# 3R - 429

# **RP WORKPLAN**

# 04/13/2011

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)

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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. <u>TBD</u>

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

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Appendix C – Soil Boring Log, Soil Sampling, Monitoring Well Completion, Groundwater Sampling Field Forms

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### I.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<br>landowner subsequently discovered hydrocarbon-stained soil in the<br>vicinity while regrading the area. ConocoPhillips obtained samples of<br>the soil following notification from the landowner.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| December 6, 2010                                    | Laboratory analytical results from the soil samples collected on<br>December 3, 2010 revealed hydrocarbons in excess of regulatory<br>standards.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| January 12 through<br>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 20 <sup>th</sup> 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 I <sup>st</sup> and 2 <sup>nd</sup> ,<br>2011 | Tetra Tech supervised a direct-push Geoprobe rig to delineate soil<br>impacts. Boring B-I was advanced in the backfilled area of the former<br>excavation. Boring B-2 was advanced north of B-I, approximately 10<br>feet from the edge of the excavation. Boring B-3 was advanced about<br>halfway up the sloped ramp/bench on the south side of the former<br>excavation, southwest of B-I( <b>Figure 2</b> ). With the exception of the<br>sample collected from B-I at 38-40 feet bgs, all laboratory soil samples<br>collected from all borings were either below laboratory detection<br>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-I 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-I, 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  $\mu$ g/L and chloride at 352  $\mu$ g/L. Groundwater collected from B-3 contained a concentration of benzene at 10  $\mu$ g/L and a concentration of chloride at 316  $\mu$ g/L. The NMWQCC standard for benzene is 10  $\mu$ g/L. The NMWQCC standard for chloride is 30  $\mu$ g/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 1<sup>st</sup> and 2<sup>nd</sup>, 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

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- 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
  - o Bicarbonate/carbonate, EPA Method 310.1
  - o 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 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)

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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
  - o 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 semiannual 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-ofcustody 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.

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### 7.0 ESTIMATED TIMELINE



Environmental Work Plan

### **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).

2.)

### FIGURES

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







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## **APPENDIX A**

### Analytical Results Summary Tables

ConocoPhillips Company Martin 34 No. 2

| Appendix A. Martin 34 No. 2 Site Soil | <b>Boring Laboratory</b> | Analytical Res | sults            |                    |                    |                       |                       |                  |                  |       |
|---------------------------------------|--------------------------|----------------|------------------|--------------------|--------------------|-----------------------|-----------------------|------------------|------------------|-------|
| Constitu                              | ient                     |                |                  |                    | Sample ID (        | soil samples collecte | d 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              | 9                  | <5                 | <5                    | <5                    | 10               | <5               | 100   |
| 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

| Constit                | uent   | 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Sample ID (collecte | ed March 2nd, 2011) |                 |
|------------------------|--------|---------------------------------------|---------------------|---------------------|-----------------|
| VOCs (BTEX only)       | Method | Units                                 | B-2 Water           | B-3 Water           | NMWQCC Standard |
| Benzene                | 8260B  | hg/L                                  | 920                 | 160                 | 10              |
| Toluene                | 8260B  | hg/L                                  | 3.7                 | <1                  | 750             |
| Ethylbenzene           | 8260B  | hg/L                                  | 120                 | 110                 | 750             |
| Total Xylenes          | 8260B  | hg/L                                  | 5.6                 | 250                 | 620             |
| Chloride               | Method | Units                                 | B-2 Water           | B-3 Water           | NMWQCC Standard |
| Chloride               | 300    | hg/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              |

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 Notes: B = soil boring NMOCD = New Mexico Oil Conservation Division recommended action level NMWQCC = New Mexico Water Quality Control Commission Standard

Environmental Work Plan

APPENDIX B Soil Boring Logs



| PROJEC                  |               | IE: Mart       | in 34 No. 2              |                                                                                   | SOIL BORING NO. B-2                                                                                                         |                    | 1.41             |                     |
|-------------------------|---------------|----------------|--------------------------|-----------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------|--------------------|------------------|---------------------|
| LOCATIC                 | N: Sa         | in Juan        | County, NM               |                                                                                   | DRILL TYPE: Geoprobe 540-UD                                                                                                 |                    | 1997             |                     |
| FIELD LC                | GGE           | BY: B          | ernie Lauctes            |                                                                                   | Direct Push                                                                                                                 | 100                | 1- 14 8          |                     |
| ELEVATI                 | ON: G         | ROUND          | SURFACE (msl): 5773      |                                                                                   | BORE HOLE DIAMETER: 2.25 inches                                                                                             | 1.5                | 1                |                     |
| GROUND                  | WATE          |                | /ATION (msl): ~ 5733 fe  | et                                                                                | DRILLED BY: JR Drilling                                                                                                     | 1                  | 1                |                     |
| REMARK                  | S: On         | ce total       | depth was reached and    | a GW sample collected,                                                            | DATE/TIME: HOLE STARTED: March 1,                                                                                           | 2011 -             | 1500             | 1.5                 |
|                         | bo            | ring was       | backfilled with hydrated | bentonite to surface.                                                             | DATE/TIME: COMPLETED: March 2,                                                                                              | 2011 - 1           | 2:45             | _                   |
|                         | All           | depths         | are measured from grou   | ind surface.                                                                      |                                                                                                                             |                    | 2                |                     |
| ELEVATION<br>(msl) - ft | SAMPLE TO LAB | SAMPLE ID      |                          | CLASSIFICA<br>AND DESCRI                                                          | TION<br>PTION                                                                                                               | <b>USCS SYMBOL</b> | PID RESULT (ppm) | DEPTH<br>(bgs) - ft |
| 5770 -                  | -             |                |                          | SAND, silty: Light brown some silt.                                               | , damp, loose, subrounded, sand with                                                                                        | SM                 | 5.2              | -0<br>-5            |
| 5765 -                  |               |                |                          | CLAY: Brown, damp, firr with trace silt and sand.                                 | n, subrounded, stratified, non plastic, clay<br>White crystalline veins observed.                                           | M                  | 6.2              | - 10                |
| 5760 -                  |               |                |                          | SAND, silty: Light brown<br>and some thin clay lense<br>veins observed in clay le | , damp, loose, subrounded, sand with silt<br>es with silt and sand. White crystalline<br>enses.                             | SM                 | 14.5             | - 15                |
| 5755 -                  |               |                |                          | SILT: Brown, damp, loos                                                           | se, stratified, non plastic, silt with coarse                                                                               | - Cim              | 5.3              | - 20                |
| 5750 -                  |               |                |                          | sand observed between                                                             | 24 and 28 ft bgs.                                                                                                           | MI                 | 9.7              | - 25                |
| 5745 -                  | -             |                |                          |                                                                                   |                                                                                                                             | WIL                | 6.5              |                     |
|                         | ×             | B-2            |                          | CLAY: Brown, damp, firr<br>with silt and sand.                                    | n, subrounded, stratified, non plastic, clay \                                                                              | ~                  | 9.8              | - 30                |
| 5740 -                  |               | (36-38)        |                          | SAND, silty: Light brown with some silt.                                          | , damp, loose, subrounded, stratified sand                                                                                  | CL                 | 6.2              | - 35                |
|                         |               |                |                          |                                                                                   |                                                                                                                             | SM                 | 9.7              | 00                  |
| 5735 -                  | X             | B-2<br>(36-38) |                          | CLAY: Brown, damp to<br>stratified, low plasticity,<br>veins observed. Color cl   | wet @ 40 ft bgs, firm, subrounded,<br>clay with silt and sand. White crystalline<br>nanged from brown to gray at 43 ft bgs. |                    | 3.3<br>4.1       | - 40                |
|                         |               |                |                          |                                                                                   |                                                                                                                             | CL                 | 6.6              |                     |
| 5730 -                  |               |                |                          | SAND: Gray, saturated, coarse grained sand.                                       | loose, subrounded, stratified, fine to                                                                                      | 614                | 2.1              | - 45                |
|                         | 1             | 1.1            |                          | CLAY: Brown, wet, soft,                                                           | subrounded, stratified, low plasticity, clay                                                                                | CL                 | 9.3              |                     |
| 5725 -                  | L             |                |                          | with silt and sand. White                                                         | crystalline veins observed.                                                                                                 | UL                 | 0.0              |                     |

Total depth = -48 feet

TE TETRA TECH

| PROJEC                  | TNAM          | IE: Mart       | in 34 No. 2              |                                                         | SOIL BORING NO. B-3                                                                |             |                  |                     |
|-------------------------|---------------|----------------|--------------------------|---------------------------------------------------------|------------------------------------------------------------------------------------|-------------|------------------|---------------------|
| LOCATIO                 | N: Sa         | in Juan (      | County, NM               |                                                         | DRILL TYPE: Geoprobe 540-UD                                                        |             |                  |                     |
| FIELD LO                | GGE           | BY: B          | ernie Lauctes            |                                                         | Direct Push                                                                        |             |                  |                     |
| ELEVATIO                | ON: G         | ROUND          | SURFACE (msl): 5770      |                                                         | BORE HOLE DIAMETER: 2.25 inches                                                    |             |                  |                     |
| ROUND                   | WATE          | RELEV          | /ATION (msl): ~ 5730 fe  | et                                                      | DRILLED BY: JR Drilling                                                            | -           |                  |                     |
| REMARK                  | S: On         | ce total       | depth was reached and    | a GW sample collected,                                  | DATE/TIME: HOLE STARTED: March 2                                                   | , 2011 -    | 0900             |                     |
|                         | bo            | ring was       | backfilled with hydrated | bentonite to surface.                                   | DATE/TIME: COMPLETED: March 2,                                                     | 2011 -      | 12:45            |                     |
|                         | All           | depths a       | are measured from grou   | nd surface.                                             |                                                                                    |             |                  |                     |
| ELEVATION<br>(msl) - ft | SAMPLE TO LAB | SAMPLE ID      |                          | CLASSIFICAT<br>AND DESCRIF                              | FION<br>PTION                                                                      | USCS SYMBOL | PID RESULT (ppm) | DEPTH<br>(has) - ft |
| 5770 -                  |               |                |                          | SAND, silty: Light brown<br>some silt. Sand fine to m   | , damp, loose, subrounded, sand with<br>nedium grained. Coarser sand at 13 ft bgs. |             |                  | -0                  |
| 5765 -                  |               |                |                          |                                                         |                                                                                    | SM          | 1.7<br>6.5       | -5                  |
| 5760 -                  |               |                |                          |                                                         |                                                                                    |             | 10.2             | - 10                |
|                         |               | 1              |                          |                                                         |                                                                                    |             | 12.8             | -                   |
| 5755 -                  |               |                |                          |                                                         |                                                                                    |             | 19.4             | - 15                |
|                         |               |                |                          | SILT, sandy: Light brown fine to medium grained s       | n, dry, loose, subrounded, silt with some sand.                                    |             | 8.5              | -                   |
| 5750 -                  |               |                |                          |                                                         |                                                                                    |             | 8.1              | - 20                |
| -                       |               |                |                          |                                                         |                                                                                    | ML          | 9.0              | F                   |
| 5745 -                  |               |                |                          | CLAX: Poddich brown                                     | lay firm subrounded non plastic clay                                               |             | 2.2              | - 25                |
|                         | x             | B-3<br>(26-28) |                          | with trace silt                                         |                                                                                    | CL          | 14.6             | -                   |
| 5740 -                  |               |                |                          | with some fine to mediur                                | n grained sand.                                                                    | ML          | 6.9              | - 30                |
| -                       |               |                |                          | CLAY: Brown, damp, so                                   | rt, subrounded, non plastic, clay with some ved.                                   | CL          | 4.4              | -                   |
| 5735 -                  |               |                |                          | SAND, silty: Light brown medium grained sand wi         | , damp, loose, subrounded, fine to the some silt.                                  | GM          | 5.4              | - 35                |
|                         |               |                |                          |                                                         |                                                                                    | Givi        | 5.7              | -                   |
| 5730 -                  | X             | B-3<br>(38-40) |                          | CLAY: Greenish gray, m<br>plasticity, clay with silt ar | orst, firm, subrounded, stratified, low<br>nd sand. White mottles observed.        | - CL        | 8.7              | - 40                |
| -                       |               |                |                          | SAND: Dark Gray, moist coarse grained sand.             | t, loose, subrounded, stratified, fine to                                          | SM<br>CL    | 28.0             | -                   |
| 1                       | <u> </u>      |                |                          | CLAY: Gray,moist, firm, with silt and sand.             | subrounded, stratified, low plasticity, clay                                       | SM          | 10.6             | 1_                  |
|                         |               |                |                          | SAND: Dark Gray, moist coarse grained sand. Pro         | , loose, subrounded, stratified, fine to obe refusal at 44.5 ft bgs.               |             |                  |                     |

Total depth = -48 feet

**BORING LOG** 

### **APPENDIX C**

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

| Litholog<br>Project/Client | y Record                         | F<br>1     |             |                 |                            | ₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩₩ |                            |                   |                           |                  |               |                          | <b>.</b> |                |
|----------------------------|----------------------------------|------------|-------------|-----------------|----------------------------|---------------------------------------|----------------------------|-------------------|---------------------------|------------------|---------------|--------------------------|----------|----------------|
| Borehole:                  | :                                |            |             |                 |                            | Method:                               |                            |                   |                           |                  |               | TETRAT                   | ECH, INC | <i>c</i> i     |
| Geologist:                 |                                  |            |             |                 | ••                         |                                       | -                          | 1.14              |                           |                  |               |                          | <br>Na   |                |
| Date:                      | ·                                |            |             |                 | -                          |                                       | -                          | 0                 |                           |                  |               |                          |          |                |
| Driller:                   |                                  |            |             |                 |                            |                                       |                            |                   | -                         |                  |               |                          | Pageo    | ,<br>          |
|                            | Pue                              | -          |             | ţuə <u>ş</u>    | is (Clan)                  |                                       | Jo əde                     | & Type            |                           |                  |               |                          |          |                |
| Interval (ft.)             | Description<br>ame<br>Storp Name | NSCS CIASS | Color       | Moisture Con    | Consistency<br>Consistency | Cohesity of No<br>Density of No       | Angularity/SH<br>Particles | Cementation       | Structure                 | Dry Strength     | plasticity    | IsnoitibbA<br>noitemnoin |          | Rec<br>(ft/ft) |
|                            |                                  |            |             | , And           | /. soft                    | v. loose                              | angular                    | none              | stratified                | none             | nonplastic    |                          |          |                |
| Blow Ct.<br>Sample: Y N    |                                  |            |             | damp<br>moist f | soft<br>irm (stiff)        | loose<br>m. dense                     | subangular<br>subrounded   | weak<br>moderate  | laminated<br>fissured     | low<br>medium    | low<br>medium |                          |          |                |
| Analytes:                  |                                  |            |             | wet             | ard                        | dense                                 | rounded                    | strong            | slickensided              | high             | high          |                          |          |                |
|                            |                                  |            |             | sat.            | /. hard                    | v. dense                              | flat<br>elongated          | CHOOSE:           | blocky<br>Jensed          | v. high          |               |                          |          |                |
|                            |                                  |            |             |                 |                            |                                       |                            | OR                | homogenous                |                  |               |                          | • .      |                |
| Time:                      |                                  |            | i<br>I<br>I |                 | /. soft                    | v. loose                              | angular                    | Silicious<br>none | interbedded<br>stratified | none             | nonplastic    | -                        |          |                |
| Blow Ct.                   |                                  |            |             | damp            | soft                       | loose                                 | subangular                 | weak              | laminated                 | low              | low .         |                          | •.       |                |
| Sample: Y N                | -                                |            |             | moist           | īrm (stiff)                | m. dense                              | subrounded                 | moderate          | fissured                  | medium           | medium        |                          |          |                |
| Analytes:                  |                                  |            |             | wet<br>saf      | hard<br>A hard             | dense<br>v dense                      | rounded                    | strong<br>CHOOSE- | stickensided<br>hlocky    | high<br>v hich   | high          |                          |          |                |
|                            |                                  |            |             | ;               | 5                          | 2                                     | elongated                  | Calcareous        | lensed                    | <b>R</b>         |               |                          |          |                |
| Time:                      | PIO:                             |            |             |                 |                            |                                       |                            | OR<br>Silicious   | homogenous<br>interbedded |                  | • <b>-</b>    |                          |          |                |
|                            |                                  |            |             | dry             | r. soft                    | v. loose                              | angular                    | none              | stratified                | none             | nonplastic    |                          |          |                |
| Blow Ct.                   |                                  |            |             | damp            | soft                       | loose                                 | subangular                 | weak              | laminated                 | low              | low           |                          |          |                |
| Analytes:                  |                                  |            |             | wet             | ard                        | dense                                 | rounded                    | strong            | slickensided              | high             | high          |                          |          |                |
|                            |                                  |            |             | sat.            | /. hard                    | v. dense                              | llat .                     | CHOOSE:           | blocky                    | v. high          |               |                          |          |                |
|                            |                                  |            |             |                 |                            |                                       | elongated                  | Calcareous<br>OR  | lensed<br>homoaenous      |                  |               |                          |          |                |
| Time:                      | PID:                             |            |             |                 |                            |                                       |                            | Silicious         | interbedded               |                  |               |                          |          | 1              |
|                            |                                  |            |             | dry             | r. soft                    | v. loose                              | angular                    | none              | stratified                | none             | nonplastic    |                          |          |                |
| Blow Ct.                   |                                  |            |             | damp            | soft                       | loose                                 | subangular                 | weak              | laminated                 | low              | low           |                          |          |                |
| Sample: Y N                |                                  |            |             | moist           | lirm (stiff)               | m. dense                              | subrounded                 | moderate          | fissured                  | medium<br>biob   | medium        |                          |          |                |
| Aliary too.                |                                  |            |             | wet<br>sat.     | nard<br>/. hard            | v. dense                              | rounceu<br>flat            | Strong<br>CHOOSE: | slickensweu<br>blocky     | hign<br> v. hígh | ugn           |                          |          |                |
|                            |                                  |            | -           |                 |                            |                                       | elongated                  | Calcareous        | lensed                    | ¢                |               |                          |          |                |
| Time:                      | Úľa                              |            |             |                 |                            |                                       |                            | OR<br>Silicious   | homogenous<br>interhedded |                  |               |                          |          |                |
|                            |                                  |            |             |                 |                            |                                       |                            |                   |                           | _                |               |                          |          |                |

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| Broiget No.                           | Project Name:   |                  | Data         |
|---------------------------------------|-----------------|------------------|--------------|
|                                       |                 |                  | Date:        |
|                                       | Station No.:    |                  |              |
| Sampled By:                           | Mean Time:      | SMS              | Control No.: |
| Record No.:                           | Sample Purpose: |                  |              |
|                                       | · .<br>         |                  |              |
| SAMPLES COLLE                         | CTED            |                  |              |
| Туре:                                 | Color:          | USCS Classific   | ation        |
| % Clay                                | Dry             | GW SW            | ML           |
| % Silt                                | Moist           | GP SP            | CL           |
| % Sand                                | Saturated       | GM SM            | OL           |
| % Gravel                              |                 | GC SC            | MH           |
|                                       | WETCH           |                  | СН           |
| SAMPLING PATTERN S                    |                 |                  | ОН           |
| · · · · · · · · · · · · · · · · · · · | ft              | Sample depth     | PT           |
|                                       |                 | •                |              |
|                                       |                 | Sample volume    |              |
|                                       | 1               | - ·              |              |
|                                       |                 | Primary sample   |              |
| i l                                   |                 | _                |              |
|                                       | \$              | Duplicate sample | e            |
|                                       | ·               |                  |              |
|                                       |                 | Other            |              |
|                                       | 1               |                  |              |
|                                       | •               | ,                |              |
| · · · · · · · · · · · · · · · · · · · |                 |                  |              |
| Containers:                           |                 | Analysis:        |              |
| □250 mL plastic                       |                 | Metals           |              |
| 500 mL plastic                        |                 |                  |              |
|                                       |                 |                  |              |
| 1000 mL plastic                       |                 | Anions           |              |
|                                       |                 |                  |              |
| LlOther                               |                 | ☐ Other          | ,            |
| ·                                     | ·····           |                  |              |
| Comments:                             |                 |                  |              |
|                                       |                 |                  |              |
|                                       |                 |                  | <u>.</u>     |
|                                       |                 |                  |              |
|                                       |                 |                  |              |

