

Eco-logical Environmental Services Inc.

# QUARTERLY SAMPLING AND MONITORING ANNUAL REPORT JANUARY 6, 1998

# HOBBS NATURAL GAS PLANT K N ENERGY, INC. HOBBS, LEA COUNTY, NEW MEXICO

Date Prepared: January 26, 1998

ECO Project No.: 279-512

Prepared for: New Mexico Oil Conservation Division

> On Behalf of: K N Energy, Inc.

**Prepared by:** Eco-logical Environmental Services, Inc. 2200 Market St. Midland, Texas 79703 915/520-7535

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## K N Energy, Inc. Hobbs Natural Gas Plant Hobbs, Lea County, New Mexico

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### I. Report Summary

On April 10, 1997, August 8, 1997, and October 8, 1997 and January 6, 1998, Ecological Environmental Services, Inc. (ECO) personnel were on-site to purge and sample ten (10) monitor wells at the Former Hobbs Gas Plant west of Hobbs, New Mexico (see Figure 1). At the time of the sampling, none of the wells exhibited free product. The objective of this sampling event was to fulfill the Abatement Plan presented to the Oil Conservation Division (OCD) in April 1997. This event involved the measurement of relative well depths and relative depths to water, purging of the monitoring wells (MW), and sample collection and analyses. Figure 2 presents the site map with the locations of the monitor wells.

The plant has not been in operation for one year. In addition to the plant closure, many compressors and skid mounted equipment has been removed. The remaining equipment is also scheduled to be dismantled.

The initial task was to determine the static groundwater levels relative to the north side of the top of each well casing and to examine each well for the presence of phase separated hydrocarbons (PSH) utilizing an interface probe with a calibrated tape (see Tables 1 - 10). Wells were measured from the least impacted to the most impacted as determined by previous sampling events. All equipment was properly decontaminated between gauging of wells.

Depth to groundwater at the site ranges from 53.9 to 59.4 feet below the ground surface. These depths represent an average drop in the water table of 1.93 feet (see Figure 3) since the sampling event in October of 1996. The overall groundwater flow direction is stable to the southeast at gradients between 1:300 and 1:360 (see Figure 4 for current gradient map).

After obtaining all measurements, the volume of water in each casing was calculated. The wells were then purged by a submersible electric pump until three well volumes of water were removed or until the well was dry. The pump was decontaminated between wells with a water and Alconox solution and rinsed in clean water. After allowing the wells to recover to at least 70 percent of the original water depth, samples were then collected utilizing new, single use, one (1) liter bailers. Groundwater samples were then submitted to TraceAnalysis, Inc., in Lubbock, Texas, for analyses. Based on previous analytical results and as specified in the June 26, 1997, OCD approval letter of the April 1997 Abatement Plan, analysis included benzene, toluene, ethylbenzene, and toluene (BTEX), naphthalene, and chloride in all wells.

The latest analytical results indicated that benzene levels continue to be present above the WQCC 3103 Guidelines level of 0.01 ppm in water from monitor wells MW-1, MW-5 and MW-6 at concentrations of 0.180, 0.05 and 0.031 ppm, respectively. All remaining monitor wells were non-detect for benzene. The remaining analytical results are as follows:

- Toluene was non-detect in all monitor wells.
- Ethylbenzene was present only in MW-1 at a concentration of 0.008 ppm, which is below the OCD Guidelines.
- Xylene was present in monitor wells MW-5 and MW-6 at concentrations of 0.01 and 0.004 ppm, respectively.
- Chloride was present in all monitor wells. Levels were below the OCD Guidelines in all monitor wells with the exception of MW-9 where the chloride level was 490 ppm. MW-9 chloride levels have dropped from 560 ppm in the previous sampling event. A source of the chloride is currently being researched.
- Naphthalene was present only in monitor well MW-1 at a concentration of 0.002 ppm, which is below the OCD Guidelines.

Results of the analyses of the water samples are presented in Tables 11 to 21 and are presented on graphs in Figures 6 to 11. Figure 5 presents the estimated isograds for benzene. Section 6 contains the lab reports.

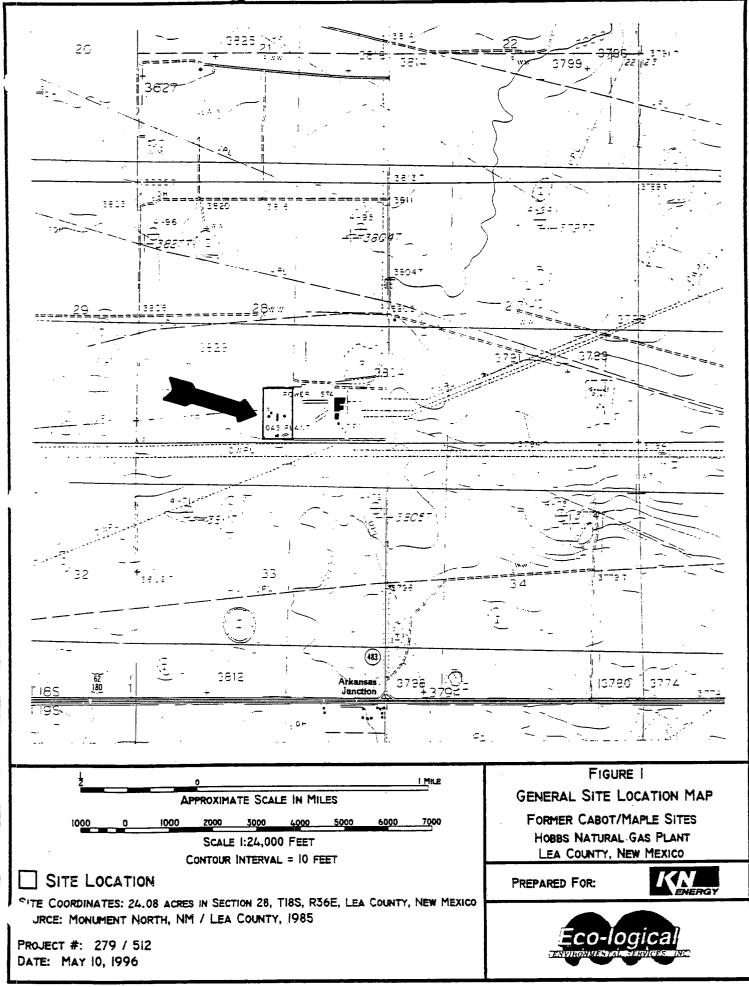
### II. Chronology of Events

The Oil Conservation Division (OCD) of New Mexico inspected the plant on October 16, 1995. During this inspection, they noted several deficiencies at the site relative to discharge plan compliance. The noted items referred to the need for new/additional containment structures at five locations, methods to insure tank integrity, and the delineation of impacted soils/rock at three locations. In a letter issued by the OCD on December 6, 1995, the above deficiencies were detailed in a seven-point letter. This letter indicated that KN must propose and implement processes that would correct the noted deficiencies. The following chronology depicts the actions conducted at the facility:

