

NM - 22

**MONITORING
REPORTS**

YEAR(S):

2002

Kieling, Martyne

From: Don Fernald [don.fernald@amec.com]
Sent: Monday, September 30, 2002 6:18 AM
To: Kieling, Martyne
Subject: RE: Goodwin

Hi Martyne,

See the following summary:

AMEC Earth & Environmental conducted bioremedial-enhancing activities at the Goodwin Treating Plant facility on September 4th through the 11th, 2002. The activities consisted of aeration and addition of moisture (water) to the soils that have been impacted hydrocarbons from historic crude oil releases. The moisture and oxygen stimulate the multiplication of the existing hydrocarbon degrading microorganisms present in the soils. The hydrocarbon-impacted soils were placed into "biopiles" and mixed with cow manure after excavation from the historic spill areas. The manure was used to add nitrogen to stimulate the multiplication of the hydrocarbon degrading microorganisms. Approximately 3,600 cubic yards of manure was mixed with 17,400 cubic yards of hydrocarbon-impacted soils. Upon conclusion of the last phase of bioremedial enhancement of the soils, five composite soil samples were obtained from various areas of the "biopiles" and submitted to Trace Analysis, Inc. for analysis of total petroleum hydrocarbons (TPH) and Benzene, Toluene, Ethylbenzene and Zylenes (BTEX) using EPA methods 8015 modified for gas and diesel range organics and 8021 respectively. The results of the analysis are listed as follows:

Sample Number	Date	BTEX (ppm)	TPH DRO (ppm)	TPH GRO (ppm)
091102-01	9/11/02	0.122	393	1802
091102-02	9/11/02	0.0872	210	13.6
091102-03	9/11/02	0.0606	526	9.37
091102-04	9/11/02	0.0642	298	12.3
091102-05	9/11/02	0.0579	1040	15.5

Based on the data from the September 11, 2002 soil sampling, it appears as though soils are within the NMOCD objectives for cleanup of the site. AMEC requests written permission to backfill excavated areas at the Goodwin Treating Plant facility with the bioremediated soils from the biopiles.

Best Regards,

Don Fernald
AMEC Earth & Environmental
2060 Afton Place
Farmington, NM 87401
Ph: (505) 327-7928
Fx: (505) 326-5721
don.fernald@amec.com

-----Original Message-----

From: Kieling, Martyne [mailto:MKieling@state.nm.us]
Sent: Wednesday, September 25, 2002 3:41 PM
To: 'Don Fernald'

9/30/2002

Subject: RE: Goodwin

Thanks Don
Until Monday

-----Original Message-----

From: Don Fernald [mailto:don.fernal@amec.com]

Sent: Wednesday, September 25, 2002 3:21 PM

To: 'Kieling, Martyne '

Subject: RE: Goodwin

Hi Martyne,

Thanks for the email. No problem on the delay. We will plan accordingly. I will have a summary report to you by Monday morning.

Talk to you Monday.

Best Regards,

Don Fernald

-----Original Message-----

From: Kieling, Martyne

To: 'Don.fernal@amec.com'

Sent: 9/25/2002 5:38 PM

Subject: Goodwin

Don,

Regarding our phone conversation on September 23, 2002. and September 25, 2002

You stated that the soil sample results from the September turning event at Goodwin showed soil TPH levels at 210 ppm, 298 ppm, ,393 ppm, 526 ppm and 1040 ppm. The OCD has determined that the soil has been remediated enough to push in the piles however since we went to the expense of turning the pile and adding water in early September it would be prudent for OCD to allow the pile to sit and take advantage of this latest expenditure and allow the pile to remediate to its fullest potential. In that regard, I would like to keep the original date of the first week of November as the target date for pushing this material back into the holes. Along with that I will want to catch five more samples to see how the levels have continued to drop. This data will aid us in future projects of a similar nature. Sampling of the pile can wait until the crew is on site to begin pushing in the piles.

9/30/2002

I called Trace Analysis today and spoke to Nell Green and authorized 5 jars to be shipped to your midland office under OCD's contract. All you need to do is call and request them and give them the shipping address.

I apologize for the change of mind regarding my earlier verbal response.

Please call if you have any questions. I will be in the office on Monday September 30th.

Martyne J. Kieling
Martyne J. Kieling
Environmental Geologist

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REMEDIAL ACTION REPORT
FOR THE
GOODWIN TREATING PLANT
WEST OF
HOBBS, NEW MEXICO

February 2003

Prepared For

STATE OF NEW MEXICO
ENERGY, MINERALS AND
NATURAL RESOURCES
DEPARTMENT
OIL CONSERVATION DIVISION

Completed by:

AMEC Earth & Environmental



2060 Afton Place
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(505) 327-7928

Project No. 2517000051

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1.0 INTRODUCTION

AMEC Earth & Environmental (AMEC) was retained to conduct remedial activities for the State of New Mexico Energy, Minerals and Natural Resources Department-Oil Conservation Division (OCD) at the Goodwin Treating Plant facility located in Lea County, west of Hobbs, New Mexico. The remedial activities were conducted in accordance with the contract between AMEC and the State of New Mexico General Services Department Number 00-805-09-17656.

The Goodwin Treating Plant facility was operated prior to 1996 for treating or recovering crude oil from solids and produced water. Produced water, or salt water was disposed in an injection well located onsite. Management practices at the facility resulted in hydrocarbon contamination of soils located at the facility. Philip Environmental Services Corporation (PESC) conducted Field investigations and remedial activities in 2001. These activities included an investigation to determine hydrocarbon impacts to soil and groundwater in addition to remedial activities which included removal of most of the above ground storage tanks and tank bottoms. At the close of PESC's remedial activities during July of 2001, it was determined that approximately 15,000 cubic yards of hydrocarbon impacted soils remained on site at depths ranging from the surface down to five to eight feet below the surface.

2.0 PROJECT BACKGROUND

Previous Remedial Actions

PESC was contracted by the OCD to conduct limited remedial activities at the Goodwin Treating Plant site during 2001. PESC excavated and removed a total of 4,856 cubic yards of hydrocarbon-impacted soils from the Goodwin Treating Plant site and transported it to J&L Landfarm for remediation. This volume included tank bottom material that was not liquid enough to pump and was therefore, solidified for transport to the landfarm for treatment. Clean backfill soil was transported from the landfarm to the Goodwin Treating Plant site for backfilling-excavated areas.

PESC removed liquids from the tanks that were transported to Sundance Services and Controlled Recovery, Inc. (CRI) for recycling.

PESC removed the majority of the tanks, vessels, treaters, pipes, and other related equipment located on site. Two treaters and some associated piping were left on site. Materials that were salvageable or recyclable were sent to a salvage yard for processing. Materials that couldn't be recycled were sent to an EMNRD-OCD approved waste management facility for disposal CRI. Solid waste material, consisting of redwood tanks, steel tanks with foam insulation and other miscellaneous debris was transported to CRI for disposal.

On November 27, 2001, the OCD requested a cost estimate and proposal from AMEC to complete remedial activities at the Goodwin Treating Plant site. AMEC provided the OCD with a cost estimate and proposal to excavate and treat approximately 12,000 cubic yards of hydrocarbon-impacted soils onsite, transport up to 500 cubic yards of tank bottoms and highly saturated hydrocarbon-impacted soils to an approved commercial landfarm and remove the treaters from the site.

3.0 REMEDIAL ACTIVITIES

On Monday, June, 3, 2002 AMEC mobilized to the Goodwin Treating Plant site to begin remedial activities. On Tuesday, June 4th AMEC conducted a kick-off meeting, which consisted of a review of the site-specific health and safety plan, the project work plan and project documentation procedures. Mr. Larry Johnson with the OCD was present for a portion of this meeting and was presented a copy of the site-specific health and safety plan. After this meeting, excavation commenced on the northwest portion of the site. A chronology of the remedial activities performed by AMEC was documented and provided to the OCD via e-mail. A copy of this documentation is presented in Appendix A.

AMEC removed the two treaters and associated piping and equipment at the site. Prior to transport and disposal, AMEC screened the two vessels for Naturally Occurring Radioactive Materials (NORM). The vessels and residual contents were screened using a Ludlum Scintillator meter. Readings were detected less than the state of New Mexico threshold of 50 uR/hr. The treaters were sent to an OCD-approved facility (Lea Land Company) for disposal. A copy of the bill of lading and profile prepared for disposal of the treaters is included in Appendix B. AMEC subcontracted Hobbs Iron and Metal to complete the demolition, cutting and shearing of these treaters. Lea Land Company was subcontracted by AMEC to transport and dispose of these materials. The metal treater materials were not recycled due to the presence of residual hydrocarbons. It was deemed not cost effective to clean the treaters for recycling.

AMEC removed the tank bottom pile from the pit in the northwest corner of the facility. Tank bottom material was sent to an OCD-approved landfarm (J&L Landfarm) for reclamation along with other highly saturated hydrocarbon-impacted soils. AMEC subcontracted Martinez Trucking to transport these materials to J&L Landfarm for treatment. A total of 600 cubic yards of hydrocarbon-impacted soils and tank bottoms were transported to J&L Landfarm for treatment. Copies of the bill of ladings for the hydrocarbon-impacted soil and tank bottoms transported to J&L Landfarm are included in Appendix C.

AMEC excavated hydrocarbon-impacted soils around former tank footprint locations, hydrocarbon spills and other visually apparent areas of the former Goodwin Treating Plant facility. Areas not excavated include areas previously excavated and removed by PESC, areas around the disposal or injection well and areas that were not significantly impacted by hydrocarbons as determined visually and by field-testing with a photoionization detector (PID). Approximately 18,400 cubic yards of hydrocarbon-impacted soils were excavated by AMEC and treated onsite in the biopiles.

Photographs of site remedial activities are included in Appendix D.

3.1 Soil Screening and Sampling Procedures

Hydrocarbon-impacted soil that was highly contaminated and saturated as determined by visual observation was excavated to the practical extent. Once the hydrocarbon-impacted

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soil areas appeared to be reduced to levels that appeared clean or relatively hydrocarbon free, soil samples were obtained and screened in the field using a PID to help determine the levels of volatile hydrocarbon constituents present. The PID was calibrated daily prior to use. PID screening was performed as often as necessary to determine the levels of volatile hydrocarbons present. Once an excavated area was less than 100 parts per million as determined with the PID, a duplicate soil sample was placed into approved laboratory sampling containers, properly labeled, documented on a chain-of-custody (COC) form, placed in a cooler with ice and delivered to the OCD Hobbs district office. The OCD directed AMEC to directly ship the samples to the New Mexico state contracted laboratory (Trace Analysis, Inc.) for analysis of Benzene, Toluene, Ethylbenzene, Xylenes (BTEX), and Total Petroleum Hydrocarbons (TPH), Diesel Range Organics (DRO) and Gasoline Range Organics (GRO) using Environmental Protection Agency (EPA) laboratory analysis Methods 8021 and 8015 Modified, respectively.

The criteria for determining remedial action levels for the site as directed by the OCD are listed as follows:

Surface soils to eight (8) feet below ground surface:

Constituent	Action Level (ppm)
Benzene	10
BTEX	50
TPH	1000

Below eight (8) feet of ground surface:

Constituent	Action Level (ppm)
Benzene	10
BTEX	50
TPH	100

Remedial action levels were determined based on the depth of groundwater at the site being approximately 58 feet below ground surface.

3.2 Sample numbers and location identification

Duplicate soil samples (where PID results indicated less than 100 ppm) were sent to the laboratory had the following numbering system assigned to each sample.

Current date – sample number

Example:
060502-01

The first part of each sample number contained the date in which the sample was obtained, for example June 5, 2002 was labeled as 060502, which was followed by the sample number. The second part of the sample number identifies the sequential number of the sample in relation to the sample location. Sample numbers ran sequentially throughout the excavation phase of the project to depict the sample location. If laboratory data indicated that a sample location had not been excavated to the extent in which hydrocarbon-impacted soils had been removed to cleanup criteria, additional excavation was completed. After excavation, a field test was completed with the PID and a duplicate sample was submitted for laboratory analysis. The sample date would be the actual date the sample was obtained, and the second part of the sample number would be a duplicate of the location that had secondary excavation performed for that location.

3.3 Sampling Strategy

Excavation activities were initiated along the northwest corner of the site. Excavating proceeded to the east across the site following any observable hydrocarbon-impacted soils. Soil sampling and testing was conducted with the PID as needed to verify the concentration of hydrocarbons as determined in the field. Clearance samples were obtained as needed, but no less than on the center of a grid of 50' x 50' to verify remedial action levels that have been achieved. Once hydrocarbon-impacted soils appeared to be removed, a soil sample was obtained from the bottom of the excavation for field-testing. If field-testing (PID results) data indicated less than 100 parts per million, then a duplicate sample was obtained for laboratory analysis and to verify clearance of the excavated area.

The following is the analytical data from the soil samples obtained from the excavated areas at the Goodwin Treating Plant.

ANALYTICAL DATA FROM SOIL SAMPLING EXCAVATED AREAS

Sample No.	Date	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX	TPH DRO	TPH GRO
1	05-Jun	<0.010	0.126	0.0364	0.032	0.194	<50	<1
2	05-Jun	<0.010	<0.010	<0.010	0.0172	0.0172	171	12.7
3	05-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	122	2.86
4	05-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
5	05-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
6	05-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	59.4	<1
7	05-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
8	05-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
9	10-Jun	<0.010	.0.14	0.0107	0.0117	0.0364	64.7	<1
10	10-Jun	<0.010	<0.010	0.0102	0.0104	0.0206	<50.0	<1
11	10-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	57.2	<1
12	10-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
Sample No.	Date	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX	TPH DRO	TPH GRO
13	21-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	69.8	<1

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14	21-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	109	<1
15	21-Jun	<0.010	<0.010	<0.010	0.0106	.0.106	179	<1
16	21-Jun	<0.010	<0.010	0.0167	0.0393	.0.56	1960	12.5
17	21-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	<50	2.32
18	21-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
19	21-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
20	21-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
21	21-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	1530	<1
22	25-Jun	<0.010	<0.010	<0.010	0.0104	0.0104	<50	<1
23	25-Jun	<0.010	<0.010	0.0104	0.012	0.0224	<50	<1
24	25-Jun	<0.010	<0.010	0.0104	0.0109	0.0213	<50	<1
25	25-Jun	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
26	02-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
27	02-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	91.9	<1
28	02-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	66.3	<1
29	02-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	144	<1
30	02-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	224	<1
31	02-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	120	<1
32	02-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	102	<1
33	02-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
34	02-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
35	12-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
36	12-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
37	12-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
38	12-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
16*	12-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
21*	12-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
39	17-Jul	<0.010	<0.010	<0.010	0.013	0.013	<50	<1
40	17-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	50.9	<1
41	17-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
42	17-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
43	17-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
44	17-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
45	17-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
46	17-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1
47	17-Jul	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1

*16 & *21 are samples obtained from the same location of sample numbers 16 and 21 after additional excavation was completed to remove hydrocarbon-impacted soils.

AMEC completed the excavation and construction of the biopiles on July 17, 2002. Trace Analysis and the EMNRD-OCD provided a summary of analytical data from the excavation activities. This data is included in Appendix F.

3.4 Biopile Construction and Management

During the excavation of hydrocarbon-impacted soils, AMEC initiated the transport of cow manure from a local dairy to the Goodwin site for construction of biopiles. AMEC constructed the biopiles concurrently with the excavation of the hydrocarbon-impacted soils. Cow manure was purchased from Martinez Trucking and transported to the site for use in construction of the biopiles. Approximately 4,564 Cubic yards of manure was transported to the Goodwin Treating Plant site for use in the biopiles. A ratio of approximately four parts hydrocarbon-impacted soils, to one part manure was used in construction of the biopiles. Biopiles consists of placing the hydrocarbon-impacted soils into long, high piles, mixed with manure. The addition of manure to hydrocarbon-impacted soils adds nutrients and stimulates the growth of indigenous organisms to assist with the degradation of hydrocarbons. Additionally, the organic matter in the manure helps retain moisture within the biopile, which is than readily available for the organisms that breakdown the hydrocarbons in the soil. While the biopiles were being constructed, AMEC transported water to the site with a water truck and applied it to the biopiles to assist with biodegradation of the hydrocarbons. Water was purchased from Gibbs Water Sales and transported to the site with a water truck and applied to the biopiles during construction to enhance biodegradation of the hydrocarbons.

Due to a need for increased space for construction of the biopiles, AMEC removed the fencing from the northern portion of the site and extended fencing to the north. Additionally, areas of the site that were excavated greater than eight feet were fenced to prevent livestock from potentially entering excavations.

On June 10, 2002, AMEC obtained two composite samples of the hydrocarbon-impacted soils that were excavated and submitted them to Trace Analysis, Inc. / BioLogic Resources, LLC to test for the presence of hydrocarbon-degrading organisms and chlorides. Since the site was historically used to treat crude oil and dispose of produced water, the presence of chlorides in high concentrations was a concern since chlorides can inhibit the populations of hydrocarbon-degrading organisms. The following is the data from the soil samples obtained and submitted for testing.

ANALYTICAL DATA OF SOIL SAMPLES FOR HYDROCARBON-DEGRADING ORGANISMS

Sample No.	Date	Heterotrophic Plate Count CFU/g	Diesel Degrading Bacteria CFU/g	Heavy Oil Degrading Bacteria CFU/g	Chlorides mg/kg
061002-1	10-Jun	9.1x10 ⁶	7.1x10 ⁶	6.7x10 ⁶	3900
061002-2	10-Jun	5.6x10 ⁷	4.5x10 ⁶	2.7x10 ⁶	1900

The data shows that chloride concentrations did not appear to be at levels that would inhibit biodegradation of the hydrocarbons within the soil, as the heterotrophic plate and bacteria counts are elevated.

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Biological and chloride analytical data is included in Appendix G.

On July 17, 2002 soil samples were obtained from the biopiles for submittal to Trace Analysis, Inc. for testing of BTEX, TPH-DRO and TPH-GRO using EPA methods 8021 and 8015 Modified, respectively. After sampling biopile soils, the first "turning event" where the biopiles were moved, aerated and watered was initiated to enhance the biodegradation of the hydrocarbons. A subsequent turning event was initiated on September 4, 2002 with additional sampling of the biopiles being performed afterwards on September 11, 2002. Analytical data from the September 11, 2002 sampling event indicated that a sharp reduction in hydrocarbons within the biopiles had occurred. Therefore, an additional turning event was not deemed necessary and backfilling of the excavations was approved by the OCD. Additional sampling of soil from the biopiles was performed by the OCD on November 21, 2002. Analytical data from the biopile sampling events is presented below.

ANALYTICAL DATA FROM BIOPILES

Sample No.	Date	Benzene	Toluene	Ethylbenzene	M,P,O-Xylene	Total BTEX	TPH DRO	TPH GRO
1	17-Jul	<0.010	0.0461	0.173	0.446	0.665	4430	40.1
2	17-Jul	<0.010	0.0123	0.0658	0.293	0.371	5000	32
3	17-Jul	<0.010	0.0585	0.058	0.215	0.332	4490	18.6
4	17-Jul	0.356	0.953	1.83	6.21	9.35	3390	183
5	17-Jul	0.0556	0.0465	0.264	0.429	0.795	5140	39.9
6	17-Jul	<0.010	0.0213	0.0694	0.157	0.248	2730	24.1
7	17-Jul	<0.010	0.0202	0.042	0.0978	0.16	2410	16.3
8	17-Jul	<0.010	0.0733	0.46	1.25	1.78	2870	56.3
9	17-Jul	0.666	0.637	2.06	4.74	8.1	3170	124
10	17-Jul	<0.010	0.0146	0.13	0.584	0.729	3040	55.3
1	11-Sep	<0.010	0.0104	0.0425	0.0687	0.122	393	18.2
2	11-Sep	<0.010	<0.010	0.0262	0.061	0.0872	210	13.6
3	11-Sep	<0.010	<0.010	0.0138	0.0468	0.0606	526	9.37
4	11-Sep	<0.010	<0.010	0.0158	0.0484	0.0642	298	12.3
5	11-Sep	<0.010	<0.010	0.0227	0.0346	0.0573	1040	15.5
112102913	21-Nov	<0.010	<0.010	<0.010	<0.010	<0.010	225	4.54
112102920	21-Nov	<0.010	<0.010	<0.010	<0.010	<0.010	389	<1
112102928	21-Nov	<0.010	<0.010	<0.010	<0.010	<0.010	508	<1
112102936	21-Nov	<0.010	<0.010	<0.010	<0.010	<0.010	342	3.92
112102944	21-Nov	<0.010	<0.010	<0.010	<0.010	<0.010	411	<1

A summary of the analytical data is included in Appendix F.

4.0 SITE CLOSURE ACTIVITIES

On December 2, 2002, AMEC initiated backfilling of soils from the biopiles into the previously excavated areas at the Goodwin Treating Plant site. Fencing installed around the deeper excavations was removed and stockpiled along the site for disposal by the OCD. AMEC completed backfilling and site closure operations on December 18, 2002.

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
 155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
 E-Mail: lab@traceanalysis.com

Bill To: **OCD**
 1220 S. Saint Francis Dr.
 Santa Fe, NM 87505

RECEIVED

Invoice # 56726

Invoice Date: **Dec 23, 2002**

JAN 30 2003

Order ID: **A02121919**

Attn: **Martyne Kieling**

**Environmental Bureau
 Oil Conservation Division**

Project #: **Goodwin** DFA VENDOR NUMBER: **752439743**
 Project Name: **Goodwin Well #1** P.A.# **20-521-07-02497**
 Project Location: **Goodwin Treating Plant, Hobbs**

Test	Quantity	Matrix	Description	Price	SubTotal
Fe, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Al, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Anions / Cations / General Chemistry	1	Water	216781 - 216781	\$120.00	\$120.00
As, Total	1	Water	216781 - 216781	\$10.00	\$10.00
B, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Ba, Total	1	Water	216781 - 216781	\$10.00	\$10.00
BTEX/TPH GRO	1	Water	216781 - 216781	\$60.00	\$60.00
Cd, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Co, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Ag, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Cu, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Zn, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Hg, Total	1	Water	216781 - 216781	\$12.00	\$12.00
Mn, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Mo, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Ni, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Pb, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Se, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Si, Total	1	Water	216781 - 216781	\$10.00	\$10.00
TPH DRO	1	Water	216781 - 216781	\$40.00	\$40.00
Cr, Total	1	Water	216781 - 216781	\$10.00	\$10.00
Payment Terms: Net 30 Days				Total	\$402.00

*OK to pay
 MK 1-30-03*

Michael T. Abund

Director, Dr. Blair Leftwich

Report Date: January 27, 2003 Order Number: A02121919
 Goodwin Goodwin Well #1

Page Number: 1 of 2
 Goodwin Treating Plant, Hobbs

Summary Report

Martyne Kieling
 OCD
 1220 S. Saint Francis Dr.
 Santa Fe, NM 87505

Report Date: January 27, 2003

Order ID Number: A02121919

Project Number: Goodwin
 Project Name: Goodwin Well #1
 Project Location: Goodwin Treating Plant, Hobbs

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
216781	1218021335	Water	2/18/02	13:35	12/19/02

0 This report consists of a total of 2 page(s) and is intended only as a summary of results for the sample(s) listed above.

Sample - Field Code	BTEX					TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)		
216781 - 1218021335	0.002	0.002	<0.001	<0.001	0.004	<5.00	<0.1

Sample: 216781 - 1218021335

Param	Flag	Result	Units
Hydroxide Alkalinity		<1.0	mg/L as CaCo3
Carbonate Alkalinity		<1.0	mg/L as CaCo3
Bicarbonate Alkalinity		276	mg/L as CaCo3
Total Alkalinity		276	mg/L as CaCo3
Specific Conductance		1420	μ MHOS/cm
Total Mercury		<0.0002	mg/L
Chloride	1	219	mg/L
Fluoride		1.44	mg/L
Nitrate-N		3.04	mg/L
Sulfate	2	41.6	mg/L
Naphthalene		<0.0002	mg/L
Acenaphthylene		<0.0002	mg/L
Acenaphthene		<0.0002	mg/L
Fluorene		<0.0002	mg/L
Phenanthrene		<0.0002	mg/L
Anthracene		<0.0002	mg/L
Fluoranthene		<0.0002	mg/L
Pyrene		<0.0002	mg/L
Benzo(a)anthracene		<0.0002	mg/L

Continued on next page ...

¹Sample re-ran on 12/23/02 in QC #25805. LCS %EA 91 RPD 0; Matrix spike %EA 90. RPD 0 %IA 91.

²Sample re-ran on 12/23/02 in QC #25805. LCS %EA 92 RPD 1; Matrix spike %EA 90. RPD 0 %IA 91.

This is only a summary. Please, refer to the complete report package for quality control data.

Report Date: January 27, 2003 Order Number: A02121919
 Goodwin Goodwin Well #1

Page Number: 2 of 2
 Goodwin Treating Plant, Hobbs

Sample 216781 continued ...

Param	Flag	Result	Units
Chrysene		<0.0002	mg/L
Benzo(b)fluoranthene		<0.0002	mg/L
Benzo(k)fluoranthene		<0.0002	mg/L
Benzo(a)pyrene		<0.0002	mg/L
Indeno(1,2,3-cd)pyrene		<0.0002	mg/L
Dibenzo(a,h)anthracene		<0.0002	mg/L
Benzo(g,h,i)perylene		<0.0002	mg/L
Total Calcium		240	mg/L
Total Magnesium		24.0	mg/L
Total Potassium		7.89	mg/L
Total Sodium		217	mg/L
Total Dissolved Solids		830	mg/L
Total Aluminum		16.6	mg/L
Total Arsenic		<0.050	mg/L
Total Barium		<0.100	mg/L
Total Boron		0.131	mg/L
Total Cadmium		<0.005	mg/L
Total Chromium		0.0336	mg/L
Total Cobalt		<0.025	mg/L
Total Copper		<0.0125	mg/L
Total Iron		8.40	mg/L
Total Lead		<0.010	mg/L
Total Manganese		0.0926	mg/L
Total Molybdenum		<0.050	mg/L
Total Nickel		<0.025	mg/L
Total Selenium		<0.050	mg/L
Total Silica		21.4	mg/L
Total Silver		<0.0125	mg/L
Total Zinc		0.0281	mg/L
pH	3	7.7	s.u.

³Sample received out of holding time

This is only a summary. Please, refer to the complete report package for quality control data.



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 E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Martyne Kieling
 OCD
 1220 S. Saint Francis Dr.
 Santa Fe, NM 87505

Report Date: January 27, 2003

Order ID Number: A02121919

Project Number: Goodwin
 Project Name: Goodwin Well #1
 Project Location: Goodwin Treating Plant, Hobbs

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

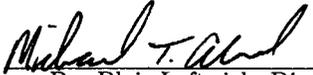
Sample	Description	Matrix	Date Taken	Time Taken	Date Received
216781	1218021335	Water	2/18/02	13:35	12/19/02

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.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 18 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Note: Samples will be disposed of 30 days from the report date unless the lab is contacted before the 30 days has past.


 Dr. Blair Leftwich, Director

Analytical Report

Sample: 216781 - 1218021335

Analysis: Alkalinity Analytical Method: E 310.1 QC Batch: QC25953 Date Analyzed: 12/31/02
Analyst: RS Preparation Method: N/A Prep Batch: PB24026 Date Prepared: 12/31/02

Param	Flag	Result	Units	Dilution	RDL
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1	1
Bicarbonate Alkalinity		276	mg/L as CaCo3	1	4
Total Alkalinity		276	mg/L as CaCo3	1	4

Sample: 216781 - 1218021335

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC25707 Date Analyzed: 12/19/02
Analyst: CG Preparation Method: N/A Prep Batch: PB23823 Date Prepared: 12/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		0.002	mg/L	1	0.001
Toluene		0.002	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		0.004	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	1	0.0493	mg/L	1	0.10	49	70 - 130
4-BFB	2	0.0449	mg/L	1	0.10	44	70 - 130

Sample: 216781 - 1218021335

Analysis: Conductivity Analytical Method: SM 2510B QC Batch: QC26063 Date Analyzed: 1/7/03
Analyst: JSW Preparation Method: N/A Prep Batch: PB24108 Date Prepared: 1/7/03

Param	Flag	Result	Units	Dilution	RDL
Specific Conductance		1420	µMHOS/cm	1	

Sample: 216781 - 1218021335

Analysis: Hg, Total Analytical Method: S 7470A QC Batch: QC25841 Date Analyzed: 12/26/02
Analyst: BC Preparation Method: N/A Prep Batch: PB23940 Date Prepared: 12/24/02

Param	Flag	Result	Units	Dilution	RDL
Total Mercury		<0.0002	mg/L	1	0.0002

¹Low surrogate recovery due to matrix interference.

²Low surrogate recovery due to matrix interference.

Sample: 216781 - 1218021335

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC25779 Date Analyzed: 12/20/02
Analyst: RS Preparation Method: N/A Prep Batch: PB23886 Date Prepared: 12/20/02

Param	Flag	Result	Units	Dilution	RDL
Chloride	3	219	mg/L	1	1
Fluoride		1.44	mg/L	5	0.20
Nitrate-N		3.04	mg/L	5	0.20
Sulfate	4	41.6	mg/L	1	1

Sample: 216781 - 1218021335

Analysis: PAH Analytical Method: S 8270C QC Batch: QC26140 Date Analyzed: 1/8/03
Analyst: RC Preparation Method: E 3510C Prep Batch: PB24138 Date Prepared: 12/23/02

Param	Flag	Result	Units	Dilution	RDL
Naphthalene		<0.0002	mg/L	1	0.0002
Acenaphthylene		<0.0002	mg/L	1	0.0002
Acenaphthene		<0.0002	mg/L	1	0.0002
Fluorene		<0.0002	mg/L	1	0.0002
Phenanthrene		<0.0002	mg/L	1	0.0002
Anthracene		<0.0002	mg/L	1	0.0002
Fluoranthene		<0.0002	mg/L	1	0.0002
Pyrene		<0.0002	mg/L	1	0.0002
Benzo(a)anthracene		<0.0002	mg/L	1	0.0002
Chrysene		<0.0002	mg/L	1	0.0002
Benzo(b)fluoranthene		<0.0002	mg/L	1	0.0002
Benzo(k)fluoranthene		<0.0002	mg/L	1	0.0002
Benzo(a)pyrene		<0.0002	mg/L	1	0.0002
Indeno(1,2,3-cd)pyrene		<0.0002	mg/L	1	0.0002
Dibenzo(a,h)anthracene		<0.0002	mg/L	1	0.0002
Benzo(g,h,i)perylene		<0.0002	mg/L	1	0.0002

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		54.96	mg/L	1	80	68	35 - 114
2-Fluorobiphenyl		59.36	mg/L	1	80	74	43 - 116
Terphenyl-d14		53.78	mg/L	1	80	67	33 - 141

Sample: 216781 - 1218021335

Analysis: Salts, Total Analytical Method: S 6010B QC Batch: QC26478 Date Analyzed: 1/22/03
Analyst: BC Preparation Method: S 3010A Prep Batch: PB24309 Date Prepared: 1/20/03

Param	Flag	Result	Units	Dilution	RDL
Total Calcium		240	mg/L	1	0.50
Total Magnesium		24.0	mg/L	1	0.50
Total Potassium		7.89	mg/L	1	0.50
Total Sodium		217	mg/L	1	0.50

³Sample re-ran on 12/23/02 in QC #25805. LCS %EA 91 RPD 0; Matrix spike %EA 90. RPD 0 %IA 91.

⁴Sample re-ran on 12/23/02 in QC #25805. LCS %EA 92 RPD 1; Matrix spike %EA 90. RPD 0 %IA 91.

Report Date: January 27, 2003
Goodwin

Order Number: A02121919
Goodwin Well #1

Page Number: 4 of 18
Goodwin Treating Plant, Hobbs

Sample: 216781 - 1218021335

Analysis: TDS Analytical Method: E 160.1 QC Batch: QC25799 Date Analyzed: 12/24/02
Analyst: RS Preparation Method: N/A Prep Batch: PB23913 Date Prepared: 12/23/02

Param	Flag	Result	Units	Dilution	RDL
Total Dissolved Solids		830	mg/L	2	10

Sample: 216781 - 1218021335

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC25884 Date Analyzed: 12/29/02
Analyst: BP Preparation Method: 3510C - Mod. Prep Batch: PB23972 Date Prepared: 12/26/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<5.00	mg/L	0.10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	⁵	10.3	mg/L	0.10	15	68	70 - 130

Sample: 216781 - 1218021335

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC25708 Date Analyzed: 12/19/02
Analyst: CG Preparation Method: 5030 Prep Batch: PB23823 Date Prepared: 12/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<0.1	mg/L	1	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	⁶	0.104	mg/L	1	0.10	49	70 - 130
4-BFB	⁷	0.095	mg/L	1	0.10	45	70 - 130

Sample: 216781 - 1218021335

Analysis: Total Metals Analytical Method: S 6010B QC Batch: QC25770 Date Analyzed: 12/23/02
Analyst: RR Preparation Method: S 3010A Prep Batch: PB23841 Date Prepared: 12/20/02

Param	Flag	Result	Units	Dilution	RDL
Total Aluminum		16.6	mg/L	1	0.05
Total Arsenic		<0.050	mg/L	1	0.01
Total Barium		<0.100	mg/L	1	0.01
Total Boron		0.131	mg/L	1	0.005
Total Cadmium		<0.005	mg/L	1	0.005
Total Chromium		0.0336	mg/L	1	0.01
Total Cobalt		<0.025	mg/L	1	0.02
Total Copper		<0.0125	mg/L	1	0.01

Continued ...

⁵Surrogate recovery out of range but within control charts for TPH1.

⁶Low surrogate recovery due to matrix interference.

⁷Low surrogate recovery due to matrix interference.

Report Date: January 27, 2003
Goodwin

Order Number: A02121919
Goodwin Well #1

Page Number: 5 of 18
Goodwin Treating Plant, Hobbs

... Continued Sample: 216781 Analysis: Total Metals

Param	Flag	Result	Units	Dilution	RDL
Total Iron		8.40	mg/L	1	0.05
Total Lead		<0.010	mg/L	1	0.01
Total Manganese		0.0926	mg/L	1	0.02
Total Molybdenum		<0.050	mg/L	1	0.05
Total Nickel		<0.025	mg/L	1	0.02
Total Selenium		<0.050	mg/L	1	0.05
Total Silica		21.4	mg/L	1	0.05
Total Silver		<0.0125	mg/L	1	0.01
Total Zinc		0.0281	mg/L	1	0.02

Sample: 216781 - 1218021335

Analysis: pH Analytical Method: E 150.1 QC Batch: QC25798 Date Analyzed: 12/19/02
Analyst: RS Preparation Method: N/A Prep Batch: PB23914 Date Prepared: 12/19/02

Param	Flag	Result	Units	Dilution	RDL
pH	⁸	7.7	s.u.	1	1

⁸Sample received out of holding time

Quality Control Report Method Blank

Method Blank QCBatch: QC25707

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
Total BTEX		<0.001	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.1	mg/L	1	0.10	100	70 - 130
4-BFB		0.098	mg/L	1	0.10	98	70 - 130

Method Blank QCBatch: QC25708

Param	Flag	Results	Units	Reporting Limit
GRO		<0.1	mg/L	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.101	mg/L	1	0.10	101	70 - 130
4-BFB		0.0975	mg/L	1	0.10	97	70 - 130

Method Blank QCBatch: QC25770

Param	Flag	Results	Units	Reporting Limit
Total Aluminum		<0.100	mg/L	0.05
Total Arsenic		<0.050	mg/L	0.01
Total Barium		<0.100	mg/L	0.01
Total Boron		<0.005	mg/L	0.005
Total Cadmium		<0.005	mg/L	0.005
Total Chromium		<0.010	mg/L	0.01
Total Cobalt		<0.025	mg/L	0.02
Total Copper		<0.0125	mg/L	0.01
Total Iron		<0.050	mg/L	0.05
Total Lead		<0.010	mg/L	0.01
Total Manganese		<0.025	mg/L	0.02
Total Molybdenum		<0.050	mg/L	0.05
Total Nickel		<0.025	mg/L	0.02
Total Selenium		<0.050	mg/L	0.05

Continued ...

... Continued

Param	Flag	Results	Units	Reporting Limit
Total Silica		<0.050	mg/L	0.05
Total Silver		<0.0125	mg/L	0.01
Total Zinc		<0.025	mg/L	0.02

Method Blank QCBatch: QC25779

Param	Flag	Results	Units	Reporting Limit
Chloride		<1.0	mg/L	1
Fluoride		<0.2	mg/L	0.20
Nitrate-N		<0.2	mg/L	0.20
Sulfate		<1.0	mg/L	1

Method Blank QCBatch: QC25799

Param	Flag	Results	Units	Reporting Limit
Total Dissolved Solids		<10	mg/L	10

Method Blank QCBatch: QC25841

Param	Flag	Results	Units	Reporting Limit
Total Mercury		<0.0002	mg/L	0.0002

Method Blank QCBatch: QC25884

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	⁹	7.90	mg/L	0.10	15	65	70 - 130

Method Blank QCBatch: QC25953

⁹Surrogate recovery out of range but within control charts for TPH1.

Param	Flag	Results	Units	Reporting Limit
Hydroxide Alkalinity		<1.0	mg/L as CaCo3	1
Carbonate Alkalinity		<1.0	mg/L as CaCo3	1
Bicarbonate Alkalinity		<4.0	mg/L as CaCo3	4
Total Alkalinity		<4.0	mg/L as CaCo3	4

Method Blank QCBatch: QC26063

Param	Flag	Results	Units	Reporting Limit
Specific Conductance		5.86	µMHOS/cm	

Method Blank QCBatch: QC26140

Param	Flag	Results	Units	Reporting Limit
Naphthalene		<0.0002	mg/L	0.0002
Acenaphthylene		<0.0002	mg/L	0.0002
Acenaphthene		<0.0002	mg/L	0.0002
Fluorene		<0.0002	mg/L	0.0002
Phenanthrene		<0.0002	mg/L	0.0002
Anthracene		<0.0002	mg/L	0.0002
Fluoranthene		<0.0002	mg/L	0.0002
Pyrene		<0.0002	mg/L	0.0002
Benzo(a)anthracene		<0.0002	mg/L	0.0002
Chrysene		<0.0002	mg/L	0.0002
Benzo(b)fluoranthene		<0.0002	mg/L	0.0002
Benzo(k)fluoranthene		<0.0002	mg/L	0.0002
Benzo(a)pyrene		<0.0002	mg/L	0.0002
Indeno(1,2,3-cd)pyrene		<0.0002	mg/L	0.0002
Dibenzo(a,h)anthracene		<0.0002	mg/L	0.0002
Benzo(g,h,i)perylene		<0.0002	mg/L	0.0002

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Nitrobenzene-d5		52.55	mg/L	1	80	65	35 - 114
2-Fluorobiphenyl		57.65	mg/L	1	80	72	43 - 116
Terphenyl-d14		72.03	mg/L	1	80	90	33 - 141

Method Blank QCBatch: QC26478

Param	Flag	Results	Units	Reporting Limit
Total Calcium		<0.5	mg/L	0.50
Total Magnesium		<0.5	mg/L	0.50
Total Potassium		<0.5	mg/L	0.50
Total Sodium		<0.5	mg/L	0.50

Quality Control Report Duplicate Samples

Duplicate QCBatch: QC25798

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
pH		8.3	8.3	s.u.	1	0	0

Duplicate QCBatch: QC25799

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Total Dissolved Solids		902	830	mg/L	1	8	9.7

Duplicate QCBatch: QC25953

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Hydroxide Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	9.2
Carbonate Alkalinity		<1.0	<1.0	mg/L as CaCo3	1	0	9.2
Bicarbonate Alkalinity		314	320	mg/L as CaCo3	1	1	9.2
Total Alkalinity		314	320	mg/L as CaCo3	1	1	9.2

Duplicate QCBatch: QC26063

Param	Flag	Duplicate Result	Sample Result	Units	Dilution	RPD	RPD Limit
Specific Conductance		1420	1420	µMHOS/cm	1	0	20

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC25707

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.105	0.102	mg/L	1	0.10	<0.001	105	2	70 - 130	20
Benzene	0.102	0.102	mg/L	1	0.10	<0.001	102	0	70 - 130	20
Toluene	0.102	0.102	mg/L	1	0.10	<0.001	102	0	70 - 130	20
Ethylbenzene	0.102	0.102	mg/L	1	0.10	<0.001	102	0	70 - 130	20
M,P,O-Xylene	0.309	0.310	mg/L	1	0.30	<0.001	103	0	70 - 130	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	0.089	0.1	mg/L	1	0.10	89	100	70 - 130
4-BFB	0.096	0.101	mg/L	1	0.10	96	101	70 - 130

Laboratory Control Spikes

QCBatch: QC25708

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	0.894	1.06	mg/L	1	1	<0.1	89	16	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	0.093	0.094	mg/L	1	0.10	93	94	70 - 130
4-BFB	0.0999	0.104	mg/L	1	0.10	99	104	70 - 130

Laboratory Control Spikes

QCBatch: QC25770

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Total Aluminum	0.895	0.886	mg/L	1	1	<0.100	90	1	75 - 125	20
Total Arsenic	0.428	0.424	mg/L	1	0.50	<0.050	86	1	75 - 125	20
Total Barium	0.909	0.903	mg/L	1	1	<0.100	91	1	75 - 125	20
Total Boron	0.0504	0.0503	mg/L	1	0.05	<0.005	101	0	75 - 125	20
Total Cadmium	0.211	0.209	mg/L	1	0.25	<0.005	84	1	75 - 125	20
Total Chromium	0.0862	0.0851	mg/L	1	0.10	<0.010	86	1	75 - 125	20
Total Cobalt	0.215	0.213	mg/L	1	0.25	<0.025	86	1	75 - 125	20
Total Copper	0.111	0.110	mg/L	1	0.12	<0.0125	89	1	75 - 125	20
Total Iron	0.456	0.445	mg/L	1	0.50	<0.050	91	2	75 - 125	20
Total Lead	0.462	0.460	mg/L	1	0.50	<0.010	92	0	75 - 125	20
Total Manganese	0.232	0.230	mg/L	1	0.25	<0.025	93	1	75 - 125	20
Total Molybdenum	0.475	0.472	mg/L	1	0.50	<0.050	95	1	75 - 125	20
Total Nickel	0.220	0.218	mg/L	1	0.25	<0.025	88	1	75 - 125	20
Total Selenium	0.391	0.388	mg/L	1	0.50	<0.050	78	1	75 - 125	20
Total Silica	0.438	0.431	mg/L	1	0.50	<0.050	88	2	75 - 125	20
Total Silver	0.111	0.110	mg/L	1	0.12	<0.0125	89	1	75 - 125	20
Total Zinc	0.204	0.203	mg/L	1	0.25	<0.025	82	0	75 - 125	20

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

Laboratory Control Spikes

QCBatch: QC25779

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	11.39	11.39	mg/L	1	12.50	<1.0	91	0	90 - 110	20
Fluoride	2.36	2.41	mg/L	1	2.50	<0.2	94	2	90 - 110	20
Nitrate-N	2.35	2.36	mg/L	1	2.50	<0.2	94	0	90 - 110	20
Sulfate	11.56	11.39	mg/L	1	12.50	<1.0	92	1	90 - 110	20

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

Laboratory Control Spikes QCBatch: QC25841

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Total Mercury	0.00101	0.00101	mg/L	1	0.001	<0.0002	101	0	87 - 125	20

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

Laboratory Control Spikes QCBatch: QC25884

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	25.8	25.3	mg/L	0.10	25	<5.00	103	1	70 - 130	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
n-Triacontane	¹⁰ 10.1	¹¹ 10.1	mg/L	0.10	15	67	67	70 - 130

Laboratory Control Spikes QCBatch: QC26140

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Naphthalene	62.52	53.48	mg/L	1	80	<0.0002	78	15	16 - 96	20
Acenaphthylene	73.33	62.53	mg/L	1	80	<0.0002	91	15	20 - 110	20
Acenaphthene	72.34	61.06	mg/L	1	80	<0.0002	90	16	18 - 108	20
Fluorene	73.39	61.83	mg/L	1	80	<0.0002	91	17	22 - 102	20
Phenanthrene	75.82	65.86	mg/L	1	80	<0.0002	94	14	25 - 103	20
Anthracene	75.82	64.14	mg/L	1	80	<0.0002	94	16	22 - 110	20
Fluoranthene	80.36	68.94	mg/L	1	80	<0.0002	100	15	21 - 110	20
Pyrene	85.21	73.51	mg/L	1	80	<0.0002	106	14	22 - 100	20
Benzo(a)anthracene	82.23	71.12	mg/L	1	80	<0.0002	102	14	30 - 99	20
Chrysene	72.31	62.19	mg/L	1	80	<0.0002	90	15	27 - 108	20
Benzo(b)fluoranthene	88.51	75.98	mg/L	1	80	<0.0002	110	15	19 - 102	20
Benzo(k)fluoranthene	103.1	91.04	mg/L	1	80	<0.0002	128	12	35 - 103	20
Benzo(a)pyrene	81.83	69.45	mg/L	1	80	<0.0002	102	16	24 - 105	20
Indeno(1,2,3-cd)pyrene	63.41	48.8	mg/L	1	80	<0.0002	79	26	22 - 108	20
Dibenzo(a,h)anthracene	45.78	34.89	mg/L	1	80	<0.0002	57	26	23 - 77	20
Benzo(g,h,i)perylene	70.92	55.34	mg/L	1	80	<0.0002	88	24	19 - 119	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	59.13	52.43	mg/L	1	80	73	65	35 - 114
2-Fluorobiphenyl	70.49	59.9	mg/L	1	80	88	74	43 - 116

Continued ...

¹⁰Surrogate recovery out of range but within control charts for TPH1.

¹¹Surrogate recovery out of range but within control charts for TPH1.

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Goodwin

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Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
Terphenyl-d14	75.59	64.58	mg/L	1	80	94	80	33 - 141

Laboratory Control Spikes

QCBatch: QC26478

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Total Calcium	100	94.7	mg/L	1	100	<0.5	100	5	85 - 115	20
Total Magnesium	96.3	91.2	mg/L	1	100	<0.5	96	5	85 - 115	20
Total Potassium	102	96.9	mg/L	1	100	<0.5	102	5	85 - 115	20
Total Sodium	99.0	97.6	mg/L	1	100	<0.5	99	1	85 - 115	20

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

**Quality Control Report
Matrix Spikes and Duplicate Spikes**

Matrix Spikes

QCBatch: QC25770

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Total Aluminum	17.7	18.4	mg/L	1	1	16.6	1770	4	75 - 125	20
Total Arsenic	0.426	0.432	mg/L	1	0.50	<0.050	85	1	75 - 125	20
Total Barium	0.963	0.973	mg/L	1	1	<0.100	96	1	75 - 125	20
Total Boron	0.169	0.173	mg/L	1	0.05	0.131	338	2	75 - 125	20
Total Cadmium	0.192	0.195	mg/L	1	0.25	<0.005	77	2	75 - 125	20
Total Chromium	0.110	0.112	mg/L	1	0.10	0.0336	110	2	75 - 125	20
Total Cobalt	0.198	0.200	mg/L	1	0.25	<0.025	79	1	75 - 125	20
Total Copper	0.117	0.119	mg/L	1	0.12	<0.0125	94	2	75 - 125	20
Total Iron	8.83	8.82	mg/L	1	0.50	8.40	85	2	75 - 125	20
Total Lead	0.417	0.424	mg/L	1	0.50	<0.010	83	2	75 - 125	20
Total Manganese	0.299	0.302	mg/L	1	0.25	0.0926	120	1	75 - 125	20
Total Molybdenum	0.448	0.451	mg/L	1	0.50	<0.050	90	1	75 - 125	20
Total Nickel	0.205	0.208	mg/L	1	0.25	<0.025	82	1	75 - 125	20
Total Selenium	0.383	0.387	mg/L	1	0.50	<0.050	77	1	75 - 125	20
Total Silica	¹² 26.0	22.9	mg/L	1	0.50	21.4	5200	13	75 - 125	20
Total Silver	0.110	0.110	mg/L	1	0.12	<0.0125	88	0	75 - 125	20
Total Zinc	0.218	0.222	mg/L	1	0.25	0.0281	87	2	75 - 125	20

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

Matrix Spikes

QCBatch: QC25779

¹²Matrix spike recovery invalid due to matrix effects. LCS demonstrates process under control.

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Fluoride	25.31	24.77	mg/L	1	25	1.44	95	2	82 - 101	20
Nitrate-N	27.02	27.40	mg/L	1	25	3.04	95	1	87 - 100	20

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

Matrix Spikes QCBatch: QC25841

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Total Mercury	¹³ <0.0002	¹⁴ <0.0002	mg/L	1	0.001	<0.0002	0	0	40 - 177	20

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

Matrix Spikes QCBatch: QC26478

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Total Calcium	497	479	mg/L	1	100	401	96	20	75 - 125	20
Total Magnesium	¹⁵ 583	¹⁶ 549	mg/L	1	100	419	164	23	75 - 125	20
Total Potassium	182	178	mg/L	1	100	77.9	104	3	75 - 125	20
Total Sodium	887	889	mg/L	1	100	807	80	2	75 - 125	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: QC25707

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.105	105	85 - 115	12/19/02
Benzene		mg/L	0.10	0.102	102	85 - 115	12/19/02
Toluene		mg/L	0.10	0.101	101	85 - 115	12/19/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	12/19/02
M,P,O-Xylene		mg/L	0.30	0.304	101	85 - 115	12/19/02

ICV (1) QCBatch: QC25707

¹³ms recovery invalid due to spiking error, use lcs/lcsd to demonstrate the run is under control.
¹⁴ms recovery invalid due to spiking error, use lcs/lcsd to demonstrate the run is under control.
¹⁵ms recovery invalid due to matrix effect
¹⁶ms recovery invalid due to matrix effect

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.108	108	85 - 115	12/19/02
Benzene		mg/L	0.10	0.103	103	85 - 115	12/19/02
Toluene		mg/L	0.10	0.103	103	85 - 115	12/19/02
Ethylbenzene		mg/L	0.10	0.103	103	85 - 115	12/19/02
M,P,O-Xylene		mg/L	0.30	0.313	104	85 - 115	12/19/02

CCV (1) QCBatch: QC25708

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1	1.05	105	85 - 115	12/19/02

ICV (1) QCBatch: QC25708

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/L	1	0.915	91	85 - 115	12/19/02

CCV (1) QCBatch: QC25770

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	2	1.96	98	90 - 110	12/23/02
Total Arsenic		mg/L	1	1.03	103	90 - 110	12/23/02
Total Barium		mg/L	2	2.01	100	90 - 110	12/23/02
Total Boron		mg/L	0.10	0.104	104	90 - 110	12/23/02
Total Cadmium		mg/L	0.50	0.503	101	90 - 110	12/23/02
Total Chromium		mg/L	0.20	0.198	99	90 - 110	12/23/02
Total Cobalt		mg/L	0.50	0.498	100	90 - 110	12/23/02
Total Copper		mg/L	0.25	0.245	98	90 - 110	12/23/02
Total Iron		mg/L	1	1.02	102	90 - 110	12/23/02
Total Lead		mg/L	1	1.02	102	90 - 110	12/23/02
Total Manganese		mg/L	0.50	0.499	100	90 - 110	12/23/02
Total Molybdenum		mg/L	1	0.982	98	90 - 110	12/23/02
Total Nickel		mg/L	0.50	0.493	99	90 - 110	12/23/02
Total Selenium		mg/L	1	1.03	103	90 - 110	12/23/02
Total Silica		mg/L	1	1.04	104	90 - 110	12/23/02
Total Silver		mg/L	0.25	0.252	101	90 - 110	12/23/02
Total Zinc		mg/L	0.50	0.501	100	90 - 110	12/23/02

ICV (1) QCBatch: QC25770

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Aluminum		mg/L	2	2.00	100	90 - 110	12/23/02
Total Arsenic		mg/L	1	0.993	99	90 - 110	12/23/02
Total Barium		mg/L	2	2.04	102	90 - 110	12/23/02
Total Boron		mg/L	0.10	0.0983	98	90 - 110	12/23/02
Total Cadmium		mg/L	0.50	0.500	100	90 - 110	12/23/02
Total Chromium		mg/L	0.20	0.197	98	90 - 110	12/23/02
Total Cobalt		mg/L	0.50	0.489	98	90 - 110	12/23/02
Total Copper		mg/L	0.25	0.245	98	90 - 110	12/23/02
Total Iron		mg/L	1	1.02	102	90 - 110	12/23/02
Total Lead		mg/L	1	0.963	96	90 - 110	12/23/02
Total Manganese		mg/L	0.50	0.494	99	90 - 110	12/23/02
Total Molybdenum		mg/L	1	0.962	96	90 - 110	12/23/02
Total Nickel		mg/L	0.50	0.485	97	90 - 110	12/23/02
Total Selenium		mg/L	1	0.986	99	90 - 110	12/23/02
Total Silica		mg/L	1	0.965	96	90 - 110	12/23/02
Total Silver		mg/L	0.25	0.245	98	90 - 110	12/23/02
Total Zinc		mg/L	0.50	0.487	97	90 - 110	12/23/02

CCV (1) QCBatch: QC25779

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.43	91	90 - 110	12/20/02
Fluoride		mg/L	2.50	2.43	97	90 - 110	12/20/02
Nitrate-N		mg/L	2.50	2.35	94	90 - 110	12/20/02
Sulfate		mg/L	12.50	11.49	91	90 - 110	12/20/02

ICV (1) QCBatch: QC25779

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.39	91	90 - 110	12/20/02
Fluoride		mg/L	2.50	2.48	99	90 - 110	12/20/02
Nitrate-N		mg/L	2.50	2.38	95	90 - 110	12/20/02
Sulfate		mg/L	12.50	11.42	91	90 - 110	12/20/02

CCV (1) QCBatch: QC25798

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.1	101	-0.1 s.u. - +0.1 s.u.	12/19/02

ICV (1) QCBatch: QC25798

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
pH		s.u.	7	7.1	101	-0.1 s.u. - +0.1 s.u.	12/19/02

CCV (1) QCBatch: QC25799

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1003	100	90 - 110	12/24/02

ICV (1) QCBatch: QC25799

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Dissolved Solids		mg/L	1000	1006	100	90 - 110	12/24/02

CCV (1) QCBatch: QC25841

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00096	96	80 - 120	12/26/02

ICV (1) QCBatch: QC25841

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Mercury		mg/L	0.001	0.00105	105	80 - 120	12/26/02

CCV (1) QCBatch: QC25884

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	256	102	75 - 125	12/29/02

ICV (1) QCBatch: QC25884

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/L	250	253	101	75 - 125	12/29/02

CCV (1) QCBatch: QC25953

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	-	12/31/02
Carbonate Alkalinity		mg/L as CaCo3	0	224	0	-	12/31/02
Bicarbonate Alkalinity		mg/L as CaCo3	0	14	0	-	12/31/02
Total Alkalinity		mg/L as CaCo3	250	238	95	90 - 110	12/31/02

ICV (1) QCBatch: QC25953

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Hydroxide Alkalinity		mg/L as CaCo3	0	<1.0	0	-	12/31/02
Carbonate Alkalinity		mg/L as CaCo3	0	228	0	-	12/31/02
Bicarbonate Alkalinity		mg/L as CaCo3	0	12	0	-	12/31/02
Total Alkalinity		mg/L as CaCo3	250	240	96	90 - 110	12/31/02

CCV (1) QCBatch: QC26063

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		µMHOS/cm	1409	1374	97	90 - 110	1/7/03

ICV (1) QCBatch: QC26063

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Specific Conductance		µMHOS/cm	1412	1373	97	90 - 110	1/7/03

CCV (1) QCBatch: QC26140

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Naphthalene		mg/L	60	62.99	104	80 - 120	1/8/03
Acenaphthylene		mg/L	60	67.36	112	80 - 120	1/8/03
Acenaphthene		mg/L	60	66.5	110	80 - 120	1/8/03
Fluorene		mg/L	60	62.67	104	80 - 120	1/8/03
Phenanthrene		mg/L	60	67.9	113	80 - 120	1/8/03
Anthracene		mg/L	60	66.19	110	80 - 120	1/8/03
Fluoranthene		mg/L	60	67.07	111	80 - 120	1/8/03
Pyrene		mg/L	60	67.3	112	80 - 120	1/8/03
Benzo(a)anthracene		mg/L	60	68.75	114	80 - 120	1/8/03
Chrysene		mg/L	60	65.21	108	80 - 120	1/8/03
Benzo(b)fluoranthene		mg/L	60	57.52	95	80 - 120	1/8/03
Benzo(k)fluoranthene		mg/L	60	62.55	104	80 - 120	1/8/03
Benzo(a)pyrene		mg/L	60	68.7	114	80 - 120	1/8/03
Indeno(1,2,3-cd)pyrene		mg/L	60	49.23	82	80 - 120	1/8/03
Dibenzo(a,h)anthracene		mg/L	60	49.52	82	80 - 120	1/8/03
Benzo(g,h,i)perylene		mg/L	60	51.57	85	80 - 120	1/8/03
Nitrobenzene-d5		mg/L	60	65.8	109	80 - 120	1/8/03
2-Fluorobiphenyl		mg/L	60	65.27	108	80 - 120	1/8/03
Terphenyl-d14		mg/L	60	68.75	114	80 - 120	1/8/03

CCV (1) QCBatch: QC26478

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Calcium		mg/L	25	24.8	99	90 - 110	1/22/03
Total Magnesium		mg/L	25	24.5	98	90 - 110	1/22/03
Total Potassium		mg/L	25	25.4	101	90 - 110	1/22/03
Total Sodium		mg/L	25	26.4	105	90 - 110	1/22/03

ICV (1) QCBatch: QC26478

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Total Calcium		mg/L	25	23.9	95	90 - 110	1/22/03
Total Magnesium		mg/L	25	24.7	98	90 - 110	1/22/03
Total Potassium		mg/L	25	25.4	101	90 - 110	1/22/03
Total Sodium		mg/L	25	25.6	102	90 - 110	1/22/03

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Trace Analysis, Inc.

