1R - 299

GENERAL CORRESPONDENCE

YEAR(S):

2003-2000

ENERCON SERVICES, INC.
306 West Wall, Suite 1312
Midland, TX 79701
Phone: 915/570-8726
Fax: 915/684-7587

FAX TRANSMITTAL

SUBMITTED BY: JWK
DATE: 02/24/03
TIME: 1200

TO: Wayne Price
COMPANY: NMOCD
FAX NO: 1-505-476-3462
VERIFICATION NO.:
FROM: Jeffrey Kindley
NO. OF PAGES: 3
(Including cover sheet)

☐ *URGENT* ☐ *FOR REVIEW* ☐ *PLEASE COMMENT* ☐ *PLEASE REPLY* ☐ *PLEASE RECYCLE*

COMMENTS:

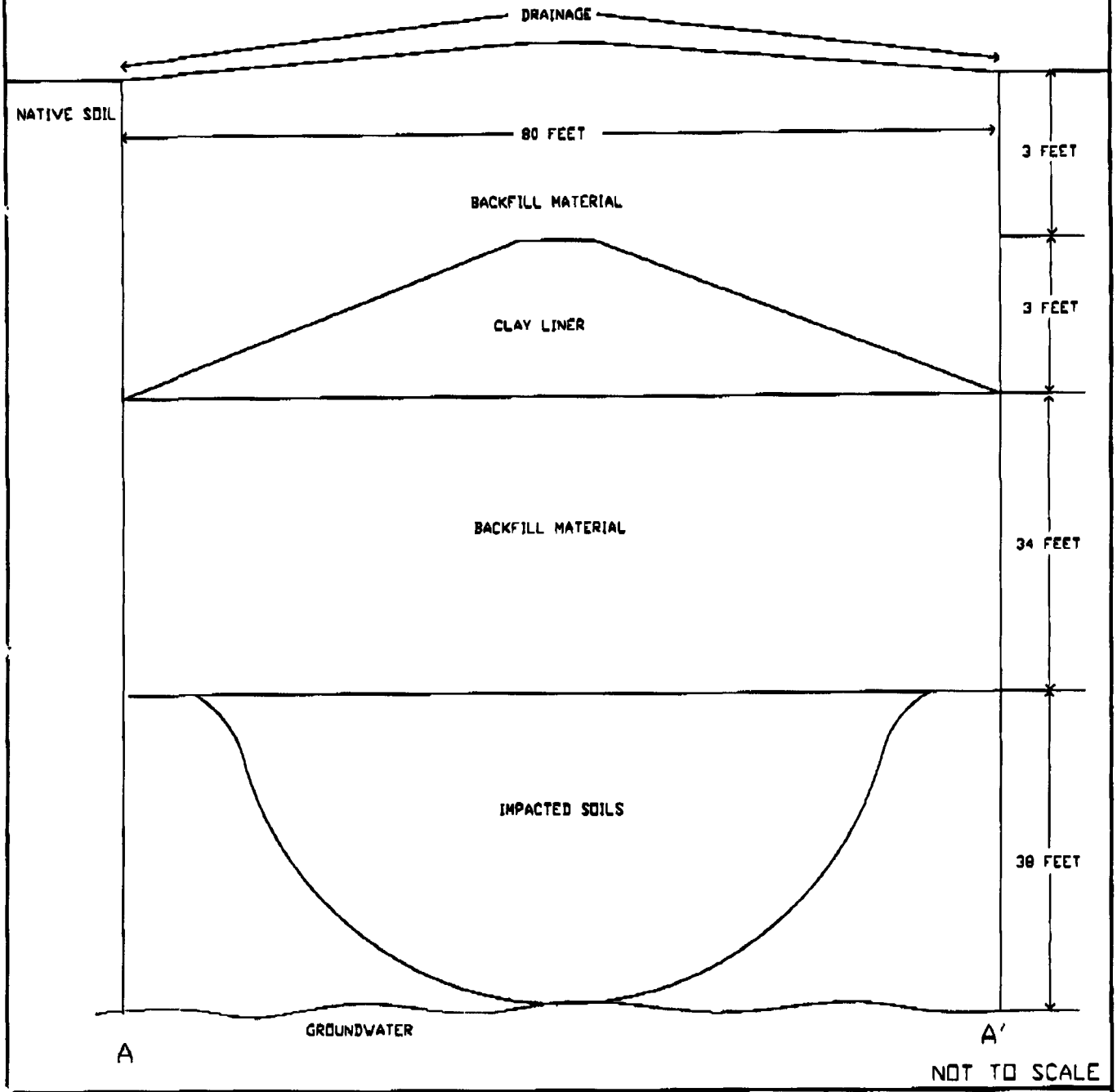
Here are the two Kennan Maps showing the clay lines!

Thanks,

Jeff Kindley

If you experience any difficulty in the transmission of this fax,
Please call 915/570-8726

NOTE: BOTH THE FINAL CAP AND LINER WILL BE SLOPED SUCH THAT RAINWATER OR GROUNDWATER DOES NOT COLLECT AT THE SITE.



NOT TO SCALE

EXCAVATION CROSS SECTION

FEBRUARY 2003

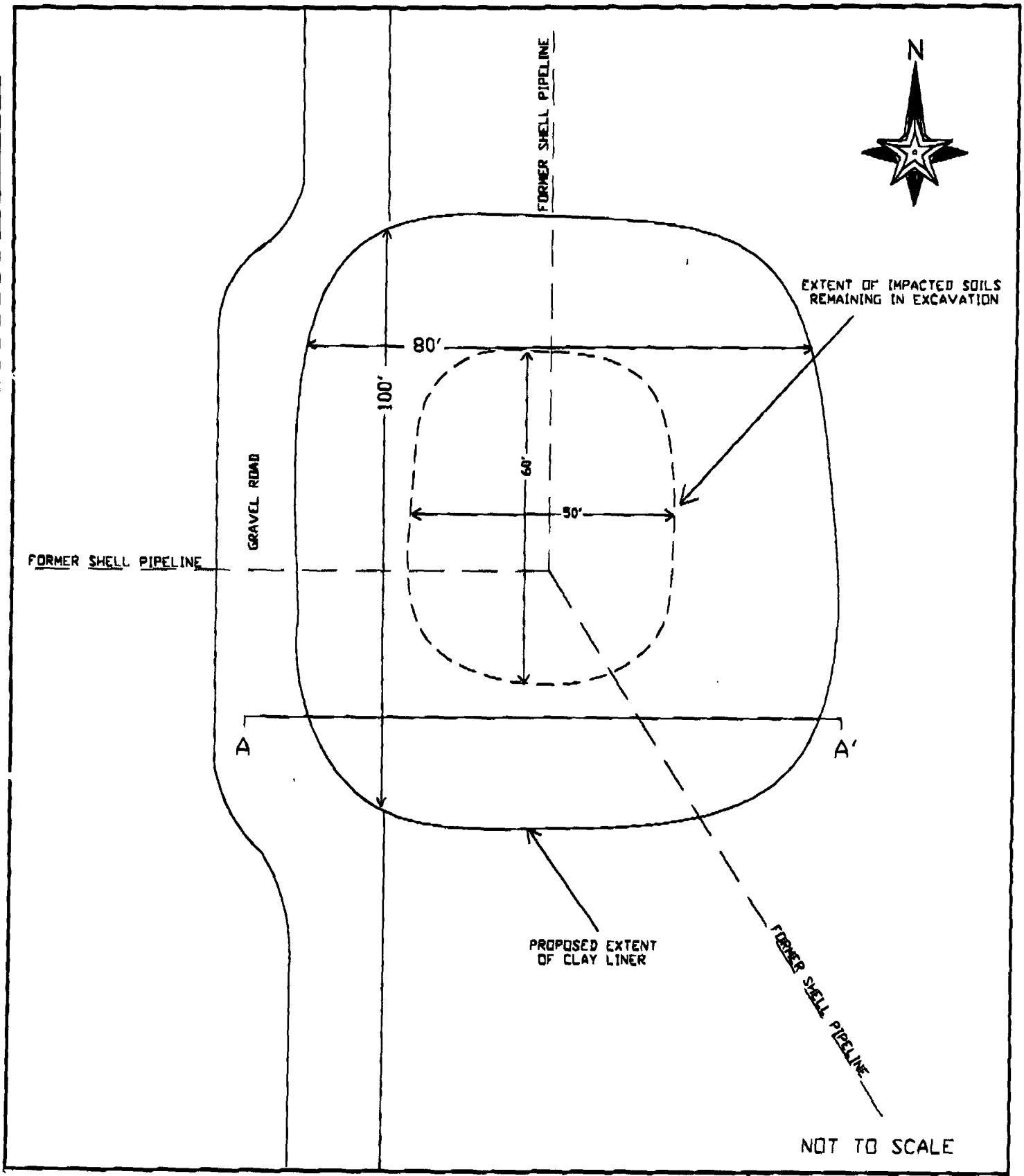
PREPARED FOR:
SHELL OIL PRODUCTS, U.S.
PENROSE (WINNIE KENNAN RANCH)
LEA COUNTY, NEW MEXICO

PREPARED BY:
ENERCON SERVICES, INC.
306 WEST WALL, SUITE 1312
MIDLAND, TX 79701
(915) 570-8726

INCIDENT #: 300108

PROJECT NUMBER: ES-533

FIGURE 2



PLOT PLAN OF PROPOSED CLAY LINER

FEBRUARY 2003

PREPARED FOR:
SHELL OIL PRODUCTS, U.S.
PENROSE (WINNIE KENNAN RANCH)
LEA COUNTY, NEW MEXICO

PREPARED BY:
ENERCON SERVICES, INC.
306 WEST WALL, SUITE 1312
MIDLAND, TX 79701
(915) 570-8726

INCIDENT #: 300108

PROJECT NUMBER: ES-533

FIGURE 1

ENERCON SERVICES, INC.
306 West Wall, Suite 1312
Midland, TX 79701
Phone: 915/570-8726
Fax: 915/684-7587