1994	K N Energy took possession of the plant in 1994 following a merger with American Oil and Gas.
Dec. 1995	Work Plan for soils delineation submitted.
Jan. 1996	Soils Work Plan approved.
Feb. 1996	Delineation of impacted soils and rock conducted and containment construction begins.
June 1996	Soils Delineation Investigation Report filed with request for Groundwater Delineation.
Oct. 1996	Work Plan for groundwater delineation filed, OCD approval of plan, and monitor well installation begun.
Dec. 1996	K N announces impending closure of plant. ECO requests extension of time and change from Discharge Permit to Closure Plan.
Jan. 1997	Additional groundwater monitoring well installed and submission of Abatement Plan and Closure Plan Report.
Feb. 1997	OCD reviews and phone conversation with KN and ECO regarding Abatement Plan. A letter from the OCD presenting the conclusions of the meeting was received. Conclusions included that additional wells be installed to define the points of compliance in the groundwater and an update/amendment report be submitted.

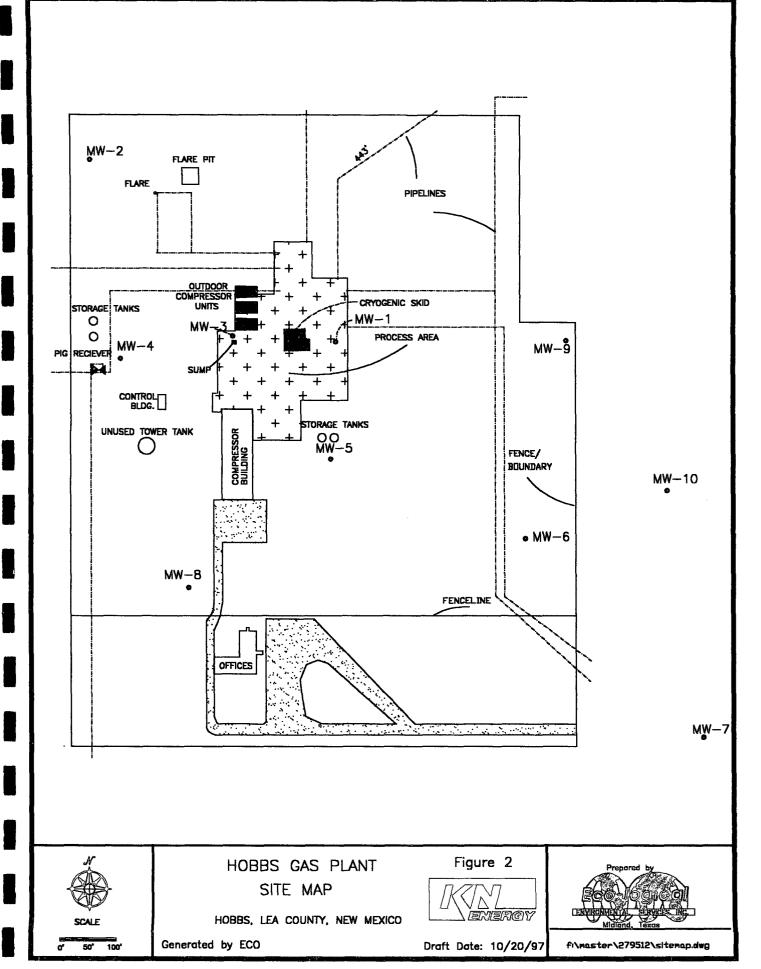
April 1997	Three monitor wells installed and a quarterly sampling and monitoring event occurs.
May 1997	Submission of updated Abatement Report.
July 1997	Quarterly Sampling and Monitoring Event.
8 Oct. 1997	Quarterly Sampling and Monitoring Event.
October 1997	Sump, Cryoskid, Flare Pit, and Compressor soils excavated and stock piles prior to remediation.
November 1997	Initial Treatment of excavated soils performed.
6 January 1998	Quarterly Sampling and Monitoring Event.