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

Company Name: New Mexico Oil Conservation Division Phone #: 505-476-3488
Address: 1220 South Saint Frances Dr. Santa Fe, NM 87505 Fax #: 505-476-3462

Contact Person: Martayne Kicking
Invoice to: (if different from above)

Project #: Goodwin Project Name: Goodwin Well #1
Project Location: Goodwin Treating Plant, Hobbs Sampler Signature: [Signature]

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX						WATER	PRESERVATIVE METHOD						SAMPLING	
				WATER	SOIL	AIR	SLUDGE	HCL	NaHSO ₄		H ₂ SO ₄	NaOH	ICE	NONE	DATE	TIME		
216781	1218021335	2	2 vials	X				X				X				1/18/02	1335	
	1218021335	1	1 IL	X								X				1/18/02	1335	
	1218021335	1	1 IL	X								X				1/18/02	1335	
	1218021335	1	1 sand	X				X				X				1/18/02	1335	

LAB Order ID #	ANALYSIS REQUEST (Circle or Specify Method No.)	REMARKS:
AD2121919	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 GCMS Vol 6260B/200.7 GCMS Semi Vol 607C/200.7 PCB's 8082/608 Pesticides 8081A/608 BOD, TSS, pH General Chemistry / Cation Anion WACC Metals Turn Around Time if different from standard	LAB USE ONLY Intact <input checked="" type="radio"/> Y <input type="radio"/> N Headspace Y / N Temp 5 ° Log-in Review <input checked="" type="checkbox"/>

1/27/02
Carrier # TINMTC 902988 5144

Relinquished by: Martayne Kicking Date: 1/18/02 Time: 1600
 Relinquished by: _____ Date: _____ Time: _____
 Relinquished by: _____ Date: _____ Time: _____

Received by: _____ Date: _____ Time: _____
 Received by: _____ Date: _____ Time: _____
 Received at Laboratory by: Juli Dunsley Date: 12-19-02 Time: 10:00

Original Copy

N.M. OGD

Goodman print

den co nmt

for your file

Amund

RECEIVED

JUL 12 2002

ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Goodwin 7-8-82





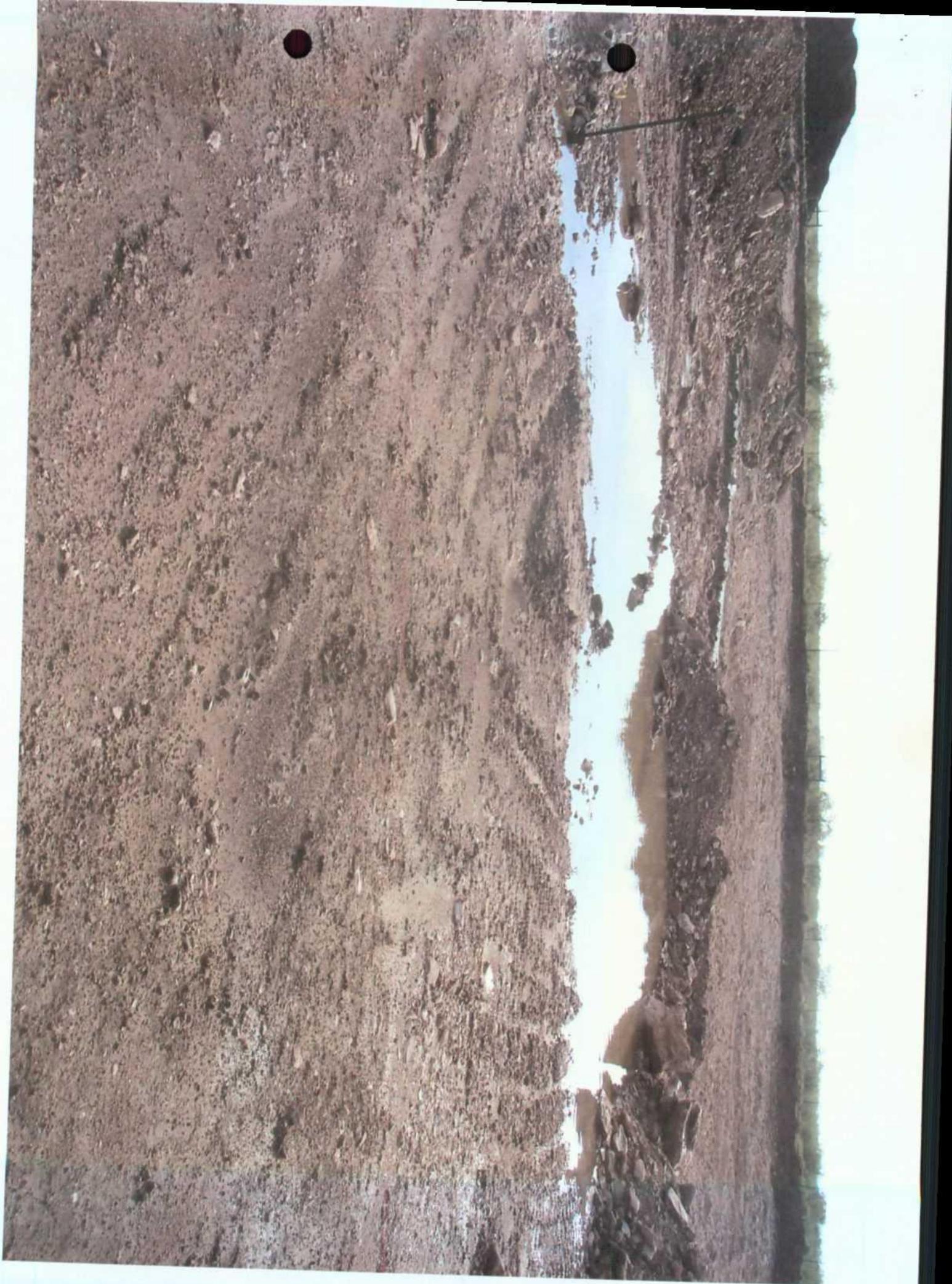
















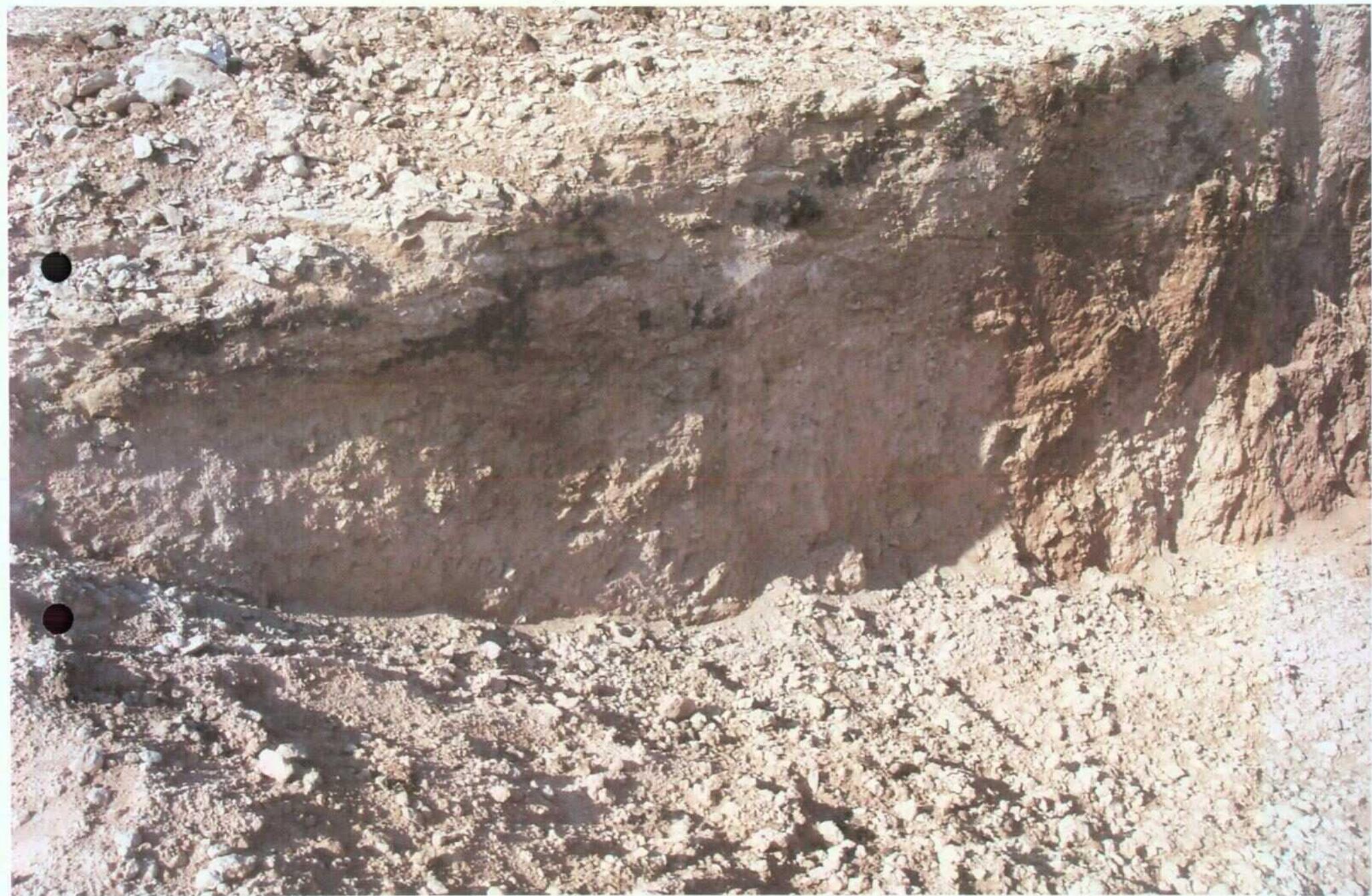




Goodwin - 7-8102
K



Boolevn 7-8-02



Goodman 7-8-02 / K



Goodwin 7-8-02 R



Goodwin - 7-8-02
↙



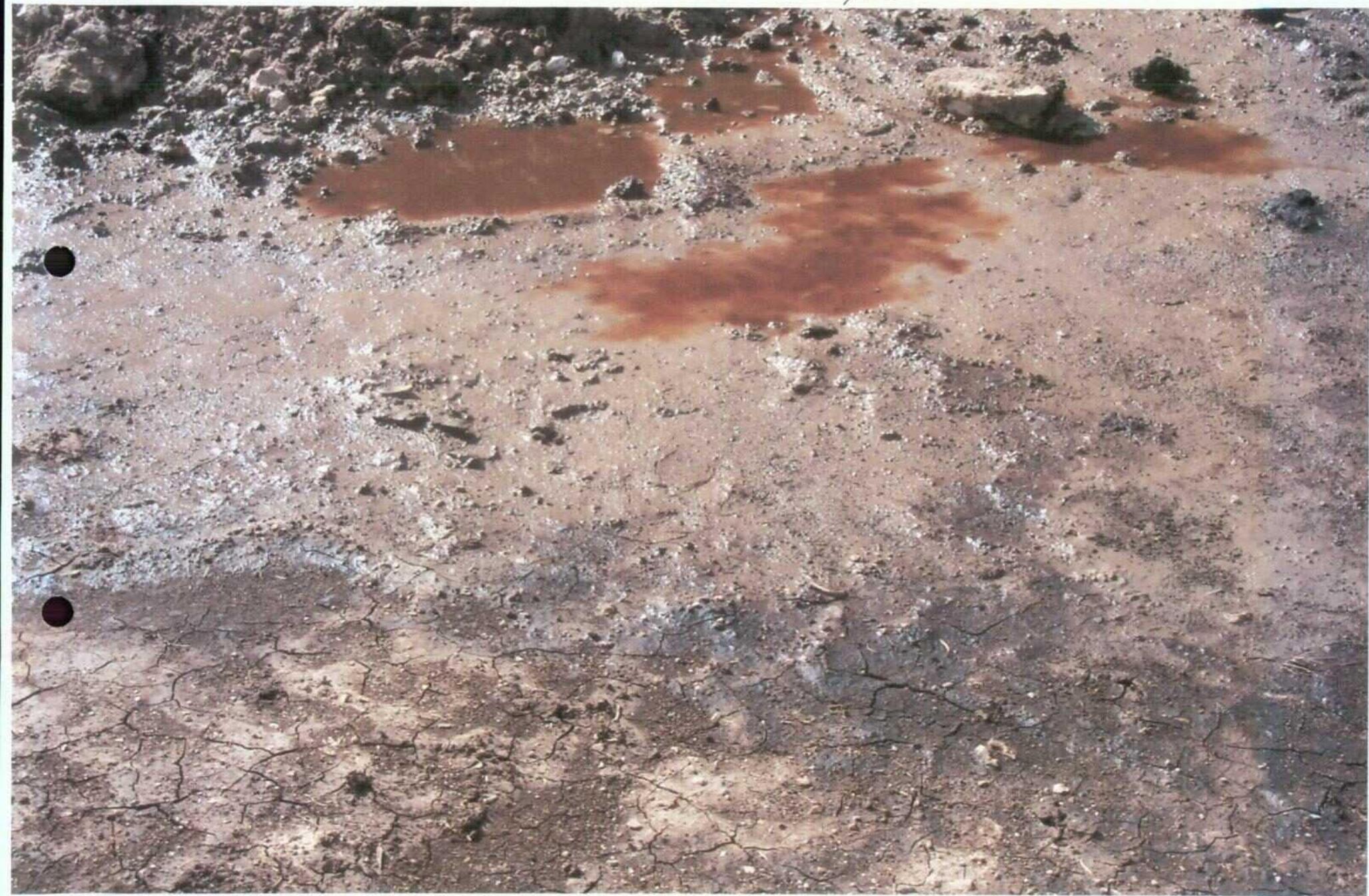
600 dam 7-8-02 12



Goodman 7-8-02, R



Goodman 7-8-52 / L



Goodwin 7-8-02 12



Goodman 7-8-02 12



Goodwin 7-8-02 12



Good an. 7-8-02 R



600 dwn 7-8, 02, 12



TraceAnalysis, Inc.

6701 Aberdeen Ave., Suite 9

Lubbock, TX 79424-1515

(806) 794-1296

Report Date: January 27, 2003 Order Number: A02121919
Goodwin Goodwin Well #1Page Number: 1 of 2
Goodwin Treating Plant, Hobbs

Summary Report

Martyne Kieling
OCD
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Report Date: January 27, 2003

Order ID Number: A02121919

Project Number: Goodwin
Project Name: Goodwin Well #1
Project Location: Goodwin Treating Plant, Hobbs

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
216781	1218021335	Water	2/18/02	13:35	12/19/02

0 This report consists of a total of 2 page(s) and is intended only as a summary of results for the sample(s) listed above.

Sample - Field Code	BTEX					TPH DRO	TPH GRO
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)	DRO (ppm)	GRO (ppm)
216781 - 1218021335	0.002	0.002	<0.001	<0.001	0.004	<5.00	<0.1

Sample: 216781 - 1218021335

Param	Flag	Result	Units
Hydroxide Alkalinity		<1.0	mg/L as CaCo3
Carbonate Alkalinity		<1.0	mg/L as CaCo3
Bicarbonate Alkalinity		276	mg/L as CaCo3
Total Alkalinity		276	mg/L as CaCo3
Specific Conductance		1420	μ MHOS/cm
Total Mercury		<0.0002	mg/L
Chloride	1	219	mg/L
Fluoride		1.44	mg/L
Nitrate-N		3.04	mg/L
Sulfate	2	41.6	mg/L
Naphthalene		<0.0002	mg/L
Acenaphthylene		<0.0002	mg/L
Acenaphthene		<0.0002	mg/L
Fluorene		<0.0002	mg/L
Phenanthrene		<0.0002	mg/L
Anthracene		<0.0002	mg/L
Fluoranthene		<0.0002	mg/L
Pyrene		<0.0002	mg/L
Benzo(a)anthracene		<0.0002	mg/L

Continued on next page ...

¹Sample re-ran on 12/23/02 in QC #25805. LCS %EA 91 RPD 0; Matrix spike %EA 90. RPD 0 %IA 91.

²Sample re-ran on 12/23/02 in QC #25805. LCS %EA 92 RPD 1; Matrix spike %EA 90. RPD 0 %IA 91.

This is only a summary. Please, refer to the complete report package for quality control data.

TraceAnalysis, Inc.

6701 Aberdeen Ave., Suite 9

Lubbock, TX 79424-1515

(806) 794-1296

Report Date: January 27, 2003 Order Number: A02121919
Goodwin Goodwin Well #1Page Number: 2 of 2
Goodwin Treating Plant, Hobbs

Sample #16781 continued ...

Param	Flag	Result	Units
Chrysene		<0.0002	mg/L
Benzo(b)fluoranthene		<0.0002	mg/L
Benzo(k)fluoranthene		<0.0002	mg/L
Benzo(a)pyrene		<0.0002	mg/L
Indeno(1,2,3-cd)pyrene		<0.0002	mg/L
Dibenzo(a,h)anthracene		<0.0002	mg/L
Benzo(g,h,i)perylene		<0.0002	mg/L
Total Calcium		240	mg/L
Total Magnesium		24.0	mg/L
Total Potassium		7.89	mg/L
Total Sodium		217	mg/L
Total Dissolved Solids		830	mg/L
Total Aluminum		16.6	mg/L
Total Arsenic		<0.050	mg/L
Total Barium		<0.100	mg/L
Total Boron		0.131	mg/L
Total Cadmium		<0.005	mg/L
Total Chromium		0.0336	mg/L
Total Cobalt		<0.025	mg/L
Total Copper		<0.0125	mg/L
Total Iron		8.40	mg/L
Total Lead		<0.010	mg/L
Total Manganese		0.0926	mg/L
Total Molybdenum		<0.050	mg/L
Total Nickel		<0.025	mg/L
Total Selenium		<0.050	mg/L
Total Silica		21.4	mg/L
Total Silver		<0.0125	mg/L
Total Zinc		0.0281	mg/L
pH	3	7.7	s.u.

^aSample received out of holding time

This is only a summary. Please, refer to the complete report package for quality control data.

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1286

Trace Analysis, Inc.

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

Company Name: **New Mexico Oil Conservation Division** Phone #: **505-476-3408**
Address: (Street, City, Zip) **1220 South Saint Francis Dr. Santa Fe, NM 87505** Fax #: **505-476-3462**

Contact Person: **Marlyne Kieling**
Invoice to: (if different from above)

Project #: **Goodwin** Project Name: **Goodwin Well #1**
Project Location: **Goodwin Treatment Plant Hobbs** Sampler Signature: *[Signature]*

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				DATE	SAMPLING TIME
				WATER	SOIL	AIR	SLUDGE	HCL	HNO3	NaHSO4	H2SO4		
216781	1218021335	2	water	X				X				12/18/02	1335
	1218021335	1	1L	X				X				12/18/02	1335
	1218021335	1	1L	X				X				12/18/02	1335
	1218021335	1	sand	X				X				12/18/02	1335

Relinquished by: *Marlyne Kieling* Date: **12/18/02** Time: **1600**
Received by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____
Received by: *Judi Dunsley* Date: **12-19-02** Time: **10:00**

Page 1 of 1
CHAIN-OF-CUSTODY AND ANALYSIS REQUEST
LAB Order ID # **AD2121919**

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 9021B/602	X
BTX 9021B/602	X
TPH 418.1/TX1005	XX
PAH 8270C	
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	
TCP Metals Ag As Ba Cd Cr Pb Se Hg	
TCP Volatiles	
TCP Semi Volatiles	
TCP Pesticides	
RCI	
GCMS Vol 636B/200.7	X
GCMS Det Vol 636B/200.7	X
PCB's 8082/608	
Pesticides 8081A/608	
BOD, TSS, pH	
General Chemistry / Cation Anion	
Wacc Metals	X

REMARKS:
LAB USE ONLY
Intact N
Headspace Y / N
Temp **5** °
Log-in Review: *[Signature]*
Carrier # **TIMATO 702 928 5144**

Terms and Conditions listed on reverse side of C.O.C.
ORIGINAL COPY

```

*****
*                               P.01  *
*                               *
*          TRANSACTION REPORT      *
*                               *
*                               JAN-27-2003 MON 10:52 AM *
*                               *
*          FOR:                   *
*                               *
*          RECEIVE                *
*                               *
*          DATE  START  SENDER      RX TIME  PAGES TYPE  NOTE      M#  DP  *
*-----*-----*-----*-----*-----*-----*-----*-----*-----*
*          JAN-27 10:51 AM 8067941298      1'06"      3 RECEIVE  OK                *
*                               *
*****

```

2.2 MONITOR WELL COMPLETION

A monitoring well was installed on March 27, 2001 in the location of the soil boring at a depth of 63 feet below ground surface (bgs). The well was completed using 20 feet of 0.01 inch slotted two-inch diameter schedule 40 PVC well screen at a depth of 43 to 63 feet bgs. The screen was placed in an approximate position of the groundwater interface where fifteen feet of well screen is above the water table and five feet is below the water table. The annulus around the well screen was backfilled with clean, 12-20 grade, silica sand-pack to a depth of 2-3 feet, above the top of the screen. A 2-3 feet thick bentonite seal was placed immediately above the sand-pack and quenched with water. The remaining well consists of solid, schedule 40 PVC that was placed from 43 feet bgs to approximately 2.5 feet above the ground surface. The remainder of the well annulus was grouted to the surface with bentonite. The monitoring well was completed with a concrete pad and locking well cover.

A copy of the monitoring well installation record is located in Appendix C.

2.3 GROUNDWATER SAMPLING AND TEST RESULTS

On March 28, 2001, Don Fernald with PSC developed and sampled the groundwater monitoring well, installed southeast of the emergency overflow pit. The total depth of the monitoring well was measured at 63.125 feet bgs. Groundwater was measured at 58.54 feet bgs. Prior to sampling, the monitoring well was developed by removing greater than three well volumes of water or approximately 25 gallons of water. Water samples obtained were labeled, documented on chain of custody forms and placed in a cooler with ice. Soil and groundwater samples obtained from the boring and monitoring well were submitted to Pinnacle Laboratories in Albuquerque, New Mexico on March 29, 2001. Groundwater samples obtained from the monitoring well were analyzed for concentrations of BTEX, polycyclic aromatic hydrocarbons (PAH), total dissolved solids (TDS), major cations/anions and New Mexico Water Quality Control Commission (WQCC) metals. Analytical results of the groundwater samples obtained from the monitoring well did not reveal the presence of elevated levels of BTEX, PAH or WQCC metals above current EPA, NMED levels. However, several other constituents were found to be above the NMED and the EPA groundwater standards. The constituents are listed as follows:

Table III - Groundwater Quality Standards Exceeded for MW-1

Parameter	MW-1/62800404-01	MW-1/62800404-DUP	NMED/EPA Standard
Chloride	921 ppm	858 ppm	250 ppm / 250 ppm
Iron	1.88 ppm	0.268 ppm	1.0 ppm / 0.3 ppm
Manganese	0.242 ppm	0.221 ppm	0.2 ppm / 0.05 ppm



Kieling, Martyne

From: Don Fernald [don.fernald@amec.com]
Sent: Friday, December 13, 2002 7:24 AM
To: Kieling, Martyne
Subject: RE: Goodwin photos 12-10-02

Hi Martyne,

I agree, some of the photos look a bit suspect. I spoke with James Penrod / AMEC, who is AMEC's field manager at Goodwin. James indicated that there appeared/smelled like a few hot spots. I have instructed James to segregate the soil that appeared contaminated for stockpiling and place only what appeared clean back into the hole.

Please call me at your convenience to discuss further.

Best Regards,

Don Fernald
AMEC Earth & Environmental
2060 Afton Place
Farmington, NM 87401
Ph: (505) 327-7928
Fx: (505) 326-5721
don.fernald@amec.com

-----Original Message-----

From: Kieling, Martyne [mailto:MKieling@state.nm.us]
Sent: Thursday, December 12, 2002 3:34 PM
To: 'don.fernald@amec.com'
Subject: FW: Goodwin photos 12-10-02

> -----Original Message-----

> **From:** Sheeley, Paul
> **Sent:** Wednesday, December 11, 2002 2:34 PM
> **To:** Kieling, Martyne
> **Subject:** Goodwin photos 12-10-02
>
> <<Picture_0234.JPG>> <<Picture_0235.JPG>> <<Picture_0236.JPG>>
> <<Picture_0237.JPG>> <<Picture_0238.JPG>> <<Picture_0239.JPG>>

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12/13/2002

TRACE ANALYSIS, INC.

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

Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Attn: **Wayne Price**

RECEIVED

DEC 12 2002
Environmental Bureau
Oil Conservation Division

Invoice # 56316

Invoice Date: **Dec 3, 2002**

Order ID: **A02112209**

Project #:	Composite Pile		
Project Name:	Goodwin	P. A. #	20-521-07-02497
Project Location:	Goodwin Treating Plant		

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	5	Soil	214232 - 214236	\$40.00	\$200.00
BTEX/TPH GRO	5	Soil	214232 - 214236	\$60.00	\$300.00
<i>Payment Terms: Net 30 Days</i>				Total	\$500.00



Director, Dr. Blair Leftwich

*Manly Kieling
OK to Pay
12-13-02*

Summary Report

Martynne Kieling
OCD
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

RECEIVED

Report Date: December 4, 2002

DEC 12 2002
Environmental Bureau
Oil Conservation Division

Order ID Number: A02112209

Project Number: Composite Pile
Project Name: Goodwin
Project Location: Goodwin Treating Plant

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
214232	112102913	Soil	11/21/02	9:13	11/22/02
214233	112102920	Soil	11/21/02	9:20	11/22/02
214234	112102928	Soil	11/21/02	9:28	11/22/02
214235	112102936	Soil	11/21/02	9:36	11/22/02
214236	112102944	Soil	11/21/02	9:44	11/22/02

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 - Field Code	BTEX					TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)		
214232 - 112102913	<0.010	<0.010	<0.010	<0.010	<0.010	225	4.54
214233 - 112102920	<0.010	<0.010	<0.010	<0.010	<0.010	389	<1.00
214234 - 112102928	<0.010	<0.010	<0.010	<0.010	<0.010	508	<1.00
214235 - 112102936	<0.010	<0.010	<0.010	<0.010	<0.010	342	3.92
214236 - 112102944	<0.010	<0.010	<0.010	<0.010	<0.010	411	<1.00

This is only a summary. Please, refer to the complete report package for quality control data.

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Martyne Kieling
OCD
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Report Date: December 4, 2002

Order ID Number: A02112209

Project Number: Composite Pile
Project Name: Goodwin
Project Location: Goodwin Treating Plant

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
214232	112102913	Soil	11/21/02	9:13	11/22/02
214233	112102920	Soil	11/21/02	9:20	11/22/02
214234	112102928	Soil	11/21/02	9:28	11/22/02
214235	112102936	Soil	11/21/02	9:36	11/22/02
214236	112102944	Soil	11/21/02	9:44	11/22/02

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. The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 11 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of TraceAnalysis, Inc.

Note: Samples will be disposed of 30 days from the report date unless the lab is contacted before the 30 days has past.



Dr. Blair Leftwich, Director

Report Date: December 4, 2002
Composite File

Order Number: A02112209
Goodwin

Page Number: 2 of 11
Goodwin Treating Plant

Analytical Report

Sample: 214232 - 112102913

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC25117 Date Analyzed: 11/22/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB23347 Date Prepared: 11/22/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.876	mg/Kg	10	1	88	70 - 130
4-BFB		0.918	mg/Kg	10	1	92	70 - 130

Sample: 214232 - 112102913

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC25297 Date Analyzed: 12/3/02
Analyst: BP Preparation Method: 3550 B Prep Batch: PB23483 Date Prepared: 12/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		225	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		147	mg/Kg	1	150	98	70 - 130

Sample: 214232 - 112102913

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC25118 Date Analyzed: 11/22/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB23347 Date Prepared: 11/22/02

Param	Flag	Result	Units	Dilution	RDL
GRO		4.54	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.895	mg/Kg	10	0.10	90	70 - 130
4-BFB		1.13	mg/Kg	10	0.10	113	70 - 130

Sample: 214233 - 112102920

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC25117 Date Analyzed: 11/22/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB23347 Date Prepared: 11/22/02

Report Date: December 4, 2002
Composite Pile

Order Number: A02112209
Goodwin

Page Number: 3 of 11
Goodwin Treating Plant

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.811	mg/Kg	10	1	81	70 - 130
4-BFB		0.815	mg/Kg	10	1	81	70 - 130

Sample: 214233 - 112102920

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC25297 Date Analyzed: 12/3/02
Analyst: BP Preparation Method: 3550 B Prep Batch: PB23483 Date Prepared: 12/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		389	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		170	mg/Kg	1	150	113	70 - 130

Sample: 214233 - 112102920

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC25118 Date Analyzed: 11/22/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB23347 Date Prepared: 11/22/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.25	mg/Kg	10	0.10	125	70 - 130
4-BFB		0.930	mg/Kg	10	0.10	93	70 - 130

Sample: 214234 - 112102928

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC25117 Date Analyzed: 11/22/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB23347 Date Prepared: 11/22/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Report Date: December 4, 2002
Composite File

Order Number: A02112209
Goodwin

Page Number: 4 of 11
Goodwin Treating Plant

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.805	mg/Kg	10	1	80	70 - 130
4-BFB		0.816	mg/Kg	10	1	82	70 - 130

Sample: 214234 - 112102928

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC25297 Date Analyzed: 12/3/02
Analyst: BP Preparation Method: 3550 B Prep Batch: PB23483 Date Prepared: 12/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		508	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		175	mg/Kg	1	150	116	70 - 130

Sample: 214234 - 112102928

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC25118 Date Analyzed: 11/22/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB23347 Date Prepared: 11/22/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.05	mg/Kg	10	0.10	105	70 - 130
4-BFB		0.926	mg/Kg	10	0.10	93	70 - 130

Sample: 214235 - 112102936

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC25117 Date Analyzed: 11/22/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB23347 Date Prepared: 11/22/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.876	mg/Kg	10	1	88	70 - 130
4-BFB		0.907	mg/Kg	10	1	91	70 - 130

Report Date: December 4, 2002
Composite File

Order Number: A02112209
Goodwin

Page Number: 5 of 11
Goodwin Treating Plant

Sample: 214235 - 112102936

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC25297 Date Analyzed: 12/3/02
Analyst: BP Preparation Method: 3550 B Prep Batch: PB23483 Date Prepared: 12/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		342	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		184	mg/Kg	1	150	122	70 - 130

Sample: 214235 - 112102936

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC25118 Date Analyzed: 11/22/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB23347 Date Prepared: 11/22/02

Param	Flag	Result	Units	Dilution	RDL
GRO		3.92	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.19	mg/Kg	10	0.10	119	70 - 130
4-BFB		1.10	mg/Kg	10	0.10	110	70 - 130

Sample: 214236 - 112102944

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC25117 Date Analyzed: 11/22/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB23347 Date Prepared: 11/22/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.900	mg/Kg	10	1	90	70 - 130
4-BFB		0.891	mg/Kg	10	1	89	70 - 130

Sample: 214236 - 112102944

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC25297 Date Analyzed: 12/3/02
Analyst: BP Preparation Method: 3550 B Prep Batch: PB23483 Date Prepared: 12/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		411	mg/Kg	1	50

Report Date: December 4, 2002
Composite File

Order Number: A02112209
Goodwin

Page Number: 6 of 11
Goodwin Treating Plant

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		177	mg/Kg	1	150	118	70 - 130

Sample: 214236 - 112102944

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC25118 Date Analyzed: 11/22/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB23347 Date Prepared: 11/22/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.874	mg/Kg	10	0.10	87	70 - 130
4-BFB		1.05	mg/Kg	10	0.10	105	70 - 130

Quality Control Report Method Blank

Method Blank QCBatch: QC25117

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.899	mg/Kg	10	1	90	70 - 130
4-BFB		0.918	mg/Kg	10	1	92	70 - 130

Method Blank QCBatch: QC25118

Param	Flag	Results	Units	Reporting Limit
GRO		<1.00	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.01	mg/Kg	10	0.10	101	70 - 130
4-BFB		1.04	mg/Kg	10	0.10	104	70 - 130

Method Blank QCBatch: QC25297

Param	Flag	Results	Units	Reporting Limit
DRO		<50.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		114	mg/Kg	1	150	76	70 - 130

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC25117

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.818	0.885	mg/Kg	10	1	<0.010	81	7	70 - 130	20
Benzene	0.883	0.909	mg/Kg	10	1	<0.010	88	2	70 - 130	20
Toluene	0.895	0.932	mg/Kg	10	1	<0.010	89	4	70 - 130	20
Ethylbenzene	0.935	0.972	mg/Kg	10	1	<0.010	93	3	70 - 130	20
M,P,O-Xylene	2.80	2.91	mg/Kg	10	3	<0.010	93	3	70 - 130	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	0.871	0.901	mg/Kg	10	1	87	90	70 - 130
4-BFB	0.9.9	0.982	mg/Kg	10	1	90	98	70 - 130

Laboratory Control Spikes

QCBatch: QC25118

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	10.5	10.6	mg/Kg	10	1	<1.00	105	0	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	0.924	0.968	mg/Kg	10	0.10	92	97	70 - 130
4-BFB	1.03	1.04	mg/Kg	10	0.10	103	104	70 - 130

Laboratory Control Spikes

QCBatch: QC25297

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	231	235	mg/Kg	1	250	<50.0	92	1	70 - 130	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
n-Triacontane	¹ 99.6	² 102	mg/Kg	1	150	66	68	70 - 130

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes

QCBatch: QC25117

¹Surrogate recovery out of limits but within control charts for TPH1.

²Surrogate recovery out of limits but within control charts for TPH1.

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.824	0.836	mg/Kg	10	1	<0.010	82	1	70 - 130	20
Toluene	0.845	0.864	mg/Kg	10	1	<0.010	84	2	70 - 130	20
Ethylbenzene	0.886	0.902	mg/Kg	10	1	<0.010	88	1	70 - 130	20
M,P,O-Xylene	2.68	2.72	mg/Kg	10	3	<0.010	89	1	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.846	0.858	mg/Kg	10	1	84	85	70 - 130
4-BFB	0.881	0.907	mg/Kg	10	1	88	90	70 - 130

Matrix Spikes QCBatch: QC25118

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	19.4	18.7	mg/Kg	10	1	8.81	106	6	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	1.05	1.12	mg/Kg	10	0.10	105	112	70 - 130
4-BFB	1.24	1.24	mg/Kg	10	0.10	124	124	70 - 130

Matrix Spikes QCBatch: QC25297

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	475	541	mg/Kg	1	250	225	100	23	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	148	151	mg/Kg	1	150	98	100	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV (1)

QCBatch: QC25117

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0926	93	85 - 115	11/22/02
Benzene		mg/L	0.10	0.0907	91	85 - 115	11/22/02
Toluene		mg/L	0.10	0.0929	93	85 - 115	11/22/02
Ethylbenzene		mg/L	0.10	0.0964	96	85 - 115	11/22/02
M,P,O-Xylene		mg/L	0.30	0.288	96	85 - 115	11/22/02

CCV (2) QCBatch: QC25117

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.091	91	85 - 115	11/22/02
Benzene		mg/L	0.10	0.096	96	85 - 115	11/22/02
Toluene		mg/L	0.10	0.097	97	85 - 115	11/22/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	11/22/02
M,P,O-Xylene		mg/L	0.30	0.305	101	85 - 115	11/22/02

ICV (1) QCBatch: QC25117

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0885	88	85 - 115	11/22/02
Benzene		mg/L	0.10	0.091	91	85 - 115	11/22/02
Toluene		mg/L	0.10	0.0932	93	85 - 115	11/22/02
Ethylbenzene		mg/L	0.10	0.0979	98	85 - 115	11/22/02
M,P,O-Xylene		mg/L	0.30	0.294	98	85 - 115	11/22/02

CCV (1) QCBatch: QC25118

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	1.08	108	85 - 115	11/22/02

CCV (2) QCBatch: QC25118

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	1.15	115	85 - 115	11/22/02

ICV (1) QCBatch: QC25118

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	1.05	105	85 - 115	11/22/02

CCV (1) QCBatch: QC25297

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	252	101	75 - 125	12/3/02

CCV (2) QCBatch: QC25297

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	240	96	75 - 125	12/3/02

ICV (1) QCBatch: QC25297

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	237	95	75 - 125	12/3/02

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

Trace Analysis, Inc.

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

Company Name: **Oil Conservation Division**

Phone #:

805 476-3488

Address: (Street, City, Zip)

Fax #:

1220 South Saint Francis Drive Santa Fe NM 87505

Contact Person:

Marthye Kieling

Invoice to:
 (If different from above)

Project #:

Compost Pile

Project Name:

Goodwin

Location:

Goodwin Training Plant

Sampler Signature:

[Signature]

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD					DATE	TIME	
				WATER	SOIL	AIR	SLUDGE	HCL	HNO3	NaHSO4	H2SO4	NaOH			ICE
214330	112102913	1	4oz	X										11/21/02	9:13
33	112102920	1	4oz	X										11/21/02	9:20
34	112102928	1	4oz	X										11/21/02	9:28
35	112102936	1	4oz	X										11/21/02	9:36
36	112102944	1	4oz	X										11/21/02	9:44

Relinquished by: _____ Date: _____ Time: _____
 Received by: **L. JOHNSON** Date: **11/21/02** Time: **11:00 AM**

Relinquished by: **Marthye Kieling** Date: **11/21/02** Time: **10:30**
 Received by: _____ Date: _____ Time: _____

Relinquished by: _____ Date: _____ Time: _____
 Received at Laboratory by: *[Signature]* Date: **11/21/02** Time: _____

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # **A02110209**

ANALYSIS REQUEST
 (Circle or Specify Method No.)

MTBE 8021B/602	
BTEX 8021B/602	
TPH 418.1/TX1005	CRD + DEO
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	
Turn Around Time if different from standard	
Hold	

LAB USE ONLY

Intact: / / / /

Headspace: / / / /

Temp: **71** °

Log-in Review: **MA**

REMARKS: **12/4**

Carrier # **TWMTD 902 908 285-6**



Photo 1: Agua Well at the Goodwin Treating Plant. Looking north-northwest. Remediation complete, excavations filled, and site compacted and mounded.



Photo 1: Goodwin Treating Plant entrance. Looking east. Remediation complete, excavations filled, and site compacted and mounded.



Photo 1: Goodwin Treating Plant. Looking northeast from the entrance gate. Remediation complete, excavations filled, site compacted and mounded.

Kieling, Martyne

From: Kieling, Martyne
Sent: Tuesday, September 24, 2002 10:32 AM
To: Coss, David
Cc: Matush, Mike
Subject: Goodwin

David,

The compost pile test results are back for the September turning event at the Goodwin Treating Plant. Five samples were taken and the results are as follows- Total Petroleum Hydrocarbons are now down to 210, 298, 393, 526 and 1040 ppm. The prior sampling event on July 17 had TPH at 2754 ppm to 5180 ppm.

I have Given AMEC the go-ahead to begin backfilling the holes. This will probably take place the last week of October or first week of November. This will allow the pile to sit and remediate for another 7 to 8 week period. Effectively lowering the TPH even more. I am surprised and pleased that the composing worked as well and as fast as it did. I am ready to use this method again wherever we have the room to set it up.

I will keep you updated.

Martyne J. Kieling
Martyne J. Kieling
Environmental Geologist

STATE OF NEW MEXICO
ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

Telephone Personal Time 3:00 pm Date 9-23-02

Originating Party Don Fernald Other Parties Martynne Kieling
AMEC
505-327-7928

Subject Goodwin - Remediation of Compost piles
5 Samples taken TPH is now at 393, 210, 298,
526, 1040 ppm

Discussion The Facility is Good to Close. Material can be
~~Remediated~~ Back Filled into the Pits. AS SOON AS
Time is Available.

Contractor AMEC will probably go with end of October
First of November. This will allow ~~another~~ The
file to continue remediation for another 7 to 8 weeks

Conclusions or Agreements

Distribution Signed Martynne Kieling

Kieling, Martyne

From: Kieling, Martyne
Sent: Monday, August 26, 2002 11:30 AM
To: Coss, David
Subject: Goodwin

David,

It seems that I am past due regarding keeping you updated on the Goodwin Project. I seem to have been a little under the weather this summer.

Placement of the compost pile was completed the third week of July and the contractors began turning the pile which had been sitting there for almost one month. Samples were taken on July 17, 2002 and the benzene, toluene, ethylbenzene and xylene (BTEX) levels are all below 50 ppm ranging from **9.35 ppm to 0.160 ppm**. Benzene levels are all below 10 ppm **< detection to 0.666 ppm**. Total petroleum hydrocarbons (TPH) results at the time of the first turning ranged from **5180 ppm to 2754 ppm**. Because the depth of ground water at the facility site is 85 feet below ground surface (bgs) OCD surface impoundment closure guidelines recommend the cleanup level for the soil to be no worse than the following.

From the surface to 8 feet bgs

10 benzene
50 BTEX
1000 TPH

For greater than 8 feet bgs

10 benzene
50 BTEX
100 TPH

This is recommended according to the OCD guidelines. There is also an option to demonstrate that there would be no migration of contaminants to ground water if something greater than the guidelines is placed back in the excavations. Transport models could be run or clay barriers could be placed in the bottom of the excavations. The OCD will evaluate these options further after we see the next batch of results.

The contractor will be on site the week of September 3, 2002 to turn the piles and sample again to see how the biodegradation is progressing. There should be enough money left to turn one more time which I project to be some time in mid October. There is also money dedicated to place the material back in the excavations. I should know more by the end of September when the analytical results come back.

I have the first Invoice (\$220,917.72) from AMEC and will forward it on to Della once I receive all of the receipts for items that were managed AT COST and have had it approved on this end.

If you have any questions please call (476-3488) or E-mail. I see that that other job of yours is keeping you busy, take care of yourself.

Martyne J. Kieling

Martyne J. Kieling
Environmental Geologist

Kieling, Martyne

From: Don Fernald [don.fernald@amec.com]
Sent: Monday, September 16, 2002 8:00 PM
To: Kieling, Martyne
Subject: Goodwin - Water Truck

Hi Martyne,

AMEC is currently using a 2,000 gallon / 47 barrel water truck to collect, transport and spray water onto the biopiles for the Goodwin remedial project. The water truck is equipped with pumps, hoses and sprayers to perform these types of tasks. AMEC is currently charging the NMOCD \$200/day which includes use of the truck, maintenance and fuel.

AMEC's agreement with the NMSHTD has a line item of \$125/day for a water truck used to support drilling operations. Water trucks of this type generally consist of a truck with a 500-1,000 gallon poly tank. This equipment would not be feasible to use on a project such as Goodwin.

If you have any questions or need additional information, please contact me at (505) 327-7928 or (505) 320-9670.

Best Regards,

Don Fernald
AMEC Earth & Environmental
2060 Afton Place
Farmington, NM 87401
Ph: (505) 327-7928
Fx: (505) 326-5721
don.fernald@amec.com

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Goodwin Treating Plant Remediation
New Mexico Energy Minerals and Natural Resources Department,
Oil Conservation Division

Summary Report Submitted by: AMEC Earth & Environmental
Project No. 251700051 Week Ending July 12, 2002

Saturday, July 6, 2002 through Friday, July 12, 2002

AMEC's remediation crew mobilized from Farmington to Hobbs, New Mexico on Monday, July 8, 2002. The Goodwin treating plant site reportedly received several inches of rain during the weekend of July 6th & 7th. The first part of the week was spent working the puddles of water from the recent rains into the soil. Continued excavation and mixing of hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site.

Laboratory data from BioLogical Resources who was subcontracted by Trace Analysis to analyze representative soil samples from the Goodwin Treating Plant was received. The data indicates that sufficient populations of diesel and heavy oil degrading bacteria are present at the site. Moderately elevated concentrations of chlorides were present in the two soil samples, but not at concentrations that would inhibit biological degradation of hydrocarbons.

AMC Earth & Environmental
 Project: Goodwin Treating Plant
 Project #: 2517000051
 Weekly Summary for all tasks/items

Week ending: JL

12-Jul

Project Manager: Don Fernald
 Project Supervisor: Morgan Killion
 505-330-3061
 Asst. Supervisor: Bruce Hare
 505-330-320-9253

Task	OCD Item	Budget	Week 6/7	Week 6/14	Week 6/21	Week 6/28	Week 7/5	Week 7/12
MOBILIZATION / DEMOBILIZATION	(a)	\$7,997.00	\$ 4,619.00	\$ -	\$ -	\$ -	\$ -	\$ -
ON SITE WORK	(b)	\$130,542.50	\$ 15,311.00	\$ 17,656.50	\$ 14,440.25	\$ 23,377.50	\$ 13,801.25	\$ 17.0
OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL	(c)	\$10,000.00	\$ 10,050.00	\$ -	\$ -	\$ -	\$ -	\$ -
ONSITE COMPOST PILE SET UP AND INITIAL WATERING	(d)	\$ 67,045.25	\$ 11,183.25	\$ 21,442.50	\$ 9,800.50	\$ 2,554.50	\$ 704.00	\$ 2.5
MAINTENANCE OF COMPOST PILE (3 turning events)	(e)	\$ 35,602.00	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
REMOVAL AND DISPOSAL OF HEATER-TREATERS	(f)	\$3,225.00	\$0.00	\$0.00	\$ 4,422.80	\$ -	\$ -	\$ -
CLAY LINER PLACEMENT	(g)	\$0.00	\$0.00	\$0.00	\$ -	\$ -	\$ -	\$ -
BACKFILLING AND SITE RESTORATION	(h)	\$29,629.00	\$0.00	\$0.00	\$ -	\$ -	\$ -	\$ -
Total		284,041	\$ 41,163.25	\$ 39,099.00	\$ 28,663.55	\$ 25,932.00	\$ 14,505.25	\$ 19.6
Tax =		5.25%	14,912	\$2,161.07	\$2,052.70	\$1,504.84	\$1,361.43	\$761.53
Grand Total		298,953	\$ 43,324.32	\$ 41,151.70	\$ 30,168.39	\$ 27,293.43	\$ 15,266.78	\$ 20.6

Through
12-Jul

	Budget	Remaining Budget	Task #
\$ 4,619.00	\$7,997.00	\$3,378.00	1
\$ 101,672.00	\$130,542.50	\$28,870.50	2
\$ 10,050.00	\$10,000.00	(\$50.00)	3
\$ 48,212.50	\$ 67,045.25	\$18,832.75	4
\$ -	\$ 35,602.00	\$35,602.00	5
\$ 4,422.80	\$3,225.00	(\$1,197.80)	6
\$ -	\$0.00	\$0.00	
\$ -	\$29,629.00	\$29,629.00	7
\$ 158,976.30	\$ 284,040.75	\$ 115,064.45	
\$ 8,871.26	\$ 14,912.14	\$ 6,040.88	
\$ 77,847.56	\$ 298,952.89	\$ 121,105.33	

COST SUMMARY FOR REMEDIAL ACTIONS AT THE GOODWIN TREAING PLANT SITE

AMEC CODES	MOBILIZATION / DEMOBILIZATION					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P4	0003	project scientist/manager	hour	\$63	16	\$1,008.00
T4	0005	field tech II	hour	\$42	16	\$672.00
T2A	0006	field tech I	hour	\$40	48	\$1,920.00
	0029	trackhoe 2	day	\$550	6	\$3,300.00
AM10	0042	mileage	mile	\$0.25	1,988	\$497.00
AP10	0043	per diem	night	\$60	5	\$300.00
AT40	0053	pick-up trucks (3)	day	\$50	6	\$300.00
	ESTIMATED TOTAL					(a) \$7,997.00

AMEC CODES	ON SITE WORK					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	50	\$3,750.00
P4	0003	project scientist/manager	hour	\$63	120	\$7,560.00
T4	0005	field tech II	hour	\$42	330	\$13,860.00
T2A	0006	field tech I (3)	hour	\$40	990	\$39,600.00
Z4	0010	secretary	hour	\$29	40	\$1,160.00
UPDD	0021	PID	day	\$5	30	\$150.00
	0029	trackhoe 2 (3)	day	\$550	90	\$49,500.00
AP10	0043	perdiem (4 - 5)	night	\$60	165	\$9,900.00
AT40	0053	pick-up truck (2)	day	\$50	90	\$4,500.00
AM10	0042	mileage	mile	0.25	2,250	\$562.50
	ESTIMATED TOTAL					(b) \$130,542.50

AMEC CODES	OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
YS60	0045	disposal of contaminated soil	5 bbls = cubic yd	\$20	500	\$10,000.00
	ESTIMATED TOTAL					(c) \$10,000.00

AMEC CODES	ONSITE COMPOST PILE SET UP AND INITIAL WATERING					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	8	\$ 600.00
P4	0003	project scientist/manager	hour	\$63	16	\$ 1,008.00
T4	0005	field tech II	hour	\$42	99	\$ 4,158.00
T2A	0006	field tech I (2)	hour	\$40	198	\$ 7,920.00
Z4	0010	secretary	hour	\$29	8	\$ 232.00
UPDD	0021	PID	day	\$5	10	\$ 50.00
	0029	trackhoe 2 (2)	day	\$550	20	\$ 11,000.00
UTVW	0052	water truck	day	\$125	-	\$ -
WFIA	X	Water purchase (at cost)	130 bbl	\$39	34	\$ 1,326.00
IS74	XX	120 bbl transport (at cost)	Hour	\$65	68	\$ 4,420.00
AP10	0043	perdiem	night	\$60	30	\$ 1,800.00
AT40	0053	pick-up truck	day	\$50	20	\$ 1,000.00

AM10	0042	mileage	mile	0.25	750	\$ 187.50
UFAM		fence (at cost)	LS	Each	6,000	\$ 6,000.00
IT30		manure/trucking (at cost)	cubic yd	8.75	3,125	\$ 27,343.75
ESTIMATED TOTAL						(d) \$ 67,045.25

AMEC MAINTENANCE OF COMPOST PILE (3 turning events)						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
P0	0002	senior scientist	hour	\$75	6	\$ 450.00
P4	0003	project scientist/manager	hour	\$63	6	\$ 378.00
T4	0005	field tech II	hour	\$42	240	\$ 10,080.00
T2A	0006	field tech I	hour	\$40	-	\$ -
Z4	0010	secretary	hour	\$29	6	\$ 174.00
UPDD	0021	PID	day	\$5	15	\$ 75.00
	0029	trackhoe 2	day	\$550	15	\$ 8,250.00
WFIA	X	Water purchase (at cost)	130 bbl	\$39	110	\$ 4,290.00
IS74	XX	120 bbl transport (at cost)	Hour	\$65	140	\$ 9,100.00
UTVW	0052	water truck	day	\$125	-	\$ -
AP10	0043	perdiem	night	\$60	18	\$ 1,080.00
AT40	0053	pick-up truck	day	\$50	21	\$ 1,050.00
AM10	0042	mileage	mile	0.25	2,700	\$ 675.00
ESTIMATED TOTAL						(e) \$ 35,602.00

AMEC REMOVAL AND DISPOSAL OF HEATER-TREATERS						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
NI38		subcontract shear (at Cost)	LS	\$ 2,000.00	1.0	\$2,000.00
	0029	trackhoe 2	day	\$550	0.3	\$165.00
T2A	0006	field tech I	hour	\$40	3.0	\$120.00
P243		transport (at cost)	hour	\$60	8.0	\$480.00
IF10		Disposal (at cost)	ton	\$23	20.0	\$460.00
ESTIMATED TOTAL						(f) \$3,225.00

AMEC CLAY LINER PLACEMENT						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
M005		clay (at cost)	cubic yd	\$7.50	-	\$0.00
T2A	0006	field tech I	hour	\$40	-	\$0.00
	0029	trackhoe 2	day	\$550	-	\$0.00
ESTIMATED TOTAL						(g) \$0.00

AMEC BACKFILLING AND SITE RESTORATION						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
P0	0002	senior scientist	hour	\$75	16	\$1,200.00
P4	0003	project scientist/manager	hour	\$63	24	\$1,512.00
T4	0005	field tech II	hour	\$42	99	\$4,158.00
T2A	0006	field tech I	hour	\$40	198	\$7,920.00
Z4	0010	secretary	hour	\$29	16	\$464.00

UPDD	0021	PID	day	\$5	10	\$50.00
	0029	trackhoe 2	day	\$550	20	\$11,000.00
AP10	0043	perdiem	night	\$60	35	\$2,100.00
AT40	0053	pick-up truck	day	\$50	20	\$1,000.00
AM10	0042	mileage	mile	0.25	900	\$225.00
ESTIMATED TOTAL					(h)	\$29,629.00

TOTALS FOR EACH PRICE AGREEMENT - ITEM NO.

