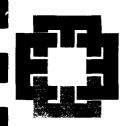


REPORTS

DATE: 2002



ENERCON SERVICES, NC. An Employee Owned Company

2775 Villa Creek, Suite 120 Dallas, TX 75234 (972) 484-3854 Fax: (972) 484-8835

May 24, 2002

RECEIVED Environmental Bureau Oil Conservation Division

Mr. Kyle Landreneau Equiva Services, L.L.C. SHE/Science & Engineering PMB 284 40 FM 1960 West Houston, Texas 77090

RE: REPORT DETAILING THE INSTALLATION AND SAMPLING OF TEMPORARY MONITOR WELL TMW-1 FOR PENROSE 'A' LEASE-WINNIE KENNAN RANCH, LEA COUNTY, NEW MEXICO

PROJECT NUMBER: ES-533

Mr. Landreneau:

Enercon Services, Inc. (Enercon) conducted drilling and soil sampling activities at the above referenced facility (Figure 1, Attachment A) on February 27, 2002. The site is located approximately 7 $\frac{1}{2}$ miles southeast of Eunice, New Mexico on the east side of Highway 18, at the Winnie Kennan Ranch, in Lea County, New Mexico.

From October 16 to November 21, 2000, the site was excavated and approximately 4,660 cubic yards of soil were transported to J and L Landfarm of Eunice, New Mexico for disposal. The site was excavated to a maximum depth of 40 feet below ground surface (bgs). The purpose of the current drilling and sampling activities was to confirm the extent of the hydrocarbon contamination at the excavation site and to determine if groundwater has been impacted by the release. This report summarizes the verification drilling and sampling field activities and includes laboratory analytical results.

SITE SAFETY

Before work was initiated, all personnel working at the site attended a tailgate safety meeting. During the meetings, the Site Health and Safety Officer discussed the safety and health concerns and procedures for the site as outlined in the Site Health and Safety Plan (HASP). A copy of the HASP was maintained at the site during all working hours in an easily accessible area. Air monitoring was performed at least four times throughout the day to monitor and document vapor levels in the work zone. A Thermo Environmental Instruments, Inc., Model 580B Organic Vapor Monitor (OVM) was

Mr. Kyle Landreneau May 24, 2002 Page 2 of 4 employed to monitor organic vapors. Each monitoring event produced results below 1 ppm.

SUBSURFACE INVESTIGATION

On January 27, 2002, temporary monitor well (TMW-1) was drilled to determine the vertical extent of hydrocarbon impacts to the soil and to determine if groundwater has been impacted from the former release at the site. Drilling operations were conducted by Eades Drilling Company, from Hobbs, New Mexico and supervised by Enercon personnel. The soil boring/temporary monitor well was placed through the center of the excavation (see Figure 2 in Attachment A).

Soil Data

The temporary monitor well (TMW-1) was drilled to a depth of 77 feet bgs or approximately 37 feet below the original excavation site using an air rotary (AR) drilling method. Sampling procedures consisted of drilling to the desired depths and obtaining soil samples with a split spoon sampling device. In general, the soil samples were collected at five foot intervals and field screened for volatile organic constituents (VOCs) with a Thermo Environmental Instruments, Inc., Model 580B Organic Vapor Meter (OVM) using the head space procedure described in <u>Guidelines for Remediation of Leaks, Spills and Releases</u>. The OVM readings and soil strata location are presented on the boring log in Attachment C.

Soil samples collected from the boring/temporary monitor well registered from 296 to 368 ppm OVM readings. Samples were collected from 53 feet to 55 feet, 63 feet to 65 feet and at 75 feet bgs and submitted to Trace Analysis Laboratories (Trace) in Lubbock. Texas for analysis of benzene, toluene, ethylbenzene, and xlyenes (Total BTEX) using EPA Method 8021B, total petroleum hydrocarbons (TPH Dro/Gro) using EPA method 8015 M and further analysis for SPLP TPH (Dro/Gro) and SPLP BTEX for any sample that exceeded 10 parts per million benzene, 50 parts per million BTEX, and greater than 1,000 parts per million Dro/Gro combined. An additonal analysis for polynuclear aromatic hydrocarbons (PAH) using EPA method 8270C was requested for TMW-1 at 63 to 65 feet and TMW-1 at 75 feet. Of the analysis performed, only the TPH (Dro/Gro) samples exceeded the New Mexico Oil Conservation Division Rankings of greater than 1,000 ppm TPH. Soil sample TMW-1 at 53 to 55 feet, TMW-1 at 63 to 65 feet, and TMW-1 at 75 feet had concentrations of TPH at 2,071, 8,693, and 2,963 ppm, respectively. The remaining soil sample concentrations analysed were negligible. Soil concentrations are listed on Table 1 in Attachment B. Upon completion of the collection of the soil samples from the borehole, the boring was converted to a temporary monitor well (TMW-1).

Groundwater Data

During the subsurface exploration, groundwater was encountered at 77 feet bgs (appoximately 37 feet below the bottom of the excavation) and the soil boring was

Mr. Kyle Landreneau May 24, 2002 Page 3 of 4

converted to a temporary monitor well (TMW-1). Utilizing a sensor probe, groundwater was measured at a depth of approximately 78 feet bgs (38 feet below the bottom of the excavation) in the temporary well. Although groundwater gradient direction has not been established at the site, the regional (and presumed groundwater flow direction for the site) is to the southeast.

The temporary monitor well (TMW-1) was constructed of a 2-inch inside diameter, schedule 40 polyvinyl chloride riser, and a 10-foot long, 0.010 inch slotted screen. The screen was placed at the bottom of the boring and extended 5 feet above the groundwater. A sand pack was set around the well screen from the bottom of the well to two feet above the top of the well screen. Afterwards, a two-foot bentonite plug was placed above the sand pack. A diagram detailing the temporary monitor wells installation is included in Attachment C.

After purging the temporary monitoring well of at least three well volumes, a groundwater sample was collected on February 27, 2002, placed on ice, and transported under strict chain of custody to Trace Analysis of Lubbock, Texas. The groundwater sample was analyzed for total BTEX using EPA Method 8021B, TPH using EPA method 418.1, and PAH using EPA Method 8270. Due to a laboratory error, holding time on the PAH sample was exceeded so the results were considered invalid. When Enercon returned to the site to resample the groundwater for PAHs on March 15, 2002, a LNAPL layer measuring 0.16 feet was encountered on the groundwater. As a result, no additional groundwater samples were collected from the monitor well and hence no PAH results were available for temporary monitor well TMW-1.

Of the groundwater analytes analyzed, only benzene was below detection limit. The remaining analyes (Ethylbenzene, Toluene, Total Xylenes, and TPH) had levels which were above detection limits but were below drinking water standards. Laboratory results are summarized on Table 2, while groundwater measurements are on Table 3 and are included in Attachment B of this document. Laboratory analytical reports are included in Attachment D.

A photo log illustrating and describing field activities is presented in Attachment E of this report.

FINDINGS / CONCLUSIONS

The laboratory analytical results for the soil samples collected from temporary monitor well TMW-1 revealed that the soils have been impacted with TPH (Dro/Gro) which exceeds the NMOCD standards of 1,000 ppm. The TPH (Dro/Gro) concentration range from 2,071 ppm in TMW-1 at 53-55 feet bgs to 8,693 ppm at 63-65 feet bgs. The TPH result for the sample collected at the soil/groundwater interface at 75 feet bgs is 2,963 ppm. Additional analytical results for TMW-1 indicate that the concentration of BTEX and PAH components were below the current NMOCD standards.

Mr. Kyle Landreneau May 24, 2002 Page 4 of 4

Groundwater analytical results were below EPA drinking water standards for the analytes analyzed. However, a subsequent sampling event on March 15, 2002 revealed that LNAPL measuring 0.16 feet have impacted the groundwater. The NMOCD was notified on March 21, 2002.

Enercon Services, Inc. appreciates the opportunity to provide you with our professional consulting services on this important project. If you have any questions or if we can be of further assistance, please do not hesitate to call Jeff Kindley at (915) 570-8726 or Bennett Howell at (972) 484-3854.

Respectfully, Enercon Services, Inc.

HOBELT.

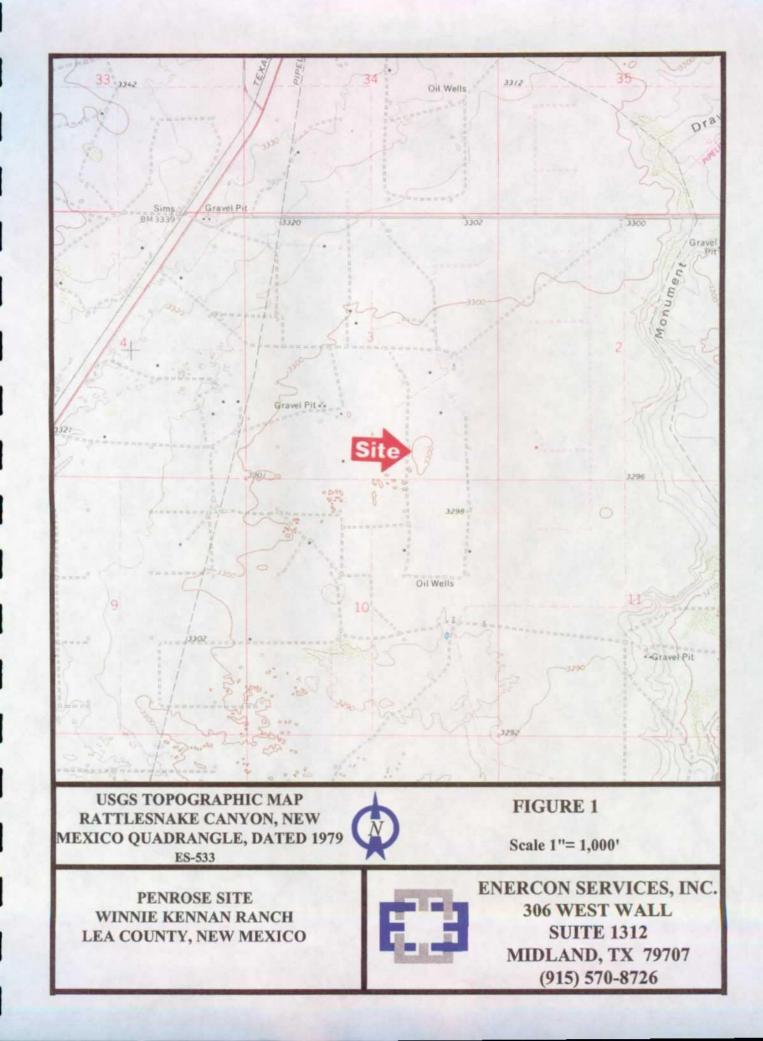
Jeffrey Kindley, P.G. Project Manager

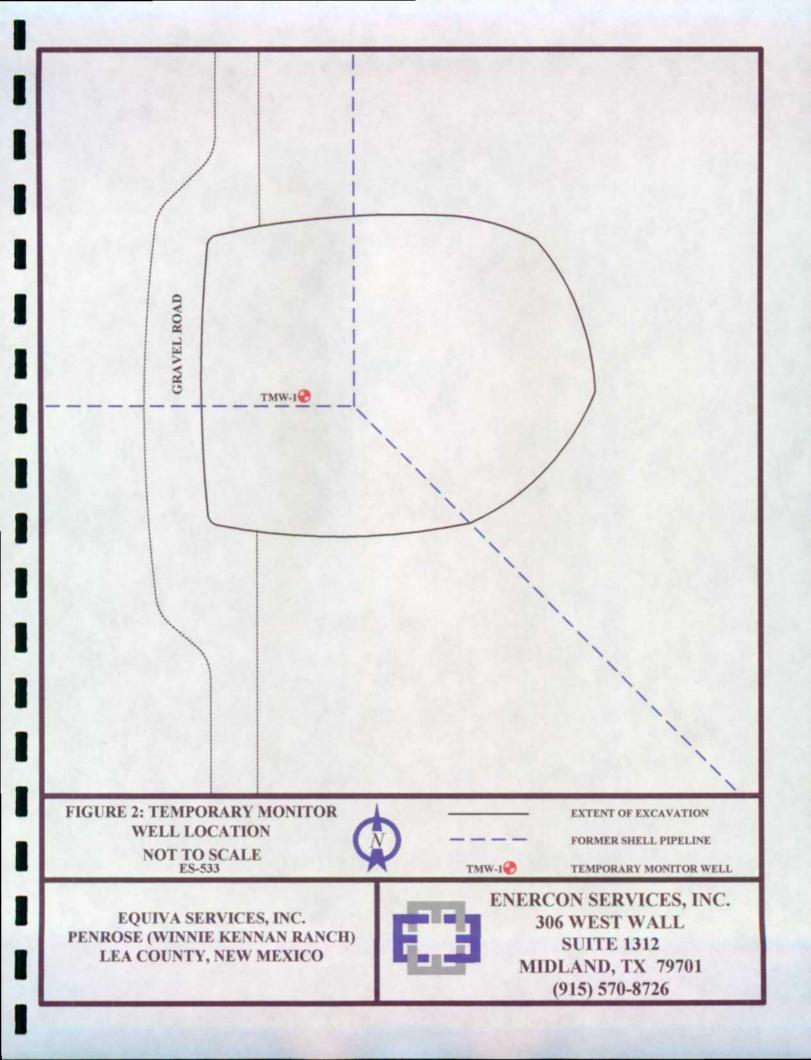
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Bennett C. Howell, III, P.E. Senior Engineer

ATTACHMENT A

Figures 1 and 2





ATTACHMENT B

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Tables 1, 2, and 3

| | | | | | 1. | | | TABLE 1 | | | | | | | | |
|---|--------------|--------------------|-----------------|-----------------|-------------|----------------|---|------------|-----------------|---------------|---|-----------|------------|-----------|-----------|-------------|
| | | | | | | | SOIL ANALYTICAL RESULTS | LYTICAL | . RESUL | TS | | | | | | |
| | | | | | EQUILC | IN PENI | EQUILON PENROSE "A" LEASE (WINNIE KENNAN RANCH) | LEASE (| WINNIE | KENNA | N RANCH) | | | | | |
| | | | | | | EUN | UNICE, LEA COUNTY, NEW MEXICO | SOUNTY | , NEW N | IEXICO | | | | | | |
| | | | | Ethyl- | | Total | HdT | Total | SPLP | SPLP | SPLP | SPLP | SPLP | SPLP | SPLP | |
| Sample | Date | Benzene | Benzene Toluene | benzene Xylenes | Xylenes | втех | BTEX (DRO/GRO) | PAH* | Benzene Toluene | Toluene | Ethylbenzene Xylenes Total BTEX | Xylenes | Total BTEX | DRO | GRO | Depth to |
| Location | | (in mg/kg) | (in mg/kg) | (in mg/kg) | (in mg/kg)(| (in mg/kg) | (in mg/kg) | (in mg/kg) | (in mg/L) | (in mg/L) | (in mg/kg)(in mg/kg) (in mg/kg) (in mg/kg)(in mg/kg) (in mg/kg) (in mg/L) | (in mg/L) | (in mg/L) | (in mg/L) | (in mg/L) | groundwater |
| TMW-1 (53-55') 02/26/02 <0.100 | 02/26/02 | <0.100 | <0.100 | 13.7 | 28.7 | 42.4 | 2,071 | Ą | A | NA | AN | AN | NA | AN | NA | 77 |
| TMW-1 (63-65') 02/26/02 0.0136 | 02/26/02 | 0.0136 | 0.271 | 0.612 | 1.51 | 2.41 | 8,693 | 2.75 | 0.0071 | 0.241 | 0.568 | 1.36 | 2.1761 | <5.00 | 6.85 | -17 |
| TMW-1 (75') 02/26/02 <0.005 | 02/26/02 | <0.005 | <0.005 | 0.0405 | 0.132 | 0.173 | 2,963 | 1.08 | AN | NA | AN | AN | NA | <5.00 | 1.55 | 77 |
| NMOCD Rankings | sõu | 10 | AN | AN | AN | 50 | 1,000 | ٩N | ٩N | AN | AN | NA | NA | AN | NA | NA |
| ND = Not detect NA = Not applicable NS = Not sampled | #NA = Not | applicable | NS = Not | sampled | | | | | | | | | | | | |
| * PAH result is for total PAH with the 2.75 ppm result being Naphthalene. | for total PA | NH with the | 2.75 ppm | result being | Naphthaler | ne. | | | | | | | | | | |

