJAT_040525B-2238487 Units: mg/L
Analysis Date: 05/25/2004 16:15 Analyst: NS
Preparation Date: 05/20/2004 8:00 Prep By: SE Method SW3005A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050741-01C	MW-1
04050741-02C	MW-2
04050741-03C	MW-3

Analyte	Result	Rep Limit
Arsenic	ND	0.005
Lead	ND	0.005
Selenium	ND	0.005

Laboratory Control Sample (LCS)

RunID: TJAT_040525B-2238488 Units: mg/L
Analysis Date: 05/25/2004 16:20 Analyst: NS
Preparation Date: 05/20/2004 8:00 Prep By: SE Method SW3005A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Arsenic	0.1	0.1035	103.5	80	120
Lead	0.1	0.1027	102.7	80	120
Selenium	0.1	0.1065	106.4	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050677-12
RunID: TJAT_040525B-2238490 Units: mg/L
Analysis Date: 05/25/2004 16:31 Analyst: NS
Preparation Date: 05/20/2004 8:00 Prep By: SE Method SW3005A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Arsenic	ND	0.1	0.1037	103.7	0.1	0.1041	104.1	0.4331	20	75	125
Lead	ND	0.1	0.1038	103.8	0.1	0.1042	104.2	0.4136	20	75	125
Selenium	ND	0.1	0.1060	106.0	0.1	0.1059	105.9	0.02831	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

6/1/04 3:44:03 PM

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Mercury, Dissolved
Method: SW7470A
WorkOrder: 04050741
Lab Batch ID: 38244

Method Blank

RunID: HGLC_040526A-2238947 Units: mg/L
Analysis Date: 05/26/2004 15:37 Analyst: JAB
Preparation Date: 05/25/2004 8:30 Prep By: JAB Method SW7470A

Analyte	Result	Rep Limit
Mercury	ND	0.0002

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050741-01C	MW-1
04050741-02C	MW-2
04050741-03C	MW-3

Laboratory Control Sample (LCS)

RunID: HGLC_040526A-2238948 Units: mg/L
Analysis Date: 05/26/2004 15:39 Analyst: JAB
Preparation Date: 05/25/2004 8:30 Prep By: JAB Method SW7470A

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Mercury	0.002	0.002024	101.2	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050800-01
RunID: HGLC_040526A-2238950 Units: mg/L
Analysis Date: 05/26/2004 15:44 Analyst: JAB
Preparation Date: 05/25/2004 8:30 Prep By: JAB Method SW7470A

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Mercury	ND	0.002	0.002047	102.3	0.002	0.002066	103.3	0.9426	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value betw een MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Total Dissolved Solids
Method: E160.1

WorkOrder: 04050741
Lab Batch ID: R111955

Method Blank

RunID: WET_040522H-2231827 Units: mg/L
Analysis Date: 05/22/2004 14:00 Analyst: ESK

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050741-01D	MW-1
04050741-02D	MW-2
04050741-03D	MW-3

Analyte	Result	Rep Limit
Total Dissolved Solids (Residue,Filterable)	ND	10

Laboratory Control Sample (LCS)

RunID: WET_040522H-2231829 Units: mg/L
Analysis Date: 05/22/2004 14:00 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Total Dissolved Solids (Residue,Filtera	200	198.0	99.00	95	107

Sample Duplicate

Original Sample: 04050754-01
RunID: WET_040522H-2231844 Units: mg/L
Analysis Date: 05/22/2004 14:00 Analyst: ESK

Analyte	Sample Result	DUP Result	RPD	RPD Limit
Total Dissolved Solids (Residue,Filtera	1010	1012	0.495	20

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Alkalinity (as CaCO3), Total
Method: E310.1
WorkOrder: 04050741
Lab Batch ID: R112212

Method Blank

RunID: WET_040525U-2236804 Units: mg/L
Analysis Date: 05/25/2004 18:00 Analyst: ESK

Analyte	Result	Rep Limit
Alkalinity, Total (As CaCO3)	ND	2.0

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050741-01D	MW-1
04050741-02D	MW-2
04050741-03D	MW-3

Laboratory Control Sample (LCS)

RunID: WET_040525U-2236806 Units: mg/L
Analysis Date: 05/25/2004 18:00 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Alkalinity, Total (As CaCO3)	101	99.99	99.00	90	110

Sample Duplicate

Original Sample: 04050722-01
RunID: WET_040525U-2236823 Units: mg/L
Analysis Date: 05/25/2004 18:00 Analyst: ESK

Analyte	Sample Result	DUP Result	RPD	RPD Limit
Alkalinity, Total (As CaCO3)	475	467.6	1.50	20

Qualifiers:

ND/U - Not Detected at the Reporting Limit
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* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station

Analysis: Ion Chromatography
Method: E300.0
WorkOrder: 04050741
Lab Batch ID: R112332

Method Blank

RunID: IC1_040526A-2239261 Units: mg/L
Analysis Date: 05/26/2004 13:22 Analyst: CV

Analyte	Result	Rep Limit
Chloride	ND	0.20
Sulfate	ND	0.20

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04050741-01D	MW-1
04050741-02D	MW-2
04050741-03D	MW-3

Laboratory Control Sample (LCS)

RunID: IC1_040526A-2239201 Units: mg/L
Analysis Date: 05/26/2004 13:35 Analyst: CV

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Chloride	10	9.42	94.2	80	120
Sulfate	10	9.81	98.1	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04050741-02
RunID: IC1_040526A-2239222 Units: mg/L
Analysis Date: 05/26/2004 17:59 Analyst: CV

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Chloride	25.4	50	77.4	104	50	78.8	107	1.83	20	80	120
Sulfate	25.3	50	77.4	104	50	78.0	106	0.826	20	80	120

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

Sample Receipt Checklist

And

Chain of Custody

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	**04050741**	Received By:	**R_R**
Date and Time Received:	**5/19/04 9:30:00 AM**	Carrier name:	**FedEx**
Temperature:	**4.5°C**	Chilled by:	**Water Ice**

1.	**Shipping container/cooler in good condition?**	Yes ☑	No ☐	Not Present	☐
2.	**Custody seals intact on shippping container/cooler?**	Yes ☑	No ☐	Not Present	☐
3.	**Custody seals intact on sample bottles?**	Yes ☐	No ☐	Not Present	☑
4.	**Chain of custody present?**	Yes ☑	No ☐		
5.	**Chain of custody signed when relinquished and receiv**	Yes ☑	No ☐		
6.	**Chain of custody agrees with sample labels?**	Yes ☑	No ☐		
7.	**Samples in proper container/bottle?**	Yes ☑	No ☐		
8.	**Sample containers intact?**	Yes ☑	No ☐		
9.	**Sufficient sample volume for indicated test?**	Yes ☑	No ☐		
10.	**All samples received within holding time?**	Yes ☑	No ☐		
11.	**Container/Temp Blank temperature in compliance?**	Yes ☑	No ☐		
12.	**Water - VOA vials have zero headspace**	Yes ☑	No ☐	Not Applicable	☐
13.	**Water - pH acceptable upon receipt?**	Yes ☑	No ☐	Not Applicable	☐

SPL Representative: _____ **Contact Date & Time:** _____

Client Name Contacted: _____

Non Conformance Issues: _____

Client Instructions: _____

0405074

EXXONMOBIL

SPL WORKORDER NO. 2103 Page 1 of 1

ExxonMobil Engineer: Jonathan Hamilton Phone: 432-686-0086

Consultant Co. Name: BNC Environmental Contact: Aaron Hale

Address: 2135 S. Loop 250 West Fax: 432-686-0186
Midland, Texas 79703

RAS #: _____ Facility/State ID#(TN Only): _____

AFE#(Terminal Only): _____ Consultant Project #: 1244

Location: Gladiola Station (City) Lea County (State) N.M.