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|                             | Well Completio                               | n Diagram       | St | ickup (feet): approx. 3 f    |
|-----------------------------|----------------------------------------------|-----------------|----|------------------------------|
| Job Name                    | · · · · · · · · · · · · · · · · · · ·        | ·····           |    |                              |
| Job No.                     | Date                                         |                 |    | Steel Casing<br>Other:       |
| Project Manager             | ·                                            | · · · · · ·     |    |                              |
| Well I D                    |                                              |                 |    | Casing:                      |
| Field Geologist             |                                              |                 |    | ft. to                       |
| Driller                     |                                              |                 |    | inch diameter                |
| Equipment                   | ·                                            |                 |    | ft. to                       |
|                             | · · ·                                        | · · · ·         |    | Outer Casing:                |
| Materials                   | :                                            |                 |    | ft. to                       |
| Pounds                      |                                              | Filter Pack     |    | Concrete: approx. 4' well    |
| magnet can Pounds           |                                              | Bentonite Seal  |    | ft. to                       |
| Gallons                     |                                              | Grout           |    | Grout                        |
| Pounds                      | · · ·                                        | Concrete        |    | ft. to                       |
| Feet of native fill/ slough | •••                                          |                 |    |                              |
| Feet ofinch                 | pvc                                          | Blank Casing    |    | Bentonite Seal:              |
| Feet of inch                |                                              | Slotted Screen  |    | . ft. to                     |
| E                           |                                              | Outer Casing    |    | Filter Pack:                 |
| Feet of                     |                                              | Sump/ Silt Trap |    | ft. to                       |
| Placement Method            | · · · · · · · · · · · · · · · · · · ·        | ·               |    | Slotted Screen:              |
| Notes                       |                                              |                 |    | ft. to                       |
|                             |                                              |                 |    | Native fill/ slough:         |
| Development                 | ·                                            |                 |    | ft. to                       |
|                             | <u>.                                    </u> |                 |    | 8 inch diameter<br>Borehole: |
| Method                      | · · · ·                                      |                 |    | ft. to                       |
| Date                        |                                              |                 |    | Sump/ Silt Trap:             |
| Amount Purged               | gallons                                      |                 |    | ft. to                       |
| Notes                       |                                              |                 |    |                              |

| TETRA TECH, INC.                        | WATER                                  | SAMPLING FIE                               | LD FORM                               |                |                                                  |
|-----------------------------------------|----------------------------------------|--------------------------------------------|---------------------------------------|----------------|--------------------------------------------------|
| Project Name                            |                                        | · · ·                                      | Page                                  | of             |                                                  |
| Project No.                             |                                        |                                            |                                       |                |                                                  |
| Site Location                           |                                        |                                            |                                       |                |                                                  |
| Site/Well No. <u>MW - </u>              | Coded/<br>Replicate No.                | D                                          | ate                                   |                |                                                  |
| Weather                                 | Time Sampling<br>Began                 | Ci                                         | me Sampling                           |                |                                                  |
|                                         | EVACUATI                               | ON DATA                                    |                                       |                |                                                  |
| Description of Measuring Point (MP)     | Top of Casing                          |                                            |                                       |                |                                                  |
| -<br>Height of MP Above/Below Land Surf | ace                                    | MP Elevation                               |                                       |                |                                                  |
| Fotal Sounded Depth of Well Below N     | ЛР                                     | Water-Level Elevati                        | on                                    |                |                                                  |
| Held                                    | / MP                                   | Diameter of Casing                         | 2"                                    |                |                                                  |
| Wet Water Column in                     | Well                                   | Gallons Pumped/Ba<br>Prior to Sampling     | ailed                                 |                |                                                  |
| Gallons per                             | Foot                                   |                                            |                                       | ····           |                                                  |
| Gallons in                              | Well                                   | Sampling Pump Inta<br>(feet below land sur | ake Setting                           |                |                                                  |
|                                         | / Bailer                               | (                                          |                                       |                | ی کور<br>اور اور اور اور اور اور اور اور اور اور |
|                                         |                                        |                                            |                                       |                |                                                  |
| Time Time 'Temperature (°C)             | pH Conductivity (μS/cm <sup>3</sup>    | ) TDS (g/L)                                | DO (mg/L) DO                          | 0 % ORP (mV) V | olume (gal.)                                     |
| ;                                       |                                        |                                            |                                       |                |                                                  |
|                                         |                                        |                                            |                                       |                |                                                  |
| Sampling Equipment                      | Purgo Pump/Roilor                      |                                            |                                       |                |                                                  |
|                                         |                                        |                                            |                                       |                |                                                  |
| Constituents Sampled                    | <u>Container Descriptio</u>            | <u>n</u>                                   |                                       | Preservative   | -                                                |
| <u> </u>                                |                                        | <u> </u>                                   | · · · · · · · · · · · · · · · · · · · |                |                                                  |
|                                         |                                        | · · · · · · · · · · · · · · · · · · ·      |                                       |                |                                                  |
| · · · · · · · · · · · · · · · · · · ·   |                                        |                                            | · · · ·                               |                | <u> </u>                                         |
| Remarks                                 | ······································ | · · · · · · · · · · · · · · · · · · ·      |                                       |                |                                                  |
| Sampling Personnel                      |                                        |                                            | <u></u>                               |                |                                                  |
|                                         | Wall Casing                            | 1 Volumes                                  |                                       |                |                                                  |
| Gal./ft. 11/4" = 0                      | .077 2" = 0.16                         | 3" = 0.3                                   | 7 <sup>.</sup> 4" =                   | 0.65           |                                                  |
| $1 \frac{1}{2} = 0$                     | $2 \frac{1}{2} = 0.24$                 | $3" \frac{1}{2} = 0.5$                     | 0 6" =                                | 1.46           |                                                  |

Section 1.

Lagar Base Round

### APPENDIX D RECEIPTION

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### Laboratory Analytical Reports

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

### **Conoco Phillips**

| Certifica                                                 | te of Ana<br><u>11030</u> | lysis Number:<br><u>104</u>                    |                                  |
|-----------------------------------------------------------|---------------------------|------------------------------------------------|----------------------------------|
| Report To:<br>Tetra Tech, Inc.<br>Kelly Blanchard         |                           | Project Name:<br><u>Site:</u><br>Site Address: | Martin 34 No.2<br>Bloomfield, NM |
| 6121 Indian School Road, N.E.<br>Suite 200<br>Albuquerque |                           | <u>PO Number:</u><br>State:                    | New Mexico                       |
| NM<br>87110-<br>ph: (505) 237-8440 fax: (505) 881-3283    |                           | <u>State Cert. No.:</u><br>Date Reported:      | 3/15/2011                        |

A setting the set of this Report Contains A Total Of 21 Pages

Excluding This Page, Chain Of Custody

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And

### Any Attachments

3/15/2011

Date

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

Version 2.1 - Modified February 11, 2011


# Case Narrative for: Conoco Phillips

| Certificate of Analysis Number:<br>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.               | ĩ  |                   |                |         |  |  |  |  |  |
| Suite 200<br>Albuquerque                    |    | PO Number:        |                |         |  |  |  |  |  |
| ₩ <sup>1</sup> / NM                         | 4  | State:            | New Mexico     |         |  |  |  |  |  |
| 87110-                                      | •1 | State Cert. No .: |                |         |  |  |  |  |  |
| ph: (505) 237-8440 fax: (505) 881-3283      | 1  | Date Reported:    | 3/15/2011      | · · ·   |  |  |  |  |  |

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 " ).

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.

adunas

11030104 Page 1

3/15/2011

Date

Erica Cardenas Project Manager

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

# **Conoco Phillips**

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LABORATORIES

| ,          | · .                   | Certificate o                         | of Analysis Numb | per:             |                |        |
|------------|-----------------------|---------------------------------------|------------------|------------------|----------------|--------|
| i          |                       | <u>1</u>                              | <u>1030104</u>   |                  |                | · · ·  |
| Report To: | Tetra Tech, Inc.      |                                       |                  | Project Name:    | Martin 34 No.2 |        |
|            | Kelly Blanchard       |                                       |                  | Site:            | Bloomfield, NM | •      |
|            | 6121 Indian School Ro | oad, N.E.                             |                  | Site Address:    |                | 1      |
|            | Suite 200             | · .                                   |                  |                  |                |        |
|            | NM                    |                                       |                  | PO Number:       |                | •      |
|            | 87110-                | · · · · · · · · · · · · · · · · · · · |                  | <u>State:</u>    | New Mexico     |        |
|            | ph: (505) 237-8440    | fax: (505) 881-3283                   |                  | State Cert. No.: |                | 1      |
| Fax To:    |                       |                                       |                  | Date Reported:   | 3/15/2011      | ·<br>÷ |
|            |                       | · ·                                   |                  |                  |                |        |

| Client Sample II          | D Classifier              | Lab Sample ID  | Matrix | Date Collected   | Date Received       | COC ID   | HOLD |
|---------------------------|---------------------------|----------------|--------|------------------|---------------------|----------|------|
| B-1@38.0-40.0'            | ي بين اليوني<br>من الدوني | 11030104-01    | Soil   | 03/01/2011 14:05 | 3/3/2011 9:20:00 AM | 306322   | Π.   |
| B-1@41.5-43.0'@@          | and the state of the      | 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'            | 1.25 25                   | .0e11030104-06 | Soil   | 03/02/2011 9:55  | 3/3/2011 9:20:00 AM | 306322   |      |
| B-3@38.0-40.0'            | . 2                       | 11030104-07    | Soil   | 03/02/2011 10:20 | 3/3/2011 9:20:00 AM | 306322   |      |

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a Oarder

3/15/2011

Date

Erica Cardenas Project Manager

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

> > Ted Yen Quality Assurance Officer

Version 2.1 - Modified February 11, 2011

11030104 Page 2 3/15/2011 9:04:12 AM



8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

| Client Sample ID:B-1   | @38.0-40.0'                  |               | Colle  | cted:  | 03/01/2011 14:05 | SPL Sample       | ID: 11030    | 0104-01 |
|------------------------|------------------------------|---------------|--------|--------|------------------|------------------|--------------|---------|
| <i>,</i> .             |                              |               | Site:  | Blo    | oomfield, NM     |                  |              |         |
| Analyses/Method        | Result                       | QUAL          | Rep    | .Limit | Dil. Facto       | or Date Analyzed | d Analyst    | Seq. #  |
| DIESEL RANGE ORG       | ANICS                        |               |        |        | MCL S            | SW8015B L        | Jnits: mg/kg | !       |
| Diesel Range Organics  | (C10-C28) 200                |               |        | 25     | 5                | 03/10/11 12:4    | 8 NW         | 5741647 |
| Surr: n-Pentacosane    | 78.1                         |               | % 2    | 20-154 | 5                | 03/10/11 12:4    | 8 NW         | 5741647 |
| Prep Method            | Prep Date                    | Prep Initials | Prep F | actor  |                  |                  |              | •       |
| SW3550B                | 03/08/2011 14:35             | QMT           | 1.00   |        |                  |                  |              |         |
| GASOLINE RANGE C       | RGANICS                      |               |        |        | MCL S            | SW8015B L        | Jnits: ma/ka |         |
| Gasoline Range Organic | s 4800                       |               | • .    | 100    | 1000             | 03/04/11 22:4    | 8 WLV        | 5738470 |
| Surr: 1,4-Difluorobenz | tene 119                     | ······        | % 6    | 53-142 | 1000             | 03/04/11 22:4    | 8 WLV        | 5738470 |
| Surr: 4-Bromofluorobe  | enzene 151                   |               | % 5    | 50-159 | 1000             | 03/04/11 22:4    | B WLV .      | 5738470 |
| Prop Mothod            | Pron Data                    | Brop Initiale | Drop E | octor  |                  |                  |              |         |
| SW5030B                | 03/04/2011 10:09             | XML           | 1.00   |        |                  |                  |              |         |
| ION CHROMATOGRA        | PHY                          | •             |        |        | MCI E30          |                  | lnits: ma/ka |         |
| Chloride               | 92.9                         |               |        | 10     | 2                | 03/04/11 15:3    | 9 ESK        | 5737820 |
| VOLATILE ORGANIC       | S BY METHOD 8260E            | 3             |        |        | MCL S            | SW8260B L        | Inits: ua/ka |         |
| Benzene 2              | 0300 a gales 1 - <b>2700</b> |               | -      | 1200   | 250              | 03/08/11 20:4    | BLUL         | 5739989 |
| Ethylbenzene           | Santar ( 1997 23000          | · · ·         |        | 1200   | 250              | 03/08/11 20:4    | BLU_L        | 5739989 |
| Toluene 🖅              | 110000                       | ÷; •          |        | 12000  | 2500             | 03/08/11 20:2    | 2 LU L       | 5739988 |
| m,p-Xylene             | <u>240000</u>                |               |        | 12000  | 2500             | 03/08/11 20:2    | 2 LU_L       | 5739988 |
| o-Xylene               | 53000                        | • •.          |        | 12000  | 2500             | 03/08/11 20:2    | 2 LU L       | 5739988 |
| Xylenes, Total         | 293000                       |               |        | 12500  | 2500             | 03/08/11 20:2    | 2 LU_L       | 5739988 |
| Surr: 1,2-Dichloroetha | ine-d4 93.7                  |               | % 7    | 78-116 | 2500             | 03/08/11 20:2    | 2 LU_L       | 5739988 |
| Surr: 1,2-Dichloroetha | ne-d4 94.0                   |               | % 7    | 78-116 | 250              | 03/08/11 20:4    | BLU_L        | 5739989 |
| Surr: 4-Bromofluorobe  | enzene 102                   |               | % 7    | 4-125  | 2500             | 03/08/11 20:2    | 2 LU_L .     | 5739988 |
| Surr: 4-Bromofluorobe  | enzene 103                   |               | % 7    | 74-125 | 250              | 03/08/11 20:4    | BLU_L        | 5739989 |
| Surr: Toluene-d8       | 101                          |               | % 8    | 32-118 | 2500             | 03/08/11 20:2    | 2 LU_L       | 5739988 |
| Surr: Toluene-d8       | 108                          |               | % 8    | 32-118 | 250              | 03/08/11 20:4    | B 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

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8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

11030104-02

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| C | lient | Samp | le l | ID:B-1@41.5-43.0' |
|---|-------|------|------|-------------------|
| - |       |      |      |                   |

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Toluene-d8

Collected: 03/01/2011 14:10 **SPL Sample ID:** 

|                         |                        |               | Site: Bloc  | omfield, N | М      |            |              |         |
|-------------------------|------------------------|---------------|-------------|------------|--------|------------|--------------|---------|
| Analyses/Method         | Resu                   | lt QUAL       | Rep.Limit   | Dil        | Factor | Date Analy | zed Analyst  | Seq. #  |
| DIESEL RANGE ORG        | ANICS                  |               |             | MCL        | SV     | V8015B     | Units: mg/kg |         |
| Diesel Range Organics ( | C10-C28)               | 6             | . 5         |            | 1      | 03/09/11 1 | 7:27 NW      | 5741635 |
| Surr: n-Pentacosane     | 77.                    | 9             | % 20-154    |            | 1      | 03/09/11 1 | 7:27 NW      | 5741635 |
| Prep Method             | Prep Date              | Prep Initials | Prep Factor |            |        |            |              |         |
| SW3550B                 | 03/08/2011 14:35       | QMT           | 1.00        |            |        |            |              | •       |
| GASOLINE RANGE O        | ASOLINE RANGE ORGANICS |               |             |            |        | V8015B     | Units: mg/kg |         |
| Gasoline Range Organic  | s 0.:                  | 2             | 0.1         |            | 1      | 03/05/11   | 1:22 WLV     | 5738473 |
| Surr: 1,4-Difluorobenz  | ene 10                 | 1             | % 63-142    |            | 1      | 03/05/11   | 1:22 WLV     | 5738473 |
| Surr: 4-Bromofluorobe   | nzene 11               | 1 . :         | % 50-159    |            | 1      | 03/05/11   | 1:22 WLV     | 5738473 |
| Prep Method             | Prep Date              | Preo Initials | Prep Factor |            |        |            |              |         |
| SW5030B                 | 03/04/2011 9:42        | XML           | 1.00        |            |        |            |              |         |
| ION CHROMATOGRA         | PHY →                  |               |             | MCL        | E300   | .0 MOD     | Units: mg/kg |         |
| Chloride                | 11 (11)                | 4             | 5           |            | 1      | 03/04/11 1 | 5:56 ESK     | 5737821 |
| VOLATILE ORGANIC        | SEY METHOD 8260        | )B            |             | MCL        | SV     | V8260B     | Units: ug/kg |         |
| Benzene                 | NI                     | ۰ <i>۰</i> ۲  | 5           |            | 1      | 03/08/11 1 | 8:57 TLE     | 5739776 |
| Ethylbenzene            | NE NE                  | <b>)</b>      | 5           |            | 1      | 03/08/11 1 | 8:57 TLE     | 5739776 |
| Toluene                 | N                      | ) ~           | 5           |            | 1      | 03/08/11 1 | 8:57 TLE     | 5739776 |
| m,p-Xylene              | ···· 6.                | 1             | 5           |            | 1      | 03/08/11 1 | 8:57 TLE     | 5739776 |
| o-Xylene                | NE                     | ) 😳           | 5           |            | 1      | 03/08/11 1 | 8:57 TLE     | 5739776 |
| Xylenes,Total           | 6.                     | 1             | 5           |            | 1      | 03/08/11 1 | 8:57 TLE     | 5739776 |

71-130

65-131

75-136

%

%

%

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

99.2

103

107

**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

03/08/11 18:57 TLE

03/08/11 18:57 TLE

TLE

03/08/11 18:57

1

1

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5739776

5739776

5739776



# SPL ENVIRONMENTAL

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

LABORATORIES

| lient Sample ID:B-1@43.0-43.5 |                      |          | Collected: 03/01/2011 14:30 |      | SPL Samp | le ID: 1103                                                                                                     | 11030104-03 |             |              |         |
|-------------------------------|----------------------|----------|-----------------------------|------|----------|-----------------------------------------------------------------------------------------------------------------|-------------|-------------|--------------|---------|
| , ×                           |                      |          |                             | Sit  | e: Blo   | omfield                                                                                                         | , NM        |             |              |         |
| Analyses/Method               | •*• • • •            | Result   | QUAL                        | R    | ep.Limit |                                                                                                                 | Dil. Factor | Date Analyz | ed Analyst   | Seq. #  |
| DIESEL RANGE ORG              | ANICS                |          |                             |      |          | MCL                                                                                                             | . SI        | N8015B      | Units: mg/kç |         |
| 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               | Prer | Factor   |                                                                                                                 |             |             |              |         |
| SW3550B                       | 03/08/2011 14:       | 35       | QMT                         | 1.00 |          |                                                                                                                 |             |             |              |         |
| GASOLINE RANGE C              | RGANICS              |          |                             |      |          | MCL                                                                                                             | . SI        | N8015B      | Units: mg/kg | <br>1   |
| Gasoline Range Organic        | s                    | ND       |                             |      | 0.1      |                                                                                                                 | 1           | 03/05/11 2  | 2:48 WLV     | 5738476 |
| Surr: 1,4-Difluorobenz        | iene 🗢 🐂             | 96.9     |                             | %    | 63-142   |                                                                                                                 | 1 .         | 03/05/11 2  | 2:48 WLV     | 5738476 |
| Surr: 4-Bromofluorobe         | nzene                |          | ··                          | %    | 50-159   |                                                                                                                 | 1           | 03/05/11 2  | 2:48 WLV     | 5738476 |
| Prep Method                   | Prep Date            |          | Prep Initials               | Prer | Factor   |                                                                                                                 |             |             |              |         |
| SW5030B                       | 03/04/2011 9:5       | 1        | XML                         | 1.00 |          |                                                                                                                 |             |             |              |         |
| ION CHROMATOGRA               | APHY                 |          |                             |      |          | MCL                                                                                                             | E300        | .0 MOD      | Units: mg/kç | J       |
| Chloride                      | •                    | 111      |                             |      | 5        |                                                                                                                 | 1           | 03/04/11 16 | :13 ESK      | 5737822 |
| VOLATILE ORGANIC              | S:BY METHO           | D: 8260E | 3                           |      |          | MCL                                                                                                             | SI          | N8260B      | Units: ug/kg |         |
| Benzene                       | and the state of the | ND       |                             |      | 5        |                                                                                                                 | 1           | 03/08/11 20 | ):22 TLE     | 5739779 |
| Ethylbenzene                  | 63 (t) (t) (t)       | 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-Dichloroetha        | ine-d4               | 95.6     |                             | %    | 71-130   |                                                                                                                 | 1           | 03/08/11 20 | ):22 TLE     | 5739779 |
| Surr: 4-Bromofluorobe         | enzene               | 101      |                             | %    | 65-131   |                                                                                                                 | 1           | 03/08/11 20 | ):22 TLE     | 5739779 |
|                               |                      |          |                             |      |          | the second se |             |             |              |         |

| Prep Method | Prep Date       | Prep Initials | Prep Factor |
|-------------|-----------------|---------------|-------------|
| SW 5030B    | 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