FAX TRANSMITTAL

SUBMITTED BY: JWK
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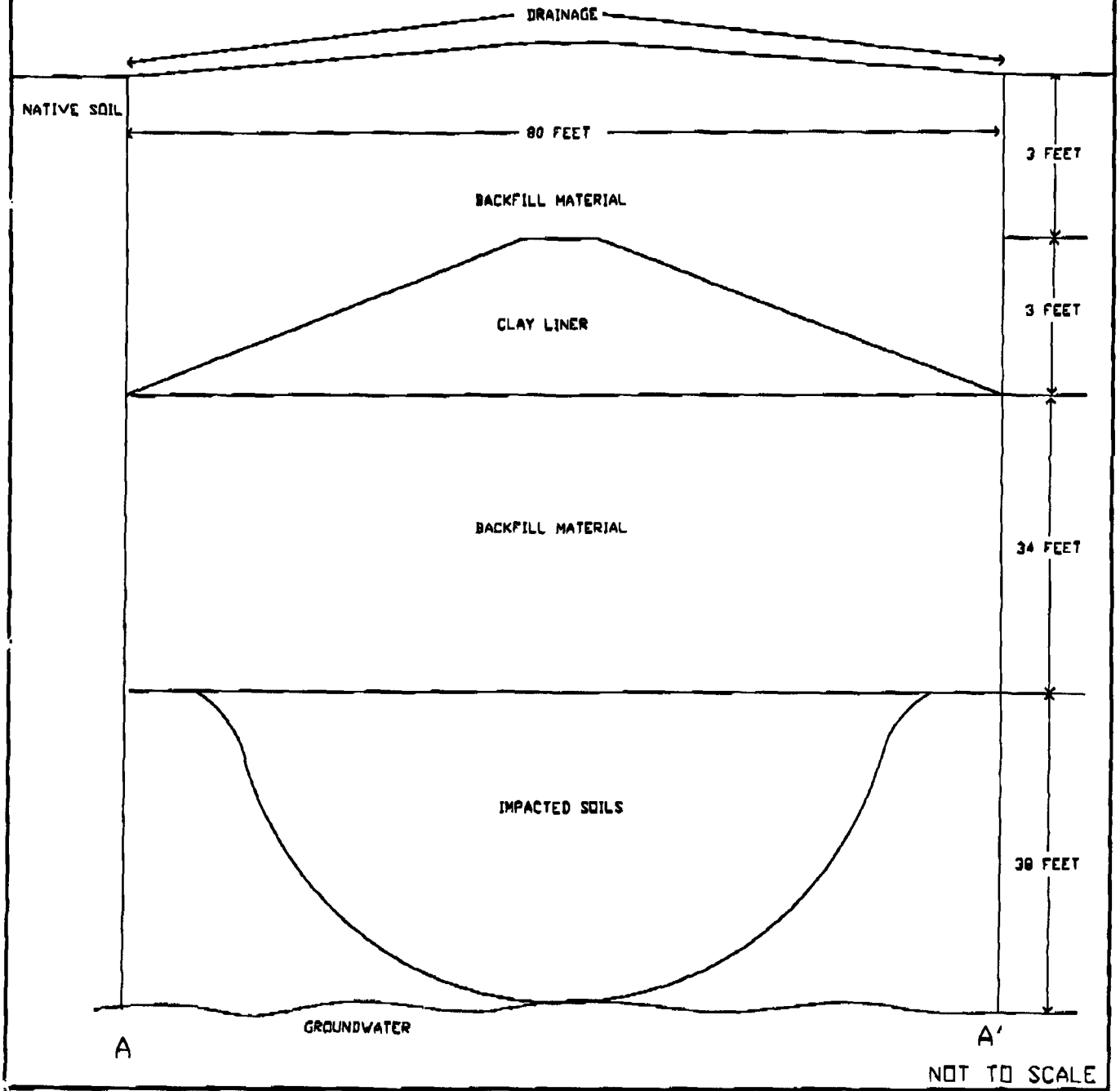
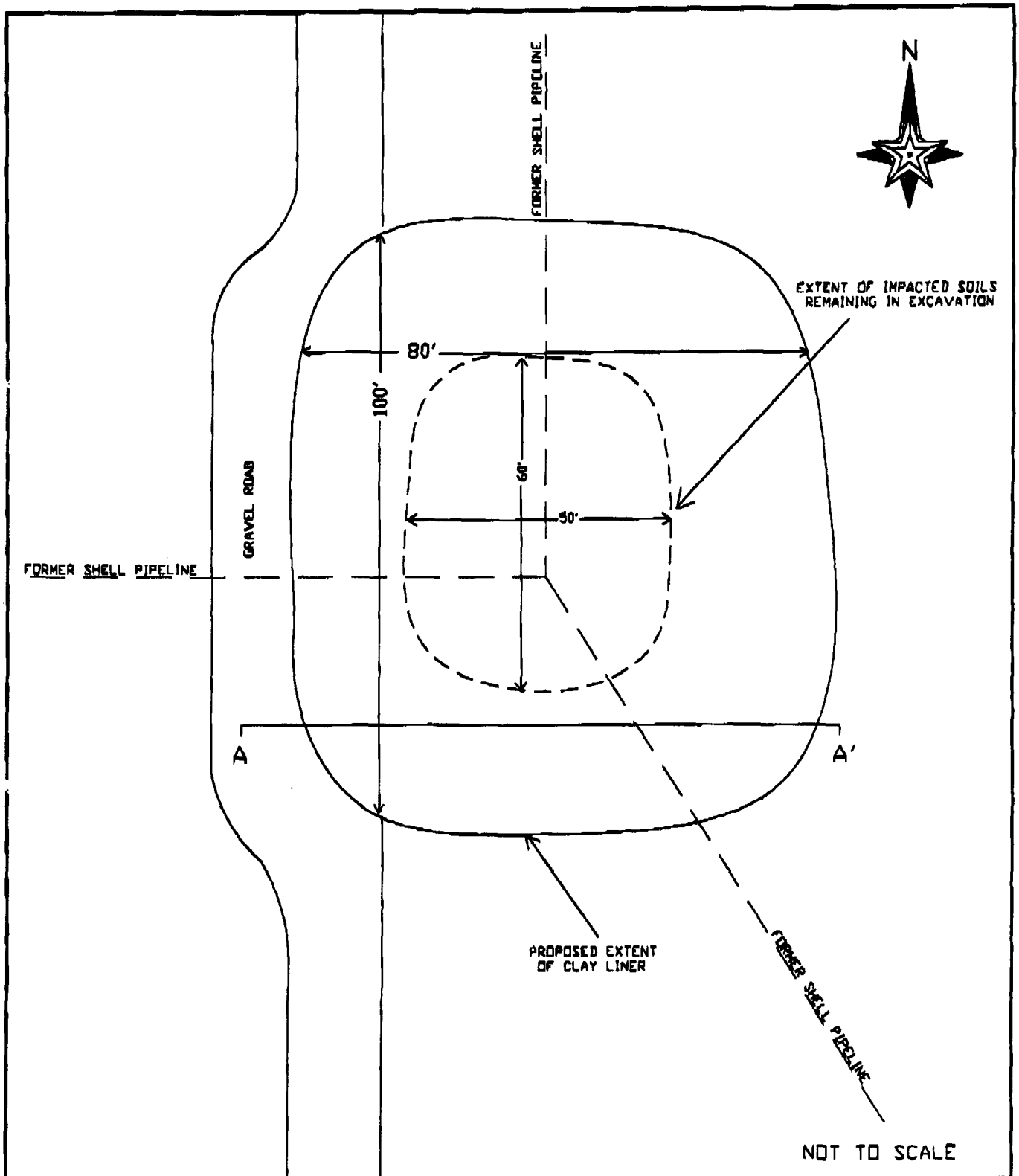


NOT TO SCALE

EXCAVATION CROSS SECTION		FEBRUARY 2003	
PREPARED FOR: SHELL OIL PRODUCTS, U.S. PENROSE (WINNIE KENNAN RANCH) LEA COUNTY, NEW MEXICO	PREPARED BY: ENERCON SERVICES, INC. 306 WEST WALL, SUITE 1312 MIDLAND, TX 79701 (915) 570-8726	INCIDENT #: 300108 PROJECT NUMBER: ES-533	FIGURE 2



PLOT PLAN OF PROPOSED CLAY LINER

FEBRUARY 2003

PREPARED FOR:
SHELL OIL PRODUCTS, U.S.
PENROSE (WINNIE KENNAN RANCH)
LEA COUNTY, NEW MEXICO

PREPARED BY:
ENERCON SERVICES, INC.
306 WEST WALL, SUITE 1312
MIDLAND, TX 79701
(915) 570-8726

INCIDENT #: 300108

PROJECT NUMBER: ES-533

FIGURE 1

Price, Wayne

From: Price, Wayne
Sent: Tuesday, January 21, 2003 11:43 AM
To: 'Jkind1111@aol.com'; Price, Wayne
Cc: 'KRSpringer@equiva.com'
Subject: RE: Kennan Work plan

Groundwater
mpact --Penrose A..

Dear Jeff:

Please find the attachment of an E-mail that I sent August 28, 2002. OCD has no record of a response to this request.
Please note that in this particular case I am confused why SPLP methods should be used for remaining soils. Equiva originally made the case using SPLP to demonstrate that the remaining contamination would not likely migrate due to the low numbers found from the SPLP results. However, after further investigation it was discovered that groundwater was contaminated. It appears in this particular case that SPLP would have provided a false negative. If you want to continue to use this method please correlate SPLP with estimated infiltration and contaminate migration. Also, OCD would rather see the liner near the top so it will not collect leachate. Please include a plot plan showing all of the future soil borings. Also I think TPH and BTEX should be taken every 5 feet. Also, has chlorides been addressed? There should be a plan to address future protection of the liner, markers, signs, deed recording etc.

Therefore, Equiva should respond to the request attached and the above items.

-----Original Message-----
From: Jkind1111@aol.com [mailto:Jkind1111@aol.com]
Sent: Tuesday, January 21, 2003 9:30 AM
To: wprice@state.nm.us
Subject: Fwd: Kennan Workplan

Wayne,

Please find attached the Winnie Kennan Workplan. The new Equilon/Shell representative for this site is Ken Springer. His email is KRSpringer@equiva.com

Thanks,

Jeff Kindley
Enercon Services, Inc.
306 West Wall, Suite 1312
Midland, Texas 79701

(915) 570-8726

Price, Wayne

From: Jkind1111@aol.com
Sent: Tuesday, January 21, 2003 9:30 AM
To: wprice@state.nm.us
Subject: Fwd: Kennan Workplan

Fwd: Kennan Workplan

Wayne,

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Thanks,

Jeff Kindley
Enercon Services, Inc.
306 West Wall, Suite 1312
Midland, Texas 79701

(915) 570-8726

1R0299

EQUIVA
SERVICES LLC

May 17, 2002

Mr. Wayne Price
Environmental Geologist
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

RE: Report Detailing The Installation and Sampling of Temporary Monitor Well (TMW-1)
Penrose 'A' Lease
Winnie Kennan Ranch
Eunice, Lea County, New Mexico

Dear Mr. Price:

Attached you will find the report detailing the installation and sampling of the temporary monitor well installed at the site. As you recall, the site was excavated to a maximum depth of 40 feet below ground surface (bgs). The purpose of this drilling activity was to confirm the extent of hydrocarbon contamination below the excavation and to determine if groundwater had been impacted by the release.

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.

Soil sample TMW-1 at 63-65 feet bgs, which had the highest TPH concentration of the three samples, was also analyzed for SPLP TPH, SPLP benzene, SPLP toluene, SPLP ethylbenzene and SPLP xylenes. As you know, the SPLP analyses provides a very good indication whether contaminants in the soil will leach to the groundwater. The results are summarized below.

TMW-1 SPLP Soil Analytical Results 2/26/02						
Sample	**Benzene (mg/l)**	**Toluene (mg/l)**	**Ethylbenzene (mg/l)**	**Xylenes (mg/l)**	**TPH (mg/l)**	**BTEX**
TMW-1 63-65 ft	0.0071	0.241	0.568	1.36	6.85	2.1761
NMOCD WQCC levels	0.01	0.75	0.75	0.62	NA	2.13

As you can see from the above table, all SPLP concentrations for the soil are very low and below the New Mexico Water Quality Conservation Commission Ground Water Standards. The SPLP results show that the constituents in the soil have a very low probability of leaching into the groundwater at concentrations above the NMOCD levels, therefore we request that the soil portions of the site be closed.

Groundwater analytical results were below EPA drinking water standards for the analytes analyzed. The holding time for the PAH analysis was exceeded so the results are not valid. A subsequent resampling event on March 15, 2002 revealed that LNAPL measuring 0.16 feet has impacted the groundwater.

In order to address to groundwater issue, Equiva proposes backfill the existing site with a 3-ft thick clay cap then the remainder of the excavation with normal backfill material, and install at least four (4) monitor wells around the perimeter of the excavation and one (1) monitor well in the center of the excavated site to delineate the groundwater plume.

After completion of the backfilling activities, at least four (4) perimeter monitor wells will be installed around the excavation and one (1) monitor well will be installed through the center of the excavation to determine the extent of the groundwater plume. During installation of the monitor wells, soils will be collected on five-foot centers and field screened for volatile organic constituents with a Photoionization Detector (PID) using headspace techniques. Two soil samples, one collected from the vadose zone, and one collected from the zone exhibiting the highest PID measurements will be collected from each boring and submitted to Trace for analysis of BTEX and TPH (Dro/Gro) using EPA methods 8021B and 8015 modified, respectively. Upon completion of the collection of the soil samples, the five soil borings (PMW-1 to PMW-5) will be converted to monitor wells.

The monitor wells will be completed using a 4-inch inside diameter, schedule 40 polyvinyl chloride riser, and a 15-foot long, 0.010 inch slotted screen. The screen will be placed at the bottom of the boring and extended 5 feet above the groundwater. A sand pack will be set around the well screen from the bottom of the well to two feet above the top of the well screen. A two-foot bentonite plug will be placed above the sand pack. The remainder of the wellbore will be sealed with cement containing a 3-5% bentonite slurry, and capped with two feet of cement. The

well will be completed with a monument style cover and a four-foot by four-foot concrete pad and locking cap.

The monitor wells will be developed by pumping or handbailing a minimum of three well volumes or until conductivity, pH, and temperature has stabilized to within 5% for three consecutive readings. Groundwater samples will be collected from the monitor wells and submitted to Trace for analysis of BTEX and polycyclic aromatic hydrocarbons (PAH) using EPA Method 8021B and 8270 respectively.

Upon completion of the well installation activities, Equiva will prepare and submit a report to the NMOCD summarizing the backfilling, well installation and sampling activities, and groundwater analytical results. This report will also include a proposal for continued groundwater monitoring and PSH recovery, if necessary.

Should you have any questions concerning this letter, please contact me at (281) 353-2069 or by email at eklandreneau@equiva.com.