☐ EE ☐ C&M ☐ SDT

0160 ExxonMobil Oil Corp ☐ 0944 ExxonMobil Marketing & Ref. Co. ☐

0614 ExxonMobil Pipeline Co. ☐ 0231 Mobil Oil Pipeline Co. ☒

Purchase Order No.: 4504690348

SAMPLE I.D.	DATE	TIME	COMP.	GRAB	MATRIX H_2O	MATRIX SOIL	MATRIX AIR	OTHER	PRESERVATIVE	NO. OF CONTAINERS	CONTAINER SIZE	TPH/GC 8015 GRO ☐ 8015 DRO ☐	BTEX 8021 ☒ 602 ☐	MTBE 8021 ☐ 8260 ☐	OXYGENATES (7) 8260 ☐	O&G IR 413.1 ☐ GRAV. 413.2 ☐ 1664 ☐	VOL. 8260 ☐ 624 ☐	SEMI-VOL. 8270 ☐ 625 ☐	PNA/PAH 8100 ☐ 8310 ☒ 8270 ☐	PCB/PEST 8081/8082 ☐ PCB ONLY ☐	TCLP FULL ☐ VOA ☐ SEMI-VOA ☐ PEST ☐ HERB ☐	METALS, TOTAL RCRA ☐ METALS TCLP ☐	PB, TOTAL 200.7 ☐ 6010 ☐ PB, TCLP ☐	PB, DISSOLVED ☐ PB, TOTAL ☐ (200.7/6010	REACTIVITY ☐ CORROSIVITY ☐ FLASHPOINT ☐	PURGEABLE HYDROCARBON 8021 ☐ 601 ☐	TPHH/IR 418.1 ☐	TOX/TOH ☐	OTHER: Total Dissolved Solids	OTHER: Total Alkalinity	OTHER: Chlorides	OTHER: Sulfate
MW-1	5-17-04	1450		X	X				See Container	7			X						X			X							X	X	X	X
MW-2	5-17-04	1530		X	X				See Container	7			X						X			X							X	X	X	X
MW-3	5-17-04	1520		X	X				See Container	6			X						X			X							X	X	X	X
Trip Blank													X																			
Temperature Blank																																

TAT (* - Contact us Prior to Sending Samples)
24 HR. _____ * 48 HR. _____ *
72 HR. _____ * 5 BUS. _____ *
8 BUS. _____ 10 BUS. _____
15 BUS. _____ 30 BUS. _____

QA/QC Level
STANDARD "A" _____
ENHANCED "B" _____
FULL DATA "C" _____
TRRP DATA "C" _____

SPECIAL DETECTION LIMITS (Specify)

SPECIAL REPORTING REQUIREMENTS (Specify)
PDF ☐ ☐ EDD

REMARKS:

EXXONMOBIL CONTRACT NO. C57160

Way Bill #: _____ Cooler Temp: 4-5°C

CUSTODY RECORD

	Date	Time	
Relinquished By Sampler:	5-18-04	1525	Received By: 5/14/04 9:32
Relinquished:	Date	Time	Received By:
Relinquished	Date	Time	Received By:

Triplicate: Original * White Lab's Copy * Green Client Copy * Yellow

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

ExxonMobil Global Remediation

Certificate of Analysis Number:

04070223

Report To:		Project Name:	Gladiola Station-1244
BNC Environmental Services		Site:	Tatum,N.M.
Aaron Hale		Site Address:	
2135 S. Loop 250 West			
Midland		PO Number:	4504690348 Line 80
TX		State:	New Mexico
79703-		State Cert. No.:	
ph (432) 686-0086	fax:	Date Reported:	7/27/04

This Report Contains A Total Of 19 Pages

Excluding This Page

7/27/04

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:

ExxonMobil Global Remediation

Certificate of Analysis Number:

04070223

Report To:		Project Name:	Gladiola Station-1244
BNC Environmental Services		Site:	Tatum,N.M.
Aaron Hale		Site Address:	
2135 S. Loop 250 West			
Midland		PO Number:	4504690348 Line 80
TX		State:	New Mexico
79703-		State Cert. No.:	
ph (432) 686-0086	fax:	Date Reported:	7/27/04

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Sonia West

7/27/04

Sonia West
Senior Project Manager

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

ExxonMobil Global Remediation

Certificate of Analysis Number:

04070223

Report To: BNC Environmental Services
Aaron Hale
2135 S. Loop 250 West

Midland
TX
79703-
ph (432) 686-0086 fax:

Fax To:

Project Name: Gladiola Station-1244
Site: Tatum,N.M.
Site Address:

PO Number: 4504690348 Line 80
State: New Mexico
State Cert. No.:
Date Reported: 7/27/04

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
Gladiola WCS	04070223-01	Soil	7/7/04	7/8/04 9:30:00 AM	218063	☐

Sonia West

7/27/04

Sonia West
Senior Project Manager

Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

7/27/04 9:17:49 AM

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: Gladiola WCS **Collected:** 07/07/2004 0:00 **SPL Sample ID:** 04070223-01

Site: Tatum,N.M.

Analyses/Method	Result		Rep.Limit	MCL	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CORROSIVITY				**MCL**	**SW9045C**		**Units: pH Units**		
Corrosivity	8.09		0		1		07/08/04 16:00	ESK	2305784
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	620		100		20		07/25/04 21:21	AE	2330827
Surr: n-Pentacosane	D	%	20-154		20	*	07/25/04 21:21	AE	2330827

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/13/2004 9:41	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		07/09/04 21:07	RLH	2309067
Surr: 1,4-Difluorobenzene	132	%	63-142		1		07/09/04 21:07	RLH	2309067
Surr: 4-Bromofluorobenzene	64.0	%	50-159		1		07/09/04 21:07	RLH	2309067
IGNITABILITY MODIFIED OPEN CUP				**MCL**	**ASTM D92-01**		**Units: °F**		
Ignitability	>212		20		1		07/16/04 13:00	E_S	2319386
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		07/09/04 21:07	RLH	2308749
Toluene	ND		1		1		07/09/04 21:07	RLH	2308749
Ethylbenzene	ND		1		1		07/09/04 21:07	RLH	2308749
m,p-Xylene	ND		1		1		07/09/04 21:07	RLH	2308749
o-Xylene	ND		1		1		07/09/04 21:07	RLH	2308749
Xylenes,Total	ND		1		1		07/09/04 21:07	RLH	2308749
Surr: 1,4-Difluorobenzene	124	%	77-126		1		07/09/04 21:07	RLH	2308749
Surr: 4-Bromofluorobenzene	62 MI	%	66-145		1	*	07/09/04 21:07	RLH	2308749
REACTIVE CYANIDE-SOLID				**MCL**	**SW7.3.3.2**		**Units: mg/Kg**		
Reactive Cyanide	ND		0.5		1		07/15/04 8:00	ESK	2316417
REACTIVE SULFIDE - SOLID				**MCL**	**SW7.3.4.2**		**Units: mg/Kg**		
Reactive Sulfide	ND		10		1		07/15/04 9:00	ESK	2316382
TCLP MERCURY				**MCL**	**SW7470A**		**Units: mg/L**		
Mercury	ND		0.0002		1		07/22/04 8:39	JAB	2326422