 ${\bf J}$  - 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

> 11030104 Page 5 3/15/2011 9:04:25 AM

20.1



8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

LABORATORIES

#### 11030104-04 Client Sample ID:B-2@30.0-32.0' Collected: 03/01/2011 16:00 SPL Sample ID: Site: **Bloomfield**, NM Analyses/Method Result QUAL Dil. Factor Date Analyzed Analyst Seq. # Rep.Limit Units: mg/kg **DIESEL RANGE ORGANICS** SW8015B MCL ND 5 03/09/11 19:48 NW 5741639 Diesel Range Organics (C10-C28) 1 03/09/11 19:48 NW 5741639 66.6 20-154 1 Surr: n-Pentacosane % Prep Method Prep Date Prep Initials Prep Factor SW3550B 03/08/2011 14:35 QMT 1.00 Units: mg/kg **GASOLINE RANGE ORGANICS** MCL SW8015B Gasoline Range Organics ND 0.1 1 03/05/11 3:17 WLV 5738477 03/05/11 3:17 WLV 5738477 Surr: 1,4-Difluorobenzene 94.8 % 63-142 1 03/05/11 3:17 WLV Surr: 4-Bromofluorobenzene 106 % 50-159 1 5738477 Prep Method Prep Date Prep Initials Prep Factor SW 5030B 03/04/2011 9:54 XML 1.00 ION CHROMATOGRAPHY MCL E300.0 MOD Units: mg/kg Chloride 5 03/04/11 16:30 ESK 5737823 16.4 1 Units: ug/kg VOLATILE ORGANICS BY METHOD 8260B MCL SW8260B Benzene ND 5 1 03/08/11 20:44 TLE 5739780 . Ethylbenzene ...... A ..... ND 5 1 03/08/11 20:44 TLE 5739780 ND 5739780 Toluene 2 5 1 03/08/11 20:44 TLE 9 03/08/11 20:44 TLE 5739780 5 1 m,p-Xylene

| o-Xylene           | a tanan ang ang ang ang ang ang ang ang ang | • 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-Dichlord | pethane-d4                                  | 99.6 | % | 71-130 | 1 | 03/08/11 20:44 | TLE | 5739780 |
| Surr: 4-Bromoflue  | orobenzene                                  | 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 |
|-------------|-----------------|---------------|-------------|
| SW 5030B    | 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

> 11030104 Page 6 3/15/2011 9:04:26 AM

# CUT LABORATORIES

# SPL ENVIRONMENTAL

8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

| lient Sample ID:B-2@36.0-38.0' |                                        |       | Col           | lected: | 03/01/20 <sup>.</sup> | 11 16:15 | SPL Sam     | ple I      | <b>D:</b> 1103 | 0104-05    |         |
|--------------------------------|----------------------------------------|-------|---------------|---------|-----------------------|----------|-------------|------------|----------------|------------|---------|
|                                |                                        | ·     |               | Sit     | te: Blo               | oomfield | , NM        |            |                |            |         |
| Analyses/Method                | - R                                    | esult | QUAL          | R       | ep.Limit              | •        | Dil. Factor | Date Analy | zed            | Analyst    | Seq. #  |
| DIESEL RANGE ORG               | ANICS                                  |       |               |         |                       | MCL      | SI          | V8015B     | Un             | its: mg/kg | 1       |
| Diesel Range Organics (        | C10-C28)                               | ND    |               |         | 5                     |          | 1           | 03/09/11 2 | 0:28           | NW .       | 5741640 |
| Surr: n-Pentacosane            |                                        | 83.7  |               | %       | 20-154                |          | 1           | 03/09/11 2 | 0:28           | NW         | 5741640 |
| Prep Method                    | Prep Date                              | -•    | Prep Initials | Prer    | Eactor                |          |             |            |                |            |         |
| SW3550B                        | 03/08/2011 14:35                       |       | QMT           | 1.00    |                       |          |             |            |                |            |         |
| ASOLINE RANGE ORGANICS         |                                        |       |               |         |                       | MCL      | SI          | N8015B     | Un             | its: ma/ka |         |
| Gasoline Range Organic         | S .                                    | ND    |               |         | 0.1                   |          | 1           | 03/05/11   | 3:52           | WLV        | 5738478 |
| Surr: 1,4-Difluorobenz         | ene 🚑 👘 😳                              | 96.4  |               | %       | 63-142                |          | 1           | 03/05/11   | 3:52           | WLV        | 5738478 |
| Surr: 4-Bromofluorobe          | nzene                                  | 105   | • • •         | %       | 50-159                |          | 1           | 03/05/11   | 3:52           | WLV        | 5738478 |
| Prep Method                    | Prep Date                              |       | Preo Initials | Prec    | Factor                |          |             |            |                |            |         |
| SW5030B                        | 03/04/2011 9:57                        |       | XML           | 1.00    |                       |          |             |            |                |            |         |
| ION CHROMATOGRA                | PHY                                    |       |               |         |                       | MCL      | E300        | .0 MOD     | Un             | its: mg/kg |         |
| Chloride                       | ······································ | 24    |               |         | 5                     |          | 1           | 03/04/11 1 | 7:21           | ESK.       | 5737826 |
| VOLATILE ORGANIC               | S.BY.METHOD 8                          | 260B  |               |         |                       | MCL      | SI          | N8260B     | Un             | its: ug/kg | • . •   |
| Benzene                        | 7. <u>1</u>                            | ND    |               |         | 5                     |          | 1 -         | 03/08/11 2 | 1:05           | TLE        | 5739781 |
| Ethylbenzene                   | alasi yay                              | ND    | 17.1          |         | 5                     |          | 1           | 03/08/11 2 | 1:05           | TLE        | 5739781 |
| Toluene                        |                                        | ND    |               |         | 5                     |          | 1           | 03/08/11 2 | 1:05           | TLE        | 5739781 |
| m,p-Xyiene                     |                                        | ND    |               |         | 5                     |          | 1           | 03/08/11 2 | 1:05           | TLE        | 5739781 |
| o-Xylene                       | the second second                      | ND    | •5 _*         |         | 5                     |          | 1           | 03/08/11 2 | 1:05           | TLE        | 5739781 |
| Xylenes,Total                  |                                        | ND    |               |         | 5                     |          | 1           | 03/08/11 2 | 1:05           | TLE        | 5739781 |
| Surr: 1,2-Dichloroetha         | ne-d4                                  | 98.4  |               | %       | 71-130                |          | 1           | 03/08/11 2 | 1:05           | TLE        | 5739781 |
| Surr: 4-Bromofluorobe          | nzene                                  | 103   |               | %       | 65-131                |          | 1           | 03/08/11 2 | 1:05           | TLE        | 5739781 |
| Surr: Toluene-d8               |                                        | 105   |               | %       | 75-136                |          | 1           | 03/08/11 2 | 1:05           | TLE        | 5739781 |

| Prep Method | Prep Date       | Prep Initials | Prep Factor |
|-------------|-----------------|---------------|-------------|
| SW 5030B    | 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

> 11030104 Page 7 3/15/2011 9:04:27 AM

100

10.00

ACCUTEST

## SPL ENVIRONMENTAL

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

LABORATORIES

Collected: 03/02/2011 9:55

SPL Sample ID: 11030104-06

|       | <b>.</b>            |                |        |               | Site: B     | loomfield | H, NM     |             |       |             |         |
|-------|---------------------|----------------|--------|---------------|-------------|-----------|-----------|-------------|-------|-------------|---------|
| Analy | ses/Method          | · · ·          | Result | QUAL          | Rep.Limit   | t .       | Dil. Fact | or Date Ana | lyzed | Analyst     | Seq. #  |
| DIES  | EL RANGE ORG        | ANICS          |        |               |             | МС        | L         | SW8015B     | Ur    | nits: mg/kg |         |
| Die   | sel Range Organics  | (C10-C28)      | . 10   |               | 5           | 5         | 1         | 03/09/11    | 21:08 | NW          | 5741641 |
| 5     | Surr: n-Pentacosane | < _            | 86.9   |               | % 20-154    |           | · 1       | 03/09/11    | 21:08 | NW          | 5741641 |
|       | Prep Method         | Prep Date      |        | Prep Initials | Prep Factor | ]         |           |             |       |             |         |
| 4     | 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        | <u>Prep Initials</u> | Prep Factor |
|-------------|------------------|----------------------|-------------|
| SW5030B     | 03/04/2011 10:01 | XML                  | 1.00        |

| ION CHROMA     | TOGRAPHY         |       |            |             |        | MCL   | E   | 300.0 MOD | Ur    | nits: mg/kg |         |
|----------------|------------------|-------|------------|-------------|--------|-------|-----|-----------|-------|-------------|---------|
| Chloride       |                  | 97.4  |            |             | 10     |       | 2   | 03/04/11  | 17:38 | ESK         | 5737827 |
| VOLATILE OR    | GANICS BY METHOD | 8260B |            | <del></del> |        | MCL · |     | SW8260B   | Ur    | nits: ug/kg | -       |
| Benzene        | The set of the   | ND    |            |             | 5      |       | 1   | 03/08/11  | 21:27 | TLE         | 5739782 |
| Ethylbenzene   |                  | ND    | 1+.        |             | 5      | ·     | 1   | 03/08/11  | 21:27 | TLE         | 5739782 |
| Toluene        | a at the second  | 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-Dict | nloroethane-d4   | 98.0  |            | %           | 71-130 |       | 1   | 03/08/11  | 21:27 | TLE         | 5739782 |
| Surr: 4-Brome  | ofluorobenzene   | 102   |            | %           | 65-131 |       | 1   | 03/08/11  | 21:27 | TLE         | 5739782 |
| Surr: Toluene  | ⊱d8 <sup>™</sup> | 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

> 11030104 Page 8 3/15/2011 9:04:28 AM



8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

| Client Sample ID:B-3@38.0-40.0'    | Collecte           | d: 03/02/201 | 1 10:20     | SPL Sample    | ID: 11030    | )104-07 |
|------------------------------------|--------------------|--------------|-------------|---------------|--------------|---------|
|                                    | Site:              | Bloomfield,  | NM          |               |              |         |
| Analyses/Method                    | AL. Rep.Lii        | nit .        | Dil. Factor | Date Analyzed | l Analyst    | Seq. #  |
| DIESEL RANGE ORGANICS              |                    | MCL          | SV          | V8015B L      | Inits: mg/kg |         |
| Diesel Range Organics (C10-C28) ND |                    | 5            | . 1         | 03/09/11 21:4 | 9 NW         | 5741642 |
| Surr: n-Pentacosane 52.0           | % 20-1             | 54           | 1           | 03/09/11 21:4 | 9 NW         | 5741642 |
| Prep Method Prep Date Prep In      | nitials Prep Facto | r            |             |               |              |         |
| SW3550B 03/08/2011 14:35 QMT       | 1.00               |              |             | .*            |              |         |
| GASOLINE RANGE ORGANICS            |                    | MCL          | SV          | V8015B L      | Inits: mg/kg |         |
| Gasoline Range Organics ND         |                    | 0.1          | 1           | 03/05/11 4:49 | 9 WLV        | 5738480 |
| Surr: 1,4-Difluorobenzene 97.1     | % 63-1             | 42           | 1           | 03/05/11 4:4  | 9 WLV        | 5738480 |
| Surr: 4-Bromofluorobenzene 104     | % 50-1             | 59           | 1           | 03/05/11 4:4  | 9 WLV        | 5738480 |
| Prep Method Prep Date Prep In      | nitials Prep Facto | r            |             |               |              |         |
| SW5030B 03/04/2011 10:05 XML       | 1.00               | ·            |             |               |              |         |
| ION CHROMATOGRAPHY                 |                    | MCL          | E300        | .0 MOD U      | nits: mg/kg  |         |
| Chloride 16.7                      |                    | 5            | • 1         | 03/04/11 17:5 | 5 ESK        | 5737828 |
| VOLATILE ORGANICS BY METHOD.8260B  | •                  | MCL          | SV          | V8260B L      | nits: ug/kg  |         |
| Benzene ND                         |                    | 5            | 1           | 03/08/11 21:4 | 3 TLE        | 5739783 |
| Ethylbenzene Collection ND         | <u>.</u>           | 5            | 1           | 03/08/11 21:4 | 3 TLE        | 5739783 |
| Toluene ND                         |                    | 5            | 1           | 03/08/11 21:4 | B TLE        | 5739783 |
| m,p-Xylene ND                      |                    | 5            | 1           | 03/08/11 21:4 | 3 TLE        | 5739783 |
| o-Xylene ND                        |                    | 5            | 1           | 03/08/11 21:4 | 3 TLE        | 5739783 |
| Xylenes, Total ND                  |                    | 5            | 1           | 03/08/11 21:4 | B TLE        | 5739783 |
| Surr: 1,2-Dichloroethane-d4 99.9   | % 71-1             | 30           | 1           | 03/08/11 21:4 | 3 TLE        | 5739783 |
| Surr: 4-Bromofluorobenzene 101     | % 65-1             | 31           | 1           | 03/08/11 21:4 | 3 TLE        | 5739783 |
| Surr: Toluene-d8 105               | % 75-1             | 36           | 1           | 03/08/11 21:4 | 3 TLE        | 5739783 |

| Prep Method | Prep Date        | Prep Initials | Prep Factor |
|-------------|------------------|---------------|-------------|
| SW 5030B    | 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

> 11030104 Page 9 3/15/2011 9:04:29 AM

# Quality Control Documentation

Version 2.1 - Modified February 11, 2011

11030104 Page 10 3/15/2011 9:04:29 AM

# **Quality Control Report**

CUTES

LABORATORIES

0

# Conoco Phillips

Martin 34 No.2

| ÷                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        | •                                     |                  | Mar                | τιη 34 NO.2   |                     |                  |                           | •           |                |          |       |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|---------------------------------------|------------------|--------------------|---------------|---------------------|------------------|---------------------------|-------------|----------------|----------|-------|
| Analysis:<br>Method:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Diesel Rang<br>SW8015B | e Organics                            |                  |                    |               |                     |                  | WorkOrder:<br>Lab Batch I | 11<br>D: 10 | 030104<br>5385 |          |       |
| •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                        | Method Blank                          |                  |                    |               | Sample              | s in Analytica   | I Batch:                  |             |                | <u> </u> |       |
| RunID: HP V                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | / 110309A-5741634      | Units:                                | ma/ka            |                    |               | I ah Bau            | anto ID          | Clien                     | t Comple I  | <b>_</b>       |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | - 02/00/2011 1         | 5:06 Applet:                          | NIM/             |                    |               | 1102010             |                  |                           | 1 Sample I  |                |          |       |
| Analysis Date.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 03/09/2011 1           | 10.00 Analysi.                        |                  | thad SW            |               | 1103010             | 14-01B           | D-1(U)                    | 11 5 42 0'  |                |          |       |
| Freparation Dat                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | le. 03/06/2011 1       | 4.55 Ріер Бу.                         |                  |                    | 3000B         | 1103010             | 4-028            | -100<br>- 100             | 41.5-43.0   |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                       |                  |                    |               | 1103010             | 4-03A            | B-2@                      | 30 0-32 0'  |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | An                     | alyte                                 | Result F         | Rep Limit          |               | 1103010             | /4-05B           | B-2@                      | 36 0-38 0'  |                | •        |       |
| Þ                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | iesel Range Organic    | s (C10-C28)                           | ND               | 5.0                |               | 1103010             | 4-06B            | B-3@                      | 26 0-28 0'  |                |          |       |
| · L.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | Surr: n-Pentacosan     | e                                     | 112.0            | 20-154             |               | 1103010             | 4-07B            | B-3@                      | 38 0_40 0'  |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | · ·                    | · · · · · ·                           | ,                |                    |               | 1105010             | ,                | 0-000                     | ,00.0-40.0  |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                       |                  |                    |               |                     |                  |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                       | Lah              | oratory C          | ontrol Sam    | ole (LCS            | ;)               |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                       | <u>Luo</u>       | 014(01) 0          | ond of oding  |                     | 4                |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | RunID:                                | HP_V_1103        | 09A-57416          | 33 Units:     | mg/i                | kg               |                           |             |                |          |       |
| $(a_{1}^{1},a_{2}^{1},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{2}^{2},a_{$ | <i>i</i>               | Analysis Date:                        | 03/09/201        | 1 14:47            | Analys        | t <mark>. NW</mark> |                  |                           |             |                |          |       |
| • • • •                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | n ngawa ing            | Preparation Date:                     | 03/08/201        | 1 14:35            | Prep B        | y: QM               | T Method: SW     | 3550B                     |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                       |                  |                    |               |                     |                  |                           |             |                |          |       |
| · * .                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                        | Analyt                                | e                | 5                  | Spike Re      | sult                | Percent Lo       | wer Upper                 | •           |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                       |                  | A                  | Added         | F                   | Recovery L       | imit Limit                |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | i i                    | Diesel Range Organics                 | (C10-C28)        | )                  | 33.3          | 34.4                | 103              | 57 1                      | 50          |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | Surr: n-Pentacosane                   |                  |                    | 1.66          | 1.65                | 99.2             | 20 1                      | 54          |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | · · · · · · · · · · · · · · · · · · · |                  |                    |               | •                   |                  |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                       |                  |                    |               |                     |                  |                           |             | •              |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | <u>Matrix</u>                         | Spike (MS        | <u>6) / Matrix</u> | Spike Dupl    | icate (M            | SD)              |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | Sample Spiked                         | 1102010          | 4 01               |               |                     |                  |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | Sample Spiked:                        |                  | 4-U1               | 649 11-34-    |                     | - //             |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | RuniD:<br>Analysia Data:              | 02/40/20         | 1309A-3741         | 1040 Units    | : mij<br>mti Nili   | J/Kg             |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | Analysis Date:                        | 03/10/20         | 11 13:20           | Anaiy         | INV                 | WT Mothod: S     | N/25500                   |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | Preparation Date:                     | 03/06/20         | 11 14:55           | Prep          | By: Qi              | vir ivieuriou: 5 | A0000                     |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                       | 110              |                    | 1 110 0       | 1.000               | 1100             |                           |             | 000            |          | 1.01- |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Analyte                | Result                                | Soike            | MS<br>Result       | Recovery      | Spike               | Result           | Recovery                  | RPD         | Limit          | Low      | Limit |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        | 1 toodic                              | Added            | , tooun            |               | Added               |                  |                           |             |                |          |       |
| Dissal Bassa O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                        |                                       | 22.2             | 050                |               |                     | 2 200            | N/C                       | N/C         | 50             | 21       | 175   |
| Diesei Range O                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | organics (C10-C28      | ) 190                                 | 33.3             | 200                | 7 76.0        |                     | 3 309            |                           | 16.1        | 30             | 21       | 175   |
| Sun: n-Penta                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | acosane                |                                       | 1.00             | 1.2                | / /0.0        | 1.00                | 5 1.49           | 90.0                      | 10.         | 30             | 20       | 104   |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                       |                  |                    |               |                     |                  |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                        |                                       |                  |                    |               |                     |                  |                           |             |                |          |       |
| Ouell6                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                        | •                                     | -14              |                    |               |                     |                  |                           |             |                |          |       |
| Qualitiers:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | ND/U - Not Detect      | ted at the Reporting Lin              | nit<br>A-th t Ci |                    | MI - I        | viatrix Int         | errerence        |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | B - Analyte Detect     |                                       | vietnod Blai     | IK                 | D-R           | ecovery             |                  |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | J - Estimated Valu     | E Between MDL And F                   | 'QL              |                    | * - Re        | ecovery (           | Jutside Advisa   | DIE QU'LIMIts             |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | E - Estimated Valu     | le exceeds calibration                | curve            |                    |               |                     | <b>.</b>         |                           |             |                |          |       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | N/C - Not Calculat     | ed - Sample concentra                 | tion is grea     | ter than 4         | times the arr | ount of s           | pike added. C    | ontrol 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.