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| | | GROU EQUIVA PENROS EUNICE | TABLE 2 GROUNDWATER MEASUREMENTS EQUIVA PENROSE "A" LEASE (WINNIE KENNAN RANCH) EUNICE, LEA COUNTY, NEW MEXICO | urements Inie kennan ra Ew mexico | NCH) | |
|--------------------|----------------------|---------------------------------|---|---|------------------------------|--|
| Well No. | Date | Casing Elevation (in feet) | Casing Elevation Depth to Groundwater (in feet) (in feet) | Depth to LNAPL (in feet) | LNAPL Thickness (in feet) | LNAPL Thickness Corrected Groundwater (in feet) Elevation (in feet) |
| TMW-1 | 02/27/02 03/15/02 | NA NA | 38.13 38.15 | 38.13 38.31 | 0 0.16 | NA NA |
| NA - Not available | | | | | | |

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| | | GRO EQUIV. | TABLE 3 GROUNDWATER CONTAMINANT CONCENTRATIONS EQUIVA PENROSE "A" LEASE (WINNIE KENNAN RANCH) EUNICE, LEA COUNTY, NEW MEXICO | TABLE 3 DWATER CONTAMINANT CONCENTR PENROSE "A" LEASE (WINNIE KENNAN EUNICE, LEA COUNTY, NEW MEXICO | CENTRATIONS ENNAN RANCH EXICO | | | |
|---|--|--|---|--|-------------------------------------|-------------------------|--------------------------|------------------|
| Well No. | Sample Date | Benzene (in mg/L) | Ethylbenzene (in mg/L) | Toluene (in mg/L) | Total Xylenes (in mg/L) | Total BTEX (in mg/L) | TPH (418.1) (in mg/L) | PAH (in mg/L) |
| TMW-1 | 02/27/02 03/15/02 | <0.005 LNAPL | 0.027 LNAPL | 0.084 LNAPL | 0.194 LNAPL | 0.305 | 19.6 LNAPL | NA * LNAPL |
| LNAPL - Light Non-aqueous phase liquids * Samples were collected, however the time frame for extraction was exceeded. A second sample was to be collected, however LNAPLs were noted in the well and hence no samples for PAH were collected or analyzed. | ous phase liquiv d, however the 1 amples for PAH | ds time frame for extractiv were collected or anal | on was exceeded. A se vzed. | scond sample was to t | e collected, however | - LNAPLs were not | ui be | |

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ATTACHMENT C

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Soil Boring Log and Monitor Well Installation Diagram

| | RCON SERVICES, INC. 06 West Wall, Suite 1312 Midland, Texas 79701 | RECC | ORD OF | SUBS | URFAC | E EXPLORAT | ION |
|-----------------|---|---------------------------------------|---------------------------|--------------|-------------------------------|--|--------|
| Project #: | | Well/Boring # | ŧ: | TN | 4W-1 | Date Drilled: 2 | /27/02 |
| Project: | Penrose "A" Lease Winnie Kennan Ranch | Drilling Company: Driller: | Eades Drill Alan Eades | | | Drilling Air Ro Method: Logged By: JWK | otary |
| DEPTH (FEET) | Lea County, NM SOIL DESCRIPTION | SAMPLE NUMBER | SAMPLE TYPE | OVA (PPM) | | REMARKS | |
| 40.0 | Backfill material to 43 feet below ground level ** | | SS | | No sample c | ollected. Material is | 0.0 — |
| 45.0 | Tan well sorted medium grain sand | | SS | NA | Stong hydrod with staining | | 45.0 — |
| 50.0 | with intermixed calcareous limestone | | SS | 350 | Stong hydro with staining | | 50.0 — |
| - 55.0 | | TMW-1 (53-55') | SS | 368 | Stong hydro with staining | | 55.0 — |
| 60.0 | | | SS | 349 | Strong hydro with no stair | | 60.0 — |
| - | | TMW-1 (63'-65') | SS | 365 | No hydrocar or staining | bon odor | |
| 65.0 | | , , , , , , , , , , , , , , , , , , , | | | | r encountered at 26 feet | 65.0 — |
| 70.0 | Tan well sorted medium grain clayey | | SS | 299 | | | 70.0 — |
| - | sand | TMW-1 (75') | SS | 296 | | | 75.0 — |
| | Boring temrinated at 82 feet and converted to a temporary monitor well. | | | | Groundwate | r encountered at 77 feet | 80.0 — |

ABBREVIATIONS AND SYMBOLS

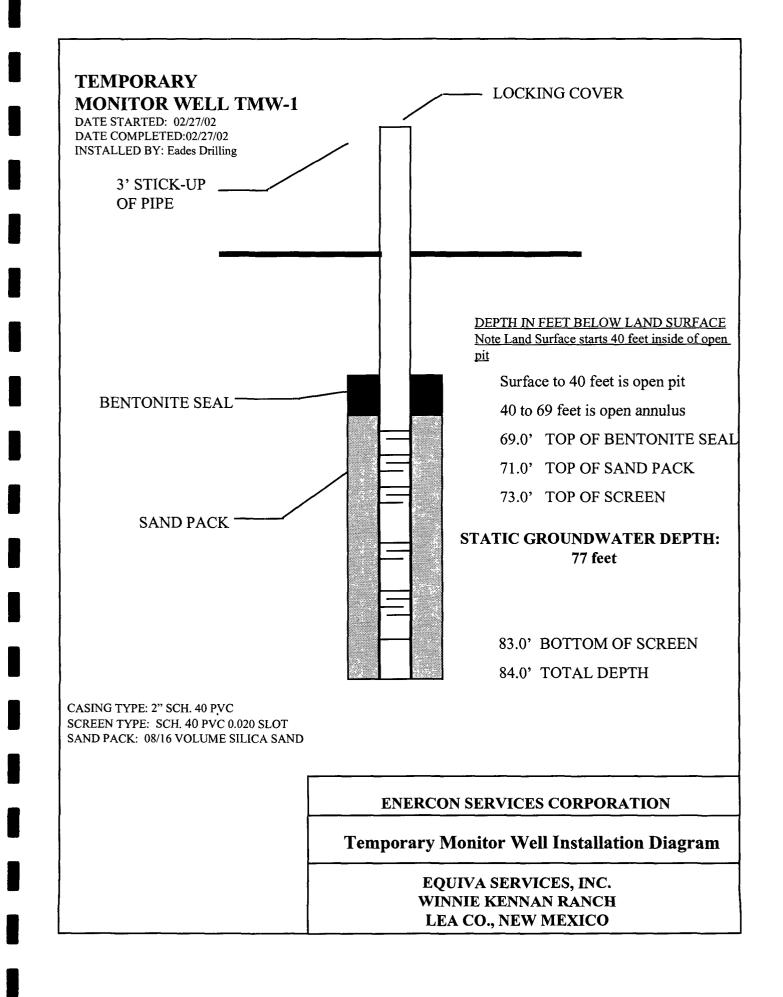
SS - Driven Split Spoon

ST - Pressed Shelby Tube

CA - Continuous Flight Auger

HSA - Hollow Stem Auger CFA - Continous Flight Augers DC - Driving Casing ļ

** Notes: Temporary Monitor Well installed inside a 40-foot deep previously excavated open pit.



ATTACHMENT D

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Laboratory Analytical

TraceAnalysis, Inc.

6701 Aberdeen Ave., Suite 9

Lubbock, TX 79424-1515

(806) 794-1296

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Report Date: March 6, 2002Order Number: A02022812 ES-533 Equiva Penrose Page Number: 1 of 1 Eunice ,Lea County New Mexico

Summary Report

| Kyle Landreneau | | | | Report Date: | March 6, 2002 |
|--------------------------|----------------------|--------------|---------|------------------|---------------|
| Equiva Kyle Landı | reneau | | | | |
| PMB 284 40 FM 1 | .960 West | | | | |
| Houston, TX 7709 | 0 | | | Order ID Number: | A02022812 |
| Project: | ES-533 | | | | |
| TA Job Code: | Equiva Penrose | | | | |
| Casualty Code: | ES-533 | | | | |
| Project Location: | Eunice ,Lea Count | y New Mexico | | | |
| Project Address: | | | | | |
| Enercon Services I | nc. / Midland / Jeff | Kindley | | | |
| | | | Date | Time | Date |
| Sample | Description | Matrix | Taken | Taken | Received |
| 191791 | TMW-1 | Water | 2/27/02 | 9:30 | 2/28/02 |

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

| | | | BTEX | | | TPH |
|---------------------|---------|---------|--------------|--------------|------------|-------|
| | Benzene | Toluene | Ethylbenzene | M,P,O-Xylene | Total BTEX | TRPHC |
| Sample - Field Code | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) |
| 191791 - TMW-1 | < 0.005 | 0.027 | 0.084 | 0.194 | 0.305 | 19.6 |

6701 Aberdeen Avenue, Suite 9 155 McCutcheon, Suite H

Lubbock, Texas 79424 800 • 378 • 1296 El Paso, Texas 79932

888 • 588 • 3443 E-Mail: lab@traceanalysis.com

806 • 794 • 1296 FAX 806 • 794 • 1298 915 • 585 • 3443 FAX 915 • 585 • 4944

Analytical and Quality Control Report

Kyle Landreneau Equiva Kyle Landreneau PMB 284 40 FM 1960 West Houston, TX 77090

Report Date:

March 6, 2002

Order ID Number: A02022812

Project: ES-533 TA Job Code: Equiva Penrose Casualty Code: ES-533 Project Location: Eunice ,Lea County New Mexico Enercon Services Inc. / Midland / Jeff Kindley

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

| | | | Date | Time | Date |
|--------|-------------|--------|---------|-------|----------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 191791 | TMW-1 | Water | 2/27/02 | 9:30 | 2/28/02 |

0

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

This report consists of a total of 5 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

| Sample: | ***** | - TMW-1 | | | | | |
|----------------------------------|---------------------|---|----------------|-------------------------------|----------------------------|--|-------------------------------------|
| Analysis: | BTEX | Analytical Method: | S 8021B | QC Batch: | QC18523 | Date Analyzed: | 2/28/02 |
| Analyst: | CG | Preparation Method | : S 5030B | Prep Batch: | PB17986 | Date Prepared: | 2/28/02 |
| Param | | Flag | Result | Units | Dil | ution | RDL |
| Benzene | | | < 0.005 | mg/L | | 5 | 0.001 |
| Toluene | | | 0.027 | mg/L | | 5 | 0.001 |
| Ethylbenzei | ne | | 0.084 | mg/L | | 5 | 0.001 |
| M,P,O-Xyle | ene | | 0.194 | mg/L | | 5 | 0.001 |
| Total BTE | x | | 0.305 | mg/L | | 5 | 0.001 |
| Surrogate TFT 4-BFB | Flag | 0.085 | Units mg/L | Dilution 5 | Amount 0.10 | Recovery 85 | Limits 70 - 130 |
| | | 0.089 | mg/L | 5 | 0.10 | 89 | 70 - 130 |
| Sample: Analysis: Analyst: | 19179) TPH KM | 0.089 - TMW-1 Analytical Method: Preparation Method: | E 418.1 | 5 QC Batch: Prep Batch: | 0.10 QC18622 PB18067 | 89 Date Analyzed: Date Prepared: | 3/6/02 |
| Sample: Analysis: | ТРН КМ | - TMW-1 Analytical Method: | E 418.1 N/A | QC Batch: | QC18622 | Date Analyzed: Date Prepared: | 70 - 130 3/6/02 3/5/02 RDL |

Report Date: March 6, 2002 ES-533 Order Number: A02022812 Equiva Penrose Page Number: 3 of 5 Eunice ,Lea County New Mexico

Quality Control Report Method Blank

Method Blank

QCBatch: QC18523

| | | | | Reporting |
|--------------|---------------------------------------|---------|--------|-----------|
| Param | Flag | Results | Units | Limit |
| Benzene | · · · · · · · · · · · · · · · · · · · | < 0.001 | mg/L | 0.001 |
| Toluene | | <0.001 | mg/L | 0.001 |
| Ethylbenzene | | < 0.001 | mg/L | 0.001 |
| M,P,O-Xylene | | < 0.001 | m mg/L | 0.001 |
| Total BTEX | | < 0.001 | mg/L | 0.001 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|-----------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| TFT | · | 0.086 | mg/L | 1 | 0.10 | 86 | 70 - 130 |
| 4-BFB | | 0.087 | mg/L | 1 | 0.10 | 87 | 70 - 130 |

| Method Blank | QCBatch: | QC18622 | | |
|--------------|-----------------|----------|---------|-----------|
| 7 | | D | | Reporting |
| Param | \mathbf{Flag} | Results | Units | Limit |
| TRPHC | | <0.500 | mg/L | 0.50 |

Quality Control Report Lab Control Spikes and Duplicate Spikes

QC18523

Laboratory Control Spikes

QCBatch:

| | | | | | Spike | | | | | |
|--------------|--------|-------------------|-------|------|--------|---------|-------|-----|----------|-------|
| | LCS | LCSD | | | Amount | Matrix | | | % Rec | RPD |
| Param | Result | \mathbf{Result} | Units | Dil. | Added | Result | % Rec | RPD | Limit | Limit |
| MTBE | 0.094 | 0.095 | mg/L | 1 | 0.10 | < 0.001 | 94 | 1 | 82 - 111 | 20 |
| Benzene | 0.091 | 0.093 | mg/L | 1 | 0.10 | <0.001 | 91 | 2 | 86 - 106 | 20 |
| Toluene | 0.092 | 0.094 | mg/L | 1 | 0.10 | <0.001 | 92 | 2 | 82 - 108 | 20 |
| Ethylbenzene | 0.094 | 0.096 | mg/L | 1 | 0.10 | < 0.001 | 94 | 2 | 86 - 115 | 20 |
| M,P,O-Xylene | 0.283 | 0.286 | mg/L | 1 | 0.30 | < 0.001 | 94 | 1 | 79 - 122 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dilution | Spike Amount | LCS % Rec | LCSD % Rec | Recovery Limits |
|-----------|---------------|----------------|-------|----------|-----------------|--------------|---------------|--------------------|
| TFT | 0.085 | 0.088 | mg/L | 1 | 0.10 | 85 | 88 | 70 - 130 |
| 4-BFB | 0.087 | 0.088 | mg/L | 11 | 0.10 | 87 | 88 | 70 - 130 |