Prep Method	Prep Date	Prep Initials	Prep Factor	Leach Method	Leachate Date	Leach Initials
SW7470A	07/21/2004 14:30	JAB	1.00	SW1311	07/20/2004 17:47	E_S

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: Gladiola WCS **Collected:** 07/07/2004 0:00 **SPL Sample ID:** 04070223-01

Site: Tatum,N.M.

Analyses/Method	Result	Rep.Limit	MCL	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
TCLP METALS BY METHOD 6010B			**MCL**	**SW6010B**		**Units: mg/L**		
Arsenic	ND	0.2	5	2		07/22/04 10:17	MW	2326572
Barium	1.52	1	100	2		07/22/04 10:17	MW	2326572
Cadmium	ND	0.01	1	2		07/22/04 10:17	MW	2326572
Chromium	ND	0.02	5	2		07/22/04 10:17	MW	2326572
Lead	ND	0.1	5	2		07/22/04 10:17	MW	2326572
Selenium	ND	0.2	1	2		07/22/04 10:17	MW	2326572
Silver	ND	0.02	5	2		07/22/04 10:17	MW	2326572

Prep Method	Prep Date	Prep Initials	Prep Factor	Leach Method	Leachate Date	Leach Initials
SW3010A	07/21/2004 16:30	MW	1.00	SW1311	07/20/2004 17:47	E_S

Sonia West

Sonia West
Project Manager

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MI - Matrix Interference

Quality Control Documentation

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Diesel Range Organics
Method: SW8015B
WorkOrder: 04070223
Lab Batch ID: 39405

Method Blank

RunID: HP_T_040723A-2328135 Units: mg/Kg
Analysis Date: 07/23/2004 0:37 Analyst: AE
Preparation Date: 07/13/2004 9:41 Prep By: DMN Method SW3550B

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Analyte	Result	Rep Limit
Diesel Range Organics	ND	5.0
Surr: n-Pentacosane	108.6	20-154

Laboratory Control Sample (LCS)

RunID: HP_T_040723A-2328136 Units: mg/Kg
Analysis Date: 07/23/2004 1:14 Analyst: AE
Preparation Date: 07/13/2004 9:41 Prep By: DMN Method SW3550B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Diesel Range Organics	83	81.8	98.6	65	150

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04070223-01
RunID: HP_T_040723A-2330828 Units: mg/Kg
Analysis Date: 07/25/2004 21:58 Analyst: AE
Preparation Date: 07/13/2004 9:41 Prep By: DMN Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics	622	83	1020	N/C	82.9	638	N/C	N/C	50	21	175

Qualifiers:

ND/U - Not Detected at the Reporting Limit
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MI - Matrix Interference
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N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 04070223
Lab Batch ID: R116029

Method Blank

RunID: HP_R_040709A-2308734 Units: ug/Kg
Analysis Date: 07/09/2004 11:40 Analyst: RLH

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01A	Gladiola WCS

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	98.4	77-126
Surr: 4-Bromofluorobenzene	99.7	66-145

Laboratory Control Sample (LCS)

RunID: HP_R_040709A-2308733 Units: ug/Kg
Analysis Date: 07/09/2004 10:43 Analyst: RLH

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	51.2	102	70	130
Ethylbenzene	50	50.8	102	70	130
Toluene	50	50.9	102	70	130
m,p-Xylene	100	100	100	70	130
o-Xylene	50	50.0	100	70	130
Xylenes,Total	150	150	100	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04070193-01
RunID: HP_R_040709A-2308737 Units: ug/kg-dry
Analysis Date: 07/09/2004 12:37 Analyst: RLH

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	23.3	21.1	90.7	23.3	20.8	89.2	1.65	32	38	136
Ethylbenzene	ND	23.3	20.8	88.5	23.3	20.6	87.5	1.12	32	21	138
Toluene	ND	23.3	21.1	89.4	23.3	20.7	87.7	1.89	34	29	137

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
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HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 04070223
Lab Batch ID: R116029

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04070193-01
RunID: HP_R_040709A-2308737 Units: ug/kg-dry
Analysis Date: 07/09/2004 12:37 Analyst: RLH

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	ND	46.6	40.9	85.8	46.6	40.5	85.0	0.918	34	10	143
o-Xylene	ND	23.3	20.4	87.5	23.3	20.3	87.1	0.379	32	21	139
Xylenes,Total	ND	69.8	61.3	86.4	69.8	60.8	85.7	0.739	34	10	143

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
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The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Gasoline Range Organics
Method: SW8015B

WorkOrder: 04070223
Lab Batch ID: R116036

Method Blank

RunID: HP_R_040709B-2309060 Units: mg/Kg
Analysis Date: 07/09/2004 11:40 Analyst: RLH

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01A	Gladiola WCS

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	97.3	63-142
Surr: 4-Bromofluorobenzene	100.3	50-159

Laboratory Control Sample (LCS)

RunID: HP_R_040709B-2309059 Units: mg/Kg
Analysis Date: 07/09/2004 11:11 Analyst: RLH

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.842	84.2	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04070193-01
RunID: HP_R_040709B-2309063 Units: mg/kg-dry
Analysis Date: 07/09/2004 13:33 Analyst: RLH

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	1.05	1.07	100	1.05	1.03	96.2	3.73	50	26	147

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

HOUSTON LABORATORY
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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: TCLP Mercury
Method: SW7470A
WorkOrder: 04070223
Lab Batch ID: 39692

Method Blank

RunID: HGLC_040722A-2326416 Units: mg/L
Analysis Date: 07/22/2004 8:24 Analyst: JAB
Preparation Date: 07/21/2004 14:30 Prep By: JAB Method SW7470A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Analyte	Result	Rep Limit
Mercury	ND	0.0002

Leachate Blank

RunID: HGLC_040722A-2326417 Units: mg/L
Analysis Date: 07/22/2004 8:27 Analyst: JAB
Preparation Date: 07/21/2004 14:30 Prep By: JAB Method SW7470A
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Result	Rep Limit
Mercury	ND	0.0002

Laboratory Control Sample (LCS)