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# CUTEST LABORATORIES

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

# **Quality Control Report**

# **Conoco Phillips**

|                         |                                                        |                                                                             | I                                    | Martin 34 N     | lo.2                                    |                                               |                           |                     |                     |                |                         |
|-------------------------|--------------------------------------------------------|-----------------------------------------------------------------------------|--------------------------------------|-----------------|-----------------------------------------|-----------------------------------------------|---------------------------|---------------------|---------------------|----------------|-------------------------|
| Analysis:<br>Method:    | Gasoline F<br>SW8015B                                  | Range Organics                                                              |                                      |                 |                                         |                                               | Work<br>Lab I             | Order:<br>Batch ID: | 11030104<br>R316686 | ₽ <sup>-</sup> |                         |
|                         |                                                        | Method Blank                                                                |                                      |                 | Samp                                    | les in Analy                                  | tical Batch               | n:                  |                     |                | · · ·                   |
| RunID: HP_O_            | 110304B-573846                                         | 8 Units:                                                                    | mg/kg                                |                 | Lab S                                   | ample ID                                      |                           | Client Sa           | ample ID            |                | : :                     |
| Analysis Date:          | 03/04/2011                                             | 21:20 Analyst:                                                              | WLV                                  |                 | 11030                                   | 104-01B                                       |                           | B-1@38.             | 0-40.0'             |                | •                       |
| Preparation Date        | : 03/04/2011                                           | 21:20 Prep Bv:                                                              | Method: 5                            | SW 5030B        | 11030                                   | 104-02B                                       |                           | B-1@41.             | 5-43.0'             |                |                         |
| •                       | 1                                                      |                                                                             |                                      |                 | 11030                                   | 104-03A                                       |                           | B-1@43.             | 0-43.5'             |                |                         |
|                         |                                                        |                                                                             |                                      | _               | 11030                                   | 104-04B                                       |                           | B-2@30.0            | 0-32.0'             |                |                         |
|                         | A                                                      | nalyte                                                                      | Result Rep Lin                       | nit             | 11030                                   | 104-05B                                       |                           | B-2@36.0            | 0-38.0'             |                |                         |
| Ga                      | soline Range Org                                       |                                                                             | ND 0.                                | <u>10</u><br>42 | 11030                                   | 104-06B                                       |                           | B-3@26.0            | 0-28.0'             |                | -                       |
|                         | Surr: 4-Bromofluo                                      | robenzene                                                                   | 94.0 50-1                            | 59              | 11030                                   | 104-07B                                       |                           | B-3@38.0            | 0-40.0'             |                |                         |
|                         | Me                                                     | ethanolic Preparation                                                       | Blank                                |                 |                                         | •                                             |                           |                     |                     |                |                         |
| unID: HP_O_             |                                                        | 9 Units:                                                                    | ma/ka                                |                 |                                         |                                               |                           |                     |                     | <br>           | norm assume or a        |
| nalvsis Date            | 03/04/2011                                             | 21.49 Analyst                                                               | WIV                                  |                 |                                         |                                               |                           |                     |                     |                |                         |
| renaration Date         | · 03/04/2011                                           | 21.49 Analyst.<br>21.49 Dran Ru                                             | Method: 9                            | SW 5030B        |                                         |                                               |                           |                     |                     |                |                         |
|                         | . 05/04/2011                                           | 21.49 Fiep by.                                                              | Mediod.                              | 344 30300       |                                         |                                               |                           |                     |                     |                |                         |
|                         |                                                        |                                                                             |                                      |                 |                                         |                                               |                           |                     |                     |                |                         |
|                         | A                                                      | nalyte                                                                      | Result Rep Lin                       | nit             |                                         |                                               |                           |                     |                     |                |                         |
| Ga                      | soline Range Org                                       | anics                                                                       | ND 2                                 | 2.5             |                                         |                                               |                           |                     |                     |                |                         |
|                         | Surr: 1,4-Difluorot<br>Surr: 4-Bromofluo               | robenzene                                                                   | 94.1 63-1                            | <u>42</u><br>59 |                                         |                                               |                           |                     |                     |                |                         |
|                         |                                                        |                                                                             |                                      |                 |                                         |                                               |                           |                     |                     |                |                         |
|                         |                                                        | Analysis Date:<br>Preparation Date:                                         | 03/04/2011 20:52<br>03/04/2011 20:52 | 2 An<br>2 Pro   | alyst: W<br>ep By:                      | LV<br>Method:                                 | SW5030B                   |                     |                     | ÷              | nan a' ann - Saonan - S |
|                         |                                                        |                                                                             |                                      | 1               |                                         |                                               | r                         |                     |                     |                |                         |
| · · · .                 | • •                                                    | Analy                                                                       | te                                   | Spike<br>Added  | Result                                  | Percent<br>Recovery                           | Lower<br>Limit            | Upper<br>Limit      |                     |                | • .                     |
| · .                     |                                                        | Gasoline Range Organ                                                        | ics _                                | 1.00            | 0.910                                   | 91.0                                          | 70                        | 130                 |                     | •              |                         |
|                         |                                                        | Surr: 1,4-Difluorobe                                                        | nzene                                | 0.100           | 0.099                                   | 99.0                                          | 63                        | 142                 |                     |                |                         |
|                         |                                                        | Surr: 4-Bromofluoro                                                         | penzene                              | 0.100           | 0.103                                   | 103                                           | 50                        | 159                 |                     | . •            |                         |
|                         |                                                        |                                                                             | ¢.                                   |                 |                                         |                                               |                           | •                   |                     |                |                         |
|                         |                                                        | Matrix                                                                      | Spike (MS) / Ma                      | trix Spike [    | Duplicate (                             | MSD)                                          |                           |                     |                     | ,              |                         |
|                         |                                                        |                                                                             |                                      |                 |                                         |                                               |                           |                     |                     |                |                         |
|                         |                                                        |                                                                             |                                      |                 |                                         |                                               |                           |                     |                     |                |                         |
|                         |                                                        |                                                                             |                                      |                 |                                         |                                               |                           |                     |                     |                |                         |
|                         |                                                        |                                                                             |                                      |                 |                                         |                                               | :                         |                     |                     |                | <u> </u>                |
| Qualifiers: N           | ND/U - Not Dete                                        | cted at the Reporting Li                                                    | nit                                  | N               | MI - Matrix                             | Interference                                  |                           |                     |                     |                |                         |
| Qualifiers: N<br>B      | ND/U - Not Dete                                        | cted at the Reporting Li                                                    | nit<br>Method Blank                  | N               | MI - Matrix<br>D - Recove               | Interference<br>Ty Unreportat                 | le due to D               | Dilution            |                     |                |                         |
| Qualifiers: N<br>B<br>J | ND/U - Not Dete<br>3 - Analyte Deter<br>- Estimated Va | cted at the Reporting Li<br>cted In The Associated<br>lue Between MDL And I | nit<br>Method Blank<br>PQL           | N<br>[<br>*     | MI - Matrix<br>D - Recover<br>- Recover | Interference<br>ry Unreportat<br>y Outside Ad | le due to D<br>visable QC | Dilution<br>Limits  |                     |                |                         |

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

SPL ENVIRONMENTAL 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

# Quality Control Report

# Conoco Phillips

Martin 34 No.2

| Analysis:<br>Method: | Gasoline Range Or<br>SW8015B | rganics                                                |                                                                                                                           |              |                  |                           |                            | WorkOrder<br>Lab Batch | : 110<br>ID: R3 | 30104<br>16686 |              |               |
|----------------------|------------------------------|--------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|--------------|------------------|---------------------------|----------------------------|------------------------|-----------------|----------------|--------------|---------------|
|                      | Sar<br>Rur<br>Ana<br>Pre     | nple Spiked:<br>nID:<br>alysis Date:<br>paration Date: | 11030104-02       HP_O_110304B-5738471     Units:       03/05/2011     0:25     Analy:       03/04/2011     9:43     Prep |              |                  | : mg<br>/st: WL<br>By: XN | /kg<br>_V<br>IL Method: S\ | W5030B                 |                 |                |              | , . 2         |
| An<br>               | alyte                        | Sample<br>Result                                       | MS<br>Spike<br>Added                                                                                                      | MS<br>Result | MS %<br>Recovery | MSD<br>Spike<br>Added     | MSD<br>Result              | MSD %<br>Recovery      | RPD             | RPD<br>Limit   | Low<br>Limit | High<br>Limit |
| Gasoline Range Or    | ganics                       | 0.195                                                  | . 1                                                                                                                       | 1.12         | 92.8             | 3 1                       | 1.02                       | 82.8                   | 9.35            | 50             | 26           | 147           |
| Surr: 1,4-Difluoro   | benzene                      | ND                                                     | 0.1                                                                                                                       | . 0.105      | 10               | 5 Ó.1                     | 0.103                      | 103                    | 2.12            | 30             | 63           | 142           |
| Surr: 4-Bromoflu     | orobenzene                   | ND                                                     | 0.1                                                                                                                       | 0.119        | 119              | 0.1                       | 0.118                      | 118                    | 0.844           | 30             | . 50         | 159           |

Qualifiers:

s: ND/U - Not Detected at the Reporting Limit

B - Analyte Detected In The Associated Method Blank

LABORATORIES

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.

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# **Quality Control Report**

# Conoco Phillips

| 2                                             |                                       |                                                                                                                                        |                |                                       | M                                 | lartin 34 N                                                                                                             | lo.2                                                                                                                |                                                                                                            |                                                                            |                                                                                      |                     |                                      |
|-----------------------------------------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|----------------|---------------------------------------|-----------------------------------|-------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------|--------------------------------------------------------------------------------------|---------------------|--------------------------------------|
| Analysis:<br>Method:                          | Volatile Or<br>SW8260B                | ganics by Me                                                                                                                           | thod 826       | 60B                                   |                                   |                                                                                                                         |                                                                                                                     |                                                                                                            | Worl<br>Lab∛                                                               | kOrder:<br>Batch ID:                                                                 | 11030104<br>R316785 |                                      |
| <u>, , , , , , , , , , , , , , , , , , , </u> | ·· ·                                  | Method                                                                                                                                 | <u>Blank</u>   |                                       | ,                                 |                                                                                                                         | Samp                                                                                                                | les in Analy                                                                                               | tical Batcl                                                                | h:                                                                                   |                     |                                      |
| RunID: MS                                     | SDVOA4_110308C-57                     | 39775                                                                                                                                  | Units:         | ug/kg                                 |                                   |                                                                                                                         | Lab S                                                                                                               | ample ID                                                                                                   |                                                                            | Client Sa                                                                            | mple ID             |                                      |
| Analysis Date                                 | e: 03/08/2011                         | 14:40                                                                                                                                  | Analyst:       | TLE                                   |                                   |                                                                                                                         | 11030                                                                                                               | )104-02A                                                                                                   |                                                                            | <sub>,</sub> B-1@41.5                                                                | -43.0'              |                                      |
|                                               |                                       |                                                                                                                                        |                |                                       |                                   |                                                                                                                         | 11030                                                                                                               | )104-03A                                                                                                   |                                                                            | B-1@43.0                                                                             | -43.5'              |                                      |
| •                                             |                                       |                                                                                                                                        |                | 2                                     |                                   |                                                                                                                         | 11030                                                                                                               | )104-04A                                                                                                   |                                                                            | B-2@30.0                                                                             | -32.0'              | 1                                    |
|                                               | · · ·                                 | nalute                                                                                                                                 | •              | Docult                                | Poplim                            | i+]                                                                                                                     | 11030                                                                                                               | )104-05A                                                                                                   |                                                                            | B-2@36.0                                                                             | -38.0'              | I                                    |
|                                               | Benzene                               |                                                                                                                                        |                | ND                                    |                                   |                                                                                                                         | 11030                                                                                                               | )104-06A                                                                                                   |                                                                            | B-3@26.0                                                                             | -28.0'              | i                                    |
|                                               | Ethylbenzene                          |                                                                                                                                        |                | ND ND                                 | 5.                                | 0                                                                                                                       | 11030                                                                                                               | )104-07A                                                                                                   |                                                                            | B-3@38.0                                                                             | -40.0'              |                                      |
|                                               | Toluene                               |                                                                                                                                        |                | ND                                    | 5.                                | 0                                                                                                                       |                                                                                                                     |                                                                                                            |                                                                            |                                                                                      |                     | ب <u>ال</u> ۲۰۹ مند به ۲۰۰ می می الم |
|                                               | m,p-Xylene                            |                                                                                                                                        |                | ND                                    | 5.                                | 0                                                                                                                       |                                                                                                                     |                                                                                                            |                                                                            |                                                                                      |                     |                                      |
|                                               | O-Xylene                              |                                                                                                                                        |                |                                       | 5.                                |                                                                                                                         |                                                                                                                     |                                                                                                            |                                                                            |                                                                                      |                     | - 1.e. 1.au                          |
|                                               | Surr: 1,2-Dichloro                    | ethane-d4                                                                                                                              |                | 99.5                                  | 71-13                             | 0                                                                                                                       |                                                                                                                     |                                                                                                            |                                                                            |                                                                                      |                     |                                      |
|                                               | Surr: 4-Bromofluo                     | robenzene                                                                                                                              |                | 103.8                                 | 65-13                             | 1                                                                                                                       |                                                                                                                     |                                                                                                            |                                                                            |                                                                                      |                     |                                      |
|                                               | Surr: Toluene-d8                      |                                                                                                                                        |                | 106.0                                 | 75-13                             | 6                                                                                                                       |                                                                                                                     |                                                                                                            |                                                                            |                                                                                      |                     |                                      |
|                                               |                                       |                                                                                                                                        |                |                                       |                                   |                                                                                                                         |                                                                                                                     |                                                                                                            |                                                                            |                                                                                      |                     |                                      |
|                                               |                                       |                                                                                                                                        |                |                                       | *                                 |                                                                                                                         |                                                                                                                     |                                                                                                            | ,                                                                          |                                                                                      |                     | •                                    |
|                                               |                                       |                                                                                                                                        |                | La                                    | boratory                          | Control S                                                                                                               | Sample (L                                                                                                           | <u>CS)</u>                                                                                                 | ,                                                                          |                                                                                      |                     |                                      |
|                                               |                                       | RunID:<br>Analysis Da                                                                                                                  | ate:           | <u>La</u><br>MSDVOA<br>03/08/20       | boratory<br>4_1103080<br>11 12:38 | Control S<br>C-57397 Un<br>An                                                                                           | Sample (L<br>hits: u<br>halyst: T                                                                                   | <u>CS)</u><br>g/kg<br>LE                                                                                   | •<br>• •                                                                   |                                                                                      |                     |                                      |
|                                               |                                       | RunID:<br>Analysis Da                                                                                                                  | ate:<br>Analyl | <u>La</u><br>MSDVOA<br>03/08/20<br>te | boratory<br>4_1103080<br>11 12:38 | Control S<br>C-57397 Un<br>An<br>Spike<br>Added                                                                         | Sample (L<br>hits: u<br>halyst: T<br>Result                                                                         | CS)<br>g/kg<br>LE<br>Percent<br>Recovery                                                                   | Lower<br>Limit                                                             | Upper<br>Limit                                                                       |                     |                                      |
| <u>.</u><br><u> </u>                          |                                       | RunID:<br>Analysis Da                                                                                                                  | ate:<br>Analyl | <u>La</u><br>MSDVOA<br>03/08/20<br>te | boratory<br>4_1103080<br>11 12:38 | Control S<br>C-57397 Un<br>An<br>Spike<br>Added<br>20.0                                                                 | Sample (L<br>hits: u<br>halyst: T<br>Result<br>19.0                                                                 | CS)<br>g/kg<br>LE<br>Percent<br>Recovery<br>94.9                                                           | Lower<br>Limit<br>64                                                       | Upper<br>Limit<br>130                                                                |                     |                                      |
|                                               |                                       | RunID:<br>Analysis Da<br>Benzene<br>Ethylbenzene                                                                                       | ate:<br>Analyl | <u>La</u><br>MSDVOA<br>03/08/20<br>te | boratory<br>4_1103080<br>11 12:38 | Control S<br>C-57397 Un<br>An<br>Spike<br>Added<br>20.0<br>20.0                                                         | Sample (Lu<br>hits: un<br>halyst: T<br>Result<br>19.0<br>20.2                                                       | CS)<br>g/kg<br>LE<br>Percent<br>Recovery<br>94.9<br>101                                                    | Lower<br>Limit<br>64<br>58                                                 | Upper<br>Limit<br>130<br>143                                                         |                     |                                      |
|                                               |                                       | RunID:<br>Analysis Da<br>Benzene<br>Ethylbenzene<br>Toluene                                                                            | Analyi         | La<br>MSDVOA<br>03/08/20<br>te        | boratory<br>4_1103080<br>11 12:38 | C-57397 Un<br>An<br>Spike<br>Added<br>20.0<br>20.0<br>20.0                                                              | Sample (Lu<br>nits: un<br>nalyst: T<br>Result<br>19.0<br>20.2<br>19.4                                               | CS)<br>g/kg<br>LE<br>Percent<br>Recovery<br>94.9<br>101<br>96.8                                            | Lower<br>Limit<br>64<br>58<br>63                                           | Upper<br>Limit<br>130<br>143<br>139                                                  |                     |                                      |
|                                               | · · · · ·                             | RunID:<br>Analysis Da<br>Benzene<br>Ethylbenzene<br>Toluene<br>m,p-Xylene                                                              | ate:<br>Analyi | La<br>MSDVOA<br>03/08/20<br>te        | boratory<br>4_1103080<br>11 12:38 | C-57397 Un<br>An<br>Spike<br>Added<br>20.0<br>20.0<br>20.0<br>40.0                                                      | Sample (L<br>nits: u<br>nalyst: T<br>Result<br>19.0<br>20.2<br>19.4<br>41.1                                         | CS)<br>g/kg<br>LE<br>Percent<br>Recovery<br>94.9<br>101<br>96.8<br>103                                     | Lower<br>Limit<br>64<br>58<br>63<br>63                                     | Upper<br>Limit<br>130<br>143<br>139<br>137                                           |                     |                                      |
|                                               |                                       | RunID:<br>Analysis Da<br>Benzene<br>Ethylbenzene<br>Toluene<br>m,p-Xylene<br>o-Xylene                                                  | Analyi         | La<br>MSDVOA<br>03/08/20<br>te        | boratory<br>4_1103080<br>11 12:38 | C-57397 Un<br>An<br>Spike<br>Added<br>20.0<br>20.0<br>20.0<br>40.0<br>20.0                                              | Sample (L<br>nits: u<br>nalyst: T<br>Result<br>19.0<br>20.2<br>19.4<br>41.1<br>20.2                                 | CS)<br>g/kg<br>LE<br>Percent<br>Recovery<br>94.9<br>101<br>96.8<br>103<br>101                              | Lower<br>Limit<br>64<br>58<br>63<br>63<br>64<br>64                         | Upper<br>Limit<br>130<br>143<br>139<br>137<br>143                                    |                     |                                      |
|                                               |                                       | RunID:<br>Analysis Da<br>Benzene<br>Ethylbenzene<br>Toluene<br>m,p-Xylene<br>o-Xylene<br>Xylenes,Total                                 | Analy          | La<br>MSDVOA<br>03/08/20<br>te        | boratory<br>4_1103080<br>11 12:38 | Control S<br>C-57397 Un<br>An<br>Spike<br>Added<br>20.0<br>20.0<br>20.0<br>20.0<br>40.0<br>20.0<br>60.0                 | Sample (L<br>hits: u<br>halyst: T<br>Result<br>19.0<br>20.2<br>19.4<br>41.1<br>20.2<br>61.3                         | CS)<br>g/kg<br>LE<br>Percent<br>Recovery<br>94.9<br>101<br>96.8<br>103<br>101<br>102                       | Lower<br>Limit<br>64<br>58<br>63<br>63<br>64<br>64<br>64                   | Upper<br>Limit<br>130<br>143<br>139<br>137<br>143<br>143                             |                     |                                      |
|                                               | · · · · · · · · · · · · · · · · · · · | RunID:<br>Analysis Da<br>Benzene<br>Ethylbenzene<br>Toluene<br>m,p-Xylene<br>o-Xylene<br>Xylenes,Total<br>Surr: 1,2-D                  | ate:<br>Analyt | La<br>MSDVOA<br>03/08/20<br>te        | boratory<br>4_1103080<br>11 12:38 | Control S<br>C-57397 Un<br>An<br>Spike<br>Added<br>20.0<br>20.0<br>20.0<br>20.0<br>20.0<br>20.0<br>20.0<br>60.0<br>50.0 | Sample (L<br>hits: u<br>halyst: T<br>Result<br>19.0<br>20.2<br>19.4<br>41.1<br>20.2<br>61.3<br>49.5                 | CS)<br>g/kg<br>LE<br>Percent<br>Recovery<br>94.9<br>101<br>96.8<br>103<br>101<br>102<br>99.0               | Lower<br>Limit<br>64<br>58<br>63<br>64<br>64<br>64<br>64<br>71             | Upper<br>Limit<br>130<br>143<br>139<br>137<br>143<br>143<br>143                      |                     |                                      |
|                                               |                                       | RunID:<br>Analysis Da<br>Benzene<br>Ethylbenzene<br>Toluene<br>m,p-Xylene<br>o-Xylene<br>Xylenes,Total<br>Surr: 1,2-Di<br>Surr: 4-Bro  | ate:<br>Analyl | La<br>MSDVOA<br>03/08/20<br>te        | boratory<br>4_1103080<br>11 12:38 | Control S<br>C-57397 Un<br>An<br>Spike<br>Added<br>20.0<br>20.0<br>20.0<br>20.0<br>20.0<br>20.0<br>20.0<br>20.          | Sample (L<br>hits: u<br>halyst: T<br>Result<br>19.0<br>20.2<br>19.4<br>41.1<br>20.2<br>61.3<br>49.5<br>52.4         | CS)<br>g/kg<br>LE<br>Percent<br>Recovery<br>94.9<br>101<br>96.8<br>103<br>101<br>102<br>99.0<br>105        | Lower<br>Limit<br>64<br>58<br>63<br>64<br>64<br>64<br>64<br>71<br>65       | Upper<br>Limit<br>130<br>143<br>139<br>137<br>143<br>143<br>143<br>130<br>131        |                     |                                      |
|                                               |                                       | RunID:<br>Analysis Da<br>Benzene<br>Ethylbenzene<br>Toluene<br>m,p-Xylene<br>o-Xylene<br>Xylenes,Total<br>Surr: 1,2-Di<br>Surr: 4-Broo | Analyt         | La<br>MSDVOA<br>03/08/20<br>te        | boratory<br>4_1103080<br>11 12:38 | Control S<br>C-57397 Un<br>An<br>Spike<br>Added<br>20.0<br>20.0<br>20.0<br>20.0<br>20.0<br>20.0<br>20.0<br>20.          | Sample (L<br>hits: u<br>halyst: T<br>Result<br>19.0<br>20.2<br>19.4<br>41.1<br>20.2<br>61.3<br>49.5<br>52.4<br>51.8 | CS)<br>g/kg<br>LE<br>Percent<br>Recovery<br>94.9<br>101<br>96.8<br>103<br>101<br>102<br>99.0<br>105<br>104 | Lower<br>Limit<br>64<br>58<br>63<br>64<br>64<br>64<br>64<br>71<br>65<br>75 | Upper<br>Limit<br>130<br>143<br>139<br>137<br>143<br>143<br>143<br>130<br>131<br>136 |                     |                                      |

Qualifiers: N

ND/U - Not Detected at the Reporting Limit

- B Analyte Detected In The Associated Method Blank
- MI Matrix Interference

D - Recovery Unreportable due to Dilution

\* - Recovery Outside Advisable QC Limits

J - Estimated Value Between MDL And PQL E - Estimated Value exceeds calibration curve

E - Estimated value exceeds calibration curve

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

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# SPL ENVIRONMENTAL 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

## **Quality Control Report**

# Conoco Phillips

Martin 34 No.2

| Analysis: Volatile Organics<br>Method: SW8260B | by Method 826                                               | 0B                                 |                                                   |                                  |                         |               | WorkOrder<br>Lab Batch I | : 110<br>D: R3 <sup>-</sup> | 30104<br>16785 |              |               |   |
|------------------------------------------------|-------------------------------------------------------------|------------------------------------|---------------------------------------------------|----------------------------------|-------------------------|---------------|--------------------------|-----------------------------|----------------|--------------|---------------|---|
| S<br>F<br>A<br>F                               | ample Spiked:<br>unID:<br>nalysis Date:<br>reparation Date: | 11030<br>MSDV0<br>03/08/<br>03/04/ | 104-02<br>DA4_110308C-<br>2011 19:18<br>2011 9:48 | 57397 Units:<br>Analys<br>Prep I | kg<br>E<br>L Method: SV | W5030В        |                          |                             |                | <b>2</b> * * |               |   |
| Analyte                                        | Sample<br>Result                                            | MS<br>Spike<br>Added               | MS<br>Result                                      | MS %<br>Recovery                 | MSD<br>Spike<br>Added   | MSD<br>Result | MSD %<br>Recovery        | RPD                         | RPD<br>Limit   | Low<br>Limit | High<br>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 <u>.</u> 5            | 1.77                        | 21             | 49           | 133           | 1 |
| 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                    |                                                             | 50                                 | 48.5                                              | 97.0                             | 50                      | 48.8          | 97.6                     | 0.597                       | . 30           | 71           | 130           |   |
| Surr: 4-Bromofluorobenzene:                    | -se ND                                                      | . 50                               | - 52                                              | 104                              | 50                      | 52.1          | 104                      | 0.236                       | 30             | -65          |               |   |
| 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

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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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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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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.