Laboratory Control Spikes

QCBatch: QC18622

| Report Date: March 6, 2002 ES-533 | | | | Order Numb Equiva | Penrose | 2 | Page Number: 4 of 5 Eunice ,Lea County New Mexico | | | | |
|---|----------------|-----------------|---|--|---|----------------|--|---|--|---|--|
| | | | | | Spike | | | | ~ ~ ~ | | |
| D | LCS | LCSD | TT | | | atrix | 07 D | RPD | % Rec | RPD | |
| Param FRPHC | Result 6.75 | Result 6.84 | Units | | | esult 0.500 | % Rec 79 | $\frac{RPD}{1}$ | Limit 70 - 130 | Limit 20 | |
| IRFIC | 0.75 | 0.04 | mg/L | 1 | 0.00 <1 | 5.500 | 19 | <u> </u> | 70 - 150 | 20 | |
| Percent ree | covery is ba | sed on the sp | | PD is based o | | | | sult. | | | |
| | | Çonti | | uality C Calibratio | | | | dards | | | |
| CCV (| (1) | QCBatc | h: QC18 | 3523 | | | | | | | |
| | | | | CCVs | CCVs | | CCVs | Perce | | _ | |
| _ | | | | True | Found | | ercent | Recov | • | Date | |
| Param | | Flag | Units | Conc. | Conc. | Re | covery | Limi | | Analyzed | |
| MTBE | | | mg/L | 0.10 | 0.092 | | 92 | 85 - 1 | | 2/28/02 | |
| Benzene | | | mg/L | 0.10 | 0.090 | | 90 | 85 - 1 | | 2/28/02 | |
| Toluene | | | mg/L | 0.10 | 0.090 | | 90 | 85 - 1 | | 2/28/02 | |
| Ethylben: M,P,O-Xy | | | mg/L mg/L | 0.10 0.30 | $0.092 \\ 0.274$ | | 92 91 | 85 - 1 85 - 1 | | $\frac{2}{28}/02$ $\frac{2}{28}/02$ | |
| CCV | (2) | 0.075 | | | | | | | | | |
| | ••• | QCBatc | h: $QC18$ | 3523 | | | | | | · | |
| | | QCBatc | h: QC18 | 3523 CCVs | CCVs | | CCVs | Perce | ent | | |
| | | QCBatc | h: QC18 | | CCVs Found | | CCVs Percent | Perce Recov | | Date | |
| Param | | QCBatc | h: QC18 Units | CCVs | | P | | | ery | | |
| | | - | · | CCVs True | Found | P | ercent ecovery 91 | Recov | ery ts | Analyze | |
| MTBE | · · · | - | Units | CCVs True Conc. | Found Conc. 0.091 0.087 | P | ercent ecovery 91 87 | Recov Limi | ery ts 15 | Analyze 2/28/0 2/28/0 | |
| MTBE Benzene Toluene | · · | - | Units mg/L mg/L mg/L | CCVs True Conc. 0.10 0.10 0.10 | Found Conc. 0.091 0.087 0.089 | P | ercent ecovery 91 87 89 | Recov Limi 85 - 1 85 - 1 85 - 1 | ery ts 15 15 15 | Analyze 2/28/0 2/28/0 2/28/0 | |
| MTBE Benzene Toluene Ethylben | | - | Units mg/L mg/L mg/L mg/L | CCVs True Conc. 0.10 0.10 0.10 0.10 0.10 | Found Conc. 0.091 0.087 0.089 0.09 | P | ercent ecovery 91 87 89 90 | Recov Limi 85 - 1 85 - 1 85 - 1 85 - 1 | ery ts 15 15 15 15 | Analyze 2/28/02 2/28/02 2/28/02 2/28/02 | |
| Param MTBE Benzene Toluene Ethylben M,P,O-X | | - | Units mg/L mg/L mg/L | CCVs True Conc. 0.10 0.10 0.10 | Found Conc. 0.091 0.087 0.089 | P | ercent ecovery 91 87 89 | Recov Limi 85 - 1 85 - 1 85 - 1 | ery ts 15 15 15 15 | Date Analyze 2/28/02 2/28/02 2/28/02 2/28/02 2/28/02 | |
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| MTBE Benzene Toluene Ethylben | ylene | - | Units mg/L mg/L mg/L mg/L | CCVs True Conc. 0.10 0.10 0.10 0.10 0.30 | Found Conc. 0.091 0.087 0.089 0.09 | P | ercent ecovery 91 87 89 90 | Recov Limi 85 - 1 85 - 1 85 - 1 85 - 1 | ery ts 15 15 15 15 | Analyze 2/28/02 2/28/02 2/28/02 2/28/02 | |
| MTBE Benzene Toluene Ethylben M,P,O-X | ylene | Flag | Units mg/L mg/L mg/L mg/L | CCVs True Conc. 0.10 0.10 0.10 0.10 0.30 | Found Conc. 0.091 0.087 0.089 0.09 | P Ra | ercent ecovery 91 87 89 90 | Recov Limi 85 - 1 85 - 1 85 - 1 85 - 1 | ery ts 15 15 15 15 15 | Analyze 2/28/02 2/28/02 2/28/02 2/28/02 | |
| MTBE Benzene Toluene Ethylben M,P,O-X | ylene | Flag | Units mg/L mg/L mg/L mg/L | CCVs True Conc. 0.10 0.10 0.10 0.10 0.30 | Found Conc. 0.091 0.087 0.089 0.09 0.268 | P Ra | ercent 91 87 89 90 89 | Recov Limi 85 - 1 85 - 1 85 - 1 85 - 1 85 - 1 | ery ts 15 15 15 15 15 15 | Analyze 2/28/02 2/28/02 2/28/02 2/28/02 | |
| MTBE Benzene Toluene Ethylben M,P,O-X | ylene | Flag | Units mg/L mg/L mg/L mg/L | CCVs True Conc. 0.10 0.10 0.10 0.10 0.30 523 CCVs | Found Conc. 0.091 0.087 0.089 0.09 0.268 CCVs | P Ra | ercent 91 87 89 90 89 S9 | Recov Limi 85 - 1 85 - 1 85 - 1 85 - 1 85 - 1 | ery ts 15 15 15 15 15 15 ent very | Analyze 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 Date Analyze | |
| MTBE Benzene Toluene Ethylben M,P,O-X ICV (Param | ylene | Flag QCBatch | Units mg/L mg/L mg/L mg/L | CCVs True Conc. 0.10 0.10 0.10 0.10 0.30 523 CCVs True | Found Conc. 0.091 0.087 0.089 0.09 0.268 CCVs Found | P Ra | ercent 91 87 89 90 89 CCVs Percent | Recov Limi 85 - 1 85 - 1 85 - 1 85 - 1 85 - 1 85 - 1 85 - 1 | ery ts 15 15 15 15 15 15 15 ent very its | Analyze 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 Date Analyze | |
| MTBE Benzene Toluene Ethylben M,P,O-X | ylene | Flag QCBatch | Units mg/L mg/L mg/L mg/L .: QC18 Units | CCVs True Conc. 0.10 0.10 0.10 0.30 523 CCVs True Conc. | Found Conc. 0.091 0.087 0.089 0.09 0.268 CCVs Found Conc. | P Ra | ercent ecovery 91 87 89 90 89 90 89 CCVs Percent ecovery | Recov Limi 85 - 1 85 - 1 | ery ts 15 15 15 15 15 15 15 ent very its 115 | Analyze 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 | |
| MTBE Benzene Toluene Ethylben M,P,O-X ICV (Param MTBE Benzene Toluene | ylene 1) | Flag QCBatch | Units mg/L mg/L mg/L mg/L :: QC18 Units mg/L | CCVs True Conc. 0.10 0.10 0.10 0.10 0.30 523 523 CCVs True Conc. 0.10 0.10 0.10 | Found Conc. 0.091 0.087 0.089 0.09 0.268 CCVs Found Conc. 0.097 0.096 0.097 | P Ra | Percent ecovery 91 87 89 90 89 89 90 89 90 89 89 89 89 89 89 90 89 89 89 89 89 89 89 89 89 89 89 89 89 | Recov Limi 85 - 1 85 - 1 Recov Lim 85 - 2 85 - 3 85 - 3 | ery ts 15 15 15 15 15 15 15 15 115 115 115 | Analyze 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 2/28/0 | |
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CCV (1)

QCBatch: QC18622

| Report Date: March 6, 2002 ES-533 | | | + | nber: A0202281 va Penrose | Page Number: 5 of 5 Eunice ,Lea County New Mexico | | |
|--------------------------------------|------|---------|-----------------------|------------------------------|--|-------------------------------|------------------|
| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
| TRPHC | | mg/L | 100 | 93 | 93 | 75 - 125 | 3/6/02 |
| ICV (1) | Q | CBatch: | QC18622 | | · | | |
| | | | CCVs | CCVs | CCVs | Percent | |

| Danam | Flor | TInita | True | Found | Percent | Recovery Limits | Date |
|-------|-----------------|--------|-------|-------|----------|--------------------|----------|
| Param | \mathbf{Flag} | Units | Conc. | Conc. | Recovery | Diffics | Analyzed |
| TRPHC | | mg/L | 100 | 92.5 | 92 | 75 - 125 | 3/6/02 |
| | | | | | | | |

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| | 6701 Aberdeen Avenue, Ste. 9 Lubbock, Texas 79424 | Tel (806) 794-1296 Fax (806) 794-1298 1 (800) 378-1296 | ompany Name: | SS: | 306 (ontact Person: | Je FFrey K woice to: | 2 * | roject Location: | s Z | | 19010 | : | , | | Ĵ | | · . | | | |
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Lubbock, TX 79424-1515

Report Date: March 13, 2002Order Number: A02030115 ES-533 Equiva Penrose Page Number: 1 of 1 Eunice ,Lea County New Mexico

Summary Report

| L | Report Date: | March 13, 2002 | | |
|-----------|----------------------------|---|--|--|
| dreneau | - | | | |
| 1960 West | | | | |
| 90 | Order ID Number: | A02030115 | | |
| ES-533 | | | | |
| | dreneau 1960 West 90 | dreneau 1960 West 90 Order ID Number: ES-533 | | |

TA Job Code:Equiva PenroseCasualty Code:ES-533Project Location:Eunice ,Lea County New MexicoProject Address:Enercon Services Inc. / Midland / Jeff Kindley

| | | | Date | Time | Date |
|--------|---------------|--------|---------|-------|----------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 191904 | TMW-1 (53-55) | Soil | 2/26/02 | 8:10 | 3/1/02 |
| 191905 | TMW-1 (63-65) | Soil | 2/26/02 | 9:30 | 3/1/02 |

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

| | | | TPH DRO | TPH GRO | | | | |
|------------------------|---------|-----------|---------|---------|-------|-------|-------|-------|
| | Benzene | Toluene E | DRO | GRO | | | | |
| Sample - Field Code | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) |
| 191904 - TMW-1 (53-55) | < 0.100 | < 0.100 | 13.7 | 28.7 | 42.4 | * 1 | 1320 | 751 |
| 191905 - TMW-1 (63-65) | 0.0136 | 0.271 | 0.612 | 1.51 | 2.41 | - | 5520 | 3173 |

Sample: 191905 - TMW-1 (63-65)

| Param | Flag | Result | Units |
|------------------------|------|--------|-------|
| Naphthalene | | 2.75 | mg/Kg |
| Acenaphthylene | | <0.25 | mg/Kg |
| Acenaphthene | | <0.25 | mg/Kg |
| Fluorene | | <0.25 | mg/Kg |
| Phenanthrene | | <0.25 | mg/Kg |
| Anthracene | | <0.25 | mg/Kg |
| Fluoranthene | | <0.25 | mg/Kg |
| Pyrene | | <0.25 | mg/Kg |
| Benzo(a)anthracene | | <0.25 | mg/Kg |
| Chrysene | | <0.25 | mg/Kg |
| Benzo(b)fluoranthene | | <0.25 | mg/Kg |
| Benzo(k)fluoranthene | | <0.25 | mg/Kg |
| Benzo(a)pyrene | | <0.25 | mg/Kg |
| Indeno(1,2,3-cd)pyrene | | <0.25 | mg/Kg |
| Dibenzo(a,h)anthracene | | <0.25 | mg/Kg |
| Benzo(g,h,i)perylene | | <0.25 | mg/Kg |

¹Sample diluted due to hydrocarbons beyond xylene. Sample contains less than 0.0032 mg/Kg Benzene wich is the MDL.

TraceAnalysis, Inc.

191905

Lubbock, TX 79424-1515

(806) 794-1296

3/1/02

Report Date: March 12, 2002Order Number: A02030115 ES-533 Equiva Penrose

TMW-1 (63-65)

Summary Report

| Kyle Landreneau | | | | Report Date: | March $12, 2002$ |
|-------------------|-------------------------|------------|------------------|--------------|------------------|
| Equilon Kyle Land | dreneau | | | | |
| PMB 284 40 FM 1 | 1960 West | | | | |
| Houston, TX 7709 | 0 | | Order ID Number: | A02030115 | |
| Project: | ES-533 | | | | |
| TA Job Code: | Equiva Penrose | | | | |
| Casualty Code: | ES-533 | | | | |
| Project Location: | Eunice ,Lea County | New Mexico | | | |
| Project Address: | | | | | |
| Enercon Services | Inc. / Midland / Jeff H | Kindley | | | |
| | | | Date | Time | Date |
| Sample | Description | Matrix | Taken | Taken | Received |

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

2/26/02

9:30

Soil

| | | | SPLP BTEX | ζ |] |
|------------------------|---------|---------|--------------|--------------|------------|
| | Benzene | Toluene | Ethylbenzene | M,P,O-Xylene | Total BTEX |
| Sample - Field Code | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) |
| 191905 - TMW-1 (63-65) | 0.0071 | 0.241 | 0.568 | 1.36 | 2.1761 |

Sample: 191905 - TMW-1 (63-65)

| Param | Flag | Result | Units |
|----------|------|--------|-------|
| SPLP DRO | | <5.00 | mg/L |
| SPLP GRO | | 6.85 | mg/L |

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 155 McCutcheon, Suite H El Paso, Texas 79932

888 • 588 • 3443 E-Mail: lab@traceanalysis.com

806 • 794 • 1296 FAX 806 • 794 • 1298 915•585•3443 FAX 915•585•4944

800 • 378 • 1296

Analytical and Quality Control Report

Kyle Landreneau Equilon Kyle Landreneau PMB 284 40 FM 1960 West Houston, TX 77090

Report Date:

March 13, 2002

Order ID Number: A02030115

Project: ES-533 TA Job Code: Equiva Penrose Casualty Code: ES-533 Project Location: Eunice ,Lea County New Mexico Enercon Services Inc. / Midland / Jeff Kindley