# III. Maps, Graphs, & Tables



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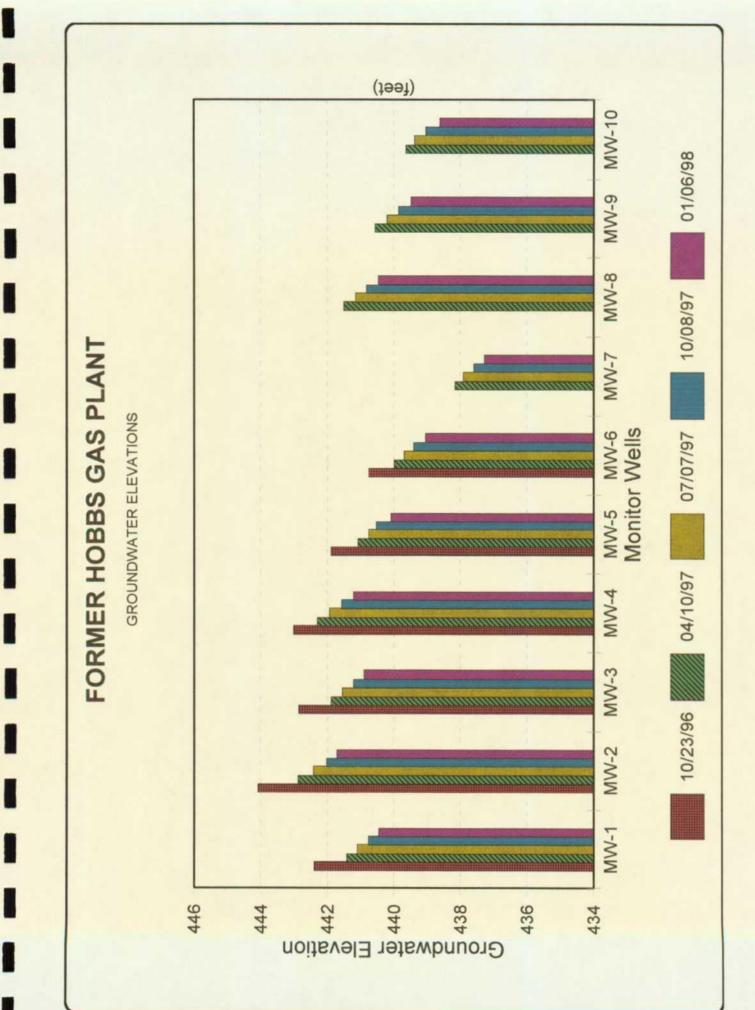
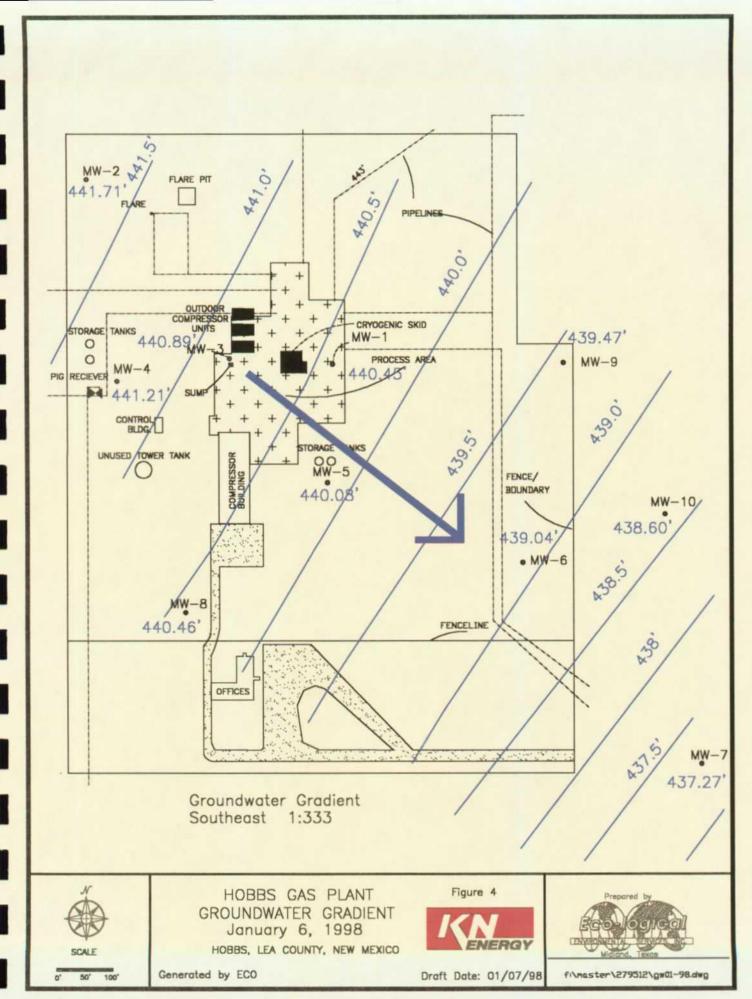
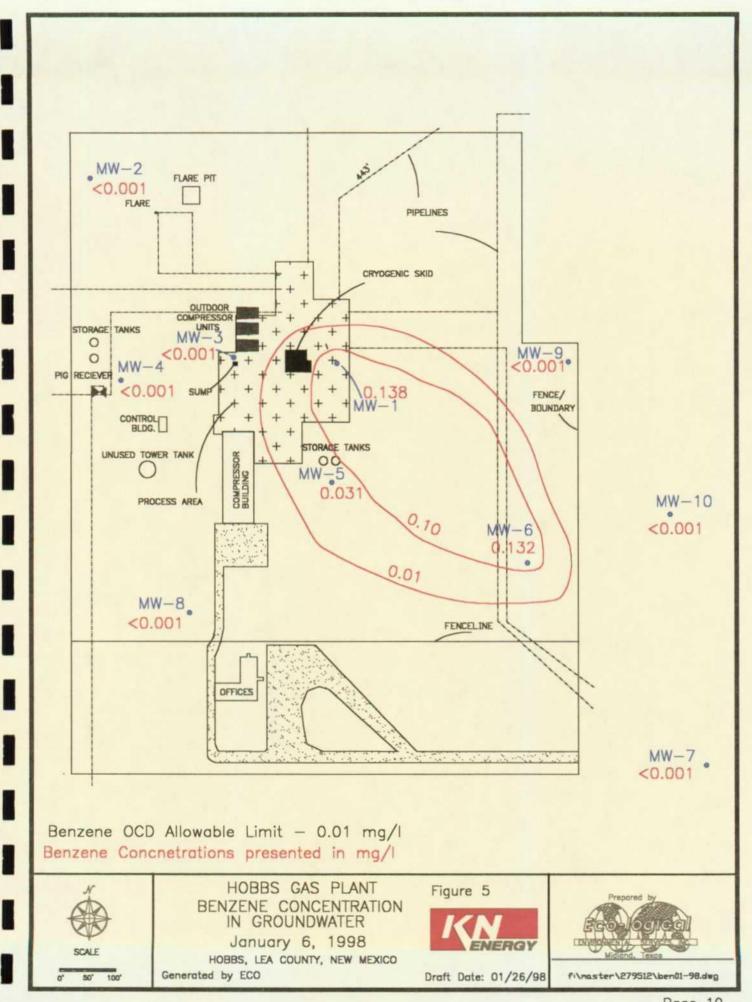