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

# **Quality Control Report**

| - 2                  |                                                        |                                   |                              | Con<br>M    | oco Ph<br>artin 34 N      | illips<br>o.2           |                          | ·           |                      |                    |                                       |
|----------------------|--------------------------------------------------------|-----------------------------------|------------------------------|-------------|---------------------------|-------------------------|--------------------------|-------------|----------------------|--------------------|---------------------------------------|
| Analysis:<br>Method: | Volatile Organics<br>SW8260B                           | by Method 826                     | 60B                          |             |                           |                         |                          | Wor<br>Lab  | kOrder:<br>Batch ID: | 1103010<br>R316798 | 4                                     |
|                      | <u>N</u>                                               | lethod Blank                      |                              |             | •                         | Sam                     | ples in Analy            | ytical Batc | h:                   |                    | · · · · · · · · · · · · · · · · · · · |
| RunID: K_            | _110308F-5739983                                       | Units:                            | ug/kg                        |             |                           | Lah                     | Sample ID                |             | Client Sa            | mole ID            |                                       |
| Analysis Dat         | te: 03/08/2011 11:36                                   | Analyst:                          | LU_L                         |             |                           | 1103                    | 30104-01A                |             | B-1@38.0             | )-40.0'            |                                       |
|                      |                                                        |                                   |                              |             |                           |                         |                          |             |                      |                    |                                       |
|                      | Analyte                                                |                                   | Result                       | Rep Limit   | E                         |                         |                          |             |                      |                    | -                                     |
|                      | Benzene                                                |                                   | ND                           | 5.0         | 5                         |                         |                          |             |                      |                    |                                       |
|                      | Ethylbenzene                                           |                                   | ND                           | 5.0         | 2                         |                         |                          |             | ,                    |                    |                                       |
|                      | Toluene                                                |                                   | ND                           | 5.0         | 2                         |                         |                          |             |                      |                    |                                       |
|                      | n,p-xylene                                             |                                   |                              | 5.0         | 2                         |                         |                          |             |                      |                    |                                       |
|                      | Xylenes,Total                                          |                                   | ND                           | 5.0         |                           |                         |                          |             |                      |                    | · · ·                                 |
|                      | Surr: 1,2-Dichloroethane-                              | 14                                | 94.9                         | 71-130      | 2                         |                         |                          |             |                      |                    | •                                     |
|                      | Surr: 4-Bromofluorobenze                               | ne                                | 98.6                         | 65-131      | ļ                         |                         |                          |             |                      | •                  |                                       |
|                      | Surr: Foluene-d8                                       |                                   | 101.1                        | 75-136      | )                         |                         |                          |             |                      |                    | , <u></u>                             |
|                      | Methanol                                               | ic Preparation                    | <u>Blank</u>                 |             |                           |                         |                          |             |                      |                    | Lister of Diety                       |
| RunID <sup>,</sup> K | 110308F-5739984                                        | Units <sup>.</sup>                | ua/ka                        |             |                           |                         |                          |             |                      |                    | الشور كالدحظ بالمعدي                  |
|                      |                                                        | ernes.                            |                              |             |                           |                         |                          |             |                      |                    | ·····                                 |
|                      | Analyte                                                |                                   | Result                       | Ren Limil   | Ā                         |                         |                          |             |                      |                    |                                       |
|                      | Benzene                                                |                                   | ND                           | 250         |                           |                         |                          |             |                      |                    |                                       |
|                      | Ethylbenzene                                           |                                   | ND                           | 250         | 5                         |                         |                          |             |                      |                    |                                       |
|                      | Toluene                                                |                                   | ND                           | 250         | 2                         |                         |                          |             |                      |                    |                                       |
|                      | m,p-Xylene                                             |                                   | ND ND                        | 250         | 2                         |                         |                          |             |                      |                    |                                       |
|                      | Xvienes.Total                                          |                                   | ND                           | 250         |                           |                         |                          |             |                      |                    |                                       |
|                      | Surr: 1,2-Dichloroethane-                              | 14                                | 97.7                         | 78-116      | 5                         |                         | •                        |             |                      |                    |                                       |
|                      | Surr: 4-Bromofluorobenze                               | ne                                | 99.8                         | 74-125      | 5                         |                         |                          |             |                      |                    |                                       |
|                      | Surr: Toluene-d8                                       |                                   | 102.0                        | 82-118      | 3                         |                         |                          |             |                      |                    |                                       |
|                      |                                                        |                                   | Lab                          | oratory     | Control S                 | ample (I                | LCS)                     |             |                      |                    |                                       |
|                      | Rur                                                    | nID:                              | K_110308F                    | -5739982    | Un                        | its:                    | ug/kg                    |             |                      |                    |                                       |
|                      | Ana                                                    | lysis Date:                       | 03/08/201                    | 1 11:10     | An                        | alyst: I                | LU_L                     |             |                      |                    |                                       |
|                      |                                                        |                                   |                              |             |                           |                         |                          |             |                      |                    |                                       |
|                      |                                                        |                                   |                              |             |                           |                         |                          |             |                      |                    |                                       |
|                      |                                                        | Analy                             | to                           |             | Spike                     | Recult                  | Percent                  | Lower       | Unner                |                    |                                       |
|                      |                                                        |                                   |                              |             | Added                     | rtosuit                 | Recoverv                 | Limit       | Limit                |                    |                                       |
|                      |                                                        | i                                 |                              |             |                           |                         | 1                        | 1           |                      |                    |                                       |
| Qualifiers:          | ND/U - Not Detected at                                 | the Reporting Lir                 | <br>mit                      |             | <br>N                     | 1I - Matrix             | x Interference           |             |                      | · · · · · ·        | · · ·                                 |
|                      | B - Analyte Detected In                                |                                   | Method Bla                   | nk          | <br>C                     | ) - Recov               | erv Linrenorta           | ble due to  | Dilution             |                    | •                                     |
| ,                    | L - Estimated Value Pot                                |                                   |                              |             | *                         | - Recover               | ny Outeide A             | tvisable Of | 2 Limite             |                    |                                       |
|                      | E Estimated Value Dell                                 |                                   |                              |             |                           |                         |                          |             | 2 EITII(3            |                    |                                       |
|                      |                                                        | eeus calibration                  | curve                        | 1 an 11     | 4 Alman = 41              |                         | af and                   |             | limite d=            | annh.              |                                       |
|                      | IN/C - INOT CAICULATED - S                             | ample concentra                   | auon is grea                 | iter than 4 | 4 times the               | e amount                | or spike adde            | a. Control  | innits do not        | appiy.             | 4000404 0. 40                         |
|                      | INIC - Too numerous t                                  | o count                           |                              |             |                           |                         |                          |             |                      | 1                  | 1030104 Page 16                       |
| calculated b         | presented on the QC Sumn<br>by the SPL LIMS system are | ary Report have<br>derived from Q | c deen round<br>C data prior | to the ap   | pand perco<br>plication c | ent recov<br>of roundir | very values<br>ng rules. |             |                      |                    | 3/15/2011 9:04:34 AM                  |



# Quality Control Report

# **Conoco Phillips**

| ·                                                                                                                |                                                               |                                                 |                                     | Mart                                         | tin 34 No.             | 2                                |                            |                |                      |              |                 |              |               |                  |
|------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------------------|-------------------------------------|----------------------------------------------|------------------------|----------------------------------|----------------------------|----------------|----------------------|--------------|-----------------|--------------|---------------|------------------|
| Analysis: Vo<br>Method: SV                                                                                       | olatile Organics b<br>V8260B                                  | by Method 826                                   | 0B                                  |                                              |                        |                                  | ×.                         | Wor<br>Lab     | kOrder:<br>Batch ID  | 11(<br>c: R3 | )30104<br>16798 |              |               |                  |
|                                                                                                                  |                                                               | •.                                              | La                                  | aboratory Co                                 | ontrol Sa              | mple (LC                         | <u>;s)</u>                 |                |                      |              |                 |              |               |                  |
| • .                                                                                                              | Runil<br>Analy                                                | D:<br>/sis Date:                                | K_110308<br>03/08/20                | 3F-5739982<br>911 11:10                      | Units<br>Anal <u>y</u> | s: ug<br>yst: LL                 | I/kg<br>J_L                |                |                      |              |                 | 1.           | :             |                  |
|                                                                                                                  |                                                               | Analyt                                          | e.                                  | S                                            | ipike I<br>dded        | Result                           | Percent<br>Recovery        | Lower<br>Limit | Upper<br>Limit       |              |                 |              |               |                  |
| and and the set of and the set of a set  | Benzen                                                        | e !                                             |                                     |                                              | 20.0                   | 20.7                             | 103                        | 74             | 12                   | 3            |                 |              |               | ,<br>1           |
|                                                                                                                  | Ethylber                                                      | nzene                                           |                                     |                                              | 20.0                   | 19.4                             | 96.8                       | 72             | 2 12                 | 7            |                 |              |               | ÷                |
|                                                                                                                  | Toluene                                                       | • · · · ·                                       |                                     |                                              | 20.0                   | 19.4                             | 97.0                       | 74             | 12                   | 6            |                 |              |               | سمبر<br>: ۱۰۰۰ ب |
|                                                                                                                  | m,p-Xyle                                                      | ene                                             |                                     |                                              | 40.0                   | 38.3                             | 95.8                       | 71             | 12                   | 9 ·          |                 |              |               | 1.17             |
|                                                                                                                  | o-Xylene                                                      | e                                               |                                     |                                              | 20.0                   | 19.5                             | 97.4                       | • 74           | 13                   | 0            |                 |              |               |                  |
|                                                                                                                  | Xylenes                                                       | ,Total                                          |                                     |                                              | 60.0                   | 57.8                             | 96.3                       | 71             | 13                   | 0            |                 |              | -             |                  |
|                                                                                                                  | Surr:                                                         | 1,2-Dichloroeth                                 | ane-d4                              |                                              | 50.0                   | 47.9                             | 95.8                       | 78             | 11                   | 6            |                 |              |               |                  |
| ·····                                                                                                            | Surr:                                                         | 4-Bromofluorot                                  | benzene                             |                                              | 50.0                   | 49                               | 97.9                       | 74             | 12                   | 5            |                 |              |               |                  |
|                                                                                                                  | Surr:                                                         | Toluene-d8                                      |                                     |                                              | 50.0                   | 50.1                             | 100                        | 82             | 2 11                 | 8            |                 | : "          |               |                  |
| an an tha an t | Sar<br>Rur                                                    | <u>Matrix</u><br>nple Spiked:<br>nID:           | <b>Spike (M</b><br>110300<br>K_1103 | <b>MS) / Matrix</b><br>073-02<br>08F-5739986 | <u>Spike Du</u><br>Uni | <mark>plicate (</mark><br>its: ι | <u>MSD)</u><br>Jg/kg       | ,<br>,         |                      |              | -               |              |               |                  |
|                                                                                                                  | Ana<br>Pre                                                    | alysis Date:<br>paration Date:                  | 03/08/2<br>03/02/2                  | 2011 16:52<br>2011 10:00                     | Ana<br>Pre             | alyst: I<br>ep By:               | LU_L<br>Metho              | d: SW503       | 5A                   |              |                 |              |               | -<br>            |
| Take and Analyte                                                                                                 | <b>)</b>                                                      | Sample Result                                   | MS<br>Spike<br>Added                | ∂ MS<br>Result                               | MS %<br>Recover        | ry Spik<br>Adde                  | o MSD<br>e Resu<br>ed      | ) MS<br>It Rec | iD %<br>covery       | RPD          | RPD<br>Limit    | Low<br>Limit | High<br>Limit |                  |
| Benzene                                                                                                          |                                                               | ND                                              | 893                                 | 995                                          | 1                      | 11 8                             | 93                         | 994            | 111                  | 0.100        | 22              | 70           | 124           |                  |
| Ethylbenzene                                                                                                     | -                                                             | ND                                              | 893                                 | 1110                                         | 1                      | 04 8                             | 93 -                       | 1100           | 102                  | 0.992        | 20              | 76           | 122           |                  |
| Toluene                                                                                                          | · ···                                                         | ND                                              | 893                                 | 915                                          | 1                      | 03 8                             | 93                         | 906            | 101                  | 1.06         | 24              | 80           | 117           |                  |
| m,p-Xylene                                                                                                       |                                                               | ND                                              | 1790                                | 1780                                         | · 99                   | 9.8 17                           | '90 <sup>-</sup>           | 1800           | 101                  | 1.01         | 20              | 69           | 127           |                  |
| o-Xylene                                                                                                         | •                                                             | ND                                              | 893                                 | 909                                          | 1                      | 02 8                             | 93                         | 899            | 101                  | 1.09         | 20              | 84           | 114           |                  |
| Xylenes, Total                                                                                                   |                                                               | ND                                              | 2679                                | 2689                                         | 100                    | 0.4 26                           | 79 2                       | 2699           | 100.7                | 0.3074       | 20              | 69           | 127           |                  |
| Surr: 1,2-Dichloroetha                                                                                           | ane-d4                                                        | ND                                              | 2230                                | 2170                                         | 97                     | 7.4 22                           | 30 2                       | 2100           | 94.2                 | 3.32         | 30              | 78           | 116           |                  |
| Surr: 4-Bromofluorob                                                                                             | enzene                                                        | ND                                              | 2230                                | 2230                                         | 1                      | 00 22                            | 30 2                       | 2170           | 97.1                 | 3.08         | 30              | 74           | 125           |                  |
| Surr: Toluene-d8                                                                                                 |                                                               | ND                                              | 2230                                | 2270                                         | 1                      | 02 22                            | 30 2                       | 2220           | 99.6                 | 2.28         | 30              | 82           | 118           |                  |
| Qualifiers: ND/U -<br>B - Anal<br>J - Estir                                                                      | Not Detected at th<br>yte Detected In Ti<br>nated Value Betwo | e Reporting Lin<br>he Associated Meen MDL And F | nit<br>Vethod B<br>PQL              | lank                                         | MI<br>D -<br>* -       | - Matrix I<br>Recover            | nterference<br>y Unreporta | ble due to     | Dilution<br>C Limits |              |                 |              |               | <br>             |

E - Estimated Value exceeds calibration curve

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.

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# **Quality Control Report**

# Conoco Phillips Martin 34 No.2

| Analysis: | Volatile Organics by Method 8260B | WorkOrder:    | 11030104 |
|-----------|-----------------------------------|---------------|----------|
| Method:   | SW8260B                           | Lab Batch ID: | R316798  |
| 1         |                                   |               |          |

#### Qualifiers: N

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.

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# **Quality Control Report**

|                                       |                        |                 |                   |            | Cond                      | oco Ph    | illip            | s            |                   |             |                     |              |                 |       |       |
|---------------------------------------|------------------------|-----------------|-------------------|------------|---------------------------|-----------|------------------|--------------|-------------------|-------------|---------------------|--------------|-----------------|-------|-------|
| Analysis:<br>Method:                  | Ion Chron<br>E300.0 MC | natograph<br>)D | у                 |            | Ma                        | rtin 34 N | 10.2             | · · · ·      |                   | Wor<br>Lab  | kOrder:<br>Batch II | 110<br>D: R3 | )30104<br>16642 |       |       |
|                                       |                        | Me              | thod Blank        |            |                           |           | s                | amples       | s in Analy        | ical Batc   | h:                  |              |                 |       |       |
| RunID: IC2_                           | 110304B-5737816        |                 | Units:            | ma/ka      |                           | -         |                  | ah San       | nnia ID           |             | Clien               | t Sample II  | <b>.</b>        |       |       |
| Analysis Date:                        | 03/04/2011             | 14:31           | Analvst:          | ESK        |                           |           | <u>ب</u>         | 103010       | 4-01B             | •           | B-1@                | 38.0-40.0'   | 2               |       |       |
|                                       |                        |                 | , <b>,</b>        | ,          |                           |           | 1                | 103010       | 4-02B             |             | B-1@                | 41.5-43.0'   |                 |       |       |
|                                       |                        |                 |                   | 3'         |                           |           | 1                | 103010       | 4-03A             |             | B-1@                | 43.0-43.5'   |                 |       |       |
| . [                                   |                        | Analyte         | · · · ·           | Result     | Rep Limit                 |           | 1                | 103010       | 4-04B             |             | B-2@                | 30.0-32.0'   |                 |       |       |
|                                       | Chloride               |                 |                   | N          | 5.0                       |           | 1                | 103010       | 14-05B            |             | B-2@                | 36.0-38.0'   |                 |       |       |
|                                       |                        |                 | · · ·             | ;          |                           |           | 1                | 103010       | 14-06B            |             | B-3@                | 26.0-28.0    |                 |       |       |
| • •                                   | L                      |                 | •••               | ;          |                           |           | I                | 103010       | 4-07 B            |             | <u>ь-э</u> ш        | 38.0-40.0    |                 |       |       |
|                                       |                        |                 |                   |            |                           |           |                  |              |                   |             |                     |              |                 |       |       |
|                                       |                        |                 |                   | <u>L</u> a | aboratory (               | Control S | Samp             | le (LCS      | <u>i)</u>         |             |                     |              |                 |       |       |
|                                       |                        | Runi            | ):                | IC2 1103   | 04B-573781                | 7 Ur      | nits:            | ma/ł         | ka                |             |                     |              |                 |       |       |
| · · · ,                               |                        | Analy           | sis Date:         | 03/04/20   | )11 14:48                 | An        | nalyst:          | ESK          | ~ <b>5</b>        |             |                     |              |                 |       |       |
|                                       |                        |                 |                   |            |                           | •         |                  |              |                   |             |                     |              |                 |       |       |
|                                       |                        |                 |                   |            |                           |           |                  |              |                   |             |                     |              |                 |       |       |
|                                       |                        |                 | Analy             | te         |                           | Spike     | Res              | ult f        | Percent           | Lower       | Upper               |              |                 |       |       |
|                                       |                        |                 |                   |            |                           | Added     |                  | ۲<br>۲       | Recovery          | Limit       | Limit               |              |                 |       |       |
|                                       |                        | Chloride        |                   |            |                           | 100.0     | 9                | 8.22         | 98.22             | 90          | 1                   | 10           |                 |       |       |
|                                       |                        |                 |                   |            |                           |           |                  |              |                   |             |                     |              |                 |       |       |
| ·                                     |                        |                 | Matrix            | Spike (I   | AS) / Matrix              | k Spike [ | Duplic           | ate (M       | SD)               |             |                     |              |                 |       |       |
| 1                                     | · .                    |                 |                   |            |                           |           |                  |              |                   |             |                     |              |                 |       |       |
|                                       |                        | Sarr            | ple Spiked:       | 11030      | 104-04                    |           | 1.4.             |              |                   |             |                     |              |                 |       |       |
| •                                     |                        | , Run<br>Ana    | ID:<br>Veis Dato: | 03/04/     | 03040-3/3/0<br>2011 16·47 | /         | Jnits:<br>Voalve | mg<br>.+. ⊏s | g∕kg<br>sk∕       |             |                     |              |                 |       | •     |
| ,<br>                                 | `                      | Ana             | ysis Dale.        | 03/04/2    | 2011 10.47                | ,         | naiya            |              |                   |             |                     | •            |                 |       | •     |
|                                       |                        |                 | •                 |            |                           | 1         |                  |              |                   |             |                     | ·            |                 |       |       |
| · · · · · · · · · · · · · · · · · · · | Analyte                |                 | Sample            | MS         | MS                        | MS        | %                | MSD          | MSD               | MS          | D %                 | RPD          | RPD             | Low   | High  |
|                                       |                        |                 | Result            | Spike      | Result                    | Reco      | very             | Spike        | Result            | Rec         | overy               |              | Limit           | Limit | Limit |
|                                       |                        |                 |                   | Addeu      |                           |           |                  | Auueu        | _                 |             |                     |              |                 |       |       |
| Chloride                              |                        |                 | 16.37             | 50         | 58.3                      | 89   8    | 84.04            | 50           | 0 <sub>.</sub> 57 | .56         | 82.38               | 1.432        | 15              | 80    | 120   |
|                                       |                        |                 |                   |            |                           |           |                  |              |                   |             |                     |              |                 |       |       |
|                                       |                        |                 |                   |            | •                         |           |                  |              |                   |             |                     |              |                 |       |       |
|                                       |                        |                 |                   |            |                           |           |                  |              |                   |             |                     |              |                 |       |       |
|                                       | <u>_</u>               |                 |                   |            | <u> </u>                  |           |                  |              |                   |             |                     | ·····        |                 |       |       |
| Qualifiers:                           | ND/U - Not Dete        | ected at the    | e Reporting Lir   | nit        |                           | Ň         | MI - M           | atrix Int    | erference         |             |                     |              | •               |       |       |
|                                       | B - Analyte Dete       | cted In Th      | e Associated I    | Method B   | lank                      | [         | D - Re           | covery       | Unreportab        | le due to l | Dilution            |              |                 |       |       |
| · .                                   | J - Estimated Va       | alue Betwe      | en MDL And F      | VQL        |                           | *         | - Rec            | covery C     | Jutside Adv       | /isable QC  | Limits              |              |                 |       |       |
|                                       |                        | aine excee      | us canoration     | CULLE      | •                         |           |                  |              |                   |             |                     |              |                 |       |       |

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.