Sincerely
EQUIVA SERVICES LLC

Kyle Landreneau

Kyle Landreneau CPG
Sr. Environmental Geologist
SHE/Science & Engineering

"Equiva Services LLC provides miscellaneous services, including environmental services, on behalf of its owners Motiva Enterprises LLC and Equilon Enterprises LLC dba Shell Oil Products US, and on behalf of Shell Oil Company, and Star Enterprise."

Cc: Jeffrey Kindley – Enercon Services, Inc.
Paul Sheeley – NMOCD, Hobbs, NM
Leo Simms-Hobbs New Mexico

EQUIVA SERVICES LLC

September 24, 2002

Mr. Wayne Price
Environmental Geologist
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

RE: Clay Liner Design
Penrose 'A' Lease
Winnie Kennan Ranch
Eunice, Lea County, New Mexico

Dear Mr. Price:

Equiva Services is submitting this clay liner design for you approval. The excavation is approximately 100 ft x 80 ft x 40 ft deep. The clay liner will be placed at the bottom of the excavation in 6-inch thick lifts and compacted. The preceding compacted lift will be scarified in order to create a bondable surface for the next lift. This process will continue until the final compacted liner thickness is 3 feet thick. The liner will be contoured such that water will flow off the liner and not pool above it, as shown on the attached figures.

The clay liner will be constructed from clay, which will create a final compacted liner with permeability no greater than 1×10^{-5} cm/sec (EPA530-R-93-017, Municipal Solid Waste Landfill Criteria, Chapter 6, Final Cover Design). The liner will be compacted to a minimum of 90% of the maximum dry unit weight determined by the standard Proctor test. Field compaction will be verified using a nuclear density meter. Field density tests will be performed on every lift with a maximum of four tests per lift and the lifts will be removed and re-compacted if the test results are unsatisfactory.

Upon completion of the cap installation, the remaining excavation will be backfill material will be native soil. The site will be contoured such that water will flow away from the area and not pond over the site.

PMB 284, 40 FM 1960 West, Houston Texas 77090
Phone 281-353-2069 Facsimile 281-353-2317

Remaining Contaminants

The following summarizes the Total Petroleum Hydrocarbon concentration of the soil at various depths that will remain in place below the liner.

Total Petroleum Hydrocarbon Concentration In the soil below the liner	
Sample Depth (feet)	**TPH (mg/kg)**
53-55	2,071
63-65	8,693
75	2,963

Clearly, these concentrations are above the NMOCD cleanup levels but SPLP analysis was performed on the 63-65 feet sample to determine the leachability of the constituents to the groundwater. These results are summarized below.

SPLP Analytical Results 63-65 feet Soil Sample						
	Benzene (mg/l)	**Toluene (mg/l)**	**Ethylbenzene (mg/l)**	**Xylenes (mg/l)**	**TPH (mg/l)**	**BTEX (mg/l)**
63-65 ft	0.0071	0.241	0.568	1.36	6.85	2.1761
NMOCD levels	0.01	0.75	0.75	0.62	NA	2.13

Clearly, these concentrations are well below the NMOCD water quality standards so the leaching potential of these constituents are very low. Therefore, the soils portion of the site should be closed.

Once the liner is installed and the site backfilled, four (4) perimeter monitor wells will be installed around the excavation and one (1) monitor well will be installed through the center of the excavation to determine the extent of the groundwater plume as outlined in the previous report.

EQUIVA SERVICES LLC

Should you have any questions concerning this letter, please contact me at (281) 353-2069 or by email at eklandreneau@equiva.com.

Sincerely
EQUIVA SERVICES LLC

Kyle Landreneau

Kyle Landreneau CPG
Sr. Environmental Geologist
HSE/Science & Engineering

"Equiva Services LLC provides miscellaneous services, including environmental services, on behalf of its owners Motiva Enterprises LLC and Equilon Enterprises LLC dba Shell Oil Products US, and on behalf of Shell Oil Company, and Star Enterprise."

Cc: Bennett Howell-Enercon Services

Leo Simms
S&D Ranch Environmental Representative
814 West Marland Blvd.
Hobbs New Mexico 88240

February 14, 2002

Mr. Wayne Price
Environmental Geologist
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

RE: Clay Liner Design
Penrose 'A' Lease
Winnie Kennan Ranch
Eunice, Lea County, New Mexico

Dear Mr. Price:

Equiva Services is submitting this clay liner design for you approval. The excavation is approximately 100 ft x 80 ft x 40 ft deep. The lower 34 feet of the excavated site will be backfilled with clean soils prior to placement of the clay liner. Upon completion of the intial backfilling, the clay liner will be placed 3 to 5 feet below the ground surface in 6-inch thick lifts and compacted. The preceding compacted lift will be scarified in order to create a bondable surface for the next lift. This process will continue until the final compacted liner thickness is 3 feet thick. The liner will be contoured such that water will flow off the liner and not pool above it, as shown on the attached figures.

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The following summarizes the Total Petroleum Hydrocarbon concentration of the soil at various depths that will remain in place below the liner.

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75	2,963

Clearly, these concentrations are above the NMOCD cleanup levels but SPLP analysis was performed on the 63-65 feet sample to determine the leachability of the constituents to the groundwater. These results are summarized below.

SPLP Analytical Results 63-65 feet Soil Sample						
	Benzene (mg/l)	**Toluene (mg/l)**	**Ethylbenzene (mg/l)**	**Xylenes (mg/l)**	**TPH (mg/l)**	**BTEX (mg/l)**
63-65 ft	0.0071	0.241	0.568	1.36	6.85	2.1761
NMOCD levels	0.01	0.75	0.75	0.62	NA	2.13

Clearly, these concentrations are well below the NMOCD water quality standards so the leaching potential of these constituents are very low. The vast majority of the hydrocarbons that were in the soils have leached out over time and have impacted the surrounding groundwater as verified in the temporary monitor well TMW-1 installed onsite in February 2001. The remaining TPH levels in the soil are locked within the interstitial space of the soil matrix thus giving low SPLP leachability results. With the added clay liner and the low SPLP analytical results, the remaining hydrocarbons within the soils pose a low probability of further impacts to the groundwater. Therefore, the soils portion of the site should be closed.

Once the liner is installed and the site backfilled, four (4) perimeter monitor wells will be installed around the excavation and one (1) monitor well will be installed through the center of the excavation to determine the extent of the groundwater plume as outlined in the previous report.

Should you have any questions concerning this letter, please contact me at (713) 241-9979 or by email at krspringer@shellopus.com

Sincerely,

K. R. (Ken) Springer

Sr. Environmental Engineer
Science & Engineering

EQUIVA
SERVICES LLC

June 21, 2002

Mr. Wayne Price
Environmental Geologist
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, New Mexico 87505

RE: Report Detailing The Installation and Sampling of Temporary Monitor Well (TMW-1)
Penrose 'A' Lease
Winnie Kennan Ranch
Eunice, Lea County, New Mexico

Dear Mr. Price:

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PMB 284, 40 FM 1960 West, Houston Texas 77090
Phone 281-353-2069 Facsimile 281-353-2317

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Groundwater analytical results were below EPA drinking water standards for the COCs analyzed (BTEX & TPH). BTEX concentrations were below NMOCD WQCC levels. Due to a laboratory error, the holding time for the groundwater PAH analysis 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.

In order to address to groundwater issue, Equiva proposes backfill the existing site with a 3-ft thick clay cap then the remainder of the excavation with normal backfill material, and install at least four (4) monitor wells around the perimeter of the excavation and one (1) monitor well in the center of the excavated site to delineate the groundwater plume.

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EQUIVA SERVICES LLC

Upon completion of the well installation activities, Equiva will prepare and submit a report to the NMOCD summarizing the backfilling, well installation and sampling activities, and groundwater analytical results. This report will also include a proposal for continued groundwater monitoring and PSH recovery, if necessary.

Should you have any questions concerning this letter, please contact me at (281) 353-2069 or by email at eklandreneau@equiva.com.

Sincerely
EQUIVA SERVICES LLC

Kyle Landreneau

Kyle Landreneau CPG
Sr. Environmental Geologist
SHE/Science & Engineering

"Equiva Services LLC provides miscellaneous services, including environmental services, on behalf of its owners Motiva Enterprises LLC and Equilon Enterprises LLC dba Shell Oil Products US, and on behalf of Shell Oil Company, and Star Enterprise."

Cc: Jeffrey Kindley – Enercon Services, Inc.
Paul Sheeley – NMOCD, Hobbs, NM
Leo Simms-Hobbs New Mexico

Price, Wayne

From: Jkind1111@aol.com
Sent: Thursday, March 21, 2002 3:38 PM
To: wprice@state.nm.us
Cc: rcanderson@state.nm.us
Subject: Equiva Primrose "A" Lease

Re: 1R0299 Equiva Services, Inc. Primrose 'A' Lease located on Winnie Kennan Property in Lea County, New Mexico.

Equiva Services, Inc. via Enercon Services of Midland, Texas was onsite February 26, 2002 to install a temporary monitor well located within a 45 deep excavated hole at the above referenced site.

At the time of the installation of the well, no oil or phase separated hydrocarbons were found on the top of the water. However, the soil was impacted to the bottom of the boring which extended to 78 feet below ground surface. On March 15, 2002, Enercon was onsite to recheck the monitor well and found 2 inches of oil located on the groundwater surface.

This email is to verify that the groundwater has been impacted at the site and will require further remediation.

Thanks,

Jeff Kindley
Enercon Services, Inc
306 West Wall, Suite 1312
Midland, Texas 79701

(915) 570-8726

Price, Wayne

From: Jkind1111@aol.com[SMTP:Jkind1111@aol.com]

Sent: Friday, March 02, 2001 1:18 PM

To: WPrice@state.nm.us

Subject: Re: Penrose "A" Lease Equiva Services (Equilon Pipeline)

Dear Wayne,

The source of the leak is from a gathering system located before the sales.

Also, the exact location is as follows:

T23S

R37E

Section 3

SW quarter of SE quarter

Thanks,

Jeff

Price, Wayne

From: Price, Wayne

Sent: Friday, March 02, 2001 11:44 AM

To: 'Jkind1111@aol.com'

Subject: RE: Penrose "A" Lease Equiva Services (Equilon Pipeline)

JEFF!

I need UL or qtr qtr. Also what was the source of the leak!

From: Jkind1111@aol.com[SMTP:Jkind1111@aol.com]

Sent: Friday, March 02, 2001 11:14 AM

To: WPrice@state.nm.us

Subject: Re: Penrose "A" Lease Equiva Services (Equilon Pipeline)

Dear Wayne

Groundwater depth is at 65 to 70 feet below ground surface.

Also, it is located at T 23 S, R 37 E, Section 3.

Thanks,

Jeff

Price, Wayne

From: Jkind1111@aol.com[SMTP:Jkind1111@aol.com]
Sent: Friday, March 02, 2001 11:14 AM
To: WPrice@state.nm.us
Subject: Re: Penrose "A" Lease Equiva Services (Equilon Pipeline)

Dear Wayne

Groundwater depth is at 65 to 70 feet below ground surface.

Also, it is located at T 23 S, R 37 E, Section 3.

Thanks,

Jeff

Price, Wayne

From: Price, Wayne

Sent: Thursday, March 01, 2001 9:55 AM

To: 'Jkind1111@aol.com'

Subject: RE: Penrose "A" Lease Equiva Services (Equilon Pipeline)

Dear Jeff:

Please send me an overview of the project also I need the legal location for the site.

From: Jkind1111@aol.com[SMTP:Jkind1111@aol.com]

Sent: Tuesday, February 27, 2001 1:59 PM

To: wprice@state.nm.us

Subject: Penrose "A" Lease Equiva Services (Equilon Pipeline)

Dear Mr. Price,

As per our conversation regarding the above mentioned lease, please find enclosed the email addresses for Kyle Landreaneau of Equiva Services (Houston) and Jeff Kindley of Enercon Services, Inc (Midland).

Thank you,

Jeff Kindley
Enercon Services Inc. (Midland)
email address: jkind1111@aol.com

Kyle Landreneau
Equiva Services (Houston)
email address: EKLandreneau@equiva.com

EQUIVA
SERVICES LLC
Shell, Texaco & Saudi Aramco Working Together

February 19, 2001

Mr. Chris Williams
Oil Conservation Division
New Mexico Energy, Minerals & Natural Resources Department
1625 North French Drive
Hobbs, New Mexico 88240

CASE # 1R0299

RE: Cleanup Criteria/Additional Workplan
Equilon Pipeline Company
Penrose "A" Lease
Southeast Eunice, Lea County, New Mexico

Dear Mr. Williams:

On July 26, 2000, Equiva Services LLC submitted to your office a workplan detailing the cleanup goals at the above referenced site. The workplan detailed how closure values for the site were determined based upon the New Mexico Oil Conservation Division (NMOCD) ranking criteria. Closure values for the site were determined to be 1,000 milligrams per kilograms (mg/Kg) above background for total petroleum hydrocarbons (TPH), 50 mg/Kg for total benzene, toluene, ethylbenzene, and xylenes (BTEX), and 10 mg/Kg for benzene based upon the depth to groundwater at the site (approximately 70 feet below ground surface).