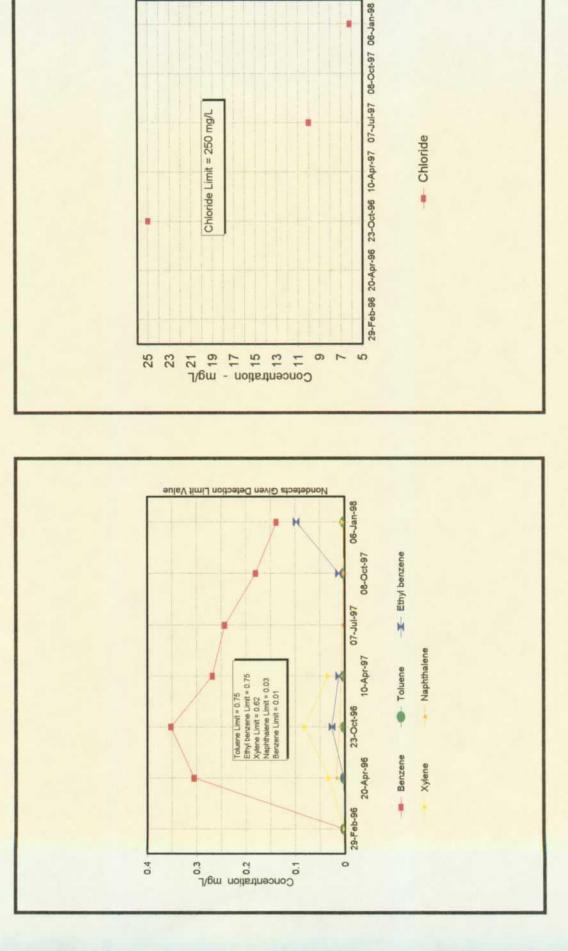
Figure 3







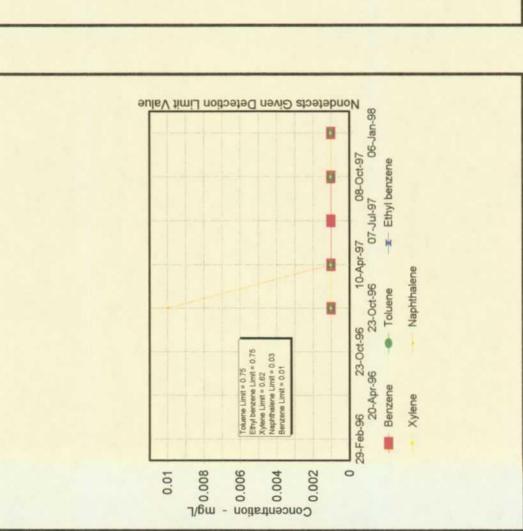
FORMER HOBBS GAS PLANT MW-1 HISTORIC ANALYTICAL RESULTS



Nondetects Given Detection Limit Value

Figure 6

# FORMER HOBBS GAS PLANT MW-2 HISTORIC ANALYTICAL RESULTS



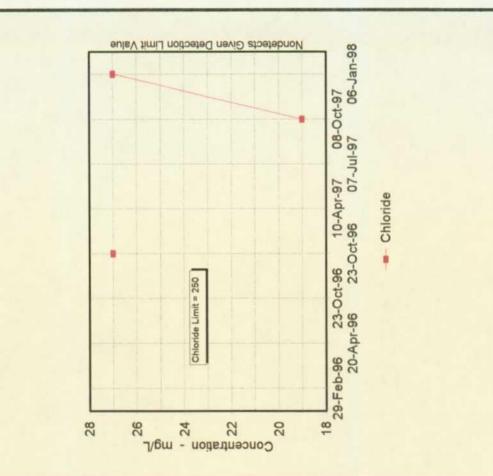
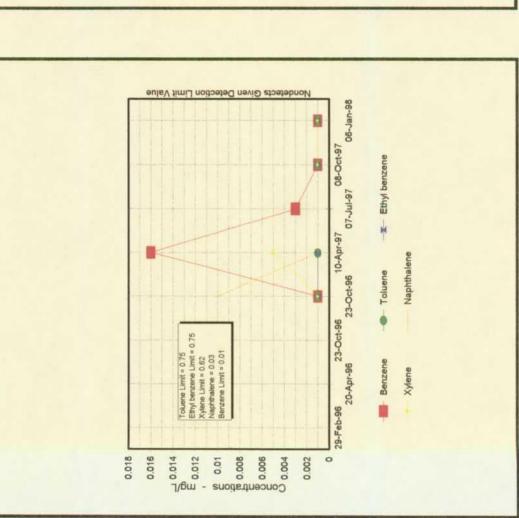
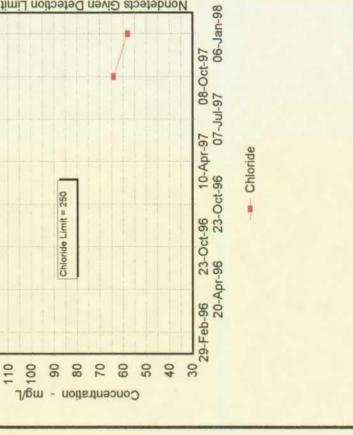