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Sample Receipt Checklist And Chain of Custody

# Version 2.1 - Modified February 11, 2011

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

# Sample Receipt Checklist

| Workorder:     11030104       Date and Time Received:     3/3/2011 9:20:00 AM       Temperature:     2.0/2.0°C |                       | Received By:<br>Carrier name:<br>Chilled by: | NB<br>Fedex-Standard Overnight<br>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                                           | <i>.</i>                                    |
| 9. Sufficient sample volume for indicated test?                                                                | Yes 🗹                 | Νο                                           |                                             |
| 10. All samples received within holding time?                                                                  | Yes 🗹                 | No 🗔                                         |                                             |
| 11. Container/Temp Blank temperature in compliance?                                                            | Yes 🗹                 | Νο                                           |                                             |
| 12. Water - VOA vials have zero headspace?                                                                     | Yes                   |                                              | Vials Not Present                           |
| <b>13.</b> Water - Preservation checked upon receipt (except VOA*)?                                            | Yes 🗌 .               | No 🗌                                         | Not Applicable                              |
| *VOA Preservation Checked After Sample Analysis                                                                |                       |                                              |                                             |
| SPL Representative:                                                                                            | Contact Date &        | & Time:                                      |                                             |
| Non Conformance 1. No analysis was listed marked off on COC. Issues:                                           | Logged in per clients | request.                                     |                                             |
| Client Instructions:                                                                                           | ·                     |                                              |                                             |
| · · ·                                                                                                          |                       |                                              | · · ·                                       |

| 306322     | 1030/04 page / of /  | ze pres Requested Analysis |                                   | <b>2</b> / | 7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7<br>7 | 200<br>200<br>200<br>200<br>200<br>200<br>200<br>200<br>200<br>200                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | - <b>p</b><br>- <b>j</b><br>= 1(c) | 61 0<br>19                               | Soz<br>Soz                                                                         | L<br>8<br>[=]<br>[=]<br>[=] | <b>1</b>    | - 7     |            | <b>2</b> - <b>%</b> | 2 - 7    | , , ,   | <u>k</u> – 2 |   |   |   | ide to will samples Intact? |           | I Detection Limits (specify): PM review (initial): |                  | 2. Received by:     | 4. Received by:     | 6. Received by Laboratory: | <b>Traverse City, MI 49686 (231) 947-5777</b> |
|------------|----------------------|----------------------------|-----------------------------------|---------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------|------------------------------------------|------------------------------------------------------------------------------------|-----------------------------|-------------|---------|------------|---------------------|----------|---------|--------------|---|---|---|-----------------------------|-----------|----------------------------------------------------|------------------|---------------------|---------------------|----------------------------|-----------------------------------------------|
|            |                      | natrix bottle siz          | A=al<br>=0the<br>355<br>761<br>Al | =01<br>=01<br>=01                                                                                             | <sup>1]</sup> X<br>upç<br>upç<br>vcou                                                       | 19=5<br>19=5<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>102=2<br>10<br>102=2<br>10<br>102=2<br>10<br>102=2<br>10<br>102=2<br>10<br>102=2<br>10<br>102=2<br>10<br>102=2<br>10<br>102=2<br>10<br>10<br>102=2<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10<br>10 | -τ<br>Λ<br>Λ<br>-<br>Γ<br>-        | ier<br>185<br>stic<br>192<br>stic<br>192 | il []<br>[]<br>[]<br>[]<br>[]<br>[]<br>[]<br>[]<br>[]<br>[]<br>[]<br>[]<br>[]<br>[ | =1<br>=0<br>=d<br>TS<br>M   | S C 8,      | S C &   | 2 2 3      | 2 F 6,              | ک ور کړ  | S 6 5,1 | 5 6 31       |   | • |   | the chier                   | fuest. y  | PDF                                                |                  | 1-1 time            | time                | li fime                    | 47. Parkway<br>237-4775                       |
|            |                      | E                          | 0.000 D                           |                                                                                                               | 9 Tedes Pail                                                                                | Y 0 (7                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                    |                                          | ~                                                                                  | comp grab                   | ×           | ×       | ×          | X                   | X        | K       | ×            |   |   |   | ory remarks: へ。             | client re | Email E                                            | TRRP 🔲 LA RE     | date<br>0.3-0       | date                | date<br>33                 | bassador Caffe<br>A 70583 (337) 2             |
|            | ord                  |                            | Stk. 200                          |                                                                                                               | 1. Blanchard                                                                                | <i>θ</i>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                    |                                          | Ph:                                                                                | TIME                        | 1405        | 1410    | 1430       | 1660                | 1615     | 0955    | 1020         | - |   |   | Laborate                    | P         | its Results: Fax                                   | Level 4 QC       |                     |                     |                            | Scott, L/                                     |
|            | nain of Custody Reco | retry Pech                 | 00) [20] NG                       |                                                                                                               | Email: Kak                                                                                  | Jo, 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | -                                  |                                          |                                                                                    | DATE                        | 11 - 1 - 80 | 11-1-20 | 1-1-50     | 1-1-50              | 0 3-1-11 | 03-2-11 | 03-2-11      |   |   |   |                             |           | orting Requiremen                                  | c 🗌 Level 3 Qč 🛄 | thed by Sampler:    | hed by:             | hed by:                    |                                               |
| Jas<br>Jas | lysis Request & Cl   | X 19/11/2                  | dian Sch                          | 237- 944N                                                                                                     | Blancherd                                                                                   | ر 34° م                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |                                    | WN P                                     |                                                                                    |                             | , 0.        | ,0,     | 3,5)       | , Q.                | 8.01     | 28.0'   | 0.0)         |   |   | • |                             |           | Special Rep                                        | act Standard Q(  | ard I. Relinquis    | 3. Relinquis        | 5. Relinquis               | ange Drive<br>(713) 660-0901                  |
|            | © Anal               | PNOCO P.                   | 12 12 12 12 V                     | (Sor)                                                                                                         | Icelly (                                                                                    | makt                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                    | 31 60~ 510                               |                                                                                    | SAMPLE ID                   | 38.0 - 40   | 41.5-43 | 43.0-43    | 30,0-32.            | 36.6-35  | 26.0-   | 38.0 - 41    |   |   |   | nt Remarks:                 |           | sted TAT                                           | bay Contra       | bays 🔁 Stands       | Jays                | uires prior noti           | 8880 Intercha<br>1, TX 77054 (                |
|            |                      | Client Name: <b>C</b>      | Address: A/L                      | Phoné/Fax:                                                                                                    | Client Contact:                                                                             | Project Name/No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Site Name:                         | Site Location:                           | Invoice To:                                                                        |                             | G - 1 @     | G - 9   | <u>B-1</u> | G-7 (S              | B-1 @    | 8-3 2   | ß - 3Q       |   |   |   | Client/Consultar            |           | Reque                                              | 1 Business D     | <b>2</b> Business D | <b>3</b> Business D | L Other L<br>Rush TAT req  | Houston                                       |



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

# **Conoco Phillips**

| Certificate of Analysis Number:<br><u>11030106</u> |     |                   |                |                       |   |   |  |  |  |  |  |
|----------------------------------------------------|-----|-------------------|----------------|-----------------------|---|---|--|--|--|--|--|
| Report To:                                         |     | Project Name:     | Martin 34 No.2 |                       | _ |   |  |  |  |  |  |
| Tetra Tech, Inc.                                   |     | <u>Site:</u>      | Bloomfield, NM |                       |   | e |  |  |  |  |  |
| Kelly Blanchard                                    |     | Site Address:     |                |                       |   |   |  |  |  |  |  |
| 6121 Indian School Road, N.E.                      |     |                   |                |                       |   |   |  |  |  |  |  |
| Suite 200                                          | i i | PO Number:        |                |                       |   |   |  |  |  |  |  |
| Albuquerque                                        |     | States            | New Mexico     |                       |   |   |  |  |  |  |  |
| NM                                                 |     | State:            | New Mexico     |                       |   |   |  |  |  |  |  |
| 87110-                                             |     | State Cert. No .: |                |                       |   |   |  |  |  |  |  |
| ph: (505) 237-8440 fax: (505) 881-3283             |     | Date Reported:    | 3/15/2011      | ر وجون محرف را د<br>ب |   |   |  |  |  |  |  |

# 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. Version 2.1 - Modified February 11, 2011



# Case Narrative for: Conoco Phillips

| Certificate of Analysis Number:<br><u>11030106</u> |                              |  |  |  |  |  |  |  |  |  |  |
|----------------------------------------------------|------------------------------|--|--|--|--|--|--|--|--|--|--|
| Report To:                                         | Project Name: Martin 34 No.2 |  |  |  |  |  |  |  |  |  |  |
| Tetra Tech, Inc.                                   | Bloomfield, NM               |  |  |  |  |  |  |  |  |  |  |
| Kelly Blanchard                                    | Site Address:                |  |  |  |  |  |  |  |  |  |  |
| 6121 Indian School Road, N.E.                      |                              |  |  |  |  |  |  |  |  |  |  |
| Suite 200<br>Albuquerque                           | PO Number:                   |  |  |  |  |  |  |  |  |  |  |
| NM                                                 | State: New Mexico            |  |  |  |  |  |  |  |  |  |  |
|                                                    | State Cert. No.:             |  |  |  |  |  |  |  |  |  |  |
| ph: (505) 237-8440 fax: (505) 881-3283             | Date Reported: 3/15/2011     |  |  |  |  |  |  |  |  |  |  |

#### 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 HCI, 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).

In Cardenas

11030106 Page 1

3/15/2011

Date

Erica Cardenas Project Manager

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

SPL ENVIRONMENTAL 8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

# Case Narrative for: Conoco Phillips

# Certificate of Analysis Number:

# <u>11030106</u>

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.

h Card 4

11030106 Page 2 3/15/2011

Date

Erica Cardenas Project Manager

Test results meet all requirements of NELAC, unless specified in the narrative. Version 2.1 - Modified February 11, 2011

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

# Conoco Phillips

0

LABORATORIES

|                |                                                           | <u>11030106</u>  |                |                                            |
|----------------|-----------------------------------------------------------|------------------|----------------|--------------------------------------------|
| Report To:     | Tetra Tech, Inc.                                          | Project Name:    | Martin 34 No.2 |                                            |
|                | Kelly Blanchard                                           | <u>Site:</u>     | Bloomfield, NM | • · · ·                                    |
|                | 6121 Indian School Road, N.E.<br>Suite 200<br>Albuquerque | Site Address:    |                | · ,<br>                                    |
|                | NM                                                        | PO Number:       |                |                                            |
|                | 87110-                                                    | State:           | New Mexico     |                                            |
|                | ph: (505) 237-8440 fax: (505) 881-3283                    | State Cert. No.: |                |                                            |
| <u>Fax To:</u> |                                                           | Date Reported:   | 3/15/2011      | and an |

|     | 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 |      |
| В-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 |      |

h Carde 0

3/15/2011

Date

Erica Cardenas Project Manager

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

> > Ted Yen Quality Assurance Officer

Version 2.1 - Modified February 11, 2011

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# 

## SPL ENVIRONMENTAL

8880 INTERCHANGE DRIVE

HOUSTON, TX 77054 (713) 660-0901

· (713

| Client Sample ID:B-2         |                |               | Col  | lected: ( | 03/02/201 | 1 8:00      | SPL San   | nple ID | : 1103  | 0106-01 |
|------------------------------|----------------|---------------|------|-----------|-----------|-------------|-----------|---------|---------|---------|
|                              |                |               | Sit  | te: Blo   | omfield,  | NM          |           |         |         |         |
| Analyses/Method              | Result         | QUAL          | R    | ep.Limit  |           | Dil. Factor | Date Anal | yzed    | Analyst | Seq. #  |
| DIESEL RANGE ORGANICS        | 5              |               |      |           | MCL       | SI          | N8015B    | Unit    | s: mg/L |         |
| Diesel Range Organics (C10-C | 28) <u>3.1</u> |               |      | 0.2       |           | 2           | 03/08/11  | 20:14 1 | 1W      | 5740785 |
| Surr: n-Pentacosane          | 46.4           |               | %    | 20-150    |           | 2           | 03/08/11  | 20:14   | 1W      | 5740785 |
| Prep Method Prep             | Date           | Prep Initials | Prep | Factor    |           |             |           |         |         |         |
| SW3510C 03/07                | /2011 12:10    | A_G           | 1.00 |           |           |             |           |         |         | ×       |
| GASOLINE RANGE ORGAN         | NICS           |               |      |           | MCL       | SI          | N8015B    | Unit    | s: mg/L |         |
| Gasoline Range Organics      | . 1.5          |               |      | 0.5       |           | 5           | 03/07/11  | 16:22 N | IMa     | 5738802 |
| Surr: 1,4-Difluorobenzene    | 96.3           |               | · %  | 60-155    |           | 5           | 03/07/11  | 16:22 N | IMa     | 5738802 |
| Surr: 4-Bromofluorobenzene   | 110            |               | %    | 50-158    |           | 5           | 03/07/11  | 16:22 N | IMa     | 5738802 |
| ION CHROMATOGRAPHY           |                | ;             |      |           | MCL       |             | E300.0    | Unit    | s: mg/L |         |
| Chloride                     | 352            |               |      | 25        |           | 50          | 03/05/11  | 14:14 E | SK      | 5737873 |
| VOLATILE ORGANICS BY         | METHOD 8260E   | 3             |      |           | MCL       | SI          | N8260B    | Unit    | s: ug/L |         |
| Benzene                      | 920            | ·· # ·· ·     |      | 10        |           | 10          | 03/08/11  | 12:56 L | U_L     | 5739957 |
| Ethylbenzene                 | . 120          | · · ·         |      | 1         |           | 1           | 03/08/11  | 1:15 L  | U_L     | 5739160 |
| Toluene                      | 3.7            | -             |      | 1         |           | 1           | 03/08/11  | 1:15 L  | U_L ·   | 5739160 |
| m,p-Xylene                   | 5.6            |               |      | 2         |           | 1           | 03/08/11  | 1:15 L  | U_L     | 5739160 |
| o-Xylene                     | ND             |               |      | 1         |           | . 1         | 03/08/11  | 1:15 L  | U_L     | 5739160 |
| Xylenes,Total                | 5.6            |               |      | 1         |           | 1           | 03/08/11  | 1:15 L  | U_L     | 5739160 |
| Surr: 1,2-Dichloroethane-d4  | . 94.5         |               | %    | 70-130    |           | 10          | 03/08/11  | 12:56 L | U_L     | 5739957 |
| Surr: 1,2-Dichloroethane-d4  | . 96.9         |               | %    | 70-130    |           | 1           | 03/08/11  | 1:15 L  | U_L     | 5739160 |
| Surr: 4-Bromofluorobenzene   | 98.2           |               | %    | 74-125    |           | 10          | 03/08/11  | 12:56 L | U_L     | 5739957 |
| Surr: 4-Bromofluorobenzene   | 98.2           |               | %    | 74-125    |           | 1           | 03/08/11  | 1:15 L  | U_L     | 5739160 |
| Surr: Toluene-d8             | 99.3           |               | %    | 82-118    |           | 10          | 03/08/11  | 12:56 L | UL      | 5739957 |

% 82-118

Qualifiers:

Surr: Toluene-d8

ND/U - Not Detected at the Reporting Limit

B - Analyte Detected In The Associated Method Blank

\* - Surrogate Recovery Outside Advisable QC Limits

100

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

03/08/11 1:15 LU\_L

1

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5739160



8880 INTERCHANGE DRIVE

HOUSTON, TX 77054

(713) 660-0901

| Client Sample ID:B-  | -3          |           |               | · Col | lected: 0 | 3/02/2011  | 1 11:30    | SPL Sam    | ple II | <b>D:</b> 110 | 30106-02 · |
|----------------------|-------------|-----------|---------------|-------|-----------|------------|------------|------------|--------|---------------|------------|
|                      |             |           |               | Si    | te: Blo   | omfield, I | NM         |            |        |               |            |
| Analyses/Method      |             | Result    | QUAL          | R     | ep.Limit  | D          | il. Factor | Date Analy | zed    | Analyst       | Seq. #     |
| DIESEL RANGE OR      | GANICS      |           |               |       |           | MCL        | SV         | N8015B     | Un     | its: mg/L     |            |
| Diesel Range Organic | s (C10-C28) | 5.9       |               |       | 0.5       |            | 5          | 03/08/11 2 | 20:54  | NW            | 5740786    |
| Surr: n-Pentacosan   | e           | 91.6      |               | %     | 20-150    |            | 5          | 03/08/11 2 | 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        | SV         | N8015B     | Un     | its: mg/L     |            |
| Gasoline Range Organ | nics        | 3.1       | •             |       | 0.5       |            | 5          | 03/07/11   | 15:51  | NMa           | 5738801    |
| Surr: 1,4-Difluorobe | nzene       | 100       |               | %     | 60-155    |            | 5          | 03/07/11 1 | 15:51  | NMa           | 5738801    |
| Surr: 4-Bromofluoro  | benzene     | 121       |               | %     | 50-158    |            | 5          | 03/07/11 1 | 15:51  | NMa           | 5738801    |
| ION CHROMATOGE       | RAPHY       |           |               |       |           | MCL        |            | E300.0     | Un     | its: mg/L     | · · ·      |
| Chloride             | · · ·       | 316       |               |       | 25        |            | 50         | 03/05/11 1 | 15:05  | ESK           | 5737876    |
| VOLATILE ORGANI      | CS BY METH  | IOD 8260E | 3             |       |           | MCL        | SV         | V8260B     | Un     | its: 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              | 1           | 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-Dichloroet | hane-d4     | 100       |               | %     | 70-130    |            | 1          | 03/08/11   | 0:20   | LU_L          | 5739158    |
| Surr: 4-Bromofluoro  | benzene     | 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   | LUL           | 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

|                             |          |      | Sit | e: Bloc  | omfield, NM |              |              |         |
|-----------------------------|----------|------|-----|----------|-------------|--------------|--------------|---------|
| Analyses/Method             | Result   | QUAL | R   | ep.Limit | Dil. Fact   | or Date Anal | vzed Analyst | Seq. #  |
| VOLATILE ORGANICS BY METH   | OD 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

> 11030106 Page 6 3/15/2011 9:14:46 AM

# Quality Control Documentation

Version 2.1 - Modified February 11, 2011

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# **Quality Control Report**

# Conoco Phillips

Martin 34 No.2

| Analysis:<br>Method: | Diesel Range Organic<br>SW8015B | S                           |            | :                    | WorkOrder:<br>Lab Batch ID: | 11030106<br>105353 |  |
|----------------------|---------------------------------|-----------------------------|------------|----------------------|-----------------------------|--------------------|--|
|                      | Metho                           | od Blank                    |            | Samples in Analytic  | cal Batch:                  |                    |  |
| RunID: HP_V          | _110307A-5740778                | Units: mg/L                 |            | Lab Sample ID        | Client Sar                  | nple ID            |  |
| Analysis Date:       | 03/07/2011 19:48                | Analyst: NW                 |            | 11030106-01C         | B-2                         |                    |  |
| Preparation Date     | e: 03/07/2011 12:10             | Prep By: A_G Method: SV     | N3510C     | 11030106-02C         | B-3                         |                    |  |
|                      | Surr: n-Pentacosane             | 101.8 20-150                | <u>,</u>   |                      |                             |                    |  |
|                      | Laborator                       | y Control Sample/Laboratory | Control Sa | mple Duplicate (LCS) | (LCSD)                      |                    |  |
|                      | RunID:                          | HP_V_110307A-5740779        | Units:     | mg/L                 |                             |                    |  |
|                      | Analysis Date:                  | 03/07/2011 20:08            | Analyst:   | NW                   |                             |                    |  |
|                      | Preparation Da                  | te: 03/07/2011 12:10        | Prep By:   | A G Method SW351     | 00                          |                    |  |

| . Analyte                       | LCS<br>Spike<br>Added | LCS<br>Result | LCS<br>Percent<br>Recovery | LCSD<br>Spike<br>Added | LCSD<br>Result | LCSD<br>Percent<br>Recovery | RPD   | RPD<br>Limit | Lower<br>Limit | Upper<br>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.

