3R - 429

RP WORKPLAN

04/13/2011

TETRA TECH, INC.

6121 Indian School Rd. NE Suite 200
Albuquerque, NM 87110
(505) 237-8440

April 13, 2011

Mr. Brandon Powell
State of New Mexico
Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

RE: (1) ConocoPhillips Company, Martin 34 No. 2 Site Soil Boring Installation and Sampling Report
(2) ConocoPhillips Company, Martin 34 No. 2 Site Remediation Plan Monitoring Well Installation and Groundwater Monitoring Work Plan

Dear Mr. Powell:

Enclosed please find a copy of the above-referenced documents as compiled by Tetra Tech, Inc., for the San Juan Basin ConocoPhillips Martin 34 No. 2 Site. Tetra Tech plans to begin monitoring well installation on April 19, 2011.

Please do not hesitate to contact me at (505) 237-8440 if you have any questions or require additional information.

Sincerely,

Kelly E. Blanchard

Kelly E. Blanchard
Project Manager/Geologist

Enclosures (2)

Cc: Glenn VonGonten, New Mexico Oil Conservation Division
Terrry Lauck, ConocoPhillips Company Risk Management and Remediation (electronic only)
Kelsi Harrington, ConocoPhillips Company San Juan Business Unit
Gwen Frost, ConocoPhillips Company San Juan Business Unit

Remediation Plan
Monitoring Well Installation and Groundwater Monitoring

ConocoPhillips Company
Martin 34 No. 2
San Juan County, New Mexico
API No. 30-045-08934
NMOCD Case No. TBD

Prepared for:

ConocoPhillips Company

Risk Management and Remediation
420 South Keeler Avenue
Bartlesville, OK 74004
(918) 661-0935 office

Prepared by:

Tetra Tech

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April 2011

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

1.0 PURPOSE AND NEED

This document presents the scope of work to be performed at the ConocoPhillips Company (ConocoPhillips) Martin 34 No. 2 gas well production facility (Site) located at Latitude: 36.76394° N; Longitude: -107.97562° W within Unit Letter O, Section 34, Township 30N, Range 11W, San Juan County, New Mexico (**Figure 1**). The surface of the Site is a privately owned.

This work is being conducted as follow-up to the discovery of hydrocarbon-impacted soils in December of 2010, subsequent excavation in January 2011, and horizontal and vertical soil impact delineation during the week of March 1, 2011. All work will follow New Mexico Oil Conservation Division (NMOCD) guidelines. The NMOCD is located at 1220 South St. Francis Drive, Santa Fe, NM 87505.

2.0 SITE HISTORY

The chronology of activities previously performed at the Site is presented below. The proposed scope of work for the Site is presented following the chronology section.

2.1 Site Activities

The following table summarizes activities that have occurred at the Site regarding the response to the December 2010 release discovery.

DATE	ACTIVITY
December 3, 2010	ConocoPhillips removed the above ground production tank and the landowner subsequently discovered hydrocarbon-stained soil in the vicinity while regrading the area. ConocoPhillips obtained samples of the soil following notification from the landowner.
December 6, 2010	Laboratory analytical results from the soil samples collected on December 3, 2010 revealed hydrocarbons in excess of regulatory standards.
January 12 through 24, 2011	Excavation of soil and confirmatory sampling was conducted in the location of the former production tank. Brandon Powell of the New Mexico Oil Conservation Division (NMOCD) requested on January 20th that the excavation be continued to a depth of 30 feet below ground surface (bgs) from a depth of 25 feet bgs. Final excavation dimensions were approximately 60 ft long by 75 feet wide by 30 feet deep. Analytical results from the final round of confirmation sampling of the excavated area indicated that the north wall and both north and south bottom areas of the excavation still contained hydrocarbons in excess of regulatory standards. The lateral extent of the excavation to the north was reached due to the proximity to a roadway. Continued lateral and vertical delineation by means other than excavation would be necessary.
January 31, 2011	Backfilling of the excavation began in preparation for delineation by means of soil boring.
February 16, 2011	Tetra Tech and ConocoPhillips made a site visit to discuss delineation plans and to meet with the property owner.
March 1st and 2nd, 2011	Tetra Tech supervised a direct-push Geoprobe rig to delineate soil impacts. Boring B-1 was advanced in the backfilled area of the former excavation. Boring B-2 was advanced north of B-1, approximately 10 feet from the edge of the excavation. Boring B-3 was advanced about halfway up the sloped ramp/bench on the south side of the former excavation, southwest of B-1 (**Figure 2**). With the exception of the sample collected from B-1 at 38-40 feet bgs, all laboratory soil samples collected from all borings were either below laboratory detection limits or below recommended action levels. The laboratory sample

	from the 38 to 40 foot interval in B-1 contained total BTEX at 428.7 mg/kg. The sample also contained TPH GRO at 4,800 mg/kg, and TPH DRO at 200 mg/kg. PID readings were elevated in soil samples collected B-1 from excavation bottom to Geoprobe refusal, PID readings PID readings above the water in B-2 and B-3 were all low (~2-10 ppmv). Groundwater was encountered in borings B-2 and B-3 at approximately 40 feet bgs. The same interval in B-1, the first boring advanced in the center of the excavated area, did not appear wet, so a groundwater sample was not collected. Groundwater collected from borings B-2 and B-3 exceeded the New Mexico Water Quality Control Commission (NMWQCC) standard for benzene and chloride. Groundwater collected from B-2 contained a concentration of benzene at 920 µg/L and chloride at 352 µg/L. Groundwater collected from B-3 contained a concentration of benzene at 10 µg/L and a concentration of chloride at 316 µg/L. The NMWQCC standard for benzene is 10 µg/L. The NMWQCC standard for chloride is 30 µg/L.

3.0 SCOPE OF WORK

The Scope of Work for Site activities is described below. Work conducted at the Site will consist of field preparation prior to the start of work (Section 3.1); a Site investigation (Section 3.2) consisting of soil boring advancement and soil sample collection (Section 3.2.1); soil boring completion to groundwater monitoring wells (Section 3.2.2); proper handling and disposal of investigation-derived waste (Section 3.2.3); and groundwater monitoring (Section 3.2.4). Reporting is discussed in Section 3.3, and quality assurance/quality control (QA/QC) is discussed in Section 4.0. Section 5.0 discusses additional measures to delineate soil and groundwater impacts. Section 6.0 discusses possible future remediation options which will be determined following monitoring well installation and additional soil and groundwater sampling. References used for completion of this report are noted in section 7.0. **Figure 1** is a Site location map, **Figure 2** displays the Site layout and proposed location of groundwater monitoring wells to be installed, and **Figure 3** is a diagram of proposed monitoring well completion details for the Site based on data collected during the March 1st and 2nd, 2011 Geoprobe investigation. Appendices follow the Figures and include:

- Appendix A – Analytical Results Summary Tables
- Appendix B – Soil Boring Logs
- Appendix C – Soil Boring Log, Soil Sampling, Monitoring Well Completion, Groundwater Sampling Field Forms
- Appendix D – Laboratory Analytical Reports

3.1 Pre Field Work Preparation

The proposed groundwater monitoring well location map (**Figure 2**) will be reviewed and approved by ConocoPhillips Risk Management and Remediation personnel, ConocoPhillips San Juan Business Unit personnel, and the landowner. Once these well locations have been approved, New Mexico One-Call will be contacted to perform a utility locate at the property. Additionally, a site specific Health and Safety Plan (HASP) will be prepared by Tetra Tech prior to the start of field work. In section 1-17.2 of the *Rules and Regulations Governing the Appropriation and Use of Groundwater in New Mexico*, it is not necessary to apply for or to gain a permit for groundwater monitoring well installation prior to drilling, provided that the well is used solely for water level measurement and groundwater sampling. This rule was confirmed by a phone call to the New Mexico Office of the State Engineer (NMOSE) Aztec, New Mexico office on February 22, 2011 and again on April 12, 2011.

3.2 Site Investigation

3.2.1 Soil Boring Advancement and Soil Sample Collection

The subject Site is scheduled to have at least four (4) soil borings completed into monitoring wells in order to define the groundwater flow direction and to determine the extent of petroleum hydrocarbon impacts to groundwater. Monitoring Well MW-1 will be completed as a four-inch diameter well in the center of the former excavation, to allow for additional flexibility for any potential future remediation approaches. Monitoring Wells MW-2, MW-3 and MW-4 will be completed into two-inch diameter wells. Data will also be collected to determine if an aquitard exists and if groundwater is perched, and/or of limited areal extent. Borings will be advanced until auger refusal is met or until a sufficient depth into groundwater is achieved. Depth to the potentially perched water bearing zone at the Site is expected to be found at approximately 40 feet bgs, with a change in lithology to dry clay expected at approximately 43 feet bgs. The boring installed topographically up-gradient of the Site (Figure 2) will be advanced through the water bearing zone and as deep as necessary beyond that interval to determine if an aquitard is present, and if so, it's composition and thickness. The bottom of the boring will be filled with bentonite to the base of the water bearing zone prior to well installation. This procedure will only occur in the event that there is no evidence of hydrocarbon-impacted soil during the drilling at this location. The soil cuttings will be screened at regular intervals with a PID as a precaution.

Prior to the start of drilling operations, each boring location will be pre-cleared in order to ensure that no underground utilities or other potential buried obstacles will be encountered. Pre-clearing of each boring will be performed by Riley industrial Services of Farmington, New Mexico, using a vacuum truck and water pressure to advance each hole to approximately ten (10) inches in diameter and five (5) feet deep. A hand auger may be used in the previously excavated area to pre-clear the location for MW-1.

Soil samples will be collected from the vadose zone to just above the water table in each borehole. The lithology of each borehole will be recorded to total depth during borehole advancement using split spoon sampling techniques. Soil samples collected from the vadose zone will be field screened with a PID using the heated headspace method. PID results will be recorded on the boring log. A soil sample with the highest PID reading, and another from just above the water table from each borehole will be submitted to Accutest Laboratories located in Houston, TX to be analyzed for the following parameters:

- Volatile Organic Compounds (VOCs), EPA Method 8260B
- Polynuclear Aromatic Hydrocarbons (PAHs), EPA Method 8270C
- Total petroleum hydrocarbons (TPH), EPA Method 8015B
- Total metals - aluminum, boron, iron, arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver, zinc by EPA Method 6010B and mercury by EPA Method 7471A

- General chemistry (as described in 40 CFR 136.3), including
  - Alkalinity, EPA Method SM2320B
  - Bromide, chloride, fluoride, orthophosphate, sulfate, nitrate/nitrite, EPA Method 300.0
  - Bicarbonate/carbonate, EPA Method 310.1
  - pH, EPA Method 4500-HB
  - Specific conductance, EPA Method E120.1

3.2.2 Groundwater Monitoring Well Construction

Enviro-Drill will be utilized as the drilling contractor at the Site, and drilling operations will be supervised by Tetra Tech personnel. Groundwater monitoring wells will be constructed using two-inch diameter polyvinyl chloride (PVC) casing and at least 10 feet of 0.010-inch slot PVC screen. Monitoring wells will be installed with as much screen below the water table as possible since the water bearing zone appears to be relatively thin according to the previous Geoprobe investigation findings. A sand filter pack will be installed to two feet above the top of the screen. A two-foot thick bentonite seal will be placed over the sand, followed by cement grouting to the land surface. Monitoring Well MW-1 will be completed with a locking, flush mount manhole type vault. The remaining monitoring wells will be completed with either the flush mount vault or a stick-up well monument, depending on landowner preference. Each well will be set in a 3-foot by 3-foot concrete pad (**Figure 3**). The groundwater monitoring wells will be developed using a surge block and bailer or purge pump, and the wells will initially be incorporated into a semi-annual groundwater monitoring program.

3.2.3 Investigation Derived Waste

All well development water will be placed into the on-Site produced water tank. Soil cuttings will be placed on polyethylene sheeting and will be covered in the event of precipitation during field activities. Once each soil boring is complete, a representative sample of soil cuttings from each soil boring will be field screened using a PID and will be spread on-Site if the results are less than 100 ppm. If soil cutting PID results are greater than 100 ppm, soil cuttings will be placed in 55 gallon drums and transported by Envirotech to the Envirotech Soil Remediation Facility, or other ConocoPhillips-approved waste disposal facility.

3.2.4 Groundwater Monitoring

During the first regularly scheduled semi-annual groundwater monitoring event covered under this work plan, an expanded baseline groundwater parameter list will be submitted for laboratory analysis. Constituents of concern (COCs) detected in groundwater at concentrations above the New Mexico Water Quality Control Commission (NMWQCC)

Groundwater Quality Standards during the first groundwater monitoring event will be carried forward for analyses in subsequent groundwater monitoring events.