Figure 7

**MW-3 HISTORIC ANALYTICAL RESULTS** FORMER HOBBS GAS PLANT





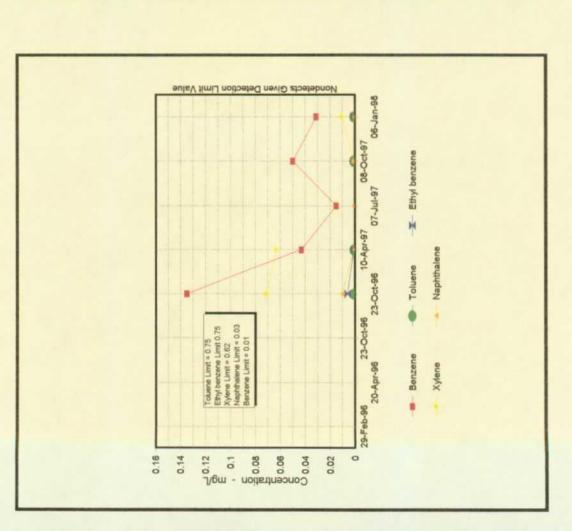
Nondetects Given Detection Limit Value

130

120

Figure 8





Nondetects Given Detection Limit Value

Chloride Limit = 250

Concentration - mg/L

34

32

29-Feb-96 23-Oct-96 10-Apr-97 08-Oct-97 20-Apr-96 23-Oct-96 07-Jul-97 06-Jan-98

3

24

- Chloride



FORMER HOBBS GAS PLANT MW-6 HISTORIC ANALYTICAL RESULTS

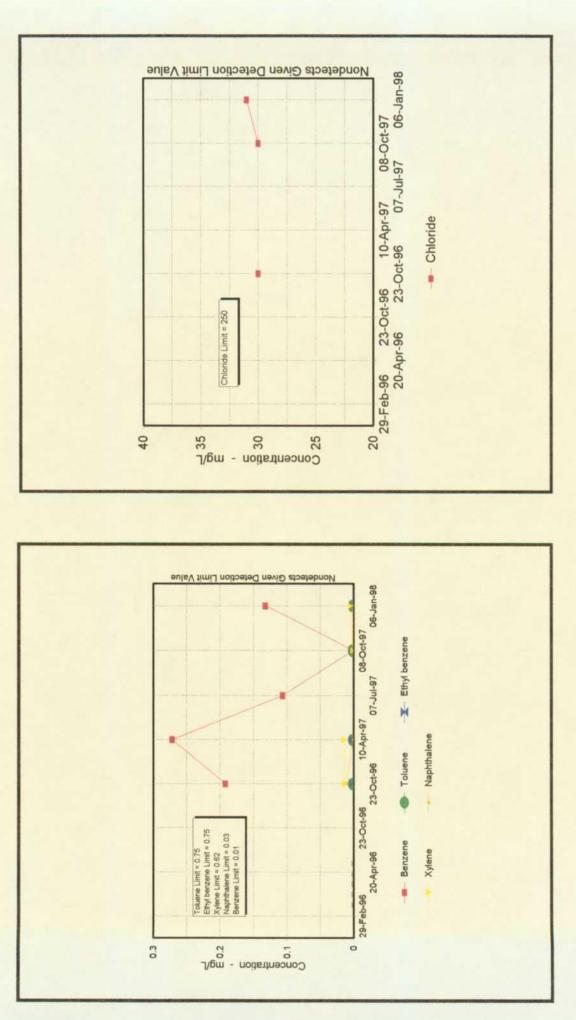


Figure 10

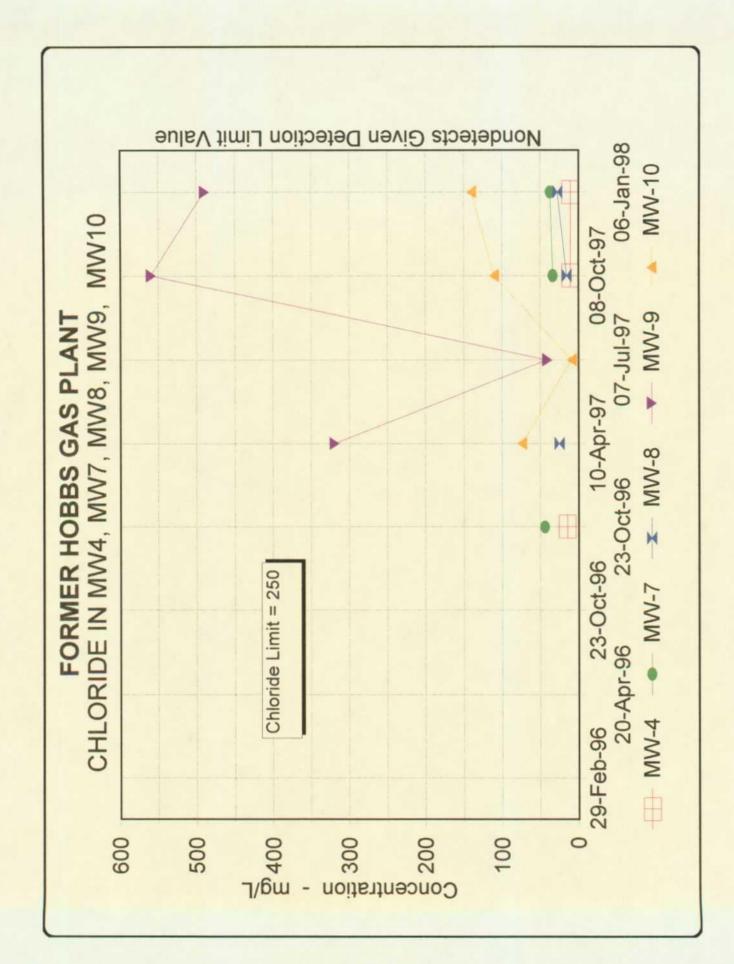


Figure 11

Table 1 Groundwater Table in Feet Monitor Well 1 Elevation of Screened Interval 436.7-456.7'									
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH			
09/17/96	59.0	495.73		53.10	0.00	442.63			
10/23/96	59.0	495.73	-	53.34	0.00	442.39			
04/10/97	59.0	495.73		54.32	0.00	441.41			
07/07/97	59.0	495.73		54.64	0.00	441.09			
10/08/97	59.0	495.73		54.98	0.00	440.75			
01/06/98	59.0	495.73		55.28	0.00	440.45			

Table 2 Groundwater Table in Feet Monitor Well 2 Elevation of Screened Interval 440.4-460.4									
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH			
09/17/96				Well Not In	stalled				
10/23/96	62.0	502.41		58.33	0,00	444.08			
04/10/97	62.0	502.41		59.5Å	0.00	442.87			
07/07/97	62.0	502.41	-	60.00	0.00	442.41			
10/08/97	62.0	502.41		60.39	0.00	442.02			
01/06/98	62.0	502.41		60.70	0.00	441.71			

Table 3 Groundwater Table in Feet Monitor Well 3 Elevation of Screened Interval 434.2-454.23									
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH			
09/17/96				Well Not In	stalled				
10/23/96	64.9	499.13		56.28	0.00	442.85			
04/10/97	64.9	499.13		57.25	0.00	441.88			
07/07/97	64.9	499.13		57.59	0.00	441.54			
10/08/97	64.9	499.13		57.92	0.00	441.21			
01/06/98	64.9	499.13		58.24	0.00	440.89			

Table 4 Groundwater Table in Feet Monitor Well 4 Elevation of Screened Interval 436.8-456.8									
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH			
09/17/96				Well Not In	stalled				
10/23/96	64.3	501.12		58.12	0.00	443.00			
04/10/97	64.3	501.12		58.83	0.00	442.29			
07/07/97	64.3	501.12	. –	59.19	0.00	441.93			
10/08/97	64.3	501.12	· ••	59.56	0.00	441.56			
01/06/98	64.3	501.12	_	59.91	0.00	441.21			

Table 5 Groundwater Table in Feet Monitor Well 5 Elevation of Screened Interval 436.3-456.3									
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH			
09/17/96				Well Not In	stailed				
10/23/96	64.5	500.84	-	58.96	0.00	441.88			
04/10/97	64.5	500.84	-	59.77	0.00	441.07			
07/07/97	64.5	500.84		60.10	0.00	440.74			
10/08/97	64.5	500.84		60.31	0.00	440.53			
01/06/98	64.5	500.84		60.76	0.00	440.08			

	Table 6 Groundwater Table in Feet Monitor Well 6 Elevation of Screened Interval 433.6-453.6									
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH				
09/17/96				Well Not In	stalled					
10/23/96	62.7	496.27		55.53	0.00	440.74				
04/10/97	62.7	496.27		56.28	0.00	439.99				
07/07/97	62.7	496.27	-	56.58	0.00	439.69				
10/08/97	62.7	496.27	-	56.88	0.00	439.39				
01/06/98	62.7	496.27		57.23	0.00	439.04				