AMEC CODES	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$ 75	96	\$ 7,200.00
P4	0003	project scientist/manager	hour	\$ 63	182	\$ 11,466.00
T4	0005	field tech II	hour	\$ 42	784	\$ 32,928.00
T2A	0006	field tech I	hour	\$ 40	1,434	\$ 57,360.00
Z4	0010	secretary	hour	\$ 29	70	\$ 2,030.00
UPDD	0021	PID	day	\$ 5	65	\$ 325.00
	0029	trackhoe 2	day	\$ 550	151	\$ 83,215.00
AM10	0042	mileage	mile	\$ 0.25	8,588	\$ 2,147.00
AP10	0043	perdiem	night	\$ 60	253	\$ 15,180.00
YS60	0045	disposal of contaminated soil	5 bbls = cubic yd	\$ 20	500	\$ 10,000.00
WFIA		Water purchase (at cost)	130 bbl	\$ 39	144	\$ 5,616.00
IS74		120 bbl transport (at cost)	Hour	\$ 65	208	\$ 13,520.00
UTVW	0052	water truck	day	\$ 125	-	\$ -
AT40	0053	pick-up truck	day	\$ 50	157	\$ 7,850.00
UFAM		fence (at cost)		\$ 6,000	1	\$ 6,000.00
IT30		manure (at cost)	cubic yd	\$ 9	3,125	\$ 27,343.75
NI38		subcontract shear (at cost)	LS	\$ 2,000	1	\$ 2,000.00
		transport treaters (at cost)	hour	\$ 60	8	\$ 480.00
IF10		Disposal (at cost)	ton	\$ 23	8	\$ 184.00
M005		clay (at cost)	cubic yd	\$ 8	-	\$ -
TOTAL ESTIMATED COST FOR JOB					(i)	\$284,844.75

Lea County Taxes

5.25% \$ 14,954.35

Total Estimated Cost with Taxes

\$299,799.10

**Goodwin Treating Plant Remediation
New Mexico Energy Minerals and Natural Resources Department,
Oil Conservation Division**

**Summary Report Submitted by: AMEC Earth & Environmental
Project No. 2517000051 Week Ending July 5, 2002**

Saturday, June 29, 2002 through Friday, July 5, 2002

Continued excavation and mixing of hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. The crew left the site and mobilized back to Farmington on July 3, 2002 for the Independence Day holiday.

Project:

Project #:

Weekly Summary for all tasks/items

Week ending: June 21, 2002

Goodwin Treating Plant

2517000051

Project Manager:
Project Supervisor:

Asst. Supervisor:

5-Jul

Don Fernald
Morgan Killion
505-330-3061
Bruce Hare
505-330-320-9253

Task	OCD Item	Budget	Week 6/7	Week 6/14	Week 6/21	Week 6/28	Week 7/5
MOBILIZATION / DEMOBILIZATION	1 (a)	\$7,997.00	\$ 4,619.00	\$ -			
ON SITE WORK	2 (b)	\$130,542.50	\$ 15,311.00	\$ 17,656.50	\$ 14,440.25	\$ 23,377.50	\$ 13,801.25
OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL	3 (c)	\$10,000.00	\$ 10,050.00	\$ -			
ONSITE COMPOST PILE SET UP AND INITIAL WATERING	4 (d)	\$ 67,045.25	\$ 11,183.25	\$ 21,442.50	\$ 9,800.50	\$ 2,554.50	\$ 704.00
MAINTENANCE OF COMPOST PILE (3 turning events)	5 (e)	\$ 35,602.00	\$ -	\$ -			
REMOVAL AND DISPOSAL OF HEATER-TREATERS	6 (f)	\$3,225.00	\$0.00	\$0.00	\$ 4,422.80		
CLAY LINER PLACEMENT	7 (g)	\$0.00	\$0.00	\$0.00			
BACKFILLING AND SITE RESTORATION	7 (h)	\$29,629.00	\$0.00	\$0.00			
Total		284,041	\$ 41,163.25	\$ 39,099.00	\$ 28,663.55	\$ 25,932.00	\$ 14,505.25

Tax = 5.25%
Grand Tot: 298,953 \$ 43,324.32 \$ 41,151.70 \$ 30,168.39

COST SUMMARY FOR REMEDIAL ACTIONS AT THE GOODWIN TREAING PLANT SITE

AMEC CODES	MOBILIZATION / DEMOBILIZATION					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P4	0003	project scientist/manager	hour	\$63	16	\$1,008.00
T4	0005	field tech II	hour	\$42	16	\$672.00
T2A	0006	field tech I	hour	\$40	48	\$1,920.00
	0029	trackhoe 2	day	\$550	6	\$3,300.00
AM10	0042	mileage	mile	\$0.25	1,988	\$497.00
AP10	0043	per diem	night	\$60	5	\$300.00
AT40	0053	pick-up trucks (3)	day	\$50	6	\$300.00
	ESTIMATED TOTAL					(a) \$7,997.00

AMEC CODES	ON SITE WORK					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	50	\$3,750.00
P4	0003	project scientist/manager	hour	\$63	120	\$7,560.00
T4	0005	field tech II	hour	\$42	330	\$13,860.00
T2A	0006	field tech I (3)	hour	\$40	990	\$39,600.00
Z4	0010	secretary	hour	\$29	40	\$1,160.00
UPDD	0021	PID	day	\$5	30	\$150.00
	0029	trackhoe 2 (3)	day	\$550	90	\$49,500.00
AP10	0043	perdiem (4 - 5)	night	\$60	165	\$9,900.00
AT40	0053	pick-up truck (2)	day	\$50	90	\$4,500.00
AM10	0042	mileage	mile	0.25	2,250	\$562.50
	ESTIMATED TOTAL					(b) \$130,542.50

AMEC CODES	OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
YS60	0045	disposal of contaminated soil	5 bbls = cubic yd	\$20	500	\$10,000.00
	ESTIMATED TOTAL					(c) \$10,000.00

AMEC CODES	ONSITE COMPOST PILE SET UP AND INITIAL WATERING					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	8	\$ 600.00
P4	0003	project scientist/manager	hour	\$63	16	\$ 1,008.00
T4	0005	field tech II	hour	\$42	99	\$ 4,158.00
T2A	0006	field tech I (2)	hour	\$40	198	\$ 7,920.00
Z4	0010	secretary	hour	\$29	8	\$ 232.00
UPDD	0021	PID	day	\$5	10	\$ 50.00
	0029	trackhoe 2 (2)	day	\$550	20	\$ 11,000.00
UTVW	0052	water truck	day	\$125	-	\$ -
WFIA	X	Water purchase (at cost)	130 bbl	\$39	34	\$ 1,326.00
IS74	XX	120 bbl transport (at cost)	Hour	\$65	68	\$ 4,420.00
AP10	0043	perdiem	night	\$60	30	\$ 1,800.00
AT40	0053	pick-up truck	day	\$50	20	\$ 1,000.00

AM10	0042	mileage	mile	0.25	750	\$ 187.50
UFAM		fence (at cost)	LS	Each	6,000	\$ 6,000.00
IT30		manure/trucking (at cost)	cubic yd	8.75	3,125	\$ 27,343.75
ESTIMATED TOTAL						(d) \$ 67,045.25

AMEC MAINTENANCE OF COMPOST PILE (3 turning events)						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
P0	0002	senior scientist	hour	\$75	6	\$ 450.00
P4	0003	project scientist/manager	hour	\$63	6	\$ 378.00
T4	0005	field tech II	hour	\$42	240	\$ 10,080.00
T2A	0006	field tech I	hour	\$40	-	\$ -
Z4	0010	secretary	hour	\$29	6	\$ 174.00
UPDD	0021	PID	day	\$5	15	\$ 75.00
	0029	trackhoe 2	day	\$550	15	\$ 8,250.00
WFIA	X	Water purchase (at cost)	130 bbl	\$39	110	\$ 4,290.00
IS74	XX	120 bbl transport (at cost)	Hour	\$65	140	\$ 9,100.00
UTVW	0052	water truck	day	\$125	-	\$ -
AP10	0043	perdiem	night	\$60	18	\$ 1,080.00
AT40	0053	pick-up truck	day	\$50	21	\$ 1,050.00
AM10	0042	mileage	mile	0.25	2,700	\$ 675.00
ESTIMATED TOTAL						(e) \$ 35,602.00

AMEC REMOVAL AND DISPOSAL OF HEATER-TREATERS						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
NI38		subcontract shear (at Cost)	LS	\$ 2,000.00	1.0	\$2,000.00
	0029	trackhoe 2	day	\$550	0.3	\$165.00
T2A	0006	field tech I	hour	\$40	3.0	\$120.00
P243		transport (at cost)	hour	\$60	8.0	\$480.00
IF10		Disposal (at cost)	ton	\$23	20.0	\$460.00
ESTIMATED TOTAL						(f) \$3,225.00

AMEC CLAY LINER PLACEMENT						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
M005		clay (at cost)	cubic yd	\$7.50	-	\$0.00
T2A	0006	field tech I	hour	\$40	-	\$0.00
	0029	trackhoe 2	day	\$550	-	\$0.00
ESTIMATED TOTAL						(g) \$0.00

AMEC BACKFILLING AND SITE RESTORATION						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
P0	0002	senior scientist	hour	\$75	16	\$1,200.00
P4	0003	project scientist/manager	hour	\$63	24	\$1,512.00
T4	0005	field tech II	hour	\$42	99	\$4,158.00
T2A	0006	field tech I	hour	\$40	198	\$7,920.00
Z4	0010	secretary	hour	\$29	16	\$464.00

UPDD	0021	PID	day	\$5	10	\$50.00
	0029	trackhoe 2	day	\$550	20	\$11,000.00
AP10	0043	perdiem	night	\$60	35	\$2,100.00
AT40	0053	pick-up truck	day	\$50	20	\$1,000.00
AM10	0042	mileage	mile	0.25	900	\$225.00
ESTIMATED TOTAL					(h)	\$29,629.00

TOTALS FOR EACH PRICE AGREEMENT - ITEM NO.

AMEC CODES	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$ 75	96	\$ 7,200.00
P4	0003	project scientist/manager	hour	\$ 63	182	\$ 11,466.00
T4	0005	field tech II	hour	\$ 42	784	\$ 32,928.00
T2A	0006	field tech I	hour	\$ 40	1,434	\$ 57,360.00
Z4	0010	secretary	hour	\$ 29	70	\$ 2,030.00
UPDD	0021	PID	day	\$ 5	65	\$ 325.00
	0029	trackhoe 2	day	\$ 550	151	\$ 83,215.00
AM10	0042	mileage	mile	\$ 0.25	8,588	\$ 2,147.00
AP10	0043	perdiem	night	\$ 60	253	\$ 15,180.00
YS60	0045	disposal of contaminated soil	5 bbls = cubic yd	\$ 20	500	\$ 10,000.00
WFIA		Water purchase (at cost)	130 bbl	\$ 39	144	\$ 5,616.00
IS74		120 bbl transport (at cost)	Hour	\$ 65	208	\$ 13,520.00
UTVW	0052	water truck	day	\$ 125	-	\$ -
AT40	0053	pick-up truck	day	\$ 50	157	\$ 7,850.00
UFAM		fence (at cost)		\$ 6,000	1	\$ 6,000.00
IT30		manure (at cost)	cubic yd	\$ 9	3,125	\$ 27,343.75
NI38		subcontract shear (at cost)	LS	\$ 2,000	1	\$ 2,000.00
		transport treaters (at cost)	hour	\$ 60	8	\$ 480.00
IF10		Disposal (at cost)	ton	\$ 23	8	\$ 184.00
M005		clay (at cost)	cubic yd	\$ 8	-	\$ -
TOTAL ESTIMATED COST FOR JOB					(i)	\$284,844.75

Lea County Taxes 5.25% \$ 14,954.35

Total Estimated Cost with Taxes \$299,799.10

**Goodwin Treating Plant Remediation
New Mexico Energy Minerals and Natural Resources Department,
Oil Conservation Division**

**Summary Report Submitted by: AMEC Earth & Environmental
Project No. 2517000051 Week Ending June 28, 2002**

Saturday, June 22, 2002 through Friday, June 28, 2002

Continued excavation and mixing of hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site.

AMEC Earth & Environmental

Project: Goodwin Treating Plant
 Project #: 2517000051
 Task #: 2
 Week Ending: June 7th

6/28/2002

Project Manager: Don Fernald
 Project Supervisor: Morgan Killion
 505-330-3061
 Asst. Supervisor: Bruce Hare
 505-330-320-9253

AMEC	ITEM	On Site Work	UNIT	Sat Date	Mon Date	Tues Date	Wed Date	Thurs Date	Friday Date	Sun	Total Units	Rate	Estimated Costs
P0	0002	senior scientist	hour	-	4.0	4.0	4.0	4.0	4.0	4.0	20.0	\$ 75.00	\$ 1,500.00
P4	0003	project scientists/manager	hour		4.0	8.0		4.0	4.0	4.0	12.0	\$ 63.00	\$ 756.00
T4	0005	field tech II	hour		7.5	12.0		11.5	11.5	11.5	66.0	\$ 42.00	\$ 2,772.00
T2A	0006	field tech I (3)	hour		6.5	33.0		33.0	32.5	32.5	170.0	\$ 40.00	\$ 6,800.00
Z4	0010	secretary	hour								-	\$ 29.00	\$ -
UPDD	0021	PID	day								-	\$ 5.00	\$ -
AP10	0029	trackhoe 2 (3)	mile		2.0	3.0		3.0	3.0	3.0	17.0	\$ 550.00	\$ 9,350.00
AT40	0043	perdiem (4 - 5)	Each		2.0	4.0		4.0	4.0	4.0	26.0	\$ 60.00	\$ 1,560.00
AM10	0053	pick-up trucks	Each		1.0	2.0		2.0	2.0	2.0	11.0	\$ 50.00	\$ 550.00
AM10	0042	mileage	Mile		36	29		79	54	101	358.0	\$ 0.25	\$ 89.50
Notes:											Weekly Total =	\$ 23,377.50	
Budget for (b)													130,542.50

AMEC Earth & Environmental

Project: Goodwin Treating Plant

Project #: 2517000051

Task #: 4

Transporter: Albert Martinez

Receiver: Goodwin

Project Manager: Don Fernald

Project Supervisor: Morgan Killion

Asst. Supervisor: Bruce Hare

Week Ending: 6/28/2002

Date: 6/28/2002

Date: 6/28/2002

AMEC CODES	ITEM	Unit	Sat	Mon	Tues	Wed	Thurs	Fri	Sunday	Total Units	Rate	Estimated Costs
			Date									
P0	senior scientist	Hour								0	\$ 75.00	\$ -
P4	project scientist/manager	Hour								0	\$ 63.00	\$ -
T4	field tech II	Hour								0	\$ 42.00	\$ -
T2A	field tech I (2)	Hour	6.5	-	-	-	-	-		6.5	\$ 40.00	\$ 260.00
Z4	secretary	Hour								0	\$ 29.00	\$ -
UPDD	PID	Each								0	\$ 5.00	\$ -
	trackhoe 2 (2)	Each	1.0	-	-	-	-	-		1	\$ 550.00	\$ 550.00
WFIA	Water purchase	BBL	160.0	280.0	200.0	240.0	280.0	360.0		1520	\$ 0.20	\$ 304.00
	47 bbl transport	Day	1.0	1.0	1.0	1.0	1.0	1.0		6	\$ 200.00	\$ 1,200.00
AP10	perdiem	Each	2.0	-	-	-	-	-		2	\$ 60.00	\$ 120.00
AT40	pick-up truck	Each	2.0	-	-	-	-	-		2	\$ 50.00	\$ 100.00
AM10	mileage	Mile	49.0	33.0	-	-	-	-		82	\$ 0.25	\$ 20.50
UFAM	fence (at cost)	LS								0	\$ -	\$ -
IT30	manure/trucking (at cost)	CY								0	\$ 7.00	\$ -

Notes: Weekly Total = \$ 2,554.50

Budget (d) \$ 67,045.25

COST SUMMARY FOR REMEDIAL ACTIONS AT THE GOODWIN TREAING PLANT SITE

AMEC CODES	MOBILIZATION / DEMOBILIZATION						
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS	
	P4	0003	project scientist/manager	hour	\$63	16	\$1,008.00
T4	0005	field tech II	hour	\$42	16	\$672.00	
T2A	0006	field tech I	hour	\$40	48	\$1,920.00	
	0029	trackhoe 2	day	\$550	6	\$3,300.00	
AM10	0042	mileage	mile	\$0.25	1,988	\$497.00	
AP10	0043	per diem	night	\$60	5	\$300.00	
AT40	0053	pick-up trucks (3)	day	\$50	6	\$300.00	
	ESTIMATED TOTAL					(a)	\$7,997.00

AMEC CODES	ON SITE WORK						
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS	
	P0	0002	senior scientist	hour	\$75	50	\$3,750.00
P4	0003	project scientist/manager	hour	\$63	120	\$7,560.00	
T4	0005	field tech II	hour	\$42	330	\$13,860.00	
T2A	0006	field tech I (3)	hour	\$40	990	\$39,600.00	
Z4	0010	secretary	hour	\$29	40	\$1,160.00	
UPDD	0021	PID	day	\$5	30	\$150.00	
	0029	trackhoe 2 (3)	day	\$550	90	\$49,500.00	
AP10	0043	perdiem (4 - 5)	night	\$60	165	\$9,900.00	
AT40	0053	pick-up truck (2)	day	\$50	90	\$4,500.00	
AM10	0042	mileage	mile	0.25	2,250	\$562.50	
	ESTIMATED TOTAL					(b)	\$130,542.50

AMEC CODES	OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL						
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS	
	YS60	0045	disposal of contaminated soil	5 bbls = cubic yd	\$20	500	\$10,000.00
	ESTIMATED TOTAL					(c)	\$10,000.00

AMEC CODES	ONSITE COMPOST PILE SET UP AND INITIAL WATERING					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
	P0	0002	senior scientist	hour	\$75	8
P4	0003	project scientist/manager	hour	\$63	16	\$ 1,008.00
T4	0005	field tech II	hour	\$42	99	\$ 4,158.00
T2A	0006	field tech I (2)	hour	\$40	198	\$ 7,920.00
Z4	0010	secretary	hour	\$29	8	\$ 232.00
UPDD	0021	PID	day	\$5	10	\$ 50.00
	0029	trackhoe 2 (2)	day	\$550	20	\$ 11,000.00
UTVW	0052	water truck	day	\$125	-	\$ -
WFIA	X	Water purchase (at cost)	130 bbl	\$39	34	\$ 1,326.00
IS74	XX	120 bbl transport (at cost)	Hour	\$65	68	\$ 4,420.00
AP10	0043	perdiem	night	\$60	30	\$ 1,800.00
AT40	0053	pick-up truck	day	\$50	20	\$ 1,000.00

AM10	0042	mileage	mile	0.25	750	\$ 187.50
UFAM		fence (at cost)	LS	Each	6,000	\$ 6,000.00
IT30		manure/trucking (at cost)	cubic yd	8.75	3,125	\$ 27,343.75
ESTIMATED TOTAL						(d) \$ 67,045.25

AMEC MAINTENANCE OF COMPOST PILE (3 turning events)						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
P0	0002	senior scientist	hour	\$75	6	\$ 450.00
P4	0003	project scientist/manager	hour	\$63	6	\$ 378.00
T4	0005	field tech II	hour	\$42	240	\$ 10,080.00
T2A	0006	field tech I	hour	\$40	-	\$ -
Z4	0010	secretary	hour	\$29	6	\$ 174.00
UPDD	0021	PID	day	\$5	15	\$ 75.00
	0029	trackhoe 2	day	\$550	15	\$ 8,250.00
WFIA	X	Water purchase (at cost)	130 bbl	\$39	110	\$ 4,290.00
IS74	XX	120 bbl transport (at cost)	Hour	\$65	140	\$ 9,100.00
UTVW	0052	water truck	day	\$125	-	\$ -
AP10	0043	perdiem	night	\$60	18	\$ 1,080.00
AT40	0053	pick-up truck	day	\$50	21	\$ 1,050.00
AM10	0042	mileage	mile	0.25	2,700	\$ 675.00
ESTIMATED TOTAL						(e) \$ 35,602.00

AMEC REMOVAL AND DISPOSAL OF HEATER-TREATERS						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
NI38		subcontract shear (at Cost)	LS	\$ 2,000.00	1.0	\$2,000.00
	0029	trackhoe 2	day	\$550	0.3	\$165.00
T2A	0006	field tech I	hour	\$40	3.0	\$120.00
P243		transport (at cost)	hour	\$60	8.0	\$480.00
IF10		Disposal (at cost)	ton	\$23	20.0	\$460.00
ESTIMATED TOTAL						(f) \$3,225.00

AMEC CLAY LINER PLACEMENT						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
M005		clay (at cost)	cubic yd	\$7.50	-	\$0.00
T2A	0006	field tech I	hour	\$40	-	\$0.00
	0029	trackhoe 2	day	\$550	-	\$0.00
ESTIMATED TOTAL						(g) \$0.00

AMEC BACKFILLING AND SITE RESTORATION						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
P0	0002	senior scientist	hour	\$75	16	\$1,200.00
P4	0003	project scientist/manager	hour	\$63	24	\$1,512.00
T4	0005	field tech II	hour	\$42	99	\$4,158.00
T2A	0006	field tech I	hour	\$40	198	\$7,920.00
Z4	0010	secretary	hour	\$29	16	\$464.00

UPDD	0021	PID	day	\$5	10	\$50.00
	0029	trackhoe 2	day	\$550	20	\$11,000.00
AP10	0043	perdiem	night	\$60	35	\$2,100.00
AT40	0053	pick-up truck	day	\$50	20	\$1,000.00
AM10	0042	mileage	mile	0.25	900	\$225.00
ESTIMATED TOTAL					(h)	\$29,629.00

TOTALS FOR EACH PRICE AGREEMENT - ITEM NO.

AMEC CODES	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$ 75	96	\$ 7,200.00
P4	0003	project scientist/manager	hour	\$ 63	182	\$ 11,466.00
T4	0005	field tech II	hour	\$ 42	784	\$ 32,928.00
T2A	0006	field tech I	hour	\$ 40	1,434	\$ 57,360.00
Z4	0010	secretary	hour	\$ 29	70	\$ 2,030.00
UPDD	0021	PID	day	\$ 5	65	\$ 325.00
	0029	trackhoe 2	day	\$ 550	151	\$ 83,215.00
AM10	0042	mileage	mile	\$ 0.25	8,588	\$ 2,147.00
AP10	0043	perdiem	night	\$ 60	253	\$ 15,180.00
YS60	0045	disposal of contaminated soil	5 bbls = cubic yd	\$ 20	500	\$ 10,000.00
WFIA		Water purchase (at cost)	130 bbl	\$ 39	144	\$ 5,616.00
IS74		120 bbl transport (at cost)	Hour	\$ 65	208	\$ 13,520.00
UTVW	0052	water truck	day	\$ 125	-	\$ -
AT40	0053	pick-up truck	day	\$ 50	157	\$ 7,850.00
UFAM		fence (at cost)		\$ 6,000	1	\$ 6,000.00
IT30		manure (at cost)	cubic yd	\$ 9	3,125	\$ 27,343.75
NI38		subcontract shear (at cost)	LS	\$ 2,000	1	\$ 2,000.00
		transport treaters (at cost)	hour	\$ 60	8	\$ 480.00
IF10		Disposal (at cost)	ton	\$ 23	8	\$ 184.00
M005		clay (at cost)	cubic yd	\$ 8	-	\$ -
TOTAL ESTIMATED COST FOR JOB					(i)	\$284,844.75

Lea County Taxes

5.25% \$ 14,954.35

Total Estimated Cost with Taxes

\$299,799.10

Kieling, Martyne

From: Kieling, Martyne
Sent: Tuesday, July 02, 2002 2:26 PM
To: Coss, David
Subject: Goodwin

David,

As of 3:00 pm on 7-2-02 Pits #3 and #4 have been excavated. They were both about 120 ft. long X 16 ft. wide X 23.6 feet deep. There was about 1000 cy removed from each pit. The sticky material was mixed and blended with soil and manure and added to the biopile. The crew will start back up on July 9th.

Have a good 4th of July

Martyne J. Kieling

Martyne J. Kieling
Environmental Geologist

STATE OF NEW MEXICO
ENERGY MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

MEMORANDUM OF MEETING OR CONVERSATION

Telephone Personal Time 3:00 pm Date 7-2-02

Originating Party Marlyne Kieling Other Parties Bruce Hare
505 - 320 - 9253

Subject Goodwin Pits 3 & 4

Discussion Excavation approximately 120 Ft long X 16 Ft wide
23.6 feet Deep for Pit #3 and the same for Pit #4
each pit has had 1000 cu approximately removed.
The material was very sticky it was binded with soil and
manure and added to the Bio-Pile. The pits
have vertical walls with a Ramp Down in. Leaving
them open poses a ~~hazard~~ hazard. Secondary Fencing
should be considered with any left over from the
fencing of the Bio Pile Area.

Conclusions or Agreements Crew will leave tomorrow and will be
back on site working on Tue 9th of July

Distribution File Signed Marlyne Kieling

Kieling, Martyne

From: Kieling, Martyne
Sent: Tuesday, July 02, 2002 11:47 AM
To: Coss, David
Subject: Goodwin update

David,

Enclosed please find an update as to the status of the Goodwin treating plant and three weekly reports from AMEC. As you will see there is not much left at the site but excavations. We have had three surprises.

The first was the size of the NW pit. It turned out to be long, narrow but shallow extending well past the midway point along the north fence line.

The second surprise was pit # 3 along the south fence line at the mid point. This has been excavated down to 17 feet. The material was highly saturated with hydrocarbons.

Finally, the third surprise was Pit # 4 just North of Pit # 3 which has also been excavated down to 17 feet and contains highly saturated hydrocarbon material.

As of yesterday the field supervisor said that we had enough funds to continue working for one more week. The crew will be taking off on July 3rd and returning on July 8th to begin on July 9th.

Give me a call or E-mail me if you need more details.



photo6.19.02.doc



photo6.26.02.doc



Weekly Report
6-7.doc



Weekly Report
6-14.doc



Weekly Report
6-21.doc

Martyne J. Kieling

Martyne J. Kieling
Environmental Geologist

Kieling, Martyne

From: Don Fernald [don.fernald@amec.com]
Sent: Wednesday, June 26, 2002 7:38 PM
To: Kieling, Martyne
Subject: Goodwin

Hi Martyne,

Hope your trip to SE NM was good.

The biological & chloride results are in - the plate counts look good, plenty of critters. Chlorides should be no problem, they were on the high side of normal.

Please see the attached reports for the weeks ending 6/14 & 6/21. The summary reports do get a little redundant. The numbers look good, I anticipate coming in under budget for several task/items. Please note that the numbers may vary a little after reconciliation with AMEC accounting and internal auditing. We did go over budget for offsite transport of hydrocarbon soils by \$50. We may go over budget for offsite disposal of heater treaters, we're waiting for the weight tickets from Lea Land. Let me know if this is a problem and what we'll need to do in order to get compensated.

I revised the budget to include use of a 47 bbl transport provided by AMEC to accommodate delivery and use of more water on the site to promote biodegradation of the hydrocarbons. I have highlighted these items in red on the revised costs.xls spreadsheet.

The crew will depart for Farmington on July 3rd for the independence day holiday. They will mobilize back to the site on July 8th and begin work again on the 9th.

I will be on vacation Monday-Friday/July 1st through the 5th and returning to work on the 8th. Should you need assistance, please contact Morgan. You may also leave a message on my cell phone as I will check messages periodically.

Hope you have a great July 4th Holiday!

Best Regards,

Don Fernald
AMEC Earth & Environmental
2060 Afton Place
Farmington, NM 87401
Ph: (505) 327-7928
Fx: (505) 326-5721
don.fernald@amec.com

Goodwin Treating Plant
June 25, 26 and 27, 2002
Phase III Investigation and cleanup.



Photo 1. Wellhead left in place. Scheduled to be plugged in 2002. Looking northeast



Photo 2. Excavation in foreground and construction of biopiles in background. Manure pile to the right. Looking north.



Photo 3. Biopile north of fence line.



Photo 5. Excavation of northwest has extended along the north fence line to just past the mid point of the north fence line.



Photo 6. Contractors taking confirmatory samples.



Photo 4. Continuation of biopile north of fence line.



Photo 7. Excavation of the southwest corner of the facility. Overflows from south treater have been excavated beyond the fence line to the south and west.



Photo 8. Former west entrance looking east. New road constructed north to route trucks in and out.



Photo 9. West entrance road looking east from Maddox power plant road. Biopile on the left in the background.



Photo 10. Pit 3 found along the center of the south fence line. Excavation is down about 17 feet. Looking east.



Photo 11. Pit 3 along south fence. Material was saturated with hydrocarbons. Looking northeast.

Goodwin Treating Plant
June 25, 26 and 27, 2002
Phase III Investigation and cleanup.



Photo 12. June 27, Pit 4 found north of Pit 3.
Material was saturated with hydrocarbons.
Looking east.



Photo 12. June 27, Pit 4 in foreground, Pit 3
in background. Material was saturated with
hydrocarbons. Looking southeast.

**Goodwin Treating Plant Remediation
New Mexico Energy Minerals and Natural Resources Department,
Oil Conservation Division**

**Summary Report Submitted by: AMEC Earth & Environmental
Project No. 2517000051 Week Ending June 21st, 2002**

Saturday, June 15, 2002

Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon-impacted soils continued on northern portion of the site and transport of these soils to the biopile area for mixing.

Monday, June 17, 2002

Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon-impacted soils continued on northern portion of the site and transport of these soils to the biopile area for mixing.

Tuesday, June 18, 2002

Subcontractor (Hobbs Iron & Metal) arrives on site to decommission heater-treaters. The 47 bbl transport was mobilized to the site to allow for more water usage in biopiles and for dust control. The heater-treaters were decommissioned with a shear fitted to a tracked excavator. AMEC completed a NORM survey of tanks and contents (sludge). The Ludlum scintillator readings were recorded below 50 uR/hr. Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon-impacted soils continued on northern portion of the site and transport of these soils to the biopile area for mixing.

Wednesday, June 19, 2002

Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon-impacted soils continued on central portion of the site and transport of these soils to the biopile area for mixing. Discussed excavations around disposal well with OCD. OCD signed bill of ladings for disposal of heater-treaters and related materials.

Thursday, June 20, 2002

Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon-impacted soils continued on central portion of the site and transport of these soils to the biopile area for mixing. Loaded four truckloads of heater-treater and associated debris for transport and disposal at the Lea Land, Inc. facility. Lea Land, Inc also provided transportation of the debris.

Friday, June 21, 2002

Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon-impacted soils continued on central portion of the site and transport of these soils to the biopile area for mixing.

6/26/02

COST SUMMARY FOR REMEDIAL ACTIONS AT THE GOODWIN TREATING PLANT SITE

Revisions made to allow for more water usage to promote biodegradation

AMEC CODES	MOBILIZATION / DEMOBILIZATION					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P4	0003	project scientists/manager	hour	\$63	16	\$1,008.00
	0005	field tech II	hour	\$42	16	\$672.00
	0006	field tech I	hour	\$40	48	\$1,920.00
T2A	0029	trackhoe 2	day	\$550	6	\$3,300.00
	0042	mileage	mile	\$0.25	1,988	\$497.00
AM10	0043	per diem	night	\$60	5	\$300.00
AP10	0053	pick-up trucks (3)	day	\$50	6	\$300.00
AT40	ESTIMATED TOTAL					(a) \$7,997.00

AMEC CODES	ON SITE WORK					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	50	\$3,750.00
P4	0003	project scientist/manager	hour	\$63	120	\$7,560.00
	0005	field tech II	hour	\$42	330	\$13,860.00
T2A	0006	field tech I (3)	hour	\$40	990	\$39,600.00
Z4	0010	secretary	hour	\$29	40	\$1,160.00
UPDD	0021	PID	day	\$5	30	\$150.00
AP10	0029	trackhoe 2 (3)	day	\$550	90	\$49,500.00
AT40	0043	perdiem (4 - 5)	night	\$60	165	\$9,900.00
AM10	0053	pick-up truck (2)	day	\$50	90	\$4,500.00
	0042	mileage	mile	0.25	2,250	\$562.50
	ESTIMATED TOTAL					(b) \$130,542.50

AMEC CODES	OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
YS60	0045	disposal of contaminated soil	5 bbls = cubic	\$17	600	\$10,050.00
	ESTIMATED TOTAL					(c) \$10,050.00

Completed

AMEC ONSITE COMPOST PILE SET UP AND INITIAL WATERING

CODES	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	8	\$ 600.00
P4	0003	project scientist/manager	hour	\$63	-	\$ -
T4	0005	field tech II	hour	\$42	99	\$ 4,158.00
T2A	0006	field tech I (2)	hour	\$40	198	\$ 7,920.00
Z4	0010	secretary	hour	\$29	8	\$ 232.00
UPDD	0021	PID	day	\$5	10	\$ 50.00
	0029	trackhoe 2 (2)	day	\$550	20	\$ 10,725.00
		47 bb transport	day	\$200	20	\$ 4,000.00
WFIA	X	Water purchase (at cost)	bbl	\$0.20	6,630	\$ 1,326.00
IS74	XX	120 bbl transport (at cost)	hour	\$65	25	\$ 1,592.50
AP10	0043	perdiem	night	\$60	30	\$ 1,800.00
AT40	0053	pick-up truck	day	\$50	20	\$ 1,000.00
AM10	0042	mileage	mile	0.25	1,192	\$ 298.00
UFAM		fence (at cost)	LS	Each	6,000	\$ 6,000.00
IT30		manure/trucking (at cost)	cubic yd	8.75	3,125	\$ 27,343.75
ESTIMATED TOTAL						(d) \$ 67,045.25

AMEC CODES	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	16	\$ 1,200.00
P4	0003	project scientist/manager	hour	\$63	16	\$ 1,008.00
T4	0005	field tech II	hour	\$42	300	\$ 12,600.00
T2A	0006	field tech I	hour	\$40	-	\$ -
Z4	0010	secretary	hour	\$29	8	\$ 232.00
UPDD	0021	PID	day	\$5	16	\$ 80.00
	0029	trackhoe 2	day	\$550	19	\$ 10,450.00
WFIA	X	Water purchase (at cost)	bbl	\$0.20	10,000	\$ 2,000.00
		47 bb transport	day	\$200	19	\$ 3,800.00
IS74		120 bbl transport (at cost)	hour	\$65	-	\$ -
AP10	0043	perdiem	night	\$60	36	\$ 2,160.00
AT40	0053	pick-up truck	day	\$50	25	\$ 1,250.00
AM10	0042	mileage	mile	0.25	3,288	\$ 822.00
ESTIMATED TOTAL						(e) \$ 35,602.00

REMOVAL AND DISPOSAL OF HEATER-TREATERS							
AMEC CODES	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS	
NI38		subcontract shear (at Cost)	LS	\$ 2,000.00	1.0	\$2,000.00	
	0029	trackhoe 2	day	\$550	0.3	\$165.00	
T2A	0006	field tech I	hour	\$40	3.0	\$120.00	
P243		transport (at cost)	hour	\$60	8.0	\$480.00	
IF10		Disposal (at cost)	ton	\$23	20.0	\$460.00	
	ESTIMATED TOTAL					(f)	\$3,225.00

CLAY LINER PLACEMENT							
AMEC CODES	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS	
M005		clay (at cost)	cubic yd	\$7.50	-	\$0.00	
T2A	0006	field tech I	hour	\$40	-	\$0.00	
	0029	trackhoe 2	day	\$550	-	\$0.00	
	ESTIMATED TOTAL					(g)	\$0.00

BACKFILLING AND SITE RESTORATION							
AMEC CODES	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS	
P0	0002	senior scientist	hour	\$75	16	\$1,200.00	
P4	0003	project scientist/manager	hour	\$63	24	\$1,512.00	
T4	0005	field tech II	hour	\$42	99	\$4,158.00	
T2A	0006	field tech I	hour	\$40	198	\$7,920.00	
Z4	0010	secretary	hour	\$29	16	\$464.00	
UPDD	0021	PID	day	\$5	10	\$50.00	
	0029	trackhoe 2	day	\$550	20	\$11,000.00	
AP10	0043	perdiem	night	\$60	35	\$2,100.00	
AT40	0053	pick-up truck	day	\$50	20	\$1,000.00	
AM10	0042	mileage	mile	0.25	900	\$225.00	
	ESTIMATED TOTAL					(h)	\$29,629.00

MOBILIZATION / DEMOBILIZATION (a) **\$7,997.00**

ON SITE WORK	(b)	\$130,542.50
OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL	(c)	\$10,050.00
ONSITE COMPOST PILE SET UP AND INITIAL WATERING	(d)	\$ 67,045.25
MAINTENANCE OF COMPOST PILE (3 turning events)	(e)	\$ 35,602.00
REMOVAL AND DISPOSAL OF HEATER-TREATERS	(f)	\$3,225.00
CLAY LINER PLACEMENT	(g)	\$0.00
BACKFILLING AND SITE RESTORATION	(h)	\$29,629.00

Lea County Taxes (NMGRT) @ 5.25% \$ 284,091
Total Estimated Costs \$ 14,914.76
\$ 299,006

AMEC Earth & Environmental
 Project: Goodwin Treating Plant
 Project #: 2517000051
 Weekly Summary for all tasks/items

Project Manager: Don Fernald
 Project Supervisor: Morgan Killion
 505-330-3061
 Asst. Supervisor: Bruce Hare
 505-330-320-9253

Week ending: June 21, 2002

Task	OCD Item	Budget	Week 6/7	Week 6/14	Week 6/21	Through 6/21	Budget	Remaining B
MOBILIZATION / DEMOBILIZATION	1	(a) \$7,997.00	\$ 4,619.00	\$ -	\$ -	\$ 4,619.00	\$7,997.00	\$3,378.00
ON SITE WORK	2	(b) \$130,542.50	\$ 15,311.00	\$ 17,656.50	\$ 14,440.25	\$ 47,407.75	\$130,542.50	\$83,134.75
OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL	3	(c) \$10,000.00	\$ 10,050.00	\$ -	\$ -	\$ 10,050.00	\$10,000.00	(\$50.00)
ONSITE COMPOST PILE SET UP AND INITIAL WATERING	4	(d) \$ 67,045.25	\$ 11,183.25	\$ 21,442.50	\$ 9,800.50	\$ 42,426.25	\$ 67,045.25	\$24,619.00
MAINTENANCE OF COMPOST PILE (3 turning events)	5	(e) \$ 35,602.00	\$ -	\$ -	\$ -	\$ -	\$ 35,602.00	\$35,602.00
REMOVAL AND DISPOSAL OF HEATER-TREATERS	6	(f) \$3,225.00	\$0.00	\$0.00	\$ 3,224.50	\$ 3,224.50	\$3,225.00	\$0.50
CLAY LINER PLACEMENT		(g) \$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00
BACKFILLING AND SITE RESTORATION	7	(h) \$29,629.00	\$0.00	\$0.00	\$0.00	\$0.00	\$29,629.00	\$29,629.00
Total		284,041	\$ 41,163.25	\$ 39,099.00	\$ 27,465.25	\$ 107,727.50	284,041	
Tax = 5.25%		14,912	\$2,161.07	\$2,052.70	\$1,441.93	\$ 5,655.69	14,912	
Grand Total		298,953	\$ 43,324.32	\$ 41,151.70	\$ 28,907.18	\$ 113,383.19	298,953	



Photo 1. Scrap metal from heater treaters. Looking west.



Photo 2. Scrap metal from heater treaters. Pile #2. Looking southwest



Photo 3. Sludge from heater treaters. Non-regulated NORM contamination. Samples taken and removed from mass of pile show only background.



Photo 4. Wellhead. Pressure unknown. Advised contractor to excavate only around the outside of the wellhead.



Photo 5. View #2 of wellhead. Contractor will only excavate this close to wellhead on all sides. Looking Southwest



Photo 6. One of several holes dug for samples to be taken. GRO and DRO run on these holes and highest TPH was 183.7. Told contractor to backfill, as he was concerned that cattle may be lost in holes.

**Goodwin Treating Plant Remediation
New Mexico Energy Minerals and Natural Resources Department,
Oil Conservation Division**

**Summary Report Submitted by: AMEC Earth & Environmental
Project No. 2517000051 Week Ending June 14th, 2002**

Saturday, June 8th, 2002

Transport of 720 cubic yards of manure to the Goodwin site by subcontractor (Albert Martinez Trucking). Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon impacted soils continued on northern portion of the site.

Monday, June 10, 2002

Transport of 700 cubic yards of manure to the Goodwin site by subcontractor (Albert Martinez Trucking). Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon impacted soils continued on northern portion of the site. Transport of hydrocarbon-impacted soils from excavation area to the biopile areas to the north of the site.

Tuesday, June 11, 2002

Transport of 360 cubic yards of manure to the Goodwin site by subcontractor (Albert Martinez Trucking). Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon impacted soils continued on northern portion of the site. Transport of hydrocarbon-impacted soils from excavation area to the biopile areas to the north of the site.

Wednesday, June 12, 2002

Transport of 80 cubic yards of manure to the Goodwin site by subcontractor (Albert Martinez Trucking). Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon impacted soils continued on northern portion of the site. Transport of hydrocarbon-impacted soils from excavation area to the biopile areas to the north of the site.

Thursday, June 13, 2002

Continued mixing hydrocarbon-impacted soils with stockpiled manure and adding water hauled to the site. Excavation of hydrocarbon impacted soils continued on northern portion of the site. Transport of hydrocarbon-impacted soils from excavation area to the biopile areas to the north of the site.

Friday, June 14, 2002

Approximately ¼ to ½ inch of precipitation is reported for this day. Continued mixing hydrocarbon-impacted soils with stockpiled manure. Excavation of hydrocarbon impacted soils continued on northern portion of the site. Transport of hydrocarbon-impacted soils from excavation area to the biopile areas to the north of the site.

Goodwin Treating Plant Site
AMEC Project No. 2-517-000051

Code	Description	Amount
P0	Principal	\$ 75.00
P3H	Senior Scientist/Engineer	\$ 75.00
P4	Project Scientist/Engineer/Manager	\$ 63.00
P6G	Staff Scientist/Engineer	\$ 57.00
T2A	Field Technician I	\$ 40.00
T4	Field Technician II	\$ 42.00
U1	Draftsperson II	\$ 40.00
U2	Draftsperson I	\$ 40.00
W2	Administrator	\$ 35.00
W2D	Secretary	\$ 35.00
Z4	Clerk	\$ 29.00

AMEC Earth & Environmental
 Project: Goodwin Treating Plant
 Project #: 2517000051
 Task #: 4
 Transporter: Albert Martinez
 Reciever: Goodwin

Project Manager: Don Fernald
 Project Supervisor Morgan Killion
 505-330-3061
 Asst. Supervisor: Bruce Hare
 505-330-320-9253

Week Ending: 6/7/2002 Date: _____

AMEC CODES	ITEM	Unit	Sat Date	Mon Date	Tues Date	Wed Date	Thurs Date	Fri Date	Sunday Date	Total Units	Rate	Estimated Costs
P0	senior scientist	Hour								0	\$ 75.00	\$ -
P4	project scientist/manager	Hour								0	\$ 63.00	\$ -
T4	field tech II	Hour								0	\$ 42.00	\$ -
T2A	field tech I (2)	Hour	10.5	11.0	10.5	11.0	11.0	10.5		64.5	\$ 40.00	\$ 2,580.00
Z4	secretary	Hour								0	\$ 29.00	\$ -
UPDD	PID	Each								0	\$ 5.00	\$ -
	trackhoe 2 (2)	Each	1.0	1.0	1.0	1.0	1.0	1.0		6	\$ 550.00	\$ 3,300.00
WFIA	Water purchase	BBL	260.0	390.0	130.0	130.0	130.0			1040	\$ 0.45	\$ 468.00
IS74	120 bbl transport	Hour	13.0	4.5	1.5	1.5	2.0			22.5	\$ 58.00	\$ 1,305.00
AP10	perdiem	Each	1.0	1.0	1.0	1.0	1.0	1.0	1	7	\$ 60.00	\$ 420.00
AT40	pick-up truck	Each	1.0	1.0	1.0	1.0	1.0	1.0		6	\$ 50.00	\$ 300.00
AM10	mileage	Mile	51.0	23.0	23.0	50.0	22.0	29.0		198	\$ 0.25	\$ 49.50
UFAM	fence (at cost)	LS								0	\$ -	\$ -
IT30	manure/trucking (at cost)	CY	720.0	700.0	360.0	80.0				1860	\$ 7.00	\$ 13,020.00
Weekly Total =											\$ 21,442.50	

Notes:

Budget (d) \$ 67,045.25

AMEC Earth & Environmental
Project: Goodwin Treating Plant
Project #: 2517000051
Weekly Summary for all tasks/items

Project Manager: Don Fernald
Project Supervisor: Morgan Killion
505-330-3061
Asst. Supervisor: Bruce Hare
505-330-320-9253

Week ending: June 14, 2002

Task	OCD Item	Budget	Week 6/7	Week 6/14	Week 6/21	Through 6/14
1	(a)	\$7,997.00	\$ 4,619.00	\$ -	\$ -	\$ 4,619.00
2	(b)	\$130,542.50	\$ 15,311.00	\$ 17,656.50		\$ 32,967.50
3	(c)	\$10,000.00	\$ 10,050.00	\$ -		\$ 10,050.00
4	(d)	\$ 67,045.25	\$ 11,183.25	\$ 21,442.50		\$ 32,625.75
5	(e)	\$ 35,602.00	\$ -	\$ -		\$ -
6	(f)	\$3,225.00	\$0.00	\$0.00		\$ -
	(g)	\$0.00	\$0.00	\$0.00		\$ -
7	(h)	\$29,629.00	\$0.00	\$0.00		\$ -
Total		284,041	\$ 41,163.25	\$ 39,099.00	\$ -	\$ 80,262.25
Tax =		5.25%	\$2,161.07	\$2,052.70		\$ 4,213.77
Grand Tot:		298,953	\$ 43,324.32	\$ 41,151.70		\$ 84,476.02

COST SUMMARY FOR REMEDIAL ACTIONS AT THE GOODWIN TREAING PLANT SITE

AMEC CODES	MOBILIZATION / DEMOBILIZATION					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P4	0003	project scientist/manager	hour	\$63	16	\$1,008.00
T4	0005	field tech II	hour	\$42	16	\$672.00
T2A	0006	field tech I	hour	\$40	48	\$1,920.00
	0029	trackhoe 2	day	\$550	6	\$3,300.00
AM10	0042	mileage	mile	\$0.25	1,988	\$497.00
AP10	0043	per diem	night	\$60	5	\$300.00
AT40	0053	pick-up trucks (3)	day	\$50	6	\$300.00
	ESTIMATED TOTAL					(a) \$7,997.00

AMEC CODES	ON SITE WORK					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	50	\$3,750.00
P4	0003	project scientist/manager	hour	\$63	120	\$7,560.00
T4	0005	field tech II	hour	\$42	330	\$13,860.00
T2A	0006	field tech I (3)	hour	\$40	990	\$39,600.00
Z4	0010	secretary	hour	\$29	40	\$1,160.00
UPDD	0021	PID	day	\$5	30	\$150.00
	0029	trackhoe 2 (3)	day	\$550	90	\$49,500.00
AP10	0043	perdiem (4 - 5)	night	\$60	165	\$9,900.00
AT40	0053	pick-up truck (2)	day	\$50	90	\$4,500.00
AM10	0042	mileage	mile	0.25	2,250	\$562.50
	ESTIMATED TOTAL					(b) \$130,542.50

AMEC CODES	OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
YS60	0045	disposal of contaminated soil	5 bbls = cubic yd	\$20	500	\$10,000.00
	ESTIMATED TOTAL					(c) \$10,000.00

AMEC CODES	ONSITE COMPOST PILE SET UP AND INITIAL WATERING					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	8	\$ 600.00
P4	0003	project scientist/manager	hour	\$63	16	\$ 1,008.00
T4	0005	field tech II	hour	\$42	99	\$ 4,158.00
T2A	0006	field tech I (2)	hour	\$40	198	\$ 7,920.00
Z4	0010	secretary	hour	\$29	8	\$ 232.00
UPDD	0021	PID	day	\$5	10	\$ 50.00
	0029	trackhoe 2 (2)	day	\$550	20	\$ 11,000.00
UTVW	0052	water truck	day	\$125	-	\$ -
WFIA	X	Water purchase (at cost)	130 bbl	\$39	34	\$ 1,326.00
IS74	XX	120 bbl transport (at cost)	Hour	\$65	68	\$ 4,420.00
AP10	0043	perdiem	night	\$60	30	\$ 1,800.00
AT40	0053	pick-up truck	day	\$50	20	\$ 1,000.00

AM10	0042	mileage	mile	0.25	750	\$ 187.50
UFAM		fence (at cost)	LS	Each	6,000	\$ 6,000.00
IT30		manure/trucking (at cost)	cubic yd	8.75	3,125	\$ 27,343.75
ESTIMATED TOTAL						(d) \$ 67,045.25

AMEC MAINTENANCE OF COMPOST PILE (3 turning events)						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
P0	0002	senior scientist	hour	\$75	6	\$ 450.00
P4	0003	project scientist/manager	hour	\$63	6	\$ 378.00
T4	0005	field tech II	hour	\$42	240	\$ 10,080.00
T2A	0006	field tech I	hour	\$40	-	\$ -
Z4	0010	secretary	hour	\$29	6	\$ 174.00
UPDD	0021	PID	day	\$5	15	\$ 75.00
	0029	trackhoe 2	day	\$550	15	\$ 8,250.00
WFIA	X	Water purchase (at cost)	130 bbl	\$39	110	\$ 4,290.00
IS74	XX	120 bbl transport (at cost)	Hour	\$65	140	\$ 9,100.00
UTVW	0052	water truck	day	\$125	-	\$ -
AP10	0043	perdiem	night	\$60	18	\$ 1,080.00
AT40	0053	pick-up truck	day	\$50	21	\$ 1,050.00
AM10	0042	mileage	mile	0.25	2,700	\$ 675.00
ESTIMATED TOTAL						(e) \$ 35,602.00

AMEC REMOVAL AND DISPOSAL OF HEATER-TREATERS						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
NI38		subcontract shear (at Cost)	LS	\$ 2,000.00	1.0	\$2,000.00
	0029	trackhoe 2	day	\$550	0.3	\$165.00
T2A	0006	field tech I	hour	\$40	3.0	\$120.00
P243		transport (at cost)	hour	\$60	8.0	\$480.00
IF10		Disposal (at cost)	ton	\$23	20.0	\$460.00
ESTIMATED TOTAL						(f) \$3,225.00

AMEC CLAY LINER PLACEMENT						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
M005		clay (at cost)	cubic yd	\$7.50	-	\$0.00
T2A	0006	field tech I	hour	\$40	-	\$0.00
	0029	trackhoe 2	day	\$550	-	\$0.00
ESTIMATED TOTAL						(g) \$0.00

AMEC BACKFILLING AND SITE RESTORATION						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
P0	0002	senior scientist	hour	\$75	16	\$1,200.00
P4	0003	project scientist/manager	hour	\$63	24	\$1,512.00
T4	0005	field tech II	hour	\$42	99	\$4,158.00
T2A	0006	field tech I	hour	\$40	198	\$7,920.00
Z4	0010	secretary	hour	\$29	16	\$464.00

UPDD	0021	PID	day	\$5	10	\$50.00
	0029	trackhoe 2	day	\$550	20	\$11,000.00
AP10	0043	perdiem	night	\$60	35	\$2,100.00
AT40	0053	pick-up truck	day	\$50	20	\$1,000.00
AM10	0042	mileage	mile	0.25	900	\$225.00
ESTIMATED TOTAL					(h)	\$29,629.00

TOTALS FOR EACH PRICE AGREEMENT - ITEM NO.