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

| | | | Date | Time | Date |
|--------|---------------|--------|---------|-------|----------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 191904 | TMW-1 (53-55) | Soil | 2/26/02 | 8:10 | 3/1/02 |
| 191905 | TMW-1 (63-65) | Soil | 2/26/02 | 9:30 | 3/1/02 |

0

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

This report consists of a total of 10 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Blair Leftwich. Director

Order Number: A02030115 Equiva Penrose

Analytical Report

| Sample: | 191904 - | TMW-1 (| (53-55) | |
|---------|----------|----------------|---------|--|
|---------|----------|----------------|---------|--|

| Analysis: | BTEX | Analytical Method: | S 8021B | QC Batch: | QC18564 | Date Analyzed: | 3/1/02 |
|------------|-------|---------------------|---------|-------------|--|----------------|--------|
| Analyst: | CG | Preparation Method: | S 5035 | Prep Batch: | PB18021 | Date Prepared: | 3/1/02 |
| Param | | Flag | Result | Units | | Dilution | RDL |
| Benzene | | | <0.100 | mg/Kg | ······································ | 100 | 0.001 |
| Toluene | | | <0.100 | mg/Kg | | 100 | 0.001 |
| Ethylbenze | ne | | 13.7 | mg/Kg | | 100 | 0.001 |
| M,P,O-Xyle | ene | | 28.7 | mg/Kg | | 100 | 0.001 |
| Total BTE | Х | | 42.4 | mg/Kg | | 100 | 0.001 |
| Test Comm | nents | 1 | * | mg/Kg | | 1 | |

| Surrogate | Flag | Result | Units | Dilution | Spike . Amount | Percent Recovery | Recovery Limits |
|-----------|------|--------|-------|----------|-------------------|---------------------|--------------------|
| TFT | 2 | 0.592 | mg/Kg | 100 | 1 | 59 | 70 - 130 |
| 4-BFB | 3 | 9.68 | mg/Kg | 100 | 1 | 968 | 70 - 130 |

Sample: 191904 - TMW-1 (53-55)

| Analysis: Analyst: | TPH DRO MM | Analytical Method: Preparation Method: | Mod. 8015B 3550 B | QC Batch: Prep Batch: | QC18552 PB18014 | Date Analyzed: Date Prepared: | 3/3/02 3/1/02 |
|-----------------------|---------------|---|----------------------|--------------------------|--------------------|----------------------------------|------------------|
| Param | Flag | Result | Units | Dilut | ion | | RDL |
| DRO | | 1320 | mg/Kg | 10 |) | | 50 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|---------------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| n-Triacontane | 4 | 233 | mg/Kg | 10 | 150 | 155 | 70 - 130 |

| Sample: Analysis: Analyst: | 191904 - TPH GRO CG | TMW-1 (53-55) Analytical Method Preparation Metho | : 8015B | QC Batch: Prep Batch: | QC18565 PB18021 | Date Analyzed: Date Prepared: | 3/1/02 3/1/02 |
|----------------------------------|---------------------------|---|--------------|--------------------------|--------------------|----------------------------------|----------------------|
| Param | Flag | Result | Unit | s I | Dilution | | RDL |
| GRO | | 751 | mg/K | g | 100 | | 0.10 |
| Surrogate | Flag | Result U | nits . | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
| TFT 4-BFB | 5 | | g/Kg g/Kg | 100 100 | 1 1 | 157 744 | 70 - 130 70 - 130 |

¹Sample diluted due to hydrocarbons beyond xylene. Sample contains less than 0.0032 mg/Kg Benzene wich is the MDL. ²Low surrogate recovery due to matrix interference.

³High surrogate recovery due to peak interference.

⁴Surrogate out of recovery limits due to high hydrocarbons. LCS, ICV, and CCV show the process is in control.

⁵High surrogate recovery due to peak interference. ⁶High surrogate recovery due to peak interference.

Report Date: March 13, 2002 ES-533

- ----

Order Number: A02030115 Equiva Penrose

| Analysis: E | 191905 STEX CG | - TMW-1 Analytical Me Preparation M | ethod: | S 8021B N/A | QC Batch: Prep Batch | | | Date Analyzed: Date Prepared: | 3/1/02 3/1/02 |
|----------------------------------|----------------------|---|----------------------|---------------------------|-------------------------|-----------------|--------------------|----------------------------------|------------------|
| Param | | Flag | Re | sult | Units | | Dilutio | on | RDL |
| Benzene | | | 0.0 | 136 | mg/Kg | | 5 | | 0.001 |
| Foluene | | | | 271 | mg/Kg | | 5 | | 0.001 |
| Ethylbenzene | | | | 612 | mg/Kg | | 5 | | 0.001 |
| M,P,O-Xylene | | | | .51 | mg/Kg | | 5 | | 0.001 |
| Total BTEX | · | | | 2.41 | mg/Kg | ····· | 5 | | 0.001 |
| | | | | | | Spil | ce | Percent | Recovery |
| Surrogate | Flag | Result | Ur | nits | Dilution | Amor | | Recovery | Limits |
| IFT | | 0.097 | | /Kg | 5 | 1 | | 97 | 70 - 130 |
| 4-BFB | | 0.097 | | /Kg | 5 | 1 | | 97 | 70 - 130 |
| • | PAH | - TMW-1 Analytical Me Preparation M | thod: S | 8270C 3510C | QC Batch: Prep Batch | QC18 :: PB18 | | Date Analyzed: Date Prepared: | 3/6/02 3/6/02 |
| Param | | F | lag | Resu | lt | Units | | Dilution | RDL |
| Naphthalene | | | | 2.7 | 75 | mg/Kg | | 1 | 0.25 |
| Acenaphthyle | ene | | | <0.2 | 25 | mg/Kg | | 1 | 0.25 |
| Acenaphthene | | | | <0.2 | | mg/Kg | | 1 | 0.25 |
| Fluorene | | | | <0.2 | | mg/Kg | | 1 | 0.25 |
| Phenanthrene | 2 | | | <0.2 | | mg/Kg | | 1 | 0.25 |
| Anthracene | | | | <0.2 | | mg/Kg | | 1 | 0.25 |
| Fluoranthene | : | | | <0.2 | | mg/Kg | | 1 | 0.25 |
| Pyrene | | | | <0.5 | | mg/Kg | | 1 | 0.25 |
| Benzo(a)anth | racene | | | <0.5 | | mg/Kg | | 1 | 0.25 |
| Chrysene | | | | <0.5 | | mg/Kg | | 1 | 0.23 |
| Benzo(b)fluor | ranthene | | | <0.5 | | mg/Kg | | 1 | 0.25 |
| Benzo(k)fluor | | | | <0. | | mg/Kg | | 1 | 0.23 |
| Benzo(a)pyre | | | | <0. | | mg/Kg | | 1 | 0.2 |
| Indeno(1,2,3- | | | | <0. | | mg/Kg | | 1 | 0.2 |
| Dibenzo(a,h) | | | | <0. | | mg/Kg | | 1 | 0.2 |
| Benzo(g,h,i)p | | | | <0. | | mg/Kg | | <u> </u> | 0.2 |
| | | | | | | S | pike | Percent | Recover |
| Surrogate | | Flag R | esult | Units | Dilution | Aı | nount | Recovery | Limits |
| Nitrobenzene | | | 71.44 | mg/Kg | 1 | | 80 | 89 | 23 - 120 |
| 2-Fluorobiph | - | | 5.875 | mg/Kg | 1 | | 80 | 46 | 30 - 115 |
| - | .4 | | 53.99 | mg/Kg | 1 | | 80 | 79 | 28 - 137 |
| Terphenyl-d1 | | | • | | | | | | |
| Sample: Analysis: | TPH DRO | • | Method: | Mod. 8 | | | QC18552 PB18014 | | |
| Sample: Analysis: Analyst: | TPH DRO MM | O Analytical Preparatic | Method: on Method | Mod. 8 l: 3550 B | Prep | Batch: | PB18014 | | 3/1/0 |
| Sample: Analysis: | TPH DRO | O Analytical Preparatic | Method: | Mod. 8 1: 3550 B Ui | | | PB18014 | | |

| Report Date: March 13, 2002 ES-533 | | | Order Number: A02030115 Equiva Penrose | | | | Page Number: 4 of 10 Eunice ,Lea County New Mexico | | |
|---------------------------------------|------------------------------------|--|---|---------------|--------------------------|--------------------|---|----------------------|--|
| Surrogate | Flag | Result | Uni | ts | Dilution | Spike Amount | Percent Recovery | Recovery Limits | |
| n-Triaconta | ne 7 | 306 | mg/l | Kg | 10 | 150 | 204 | 70 - 130 | |
| Sample: Analysis: Analyst: | 191905 - 7 TPH GRO CG | FMW-1 (63-6 Analytical Meth Preparation Met | od: | 8015B 5035 | QC Batch: Prep Batch: | QC18565 PB18021 | Date Analyzed: Date Prepared: | 3/1/02 3/1/02 | |
| Param | Flag | Result | | Units | Ľ | Dilution | | RDL | |
| GRO | | 3173 | | mg/Kg | Ş | 200 | | 0.10 | |
| Surrogate | Flag | Result | Units | D | Vilution | Spike Amount | Percent Recovery | Recovery Limits | |
| TFT 4-BFB | | | mg/Kg mg/Kg | д | 200 200 | 1 1 | 169 7470 | 70 - 130 70 - 130 | |

⁷Surrogate out of recovery limits due to high hydrocarbons. LCS, ICV, and CCV show the process is in control. ⁸High surrogate recovery due to peak interference. ⁹High surrogate recovery due to peak interference.

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Order Number: A02030115 Equiva Penrose Page Number: 5 of 10 Eunice ,Lea County New Mexico

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Quality Control Report Method Blank

| Param | 1 | Flag | Resu | 1+0 | Units | | Reporting Limit |
|----------------|----------|----------|---------|----------|-----------------|---------------------|--------------------|
| DRO | | l'Iag | <50 | | mg/Kg | | 50 |
| | <u></u> | | | | | | |
| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
| n-Triacontane | | 120 | mg/Kg | 1 | 150 | 80 | 70 - 130 |
| Method Blan | k | QCBatch: | QC18564 | | | | |
| Param | | Flag | F | Results | Units | | Reporting Limit |
| Benzene | | | | <0.010 | mg/K | | 0.001 |
| Toluene | | | | <0.010 | mg/K | | 0.001 |
| Ethylbenzene | | | | <0.010 | mg/K | | 0.001 |
| M,P,O-Xylene | | | | <0.010 | mg/K | | 0.001 |
| Total BTEX | <u> </u> | | | <0.010 | mg/K | g | 0.001 |
| | | | | | Spike | Percent | Recover |
| Surrogate F | lag | Result | Units | Dilution | Amount | Recovery | Limits |
| TFT | | 0.855 | mg/Kg | 10 | 1 | 85 | 70 - 130 |
| 4-BFB | | 0.757 | mg/Kg | 10 | 1 | 75 | 70 - 130 |
| Method Blan | k | QCBatch: | QC18565 | | | | |
| | | | | | | | Reportin |
| Param | | Flag | Resi | ilts | Units | | Limit |
| GRO | | | | <1 | mg/Kg | | 0.10 |
| | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recover Limits |
| TFT | | 1.01 | mg/Kg | 10 | 1 | 101 | 70 - 13 |
| 4-BFB | | 0.810 | mg/Kg | 10 | 1 | 81 | 70 - 13 |
| Method Blan | ւ | OCPataba | 0019694 | | | | |
| Mernor Dian | | QCBatch: | QC18684 | | | | Der ert* |
| Param | | Fl | ag | Results | | nits | Reportin Limit |
| Naphthalene | | · · | | < 0.25 | | ;/Kg | 0.25 |
| Acenaphthylene | | | | < 0.25 | ma | ;/Kg | 0.25 |

Continued ...

... Continued

| Param | Flag | Results | Units | Reporting Limit |
|------------------------|------|---------|-------|--------------------|
| Acenaphthene | | < 0.25 | mg/Kg | 0.25 |
| Fluorene | | < 0.25 | mg/Kg | 0.25 |
| Phenanthrene | | < 0.25 | mg/Kg | 0.25 |
| Anthracene | | < 0.25 | mg/Kg | 0.25 |
| Fluoranthene | | < 0.25 | mg/Kg | 0.25 |
| Pyrene | | < 0.25 | mg/Kg | 0.25 |
| Benzo(a)anthracene | | < 0.25 | mg/Kg | 0.25 |
| Chrysene | | < 0.25 | mg/Kg | 0.25 |
| Benzo(b)fluoranthene | | < 0.25 | mg/Kg | 0.25 |
| Benzo(k)fluoranthene | | < 0.25 | mg/Kg | 0.25 |
| Benzo(a)pyrene | | < 0.25 | mg/Kg | 0.25 |
| Indeno(1,2,3-cd)pyrene | | < 0.25 | mg/Kg | 0.25 |
| Dibenzo(a,h)anthracene | | < 0.25 | mg/Kg | 0.25 |
| Benzo(g,h,i)perylene | | < 0.25 | mg/Kg | 0.25 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Nitrobenzene-d5 | | 58.28 | mg/Kg | 1 | 80 | 72 | 23 - 120 |
| 2-Fluorobiphenyl | | 61.45 | mg/Kg | 1 | 80 | 76 | 30 - 115 |
| Terphenyl-d14 | | 62.83 | mg/Kg | 1 | 80 | 78 | 28 - 137 |

Quality Control Report Lab Control Spikes and Duplicate Spikes

| Labora | atory Co | ntrol Spi | ikes | QCBatcl | n: QC185 | 52 | | | | |
|--------|----------|-----------|-------|---------|----------|-------------------|-------|-----|----------|-------|
| | | | | | Spike | | | | | |
| | LCS | LCSD | | | Amount | Matrix | | | % Rec | RPD |
| Param | Result | Result | Units | Dil. | Added | \mathbf{Result} | % Rec | RPD | Limit | Limit |
| DRO | 243 | 232 | mg/Kg | 1 | 250 | <50.0 | 97 | 5 | 70 - 130 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | LCS | LCSD | | | Spike | LCS | LCSD | Recovery |
|---------------|--------|--------|-------|----------|--------|-------|-------|----------|
| Surrogate | Result | Result | Units | Dilution | Amount | % Rec | % Rec | Limits |
| n-Triacontane | 134 | 127 | mg/Kg | 1 | 150 | 89 | 85 | 70 - 130 |

Laboratory Control Spikes

QCBatch: QC18564

Spike LCS LCSD Amount % Rec RPD Matrix Result Units Dil. Added Result % Rec RPD Limit Limit Param Result MTBE 0.853 0.872 mg/Kg 10 1 < 0.010 85 2 79 - 113 20 Benzene 0.914 0.926 mg/Kg 10 1 < 0.010 91 1 88 - 107 20 Toluene 0.915 0.931 mg/Kg 10 1 < 0.010 91 1 86 - 110 20 91 2 20 Ethylbenzene 0.914 0.934 mg/Kg 10 1 < 0.010 85 - 110 10 93 86 - 112 M,P,O-Xylene mg/Kg 3 < 0.010 1 20 2.8 2.85