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Table 7 Groundwater Table in Feet Monitor Well 7 Elevation of Screened Interval 426.4-446.4									
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH			
09/17/96				Well Not Ir	nstalled				
10/23/96				Well Not Ir	nstalled				
04/10/97	69.0	495.44		57.28	0.00	438.16			
07/07/97	69.0	495.44	-	57.54	0.00	437.90			
10/08/97	69.0	495.44		57.85	0.00	437.59			
01/06/98	69.0	495.44		58.17	0.00	437.27			

Table 8 Groundwater Table in Feet Monitor Well 8 Elevation of Screened Interval 430.9-450.9									
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH			
09/17/96				Well Not Ir	stalled				
10/23/96				Well Not Ir	stalled				
04/10/97	70.9	501.81		60.32	0.00	441.49			
07/07/97	70.9	501.81		60.67	0.00	441.49			
10/08/97	70.9	501.81		61.00	0.00	440.81			
01/06/98	70.9	501.81		61.35	0.00	440.46			

Table 9 Groundwater Table in Feet Monitor Well 9 Elevation of Screened Interval 429.5-449.5											
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH					
09/17/96				Well Not In	stailed						
10/23/96				Well Not In	stalled						
04/10/97	67.3	496.85		56.29	0.00	440.56					
07/07/97	67.3	496.85	-	56.66	0.00	440.19					
10/08/97	67.3	496.85		57.00	0.00	439.85					
01/06/98	67.3	496.85		57.38	0.00	439.47					

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	Table 10 Groundwater Table in Feet Monitor Well 10 Elevation of Screened Interval 426.0-446.0										
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product. Thickness	GW Elev. Corrected for PSH					
09/17/96				Well Not In	stalled						
10/23/96				Well Not In	stalled						
04/10/97	66.5	492.46	-	52.83	0.00	439.63					
07/07/97	66.5	492.46	-	53.09	0.00	439.37					
10/08/97	66.5	492.46		53.43	0.00	439.03					
01/06/98	66.5	492.46		53.86	0.00	438.60					

	Table 11 Historic Groundwater Analytical Results in mg/l MW-1										
Date	в	т	E	x	Phenol	Naphthalene	Chloride				
02/14/96	0.083	<0.001	<0.001	0.008			!				
02/29/96	<0.001	<0.001	<0.001	<0.001							
04/20/96	0.305	<0.001	0.002	0.032	<0.001	0.017					
10/23/96	0.352	<0.001	0.026	0.081	0.025	0.01					
04/10/97	0.268	<0.001	0.012	0.034	<0.001	0.007					
07/07/97	0.243		<u>├</u> ────			0.005					
10/08/97	0.180	<0.001	0.012	<0.001		.003	<10				
01/06/98	0.138	<0.001	0.008	<0.001		0.002	6.2				

Shaded areas indicate over OCD Limits

	Table 12 Historic Groundwater Analytical Results in mg/I MW-2											
Date	B	т	E	x	Phenol	Naphthalene	Chloride					
10/23/96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01						
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001						
07/07/97	<0.001						·····					
10/08/97	<0.001	<0.001	<0.001	<0.001		<0.001	19					
01/06/98	<0.001	<0.001	<0.001	<0.001		<0.001	27					

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Table 13 Historic Groundwater Analytical Results in mg/l MW-3										
Date	B	т	E	x	Phenol	Naphthalene	Chloride			
10/23/96	0.001	<0.001	<0.001	<0.001	<0.001	<0.01				
04/10/97	0.016	<0.001	<0.001	0.005	<0.001	<0.001				
07/07/97	0.003		<u> </u>							
10/08/97	<0.001	<0.001	<0.001	<0.001		<0.001	64			
01/06/98	<0.001	<0.001	<0.001	<0.001		<0.001	58			

Shaded areas indicate over OCD Limits

	Table 14 Historic Groundwater Analytical Results in mg/I MW-4											
Date	в	т	E	x	Phenol	Naphthalene	Chloride					
10/23/96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01						
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<u></u>					
07/07/97	<0.001											
10/08/97	<0.001	<0.001	<0.001	<0.001	·····	<0.001	<10					
01/06/98	<0.001	<0.001	<0.001	<0.001		<0.001	10					

		Table 15 Historic Groundwater Analytical Results in mg/l MW-5									
Date	В	T	E	x	Phenol	Naphthalene	Chloride				
10/23/96	0.135	<0.001	0.006	0.071	<0.001	<0.01					
04/10/97	0.043	<0.001	<0.001	0.063	<0.001	0.001					
07/07/97	0.015		[			<0.001					
10/08/97	0.05	<0.001	<0.001	<0.001		0.001	24				
01/06/98	0.031	<0.001	<0.001	0.010		<0.001	27				

Shaded areas indicate over OCD Limits

Table 16 Historic Groundwater Analytical Results in mg/I MW-6											
Date	В	T	E	X	Phenol	Naphthalene	Chloride				
10/23/96	0.192	<0.001	<0.001	0.013	<0.001	<0.01					
04/10/97	0.272	<0.001	<0.001	0.014	<0.001	<0.001					
07/07/97	0.106										
10/08/97	<0.001	<0.001	<0.001	<0.001		<0.001	30				
01/06/98	0.132	<0.001	<0.001	0.004		<0.001	31				

Shaded areas indicate over OCD Limits

Table 17 Historic Groundwater Analytical Results in mg/l MW-7											
Date	в	т	E	X	Phenoi	Naphthalene	Chloride				
01/09/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001					
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001					
07/07/97	<0.001					,					
10/08/97	<0.001	<0.001	<0.001	<0.001		<0.001	33				
01/06/98	<0.001	<0.001	<0.001	<0.001		<0.001	37				

Table 18 Historic Groundwater Analytical Results in mg/l MW-8										
Date	В	т	E	x	Phenol	Naphthalene	Chloride			
10/23/96					Well	Not Installed				
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				
07/07/97	<0.001									
10/08/97	<0.001	<0.001	<0.001	<0.001		<0.001	15			
01/06/98	<0.001	<0.001	<0.001	<0.001		<0.001	27			

		Table 19 Historic Groundwater Analytical Results in mg/I MW-9									
Date	в	т	E	x	Phenoi	Naphthalene	Chloride				
10/23/96					Well	Not Installed					
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	320				
07/07/97	<0.001						41				
10/08/97	<0.001	<0.001	<0.001	<0.001		<0.001	560				
01/06/98	<0.001	<0.001	<0.001	<0.001		<0.001	490				

Table 20 Historic Groundwater Analytical Results in mg/l MW-10											
Date	В	T	E	x	Phenol	Naphthalene	Chloride				
10/23/96				<u></u>	Well N	ot Installed					
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001					
07/07/97	<0.001						8.8				
10/08/97	<0.001	<0.001	<0.001	<0.001	·	<0.001	110				
01/06/98	<0.001	<0.001	<0.001	<0.001		<0.001	101				

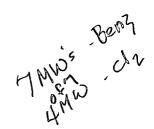


### **IV.** Conclusions and Recommendations

The plant operations have ceased at the site and the sources that have caused the impacts to the groundwater have been removed. In addition, the impacted soils are currently under going remediation. Two of the ten wells at the Former Hobbs Gas Plant continue to show dissolved phase hydrocarbons at levels above the OCD Guidelines. Following are the conclusions and recommendations for this quarterly sampling event.