RunID: HGLC_040722A-2326418 Units: mg/L
Analysis Date: 07/22/2004 8:29 Analyst: JAB
Preparation Date: 07/21/2004 14:30 Prep By: JAB Method SW7470A
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Mercury	0.002	0.002004	100.2	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04070685-01
RunID: HGLC_040722A-2326420 Units: mg/L
Analysis Date: 07/22/2004 8:34 Analyst: JAB
Preparation Date: 07/21/2004 14:30 Prep By: JAB Method SW7470A
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Mercury	ND	0.002	0.002026	99.33	0.002	0.001995	97.78	1.544	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: TCLP Metals by Method 6010B
Method: SW6010B
WorkOrder: 04070223
Lab Batch ID: 39711

Method Blank

RunID: TJA_040722A-2326561 Units: mg/L
Analysis Date: 07/22/2004 9:33 Analyst: MW
Preparation Date: 07/21/2004 16:30 Prep By: MW Method SW3010A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Analyte	Result	Rep Limit
Arsenic	ND	0.1
Barium	ND	0.5
Cadmium	ND	0.005
Chromium	ND	0.01
Lead	ND	0.05
Selenium	ND	0.1
Silver	ND	0.01

Leachate Blank

RunID: TJA_040722A-2326562 Units: mg/L
Analysis Date: 07/22/2004 9:37 Analyst: MW
Preparation Date: 07/21/2004 16:30 Prep By: Method
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Result	Rep Limit
Arsenic	ND	0.2
Barium	ND	1
Cadmium	ND	0.01
Chromium	ND	0.02
Lead	ND	0.1
Selenium	ND	0.2
Silver	ND	0.02

Laboratory Control Sample (LCS)

RunID: TJA_040722A-2326563 Units: mg/L
Analysis Date: 07/22/2004 9:41 Analyst: MW
Preparation Date: 07/21/2004 16:30 Prep By: MW Method SW3010A
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Arsenic	2	2.097	104.9	80	120
Barium	2	1.801	90.04	80	120
Cadmium	2	2.021	101.0	80	120
Chromium	2	1.926	96.31	80	120
Lead	2	1.970	98.50	80	120
Selenium	2	2.195	109.8	80	120
Silver	2	1.956	97.78	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: TCLP Metals by Method 6010B
Method: SW6010B
WorkOrder: 04070223
Lab Batch ID: 39711

Sample Spiked: 04070685-01
RunID: TJA_040722A-2326565 Units: mg/L
Analysis Date: 07/22/2004 9:49 Analyst: MW
Preparation Date: 07/21/2004 16:30 Prep By: MW Method SW3010A
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Arsenic	ND	2	2.098	104.9	2	2.001	100.0	4.758	20	75	125
Barium	ND	2	2.732	97.08	2	2.544	87.69	7.122	20	75	125
Cadmium	0.03664	2	2.166	106.5	2	1.986	97.49	8.670	20	75	125
Chromium	ND	2	1.976	98.78	2	1.821	91.07	8.126	20	75	125
Lead	0.2166	2	2.210	99.67	2	2.045	91.41	7.767	20	75	125
Selenium	ND	2	2.345	117.2	2	2.181	109.0	7.238	20	75	125
Silver	ND	2	2.110	105.5	2	1.943	97.15	8.247	20	75	125

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Corrosivity
Method: SW9045C

WorkOrder: 04070223
Lab Batch ID: R115771

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Laboratory Control Sample (LCS)

RunID: WET_040708I-2305780 Units: pH Units
Analysis Date: 07/08/2004 16:00 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Corrosivity	7	6.990	99.86	99	101

Sample Duplicate

Original Sample: 04070266-01
RunID: WET_040708I-2305782 Units: pH Units
Analysis Date: 07/08/2004 16:00 Analyst: ESK

Analyte	Sample Result	DUP Result	RPD	RPD Limit
Corrosivity	8.29	8.3	0.121	20

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Reactive Sulfide - Solid
Method: SW7.3.4.2
WorkOrder: 04070223
Lab Batch ID: R116361

Method Blank

RunID: WET_040715D-2316376 Units: mg/Kg
Analysis Date: 07/15/2004 9:00 Analyst: ESK

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Analyte	Result	Rep Limit
Reactive Sulfide	ND	10

Laboratory Control Sample (LCS)

RunID: WET_040715D-2316378 Units: mg/Kg
Analysis Date: 07/15/2004 9:00 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Reactive Sulfide	100	102.0	102.0	85	115

Sample Duplicate

Original Sample: 04070332-01
RunID: WET_040715D-2316379 Units: mg/Kg
Analysis Date: 07/15/2004 9:00 Analyst: ESK

Analyte	Sample Result	DUP Result	RPD	RPD Limit
Reactive Sulfide	ND	ND	0	20

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Reactive Cyanide-Solid
Method: SW7.3.3.2
WorkOrder: 04070223
Lab Batch ID: R116363

Method Blank

RunID: WET_040715E-2316411 Units: mg/Kg
Analysis Date: 07/15/2004 8:00 Analyst: ESK

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Analyte	Result	Rep Limit
Reactive Cyanide	ND	0.50

Laboratory Control Sample (LCS)

RunID: WET_040715E-2316412 Units: mg/Kg
Analysis Date: 07/15/2004 8:00 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Reactive Cyanide	4	0.9249	23.12	5	50

Sample Duplicate

Original Sample: 04070332-01
RunID: WET_040715E-2316414 Units: mg/Kg
Analysis Date: 07/15/2004 8:00 Analyst: ESK

Analyte	Sample Result	DUP Result	RPD	RPD Limit
Reactive Cyanide	ND	ND	0	20

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Ignitability Modified Open Cup
Method: ASTM D92-01

WorkOrder: 04070223
Lab Batch ID: R116521

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Laboratory Control Sample (LCS)

RunID: WET_040716S-2319383 Units: °F
Analysis Date: 07/16/2004 13:00 Analyst: E_S

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Ignitability	80	81.1	101	90	110

Sample Duplicate

Original Sample: 04070332-01
RunID: WET_040716S-2319384 Units: °F
Analysis Date: 07/16/2004 13:00 Analyst: E_S

Analyte	Sample Result	DUP Result	RPD	RPD Limit
Ignitability	212	212	0	20

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

Sample Receipt Checklist

And

Chain of Custody

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	04070223	Received By:	NB
Date and Time Received:	7/8/04 9:30:00 AM	Carrier name:	FedEx
Temperature:	3.0°C	Chilled by:	Water Ice

1.	Shipping container/cooler in good condition?	Ye	☑	No	☐	Not Present ☐
2.	Custody seals intact on shippping container/cooler?	Ye	☐	No	☐	Not Present ☑
3.	Custody seals intact on sample bottles?	Ye	☐	No	☐	Not Present ☑
4.	Chain of custody present?	Ye	☑	No	☐	
5.	Chain of custody signed when relinquished and receiv	Ye	☑	No	☐	
6.	Chain of custody agrees with sample labels?	Ye	☑	No	☐	
7.	Samples in proper container/bottle?	Ye	☑	No	☐	
8.	Sample containers intact?	Ye	☑	No	☐	
9.	Sufficient sample volume for indicated test?	Ye	☑	No	☐	
10.	All samples received within holding time?	Ye	☑	No	☐	
11.	Container/Temp Blank temperature in compliance?	Ye	☑	No	☐	
12.	Water - VOA vials have zero headspace	Ye	☐	No	☐	Not Applicable ☑
13.	Water - pH acceptable upon receipt?	Ye	☐	No	☐	Not Applicable ☑