In order to meet the NMOCD criteria, extensive excavation has been performed at the site over the past month. At present, the site has been excavated to a depth of 40 feet below ground surface (bgs). Despite this intense remedial effort, hydrocarbon odors and staining are still evident at the bottom of the excavation with TPH concentrations of 5,480 mg/Kg (EPA Method 8015M). Maximum BTEX concentration is 24.60 mg/Kg, with no benzene detected, which is within closure criteria for benzene and total BTEX.

A Synthetic Precipitation Leaching Potential (SPLP) TPH, which measures the amount of TPH capable of being leached from the soil by precipitation and groundwater, was analyzed for soil samples at depths of 30 and 40 feet bgs. The results showed a marked decrease with depth (26.64 milligrams per Liter (mg/L) at 30 feet bgs to 9.01 mg/L at 40 feet bgs). See attached Table 1.

Since there are no toxicological values for TPH, *per se*, Equiva has requested that the soil samples from the base of the excavation also be analyzed for polycyclic aromatic hydrocarbons (PAHs) and SPLP volatile organic compounds (VOCs). This additional analysis was performed in an attempt to determine if individual TPH constituents were present in the remaining soil of the excavation in sufficient quantities to present a threat to human health or the environment. Laboratory analytical results are presented in Attachment A.

PMB 174, 269 Cypresswood, Spring Texas 77388
Phone 281-353-2069 Facsimile 281-825-0024

The attached Table 2 presents the results of additional laboratory analysis performed onsite for the sample at 40 feet bgs. Comparisons are presented between observed concentrations and USEPA Primary Drinking Water Standards, New Mexico WQCC Groundwater Standards, and Texas Natural Resource Conservation Commission (TNRCC) Permissible Contaminant Levels (PCLs) for Tier 1, Residential, Class 1 Groundwater.

As presented in Table 2, the **soil** concentrations of the contaminants of concern (COC) observed in the samples are all **below the MCLs or PCLs for Drinking Water**, where such MCls or PCLs have been determined or are available. Notice that, in addition, SPLP TPH concentrations, which measure the mobile TPH factions that are capable of being leached by precipitation and groundwater, have decreased with depth (26.64 mg/L at 30 feet bgs to 9.01 mg/L at 40 feet bgs). USEPA Primary Drinking Water Standards, New Mexico WQCC Ground Water Standards, and TNRCC PCLs for Tier 1, Class 1 Groundwater are presented in Attachment B.

The New Mexico Water Quality Control Commission has not established standards for soil concentrations determined to be protective of groundwater. However, the TNRCC, in their recently published Texas Risk Reduction Program (TRPP) has determined groundwater protective soil concentrations for the contaminants observed at this site. The attached Table 3 presents Tier 1, Class 1 Groundwater PCLs for Residential and Commercial/Industrial Facilities:

As presented in Table 3, TNRCC Tier 1, Class 1 groundwater protective soil concentrations for the COCs are a minimum of two orders of magnitude **greater** than the observed concentrations. TNRCC Tier 1 Soil PCLs are presented in Attachment B.

In light of the above information and depth of excavation, Equiva Services LLC respectfully requests that the New Mexico OCD concur with our assessment that the crude oil spill at the Penrose "A" Lease located in Lea County, New Mexico has been remediated to the point that the remaining contaminant levels do not present a threat to human health or the environment. In order to ensure that the remaining in place hydrocarbon impacted soil will not leach to the surrounding groundwater, Equiva proposes placing three feet of impervious clay at the bottom of the excavation. The remainder of the excavation will be backfilled with clean soils and brought up to grade. Upon completing the backfilling of the excavation, Equiva proposes installing a monitoring well through the center of the excavation to determine if the release has impacted groundwater. If groundwater has been impacted above regulatory limits, Equiva will work with your office and the landowner to reach a satisfactory remedy to the impact. Equiva Services appreciates any input the NMOCD has on this matter.

EQUIVA
SERVICES LLC
Shell, Texaco & Saudi Aramco Working Together

Thank you for your assistance and cooperation. If you have any questions or comments, please do not hesitate to call me at (281) 252-6917.

Sincerely
EQUIVA SERVICES LLC

Kyle Landreneau
Environmental Geologist
SHE/Science & Engineering

"Equiva Services LLC provides miscellaneous services, including environmental services, on behalf of its owners Motiva Enterprises LLC and Equilon Enterprises LLC, and on behalf of, Shell Oil Company, Star Enterprise and Texaco Inc."

Cc: Wayne Price-NMOCD Santa Fe
Roger Anderson-NMOCD Santa Fe
1220 South St. Francis Dr.
Santa Fe, New Mexico 87505

Jeffrey Kindley – Enercon Services, Inc
306 West Wall
Suite 1312
Midland Texas 79701

Leo Sims S&D Ranch Environmental Representative
814 West Marland Blvd.
Hobbs New Mexico 88240

PMB 174, 269 Cypresswood, Spring Texas 77388
Phone 281-353-2069 Facsimile 281-825-0024

TABLE 1
SOIL ANALYTICAL RESULTS
EQUIVA PENROSE EXCAVATION SITE
LEA COUNTY, NEW MEXICO

Sample Location	Date	Benzene (in mg/kg)	Toluene (in mg/kg)	Ethylbenzene (in mg/kg)	Xylenes (in mg/kg)	Total BTEX (in mg/kg)	TPH-Dro (in mg/kg)	TPH-Gro (in mg/kg)	TPH-Total (in mg/kg)	SPLP-TPH (in mg/L)
Southwall 15'	11/09/00	<0.05	<0.05	<0.05	<0.05	<0.05	65	<5.0	65	NS
Westwall 15'	11/09/00	<0.05	<0.05	<0.05	<0.05	<0.05	<50	<5.0	<50	NS
Eastwall 15'	11/09/00	<0.05	<0.05	<0.05	<0.05	<0.05	<50	<5.0	<50	NS
Northwall 15'	11/09/00	<0.05	<0.05	<0.05	<0.05	<0.05	<50	<5.0	<50	NS
Bottom 20'	11/09/00	<0.05	2.11	9.95	8.63	20.7	2,699	341	3,040*	NS
Bottom 30'	11/14/00	<0.005	<0.005	3.43	5.72	9.15	1,330	4,510	5,840*	26.64
Bottom 40'	11/17/00	<0.020	<0.020	8.50	16.10	24.60	1,580	3,900	5,480*	9.01
NMOCD Rankings		10	NA	NA	NA	50	NA	NA	1,000	NA

ND = Not detected NS = Not sampled NA = Not available
* Exceeds current NMOCD standards.

TABLE 2
OBSERVED SOIL CONCENTRATIONS vs. GROUNDWATER STANDARDS
EQUIVA PENROSE EXCAVATION SITE
LEA COUNTY, NEW MEXICO

Bottom Sample 40 foot depth	Observed Concentration (in mg/Kg)	USEPA Primary Drinking Water Standards (in mg/L)	New Mexico WQCC Groundwater Standards (in mg/L)	TNRCC Permissable Contaminant Levels (in mg/Kg)
TPH				
DRO	1,580	NA	NA	NA
GRO	3,900	NA	NA	NA
SPLP TPH	9.01	NA	NA	NA
VOLATILES (VOCs)				
Naphthalene	0.1260	NA	NA	0.490
Isopropylbenzene	0.0593	NA	NA	NA
n-Propylbenzene	0.0926	NA	NA	NA
1,3,5-Trimethylbenzene*	0.5420	NA	NA	NA*
1,2,4-Trimethylbenzene*	0.4250	NA	NA	NA*
sec-Butylbenzene	0.3510	NA	NA	NA
p-Isopropyltoluene	0.3590	NA	NA	NA
n-Butylbenzene	0.4440	NA	NA	NA
Total Xylenes	0.0853	10.0	NA	10.0
Polycyclic Aromatic Hydrocarbons (PAHs)	ND	NA	NA	NA

NA-Not available ND-Not detected

* PCLs for 1,2,4- and 1,3, 5 Trimethylbenzene are undetermined: however a PCL of 1.000 mg/Kg has been determined for 1,2, 3 Trimethylbenzene

TABLE 3
OBSERVED SOIL CONCENTRATIONS vs.TNRCC GROUNDWATER PROTECTIVE SOIL CONCENTRATIONS
(RESIDENTIAL AND COMMERCIAL/INDUSTRIAL)
EQUIVA PENROSE EXCAVATION SITE
LEA COUNTY, NEW MEXICO

Contaminant	Observed Concentration (in mg/Kg)	Groundwater Protective PCL Residential (in mg/Kg)	Groundwater Protective PCL Commercial/Industrial (in mg/Kg)
Naphthalene	0.1260	31.00	93.00
Isopropylbenzene	0.0593	NA	NA
n-Propylbenzene	0.0926	NA	NA
1,3,5-Trimethylbenzene	0.5420	NA	NA
1,2,4-Trimethylbenzene	0.4250	NA	NA
sec-Butylbenzene	0.3510	NA	NA
p-Isopropyltoluene	0.3590	NA	NA
n-Butylbenzene	0.4440	NA	NA
Total Xylenes	0.0853	120.00	120.00

NA-Not available

* PCLs for 1,2,4- and 1,3, 5 Trimethylbenzene are undetermined: however a PCL of 26.000 mg/Kg has been determined for 1,2, 3 Trimethylbenzene

CARDINAL LABORATORIES, INC.

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(915) 673-7001 Fax (915) 673-7020 (505) 393-2326 Fax (505) 393-2476

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page____ of____

Company Name:	ENERCON Services	**BILL TO**	
Project Manager:	Jeff Kindley	P.O. #:	
Address:	306 W. Wall Suite 1312	Company:	SAME
City:	Midland State: TX Zip: 79701	Attn:	
Phone #:	915-570-8726 Fax #:	Address:	
Project #:	ES-533 Project Owner: Equiva Services	City:	
Project Name:	Penrose	State: Zip:	
Project Location:	Eunice, New Mexico	Phone #:	
Sampler Name:	Jeffy Kindley	Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: SPLP-TPH Method 1312	BTEX	TPH DRO/GRO 8015
H23441	Bottom 30'	G	1			✓					✓		11/14/00	1430		✓	✓
	Bottom 30'	G	2			✓					✓		11/14/00	1430	✓		

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Sampler Relinquished: Jeffy Kindley	Date: 11/14/00 Time: 1604	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: 11/14/00 Time:	Received By: (Lab Staff)	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition: Cool ☑ Yes ☐ No; Intact ☐ Yes ☐ No	CHECKED BY: (Initials)	REMARKS: 24-hrs

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ANALYTICAL RESULTS FOR
ENERCON SERVICES
ATTN: JEFF KINDLEY
306 W. WALL, SUITE 1312
MIDLAND, TX 79701
FAX TO: (915) 631-6591

Receiving Date: 11/14/00
Reporting Date: 11/16/00
Project Number: ES-533 (EQUIVON SERVICES)
Project Name: PENROSE
Project Location: EUNICE, NM

Sampling Date: 11/14/00
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C_{10}-C_{28}) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		11/14/00	11/14/00	11/15/00	11/15/00	11/15/00	11/15/00
H5344-1	BOTTOM 30'	1330	4510	<0.005	<0.005	3.43	5.72
Quality Control		787	804	0.094	0.095	0.087	0.266
True Value QC		800	800	0.100	0.100	0.100	0.300
% Recovery		98.3	100	93.8	94.7	87.2	88.6
Relative Percent Difference		7.7	0.9	1.4	3.8	0.5	2.8

METHODS: TPH GRO & DRO - EPASW-846 8015 M; BTEX - SW-846 8260.

Burgess J. A. Cooke, Ph. D.