The baseline parameter list for groundwater includes analyses of the following parameters:

- VOCs, EPA Method 8260B
- PAHs, EPA Method 8270C
- TPH, gasoline range organics (GRO), EPA Method 8015B
- TPH, diesel range organics (DRO), EPA Method 8015B
- Dissolved metals – aluminum, boron, iron arsenic, barium, cadmium, chromium, cobalt, copper, lead, manganese, molybdenum, nickel, selenium, silver and zinc by EPA Method 6010B
- Total metals – mercury by EPA Method 7470A
- General chemistry (as described in 40 CFR 136.3), including
    - Alkalinity, EPA Method SM2320B
    - Bromide ,chloride, fluoride, orthophosphate, sulfate, nitrate/nitrite, EPA Method 300.0
    - Bicarbonate/carbonate, EPA Method 310.1
    - pH, EPA Method 4500-HB
    - Specific conductance, EPA Method E120.1
    - TDS, EPA Method SM2540C
    - Hardness, EPA Method SM2430C

Semi-annual groundwater sampling will be conducted at the Site beginning in June of 2011. During each sampling event, a dedicated, 1.5-inch polyethylene bailer will be used to purge and sample each well. A groundwater sample will be collected once specific conductance, pH, dissolved oxygen, and temperature have stabilized (within a 10% margin) or once three well volumes have been purged. Records of each sampling event will be kept on Tetra Tech groundwater sampling forms and in a bound field notebook. Groundwater samples will be containerized in bottles supplied by Accutest Laboratories of Houston, Texas. The groundwater samples will be placed on ice and shipped under chain of custody documentation to the laboratory for analysis. Groundwater samples will be shipped by overnight courier.

3.3 Reporting

Semi-annual groundwater monitoring reports will be prepared for the Site. The first semi-annual report will include a summary of the groundwater monitoring well installation and a brief narrative of the sampling events. In general, the reports will include the date(s) the events occurred, copies of sampling field forms from each sampling event, copies of laboratory chain-of-custody documentation and results, laboratory quality assurance/quality control (QA/QC) documentation, tabulated groundwater elevations, soil results, groundwater concentration/elevation maps, a generalized geologic cross section, and a summary of key findings.

Starting with the second semi-annual report, the groundwater elevations and groundwater analytical results from the previous events will be tabulated with the results from the current event. For each monitoring event a hard copy, along with an electronic copy on CD, of the report will be submitted to the NMOCD.

Based on the extent of groundwater impacts determined by laboratory analysis, Site characterization and interpretation of analytical data by Tetra Tech, it is possible that the frequency of groundwater monitoring events may change. If the groundwater monitoring schedule is revised at any time, the NMOCD will be notified. Once groundwater results begin to approach compliance, quarterly sampling will begin. Following eight (8) quarters of compliance, no further action will be requested.

A C-141 form (Release Notification and Corrective Action) was completed and submitted to NMOCD for groundwater impacts at the Site on behalf of ConocoPhillips on March 3, 2011.

4.0 QUALITY ASSURANCE AND QUALITY CONTROL

A quality assurance evaluation will be conducted by the analytical laboratory on collected samples to check for accuracy, precision and reliability of each reported analyte concentration. Sample spiked-matrix batch samples will be analyzed to determine the accuracy of laboratory results. A duplicate sample will be taken from one monitoring well during each sampling event to check for consistency. Trip blanks will be included along with groundwater samples to rely against cross-contamination during shipping. Quality assurance documentation will be provided on the laboratory report.

At least one field audit of investigation and sampling protocol will be conducted by the project manager during the period covered by this work plan. Variations from standard operating procedures will be documented and corrected, if necessary.

5.0 ADDITIONAL MEASURES TO DELINEATE SOIL AND GROUNDWATER IMPACTS

If impacts are not fully delineated following the initial monitoring well installation and sampling event, additional wells will be added to the site in order to achieve three (3) dimensional delineation. Proposed additional monitoring wells are will be presented to the NMOCD for review once approved by the ConocoPhillips San Juan Business Unit and the landowner. If additional monitoring wells are necessary, those wells will be installed and sampled according to this plan.

6.0 REMEDIATION OPTIONS

Tetra Tech will evaluate the data collected from soil borings and monitoring well sampling to determine an appropriate remediation option, or combination of options, based upon Site characteristics, proximity to receptors, landowner considerations, NMOCD input, and technical feasibility. This will be documented in a remediation action plan proposal which will be submitted to the NMOCD for review and concurrence.

6.1 Soil Vapor Extraction

Based on results of the forthcoming monitoring well installation and soil and groundwater sampling events, soil vapor extraction (SVE) may be considered as an option for in situ remediation. Some of the important considerations include soil composition and structure, hydrocarbon concentrations, thickness of the hydrocarbon-impacted zone, utility connection feasibility, and air emissions.

6.2 Chemical Oxidation

Based on results of the forthcoming monitoring well installation and soil and groundwater sampling events, chemical oxidation may be considered as an option for in situ remediation. This would involve using a direct push Geoprobe rig to advance several injection points in and around the impacted area in order to deliver an oxidizing compound, and possibly water, to soil and groundwater. The network of monitoring wells would be used to monitor effects and progress and determine need for additional treatments. Some of the important considerations include soil composition and structure, soil moisture content, hydrocarbon concentrations, thickness of the hydrocarbon-impacted zone, areal extent of hydrocarbon-impacted groundwater, and potential air emissions.

6.3 Trap and Treat®

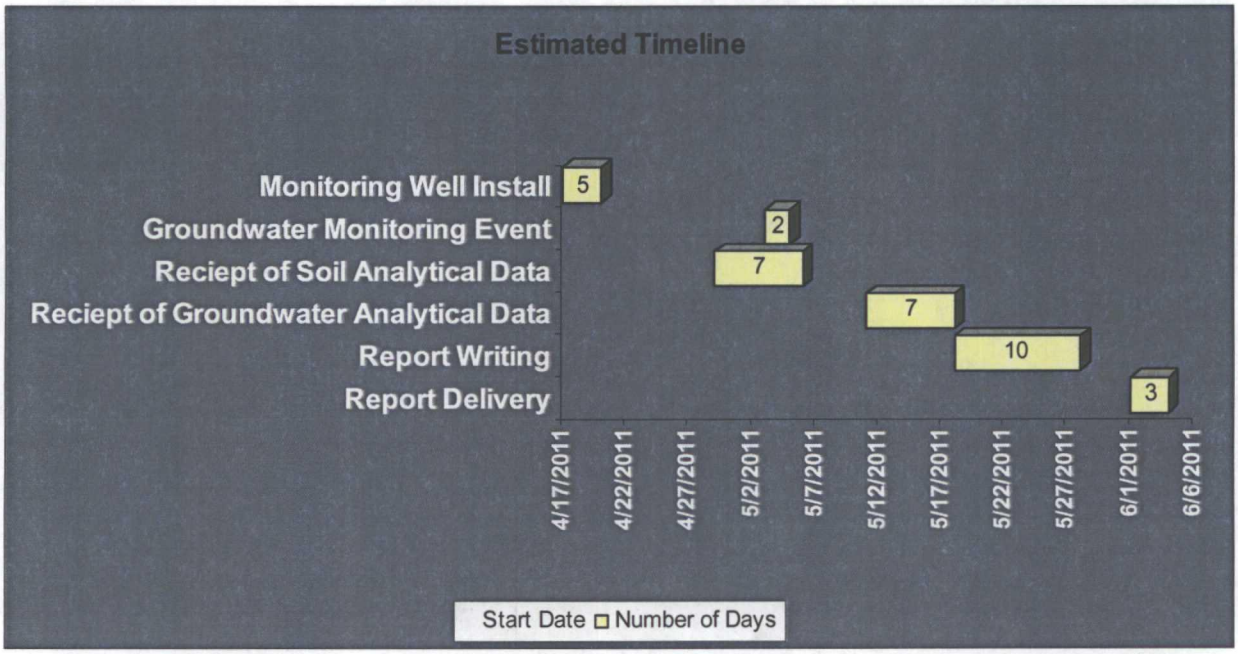
Based on results of the forthcoming monitoring well installation and soil and groundwater sampling events, Trap & Treat® may be considered an option for in situ remediation. This would involve using a direct push Geoprobe rig to advance several injection points in and around the impacted area in order to deliver a proprietary blend of activated carbon, sulfate reduction media, micronutrients, facultative microbes, and water. Some of the important considerations include soil composition and structure, soil moisture content, hydrocarbon concentrations, thickness of the hydrocarbon-impacted zone, and areal extent of hydrocarbon-impacted groundwater.

6.4 Monitored Natural Attenuation

Based on results of the forthcoming monitoring well installation and soil and groundwater sampling events, monitored natural attenuation may be considered as an option for in situ remediation of soil and groundwater. The network of installed monitoring wells would be used

to evaluate the physical, chemical, and biological processes that contribute to naturally occurring biodegradation and other non destructive attenuation mechanisms.

7.0 ESTIMATED TIMELINE



8.0 REFERENCES

Envirotech Incorporated (January 2011). *Analytical Report and Sampling Location Figure ConocoPhillips Martin 34 #2.* Prepared for ConocoPhillips Company. Figure Dated January 28, 2011. 2 pp.

New Mexico Office of the State Engineer (1995, Revised August 15, 2006) *Rules and Regulation Governing the Appropriation and Use of Groundwater in New Mexico.* August 15, 2006. 31 pp.

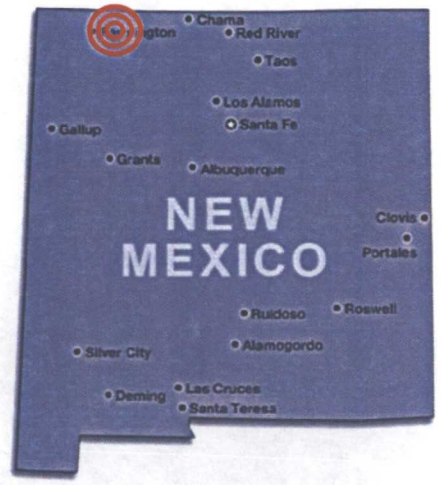
New Mexico Oil Conservation Division (1993). *Guidelines for Remediation of Leaks, Spills and Releases.* August 13, 1993. 16 pp. (not including Appendices).

FIGURES

1.) Site Location Map
2.) Boring Location and Proposed Monitoring Well Location Map
3.) Typical Monitoring Well Completion Diagram

FIGURE 1.

Site Location Map
ConocoPhillips Company
Martin 34 No. 2
San Juan County, NM



ConocoPhillips Company
Martin 34 No. 2 Natural Gas
Production Wellhead Location

Latitude: 36.76394 N
Longitude: -107.97562 W

Hydrocarbon Soil Impacts and
Former Excavation Location
Associated with the Martin 34
No. 2 Location

N

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FIGURE 2:
SOIL BORING AND PROPOSED MONITORING WELL LOCATION MAP

CONOCOPHILLIPS COMPANY
MARTIN 34 No. 2
GAS PRODUCTION WELL SITE
Unit Letter O, Sec 34, T30N, R11W
San Juan County, New Mexico

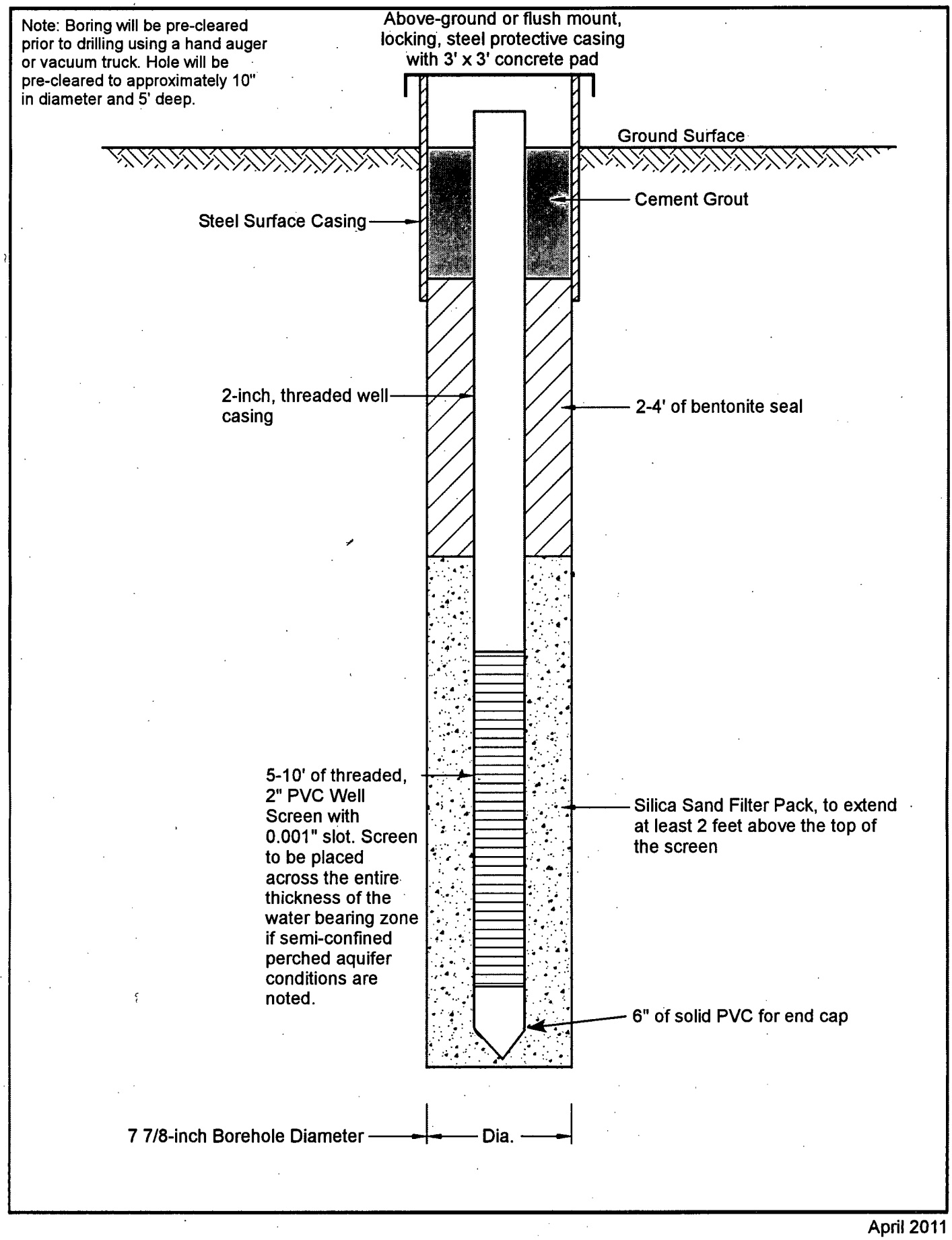
LEGEND

- ConocoPhillips Martin 34 No. 2 Wellhead
- Boring Location
- Approximate 2011 Excavation Location
- Approximate Location of New Private Water Line
- Approximate Location of Current Martin 34 No. 2 Tank Placement (aerial image shows prior historic tank placement)
- Proposed Monitoring Well Locations

0 FEET 40

ConocoPhillips

TETRA TECH, INC.