AMEC CODES	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$ 75	96	\$ 7,200.00
P4	0003	project scientist/manager	hour	\$ 63	182	\$ 11,466.00
T4	0005	field tech II	hour	\$ 42	784	\$ 32,928.00
T2A	0006	field tech I	hour	\$ 40	1,434	\$ 57,360.00
Z4	0010	secretary	hour	\$ 29	70	\$ 2,030.00
UPDD	0021	PID	day	\$ 5	65	\$ 325.00
	0029	trackhoe 2	day	\$ 550	151	\$ 83,215.00
AM10	0042	mileage	mile	\$ 0.25	8,588	\$ 2,147.00
AP10	0043	perdiem	night	\$ 60	253	\$ 15,180.00
YS60	0045	disposal of contaminated soil	5 bbls = cubic yd	\$ 20	500	\$ 10,000.00
WFIA		Water purchase (at cost)	130 bbl	\$ 39	144	\$ 5,616.00
IS74		120 bbl transport (at cost)	Hour	\$ 65	208	\$ 13,520.00
UTVW	0052	water truck	day	\$ 125	-	\$ -
AT40	0053	pick-up truck	day	\$ 50	157	\$ 7,850.00
UFAM		fence (at cost)		\$ 6,000	1	\$ 6,000.00
IT30		manure (at cost)	cubic yd	\$ 9	3,125	\$ 27,343.75
NI38		subcontract shear (at cost)	LS	\$ 2,000	1	\$ 2,000.00
		transport treaters (at cost)	hour	\$ 60	8	\$ 480.00
IF10		Disposal (at cost)	ton	\$ 23	8	\$ 184.00
M005		clay (at cost)	cubic yd	\$ 8	-	\$ -
TOTAL ESTIMATED COST FOR JOB					(i)	\$284,844.75

Lea County Taxes 5.25% \$ 14,954.35

Total Estimated Cost with Taxes \$299,799.10

Goodwin Treating Plant Remediation
New Mexico Energy Minerals and Natural Resources Department,
Oil Conservation Division

Report Submitted by: AMEC Earth & Environmental
Project No. 2517000051 Week Ending June 7th, 2002

Monday, June 3, 2002

AMEC mobilized equipment and personnel to Hobbs, New Mexico and the Goodwin Treating Plant to initiate remedial activities on Tuesday, June 4, 2002.

Tuesday, June 4, 2002

8:00 AM – Started the project with a kick off meeting, which included a review of the Health and Safety requirements for completing the project. The scope of work for the various tasks of the project were discussed and covered. Documentation procedures and reporting requirements were also reviewed. Mr. Larry Johnson with the NMOCD was present on site. AMEC discussed fencing issues with Larry to determine areas accessible for site work. Soil sample supplies, pick up and delivery were reviewed with Larry since the NMOCD would be handling all analytical testing costs.

Excavation of hydrocarbon-impacted soils was initiated on the northwest portion of the site. A hard impenetrable (with an excavator) caliche is present at depths from four to six feet below ground surface. This layer appears to limit hydrocarbon contaminant migration.

Wednesday, June 5, 2002

Excavation of hydrocarbon impacted soils continued. The fence was removed from the northern portion of the site to access other work areas. Albert Martinez Trucking transported 400 cubic yards of hydrocarbon-impacted soils and tank bottoms to J&L Landfarms for treatment. Four soil samples from the bottom of excavated areas were obtained for laboratory analysis of hydrocarbon constituents.

Thursday, June 6, 2002

Excavation of hydrocarbon impacted soils continued. An additional 200 cubic yards of hydrocarbon impacted soils and tank bottoms were transported to J&L Landfarms for treatment. 444 cubic yards of manure was delivered to the site and construction of biopiles was initiated on the northern portion of the site.

Friday, June 7, 2002

Excavation of hydrocarbon impacted soils continued. 820 cubic yards of manure was delivered to the site and construction of biopiles was initiated on the northern portion of the site. One load or 130 bbls of water was delivered to the site to mix into the biopiles with the manure and hydrocarbon impacted soils. Four soil samples from the bottom of excavated areas were obtained for laboratory analysis of hydrocarbon constituents. Samples obtained for analysis on June 5th & 7th were labeled, documented on chain of

custody forms, stored in a cooler with ice and transported to the TNM&O bus station as directed by the NMOCD for delivery to Trace Analysis for testing. Theses soil samples will be tested for total petroleum hydrocarbons using EPA Method 418.1.

AMEC Earth & Environmental
 Project: Goodwin Treating Plant
 Project #: 2517000051
 Task #: 1

Project Manager: Don Fernald
 Project Supervisor: Morgan Killion
 505-330-3061
 Asst. Supervisor: Bruce Hare
 505-320-9253

AMEC CODES	ITEM	MOBILIZATION / DEMOBILIZATION		UNIT	Date	Total Units	Rate	Estimated Costs							
		ITEM	Date											Costs	Costs
P4	0003	project scientist/manager	hour	3-Jun								-	\$ 63.00	\$	63.00
T4	0005	field tech II	hour	11.5								11.5	\$ 42.00	\$	483.00
T2A	0006	field tech I	hour	31.5								31.5	\$ 40.00	\$	1,260.00
	0029	trackhoe 2	day	3.0								3.0	\$ 550.00	\$	1,650.00
AP10	0043	per diem	night	4.0								4.0	\$ 60.00	\$	240.00
AT40	0053	pick-up trucks (each)	day	2.0								2.0	\$ 50.00	\$	100.00
AM10	0042	mileage	mile	1,024.0								1,024.0	\$ 0.25	\$	256.00
Notes:													Weekly Totals =	\$	4,052.00

Date: _____

Date: _____

Date: _____

Date: _____

Date: _____

Date: _____

Budget \$ 7,997.00

COST SUMMARY FOR REMEDIAL ACTIONS AT THE GOODWIN TREAING PLANT SITE

AMEC CODES	MOBILIZATION / DEMOBILIZATION					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P4	0003	project scientist/manager	hour	\$63	16	\$1,008.00
T4	0005	field tech II	hour	\$42	16	\$672.00
T2A	0006	field tech I	hour	\$40	48	\$1,920.00
	0029	trackhoe 2	day	\$550	6	\$3,300.00
AM10	0042	mileage	mile	\$0.25	1,988	\$497.00
AP10	0043	per diem	night	\$60	5	\$300.00
AT40	0053	pick-up trucks (3)	day	\$50	6	\$300.00
	ESTIMATED TOTAL					(a) \$7,997.00

AMEC CODES	ON SITE WORK					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	50	\$3,750.00
P4	0003	project scientist/manager	hour	\$63	120	\$7,560.00
T4	0005	field tech II	hour	\$42	330	\$13,860.00
T2A	0006	field tech I (3)	hour	\$40	990	\$39,600.00
Z4	0010	secretary	hour	\$29	40	\$1,160.00
UPDD	0021	PID	day	\$5	30	\$150.00
	0029	trackhoe 2 (3)	day	\$550	90	\$49,500.00
AP10	0043	perdiem (4 - 5)	night	\$60	165	\$9,900.00
AT40	0053	pick-up truck (2)	day	\$50	90	\$4,500.00
AM10	0042	mileage	mile	0.25	2,250	\$562.50
	ESTIMATED TOTAL					(b) \$130,542.50

AMEC CODES	OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
YS60	0045	disposal of contaminated soil	5 bbls = cubic yd	\$20	500	\$10,000.00
	ESTIMATED TOTAL					(c) \$10,000.00

AMEC CODES	ONSITE COMPOST PILE SET UP AND INITIAL WATERING					
	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$75	8	\$ 600.00
P4	0003	project scientist/manager	hour	\$63	16	\$ 1,008.00
T4	0005	field tech II	hour	\$42	99	\$ 4,158.00
T2A	0006	field tech I (2)	hour	\$40	198	\$ 7,920.00
Z4	0010	secretary	hour	\$29	8	\$ 232.00
UPDD	0021	PID	day	\$5	10	\$ 50.00
	0029	trackhoe 2 (2)	day	\$550	20	\$ 11,000.00
UTVW	0052	water truck	day	\$125	-	\$ -
WFIA	X	Water purchase (at cost)	130 bbl	\$39	34	\$ 1,326.00
IS74	XX	120 bbl transport (at cost)	Hour	\$65	68	\$ 4,420.00
AP10	0043	perdiem	night	\$60	30	\$ 1,800.00
AT40	0053	pick-up truck	day	\$50	20	\$ 1,000.00

AM10	0042	mileage	mile	0.25	750	\$ 187.50
UFAM		fence (at cost)	LS	Each	6,000	\$ 6,000.00
IT30		manure/trucking (at cost)	cubic yd	8.75	3,125	\$ 27,343.75
ESTIMATED TOTAL						(d) \$ 67,045.25

AMEC MAINTENANCE OF COMPOST PILE (3 turning events)						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
P0	0002	senior scientist	hour	\$75	6	\$ 450.00
P4	0003	project scientist/manager	hour	\$63	6	\$ 378.00
T4	0005	field tech II	hour	\$42	240	\$ 10,080.00
T2A	0006	field tech I	hour	\$40	-	\$ -
Z4	0010	secretary	hour	\$29	6	\$ 174.00
UPDD	0021	PID	day	\$5	15	\$ 75.00
	0029	trackhoe 2	day	\$550	15	\$ 8,250.00
WFIA	X	Water purchase (at cost)	130 bbl	\$39	110	\$ 4,290.00
IS74	XX	120 bbl transport (at cost)	Hour	\$65	140	\$ 9,100.00
UTVW	0052	water truck	day	\$125	-	\$ -
AP10	0043	perdiem	night	\$60	18	\$ 1,080.00
AT40	0053	pick-up truck	day	\$50	21	\$ 1,050.00
AM10	0042	mileage	mile	0.25	2,700	\$ 675.00
ESTIMATED TOTAL						(e) \$ 35,602.00

AMEC REMOVAL AND DISPOSAL OF HEATER-TREATERS						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
NI38		subcontract shear (at Cost)	LS	\$ 2,000.00	1.0	\$2,000.00
	0029	trackhoe 2	day	\$550	0.3	\$165.00
T2A	0006	field tech I	hour	\$40	3.0	\$120.00
P243		transport (at cost)	hour	\$60	8.0	\$480.00
IF10		Disposal (at cost)	ton	\$23	20.0	\$460.00
ESTIMATED TOTAL						(f) \$3,225.00

AMEC CLAY LINER PLACEMENT						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
M005		clay (at cost)	cubic yd	\$7.50	-	\$0.00
T2A	0006	field tech I	hour	\$40	-	\$0.00
	0029	trackhoe 2	day	\$550	-	\$0.00
ESTIMATED TOTAL						(g) \$0.00

AMEC BACKFILLING AND SITE RESTORATION						
CODES	ITEM	ITEM	UNIT	PRICE PER	ESTIMATED	ESTIMATED
	NO.			UNIT	UNITS	COSTS
P0	0002	senior scientist	hour	\$75	16	\$1,200.00
P4	0003	project scientist/manager	hour	\$63	24	\$1,512.00
T4	0005	field tech II	hour	\$42	99	\$4,158.00
T2A	0006	field tech I	hour	\$40	198	\$7,920.00
Z4	0010	secretary	hour	\$29	16	\$464.00

UPDD	0021	PID	day	\$5	10	\$50.00
	0029	trackhoe 2	day	\$550	20	\$11,000.00
AP10	0043	perdiem	night	\$60	35	\$2,100.00
AT40	0053	pick-up truck	day	\$50	20	\$1,000.00
AM10	0042	mileage	mile	0.25	900	\$225.00
ESTIMATED TOTAL					(h)	\$29,629.00

TOTALS FOR EACH PRICE AGREEMENT - ITEM NO.

AMEC CODES	ITEM NO.	ITEM	UNIT	PRICE PER UNIT	ESTIMATED UNITS	ESTIMATED COSTS
P0	0002	senior scientist	hour	\$ 75	96	\$ 7,200.00
P4	0003	project scientist/manager	hour	\$ 63	182	\$ 11,466.00
T4	0005	field tech II	hour	\$ 42	784	\$ 32,928.00
T2A	0006	field tech I	hour	\$ 40	1,434	\$ 57,360.00
Z4	0010	secretary	hour	\$ 29	70	\$ 2,030.00
UPDD	0021	PID	day	\$ 5	65	\$ 325.00
	0029	trackhoe 2	day	\$ 550	151	\$ 83,215.00
AM10	0042	mileage	mile	\$ 0.25	8,588	\$ 2,147.00
AP10	0043	perdiem	night	\$ 60	253	\$ 15,180.00
YS60	0045	disposal of contaminated soil	5 bbls = cubic yd	\$ 20	500	\$ 10,000.00
WFIA		Water purchase (at cost)	130 bbl	\$ 39	144	\$ 5,616.00
IS74		120 bbl transport (at cost)	Hour	\$ 65	208	\$ 13,520.00
UTVW	0052	water truck	day	\$ 125	-	\$ -
AT40	0053	pick-up truck	day	\$ 50	157	\$ 7,850.00
UFAM		fence (at cost)		\$ 6,000	1	\$ 6,000.00
IT30		manure (at cost)	cubic yd	\$ 9	3,125	\$ 27,343.75
NI38		subcontract shear (at cost)	LS	\$ 2,000	1	\$ 2,000.00
		transport treaters (at cost)	hour	\$ 60	8	\$ 480.00
IF10		Disposal (at cost)	ton	\$ 23	8	\$ 184.00
M005		clay (at cost)	cubic yd	\$ 8	-	\$ -
TOTAL ESTIMATED COST FOR JOB					(i)	\$284,844.75

Lea County Taxes 5.25% \$ 14,954.35

Total Estimated Cost with Taxes \$299,799.10



Scrap metal from heater treaters.



Wellhead. Pressure unknown. Advised contractor to excavate only around the outside of the wellhead.



Scrap metal from heater treaters. Pile #2.



View #2 of wellhead. Contractor will only excavate this close to wellhead on all sides.



Sludge from heater treaters. Norm contamination. Samples taken and removed from mass of pile show only background.



One of several holes dug for samples to be taken. GRO and DRO run on these holes and highest TPH was 183.7. Told contractor to backfill, as he was concerned that cattle may be lost in holes.

Kieling, Martyne

From: Don Fernald
Sent: Thursday, June 13, 2002 8:44 AM
To: Kieling, Martyne
Subject: Goodwin Report week ending 6-7

Hi Martyne,

Please see the attached reports for the week ending June 7, 2002. The word file is a summary of events for the week. The excel file includes estimated budget numbers for the week. The estimates on cost should be fairly accurate, but will require internal auditing by AMEC before final weekly costs are approved for invoicing to the NMOCD. Regarding the water issue, we will revise our budget to include a 4000 gallon water truck that we will operate. We will cut down on the project scientist time to allow us to stay within the original proposed budget for each item. I will email you the proposed revisions later today.

Please contact me via cell phone at 505-320-9670 on Friday and Monday, June 14th & 17th as I will be out of the office should you have any questions.

Best Regards,

Don Fernald
AMEC Earth & Environmental
2060 Afton Place
Farmington, NM 87401
Ph: (505) 327-7928
Fx: (505) 326-5721
don.fernald@amec.com

Goodwin Treating Plant Remediation
New Mexico Energy Minerals and Natural Resources Department,
Oil Conservation Division

Report Submitted by: AMEC Earth & Environmental
Project No. 251700051 Week Ending June 7th, 2002

Monday, June 3, 2002

AMEC mobilized equipment and personnel to Hobbs, New Mexico and the Goodwin Treating Plant to initiate remedial activities on Tuesday, June 4, 2002.

Tuesday, June 4, 2002

8:00 AM – Started the project with a kick off meeting, which included a review of the Health and Safety requirements for completing the project. The scope of work for the various tasks of the project were discussed and covered. Documentation procedures and reporting requirements were also reviewed. Mr. Larry Johnson with the NMOCD was present on site. AMEC discussed fencing issues with Larry to determine areas accessible for site work. Soil sample supplies, pick up and delivery were reviewed with Larry since the NMOCD would be handling all analytical testing costs.

Excavation of hydrocarbon-impacted soils was initiated on the northwest portion of the site. A hard impenetrable (with an excavator) caliche is present at depths from four to six feet below ground surface. This layer appears to limit hydrocarbon contaminant migration.

Wednesday, June 5, 2002

Excavation of hydrocarbon impacted soils continued. The fence was removed from the northern portion of the site to access other work areas. Albert Martinez Trucking transported 400 cubic yards of hydrocarbon-impacted soils and tank bottoms to J&L Landfarms for treatment. Four soil samples from the bottom of excavated areas were obtained for laboratory analysis of hydrocarbon constituents.

Thursday, June 6, 2002

Excavation of hydrocarbon impacted soils continued. An additional 200 cubic yards of hydrocarbon impacted soils and tank bottoms were transported to J&L Landfarms for treatment. 444 cubic yards of manure was delivered to the site and construction of biopiles was initiated on the northern portion of the site.

Friday, June 7, 2002

Excavation of hydrocarbon impacted soils continued. 820 cubic yards of manure was delivered to the site and construction of biopiles was initiated on the northern portion of the site. One load or 130 bbls of water was delivered to the site to mix into the biopiles with the manure and hydrocarbon impacted soils. Four soil samples from the bottom of excavated areas were obtained for laboratory analysis of hydrocarbon constituents. Samples obtained for analysis on June 5th & 7th were labeled, documented on chain of

custody forms, stored in a cooler with ice and transported to the TNM&O bus station as directed by the NMOCD for delivery to Trace Analysis for testing. These soil samples will be tested for total petroleum hydrocarbons using EPA Method 418.1.

**Soil sampling procedures for the Goodwin Treating Site Remediation
AMEC Project No. 2517000051**

Background

The Goodwin Treating Plant was located on an approximately 200' x 200' parcel of land that was formerly used to recover residual hydrocarbons from tank bottoms and brine water. Initial phases of the project consisted of the removal of numerous tanks and remediation of some of the soils located along the southeastern portion of the site in the emergency overflow pit. During the previous remedial actions surface hydrocarbon impacts were widespread throughout the site.

Excavation and Sampling Procedures

During this "Phase III Remediation of the Goodwin Site, hydrocarbon impacted soil that is grossly impacted (highly contaminated and saturated) as determined by visual observation will be excavated to practical extent. Once the hydrocarbon impacted soil areas appear to be reduced, soil samples will be obtained and screened in the field using a photoionization detector (PID) to help determine the levels of volatile hydrocarbon constituents present. PID screening will be performed as often as necessary to determine the levels of volatile hydrocarbons present. Once an excavated area is believed to be free of hydrocarbons in accordance with clean up criteria, a duplicate soil sample will be placed into approved laboratory sampling containers, properly labeled, documented on a chain-of-custody (COC) form, placed in a cooler with ice and delivered to the New Mexico Energy Minerals & Natural Resources Department (EMNRD) Oil Conservation Division (OCD) Hobbs district office. The OCD will ship the samples to the New Mexico state contracted laboratory (Trace Analysis) for analysis of Benzene, Toulene, Ethylbenzene, Xylenes (BTEX), and Total Petroleum Hydrocarbons (TPH) using Environmental Protection Agency laboratory analysis Methods 8021 and 8015 Modified respectively. The criteria for determining remedial action levels for the site as directed by the OCD are as follows:

Surface soils to eight (8) feet below ground surface:

Constituent	Action Level (ppm)
Benzene	10
BTEX	50
TPH	1000

Below eight (8) feet of ground surface:

Constituent	Action Level (ppm)
Benzene	10
BTEX	50
TPH	100

Remedial action levels were determined based on the depth of groundwater at the site being approximately 58 feet below ground surface.

A field soil vapor headspace measurement of 100 ppm may be substituted for a laboratory analysis of the Benzene and BTEX concentration limits.

The contaminant concentration limit for TPH is the concentration limit above background levels.

Sample numbers and location identification

All soil samples obtained for field-testing with a PID or sent to the laboratory will have the following numbering system assigned to each sample.

Current date – sample number

Example:

060602-01

060602-02

060602-03

060702-04

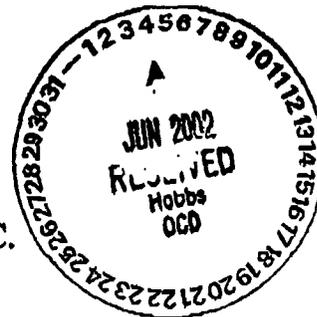
060702-05

060802-06

The first part of each sample number will contain the date in which the sample was obtained, for example June 6, 2002 will be 060602, which will be followed by the sample number for this phase of the project and run sequentially to ending with the last sample obtained for field or laboratory testing for the project. For example, if the last sample for this project is obtained on July 9, 2002 and it is 67th sample obtained for field or laboratory testing, the sample number will be 070902-67.

Sampling Strategy

Excavating will be initiated along one of the four corners or boundaries of the site. Excavating will proceed across the site following any observable hydrocarbon impacted soils. Sampling will be conducted with the PID as needed to verify the concentration of hydrocarbons as determined in the field. Clearance samples will be obtained as needed, but no less than on the center of a grid of 50' x 50' to verify remedial action levels have been achieved.



Certificate of Waste Status

NMOCD 711 FACILITY: J&L LANDFARM, INC.

GENERATOR NEW MEXICO OIL CONSERVATION DIVISION

GENERATING SITE GOODWIN TREATING PLANT

SEC 31 TOWNSHIP 18-5 RANGE 37-E

COUNTY LEA STATE N. MEX.

WASTE DESCRIPTION NON-HAZ - SOIL WASTE QTY.

TRUCKING COMPANY MARTINEZ TRUCKING

EXEMPT WASTE

As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the EPA(Environmental Protection Agency). Waste is generated from oil and gas exploration and production operations; exempt from RCRA(Resource Conservation and Recovery Act, Subtitle C regulations. I do certify that hazardous or listed waste pursuant to EPA provisions has not been added or mixed with the waste, nor mixed with any non-exempt material.

NON-EXEMPT WASTE

As a condition of acceptance for disposal, I hereby certify that this waste is a non-exempt waste as defined by the EPA's (Environmental Protection Agency) July 1988 Regulatory determination. To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as non-hazardous. I further certify that to my knowledge "hazardous or listed waste" pursuant to the provisions of 40 CFR, Part 261, Subparts C and D, has not been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Section 261.3.

I certify that this waste has been surveyed for Naturally Occurring Radioactive Material(NORM) and NORM concentrations do not exceed that listed in 20 NMAC 3.1 Subpart 1402, C and D.

COMPANY AGENT [Signature]
(Original Signature)
LW JOHNSON
(Name)

ADDRESS 1625 N. FRENCH DR. Hobbs, N. Mex 88240

DATE JUNE 4, 2002

RECEIVED

OCT 17 2001

Environmental Bureau
Oil Conservation Division

Certificate of Waste Status

NMOCD 711 FACILITY: J&L LANDFARM, INC.

GENERATOR NEW MEXICO OIL CONSERVATION DIVISION

GENERATING SITE GOODWIN TREATING PLANT

SEC 31 TOWNSHIP 18-S RANGE 37-E

COUNTY LEA STATE N M

WASTE DESCRIPTION EXEMPT HYDROCARBON SOIL & TANK BOTTOMS WASTE QTY. 4948 yds

TRUCKING COMPANY MARTINEZ TRUCKING

EXEMPT WASTE

As a condition of acceptance for disposal, I hereby certify that this waste is an exempt waste as defined by the EPA (Environmental Protection Agency). Waste is generated from oil and gas exploration and production operations; exempt from RCRA (Resource Conservation and Recovery Act, Subtitle C) regulations. I do certify that hazardous or listed waste pursuant to EPA provisions has not been added or mixed with the waste, nor mixed with any non-exempt material.

NON-EXEMPT WASTE

As a condition of acceptance for disposal, I hereby certify that this waste is a non-exempt waste as defined by the EPA's (Environmental Protection Agency) July 1988 Regulatory determination. To my knowledge, this waste will be analyzed pursuant to the provisions of 40 CFR Part 261 to verify the nature as non-hazardous. I further certify that to my knowledge "hazardous or listed waste" pursuant to the provisions of 40 CFR, Part 261, Subparts C and D, has not been added or mixed with the waste so as to make the resultant mixture a "hazardous waste" pursuant to the provisions of 40 CFR, Section 261.3.

I certify that this waste has been surveyed for Naturally Occurring Radioactive Material (NORM) and NORM concentrations do not exceed that listed in 20 NMAC 3.1 Subpart 1402. C and D.

COMPANY AGENT Martinez J. Kieling
(Original Signature)

Martinez J. Kieling
(Name)

ADDRESS 1220 South Saint Frances, Santa Fe, NM 87505

DATE JUNE 21, 2001

**SCOPE OF WORK
PHASE III REMEDIATION
GOODWIN TREATING PLANT
LEA COUNTY NEW MEXICO
JANUARY 2, 2002**

New Mexico State Highway and Transportation Department (NMSHTD) Price Agreement – Site Maintenance & Monitoring - 00-805-09-17658 Contract Vendor 1) AMEC Earth and Environmental, Inc. (Agra Earth and Environmental, Inc.) 8519 Jefferson, NE, Albuquerque, NM 87113, Tel 1-505-821-1801, TIN 911641772,

A. SUMMARY

The contractor shall perform the work necessary to perform the Phase III cleanup of the Goodwin Treating Plant Site, to properly remove equipment and surface contamination, investigate the extent of subsurface soil contamination, and remediate/restore the facility site. The Goodwin Treating Plant is located in the SW/4 NW/4 of Section 31, Township 18 South, Range 37 East, NMPM, Lea County, New Mexico.

B. SCOPE OF WORK

The scope of work includes, but is not limited to:

1. Removal of two treaters/separators and associated piping and equipment. Items must be sent to an OCD-approved disposal facility and must be disposed of in accordance with the rules of the OCD.
2. Removal of the tank bottom pile from the pit in the northwest corner of the facility. Tank bottom material must be sent to an OCD-approved landfarm for reclamation.
3. Removal or composting of contaminated soil from the former tank footprint locations. Contaminated soil removed must be sent to an OCD-approved landfarm for reclamation.
 - a. The decision to remove or compost will be made after item 2 is complete.
 - b. Composting will include the addition of manure from a local dairy or feedlot source, the addition of water if precipitation is poor, and turning every two weeks for 6 months.
 - c. Turning may not be approved until spring when the activity of the microbes is optimal.

4. Back hauling of clean soil from the landfarm facility. The amount to be back hauled will be determined by the existing volume of clean fill currently at the facility and the volume of contaminated soil excavated and removed from the facility.
5. Sampling within the excavations for analysis at an OCD contracted laboratory.
6. Installation of a clay barrier within the excavations if determined appropriate by the OCD.
7. Back filling excavations with clean fill material when the OCD-approved clean up criteria have been met.
8. Providing written weekly updates once fieldwork begins regarding work performed, volumes of material removed, volumes of material hauled in and overall costs. Updates will be submitted monthly during the composting phase.
9. Preparation and submittal of a Phase III report. The report must include the work completed by the Phase III remediation and recommendations for any further remediation activity.
10. The work is more particularly described in paragraph D, herein.

C. MERGER

This Agreement, and attachments thereto, together with NMSHTD Price Agreement No. 00-805-09-17658, constitutes the entire agreement between the parties hereto and all previous agreements, conditions, promises, inducements and understandings shall be deemed to have merged in this Agreement.

D. SUMMARY OF PHASE III REMEDIAL ACTIONS AT THE GOODWIN TREATING PLANT

MOBILIZATION / DEMOBILIZATION					
ITEM NO.	ITEM	UNIT	PRICE PER UNIT	UNITS	COSTS
0003	project scientist/manager	hour	\$63	16	\$1,008.00
0005	field tech II	hour	\$42	16	\$672.00
0006	field tech I	hour	\$40	48	\$1,920.00
0029	trackhoe 2	day	\$550	6	\$3,300.00
0042	Mileage	mile	\$0.25	1,988	\$497.00
0043	per diem	night	\$60	5	\$300.00
0053	pick-up trucks (3)	day	\$50	6	\$300.00
TOTAL				(a)	\$7,997.00

ON SITE WORK					
ITEM NO.	ITEM	UNIT	PRICE PER UNIT	UNITS	COSTS

0002	senior scientist	hour	\$75	50	\$3,750.00
0003	project scientist/manager	hour	\$63	120	\$7,560.00
0005	field tech II	hour	\$42	330	\$13,860.00
0006	field tech I (3)	hour	\$40	990	\$39,600.00
0010	secretary	hour	\$29	40	\$1,160.00
0021	PID	day	\$5	30	\$150.00
0029	trackhoe 2 (3)	day	\$550	90	\$49,500.00
0043	perdiem (4 - 5)	night	\$60	165	\$9,900.00
0053	pick-up truck (2)	day	\$50	90	\$4,500.00
0042	mileage	mile	0.25	2,250	\$562.50
TOTAL				(b)	\$130,542.50

OFFSITE HYDROCARBON SOIL TRANSPORT AND DISPOSAL					
ITEM NO.	ITEM	UNIT	PRICE PER UNIT	UNITS	COSTS
0045	disposal of contaminated soil	5 bbls = cubic yd	\$20	500	\$10,000.00
TOTAL				(c)	\$10,000.00

ONSITE COMPOST PILE SET UP AND INITIAL WATERING					
ITEM NO.	ITEM	UNIT	PRICE PER UNIT	UNITS	COSTS
0002	senior scientist	hour	\$75	8	\$ 600.00
0003	project scientist/manager	hour	\$63	16	\$ 1,008.00
0005	field tech II	hour	\$42	99	\$ 4,158.00
0006	field tech I (2)	hour	\$40	198	\$ 7,920.00
0010	secretary	hour	\$29	8	\$ 232.00
0021	PID	day	\$5	10	\$ 50.00
0029	trackhoe 2 (2)	day	\$550	20	\$ 11,000.00
0052	water truck	day	\$125	-	\$ -
	Water purchase (at cost)	130 bbl	\$39	34	\$ 1,326.00
	120 bbl transport (at cost)	Hour	\$65	68	\$ 4,420.00
0043	perdiem	night	\$60	30	\$ 1,800.00
0053	pick-up truck	day	\$50	20	\$ 1,000.00
0042	mileage	mile	0.25	750	\$ 187.50
	fence (at cost)	LS	Each	6,000	\$ 6,000.00
	manure/trucking (at cost)	cubic yd	8.75	3,125	\$ 27,343.75
TOTAL				(d)	\$ 67,045.25

MAINTENANCE OF COMPOST PILE (3 turning events)					
ITEM NO.	ITEM	UNIT	PRICE PER UNIT	UNITS	COSTS
0002	senior scientist	hour	\$75	6	\$ 450.00
0003	project scientist/manager	hour	\$63	6	\$ 378.00
0005	field tech II	hour	\$42	240	\$ 10,080.00
0006	field tech I	hour	\$40	-	\$ -

0010	secretary	hour	\$29	6	\$ 174.00
0021	PID	day	\$5	15	\$ 75.00
0029	trackhoe 2	day	\$550	15	\$ 8,250.00
	Water purchase (at cost)	130 bbl	\$39	110	\$ 4,290.00
	120 bbl transport (at cost)	Hour	\$65	140	\$ 9,100.00
0052	water truck	day	\$125	-	\$ -
0043	perdiem	night	\$60	18	\$ 1,080.00
0053	pick-up truck	day	\$50	21	\$ 1,050.00
0042	mileage	mile	0.25	2,700	\$ 675.00
TOTAL					(e) \$ 35,602.00

REMOVAL AND DISPOSAL OF HEATER-TREATERS					
ITEM NO.	ITEM	UNIT	PRICE PER UNIT	UNITS	COSTS
	subcontract shear (at Cost)	LS	\$ 2,000.00	1.0	\$2,000.00
0029	trackhoe 2	day	\$550	0.3	\$165.00
0006	field tech I	hour	\$40	3.0	\$120.00
	transport (at cost)	hour	\$60	8.0	\$480.00
	Disposal (at cost)	ton	\$23	20.0	\$460.00
TOTAL					(f) \$3,225.00

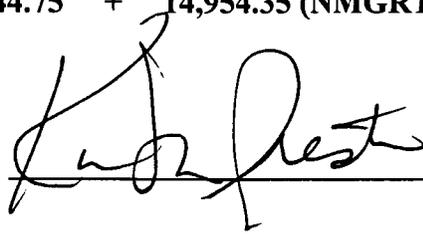
CLAY LINER PLACEMENT					
ITEM NO.	ITEM	UNIT	PRICE PER UNIT	UNITS	COSTS
	clay (at cost)	cubic yd	\$7.50	-	\$0.00
0006	field tech I	hour	\$40	-	\$0.00
0029	trackhoe 2	day	\$550	-	\$0.00
TOTAL					(g) \$0.00

BACKFILLING AND SITE RESTORATION					
ITEM NO.	ITEM	UNIT	PRICE PER UNIT	UNITS	COSTS
0002	senior scientist	hour	\$75	16	\$1,200.00
0003	project scientist/manager	hour	\$63	24	\$1,512.00
0005	field tech II	hour	\$42	99	\$4,158.00
0006	field tech I	hour	\$40	198	\$7,920.00
0010	secretary	hour	\$29	16	\$464.00
0021	PID	day	\$5	10	\$50.00
0029	trackhoe 2	day	\$550	20	\$11,000.00
0043	perdiem	night	\$60	35	\$2,100.00
0053	pick-up truck	day	\$50	20	\$1,000.00
0042	mileage	mile	0.25	900	\$225.00
TOTAL					(h) \$29,629.00

TOTAL COST FOR JOB	(i) \$284,844.75
Lea County Taxes (NMGRT)	5.25% \$ 14,954.35

TOTAL (i) \$ 284,844.75 + 14,954.35 (NMGRT) = (j) \$ 299,799.10

AMEC APPROVAL:



DATE:

1/9/2002 ~~2001~~

COMMISSIONER'S OFFICE

Phone (505) 827-5760
Fax (505) 827-5766

ADMINISTRATION

Phone (505) 827-5700
Fax (505) 827-5853

GENERAL COUNSEL

Phone (505) 827-5713
Fax (505) 827-4262

PUBLIC AFFAIRS

Phone (505) 827-1245
Fax (505) 827-5766



COMMERCIAL RESOURCES

Phone (505) 827-5724
Fax (505) 827-6157

MINERAL RESOURCES

Phone (505) 827-5744
Fax (505) 827-4739

ROYALTY MANAGEMENT

Phone (505) 827-5772
Fax (505) 827-4739

SURFACE RESOURCES

Phone (505) 827-5793
Fax (505) 827-5711

**New Mexico State Land Office
Commissioner of Public Lands
Ray Powell, M.S., D.V.M.**

June 6, 2002

Stephen C. Ross
NM Energy, Minerals and Natural Resources Department
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Right-of-Entry Permit No. ROE-659

Dear Mr. Ross:

Enclosed is an approved copy of the captioned right-of-entry permit. If any corrections are necessary, please let us know and we will retype or amend this permit as necessary.

If you have any questions, please feel free to contact this office at the above address or at (505) 827-5728 or 5729.

Sincerely,

A handwritten signature in cursive script that reads "Lorrie Gasca".

Lorrie Gasca, Management Analyst
Surface Resources Division

**NEW MEXICO STATE LAND OFFICE
Ray B. Powell, Commissioner of Public Lands
New Mexico State Land Office Building
P.O. Box 1148, Santa Fe, NM 87504-1148**

**RIGHT OF ENTRY PERMIT
CONTRACT NO. 659**

1. RIGHT OF ENTRY PERMIT

This permit is hereby issued under the authority established by Section 19-1-2 NMSA (1985). Therefore, and in consideration of and subject to the terms, covenants, conditions, agreements, obligations and reservations contained in the permit and all other existing rights, the Commissioner of Public Lands, New Mexico State Land Office, State of New Mexico, hereinafter called "COMMISSIONER," grants to **NM Energy, Minerals and Natural Resources Department Oil and Conservation Division of 1220 South St. Francis Drive, Santa Fe, NM 87505** hereinafter called "PERMITTEE," authorized use of a specific tract(s) of state trust land described in this permit.

2. TERM AND LAND DESCRIPTION

Right of entry is granted for a term of 1 year commencing **April 11, 2002 to April 11, 2003** to the following state lands: **SW4NW4 of Section 31, Township 18 South, Range 37 East. Phase III Investigation, Cleanup and Environmental Remediation of the Goodwin Treating Plant.**

3. FEE.

No charge.

4. PERMITTED USE

Permitted use is for the purpose of: **Access to the above location (see #2 land description). AMEC, the contractor will secure the facility with locking gate and will be working under a site health and safety plan. They will be using heavy equipment to remove old equipment, oilfield waste, and contaminated soil. They will use approximately 10 acres directly north of the facility fence line to construct soil compost windrows. The granting of this permit does not allow access across private lands.**

5. IMPROVEMENTS

No improvements shall be placed on the premises without the prior written consent of the Commissioner.

6. RESERVATIONS

Commissioner reserves the right to execute permits on the land granted by this permit for

mining purposes and for the extraction of oil, gas, salt, geothermal resources, and other mineral deposits therefrom and the right to go upon, explore for, mine, remove and sell same. Commissioner further reserves the right to sell or dispose of natural surface products of said lands and to grant such other right-of-way and easements as provided for by law.

7. COMPLIANCE WITH LAWS

Permittee shall at its own expense comply fully with and be subject to all regulations, rules, ordinances, and requirements of the Commissioner including, but not limited to the Cultural Properties Act, NMSA 1978 as amended. It is illegal for any person or his agent to appropriate, excavate, injure, or destroy any historic, or prehistoric ruin or monument, or any object of historical, archaeological, architectural, or scientific value situated on lands owned or controlled by the State Land Office without a valid permit issued by the Cultural Properties Review Committee and approved by the Commissioner of Public Lands.

8. HOLD HARMLESS

Permittee shall have, save, and hold harmless, indemnify and defend Commissioner and the State of New Mexico, and their agent or agents, in their official and individual capacities, of and from any and all liability claims, losses, or damages arising out of or alleged to arise out of or indirectly connected with the operations of Permittee under this permit off or on the Commissioner's premises or arising out of the presence on the Commissioner's premises of any agent, contractor or subcontractor of Permittee.

9. AMENDMENT

This permit shall not be altered, changed or amended except by an instrument in writing executed by Commissioner and Permittee.

10. WITHDRAWAL

Commissioner reserves the right to withdraw any or all of the land authorized for use under this permit. If applicable, Permittee shall vacate the acreage specified within 30 days after receipt of written notification of withdrawal from the Commissioner.

11. CANCELLATION

The violation by Permittee of any of the terms, conditions or covenants of this permit or the nonpayment by Permittee of the fees due under this permit shall at the option of the Commissioner be considered a default and shall cause the cancellation of this permit 30 days after Permittee has been sent written notice of such.

12. PRESERVE AND PROTECT

The Permittee agrees to preserve and protect the natural environmental conditions of the land encompassed in this permit, and to take those reclamation or corrective actions that are accepted soil and water conservation practices and that are deemed necessary by the Commissioner to protect the land from pollution, erosion, or other environmental degradation.

13. RECLAMATION

The Permittee agrees to reclaim those areas that may be damaged by activities conducted thereon.

14. SPECIAL INSTRUCTIONS AND OR RESTRICTIONS

- 1. No off road traffic allowed
- 2. No wood collection or tree cutting allowed.
- 3. Disturbing, dislodging, damaging, defacing, destroying or removing historical archaeological, paleontological or cultural sites or artifacts is prohibited.
- 4. Disturbing, dislodging, damaging, defacing, destroying any improvement, fixture, item, object or thing placed or located in, under or upon the land is prohibited.
- 5. Entries to lands are limited to those State Lands with public access.
- 6. Any other activities not listed are not allowed unless prior written approval from the Commissioner of Public Lands is granted.

WITNESS the hands and seals of PERMITTEE and COMMISSIONER on the day and year first above written.

Don Wrotenburg Telephone: 476-3460
 PERMITTEE

ACKNOWLEDGMENT

STATE OF NEW MEXICO)
)
 COUNTY OF SANTA FE)

The foregoing instrument was acknowledged before me this 15th day of April, 2002.

My Commission Expires: 2/18/03

[Signature]
 NOTARY PUBLIC

Ray Powell
 COMMISSIONER OF PUBLIC LANDS

[Faint notary seal and text]

STATE OF NEW MEXICO
GENERAL SERVICES DEPARTMENT
PURCHASING DIVISION

RECEIVED GSD.PD.C

SEP 25 2000

Environmental Bureau
Oil Conservation Division

TERMS AND CONDITIONS UNLESS OTHERWISE SPECIFIED

2002 August

1. **General:** When the State Purchasing Agent issues a purchase document in response to the Vendor's bid, a binding contract is created.
2. **Variation in Quantity:** No variation in the quantity of any item called for by this order will be accepted unless such variation has been caused by conditions of loading, shipping, packing or a manufacturing process, and then only to the extent, if any, specified elsewhere in this order.
3. **Assignment:**
 - A. Neither the order, nor any interest therein, nor claim thereunder, shall be assigned or transferred by the Vendor, except as set forth in subparagraph 3B below or as expressly authorized by the state purchasing agent's office. No such assignment or transfer shall relieve the Vendor from the obligations and liabilities under this order.
 - B. Vendor agrees that any and all claims for overcharge resulting from antitrust violations which are borne by the State as to goods, services, and materials purchased in connection with hereby assigned to the State.
4. **State Furnished Property:** State furnished property shall be returned to the State upon request in the same condition as received except for ordinary wear, tear and modifications ordered hereon.
5. **Discounts:** Prompt payment discounts will not be considered in computing the low bid. Discounts for payment within 20 days will be considered after the award of the contract. Discounted time shall be computed from the date of receipt of the merchandise or invoice, whichever is later.
6. **Inspection:** Final inspection and acceptance will be made at the destination. Supplies rejected at the destination for non-conformance with specifications shall be removed, at the Vendor's risk promptly after notice of rejection.
7. **Inspection of Plant:** The State Purchasing Agent may inspect, at any reasonable time, the part or the contractor's, or any subcontractor's plant or place of business, which is related to the performance of this contract.
8. **Commercial Warranty:** The Vendor agrees that the supplies or services furnished under this order shall be covered by the most favorable commercial warranties the Vendor gives to any customer. The Vendor agrees that the rights and remedies provided herein shall extend to the State and are in addition to and do not limit any rights afforded to the State by any other clause of this contract. The Vendor agrees not to disclaim warranties of fitness for a particular purpose of merchantability.
9. **Taxes:** The unit price shall exclude all State taxes.
10. **Packing, Shipping and Invoicing:**
 - A. The State's purchase document number and the Vendor's name, user's name and location shall be shown on each packing and delivery ticket, package, bill of lading and other correspondence in connection with the shipments. The user's count will be accepted by the Vendor as final and conclusive on all shipment not accompanied by a packing ticket.
 - B. The Vendor's invoice shall be submitted in triplicate, duly certified and shall contain the following information: order number, description of supplies or services, quantities, unit prices, and extended totals. Separate invoices shall be rendered for each and every complete shipment.
 - C. Invoice must be submitted to the using agency and NOT THE STATE PURCHASING AGENT.
11. **Default:** The State reserves the right to cancel all or any part of this order without cost to the State, if the Vendor fails to meet the provisions of this order and, except as otherwise provided herein, the Vendor is liable for any excess cost occasioned by the State due to the Vendor's default. The Vendor shall not be liable for any excess costs if failure to perform the order arises out of causes beyond the Vendor's control and without the fault or negligence of the Vendor; such causes include, but are not restricted to, acts of God or the public enemy, acts of the State or Federal Government, fires, floods, epidemics, quarantine restrictions, strikes, freight embargoes, unusually severe weather and defaults of subcontractors due to any of the above, unless the State shall determine that the supplies or services to be furnished by the subcontractor were obtainable from other sources in sufficient time to permit the Vendor to meet the required delivery scheduled. The rights and remedies of the State provided in this paragraph shall not be exclusive and are in addition to any other rights now being provided by law or under this order.
12. **Non-collusion:** In signing this bid, the Vendor certifies he/she has not, either directly or indirectly, entered into action in restraint of free competitive bidding in connection with this offer submitted to the State Purchasing Agent.
13. **Non-discrimination:** Vendors doing business with the State of New Mexico must be in compliance with the Federal Civil Rights Act of 1964 and Title VII of the Act, (Rev. 1979), and the Americans with Disabilities Act of 1990, (Public Law 101-336).
14. **The Procurement Code:** Sections 13-1-28 through 13-1-99 NMSA 1978 imposes civil and criminal penalties for its violation. In addition, the New Mexico criminal statutes impose felony penalties for bribes, gratuities and kickbacks.
15. All bid items are to be NEW and of most current production, unless otherwise specified.
16. **Payment for purchases:** Except as otherwise agreed to: Late payment charges may be assessed against the user state agency in the amount and under the conditions set forth in Section 13-1-158, NMSA 1978.
17. **Workers' Compensation:** The Contractor agrees to comply with state laws and rules pertaining to workers' compensation benefits for its employees. If the Contractor fails to comply with the Workers' Compensation Act and applicable rules when required to do so, this Agreement may be terminated by the contracting agency.
18. **ATTENTION:** Failure to complete all information on the bid envelope might necessitate the premature opening of the bid in order to identify the bid file. The bid number should be identified on the outside of the bid envelope.

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PURCHASING DIVISION

DEPARTMENT
PRICE AGREEMENT

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ARTICLE I - STATEMENT OF WORK

Under the terms and conditions of this Price Agreement the using agency may issue orders for items and/or services described here. The terms and conditions of this Price Agreement shall form a part of each order issued hereunder.

The item and/or services to be ordered shall be as listed under **ARTICLE IX - Price Schedule**. All orders issued hereunder will be both an order number and this Price Agreement number. Ag It is understood that no guarantee or warranty is made or implied, either the New Mexico State Purchasing Agent or the user, that any order for any definite quantity will be issued under this Price Agreement. The contractor is required to accept the order and furnish the items and/or services in accordance with the article contained hereunder for the quantity of each order issued.

ARTICLE II - TERM

The term of this Price Agreement for issuance of orders shall be as indicated in specifications

ARTICLE III - SPECIFICATIONS

Items and/or services furnished hereunder shall conform to the requirements of specifications and/or drawings applicable to items listed under **ARTICLE IX - Price Schedule**. Orders issued against this schedule will show the applicable Price Agreement item(s), numbers(s), and price(s); however they may not describe the item(s) fully.

ARTICLE IV - SHIPPING AND BILLING INSTRUCTIONS

Contractor shall ship in accordance with the instructions of this form. Shipment shall be made only against specific orders which the user may place with the contractor during the term indicated in **ARTICLE II - TERM**. The contractor shall enclose a packing list with each shipment listing the order number, Price Agreement number and the commercial parts number (if any) for each item. Delivery shall be made as indicated on page 1. If vendor is unable to meet stated delivery the State Purchasing Agent must be notified.

ARTICLE V - TERMINATION

This Price Agreement may be terminated by either signing party upon written notice to the other at least thirty (30) days in advance of the date of termination. Notice of Termination of the Price Agreement **SHALL NOT AFFECT ANY OUTSTANDING ORDERS**.

ARTICLE VI- AMENDMENT

This Price Agreement may be amended by mutual agreement of the NM State Purchasing Agent and the contractor upon written notice by either party to the other. An amendment to this Price Agreement **SHALL NOT AFFECT ANY OUTSTANDING ORDERS** issued prior to the effective date of the amendment as mutually agreed upon, and as published by the NM state Purchasing Agent. Amendments affecting price adjustments and/or extension of contract expiration are not allowed unless specifically provided for in the bid and contract documents.

ARTICLE VII - ISSUANCE OR ORDERS

Only written signed orders are valid under this Price Agreement. Form SPD-001A is the approved form for state agencies issuing Contract Orders under this Price Agreement. Other authorized government entities may utilize form SPD-001A or forms adapted by them for their own use.

ARTICLE VIII - PACKING (IF APPLICABLE)

Packing shall be in conformance with standard commercial practices.

ARTICLE IX - PRICE SCHEDULE

Prices as listed in the Price Schedule hereto attached, ARE FIRM.

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CONTRACT VENDORS:

(1)-5080420	505-821-1801	PAY DISC:	NET 45
AGRA EARTH & ENVIRONMENTAL INC		FOB:	DESTINATION
8519 JEFFERSON NE		DELIVERY:	AS REQUESTED
ALBUQUERQUE	NM 87113-0000	TAX-ID	-
(4)-5362041	505-243-5494	PAY DISC:	NET 30
FAITH ENGINEERING INC		FOB:	DESTINATION
ATTN:STUART E FAITH		DELIVERY:	UPON ORDER
1000 LOMAS BLVD NW			
ALBUQUERQUE	NM 87102-0000	TAX-ID	-
(7)-5422702	505-334-7373	PAY DISC:	NET
KLEINFELDER INC		FOB:	DESTINATION
4905 HAWKINS NE		DELIVERY:	AS REQUESTED
ALBUQUERQUE	NM 87109-0000	TAX-ID	-
(9)-5187719	505-268-2661	PAY DISC:	NET 30
RESPEC INC		FOB:	DESTINATION
4775 INDIAN SCHOOL RD NE		DELIVERY:	AS REQUESTED
SUITE 300			
ALBUQUERQUE	NM 87110-0000	TAX-ID	-

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STATE WIDE MULTIPLE SITE MONITORING AND REPORTING AT VARIOUS
 SITES INCLUDING TUCUMCARI, SANTA ROSA, WILLIAMSBURG, CARLSBAD,
 "OLD" GALLUP, "OLD" BELEN MAINTENANCE PATROL YARDS
 AND OTHER SITES AS REQUIRED. SAMPLING OF SOIL AND GROUNDWATER
 CONTAMINATED BY DIESEL, GASOLINE SALT OR OTHER CONTAMINANTS.
 AWARD WILL BE TO LOWEST RESPONSIVE BIDDER, "ALL OR NONE."

M001

TO ESTABLISH A CONTRACT FOR A PERIOD OF TWO YEARS FROM
 DATE OF AWARD, FOR WORK AT NMSHTD MAINTENANCE YARDS OR OTHER
 SITES. WORK SHALL CONSIST OF WORKPLAN PREPARATION,
 SAMPLING FOR LABORATORY TESTING* OF
 GROUNDWATER IN ON-SITE WELLS AND SITE SOIL.
 QUARTERLY REPORTS IN THREE (3) COPIES ARE REQUIRED,
 PER SITE. NO "MARK-UP" OF SUBCONTRACTOR COSTS SHALL BE
 ALLOWED.

SCOPE OF WORK:

PREPARATION AND MANAGEMENT OF WORKPLANS, INCLUDING
 COORDINATION WITH THE NEW MEXICO ENVIRONMENT DEPARTMENT.
 MANAGEMENT OF FIELD AND LABORATORY WORK, INCLUDING

 PREPARATION OF REPORTS AND C.A.F. CLAIMS, UNDER THE
 SUPERVISION OF A N.M. CERTIFIED SCIENTIST.

 SOIL AND GROUNDWATER MONITORING OF EXSITING SITE WELLS
 AND STOCKPILES BY SAMPLING,

 LABORATORY TESTING AND REPORTING 4 TIMES YEARLY. EMERGENCY
 AND CONTINGENCY MANAGEMENT OF COST NOT ANTICIPATED IN THIS

 SCOPE OF WORK SUCH AS DAMAGE TO SURFACE AND SUBSURFACE
 EQUIPMENT AND WELLS CAUSED BY EARTHQUAKE, VANDALISM, VIOLENT
 WEATHER OR OTHER EVENTS. ELECTRICAL, PLUMBING, MASONRY,
 CARPENTRY, DRILLING AND EXCAVATION WORK MAY BE REQUIRED.

TASK DESCRIPTION	FREQUENCY
-----	-----

- | | |
|----------------------------------|----------------|
| A. WORKPLAN PREPARATION..... | YEARLY |
| B. GROUNDWATER SAMPLING*..... | QUARTER YEARLY |
| C. REPORTING..... | QUARTER YEARLY |
| D. C.A.F. CLAIM PREPARATION..... | TWICE YEARLY |

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E. CONTINGENCY EVENTS & SOIL SAMPLING*.....AS REQUIRED

*COSTS OF LABORTARY ANALYSES SHALL BE COORDINATED
WITH AND BY NMSHTD USING A SEPARATE PRICE AGREEMENT
FOR WATER, SOIL AND AIR SAMPLES.

HOURLY RATES MUST CONFORM TO THE CATEGORIES DEFINED
HEREIN. INDIVIDUALS ASSIGNED TO A TASK MUST MEET
THE MINIMUM EDUCATION/EXPERIENCE CRITERIA. PAYMENT
WILL BE BASED ON TASK PERFORMED.