SPL Representative: _____ Contact Date & Time: _____

Client Name Contacted: _____

Non Conformance Issues: _____

Client Instructions: _____

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No. 218063

040702 23

page 1 of 1

Client Name: EMRS / BNC

Address: 2135 S Loop 250 West, Midland, TX 79703

Phone/Fax: 432 656-0096 / 656-0186

Client Contact: A. Hale Email: ahale@bnicnv.com

Project Name/No.: Gladiola Station - 1244 / N Andrews - 1319

Site Name: Gladiola Station / North Andrews

Site Location: Tatum NM / Andrews, TX

Invoice To: Ph:

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil O=oil SL=sludge X=other)	bottle (P=plastic A=amber glass G=glass V=vial X=other)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other)	pres. (1=HCl 2=HNO3 3=H2SO4 X=other)	Number of Containers	Requested Analysis: TCLP Metals	BTEX	TPH (GRO/DRO)	TCLP Benzene	RCI	Total Metals			
Gladiola WCS	7/7/04		✓		S	G	4	X	2	✓	✓	✓		✓				
N Andrews WCS	7/7/04			✓	S	G	4	X	2				✓	✓	✓			

Client/Consultant Remarks:
PO for Gladiola WCS - 4504690348
PO for N Andrews WCS - 4504690345

Laboratory remarks:

Intact? ☐ Y ☐ N
Ice? ☐ Y ☐ N
Temp: 3.0°C

Requested TAT

Contract ☐ 72hr ☐
24hr ☐ Standard ☒
48hr ☐
Other ☐ _____

Special Reporting Requirements Results: Fax ☐ Email ☐ PDF ☐
Standard QC ☐ Level 3 QC ☐ Level 4 QC ☐ TX TRRP ☐ LA RECAP ☐

Special Detection Limits (specify):

PM review (initial):

	date	time	
1. Relinquished by Sampler: Will Dudley	7/7/04	1400	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 7/8/04	time 0930	6. Received by Laboratory:

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Houston, TX 77054 (713) 660-0901

☐ 500 Ambassador Caffery Parkway
Scott, LA 70583 (337) 237-4775

☐ 459 Hughes Drive
Traverse City, MI 49686 (231) 947-5777

HOUSTON LABORATORY
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(713) 660-0901

ExxonMobil Global Remediation

Certificate of Analysis Number:

04070223

Report To:		Project Name:	Gladiola Station-1244
BNC Environmental Services		Site:	Tatum,N.M.
Aaron Hale		Site Address:	
2135 S. Loop 250 West			
Midland		PO Number:	4504690348 Line 80
TX		State:	New Mexico
79703-		State Cert. No.:	
ph (432) 686-0086	fax:	Date Reported:	7/27/04

This Report Contains A Total Of 19 Pages

Excluding This Page

7/27/04

Date

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8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Case Narrative for:

ExxonMobil Global Remediation

Certificate of Analysis Number:

04070223

Report To:		Project Name:	Gladiola Station-1244
BNC Environmental Services		Site:	Tatum,N.M.
Aaron Hale		Site Address:	
2135 S. Loop 250 West			
Midland		PO Number:	4504690348 Line 80
TX		State:	New Mexico
79703-		State Cert. No.:	
ph (432) 686-0086	fax:	Date Reported:	7/27/04

Matrix spike (MS) and matrix spike duplicate (MSD) samples are chosen and tested at random from an analytical batch of "like" matrix to check for possible matrix effect. The MS and MSD will provide site specific matrix data only for those samples which are spiked by the laboratory. Since the MS and MSD are chosen at random from an analytical batch, the sample chosen for spike purposes may or may not have been a sample submitted in this sample delivery group. The validity of the analytical procedures for which data is reported in this analytical report is determined by the Laboratory Control Sample (LCS) and the Method Blank (MB). The Laboratory Control Sample (LCS) and the Method Blank (MB) are processed with the samples and the MS/MSD to ensure method criteria are achieved throughout the entire analytical process.

Any other exceptions associated with this report will be footnoted in the analytical result page(s) or the quality control summary page(s).

Please do not hesitate to contact us if you have any questions or comments pertaining to this data report. Please reference the above Certificate of Analysis Number.

This report shall not be reproduced except in full, without the written approval of the laboratory. The reported results are only representative of the samples submitted for testing.

SPL, Inc. is pleased to be of service to you. We anticipate working with you in fulfilling all your current and future analytical needs.

Sonia West

7/27/04

Sonia West
Senior Project Manager

Date

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

ExxonMobil Global Remediation

Certificate of Analysis Number:

04070223

Report To: BNC Environmental Services
Aaron Hale
2135 S. Loop 250 West

Midland
TX
79703-
ph (432) 686-0086 fax:

Fax To:

Project Name: Gladiola Station-1244
Site: Tatum,N.M.
Site Address:

PO Number: 4504690348 Line 80
State: New Mexico
State Cert. No.:
Date Reported: 7/27/04

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
Gladiola WCS	04070223-01	Soil	7/7/04	7/8/04 9:30:00 AM	218063	☐

Sonia West
Senior Project Manager

7/27/04
Date

Joel Grice
Laboratory Director

Ted Yen
Quality Assurance Officer

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: Gladiola WCS **Collected:** 07/07/2004 0:00 **SPL Sample ID:** 04070223-01

Site: Tatum,N.M.

Analyses/Method	Result		Rep.Limit	MCL	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
CORROSIVITY				**MCL**	**SW9045C**		**Units: pH Units**		
Corrosivity	8.09		0		1		07/08/04 16:00	ESK	2305784
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Diesel Range Organics	620		100		20		07/25/04 21:21	AE	2330827
Surr: n-Pentacosane	D	%	20-154		20	*	07/25/04 21:21	AE	2330827

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	07/13/2004 9:41	DMN	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**		**Units: mg/Kg**		
Gasoline Range Organics	ND		0.1		1		07/09/04 21:07	RLH	2309067
Surr: 1,4-Difluorobenzene	132	%	63-142		1		07/09/04 21:07	RLH	2309067
Surr: 4-Bromofluorobenzene	64.0	%	50-159		1		07/09/04 21:07	RLH	2309067
IGNITABILITY MODIFIED OPEN CUP				**MCL**	**ASTM D92-01**		**Units: °F**		
Ignitability	>212		20		1		07/16/04 13:00	E_S	2319386
PURGEABLE AROMATICS				**MCL**	**SW8021B**		**Units: ug/Kg**		
Benzene	ND		1		1		07/09/04 21:07	RLH	2308749
Toluene	ND		1		1		07/09/04 21:07	RLH	2308749
Ethylbenzene	ND		1		1		07/09/04 21:07	RLH	2308749
m,p-Xylene	ND		1		1		07/09/04 21:07	RLH	2308749
o-Xylene	ND		1		1		07/09/04 21:07	RLH	2308749
Xylenes,Total	ND		1		1		07/09/04 21:07	RLH	2308749
Surr: 1,4-Difluorobenzene	124	%	77-126		1		07/09/04 21:07	RLH	2308749
Surr: 4-Bromofluorobenzene	62 MI	%	66-145		1	*	07/09/04 21:07	RLH	2308749
REACTIVE CYANIDE-SOLID				**MCL**	**SW7.3.3.2**		**Units: mg/Kg**		
Reactive Cyanide	ND		0.5		1		07/15/04 8:00	ESK	2316417
REACTIVE SULFIDE - SOLID				**MCL**	**SW7.3.4.2**		**Units: mg/Kg**		
Reactive Sulfide	ND		10		1		07/15/04 9:00	ESK	2316382
TCLP MERCURY				**MCL**	**SW7470A**		**Units: mg/L**		
Mercury	ND		0.0002		1		07/22/04 8:39	JAB	2326422