April 2011

Figure 3
Typical Monitoring Well Completion Diagram

APPENDIX A

Analytical Results Summary Tables

Appendix A. Martin 34 No. 2 Site Soil Boring Laboratory Analytical Results

Constituent			Sample ID (soil samples collected March 1st-2nd, 2011)							
VOCs (BTEX only)	**Method**	**Units**	**B-1 (38-40 feet)**	**B-1 (41.5-43 feet)**	**B-1 (43-43.5 feet)**	**B-2 (30-32 feet)**	**B-2 (36-38 feet)**	**B-3 (26-28 feet)**	**B-3 (38-40 feet)**	**NMOCD**
Benzene	8260B	mg/kg - dry	2.7	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	10
Toluene	8260B	mg/kg - dry	110	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NE
Ethylbenzene	8260B	mg/kg - dry	23	<0.005	<0.005	<0.005	<0.005	<0.005	<0.005	NE
Total Xylenes	8260B	mg/kg - dry	293	0.0061	<0.005	0.009	<0.005	0.0074	<0.005	NE
Total BTEX	8260B	mg/kg - dry	**428.7**	0.0061	<0.005	0.009	<0.005	0.0074	<0.005	50
Petroleum Hydrocarbons	**Method**	**Units**	**B-1 (38-40 feet)**	**B-1 (41.5-43 feet)**	**B-1 (43-43.5 feet)**	**B-2 (30-32 feet)**	**B-2 (36-38 feet)**	**B-3 (26-28 feet)**	**B-3 (38-40 feet)**	**NMOCD**
TPH Gasoline Range	8015B	mg/kg - dry	**4800**	0.2	<0.1	<0.1	<0.1	<0.1	<0.1	100
TPH Diesel Range	8015B	mg/kg - dry	**200**	6	<5	<5	<5	10	<5	
Chloride	**Method**	**Units**	**B-1 (38-40 feet)**	**B-1 (41.5-43 feet)**	**B-1 (43-43.5 feet)**	**B-2 (30-32 feet)**	**B-2 (36-38 feet)**	**B-3 (26-28 feet)**	**B-3 (38-40 feet)**	**NMOCD**
Chloride	300	mg/kg - dry	92.9	114	111	16.4	24	97.4	16.7	NE

Martin 34 No. 2 Site Groundwater Laboratory Analytical Results

Constituent			Sample ID (collected March 2nd, 2011)		
VOCs (BTEX only)	**Method**	**Units**	**B-2 Water**	**B-3 Water**	**NMWQCC Standard**
Benzene	8260B	µg/L	**920**	**160**	10
Toluene	8260B	µg/L	3.7	<1	750
Ethylbenzene	8260B	µg/L	120	110	750
Total Xylenes	8260B	µg/L	5.6	250	620
Chloride	**Method**	**Units**	**B-2 Water**	**B-3 Water**	**NMWQCC Standard**
Chloride	300	µg/L	**352**	**316**	30
Petroleum Hydrocarbons	**Method**	**Units**	**B-2 Water**	**B-3 Water**	**NMWQCC Standard**
TPH Gasoline Range	8015B	mg/L	1.5	3.1	NE
TPH Diesel Range	8015B	mg/L	3.1	5.9	NE

Notes:
B = soil boring
NMOCD = New Mexico Oil Conservation Division recommended action level
NMWQCC = New Mexico Water Quality Control Commission Standard
VOCs = Volatile organic compounds
SVOCs = Semi-volatile organic compounds
mg/kg - dry = Milligrams per kilogram (parts per million), analyzed after residual water removed from the soil
mg/L = Milligrams per liter (parts per million)
µg/L = Micrograms per liter (parts per billion)
NE = Not established

APPENDIX B
Soil Boring Logs

PROJECT NAME: Martin 34 No. 2

LOCATION: San Juan County, NM

FIELD LOGGED BY: Bernie Lauctes

ELEVATION: GROUND SURFACE (msl): 5771

GROUNDWATER ELEVATION (msl): ~ 5734 feet

REMARKS: Once total depth was reached and a GW sample collected boring was backfilled with hydrated bentonite to surface. All depths are measured from ground surface.

SOIL BORING NO. B-1

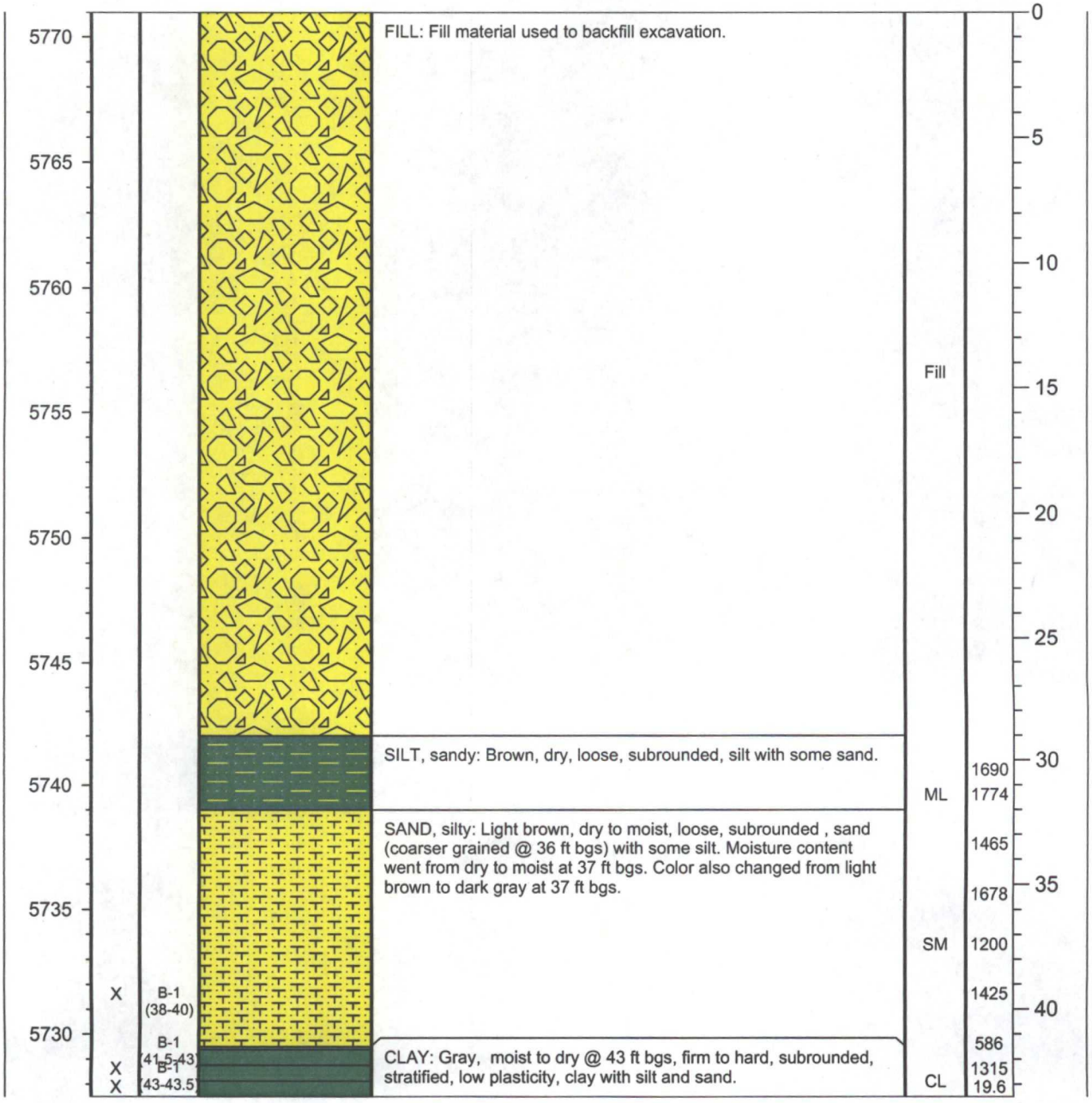
DRILL TYPE: Geoprobe 540-UD
Direct Push

BORE HOLE DIAMETER: 2.25 inches

DRILLED BY: JR Drilling

DATE/TIME: HOLE STARTED: March 1, 2011 - 13:00

DATE/TIME: COMPLETED: March 2, 2011 - 12:45



Total depth = -43.5 feet

TETRA TECH

BORING LOG

PROJECT NAME: Martin 34 No. 2

LOCATION: San Juan County, NM

FIELD LOGGED BY: Bernie Lauctes

ELEVATION: GROUND SURFACE (msl): 5773

GROUNDWATER ELEVATION (msl): ~ 5733 feet

REMARKS: Once total depth was reached and a GW sample collected, boring was backfilled with hydrated bentonite to surface. All depths are measured from ground surface.

SOIL BORING NO. B-2

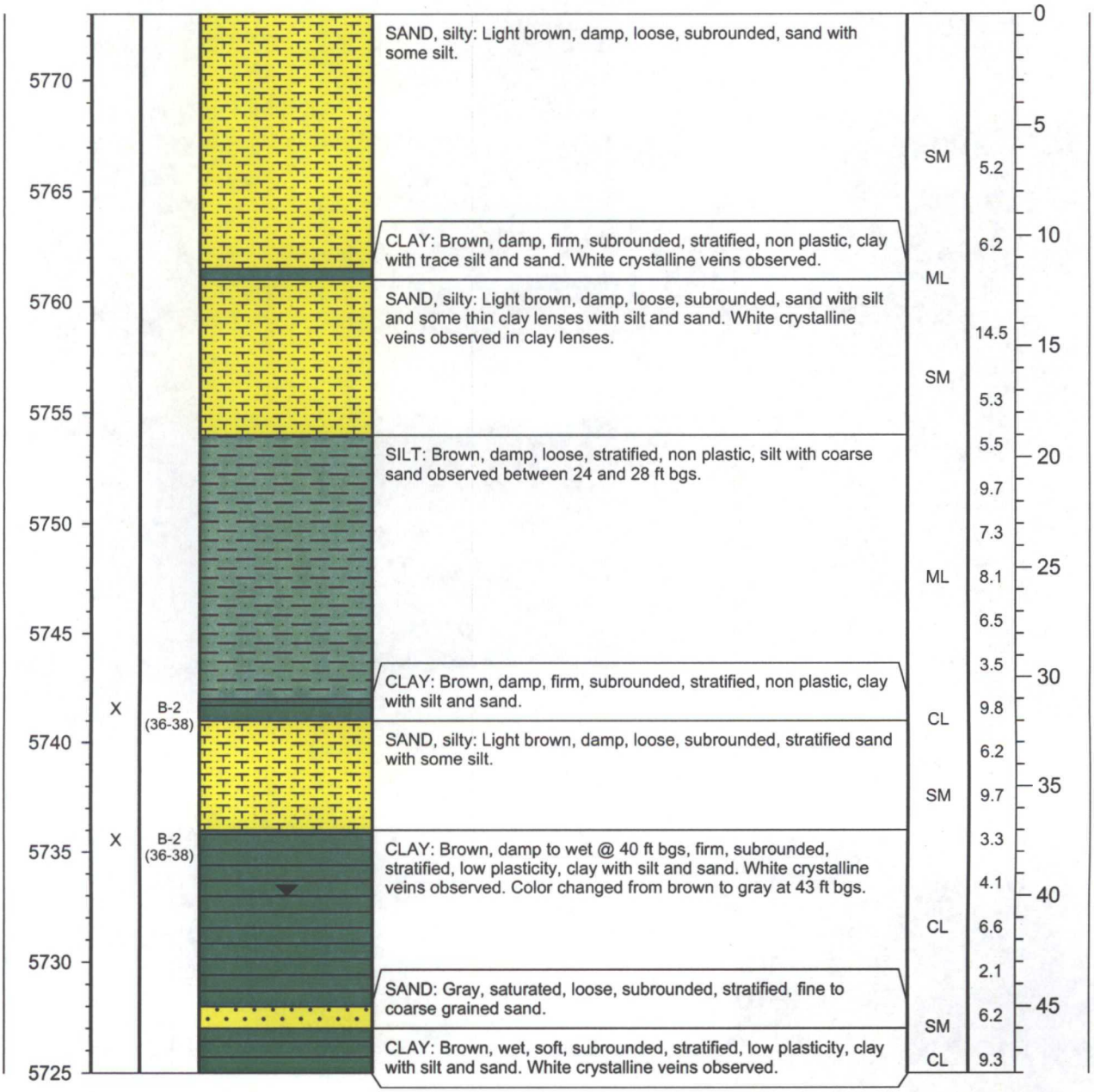
DRILL TYPE: Geoprobe 540-UD
Direct Push

BORE HOLE DIAMETER: 2.25 inches

DRILLED BY: JR Drilling

DATE/TIME: HOLE STARTED: March 1, 2011 - 1500

DATE/TIME: COMPLETED: March 2, 2011 - 12:45



Total depth = -48 feet

TETRA TECH

BORING LOG

PROJECT NAME: Martin 34 No. 2

LOCATION: San Juan County, NM

FIELD LOGGED BY: Bernie Lauctes

ELEVATION: GROUND SURFACE (msl): 5770

GROUNDWATER ELEVATION (msl): ~ 5730 feet

REMARKS: Once total depth was reached and a GW sample collected, boring was backfilled with hydrated bentonite to surface. All depths are measured from ground surface.