M002

EXPENSES

EXPENSES NOT EXPLICITLY PRE-APPROVED MAY BE BILLED TO THE
DEPARTMENT AT RATES THAT DO NOT EXCEED THE MAXIMUM LISTED
BELOW FOR RENTAL OR PURCHASE. THE TOTAL BILLABLE COST FOR
RENTAL EQUIPMENT SHALL NOT EXCEED 120% OF THE PURCHASE
PRICE. EXPENSES AND ORDINARY INVESTIGATIVE AND REMEDIAL
EQUIPMENT NOT LISTED MAY BE BILLED AT RATES NOT TO EXCEED
USUAL AND CUSTOMARY RENTAL OR LEASE RATES, OR AT COST.
SPECIALIZED INVESTIGATIVE OR REMEDIAL EQUIPMENT
MANUFACTURED IN-HOUSE MAY BE BILLED AT COST.
SHIPPING, TELEPHONE & ELECTRICAL CHARGES SHALL BE
BILLED AT COST, INVOICES TO BE PROVIDED QUARTERLY
TO USER FACILITY.

M003

TAX NOTE: PRICE SHALL NOT INCLUDE STATE GROSS RECEIPTS TAX
OR LOCAL OPTION TAX(ES). SUCH TAX OR TAXES SHALL BE ADDED
TO EACH INDIVIDUAL ITEM BID AT APPROPRIATE RATE.

BONDING:

BID SECURITY IN THE FORM OF A SURETY BOND EXECUTED BY A
SURETY COMPANY AUTHORIZED TO DO BUSINESS IN THE STATE OF
NEW MEXICO SHALL BE REQUIRED IN THE AMOUNT OF \$10,000.00.

A 100% PERFORMANCE BOND AND A 100% PAYMENT AND MATERIALS
BOND EXECUTED BY A SURETY COMPANY AUTHORIZED TO DO
BUSINESS IN THE STATE OF NEW MEXICO WILL BE REQUIRED OF THE
SUCCESSFUL BIDDER PRIOR TO AWARD OF CONTRACT.

CONTRACTOR(S) FURTHER AGREES TO:

- A. FURNISH ALL EQUIPMENT, LABOR AND TOOLS REQUIRED TO
PERFORM THE WORK SPECIFIED.

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- B. PROVIDE COMPETENT SUPERVISION AND SKILLED PERSONNEL TO CARRY ON ALL WORK IN PROGRESS.
- C. COMPLY WITH ALL LOCAL, STATE AND FEDERAL LAWS GOVERNING SAFETY, HEALTH AND SANITATION. THE CONTRACTOR SHALL PROVIDE ALL SAFEGUARDS, SAFETY DEVICES AND PROTECTIVE EQUIPMENT, AND TAKE ANY OTHER NEEDED ACTIONS NECESSARY TO PROTECT THE LIFE AND HEALTH OF EMPLOYEES ON THE JOB AND THE SAFETY OF THE PUBLIC, AND TO PROTECT THE PROPERTY OF THE STATE OF NEW MEXICO IN CONNECTION WITH THE PERFORMANCE OF THE WORK COVERED BY THIS CONTRACT.
- D. PROVIDE WORKMEN ADEQUATE INSURANCE, INCLUDING BUT NOT LIMITED TO WORKMAN'S COMPENSATION.
- E. MAKE NECESSARY ARRANGEMENTS FOR STORAGE OF HIS TOOLS AND/OR EQUIPMENT. THE NMSHTD WILL NOT BE RESPONSIBLE FOR ANY LOST OR STOLEN PROPERTY.
- F. BE RESPONSIBLE FOR ALL CLEANUP WORK ON THE PROJECT SITE(S) AND AT THE EQUIPMENT STORAGE AREA(S) PRIOR TO FINAL INSPECTION AND ACCEPTANCE.
- G. COMPLY WITH ALL APPLICABLE CODES FOR THIS TYPE OF WORK.
- H. BE HELD LIABLE FOR ANY DAMAGES WHICH OCCUR BECAUSE OF HIS NEGLIGENCE OR THAT OF HIS EMPLOYEES.

THIS IS A PUBLIC WORKS CONTRACT, SUBJECT TO THE PROVISIONS OF THE PUBLIC WORKS MINIMUM WAGE ACT, SECTIONS 13-14-11 THRU 13-4-17, ET SEQ. NMSA 1978 AS AMENDED. MINIMUM WAGE RATES AS DETERMINED AND PUBLISHED BY THE STATE LABOR COMMISSION, SANTA FE, NM SHALL BE IN EFFECT AND UTILIZED BY THE CONTRACTOR DURING THE LIFE OF THIS CONTRACT. WAGE DECISION NO. _____ DATED _____ IS A PART OF THIS AGREEMENT.

A POTENTIAL CONTRACTOR OR THE CONTRACTOR AGREES TO COMPLY WITH STATE LAWS AND RULES PERTAINING TO WORKER'S COMPENSATION INSURANCE COVERAGE FOR ITS EMPLOYEES, IF CONTRACTOR FAILS TO COMPLY, WITH THE WORKER'S COMPENSATION ACT AND APPLICABLE RULES WHEN REQUIRED TO DO SO, THE CONTRACT MAY BE CANCELLED EFFECTIVE IMMEDIATELY.

CONTRACTOR(S) SHALL INDEMNIFY AND HOLD HARMLESS THE STATE, ITS OFFICERS AND EMPLOYEES, AGAINST LIABILITY, CLAIMS,

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DAMAGES, LOSSES OR EXPENSES ARISING OUT OF BODILY INJURY TO PERSONS OR DAMAGE TO PROPERTY CAUSED BY, OR RESULTING FROM, CONTRACTOR(S) AND/OR ITS EMPLOYEES, OWN NEGLIGENT ACT(S) OR OMISSION(S) WHILE CONTRACTOR, AND/OR ITS EMPLOYEES, PERFORM(S) OR FAILS TO PERFORM IT'S OBLIGATIONS AND DUTIES UNDER THE TERMS AND CONDITIONS OF THIS AGREEMENT. THIS SAVE HARMLESS AND INDEMNIFICATION CLAUSE IS SUBJECT TO THE IMMUNITIES, PROVISIONS, AND LIMITATIONS OF THE TORT CLAIMS ACT (41-4-1, ET SEQ., N.M.S.A. 1978 COMP) AND SECTION 56-7-1, N.M.S.A. 1978 COMP. AND ANY AMENDMENTS THERETO. IT IS SPECIFICALLY AGREED BETWEEN THE PARTIES EXECUTING THIS AGREEMENT THAT IT IS NOT INTENDED BY ANY OF THE PROVISIONS OF ANY PART OF THE AGREEMENT TO CREATE THE PUBLIC OR ANY MEMBER THEREOF A THIRD PARTY BENEFICIARY OR TO AUTHORIZE ANYONE NOT A PARTY TO THE AGREEMENT TO MAINTAIN A SUIT(S) FOR WRONGFUL DEATH(S), BODILY AND/OR PERSONAL INJURY(IES) TO PERSON(S), DAMAGE(S) TO PROPERTY(IES) AND/OR ANY OTHER CLAIM(S) WHATSOEVER PURSUANT TO THE PROVISIONS OF THIS AGREEMENT.

THE CONTRACTOR SHALL PROCURE AND MAINTAIN AT THE CONTRACTOR'S EXPENSE INSURANCE OF THE KINDS AND IN THE AMOUNTS HEREIN PROVIDED. THIS INSURANCE SHALL BE PROVIDED BY INSURANCE COMPANIES AUTHORIZED TO DO BUSINESS IN NEW MEXICO AND SHALL COVER ALL OPERATIONS UNDER THE CONTRACT, WHETHER PERFORMED BY THE CONTRACTOR, THE CONTRACTOR'S AGENTS OR EMPLOYEES OR BY SUBCONTRACTORS. ALL INSURANCE PROVIDED SHALL REMAIN IN FULL FORCE AND EFFECT FOR THE ENTIRE PERIOD OF THE WORK, UP TO AND INCLUDING FINAL ACCEPTANCE, AND THE REMOVAL OF ALL EQUIPMENT AND EMPLOYEES, AGENTS AND SUBCONTRACTORS THEREFROM.

A) PUBLIC LIABILITY AND AUTOMOBILE LIABILITY INSURANCE.

1. GENERAL LIABILITY: BODILY INJURY LIABILITY AND PROPERTY DAMAGE LIABILITY INSURANCE APPLICABLE IN FULL TO THE SUBJECT PROJECT SHALL BE PROVIDED IN THE FOLLOWING MINIMUM AMOUNTS:

BODILY INJURY LIABILITY:

\$1,000,000 EACH PERSON; \$2,000,000 EACH OCCURRENCE
 (ANNUAL AGGREGATE)

PROPERTY DAMAGE LIABILITY:

\$2,000,000 EACH OCCURRENCE (ANNUAL AGGREGATE)

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A. THE POLICY TO PROVIDE THIS INSURANCE IS TO BE WRITTEN ON A COMPREHENSIVE GENERAL LIABILITY FORM OR COMMERCIAL GENERAL LIABILITY FORM WHICH MUST INCLUDE THE FOLLOWING:

1. COVERAGE FOR LIABILITY ARISING OUT OF THE OPERATION OF INDEPENDENT CONTRACTORS.
2. COMPLETED OPERATION COVERAGE.
3. ATTACHMENT OF THE BROAD FORM COMPREHENSIVE GENERAL LIABILITY ENDORSEMENT.

B. IN THE EVENT THAT THE USE OF EXPLOSIVES IS A REQUIRED PART OF THE CONTRACT, THE CONTRACTORS INSURANCE MUST INCLUDE COVERAGE FOR INJURY TO OR DESTRUCTION OF PROPERTY ARISING OUT OF BLASTING OR EXPLOSION.

C. IN THE EVENT THAT A FORM OF WORK NEXT TO AN EXISTING BUILDING OR STRUCTURE IS A REQUIRED PART OF THE CONTRACT, THE CONTRACTOR'S INSURANCE MUST INCLUDE COVERAGE FOR INJURY TO OR DESTRUCTION OF PROPERTY ARISING OUT OF:

1. THE COLLAPSE OF OR STRUCTURAL INJURY TO BUILDINGS OR STRUCTURES DUE TO EXCAVATION, INCLUDING BURROWING, FILLING OR BACK-FILLING IN CONNECTION THEREWITH, OR TO TUNNELING, COFFERDAM WORK OR CAISSON WORK OR TO MOVING, SHORING, UNDERPINNING, RAZING OR DEMOLITION OF BUILDINGS OR STRUCTURES OR REMOVAL OR REBUILDING OF STRUCTUAL SUPPORTS THEREOF.

D. COVERAGE MUST BE INCLUDED FOR INJURY TO OR DESTRUCTION OF PROPERTY ARISING OUT OF INJURY TO OR DESTRUCTION OF WIRES, CONDUITS, PIPES, MAINS, SEWERS OR OTHER SIMILAR PROPERTY OR ANY APPARTUS IN CONNECTION THEREWITH BELOW THE SURFACE OF THE GROUND, IF SUCH INJURY OR DESTRUCTION IS CAUSED BY OR OCCURS DURING THE USE OF MECHANICAL EQUIPMENT FOR THE PURPOSE OF EXCAVATING, DIGGING OR DRILLING, OR TO INJURY TO OR DESTRUCTION OF PROPERTY AT ANY TIME RESULTING THEREFROM.

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2. AUTOMOBILE LIABILITY INSURANCE COVERAGE FOR THE CONTRACTOR (WHETHER INCLUDED IN THE POLICY PROVIDING GENERAL LIABILITY INSURANCE OR IN A SEPERATE POLICY) MUST PROVIDE LIABILITY FOR THE OWNERSHIP, OPERATION AND MAINTENANCE OF OWNED, NON-OWNED AND HIRED CARS. THE LIMITS OF LIABILITY INSURANCE SHALL BE PROVIDED IN THE FOLLOWING AMOUNTS:

BODILY INJURY LIABILITY:

\$1,000,000 EACH PERSON:
\$2,000,000 EACH OCCURRENCE
(ANNUAL AGGREGATE)

PROPERTY DAMAGE LIABILITY:

\$2,000,000 EACH OCCURRENCE
(ANNUAL AGGREGATE)

B. WORKER'S COMPENSATION INSURANCE.

THE CONTRACTOR'S SHALL ALSO CARRY WORKER'S COMPENSATION INSURANCE OR OTHERWISE FULLY COMPLY WITH THE PROVISION OF THE NEW MEXICO WORKMEN'S COMPENSATION ACT AND OCCUPATIONAL DISEASE DISABLEMENT LAW.

IF THE CONTRACTOR IS AN "OWNER-OPERATOR" OF SUCH EQUIPMENT, IT IS AGREED THAT THE STATE OF NEW MEXICO ASSUMES NO RESPONSIBILITY, FINANCIAL OR OTHERWISE, FOR ANY INJURIES SUSTAINED BY THE "OWNER-OPERATOR" DURING THE PERFORMANCE OF SAID CONTRACT.

C. CERTIFICATE OF INSURANCE/DEPARTMENT AS ADDITIONAL INSURED. THE CONTRACTOR BEING AWARDED THE CONTRACT/PRICE AGREEMENT SHALL FURNISH EVIDENCE OF CONTRACTOR'S INSURANCE COVERAGE BY A CERTIFICATE OF INSURANCE. THE CERTIFICATE OF INSURANCE SHALL BE SUBMITTED PRIOR TO AWARD OF THE CONTRACT/PRICE AGREEMENT.

THE CONTRACTOR SHALL HAVE THE N.M. STATE

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HIGHWAY & TRANSPORTATION DEPARTMENT NAMED AS AN ADDITIONAL INSURED ON THE COMPREHENSIVE GENERAL LIABILITY FORM OR COMMERCIAL GENERAL LIABILITY FORM FURNISHED BY THE CONTRACTOR PURSUANT TO PARAGRAPH (A) 1. AND (A) 2., OF THIS SUBSECTION. THE CERTIFICATE OF INSURANCE SHALL STATE THAT THE COVERAGE PROVIDED UNDER THE POLICY IS PRIMARY OVER ANY OTHER VALID AND COLLECTIBLE INSURANCE.

THE CERTIFICATE OF INSURANCE SHALL ALSO INDICATE COMPLIANCE WITH THESE SPECIFICATIONS AND SHALL CERTIFY THAT THE COVERAGE SHALL NOT BE CHANGED, CANCELLED OR ALLOWED TO LAPSE WITHOUT GIVING THE DEPARTMENT THIRTY (30) DAYS WRITTEN NOTICE ALSO, A CERTIFICATE OF INSURANCE SHALL BE FURNISHED TO THE DEPARTMENT ON RENEWAL OF A POLICY OR POLICIES AS NECESSARY DURING THE TERMS OF THE CONTRACT. THE DEPARTMENT SHALL NOT ISSUE A NOTICE TO PROCEED UNTIL SUCH TIME AS THE ABOVE REQUIREMENTS HAVE BEEN MET.

D. UMBRELLA COVERAGE: THE INSURANCE LIMITS CITED IN THE ABOVE PARAGRAPHS ARE MINIMUM LIMITS. THIS SPECIFICATION IS IN NO WAY INTENDED TO DEFINE WHAT CONSTITUTES ADEQUATE INSURANCE COVERAGE FOR INDIVIDUAL CONTRACTOR. THE DEPARTMENT WILL RECOGNIZE FOLLOWING FORM EXCESS COVERAGE (UMBRELLA) AS MEETING THE REQUIREMENTS OF SUBSECTION (A) 1.A. OF SECTION, SHOULD SUCH INSURANCE OTHERWISE MEET ALL REQUIREMENTS OF SUCH SUBSECTIONS.

E. OTHER REQUIRED INSURANCE: THE CONTRACTOR SHALL PROCURE AND MAINTAIN, WHEN REQUIRED BY THE DEPT., FORM AND TYPES OF BAILEE INSURANCE SUCH AS, BUT NOT LIMITED TO, BUILDER'S RISK INSURANCE, CONTRACTOR'S EQUIPMENT INSURANCE, RIGGER'S LIABILITY PROPERTY INSURANCE, ETC. IN AN AMOUNT NECESSARY TO PROTECT THE DEPARTMENT AGAINST CLAIMS, LOSSES AND EXPENSES ARISING FROM THE DAMAGE, DISAPPEARANCE

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OR DESTRUCTION OF PROPERTY OF OTHERS IN THE CARE, CUSTODY OR CONTROL OF THE CONTRACTOR, INCLUDING PROPERTY OF OTHERS BEING INSTALLED, ERECTED OR WORKED UPON BY THE CONTRACTOR, HIS AGENTS OR SUB-CONTRACTORS.

F. RAILROAD INSURANCE: IN THE EVENT THAT RAILROAD PROPERTY IS AFFECTED BY THE SUBJECT CONTRACT, THE CONTRACTOR, IN ADDITION TO THE ABOVE REQUIREMENTS, SHALL BE REQUIRED TO FURNISH A RAILROAD PROTECTIVE LIABILITY POLICY IN THE NAME OF THE RAILROAD COMPANY INVOLVED. IN ADDITION, ON THOSE RAILS THAT ARE USED BY THE NATIONAL RAILROAD PASSENGER CORPORATION (NRPC), THE CONTRACTOR WILL ALSO OBTAIN A RAILROAD PROTECTIVE LIABILITY POLICY IN THE NAME OF NRPC.

THE LIMITS OF LIABILITY FOR THE RAILROAD PROTECTIVE LIABILITY POLICY (OR POLICIES) MUST BE NEGOTIATED WITH THE RAILROAD COMPANY ON A HAZARD AND RISK BASIS IN NO EVENT WILL THE LIMITS EXCEED THE FOLLOWING:

BODILY INJURY LIABILITY, PROPERTY DAMAGE LIABILITY:

\$2,000,000 EACH OCCURANCE

LIABILITY AND PHYSICAL DAMAGE TO PROPERTY:

\$6,000,000 AGGREGATE

THE LIMITS OF LIABILITY STATED ABOVE APPLY TO THE COVERAGE AS SET FORTH IN THE RAILROAD PROTECTIVE LIABILITY ENDORSEMENT FORM, SUBJECT TO THE TERMS, CONDITIONS AND EXCLUSIONS FOUND IN THE FORM.

THE POLICY MUST AFFORD COVERAGE AS PROVIDED IN THE STANDARD RAILROAD PROTECTIVE LIABILITY ENDORSEMENT (AASHTO FORM).

THE CONTRACTOR AGREES TO COMPLY WITH STATE LAWS AND RULES PERTAINING TO WORKERS' COMPENSATION INSURANCE COVERAGE FOR

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ITS EMPLOYEES. IF CONTRACTOR FAILS TO COMPLY WITH THE WORKERS' COMPENSATION ACT AND APPLICABLE RULES WHEN REQUIRED TO DO SO, THE CONTRACT MAY BE CANCELLED EFFECTIVE IMMEDIATELY.

THE PRICE QUOTED HEREIN REPRESENTS THE TOTAL COMPENSATION TO BE PAID BY THE STATE FOR GOODS AND/OR SERVICES PROVIDED. IT IS UNDERSTOOD THAT THE PARTY PROVIDING SAID GOODS AND/OR SERVICES TO THE STATE IS RESPONSIBLE FOR PAYMENT OF ALL COSTS OF LABOR, EQUIPMENT, TOOLS, MATERIALS, FEDERAL TAX, PERMITS, LICENSES, FEES AND ANY OTHER ITEMS NECESSARY TO COMPLETE THE WORK PROVIDED. THE PRICES QUOTED IN THIS CONTRACT INCLUDE AN AMOUNT SUFFICIENT TO COVER SUCH COSTS.

M005

THE CONDITIONS AND SPECIFICATIONS SENT OUT IN THE INVITATION TO BID ARE INSEPARABLE AND INDIVISIBLE. ANY VENDOR, BY SUBMITTING A BID, AGREES TO BE BOUND BY ALL SUCH CONDITIONS OR SPECIFICATIONS SENT OUT IN THIS INVITATION TO BID, AND ALL OTHER DOCUMENTS REQUIRED TO BE SUBMITTED, SHALL BE RETURNED BY THE VENDOR IN HIS BID PACKAGE. FAILURE TO DO SO OR ANY ATTEMPT TO VARY OR CHANGE THE CONDITIONS OR SPECIFICATIONS OF THE BID SHALL, AT THE DISCRETION OF THE STATE CONSTITUTE GROUNDS FOR REJECTION OF THE ENTIRE BID.

BIDDERS SHALL PROMPTLY NOTIFY THE NMSHTD OF ANY AMBIGUITY, INCONSISTENCY OR ERROR WHICH THEY MAY DISCOVER UPON THE EXAMINATION OF THE BIDDING DOCUMENTS, OR OF THE SITE AND LOCAL CONDITIONS.

THE OWNER SHALL HAVE THE RIGHT TO REJECT ANY OR ALL BIDS, AND IN PARTICULAR TO REJECT A BID NOT ACCOMPANIED BY DATA REQUIRED BY THE BIDDING DOCUMENTS, OR A BID IN ANY WAY INCOMPLETE OR IRREGULAR.

CONTRACTOR SHALL BE CONSIDERED AN INDEPENDENT CONTRACTOR AND NOT AN EMPLOYEE OF THE STATE OF NEW MEXICO. HOWEVER, DIRECTIONS AS TO TIME AND PLACE OF PERFORMANCE AND COMPLIANCE WITH RULES AND REGULATIONS MAY BE REQUIRED BY THE USING AGENCY.

PAYMENT FOR SERVICES PERFORMED WILL BE INITIATED UPON FINAL ACCEPTANCE AND INSPECTION OF WORK.

WITHIN FIFTEEN DAYS AFTER THE DATE THE DEPARTMENT RECEIVES WRITTEN NOTICE FROM THE CONTRACTOR THAT PAYMENT IS REQUESTED FOR SERVICES, CONSTRUCTION OR ITEMS OF TANGIBLE PERSONAL PROPERTY DELIVERED ON SITE AND RECEIVED, THE DEPARTMENT

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SHALL ISSUE A WRITTEN CERTIFICATION OF COMPLETE OR PARTIAL ACCEPTANCE OR REJECTION OF THE SERVICES, CONSTRUCTION OR ITEMS OF TANGIBLE PERSONAL PROPERTY. IF THE DEPARTMENT FINDS THAT THE SERVICES, CONSTRUCTION OR ITEM OF TANGIBLE PERSONAL PROPERTY ARE NOT ACCEPTABLE, IT SHALL, WITHIN THIRTY (30) DAYS AFTER THE DATE OF RECEIPT OF WRITTEN NOTICE FROM THE CONTRACTOR THAT PAYMENT IS REQUESTED, PROVIDE TO THE CONTRACTOR A LETTER OF EXCEPTION EXPLAINING THE DEFECT OR OBJECTION TO THE SERVICES, CONSTRUCTION OR DELIVERED TANGIBLE PERSONAL PROPERTY ALONG WITH DETAILS OF HOW THE CONTRACTOR MAY PROCEED TO PROVIDE REMEDIAL ACTION. UPON CERTIFICATION BY THE DEPARTMENT THAT THE SERVICES, CONSTRUCTION OR ITEMS OF PERSONAL PROPERTY HAVE BEEN RECEIVED AND ACCEPTED, PAYMENT SHALL BE TENDERED TO THE CONTRACTOR WITHIN THIRTY (30) DAYS AFTER THE DATE OF CERTIFICATION. IF PAYMENT IS MADE BY MAIL, THE PAYMENT SHALL BE DEEMED TENDERED ON THE DATE IT IS POSTMARKED. AFTER THE THIRTIETH DAY FROM THE DATE THAT WRITTEN CERTIFICATION OF ACCEPTANCE IS ISSUED, LATE PAYMENT CHARGES SHALL BE PAID ON THE UNPAID BALANCE DUE ON THE CONTRACT TO THE CONTRACTOR AT THE RATE OF 1-1/2 PERCENT PER MONTH. FOR PURCHASES FUNDED BY STATE OR FEDERAL GRANTS TO LOCAL PUBLIC BODIES, IF THE LOCAL PUBLIC BODY HAS NOT RECEIVED THE FUNDS FROM THE FEDERAL OR STATE FUNDING AGENCY, BUT HAS ALREADY CERTIFIED THAT THE SERVICES, CONSTRUCTION OR ITEMS OF TANGIBLE PERSONAL PROPERTY HAVE BEEN RECEIVED AND ACCEPTED, PAYMENTS SHALL BE TENDERED TO THE CONTRACTOR WITHIN FIVE (5) WORKING DAYS OF RECEIPT OF FUNDS FROM THAT FUNDING AGENCY.

FINAL PAYMENTS SHALL BE MADE WITHIN THIRTY DAYS AFTER THE WORK HAS BEEN APPROVED AND ACCEPTED BY THE DEPARTMENT'S SECRETARY OR HIS DULY AUTHORIZED REPRESENTATIVE.

VENDOR SHALL FURNISH NEW MEXICO CONTRACTORS LICENSE NUMBER WITH BID. N.M. CONTRACTORS LICENSE NO. _____
 GS-29 LICENSE NO. _____

M006

ALL WORK SHALL BE PERFORMED DURING NORMAL WORKING HOURS, WEEKDAYS FROM 7:30 A.M. THRU 4:00 P.M.. NO WORK SHALL BE PERFORMED ON SATURDAYS, SUNDAYS, OR HOLIDAYS, UNLESS PRIOR APPROVAL IS OBTAINED FROM THE NMSHTD. COORDINATION FOR ALL WORK PERFORMED WILL BE MADE BY CONTACTING THE STATE MAINTENANCE BUREAU, P.O. BOX 1149, SANTA FE, NM 87504-1149. (505) 827-5699.

M007

VENDORS ARE REQUESTED TO INDICATE THEIR FEDERAL TAX ID, NM CRS OR SOCIAL SECURITY NUMBER _____

M008

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0001 50.0 HOURLY PRINCIPAL -- GRADUATE SCIENCE DEGREE OR
 ENGINEERING DEGREE, PLUS FIVE (5) YEARS
 EXPERIENCE, OR AT LEAST TEN (10) YEARS
 EXPERIENCE IN INVESTIGATION AND REMEDIATION
 OF CONTAMINATION IN SOIL AND GROUND WATER.
 ADMINISTRATIVE AND/OR PROFESSIONAL HEAD OF
 ORGANIZATION. DIRECTS PROFESSIONAL STAFF.
 CHARGES A VERY LIMITED NUMBER OF HOURS PER
 SITE, AS IN REVIEW OF PROJECT DOCUMENTS.

75.000000 (1)

120.000000 (4)

40.000000 (7)

100.000000 (9)

0002 200.0 HOURLY SENIOR SCIENTIST/ENGINEER--SCIENCE OR
 ENGINEERING DEGREE AND AT LEAST THREE
 (3) YEARS APPLICABLE EXPERIENCE. PROFESSIONAL
 REGISTRATION WHEN APPLICABLE. SENIOR TECHNICAL
 LEADER. DEVELOPS TECHNICAL AND BUDGETARY
 APPROACH TO WORK ORDER. DUTIES INCLUDE ACQUI-
 FER CHARACTERIZATION, REVIEW OF TECHNICAL
 REPORTS AND REMECIAL ACTION PLANS. SUPERVISE
 WORK ACTIVITIES OF LOWER LEVEL PROFESSIONAL
 STAFF. COORDINATES AND COMMUNICATES WITH
 AGENCY PERSONNEL AND CLIENT REGARDING CON-
 TRACTS, GENERAL DIRECTION AND PROBLEMS AT
 WORK SITE. GENERALLY PERFORMS LIMITED FIELD
 WORK. PERFORMS DESIGN AND INVESTIGATION WORK
 IN TECHNICALLY COMPLEX SITUATIONS.

75.000000 (1)

90.000000 (4)

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** ITEM 0002 CONTINUED **

75.000000 (7)

75.000000 (9)

0003 200.0 HOURLY PROJECT SCIENTIST/ENGINEER/MANAGER--
 ENGINEERING, HYDROLOGY, GEOLOGY, OR A
 RELATED SCIENCE DEGREE AND AT LEAST TWO (2)
 YEARS APPLICABLE EXPERIENCE. IDENTIFIES
 PROBLEMS AND DEVELOPS INVESTIGATIVE AND REME-
 DIAL SOLUTIONS TO WORK SITE SITUATIONS. CON-
 SULTS WITH HIGHER LEVEL PROFESSIONAL STAFF.
 PREPARES WORKPLANS, COST ESTIMATES AND
 REPORTS. PERFORMS MODELING. ANALYZES AND
 INTERPRETS FIELD DATA. SUPERVISES LOWER
 LEVEL REMEDIATION ACTIVITIES. FREQUENTLY
 COMMUNICATES WITH AGENCY PERSONNEL AND
 NMED.

63.000000 (1)

70.000000 (4)

61.000000 (7)

60.000000 (9)

0004 800.0 HOURLY STAFF SCIENTIST/ENGINEER--ENGINEERING,
 GEOLOGY, HYDROLOGY OR RELATED SCIENCE
 DEGREE AND AT LEAST ONE YEAR EXPERIENCE.
 IMPLEMENTS FIELD WORK FOR ON-SITE INVESTI-
 GATION AND REMEDIATION ACTIVITIES INCLUDING
 SITE CHARACTERIZATION, DRILLING SUPERVISION,

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** ITEM 0004 CONTINUED **

AND MONITORING WELL INSTALLATION AND SAMPLING
 ACTIVITIES. ASSISTS IN MODELING, HYDROGEO-
 LOGIC DATA ANALYSIS, AND REPORT PREPARATION.
 CONSULTS WITH HIGHER LEVEL PROFESSIONAL STAFF

57.000000 (1)

55.000000 (4)

42.000000 (7)

50.000000 (9)

0005 1600.0 HOURLY FIELD TECHNICIAN II--SCIENCE OR
 ENGINEERING DEGREE, OR TWO (2) YEARS
 EXPERIENCE. SUPERVISES INSTALLATION,
 MAINTENANCE, AND REPAIR OF INVESTIGATIVE AND
 REMEDIATION MACHINERY AND EQUIPMENT. CONDUCT
 SAMPLING AND MONITORING. MAINTAINS MACHINERY
 AND EQUIPMENT.

42.000000 (1)

50.000000 (4)

32.000000 (7)

35.000000 (9)

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0006 1600.0 HOURLY FIELD TECHNICIAN I--NO DEGREE REQUIRED.
 PERFORMS ASSIGNED FIELD WORK AND ROUTINE
 LABOR TASKS. ASSISTS IN EQUIPMENT INSTALLA-
 TION AND MAINTENANCE. CONDUCTS SAMPLING AND
 MONITORING. ASSISTS WITH FIELD SUPERVISION
 OF SUBCONTRACTORS. THIS CATEGORY INCLUDES
 HEAVY EQUIPMENT OPERATORS.

40.000000 (1)

40.000000 (4)

24.000000 (7)

30.000000 (9)

0007 800.0 HOURLY DRAFTSPERSON II--TWO (2) YEARS SCHOOLING
 AND FIVE (5) YEARS EXPERIENCE, OR TEN
 (10) YEARS EXPERIENCE. TECHNICALLY FAMILIAR
 WITH BASIC ENGINEERING PRINCIPLES AND
 CONSTRUCTION METHODOLOGIES. WORKS INDEPEN-
 DENTLY; WORK PRODUCT REVIEWED BY PROFESSIONAL
 ENGINEER. PROFICIENT WITH AUTOCAD OR OTHER
 FORMS OF COMPUTER AIDED DESIGN DRAFTING.

40.000000 (1)

50.000000 (4)

38.000000 (7)

35.000000 (9)

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0008	200.0	HOURLY DRAFTSPERSON I--TWO (2) YEARS EXPERIENCE OR ONE (1) YEAR RELATED COLLEGE AND ONE (1) YEAR EXPERIENCE. WORKS DIRECTLY UNDER A REGISTERED ENGINEER OR SCIENTIST. HAS SOME COMPUTER-AIDED DRAFTING SKILLS.			
			40.000000	(1)	
			35.000000	(4)	
			25.000000	(7)	
			30.000000	(9)	
0009	100.0	HOURLY ADMINISTRATOR--NO DEGREE REQUIRED. TRACKS WORKPLAN COSTS, PREPARES AND PROCESSES INVOICES, ADMINISTERS LEASING AND ORDERING OF EQUIPMENT, AND PERFORMS GENERAL ADMINISTRATIVE WORK FOR REPORT AND WORKPLAN PREPARATION.			
			35.000000	(1)	
			50.000000	(4)	
			32.000000	(7)	
			35.000000	(9)	
0010	200.0	HOURLY SECRETARY--NO DEGREE REQUIRED. PERFORMS GENERAL OFFICE WORK, TYPING FILING, AND			

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** ITEM 0017 CONTINUED **

BIDDER TO INDICATE _____ % DISCOUNT
 FROM _____ MFR PRICE CATALOG

0%

(1)

20.000000 (4)

0%, N/A

(7)

AT COST, 5%

(9)

0018 50.0 EA/DAY EXPLOSIMETER

5.000000 (1)

5.000000 (4)

10.000000 (7)

40.000000 (9)

0019 100.0 EA/DAY FLUID LEVEL DETECTOR

5.000000 (1)

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** ITEM 0019 CONTINUED **

5.000000 (4)

40.000000 (7)

10.000000 (9)

0020 160.0 EA/DAY INTERFACE PROBE

5.000000 (1)

5.000000 (4)

40.000000 (7)

20.000000 (9)

0021 160.0 EA/DAY OVM (PID/FID)

5.000000 (1)

25.000000 (4)

45.000000 (7)

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** ITEM 0021 CONTINUED **

			50.000000	(9)
0022	160.0	EA/DAY OXYGEN METER (AIR)		
			5.000000	(1)
			5.000000	(4)
			20.000000	(7)
			60.000000	(9)
0023	160.0	EA/DAY PH METER		
			5.000000	(1)
			5.000000	(4)
			10.000000	(7)
			10.000000	(9)
0024	160.0	EA/DAY ANEMOMETER, PORTABLE NON-RECORDING		

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** ITEM 0024 CONTINUED **

			5.000000	(1)
			5.000000	(4)
			40.000000	(7)
			50.000000	(9)
0025	50.0 EA/DAY	BACKHOE-LIGHT DUTY HP 51-62 DIG DEPTH 12'-18'6"		
			120.000000	(1)
			120.000000	(4)
			120.000000	(7)
			150.000000	(9)
0026	20.0 EA/DAY	BACKHOE-MEDIUM DUTY HP 63-75 DIG DEPTH 14'-19'8"		
			157.000000	(1)
			157.500000	(4)

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** ITEM 0026 CONTINUED **

			157.000000	(7)
			200.000000	(9)
0027	20.0 EA/DAY	BACKHOE-HEAVY DUTY, HP 95-115 DIG DEPTH 17'-21'		
			157.000000	(1)
			157.500000	(4)
			157.000000	(7)
			300.000000	(9)
0028	20.0 EA/DAY	TRACKHOE LIGHT DUTY - (TRACK EXCAVATOR) 95-100HP: DIG DEPTH 20'-22'		
			400.000000	(1)
			221.000000	(4)
			400.000000	(7)
			350.000000	(9)

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 ITEM *APPROX* UNIT * ARTICLE * UNIT * CONTRACT
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0029 20.0 EA/DAY TRACKHOE MEDIUM DUTY, 150-155HP
 DIG DEPTH 24'-26'

550.000000 (1)

476.000000 (4)

550.000000 (7)

500.000000 (9)

0030 20.0 EA/DAY TRACKHOE HEAVY DUTY, 195-200HP
 DIG DEPTH OVER 26'

550.000000 (1)

600.000000 (4)

550.000000 (7)

800.000000 (9)

0031 100.0 FT. 2" BLANK PVC, 10 FT. SECTIONS

15.500000 (1)

15.000000 (4)

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** ITEM 0031 CONTINUED **

14.610000 (7)

1.500000 (9)

0032 100.0 FT. 4" BLANK PVC, 10 FT. SECTIONS

33.000000 (1)

32.500000 (4)

33.150000 (7)

4.000000 (9)

0033 100.0 FT. 2" SCREEN, 10 FT. SECTIONS

24.000000 (1)

22.250000 (4)

26.170000 (7)

2.800000 (9)

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0034 100.0 FT. 4" SCREEN, 10 FT. SECTIONS

57.000000 (1)

56.500000 (4)

55.050000 (7)

6.800000 (9)

0035 500.0 SACK FILTER PACK SAND PER 100# SACK

6.600000 (1)

13.200000 (4)

5.820000 (7)

8.290000 (9)

0036 500.0 EA. BENTONITE PELLETS PER 50# BUCKET

30.000000 (1)

37.850000 (4)

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** ITEM 0036 CONTINUED **

			27.000000	(7)
		50# BUCKET		
			46.750000	(9)
0037	500.0 EA.	BENTONITE CHIPS PER 50# SACK		
			6.600000	(1)
			8.100000	(4)
			6.100000	(7)
		PER 50# SACK		
			8.500000	(9)
0038	50.0 EA.	8" MANHOLE		
			50.000000	(1)
		:		
			42.000000	(4)
			47.000000	(7)
			50.000000	(9)

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0039 50.0 EA. 12" MANHOLE

65.000000 (1)

68.900000 (4)

59.900000 (7)

72.250000 (9)

0040 10000.0 EA. COPIES; EACH/PAGE

0.050000 (1)

0.050000 (4)

(7)

PAGE

0.050000 (9)

0041 500.0 EA. FAX TRANSMISSION; EACH/PAGE

(1)

0.100000 (4)

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** ITEM 0041 CONTINUED **

(7)

PAGE

0.100000 (9)

0042 MILE MILEAGE-

PERSONAL VEHICLE MILEAGE

0.250000 (1)

0.250000 (4)

0.320000 (7)

0.300000 (9)

0043 100.0 EA. PER DIEM/OVERNIGHT

60.000000 (1)

60.000000 (4)

75.000000 (7)

(9)

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0044 50.0 BARREL DISPOSAL OF CONTAMINATED FLUIDS AT
 LOCAL CERTIFIED FACILITIES
 FOB DISPOSAL FACILITY.

115.000000 (1)

150.000000 (4)

100.000000 (7)

120.000000 (9)

0045 50.0 BARREL DISPOSAL OF CONTAMINATED SOILS AT
 LOCAL, DERTIFIED FACILITIES.
 PER BARREL, FOB DISPOSAL FACILITY

115.000000 (1)

150.000000 (4)

100.000000 (7)

120.000000 (9)

0046 100.0 HOUR SITE SURVEYING

57.000000 (1)

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** ITEM 0046 CONTINUED **

75.000000 (4)

85.000000 (7)

80.000000 (9)

0047 50000.0 MILE MOBILIZATION: MILE/VEHICLE WITH
 MINIMUM MOBILIZATION
 DRILL RIG (MEDIUM)

0.750000 (1)

0.150000 (4)

2.500000 (7)

1.000000 (9)

0048 FOOT HOLLOW-STEM AUGER DRILLING SERVICES
 (2-3 MAN CREW) SMALL TO MEDIUM RIGS
 (CME 55 OR 75 OR EQUIVALENT)

TO BE INDICATED RATE PER FOOT _____
 BASED ON A 2" MONITOR WELL

REW

20.000000 (1)

13.000000 (4)

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** ITEM 0048 CONTINUED **

8.000000 (7)

\$100.00

13.000000 (9)

0049 FOOT HOLLOW-STEM AUGER DRILLING SERVICES:
 (2-3 MAN CREW) LARGE RIGS (FAILING
 F-10 OR EQUIVALENT)

TO BE INDICATED RATE PER FOOT _____
 BASED ON A 4" MONITOR WELL

34.000000 (1)

\$35.00

12.000000 (4)

10.000000 (7)

\$150/HOUR

19.000000 (9)

0050 500.0 HOUR AIR ROTARY

230.000000 (1)

140.000000 (4)

150.000000 (7)

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** ITEM 0050 CONTINUED **

			170.000000	(9)
0051	2000.0 FT.	CORING		
		MATERIALS TO BE CORED-THROUGH ARE SITE SPECIFIC		
			21.000000	(1)
			21.000000	(4)
			50.000000	(7)
			12.000000	(9)
0052	50.0 DAY	WATER TRUCK 2" WELL CORING		
			125.000000	(1)
			100.000000	(4)
			150.000000	(7)
			100.000000	(9)

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0053 50.0 DAY PICKUP TRUCK
 2" WELL CORING

50.000000 (1)

50.000000 (4)

45.000000 (7)

50.000000 (9)

0054 50.0 DAY STEAM CLEANER
 2" WELL CORING

90.000000 (1)

90.000000 (4)

45.000000 (7)

50.000000 (9)

0055 HOURLY STANDBY TIME-
 TO BE BASED ON STANDARD DRILL CREW TIME

100.000000 (1)

100.000000 (4)

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** ITEM 0055 CONTINUED **

			70.000000	(7)
			100.000000	(9)
0056	%	SYSTEM SERVICES: REPLACEMENT PARTS; IE; EXTRACTION BLOWER 200 CFM _____ % DISCOUNT 0%		(1)
		10%		(4)
		AT COST		(7)
		AT COST, 5%		(9)
0057	PER	LEVEL B PROTECTION SUIT- PER WORKER/PER DAY :	200.000000	(1)
			150.000000	(4)
			100.000000	(7)

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** ITEM 0057 CONTINUED **

500.000000 (9)

**** 57 ITEM(S), 57 AWARDED

Kieling, Martyne

From: Kieling, Martyne
Sent: Wednesday, June 05, 2002 3:36 PM
To: Williams, Chris
Subject: RE: Agua well plugging

sounds good !

-----Original Message-----

From: Williams, Chris
Sent: Wednesday, June 05, 2002 12:06 PM
To: Kieling, Martyne
Subject: RE: Agua well plugging

Yes- They have to start on the well package before July 15. I think we can put the Agua well to the last. Which should be after AMEC is complete.

-----Original Message-----

From: Kieling, Martyne
Sent: Wednesday, June 05, 2002 12:11 PM
To: Williams, Chris
Subject: RE: Agua well plugging

Chris,

Thanks for the Information. AMEC just started on Tuesday they have scheduled 6 weeks on site with the week of the 4th of July off. Just so your drillers are not hindered by the AMEC crew I would suggest that they dont start on the Agua well untill July 22 or so. Will that work or are there contract deadlines to consider?

Martyne

-----Original Message-----

From: Williams, Chris
Sent: Wednesday, June 05, 2002 6:28 AM
To: Kieling, Martyne
Subject: Agua well plugging

The well is not plugged . We are waiting on pluggers. They probably won't begin until the later part of June or early July. Chris

Kieling, Martyne

From: Kieling, Martyne
Sent: Wednesday, June 05, 2002 11:16 AM
To: Coss, David
Cc: Meyers, Myra; Norwick, Jim; Anderson, Leon
Subject: RE: Goodwin Treating plant

We will check in with your Hobbs district office . Thanks

Martyne
(505)-476-3488

-----Original Message-----

From: Coss, David
Sent: Wednesday, June 05, 2002 7:02 AM
To: Kieling, Martyne
Cc: Meyers, Myra; Norwick, Jim; Anderson, Leon
Subject: RE: Goodwin Treating plant

Martyne, please have the contractor or Larry Johnson check with Leon Anderson or Myra Meyers in our Hobbs office regarding the fencing question. They can contact our grazing lessee to discuss the issue. I'm ok with waiting to build the fence if our district staff have discussed it with the lessee and they are in the loop.

-----Original Message-----

From: Kieling, Martyne
Sent: Tuesday, June 04, 2002 4:45 PM
To: Coss, David
Subject: Goodwin Treating plant

David,

Amec has begun work at the Goodwin Treating Plant today. I was unable to make it down there this week to check on the progress. However, our district environmental guy Larry Johnson has been out to look at the work. The contractors have already dug down 12 feet in the pit that was in the Northwest corner and are removing existing contaminated soil piled up from the previous operations last summer to an offsite landfarm. They are also planning on how to lay out the fencing for the compost area and an access road for the trucks.

I do want to let you know that we have not yet received a signed copy of the access agreement. We are proceeding with the work in hopes that the agreement will show up soon. For your benefit... the Agreement was signed by us on April 15, 2002, it was then returned to us yesterday for a correction and I then sent it back to Debra Padilla corrected yesterday.

We do have one question regarding the fencing of the additional acres north of the facility. Should the contractors place the fencing and then build the compost piles within or can they wait and see how much area is going to be need and fence it after the piles have been constructed? There are cattle on the outside acres surrounding the facility. We could save money waiting to see how much area is needed ... but we may end up with an upset rancher. Which would you prefer?

Thanks for you help.

Martyne J. Kieling

Martyne J. Kieling
Environmental Geologist

TRACE ANALYSIS, INC.

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

Bill To: OCD Hobbs Office
1625 N. French Drive
Hobbs, NM 88240

Attn: Larry Johnson

RECEIVED
OCT 21 2002
Environmental Bureau
Oil Conservation Division

Invoice # 55052

Invoice Date: Sep 16, 2002

Order ID: A02091319

Project #:	2517000051
Project Name:	Goodwinn P.A.# 20-521-07-02497
Project Location:	West of Hobbs NM

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	5	Soil	207897 - 207901	\$40.00	\$200.00
BTEX/TPH GRO	5	Soil	207897 - 207901	\$60.00	\$300.00
<i>Payment Terms: Net 30 Days</i>				Total	\$500.00

Director, Dr. Blair Leftwich

*ok to pay
Marilyn Kieling
10-23-02*

OCT 2002
RECEIVED
Hobbs
OCD

Report Date: September 18, 2002 Order Number: A02091319
2517000051 Goodwinn

Page Number: 1 of 1
West of Hobbs NM

Summary Report

RECEIVED

Bob Wilcox
AMEC
301 N. Colorado St Suite 350
Midland, Tx. 79701

Report Date: September 18, 2002

OCT 21 2002
Environmental Bureau
Oil Conservation Division

Order ID Number: A02091319

Project Number: 2517000051
Project Name: Goodwinn
Project Location: West of Hobbs NM

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
207897	091102-01	Soil	9/11/02	16:05	9/13/02
207898	091102-02	Soil	9/11/02	16:10	9/13/02
207899	091102-03	Soil	9/11/02	16:15	9/13/02
207900	091102-04	Soil	9/11/02	16:20	9/13/02
207901	091102-05	Soil	9/11/02	16:25	9/13/02

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 - Field Code	BTEX					TPH DRO	TPH GRO
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)	DRO (ppm)	GRO (ppm)
207897 - 091102-01	<0.010	0.0104	0.0425	0.0687	0.122	393	18.2
207898 - 091102-02	<0.010	<0.010	0.0262	0.061	0.0872	210	13.6
207899 - 091102-03	<0.010	<0.010	0.0138	0.0468	0.0606	526	9.37
207900 - 091102-04	<0.010	<0.010	0.0158	0.0484	0.0642	298	12.3
207901 - 091102-05	<0.010	<0.010	0.0227	0.0346	0.0573	1040	15.5



This is only a summary. Please, refer to the complete report package for quality control data.

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

Trace Analysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

Company Name: **AMEC**
Phone #: (915) 686-1978
Address: 301 N. Colorado St. Suite 350 (915) 618-0137
Contact Person: Bob Wilcox or Don Fernal (Farmington U.M. (505) 377-7928)
Project #: 2517000051
Project Name: West of Hobbs, N.M.
Sampler Signature: *Goodwin*

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # **AD2091319**

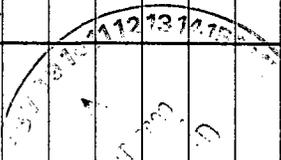
ANALYSIS REQUEST

(Circle or Specify Method No.)

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	
Turn Around Time (if different from standard)	

8015 Modified 6/10/02

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING	
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE
207897	091102-01	1	4oz	✓				✓				9/11/02	4:05
98	091102-02	1	↓	↓				↓				4:10	
99	091102-03	1	↓	↓				↓				4:15	
000	091102-04	1	↓	↓				↓				4:20	
901	091102-05	1	↓	↓				↓				4:25	



Relinquished by: <i>[Signature]</i>	Date: 09/12/02	Time: 14:10	Received by: <i>[Signature]</i>	Date: 09/12/02	Time: 14:10
Relinquished by: <i>[Signature]</i>	Date: 09/12/02	Time: 18:30	Received by: <i>[Signature]</i>	Date: 09/13/02	Time: 10:00
Relinquished by: <i>[Signature]</i>	Date: 09/12/02	Time: 18:30	Received at Laboratory by: <i>[Signature]</i>	Date: 09/13/02	Time: 10:00

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp °

Log-in Review M

REMARKS:

9119FRP

Check If Special Reporting Limits Are Needed

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 155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
 E-Mail: lab@traceanalysis.com

Bill To: **OCD**
 1220 S. Saint Francis Dr.
 Santa Fe, NM 87505

Invoice # **53950**

Invoice Date: **Sep 11, 2002**

Attn: **Wayne Price**

Order ID: **A02071508**

Project #:	2-517-000051
Project Name:	Goodwin Treating Plant
Project Location:	8 Miles West of Hobbs, NM

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	6	Soil	201543 - 201548	\$40.00	\$240.00
Chloride	1	Soil	201548 - 201548	\$15.00	\$15.00
BTEX/TPH GRO	6	Soil	201543 - 201548	\$60.00	\$360.00
Payment Terms: Net 30 Days				Total	\$615.00

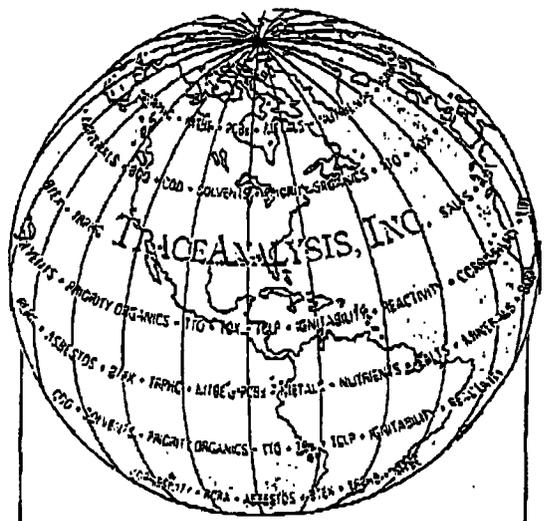
Director, Dr. Blair Leftwich

*OK to pay mjK
9-11-02*



TRACEANALYSIS, 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



FAX COVER SHEET

TO: Martynne Keeling

COMPANY: OCD

DATE: 9/11/2002

FAX NO: 505-476-3462

NO OF PAGES FOLLOWING: 1

FROM: J. J. Awend

MESSAGE:

Inv. # 53950

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 155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
 E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Martyne Kieling
 OCD Hobbs Office
 1625 N. French Drive
 Hobbs, NM 88240

Report Date: July 29, 2002

Order ID Number: A02071508

Project Number: 2-517-000051
 Project Name: Goodwin Treating Plant
 Project Location: 8 Miles West of Hobbs, NM

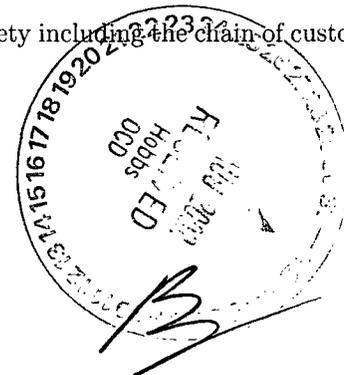
Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
201543	071202-21	Soil	7/12/02	9:06	7/13/02
201544	071202-16	Soil	7/12/02	9:18	7/13/02
201545	071202-35	Soil	7/12/02	9:45	7/13/02
201546	071202-36	Soil	7/12/02	10:00	7/13/02
201547	071202-37	Soil	7/12/02	10:15	7/13/02
201548	071202-38	Soil	7/12/02	10:56	7/13/02

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.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 15 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

Report Date: July 29, 2002 Order Number: A02071508
2-517-000051 Goodwin Treating Plant

Page Number: 1 of 1
8 Miles West of Hobbs, NM

Summary Report

Martyne Kieling
OCD Hobbs Office
1625 N. French Drive
Hobbs, NM 88240

Report Date: July 29, 2002

Order ID Number: A02071508

Project Number: 2-517-000051
Project Name: Goodwin Treating Plant
Project Location: 8 Miles West of Hobbs, NM

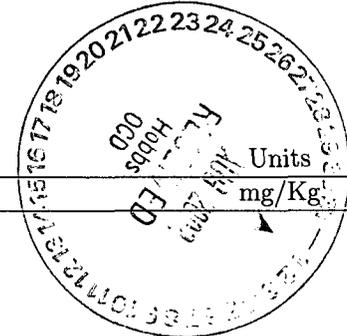
Sample	Description	Matrix	Date Taken	Time Taken	Date Received
201543	071202-21	Soil	7/12/02	9:06	7/13/02
201544	071202-16	Soil	7/12/02	9:18	7/13/02
201545	071202-35	Soil	7/12/02	9:45	7/13/02
201546	071202-36	Soil	7/12/02	10:00	7/13/02
201547	071202-37	Soil	7/12/02	10:15	7/13/02
201548	071202-38	Soil	7/12/02	10:56	7/13/02

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 - Field Code	BTEX					TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)		
201543 - 071202-21	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00
201544 - 071202-16	<0.010	<0.010	<0.010	0.0107	0.0107	<50.0	<1
201545 - 071202-35	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1.00
201546 - 071202-36	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
201547 - 071202-37	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
201548 - 071202-38	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1

Sample: 201548 - 071202-38

Param	Flag	Result	Units
Chloride	1	1350	mg/Kg



¹The matrix spike %EA = 95 and RPD = 0

This is only a summary. Please, refer to the complete report package for quality control data.