Prep Method	Prep Date	Prep Initials	Prep Factor	Leach Method	Leachate Date	Leach Initials
SW7470A	07/21/2004 14:30	JAB	1.00	SW1311	07/20/2004 17:47	E_S

Sonia West

Sonia West
Project Manager

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Client Sample ID: Gladiola WCS **Collected:** 07/07/2004 0:00 **SPL Sample ID:** 04070223-01

Site: Tatum,N.M.

Analyses/Method	Result	Rep.Limit	MCL	Dil. Factor	QUAL	Date Analyzed	Analyst	Seq. #
TCLP METALS BY METHOD 6010B			**MCL**	**SW6010B**		**Units: mg/L**		
Arsenic	ND	0.2	5	2		07/22/04 10:17	MW	2326572
Barium	1.52	1	100	2		07/22/04 10:17	MW	2326572
Cadmium	ND	0.01	1	2		07/22/04 10:17	MW	2326572
Chromium	ND	0.02	5	2		07/22/04 10:17	MW	2326572
Lead	ND	0.1	5	2		07/22/04 10:17	MW	2326572
Selenium	ND	0.2	1	2		07/22/04 10:17	MW	2326572
Silver	ND	0.02	5	2		07/22/04 10:17	MW	2326572

Prep Method	Prep Date	Prep Initials	Prep Factor	Leach Method	Leachate Date	Leach Initials
SW3010A	07/21/2004 16:30	MW	1.00	SW1311	07/20/2004 17:47	E_S

Sonia West

Sonia West
Project Manager

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
* - Surrogate Recovery Outside Advisable QC Limits
J - Estimated Value between MDL and PQL
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Diesel Range Organics
Method: SW8015B

WorkOrder: 04070223
Lab Batch ID: 39405

Method Blank

RunID: HP_T_040723A-2328135 Units: mg/Kg
Analysis Date: 07/23/2004 0:37 Analyst: AE
Preparation Date: 07/13/2004 9:41 Prep By: DMN Method SW3550B

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Analyte	Result	Rep Limit
Diesel Range Organics	ND	5.0
Surr: n-Pentacosane	108.6	20-154

Laboratory Control Sample (LCS)

RunID: HP_T_040723A-2328136 Units: mg/Kg
Analysis Date: 07/23/2004 1:14 Analyst: AE
Preparation Date: 07/13/2004 9:41 Prep By: DMN Method SW3550B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Diesel Range Organics	83	81.8	98.6	65	150

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04070223-01
RunID: HP_T_040723A-2330828 Units: mg/Kg
Analysis Date: 07/25/2004 21:58 Analyst: AE
Preparation Date: 07/13/2004 9:41 Prep By: DMN Method SW3550B

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Diesel Range Organics	622	83	1020	N/C	82.9	638	N/C	N/C	50	21	175

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 04070223
Lab Batch ID: R116029

Method Blank

RunID: HP_R_040709A-2308734 Units: ug/Kg
Analysis Date: 07/09/2004 11:40 Analyst: RLH

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01A	Gladiola WCS

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	1.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,4-Difluorobenzene	98.4	77-126
Surr: 4-Bromofluorobenzene	99.7	66-145

Laboratory Control Sample (LCS)

RunID: HP_R_040709A-2308733 Units: ug/Kg
Analysis Date: 07/09/2004 10:43 Analyst: RLH

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	50	51.2	102	70	130
Ethylbenzene	50	50.8	102	70	130
Toluene	50	50.9	102	70	130
m,p-Xylene	100	100	100	70	130
o-Xylene	50	50.0	100	70	130
Xylenes,Total	150	150	100	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04070193-01
RunID: HP_R_040709A-2308737 Units: ug/kg-dry
Analysis Date: 07/09/2004 12:37 Analyst: RLH

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Benzene	ND	23.3	21.1	90.7	23.3	20.8	89.2	1.65	32	38	136
Ethylbenzene	ND	23.3	20.8	88.5	23.3	20.6	87.5	1.12	32	21	138
Toluene	ND	23.3	21.1	89.4	23.3	20.7	87.7	1.89	34	29	137

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Purgeable Aromatics
Method: SW8021B
WorkOrder: 04070223
Lab Batch ID: R116029

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04070193-01
RunID: HP_R_040709A-2308737 Units: ug/kg-dry
Analysis Date: 07/09/2004 12:37 Analyst: RLH

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
m,p-Xylene	ND	46.6	40.9	85.8	46.6	40.5	85.0	0.918	34	10	143
o-Xylene	ND	23.3	20.4	87.5	23.3	20.3	87.1	0.379	32	21	139
Xylenes,Total	ND	69.8	61.3	86.4	69.8	60.8	85.7	0.739	34	10	143

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Gasoline Range Organics
Method: SW8015B
WorkOrder: 04070223
Lab Batch ID: R116036

Method Blank

RunID: HP_R_040709B-2309060 Units: mg/Kg
Analysis Date: 07/09/2004 11:40 Analyst: RLH

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01A	Gladiola WCS

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	97.3	63-142
Surr: 4-Bromofluorobenzene	100.3	50-159

Laboratory Control Sample (LCS)

RunID: HP_R_040709B-2309059 Units: mg/Kg
Analysis Date: 07/09/2004 11:11 Analyst: RLH

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1	0.842	84.2	70	130

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04070193-01
RunID: HP_R_040709B-2309063 Units: mg/kg-dry
Analysis Date: 07/09/2004 13:33 Analyst: RLH

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Gasoline Range Organics	ND	1.05	1.07	100	1.05	1.03	96.2	3.73	50	26	147

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: TCLP Mercury
Method: SW7470A
WorkOrder: 04070223
Lab Batch ID: 39692

Method Blank

RunID: HGLC_040722A-2326416 Units: mg/L
Analysis Date: 07/22/2004 8:24 Analyst: JAB
Preparation Date: 07/21/2004 14:30 Prep By: JAB Method SW7470A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Analyte	Result	Rep Limit
Mercury	ND	0.0002

Leachate Blank

RunID: HGLC_040722A-2326417 Units: mg/L
Analysis Date: 07/22/2004 8:27 Analyst: JAB
Preparation Date: 07/21/2004 14:30 Prep By: JAB Method SW7470A
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Result	Rep Limit
Mercury	ND	0.0002

Laboratory Control Sample (LCS)