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Report Date: March 13, 2002 ES-533 Order Number: A02030115 Equiva Penrose Page Number: 7 of 10 Eunice ,Lea County New Mexico

| <u></u> | T CR | | | | 0.1 | T 00 | I CCD | |
|----------------|--------|--------|--------|----------|--------|-------|-------|----------|
| Summe mete | LCS | LCSD | TT_:+- | | Spike | LCS | LCSD | Recovery |
| Surrogate | Result | Result | Units | Dilution | Amount | % Rec | % Rec | Limits |
| \mathbf{TFT} | 0.863 | 0.886 | mg/Kg | 10 | 1 | 86 | 88 | 70 - 130 |
| 4-BFB | 0.868 | 0.875 | mg/Kg | 10 | 1 | 86 | 87 | 70 - 130 |

Laboratory Control Spikes

QCBatch: QC18565

| | | | | | Spike | | | | | |
|-------|--------|--------|-------|------|--------|--------|-------|-----|----------|-------|
| | LCS | LCSD | | | Amount | Matrix | | | % Rec | RPD |
| Param | Result | Result | Units | Dil. | Added | Result | % Rec | RPD | Limit | Limit |
| GRO | 9.14 | 8.38 | mg/Kg | 10 | 1 | <1 | 91 | 8 | 82 - 115 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | $\begin{array}{c} \mathrm{LCSD} \\ \mathrm{Result} \end{array}$ | Units | Dilution | Spike Amount | LCS % Rec | LCSD % Rec | Recovery Limits |
|-----------|---------------|---|-------|----------|-----------------|--------------|---------------|--------------------|
| TFT | 0.968 | 0.931 | mg/Kg | 10 | 1 | 97 | 93 | 70 - 130 |
| 4-BFB | 0.904 | 0.897 | mg/Kg | 10 | 1 | 90 | 90 | 70 - 130 |

Laboratory Control Spikes

QCBatch:

: QC18684

| | | | | | Spike | | | | | |
|------------------------|--------|--------|-------|------|--------|--------|-------|-----|----------|-------|
| | LCS | LCSD | | | Amount | Matrix | | | % Rec | RPD |
| Param | Result | Result | Units | Dil. | Added | Result | % Rec | RPD | Limit | Limit |
| Naphthalene | 50.9 | 56 | mg/Kg | 1 | 80 | < 0.25 | 63 | 9 | 21 - 133 | 20 |
| Acenaphthylene | 56.5 | 61.4 | mg/Kg | 1 | 80 | < 0.25 | 70 | 8 | 33 - 145 | 20 |
| Acenaphthene | 54.1 | 59.1 | mg/Kg | 1 | 80 | < 0.25 | 67 | 8 | 47 - 145 | 20 |
| Fluorene | 55 | 61.1 | mg/Kg | 1 | 80 | < 0.25 | 68 | 10 | 59 - 121 | 20 |
| Phenanthrene | 58.5 | 61.8 | mg/Kg | 1 | 80 | < 0.25 | 73 | 5 | 54 - 120 | 20 |
| Anthracene | 62.5 | 65.9 | mg/Kg | 1 | 80 | < 0.25 | 78 | 5 | 27 - 133 | 20 |
| Fluoranthene | 66.3 | 67.9 | mg/Kg | 1 | 80 | < 0.25 | 82 | 2 | 26 - 137 | 20 |
| Pyrene | 56.1 | 56.9 | mg/Kg | 1 | 80 | < 0.25 | 70 | 1 | 52 - 115 | 20 |
| Benzo(a)anthracene | 60.4 | 65.8 | mg/Kg | 1 | 80 | < 0.25 | 75 | 8 | 33 - 143 | 20 |
| Chrysene | 64.6 | 66.2 | mg/Kg | 1 | 80 | < 0.25 | 80 | 2 | 17 - 168 | 20 |
| Benzo(b)fluoranthene | 57 | 65 | mg/Kg | 1 | 80 | < 0.25 | 71 | 13 | 33 - 143 | 20 |
| Benzo(k)fluoranthene | 71.0 | 73.8 | mg/Kg | 1 | 80 | < 0.25 | 88 | 3 | 17 - 168 | 20 |
| Benzo(a)pyrene | 61.2 | 64.2 | mg/Kg | 1 | 80 | < 0.25 | 76 | 4 | 24 - 159 | 20 |
| Indeno(1,2,3-cd)pyrene | 49.4 | 50.8 | mg/Kg | 1 | 80 | < 0.25 | 61 | 2 | 0 - 171 | 20 |
| Dibenzo(a,h)anthracene | 39.9 | 48.0 | mg/Kg | 1 | 80 | < 0.25 | 49 | 18 | 0 - 227 | 20 |
| Benzo(g,h,i)perylene | 58.8 | 63.1 | mg/Kg | 1 | 80 | < 0.25 | 73 | 7 | 0 - 219 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dilution | Spike Amount | LCS % Rec | LCSD % Rec | Recovery Limits |
|------------------|---------------|----------------|-------|----------|-----------------|--------------|---------------|--------------------|
| Nitrobenzene-d5 | 51.9 | 62.4 | mg/Kg | 1 | 80 | 64 | 78 | 23 - 120 |
| 2-Fluorobiphenyl | 58.6 | 65.0 | mg/Kg | 1 | 80 | 73 | 81 | 30 - 115 |
| Terphenyl-d14 | 62.4 | 67.7 | mg/Kg | 1 | 80 | 78 | 84 | 28 - 137 |

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes

| Report Date: March 13, 2002 ES-533 | | | | | Number: A02 quiva Penros | | Page Number: 8 of 10 Eunice ,Lea County New Mexico | | | | |
|---------------------------------------|--------------|---------------|-------|------|-----------------------------|------------------|---|-----|----------------|--------------|--|
| Param | MS Result | MSD Result | Units | Dil. | Spike Amount Added | Matrix Result | % Rec | RPD | % Rec Limit | RPD Limit | |
| DRO | 2560 | 2530 | mg/Kg | 5 | 250 | 2290 | 108 | 1 | 70 - 130 | 20 | |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Recovery |
|---------------|-------------------|--------|-------|----------|--------|-------|-------|----------|
| Surrogate | Result | Result | Units | Dilution | Amount | % Rec | % Rec | Limits |
| n-Triacontane | ¹⁰ 219 | 196 | mg/Kg | 5 | 150 | 146 | 131 | 70 - 130 |

Matrix Spikes QCBatch: QC18564

| | | | | | Spike | | | | | |
|--------------|--------|--------|-------|------|--------|---------|-------|-----|---------------|-------|
| | MS | MSD | | | Amount | Matrix | | | $\% { m Rec}$ | RPD |
| Param | Result | Result | Units | Dil. | Added | Result | % Rec | RPD | Limit | Limit |
| Benzene | 0.895 | 0.926 | mg/Kg | 10 | 1 | < 0.010 | 90 | 3 | 68 - 102 | 20 |
| Toluene | 0.907 | 0.938 | mg/Kg | 10 | 1 | <0.010 | 91 | 3 | 69 - 105 | 20 |
| Ethylbenzene | 0.904 | 0.932 | mg/Kg | 10 | 1 | <0.010 | 90 | 3 | 65 - 108 | 20 |
| M,P,O-Xylene | 2.78 | 2.87 | mg/Kg | 10 | 3 | < 0.010 | 93 | 3 | 63 - 114 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Recovery |
|-----------|--------|--------|-------|----------|--------|-------|-------|----------|
| Surrogate | Result | Result | Units | Dilution | Amount | % Rec | % Rec | Limits |
| TFT | 0.708 | 0.826 | mg/Kg | 10 | 1 | 71 | 83 | 70 - 130 |
| 4-BFB | 0.721 | 0.856 | mg/Kg | 10 | 1 | 72 | 86 | 70 - 130 |

Quality Control Report Continuing Calibration Verification Standards

| CCV (1) | | QCBatch: | QC18552 | | | | |
|---------|------|----------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
| DRO | | mg/Kg | 250 | 258 | 103 | 75 - 125 | 3/3/02 |
| ICV (1) | | QCBatch: | QC18552 | | | | |
| | | | CCVs | CCVs | CCVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | mg/Kg | 250 | 247 | 98 | 75 - 125 | 3/3/02 |

¹⁰Surrogate recovery high due to coelution with analytes.

| Report Date: March 13, 2002 ES-533 | | | Order Number: A02030115 Equiva Penrose | | | Page Number: 9 of 10 Eunice ,Lea County New Mexico | | |
|---------------------------------------|-----------------|-------|---|---------------|-----------------|---|----------|--|
| CCV (1) | QCBatch: QC18 | | 564 | | | | | |
| | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date | |
| Param | \mathbf{Flag} | Units | Conc. | Conc. | Recovery | Limits | Analyzed | |
| MTBE | | mg/L | 0.10 | 0.0946 | 94 | 85 - 115 | 3/1/02 | |
| Benzene | | mg/L | 0.10 | 0.0925 | 92 | 85 - 115 | 3/1/02 | |
| Toluene | | mg/L | 0.10 | 0.0934 | 93 | 85 - 115 | 3/1/02 | |
| Ethylbenzene | | mg/L | 0.10 | 0.0925 | 92 | 85 - 115 | 3/1/02 | |
| M,P,O-Xylene | | mg/L | 0.30 | 0.2843 | 94 | 85 - 115 | 3/1/02 | |

CCV (2) QCBatch: QC18564

| | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|--------------|------|-------|--------------|---------------|-----------------|---------------------|----------|
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| MTBE | | mg/L | 0.10 | 0.0875 | 87 | 85 - 115 | 3/1/02 |
| Benzene | | mg/L | 0.10 | 0.0919 | 91 | 85 - 115 | 3/1/02 |
| Toluene | | mg/L | 0.10 | 0.0924 | 92 | 85 - 115 | 3/1/02 |
| Ethylbenzene | | mg/L | 0.10 | 0.0919 | 91 | 85 - 115 | 3/1/02 |
| M,P,O-Xylene | | mg/L | 0.30 | 0.2824 | 94 | 85 - 115 | 3/1/02 |

| ICV(1) | QCBatch: | QC18564 |
|--------|----------|---------|
|--------|----------|---------|

| | | | $\begin{array}{c} \mathrm{CCVs} \\ \mathrm{True} \end{array}$ | CCVs Found | CCVs Percent | Percent Recovery | Date |
|--------------|------------------|------------------|---|---------------|-----------------|---------------------|----------|
| Param | \mathbf{F} lag | \mathbf{Units} | Conc. | Conc. | Recovery | Limits | Analyzed |
| MTBE | | mg/L | 0.10 | 0.0874 | 87 | 85 - 115 | 3/1/02 |
| Benzene | | mg/L | 0.10 | 0.0905 | 90 | 85 - 115 | 3/1/02 |
| Toluene | | mg/L | 0.10 | 0.091 | 91 | 85 - 115 | 3/1/02 |
| Ethylbenzene | | mg/L | 0.10 | 0.091 | 91 | 85 - 115 | 3/1/02 |
| M,P,O-Xylene | | mg/L | 0.30 | 0.279 | 93 | 85 - 115 | 3/1/02 |

CCV (1) QCBatch: QC18565

| | | | CCVs | CCVs | CCVs | Percent | |
|-------|------|-------|-------|-------|----------|----------|----------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | mg/Kg | 1 | 0.911 | 91 | 75 - 125 | 3/1/02 |

| ICV (1) | | QCBatch: | QC18565 | | | | |
|---------|------|----------|---------|-------|----------|----------|----------|
| | | | CCVs | CCVs | CCVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | mg/Kg | 1 | 0.955 | 95 | 75 - 125 | 3/1/02 |

Page Number: 10 of 10 Eunice ,Lea County New Mexico

| CCV (1) | QCBatch: | QC18684 |
|---------|----------|---------|
|---------|----------|---------|

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|------------------------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Naphthalene | | mg/Kg | 60 | 58.36 | 97 | 80 - 120 | 3/6/02 |
| Acenaphthylene | | mg/Kg | 60 | 54.8 | 91 | 80 - 120 | 3/6/02 |
| Acenaphthene | | mg/Kg | 60 | 54.9 | 91 | 80 - 120 | 3/6/02 |
| Fluorene | | mg/Kg | 60 | 57.1 | 95 | 80 - 120 | 3/6/02 |
| Phenanthrene | | mg/Kg | 60 | 61.9 | 103 | 80 - 120 | 3/6/02 |
| Anthracene | | mg/Kg | 60 | 60.5 | 100 | 80 - 120 | 3/6/02 |
| Fluoranthene | | mg/Kg | 60 | 66.0 | 110 | 80 - 120 | 3/6/02 |
| Pyrene | | mg/Kg | 60 | 49.7 | 82 | 80 - 120 | 3/6/02 |
| Benzo(a)anthracene | | mg/Kg | 60 | 63.1 | 105 | 80 - 120 | 3/6/02 |
| Chrysene | | mg/Kg | 60 | 61.0 | 101 | 80 - 120 | 3/6/02 |
| Benzo(b)fluoranthene | | mg/Kg | 60 | 69.4 | 115 | 80 - 120 | 3/6/02 |
| Benzo(k)fluoranthene | | mg/Kg | 60 | 51.6 | 86 | 80 - 120 | 3/6/02 |
| Benzo(a)pyrene | | mg/Kg | 60 | 58.1 | 96 | 80 - 120 | 3/6/02 |
| Indeno(1,2,3-cd)pyrene | | mg/Kg | 60 | 63.5 | 105 | 80 - 120 | 3/6/02 |
| Dibenzo(a,h)anthracene | | mg/Kg | 60 | 51.7 | 86 | 80 - 120 | 3/6/02 |
| Benzo(g,h,i)perylene | | mg/Kg | 60 | 51.6 | 86 | 80 - 120 | 3/6/02 |
| Nitrobenzene-d5 | | mg/Kg | 60 | 61.6 | 102 | 80 - 120 | 3/6/02 |
| 2-Fluorobiphenyl | | mg/Kg | 60 | 57.8 | 96 | 80 - 120 | 3/6/02 |
| Terphenyl-d14 | | mg/Kg | 60 | 50.1 | 83 | 80 - 120 | 3/6/02 |

| MUMUMUM | | RACEANA | LYSIS | , Inc.// | | |
|---------|-----------------------------|----------------------|------------------|------------------|----------------------|--|
| 67 | 01 Aberdeen Avenue, Suite 9 | Lubbock, Texas 79424 | 800•378•1296 | 806 • 794 • 1296 | FAX 806 • 794 • 1298 | |
| 15 | 5 McCutcheon, Suite H | El Paso, Texas 79932 | 888•588•3443 | 915•585•3443 | FAX 915•585•4944 | |
| | | E-Mail: lab@t | raceanalysis.com | | | |

Analytical and Quality Control Report

Kyle Landreneau Equilon Kyle Landreneau PMB 284 40 FM 1960 West Houston, TX 77090 Report Date:

March 12, 2002

Order ID Number: A02030115

Project:ES-533TA Job Code:Equiva PenroseCasualty Code:ES-533Project Location:Eunice ,Lea County New MexicoEnercon Services Inc. / Midland / Jeff Kindley

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

| | | | Date | Time | Date |
|--------|---------------|--------|---------|-------|----------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 191905 | TMW-1 (63-65) | Soil | 2/26/02 | 9:30 | 3/1/02 |

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These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

This report consists of a total of 5 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Order Number: A02030115 Equiva Penrose