Analytical Report

Sample: 201543 - 071202-21

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21929 Date Analyzed: 7/15/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20753 Date Prepared: 7/15/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.917	mg/Kg	10	1	92	70 - 130
4-BFB		0.864	mg/Kg	10	1	86	70 - 130

Sample: 201543 - 071202-21

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21988 Date Analyzed: 7/17/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20801 Date Prepared: 7/16/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		151	mg/Kg	1	150	101	70 - 130

Sample: 201543 - 071202-21

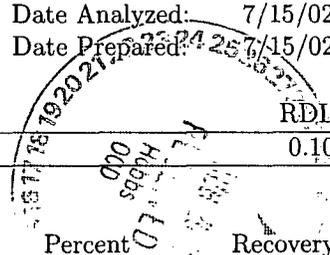
Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21930 Date Analyzed: 7/15/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20753 Date Prepared: 7/15/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.779	mg/Kg	10	0.10	78	70 - 130
4-BFB		0.839	mg/Kg	10	0.10	84	70 - 130

Sample: 201544 - 071202-16

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21934 Date Analyzed: 7/16/02
Analyst: DN Preparation Method: S 5035 Prep Batch: PB20758 Date Prepared: 7/16/02



Report Date: July 29, 2002
2-517-000051

Order Number: A02071508
Goodwin Treating Plant

Page Number: 3 of 15
8 Miles West of Hobbs, NM

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		0.0107	mg/Kg	10	0.001
Total BTEX		0.0107	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.883	mg/Kg	10	1	88	70 - 130
4-BFB		0.861	mg/Kg	10	1	86	70 - 130

Sample: 201544 - 071202-16

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21988 Date Analyzed: 7/17/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20801 Date Prepared: 7/16/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		150	mg/Kg	1	150	100	70 - 130

Sample: 201544 - 071202-16

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21946 Date Analyzed: 7/16/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20758 Date Prepared: 7/16/02

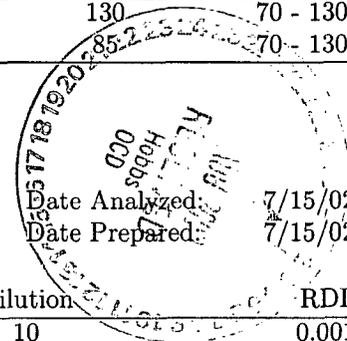
Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.3	mg/Kg	10	0.10	130	70 - 130
4-BFB		0.849	mg/Kg	10	0.10	85	70 - 130

Sample: 201545 - 071202-35

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21929 Date Analyzed: 7/15/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20753 Date Prepared: 7/15/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001



Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.849	mg/Kg	1	1	85	70 - 130
4-BFB		0.771	mg/Kg	1	1	77	70 - 130

Sample: 201545 - 071202-35

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21988 Date Analyzed: 7/17/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20801 Date Prepared: 7/16/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		152	mg/Kg	1	150	101	70 - 130

Sample: 201545 - 071202-35

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21930 Date Analyzed: 7/15/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20753 Date Prepared: 7/15/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

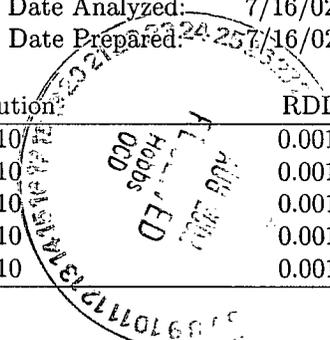
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.29	mg/Kg	10	0.10	129	70 - 130
4-BFB		0.774	mg/Kg	10	0.10	77	70 - 130

Sample: 201546 - 071202-36

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21934 Date Analyzed: 7/16/02
 Analyst: DN Preparation Method: S 5035 Prep Batch: PB20758 Date Prepared: 7/16/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.717	mg/Kg	10	1	71	70 - 130
4-BFB	¹	0.693	mg/Kg	10	1	69	70 - 130



¹Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Sample: 201546 - 071202-36

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21988 Date Analyzed: 7/17/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20801 Date Prepared: 7/16/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		152	mg/Kg	1	150	101	70 - 130

Sample: 201546 - 071202-36

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21946 Date Analyzed: 7/16/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20758 Date Prepared: 7/16/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

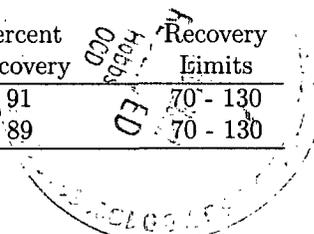
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.925	mg/Kg	10	0.10	92	70 - 130
4-BFB	2	0.68	mg/Kg	10	0.10	68	70 - 130

Sample: 201547 - 071202-37

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21934 Date Analyzed: 7/16/02
Analyst: DN Preparation Method: S 5035 Prep Batch: PB20758 Date Prepared: 7/16/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0:001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.91	mg/Kg	10	1	91	70 - 130
4-BFB		0.894	mg/Kg	10	1	89	70 - 130



Sample: 201547 - 071202-37

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21988 Date Analyzed: 7/17/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20801 Date Prepared: 7/16/02

Continued ...

²Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

... Continued Sample: 201547 Analysis: TPH DRO

Param	Flag	Result	Units	Dilution	RDL
Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		146	mg/Kg	1	150	97	70 - 130

Sample: 201547 - 071202-37

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21946 Date Analyzed: 7/16/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20758 Date Prepared: 7/16/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.758	mg/Kg	10	0.10	76	70 - 130
4-BFB		0.878	mg/Kg	10	0.10	88	70 - 130

Sample: 201548 - 071202-38

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21934 Date Analyzed: 7/16/02
Analyst: DN Preparation Method: S 5035 Prep Batch: PB20758 Date Prepared: 7/16/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.889	mg/Kg	10	1	88	70 - 130
4-BFB		0.879	mg/Kg	10	1	87	70 - 130

Sample: 201548 - 071202-38

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC22260 Date Analyzed: 7/25/02
Analyst: JSW Preparation Method: N/A Prep Batch: PB21026 Date Prepared: 7/25/02

Param	Flag	Result	Units	Dilution	RDL
Chloride	3	1350	mg/Kg	100	1

³The matrix spike %EA = 95 and RPD = 0

Report Date: July 29, 2002
2-517-000051

Order Number: A02071508
Goodwin Treating Plant

Page Number: 7 of 15
8 Miles West of Hobbs, NM

Sample: 201548 - 071202-38

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21988 Date Analyzed: 7/17/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20801 Date Prepared: 7/16/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

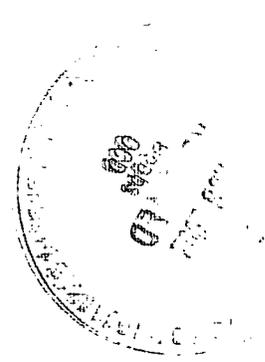
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		146	mg/Kg	1	150	97	70 - 130

Sample: 201548 - 071202-38

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21946 Date Analyzed: 7/16/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20758 Date Prepared: 7/16/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.28	mg/Kg	10	0.10	128	70 - 130
4-BFB		0.856	mg/Kg	10	0.10	86	70 - 130



Quality Control Report Method Blank

Method Blank QCBatch: QC21929

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.08	mg/Kg	10	1	108	70 - 130
4-BFB		0.799	mg/Kg	10	1	80	70 - 130

Method Blank QCBatch: QC21930

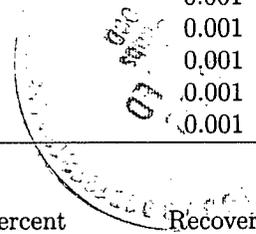
Param	Flag	Results	Units	Reporting Limit
GRO		<1	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.01	mg/Kg	10	0.10	101	70 - 130
4-BFB		0.772	mg/Kg	10	0.10	77	70 - 130

Method Blank QCBatch: QC21934

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.04	mg/Kg	10	1	104	70 - 130
4-BFB		0.996	mg/Kg	10	1	100	70 - 130



Method Blank QCBatch: QC21946

Param	Flag	Results	Units	Reporting Limit
GRO		<1	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		11.3	mg/Kg	10	0.10	113	70 - 130
4-BFB		9.72	mg/Kg	10	0.10	97	70 - 130

Method Blank QCBatch: QC21988

Param	Flag	Results	Units	Reporting Limit
DRO		<50	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		167	mg/Kg	1	150	111	70 - 130

Method Blank QCBatch: QC22260

Param	Flag	Results	Units	Reporting Limit
Chloride		17.27	mg/Kg	1

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC21929

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.08	1.07	mg/Kg	10	1	<0.010	108	0	70 - 130	20
Benzene	1.04	1.04	mg/Kg	10	1	<0.010	104	0	70 - 130	20
Toluene	1.04	1.03	mg/Kg	10	1	<0.010	104	0	70 - 130	20
Ethylbenzene	1.04	1.03	mg/Kg	10	1	<0.010	104	0	70 - 130	20
M,P,O-Xylene	3	2.98	mg/Kg	10	3	<0.010	100	0	70 - 130	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	1.05	1.04	mg/Kg	10	1	105	104	70 - 130
4-BFB	1.02	1.01	mg/Kg	10	1	102	101	70 - 130

Laboratory Control Spikes

QCBatch: QC21930

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	8.96	8.46	mg/Kg	10	1	<1	90	5	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	0.896	0.879	mg/Kg	10	0.10	90	88	70 - 130
4-BFB	0.972	0.995	mg/Kg	10	0.10	97	99	70 - 130

Laboratory Control Spikes

QCBatch: QC21934

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.03	1.03	mg/Kg	10	1	<0.010	103	0	70 - 130	20
Benzene	1.04	1.03	mg/Kg	10	1	<0.010	104	1	70 - 130	20
Toluene	1.02	1.02	mg/Kg	10	1	<0.010	102	0	70 - 130	20
Ethylbenzene	1.02	1.01	mg/Kg	10	1	<0.010	102	1	70 - 130	20
M,P,O-Xylene	2.95	2.92	mg/Kg	10	3	<0.010	98	1	70 - 130	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	1.04	1.02	mg/Kg	10	1	104	102	70 - 130
4-BFB	1.04	1.02	mg/Kg	10	1	104	102	70 - 130

Laboratory Control Spikes

QCBatch: QC21946

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	1.05	1.02	mg/Kg	10	1	<1	105	2	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	1.05	0.965	mg/Kg	10	0.10	105	96	70 - 130
4-BFB	1.02	1.02	mg/Kg	10	0.10	102	102	70 - 130

Laboratory Control Spikes

QCBatch: QC21988

Continued ...

... Continued

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	286	298	mg/Kg	1	250	<50	114	4	70 - 130	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
n-Triacontane	165	164	mg/Kg	1	150	110	109	70 - 130

Laboratory Control Spikes

QCBatch: QC22260

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	⁴ 29.15	⁵ 29.10	mg/Kg	1	12.50	17.27	233	0	90 - 110	20
Sulfate	⁶ 27.54	⁷ 27.70	mg/Kg	1	12.50	15.97	220	0	90 - 110	20

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

**Quality Control Report
Matrix Spikes and Duplicate Spikes**

Matrix Spikes

QCBatch: QC21929

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.864	0.857	mg/Kg	10	1	<0.010	86	0	70 - 130	20
Toluene	0.881	0.862	mg/Kg	10	1	<0.010	88	2	70 - 130	20
Ethylbenzene	0.887	0.868	mg/Kg	10	1	<0.010	88	2	70 - 130	20
M,P,O-Xylene	2.54	2.48	mg/Kg	10	3	<0.010	84	2	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.916	0.902	mg/Kg	10	1	91	90	70 - 130
4-BFB	0.861	0.852	mg/Kg	10	1	86	85	70 - 130

⁴This was a soil run, so the blank soil should be subtracted. The %EA = 95 and RPD = 0.

⁵This was a soil run, so the blank soil should be subtracted. The %EA = 95 and RPD = 0.

⁶This was a soil run, so the blank soil should be subtracted. The %EA = 93 and RPD = 1

⁷This was a soil run, so the blank soil should be subtracted. The %EA = 93 and RPD = 1.

Matrix Spikes QCBatch: QC21930

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	9.38	10.3	mg/Kg	10	1	<1.00	94	9	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.997	0.981	mg/Kg	10	0.10	100	98	70 - 130
4-BFB	0.86	0.912	mg/Kg	10	0.10	86	91	70 - 130

Matrix Spikes QCBatch: QC21946

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	< 1	1.02	mg/Kg	10	1	<1	96	5	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.927	1.04	mg/Kg	10	0.10	93	104	70 - 130
4-BFB	0.86	0.91	mg/Kg	10	0.10	86	91	70 - 130

Matrix Spikes QCBatch: QC21988

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	240	255	mg/Kg	1	250	<50.0	96	6	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	142	144	mg/Kg	1	150	94	96	70 - 130

Quality Control Report
Continuing Calibration Verification Standards

CCV (1) QCBatch: QC21929

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0949	94	85 - 115	7/15/02
Benzene		mg/L	0.10	0.103	103	85 - 115	7/15/02
Toluene		mg/L	0.10	0.101	101	85 - 115	7/15/02
Ethylbenzene		mg/L	0.10	0.0999	99	85 - 115	7/15/02
M,P,O-Xylene		mg/L	0.30	0.287	95	85 - 115	7/15/02

ICV (1) QCBatch: QC21929

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.109	109	85 - 115	7/15/02
Benzene		mg/L	0.10	0.104	104	85 - 115	7/15/02
Toluene		mg/L	0.10	0.105	105	85 - 115	7/15/02
Ethylbenzene		mg/L	0.10	0.104	104	85 - 115	7/15/02
M,P,O-Xylene		mg/L	0.30	0.300	100	85 - 115	7/15/02

CCV (1) QCBatch: QC21930

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.92	92	85 - 115	7/15/02

ICV (1) QCBatch: QC21930

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	1.04	104	85 - 115	7/15/02

CCV (1) QCBatch: QC21934

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.100	100	85 - 115	7/16/02
Benzene		mg/L	0.10	0.0986	99	85 - 115	7/16/02
Toluene		mg/L	0.10	0.0971	97	85 - 115	7/16/02
Ethylbenzene		mg/L	0.10	0.097	97	85 - 115	7/16/02
M,P,O-Xylene		mg/L	0.30	0.281	94	85 - 115	7/16/02

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QC21999

CCV (2) QCBatch: QC21934

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0907	90	85 - 115	7/16/02
Benzene		mg/L	0.10	0.101	101	85 - 115	7/16/02
Toluene		mg/L	0.10	0.101	101	85 - 115	7/16/02
Ethylbenzene		mg/L	0.10	0.0987	98	85 - 115	7/16/02
M,P,O-Xylene		mg/L	0.30	0.285	95	85 - 115	7/16/02

ICV (1) QCBatch: QC21934

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0912	91	85 - 115	7/16/02
Benzene		mg/L	0.10	0.101	101	85 - 115	7/16/02
Toluene		mg/L	0.10	0.0988	99	85 - 115	7/16/02
Ethylbenzene		mg/L	0.10	0.0972	97	85 - 115	7/16/02
M,P,O-Xylene		mg/L	0.30	0.278	93	85 - 115	7/16/02

CCV (1) QCBatch: QC21946

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.897	89	85 - 115	7/16/02

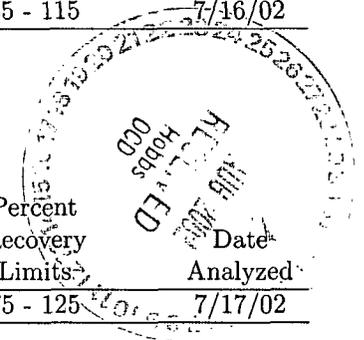
ICV (1) QCBatch: QC21946

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.919	91	85 - 115	7/16/02

CCV (1) QCBatch: QC21988

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	272	108	75 - 125	7/17/02

CCV (2) QCBatch: QC21988



Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	287	114	75 - 125	7/17/02

ICV (1) QCBatch: QC21988

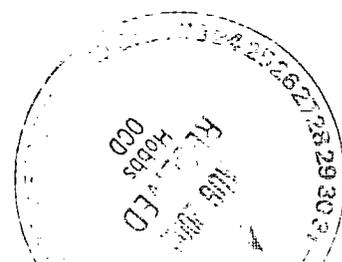
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	276	110	75 - 125	7/17/02

CCV (1) QCBatch: QC22260

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	12.03	96	90 - 110	7/25/02
Sulfate		mg/L	12.50	11.82	94	90 - 110	7/25/02

ICV (1) QCBatch: QC22260

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.63	93	90 - 110	7/25/02
Sulfate		mg/L	12.50	11.84	94	90 - 110	7/25/02



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

TraceAnalysis, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # **A02071508**

Company Name: **NMOC** Phone # **505-476-3488**
 Address: (Street, City, Zip) **1625 N. FRENCH DR. HOBBBS NM 88240** Fax #: **505-476-3443**
 Contact Person: **MARTINE KIELING / LARRY JOHNSON**
 Invoice to: (If different from above) **SANTA FE - OGD**

Project #: **Z-517-000051** Project Name: **GOODWIN PLANT**
 Project Location: **GOODWIN - 8 MILES "W" OF HOBBBS N.M.** Sampler Signature: *[Signature]*

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING TIME	
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH		ICE
201543	071202-21	1	4oz	X								X	7:12:02 9:06
44	071202-16												9:18
45	071202-35												9:45
46	071202-36												10:00
47	071202-37												10:15
48	071202-38												10:56

Relinquished by: *[Signature]* Date: **07/13/02** Time: **09:00**
 Received by: *[Signature]* Date: **7/13/02** Time: **4:29 PM**
 Relinquished by: *[Signature]* Date: **7-12-02** Time: **1620**
 Received by: *[Signature]* Date: **7/13/02** Time: **9:25**

ANALYSIS REQUEST

(Circle or Specify Method No.)

Method No.	Method Name	Result
PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	X
TCM 8270C	TCM Metals Ag As Ba Cd Cr Pb Se Hg	X
TCM Volatiles	TCM Volatiles	X
TCM Semi Volatiles	TCM Semi Volatiles	X
TCM Pesticides	TCM Pesticides	X
RCI	RCI	X
GC/MS Vol. 8260B/624	GC/MS Vol. 8260B/624	X
GC/MS Semi. Vol. 8270C/625	GC/MS Semi. Vol. 8270C/625	X
PCB's 8082/608	PCB's 8082/608	X
Pesticides 8081A/608	Pesticides 8081A/608	X
BOD, TSS, PH	BOD, TSS, PH	X
CHLORIDE	CHLORIDE	X

REMARKS: **LAB USE ONLY**
 Intact Y / N
 Headspace Y / N
 Temp **3**
 Log-in Review *[Signature]*
 Check If Special Reporting Limits Are Needed
7130 FIP
 Carrier # **902992370**

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Invoice # 53605

Invoice Date: July 23, 2001

Attn: **Martyne Kieling**

2nd COPY

Order ID:

Project #:	2-517-000051	Goodwin Treating Plant
Project Name:	Goodwin	P. A. Number: 20-521-07-02497
Project Location:	Redwood Tanks	

Test	Quantity	Matrix	Description	Price	SubTotal
Heterotrophic Plate Count/Diesel					\$259.20
Degrading Bacteria/Heavy Oil					
Degrading Bacteria/Chlorides Analysis					
<i>Payment Terms: Net 30 Days</i>				Total	\$259.20



Director, Dr. Blair Leftwich

Report Date: July 29, 2002 Order Number: A02071508
2-517-000051 Goodwin Treating Plant

Page Number: 1 of 1
8 Miles West of Hobbs, NM

Summary Report

Martyne Kieling
OCD Hobbs Office
1625 N. French Drive
Hobbs, NM 88240

Report Date: July 29, 2002

Order ID Number: A02071508

Project Number: 2-517-000051
Project Name: Goodwin Treating Plant
Project Location: 8 Miles West of Hobbs, NM

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
201543	071202-21	Soil	7/12/02	9:06	7/13/02
201544	071202-16	Soil	7/12/02	9:18	7/13/02
201545	071202-35	Soil	7/12/02	9:45	7/13/02
201546	071202-36	Soil	7/12/02	10:00	7/13/02
201547	071202-37	Soil	7/12/02	10:15	7/13/02
201548	071202-38	Soil	7/12/02	10:56	7/13/02

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 - Field Code	BTEX					TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)		
201543 - 071202-21	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00
201544 - 071202-16	<0.010	<0.010	<0.010	0.0107	0.0107	<50.0	<1
201545 - 071202-35	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1.00
201546 - 071202-36	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
201547 - 071202-37	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
201548 - 071202-38	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1

Sample: 201548 - 071202-38

Param	Flag	Result	Units
Chloride	1	1350	mg/Kg

¹The matrix spike %EA = 95 and RPD = 0

This is only a summary. Please, refer to the complete report package for quality control data.

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 Lubbock, Texas 79424
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 1 (800) 378-1296

TraceAnalysis, Inc.

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 El Paso, Texas 79932
 Tel (915) 585-3443
 Fax (915) 585-4944
 1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # **A02071508**

Company Name: **NMOCD** Phone #: **505-476-3488**
 Address: **1625 N. FRENCH DR. HOBBS NM 88240** Fax #: **505-476-3488**
 Contact Person: **MARTYNE KIELING / LARRY JOHNSON**
 Invoice to: **SANTA FE - OCD**

Project #: **Z-517-00001** Project Name: **GOODWIN PLANT**
 Project Location: **GOODWIN - 8 MILES "W" OF HOBBS N.M.** Sampler Signature: *[Signature]*

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD					DATE	SAMPLING TIME
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE		
201543	071202-21	1	4oz	X									7-12-02	9:00
44	071202-16													9:18
45	071202-35													9:45
46	071202-36													10:00
47	071202-37													10:15
48	071202-38													10:56

MTBE 8021B/602	BTEX 8021B/602	TPH 48.1/TK1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	FCI	GC/MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCBs 8082/608	Pesticides 8081A/608	BOD TSS, pH	CHLORIDE	Hold
X	X	X													
X	X	X													
X	X	X													
X	X	X													
X	X	X													
X	X	X													

ANALYSIS REQUEST

(Circle or Specify Method No.)

REMARKS: **LAB USE ONLY**

Intact: Y / N
 Headspace: Y / N
 Temp: 3
 Log-in Review: *[Signature]*

7130 FIP

Check if Special Reporting Limits Are Needed

Relinquished by: *[Signature]* Date: 07-12-02 Time: 1620
 Received by: *[Signature]* Date: 7/12/02 Time: 4:20 PM

Relinquished by: *[Signature]* Date: 7-12-02 Time: 1620
 Received by: *[Signature]* Date: 7/13/02 Time: 9:25

Relinquished by: *[Signature]* Date: 7-12-02 Time: 1620
 Received at Laboratory by: *[Signature]* Date: 7/13/02 Time: 9:25

Carrier # *[Signature]* # 9027992370

ORIGINAL COPY

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

RECEIVED

JUL 30 2002

Environmental Bureau
Oil Conservation Division

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
155 McCutcheon, Suite H

Lubbock, Texas 79424
El Paso, Texas 79932

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E-Mail: lab@traceanalysis.com

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915•585•3443

FAX 806•794•1298
FAX 915•585•4944

Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Attn: **Martyne Kieling**

Invoice # 53856

Invoice Date: Jul 24, 2002

Order ID: A02071823

Project #:	2-517-000051		
Project Name:	Goodwin Treating Plant	P.A. Number:	20-521-07-02497
Project Location:	8 Miles West of Hobbs, NM		

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	9	Soil	202021 - 202029	\$40.00	\$360.00
BTEX/TPH GRO	9	Soil	202021 - 202029	\$60.00	\$540.00
<i>Payment Terms: Net 30 Days</i>				Total	\$900.00

Director, Dr. Blair Leftwich

OK to pay myx
8-19-02

Report Date: July 23, 2002 Order Number: A02071823
2-517-000051 Goodwin Treating Plant

Page Number: 1 of 1
8 Miles West of Hobbs, NM

Summary Report

Martyne Kieling
OCD Hobbs Office
1625 N. French Drive
Hobbs, NM 88240

Report Date: July 23, 2002

Order ID Number: A02071823

Project Number: 2-517-000051
Project Name: Goodwin Treating Plant
Project Location: 8 Miles West of Hobbs, NM

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
202021	71702-39	Soil	7/17/02	9:15	7/18/02
202022	71702-40	Soil	7/17/02	9:17	7/18/02
202023	71702-41	Soil	7/17/02	9:20	7/18/02
202024	71702-42	Soil	7/17/02	9:25	7/18/02
202025	71702-43	Soil	7/17/02	9:30	7/18/02
202026	71702-44	Soil	7/17/02	9:35	7/18/02
202027	71702-45	Soil	7/17/02	9:40	7/18/02
202028	71702-46	Soil	7/17/02	9:45	7/18/02
202029	71702-47	Soil	7/17/02	9:50	7/18/02

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 - Field Code	BTEX					TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)		
202021 - 71702-39	<0.010	<0.010	<0.010	0.013	0.013	<50.0	<1.00
202022 - 71702-40	<0.010	<0.010	<0.010	<0.010	<0.010	50.9	<1.00
202023 - 71702-41	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00
202024 - 71702-42	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00
202025 - 71702-43	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00
202026 - 71702-44	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00
202027 - 71702-45	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00
202028 - 71702-46	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00
202029 - 71702-47	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00

This is only a summary. Please, refer to the complete report package for quality control data.



TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Martyne Kieling
OCD Hobbs Office
1625 N. French Drive
Hobbs, NM 88240

Report Date: July 23, 2002

Order ID Number: A02071823

Project Number: 2-517-000051
Project Name: Goodwin Treating Plant
Project Location: 8 Miles West of Hobbs, NM

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
202021	71702-39	Soil	7/17/02	9:15	7/18/02
202022	71702-40	Soil	7/17/02	9:17	7/18/02
202023	71702-41	Soil	7/17/02	9:20	7/18/02
202024	71702-42	Soil	7/17/02	9:25	7/18/02
202025	71702-43	Soil	7/17/02	9:30	7/18/02
202026	71702-44	Soil	7/17/02	9:35	7/18/02
202027	71702-45	Soil	7/17/02	9:40	7/18/02
202028	71702-46	Soil	7/17/02	9:45	7/18/02
202029	71702-47	Soil	7/17/02	9:50	7/18/02

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.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 16 pages and shall not be reproduced except in its entirety including the chain of custody (COC), without written approval of Trace Analysis, Inc.

Dr. Blair Leftwich, Director

Analytical Report

Sample: 202021 - 71702-39

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		0.013	mg/Kg	10	0.001
Total BTEX		0.013	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	1	0.644	mg/Kg	10	1	64	70 - 130
4-BFB	2	0.669	mg/Kg	10	1	66	70 - 130

Sample: 202021 - 71702-39

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22093 Date Analyzed: 7/22/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20890 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		178	mg/Kg	1	150	118	70 - 130

Sample: 202021 - 71702-39

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	3	0.540	mg/Kg	10	0.10	54	70 - 130
4-BFB	4	0.645	mg/Kg	10	0.10	64	70 - 130

¹Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.
²Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.
³Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.
⁴Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Sample: 202022 - 71702-40

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	⁵	0.675	mg/Kg	10	1	67	70 - 130
4-BFB	⁶	0.685	mg/Kg	10	1	68	70 - 130

Sample: 202022 - 71702-40

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		50.9	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		179	mg/Kg	1	150	119	70 - 130

Sample: 202022 - 71702-40

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	⁷	0.570	mg/Kg	10	0.10	57	70 - 130
4-BFB	⁸	0.673	mg/Kg	10	0.10	67	70 - 130

Sample: 202023 - 71702-41

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

⁵Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

⁶Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

⁷Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

⁸Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.765	mg/Kg	10	1	76	70 - 130
4-BFB		0.771	mg/Kg	10	1	77	70 - 130

Sample: 202023 - 71702-41

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		183	mg/Kg	1	150	122	70 - 130

Sample: 202023 - 71702-41

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.01	mg/Kg	10	0.10	101	70 - 130
4-BFB		0.762	mg/Kg	10	0.10	76	70 - 130

Sample: 202024 - 71702-42

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	⁹	0.685	mg/Kg	10	1	68	70 - 130
4-BFB	¹⁰	0.609	mg/Kg	10	1	60	70 - 130

Sample: 202024 - 71702-42

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		182	mg/Kg	1	150	121	70 - 130

Sample: 202024 - 71702-42

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.28	mg/Kg	10	0.10	128	70 - 130
4-BFB	¹¹	0.594	mg/Kg	10	0.10	59	70 - 130

Sample: 202025 - 71702-43

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.754	mg/Kg	10	1	75	70 - 130
4-BFB		0.762	mg/Kg	10	1	76	70 - 130

⁹Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.
¹⁰Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.
¹¹Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Sample: 202025 - 71702-43

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		173	mg/Kg	1	150	115	70 - 130

Sample: 202025 - 71702-43

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	¹²	0.625	mg/Kg	10	0.10	62	70 - 130
4-BFB		0.74	mg/Kg	10	0.10	74	70 - 130

Sample: 202026 - 71702-44

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.744	mg/Kg	10	1	74	70 - 130
4-BFB		0.731	mg/Kg	10	1	73	70 - 130

Sample: 202026 - 71702-44

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Continued ...

¹²Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

... Continued Sample: 202026 Analysis: TPH DRO

Param	Flag	Result	Units	Dilution	RDL
Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		188	mg/Kg	1	150	125	70 - 130

Sample: 202026 - 71702-44

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.16	mg/Kg	10	0.10	116	70 - 130
4-BFB		0.709	mg/Kg	10	0.10	71	70 - 130

Sample: 202027 - 71702-45

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.880	mg/Kg	10	1	88	70 - 130
4-BFB		0.910	mg/Kg	10	1	91	70 - 130

Sample: 202027 - 71702-45

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		175	mg/Kg	1	150	117	70 - 130

Sample: 202027 - 71702-45

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.22	mg/Kg	10	0.10	122	70 - 130
4-BFB		0.880	mg/Kg	10	0.10	88	70 - 130

Sample: 202028 - 71702-46

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.825	mg/Kg	10	1	82	70 - 130
4-BFB		0.768	mg/Kg	10	1	77	70 - 130

Sample: 202028 - 71702-46

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		176	mg/Kg	1	150	117	70 - 130

Sample: 202028 - 71702-46

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.765	mg/Kg	10	0.10	76	70 - 130
4-BFB		0.729	mg/Kg	10	0.10	73	70 - 130

Sample: 202029 - 71702-47

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.770	mg/Kg	10	1	77	70 - 130
4-BFB		0.821	mg/Kg	10	1	82	70 - 130

Sample: 202029 - 71702-47

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		181	mg/Kg	1	150	121	70 - 130

Sample: 202029 - 71702-47

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	¹³	0.656	mg/Kg	10	0.10	66	70 - 130
4-BFB		0.796	mg/Kg	10	0.10	80	70 - 130

¹³Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Quality Control Report Method Blank

Method Blank QCBatch: QC22030

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.998	mg/Kg	10	1	100	70 - 130
4-BFB		0.970	mg/Kg	10	1	97	70 - 130

Method Blank QCBatch: QC22031

Param	Flag	Results	Units	Reporting Limit
GRO		<1	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.938	mg/Kg	10	0.10	94	70 - 130
4-BFB		0.954	mg/Kg	10	0.10	95	70 - 130

Method Blank QCBatch: QC22092

Param	Flag	Results	Units	Reporting Limit
DRO		<50.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		153	mg/Kg	1	150	102	70 - 130

Method Blank QCBatch: QC22093

Param	Flag	Results	Units	Reporting Limit
DRO		<50.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		167	mg/Kg	1	150	111	70 - 130

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC22030

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.03	1.04	mg/Kg	10	1	<0.010	103	0	70 - 130	20
Benzene	1.02	1.03	mg/Kg	10	1	<0.010	102	0	70 - 130	20
Toluene	1.01	1.02	mg/Kg	10	1	<0.010	101	0	70 - 130	20
Ethylbenzene	1.01	1.02	mg/Kg	10	1	<0.010	101	0	70 - 130	20
M,P,O-Xylene	2.92	2.96	mg/Kg	10	3	<0.010	97	1	70 - 130	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	0.932	0.95	mg/Kg	10	1	93	95	70 - 130
4-BFB	0.944	0.963	mg/Kg	10	1	94	96	70 - 130

Laboratory Control Spikes QCBatch: QC22031

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	9.26	10.2	mg/Kg	10	1	<1	93	9	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	0.903	0.931	mg/Kg	10	0.10	90	93	70 - 130
4-BFB	0.931	0.950	mg/Kg	10	0.10	93	95	70 - 130

Laboratory Control Spikes QCBatch: QC22092

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	308	309	mg/Kg	1	250	<50.0	123	0	70 - 130	20

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

Continued ...

Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
Surrogate	LCS Result	LCSD Result	Units	Dilution	Spike Amount	LCS % Rec	LCSD % Rec	Recovery Limits
n-Triacontane	164	166	mg/Kg	1	150	109	111	70 - 130

Laboratory Control Spikes

QCBatch: QC22093

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	281	283	mg/Kg	1	250	<50.0	112	1	70 - 130	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
n-Triacontane	162	161	mg/Kg	1	150	108	107	70 - 130

**Quality Control Report
Matrix Spikes and Duplicate Spikes**

Matrix Spikes

QCBatch: QC22030

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.928	0.855	mg/Kg	10	1	<0.010	92	8	70 - 130	20
Toluene	0.922	0.856	mg/Kg	10	1	<0.010	92	7	70 - 130	20
Ethylbenzene	0.93	0.865	mg/Kg	10	1	<0.010	93	7	70 - 130	20
M,P,O-Xylene	2.67	2.48	mg/Kg	10	3	<0.010	89	7	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.841	0.809	mg/Kg	10	1	84	80	70 - 130
4-BFB	0.886	0.857	mg/Kg	10	1	88	85	70 - 130

Matrix Spikes

QCBatch: QC22031

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	6.77	9.18	mg/Kg	10	1	<1.00	68	30	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	¹⁴ 0.548	0.846	mg/Kg	10	0.10	55	85	70 - 130
4-BFB	0.712	0.763	mg/Kg	10	0.10	71	76	70 - 130

Matrix Spikes QCBatch: QC22092

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	¹⁵ 3300	¹⁶ 3380	mg/Kg	10	250	4430	-451	-7	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	640	609	mg/Kg	10	150	427	406	70 - 130

Matrix Spikes QCBatch: QC22093

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	313	313	mg/Kg	1	250	<50.0	125	0	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	167	170	mg/Kg	1	150	111	113	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV (1) QCBatch: QC22030

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0976	98	85 - 115	7/19/02
Benzene		mg/L	0.10	0.0989	99	85 - 115	7/19/02
Toluene		mg/L	0.10	0.100	100	85 - 115	7/19/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	7/19/02
M,P,O-Xylene		mg/L	0.30	0.281	94	85 - 115	7/19/02

¹⁴Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

¹⁵MS and MSD out of recovery limits due to peak interference. LCS and LCSD show the process is in control.

¹⁶MS and MSD out of recovery limits due to peak interference. LCS and LCSD show the process is in control.

CCV (2) QCBatch: QC22030

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.102	102	85 - 115	7/19/02
Benzene		mg/L	0.10	0.0993	99	85 - 115	7/19/02
Toluene		mg/L	0.10	0.0984	98	85 - 115	7/19/02
Ethylbenzene		mg/L	0.10	0.0969	96	85 - 115	7/19/02
M,P,O-Xylene		mg/L	0.30	0.2803	93	85 - 115	7/19/02

ICV (1) QCBatch: QC22030

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.104	104	85 - 115	7/19/02
Benzene		mg/L	0.10	0.102	102	85 - 115	7/19/02
Toluene		mg/L	0.10	0.100	100	85 - 115	7/19/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	7/19/02
M,P,O-Xylene		mg/L	0.30	0.293	98	85 - 115	7/19/02

CCV (1) QCBatch: QC22031

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.951	95	85 - 115	7/19/02

CCV (2) QCBatch: QC22031

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.999	99	85 - 115	7/19/02

ICV (1) QCBatch: QC22031

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.907	90	85 - 115	7/19/02

CCV (1) QCBatch: QC22092

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	278	111	75 - 125	7/22/02

CCV (2) QCBatch: QC22092

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	292	116	75 - 125	7/22/02

CCV (3) QCBatch: QC22092

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	287	114	75 - 125	7/22/02

ICV (1) QCBatch: QC22092

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	275	110	75 - 125	7/22/02

CCV (1) QCBatch: QC22093

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	284	114	75 - 125	7/22/02

ICV (1) QCBatch: QC22093

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	270	108	75 - 125	7/22/02

202021-202029

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

Trace Analysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # AD2071823

Company Name: NJM DCO Phone #: 505-476-3488

Address: 1625 N. French Drive Hobbs NM 88240 Fax #: _____

Contact Person: MARTINE KELING

Invoice to: _____ (If different from above)

Project #: 251700051

Project Name: DCD Goodwin

Project Location: 2 mi. S west of Hobbs

Sampler Signature: Morgan Kelion

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD					SAMPLING TIME
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	
202021	71702-39	1	402	X									7/17/02 915
22	71702-40	1	402	X									7/17/02 917
23	71702-41	1	402	X									7/17/02 920
24	71702-42	1	402	X									7/17/02 925
25	71702-43	1	402	X									7/17/02 930
26	71702-44	1	402	X									7/17/02 935
27	71702-45	1	402	X									7/17/02 940
28	71702-46	1	402	X									7/17/02 945
29	71702-47	1	402	X									7/17/02 950

Relinquished by: Morgan Kelion Date: 7-17-02 Time: 1540

Received by: _____ Date: _____ Time: _____

Relinquished by: _____ Date: _____ Time: _____

Received by: _____ Date: _____ Time: _____

Relinquished by: _____ Date: _____ Time: _____

Received at Laboratory by: Julianna Date: 7-18-02 Time: 10:00

ANALYSIS REQUEST
(Circle or Specify Method No.)

MTBE 8021B/602	X
BTEX 8021B/602	X
TPH 418.1/TX1005	X
PAH 8270C	X
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	X
TCLP Metals Ag As Ba Cd Cr Pb Se Hg	X
TCLP Volatiles	X
TCLP Semi Volatiles	X
TCLP Pesticides	X
RCI	X
GC/MS Vol. 8260B/624	X
GC/MS Semi. Vol. 8270C/625	X
PCBs 8082/608	X
Pesticides 8081A/608	X
BOD, TSS, pH	X

Turn Around Time if different from standard _____

LAB USE ONLY

Intact Y / N _____

Headspace Y / N _____

Temp 21 °C

Log-in Review MA

REMARKS: Fax a copy of results to Don Fernald 505-327-5121

Check if Special Reporting Limits Are Needed

Carrier # TUMTD 902820-111-4

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

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TRACE ANALYSIS, INC.

Environmental Bureau
Oil Conservation Division

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150 McCutcheon, Suite H

Lubbock, Texas 79424 800•378•1296
El Paso, Texas 79932 888•588•3443
E-Mail: lab@traceanalysis.com

806•794•1296
915•585•3443

FAX 806•1388
FAX 915•585•4944

Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Invoice # 53855

Invoice Date: Jul 24, 2002

Order ID: A02071822

Attn: Martyne Kieling

Project #:	2-517-000051		
Project Name:	OCD Goodwin Treating Plant	P.A. Number:	20-521-07-02497
Project Location:	8 Miles West of Hobbs, Tx.		

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	10	Soil	202011 - 202020	\$40.00	\$400.00
BTEX /TPH GRO	10	Soil	202011 - 202020	\$60.00	\$600.00
<i>Payment Terms: Net 30 Days</i>				Total	\$1,000.00

Director, Dr. Blair Leftwich

on to pay mgh
8-19-02

Report Date: July 23, 2002 Order Number: A02071822
 2-517-000051 OCD Goodwin Treating Plant

Page Number: 1 of 1
 8 Miles West of Hobbs, Tx.

Summary Report

Martyne Kieling
 OCD Hobbs Office
 1625 N. French Drive
 Hobbs, NM 88240

Report Date: July 23, 2002

Order ID Number: A02071822

Project Number: 2-517-000051
 Project Name: OCD Goodwin Treating Plant
 Project Location: 8 Miles West of Hobbs, Tx.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
202011	B-71702-1	Soil	7/17/02	12:40	7/18/02
202012	B-71702-2	Soil	7/17/02	12:44	7/18/02
202013	B-71702-3	Soil	7/17/02	12:46	7/18/02
202014	B-71702-4	Soil	7/17/02	12:50	7/18/02
202015	B-71702-5	Soil	7/17/02	13:00	7/18/02
202016	B-71702-6	Soil	7/17/02	13:10	7/18/02
202017	B-71706-7	Soil	7/17/02	13:15	7/18/02
202018	B-71702-8	Soil	7/17/02	13:20	7/18/02
202019	B-71702-9	Soil	7/17/02	13:25	7/18/02
202020	B-71702-10	Soil	7/17/02	13:30	7/18/02

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 - Field Code	BTEX					TPH DRO	TPH GRO
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)	DRO (ppm)	GRO (ppm)
202011 - B-71702-1	<0.010	0.0461	0.173	0.446	0.665	4430	40.1
202012 - B-71702-2	<0.010	0.0123	0.0658	0.293	0.371	5000	32
202013 - B-71702-3	<0.010	0.0585	0.058	0.215	0.332	4490	18.6
202014 - B-71702-4	0.356	0.953	1.83	6.21	9.35	3390	183
202015 - B-71702-5	0.0556	0.0465	0.264	0.429	0.795	5140	39.9
202016 - B-71702-6	<0.010	0.0213	0.0694	0.157	0.248	2730	24.1
202017 - B-71706-7	<0.010	0.0202	0.042	0.0978	0.160	2410	16.3
202018 - B-71702-8	<0.010	0.0733	0.460	1.25	1.78	2870	56.3
202019 - B-71702-9	0.666	0.637	2.06	4.74	8.10	3170	124
202020 - B-71702-10	<0.010	0.0146	0.130	0.584	0.729	3040	55.3

This is only a summary. Please, refer to the complete report package for quality control data.



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 155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
 E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Martyne Kieling
 OCD Hobbs Office
 1625 N. French Drive
 Hobbs, NM 88240

Report Date: July 23, 2002

Order ID Number: A02071822

Project Number: 2-517-000051
 Project Name: OCD Goodwin Treating Plant
 Project Location: 8 Miles West of Hobbs, Tx.

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
202011	B-71702-1	Soil	7/17/02	12:40	7/18/02
202012	B-71702-2	Soil	7/17/02	12:44	7/18/02
202013	B-71702-3	Soil	7/17/02	12:46	7/18/02
202014	B-71702-4	Soil	7/17/02	12:50	7/18/02
202015	B-71702-5	Soil	7/17/02	13:00	7/18/02
202016	B-71702-6	Soil	7/17/02	13:10	7/18/02
202017	B-71706-7	Soil	7/17/02	13:15	7/18/02
202018	B-71702-8	Soil	7/17/02	13:20	7/18/02
202019	B-71702-9	Soil	7/17/02	13:25	7/18/02
202020	B-71702-10	Soil	7/17/02	13:30	7/18/02

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.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 16 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: 202011 - B-71702-1

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		0.0461	mg/Kg	10	0.001
Ethylbenzene		0.173	mg/Kg	10	0.001
M,P,O-Xylene		0.446	mg/Kg	10	0.001
Total BTEX		0.665	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.890	mg/Kg	10	1	89	70 - 130
4-BFB	1	1.39	mg/Kg	10	1	139	70 - 130

Sample: 202011 - B-71702-1

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		4430	mg/Kg	10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	2	900	mg/Kg	10	150	600	70 - 130

Sample: 202011 - B-71702-1

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		40.1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.719	mg/Kg	10	0.10	72	70 - 130
4-BFB	3	1.74	mg/Kg	10	0.10	175	70 - 130

¹High surrogate recovery due to peak interference.

²Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control.

³High surrogate recovery due to peak interference.

Sample: 202012 - B-71702-2

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		0.0123	mg/Kg	10	0.001
Ethylbenzene		0.0658	mg/Kg	10	0.001
M,P,O-Xylene		0.293	mg/Kg	10	0.001
Total BTEX		0.371	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.06	mg/Kg	10	1	106	70 - 130
4-BFB		1.30	mg/Kg	10	1	130	70 - 130

Sample: 202012 - B-71702-2

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		5000	mg/Kg	10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	⁴	1050	mg/Kg	10	150	700	70 - 130

Sample: 202012 - B-71702-2

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		32	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.881	mg/Kg	10	0.10	88	70 - 130
4-BFB	⁵	2.35	mg/Kg	10	0.10	235	70 - 130

Sample: 202013 - B-71702-3

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

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

⁵High surrogate recovery due to peak interference.

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		0.0585	mg/Kg	10	0.001
Ethylbenzene		0.058	mg/Kg	10	0.001
M,P,O-Xylene		0.215	mg/Kg	10	0.001
Total BTEX		0.332	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.09	mg/Kg	10	1	109	70 - 130
4-BFB		1.15	mg/Kg	10	1	115	70 - 130

Sample: 202013 - B-71702-3

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		4490	mg/Kg	10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	⁶	838	mg/Kg	10	150	558	70 - 130

Sample: 202013 - B-71702-3

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		18.6	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.920	mg/Kg	10	0.10	92	70 - 130
4-BFB	⁷	1.79	mg/Kg	10	0.10	179	70 - 130

Sample: 202014 - B-71702-4

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		0.356	mg/Kg	20	0.001
Toluene		0.953	mg/Kg	20	0.001
Ethylbenzene		1.83	mg/Kg	20	0.001

Continued ...

⁶Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control.

⁷High surrogate recovery due to peak interference.

... Continued Sample: 202014 Analysis: BTEX

Param	Flag	Result	Units	Dilution	RDL
M,P,O-Xylene		6.21	mg/Kg	20	0.001
Total BTEX		9.35	mg/Kg	20	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.924	mg/Kg	20	1	92	70 - 130
4-BFB	8	2.06	mg/Kg	20	1	206	70 - 130

Sample: 202014 - B-71702-4

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		3390	mg/Kg	10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	9	603	mg/Kg	10	150	402	70 - 130

Sample: 202014 - B-71702-4

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		183	mg/Kg	20	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.986	mg/Kg	20	0.10	99	70 - 130
4-BFB	10	5.66	mg/Kg	20	0.10	566	70 - 130

Sample: 202015 - B-71702-5

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		0.0556	mg/Kg	20	0.001
Toluene		0.0465	mg/Kg	20	0.001
Ethylbenzene		0.264	mg/Kg	20	0.001
M,P,O-Xylene		0.429	mg/Kg	20	0.001
Total BTEX		0.795	mg/Kg	20	0.001

⁸High surrogate recovery due to peak interference.

⁹Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control.

¹⁰High surrogate recovery due to peak interference.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.889	mg/Kg	20	1	89	70 - 130
4-BFB	11	1.34	mg/Kg	20	1	134	70 - 130

Sample: 202015 - B-71702-5

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		5140	mg/Kg	10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	12	749	mg/Kg	10	150	499	70 - 130

Sample: 202015 - B-71702-5

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		39.9	mg/Kg	20	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.03	mg/Kg	20	0.10	103	70 - 130
4-BFB	13	1.61	mg/Kg	20	0.10	161	70 - 130

Sample: 202016 - B-71702-6

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		0.0213	mg/Kg	10	0.001
Ethylbenzene		0.0694	mg/Kg	10	0.001
M,P,O-Xylene		0.157	mg/Kg	10	0.001
Total BTEX		0.248	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	14	0.691	mg/Kg	10	1	69	70 - 130

Continued ...

¹¹High surrogate recovery due to peak interference.

¹²Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control.

¹³High surrogate recovery due to peak interference.

¹⁴Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-BFB		0.996	mg/Kg	10	1	100	70 - 130

Sample: 202016 - B-71702-6

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		2730	mg/Kg	10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹⁵	558	mg/Kg	10	150	372	70 - 130

Sample: 202016 - B-71702-6

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		24.1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.744	mg/Kg	10	0.10	74	70 - 130
4-BFB		1.10	mg/Kg	10	0.10	110	70 - 130

Sample: 202017 - B-71706-7

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		0.0202	mg/Kg	10	0.001
Ethylbenzene		0.042	mg/Kg	10	0.001
M,P,O-Xylene		0.0978	mg/Kg	10	0.001
Total BTEX		0.160	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.892	mg/Kg	10	1	89	70 - 130
4-BFB		1.01	mg/Kg	10	1	101	70 - 130

¹⁵Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control.

Sample: 202017 - B-71706-7

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		2410	mg/Kg	10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹⁶	601	mg/Kg	10	150	400	70 - 130

Sample: 202017 - B-71706-7

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		16.3	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.856	mg/Kg	10	0.10	86	70 - 130
4-BFB	¹⁷	1.62	mg/Kg	10	0.10	162	70 - 130

Sample: 202018 - B-71702-8

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		0.0733	mg/Kg	10	0.001
Ethylbenzene		0.460	mg/Kg	10	0.001
M,P,O-Xylene		1.25	mg/Kg	10	0.001
Total BTEX		1.78	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.797	mg/Kg	10	1	80	70 - 130
4-BFB		0.836	mg/Kg	10	1	84	70 - 130

Sample: 202018 - B-71702-8

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

¹⁶Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control.

¹⁷High surrogate recovery due to peak interference.

Param	Flag	Result	Units	Dilution	RDL
DRO		2870	mg/Kg	10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	¹⁸	562	mg/Kg	10	150	374	70 - 130

Sample: 202018 - B-71702-8

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		56.3	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.813	mg/Kg	10	0.10	81	70 - 130
4-BFB		0.896	mg/Kg	10	0.10	90	70 - 130

Sample: 202019 - B-71702-9

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		0.666	mg/Kg	10	0.001
Toluene		0.637	mg/Kg	10	0.001
Ethylbenzene		2.06	mg/Kg	10	0.001
M,P,O-Xylene		4.74	mg/Kg	10	0.001
Total BTEX		8.10	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.960	mg/Kg	10	1	96	70 - 130
4-BFB		1.26	mg/Kg	10	1	126	70 - 130

Sample: 202019 - B-71702-9

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		3170	mg/Kg	10	50

¹⁸Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	19	637	mg/Kg	10	150	424	70 - 130

Sample: 202019 - B-71702-9

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		124	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	20	0.623	mg/Kg	10	0.10	62	70 - 130
4-BFB	21	4.27	mg/Kg	10	0.10	427	70 - 130

Sample: 202020 - B-71702-10

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC22030 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		0.0146	mg/Kg	10	0.001
Ethylbenzene		0.130	mg/Kg	10	0.001
M,P,O-Xylene		0.584	mg/Kg	10	0.001
Total BTEX		0.729	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.928	mg/Kg	10	1	93	70 - 130
4-BFB		0.743	mg/Kg	10	1	74	70 - 130

Sample: 202020 - B-71702-10

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC22092 Date Analyzed: 7/22/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20889 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
DRO		3040	mg/Kg	10	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	22	603	mg/Kg	10	150	402	70 - 130

¹⁹Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control.

²⁰Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

²¹High surrogate recovery due to peak interference.

²²Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control.

Sample: 202020 - B-71702-10

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC22031 Date Analyzed: 7/19/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20849 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
GRO		55.3	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.715	mg/Kg	10	0.10	72	70 - 130
4-BFB	23	2.61	mg/Kg	10	0.10	261	70 - 130

²³High surrogate recovery due to peak interference.

Quality Control Report Method Blank

Method Blank QCBatch: QC22030

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.998	mg/Kg	10	1	100	70 - 130
4-BFB		0.970	mg/Kg	10	1	97	70 - 130

Method Blank QCBatch: QC22031

Param	Flag	Results	Units	Reporting Limit
GRO		<1	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.938	mg/Kg	10	0.10	94	70 - 130
4-BFB		0.954	mg/Kg	10	0.10	95	70 - 130

Method Blank QCBatch: QC22092

Param	Flag	Results	Units	Reporting Limit
DRO		<50.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		153	mg/Kg	1	150	102	70 - 130

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC22030

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.03	1.04	mg/Kg	10	1	<0.010	103	0	70 - 130	20
Benzene	1.02	1.03	mg/Kg	10	1	<0.010	102	0	70 - 130	20
Toluene	1.01	1.02	mg/Kg	10	1	<0.010	101	0	70 - 130	20
Ethylbenzene	1.01	1.02	mg/Kg	10	1	<0.010	101	0	70 - 130	20
M,P,O-Xylene	2.92	2.96	mg/Kg	10	3	<0.010	97	1	70 - 130	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	0.932	0.95	mg/Kg	10	1	93	95	70 - 130
4-BFB	0.944	0.963	mg/Kg	10	1	94	96	70 - 130

Laboratory Control Spikes

QCBatch: QC22031

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	9.26	10.2	mg/Kg	10	1	<1	93	9	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	0.903	0.931	mg/Kg	10	0.10	90	93	70 - 130
4-BFB	0.931	0.950	mg/Kg	10	0.10	93	95	70 - 130

Laboratory Control Spikes

QCBatch: QC22092

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	308	309	mg/Kg	1	250	<50.0	123	0	70 - 130	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
n-Triacontane	164	166	mg/Kg	1	150	109	111	70 - 130

**Quality Control Report
Matrix Spikes and Duplicate Spikes**

Matrix Spikes

QCBatch: QC22030

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.928	0.855	mg/Kg	10	1	<0.010	92	8	70 - 130	20
Toluene	0.922	0.856	mg/Kg	10	1	<0.010	92	7	70 - 130	20
Ethylbenzene	0.93	0.865	mg/Kg	10	1	<0.010	93	7	70 - 130	20
M,P,O-Xylene	2.67	2.48	mg/Kg	10	3	<0.010	89	7	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.841	0.809	mg/Kg	10	1	84	80	70 - 130
4-BFB	0.886	0.857	mg/Kg	10	1	88	85	70 - 130

Matrix Spikes QCBatch: QC22031

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	6.77	9.18	mg/Kg	10	1	<1.00	68	30	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	²⁴ 0.548	0.846	mg/Kg	10	0.10	55	85	70 - 130
4-BFB	0.712	0.763	mg/Kg	10	0.10	71	76	70 - 130

Matrix Spikes QCBatch: QC22092

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	²⁵ 3300	²⁶ 3380	mg/Kg	10	250	4430	-451	-7	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	640	609	mg/Kg	10	150	427	406	70 - 130

Quality Control Report Continuing Calibration Verification Standards

²⁴Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

²⁵MS and MSD out of recovery limits due to peak interference. LCS and LCSD show the process is in control.