11/16/00
Date

H5344.XLS

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ANALYTICAL RESULTS FOR
ENERCON SERVICES
ATTN: JEFF KINDLEY
306 W. WALL, SUITE 1312
MIDLAND, TX 79701
FAX TO: (915) 684-7587

Receiving Date: 11/14/00
Reporting Date: 11/21/00
Project Number: ES-533 (EQUIVON SERVICES)
Project Name: PENROSE
Project Location: EUNICE, NM

Sampling Date: 11/14/00
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/L)	DRO (>C_{10}-C_{28}) (mg/L)
ANALYSIS DATE:		11/18/00	11/18/00
H5344-1	BOTTOM 30'	5.24	21.4
Quality Control		9.32	10.8
True Value QC		10.0	10.0
% Recovery		93.2	108
Relative Percent Difference		11.3	2.3

METHOD: SW-846 1312, 8015 M

Chemist

11/21/00
Date

H5344T.XLS

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name:	Enron Services Inc.	BILL TO	
Project Manager:	Jeffrey Kindley	P.O. #:	
Address:	306 West Wall, Suite 1312	Company:	Same
City:	Midland State: TX Zip: 79701	Attn:	
Phone #:	(915) 570-8726 Fax #: (915) 684-7587	Address:	
Project #:	ES-533 Project Owner: Equiva Services	City:	
Project Name:	Penrose	State: Zip:	
Project Location:	Eunice, Lea County, New Mexico	Phone #:	
Sampler Name:	Jeffy Kindley	Fax #:	

FOR LAB USE ONLY				MATRIX						PRESERV.			SAMPLING		ANALYSIS REQUEST													
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER :	ACID/BASE:	ICE / COOL	OTHER :	DATE	TIME	SPLP TPH 1312		Cl - Versa Enron	Jeff - Fax										
H5359-1	Bottom 40'	C	2			✓							11/17/00	1400	✓		✓											

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Sampler Relinquished:	Date: 11/17/00 Time: 1500	Received By:	
Relinquished By:	Date: 11-17-00 Time: 2:55	Received By: (Lab Staff)	Amy Hill
Delivered By: (Circle One) Sampler - UPS - Bus - Other:		Sample Condition Cool: ☒ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials)

Phone Result: ☐ Yes ☐ No Add'l Phone #:
Fax Result: ☐ Yes ☐ No Add'l Fax #:

REMARKS:

As soon as possible.

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ANALYTICAL RESULTS FOR
ENERCON SERVICES, INC.
ATTN: JEFFREY KINDLEY
306 W. WALL, STE. 1312
MIDLAND, TX 79701
FAX TO: (915) 684-7587

Receiving Date: 11/17/00
Reporting Date: 12/04/00
Project Number: ES-533
Project Name: PENROSE
Project Location: EUNICE, LEA COUNTY, NM

Analysis Date: 12/01/00
Sampling Date: 11/17/00
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: AH

LAB NUMBER	SAMPLE ID	Cl^- (mg/Kg)
H5359-1	BOTTOM 40'	66
Quality Control		1025
True Value QC		1000
% Recovery		103
Relative Percent Difference		4.1

METHOD: Standard Methods	4500-Cl⁻B

NOTE: Analysis performed on a 1:4 w:v aqueous extract.

Chemist

12/04/2000
Date

H5359C.XLS

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page____ of ____

Company Name:	Enercon Services Inc	BILL TO	
Project Manager:	Jeffrey Kindley	P.O. #:	
Address:	306 West Wall Suite 1312	Company:	
City:	Midland State: TX Zip: 79701	Attn:	
Phone #:	(915) 570-8726 Fax #:	Address:	
Project #:	ES-533 Project Owner: Equiva Servi	City:	
Project Name:	Penrose	State: Zip:	
Project Location:	Eunice, N.M.	Phone #:	
Sampler Name:	Jeffrey Kindley	Fax #:	

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST: TPH 8015 (DRO/GRO)	BTEX
H5354	Bottom 40'	G	1			✓							11/16/00	14:30	✓	✓

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Sampler Relinquished: Jeffrey Kindley	Date: 11/16/00 Time: 1600	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: Time:	Received By: (Lab Staff) Burgess A. Cooke	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: ☑ Yes ☐ No Intact: ☑ Yes ☐ No	CHECKED BY: (Initials)	REMARKS:

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ANALYTICAL RESULTS FOR
ENERCON SERVICES
ATTN: JEFF KINDLEY
306 W. WALL, SUITE 1312
MIDLAND, TX 79701
FAX TO: (915) 684-7587

Receiving Date: 11/16/00
Reporting Date: 11/21/00
Project Number: ES-533 (EQUIVON SERVICES)
Project Name: PENROSE
Project Location: EUNICE, LEA COUNTY, NM

Sampling Date: 11/16/00
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: BC
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/Kg)	DRO (>C_{10}-C_{28}) (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL BENZENE (mg/Kg)	TOTAL XYLENES (mg/Kg)
ANALYSIS DATE:		11/17/00	11/17/00	11/17/00	11/17/00	11/17/00	11/17/00
H5354-1	BOTTOM 40'	1580	3900	<0.020	<0.020	8.50	16.1
Quality Control		888	1011	0.088	0.102	0.103	0.310
True Value QC		1000	1000	0.100	0.100	0.100	0.300
% Recovery		88.8	101	87.6	102	103	103
Relative Percent Difference		9.6	4.2	7.1	7.2	15.6	14.1

METHODS: TPH GRO & DRO - EPASW-846 8015 M; BTEX - SW-846 8260.

Burgess J. A. Cooke, Ph. D.

11/21/00
Date

H5354.XLS

CARDINAL LABORATORIES, INC.

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

Page 1 of 1

Company Name:	Enercon Services Inc.	BILL TO	
Project Manager:	Jeffrey Kindley	P.O. #:	
Address:	306 West Wall, Suite 1312	Company:	Same
City:	Midland State: TX Zip: 79701	Attn:	
Phone #:	(915) 570-8726 Fax #: (915) 684-7587	Address:	
Project #:	ES-533 Project Owner: Equive Services	City:	
Project Name:	Penrose	State: Zip:	
Project Location:	Eunice, Lea County, New Mexico	Phone #:	
Sampler Name:	Jeffrey Kindley	Fax #:	

ANALYSIS REQUEST: SPLP TPH 1312

FOR LAB USE ONLY Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX: GROUNDWATER	WASTEWATER	SOIL	CRUDE OIL	SLUDGE	OTHER :	PRESERV.: ACID/BASE:	ICE / COOL	OTHER :	SAMPLING: DATE	TIME	ANALYSIS REQUEST
H5359-1	Bottom 40'	C	2			✓							11/17/00	1400	✓

PLEASE NOTE: Liability and Damages. Cardinal's liability and client's exclusive remedy for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analyses. All claims including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

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Sampler Relinquished: Jeffrey Kindley	Date: 11/17/00 Time: 1500	Received By:	Phone Result: ☐ Yes ☐ No Add'l Phone #:
Relinquished By:	Date: 11-17-00 Time: 2:55	Received By: (Lab Staff) Amy Hill	Fax Result: ☐ Yes ☐ No Add'l Fax #:
Delivered By: (Circle One) Sampler - UPS - Bus - Other:	Sample Condition Cool: ☑ Yes ☐ No Intact: ☐ Yes ☐ No	CHECKED BY: (Initials)	REMARKS: As soon as possible.

† Cardinal cannot accept verbal changes. Please fax written changes to 505-393-2476.

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PHONE (505) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

ANALYTICAL RESULTS FOR
ENERCON SERVICES
ATTN: JEFF KINDLEY
306 W. WALL, SUITE 1312
MIDLAND, TX 79701
FAX TO: (915) 684-7587

Receiving Date: 11/17/00
Reporting Date: 11/21/00
Project Number: ES-533 (EQUIVON SERVICES)
Project Name: PENROSE
Project Location: EUNICE, LEA COUNTY, NM

Sampling Date: 11/17/00
Sample Type: SOIL
Sample Condition: COOL & INTACT
Sample Received By: AH
Analyzed By: BC

LAB NUMBER	SAMPLE ID	GRO (C_6-C_{10}) (mg/L)	DRO (>C_{10}-C_{28}) (mg/L)
ANALYSIS DATE:		11/18/00	11/18/00
H5359-1	BOTTOM 40'	<5.0	9.01
Quality Control		9.32	10.8
True Value QC		10.0	10.0
% Recovery		93.2	108
Relative Percent Difference		11.3	2.3

METHOD: SW-846 1312, 8015 M

Chemist

11/21/00
Date

H5359.XLS

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A0011008

Company Name: Enercon Services Inc. Phone #: (915) 570-8726

Address: (Street, City, Zip) 306 West Wall Suite 1312 Midland, Tx 79701 Fax #: (915) 684-7587

Contact Person: Jeffrey Kindley

Invoice to: (If different from above) Equiva Services Inc PMB 174 Spring, Texas 77388 Attn Kyle Landenwood 269 Cypresswood

Project #: ES-533 Project Name: Equiva Penrose

Project Location: Eunice, Lea County, New Mexico Sampler Signature: Jeffrey Kindley

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	$NaHSO_4$	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
158545	Southwall 15'	1	4oz		✓								✓		11/09/00	1100
46	Westwall 15'	1	4oz		✓								✓		11/09/00	1110
47	Eastwall 15'	1	4oz		✓								✓		11/09/00	1120
48	Northwall 15'	1	4oz		✓								✓		11/09/00	1130
49	Bottom 20'	1	4oz		✓								✓		11/09/00	1140

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	TPH 8015 mod. DRO/GRO			Turn Around Time if different from standard	Hold
	✓														✓				
	✓														✓				
	✓														✓				
	✓														✓				
	✓														✓				

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Jeffrey Kindley	November 9, 2000		Joe Ugarji	11/10/00	10:40
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: Vicki Chesser	11-10-00	10:00

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.

LAB COPY

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp 4 °

Log-in Review ns

REMARKS: 24-hr Turnaround 11/21/00

Carrier # UPS 1Z10882A6039

TRACEANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Equilon Pipeline Co.
Kyle Landreneau
PMB 174 269 CypressWood
Spring, Tx. 77388

Report Date: November 20, 2000

Order ID Number: A00111008

Project: ES-533
TA Job Code: Equiva Penrose
Casualty Code: Eunice ,Lea County New Mexico
Project Location: ES-533
Project Address:
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.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
158545	Southwall 15'	Soil	11/9/00	11:00	11/10/00
158546	Westwall 15'	Soil	11/9/00	11:10	11/10/00
158547	Eastwall 15'	Soil	11/9/00	11:20	11/10/00
158548	Northwall 15'	Soil	11/9/00	11:30	11/10/00
158549	Bottom 20'	Soil	11/9/00	11:40	11/10/00

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.

This report consists of a total of 9 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical and Quality Control Report

Sample: 158545 - Southwall 15'

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC06653	Date Analyzed:	11/17/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB05840	Date Prepared:	11/17/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.05	mg/Kg	50	0.001
Toluene		<0.05	mg/Kg	50	0.001
Ethylbenzene		<0.05	mg/Kg	50	0.001
M,P,O-Xylene		<0.05	mg/Kg	50	0.001
Total BTEX		<0.05	mg/Kg	50	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		4.49	mg/Kg	50	0.10	89	72 - 128
4-BFB		4.7	mg/Kg	50	0.10	94	72 - 128

Sample: 158545 - Southwall 15'

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	QC Batch:	QC06646	Date Analyzed:	11/14/00
Analyst:	BP	Preparation Method:	3550 B	Prep Batch:	PB05835	Date Prepared:	11/14/00

Param	Flag	Result	Units	Dilution	RDL
DRO		65	mg/Kg	1	50

Sample: 158545 - Southwall 15'

Analysis:	TPH GRO	Analytical Method:	8015B	QC Batch:	QC06654	Date Analyzed:	11/17/00
Analyst:	RC	Preparation Method:	N/A	Prep Batch:	PB05841	Date Prepared:	11/17/00

Param	Flag	Result	Units	Dilution	RDL
GRO		<5	mg/Kg	1	0.10

Sample: 158546 - Westwall 15'

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC06653	Date Analyzed:	11/17/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB05840	Date Prepared:	11/17/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.05	mg/Kg	50	0.001
Toluene		<0.05	mg/Kg	50	0.001
Ethylbenzene		<0.05	mg/Kg	50	0.001
M,P,O-Xylene		<0.05	mg/Kg	50	0.001
Total BTEX		<0.05	mg/Kg	50	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		4.64	mg/Kg	50	0.10	92	72 - 128
4-BFB		4.74	mg/Kg	50	0.10	94	72 - 128

Sample: 158546 - Westwall 15'

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	QC Batch:	QC06646	Date Analyzed:	11/14/00
Analyst:	BP	Preparation Method:	3550 B	Prep Batch:	PB05835	Date Prepared:	11/14/00