SOIL BORING NO. B-3

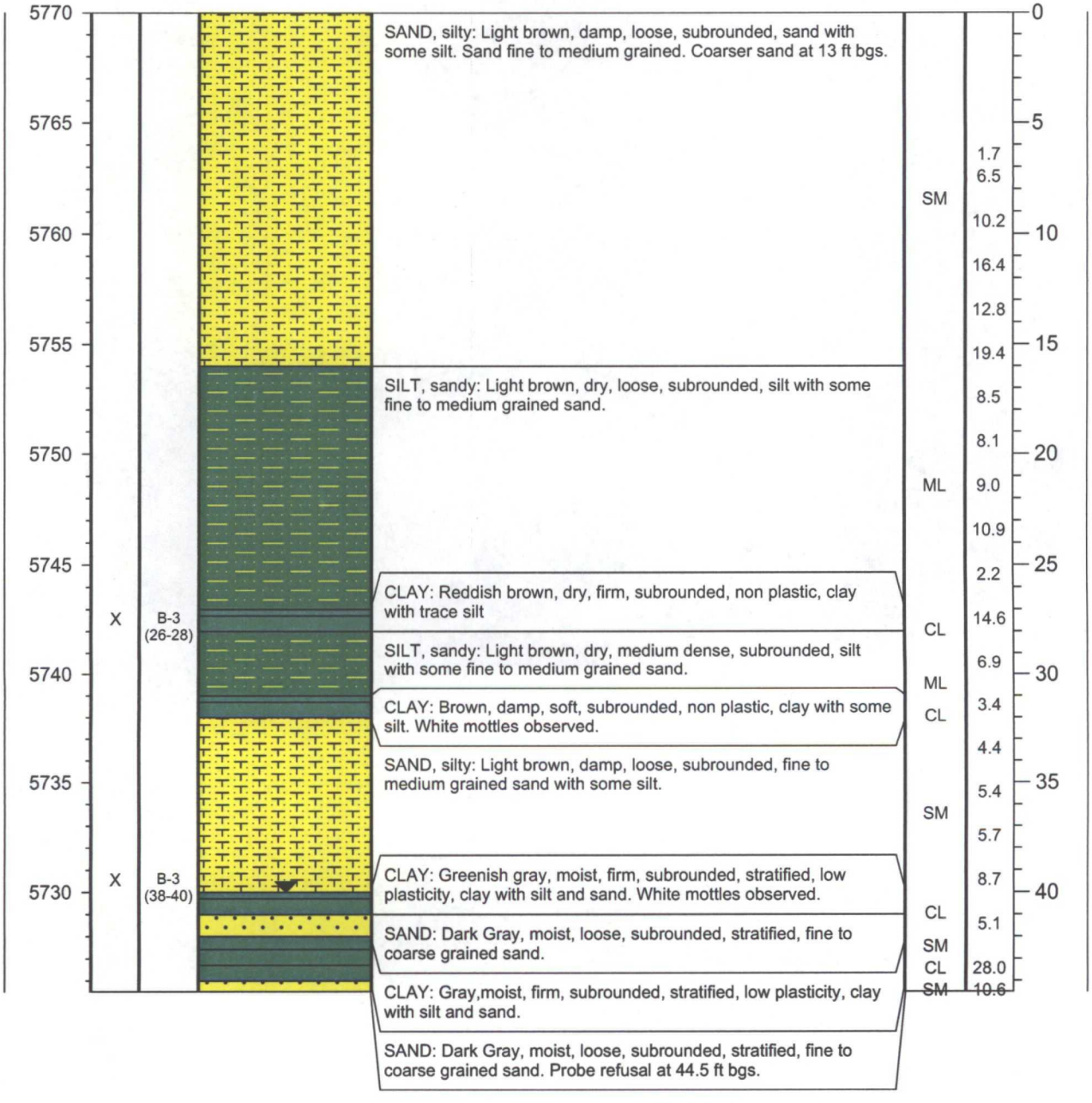
DRILL TYPE: Geoprobe 540-UD
Direct Push

BORE HOLE DIAMETER: 2.25 inches

DRILLED BY: JR Drilling

DATE/TIME: HOLE STARTED: March 2, 2011 - 0900

DATE/TIME: COMPLETED: March 2, 2011 - 12:45



Total depth = -48 feet	TETRA TECH	BORING LOG	Page 1 of 1

APPENDIX C

Soil Boring Log, Soil Sampling, Monitoring Well Completion and Groundwater Sampling Field Forms

Lithology Record

Project/Client: ______________________

Borehole: ______________ **Method:** ______________

Geologist: ______________________

Date: ______________________

Driller: ______________________

TETRA TECH, INC.

Page ___ of ___

Interval (ft.)	Group Name and Description	USCS Class	Color	Moisture Content	Consistency of Cohesive Soils (Clay)	Density of Non-Cohesive Soils (Sand)	Angularity/Shape of Particles	Cementation & Type	Structure	Dry Strength	Plasticity	Additional Information	% Rec (ft/ft)
 Blow Ct. Sample: Y N Analytes: Time:	PID:			dry damp moist wet sat.	v. soft soft firm (stiff) hard v. hard	v. loose loose m. dense dense v. dense	angular subangular subrounded rounded flat elongated	none weak moderate strong CHOOSE: Calcareous OR Silicious	stratified laminated fissured slickensided blocky lensed homogenous interbedded	none low medium high v. high	nonplastic low medium high		
 Blow Ct. Sample: Y N Analytes: Time:	PID:			dry damp moist wet sat.	v. soft soft firm (stiff) hard v. hard	v. loose loose m. dense dense v. dense	angular subangular subrounded rounded flat elongated	none weak moderate strong CHOOSE: Calcareous OR Silicious	stratified laminated fissured slickensided blocky lensed homogenous interbedded	none low medium high v. high	nonplastic low medium high		
 Blow Ct. Sample: Y N Analytes: Time:	PID:			dry damp moist wet sat.	v. soft soft firm (stiff) hard v. hard	v. loose loose m. dense dense v. dense	angular subangular subrounded rounded flat elongated	none weak moderate strong CHOOSE: Calcareous OR Silicious	stratified laminated fissured slickensided blocky lensed homogenous interbedded	none low medium high v. high	nonplastic low medium high		
 Blow Ct. Sample: Y N Analytes: Time:	PID:			dry damp moist wet sat.	v. soft soft firm (stiff) hard v. hard	v. loose loose m. dense dense v. dense	angular subangular subrounded rounded flat elongated	none weak moderate strong CHOOSE: Calcareous OR Silicious	stratified laminated fissured slickensided blocky lensed homogenous interbedded	none low medium high v. high	nonplastic low medium high		

TETRA TECH

SOIL SAMPLING FIELD FORM

Project No. _____ Project Name: _____ Date: _____

Station: _____ Station No.: _____

Sampled By: _____ Mean Time: _____ SMS Control No.: _____

Record No.: _____ Sample Purpose: _____

SAMPLES COLLECTED

Type:

% Clay _____

% Silt _____

% Sand _____

% Gravel _____

Color:

☐ Dry

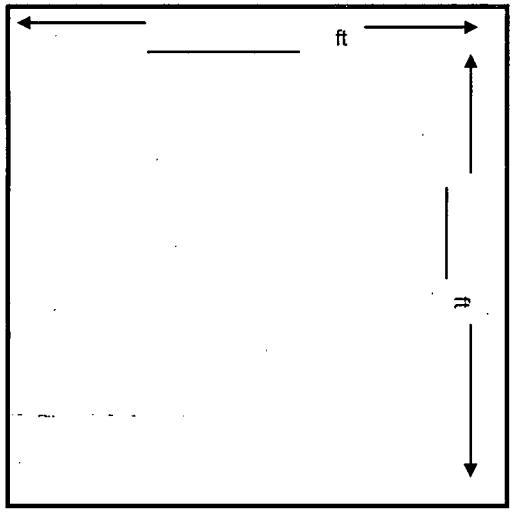
☐ Moist

☐ Saturated

USCS Classification

GW	SW	ML
GP	SP	CL
GM	SM	OL
GC	SC	MH
		CH
		OH
		PT

SAMPLING PATTERN SKETCH



Sample depth _____

Sample volume _____

☐ Primary sample

☐ Duplicate sample

☐ Other _____

Containers:

☐ 250 mL plastic

☐ 500 mL plastic

☐ 1000 mL plastic

☐ Other _____

Analysis:

☐ Metals

☐ Radionuclides

☐ Anions

☐ Other _____

Comments:

Reviewed by: _____ **Date:** _____

TETRA TECH, INC.

Well Completion Diagram

Well ID MW-

Job Name _____

Job No. _____ Date _____

Project Manager _____

Well I.D. _____

Field Geologist _____

Driller _____

Equipment _____

Materials

_____ Pounds _____ Filter Pack

_____ Pounds _____ Bentonite Seal

_____ Gallons _____ Grout

_____ Pounds _____ Concrete

_____ Feet of native fill/ slough

_____ Feet of _____ inch _____ pvc _____ Blank Casing

_____ Feet of _____ inch _____ Slotted Screen

_____ Feet of _____ Outer Casing

_____ Feet of _____ Sump/ Silt Trap

Placement Method _____

Notes _____

_____

Development

Method _____

Date _____

Amount Purged _____ gallons

Notes _____

_____

Stickup (feet): approx. 3 ft.

Steel Casing

Other:

Casing:

_____ ft. to _____ ft.

_____ inch diameter Borehole:

_____ ft. to _____ ft.

Outer Casing:

_____ ft. to _____ ft.

Concrete: approx. 4' well pads

_____ ft. to _____ ft.

Grout:

_____ ft. to _____ ft.

Bentonite Seal:

_____ ft. to _____ ft.

Filter Pack:

_____ ft. to _____ ft.

Slotted Screen:

_____ ft. to _____ ft.

Native fill/ slough:

_____ ft. to _____ ft.

8 inch diameter Borehole:

_____ ft. to _____ ft.

Sump/ Silt Trap:

_____ ft. to _____ ft.

TETRA TECH, INC.

WATER SAMPLING FIELD FORM

Project Name _____ Page _____ of _____

Project No. _____

Site Location _____

Site/Well No. MW - _____ Coded/ Replicate No. _____ Date _____

Weather _____ Time Sampling Began _____ Time Sampling Completed _____

EVACUATION DATA

Description of Measuring Point (MP) Top of Casing _____

Height of MP Above/Below Land Surface _____ MP Elevation _____

Total Sounded Depth of Well Below MP _____ Water-Level Elevation _____

Held _____ Depth to Water Below MP _____ Diameter of Casing 2"

Wet _____ Water Column in Well _____ Gallons Pumped/Bailed Prior to Sampling _____

Gallons per Foot _____

Gallons in Well _____ Sampling Pump Intake Setting (feet below land surface) _____

Purging Equipment Purge pump / Bailer _____

SAMPLING DATA/FIELD PARAMETERS

Time	Temperature (°C)	pH	Conductivity (µS/cm^3)	TDS (g/L)	DO (mg/L)	DO %	ORP (mV)	Volume (gal.)

Sampling Equipment Purge Pump/Bailer _____

Constituents Sampled	Container Description	Preservative

Remarks _____

Sampling Personnel _____

Well Casing Volumes

Gal./ft.	1 ¼" = 0.077	2" = 0.16	3" = 0.37	4" = 0.65
	1 ½" = 0.10	2 ½" = 0.24	3" ½ = 0.50	6" = 1.46

APPENDIX D
Laboratory Analytical Reports

ACCUTEST LABORATORIES

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

Conoco Phillips

Certificate of Analysis Number:

11030104

Report To:		Project Name:	Martin 34 No.2
Tetra Tech, Inc.		Site:	Bloomfield, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	3/15/2011
ph: (505) 237-8440	fax: (505) 881-3283		

This Report Contains A Total Of 21 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

3/15/2011

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

ACCUTEST LABORATORIES

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

Case Narrative for:
Conoco Phillips

Certificate of Analysis Number:
11030104

Report To:		Project Name:	Martin 34 No.2
Tetra Tech, Inc.		Site:	Bloomfield, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	3/15/2011
ph: (505) 237-8440	fax: (505) 881-3283		

I. SAMPLE RECEIPT:

All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II: ANALYSES AND EXCEPTIONS:

No exceptions were noted.

III. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg\kg-dry " or " ug\kg-dry ").

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.

Some of the percent recoveries and RPD's on the QC report for the MS/MSD may be different than the calculated recoveries and RPD's using the sample result and the MS/MSD results that appear on the report because, the actual raw result is used to perform the calculations for percent recovery and RPD.

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.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or by his designee, as verified by the following signature.

3/15/2011

Erica Cardenas
Project Manager

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

ACCUTEST LABORATORIES

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

Conoco Phillips

Certificate of Analysis Number:

11030104

Report To: Tetra Tech, Inc.
Kelly Blanchard
6121 Indian School Road, N.E.
Suite 200
Albuquerque
NM
87110-
ph: (505) 237-8440 fax: (505) 881-3283

Fax To:

Project Name: Martin 34 No.2
Site: Bloomfield, NM
Site Address:
PO Number:
State: New Mexico
State Cert. No.:
Date Reported: 3/15/2011

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
B-1@38.0-40.0'	11030104-01	Soil	03/01/2011 14:05	3/3/2011 9:20:00 AM	306322	☐
B-1@41.5-43.0'	11030104-02	Soil	03/01/2011 14:10	3/3/2011 9:20:00 AM	306322	☐
B-1@43.0-43.5'	11030104-03	Soil	03/01/2011 14:30	3/3/2011 9:20:00 AM	306322	☐
B-2@30.0-32.0'	11030104-04	Soil	03/01/2011 16:00	3/3/2011 9:20:00 AM	306322	☐
B-2@36.0-38.0'	11030104-05	Soil	03/01/2011 16:15	3/3/2011 9:20:00 AM	306322	☐
B-3@26.0-28.0'	11030104-06	Soil	03/02/2011 9:55	3/3/2011 9:20:00 AM	306322	☐
B-3@38.0-40.0'	11030104-07	Soil	03/02/2011 10:20	3/3/2011 9:20:00 AM	306322	☐

Erica Cardenas 3/15/2011

Erica Cardenas
Project Manager

Date

Kesavalu M. Bagawandoss Ph.D., J.D.
Laboratory Director

Ted Yen
Quality Assurance Officer

ACCUTEST LABORATORIES

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

Client Sample ID: B-1@38.0-40.0' **Collected:** 03/01/2011 14:05 **SPL Sample ID:** 11030104-01

Site: Bloomfield, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Diesel Range Organics (C10-C28)	200			25	5	03/10/11 12:48	NW	5741647
Surr: n-Pentacosane	78.1		%	20-154	5	03/10/11 12:48	NW	5741647

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	03/08/2011 14:35	QMT	1.00

GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Gasoline Range Organics	4800			100	1000	03/04/11 22:48	WLV	5738470
Surr: 1,4-Difluorobenzene	119		%	63-142	1000	03/04/11 22:48	WLV	5738470
Surr: 4-Bromofluorobenzene	151		%	50-159	1000	03/04/11 22:48	WLV	5738470

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 10:09	XML	1.00

ION CHROMATOGRAPHY					**MCL**	**E300.0 MOD**	**Units: mg/kg**	
Chloride	92.9			10	2	03/04/11 15:39	ESK	5737820

VOLATILE ORGANICS BY METHOD 8260B					**MCL**	**SW8260B**	**Units: ug/kg**	
Benzene	2700			1200	250	03/08/11 20:48	LU_L	5739989
Ethylbenzene	23000			1200	250	03/08/11 20:48	LU_L	5739989
Toluene	110000			12000	2500	03/08/11 20:22	LU_L	5739988
m,p-Xylene	240000			12000	2500	03/08/11 20:22	LU_L	5739988
o-Xylene	53000			12000	2500	03/08/11 20:22	LU_L	5739988
Xylenes,Total	293000			12500	2500	03/08/11 20:22	LU_L	5739988
Surr: 1,2-Dichloroethane-d4	93.7		%	78-116	2500	03/08/11 20:22	LU_L	5739988
Surr: 1,2-Dichloroethane-d4	94.0		%	78-116	250	03/08/11 20:48	LU_L	5739989
Surr: 4-Bromofluorobenzene	102		%	74-125	2500	03/08/11 20:22	LU_L	5739988
Surr: 4-Bromofluorobenzene	103		%	74-125	250	03/08/11 20:48	LU_L	5739989
Surr: Toluene-d8	101		%	82-118	2500	03/08/11 20:22	LU_L	5739988
Surr: Toluene-d8	108		%	82-118	250	03/08/11 20:48	LU_L	5739989

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 10:07	XML	1.00

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
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

ACCUTEST LABORATORIES

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

Client Sample ID: B-1@41.5-43.0' **Collected:** 03/01/2011 14:10 **SPL Sample ID:** 11030104-02

Site: Bloomfield, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Diesel Range Organics (C10-C28)	6		5	1	03/09/11 17:27	NW	5741635
Surr: n-Pentacosane	77.9	%	20-154	1	03/09/11 17:27	NW	5741635

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	03/08/2011 14:35	QMT	1.00

GASOLINE RANGE ORGANICS				MCL	SW8015B	Units: mg/kg	
Gasoline Range Organics	0.2		0.1	1	03/05/11 1:22	WLV	5738473
Surr: 1,4-Difluorobenzene	101	%	63-142	1	03/05/11 1:22	WLV	5738473
Surr: 4-Bromofluorobenzene	111	%	50-159	1	03/05/11 1:22	WLV	5738473

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 9:42	XML	1.00

ION CHROMATOGRAPHY			MCL	E300.0 MOD	Units: mg/kg	
Chloride	114		5	1	03/04/11 15:56	ESK	5737821

VOLATILE ORGANICS BY METHOD 8260B			MCL	SW8260B	Units: ug/kg	
Benzene	ND		5	1	03/08/11 18:57	TLE	5739776
Ethylbenzene	ND		5	1	03/08/11 18:57	TLE	5739776
Toluene	ND		5	1	03/08/11 18:57	TLE	5739776
m,p-Xylene	6.1		5	1	03/08/11 18:57	TLE	5739776
o-Xylene	ND		5	1	03/08/11 18:57	TLE	5739776
Xylenes,Total	6.1		5	1	03/08/11 18:57	TLE	5739776
Surr: 1,2-Dichloroethane-d4	99.2	%	71-130	1	03/08/11 18:57	TLE	5739776
Surr: 4-Bromofluorobenzene	103	%	65-131	1	03/08/11 18:57	TLE	5739776
Surr: Toluene-d8	107	%	75-136	1	03/08/11 18:57	TLE	5739776

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 9:38	XML	1.00

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
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

ACCUTEST LABORATORIES

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

Client Sample ID: B-1@43.0-43.5' **Collected:** 03/01/2011 14:30 **SPL Sample ID:** 11030104-03

Site: Bloomfield, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Diesel Range Organics (C10-C28)	ND		5	1	03/09/11 19:08	NW	5741638
Surr: n-Pentacosane	83.3	%	20-154	1	03/09/11 19:08	NW	5741638

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	03/08/2011 14:35	QMT	1.00

GASOLINE RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Gasoline Range Organics	ND		0.1	1	03/05/11 2:48	WLV	5738476
Surr: 1,4-Difluorobenzene	96.9	%	63-142	1	03/05/11 2:48	WLV	5738476
Surr: 4-Bromofluorobenzene	106	%	50-159	1	03/05/11 2:48	WLV	5738476

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 9:51	XML	1.00

ION CHROMATOGRAPHY			**MCL**	**E300.0 MOD**	**Units: mg/kg**		
Chloride	111		5	1	03/04/11 16:13	ESK	5737822

VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/kg**		
Benzene	ND		5	1	03/08/11 20:22	TLE	5739779
Ethylbenzene	ND		5	1	03/08/11 20:22	TLE	5739779
Toluene	ND		5	1	03/08/11 20:22	TLE	5739779
m,p-Xylene	7.1		5	1	03/08/11 20:22	TLE	5739779
o-Xylene	ND		5	1	03/08/11 20:22	TLE	5739779
Xylenes,Total	7.1		5	1	03/08/11 20:22	TLE	5739779
Surr: 1,2-Dichloroethane-d4	95.6	%	71-130	1	03/08/11 20:22	TLE	5739779
Surr: 4-Bromofluorobenzene	101	%	65-131	1	03/08/11 20:22	TLE	5739779
Surr: Toluene-d8	107	%	75-136	1	03/08/11 20:22	TLE	5739779

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 9:49	XML	1.00

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
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

ACCUTEST LABORATORIES

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

Client Sample ID: B-2@30.0-32.0' **Collected:** 03/01/2011 16:00 **SPL Sample ID:** 11030104-04

Site: Bloomfield, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Diesel Range Organics (C10-C28)	ND		5	1	03/09/11 19:48	NW	5741639
Surr: n-Pentacosane	66.6	%	20-154	1	03/09/11 19:48	NW	5741639

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	03/08/2011 14:35	QMT	1.00

GASOLINE RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Gasoline Range Organics	ND		0.1	1	03/05/11 3:17	WLV	5738477
Surr: 1,4-Difluorobenzene	94.8	%	63-142	1	03/05/11 3:17	WLV	5738477
Surr: 4-Bromofluorobenzene	106	%	50-159	1	03/05/11 3:17	WLV	5738477

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 9:54	XML	1.00

ION CHROMATOGRAPHY			**MCL**	**E300.0 MOD**	**Units: mg/kg**		
Chloride	16.4		5	1	03/04/11 16:30	ESK	5737823

VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/kg**		
Benzene	ND		5	1	03/08/11 20:44	TLE	5739780
Ethylbenzene	ND		5	1	03/08/11 20:44	TLE	5739780
Toluene	ND		5	1	03/08/11 20:44	TLE	5739780
m,p-Xylene	9		5	1	03/08/11 20:44	TLE	5739780
o-Xylene	ND		5	1	03/08/11 20:44	TLE	5739780
Xylenes,Total	9		5	1	03/08/11 20:44	TLE	5739780
Surr: 1,2-Dichloroethane-d4	99.6	%	71-130	1	03/08/11 20:44	TLE	5739780
Surr: 4-Bromofluorobenzene	102	%	65-131	1	03/08/11 20:44	TLE	5739780
Surr: Toluene-d8	106	%	75-136	1	03/08/11 20:44	TLE	5739780

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 9:53	XML	1.00

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
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

ACCUTEST LABORATORIES

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

Client Sample ID: B-2@36.0-38.0' **Collected:** 03/01/2011 16:15 **SPL Sample ID:** 11030104-05

Site: Bloomfield, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS			**MCL**	**SW8015B**	**Units: mg/kg**		
Diesel Range Organics (C10-C28)	ND		5	1	03/09/11 20:28	NW	5741640
Surr: n-Pentacosane	83.7	%	20-154	1	03/09/11 20:28	NW	5741640

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	03/08/2011 14:35	QMT	1.00

GASOLINE RANGE ORGANICS				MCL	SW8015B	Units: mg/kg	
Gasoline Range Organics	ND		0.1	1	03/05/11 3:52	WLV	5738478
Surr: 1,4-Difluorobenzene	96.4	%	63-142	1	03/05/11 3:52	WLV	5738478
Surr: 4-Bromofluorobenzene	105	%	50-159	1	03/05/11 3:52	WLV	5738478

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 9:57	XML	1.00

ION CHROMATOGRAPHY			MCL	E300.0 MOD	Units: mg/kg	
Chloride	24		5	1	03/04/11 17:21	ESK	5737826

VOLATILE ORGANICS BY METHOD 8260B			MCL	SW8260B	Units: ug/kg	
Benzene	ND		5	1	03/08/11 21:05	TLE	5739781
Ethylbenzene	ND		5	1	03/08/11 21:05	TLE	5739781
Toluene	ND		5	1	03/08/11 21:05	TLE	5739781
m,p-Xylene	ND		5	1	03/08/11 21:05	TLE	5739781
o-Xylene	ND		5	1	03/08/11 21:05	TLE	5739781
Xylenes,Total	ND		5	1	03/08/11 21:05	TLE	5739781
Surr: 1,2-Dichloroethane-d4	98.4	%	71-130	1	03/08/11 21:05	TLE	5739781
Surr: 4-Bromofluorobenzene	103	%	65-131	1	03/08/11 21:05	TLE	5739781
Surr: Toluene-d8	105	%	75-136	1	03/08/11 21:05	TLE	5739781

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 9:55	XML	1.00

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
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

ACCUTEST LABORATORIES

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

Client Sample ID: B-3@26.0-28.0' **Collected:** 03/02/2011 9:55 **SPL Sample ID:** 11030104-06

Site: Bloomfield, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Diesel Range Organics (C10-C28)	10			5	1	03/09/11 21:08	NW	5741641
Surr: n-Pentacosane	86.9		%	20-154	1	03/09/11 21:08	NW	5741641