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8880 INTERCHANGE DRIVE HOUSTON, TX 77054 LABORATORIES (713) 660-0901 **Quality Control Report Conoco Phillips** Martin 34 No.2 Analysis: **Gasoline Range Organics** WorkOrder: 11030106 Method: SW8015B Lab Batch ID: R316715 Samples in Analytical Batch: **Method Blank** 

RunID: HP\_U\_110307A-5738796 Units: mg/L Lab Sample ID **Client Sample ID** B-2 Analysis Date: 03/07/2011 10:06 NMa 11030106-01B Analyst: B-3 11030106-02B Rep Limit Analyte Result ND Gasoline Range Organics 0.10 Surr: 1,4-Difluorobenzene 97.3 60-155 Surr: 4-Bromofluorobenzene 102.7 50-158

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

| Analyte                    | Spike<br>Added | Result | Percent<br>Recovery | Lower<br>Limit | Upper<br>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            |

Laboratory Control Sample (LCS)

#### 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<br>Result | MS<br>Spike<br>Added | MS<br>Result | MS %<br>Recovery | MSD<br>Spike<br>Added | MSD<br>Result | MSD %<br>Recovery | RPD  | RPD<br>Limit | Low<br>Limit | High<br>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:

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

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SPL ENVIRONMENTAL



# **Quality Control Report**

# **Conoco Phillips**

| Result     Rep Link       Inits:     ug/L       nalyst:     LU_L       Result     Rep Link       ND     ND       101.3     82-1                                  | mit<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0             | Samp<br>Lab S<br>11030<br>11030<br>11030                                                     | oles in Analyti<br>ample ID<br>0106-01A<br>0106-02A<br>0106-03A                                                                                                              | Work(<br>Lab B<br>cal Batch:                                                                                                                                                                                           | Order:<br>atch ID:<br>Client Sar<br>B-2<br>B-3<br>DUP                                                                                                                                                                                   | 11030106<br>R316740<br>nple ID                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Iank       Inits:     ug/L       Inalyst:     LU_L       Result     Rep Lit       ND     ND       101.3     82-1 | mit<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0             | Samp<br>Lab S<br>11030<br>11030<br>11030                                                     | eles in Analyti<br>ample ID<br>0106-01A<br>0106-02A<br>0106-03A                                                                                                              | cal Batch:                                                                                                                                                                                                             | Elient Sar<br>B-2<br>B-3<br>DUP                                                                                                                                                                                                         | nple ID                                                                                                                                                                                                                                                                           | - <del>,</del>                                                                                                                                                                                                                                                                         |
| Inits: ug/L<br>nalyst: LU_L<br>Result Rep Lin<br>ND<br>ND<br>ND<br>ND<br>ND<br>97.4 70-1<br>99.3 74-1<br>101.3 82-1                                                                                                                                                                                                              | mit<br>1.0<br>1.0<br>2.0<br>1.0<br>30<br>30<br>125<br>118                             | <u>Lab S</u><br>11030<br>11030<br>11030                                                      | ample ID<br>106-01A<br>106-02A<br>106-03A                                                                                                                                    | •                                                                                                                                                                                                                      | <u>Client Sar</u><br>B-2<br>B-3<br>DUP                                                                                                                                                                                                  | nple ID                                                                                                                                                                                                                                                                           | · <del>·</del> · · · ·                                                                                                                                                                                                                                                                 |
| nalyst: LU_L<br>Result Rep Lin<br>ND<br>ND<br>ND<br>ND<br>ND<br>97.4 70-1<br>99.3 74-1<br>101.3 82-1                                                                                                                                                                                                                             | mit<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0             | 11030<br>11030<br>11030                                                                      | 0106-01A<br>0106-02A<br>0106-03A                                                                                                                                             | •                                                                                                                                                                                                                      | B-2<br>B-3<br>DUP                                                                                                                                                                                                                       |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| Result     Rep Lit       ND     ND       ND     ND       ND     ND       ND     ND       ND     97.4       99.3     74-1       101.3     82-1                                                                                                                                                                                    | mit<br>1.0<br>1.0<br>2.0<br>1.0<br>30<br>225<br>118                                   | 11030<br>11030                                                                               | 0106-02A<br>0106-03A                                                                                                                                                         |                                                                                                                                                                                                                        | B-3<br>DUP                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| Result     Rep Lin       ND     ND       ND     ND       ND     ND       ND     ND       97.4     70-1       99.3     74-1       101.3     82-1                                                                                                                                                                                  | mit<br>1.0<br>1.0<br>2.0<br>1.0<br>30<br>125<br>118                                   | 11030                                                                                        | 0106-03A                                                                                                                                                                     |                                                                                                                                                                                                                        | DUP                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| Result     Rep Lit       ND     ND       ND     ND       ND     ND       ND     97.4       99.3     74-1       101.3     82-1                                                                                                                                                                                                    | mit<br>1.0<br>1.0<br>2.0<br>1.0<br>1.0<br>300<br>125<br>118                           |                                                                                              | ·                                                                                                                                                                            |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| ND       ND       ND       ND       ND       ND       97.4       99.3       74-1       101.3                                                                                                                                                                                                                                     | 1.0<br>1.0<br>2.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.25<br>118     |                                                                                              |                                                                                                                                                                              |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| ND<br>ND<br>ND<br>ND<br>97.4 70-1<br>99.3 74-1<br>101.3 82-1                                                                                                                                                                                                                                                                     | 1.0<br>1.0<br>2.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1.0<br>1 |                                                                                              |                                                                                                                                                                              |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| ND<br>ND<br>ND<br>97.4 70-1<br>99.3 74-1<br>101.3 82-1                                                                                                                                                                                                                                                                           | 1.0<br>2.0<br>1.0<br>130<br>125<br>118                                                |                                                                                              |                                                                                                                                                                              |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   | •                                                                                                                                                                                                                                                                                      |
| ND<br>ND<br>97.4 70-1<br>99.3 74-1<br>101.3 82-1                                                                                                                                                                                                                                                                                 | 2.0<br>1.0<br>130<br>125<br>118                                                       |                                                                                              |                                                                                                                                                                              |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| ND<br>97.4 70-1<br>99.3 74-1<br>101.3 82-1                                                                                                                                                                                                                                                                                       | 1.0<br> 30<br> 25<br> 18                                                              |                                                                                              | ·                                                                                                                                                                            |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| 97.4 70-1<br>99.3 74-1<br>101.3 82-1                                                                                                                                                                                                                                                                                             | 30<br> 25<br> 18                                                                      |                                                                                              |                                                                                                                                                                              |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   | · · · · · · · · · · · · · · · · · · ·                                                                                                                                                                                                                                                  |
| 101.3 82-1                                                                                                                                                                                                                                                                                                                       | 118                                                                                   |                                                                                              | ·                                                                                                                                                                            |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                  |                                                                                       |                                                                                              |                                                                                                                                                                              |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| e: 03/07/2011 15:00                                                                                                                                                                                                                                                                                                              | 6 An                                                                                  | nalyst: LL                                                                                   | U_L                                                                                                                                                                          |                                                                                                                                                                                                                        |                                                                                                                                                                                                                                         |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| Analyte                                                                                                                                                                                                                                                                                                                          | Spike<br>Added                                                                        | Result                                                                                       | Percent<br>Recovery                                                                                                                                                          | Lower<br>Limit                                                                                                                                                                                                         | Upper<br>Limit                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
|                                                                                                                                                                                                                                                                                                                                  | 20.0                                                                                  | 21.8                                                                                         | 109                                                                                                                                                                          | 74                                                                                                                                                                                                                     | 123                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| I .                                                                                                                                                                                                                                                                                                                              | 20.0                                                                                  | 20.4                                                                                         | 102                                                                                                                                                                          | 72                                                                                                                                                                                                                     | 127                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| 4 .                                                                                                                                                                                                                                                                                                                              | 20.0                                                                                  | 21.3                                                                                         | 107                                                                                                                                                                          | 74                                                                                                                                                                                                                     | 126                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| }                                                                                                                                                                                                                                                                                                                                | 40.0                                                                                  | 40.6                                                                                         | 102                                                                                                                                                                          | 71                                                                                                                                                                                                                     | 129                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| 1                                                                                                                                                                                                                                                                                                                                | 20.0                                                                                  | 20.7                                                                                         | 103                                                                                                                                                                          | 74                                                                                                                                                                                                                     | 130                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| 1                                                                                                                                                                                                                                                                                                                                | - 60.0                                                                                | 61.3                                                                                         | 102                                                                                                                                                                          | 71                                                                                                                                                                                                                     | 130                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| hloroethane-d4                                                                                                                                                                                                                                                                                                                   | 50.0                                                                                  | · 47.1                                                                                       | 94.2                                                                                                                                                                         | 70                                                                                                                                                                                                                     | 130                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| ofluorobenzene                                                                                                                                                                                                                                                                                                                   | 50.0                                                                                  | 49.6                                                                                         | 99.2                                                                                                                                                                         | 74                                                                                                                                                                                                                     | 125                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                   | 4                                                                                                                                                                                                                                                                                      |
|                                                                                                                                                                                                                                                                                                                                  | 50.0                                                                                  | . 51                                                                                         | 102                                                                                                                                                                          | 82                                                                                                                                                                                                                     | 118                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                        |
| hl                                                                                                                                                                                                                                                                                                                               | oroethane-d4<br>luorobenzene<br>d8                                                    | 1 20.0   1 40.0   1 20.0   1 20.0   1 60.0   oroethane-d4 50.0   1uorobenzene 50.0   d8 50.0 | 20.0     21.3       40.0     40.6       20.0     20.7       60.0     61.3       oroethane-d4     50.0     47.1       luorobenzene     50.0     49.6       d8     50.0     51 | 1   20.0   21.3   107     40.0   40.6   102     20.0   20.7   103     20.0   20.7   103     0   60.0   61.3   102     0   60.0   61.3   102     0   60.0   47.1   94.2     1   00.0   51   102     0   60.0   51   102 | 1   20.0   21.3   107   74     40.0   40.6   102   71     1   20.0   20.7   103   74     1   60.0   61.3   102   71     0roethane-d4   50.0   47.1   94.2   70     1uorobenzene   50.0   49.6   99.2   74     d8   50.0   51   102   82 | 1   20.0   21.3   107   74   126     40.0   40.6   102   71   129     1   20.0   20.7   103   74   130     1   60.0   61.3   102   71   130     oroethane-d4   50.0   47.1   94.2   70   130     iuorobenzene   50.0   49.6   99.2   74   125     d8   50.0   51   102   82   118 | 1   20.0   21.3   107   74   126     1   40.0   40.6   102   71   129     1   20.0   20.7   103   74   130     1   60.0   61.3   102   71   130     oroethane-d4   50.0   47.1   94.2   70   130     iluorobenzene   50.0   49.6   99.2   74   125     d8   50.0   51   102   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

MI - Matrix Interference

D - Recovery Unreportable due to Dilution

- \* Recovery Outside Advisable QC Limits
- E Estimated Value exceeds calibration curve
- 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.

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99.5

97.6

98.7

30

30

30

4.88

2.68

2.59

70

74

82

130

125

118

# **Quality Control Report**

## Conoco Phillips

| 4                    |                          |                                                                |                                           | · .                                                  |                                     |                                 |                      |                        |                 |                 |              |               |
|----------------------|--------------------------|----------------------------------------------------------------|-------------------------------------------|------------------------------------------------------|-------------------------------------|---------------------------------|----------------------|------------------------|-----------------|-----------------|--------------|---------------|
| Analysis:<br>Method: | Volatile Orga<br>SW8260B | anics by Method 826                                            | 0 <b>B</b>                                |                                                      |                                     |                                 |                      | WorkOrder<br>Lab Batch | : 110<br>ID: R3 | )30106<br>16740 |              |               |
|                      | Analyte                  | Sample Spiked:<br>RunID:<br>Analysis Date:<br>Sample<br>Result | 11030<br>K_1103<br>03/07/2<br>MS<br>Spike | 146-22<br>107D-5739156<br>2011 18:37<br>MS<br>Result | Units:<br>Analy<br>MS %<br>Recovery | ug/l<br>st: LU_<br>MSD<br>Spike | L_L<br>MSD<br>Result | MSD %<br>Recovery      | RPD             | RPD<br>Limit    | Low<br>Limit | High<br>Limit |
|                      |                          |                                                                | Added                                     |                                                      |                                     | Added                           |                      |                        |                 |                 |              |               |
| Benzene 😳            |                          | ND                                                             | 20                                        | 21.0                                                 | 105                                 | 20                              | 21.3                 | 106                    | 1.24            | 22              | - 70         | 12            |
| Ethylbenzene         |                          | ND                                                             | 20                                        | 19.2                                                 | 95.9                                | 20                              | 18.9                 | 94.7                   | 1.27            | 20              | 76           | 12            |
| Toluene              |                          | ND                                                             | 20                                        | 19.6                                                 | 97.8                                | 20                              | 19.5                 | 97.6                   | 0.271           | 24              | . 80         | 11            |
| m,p-Xylene           |                          | ND                                                             | 40                                        | 37.8                                                 | 94.4                                | 40                              | 37.8                 | 94.5                   | 0.106           | 20              | 69           | 12            |
| o-Xylene             |                          | ND                                                             | 20                                        | 19.2                                                 | 95.9                                | · 20                            | 19.2                 | 96.1                   | 0.307           | 20              | 84           | 11            |
| Xylenes,Total        |                          | ND                                                             | 60                                        | 57                                                   | 95                                  | 60                              | 57                   | 95                     | 0.17            | 20              | 69           | 12            |

47.4

50.1

50.7

94.8

100

101

50

50

50

49.8

48.8

49.4

50

50

50

ND

ND

ND

Qualifiers:

Surr: 1,2-Dichloroethane-d4

Surr: 4-Bromofluorobenzene

Surr: Toluene-d8

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.

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# **Quality Control Report**

|                                          |                                                        | Co                                         | noco Ph<br>Martin 34 N   | nillips<br>√o.2      |                             |                |                          |                     |                                        |
|------------------------------------------|--------------------------------------------------------|--------------------------------------------|--------------------------|----------------------|-----------------------------|----------------|--------------------------|---------------------|----------------------------------------|
| Analysis: V<br>Method: S                 | olatile Organics by Metho<br>W8260B                    | od 8260B                                   |                          |                      |                             | Worl<br>Lab    | kOrder:<br>Batch ID:     | 11030106<br>R316795 |                                        |
|                                          | Method Bl                                              | ank                                        |                          | Samp                 | les in Analy                | tical Batcl    | h:                       |                     | ······································ |
| RunID: K_110308C-8<br>Analysis Date: 0   | 5739956 Ur<br>3/08/2011 11:36 Ar                       | its: ug/L<br>alyst: LU_L                   |                          | Lab S                | <b>ample ID</b><br>0106-01A |                | <u>Client Sar</u><br>B-2 | nple ID             |                                        |
|                                          | Analyte                                                | Result Rep Li                              | nit                      |                      |                             |                |                          |                     | t<br>t                                 |
| Benzene<br>Surr: 1<br>Surr: 4<br>Surr: T | 2-Dichloroethane-d4<br>Bromofluorobenzene<br>oluene-d8 | ND<br>94.9 70-1<br>98.6 74-1<br>101.1 82-1 | 1.0<br> 30<br> 25<br> 18 |                      | ·                           |                | ·                        |                     |                                        |
| ·                                        |                                                        | Laborator                                  | v Control S              | Sample (L            | <u>CS)</u>                  |                |                          |                     |                                        |
|                                          | RunID:<br>Analysis Date                                | K_110308C-57399<br>03/08/2011 11:10        | 55 Ur<br>D Ar            | nits: u<br>nalyst: L | g/L<br>U_L                  |                |                          |                     |                                        |
|                                          |                                                        | Analyte                                    | Spike<br>Added           | Result               | Percent<br>Recovery         | Lower<br>Limit | Upper<br>Limit           |                     |                                        |
|                                          | Benzene                                                |                                            | 20.0                     | 20.7                 | 103                         | 74             | 123                      |                     |                                        |
|                                          | Surr: 1,2-Dich                                         | loroethane-d4                              | 50.0                     | 47.9                 | 95.8                        | 70             | 130                      |                     |                                        |
|                                          | Surr: 4-Bromo                                          | fluorobenzene                              | 50.0                     | 49                   | 97.9                        | 74             | 125                      |                     |                                        |

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

|    | Sample Spiked: | 11030106-01       |          |      |
|----|----------------|-------------------|----------|------|
| 1. | RunID:         | K_110308C-5739958 | Units:   | ug/L |
|    | Analysis Date: | 03/08/2011 13:21  | Analyst: | LU_L |

| Analyte                     | Sample<br>Result | MS<br>Spike<br>Added | MS<br>Result | MS<br>Rec | 3 %<br>overy | MSD<br>Spike<br>Added | MSD<br>Result | MSD %<br>Recovery | RPD  | RPD<br>Limit | Low<br>Limit | High<br>Limit |
|-----------------------------|------------------|----------------------|--------------|-----------|--------------|-----------------------|---------------|-------------------|------|--------------|--------------|---------------|
| Benzene                     | 920              | 200                  | 1040         | I         | 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           |
|                             |                  |                      |              |           |              |                       |               |                   |      |              |              |               |

Qualifiers: ND/U - Not Detected at the Reporting Limit

MI - Matrix Interference

D - Recovery Unreportable due to Dilution

\* - Recovery Outside Advisable QC Limits

J - Estimated Value Between MDL And PQL E - Estimated Value exceeds calibration curve

B - Analyte Detected In The Associated Method Blank

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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Surr: 4-Bromofluorobenzene

Surr: Toluene-d8

SPL ENVIRONMENTAL 8880 INTERCHANGE DRIVE HOUSTON, TX 77054

(713) 660-0901

# **Quality Control Report**

#### Conoco Phillips

Martin 34 No.2

|                      |                                              | Martin 34 No.2                             |                           |                                      |                  |                       |               |                          |                |                     |              |               |   |
|----------------------|----------------------------------------------|--------------------------------------------|---------------------------|--------------------------------------|------------------|-----------------------|---------------|--------------------------|----------------|---------------------|--------------|---------------|---|
| Analysis:<br>Method: | Volatile Organics by Method 8260B<br>SW8260B |                                            |                           |                                      |                  |                       |               | WorkOrder<br>Lab Batch I | : 110<br>D: R3 | 11030106<br>R316795 |              |               |   |
|                      |                                              | Matri                                      | ix Spike (I               | MS) / Matrix                         | Spike Dupli      | cate (MS              | <u>D)</u>     |                          |                |                     | ۰.           | •             |   |
|                      | а.<br>Д.                                     | Sample Spiked:<br>RunID:<br>Analysis Date: | 11030<br>K_1103<br>03/08/ | 106-01<br>308C-5739958<br>2011 13:21 | Units:<br>Analy  | ug/l<br>st: LU_       | L<br>_L       |                          |                |                     |              |               | - |
|                      |                                              |                                            |                           |                                      |                  |                       |               |                          |                |                     |              |               |   |
|                      | Analyte                                      | Sample<br>Result                           | MS<br>Spike<br>Added      | MS<br>Result                         | MS %<br>Recovery | MSD<br>Spike<br>Added | MSD<br>Result | MSD %<br>Recovery        | RPD            | RPD<br>Limit        | Low<br>Limit | High<br>Limit |   |