Param	Flag	Result	Units	Dilution	RDL
DRO		<50	mg/Kg	1	50

Sample: 158546 - Westwall 15'

Analysis:	TPH GRO	Analytical Method:	8015B	QC Batch:	QC06654	Date Analyzed:	11/17/00
Analyst:	RC	Preparation Method:	N/A	Prep Batch:	PB05841	Date Prepared:	11/17/00

Param	Flag	Result	Units	Dilution	RDL
GRO		<5	mg/Kg	1	0.10

Sample: 158547 - Eastwall 15'

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC06653	Date Analyzed:	11/17/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB05840	Date Prepared:	11/17/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.05	mg/Kg	50	0.001
Toluene		<0.05	mg/Kg	50	0.001
Ethylbenzene		<0.05	mg/Kg	50	0.001
M,P,O-Xylene		<0.05	mg/Kg	50	0.001
Total BTEX		<0.05	mg/Kg	50	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		4.41	mg/Kg	50	0.10	88	72 - 128
4-BFB		4.83	mg/Kg	50	0.10	96	72 - 128

Sample: 158547 - Eastwall 15'

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	QC Batch:	QC06646	Date Analyzed:	11/14/00
Analyst:	BP	Preparation Method:	3550 B	Prep Batch:	PB05835	Date Prepared:	11/14/00

Param	Flag	Result	Units	Dilution	RDL
DRO		<50	mg/Kg	1	50

Sample: 158547 - Eastwall 15'

Analysis:	TPH GRO	Analytical Method:	8015B	QC Batch:	QC06654	Date Analyzed:	11/17/00
Analyst:	RC	Preparation Method:	N/A	Prep Batch:	PB05841	Date Prepared:	11/17/00

Param	Flag	Result	Units	Dilution	RDL
GRO		<5	mg/Kg	1	0.10

Sample: 158548 - Northwall 15'

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC06653	Date Analyzed:	11/17/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB05840	Date Prepared:	11/17/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.05	mg/Kg	50	0.001
Toluene		<0.05	mg/Kg	50	0.001
Ethylbenzene		<0.05	mg/Kg	50	0.001
M,P,O-Xylene		<0.05	mg/Kg	50	0.001
Total BTEX		<0.05	mg/Kg	50	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		4.42	mg/Kg	50	0.10	88	72 - 128
4-BFB		4.47	mg/Kg	50	0.10	89	72 - 128

Sample: 158548 - Northwall 15'

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	QC Batch:	QC06646	Date Analyzed:	11/14/00
Analyst:	BP	Preparation Method:	3550 B	Prep Batch:	PB05835	Date Prepared:	11/14/00

Param	Flag	Result	Units	Dilution	RDL
DRO		<50	mg/Kg	1	50

Sample: 158548 - Northwall 15'

Analysis:	TPH GRO	Analytical Method:	8015B	QC Batch:	QC06654	Date Analyzed:	11/17/00
Analyst:	RC	Preparation Method:	N/A	Prep Batch:	PB05841	Date Prepared:	11/17/00

Param	Flag	Result	Units	Dilution	RDL
GRO		<5	mg/Kg	1	0.10

Sample: 158549 - Bottom 20'

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC06653	Date Analyzed:	11/17/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB05840	Date Prepared:	11/17/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.05	mg/Kg	50	0.001
Toluene		2.11	mg/Kg	50	0.001
Ethylbenzene		9.95	mg/Kg	50	0.001

Continued ...

... *Continued* Sample: 158549 Analysis: BTEX

Param	Flag	Result	Units	Dilution	RDL
M,P,O-Xylene		8.63	mg/Kg	50	0.001
Total BTEX		20.7	mg/Kg	50	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		3.84	mg/Kg	50	0.10	76	72 - 128
4-BFB		6.02	mg/Kg	50	0.10	120	72 - 128

Sample: 158549 - Bottom 20'

Analysis:	TPH DRO	Analytical Method:	Mod. 8015B	QC Batch:	QC06646	Date Analyzed:	11/14/00
Analyst:	BP	Preparation Method:	3550 B	Prep Batch:	PB05835	Date Prepared:	11/14/00

Param	Flag	Result	Units	Dilution	RDL
DRO		2699	mg/Kg	1	50

Sample: 158549 - Bottom 20'

Analysis:	TPH GRO	Analytical Method:	8015B	QC Batch:	QC06654	Date Analyzed:	11/17/00
Analyst:	RC	Preparation Method:	N/A	Prep Batch:	PB05841	Date Prepared:	11/17/00

Param	Flag	Result	Units	Dilution	RDL
GRO		341	mg/Kg	1	0.10

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC06653

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.05	mg/Kg	0.001
Toluene		<0.05	mg/Kg	0.001
Ethylbenzene		<0.05	mg/Kg	0.001
M,P,O-Xylene		<0.05	mg/Kg	0.001
Total BTEX		<0.05	mg/Kg	0.001

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
TFT		4.78	mg/Kg	0.10	95	72 - 128
4-BFB		4.79	mg/Kg	0.10	95	72 - 128

Sample: Method Blank QCBatch: QC06654

Param	Flag	Results	Units	Reporting Limit
GRO		<5	mg/Kg	0.10

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC06653

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		4.95	mg/Kg	50	0.10	<0.05	99	0	80 - 120	20
Benzene		4.84	mg/Kg	50	0.10	<0.05	96	2	80 - 120	20
Toluene		4.79	mg/Kg	50	0.10	<0.05	95	2	80 - 120	20
Ethylbenzene		4.75	mg/Kg	50	0.10	<0.05	95	1	80 - 120	20
M,P,O-Xylene		13.5	mg/Kg	50	0.30	<0.05	90	2	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		4.83	mg/Kg	50	0.10	96	72 - 128
4-BFB		4.78	mg/Kg	50	0.10	95	72 - 128

Sample: LCSD QC Batch: QC06653

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		5.1	mg/Kg	50	0.10	<0.05	102	3	80 - 120	20
Benzene		5.06	mg/Kg	50	0.10	<0.05	101	4	80 - 120	20
Toluene		5	mg/Kg	50	0.10	<0.05	100	4	80 - 120	20
Ethylbenzene		4.96	mg/Kg	50	0.10	<0.05	99	4	80 - 120	20
M,P,O-Xylene		14.1	mg/Kg	50	0.30	<0.05	94	4	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		4.91	mg/Kg	50	0.10	98	72 - 128
4-BFB		4.81	mg/Kg	50	0.10	96	72 - 128

Sample: LCS QC Batch: QC06654

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
GRO		0.94	mg/Kg	1	1	<5	94		70 - 130	20

Sample: LCSD QC Batch: QC06654

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
GRO		0.934	mg/Kg	1	1	<5	93	1	70 - 130	20

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC06653

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Benzene		5.17	mg/Kg	50	0.10	<0.05	103	4	80 - 120	20
Toluene		5.27	mg/Kg	50	0.10	0.299	99	4	80 - 120	20
Ethylbenzene		5.14	mg/Kg	50	0.10	0.36	95	4	80 - 120	20
M,P,O-Xylene		13.8	mg/Kg	50	0.30	0.762	86	4	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		4.32	mg/Kg	50	0.10	86	72 - 128
4-BFB		4.11	mg/Kg	50	0.10	82	72 - 128

Sample: MSD QC Batch: QC06653

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Benzene		4.88	mg/Kg	50	0.10	<0.05	97	6	80 - 120	20
Toluene		4.95	mg/Kg	50	0.10	0.299	93	7	80 - 120	20
Ethylbenzene		4.68	mg/Kg	50	0.10	0.36	86	10	80 - 120	20
M,P,O-Xylene		12.5	mg/Kg	50	0.30	0.762	78	10	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		4.45	mg/Kg	50	0.10	89	72 - 128

Continued ...

... Continued

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
4-BFB		4.17	mg/Kg	50	0.10	83	72 - 128

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC06646

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	271	108	75 - 125	11/14/00

Sample: ICV (1) QC Batch: QC06646

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	284	113	75 - 125	11/14/00

Sample: CCV (1) QC Batch: QC06653

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.10	0.099	99	80 - 120	11/17/00
Toluene		mg/Kg	0.10	0.099	99	80 - 120	11/17/00
Ethylbenzene		mg/Kg	0.10	0.097	97	80 - 120	11/17/00
M,P,O-Xylene		mg/Kg	0.30	0.276	92	80 - 120	11/17/00

Sample: CCV (2) QC Batch: QC06653

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.10	0.092	92	80 - 120	11/17/00
Toluene		mg/Kg	0.10	0.092	92	80 - 120	11/17/00
Ethylbenzene		mg/Kg	0.10	0.09	90	80 - 120	11/17/00
M,P,O-Xylene		mg/Kg	0.30	0.254	84	80 - 120	11/17/00

Sample: ICV (1) QC Batch: QC06653

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.10	0.099	99	80 - 120	11/17/00
Toluene		mg/Kg	0.10	0.098	98	80 - 120	11/17/00
Ethylbenzene		mg/Kg	0.10	0.097	97	80 - 120	11/17/00
M,P,O-Xylene		mg/Kg	0.30	0.275	91	80 - 120	11/17/00

Sample: CCV (1) QC Batch: QC06654

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.922	92	75 - 125	11/17/00

Sample: ICV (1) QC Batch: QC06654

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.968	96	75 - 125	11/17/00

1602335

Page 1 of 1

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El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A0012081 9

Company Name: Enercon Services Inc
Phone #: 915-570-8726

Address: (Street, City, Zip) 306 West Wall, Suite 1312, Midland, Tx 79701
Fax #: 915-684-7587

Contact Person: Jeffrey Kindley

Invoice to: (If different from above) Eeviva Services Attn: Kyle Landerman PMB 174 269 Cypresswood Spring, TX 77388

Project #: ES-533
Project Name: Penrose

Project Location: Eunice, Lea County New Mexico
Sampler Signature: Jeffrey Kindley

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE		PRESERVATIVE METHOD: HCL	HNO3	$NaHSO_4$	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
160335	Bottom 40'	2	8oz		✓										✓	12/0[illegible]	1300

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	PAH	~~Volatiles~~	SPLP SVOL	Turn Around Time if different from standard	Hold
															✓	✓	✓		

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Jeffrey Kindley	12/07/00	1345	Helen Shelton	12/07/00	1345
Helen Shelton	12/07/00	1845			
			Received at Laboratory by: Vicki Neisly	12·8·00	10:00

LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp 3 °
Log-in Review TNS

REMARKS: Rush 12/18/00
8260 already run when cancelled 12/11/00

Carrier # Greyhound 64-1403-573-4274

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C. 2 samples - HS

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TRACE ANALYSIS, INC.

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4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

December 18, 2000

ANALYTICAL RESULTS FOR
EQUILON PIPELINE CO.
Attention: Kyle Landreneau
PMB 174 269 Cypresswood
Spring, TX 77388

Project: ES-533

Receiving Date: 12/08/2000
Sample Type: Soil
Project Loc.: ES-533
TA Job Code: Equiva Penrose
Casualty Code: Eunice, Lea County, NM
Sampling Date: 12/06/2000
Sample Condition: I & C
Sample Received by: VH
Extraction Date: 12/13/00
Analysis Date: 12/14/2000

SPLP PAH Reporting T160335

8270 Compounds (mg/L)	Limit	Bottom 40'	QC	RPD	%EA	%IA
Naphthalene	0.005	ND	59.31	2	102	99
Acenaphthylene	0.005	ND	59.09	2	102	98
Acenaphthene	0.005	ND	59.37	0	102	99
Fluorene	0.005	ND	55.45	1	101	92
Phenanthrene	0.005	ND	58.77	0	100	98
Anthracene	0.005	ND	59.87	1	101	100
Fluoranthene	0.005	ND	55.60	5	105	93
Pyrene	0.005	ND	66.40	5	105	111
Benzo[a]anthracene	0.005	ND	59.80	11	111	100
Chrysene	0.005	ND	55.03	6	107	92
Benzo[b]fluoranthene	0.005	ND	59.32	1	101	99
Benzo[k]fluoranthene	0.005	ND	62.25	6	106	104
Benzo[a]pyrene	0.005	ND	60.12	1	101	100
Indeno[1,2,3-cd]pyrene	0.005	ND	61.88	1	101	103
Dibenz[a,h]anthracene	0.005	ND	61.59	0	100	103
Benzo[g,h,i]perylene	0.005	ND	63.61	1	101	106

ND = Not Detected

SURROGATES	% RECOVERY
Nitrobenzene-d5 SURR	69
2-Fluorobiphenyl SURR	62
Terphenyl-d14 SURR	71

METHODS: EPA SW 846-1312, 8270C.
CHEMIST: MA

12-18-00

Director, Dr. Blair Leftwich DATE

TRACEANALYSIS, INC.