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	03/08/2011 14:35	QMT	1.00

GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Gasoline Range Organics	ND			0.1	1	03/05/11 4:21	WLV	5738479
Surr: 1,4-Difluorobenzene	96.6		%	63-142	1	03/05/11 4:21	WLV	5738479
Surr: 4-Bromofluorobenzene	105		%	50-159	1	03/05/11 4:21	WLV	5738479

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 10:01	XML	1.00

ION CHROMATOGRAPHY					**MCL**	**E300.0 MOD**	**Units: mg/kg**	
Chloride	97.4			10	2	03/04/11 17:38	ESK	5737827

VOLATILE ORGANICS BY METHOD 8260B					**MCL**	**SW8260B**	**Units: ug/kg**	
Benzene	ND			5	1	03/08/11 21:27	TLE	5739782
Ethylbenzene	ND			5	1	03/08/11 21:27	TLE	5739782
Toluene	ND			5	1	03/08/11 21:27	TLE	5739782
m,p-Xylene	7.4			5	1	03/08/11 21:27	TLE	5739782
o-Xylene	ND			5	1	03/08/11 21:27	TLE	5739782
Xylenes,Total	7.4			5	1	03/08/11 21:27	TLE	5739782
Surr: 1,2-Dichloroethane-d4	98.0		%	71-130	1	03/08/11 21:27	TLE	5739782
Surr: 4-Bromofluorobenzene	102		%	65-131	1	03/08/11 21:27	TLE	5739782
Surr: Toluene-d8	107		%	75-136	1	03/08/11 21:27	TLE	5739782

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 9:59	XML	1.00

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
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

ACCUTEST LABORATORIES

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

Client Sample ID: B-3@38.0-40.0' **Collected:** 03/02/2011 10:20 **SPL Sample ID:** 11030104-07

Site: Bloomfield, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Diesel Range Organics (C10-C28)	ND			5	1	03/09/11 21:49	NW	5741642
Surr: n-Pentacosane	52.0		%	20-154	1	03/09/11 21:49	NW	5741642

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3550B	03/08/2011 14:35	QMT	1.00

GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/kg**	
Gasoline Range Organics	ND			0.1	1	03/05/11 4:49	WLV	5738480
Surr: 1,4-Difluorobenzene	97.1		%	63-142	1	03/05/11 4:49	WLV	5738480
Surr: 4-Bromofluorobenzene	104		%	50-159	1	03/05/11 4:49	WLV	5738480

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 10:05	XML	1.00

ION CHROMATOGRAPHY					**MCL**	**E300.0 MOD**	**Units: mg/kg**	
Chloride	16.7			5	1	03/04/11 17:55	ESK	5737828

VOLATILE ORGANICS BY METHOD 8260B					**MCL**	**SW8260B**	**Units: ug/kg**	
Benzene	ND			5	1	03/08/11 21:48	TLE	5739783
Ethylbenzene	ND			5	1	03/08/11 21:48	TLE	5739783
Toluene	ND			5	1	03/08/11 21:48	TLE	5739783
m,p-Xylene	ND			5	1	03/08/11 21:48	TLE	5739783
o-Xylene	ND			5	1	03/08/11 21:48	TLE	5739783
Xylenes,Total	ND			5	1	03/08/11 21:48	TLE	5739783
Surr: 1,2-Dichloroethane-d4	99.9		%	71-130	1	03/08/11 21:48	TLE	5739783
Surr: 4-Bromofluorobenzene	101		%	65-131	1	03/08/11 21:48	TLE	5739783
Surr: Toluene-d8	105		%	75-136	1	03/08/11 21:48	TLE	5739783

Prep Method	Prep Date	Prep Initials	Prep Factor
SW5030B	03/04/2011 10:03	XML	1.00

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
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Diesel Range Organics
Method: SW8015B

WorkOrder: 11030104
Lab Batch ID: 105385

Method Blank

RunID: HP_V_110309A-5741634 Units: mg/kg
Analysis Date: 03/09/2011 15:06 Analyst: NW
Preparation Date: 03/08/2011 14:35 Prep By: QMT Method: SW3550B

Analyte	Result	Rep Limit
Diesel Range Organics (C10-C28)	ND	5.0
Surr: n-Pentacosane	112.0	20-154

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030104-01B	B-1@38.0-40.0'
11030104-02B	B-1@41.5-43.0'
11030104-03A	B-1@43.0-43.5'
11030104-04B	B-2@30.0-32.0'
11030104-05B	B-2@36.0-38.0'
11030104-06B	B-3@26.0-28.0'
11030104-07B	B-3@38.0-40.0'

Laboratory Control Sample (LCS)

RunID: HP_V_110309A-5741633 Units: mg/kg
Analysis Date: 03/09/2011 14:47 Analyst: NW
Preparation Date: 03/08/2011 14:35 Prep By: QMT Method: SW3550B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Diesel Range Organics (C10-C28)	33.3	34.4	103	57	150
Surr: n-Pentacosane	1.66	1.65	99.2	20	154

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

Sample Spiked: 11030104-01
RunID: HP_V_110309A-5741648 Units: mg/kg
Analysis Date: 03/10/2011 13:28 Analyst: NW
Preparation Date: 03/08/2011 14:35 Prep By: QMT 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 (C10-C28)	198	33.3	250	N/C	33.3	309	N/C	N/C	50	21	175
Surr: n-Pentacosane	ND	1.66	1.27	76.6	1.66	1.49	90.0	16.1	30	20	154

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

Version 2.1 - Modified February 11, 2011

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Gasoline Range Organics
Method: SW8015B

WorkOrder: 11030104
Lab Batch ID: R316686

Method Blank

RunID: HP_O_110304B-5738468 Units: mg/kg
Analysis Date: 03/04/2011 21:20 Analyst: WLV
Preparation Date: 03/04/2011 21:20 Prep By: Method: SW5030B

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	93.4	63-142
Surr: 4-Bromofluorobenzene	94.0	50-159

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030104-01B	B-1@38.0-40.0'
11030104-02B	B-1@41.5-43.0'
11030104-03A	B-1@43.0-43.5'
11030104-04B	B-2@30.0-32.0'
11030104-05B	B-2@36.0-38.0'
11030104-06B	B-3@26.0-28.0'
11030104-07B	B-3@38.0-40.0'

Methanolic Preparation Blank

RunID: HP_O_110304B-5738469 Units: mg/kg
Analysis Date: 03/04/2011 21:49 Analyst: WLV
Preparation Date: 03/04/2011 21:49 Prep By: Method: SW5030B

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	2.5
Surr: 1,4-Difluorobenzene	94.1	63-142
Surr: 4-Bromofluorobenzene	96.0	50-159

Laboratory Control Sample (LCS)

RunID: HP_O_110304B-5738467 Units: mg/kg
Analysis Date: 03/04/2011 20:52 Analyst: WLV
Preparation Date: 03/04/2011 20:52 Prep By: Method: SW5030B

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1.00	0.910	91.0	70	130
Surr: 1,4-Difluorobenzene	0.100	0.099	99.0	63	142
Surr: 4-Bromofluorobenzene	0.100	0.103	103	50	159

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
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Gasoline Range Organics
Method: SW8015B

WorkOrder: 11030104
Lab Batch ID: R316686

Sample Spiked: 11030104-02
RunID: HP_O_110304B-5738471 Units: mg/kg
Analysis Date: 03/05/2011 0:25 Analyst: WLV
Preparation Date: 03/04/2011 9:43 Prep By: XML Method: SW5030B

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	0.195	1	1.12	92.8	1	1.02	82.8	9.35	50	26	147
Surr: 1,4-Difluorobenzene	ND	0.1	0.105	105	0.1	0.103	103	2.12	30	63	142
Surr: 4-Bromofluorobenzene	ND	0.1	0.119	119	0.1	0.118	118	0.844	30	50	159

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

3/15/2011 9:04:33 AM

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Volatile Organics by Method 8260B **WorkOrder:** 11030104
Method: SW8260B **Lab Batch ID:** R316785

Method Blank

RunID: MSDVOA4_110308C-5739775 Units: ug/kg
Analysis Date: 03/08/2011 14:40 Analyst: TLE

Analyte	Result	Rep Limit
Benzene	ND	5.0
Ethylbenzene	ND	5.0
Toluene	ND	5.0
m,p-Xylene	ND	5.0
o-Xylene	ND	5.0
Xylenes,Total	ND	5.0
Surr: 1,2-Dichloroethane-d4	99.5	71-130
Surr: 4-Bromofluorobenzene	103.8	65-131
Surr: Toluene-d8	106.0	75-136

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030104-02A	B-1@41.5-43.0'
11030104-03A	B-1@43.0-43.5'
11030104-04A	B-2@30.0-32.0'
11030104-05A	B-2@36.0-38.0'
11030104-06A	B-3@26.0-28.0'
11030104-07A	B-3@38.0-40.0'

Laboratory Control Sample (LCS)

RunID: MSDVOA4_110308C-57397 Units: ug/kg
Analysis Date: 03/08/2011 12:38 Analyst: TLE

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	19.0	94.9	64	130
Ethylbenzene	20.0	20.2	101	58	143
Toluene	20.0	19.4	96.8	63	139
m,p-Xylene	40.0	41.1	103	64	137
o-Xylene	20.0	20.2	101	64	143
Xylenes,Total	60.0	61.3	102	64	143
Surr: 1,2-Dichloroethane-d4	50.0	49.5	99.0	71	130
Surr: 4-Bromofluorobenzene	50.0	52.4	105	65	131
Surr: Toluene-d8	50.0	51.8	104	75	136

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
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Volatile Organics by Method 8260B **WorkOrder:** 11030104
Method: SW8260B **Lab Batch ID:** R316785

Sample Spiked: 11030104-02
RunID: MSDVOA4_110308C-57397 Units: ug/kg
Analysis Date: 03/08/2011 19:18 Analyst: TLE
Preparation Date: 03/04/2011 9:48 Prep By: XML Method: SW5030B

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	16.9	83.5	20	17.1	84.5	1.18	21	49	135
Ethylbenzene	ND	20	18.6	90.4	20	19.4	94.3	4.16	30	39	135
Toluene	ND	20	17.5	84.9	20	17.8	86.5	1.77	21	49	133
m,p-Xylene	6.10	40	41.4	88.2	40	44.7	96.5	7.75	30	32	140
o-Xylene	ND	20	19.2	85.2	20	20.3	91.1	5.94	30	36	142
Xylenes,Total	8.22	60	60.6	87.2	60	65.0	94.7	7.18	30	32	142
Surr: 1,2-Dichloroethane-d4	ND	50	48.5	97.0	50	48.8	97.6	0.597	30	71	130
Surr: 4-Bromofluorobenzene	ND	50	52	104	50	52.1	104	0.236	30	65	131
Surr: Toluene-d8	ND	50	52.4	105	50	52.3	105	0.151	30	75	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
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

3/15/2011 9:04:33 AM

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Volatile Organics by Method 8260B **WorkOrder:** 11030104
Method: SW8260B **Lab Batch ID:** R316798

Method Blank

RunID: K_110308F-5739983 Units: ug/kg
Analysis Date: 03/08/2011 11:36 Analyst: LU_L

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030104-01A	B-1@38.0-40.0'

Analyte	Result	Rep Limit
Benzene	ND	5.0
Ethylbenzene	ND	5.0
Toluene	ND	5.0
m,p-Xylene	ND	5.0
o-Xylene	ND	5.0
Xylenes,Total	ND	5.0
Surr: 1,2-Dichloroethane-d4	94.9	71-130
Surr: 4-Bromofluorobenzene	98.6	65-131
Surr: Toluene-d8	101.1	75-136

Methanolic Preparation Blank

RunID: K_110308F-5739984 Units: ug/kg
Analysis Date: 03/08/2011 12:02 Analyst: LU_L

Analyte	Result	Rep Limit
Benzene	ND	250
Ethylbenzene	ND	250
Toluene	ND	250
m,p-Xylene	ND	250
o-Xylene	ND	250
Xylenes,Total	ND	250
Surr: 1,2-Dichloroethane-d4	97.7	78-116
Surr: 4-Bromofluorobenzene	99.8	74-125
Surr: Toluene-d8	102.0	82-118

Laboratory Control Sample (LCS)

RunID: K_110308F-5739982 Units: ug/kg
Analysis Date: 03/08/2011 11:10 Analyst: LU_L

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Volatile Organics by Method 8260B **WorkOrder:** 11030104
Method: SW8260B **Lab Batch ID:** R316798

Laboratory Control Sample (LCS)

RunID: K_110308F-5739982 Units: ug/kg
Analysis Date: 03/08/2011 11:10 Analyst: LU_L

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	20.7	103	74	123
Ethylbenzene	20.0	19.4	96.8	72	127
Toluene	20.0	19.4	97.0	74	126
m,p-Xylene	40.0	38.3	95.8	71	129
o-Xylene	20.0	19.5	97.4	74	130
Xylenes,Total	60.0	57.8	96.3	71	130
Surr: 1,2-Dichloroethane-d4	50.0	47.9	95.8	78	116
Surr: 4-Bromofluorobenzene	50.0	49	97.9	74	125
Surr: Toluene-d8	50.0	50.1	100	82	118