Analytical Report

| Analysis: Analyst: | 191905 - 7 SPLP BTEX CG | Analytica | | S 8021B 1312 | QC Batch: Prep Batch: | QC18688 PB18125 | Date Analyzed: Date Prepared: | 3/7/02 3/7/02 |
|---|---|--|--|--|--|---|--|---|
| Param | F | lag | Result | U | nits | Dilution | | RDL |
| Benzene | | <u></u> | 0.0071 | m | ıg/L | 1 | | 0.001 |
| Toluene | | | 0.241 | m | $_{\rm lg/L}$ | 1 | | 0.001 |
| Ethylbenzer | ne | | 0.568 | m | $_{ m lg/L}$ | 1 | | 0.001 |
| M,P,O-Xyle | ene | | 1.36 | m | ıg/L | 1 | | 0.001 |
| Total BTE | ζ | | 2.1761 | m | ng/L | 1 | | 0.001 |
| Summe med - | | D - malt | T T • 4 | D . | 1 | Spike | Percent | Recovery |
| Surrogate | Flag | Result | Units | | | Amount | Recovery | Limits |
| TFT | | 0.082 | mg/Kg | | 5 | 0.10 | 82 | 72 - 128 |
| | | 0 005 | | | | | | |
| 4-BFB | | 0.095 | mg/Kg | <u> </u> | 5 | 0.10 | 95 | 72 - 128 |
| Sample: Analysis: | | | 63-65) Aethod: N | Mod. 8015] 312 | | QC18741 | 95 Date Analyzed: Date Prepared: | 3/10/02 |
| Sample: Analysis: Analyst: | SPLP DRO | FMW-1 (Analytical M Preparation | 63-65) Aethod: N | Mod. 80151 | B QC Batch: Prep Batcl | QC18741 | Date Analyzed: | |
| Sample: Analysis: Analyst: Param | SPLP DRO MM Fla | FMW-1 (Analytical M Preparation | 63-65) Aethod: M Method: 1 | Mod. 8015] .312 | B QC Batch: Prep Batcl its | QC18741 h: PB18157 | Date Analyzed: | 3/10/02 3/10/02 |
| Sample: Analysis: Analyst: Param SPLP DRO Sample: Analysis: Analyst: | SPLP DRO MM Fla | FMW-1 (Analytical M Preparation g FMW-1 (Analytica | 63-65) Aethod: Method: 1 Result <5.00 63-65) | Mod. 8015J .312 Un | B QC Batch: Prep Batcl its | QC18741 h: PB18157 Dilution | Date Analyzed: | 3/10/02 3/10/02 RDL 50 3/7/02 |
| Sample: Analysis: Analyst: Param SPLP DRO Sample: Analysis: | SPLP DRO MM Fla 191905 - 7 SPLP GRO | FMW-1 (Analytical M Preparation g FMW-1 (Analytica Preparati | 63-65) Aethod: M Method: 1 Result <5.00 63-65) I Method: | Mod. 8015J .312 Un mg 8015 1312 | B QC Batch: Prep Batch its ;/L QC Batch: | QC18741 h: PB18157 Dilution 1 QC18703 | Date Analyzed: Date Prepared: Date Analyzed: | 3/10/02 3/10/02 RDL |

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Order Number: A02030115 Equiva Penrose Page Number: 3 of 5 Eunice ,Lea County New Mexico

Quality Control Report Method Blank

Method Blank

QCBatch: QC18688

| Param | Flag | Results | Units | Reporting Limit |
|--------------|------|---------|-------|--------------------|
| Benzene | | < 0.001 | mg/L | 0.001 |
| Toluene | | <0.001 | mg/L | 0.001 |
| Ethylbenzene | | < 0.001 | mg/L | 0.001 |
| M,P,O-Xylene | | <0.001 | mg/L | 0.001 |

| | | | | | Spike | Percent | Recovery |
|-----------|------|--------|-------|----------|--------|----------|----------|
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| TFT | | 0.089 | mg/Kg | 1 | 0.10 | 89 | 72 - 128 |
| 4-BFB | | 0.091 | mg/Kg | 1 | 0.10 | 91 | 72 - 128 |

| Method Blank | QCBatch: | QC18703 | | |
|--------------|----------|---------|-------|--------------------|
| Param | Flag | Results | Units | Reporting Limit |
| SPLP GRO | | <0.1 | mg/L | 0.10 |
| | | | | |
| Method Blank | QCBatch: | QC18741 | | |

| | | | | Reporting |
|----------|------|---------|-------|-----------|
| Param | Flag | Results | Units | Limit |
| SPLP DRO | | <5.00 | mg/L | 50 |

Quality Control Report Lab Control Spikes and Duplicate Spikes

| Laboratory | Laboratory Control Spikes | | | | QC18688 | | | | | |
|--------------|---------------------------|----------------|-------|------|--------------------------|------------------|-------|-----|----------------|--------------|
| Param | LCS Result | LCSD Result | Units | Dil. | Spike Amount Added | Matrix Result | % Rec | RPD | % Rec Limit | RPD Limit |
| MTBE | 0.097 | 0.096 | mg/L | 1 | 0.10 | < 0.001 | 97 | 1 | 80 - 120 | 20 |
| Benzene | 0.093 | 0.090 | mg/L | 1 | 0.10 | < 0.001 | 93 | 3 | 80 - 120 | 20 |
| Toluene | 0.094 | 0.092 | mg/L | 1 | 0.10 | <0.001 | 94 | 2 | 80 - 120 | 20 |
| Ethylbenzene | 0.097 | 0.095 | mg/L | 1 | 0.10 | <0.001 | 97 | 2 | 80 - 120 | 20 |
| M,P,O-Xylene | 0.287 | 0.284 | mg/L | 1 | 0.30 | <0.001 | 95 | 1 | 80 - 120 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dilution | Spike Amount | LCS % Rec | LCSD % Rec | Recovery Limits |
|-----------|---------------|----------------|-------|----------|-----------------|--------------|---------------|--------------------|
| TFT | 0.087 | 0.083 | mg/Kg | 1 | 0.10 | 87 | 83 | 72 - 128 |

Continued ...

| Report Date ES-533 | 2002 | | Order Number: A02030115 Equiva Penrose | | | | Page Number: 4 of 5 Eunice ,Lea County New Mexico | | | |
|-----------------------|---------------|----------------|---|----------|-----------------|-----------------|--|-----|---------------|--------------------|
| Surrogate | LCS Result | LCSD Result | U | nits | Dilution | Spike Amount | LCS % Rec | : | LCSD % Rec | Recovery Limits |
| 4-BFB | 0.093 | 0.089 | mg | g/Kg | 1 | 0.10 | 93 | | 89 | 72 - 128 |
| Laborator | y Contro | ol Spikes | | QCBatch: | QC18703 | | | | | |
| 2 | LCS | LCSD | TT T . | 51 | Spike Amount | Matrix | (Y 1) | | % Rec | RPD |
| Param | Result | Result | Units | Dil. | Added | Result | % Rec | RPD | Limit | Limit |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes QCBatch: QC18741

| | | | | | Spike | | | | | |
|----------|--------|--------|-------|------|--------|--------|-------|-----|----------|-------|
| | LCS | LCSD | | | Amount | Matrix | | | % Rec | RPD |
| Param | Result | Result | Units | Dil. | Added | Result | % Rec | RPD | Limit | Limit |
| SPLP DRO | 24.8 | 23.5 | mg/L | 0.10 | 250 | <5.00 | 99 | 5 | 70 - 130 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report Continuing Calibration Verification Standards

CCV (1)

QCBatch: QC18688

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|--------------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| MTBE | ···· | mg/L | 0.10 | 0.103 | 103 | 80 - 120 | 3/7/02 |
| Benzene | | mg/L | 0.10 | 0.103 | 103 | 80 - 120 | 3/7/02 |
| Toluene | | mg/L | 0.10 | 0.103 | 103 | 80 - 120 | 3/7/02 |
| Ethylbenzene | | mg/L | 0.10 | 0.106 | 106 | 80 - 120 | 3/7/02 |
| M,P,O-Xylene | | mg/L | 0.30 | 0.312 | 104 | 80 - 120 | 3/7/02 |

ICV (1)

QCBatch: QC18688

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|--------------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| MTBE | | mg/L | 0.10 | 0.099 | 99 | 80 - 120 | 3/7/02 |
| Benzene | | mg/L | 0.10 | 0.095 | 95 | 80 - 120 | 3/7/02 |
| Toluene | | mg/L | 0.10 | 0.096 | 96 | 80 - 120 | 3/7/02 |
| Ethylbenzene | | mg/L | 0.10 | 0.099 | 99 | 80 - 120 | 3/7/02 |
| M,P,O-Xylene | | mg/L | 0.30 | 0.294 | 98 | 80 - 120 | 3/7/02 |

CCV (1)

QCBatch: QC18703

| Report Date: March 12, 2002 ES-533 | | | | Order Number: A02030115 Equiva Penrose | | | umber: 5 of 5 V New Mexico |
|---------------------------------------|------|---------------------------------------|-----------------------|---|-----------------------------|-------------------------------|-------------------------------|
| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
| SPLP GRO | | mg/L | 1 | 0.946 | 94 | 80 - 120 | 3/7/02 |
| ICV (1) | QCBa | tch: QC1 | .8703 | | | | |
| | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
| Param SPLP GRO | Flag | Units mg/L | Conc. | Conc. | Recovery 88 | Limits 80 - 120 | Analyzed 3/7/02 |
| CCV (1) | OCE | Batch: QC | C18741 | | | | |
| | 401 | , , , , , , , , , , , , , , , , , , , | CCVs | CCVs | CCVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| SPLP DRO | | mg/L | 250 | 250 | 100 | 70 - 130 | 3/10/02 |
| ICV (1) | QCB | atch: QC | 18741 | | | | |
| | | | CCVs | CCVs | CCVs | Percent | - |
| D | 1-1 | TT | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| SPLP DRO | | mg/L | 250 | 241 | 96 | 70 - 130 | 3/10/02 |

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2/28/02

Report Date: March 13, 2002Order Number: A02022813 ES-533 Equiva Penrose

TMW-1 (75')

Page Number: 1 of 1 Eunice ,Lea County New Mexico

Summary Report

| Kyle Landreneau | L , | | | Report Date: | March 13, 2002 |
|-------------------|-----------------------|------------|-------|------------------|----------------|
| Equiva Kyle Land | lreneau | | | | |
| PMB 284 40 FM | 1960 West | | | | |
| Houston, TX 770 | 90 | | | Order ID Number: | A02022813 |
| Project: | ES-533 | | | | |
| TA Job Code: | Equiva Penrose | | | | |
| Casualty Code: | ES-533 | | | | |
| Project Location: | Eunice ,Lea County | New Mexico | | | |
| Project Address: | | | | | |
| Enercon Services | Inc. / Midland / Jeff | Kindley | | | |
| | | | Date | Time | Date |
| Sample | Description | Matrix | Taken | Taken | Received |

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

2/26/02

13:30

Soil

| [] | | | | TPH DRO | TPH | GRO | | | |
|----------------------|---------|---------|---------|--------------|--------------|------------|-------|-------|-------|
| | MTBE | Benzene | Toluene | Ethylbenzene | M,P,O-Xylene | Total BTEX | DRO | GRO | GRO |
| Sample - Field Code | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) | (ppm) |
| 191792 - TMW-1 (75') | < 0.005 | < 0.005 | < 0.005 | 0.0405 | 0.132 | 0.173 | 2290 | 673 | 673 |

Sample: 191792 - TMW-1 (75')

| Param | Flag | Result | Units |
|------------------------|------|--------|-------|
| Naphthalene | | 1.08 | mg/Kg |
| Acenaphthylene | | <0.25 | mg/Kg |
| Acenaphthene | | <0.25 | mg/Kg |
| Fluorene | | <0.25 | mg/Kg |
| Phenanthrene | | <0.25 | mg/Kg |
| Anthracene | | <0.25 | mg/Kg |
| Fluoranthene | | <0.25 | mg/Kg |
| Pyrene | | <0.25 | mg/Kg |
| Benzo(a)anthracene | | <0.25 | mg/Kg |
| Chrysene | | <0.25 | mg/Kg |
| Benzo(b)fluoranthene | | <0.25 | mg/Kg |
| Benzo(k)fluoranthene | | <0.25 | mg/Kg |
| Benzo(a)pyrene | | <0.25 | mg/Kg |
| Indeno(1,2,3-cd)pyrene | | <0.25 | mg/Kg |
| Dibenzo(a,h)anthracene | | <0.25 | mg/Kg |
| Benzo(g,h,i)perylene | | <0.25 | mg/Kg |

Report Date: March 13, 2002Order Number: A02022813 ES-533 Equiva Penrose

Summary Report

| Kyle Landreneau | | | | Report Date: | March 13, 2002 | | |
|--------------------------|-------------------------|------------|---------|------------------|----------------|--|--|
| Equiva Kyle Land | reneau | | | | | | |
| PMB 284 40 FM | 1960 West | | | | | | |
| Houston, TX 7709 | 90 | | | Order ID Number: | A02022813 | | |
| Project: | ES-533 | | | | | | |
| TA Job Code: | Equiva Penrose | | | | | | |
| Casualty Code: | ES-533 | | | | | | |
| Project Location: | Eunice ,Lea County I | New Mexico | | | | | |
| Project Address: | · · · | | | | | | |
| Enercon Services | Inc. / Midland / Jeff k | Lindley | | | | | |
| | | | Date | Time | Date | | |
| Sample | Description | Matrix | Taken | Taken | Received | | |
| 191792 | TMW-1 (75') | Soil | 2/26/02 | 13:30 | 2/28/02 | | |

0 This report consists of a total of 1 page(s) and is intended only as a summary of results for the sample(s) listed above.