²⁶MS and MSD out of recovery limits due to peak interference. LCS and LCSD show the process is in control.

CCV (1) QCBatch: QC22030

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0976	98	85 - 115	7/19/02
Benzene		mg/L	0.10	0.0989	99	85 - 115	7/19/02
Toluene		mg/L	0.10	0.100	100	85 - 115	7/19/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	7/19/02
M,P,O-Xylene		mg/L	0.30	0.281	94	85 - 115	7/19/02

CCV (2) QCBatch: QC22030

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.102	102	85 - 115	7/19/02
Benzene		mg/L	0.10	0.0993	99	85 - 115	7/19/02
Toluene		mg/L	0.10	0.0984	98	85 - 115	7/19/02
Ethylbenzene		mg/L	0.10	0.0969	96	85 - 115	7/19/02
M,P,O-Xylene		mg/L	0.30	0.2803	93	85 - 115	7/19/02

ICV (1) QCBatch: QC22030

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.104	104	85 - 115	7/19/02
Benzene		mg/L	0.10	0.102	102	85 - 115	7/19/02
Toluene		mg/L	0.10	0.100	100	85 - 115	7/19/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	7/19/02
M,P,O-Xylene		mg/L	0.30	0.293	98	85 - 115	7/19/02

CCV (1) QCBatch: QC22031

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.951	95	85 - 115	7/19/02

CCV (2) QCBatch: QC22031

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.999	99	85 - 115	7/19/02

ICV (1) QCBatch: QC22031

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.907	90	85 - 115	7/19/02

CCV (1) QCBatch: QC22092

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	278	111	75 - 125	7/22/02

CCV (2) QCBatch: QC22092

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	292	116	75 - 125	7/22/02

CCV (3) QCBatch: QC22092

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	287	114	75 - 125	7/22/02

ICV (1) QCBatch: QC22092

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	275	110	75 - 125	7/22/02

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

Trace Analysis, Inc.

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A02071822

Company Name:

Phone #: 505-476-3488
Fax #: _____

Address: NM OCA
(Street, City, Zip)

1625 N. French Dr. Hobbs NM 88240

Contact Person:

Martine Keling

Invoice to:

(If different from above)

Project #:

251700051

Project Location:

8 Miles West of Hobbs

Project Name:

OSA Goodwin

Sampler Signature:

Martine Keling

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING		
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE	DATE
202011	B-71702-1	1		X									7-17-12	1246
12	B-71702-2	1		X									7-17-12	1244
13	B-71702-3	1		X									7-17-12	1246
14	B-71702-4	1		X									7-17-12	1250
15	B-71702-5	1		X									7-17-12	1300
16	B-71702-6	1		X									7-17-12	1310
17	B-71702-7	1		X									7-17-12	1315
18	B-71702-8	1		X									7-17-12	1320
19	B-71702-9	1		X									7-17-12	1325
20	B-71702-10	1		X									7-17-12	1330

ANALYSIS REQUEST

(Circle or Specify Method No.)

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	FCI	GC/MS Vol. 8260B/624	GC/MS Sem. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Turn Around Time if different from standard
X	X	X	X	X	X	X	X	X	X	X	X	

8015 GAO PRO

REMARKS:

LAB USE ONLY

Also Fax Result to
DON FERNALD
505-327-5121

Intact / N
Headspace Y / N
Temp 21 °
Log-in Review MA

Check if Special Reporting Limits Are Needed

7124F

Carrier # JNM10 902-822-111-4

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
<u>Martine Keling</u>	<u>7-17-12</u>	<u>1540</u>	<u>Michelle Kelly</u>	<u>7-18-12</u>	<u>10:11</u>

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

ORIGINAL COPY

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JUL 9 0 2002

Environmental Bureau
Oil Conservation Division

TRACE ANALYSIS, INC.

701 Aberdeen Avenue, Suite 9
55 McKittrick, 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

Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Invoice # 53587

Invoice Date: Jul 9, 2002

Order ID: A02070327

Attn: **Wayne Price**

Project #:	2-517-000051	P.A. Number:	20-521-07-02497
Project Name:	OCD Goodwin Treating Plant		
Project Location:	8 Miles West of Hobbs, Tx.		

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	9	Soil	200775 - 200783	\$40.00	\$360.00
Chloride	2	Soil	200777 - 200782	\$15.00	\$30.00
BTEX/TPH GRO	9	Soil	200775 - 200783	\$60.00	\$540.00
<i>Payment Terms: Net 30 Days</i>				Total	\$930.00

Director, Dr. Blair Leftwich

ok to pay myn

8-19-02

Report Date: July 23, 2002 Order Number: A02070327
 2-517-000051 OCD Goodwin Treating Plant

Page Number: 1 of 2
 8 Miles West of Hobbs, Tx.

Summary Report

Martyne Kieling
 OCD Hobbs Office
 1625 N. French Drive
 Hobbs, NM 88240

Report Date: July 23, 2002

Order ID Number: A02070327

Project Number: 2-517-000051
 Project Name: OCD Goodwin Treating Plant
 Project Location: 8 Miles West of Hobbs, Tx.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
200775	070202-26	Soil	7/2/02	10:05	7/3/02
200776	070202-27	Soil	7/2/02	10:07	7/3/02
200777	070202-28	Soil	7/2/02	10:10	7/3/02
200778	070202-29	Soil	7/2/02	10:18	7/3/02
200779	070202-30	Soil	7/2/02	11:00	7/3/02
200780	070202-31	Soil	7/2/02	11:08	7/3/02
200781	070202-32	Soil	7/2/02	11:06	7/3/02
200782	070202-33	Soil	7/2/02	10:36	7/3/02
200783	070202-34	Soil	7/2/02	11:10	7/3/02

0 This report consists of a total of 2 page(s) and is intended only as a summary of results for the sample(s) listed above.

Sample - Field Code	BTEX					TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)		
200775 - 070202-26	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00
200776 - 070202-27	<0.010	<0.010	<0.010	<0.010	<0.010	91.9	<1.00
200777 - 070202-28	<0.010	<0.010	<0.010	<0.010	<0.010	66.3	<1.00
200778 - 070202-29	<0.010	<0.010	<0.010	<0.010	<0.010	144	<1.00
200779 - 070202-30	<0.010	<0.010	<0.010	<0.010	<0.010	224	<1.00
200780 - 070202-31	<0.010	<0.010	<0.010	<0.010	<0.010	120	<1.00
200781 - 070202-32	<0.010	<0.010	<0.010	<0.010	<0.010	102	<1.00
200782 - 070202-33	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00
200783 - 070202-34	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1.00

Sample: 200777 - 070202-28

Param	Flag	Result	Units
Chloride		3120	mg/Kg

This is only a summary. Please, refer to the complete report package for quality control data.

TraceAnalysis, Inc.

6701 Berdeen Ave., Suite 9

Lubbock, TX 79424-1515

(806) 794-1296

Report Date: July 23, 2002 Order Number: A02070327
2-517-000051 OCD Goodwin Treating Plant

Page Number: 2 of 2
8 Miles West of Hobbs, Tx.

Sample: 200782 - 070202-33

Param	Flag	Result	Units
Chloride		3290	mg/Kg

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
 155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
 E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Martyne Kieling
 OCD Hobbs Office
 1625 N. French Drive
 Hobbs, NM 88240

Report Date: July 23, 2002

Order ID Number: A02070327

Project Number: 2-517-000051
 Project Name: OCD Goodwin Treating Plant
 Project Location: 8 Miles West of Hobbs, Tx.

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
200775	070202-26	Soil	7/2/02	10:05	7/3/02
200776	070202-27	Soil	7/2/02	10:07	7/3/02
200777	070202-28	Soil	7/2/02	10:10	7/3/02
200778	070202-29	Soil	7/2/02	10:18	7/3/02
200779	070202-30	Soil	7/2/02	11:00	7/3/02
200780	070202-31	Soil	7/2/02	11:08	7/3/02
200781	070202-32	Soil	7/2/02	11:06	7/3/02
200782	070202-33	Soil	7/2/02	10:36	7/3/02
200783	070202-34	Soil	7/2/02	11:10	7/3/02

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. The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 16 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: 200775 - 070202-26

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21578 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: S 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0981	mg/Kg	10	1	98	70 - 130
4-BFB		0.0906	mg/Kg	10	1	90	70 - 130

Sample: 200775 - 070202-26

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21812 Date Analyzed: 7/11/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20657 Date Prepared: 7/8/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		156	mg/Kg	1	150	104	70 - 130

Sample: 200775 - 070202-26

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21579 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.04	mg/Kg	10	0.10	104	70 - 130
4-BFB		0.831	mg/Kg	10	0.10	83	70 - 130

Sample: 200776 - 070202-27

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21578 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: S 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.0894	mg/Kg	10	1	89	70 - 130
4-BFB		0.0825	mg/Kg	10	1	82	70 - 130

Sample: 200776 - 070202-27

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21812 Date Analyzed: 7/11/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20657 Date Prepared: 7/8/02

Param	Flag	Result	Units	Dilution	RDL
DRO		91.9	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		157	mg/Kg	1	150	105	70 - 130

Sample: 200776 - 070202-27

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21579 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.849	mg/Kg	10	0.10	84	70 - 130
4-BFB		0.745	mg/Kg	10	0.10	74	70 - 130

Sample: 200777 - 070202-28

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21578 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: S 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.917	mg/Kg	10	1	91	70 - 130
4-BFB		0.858	mg/Kg	10	1	85	70 - 130

Sample: 200777 - 070202-28

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC22085 Date Analyzed: 7/19/02
 Analyst: JSW Preparation Method: N/A Prep Batch: PB20883 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		3120	mg/Kg	500	1

Sample: 200777 - 070202-28

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21812 Date Analyzed: 7/11/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20657 Date Prepared: 7/8/02

Param	Flag	Result	Units	Dilution	RDL
DRO		66.3	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		156	mg/Kg	1	150	104	70 - 130

Sample: 200777 - 070202-28

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21579 Date Analyzed: 7/2/02
 Analyst: DN Preparation Method: 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.24	mg/Kg	10	0.10	124	70 - 130
4-BFB		0.798	mg/Kg	10	0.10	80	70 - 130

Sample: 200778 - 070202-29

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21578 Date Analyzed: 7/2/02
 Analyst: DN Preparation Method: S 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.933	mg/Kg	10	1	93	70 - 130
4-BFB		0.864	mg/Kg	10	1	86	70 - 130

Sample: 200778 - 070202-29

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21812 Date Analyzed: 7/11/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20657 Date Prepared: 7/8/02

Param	Flag	Result	Units	Dilution	RDL
DRO		144	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		171	mg/Kg	1	150	114	70 - 130

Sample: 200778 - 070202-29

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21579 Date Analyzed: 7/2/02
 Analyst: DN Preparation Method: 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.89	mg/Kg	10	0.10	89	70 - 130
4-BFB		0.803	mg/Kg	10	0.10	80	70 - 130

Sample: 200779 - 070202-30

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21578 Date Analyzed: 7/2/02
 Analyst: DN Preparation Method: S 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.811	mg/Kg	10	1	81	70 - 130
4-BFB	1	0.676	mg/Kg	10	1	67	70 - 130

¹Low BFB surrogate recovery due to matrix interference. TFT surrogate recovery shows the method to be in control.

Sample: 200779 - 070202-30

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21812 Date Analyzed: 7/11/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20657 Date Prepared: 7/8/02

Param	Flag	Result	Units	Dilution	RDL
DRO		224	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		167	mg/Kg	1	150	111	70 - 130

Sample: 200779 - 070202-30

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21579 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.767	mg/Kg	10	0.10	76	70 - 130
4-BFB	2	0.608	mg/Kg	10	0.10	60	70 - 130

Sample: 200780 - 070202-31

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21578 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: S 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.733	mg/Kg	10	1	73	70 - 130
4-BFB	3	0.683	mg/Kg	10	1	68	70 - 130

Sample: 200780 - 070202-31

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21812 Date Analyzed: 7/11/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20657 Date Prepared: 7/8/02

²Low BFB surrogate recovery due to matrix interference. TFT surrogate recovery shows the method to be in control.

³Low BFB surrogate recovery due to matrix interference. TFT surrogate recovery shows the method to be in control.

Param	Flag	Result	Units	Dilution	RDL
DRO		120	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		163	mg/Kg	1	150	109	70 - 130

Sample: 200780 - 070202-31

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21579 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.19	mg/Kg	10	0.10	119	70 - 130
4-BFB	4	0.627	mg/Kg	10	0.10	62	70 - 130

Sample: 200781 - 070202-32

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21578 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: S 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.908	mg/Kg	10	1	90	70 - 130
4-BFB		0.831	mg/Kg	10	1	83	70 - 130

Sample: 200781 - 070202-32

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21812 Date Analyzed: 7/11/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20657 Date Prepared: 7/8/02

Param	Flag	Result	Units	Dilution	RDL
DRO		102	mg/Kg	1	50

⁴Low BFB surrogate recovery due to matrix interference. TFT surrogate recovery shows the method to be in control.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		157	mg/Kg	1	150	105	70 - 130

Sample: 200781 - 070202-32

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21579 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.859	mg/Kg	10	0.10	85	70 - 130
4-BFB		0.768	mg/Kg	10	0.10	76	70 - 130

Sample: 200782 - 070202-33

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21578 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: S 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.904	mg/Kg	10	1	90	70 - 130
4-BFB		0.837	mg/Kg	10	1	83	70 - 130

Sample: 200782 - 070202-33

Analysis: Ion Chromatography (IC) Analytical Method: E 300.0 QC Batch: QC22085 Date Analyzed: 7/19/02
Analyst: JSW Preparation Method: N/A Prep Batch: PB20883 Date Prepared: 7/19/02

Param	Flag	Result	Units	Dilution	RDL
Chloride		3290	mg/Kg	500	1

Sample: 200782 - 070202-33

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21812 Date Analyzed: 7/11/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20657 Date Prepared: 7/8/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		162	mg/Kg	1	150	108	70 - 130

Sample: 200782 - 070202-33

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21579 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.859	mg/Kg	10	0.10	85	70 - 130
4-BFB		0.754	mg/Kg	10	0.10	75	70 - 130

Sample: 200783 - 070202-34

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21578 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: S 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.790	mg/Kg	10	1	79	70 - 130
4-BFB		0.740	mg/Kg	10	1	74	70 - 130

Sample: 200783 - 070202-34

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21812 Date Analyzed: 7/11/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20657 Date Prepared: 7/8/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		151	mg/Kg	1	150	101	70 - 130

Report Date: July 23, 2002
2-517-000051

Order Number: A02070327
OCD Goodwin Treating Plant

Page Number: 10 of 16
8 Miles West of Hobbs, Tx.

Sample: 200783 - 070202-34

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21579 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.08	mg/Kg	10	0.10	108	70 - 130
4-BFB	5	0.688	mg/Kg	10	0.10	68	70 - 130

⁵Low BFB surrogate recovery due to matrix interference. TFT surrogate recovery shows the method to be in control.

Quality Control Report Method Blank

Method Blank QCBatch: QC21578

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		< 0.01	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.04	mg/Kg	10	1	104	70 - 130
4-BFB		0.961	mg/Kg	10	1	96	70 - 130

Method Blank QCBatch: QC21579

Param	Flag	Results	Units	Reporting Limit
GRO		<1	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.14	mg/Kg	10	0.10	114	70 - 130
4-BFB		0.927	mg/Kg	10	0.10	93	70 - 130

Method Blank QCBatch: QC21812

Param	Flag	Results	Units	Reporting Limit
DRO		<50.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		159	mg/Kg	1	150	106	70 - 130

Method Blank QCBatch: QC22085

Param	Flag	Results	Units	Reporting Limit
Chloride		16.10	mg/Kg	1

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC21578

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.02	1.02	mg/Kg	10	1	<0.010	102	0	70 - 130	20
Benzene	1.01	1.02	mg/Kg	10	1	<0.010	101	1	70 - 130	20
Toluene	0.994	1.00	mg/Kg	10	1	<0.010	99	1	70 - 130	20
Ethylbenzene	0.988	0.998	mg/Kg	10	1	<0.010	98	1	70 - 130	20
M,P,O-Xylene	2.87	2.90	mg/Kg	10	3	<0.010	95	1	70 - 130	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	0.987	1.00	mg/Kg	10	1	98	100	70 - 130
4-BFB	0.950	0.966	mg/Kg	10	1	95	96	70 - 130

Laboratory Control Spikes QCBatch: QC21579

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	11	9.39	mg/Kg	10	1	<1	110	15	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	1.14	0.92	mg/Kg	10	0.10	114	92	70 - 130
4-BFB	0.98	0.972	mg/Kg	10	0.10	98	97	70 - 130

Laboratory Control Spikes QCBatch: QC21812

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	245	255	mg/Kg	1	250	<50.0	98	4	70 - 130	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
n-Triacontane	155	150	mg/Kg	1	150	103	100	70 - 130

Laboratory Control Spikes QCBatch: QC22085

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	⁶ 27.32	27.26	mg/Kg	1	12.50	16.10	218	0	90 - 110	20
Fluoride	2.47	2.45	mg/Kg	1	2.50	0.41	98	0	90 - 110	20
Nitrate-N	2.50	2.51	mg/Kg	1	2.50	0.24	100	0	90 - 110	20
Sulfate	⁷ 26.40	26.23	mg/Kg	1	12.50	14.82	211	0	90 - 110	20

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

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes QCBatch: QC21578

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.862	0.880	mg/Kg	10	1	<0.010	86	2	70 - 130	20
Toluene	0.860	0.878	mg/Kg	10	1	<0.010	86	2	70 - 130	20
Ethylbenzene	0.866	0.888	mg/Kg	10	1	<0.010	86	2	70 - 130	20
M,P,O-Xylene	2.49	2.56	mg/Kg	10	3	<0.010	83	3	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.852	0.871	mg/Kg	10	1	85	87	70 - 130
4-BFB	0.728	0.816	mg/Kg	10	1	72	81	70 - 130

Matrix Spikes QCBatch: QC21579

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	9.65	9.99	mg/Kg	10	1	<1.00	96	3	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.989	1.03	mg/Kg	10	0.10	98	103	70 - 130
4-BFB	0.832	0.861	mg/Kg	10	0.10	83	86	70 - 130

Matrix Spikes QCBatch: QC21812

⁶The soil blank is 16.10. This makes the %EA = 90

⁷The soil blank is 14.82. This makes the %EA = 93

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	330	⁸ 316	mg/Kg	1	250	144	74	7	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	159	163	mg/Kg	1	150	106	109	70 - 130

Matrix Spikes QCBatch: QC22085

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Chloride	8943		mg/Kg	500	6.25	3290	141		35 - 144	

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: QC21578

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0953	95	85 - 115	7/2/02
Benzene		mg/L	0.10	0.105	105	85 - 115	7/2/02
Toluene		mg/L	0.10	0.103	103	85 - 115	7/2/02
Ethylbenzene		mg/L	0.10	0.103	103	85 - 115	7/2/02
M,P,O-Xylene		mg/L	0.30	0.2977	99	85 - 115	7/2/02

CCV (2) QCBatch: QC21578

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.102	102	85 - 115	7/2/02
Benzene		mg/L	0.10	0.102	102	85 - 115	7/2/02
Toluene		mg/L	0.10	0.101	101	85 - 115	7/2/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	7/2/02
M,P,O-Xylene		mg/L	0.30	0.2923	97	85 - 115	7/2/02

⁸MSD out of recovery limits due to matrix interference. LCS and LCSD show the process is in control.

ICV (1) QCBatch: QC21578

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.102	102	85 - 115	7/2/02
Benzene		mg/L	0.10	0.102	102	85 - 115	7/2/02
Toluene		mg/L	0.10	0.0999	100	85 - 115	7/2/02
Ethylbenzene		mg/L	0.10	0.0989	99	85 - 115	7/2/02
M,P,O-Xylene		mg/L	0.30	0.288	96	85 - 115	7/2/02

CCV (1) QCBatch: QC21579

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.978	97	85 - 115	7/2/02

CCV (2) QCBatch: QC21579

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.887	88	85 - 115	7/2/02

ICV (1) QCBatch: QC21579

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	1.04	104	85 - 115	7/2/02

CCV (1) QCBatch: QC21812

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	265	106	75 - 125	7/11/02

CCV (2) QCBatch: QC21812

Continued ...

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	253	101	75 - 125	7/11/02

ICV (1) QCBatch: QC21812

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	247	99	75 - 125	7/11/02

CCV (1) QCBatch: QC22085

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.70	93	90 - 110	7/19/02
Fluoride		mg/L	2.50	2.26	90	90 - 110	7/19/02
Nitrate-N		mg/L	2.50	2.31	92	90 - 110	7/19/02
Sulfate		mg/L	12.50	12.4	99	90 - 110	7/19/02

ICV (1) QCBatch: QC22085

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.50	11.47	91	90 - 110	7/19/02
Fluoride		mg/L	2.50	2.29	91	90 - 110	7/19/02
Nitrate-N		mg/L	2.50	2.26	90	90 - 110	7/19/02
Sulfate		mg/L	12.50	12.29	98	90 - 110	7/19/02

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

Trace Analysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST
LAB Order ID # A0000327

Company Name: NM OCD **Phone #:** 505 476-3488
Address: 1625 N FRENCH HOBBS NM 88240 **Fax #:** _____
Contact Person: MARTYNE KIELING

Invoice to: (If different from above)
Project #: 2-517-00051 **Project Name:** OCD GOODWIN TRAINING PLANT
Project Location: 8 MILES WEST OF HOBBS, NM **Sampler Signature:** William A. Mueby

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING		DATE	TIME	
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE			DATE
200775	070202-26	1	4oz	✓								✓			7/2/02	1005
76	070202-27	1	4oz	✓								✓			7/2/02	1007
77	070202-28	1	4oz	✓								✓			7/2/02	1010
78	070202-29	1	4oz	✓								✓			7/2/02	1018
79	070202-30	1	4oz	✓								✓			7/2/02	1100
80	070202-31	1	4oz	✓								✓			7/2/02	1108
81	070202-32	1	4oz	✓								✓			7/2/02	1106
82	070202-33	1	4oz	✓								✓			7/2/02	1022
83	070202-34	1	4oz	✓								✓			7/2/02	1110

Relinquished by: W. Mueby **Date:** 7/2/02 **Time:** 13:45
Received by: Victi Duns **Date:** 7-3-02 **Time:** 10:00
Relinquished by: _____ **Date:** _____ **Time:** _____
Received by: _____ **Date:** _____ **Time:** _____

LAB USE ONLY
Intact Y N
Headspace Y N
Temp °

REMARKS: 7/1/02

Check If Special Reporting Limits Are Needed

ANALYSIS REQUEST
(Circle or Specify Method No.)

MTBE 8021B/602	✓
BTEX 8021B/602	✓
PAH 8270C	✓
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	✓
TCLP Volatiles	✓
TCLP Semi Volatiles	✓
TCLP Pesticides	✓
FCI	✓
GC/MS Vol. 8260B/624	✓
GC/MS Sem. Vol. 8270C/625	✓
PCBs 8082/608	✓
Pesticides 8081A/608	✓
BOD, TSS, pH	✓
CHLORIDES	✓

Turn Around Time if different from standard

Carrier # TNM90902821-8848
Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.
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JUL 30 2002

TRACE ANALYSIS, INC.

Environmental Bureau

Oil Conservation Division

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
915•585•3443

FAX 915•794•1298
FAX 915•585•4944

Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Invoice # **53276**

Invoice Date: Jul 22, 2002

Order ID: A02061403

Attn: **Martyne Kieling** 2nd COPY

Project #:	Goodwin Treating Plant	
Project Name:	Goodwin	P.A. Number: 20-521-07-02497
Project Location:	Redwood Tanks	

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	4	Soil	199295 - 199298	\$40.00	\$160.00
BTEX/TPH GRO	4	Soil	199295 - 199298	\$60.00	\$240.00
<i>Payment Terms: Net 30 Days</i>				Total	\$400.00

Director, Dr. Blair Leftwich

OK to pay my
8-19-02

TraceAnalysis, Inc.

6701 Aberdeen Ave., Suite 9

Lubbock, TX 79424-1515

(806) 794-1296

Report Date: June 18, 2002 Order Number: A02061403

Page Number: 1 of 1

Goodwin Treating Plant

Goodwin

Redwood Tanks

Summary Report

RECEIVED

Martyne Kieling
OCD
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

JUN 24 2002

Environmental Bureau
Oil Conservation Division

Report Date: June 18, 2002

Order ID Number: A02061403

Project Number: Goodwin Treating Plant
Project Name: Goodwin
Project Location: Redwood Tanks

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
199295	061002-09	Soil	6/10/02	9:15	6/14/02
199296	061002-10	Soil	6/10/02	9:18	6/14/02
199297	061002-11	Soil	6/10/02	9:25	6/14/02
199298	061002-12	Soil	6/10/02	9:28	6/14/02

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 - Field Code	BTEX					TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)		
199295 - 061002-09	<0.010	0.014	0.0107	0.0117	0.0364	64.7	<1
199296 - 061002-10	<0.010	<0.010	0.0102	0.0104	0.0206	<50.0	<1
199297 - 061002-11	<0.010	<0.010	<0.010	<0.010	<0.010	57.2	<1
199298 - 061002-12	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1

This is only a summary. Please, refer to the complete report package for quality control data.



TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
 155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
 E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Martyne Kieling
 OCD
 1220 S. Saint Francis Dr.
 Santa Fe, NM 87505

Report Date: June 18, 2002

Order ID Number: A02061403

Project Number: Goodwin Treating Plant
 Project Name: Goodwin
 Project Location: Redwood Tanks

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
199295	061002-09	Soil	6/10/02	9:15	6/14/02
199296	061002-10	Soil	6/10/02	9:18	6/14/02
199297	061002-11	Soil	6/10/02	9:25	6/14/02
199298	061002-12	Soil	6/10/02	9:28	6/14/02

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. The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

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.

 Dr. Blair Leftwich, Director

Analytical Report

Sample: 199295 - 061002-09

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21110 Date Analyzed: 6/17/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20089 Date Prepared: 6/17/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		0.014	mg/Kg	10	0.001
Ethylbenzene		0.0107	mg/Kg	10	0.001
M,P,O-Xylene		0.0117	mg/Kg	10	0.001
Total BTEX		0.0364	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.990	mg/Kg	10	1	99	70 - 130
4-BFB		0.930	mg/Kg	10	1	93	70 - 130

Sample: 199295 - 061002-09

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21067 Date Analyzed: 6/14/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20064 Date Prepared: 6/14/02

Param	Flag	Result	Units	Dilution	RDL
DRO		64.7	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		138	mg/Kg	1	150	92	70 - 130

Sample: 199295 - 061002-09

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21111 Date Analyzed: 6/17/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20089 Date Prepared: 6/17/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.818	mg/Kg	10	0.10	82	70 - 130
4-BFB		0.843	mg/Kg	10	0.10	84	70 - 130

Sample: 199296 - 061002-10

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21110 Date Analyzed: 6/17/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20089 Date Prepared: 6/17/02

Report Date: June 18, 2002
Goodwin Treating Plant

Order Number: A02061403
Goodwin

Page Number: 3 of 10
Redwood Tanks

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		0.0102	mg/Kg	10	0.001
M,P,O-Xylene		0.0104	mg/Kg	10	0.001
Total BTEX		0.0206	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.02	mg/Kg	10	1	102	70 - 130
4-BFB		0.938	mg/Kg	10	1	94	70 - 130

Sample: 199296 - 061002-10

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21067 Date Analyzed: 6/14/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20064 Date Prepared: 6/14/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		136	mg/Kg	1	150	90	70 - 130

Sample: 199296 - 061002-10

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21111 Date Analyzed: 6/17/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20089 Date Prepared: 6/17/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.822	mg/Kg	10	0.10	82	70 - 130
4-BFB		0.846	mg/Kg	10	0.10	85	70 - 130

Sample: 199297 - 061002-11

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21110 Date Analyzed: 6/17/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20089 Date Prepared: 6/17/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.992	mg/Kg	10	1	99	70 - 130
4-BFB		0.952	mg/Kg	10	1	95	70 - 130

Sample: 199297 - 061002-11

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21067 Date Analyzed: 6/14/02
 Analyst: MM Preparation Method: 3550 B Prep Batch: PB20064 Date Prepared: 6/14/02

Param	Flag	Result	Units	Dilution	RDL
DRO		57.2	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		132	mg/Kg	1	150	88	70 - 130

Sample: 199297 - 061002-11

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21111 Date Analyzed: 6/17/02
 Analyst: CG Preparation Method: 5035 Prep Batch: PB20089 Date Prepared: 6/17/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.828	mg/Kg	10	0.10	83	70 - 130
4-BFB		0.845	mg/Kg	10	0.10	84	70 - 130

Sample: 199298 - 061002-12

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21110 Date Analyzed: 6/17/02
 Analyst: CG Preparation Method: S 5035 Prep Batch: PB20089 Date Prepared: 6/17/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.960	mg/Kg	10	1	96	70 - 130
4-BFB		0.922	mg/Kg	10	1	92	70 - 130

Report Date: June 18, 2002
Goodwin Treating Plant

Order Number: A02061403
Goodwin

Page Number: 5 of 10
Redwood Tanks

Sample: 199298 - 061002-12

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21067 Date Analyzed: 6/14/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20064 Date Prepared: 6/14/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		144	mg/Kg	1	150	96	70 - 130

Sample: 199298 - 061002-12

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21111 Date Analyzed: 6/17/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20089 Date Prepared: 6/17/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.798	mg/Kg	10	0.10	80	70 - 130
4-BFB		0.823	mg/Kg	10	0.10	82	70 - 130

**Quality Control Report
 Method Blank**

Method Blank QCBatch: QC21067

Param	Flag	Results	Units	Reporting Limit
DRO		<50.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		139	mg/Kg	1	150	92	70 - 130

Method Blank QCBatch: QC21110

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.13	mg/Kg	10	1	113	70 - 130
4-BFB		1.03	mg/Kg	10	1	103	70 - 130

Method Blank QCBatch: QC21111

Param	Flag	Results	Units	Reporting Limit
GRO		<1	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.08	mg/Kg	10	0.10	108	70 - 130
4-BFB		0.937	mg/Kg	10	0.10	94	70 - 130

**Quality Control Report
 Lab Control Spikes and Duplicate Spikes**

Laboratory Control Spikes QCBatch: QC21067

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	218	216	mg/Kg	1	250	<50.0	87	0	70 - 130	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
n-Triacontane	136	133	mg/Kg	1	150	90	88	70 - 130

Laboratory Control Spikes QCBatch: QC21110

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.01	1.13	mg/Kg	10	1	<0.010	101	11	70 - 130	20
Benzene	1.03	1.05	mg/Kg	10	1	<0.010	103	1	70 - 130	20
Toluene	1	1.02	mg/Kg	10	1	<0.010	100	1	70 - 130	20
Ethylbenzene	1.01	1.02	mg/Kg	10	1	<0.010	101	0	70 - 130	20
M,P,O-Xylene	2.92	2.96	mg/Kg	10	3	<0.010	97	1	70 - 130	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	1.13	1.13	mg/Kg	10	1	113	113	70 - 130
4-BFB	1.04	1.06	mg/Kg	10	1	104	106	70 - 130

Laboratory Control Spikes QCBatch: QC21111

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	9.5	9.55	mg/Kg	10	1	<1	95	0	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	0.978	0.958	mg/Kg	10	0.10	98	96	70 - 130
4-BFB	1.01	0.987	mg/Kg	10	0.10	101	99	70 - 130

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes QCBatch: QC21067

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	209	197	mg/Kg	1	250	<50.0	83	5	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	127	127	mg/Kg	1	150	84	84	70 - 130

Matrix Spikes QCBatch: QC21110

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.99	0.919	mg/Kg	10	1	<0.010	99	7	70 - 130	20
Toluene	0.986	0.911	mg/Kg	10	1	0.014	97	8	70 - 130	20
Ethylbenzene	0.992	0.92	mg/Kg	10	1	0.0107	98	7	70 - 130	20
M,P,O-Xylene	2.88	2.66	mg/Kg	10	3	0.0117	95	7	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	1.05	0.972	mg/Kg	10	1	105	97	70 - 130
4-BFB	1.02	0.936	mg/Kg	10	1	102	93	70 - 130

Matrix Spikes QCBatch: QC21111

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	11.1	8.8	mg/Kg	10	1	<1	111	23	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	1.14	0.832	mg/Kg	10	0.10	114	83	70 - 130
4-BFB	0.876	0.888	mg/Kg	10	0.10	88	89	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV (1) QCBatch: QC21067

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	245	98	75 - 125	6/14/02

ICV (1) QCBatch: QC21067

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	220	88	75 - 125	6/14/02

CCV (1) QCBatch: QC21110

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	85 - 115	6/17/02
Benzene		mg/L	0.10	0.101	101	85 - 115	6/17/02
Toluene		mg/L	0.10	0.0996	99	85 - 115	6/17/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	6/17/02
M,P,O-Xylene		mg/L	0.30	0.293	97	85 - 115	6/17/02

CCV (2) QCBatch: QC21110

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.106	106	85 - 115	6/17/02
Benzene		mg/L	0.10	0.104	104	85 - 115	6/17/02
Toluene		mg/L	0.10	0.109	109	85 - 115	6/17/02
Ethylbenzene		mg/L	0.10	0.101	101	85 - 115	6/17/02
M,P,O-Xylene		mg/L	0.30	0.304	101	85 - 115	6/17/02

ICV (1) QCBatch: QC21110

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0975	98	85 - 115	6/17/02
Benzene		mg/L	0.10	0.104	104	85 - 115	6/17/02
Toluene		mg/L	0.10	0.101	101	85 - 115	6/17/02
Ethylbenzene		mg/L	0.10	0.102	102	85 - 115	6/17/02
M,P,O-Xylene		mg/L	0.30	0.295	98	85 - 115	6/17/02

CCV (1) QCBatch: QC21111

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	1.14	114	85 - 115	6/17/02

ICV (1) QCBatch: QC21111

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.946	94	85 - 115	6/17/02

TRACE ANALYSIS, INC.

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Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Invoice # **53218**

Invoice Date: **Jul 23, 2002**

Attn: **Martyne Kieling** 2nd COPY

Order ID: **A02061012**

Project #: 2-517-000051
Project Name: Goodwin Treating Plant
Project Location: 8 Miles West of Hobbs, NM

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	8	Soil	198916 - 198923	\$40.00	\$320.00
BTEX/TPH GRO	8	Soil	198916 - 198923	\$60.00	\$480.00
<i>Payment Terms: Net 30 Days</i>				Total	\$800.00



Director, Dr. Blair Leftwich

OK to pay
8-19-02

Report Date: June 19, 2002 Order Number: A02061012
 2-517-000051 Goodwin Treating Plant

Page Number: 1 of 1
 8 Miles West of Hobbs, NM

Summary Report

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JUN 24 2002

Environmental Bureau
 Oil Conservation Division

Report Date: June 19, 2002

Order ID Number: A02061012

Martyne Kieling
 OCD Hobbs Office
 1625 N. French Drive
 Hobbs, NM 88240

Project Number: 2-517-000051
 Project Name: Goodwin Treating Plant
 Project Location: 8 Miles West of Hobbs, NM

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
198916	060502-01	Soil	6/5/02	8:45	6/8/02
198917	060502-02	Soil	6/5/02	10:40	6/8/02
198918	060502-03	Soil	6/5/02	12:10	6/8/02
198919	060502-04	Soil	6/5/02	13:30	6/8/02
198920	060502-05	Soil	6/7/02	8:25	6/8/02
198921	060502-06	Soil	6/7/02	8:30	6/8/02
198922	060502-07	Soil	6/7/02	9:25	6/8/02
198923	060502-08	Soil	6/7/02	9:35	6/8/02

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 - Field Code	TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
198916 - 060502-01	<50.0	<1
198917 - 060502-02	171	12.7
198918 - 060502-03	122	2.86
198919 - 060502-04	<50.0	<1
198920 - 060502-05	<50.0	<1
198921 - 060502-06	59.4	<1
198922 - 060502-07	<50.0	<1
198923 - 060502-08	<50.0	<1

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 155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
 E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Martyne Kieling
 OCD Hobbs Office
 1625 N. French Drive
 Hobbs, NM 88240

Report Date: June 19, 2002

Order ID Number: A02061012

Project Number: 2-517-000051
 Project Name: Goodwin Treating Plant
 Project Location: 8 Miles West of Hobbs, NM

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
198916	060502-01	Soil	6/5/02	8:45	6/8/02
198917	060502-02	Soil	6/5/02	10:40	6/8/02
198918	060502-03	Soil	6/5/02	12:10	6/8/02
198919	060502-04	Soil	6/5/02	13:30	6/8/02
198920	060502-05	Soil	6/7/02	8:25	6/8/02
198921	060502-06	Soil	6/7/02	8:30	6/8/02
198922	060502-07	Soil	6/7/02	9:25	6/8/02
198923	060502-08	Soil	6/7/02	9:35	6/8/02

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.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

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.



Dr. Blair Leftwich, Director

Analytical Report

Sample: 198916 - 060502-01

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21017 Date Analyzed: 6/12/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20017 Date Prepared: 6/12/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		204	mg/Kg	1	150	102	70 - 130

Sample: 198916 - 060502-01

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21158 Date Analyzed: 6/18/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20133 Date Prepared: 6/18/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.889	mg/Kg	10	0.10	89	70 - 130
4-BFB		0.84	mg/Kg	10	0.10	84	70 - 130

Sample: 198917 - 060502-02

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21017 Date Analyzed: 6/12/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20017 Date Prepared: 6/12/02

Param	Flag	Result	Units	Dilution	RDL
DRO		171	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		214	mg/Kg	1	150	107	70 - 130

Sample: 198917 - 060502-02

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21158 Date Analyzed: 6/18/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20133 Date Prepared: 6/18/02

Param	Flag	Result	Units	Dilution	RDL
GRO		12.7	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.04	mg/Kg	10	0.10	104	70 - 130
4-BFB		1.1	mg/Kg	10	0.10	110	70 - 130

Sample: 198918 - 060502-03

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21017 Date Analyzed: 6/12/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20017 Date Prepared: 6/12/02

Param	Flag	Result	Units	Dilution	RDL
DRO		122	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		208	mg/Kg	1	150	104	70 - 130

Sample: 198918 - 060502-03

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21158 Date Analyzed: 6/18/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20133 Date Prepared: 6/18/02

Param	Flag	Result	Units	Dilution	RDL
GRO		2.86	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.899	mg/Kg	10	0.10	90	70 - 130
4-BFB		0.886	mg/Kg	10	0.10	89	70 - 130

Sample: 198919 - 060502-04

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21017 Date Analyzed: 6/12/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20017 Date Prepared: 6/12/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		204	mg/Kg	1	150	102	70 - 130

Sample: 198919 - 060502-04

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21158 Date Analyzed: 6/18/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20133 Date Prepared: 6/18/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.773	mg/Kg	10	0.10	77	70 - 130
4-BFB		0.759	mg/Kg	10	0.10	76	70 - 130

Sample: 198920 - 060502-05

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21017 Date Analyzed: 6/12/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20017 Date Prepared: 6/12/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		208	mg/Kg	1	150	104	70 - 130

Sample: 198920 - 060502-05

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21158 Date Analyzed: 6/18/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20133 Date Prepared: 6/18/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.802	mg/Kg	10	0.10	80	70 - 130
4-BFB		0.801	mg/Kg	10	0.10	80	70 - 130

Sample: 198921 - 060502-06

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21017 Date Analyzed: 6/12/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20017 Date Prepared: 6/12/02

Param	Flag	Result	Units	Dilution	RDL
DRO		59.4	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		208	mg/Kg	1	150	104	70 - 130

Sample: 198921 - 060502-06

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21158 Date Analyzed: 6/18/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20133 Date Prepared: 6/18/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.21	mg/Kg	10	0.10	121	70 - 130
4-BFB	1	0.659	mg/Kg	10	0.10	66	70 - 130

Sample: 198922 - 060502-07

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21017 Date Analyzed: 6/12/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20017 Date Prepared: 6/12/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		207	mg/Kg	1	150	103	70 - 130

Sample: 198922 - 060502-07

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21158 Date Analyzed: 6/18/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20133 Date Prepared: 6/18/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	2	0.462	mg/Kg	10	0.10	46	70 - 130
4-BFB	3	.453	mg/Kg	10	0.10	45	70 - 130

Sample: 198923 - 060502-08

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21017 Date Analyzed: 6/12/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20017 Date Prepared: 6/12/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

¹Low surrogate recovery due to matrix interference. ICV, CCV, LCS, LCSD show the method to be in control.

²Low surrogate recovery due to matrix interference. ICV, CCV, LCS, LCSD show the method to be in control.

³Low surrogate recovery due to matrix interference. ICV, CCV, LCS, LCSD show the method to be in control.

Report Date: June 19, 2002
2-517-000051

Order Number: A02061012
Goodwin Treating Plant

Page Number: 6 of 9
8 Miles West of Hobbs, NM

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		206	mg/Kg	1	150	103	70 - 130

Sample: 198923 - 060502-08

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21158 Date Analyzed: 6/18/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20133 Date Prepared: 6/18/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.715	mg/Kg	10	0.10	71	70 - 130
4-BFB		0.715	mg/Kg	10	0.10	71	70 - 130

Quality Control Report Method Blank

Method Blank QCBatch: QC21017

Param	Flag	Results	Units	Reporting Limit
DRO		<50.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		203	mg/Kg	1	150	101	70 - 130

Method Blank QCBatch: QC21158

Param	Flag	Results	Units	Reporting Limit
GRO		<1	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.105	mg/Kg	10	0.10	105	70 - 130
4-BFB		0.0927	mg/Kg	10	0.10	92	70 - 130

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC21017

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	297	289	mg/Kg	1	250	<50.0	118	2	70 - 130	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
n-Triacontane	205	203	mg/Kg	1	150	102	101	70 - 130

Laboratory Control Spikes QCBatch: QC21158

Continued ...

... Continued

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	< 1	1.12	mg/Kg	10	1	<1	92	19	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	0.0968	0.115	mg/Kg	10	0.10	96	115	70 - 130
4-BFB	0.101	0.101	mg/Kg	10	0.10	101	101	70 - 130

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes QCBatch: QC21017

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	269	272	mg/Kg	1	250	<50.0	107	1	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	197	199	mg/Kg	1	150	98	99	70 - 130

Matrix Spikes QCBatch: QC21158

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	8.12	11.8	mg/Kg	10	1	<1	81	36	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	1.21	1.04	mg/Kg	10	0.10	121	104	70 - 130
4-BFB	0.901	1.1	mg/Kg	10	0.10	90	110	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV (1) QCBatch: QC21017

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	287	115	75 - 125	6/12/02

CCV (2) QCBatch: QC21017

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	290	116	75 - 125	6/12/02

ICV (1) QCBatch: QC21017

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	286	114	75 - 125	6/12/02

CCV (1) QCBatch: QC21158

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.939	93	85 - 115	6/18/02

ICV (1) QCBatch: QC21158

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.903	90	85 - 115	6/18/02

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1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # AD0001012

Company Name: NM OGD Phone #: 505 474-3483
Address: 1625 N. FRENCH HOBBS, NM 88240 Fax #: 505-393-0720
Contact Person: MARTYNE KIELING

Invoice to: (if different from above)
Project #: 2-517-000051 Project Name: GOODWIN TREATING PLANT
Project Location: 8 MILES WEST OF HOBBS, NM Sampler Signature: William H. Mundy

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING		
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE	DATE
198916	060502-01	1	4oz	✓							✓		6/5/02	0845
17	060502-02	1	4oz	✓							✓		6/5/02	1040
18	060502-03	1	4oz	✓							✓		6/5/02	1210
19	060502-04	1	4oz	✓							✓		6/5/02	1330
20	060702-05	1	4oz	✓							✓		6/7/02	0945
21	060702-06	1	4oz	✓							✓		6/7/02	0930
22	060702-07	1	4oz	✓							✓		6/7/02	0925
23	060702-08	1	4oz	✓							✓		6/7/02	0935

Relinquished by: William H. Mundy Date: 6/7/02 Time: 11:00
Received by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____
Received by: _____ Date: _____ Time: _____
Relinquished by: _____ Date: _____ Time: _____
Received at Laboratory by: Martine Kieling Date: 6-8-02 Time: 9:30AM

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 Volatiles	✓
TCLP Semi Volatiles	✓
TCLP Pesticides	✓
FCI	✓
GC/MS Vol. 8260B/624	✓
GC/MS Semi. Vol. 8270C/625	✓
PCBs 8082/608	✓
Pesticides 8081A/608	✓
BOD, TSS, pH	✓

REMARKS: _____

LAB USE ONLY

Intact Y / N
Headspace Y / N
Temp 1 °
Log-in Review M

Carrier # Stephannal 63-566-828-7

4/19 F/P DEO 6/17

Check If Special Reporting Limits Are Needed

Submital of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C.
ORIGINAL COPY

TRACE ANALYSIS, INC.

6701 Aberdeen Avenue, Suite 9
155 McCutcheon, Suite H

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El Paso, Texas 79932

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FAX 806•794•1298
FAX 915•585•4944

E-Mail: lab@traceanalysis.com

Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Invoice # 53276

Invoice Date: **Jun 19, 2002**

Order ID: **A02061403**

Attn: **Martyne Kieling**

Project #: **Goodwin Treating Plant**

Project Name: **Goodwin**

P.A. Number: 20-521-07-02497

Project Location: **Redwood Tanks**

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	4	Soil	199295 - 199298	\$40.00	\$160.00
BTEX/TPH GRO	4	Soil	199295 - 199298	\$60.00	\$240.00
<i>Payment Terms: Net 30 Days</i>				Total	\$400.00

Director, Dr. Blair Leftwich

OK to pay 7-24-02
mjk

TRACE ANALYSIS, INC

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E-Mail: lab@traceanalysis.com

Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Invoice # 53605

Invoice Date: July 09, 2001

Order ID:

Attn: **Martyne Kieling**

Project #: 2-517-000051 Goodwin Treating Plant

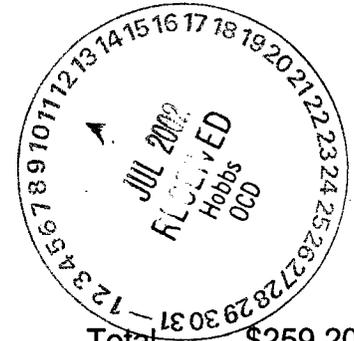
Project Name: Goodwin

P. A. Number: 20-521-07-02497

Project Location: Redwood Tanks

Test	Quantity	Matrix	Description	Price	SubTotal
Heterotrophic Plate Count/Diesel Degrading Bacteria/Heavy Oil Degrading Bacteria/Chlorides Analysis					\$259.20
				Total	\$259.20

Payment Terms: Net 30 Days



Director, Dr. Blair Leftwich

*OK to pay Martyne Kieling
7-22-02*

BioLogic Resources, LLC

6950 SW Juniper Terrace

Beaverton, OR 97008

Phone 503.720.3876

Fax 503.646.5322

For: Trace Analysis
6701 Aberdeen Ave., Suite 9
Lubbock, TX 79424

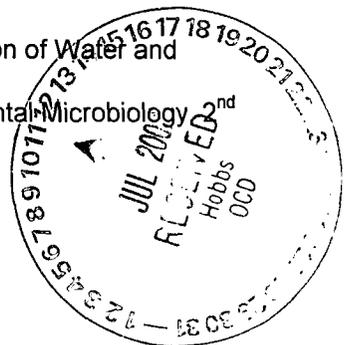
Received: 06.13.02
Tested: 06.13.02
Completed: 06.23.02

Lab #	Sample	Heterotrophic Plate Count CFU/g	Diesel Degrading Bacteria CFU/g	Heavy Oil Degrading Bacteria CFU/g	Chlorides mg/kg
TA001	Goodwin Plant 061002 - Comp 1 6-11-02 0938	9.1×10^6	7.1×10^6	6.7×10^6	3,900
TA002	Goodwin Plant 061002 - Comp 2 6-11-02 0945	5.6×10^7	4.5×10^6	2.7×10^6	2,900

Project #: 2-517-000051
NMOCD via AMEC Earth & Environmental

Samples were run in strict accordance with the following methodologies:

1. Heterotrophic Plate Count: Standard Methods for the Examination of Water and Wastewater, 20th Edition, Method 9215B
2. Diesel and Heavy Oil Degrading Bacteria: Manual of Environmental Microbiologynd Edition, Chapter 84
3. Chlorides: Halogens by Ion Chromatography, Method SW9056



Kim W. Hutchinson
Microbiologist/Principal

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CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A02061403

Company Name: NM OGD
(Street, City, Zip)
Address: 1625 N. FRENCH DRIVE HOODS, NM 88240

Contact Person: MARTYNE KIELING

Phone #: 505 476-3488

Fax #: 505 476-3488

Project Name: GOBBIN TREATING PLANT

Sampler Signature: William H. Murley

Project Location: 8 miles west of Hoods, NM

AB # (B USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING DATE	SAMPLING TIME	
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH			ICE
9295	061002-09	1	4oz	✓						✓			6/10/02	09:55
976	061002-10	1	4oz	✓						✓			6/10/02	09:18
977	061002-11	1	4oz	✓						✓			6/10/02	09:25
978	061002-12	1	4oz	✓						✓			6/10/02	09:28
	061002-Comp 1	1	4oz	✓						✓			6/10/02	09:38
	061002-Comp 2	1	4oz	✓						✓			6/10/02	09:45

Quished by:	Date:	Time:	Received by:	Date:	Time:
<u>Will Murley</u>	<u>6/11/02</u>	<u>1008</u>	<u>Mark Ehrlich</u>	<u>6/11/02</u>	<u>1008</u>
<u>Mark Ehrlich</u>	<u>6/13/02</u>	<u>8:30</u>	<u>Helen Shelton</u>	<u>6/13/02</u>	<u>8:30</u>
<u>Helen Shelton</u>	<u>6/13/02</u>	<u>8:30</u>	<u>Mell Green</u>	<u>6-14-02</u>	<u>9:30am</u>

ANALYSIS REQUEST

(Circle or Specify Method No.)

<input checked="" type="checkbox"/>	MTBE 8021B/602	
<input checked="" type="checkbox"/>	BTEX (8021B/602)	
<input checked="" type="checkbox"/>	TPH 418.1/TX1005	<u>Bois Gas P&O</u>
<input checked="" type="checkbox"/>	PAH 8270C	
<input type="checkbox"/>	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	
<input type="checkbox"/>	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
<input type="checkbox"/>	TCLP Volatiles	
<input type="checkbox"/>	TCLP Semi Volatiles	
<input type="checkbox"/>	TCLP Pesticides	
<input type="checkbox"/>	RCI	
<input type="checkbox"/>	GC/MS Vol. 8260B/624	
<input type="checkbox"/>	GC/MS Semi. Vol. 8270C/625	
<input type="checkbox"/>	PCB's 8082/608	
<input type="checkbox"/>	Pesticides 8081A/608	
<input type="checkbox"/>	BOD, TSS, pH	
<input type="checkbox"/>	Turn Around Time if different from standard	

LAB USE ONLY

Intact: Y / N
 Headspace: Y / N
 Temp: 2
 Log-in Review: MS

REMARKS:

6/10 FIP

Check if Special Reporting Limits Are Needed

Carrier # Key found G.L.I. 163-566-762-7

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Invoice # **53564**

Invoice Date: **Jul 8, 2002**

Order ID: **A02062616**

Attn: **Wayne Price**

Project #: **2-517-000051**

Project Name: **Goodwin Treating Plant** **P.A. Number:** **20-521-07-02497**

Project Location: **8 Miles West of Hobbs, NM**

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	12	Soil	200156 - 200167	\$40.00	\$480.00
BTEX /TPH GRO	12	Soil	200156 - 200167	\$60.00	\$720.00
Payment Terms: Net 30 Days				Total	\$1,200.00



Director, Dr. Blair Leftwich

OK to pay Marjorie Kichig 7-22-02

Report Date: July 9, 2002 Order Number: A02062616
2-517-000051 Goodwin Treating Plant

Page Number: 1 of 1
8 Miles West of Hobbs, NM

Summary Report

Martyne Kieling
OCD Hobbs Office
1625 N. French Drive
Hobbs, NM 88240

Report Date: July 9, 2002

Order ID Number: A02062616

Project Number: 2-517-000051
Project Name: Goodwin Treating Plant
Project Location: 8 Miles West of Hobbs, NM

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
200156	062502-1	Soil	6/25/02	10:50	6/26/02
200157	062502-2	Soil	6/25/02	10:54	6/26/02
200158	062502-3	Soil	6/25/02	11:00	6/26/02
200159	062502-4	Soil	6/25/02	11:04	6/26/02
200160	062502-5	Soil	6/25/02	11:10	6/26/02
200161	062502-6	Soil	6/25/02	11:14	6/26/02
200162	062502-7	Soil	6/25/02	11:17	6/26/02
200163	062502-8	Soil	6/25/02	11:20	6/26/02
200164	062502-24	Soil	6/25/02	12:30	6/26/02
200165	062502-22	Soil	6/25/02	12:17	6/26/02
200166	062502-23	Soil	6/25/02	12:20	6/26/02
200167	062502-25	Soil	6/25/02	15:20	6/26/02

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 - Field Code	BTEX					TPH DRO	TPH GRO
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)	DRO (ppm)	GRO (ppm)
200156 - 062502-1	<0.010	0.126	0.0364	0.032	0.194	<50.0	1.23
200157 - 062502-2	<0.010	<0.010	<0.010	0.0172	0.0172	125	1.55
200158 - 062502-3	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200159 - 062502-4	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200160 - 062502-5	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200161 - 062502-6	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200162 - 062502-7	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200163 - 062502-8	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200164 - 062502-24	<0.010	<0.010	0.0104	0.0109	0.0213	<50.0	<1
200165 - 062502-22	<0.010	<0.010	<0.010	0.0104	0.0104	<50.0	<1
200166 - 062502-23	<0.010	<0.010	0.0104	0.012	0.0224	<50.0	<1
200167 - 062502-25	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1

This is only a summary. Please, refer to the complete report package for quality control data.