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

Sample Spiked: 11030073-02
RunID: K_110308F-5739986 Units: ug/kg
Analysis Date: 03/08/2011 16:52 Analyst: LU_L
Preparation Date: 03/02/2011 10:00 Prep By: Method: SW5035A

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	893	995	111	893	994	111	0.100	22	70	124
Ethylbenzene	ND	893	1110	104	893	1100	102	0.992	20	76	122
Toluene	ND	893	915	103	893	906	101	1.06	24	80	117
m,p-Xylene	ND	1790	1780	99.8	1790	1800	101	1.01	20	69	127
o-Xylene	ND	893	909	102	893	899	101	1.09	20	84	114
Xylenes,Total	ND	2679	2689	100.4	2679	2699	100.7	0.3074	20	69	127
Surr: 1,2-Dichloroethane-d4	ND	2230	2170	97.4	2230	2100	94.2	3.32	30	78	116
Surr: 4-Bromofluorobenzene	ND	2230	2230	100	2230	2170	97.1	3.08	30	74	125
Surr: Toluene-d8	ND	2230	2270	102	2230	2220	99.6	2.28	30	82	118

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

3/15/2011 9:04:34 AM

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis:	**Volatile Organics by Method 8260B**	**WorkOrder:**	**11030104**
Method:	**SW8260B**	**Lab Batch ID:**	**R316798**

Qualifiers:

ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Ion Chromatography
Method: E300.0 MOD

WorkOrder: 11030104
Lab Batch ID: R316642

Method Blank

RunID: IC2_110304B-5737816 Units: mg/kg
Analysis Date: 03/04/2011 14:31 Analyst: ESK

Analyte	Result	Rep Limit
Chloride	ND	5.0

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030104-01B	B-1@38.0-40.0'
11030104-02B	B-1@41.5-43.0'
11030104-03A	B-1@43.0-43.5'
11030104-04B	B-2@30.0-32.0'
11030104-05B	B-2@36.0-38.0'
11030104-06B	B-3@26.0-28.0'
11030104-07B	B-3@38.0-40.0'

Laboratory Control Sample (LCS)

RunID: IC2_110304B-5737817 Units: mg/kg
Analysis Date: 03/04/2011 14:48 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Chloride	100.0	98.22	98.22	90	110

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

Sample Spiked: 11030104-04
RunID: IC2_110304B-5737824 Units: mg/kg
Analysis Date: 03/04/2011 16:47 Analyst: ESK

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	16.37	50	58.39	84.04	50	57.56	82.38	1.432	15	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
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

3/15/2011 9:04:34 AM

Sample Receipt Checklist

And

Chain of Custody

ACCUTEST LABORATORIES

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

Sample Receipt Checklist

Workorder:	11030104	Received By:	NB
Date and Time Received:	3/3/2011 9:20:00 AM	Carrier name:	Fedex-Standard Overnight
Temperature:	2.0/2.0°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 received?	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 ☐	VOA Vials Not Present ☑	
13. Water - Preservation checked upon receipt (except VOA*)?	Yes ☐	No ☐	Not Applicable ☑	

*VOA Preservation Checked After Sample Analysis

SPL Representative: | Contact Date & Time:

Client Name Contacted:

Non Conformance Issues: 1. No analysis was listed marked off on COC. Logged in per clients request.

Client Instructions:

SPL, Inc.
Analysis Request & Chain of Custody Record

SPL Workorder No.: 306322
1103104
page 1 of 1

Client Name: CONOCO Phillips / Tetra Tech
Address: 6121 Indian School Rd NE Ste. 200
City: Albuquerque. State: NM Zip: 87110
Phone/Fax: (505) 237-8440
Client Contact: Kelly Blanchard Email: Kelly.Blanchard@TetraTech.com
Project Name/No.: MARTIN 34 No. 2
Site Name:
Site Location: Bloomfield NM
Invoice To: Ph:

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil O=oil A=air SL=sludge E=encore 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: 8260 - BTEX	Requested Analysis: TPH - DRO/GRO
B-1 @ 38.0 - 40.0'	03-1-11	1405		X	S	G	8,16	-	2		
B-1 @ 41.5-43.0'	03-1-11	1410		X	S	G	8,16	-	2		
B-1 @ 43.0-43.5'	03-1-11	1430		X	S	G	8,16	-	1		
B-2 @ 30.0-32.0'	03-1-11	1600		X	S	G	8,16	-	2		
B-2 @ 36.0-38.0'	03-1-11	1615		X	S	G	8,16	-	2		
B-3 @ 26.0-28.0'	03-2-11	0955		X	S	G	8,16	-	2		
B-3 @ 38.0-40.0'	03-2-11	1020		X	S	G	8,16	-	2		

Client/Consultant Remarks:

Laboratory remarks: Add chloride to all samples per client request.

Intact? ☐ Y ☐ N
Ice? ☐ Y ☐ N
Temp:

Requested TAT
☐ 1 Business Day ☐ Contract
☐ 2 Business Days ☒ Standard
☐ 3 Business Days
☐ Other
Rush TAT requires prior notice

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):

1. Relinquished by Sampler: BHAZA	date 03-02-11	time	2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 3/3/11	time 0920	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

ACCUTEST LABORATORIES

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

Conoco Phillips

Certificate of Analysis Number:

11030106

Report To:		Project Name:	Martin 34 No.2
Tetra Tech, Inc. Kelly Blanchard 6121 Indian School Road, N.E. Suite 200 Albuquerque NM 87110-		Site:	Bloomfield, NM
		Site Address:	
		PO Number:	
		State:	New Mexico
		State Cert. No.:	
ph: (505) 237-8440	fax: (505) 881-3283	Date Reported:	3/15/2011

This Report Contains A Total Of 16 Pages

Excluding This Page, Chain Of Custody

And

Any Attachments

3/15/2011

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

ACCUTEST LABORATORIES

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

Case Narrative for:

Conoco Phillips

Certificate of Analysis Number:

11030106

Report To:		Project Name:	Martin 34 No.2
Tetra Tech, Inc.		Site:	Bloomfield, NM
Kelly Blanchard		Site Address:	
6121 Indian School Road, N.E.			
Suite 200		PO Number:	
Albuquerque		State:	New Mexico
NM		State Cert. No.:	
87110-		Date Reported:	3/15/2011
ph: (505) 237-8440	fax: (505) 881-3283		

I. SAMPLE RECEIPT:

All samples were received intact. The internal ice chest temperatures were measured on receipt and are recorded on the attached Sample Receipt Checklist.

II: ANALYSES AND EXCEPTIONS:

SW8260B Volatile Organics:

The pH of sample ID's "B-2", "B-3", and "DUP" (Laboratory ID's: 11030106-01, -02, and -03) was checked at the time of the Volatile Organics analysis and the pH was greater than 2. Although the samples were collected in VOA vials preserved with HCl, the samples were not properly preserved to a pH less than 2, which may be due to the matrix of the samples. The analyses of the samples were completed within seven days of the collection date.

SW8015B Diesel Range Organics:

Due to limited sample volume, a Matrix Spike (MS) or Matrix Spike Duplicate (MSD) was not extracted for Batch ID: 105353. 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). The LCS and LCSD recovered acceptably and precision criteria were met.

III. GENERAL REPORTING COMMENTS:

Results are reported on a wet weight basis unless dry-weight correction is denoted in the units field on the analytical report (" mg\kg-dry " or " ug\kg-dry ").

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.

Some of the percent recoveries and RPD's on the QC report for the MS/MSD may be different than the calculated recoveries and RPD's using the sample result and the MS/MSD results that appear on the report because, the actual raw result is used to perform the calculations for percent recovery and RPD.

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

3/15/2011

Erica Cardenas
Project Manager

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

ACCUTEST LABORATORIES

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

Case Narrative for:

Conoco Phillips

Certificate of Analysis Number:

11030106

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.

I certify that this data package is in compliance with the terms and conditions of the contract, both technically and for completeness, for other than the conditions detailed above. Release of the data contained in this hardcopy data package has been authorized by the Laboratory Manager or by his designee, as verified by the following signature.

3/15/2011

Erica Cardenas
Project Manager

Date

Test results meet all requirements of NELAC, unless specified in the narrative.

ACCUTEST LABORATORIES

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

Conoco Phillips

Certificate of Analysis Number:

11030106

Report To: Tetra Tech, Inc.
Kelly Blanchard
6121 Indian School Road, N.E.
Suite 200
Albuquerque
NM
87110-
ph: (505) 237-8440 fax: (505) 881-3283

Fax To:

Project Name: Martin 34 No.2
Site: Bloomfield, NM
Site Address:
PO Number:
State: New Mexico
State Cert. No.:
Date Reported: 3/15/2011

Client Sample ID	Lab Sample ID	Matrix	Date Collected	Date Received	COC ID	HOLD
B-2	11030106-01	Water	03/02/2011 8:00	3/3/2011 9:20:00 AM	306321	☐
B-3	11030106-02	Water	03/02/2011 11:30	3/3/2011 9:20:00 AM	306321	☐
DUP	11030106-03	Water	03/02/2011 12:00	3/3/2011 9:20:00 AM	306321	☐

Erica Cardenas
Project Manager

3/15/2011
Date

Kesavalu M. Bagawandoss Ph.D., J.D.
Laboratory Director

Ted Yen
Quality Assurance Officer

ACCUTEST LABORATORIES

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

Client Sample ID: B-2 **Collected:** 03/02/2011 8:00 **SPL Sample ID:** 11030106-01

Site: Bloomfield, NM

Analyses/Method	Result	QUAL		Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/L**	
Diesel Range Organics (C10-C28)	3.1			0.2	2	03/08/11 20:14	NW	5740785
Surr: n-Pentacosane	46.4		%	20-150	2	03/08/11 20:14	NW	5740785

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3510C	03/07/2011 12:10	A_G	1.00

GASOLINE RANGE ORGANICS					**MCL**	**SW8015B**	**Units: mg/L**	
Gasoline Range Organics	1.5			0.5	5	03/07/11 16:22	NMa	5738802
Surr: 1,4-Difluorobenzene	96.3		%	60-155	5	03/07/11 16:22	NMa	5738802
Surr: 4-Bromofluorobenzene	110		%	50-158	5	03/07/11 16:22	NMa	5738802
ION CHROMATOGRAPHY					**MCL**	**E300.0**	**Units: mg/L**	
Chloride	352			25	50	03/05/11 14:14	ESK	5737873
VOLATILE ORGANICS BY METHOD 8260B					**MCL**	**SW8260B**	**Units: ug/L**	
Benzene	920			10	10	03/08/11 12:56	LU_L	5739957
Ethylbenzene	120			1	1	03/08/11 1:15	LU_L	5739160
Toluene	3.7			1	1	03/08/11 1:15	LU_L	5739160
m,p-Xylene	5.6			2	1	03/08/11 1:15	LU_L	5739160
o-Xylene	ND			1	1	03/08/11 1:15	LU_L	5739160
Xylenes,Total	5.6			1	1	03/08/11 1:15	LU_L	5739160
Surr: 1,2-Dichloroethane-d4	94.5		%	70-130	10	03/08/11 12:56	LU_L	5739957
Surr: 1,2-Dichloroethane-d4	96.9		%	70-130	1	03/08/11 1:15	LU_L	5739160
Surr: 4-Bromofluorobenzene	98.2		%	74-125	10	03/08/11 12:56	LU_L	5739957
Surr: 4-Bromofluorobenzene	98.2		%	74-125	1	03/08/11 1:15	LU_L	5739160
Surr: Toluene-d8	99.3		%	82-118	10	03/08/11 12:56	LU_L	5739957
Surr: Toluene-d8	100		%	82-118	1	03/08/11 1:15	LU_L	5739160

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
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

ACCUTEST LABORATORIES

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

Client Sample ID: B-3 **Collected:** 03/02/2011 11:30 **SPL Sample ID:** 11030106-02

Site: Bloomfield, NM

Analyses/Method	Result	QUAL	Rep.Limit		Dil. Factor	Date Analyzed	Analyst	Seq. #
DIESEL RANGE ORGANICS				**MCL**	**SW8015B**	**Units: mg/L**		
Diesel Range Organics (C10-C28)	5.9		0.5		5	03/08/11 20:54	NW	5740786
Surr: n-Pentacosane	91.6		% 20-150		5	03/08/11 20:54	NW	5740786

Prep Method	Prep Date	Prep Initials	Prep Factor
SW3510C	03/07/2011 12:10	A_G	1.00

GASOLINE RANGE ORGANICS				**MCL**	**SW8015B**	**Units: mg/L**		
Gasoline Range Organics	3.1		0.5		5	03/07/11 15:51	NMa	5738801
Surr: 1,4-Difluorobenzene	100		% 60-155		5	03/07/11 15:51	NMa	5738801
Surr: 4-Bromofluorobenzene	121		% 50-158		5	03/07/11 15:51	NMa	5738801
ION CHROMATOGRAPHY				**MCL**	**E300.0**	**Units: mg/L**		
Chloride	316		25		50	03/05/11 15:05	ESK	5737876
VOLATILE ORGANICS BY METHOD 8260B				**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	160		1		1	03/08/11 0:20	LU_L	5739158
Ethylbenzene	110		1		1	03/08/11 0:20	LU_L	5739158
Toluene	ND		1		1	03/08/11 0:20	LU_L	5739158
m,p-Xylene	250		2		1	03/08/11 0:20	LU_L	5739158
o-Xylene	ND		1		1	03/08/11 0:20	LU_L	5739158
Xylenes,Total	250		1		1	03/08/11 0:20	LU_L	5739158
Surr: 1,2-Dichloroethane-d4	100		% 70-130		1	03/08/11 0:20	LU_L	5739158
Surr: 4-Bromofluorobenzene	99.9		% 74-125		1	03/08/11 0:20	LU_L	5739158
Surr: Toluene-d8	101		% 82-118		1	03/08/11 0:20	LU_L	5739158