- Four (4) full quarterly groundwater monitoring and sampling events have been conducted at this site.
- Groundwater has dropped an average of 1.93 feet since the sampling event of October 1996.
- Dissolved phase hydrocarbons are present in three of the ten monitor wells at the site (MW-1, MW-5, and MW-6). Naphthalene has historically been present in wells MW-1 and MW-5 but is not above OCD levels, and chloride is present in all ten wells.
- Three monitor wells contain concentrations of benzene above the OCD limits (MW-1, MW-5, MW-6). Benzene levels are generally declining.
- Ethylbenzene, xylene, and naphthalene concentrations continue to be present in select wells but at levels below the OCD Guidelines.

Chloride continues to be above the OCD limit in MW-9. Based on interviews with KN personnel no source of the chloride can be placed on former operations of the plant. The source of the chloride is not known and is not believed to be from the plant. Based on historical analytical results, Eco-logical recommends that quarterly sampling and monitoring continue. Benzene should be tested from wells MW-1, MW-3, MW-5 to MW-7, MW-9, and MW-10. Chloride should be tested from wells MW-6, MW-7, MW-9, and MW-10. Naphthalene testing should be discontinued.



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### V. Quality Assurance / Quality Control Procedures

Field quality assurance/quality control (QA/QC) measures consisted of equipment decontamination, use of disposable sampling equipment, calibrations of field instruments, ensuring that the samples were analyzed within the EPA holding times, documentation of work activities in a bound logbook, and adherence to strict chain-of-custody protocol. The laboratory QA/QC measures were based on guidance published in the most current edition of the EPA Test Methods for Evaluating Solid Waste SW-846.

Quality Control samples were also obtained to evaluate the data. One duplicate sample was obtained from Well MW-1. Test results indicated that the duplicate analytical result was within 16.4% of the original sample. A trip blank was also analyzed with nondetectable results, suggesting that no cross-contamination occurred during shipment. Cross contamination during sampling was limited due to the use of disposable equipment between wells and gauging and purging of wells from least contaminated to most contaminated and the use of disposable equipment. These results indicate adequate guality control. The following table presents the QA/QC results for comparison.

Quality Control Sample	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylene (mg/L)
MW-1 Duplicate	0.154	<0.001	0.012	0.004
MW-1	0.138	<0.005	0.008	<0.005
Trip	<0.001	<0.001	<0.001	<0.001

Reported laboratory quality control parameters do not appear to indicate suspect results. No damaged or compromised containers were noted. No unusual relative percent difference (RPD) results were noted.

1ab Receiving # : 98010         Sampling Date: 1/6/98         Sample Condition: Inte         Sample Received By: VW         Sample Received By: VW         Sample Received By: VW         FTHYL-       M, P, O         mg/L)       mg/L)         (mg/L)       (mg/L)         0.001       0.012       0.004         0.001       0.012       0.004         0.001       0.001       <0.001         0.001       0.001       <0.001         0.001       0.001       <0.001         0.001       0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001         0.001       <0.001       <0.001		6701 Aberdeen Avenue ANALY IL ANALAN AND AND AND AND AND ANALYT T ECO-LO		k Texas 79424 AL RESULTS FOR ical Environmental Servi	94•1296 FA	FAX 806•794•1298 ces	•1298	
Field Code         MATRIX         BENZENE         TOLIGENE         ETHY1-         M, P, O           109         M-1D         Mater         0.154         (mg/L)         mg/L)         (mg/L)         (mg/L)	Jan 09, 1998 Rec: 1/7/98 ct: 279-512 Name: Former Hobbs Gas		on Carr rket St	ΤX	9703	Rec lin le	# : : 1/( ion: ed By:	9801000053 6/98 Intact and Cool : VW
	Field Code	MATRIX		BENZENE (mg/L)	TOLUENE (mg/L)		M, P, O XYLENE (mg/L)	TOTAL BTEX (mg/L)
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		Water		0.154	<0.001	0.012	0.004	0.170
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Water		<0.001	<0.001	<0.001	<0.001	<0.001
112       Water $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ <th< td=""><td>88411</td><td>Water</td><td></td><td>0.138</td><td>&lt;0.005</td><td>0.008</td><td>&lt;0.005</td><td>0.146</td></th<>	88411	Water		0.138	<0.005	0.008	<0.005	0.146
13 WM-3       Water $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$		Water		<0.001	<0.001	<0.001	<0.001	<0.001
14       MM-4       Mater $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ $<0.001$ <td></td> <td>Water</td> <td></td> <td>&lt;0.001</td> <td>&lt;0.001</td> <td>&lt;0.001</td> <td>&lt;0.001</td> <td>&lt;0.001</td>		Water		<0.001	<0.001	<0.001	<0.001	<0.001
15       WM-5       Water       0.031       <0.001       0.010       0.010         16       WM-7       Water $0.031$ <0.001		Water		<0.001	<0.001	<0.001	<0.001	<0.001
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Water		0.031	<0.001	<0.001	0.010	0.041
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		Water		0.132	<0.001	<0.001	0.004	0.136
I18         Ww-8         Water         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001         <0.001		Water		<0.001	<0.001	<0.001	<0.001	<0.001
119 MW-9       Water $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$ $< 0.001$		Water		<0.001	<0.001	<0.001	<0.001	<0.001
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$		Water		<0.001	<0.001	<0.001	<0.001	<0.001
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$		Water		<0.001	<0.001	<0.001	<0.001	<0.001
ting Limit       0.001       0.001       0.001       0.001       0.001         0.097       0.097       0.097       0.097       0.285         traction       Accuracy       2       1       2       2         traction       Accuracy       100       99       98       99         strument       Accuracy       97       97       95         strument       Accuracy       MALYSIS       ANALYSIS       CHEMIST       QC:         METHOD       DATE       METHOD       COMPLETED       QC:       (mg/L)         EPA 5030       1/7/98       EPA 8020       1/7/98       AG       0.100 ea	Method Blank			<0.001	<0.001	<0.001	<0.001	
0.097 0.097 0.097 0.285 traction Accuracy trument Accuracy PREP PREP ANALYSIS 0.091 99 98 99 97 97 97 95 PREP PREP ANALYSIS ANALYSIS 0.07 95 PREP PREP ANALYSIS ANALYSIS 0.07 95 PREP PREP ANALYSIS 0.000 0.000 0.000 0.000 0.000 0.000 0.0000 0.0000 0.000000	Reporting Limit			0,001	0.001	0.001	0.001	
2       1       2       2         traction Accuracy       100       99       98       99         strument Accuracy       97       97       97       97       95         merhoD       DATE       METHOD       DATE       METHOD       01/1/98       0100 ci         FREP       FREP       ANALYSIS       ANALYSIS       CHEMIST       97       95         METHOD       DATE       METHOD       COMPLETED       01000       0100 ca	QC			0.097	760.0	0.097	0.285	
z $z$								
traction Accuracy       100       99       99       99         strument Accuracy       97       97       97       95         strument Accuracy       PREP       PREP       ANALYSIS       ANALYSIS       97       95         PREP       PREP       PREP       ANALYSIS       ANALYSIS       CHEMIST       QC:         METHOD       DATE       METHOD       COMPLETED       (mg/L)         EPA 5030       1/7/98       FPA 8020       1/7/98       AG       0.100 ea	RPD			2	1	5	2	
strument Accuracy 97 97 97 95 95 PREP PREP ANALYSIS ANALYSIS CHEMIST QC: METHOD DATE METHOD COMPLETED $(mg/L)$ EPA 5030 1/7/98 EPA 8020 1/7/98 AG 0.100 ea	<pre>% Extraction Accuracy</pre>			100	66	86	66	
PREPPREPPREPANALYSISCHEMISTQC:METHODDATEMETHODCOMPLETED(mg/L)EPA 50301/7/98EPA 80201/7/98AG0.100 ea	Instrument			16	16	67	95	·
EPA 5030 1/7/98 EPA 8020 1/7/98 AG 0		PREP DATE	ANALYSIS METHOD	ANAL		HEMIST	QC: (mg/L)	SPIKE: (mg/L)
	EPA	1/7/98		1/	7/98	AG	0.100 ea	0.1 ea
02-2-1		R			0-6-			