Sample: 191792 - TMW-1 (75')

| Param | Flag | Result | Units |
|----------|------|--------|-------|
| SPLP DRO | | <5.00 | mg/L |
| SPLP GRO | | 1.55 | mg/L |

 6701 Aberdeen Avenue, Suite 9
 Lubbock, Texas 79424
 800 • 378 • 1296
 806 • 794 • 1296
 FAX 806 • 794 • 1298

 155 McCutcheon, Suite H
 Lubbock, Texas 79932
 888 • 588 • 3443
 915 • 585 • 4944

E-Mail: lab@traceanalysis.com Analytical and Quality Control Report

Kyle Landreneau Equiva Kyle Landreneau PMB 284 40 FM 1960 West Houston, TX 77090

0

Report Date:

March 13, 2002

Order ID Number: A02022813

Project:ES-533TA Job Code:Equiva PenroseCasualty Code:ES-533Project Location:Eunice ,Lea County New MexicoEnercon Services Inc. / Midland / Jeff Kindley

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

| | | | Date | Time | Date |
|--------|-------------|--------|---------|-------|----------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 191792 | TMW-1 (75') | Soil | 2/26/02 | 13:30 | 2/28/02 |

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

This report consists of a total of 9 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Director

Analytical Report

Sample: 191792 - TMW-1 (75')

| Analysis: Analyst: | BTEX CG | Analytical Me Preparation N | ethod: S 8021B Method: N/A | QC Batch: Prep Batch: | QC18564 PB18021 | Date Analyzed: Date Prepared: | 3/1/02 3/1/02 |
|-----------------------|------------|--------------------------------|-------------------------------|--------------------------|--------------------|----------------------------------|------------------|
| Param | | Flag | Result | Units | Di | lution | RDL |
| MTBE | | | < 0.005 | mg/Kg | · | 5 | 0.001 |
| Benzene | | | <0.005 | mg/Kg | | 5 | 0.001 |
| Toluene | | | < 0.005 | mg/Kg | | 5 | 0.001 |
| Ethylbenzer | ne | | 0.0405 | mg/Kg | | 5 | 0.001 |
| M,P,O-Xyle | ne | | 0.132 | mg/Kg | | 5 | 0.001 |
| Total BTEX | ٢ | | 0.173 | mg/Kg | | 5 | 0.001 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|-----------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| TFT | | 0.094 | mg/Kg | 5 | 1 | 94 | 70 - 130 |
| 4-BFB | 1 | 0.087 | mg/Kg | 5 | 1 | 87 | 70 - 130 |

Sample: 191792 - TMW-1 (75')

| Analysis: | PAH | Analytical Method: | S 8270C | QC Batch: | QC18767 | Date Analyzed: | 3/10/02 |
|------------|-------------|---------------------|---------|-------------|---------|----------------|---------|
| Analyst: | RC | Preparation Method: | E 3510C | Prep Batch: | PB18134 | Date Prepared: | 3/9/02 |
| Param | | Flag | Resul | t | Units | Dilution | RDL |
| Naphthale | | 1 105 | 1.08 | | mg/Kg | 1 | 0.25 |
| - | | | | | | 1 | |
| Acenaphth | • | | <0.2 | | mg/Kg | 1 | 0.25 |
| Acenaphth | ene | | < 0.2 | 5 : | mg/Kg | 1 | 0.25 |
| Fluorene | | | < 0.2 | | mg/Kg | 1 | 0.25 |
| Phenanthr | ene | | < 0.2 | | mg/Kg | 1 | 0.25 |
| Anthracen | e | | < 0.2 | 5 | mg/Kg | 1 | 0.25 |
| Fluoranthe | ene | | < 0.2 | | mg/Kg | 1 | 0.25 |
| Pyrene | | | <0.2 | | mg/Kg | 1 | 0.25 |
| Benzo(a)ai | nthracene | | < 0.2 | 5 | mg/Kg | 1 | 0.25 |
| Chrysene | | | < 0.2 | 5 | mg/Kg | 1 | 0.25 |
| Benzo(b)fl | uoranthene | ; | < 0.2 | 5 | mg/Kg | 1 | 0.25 |
| Benzo(k)fl | uoranthene |) | < 0.2 | | mg/Kg | 1 . | 0.25 |
| Benzo(a)p | yrene | | < 0.2 | 5 | mg/Kg | 1 | 0.25 |
| Indeno(1,2 | ,3-cd)pyrei | ne | < 0.2 | 5 | mg/Kg | · 1 | 0.25 |
| Dibenzo(a | ,h)anthrace | ene | < 0.2 | | mg/Kg | 1 | 0.25 |
| Benzo(g,h, | i)perylene | | < 0.2 | 5 | mg/Kg | 1 | 0.25 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------|------|-------------------------|-------|----------|-----------------|---------------------|--------------------|
| Nitrobenzene-d5 | | 84.2 | mg/Kg | 1 | 80 | 105 | 23 - 120 |
| 2-Fluorobiphenyl | | 57.74 | mg/Kg | 1 | 80 | 72 | 30 - 115 |
| Terphenyl-d14 | | 58.64 | mg/Kg | 1 | 80 | 73 | 28 - 137 |

¹High surrogate recovery due to peak interference.

| Report Dat ES-533 | e: March 13, 2 | 2002 | | ber: A02022813 a Penrose | 3 | Page Number: 3 of 9 Eunice ,Lea County New Mexico | | | |
|----------------------------------|---|--|----------------|-----------------------------|------------------|--|----------------------------------|----------------------|--|
| Sample: Analysis: Analyst: | lysis: TPH DRO Analytical l lyst: MM Preparation am Flag Re | | d: Mod. | • | Batch: Batch: | QC18552 PB18014 | Date Analyzed: Date Prepared: | 3/3/02 3/1/02 | |
| Param | Flag | Result | 1 | Units | Diluti | on | | RDI | |
| DRO | | 2290 | n | ng/Kg | 5 | | | 50 | |
| Surrogate | Flag | | Units | Dilution | Ar | pike nount | Percent Recovery | Recovery Limits | |
| n-Triaconta | ne ² | 221 | mg/Kg | 5 | <u> </u> | 150 | 147 | 70 - 130 | |
| Sample: Analysis: Analyst: | 191792 - TPH GRO CG | TMW-1 (75') Analytical Meth Preparation Me | nod: 801 | ~ | • | C18565 318021 | Date Analyzed: Date Prepared: | 3/1/0 3/1/0 | |
| Param | Flag | Result | 1 | Units | Dilut | ion | | RDI | |
| GRO GRO | | <5 673 | | ng/Kg ng/Kg | 1 100 |) | | 0.1 0.1 | |
| Surrogate | Flag | Result | Units | Dilution | - | oike Iount | Percent Recovery | Recover Limits | |
| TFT 4-BFB | <u>3</u> 4 | 0.68 7.69 | mg/Kg mg/Kg | 100 100 | - | .10 .10 | 68 769 | 70 - 130 70 - 130 | |

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²High surrogate due to peak interference. ³Low surrogate recovery due to matrix interference. ⁴High surrogate recovery due to peak interference.

Report Date: March 13, 2002 ES-533

Order Number: A02022813 Equiva Penrose

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Page Number: 4 of 9 Eunice ,Lea County New Mexico l

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Quality Control Report Method Blank

| | | | | | | | Poporti- |
|---------------|------|----------|----------|--|-----------------|---------------------|--|
| Param | | Flag | Resi | lts | Units | | Reporting Limit |
| DRO | | | | 0.0 | mg/Kg | | 50 |
| | | ····· | | ······································ | 0/_0_ | | ······································ |
| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
| n-Triacontane | | 120 | mg/Kg | 1 | 150 | 80 | 70 - 130 |
| | | | | | | | |
| Method Bla | nk | QCBatch: | QC18564 | | | | |
| | | | | | | | Reporting |
| Param | | Flag | | Results | Units | | Limit |
| MTBE | | | | <0.010 | mg/K | | 0.001 |
| Benzene | | | | <0.010 | mg/K | | 0.001 |
| Toluene | | | | <0.010 | mg/K | | 0.001 |
| Ethylbenzene | | | | <0.010 | mg/K | | 0.001 |
| M,P,O-Xylene | | | | <0.010 | mg/K | | 0.001 |
| Total BTEX | | | | <0.010 | mg/K | g | 0.001 |
| | | | | | | | |
| a | | - | | | Spike | Percent | Recovery |
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| TFT | | 0.0855 | mg/Kg | 10 | 1 | 85 | 70 - 130 |
| 4-BFB | | 0.0757 | mg/Kg | 10 | 1 | 75 | 70 - 130 |
| | | | | | | | |
| Method Bla | ank | QCBatch: | QC18565 | | | | |
| Param | | Flag | Res | | Units | | Reportin Limit |
| GRO | | r lag | nes | <1 | mg/Kg | | 0.10 |
| | | | <u> </u> | | | | 0.10 |
| | | | | | Spike | Percent | Recover |
| Surrogate | Flag | Result | Units | Dilution | Amount | Recovery | Limits |
| TFT | | 0.101 | mg/Kg | 1 | 0.10 | 101 | 70 - 130 |
| 4-BFB | | 0.081 | mg/Kg | 1 | 0.10 | 81 | 70 - 130 |
| · | | | | | | | |
| Method Bla | ank | QCBatch: | QC18767 | | | | |
| | | | | | | | |
| Param | | Fl | | Results | TT. | nits | Reportin Limit |

Order Number: A02022813 Equiva Penrose

... Continued

| | | | | Reporting |
|------------------------|------|---------|-------|-----------|
| Param | Flag | Results | Units | Limit |
| Acenaphthylene | | < 0.25 | mg/Kg | 0.25 |
| Acenaphthene | | < 0.25 | mg/Kg | 0.25 |
| Fluorene | | < 0.25 | mg/Kg | 0.25 |
| Phenanthrene | | < 0.25 | mg/Kg | 0.25 |
| Anthracene | | < 0.25 | mg/Kg | 0.25 |
| Fluoranthene | | < 0.25 | mg/Kg | 0.25 |
| Pyrene | | < 0.25 | mg/Kg | 0.25 |
| Benzo(a)anthracene | | < 0.25 | mg/Kg | 0.25 |
| Chrysene | | < 0.25 | mg/Kg | 0.25 |
| Benzo(b)fluoranthene | | < 0.25 | mg/Kg | 0.25 |
| Benzo(k)fluoranthene | | < 0.25 | mg/Kg | 0.25 |
| Benzo(a)pyrene | | < 0.25 | mg/Kg | 0.25 |
| Indeno(1,2,3-cd)pyrene | | < 0.25 | mg/Kg | 0.25 |
| Dibenzo(a,h)anthracene | | < 0.25 | mg/Kg | 0.25 |
| Benzo(g,h,i)perylene | | < 0.25 | mg/Kg | 0.25 |

| Surrogate | Flag | Result | Units | Dilution | Spike Amount | Percent Recovery | Recovery Limits |
|------------------|------|--------|-------|----------|-----------------|---------------------|--------------------|
| Nitrobenzene-d5 | | 53.84 | mg/Kg | 1 | 80 | 67 | 23 - 120 |
| 2-Fluorobiphenyl | | 53.98 | mg/Kg | 1 | 80 | 67 | 30 - 115 |
| Terphenyl-d14 | | 55.4 | mg/Kg | 1 | 80 | 69 | 28 - 137 |

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes

| | | | | | Spike | | | | | |
|-------|--------|--------|-------|------|--------|--------|-------|-----|----------|-------|
| | LCS | LCSD | | | Amount | Matrix | | | % Rec | RPD |
| Param | Result | Result | Units | Dil. | Added | Result | % Rec | RPD | Limit | Limit |
| DRO | 243 | 232 | mg/Kg | 1 | 250 | <50.0 | 97 | 5 | 70 - 130 | 20 |

QC18552

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

QCBatch:

| | LCS | LCSD | | | Spike | LCS | LCSD | Recovery |
|---------------|--------|--------|-------|----------|--------|-------|-------|----------|
| Surrogate | Result | Result | Units | Dilution | Amount | % Rec | % Rec | Limits |
| n-Triacontane | 134 | 127 | mg/Kg | 1 | 150 | 89 | 85 | 70 - 130 |

Laboratory Control Spikes

QCBatch: Q

QC18564

| Param | LCS Result | LCSD Result | Units | Dil. | Spike Amount Added | Matrix Result | % Rec | RPD | % Rec Limit | RPD Limit |
|--------------|---------------|----------------|-------|------|--------------------------|------------------|-------|-----|----------------|--------------|
| MTBE | 0.853 | 0.872 | mg/Kg | 10 | 1 | < 0.010 | 85 | 2 | 79 - 113 | 20 |
| Benzene | 0.914 | 0.926 | mg/Kg | 10 | 1 | <0.010 | 91 | 1 | 88 - 107 | 20 |
| Toluene | 0.915 | 0.931 | mg/Kg | 10 | 1 | <0.010 | 91 | 1 | 86 - 110 | 20 |
| Ethylbenzene | 0.914 | 0.934 | mg/Kg | 10 | 1 | <0.010 | 91 | 2 | 85 - 110 | 20 |
| M,P,O-Xylene | 2.8 | 2.85 | mg/Kg | 10 | 3 | <0.010 | 93 | 1 | 86 - 112 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dilution | Spike Amount | LCS % Rec | LCSD % Rec | Recovery Limits |
|-----------|---------------|----------------|-------|----------|-----------------|--------------|---------------|--------------------|
| TFT | 0.863 | 0.886 | mg/Kg | 10 | 1 | 86 | 88 | 70 - 130 |
| 4-BFB | 0.868 | 0.875 | mg/Kg | 10 | 1 | 86 | 87 | 70 - 130 |

Laboratory Control Spikes

| pikes | QCBatch: | QC18565 |
|-------|----------|---------|
|-------|----------|---------|

Spike LCS LCSD Amount % Rec RPD Matrix Param Result Result Dil. Added % Rec RPD Limit Limit Units Result GRO 9.14 8.38 91 82 - 115 20 mg/Kg 10 1 <1 8

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dilution | Spike Amount | LCS % Rec | LCSD % Rec | Recovery Limits |
|-----------|---------------|----------------|-------|----------|-----------------|--------------|---------------|--------------------|
| TFT | 0.968 | 0.931 | mg/Kg | 10 | 1 | 97 | 93 | 70 - 130 |
| 4-BFB | 0.904 | 0.897 | mg/Kg | 10 | 1 | 90 | 90 | 70 - 130 |

Laboratory Control Spikes

QCBatch:

QC18767

| | | | | | Spike | | | | | |
|------------------------|--------|--------|-------|------|--------|--------|-------|-----|----------|-------|
| | LCS | LCSD | | | Amount | Matrix | | | % Rec | RPD |
| Param | Result | Result | Units | Dil. | Added | Result | % Rec | RPD | Limit | Limit |
| Naphthalene | 53.55 | 55.09 | mg/Kg | 1 | 80 | < 0.25 | 66 | 2 | 21 - 133 | 20 |
| Acenaphthylene | 60.2 | 61.57 | mg/Kg | 1 | 80 | < 0.25 | 75 | 2 | 33 - 145 | 20 |
| Acenaphthene | 58.02 | 60.1 | mg/Kg | 1 | 80 | <0.25 | 72 | 3 | 47 - 145 | 20 |
| Fluorene | 56.92 | 59.81 | mg/Kg | 1 | 80 | < 0.25 | 71 | 4 | 59 - 121 | 20 |
| Phenanthrene | 60.08 | 61.21 | mg/Kg | 1 | 80 | <0.25 | 75 | 1 | 54 - 120 | 20 |
| Anthracene | 61.41 | 62.19 | mg/Kg | 1 | 80 | < 0.25 | 76 | 1 | 27 - 133 | 20 |
| Fluoranthene | 51.5 | 54.17 | mg/Kg | 1 | 80 | < 0.25 | 64 | 5 | 26 - 137 | 20 |
| Pyrene | 56.19 | 53.88 | mg/Kg | 1 | 80 | <0.25 | 70 | 4 | 52 - 115 | 20 |
| Benzo(a)anthracene | 64.09 | 64.5 | mg/Kg | 1 | 80 | < 0.25 | 80 | 0 | 33 - 143 | 20 |
| Chrysene | 62.93 | 64.09 | mg/Kg | 1 | 80 | < 0.25 | 78 | 1 | 17 - 168 | 20 |
| Benzo(b)fluoranthene | 57.56 | 59.36 | mg/Kg | 1 | 80 | < 0.25 | 71 | 3 | 33 - 143 | 20 |
| Benzo(k)fluoranthene | 63.65 | 63.42 | mg/Kg | 1 | 80 | < 0.25 | 79 | 0 | 17 - 168 | 20 |
| Benzo(a)pyrene | 62.43 | 61.64 | mg/Kg | 1 | 80 | < 0.25 | 78 | 1 | 24 - 159 | 20 |
| Indeno(1,2,3-cd)pyrene | 68.38 | 65.01 | mg/Kg | 1 | 80 | < 0.25 | 85 | 5 | 0 - 171 | 20 |
| Dibenzo(a,h)anthracene | 49.85 | 47.05 | mg/Kg | 1 | 80 | < 0.25 | 62 | 5 | 0 - 227 | 20 |
| Benzo(g,h,i)perylene | 60.74 | 59.42 | mg/Kg | 1 | 80 | <0.25 | 75 | 2 | 0 - 219 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | LCS Result | LCSD Result | Units | Dilution | Spike Amount | LCS % Rec | LCSD % Rec | Recovery Limits |
|------------------|---------------|----------------|-------|----------|-----------------|--------------|---------------|--------------------|
| Nitrobenzene-d5 | 56.62 | 58.08 | mg/Kg | 1 | 80 | 70 | 72 | 23 - 120 |
| 2-Fluorobiphenyl | 59.21 | 60.84 | mg/Kg | 1 | 80 | 74 | 76 | 30 - 115 |
| Terphenyl-d14 | 59.54 | 56.4 | mg/Kg | 1 | 80 | 74 | 70 | 28 - 137 |