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
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

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

Client Sample ID: DUP **Collected:** 03/02/2011 12:00 **SPL Sample ID:** 11030106-03

Site: Bloomfield, NM

Analyses/Method	Result	QUAL	Rep.Limit	Dil. Factor	Date Analyzed	Analyst	Seq. #
VOLATILE ORGANICS BY METHOD 8260B			**MCL**	**SW8260B**	**Units: ug/L**		
Benzene	160		1	1	03/08/11 0:49	LU_L	5739159
Ethylbenzene	110		1	1	03/08/11 0:49	LU_L	5739159
Toluene	ND		1	1	03/08/11 0:49	LU_L	5739159
m,p-Xylene	250		2	1	03/08/11 0:49	LU_L	5739159
o-Xylene	ND		1	1	03/08/11 0:49	LU_L	5739159
Xylenes,Total	250		1	1	03/08/11 0:49	LU_L	5739159
Surr: 1,2-Dichloroethane-d4	96.6	%	70-130	1	03/08/11 0:49	LU_L	5739159
Surr: 4-Bromofluorobenzene	102	%	74-125	1	03/08/11 0:49	LU_L	5739159
Surr: Toluene-d8	102	%	82-118	1	03/08/11 0:49	LU_L	5739159

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
E - Estimated Value exceeds calibration curve
TNTC - Too numerous to count
>MCL - Result Over Maximum Contamination Limit(MCL)
D - Surrogate Recovery Unreportable due to Dilution
MI - Matrix Interference

Quality Control Documentation

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Diesel Range Organics
Method: SW8015B

WorkOrder: 11030106
Lab Batch ID: 105353

Method Blank

RunID: HP_V_110307A-5740778 Units: mg/L
Analysis Date: 03/07/2011 19:48 Analyst: NW
Preparation Date: 03/07/2011 12:10 Prep By: A_G Method: SW3510C

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030106-01C	B-2
11030106-02C	B-3

Analyte	Result	Rep Limit
Diesel Range Organics (C10-C28)	ND	0.10
Surr: n-Pentacosane	101.8	20-150

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

RunID: HP_V_110307A-5740779 Units: mg/L
Analysis Date: 03/07/2011 20:08 Analyst: NW
Preparation Date: 03/07/2011 12:10 Prep By: A_G 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
Diesel Range Organics (C10-C28)	1.00	0.922	92.2	1.00	0.864	86.4	6.6	39	21	130
Surr: n-Pentacosane	0.0500	0.0433	86.6	0.0500	0.0436	87.2	0.7	30	20	150

Qualifiers:
ND/U - Not Detected at the Reporting Limit
B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

QC results presented on the QC Summary Report have been rounded. RPD and percent recovery values calculated by the SPL LIMS system are derived from QC data prior to the application of rounding rules.

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Gasoline Range Organics
Method: SW8015B

WorkOrder: 11030106
Lab Batch ID: R316715

Method Blank

RunID: HP_U_110307A-5738796 Units: mg/L
Analysis Date: 03/07/2011 10:06 Analyst: NMa

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030106-01B	B-2
11030106-02B	B-3

Analyte	Result	Rep Limit
Gasoline Range Organics	ND	0.10
Surr: 1,4-Difluorobenzene	97.3	60-155
Surr: 4-Bromofluorobenzene	102.7	50-158

Laboratory Control Sample (LCS)

RunID: HP_U_110307A-5738797 Units: mg/L
Analysis Date: 03/07/2011 10:36 Analyst: NMa

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Gasoline Range Organics	1.00	0.984	98.4	42	136
Surr: 1,4-Difluorobenzene	0.100	0.101	101	60	155
Surr: 4-Bromofluorobenzene	0.100	0.108	108	50	158

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

Sample Spiked: 11030153-03
RunID: HP_U_110307A-5738804 Units: mg/L
Analysis Date: 03/07/2011 17:25 Analyst: NMa

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	0.927	92.7	1	0.944	94.4	1.82	36	22	174
Surr: 1,4-Difluorobenzene	ND	0.1	0.0987	98.7	0.1	0.102	102	3.58	30	60	155
Surr: 4-Bromofluorobenzene	ND	0.1	0.106	106	0.1	0.109	109	2.97	30	50	158

Qualifiers:

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B - Analyte Detected In The Associated Method Blank
J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
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.
TNTC - Too numerous to count

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3/15/2011 9:14:50 AM

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 11030106
Lab Batch ID: R316740

Method Blank

RunID: K_110307D-5739154 Units: ug/L
Analysis Date: 03/07/2011 15:31 Analyst: LU_L

Analyte	Result	Rep Limit
Benzene	ND	1.0
Ethylbenzene	ND	1.0
Toluene	ND	1.0
m,p-Xylene	ND	2.0
o-Xylene	ND	1.0
Xylenes,Total	ND	1.0
Surr: 1,2-Dichloroethane-d4	97.4	70-130
Surr: 4-Bromofluorobenzene	99.3	74-125
Surr: Toluene-d8	101.3	82-118

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030106-01A	B-2
11030106-02A	B-3
11030106-03A	DUP

Laboratory Control Sample (LCS)

RunID: K_110307D-5739153 Units: ug/L
Analysis Date: 03/07/2011 15:06 Analyst: LU_L

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	21.8	109	74	123
Ethylbenzene	20.0	20.4	102	72	127
Toluene	20.0	21.3	107	74	126
m,p-Xylene	40.0	40.6	102	71	129
o-Xylene	20.0	20.7	103	74	130
Xylenes,Total	60.0	61.3	102	71	130
Surr: 1,2-Dichloroethane-d4	50.0	47.1	94.2	70	130
Surr: 4-Bromofluorobenzene	50.0	49.6	99.2	74	125
Surr: Toluene-d8	50.0	51	102	82	118

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

Qualifiers:
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J - Estimated Value Between MDL And PQL
E - Estimated Value exceeds calibration curve
MI - Matrix Interference
D - Recovery Unreportable due to Dilution
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Version 2.1 - Modified February 11, 2011

ACCUTEST LABORATORIES

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 11030106
Lab Batch ID: R316740

Sample Spiked: 11030146-22
RunID: K_110307D-5739156 Units: ug/L
Analysis Date: 03/07/2011 18:37 Analyst: LU_L

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	21.0	105	20	21.3	106	1.24	22	70	124
Ethylbenzene	ND	20	19.2	95.9	20	18.9	94.7	1.27	20	76	122
Toluene	ND	20	19.6	97.8	20	19.5	97.6	0.271	24	80	117
m,p-Xylene	ND	40	37.8	94.4	40	37.8	94.5	0.106	20	69	127
o-Xylene	ND	20	19.2	95.9	20	19.2	96.1	0.307	20	84	114
Xylenes,Total	ND	60	57	95	60	57	95	0.17	20	69	127
Surr: 1,2-Dichloroethane-d4	ND	50	47.4	94.8	50	49.8	99.5	4.88	30	70	130
Surr: 4-Bromofluorobenzene	ND	50	50.1	100	50	48.8	97.6	2.68	30	74	125
Surr: Toluene-d8	ND	50	50.7	101	50	49.4	98.7	2.59	30	82	118

Qualifiers:
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3/15/2011 9:14:51 AM

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

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 11030106
Lab Batch ID: R316795

Method Blank

RunID: K_110308C-5739956 Units: ug/L
Analysis Date: 03/08/2011 11:36 Analyst: LU_L

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030106-01A	B-2

Analyte	Result	Rep Limit
Benzene	ND	1.0
Surr: 1,2-Dichloroethane-d4	94.9	70-130
Surr: 4-Bromofluorobenzene	98.6	74-125
Surr: Toluene-d8	101.1	82-118

Laboratory Control Sample (LCS)

RunID: K_110308C-5739955 Units: ug/L
Analysis Date: 03/08/2011 11:10 Analyst: LU_L

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Benzene	20.0	20.7	103	74	123
Surr: 1,2-Dichloroethane-d4	50.0	47.9	95.8	70	130
Surr: 4-Bromofluorobenzene	50.0	49	97.9	74	125
Surr: Toluene-d8	50.0	50.1	100	82	118

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

Sample Spiked: 11030106-01
RunID: K_110308C-5739958 Units: ug/L
Analysis Date: 03/08/2011 13:21 Analyst: LU_L

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	920	200	1040	N/C	200	1050	N/C	N/C	22	70	124
Surr: 1,2-Dichloroethane-d4	ND	500	474	94.8	500	467	93.4	1.48	30	70	130

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D - Recovery Unreportable due to Dilution
* - Recovery Outside Advisable QC Limits
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HOUSTON, TX 77054
(713) 660-0901

Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Volatile Organics by Method 8260B
Method: SW8260B
WorkOrder: 11030106
Lab Batch ID: R316795

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

Sample Spiked: 11030106-01
RunID: K_110308C-5739958 Units: ug/L
Analysis Date: 03/08/2011 13:21 Analyst: LU_L

Analyte	Sample Result	MS Spike Added	MS Result	MS % Recovery	MSD Spike Added	MSD Result	MSD % Recovery	RPD	RPD Limit	Low Limit	High Limit
Surr: 4-Bromofluorobenzene	ND	500	513	103	500	509	102	0.731	30	74	125
Surr: Toluene-d8	ND	500	507	101	500	498	99.5	1.90	30	82	118

Qualifiers:
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B - Analyte Detected In The Associated Method Blank
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HOUSTON, TX 77054
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Quality Control Report

Conoco Phillips

Martin 34 No.2

Analysis: Ion Chromatography
Method: E300.0

WorkOrder: 11030106
Lab Batch ID: R316644A

Method Blank

RunID: IC2_110305B-5737863 Units: mg/L
Analysis Date: 03/05/2011 11:24 Analyst: ESK

Analyte	Result	Rep Limit
Chloride	ND	0.50

Samples in Analytical Batch:

Lab Sample ID	Client Sample ID
11030106-01D	B-2
11030106-02D	B-3

Laboratory Control Sample (LCS)

RunID: IC2_110305B-5737864 Units: mg/L
Analysis Date: 03/05/2011 11:41 Analyst: ESK

Analyte	Spike Added	Result	Percent Recovery	Lower Limit	Upper Limit
Chloride	10.00	9.416	94.16	90	110

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

Sample Spiked: 11030106-01
RunID: IC2_110305B-5737874 Units: mg/L
Analysis Date: 03/05/2011 14:31 Analyst: ESK

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	351.8	250	619.4	107.0	250	609.7	103.2	1.577	15	80	120

Qualifiers:

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E - Estimated Value exceeds calibration curve
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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Sample Receipt Checklist

And

Chain of Custody

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LABORATORIES

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

Sample Receipt Checklist

Workorder:	11030106	Received By:	NB
Date and Time Received:	3/3/2011 9:20:00 AM	Carrier name:	Fedex-Standard Overnight
Temperature:	3.0/3.0°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 received?	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	☐	VOA Vials Not Present ☐
13.	Water - Preservation checked upon receipt (except VOA*)?	Yes	☑	No	☐	Not Applicable ☐

*VOA Preservation Checked After Sample Analysis

SPL Representative: _____ Contact Date & Time: _____

Client Name Contacted: _____

Non Conformance Issues: _____

Client Instructions: _____

SPL, Inc.
Analysis Request & Chain of Custody Record

SPL Workorder No. 306321
1103010

page 1 of 1

Client Name: CONOCO PhilliPS / Tetra Tech
Address: 6121 Indian School Rd NE STE 200
City Albuquerque State NM Zip 87110
Phone/Fax: (505) 237-8440
Client Contact: Kelly Blanchard Email: Kelly.blanchard@Tetratech.com
Project Name/No.: martin 34 No. 2
Site Name:
Site Location: Bloomfield NM
Invoice To: Ph:

SAMPLE ID	DATE	TIME	comp	grab	matrix (W=water S=soil O=oil A=air SL=sludge E=encore 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: 8260 - BTEX	TPH - DRO/GRO	Chloride
B-2	03-2-11	0800		X	W	P/G/A	1/40/X	1	9	X	X	X
B-3	03-2-11	1130		X	W	"	"	"	9	X	X	X
DUP	03-2-11	1200		X	W	V	40	1	3	X		

Client/Consultant Remarks:
Laboratory remarks:
Intact? Y N
Ice? Y N
Temp 3.0 3.5

Requested TAT
- 1 Business Day
- 2 Business Days
- 3 Business Days
- Contract
- Standard
- Other
Rush TAT requires prior notice

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: BRAZA	03-2-11		2. Received by:
3. Relinquished by:	date	time	4. Received by:
5. Relinquished by:	date 3/3/11	time 0820	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