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Analytical and Quality Control Report

Equilon Pipeline Co.
Kyle Landreneau
PMB 174 269 CypressWood
Spring, Tx. 77388

Report Date: December 18, 2000

Order ID Number: A00120819

Project: ES-533
TA Job Code: Equiva Penrose
Casualty Code: Eunice ,Lea County New Mexico
Project Location: ES-533
Project Address:
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.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
160335	Bottom 40'	Soil	12/6/00	13:00	12/8/00

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.

This report consists of a total of 6 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical and Quality Control Report

Sample: 160335 - Bottom 40'

Analysis:	PAH	Analytical Method:	S 8270C	QC Batch:	QC07357	Date Analyzed:	12/13/00
Analyst:	MA	Preparation Method:	E 3510C	Prep Batch:	PB06413	Date Prepared:	12/11/00

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		61.90	mg/Kg	1	80	77	27 - 115
2-Fluorobiphenyl		52.63	mg/Kg	1	80	65	31 - 132
Terphenyl-d14		55.35	mg/Kg	1	80	69	12 - 167

Quality Control Report
Method Blank

Sample: Method Blank

QCBatch: QC07357

Param	Flag	Results	Units	Reporting Limit
Naphthalene		<0.25	mg/Kg	0.25
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

Continued ...

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Param	Flag	Results	Units	Reporting Limit
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	Spike Amount	Percent Recovery	Recovery Limit
Nitrobenzene-d5		66.32	mg/Kg	80	82	27 - 115
2-Fluorobiphenyl		64.00	mg/Kg	80	80	31 - 132
Terphenyl-d14		77.05	mg/Kg	80	96	12 - 167

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Sample: LCS

QC Batch: QC07357

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Naphthalene		49.35	mg/Kg	1	80	<0.25	61		23 - 124	20
Acenaphthylene		54.16	mg/Kg	1	80	<0.25	67		34 - 135	20
Acenaphthene		55.69	mg/Kg	1	80	<0.25	69		31 - 131	20
Fluorene		62.47	mg/Kg	1	80	<0.25	78		36 - 132	20
Phenanthrene		63.76	mg/Kg	1	80	<0.25	79		31 - 138	20
Anthracene		61.23	mg/Kg	1	80	<0.25	76		24 - 141	20
Fluoranthene		69.32	mg/Kg	1	80	<0.25	86		22 - 153	20
Pyrene		61.09	mg/Kg	1	80	<0.25	76		22 - 147	20
Benzo(a)anthracene		63.61	mg/Kg	1	80	<0.25	79		41 - 127	20
Chrysene		94.59	mg/Kg	1	80	<0.25	118		0 - 182	20
Benzo(b)fluoranthene		73.36	mg/Kg	1	80	<0.25	91		40 - 131	20
Benzo(k)fluoranthene		70.19	mg/Kg	1	80	<0.25	87		35 - 133	20
Benzo(a)pyrene		73.36	mg/Kg	1	80	<0.25	91		53 - 117	20
Indeno(1,2,3-cd)pyrene		73.40	mg/Kg	1	80	<0.25	91		30 - 130	20
Dibenzo(a,h)anthracene		74.98	mg/Kg	1	80	<0.25	93		0 - 184	20
Benzo(g,h,i)perylene		74.20	mg/Kg	1	80	<0.25	92		41 - 123	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Nitrobenzene-d5		46.87	mg/Kg	1	80	58	27 - 115
2-Fluorobiphenyl		48.06	mg/Kg	1	80	60	31 - 132
Terphenyl-d14		58.71	mg/Kg	1	80	73	12 - 167

Sample: LCSD

QC Batch: QC07357

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Naphthalene		48.42	mg/Kg	1	80	<0.25	60	2	23 - 124	20
Acenaphthylene		54.01	mg/Kg	1	80	<0.25	67	0	34 - 135	20
Acenaphthene		55.37	mg/Kg	1	80	<0.25	69	0	31 - 131	20
Fluorene		62.41	mg/Kg	1	80	<0.25	78	0	36 - 132	20
Phenanthrene		63.26	mg/Kg	1	80	<0.25	79	1	31 - 138	20
Anthracene		61.02	mg/Kg	1	80	<0.25	76	0	24 - 141	20
Fluoranthene		65.01	mg/Kg	1	80	<0.25	81	6	22 - 153	20
Pyrene		65.56	mg/Kg	1	80	<0.25	81	7	22 - 147	20
Benzo(a)anthracene		63.97	mg/Kg	1	80	<0.25	79	0	41 - 127	20
Chrysene		93.44	mg/Kg	1	80	<0.25	116	1	0 - 182	20
Benzo(b)fluoranthene		73.90	mg/Kg	1	80	<0.25	92	1	40 - 131	20
Benzo(k)fluoranthene		74.58	mg/Kg	1	80	<0.25	93	6	35 - 133	20
Benzo(a)pyrene		74.97	mg/Kg	1	80	<0.25	93	2	53 - 117	20
Indeno(1,2,3-cd)pyrene		70.17	mg/Kg	1	80	<0.25	87	4	30 - 130	20
Dibenzo(a,h)anthracene		66.91	mg/Kg	1	80	<0.25	83	11	0 - 184	20
Benzo(g,h,i)perylene		69.14	mg/Kg	1	80	<0.25	86	7	41 - 123	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Nitrobenzene-d5		46.01	mg/Kg	1	80	57	27 - 115
2-Fluorobiphenyl		48.17	mg/Kg	1	80	60	31 - 132
Terphenyl-d14		62.29	mg/Kg	1	80	77	12 - 167

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS QC Batch: QC07357

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Naphthalene		47.24	mg/Kg	1	80	<0.25	59		23 - 124	20
Acenaphthylene		52.12	mg/Kg	1	80	<0.25	65		34 - 135	20
Acenaphthene		51.63	mg/Kg	1	80	<0.25	64		31 - 131	20
Fluorene		57.90	mg/Kg	1	80	<0.25	72		36 - 132	20
Phenanthrene		55.90	mg/Kg	1	80	<0.25	69		31 - 138	20
Anthracene		53.58	mg/Kg	1	80	<0.25	66		24 - 141	20
Fluoranthene		71.30	mg/Kg	1	80	<0.25	89		22 - 153	20
Pyrene		50.46	mg/Kg	1	80	<0.25	63		22 - 147	20
Benzo(a)anthracene		55.68	mg/Kg	1	80	<0.25	69		41 - 127	20
Chrysene		72.83	mg/Kg	1	80	<0.25	91		0 - 182	20
Benzo(b)fluoranthene		67.07	mg/Kg	1	80	<0.25	83		40 - 131	20
Benzo(k)fluoranthene		55.53	mg/Kg	1	80	<0.25	69		35 - 133	20
Benzo(a)pyrene		65.81	mg/Kg	1	80	<0.25	82		53 - 117	20
Indeno(1,2,3-cd)pyrene		68.42	mg/Kg	1	80	<0.25	85		30 - 130	20
Dibenzo(a,h)anthracene		61.52	mg/Kg	1	80	<0.25	76		0 - 184	20
Benzo(g,h,i)perylene		68.41	mg/Kg	1	80	<0.25	85		41 - 123	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Nitrobenzene-d5		45.79	mg/Kg	1	80	57	27 - 115
2-Fluorobiphenyl		45.95	mg/Kg	1	80	57	31 - 132
Terphenyl-d14		50.62	mg/Kg	1	80	63	12 - 167

Sample: MSD

QC Batch: QC07357

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Naphthalene		47.74	mg/Kg	1	80	<0.25	59	1	23 - 124	20
Acenaphthylene		52.57	mg/Kg	1	80	<0.25	65	1	34 - 135	20
Acenaphthene		52.03	mg/Kg	1	80	<0.25	65	1	31 - 131	20
Fluorene		57.78	mg/Kg	1	80	<0.25	72	0	36 - 132	20
Phenanthrene		55.98	mg/Kg	1	80	<0.25	69	0	31 - 138	20
Anthracene		54.08	mg/Kg	1	80	<0.25	67	1	24 - 141	20
Fluoranthene		69.45	mg/Kg	1	80	<0.25	86	3	22 - 153	20
Pyrene		53.42	mg/Kg	1	80	<0.25	66	6	22 147	20
Benzo(a)anthracene		56.11	mg/Kg	1	80	<0.25	70	1	41 - 127	20
Chrysene		72.48	mg/Kg	1	80	<0.25	90	0	0 - 182	20
Benzo(b)fluoranthene		63.89	mg/Kg	1	80	<0.25	79	5	40 - 131	20
Benzo(k)fluoranthene		57.37	mg/Kg	1	80	<0.25	71	3	35 - 133	20
Benzo(a)pyrene		64.80	mg/Kg	1	80	<0.25	81	2	53 - 117	20
Indeno(1,2,3-cd)pyrene		70.38	mg/Kg	1	80	<0.25	87	3	30 - 130	20
Dibenzo(a,h)anthracene		63.07	mg/Kg	1	80	<0.25	78	2	0 - 184	20
Benzo(g,h,i)perylene		67.33	mg/Kg	1	80	<0.25	84	2	41 - 123	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Nitrobenzene-d5		46.68	mg/Kg	1	80	58	27 - 115
2-Fluorobiphenyl		47.56	mg/Kg	1	80	59	31 - 132
Terphenyl-d14		53.03	mg/Kg	1	80	66	12 - 167

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1)

QC Batch: QC07357

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		mg/L	60	59.31	98	23 - 124	12/13/00
Acenaphthylene		mg/L	60	59.09	98	34 - 135	12/13/00
Acenaphthene		mg/L	60	59.37	98	31 - 131	12/13/00
Fluorene		mg/L	60	55.45	92	36 - 132	12/13/00
Phenanthrene		mg/L	60	58.77	97	31 - 138	12/13/00
Anthracene		mg/L	60	59.87	99	24 - 141	12/13/00
Fluoranthene		mg/L	60	55.60	92	22 - 153	12/13/00

Continued ...

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Pyrene		mg/L	60	66.40	110	22 - 147	12/13/00
Benzo(a)anthracene		mg/L	60	59.80	99	41 - 127	12/13/00
Chrysene		mg/L	60	55.03	91	0 - 182	12/13/00
Benzo(b)fluoranthene		mg/L	60	59.32	98	40 - 131	12/13/00
Benzo(k)fluoranthene		mg/L	60	62.25	103	35 - 133	12/13/00
Benzo(a)pyrene		mg/L	60	60.12	100	53 - 117	12/13/00
Indeno(1,2,3-cd)pyrene		mg/L	60	61.88	103	30 - 130	12/13/00
Dibenzo(a,h)anthracene		mg/L	60	61.59	102	0 - 184	12/13/00
Benzo(g,h,i)perylene		mg/L	60	63.61	106	41 - 123	12/13/00
Nitrobenzene-d5		mg/L	60	60.83	101	27 - 115	12/13/00
2-Fluorobiphenyl		mg/L	60	61.55	102	31 - 132	12/13/00
Terphenyl-d14		mg/L	60	64.17	106	12 - 167	12/13/00

TRACEANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Equilon Pipeline Co.
Kyle Landreneau
PMB 174 269 CypressWood
Spring, Tx. 77388

Report Date: December 18, 2000

Order ID Number: A00120819

Project: ES-533
TA Job Code: Equiva Penrose
Casualty Code: Eunice ,Lea County New Mexico
Project Location: ES-533
Project Address:
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.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
160335	Bottom 40'	Soil	12/6/00	13:00	12/8/00

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.