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

Trace Analysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # AP2002016

Company Name: NMOC Phone #: 505-476-3488
 Address: (Street, City, Zip) 1625 N. French Drive, Hobbs NM 88240 Fax #: 88240
 Contact Person: Martayne Kieling

Invoice to: (If different from above)
 Project #: 2-517-000051 Project Name: Crocodino Treating Plant
 Project Location: 8 miles West of Hobbs, NM Sampler Signature: Mark Eubank

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX			PRESERVATIVE METHOD					SAMPLING	
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE
200154	062502-1	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/25/02	1050
51	062502-2	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/25/02	1054
58	062502-3	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/25/02	1100
59	062502-4	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/24/02	1104
60	062502-5	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/25/02	1110
61	062502-6	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/25/02	1114
62	062502-7	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/25/02	1117
63	062502-8	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/25/02	1120
64	062502-24	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/25/02	1230
65	062502-22	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/25/02	1217
66	062502-23	1	4oz	✓	✓	✓	✓	✓	✓	✓	✓	6/25/02	1220

Relinquished by: Mark Eubank Date: 6-25-02 Time: 1740
 Relinquished by: Mark Eubank Date: 6/25/02 Time: 1830
 Relinquished by: Mark Eubank Date: 6/26/02 Time: 10:00

ANALYSIS REQUEST

(Circle or Specify Method No.)

PAH 8270C	
Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/2007	
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	
Turn Around Time if different from standard	

LAB USE ONLY
 Intact N
 Headspace Y/N
 Temp < 4
 Log-in Review 10/11
 REMARKS: per martayne, run BTEX, GROUDED
 7/11
 719FIP
 Check if Special Reporting Limits Are Needed

Carrier # Shelton 163-566-890-3
 ORIGINAL COPY
 Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C. 11 Samples

6701 Aberdeen Avenue, Ste. 9
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Trace Analysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

Company Name: NMOC D Phone #: 505-476-5488

Address: 1625 N. French Dr. Hobbs NM 88240 Fax #: 505-476-5488

Contact Person: Martynae Krieling

Voice to: 2-517-00051
different from above

Project #: 2-517-00051

Project Location: 3 mi. W. of Hobbs NM

Project Name: Goodwin Treating Plant

Sampler Signature: Mark Chubb

LAB #	LAB USE ONLY	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX			PRESERVATIVE METHOD					SAMPLING			
					WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE	DATE	TIME
100167		062502-25	1	4oz	✓							✓			6/25/02	1740

Quinched by: Mark Chubb Date: 6/25/02 Time: 1740
Received by: Helen Helton Date: 6/25/02 Time: 1740

Quinched by: Helen Helton Date: 6/25/02 Time: 1830
Received by: Judy Duns Date: 6/25/02 Time: 1830

Quinched by: Judy Duns Date: 6/25/02 Time: 1830
Received at Laboratory by: Judy Duns Date: 6/25/02 Time: 1830

Submission of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C. 1 sample - HS

ORIGINAL COPY

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # _____

ANALYSIS REQUEST

(Circle or Specify Method No.)

<input type="checkbox"/>	MTBE 8021B/602	
<input checked="" type="checkbox"/>	BTEX 8021B/602	
<input checked="" type="checkbox"/>	TPH 418.1/TX1005	8015M
<input type="checkbox"/>	PAH 8270C	
<input type="checkbox"/>	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	
<input type="checkbox"/>	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	
<input type="checkbox"/>	TCLP Volatiles	
<input type="checkbox"/>	TCLP Semi Volatiles	
<input type="checkbox"/>	TCLP Pesticides	
<input type="checkbox"/>	RCI	
<input type="checkbox"/>	GC/MS Vol. 8260B/624	
<input type="checkbox"/>	GC/MS Semi. Vol. 8270C/625	
<input type="checkbox"/>	PCB's 8082/608	
<input type="checkbox"/>	Pesticides 8081A/608	
<input type="checkbox"/>	BOD, TSS, pH	
<input type="checkbox"/>	Turn Around Time if different from standard	

REMARKS:

LAB USE ONLY

Intact Y / N _____
 Headspace Y / N _____
 Temp < 4 °C _____
 Log-in Review M
 Carrier # 163-566-810-3

Check If Special Reporting Limits Are Needed

Mark Chubb

Report Date: July 9, 2002 Order Number: A02062616
2-517-000051 Goodwin Treating Plant

Page Number: 1 of 1
8 Miles West of Hobbs, NM

Summary Report

Martyne Kieling
OCD Hobbs Office
1625 N. French Drive
Hobbs, NM 88240

Report Date: July 9, 2002

Order ID Number: A02062616

Project Number: 2-517-000051
Project Name: Goodwin Treating Plant
Project Location: 8 Miles West of Hobbs, NM

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
200156	062502-1	Soil	6/25/02	10:50	6/26/02
200157	062502-2	Soil	6/25/02	10:54	6/26/02
200158	062502-3	Soil	6/25/02	11:00	6/26/02
200159	062502-4	Soil	6/25/02	11:04	6/26/02
200160	062502-5	Soil	6/25/02	11:10	6/26/02
200161	062502-6	Soil	6/25/02	11:14	6/26/02
200162	062502-7	Soil	6/25/02	11:17	6/26/02
200163	062502-8	Soil	6/25/02	11:20	6/26/02
200164	062502-24	Soil	6/25/02	12:30	6/26/02
200165	062502-22	Soil	6/25/02	12:17	6/26/02
200166	062502-23	Soil	6/25/02	12:20	6/26/02
200167	062502-25	Soil	6/25/02	15:20	6/26/02

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 - Field Code	BTEX					TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)		
200156 - 062502-1	<0.010	0.126	0.0364	0.032	0.194	<50.0	1.23
200157 - 062502-2	<0.010	<0.010	<0.010	0.0172	0.0172	<50.0	1.55
200158 - 062502-3	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200159 - 062502-4	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200160 - 062502-5	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200161 - 062502-6	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200162 - 062502-7	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200163 - 062502-8	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1
200164 - 062502-24	<0.010	<0.010	0.0104	0.0109	0.0213	<50.0	<1
200165 - 062502-22	<0.010	<0.010	<0.010	0.0104	0.0104	<50.0	<1
200166 - 062502-23	<0.010	<0.010	0.0104	0.012	0.0224	<50.0	<1
200167 - 062502-25	<0.010	<0.010	<0.010	<0.010	<0.010	<50.0	<1

This is only a summary. Please, refer to the complete report package for quality control data.



6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298
 155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
 E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Martyne Kieling
 OCD Hobbs Office
 1625 N. French Drive
 Hobbs, NM 88240

Report Date: July 8, 2002

Order ID Number: A02062616

Project Number: 2-517-000051
 Project Name: Goodwin Treating Plant
 Project Location: 8 Miles West of Hobbs, NM

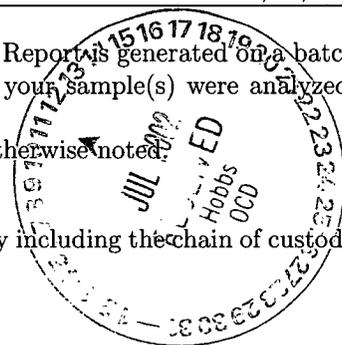
Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
200156	062502-1	Soil	6/25/02	10:50	6/26/02
200157	062502-2	Soil	6/25/02	10:54	6/26/02
200158	062502-3	Soil	6/25/02	11:00	6/26/02
200159	062502-4	Soil	6/25/02	11:04	6/26/02
200160	062502-5	Soil	6/25/02	11:10	6/26/02
200161	062502-6	Soil	6/25/02	11:14	6/26/02
200162	062502-7	Soil	6/25/02	11:17	6/26/02
200163	062502-8	Soil	6/25/02	11:20	6/26/02
200164	062502-24	Soil	6/25/02	12:30	6/26/02
200165	062502-22	Soil	6/25/02	12:17	6/26/02
200166	062502-23	Soil	6/25/02	12:20	6/26/02
200167	062502-25	Soil	6/25/02	15:20	6/26/02

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.

The test results contained within this report meet all requirements of LAC 33:1 unless otherwise noted.

This report consists of a total of 21 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: 200156 - 062502-1

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21385 Date Analyzed: 6/26/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20317 Date Prepared: 6/25/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		0.126	mg/Kg	10	0.001
Ethylbenzene		0.0364	mg/Kg	10	0.001
M,P,O-Xylene		0.032	mg/Kg	10	0.001
Total BTEX		0.194	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.21	mg/Kg	10	1	121	70 - 130
4-BFB		0.901	mg/Kg	10	1	90	70 - 130

Sample: 200156 - 062502-1

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

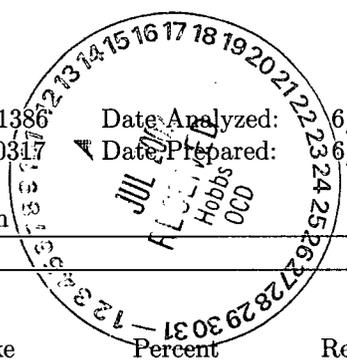
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		110	mg/Kg	1	150	73	70 - 130

Sample: 200156 - 062502-1

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21386 Date Analyzed: 6/26/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20317 Date Prepared: 6/25/02

Param	Flag	Result	Units	Dilution	RDL
GRO		1.23	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	¹	1.48	mg/Kg	10	0.10	148	70 - 130
4-BFB		0.821	mg/Kg	10	0.10	82	70 - 130



¹High surrogate due to peak interference.

Sample: 200157 - 062502-2

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21385 Date Analyzed: 6/26/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20317 Date Prepared: 6/25/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		0.0172	mg/Kg	10	0.001
Total BTEX		0.0172	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.943	mg/Kg	10	1	94	70 - 130
4-BFB		0.815	mg/Kg	10	1	81	70 - 130

Sample: 200157 - 062502-2

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		125	mg/Kg	1	50

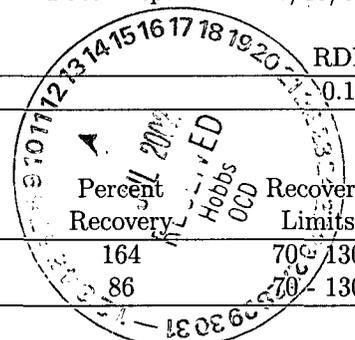
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		115	mg/Kg	1	150	77	70 - 130

Sample: 200157 - 062502-2

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21386 Date Analyzed: 6/26/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20317 Date Prepared: 6/25/02

Param	Flag	Result	Units	Dilution	RDL
GRO		1.55	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	²	1.64	mg/Kg	10	0.10	164	70 - 130
4-BFB		0.862	mg/Kg	10	0.10	86	70 - 130



Sample: 200158 - 062502-3

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21408 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

Continued ...

²High surrogate due to peak interference.

... Continued Sample: 200158 Analysis: BTEX

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.1	mg/Kg	10	1	110	70 - 130
4-BFB		0.873	mg/Kg	10	1	87	70 - 130

Sample: 200158 - 062502-3

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

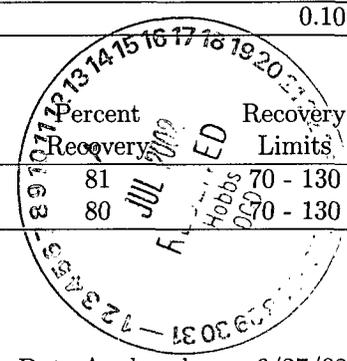
Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		113	mg/Kg	1	150	75	70 - 130

Sample: 200158 - 062502-3

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21409 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.818	mg/Kg	10	0.10	81	70 - 130
4-BFB		0.806	mg/Kg	10	0.10	80	70 - 130



Sample: 200159 - 062502-4

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21408 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001

Continued ...

... Continued Sample: 200159 Analysis: BTEX

Param	Flag	Result	Units	Dilution	RDL
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.985	mg/Kg	10	1	98	70 - 130
4-BFB		0.929	mg/Kg	10	1	92	70 - 130

Sample: 200159 - 062502-4

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		105	mg/Kg	1	150	70	70 - 130

Sample: 200159 - 062502-4

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21409 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.18	mg/Kg	10	0.10	118	70 - 130
4-BFB		0.84	mg/Kg	10	0.10	84	70 - 130

Sample: 200160 - 062502-5

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21408 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.91	mg/Kg	10	1	91	70 - 130
4-BFB		0.832	mg/Kg	10	1	83	70 - 130

Sample: 200160 - 062502-5

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		105	mg/Kg	1	150	70	70 - 130

Sample: 200160 - 062502-5

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21409 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.11	mg/Kg	10	0.10	111	70 - 130
4-BFB		0.759	mg/Kg	10	0.10	75	70 - 130

Sample: 200161 - 062502-6

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21408 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.986	mg/Kg	10	1	98	70 - 130
4-BFB		0.895	mg/Kg	10	1	89	70 - 130

Sample: 200161 - 062502-6

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		110	mg/Kg	1	150	73	70 - 130

Sample: 200161 - 062502-6

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21409 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.833	mg/Kg	10	0.10	83	70 - 130
4-BFB		0.815	mg/Kg	10	0.10	81	70 - 130

Sample: 200162 - 062502-7

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21408 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.07	mg/Kg	10	1	107	70 - 130
4-BFB		0.883	mg/Kg	10	1	88	70 - 130

Sample: 200162 - 062502-7

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		117	mg/Kg	1	150	78	70 - 130

Sample: 200162 - 062502-7

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21409 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.772	mg/Kg	10	0.10	77	70 - 130
4-BFB		0.797	mg/Kg	10	0.10	79	70 - 130

Sample: 200163 - 062502-8

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21408 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.993	mg/Kg	10	1	99	70 - 130
4-BFB		0.907	mg/Kg	10	1	90	70 - 130

Sample: 200163 - 062502-8

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		111	mg/Kg	1	150	74	70 - 130

Sample: 200163 - 062502-8

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21409 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.827	mg/Kg	10	0.10	82	70 - 130
4-BFB		0.816	mg/Kg	10	0.10	81	70 - 130

Sample: 200164 - 062502-24

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21408 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		0.0104	mg/Kg	10	0.001
M,P,O-Xylene		0.0109	mg/Kg	10	0.001
Total BTEX		0.0213	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.907	mg/Kg	10	1	90	70 - 130
4-BFB		0.84	mg/Kg	10	1	84	70 - 130

Sample: 200164 - 062502-24

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		108	mg/Kg	1	150	72	70 - 130

Sample: 200164 - 062502-24

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21409 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.736	mg/Kg	10	0.10	73	70 - 130
4-BFB		0.772	mg/Kg	10	0.10	77	70 - 130

Sample: 200165 - 062502-22

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21408 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		0.0104	mg/Kg	10	0.001
Total BTEX		0.0104	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.914	mg/Kg	10	1	91	70 - 130
4-BFB		0.822	mg/Kg	10	1	82	70 - 130

Sample: 200165 - 062502-22

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		106	mg/Kg	1	150	70	70 - 130

Sample: 200165 - 062502-22

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21409 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.771	mg/Kg	10	0.10	77	70 - 130
4-BFB		0.763	mg/Kg	10	0.10	76	70 - 130

Sample: 200166 - 062502-23

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21408 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		0.0104	mg/Kg	10	0.001
M,P,O-Xylene		0.012	mg/Kg	10	0.001
Total BTEX		0.0224	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.847	mg/Kg	10	1	84	70 - 130
4-BFB		0.787	mg/Kg	10	1	78	70 - 130

Sample: 200166 - 062502-23

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21586 Date Analyzed: 7/2/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20481 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		114	mg/Kg	1	150	76	70 - 130

Sample: 200166 - 062502-23

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21409 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.705	mg/Kg	10	0.10	70	70 - 130
4-BFB		0.701	mg/Kg	10	0.10	70	70 - 130

Sample: 200167 - 062502-25

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21408 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001

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... Continued Sample: 200167 Analysis: BTEX

Param	Flag	Result	Units	Dilution	RDL
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	³	0.687	mg/Kg	10	1	68	70 - 130
4-BFB	⁴	0.632	mg/Kg	10	1	63	70 - 130

Sample: 200167 - 062502-25

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21403 Date Analyzed: 6/27/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20329 Date Prepared: 6/26/02

Param	Flag	Result	Units	Dilution	RDL
DRO		<50.0	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		112	mg/Kg	1	150	75	70 - 130

Sample: 200167 - 062502-25

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21409 Date Analyzed: 6/27/02
Analyst: CG Preparation Method: 5035 Prep Batch: PB20333 Date Prepared: 6/27/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	⁵	0.549	mg/Kg	10	0.10	54	70 - 130
4-BFB	⁶	0.571	mg/Kg	10	0.10	57	70 - 130

³Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

⁴Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

⁵Low surrogate recovery due to matrix interference. ICV,CCV, CCV show the method to be in control.

⁶Low surrogate recovery due to matrix interference. ICV,CCV, CCV show the method to be in control.

Quality Control Report Method Blank

Method Blank QCBatch: QC21385

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.08	mg/Kg	10	1	108	70 - 130
4-BFB		0.978	mg/Kg	10	1	97	70 - 130

Method Blank QCBatch: QC21386

Param	Flag	Results	Units	Reporting Limit
GRO		1.42	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.04	mg/Kg	10	0.10	104	70 - 130
4-BFB		0.904	mg/Kg	10	0.10	90	70 - 130

Method Blank QCBatch: QC21403

Param	Flag	Results	Units	Reporting Limit
DRO		<50	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		235	mg/Kg	1	15	153	70 - 130

Method Blank QCBatch: QC21408

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001

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Param	Flag	Results	Units	Reporting Limit
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.10	mg/Kg	10	1	110	70 - 130
4-BFB		0.980	mg/Kg	10	1	98	70 - 130

Method Blank QCBatch: QC21409

Param	Flag	Results	Units	Reporting Limit
GRO		<1	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.07	mg/Kg	10	0.10	107	70 - 130
4-BFB		0.906	mg/Kg	10	0.10	91	70 - 130

Method Blank QCBatch: QC21586

Param	Flag	Results	Units	Reporting Limit
DRO		<50.0	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		118	mg/Kg	1	150	73	70 - 130

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC21385

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.09	1.08	mg/Kg	10	1	<0.010	109	0	70 - 130	20
Benzene	1.05	1.03	mg/Kg	10	1	<0.010	105	1	70 - 130	20
Toluene	1.02	1.01	mg/Kg	10	1	<0.010	102	0	70 - 130	20
Ethylbenzene	0.988	0.983	mg/Kg	10	1	<0.010	98	0	70 - 130	20

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Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
M,P,O-Xylene	2.88	2.86	mg/Kg	10	3	<0.010	96	0	70 - 130	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	1.05	1.07	mg/Kg	10	1	105	107	70 - 130
4-BFB	1	1.02	mg/Kg	10	1	100	102	70 - 130

Laboratory Control Spikes

QCBatch: QC21403

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	232	228	mg/Kg	1	250	<50	93	2	70 - 130	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
n-Triacontane	112	160	mg/Kg	1	150	75	106	70 - 130

Laboratory Control Spikes

QCBatch: QC21408

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1	0.951	mg/Kg	10	1	<0.010	100	5	70 - 130	20
Benzene	1.02	0.845	mg/Kg	10	1	<0.010	102	18	70 - 130	20
Toluene	1.01	0.822	mg/Kg	10	1	<0.010	101	20	70 - 130	20
Ethylbenzene	0.993	0.812	mg/Kg	10	1	<0.010	99	20	70 - 130	20
M,P,O-Xylene	2.89	2.36	mg/Kg	10	3	<0.010	96	20	70 - 130	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	1.06	0.898	mg/Kg	10	1	106	89	70 - 130
4-BFB	0.999	0.825	mg/Kg	10	1	99	82	70 - 130

Laboratory Control Spikes

QCBatch: QC21409

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	9.1	9.09	mg/Kg	10	1	<1	91	0	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	0.883	0.863	mg/Kg	10	0.10	88	86	70 - 130
4-BFB	0.944	0.935	mg/Kg	10	0.10	94	93	70 - 130

Laboratory Control Spikes QCBatch: QC21586

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	240	225	mg/Kg	1	250	<50.0	96	6	70 - 130	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
n-Triacontane	124	115	mg/Kg	1	150	83	77	70 - 130

Quality Control Report Matrix Spikes and Duplicate Spikes

Matrix Spikes QCBatch: QC21385

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.876	0.696	mg/Kg	10	1	<0.010	87	22	70 - 130	20
Toluene	0.866	0.69	mg/Kg	10	1	<0.010	86	22	70 - 130	20
Ethylbenzene	0.851	0.679	mg/Kg	10	1	<0.010	85	22	70 - 130	20
M,P,O-Xylene	2.46	1.95	mg/Kg	10	3	<0.010	82	23	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	⁷ 0.68	⁸ 0.692	mg/Kg	10	1	68	69	70 - 130
4-BFB	⁹ 0.646	¹⁰ 0.63	mg/Kg	10	1	64	63	70 - 130

Matrix Spikes QCBatch: QC21386

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	15.0	13.5	mg/Kg	10	1	<1.00	150	10	80 - 120	20

⁷Low surrogate recovery due to prep. ICV, CCV show the method to be in control.

⁸Low surrogate recovery due to prep. ICV, CCV show the method to be in control.

⁹Low surrogate recovery due to prep. ICV, CCV show the method to be in control.

¹⁰Low surrogate recovery due to prep. ICV, CCV show the method to be in control.

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	1.12	1.36	mg/Kg	10	0.10	112	136	70 - 130
4-BFB	0.577	0.640	mg/Kg	10	0.10	58	64	70 - 130

Matrix Spikes QCBatch: QC21403

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	226	240	mg/Kg	1	250	<50.0	90	6	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	111	111	mg/Kg	1	150	74	74	70 - 130

Matrix Spikes QCBatch: QC21408

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.872	0.884	mg/Kg	10	1	<0.010	87	1	70 - 130	20
Toluene	0.881	0.891	mg/Kg	10	1	<0.010	88	1	70 - 130	20
Ethylbenzene	0.859	0.874	mg/Kg	10	1	0.0107	84	1	70 - 130	20
M,P,O-Xylene	2.48	2.53	mg/Kg	10	3	0.0165	82	2	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.895	0.916	mg/Kg	10	1	89	91	70 - 130
4-BFB	0.843	0.885	mg/Kg	10	1	84	88	70 - 130

Matrix Spikes QCBatch: QC21409

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	8.94	8.33	mg/Kg	10	1	<1	89	7	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.793	0.75	mg/Kg	10	0.10	79	75	70 - 130
4-BFB	0.876	0.819	mg/Kg	10	0.10	88	82	70 - 130

Matrix Spikes QCBatch: QC21586

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	195	198	mg/Kg	1	250	<50.0	78	2	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
n-Triacontane	98.2	101	mg/Kg	1	150	65	67	70 - 130

Quality Control Report Continuing Calibration Verification Standards

CCV (1) QCBatch: QC21385

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0997	99	85 - 115	6/26/02
Benzene		mg/L	0.10	0.103	103	85 - 115	6/26/02
Toluene		mg/L	0.10	0.1	100	85 - 115	6/26/02
Ethylbenzene		mg/L	0.10	0.0988	98	85 - 115	6/26/02
M,P,O-Xylene		mg/L	0.30	0.288	96	85 - 115	6/26/02

CCV (2) QCBatch: QC21385

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	85 - 115	6/26/02
Benzene		mg/L	0.10	0.102	102	85 - 115	6/26/02
Toluene		mg/L	0.10	0.0991	99	85 - 115	6/26/02
Ethylbenzene		mg/L	0.10	0.0982	98	85 - 115	6/26/02
M,P,O-Xylene		mg/L	0.30	0.284	94	85 - 115	6/26/02

ICV (1) QCBatch: QC21385

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.11	110	85 - 115	6/26/02
Benzene		mg/L	0.10	0.101	101	85 - 115	6/26/02
Toluene		mg/L	0.10	0.0988	98	85 - 115	6/26/02
Ethylbenzene		mg/L	0.10	0.0954	95	85 - 115	6/26/02
M,P,O-Xylene		mg/L	0.30	0.277	92	85 - 115	6/26/02

CCV (1) QCBatch: QC21403

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	224	90	75 - 125	6/27/02

ICV (1) QCBatch: QC21403

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	222	89	75 - 125	6/27/02

CCV (1) QCBatch: QC21408

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	85 - 115	6/27/02
Benzene		mg/L	0.10	0.103	103	85 - 115	6/27/02
Toluene		mg/L	0.10	0.1	100	85 - 115	6/27/02
Ethylbenzene		mg/L	0.10	0.0979	97	85 - 115	6/27/02
M,P,O-Xylene		mg/L	0.30	0.284	94	85 - 115	6/27/02

CCV (2) QCBatch: QC21408

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.106	106	85 - 115	6/27/02
Benzene		mg/L	0.10	0.103	103	85 - 115	6/27/02
Toluene		mg/L	0.10	0.102	102	85 - 115	6/27/02
Ethylbenzene		mg/L	0.10	0.0985	98	85 - 115	6/27/02
M,P,O-Xylene		mg/L	0.30	0.287	95	85 - 115	6/27/02

ICV (1) QCBatch: QC21408

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0975	97	85 - 115	6/27/02
Benzene		mg/L	0.10	0.102	102	85 - 115	6/27/02
Toluene		mg/L	0.10	0.0998	99	85 - 115	6/27/02
Ethylbenzene		mg/L	0.10	0.0974	97	85 - 115	6/27/02
M,P,O-Xylene		mg/L	0.30	0.28	93	85 - 115	6/27/02

CCV (1) QCBatch: QC21409

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.939	93	85 - 115	6/27/02

CCV (2) QCBatch: QC21409

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.909	90	85 - 115	6/27/02

ICV (1) QCBatch: QC21409

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.944	94	85 - 115	6/27/02

CCV (1) QCBatch: QC21586

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	218	87	75 - 125	7/2/02

CCV (2) QCBatch: QC21586

Continued ...

... Continued

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	225	90	75 - 125	7/2/02

CCV (3) QCBatch: QC21586

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	232	92	75 - 125	7/2/02

ICV (1) QCBatch: QC21586

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	214	86	75 - 125	7/2/02

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1 (800) 378-1296

Trace Analysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

Company Name: NMOC D Phone #: 505-476-3488

Address: (Street, City, Zip)
1625 N. French Drive, Hobbs NM 88240

Contact Person: Martayne Kiepling

Invoice to: (if different from above)

Project #: 2-517-000051

Project Location: 8 miles West of Hobbs, NM

Project Name: Coastal Treatment Plant
Sampler Signature: Mark Chalk

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING	
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE
200154	062502-1	1	4oz	✓							✓	6/24/02	1050
57	062502-2	1	4oz	✓							✓	6/24/02	1034
58	062502-3	1	4oz	✓							✓	6/24/02	1100
59	062502-4	1	4oz	✓							✓	6/24/02	1104
60	062502-5	1	4oz	✓							✓	6/24/02	1110
61	062502-6	1	4oz	✓							✓	6/25/02	1114
62	062502-7	1	4oz	✓							✓	6/25/02	1117
63	062502-8	1	4oz	✓							✓	6/25/02	1120
64	062502-24	1	4oz	✓							✓	6/25/02	1230
65	062502-22	1	4oz	✓							✓	6/24/02	1217
66	062502-23	7	4oz	✓							✓	6/25/02	1220

Relinquished by: Mark Chalk Date: 6-25-02 Time: 1740
 Relinquished by: Mark Chalk Date: 6-25-02 Time: 1740
 Relinquished by: Mark Chalk Date: 6-26-02 Time: 1000

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # AP2002016

ANALYSIS REQUEST

(Circle or Specify Method No.)

MTBE 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	Turn Around Time if different from standard
✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	

LAB USE ONLY
 Intact Y N
 Headspace Y N
 Temp 24 °
 Log-in Review MP
 Carrier # 8888888888

REMARKS:
per martayne, run BTEX, GAO + DEO
7/9 FIP
 Check if Special Reporting Limits Are Needed

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C. ORIGINAL COPY
 163-566-890-3



TRACE ANALYSIS, INC.

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915•585•3443 FAX 915•585•4944

Bill To: **OCD**
1220 S. Saint Francis Dr.
Santa Fe, NM 87505

Invoice # 53483

Invoice Date: Jul 8, 2002

Order ID: A02062409

Attn: Wayne Price

Project #:	2-517-000051		
Project Name:	Goodwin Treating Plant	P.A. Number:	20-521-07-02497
Project Location:	8 Miles West of Hobbs, NM		

Test	Quantity	Matrix	Description	Price	SubTotal
TPH DRO	9	Soil	199901 - 199909	\$40.00	\$360.00
BTEX/TPH GRO	9	Soil	199901 - 199909	\$60.00	\$540.00
<i>Payment Terms: Net 30 Days</i>				Total	\$900.00

Director, Dr. Blair Leftwich

*ok to pay Mary Kulin
7-22-02*

Report Date: July 9, 2002 Order Number: A02062409
2-517-000051 Goodwin Treating Plant

Page Number: 1 of 1
8 Miles West of Hobbs, NM

Summary Report

Martyne Kieling
OCD Hobbs Office
1625 N. French Drive
Hobbs, NM 88240

Report Date: July 9, 2002

Order ID Number: A02062409

Project Number: 2-517-000051
Project Name: Goodwin Treating Plant
Project Location: 8 Miles West of Hobbs, NM

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
199901	062102-13	Soil	6/21/02	9:47	6/22/02
199902	062102-14	Soil	6/21/02	9:52	6/22/02
199903	062102-15	Soil	6/21/02	10:55	6/22/02
199904	062102-16	Soil	6/21/02	11:00	6/22/02
199905	062102-17	Soil	6/21/02	11:04	6/22/02
199906	062102-18	Soil	6/21/02	11:12	6/22/02
199907	062102-19	Soil	6/21/02	11:17	6/22/02
199908	062102-20	Soil	6/21/02	11:27	6/22/02
199909	062102-21	Soil	6/21/02	11:32	6/22/02

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 - Field Code	BTEX					TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)		
199901 - 062102-13	<0.010	<0.010	<0.010	<0.010	<0.010	69.8	<1.00
199902 - 062102-14	<0.010	<0.010	<0.010	<0.010	<0.010	109	<1.00
199903 - 062102-15	<0.010	<0.010	<0.010	0.0106	0.0106	179	<1.00
199904 - 062102-16	<0.010	<0.010	0.0167	0.0393	0.056	1960	12.5
199905 - 062102-17	<0.010	<0.010	<0.010	<0.010	<0.010	<50	2.32
199906 - 062102-18	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1.00
199907 - 062102-19	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1.00
199908 - 062102-20	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1.00
199909 - 062102-21	<0.010	<0.010	<0.010	<0.010	<0.010	1530	<1.00

Report Date: July 9, 2002 Order Number: A02062409
 2-517-000051 Goodwin Treating Plant

Page Number: 1 of 1
 8 Miles West of Hobbs, NM

Summary Report

Martyne Kieling
 OCD Hobbs Office
 1625 N. French Drive
 Hobbs, NM 88240

Report Date: July 9, 2002

Order ID Number: A02062409

Project Number: 2-517-000051
 Project Name: Goodwin Treating Plant
 Project Location: 8 Miles West of Hobbs, NM

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
199901	062102-13	Soil	6/21/02	9:47	6/22/02
199902	062102-14	Soil	6/21/02	9:52	6/22/02
199903	062102-15	Soil	6/21/02	10:55	6/22/02
199904	062102-16	Soil	6/21/02	11:00	6/22/02
199905	062102-17	Soil	6/21/02	11:04	6/22/02
199906	062102-18	Soil	6/21/02	11:12	6/22/02
199907	062102-19	Soil	6/21/02	11:17	6/22/02
199908	062102-20	Soil	6/21/02	11:27	6/22/02
199909	062102-21	Soil	6/21/02	11:32	6/22/02

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 - Field Code	BTEX					TPH DRO DRO (ppm)	TPH GRO GRO (ppm)
	Benzene (ppm)	Toluene (ppm)	Ethylbenzene (ppm)	M,P,O-Xylene (ppm)	Total BTEX (ppm)		
199901 - 062102-13	<0.010	<0.010	<0.010	<0.010	<0.010	69.8	<1.00
199902 - 062102-14	<0.010	<0.010	<0.010	<0.010	<0.010	109	<1.00
199903 - 062102-15	<0.010	<0.010	<0.010	0.0106	0.0106	179	<1.00
199904 - 062102-16	<0.010	<0.010	0.0167	0.0393	0.056	1960	12.5
199905 - 062102-17	<0.010	<0.010	<0.010	<0.010	<0.010	<50	2.32
199906 - 062102-18	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1.00
199907 - 062102-19	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1.00
199908 - 062102-20	<0.010	<0.010	<0.010	<0.010	<0.010	<50	<1.00
199909 - 062102-21	<0.010	<0.010	<0.010	<0.010	<0.010	1530	<1.00

This is only a summary. Please, refer to the complete report package for quality control data.



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 155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
 E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Martyne Kieling
 OCD Hobbs Office
 1625 N. French Drive
 Hobbs, NM 88240

Report Date: July 9, 2002

Order ID Number: A02062409

Project Number: 2-517-000051
 Project Name: Goodwin Treating Plant
 Project Location: 8 Miles West of Hobbs, NM

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
199901	062102-13	Soil	6/21/02	9:47	6/22/02
199902	062102-14	Soil	6/21/02	9:52	6/22/02
199903	062102-15	Soil	6/21/02	10:55	6/22/02
199904	062102-16	Soil	6/21/02	11:00	6/22/02
199905	062102-17	Soil	6/21/02	11:04	6/22/02
199906	062102-18	Soil	6/21/02	11:12	6/22/02
199907	062102-19	Soil	6/21/02	11:17	6/22/02
199908	062102-20	Soil	6/21/02	11:27	6/22/02
199909	062102-21	Soil	6/21/02	11:32	6/22/02

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.

The test results contained within this report meet all requirements of LAC 33:I unless otherwise noted.

This report consists of a total of 19 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: 199901 - 062102-13

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21324 Date Analyzed: 6/24/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20267 Date Prepared: 6/24/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.758	mg/Kg	10	1	76	70 - 130
4-BFB		0.704	mg/Kg	10	1	70	70 - 130

Sample: 199901 - 062102-13

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21642 Date Analyzed: 6/25/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20525 Date Prepared: 6/25/02

Param	Flag	Result	Units	Dilution	RDL
DRO		69.8	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		179	mg/Kg	1	150	119	70 - 130

Sample: 199901 - 062102-13

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21575 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20472 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.08	mg/Kg	10	0.10	108	70 - 130
4-BFB	¹	0.645	mg/Kg	10	0.10	64	70 - 130

¹Low BFB surrogate recovery due to matrix interference. TFT surrogate recovery shows the method to be in control.

Sample: 199902 - 062102-14

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21324 Date Analyzed: 6/24/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20267 Date Prepared: 6/24/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.795	mg/Kg	10	1	80	70 - 130
4-BFB		0.746	mg/Kg	10	1	75	70 - 130

Sample: 199902 - 062102-14

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21642 Date Analyzed: 6/25/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20525 Date Prepared: 6/25/02

Param	Flag	Result	Units	Dilution	RDL
DRO		109	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		183	mg/Kg	1	150	122	70 - 130

Sample: 199902 - 062102-14

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21575 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20472 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.05	mg/Kg	10	0.10	105	70 - 130
4-BFB		0.696	mg/Kg	10	0.10	70	70 - 130

Sample: 199903 - 062102-15

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21324 Date Analyzed: 6/24/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001

Continued ...

... Continued Sample: 199903 Analysis: BTEX

Param	Flag	Result	Units	Dilution	RDL
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		0.0106	mg/Kg	10	0.001
Total BTEX		0.0106	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.916	mg/Kg	10	1	92	70 - 130
4-BFB		0.847	mg/Kg	10	1	85	70 - 130

Sample: 199903 - 062102-15

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21642 Date Analyzed: 6/25/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20525 Date Prepared: 6/25/02

Param	Flag	Result	Units	Dilution	RDL
DRO		179	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	2	243	mg/Kg	1	150	162	70 - 130

Sample: 199903 - 062102-15

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21579 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20461 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.10	mg/Kg	10	0.10	110	70 - 130
4-BFB		0.812	mg/Kg	10	0.10	81	70 - 130

Sample: 199904 - 062102-16

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21324 Date Analyzed: 6/24/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20267 Date Prepared: 6/24/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		0.0167	mg/Kg	10	0.001
M,P,O-Xylene		0.0393	mg/Kg	10	0.001
Total BTEX		0.056	mg/Kg	10	0.001

²Surrogate out of recovery limits due to peak interference. LCS, ICV, and CCV show the process is in control.

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.772	mg/Kg	10	1	77	70 - 130
4-BFB		0.867	mg/Kg	10	1	87	70 - 130

Sample: 199904 - 062102-16

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21607 Date Analyzed: 6/24/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20496 Date Prepared: 6/24/02

Param	Flag	Result	Units	Dilution	RDL
DRO		1960	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	3	480	mg/Kg	5	150	320	70 - 130

Sample: 199904 - 062102-16

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21575 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20472 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		12.5	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	4	0.676	mg/Kg	10	0.10	68	70 - 130
4-BFB		0.902	mg/Kg	10	0.10	90	70 - 130

Sample: 199905 - 062102-17

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21324 Date Analyzed: 6/24/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20267 Date Prepared: 6/24/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.838	mg/Kg	10	1	84	70 - 130
4-BFB		0.770	mg/Kg	10	1	77	70 - 130

³Poor surrogate recovery due to dilution. LCS and LCSD show the process is in control.

⁴Low TFT surrogate recovery due to matrix interference. BFB surrogate recovery shows the method to be in control.

Sample: 199905 - 062102-17

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21607 Date Analyzed: 6/24/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20496 Date Prepared: 6/24/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		198	mg/Kg	1	150	130	70 - 130

Sample: 199905 - 062102-17

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21575 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20472 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		2.32	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	⁵	1.43	mg/Kg	10	0.10	143	70 - 130
4-BFB		0.749	mg/Kg	10	0.10	75	70 - 130

Sample: 199906 - 062102-18

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21324 Date Analyzed: 6/24/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20267 Date Prepared: 6/24/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.914	mg/Kg	10	1	91	70 - 130
4-BFB		0.859	mg/Kg	10	1	85	70 - 130

Sample: 199906 - 062102-18

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21607 Date Analyzed: 6/24/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20496 Date Prepared: 6/24/02

Continued ...

⁵High TFT due to peak interference.

... Continued Sample: 199906 Analysis: TPH DRO

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		195	mg/Kg	1	150	130	70 - 130

Sample: 199906 - 062102-18

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21575 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20472 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.07	mg/Kg	10	0.10	107	70 - 130
4-BFB		0.808	mg/Kg	10	0.10	81	70 - 130

Sample: 199907 - 062102-19

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21324 Date Analyzed: 6/24/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20267 Date Prepared: 6/24/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.808	mg/Kg	10	1	81	70 - 130
4-BFB		0.749	mg/Kg	10	1	75	70 - 130

Sample: 199907 - 062102-19

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21607 Date Analyzed: 6/24/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20496 Date Prepared: 6/24/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		196	mg/Kg	1	150	130	70 - 130

Sample: 199907 - 062102-19

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21575 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20472 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.01	mg/Kg	10	0.10	101	70 - 130
4-BFB		0.702	mg/Kg	10	0.10	70	70 - 130

Sample: 199908 - 062102-20

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21324 Date Analyzed: 6/24/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20267 Date Prepared: 6/24/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.804	mg/Kg	10	1	80	70 - 130
4-BFB		0.756	mg/Kg	10	1	76	70 - 130

Sample: 199908 - 062102-20

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21607 Date Analyzed: 6/24/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20496 Date Prepared: 6/24/02

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

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		195	mg/Kg	1	150	130	70 - 130

Sample: 199908 - 062102-20

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21575 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20472 Date Prepared: 7/2/02

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	⁶	1.36	mg/Kg	10	0.10	136	70 - 130
4-BFB		0.744	mg/Kg	10	0.10	74	70 - 130

Sample: 199909 - 062102-21

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC21359 Date Analyzed: 6/25/02
Analyst: CG Preparation Method: S 5035 Prep Batch: PB20297 Date Prepared: 6/25/02

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.010	mg/Kg	10	0.001
Toluene		<0.010	mg/Kg	10	0.001
Ethylbenzene		<0.010	mg/Kg	10	0.001
M,P,O-Xylene		<0.010	mg/Kg	10	0.001
Total BTEX		<0.010	mg/Kg	10	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.882	mg/Kg	10	1	88	70 - 130
4-BFB		0.795	mg/Kg	10	1	80	70 - 130

Sample: 199909 - 062102-21

Analysis: TPH DRO Analytical Method: Mod. 8015B QC Batch: QC21607 Date Analyzed: 6/24/02
Analyst: MM Preparation Method: 3550 B Prep Batch: PB20496 Date Prepared: 6/24/02

Param	Flag	Result	Units	Dilution	RDL
DRO		1530	mg/Kg	1	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane	⁷	596	mg/Kg	10	150	397	70 - 130

Sample: 199909 - 062102-21

Analysis: TPH GRO Analytical Method: 8015B QC Batch: QC21575 Date Analyzed: 7/2/02
Analyst: DN Preparation Method: 5035 Prep Batch: PB20472 Date Prepared: 7/2/02

⁶High TFT due to peak interference.

⁷Poor surrogate recovery due to dilution. LCS and LCSD show the process is in control.

Param	Flag	Result	Units	Dilution	RDL
GRO		<1.00	mg/Kg	10	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT	⁸	1.39	mg/Kg	10	0.10	139	70 - 130
4-BFB		0.744	mg/Kg	10	0.10	74	70 - 130

⁸High TFT due to peak interference.

Quality Control Report Method Blank

Method Blank QCBatch: QC21324

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.951	mg/Kg	10	1	95	70 - 130
4-BFB		0.968	mg/Kg	10	1	96	70 - 130

Method Blank QCBatch: QC21359

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.010	mg/Kg	0.001
Toluene		<0.010	mg/Kg	0.001
Ethylbenzene		<0.010	mg/Kg	0.001
M,P,O-Xylene		<0.010	mg/Kg	0.001
Total BTEX		<0.010	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.11	mg/Kg	10	1	111	70 - 130
4-BFB		0.994	mg/Kg	10	1	99	70 - 130

Method Blank QCBatch: QC21575

Param	Flag	Results	Units	Reporting Limit
GRO		<1	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.06	mg/Kg	10	0.10	106	70 - 130
4-BFB		0.920	mg/Kg	10	0.10	92	70 - 130

Method Blank QCBatch: QC21579

Param	Flag	Results	Units	Reporting Limit
GRO		<1	mg/Kg	0.10

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		1.14	mg/Kg	10	0.10	114	70 - 130
4-BFB		0.927	mg/Kg	10	0.10	93	70 - 130

Method Blank QCBatch: QC21607

Param	Flag	Results	Units	Reporting Limit
DRO		<50	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		180	mg/Kg	1	150	120	70 - 130

Method Blank QCBatch: QC21642

Param	Flag	Results	Units	Reporting Limit
DRO		<50	mg/Kg	50

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
n-Triacontane		170	mg/Kg	1	150	113	70 - 130

Quality Control Report Lab Control Spikes and Duplicate Spikes

Laboratory Control Spikes QCBatch: QC21324

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	0.972	0.971	mg/Kg	10	1	<0.010	97	0	70 - 130	20
Benzene	0.999	1.01	mg/Kg	10	1	<0.010	99	1	70 - 130	20
Toluene	0.994	1	mg/Kg	10	1	<0.010	99	0	70 - 130	20
Ethylbenzene	1.01	1.02	mg/Kg	10	1	<0.010	101	0	70 - 130	20
M,P,O-Xylene	3.07	3.09	mg/Kg	10	3	<0.010	102	0	70 - 130	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	0.917	0.953	mg/Kg	10	1	91	95	70 - 130
4-BFB	0.985	0.992	mg/Kg	10	1	98	99	70 - 130

Laboratory Control Spikes QCBatch: QC21359

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
MTBE	1.04	1.04	mg/Kg	10	1	<0.010	104	0	70 - 130	20
Benzene	1.05	1.04	mg/Kg	10	1	<0.010	105	0	70 - 130	20
Toluene	1.03	1.02	mg/Kg	10	1	<0.010	103	0	70 - 130	20
Ethylbenzene	1	1	mg/Kg	10	1	<0.010	100	0	70 - 130	20
M,P,O-Xylene	2.94	2.92	mg/Kg	10	3	<0.010	98	0	70 - 130	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	1.08	1.1	mg/Kg	10	1	108	110	70 - 130
4-BFB	1.01	1.04	mg/Kg	10	1	101	104	70 - 130

Laboratory Control Spikes QCBatch: QC21575

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	9.36	9.75	mg/Kg	10	1	<1	94	0	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	0.89	0.9	mg/Kg	10	0.10	89	90	70 - 130
4-BFB	0.895	0.947	mg/Kg	10	0.10	89	95	70 - 130

Laboratory Control Spikes QCBatch: QC21579

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	11	9.39	mg/Kg	10	1	<1	110	15	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	1.14	0.92	mg/Kg	10	0.10	114	92	70 - 130
4-BFB	0.98	0.972	mg/Kg	10	0.10	98	97	70 - 130

Laboratory Control Spikes

QCBatch: QC21607

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	⁹ 259	248	mg/Kg	1	250	<50	103	4	70 - 130	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
n-Triacontane	178	180	mg/Kg	1	150	118	120	70 - 130

Laboratory Control Spikes

QCBatch: QC21642

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
DRO	246	242	mg/Kg	1	250	<50	98	1	70 - 130	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
n-Triacontane	169	167	mg/Kg	1	150	112	111	70 - 130

**Quality Control Report
Matrix Spikes and Duplicate Spikes**

Matrix Spikes

QCBatch: QC21324

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.937	0.871	mg/Kg	10	1	<0.010	93	7	70 - 130	20
Toluene	0.927	0.863	mg/Kg	10	1	<0.010	92	7	70 - 130	20
Ethylbenzene	0.953	0.888	mg/Kg	10	1	<0.010	95	7	70 - 130	20
M,P,O-Xylene	2.86	2.67	mg/Kg	10	3	<0.010	95	6	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.873	0.811	mg/Kg	10	1	87	81	70 - 130
4-BFB	0.934	0.881	mg/Kg	10	1	93	88	70 - 130

Matrix Spikes

QCBatch: QC21359

⁹MS and MSD not reported due previously reported for TX1005. LCS and LCSD show the process is in control.

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
Benzene	0.901	0.702	mg/Kg	10	1	<0.010	90	24	70 - 130	20
Toluene	0.938	0.71	mg/Kg	10	1	<0.010	93	27	70 - 130	20
Ethylbenzene	0.880	0.696	mg/Kg	10	1	0.0104	86	23	70 - 130	20
M,P,O-Xylene	2.57	2.01	mg/Kg	10	3	<0.010	85	24	70 - 130	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.947	0.898	mg/Kg	10	1	94	89	70 - 130
4-BFB	0.89	0.83	mg/Kg	10	1	89	83	70 - 130

Matrix Spikes QCBatch: QC21575

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	6.86	8.91	mg/Kg	10	1	7.72	69	0	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	¹⁰ 0.653	0.884	mg/Kg	10	0.10	65	88	70 - 130
4-BFB	¹¹ 0.548	0.756	mg/Kg	10	0.10	58	76	70 - 130

Matrix Spikes QCBatch: QC21579

Param	MS Result	MSD Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec	RPD	% Rec Limit	RPD Limit
GRO	9.65	9.99	mg/Kg	10	1	<1.00	96	3	80 - 120	20

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

Surrogate	MS Result	MSD Result	Units	Dilution	Spike Amount	MS % Rec	MSD % Rec	Recovery Limits
TFT	0.989	1.03	mg/Kg	10	0.10	98	103	70 - 130
4-BFB	0.832	0.861	mg/Kg	10	0.10	83	86	70 - 130

Quality Control Report Continuing Calibration Verification Standards

¹⁰Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

¹¹Low surrogate recovery due to matrix interference. ICV, CCV show the method to be in control.

CCV (1) QCBatch: QC21324

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0984	98	85 - 115	6/24/02
Benzene		mg/L	0.10	0.0983	98	85 - 115	6/24/02
Toluene		mg/L	0.10	0.0982	98	85 - 115	6/24/02
Ethylbenzene		mg/L	0.10	0.0992	99	85 - 115	6/24/02
M,P,O-Xylene		mg/L	0.30	0.299	99	85 - 115	6/24/02

CCV (2) QCBatch: QC21324

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0964	96	85 - 115	6/24/02
Benzene		mg/L	0.10	0.0966	96	85 - 115	6/24/02
Toluene		mg/L	0.10	0.0945	94	85 - 115	6/24/02
Ethylbenzene		mg/L	0.10	0.096	96	85 - 115	6/24/02
M,P,O-Xylene		mg/L	0.30	0.288	96	85 - 115	6/24/02

ICV (1) QCBatch: QC21324

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.0975	97	85 - 115	6/24/02
Benzene		mg/L	0.10	0.1	100	85 - 115	6/24/02
Toluene		mg/L	0.10	0.1	100	85 - 115	6/24/02
Ethylbenzene		mg/L	0.10	0.104	104	85 - 115	6/24/02
M,P,O-Xylene		mg/L	0.30	0.316	105	85 - 115	6/24/02

CCV (1) QCBatch: QC21359

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.108	108	85 - 115	6/25/02
Benzene		mg/L	0.10	0.102	102	85 - 115	6/25/02
Toluene		mg/L	0.10	0.102	102	85 - 115	6/25/02
Ethylbenzene		mg/L	0.10	0.0964	96	85 - 115	6/25/02
M,P,O-Xylene		mg/L	0.30	0.282	94	85 - 115	6/25/02

CCV (2) QCBatch: QC21359

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.110	110	85 - 115	6/25/02
Benzene		mg/L	0.10	0.101	101	85 - 115	6/25/02
Toluene		mg/L	0.10	0.0988	98	85 - 115	6/25/02
Ethylbenzene		mg/L	0.10	0.0954	95	85 - 115	6/25/02
M,P,O-Xylene		mg/L	0.30	0.277	92	85 - 115	6/25/02

ICV (1) QCBatch: QC21359

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.107	107	85 - 115	6/25/02
Benzene		mg/L	0.10	0.105	105	85 - 115	6/25/02
Toluene		mg/L	0.10	0.103	103	85 - 115	6/25/02
Ethylbenzene		mg/L	0.10	0.100	100	85 - 115	6/25/02
M,P,O-Xylene		mg/L	0.30	0.293	98	85 - 115	6/25/02

CCV (1) QCBatch: QC21575

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.978	97	85 - 115	7/2/02

CCV (2) QCBatch: QC21575

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	1.04	104	85 - 115	7/2/02

ICV (1) QCBatch: QC21575

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.9766	97	85 - 115	7/2/02

CCV (1) QCBatch: QC21579

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.978	97	85 - 115	7/2/02

CCV (2) QCBatch: QC21579

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	0.887	88	85 - 115	7/2/02

ICV (1) QCBatch: QC21579

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
GRO		mg/Kg	1	1.04	104	85 - 115	7/2/02

CCV (1) QCBatch: QC21607

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	272	108	75 - 125	6/24/02

CCV (2) QCBatch: QC21607

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	275	110	75 - 125	6/24/02

ICV (1) QCBatch: QC21607

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	255	102	75 - 125	6/24/02

CCV (1) QCBatch: QC21642

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	247	98	75 - 125	6/25/02

CCV (2) QCBatch: QC21642

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	256	102	75 - 125	6/25/02

ICV (1) QCBatch: QC21642

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
DRO		mg/Kg	250	245	98	75 - 125	6/25/02

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

Trace Analysis, Inc.

155 McCutcheon, Suite H
El Paso, Texas 79932
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # AD2062409

Company Name: OCG Hobbs Phone #: 505 476-3488
Address: (Street, City, Zip) Fax #: 476-3462

Contact Person: MARTY KIEWNE

Invoice to: (If different from above)

Project #: 02-517-000051 Project Name: GOODWINE TREATING PLANT

Project Location: 8 AVENUE WEST OF HOBBS Sampler Signature: Will Mundy

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX				PRESERVATIVE METHOD				SAMPLING		
				WATER	SOIL	AIR	SLUDGE	HCl	HNO ₃	H ₂ SO ₄	NaOH	ICE	NONE	DATE
199901	062102-13	1	4oz	✓						✓			6/2/02	0947
02	062102-14	2	4oz	✓						✓			6/2/02	0952
03	062102-15	1	4oz	✓						✓			6/2/02	1055
04	062102-16	1	4oz	✓						✓			6/2/02	1100
05	062102-17	1	4oz	✓						✓			6/2/02	1107
06	062102-18	1	4oz	✓						✓			6/2/02	1112
07	062102-19	1	4oz	✓						✓			6/2/02	1117
08	062102-20	1	4oz	✓						✓			6/2/02	1127
09	062102-21	1	4oz	✓						✓			6/2/02	1132

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:

Ann Conner 6/2/02 10:05 am

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 Semi Volatiles	✓
TCLP Volatiles	✓
TCLP Semi Volatiles	✓
TCLP Pesticides	✓
RCI	✓
GC/MS Vol. 8260B/624	✓
GC/MS Semi. Vol. 8270C/625	✓
PCB's 8092/608	✓
Pesticides 8081A/608	✓
BOD, TSS, pH	✓

LAB USE ONLY

Intact Y / N

Headspace Y / N

Temp 10 °

Log-in Review MT

REMARKS:

7/2 F 7/9 F P

Check if Special Reporting Limits Are Needed

Carrier # 805 #1035667671