Quality Control Report Matrix Spikes and Duplicate Spikes

Order Number: A02022813 Equiva Penrose Page Number: 7 of 9 Eunice ,Lea County New Mexico

| Matrix | : Spikes | Q | CBatch: | QC18552 | | | | | | |
|--------|--------------|---------------|---------|---------|--------------------------|------------------|-------|-----|----------------|--------------|
| Param | MS Result | MSD Result | Units | Dil. | Spike Amount Added | Matrix Result | % Rec | RPD | % Rec Limit | RPD Limit |
| DRO | 2560 | 2530 | mg/Kg | 5 | 250 | 2290 | 108 | 1 | 70 - 130 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| | MS | MSD | | | Spike | MS | MSD | Recovery |
|---------------|------------------|-------------------|-------|----------|--------|---------------------|---------------|----------|
| Surrogate | Result | \mathbf{Result} | Units | Dilution | Amount | $\% \ \mathrm{Rec}$ | $\% { m Rec}$ | Limits |
| n-Triacontane | ⁵ 219 | 196 | mg/Kg | 5 | 150 | 146 | 131 | 70 - 130 |

Matrix Spikes QCBatch: QC18564

| Param | MS Result | MSD Result | Units | Dil. | Spike Amount Added | Matrix Result | % Rec | RPD | % Rec Limit | RPD Limit |
|--------------|--------------|---------------|-------|------|--------------------------|------------------|-------|-----|----------------|--------------|
| MTBE | 0.749 | 0.755 | mg/Kg | 10 | 1 | ···· | 74 | 0 | 47 - 138 | 20 |
| Benzene | 0.895 | 0.926 | mg/Kg | 10 | 1 | < 0.010 | 90 | 3 | 68 - 102 | 20 |
| Toluene | 0.907 | 0.938 | mg/Kg | 10 | 1 | < 0.010 | 91 | 3 | 69 - 105 | 20 |
| Ethylbenzene | 0.904 | 0.932 | mg/Kg | 10 | 1 | <0.010 | 90 | 3 | 65 - 108 | 20 |
| M,P,O-Xylene | 2.78 | 2.87 | mg/Kg | 10 | 3 | <0.010 | 93 | 3 | 63 - 114 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

| Surrogate | MS Result | ${ m MSD}$ Result | Units | Dilution | Spike Amount | MS % Rec | MSD % Rec | Recovery Limits |
|-----------|--------------|-------------------|-------|----------|-----------------|-------------|--------------|--------------------|
| TFT | 0.708 | 0.826 | mg/Kg | 10 | 1 | 71 | 83 | 70 - 130 |
| 4-BFB | 0.721 | 0.856 | mg/Kg | 10 | 1 | 72 | 86 | 70 - 130 |

Quality Control Report Continuing Calibration Verification Standards

| CCV (1) | | QCBatch: | QC18552 | | | | |
|---------|------|----------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
| DRO | | mg/Kg | 250 | 258 | 103 | 75 - 125 | 3/3/02 |
| ICV (1) | | QCBatch: | QC18552 | | | | |
| | | | CCVs | CCVs | CCVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| DRO | | mg/Kg | 250 | 247 | 98 | 75 - 125 | 3/3/02 |

⁵Poor surrogate recoveries due to matrix difficulties. LCS/LCSD shows analysis in control.

Report Date: March 13, 2002 ES-533

QC18564

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CCV (1) QCBatch:

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|--------------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| MTBE | | mg/L | 0.10 | 0.0946 | 94 | 85 - 115 | 3/1/02 |
| Benzene | | mg/L | 0.10 | 0.0925 | 92 | 85 - 115 | 3/1/02 |
| Toluene | | mg/L | 0.10 | 0.0934 | 93 | 85 - 115 | 3/1/02 |
| Ethylbenzene | | mg/L | 0.10 | 0.0925 | 92 | 85 - 115 | 3/1/02 |
| M,P,O-Xylene | | mg/L | 0.30 | 0.2843 | 94 | 85 - 115 | 3/1/02 |

| CCV (2) | QCBatch: | QC18564 |
|---------|----------|---------|
|---------|----------|---------|

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|--------------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| MTBE | | mg/L | 0.10 | 0.0875 | 87 | 85 - 115 | 3/1/02 |
| Benzene | | mg/L | 0.10 | 0.0919 | 91 | 85 - 115 | 3/1/02 |
| Toluene | | mg/L | 0.10 | 0.0924 | 92 | 85 - 115 | 3/1/02 |
| Ethylbenzene | | mg/L | 0.10 | 0.0919 | 91 | 85 - 115 | 3/1/02 |
| M,P,O-Xylene | | mg/L | 0.30 | 0.2824 | 94 | 85 - 115 | 3/1/02 |

ICV. (1) QCBatch: QC18564

| | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|--------------|------|------------------|--------------|---------------|-----------------|---------------------|----------|
| Param | Flag | \mathbf{Units} | Conc. | Conc. | Recovery | Limits | Analyzed |
| MTBE | | mg/L | 0.10 | 0.0874 | 87 | 85 - 115 | 3/1/02 |
| Benzene | | mg/L | 0.10 | 0.0905 | 90 | 85 - 115 | 3/1/02 |
| Toluene | | mg/L | 0.10 | 0.091 | 91 | 85 - 115 | 3/1/02 |
| Ethylbenzene | | mg/L | 0.10 | 0.091 | 91 | 85 - 115 | 3/1/02 |
| M,P,O-Xylene | | mg/L | 0.30 | 0.279 | 93 | 85 - 115 | 3/1/02 |

CCV (1)

QCBatch: QC18565

| | | | CCVs True | CCVs Found | CCVs Percent | Percent Recovery | Date |
|-------|------|-------|--------------|---------------|-----------------|---------------------|----------|
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| GRO | | mg/Kg | 1 | 0.911 | 91 | 75 - 125 | 3/1/02 |

ICV (1) QCBatch: QC18565

| Param | Flag | Units | CCVs True Conc. | CCVs Found Conc. | CCVs Percent Recovery | Percent Recovery Limits | Date Analyzed |
|-------|------|-------|-----------------------|------------------------|-----------------------------|-------------------------------|------------------|
| GRO | | mg/Kg | 1 | 0.955 | 95 | 75 - 125 | 3/1/02 |

Order Number: A02022813 Equiva Penrose Page Number: 9 of 9 Eunice ,Lea County New Mexico ļ

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CCV (1)

QCBatch: QC18767

| | | | CCVs | CCVs | CCVs | Percent | |
|------------------------|------|-------|-------|-------|----------|----------|----------|
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| Naphthalene | | mg/Kg | 60 | 58.87 | 98 | 80 - 120 | 3/10/02 |
| Acenaphthylene | | mg/Kg | 60 | 58.18 | 96 | 80 - 120 | 3/10/02 |
| Acenaphthene | | mg/Kg | 60 | 58.3 | 97 | 80 - 120 | 3/10/02 |
| Fluorene | | mg/Kg | 60 | 57.16 | 95 | 80 - 120 | 3/10/02 |
| Phenanthrene | | mg/Kg | 60 | 59.09 | 98 | 80 - 120 | 3/10/02 |
| Anthracene | | mg/Kg | 60 | 59.31 | · 98 | 80 - 120 | 3/10/02 |
| Fluoranthene | | mg/Kg | 60 | 50.86 | 84 | 80 - 120 | 3/10/02 |
| Pyrene | | mg/Kg | 60 | 50.92 | 84 | 80 - 120 | 3/10/02 |
| Benzo(a)anthracene | | mg/Kg | 60 | 59.19 | 98 | 80 - 120 | 3/10/02 |
| Chrysene | | mg/Kg | 60 | 58.21 | 97 | 80 - 120 | 3/10/02 |
| Benzo(b)fluoranthene | | mg/Kg | 60 | 52.92 | 88 | 80 - 120 | 3/10/02 |
| Benzo(k)fluoranthene | | mg/Kg | 60 | 59.59 | 99 | 80 - 120 | 3/10/02 |
| Benzo(a)pyrene | | mg/Kg | 60 | 57.65 | 96 | 80 - 120 | 3/10/02 |
| Indeno(1,2,3-cd)pyrene | | mg/Kg | 60 | 61.12 | 101 | 80 - 120 | 3/10/02 |
| Dibenzo(a,h)anthracene | | mg/Kg | 60 | 61.02 | 101 | 80 - 120 | 3/10/02 |
| Benzo(g,h,i)perylene | | mg/Kg | 60 | 54.7 | 91 | 80 - 120 | 3/10/02 |
| Nitrobenzene-d5 | | mg/Kg | 60 | 57.44 | 95 | 80 - 120 | 3/10/02 |
| 2-Fluorobiphenyl | | mg/Kg | 60 | 57.6 | 96 | 80 - 120 | 3/10/02 |
| Terphenyl-d14 | | mg/Kg | 60 | 50.83 | 84 | 80 - 120 | 3/10/02 |

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Analytical and Quality Control Report

Kyle Landreneau Equiva Kyle Landreneau PMB 284 40 FM 1960 West Houston, TX 77090

Report Date:

March 13, 2002

Order ID Number: A02022813

ES-533 Project: TA Job Code: Equiva Penrose Casualty Code: ES-533 Project Location: Eunice ,Lea County New Mexico Enercon Services Inc. / Midland / Jeff Kindley

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

| | | | Date | Time | Date |
|--------|-------------|--------|---------|-------|----------|
| Sample | Description | Matrix | Taken | Taken | Received |
| 191792 | TMW-1 (75') | Soil | 2/26/02 | 13:30 | 2/28/02 |

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These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed. Note: the RDL is equal to MQL for all organic analytes including TPH.

This report consists of a total of 4 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, pirector

Order Number: A02022813 Equiva Penrose

Analytical Report

| Sample: Analysis: Analyst: | 191792 - SPLP DRO MM | TMW-1 (75') Analytical Metho Preparation Met | od: Mod. | · · · · · · · · · · · · · · · · · · · | | QC18741 PB18157 | Date Analyzed: Date Prepared: | 3/10/02 3/10/02 |
|----------------------------------|-----------------------------------|--|----------|---------------------------------------|-----------|--------------------|----------------------------------|--------------------|
| Param | Fl | ag Res | ult | Units | Dilu | ition | | RDL |
| SPLP DRO |) | <5 | .00 | mg/L | | 1 | | 50 |
| Sample: Analysis: | 191792 - SPLP GRO | TMW-1 (75') Analytical Me | | 5 QC Ba | atch: OC1 | 18703 | Date Analyzed: | 3/7/02 |
| Analyst: | CG | Preparation M | | • | • | | Date Prepared: | 3/7/02 |
| | | | | | | | | |
| Param | F | ag Res | sult | Units | Dilı | ition | | RDL |

Order Number: A02022813 Equiva Penrose

Quality Control Report Method Blank

| Method Blank | QCBatch: | QC18703 | | |
|--------------|----------|---------|-------|--------------------|
| Param | Flag | Results | Units | Reporting Limit |
| SPLP GRO | | <0.1 | mg/L | 0.10 |
| Method Blank | QCBatch: | QC18741 | | |
| Param | Flag | Results | Units | Reporting Limit |
| SPLP DRO | | <5.00 | mg/L | 50 |

Quality Control Report Lab Control Spikes and Duplicate Spikes

| Laboratory | Control Spike | es QCBatch | : QC18703 |
|------------|---------------|------------|-----------|
| | | | |

| | | | | | Spike | | | | | |
|----------|--------|--------|-------|------|--------|--------|-------|-----|----------|-------|
| | LCS | LCSD | | | Amount | Matrix | | | % Rec | RPD |
| Param | Result | Result | Units | Dil. | Added | Result | % Rec | RPD | Limit | Limit |
| SPLP GRO | 0.866 | 0.861 | mg/L | 1 | 1 | <0.1 | 86 | 0 | 82 - 115 | 20 |

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Laboratory Control Spikes QCBatch: QC18741 Spike LCSD LCS % Rec RPD Amount Matrix RPD Param Result Result Units Dil. Added Result % Rec Limit Limit SPLP DRO 24.8 23.5 0.10 250 70 - 130 mg/L <5.00 99 5 20

Percent recovery is based on the spike result. RPD is based on the spike and spike duplicate result.

Quality Control Report Continuing Calibration Verification Standards

| CCV (1) | QCE | Batch: QC | 18703 | | | | |
|----------|------|-----------|-------|-------|----------|----------|----------|
| | | | CCVs | CCVs | CCVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| SPLP GRO | | mg/L | 1 | 0.946 | 94 | 80 - 120 | 3/7/02 |

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|---------------------------------------|------|-----------|--------|-----------------------------|--|----------|----------|
| ICV (1) | QCBa | tch: QC1 | .8703 | | | | |
| | | | CCVs | CCVs | CCVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| SPLP GRO | | mg/L | 1 | 0.887 | 88 | 80 - 120 | 3/7/02 |
| CCV (1) | QCE | Batch: QC | 218741 | | | | |
| | | | CCVs | CCVs | CCVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| SPLP DRO | | mg/L | 250 | 250 | 100 | 70 - 130 | 3/10/02 |
| ICV (1) | QCB | atch: QC | 18741 | | | | |
| | | | CCVs | CCVs | CCVs | Percent | |
| | | | True | Found | Percent | Recovery | Date |
| Param | Flag | Units | Conc. | Conc. | Recovery | Limits | Analyzed |
| SPLP DRO | | mg/L | 250 | 241 | 96 | 70 - 130 | 3/10/02 |

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ATTACHMENT E

Site Photographs



Photo 1: Drilling of Temporary Monitor Well TMW-1.



Photo 2: Drilling of Temporary Monitor Well TMW-1.



Photo 3: Drilling of Temporary Monitor Well TMW-1.



Photo 4: Drilling of Temporary Monitor Well TMW-1.



Photo 5: Installation of piping for Temporary Monitor Well TMW-1.



Photo 6: Completed Temporary Monitor Well TMW-1.