This report consists of a total of 7 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Analytical and Quality Control Report

Sample: 160335 - Bottom 40'

Analysis:	8260	Analytical Method:	S 8260B	QC Batch:	QC07349	Date Analyzed:	12/12/00
Analyst:	JG	Preparation Method:	E 5030B	Prep Batch:	PB06404	Date Prepared:	12/12/00

Param	Flag	Result	Units	Dilution	RDL
Bromochloromethane		<25.0	µg/Kg	25	1
Dichlorodifluoromethane		<25.0	µg/Kg	25	1
Chloromethane (methyl chloride)		<25.0	µg/Kg	25	1
Vinyl Chloride		<25.0	µg/Kg	25	1
Bromomethane (methyl bromide)		<25.0	µg/Kg	25	1
Chloroethane		<25.0	µg/Kg	25	1
Trichlorofluoromethane		<25.0	µg/Kg	25	1
Acetone		<250	µg/Kg	25	10
Iodomethane (methyl iodide)		<25.0	µg/Kg	25	1
Carbon Disulfide		<25.0	µg/Kg	25	1
Acrylonitrile		<25.0	µg/Kg	25	1
2-Butanone (MEK)		<125	µg/Kg	25	5
4-methyl-2-pentanone (MIBK)		<125	µg/Kg	25	5
2-hexanone		<125	µg/Kg	25	5
trans 1,4-Dichloro-2-butene		<250	µg/Kg	25	10
1.1-Dichloroethene		<25.0	µg/Kg	25	1
Methylene chloride		<125	µg/Kg	25	5
MTBE		<25.0	µg/Kg	25	1
trans-1,2-Dichloroethene		<25.0	µg/Kg	25	1
1,1-Dichloroethane		<25.0	µg/Kg	25	1
cis-1,2-dichloroethene		<25.0	µg/Kg	25	1
2,2-Dichloropropane		<25.0	µg/Kg	25	1
1,2-Dichloroethane (EDC)		<25.0	µg/Kg	25	1
Chloroform		<25.0	µg/Kg	25	1
1.1,1-Trichloroethane		<25.0	µg/Kg	25	1
1.1-Dichloropropene		<25.0	µg/Kg	25	1
Benzene		<25.0	µg/Kg	25	1
Carbon Tetrachloride		<25.0	µg/Kg	25	1
1,2-Dichloropropane		<25.0	µg/Kg	25	1
Trichloroethene (TCE)		<25.0	µg/Kg	25	1
Dibromomethane (methylene bromide)		<25.0	µg/Kg	25	1
Bromodichloromethane		<25.0	µg/Kg	25	1
2-Chloroethyl vinyl ether		<125	µg/Kg	25	5
cis-1,3-Dichloropropene		<25.0	µg/Kg	25	1
trans-1,3-Dichloropropene		<25.0	µg/Kg	25	1
Toluene		<25.0	µg/Kg	25	1
1,1,2-Trichloroethane		<25.0	µg/Kg	25	1
1,3-Dichloropropane		<25.0	µg/Kg	25	1
Dibromochloromethane		<25.0	µg/Kg	25	1
1,2-Dibromoethane (EDB)		<25.0	µg/Kg	25	1
Tetrachloroethene (PCE)		<25.0	µg/Kg	25	1
Chlorobenzene		<25.0	µg/Kg	25	1
1.1,1,2-Tetrachloroethane		<25.0	µg/Kg	25	1
Ethylbenzene		<25.0	µg/Kg	25	1
m,p-Xylene		35.4	µg/Kg	25	1
Bromoform		<25.0	µg/Kg	25	1
Styrene		<25.0	µg/Kg	25	1
o-Xylene		49.9	µg/Kg	25	1

Continued ...

... *Continued* Sample: 160335 Analysis: 8260

Param	Flag	Result	Units	Dilution	RDL
1,1,2,2-Tetrachloroethane		<25.0	µg/Kg	25	1
2-Chlorotoluene		<25.0	µg/Kg	25	1
1,2,3-Trichloropropane		<25.0	µg/Kg	25	1
Isopropylbenzene		59.3	µg/Kg	25	1
Bromobenzene		<25.0	µg/Kg	25	1
n-Propylbenzene		92.6	µg/Kg	25	1
1,3,5-Trimethylbenzene		542	µg/Kg	25	1
tert-Butylbenzene		<25.0	µg/Kg	25	1
1,2,4-Trimethylbenzene		425	µg/Kg	25	1
1,4-Dichlorobenzene (para)		<25.0	µg/Kg	25	1
sec-Butylbenzene		351	µg/Kg	25	1
1,3-Dichlorobenzene		<25.0	µg/Kg	25	1
p-Isopropyltoluene		359	µg/Kg	25	1
4-Chlorotoluene		<25.0	µg/Kg	25	1
1,2-Dichlorobenzene (ortho)		<25.0	µg/Kg	25	1
n-Butylbenzene		444	µg/Kg	25	1
1,2-Dibromo-3-chloropropane		<125	µg/Kg	25	5
1,2,3-Trichlorobenzene		<125	µg/Kg	25	5
1,2,4-Trichlorobenzene		<125	µg/Kg	25	5
Naphthalene		126	µg/Kg	25	1
Hexachlorobutadiene		<125	µg/Kg	25	5

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Dibromofluoromethane		52.99	µg/Kg	1	50	105	69 - 116
Toluene-d8		48.14	µg/Kg	1	50	96	88 - 114
4-Bromofluorobenzene	[1]	58.55	µg/Kg	1	50	117	74 - 110

Quality Control Report
Method Blank

Sample: Method Blank QCBatch: QC07349

Param	Flag	Results	Units	Reporting Limit
Bromochloromethane		<25.0	µg/Kg	1
Dichlorodifluoromethane		<25.0	µg/Kg	1
Chloromethane (methyl chloride)		<25.0	µg/Kg	1
Vinyl Chloride		<25.0	µg/Kg	1
Bromomethane (methyl bromide)		<25.0	µg/Kg	1
Chloroethane		<25.0	µg/Kg	1
Trichlorofluoromethane		<25.0	µg/Kg	1
Acetone		<250	µg/Kg	10
Iodomethane (methyl iodide)		<25.0	µg/Kg	1
Carbon Disulfide		<25.0	µg/Kg	1
Acrylonitrile		<25.0	µg/Kg	1
2-Butanone (MEK)		<125	µg/Kg	5

Continued ...

[1]surrogate out of control limits due to coelution with unknown hydrocarbons

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Param	Flag	Results	Units	Reporting Limit
4-methyl-2-pentanone (MIBK)		<125	µg/Kg	5
2-hexanone		<125	µg/Kg	5
trans 1,4-Dichloro-2-butene		<250	µg/Kg	10
1,1-Dichloroethene		<25.0	µg/Kg	1
Methylene chloride		<125	µg/Kg	5
MTBE		<25.0	µg/Kg	1
trans-1,2-Dichloroethene		<25.0	µg/Kg	1
1,1-Dichloroethane		<25.0	µg/Kg	1
cis-1,2-dichloroethene		<25.0	µg/Kg	1
2,2-Dichloropropane		<25.0	µg/Kg	1
1,2-Dichloroethane (EDC)		<25.0	µg/Kg	1
Chloroform		<25.0	µg/Kg	1
1,1,1-Trichloroethane		<25.0	µg/Kg	1
1,1-Dichloropropene		<25.0	µg/Kg	1
Benzene		<25.0	µg/Kg	1
Carbon Tetrachloride		<25.0	µg/Kg	1
1,2-Dichloropropane		<25.0	µg/Kg	1
Trichloroethene (TCE)		<25.0	µg/Kg	1
Dibromomethane (methylene bromide)		<25.0	µg/Kg	1
Bromodichloromethane		<25.0	µg/Kg	1
2-Chloroethyl vinyl ether		<125	µg/Kg	5
cis-1,3-Dichloropropene		<25.0	µg/Kg	1
trans-1,3-Dichloropropene		<25.0	µg/Kg	1
Toluene		<25.0	µg/Kg	1
1,1,2-Trichloroethane		<25.0	µg/Kg	1
1,3-Dichloropropane		<25.0	µg/Kg	1
Dibromochloromethane		<25.0	µg/Kg	1
1,2-Dibromoethane (EDB)		<25.0	µg/Kg	1
Tetrachloroethene (PCE)		<25.0	µg/Kg	1
Chlorobenzene		<25.0	µg/Kg	1
1,1,1,2-Tetrachloroethane		<25.0	µg/Kg	1
Ethylbenzene		<25.0	µg/Kg	1
m,p-Xylene		<25.0	µg/Kg	1
Bromoform		<25.0	µg/Kg	1
Styrene		<25.0	µg/Kg	1
o-Xylene		<25.0	µg/Kg	1
1,1,2,2-Tetrachloroethane		<25.0	µg/Kg	1
2-Chlorotoluene		<25.0	µg/Kg	1
1,2,3-Trichloropropane		<25.0	µg/Kg	1
Isopropylbenzene		<25.0	µg/Kg	1
Bromobenzene		<25.0	µg/Kg	1
n-Propylbenzene		<25.0	µg/Kg	1
1,3,5-Trimethylbenzene		<25.0	µg/Kg	1
tert-Butylbenzene		<25.0	µg/Kg	1
1,2,4-Trimethylbenzene		<25.0	µg/Kg	1
1,4-Dichlorobenzene (para)		<25.0	µg/Kg	1
sec-Butylbenzene		<25.0	µg/Kg	1
1,3-Dichlorobenzene		<25.0	µg/Kg	1
p-Isopropyltoluene		<25.0	µg/Kg	1
4-Chlorotoluene		<25.0	µg/Kg	1
1,2-Dichlorobenzene (ortho)		<25.0	µg/Kg	1
n-Butylbenzene		<25.0	µg/Kg	1
1,2-Dibromo-3-chloropropane		<125	µg/Kg	5

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Param	Flag	Results	Units	Reporting Limit
1,2,3-Trichlorobenzene		<125	µg/Kg	5
1,2,4-Trichlorobenzene		<125	µg/Kg	5
Naphthalene		<25.0	µg/Kg	1
Hexachlorobutadiene		<125	µg/Kg	5

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit *
Dibromofluoromethane		54.07	µg/Kg	50	108	69 - 116
Toluene-d8		50.01	µg/Kg	50	100	88 - 114
4-Bromofluorobenzene		47.52	µg/Kg	50	95	74 - 110

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Sample: LCS

QC Batch: QC07349

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		98	µg/Kg	1	100	<25.0	98		80 - 120	20
Benzene		90	µg/Kg	1	100	<25.0	90		80 - 120	20
Trichloroethene (TCE)		88	µg/Kg	1	100	<25.0	88		80 - 120	20
Toluene		91	µg/Kg	1	100	<25.0	91		80 - 120	20
Chlorobenzene		95	µg/Kg	1	100	<25.0	95		80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		53.96	µg/Kg	1	50	107	69 - 116
Toluene-d8		49.10	µg/Kg	1	50	98	88 - 114
4-Bromofluorobenzene		50.55	µg/Kg	1	50	101	74 - 110

Sample: LCSD

QC Batch: QC07349

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		99	µg/Kg	1	100	<25.0	99	1	80 - 120	20
Benzene		91	µg/Kg	1	100	<25.0	91	1	80 - 120	20
Trichloroethene (TCE)		89	µg/Kg	1	100	<25.0	89	1	80 - 120	20
Toluene		93	µg/Kg	1	100	<25.0	93	2	80 - 120	20
Chlorobenzene		96	µg/Kg	1	100	<25.0	96	1	80 - 120	20

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		53.21	µg/Kg	1	50	106	69 - 116
Toluene-d8		48.84	µg/Kg	1	50	97	88 - 114
4-Bromofluorobenzene		49.33	µg/Kg	1	50	98	74 - 110

Quality Control Report
Matrix Spikes and Duplicate Spikes

Sample: MS

QC Batch: QC07349

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		100	µg/Kg	1	100	<25.0	100		80 - 120	20
Benzene		98	µg/Kg	1	100	<25.0	98		74 - 121	20
Trichloroethene (TCE)		90	µg/Kg	1	100	<25.0	90		72 - 121	20
Toluene		95	µg/Kg	1	100	<25.0	95		75 - 134	20
Chlorobenzene		99	µg/Kg	1	100	<25.0	99		83 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		48.10	µg/Kg	1	50	96	69 - 116
Toluene-d8		49.24	µg/Kg	1	50	98	88 - 114
4-Bromofluorobenzene		53.55	µg/Kg	1	50	107	74 - 110

Sample: MSD

QC Batch: QC07349

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
1,1-Dichloroethene		102	µg/Kg	1	100	<25.0	102	2	80 - 120	20
Benzene		99	µg/Kg	1	100	<25.0	99	1	74 - 121	20
Trichloroethene (TCE)		90	µg/Kg	1	100	<25.0	90	0	72 - 121	20
Toluene		96	µg/Kg	1	100	<25.0	96	1	75 - 134	20
Chlorobenzene		99	µg/Kg	1	100	<25.0	99	0	83 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Dibromofluoromethane		48.12	µg/Kg	1	50	96	69 - 116
Toluene-d8		48.37	µg/Kg	1	50	96	88 - 114
4-Bromofluorobenzene		54.41	µg/Kg	1	50	108	74 - 110