513

507

103

101

500

500

509

498

102

99.5

0.731

1.90

30

30

74

82

125

118

.500

500

ND

ND

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

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|                                                                                                                 | CCL                          | JT                                                 | 'ES                                                                                                        |                                                                                                                      |                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                              |                                                                                              | . 88                                        | SPL EN<br>BO INTE<br>HOUST                                                                                          | VIRONMEN<br>RCHANGE<br>TON, TX 77 | NTAL<br>DRIVE<br>7054 |                    |                      |
|-----------------------------------------------------------------------------------------------------------------|------------------------------|----------------------------------------------------|------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|---------------------------------------------|---------------------------------------------------------------------------------------------------------------------|-----------------------------------|-----------------------|--------------------|----------------------|
|                                                                                                                 | E a                          | ABOI                                               | RATOR                                                                                                      | IES                                                                                                                  | Quality                                                                                                | Control                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | l Repor                                                                                                      | t                                                                                            |                                             | (71:                                                                                                                | 3) 660-0901                       | 1                     |                    |                      |
|                                                                                                                 |                              |                                                    |                                                                                                            |                                                                                                                      | Con                                                                                                    | oco Phi                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | llips                                                                                                        |                                                                                              | •                                           |                                                                                                                     |                                   |                       |                    |                      |
| 2                                                                                                               |                              |                                                    | • .                                                                                                        |                                                                                                                      | Ма                                                                                                     | rtin 34 No                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | o.2                                                                                                          |                                                                                              |                                             |                                                                                                                     |                                   |                       |                    |                      |
| Analysis:<br>Method:                                                                                            | lon Chroma<br>E300.0         | atograph                                           | У                                                                                                          |                                                                                                                      |                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                              |                                                                                              | Wo<br>Lab                                   | kOrder:<br>Batch I                                                                                                  | : 11<br>ID: R3                    | 030106<br>816644A     |                    |                      |
| · · ·                                                                                                           |                              | Met                                                | hod Blank                                                                                                  |                                                                                                                      |                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Samp                                                                                                         | les in Anal                                                                                  | ytical Bate                                 | :h:                                                                                                                 |                                   | ۰.                    |                    |                      |
| RunID: IC2_1<br>Analysis Date:                                                                                  | 10305B-5737863<br>03/05/2011 | 11:24                                              | Units:<br>`Analyst:                                                                                        | mg/L<br>ESK                                                                                                          |                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | <u>Lab S</u><br>11030                                                                                        | ample ID<br>106-01D                                                                          |                                             | <u>Clien</u><br>B-2                                                                                                 | nt Sample I                       | <u>D</u> .            |                    |                      |
|                                                                                                                 |                              |                                                    | •                                                                                                          |                                                                                                                      | • .                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 11030                                                                                                        | 106-02D                                                                                      | ١                                           | B-3                                                                                                                 |                                   |                       |                    |                      |
|                                                                                                                 | Ar                           | nalyte                                             |                                                                                                            | Result                                                                                                               | Rep Limit                                                                                              | ]                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                              |                                                                                              |                                             |                                                                                                                     | •                                 |                       |                    |                      |
|                                                                                                                 | nionde                       |                                                    |                                                                                                            |                                                                                                                      | <u>0.50</u>                                                                                            | J                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                              |                                                                                              |                                             |                                                                                                                     |                                   |                       |                    |                      |
| 300                                                                                                             |                              |                                                    | · · ·                                                                                                      | L                                                                                                                    | aboratory (                                                                                            | Control S                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | ample (L(                                                                                                    | CS)                                                                                          |                                             |                                                                                                                     |                                   |                       |                    | •••                  |
|                                                                                                                 |                              |                                                    |                                                                                                            |                                                                                                                      |                                                                                                        |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                              |                                                                                              |                                             |                                                                                                                     |                                   |                       |                    |                      |
| ്-കമ്മാണ് ഷ്ണ്ചാ - കാസം                                                                                         | i                            | RunID                                              | •                                                                                                          | IC2 1103                                                                                                             | 305B-573786                                                                                            | 4 Uni                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | te m                                                                                                         | a/I                                                                                          |                                             |                                                                                                                     |                                   |                       |                    |                      |
| in a sain an                                                                |                              | RunID<br>Analys                                    | :<br>sis Date:                                                                                             | IC2_1103<br>03/05/20                                                                                                 | 305B-573786<br>)11 11:41                                                                               | 4 Uni<br>Ana                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ts: m<br>alyst: E                                                                                            | g/L<br>SK                                                                                    |                                             |                                                                                                                     |                                   |                       | -                  | •••                  |
| °                                                                                                               | 12 <i>4</i>                  | RunID<br>Analys                                    | :<br>sis Date:                                                                                             | IC2_1103<br>03/05/20                                                                                                 | 305B-573786<br>)11 11:41                                                                               | 4 Uni<br>Ana                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ts: m<br>alyst: E                                                                                            | g/L<br>SK                                                                                    |                                             |                                                                                                                     |                                   |                       | -                  | · · ·                |
| ing total district on the second                                                                                | ш ,:<br>[                    | RunID<br>Analys                                    | ):<br>sis Date:<br>Analy                                                                                   | IC2_1103<br>03/05/20                                                                                                 | 305B-573786<br>011 11:41                                                                               | 4 Uni<br>Ana<br>Spike                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | ts: m<br>alyst: E<br>Result                                                                                  | g/L<br>SK<br>Percent                                                                         | Lower                                       | Uppe                                                                                                                | r                                 |                       | -                  | · · · ·              |
| in the second |                              | RunID<br>Analys                                    | e:<br>sis Date:<br>Analy                                                                                   | IC2_1103<br>03/05/20<br>te                                                                                           | 305B-573786<br>011 11:41                                                                               | 4 Uni<br>Ana<br>Spike<br>Added                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | ts: m<br>alyst: E<br>Result                                                                                  | g/L<br>SK<br>Percent<br>Recovery                                                             | Lower<br>Limit                              | Uppe<br>Limit                                                                                                       | rr<br>t                           |                       |                    | · · ·                |
| ing talaf distance of an or                                                                                     | 2 v<br>                      | RunID<br>Analys<br>Chloride                        | ):<br>sis Date:<br>Analy                                                                                   | IC2_1103<br>03/05/20<br>te                                                                                           | 305B-573786<br>011 11:41                                                                               | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ts: m<br>alyst: E<br>Result<br>9.416                                                                         | g/L<br>SK<br>Percent<br>Recovery<br>94.1                                                     | Lower<br>Limit<br>5 90                      | Uppe<br>Limit                                                                                                       | er<br>t<br>110                    |                       |                    | · · · ·              |
|                                                                                                                 | 2 y                          | RunID<br>Analys<br>Chloride                        | ):<br>sis Date:<br>Analy                                                                                   | IC2_1103<br>03/05/20<br>te                                                                                           | 305B-573786<br>011 11:41                                                                               | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | ts: m<br>alyst: E<br>Result<br>9.416                                                                         | g/L<br>SK<br>Percent<br>Recovery<br>94.1                                                     | Lower<br>Limit<br>5 90                      | Uppe<br>Limit<br>) 1                                                                                                | r<br>t<br>110                     |                       |                    | · · · ·              |
|                                                                                                                 |                              | RunID<br>Analys<br>Chloride                        | e:<br>sis Date:<br>Analy<br><u>Matrix</u>                                                                  | IC2_1103<br>03/05/20<br>te<br><u>c Spike (1</u>                                                                      | 305B-573786<br>011 11:41<br>MS) / Matri                                                                | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (                                                           | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br>MSD)                                             | Lower<br>Limit<br>5 90                      | Uppe<br>Limit                                                                                                       | r<br>t<br>110                     |                       | -                  | · · · · ·            |
|                                                                                                                 |                              | RunID<br>Analys<br>Chloride                        | ):<br>sis Date:<br>Analy<br><u>Matrix</u><br>ple Spiked:                                                   | IC2_1103<br>03/05/20<br>te<br><u>Spike (1</u><br>11030                                                               | 305B-573786<br>011 11:41<br>MS) / Matri<br>106-01                                                      | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (                                                           | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br><u>MSD)</u>                                      | Lower<br>Limit<br>3 90                      | Uppe<br>Limil<br>) 1                                                                                                | 97<br>t<br>110                    |                       |                    | · · · ·              |
|                                                                                                                 |                              | RunID<br>Analys<br>Chloride<br>Sam<br>Runi<br>Anal | sis Date:<br>Analy<br><u>Matrix</u><br>ple Spiked:<br>ID:<br>vsis Date:                                    | IC2_1103<br>03/05/20<br>te<br><u>Spike (1</u><br>11030<br>IC2_11<br>03/05/                                           | 305B-573786<br>011 11:41<br>MS) / Matri<br>106-01<br>0305B-57378<br>2011 14:31                         | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (<br>nits:<br>nalyst:                                       | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br>MSD)<br>mg/L<br>ESK                              | Lower<br>Limit<br>5 90                      | Uppe<br>Limit                                                                                                       | 97<br>t<br>110                    |                       | -                  | · · · ·              |
|                                                                                                                 | с.                           | RunID<br>Analys<br>Chloride<br>Sam<br>Runi<br>Anal | :<br>sis Date:<br>Analy<br><u>Matrix</u><br>ple Spiked:<br>ID:<br>ysis Date:                               | IC2_1103<br>03/05/20<br>te<br><u>Spike (1</u><br>11030<br>IC2_11<br>03/05/                                           | 305B-573786<br>011 11:41<br>MS) / Matri<br>106-01<br>0305B-57378<br>2011 14:31                         | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (<br>nits:<br>nalyst:                                       | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br><u>MSD)</u><br>mg/L<br>ESK                       | Lower<br>Limit<br>3 90                      | Uppe<br>Limil<br>) 1                                                                                                | 97<br>t<br>110                    |                       |                    |                      |
|                                                                                                                 | ца ра                        | RunID<br>Analys<br>Chloride<br>Sam<br>Runi<br>Anal | :<br>sis Date:<br>Analy<br><u>Matrix</u><br>ple Spiked:<br>ID:<br>ysis Date:                               | IC2_1103<br>03/05/20<br>te<br><u>Spike (1</u><br>11030<br>IC2_11<br>03/05/                                           | 305B-573786<br>011 11:41<br>MS) / Matri<br>106-01<br>0305B-57378<br>2011 14:31                         | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (<br>nits:<br>nalyst:                                       | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br>MSD)<br>mg/L<br>ESK                              | Lower<br>Limit<br>3 90                      | Uppe<br>Limil                                                                                                       | er<br>t<br>110                    |                       |                    | · · · ·              |
|                                                                                                                 | Analyte                      | RunID<br>Analys<br>Chloride<br>Sam<br>Runi<br>Anal | e:<br>sis Date:<br>Analy<br>Matrix<br>ple Spiked:<br>ID:<br>ysis Date:<br>Sample<br>Result                 | IC2_1103<br>03/05/20<br>te<br>Spike (1<br>11030<br>IC2_11<br>03/05/<br>MS<br>Spike<br>Added                          | 3058-573786<br>011 11:41<br>MS) / Matri<br>106-01<br>03058-57378<br>2011 14:31<br>MS<br>Result         | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D<br>374 Un<br>An<br>374 Un<br>An<br>374 Un<br>An                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (<br>nits:<br>nalyst:<br>6 MSI<br>ery Spik<br>Add           | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br>MSD)<br>mg/L<br>ESK<br>D<br>Res<br>Res<br>ed     | Lower<br>Limit<br>3 90                      | Uppe<br>Limil<br>D 1                                                                                                | rt<br>110<br>RPD                  | RPD<br>Limit          | Low<br>Limit       | High<br>Limit        |
| Chloride                                                                                                        | Analyte                      | RunID<br>Analys<br>Chloride<br>Sam<br>Runi<br>Anal | :<br>sis Date:<br>Analy<br><u>Matrix</u><br>ple Spiked:<br>ID:<br>ysis Date:<br>Sample<br>Result<br>351.8  | IC2_1103<br>03/05/20<br>te<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 | MS) / Matri<br>MS) / Matri<br>106-01<br>0305B-57378<br>2011 14:31<br>MS<br>Result<br>619               | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D<br>374 Ui<br>Ai<br>374 Ui<br>Ai<br>4 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (<br>nits:<br>nalyst:<br>6 MSI<br>ery Spik<br>Add<br>07.0 2 | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br>MSD)<br>mg/L<br>ESK<br>D<br>Rest<br>ed           | D MS<br>JIT Re                              | Uppe<br>Limit<br>) 1<br>5D %<br>covery<br>103.2                                                                     | RPD                               | RPD<br>Limit<br>7 15  | Low<br>Limit       | High<br>Limit        |
| Chloride                                                                                                        | Analyte                      | RunID<br>Analys<br>Chloride<br>Sam<br>Runi<br>Anal | e:<br>sis Date:<br>Analy<br><u>Matrix</u><br>ple Spiked:<br>ID:<br>ysis Date:<br>Sample<br>Result<br>351.8 | IC2_1103<br>03/05/20<br>te<br>11030<br>IC2_11<br>03/05/<br>MS<br>Spike<br>Added<br>3 250                             | 305B-573786<br>011 11:41<br>MS) / Matri<br>106-01<br>0305B-57378<br>2011 14:31<br>MS<br>Result<br>619  | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D<br>374 Ui<br>Ai<br>374 Ui<br>Ai<br>4 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (<br>nits:<br>nalyst:<br>6 MSI<br>ery Spik<br>Add<br>07.0 2 | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br>MSD)<br>mg/L<br>ESK<br>D MS<br>Res<br>ed         | D MS<br>JIT Re<br>509.7                     | Uppe<br>Limil<br>) 1<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2<br>2 | RPD                               | RPD<br>Limit<br>7 15  | Low<br>Limit<br>80 | High<br>Limit<br>120 |
| Chloride                                                                                                        | Analyte                      | RunID<br>Analys<br>Chloride<br>Sam<br>Runi<br>Anal | sis Date:<br>Analy<br><u>Matrix</u><br>ple Spiked:<br>ID:<br>ysis Date:<br>Sample<br>Result<br>351.8       | IC2_1103<br>03/05/20<br>te<br>11030<br>IC2_11<br>03/05/<br>MS<br>Spike<br>Added<br>250                               | 3058-573786<br>011 11:41<br>MS) / Matri<br>106-01<br>03058-57378<br>2011 14:31<br>MS<br>Result<br>619  | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D<br>374 Un<br>An<br>374 Un<br>An<br>377 An<br>377 An<br>377 An<br>377 Un<br>377 An<br>377 An<br>377<br>An<br>377 An<br>377<br>An<br>377<br>An<br>377 An<br>377<br>An<br>377<br>An<br>3 | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (<br>nits:<br>nalyst:<br>6 MSI<br>ery Spik<br>Add<br>07.0 2 | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br>MSD)<br>mg/L<br>ESK<br>C<br>Res<br>ed            | Lower<br>Limit<br>3 90<br>Jult Rei<br>509.7 | Uppe<br>Limil<br>D 1<br>SD %<br>covery<br>103.2                                                                     | RPD                               | RPD<br>Limit<br>7 15  | Low<br>Limit<br>80 | High<br>Limit<br>120 |
| Chloride                                                                                                        | Analyte                      | RunID<br>Analys<br>Chloride<br>Sam<br>Runi<br>Anal | e:<br>sis Date:<br>Analy<br><u>Matrix</u><br>ple Spiked:<br>ID:<br>ysis Date:<br>Sample<br>Result<br>351.8 | IC2_1103<br>03/05/20<br>te<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5<br>5 | 305B-573786<br>011 11:41<br>MS) / Matri<br>106-01<br>0305B-57378<br>2011 14:31<br>MS<br>Result<br>619  | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D<br>374 Ui<br>Ai<br>374 Ui<br>Ai<br>4 10                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (<br>nits:<br>nalyst:<br>6 MSI<br>ery Spik<br>Add<br>07.0 2 | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br>MSD)<br>mg/L<br>ESK<br>D MS<br>res<br>ed<br>250  | Lower<br>Limit<br>3 90                      | Uppe<br>Limit<br>) 1                                                                                                | RPD                               | RPD<br>Limit<br>7 15  | Low<br>Limit<br>80 | High<br>Limit<br>120 |
| Chloride                                                                                                        | Analyte                      | RunID<br>Analys<br>Chloride<br>Sam<br>Runi<br>Anal | sis Date:<br>Analy<br><u>Matrix</u><br>ple Spiked:<br>ID:<br>ysis Date:<br>Sample<br>Result<br>351.8       | IC2_1103<br>03/05/20<br>te<br>11030<br>IC2_11<br>03/05/<br>MS<br>Spike<br>Added<br>250                               | 305B-573786<br>011 11:41<br>MS) / Matrii<br>106-01<br>0305B-57378<br>2011 14:31<br>MS<br>Result<br>619 | 4 Uni<br>Ana<br>Spike<br>Added<br>10.00<br>x Spike D<br>374 Un<br>An<br>374 An<br>377 An<br>377<br>An<br>377 An<br>377<br>An<br>377<br>An<br>377 An<br>377<br>An<br>377<br>An<br>3 | ts: m<br>alyst: E<br>Result<br>9.416<br>uplicate (<br>nits:<br>nalyst:<br>6 MSI<br>ery Spik<br>Add<br>07.0 2 | g/L<br>SK<br>Percent<br>Recovery<br>94.1<br>MSD)<br>mg/L<br>ESK<br>D MS<br>Rest<br>ed<br>250 | Lower<br>Limit<br>3 90<br>Jult Rei<br>509.7 | Uppe<br>Limil<br>D 1                                                                                                | RPD                               | RPD<br>Limit<br>7 15  | Low<br>Limit<br>80 | High<br>Limit<br>120 |

- J Estimated Value Between MDL And PQL
- E Estimated Value exceeds calibration curve
- \* 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.

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Version 2.1 - Modified February 11, 2011

## Sample Receipt Checklist And Chain of Custody

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

## Sample Receipt Checklist

| Workorder: 11030106   Date and Time Received: 3/3/2011 9:20:00 AM |                | Received By:<br>Carrier name: | NB<br>Fedex-Standard Overnight |
|-------------------------------------------------------------------|----------------|-------------------------------|--------------------------------|
| Temperature: 3.0/3.0°C                                            |                | Chilled by:                   | Water Ice '                    |
| 1. Snipping container/cooler in good condition /                  | res <b>⊡</b>   |                               | 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 🗹          |                               | Vials Not Present              |
| 13. Water - Preservation checked upon receipt (except VOA*)?      | Yes 🗹          | Νο                            | Not Applicable                 |
| *VOA Preservation Checked After Sample Analysis                   |                | •                             |                                |
| SPL Representative:                                               | Contact Date 8 | & Time:                       |                                |
| Client Name Contacted:                                            |                |                               | · ·                            |
| Non Conformance<br>Issues:                                        |                |                               | · .                            |
| Client Instructions:                                              |                | `                             |                                |
|                                                                   |                | ,                             | · ·                            |

Version 2.1 - Modified February 11, 2011

| , Inc. 10301 Set L Workforder No. | 5 / 72 445 72ch matrix bottle size pres. Request | Ca NE STE 20 0           |                | Email: Kerly bknck and O Texter O Date 1 2 100 100 100 100 100 100 100 100 100 |                         | 1 •                     | 7.7<br>7.7<br>7.7<br>7.7<br>7.7<br>7.7<br>7.7<br>7.7<br>7.7<br>7.7 | DATE TIME comp grab $\forall \forall \forall \forall \forall \forall \exists \forall \forall$ | 03-2-11 0800 X W 944 1/4% 1 9 × × × × | 03-2-11 /130 × W ** ** 9 × × × | 03-2-11 1200 × w V 40 1 3 × |  |  |  | Laboratory remarks:  | Porting Requirements Results: Fax Demail A PDF D Special Detection Limits (specify): | QCM Level 3 QC I Level 4 QC TX TRRP T LA RECAP | ished by Sampler: date date time 2. Received by: $O \mathcal{F} - Z - H$ | ished by: date time 4. Received by: | ichort hv.  date  date  date  date  date |
|-----------------------------------|--------------------------------------------------|--------------------------|----------------|--------------------------------------------------------------------------------|-------------------------|-------------------------|--------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------|-----------------------------|--|--|--|----------------------|--------------------------------------------------------------------------------------|------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------|------------------------------------------|
| Analysis Reque                    | Name: CONOCO Phill                               | 55: 61 31 Ind 120 School | HIBUG VERS NO. | Contact: 16814 Blanchar                                                        | 1 Name/No.: MAC +1 N 34 | neation: Blog while / M |                                                                    | SAMPLE ID                                                                                                                                                                                                                                                                                                                     | -2                                    | 3                              | 4                           |  |  |  | /Consultant Remarks: | Spec                                                                                 | Kequested IAI<br>Business Day Contract Stan    | Business Days X Standard 1. R.                                           | Business Days                       | Other, 5. Ru                             |