RunID: HGLC_040722A-2326418 Units: mg/L
Analysis Date: 07/22/2004 8:29 Analyst: JAB
Preparation Date: 07/21/2004 14:30 Prep By: JAB Method SW7470A
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Mercury	0.002	0.002004	100.2	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Sample Spiked: 04070685-01
RunID: HGLC_040722A-2326420 Units: mg/L
Analysis Date: 07/22/2004 8:34 Analyst: JAB
Preparation Date: 07/21/2004 14:30 Prep By: JAB Method SW7470A
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Mercury	ND	0.002	0.002026	99.33	0.002	0.001995	97.78	1.544	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: TCLP Metals by Method 6010B
Method: SW6010B
WorkOrder: 04070223
Lab Batch ID: 39711

Method Blank

RunID: TJA_040722A-2326561 Units: mg/L
Analysis Date: 07/22/2004 9:33 Analyst: MW
Preparation Date: 07/21/2004 16:30 Prep By: MW Method SW3010A

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Analyte	Result	Rep Limit
Arsenic	ND	0.1
Barium	ND	0.5
Cadmium	ND	0.005
Chromium	ND	0.01
Lead	ND	0.05
Selenium	ND	0.1
Silver	ND	0.01

Leachate Blank

RunID: TJA_040722A-2326562 Units: mg/L
Analysis Date: 07/22/2004 9:37 Analyst: MW
Preparation Date: 07/21/2004 16:30 Prep By: Method
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Result	Rep Limit
Arsenic	ND	0.2
Barium	ND	1
Cadmium	ND	0.01
Chromium	ND	0.02
Lead	ND	0.1
Selenium	ND	0.2
Silver	ND	0.02

Laboratory Control Sample (LCS)

RunID: TJA_040722A-2326563 Units: mg/L
Analysis Date: 07/22/2004 9:41 Analyst: MW
Preparation Date: 07/21/2004 16:30 Prep By: MW Method SW3010A
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Arsenic	2	2.097	104.9	80	120
Barium	2	1.801	90.04	80	120
Cadmium	2	2.021	101.0	80	120
Chromium	2	1.926	96.31	80	120
Lead	2	1.970	98.50	80	120
Selenium	2	2.195	109.8	80	120
Silver	2	1.956	97.78	80	120

Matrix Spike (MS) / Matrix Spike Duplicate (MSD)

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: TCLP Metals by Method 6010B
Method: SW6010B
WorkOrder: 04070223
Lab Batch ID: 39711

Sample Spiked: 04070685-01
RunID: TJA_040722A-2326565 Units: mg/L
Analysis Date: 07/22/2004 9:49 Analyst: MW
Preparation Date: 07/21/2004 16:30 Prep By: MW Method SW3010A
Leach Date: 07/20/2004 17:47 Leach By: E_S Method SW1311

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Arsenic	ND	2	2.098	104.9	2	2.001	100.0	4.758	20	75	125
Barium	ND	2	2.732	97.08	2	2.544	87.69	7.122	20	75	125
Cadmium	0.03664	2	2.166	106.5	2	1.986	97.49	8.670	20	75	125
Chromium	ND	2	1.976	98.78	2	1.821	91.07	8.126	20	75	125
Lead	0.2166	2	2.210	99.67	2	2.045	91.41	7.767	20	75	125
Selenium	ND	2	2.345	117.2	2	2.181	109.0	7.238	20	75	125
Silver	ND	2	2.110	105.5	2	1.943	97.15	8.247	20	75	125

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Corrosivity
Method: SW9045C

WorkOrder: 04070223
Lab Batch ID: R115771

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Laboratory Control Sample (LCS)

RunID: WET_040708I-2305780 Units: pH Units
Analysis Date: 07/08/2004 16:00 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Corrosivity	7	6.990	99.86	99	101

Sample Duplicate

Original Sample: 04070266-01
RunID: WET_040708I-2305782 Units: pH Units
Analysis Date: 07/08/2004 16:00 Analyst: ESK

Analyte	Sample Result	DUP Result	RPD	RPD Limit
Corrosivity	8.29	8.3	0.121	20

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Reactive Sulfide - Solid
Method: SW7.3.4.2
WorkOrder: 04070223
Lab Batch ID: R116361

Method Blank

RunID: WET_040715D-2316376 Units: mg/Kg
Analysis Date: 07/15/2004 9:00 Analyst: ESK

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Analyte	Result	Rep Limit
Reactive Sulfide	ND	10

Laboratory Control Sample (LCS)

RunID: WET_040715D-2316378 Units: mg/Kg
Analysis Date: 07/15/2004 9:00 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Reactive Sulfide	100	102.0	102.0	85	115

Sample Duplicate

Original Sample: 04070332-01
RunID: WET_040715D-2316379 Units: mg/Kg
Analysis Date: 07/15/2004 9:00 Analyst: ESK

Analyte	Sample Result	DUP Result	RPD	RPD Limit
Reactive Sulfide	ND	ND	0	20

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Reactive Cyanide-Solid
Method: SW7.3.3.2
WorkOrder: 04070223
Lab Batch ID: R116363

Method Blank

RunID: WET_040715E-2316411 Units: mg/Kg
Analysis Date: 07/15/2004 8:00 Analyst: ESK

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Analyte	Result	Rep Limit
Reactive Cyanide	ND	0.50

Laboratory Control Sample (LCS)

RunID: WET_040715E-2316412 Units: mg/Kg
Analysis Date: 07/15/2004 8:00 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Reactive Cyanide	4	0.9249	23.12	5	50

Sample Duplicate

Original Sample: 04070332-01
RunID: WET_040715E-2316414 Units: mg/Kg
Analysis Date: 07/15/2004 8:00 Analyst: ESK

Analyte	Sample Result	DUP Result	RPD	RPD Limit
Reactive Cyanide	ND	ND	0	20

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

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Quality Control Report

ExxonMobil Global Remediation

Gladiola Station-1244

Analysis: Ignitability Modified Open Cup
Method: ASTM D92-01

WorkOrder: 04070223
Lab Batch ID: R116521

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
04070223-01B	Gladiola WCS

Laboratory Control Sample (LCS)

RunID: WET_040716S-2319383 Units: °F
Analysis Date: 07/16/2004 13:00 Analyst: E_S

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Ignitability	80	81.1	101	90	110

Sample Duplicate

Original Sample: 04070332-01
RunID: WET_040716S-2319384 Units: °F
Analysis Date: 07/16/2004 13:00 Analyst: E_S

Analyte	Sample Result	DUP Result	RPD	RPD Limit
Ignitability	212	212	0	20

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte detected in the associated Method Blank
J - Estimated value between MDL and PQL
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
N/C - Not Calculated - Sample concentration is greater than 4 times the amount of spike added. Control limits do not apply.

The percent recoveries for QC samples are correct as reported. Due to significant figures and rounding, the reported RPD may differ from the displayed RPD values but is correct as reported.

Sample Receipt Checklist

And

Chain of Custody

HOUSTON LABORATORY
8880 INTERCHANGE DRIVE
HOUSTON, TX 77054
(713) 660-0901

Sample Receipt Checklist

Workorder:	**04070223**	Received By:	**NB**
Date and Time Received:	**7/8/04 9:30:00 AM**	Carrier name:	**FedEx**
Temperature:	**3.0°C**	Chilled by:	**Water Ice**

1.	**Shipping container/cooler in good condition?**	Ye	☑	No	☐	Not Present ☐
2.	**Custody seals intact on shippping container/cooler?**	Ye	☐	No	☐	Not Present ☑
3.	**Custody seals intact on sample bottles?**	Ye	☐	No	☐	Not Present ☑
4.	**Chain of custody present?**	Ye	☑	No	☐	
5.	**Chain of custody signed when relinquished and receiv**	Ye	☑	No	☐	
6.	**Chain of custody agrees with sample labels?**	Ye	☑	No	☐	
7.	**Samples in proper container/bottle?**	Ye	☑	No	☐	
8.	**Sample containers intact?**	Ye	☑	No	☐	
9.	**Sufficient sample volume for indicated test?**	Ye	☑	No	☐	
10.	**All samples received within holding time?**	Ye	☑	No	☐	
11.	**Container/Temp Blank temperature in compliance?**	Ye	☑	No	☐	
12.	**Water - VOA vials have zero headspace**	Ye	☐	No	☐	Not Applicable ☑
13.	**Water - pH acceptable upon receipt?**	Ye	☐	No	☐	Not Applicable ☑

SPL Representative: _____ **Contact Date & Time:** _____

Client Name Contacted: _____

Non Conformance Issues: _____

Client Instructions: _____

SPL, Inc.

Analysis Request & Chain of Custody Record

SPL Workorder No. 218063

04070225

page 1 of 1

Client Name: EMRS / BNC

Address: 2135 S Loop 250 West, Midland, TX 79703

Phone/Fax: 432 686-0096 / 686-0156

Client Contact: A. Hale Email: ahale@bnicenv.com

Project Name/No.: Gladiola Station - 1244 / N Andrews - 1319

Site Name: Gladiola Station / North Andrews

Site Location: Tatum, NM / Andrews, TX

Invoice To: Ph:

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil O=oil SL=sludge X=other)	bottle (P=plastic A=amber glass G=glass V=vial X=other)	size (1=1 liter 4=4oz 40=vial 8=8oz 16=16oz X=other)	pres. (1=HCl 2=HNO3 3=H2SO4 X=other)	Number of Containers	Requested Analysis: TCLP Metals	BTEX	TPH (GRO/DRO)	TCLP Benzene	RCI	Total Metals			
Gladiola WCS	7/7/04		✓		S	G	4	X	2	✓	✓	✓		✓				
N Andrews WCS	7/7/04			✓	S	G	4	X	2				✓	✓	✓			

Client/Consultant Remarks:
PO for Gladiola WCS - 4504690348
PO for N Andrews WCS - 4504690345

Laboratory remarks:

Intact? ☐ Y ☐ N
Ice? ☐ Y ☐ N
Temp: 3.0°C

Requested TAT

Contract ☐ 72hr ☐
24hr ☐ Standard ☒
48hr ☐
Other ☐ _____

Special Reporting Requirements Results: Fax ☐ Email ☐ PDF ☐
Standard QC ☐ Level 3 QC ☐ Level 4 QC ☐ TX TRRP ☐ LA RECAP ☐

Special Detection Limits (specify):

PM review (initial):

	date	time	
1. Relinquished by Sampler: Will Dunlap	7/7/04	1400	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 7/8/04	time 0930	6. Received by Laboratory:

☐ 8880 Interchange Drive
Houston, TX 77054 (713) 660-0901

☐ 500 Ambassador Caffery Parkway
Scott, LA 70583 (337) 237-4775

☐ 459 Hughes Drive
Traverse City, MI 49686 (231) 947-5777

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 South First, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
2040 South Pacheco, Santa Fe, NM 87505

State of New Mexico
Energy Minerals and Natural Resources

Oil Conservation Division
2040 South Pacheco
Santa Fe, NM 87505

Form C-138
Revised March 17, 1999

Submit Original
Plus 1 Copy
to Appropriate
District Office

REQUEST FOR APPROVAL TO ACCEPT SOLID WASTE

1. RCRA Exempt: ☐ Non-Exempt: ☒ Verbal Approval Received: Yes ☐ No ☐	4. Generator EXXONMOBIL 5. Originating Site GIADIOLA STATION
2. Management Facility Destination J & L LANDFARM, INC	6. Transporter UNKNOWN
3. Address of Facility Operator C-RD -C45 / EUNICE-HOBBS HWY HWY 18	8. State TATUM NEW MEXICO
7. Location of Material (Street Address or ULSTR)	

9. Circle One:

A. All requests for approval to accept oilfield exempt wastes will be accompanied by a certification of waste from the Generator; one certificate per job.

B. All requests for approval to accept non-exempt wastes must be accompanied by necessary chemical analysis to PROVE the material is not-hazardous and the Generator's certification of origin. No waste classified hazardous by listing or testing will be approved

All transporters must certify the wastes delivered are only those consigned for transport.

BRIEF DESCRIPTION OF MATERIAL: NON-HAZARDOUS, HYDROCARBON SOIL

Estimated Volume _____ cy Known Volume (to be entered by the operator at the end of the haul) _____ cy

SIGNATURE: Judy L Roberts TITLE: Treasurer DATE: 9/30/04
Waste Management Facility Authorized Agent

TYPE OR PRINT NAME: Judy L. ROBERTS TELEPHONE NO. 505-392-9697
505-631-5765

(This space for State Use)

APPROVED BY: [signature] TITLE: ENVIRO ENGR DATE: 10-4-04

APPROVED BY: _____ TITLE: _____ DATE: _____

Certificate of Waste Status

NMOCD 711 FACILITY: J&L LANDFARM, INC.

GENERATOR EXXON MOBIL

GENERATING SITE GLADIOLA STATION

SEC _____ TOWNSHIP _____ RANGE _____

COUNTY LEA STATE NM

WASTE DESCRIPTION NON-HAZARDOUS SOIL WASTE QTY. _____

TRUCKING COMPANY _____

EXEMPT WASTE _____

As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the EPA(Environmental Protection Agency). Waste is generated from oil and gas exploration and production operations; exempt from RCRA(Resource Conservation and Recovery Act, Subtitle C regulations. I do certify that hazardous or listed waste pursuant to EPA provisions has not been added or mixed with the waste, nor mixed with any non-exempt material.

NON-EXEMPT WASTE ✓

As a condition of acceprance for disposal, I hereby certify that this waste is a non-exempt waste as defined by the EPA's (Environmental Protection Agency) July 1988 Regulatory determination. To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as non-hazardous. I further certify that to my knowledge "hazardous or listed waste" pursuant to the provisions of 40 CFR, Part 261, Subparts C and D, has not been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Section 2613.

I certify that this waste has been surveyed for Naturally Occurring Radioactive Material(NORM) and NORM concentrations do not exceed that listed in 20 NMAC 3.1 Subpart 1402. C and D.

COMPANY AGENT _____
(Original Signature)

_____
(Name)

ADDRESS _____

DATE _____