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El Paso, Texas 79922 888 • 588 • 3443 E-Mail: lab@traceanalysis.com

806 • 794 • 1296 915•585•3443

FAX 806 • 794 • 1298 FAX 915•585•4944

ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market St. Midland, TX 79703

January 23, 1998 Receiving Date: 01/07/98 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM Prep Date: 01/21/98 Analysis Date: 01/21/98 Sampling Date: 01/06/98 Sample Condition: Intact & Cool Sample Received by: VW Project Name: Former Hobbs Gas Plant

CHLORIDE

2 94 101

TA#	FIELD CODE	(mg/L)
T88411	MW-1	6.2
T88412	MW-2	27 *
T88413	, MW-3	58
ICV		101
CCV		101
Reporting Limit		5.0

RPD	
% Extraction Accuracy	
% Instrument Accuracy	

METHODS: 4500 CI-C. CHEMIST: DG CHLORIDE SPIKE: 100 mg/L CHLORIDE. CHLORIDE CV: 100 mg/L CHLORIDE.

1-23-98

Director, Dr. Blair Leftwich

DATE

6701 Aberdeen Avenue, 4725 Ripley Avenue, Sui		00•378•1296 806•794•1296 FAX 806 88•588•3443 915•585•3443 FAX 915	• 794 • 1298 • 555 • 4944
January 23, 1998 Receiving Date: 01/07/98 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM	ANALYTICAL RESUL ECO-LOGICAL ENVIR Attention: Carrie Eick 2200 Market St. Midland, TX 79703	CONMENTAL Prep Date: 01 Analysis Date: Sampling Date Sample Condi Sample Recei Project Name:	01/21/98 01/06/98 tion: Intact & Cool
T88414 T88415 T88416 T88417 T88418 T88419 T88420 ICV CCV	MW-4 MW-5 MW-6 MW-7 MW-8 MW-9 MW-10	10 27 31 37 27 490 140 101 99	
Reporting Limit RPD % Extraction Accuracy % Instrument Accuracy		5.0 2 94 101	
METHODS: 4500 CI-C. CHEMIST: DG CHLORIDE SPIKE: 100 mg/L C CHLORIDE CV: 100 mg/L CHL			
Director, Dr. Blair	Leftwich	/_ 23-98 Date	

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6701 Aberdeen Avenue, Suite 9         Lubbock, Texas 79424         800•378•1296         806•794•1296           4725 Ripley Avenue, Suite A         El Paso, Texas 79922         888•588•3443         915•585•3443           E-Mail: lab@traceanalysis.com         Labore         806•794•1296         806•794•1296	FAX 806 • 794 • 1298 • FAX 915 • 585 • 4944
ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL SERVICES Attention: Carrie Eick	January 22, 1998 Receiving Date: 01/07/98 Sample Type: Water
2200 Market Street Midland, TX 79703	Sampling Date: 01/06/98 Sample Condition: Intact & Cool Sample Received by: VW
	Project Name: Former Hobbs Gas Plant Project No: 279-512
<b>TA # T88411</b>	Project Location: Hobbs, NM

Field Code: MW-1

Extraction Date: 01/09/98 Analysis Date: 01/13/98

	Reporting	Concentration				
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Naphthalene	0.001	0.002				

SURROGATES	% RECOVERY
2-Fluorophenol SURR	37
Phenol-d6 SURR	33
Nitrobenzene-d5 SURR	57
2-Fluorobiphenyl SURR	50
2,4,6-Tribromophenol SURR	59
Terphenyl-d14 SURR	62

METHODS: EPA SW 846-3550, 8270.

CHEMIST: RP/HW

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Director, Dr. Blair Leftwich

1-22-98

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MILLIA TRACEANALYSIS, INC.	
6701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•129 4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•344	
4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•344 E-Mail: lab@traceanalysis.com	3 FAX 915•585•4944
ANALYTICAL RESULTS FOR	
,一下,你们就能是你,你们就能是你了。""你们你,你们你,你们,你们你们的?""你们,你们你们你们你?""你们你?""你你,你们你不是你?""你,你们都能能能能不是,就不少	January 22, 1998
ECO-LOGICAL ENVIRONMENTAL SERVICES	Receiving Date: 01/07/98
Attention: Carrie Eick	Sample Type: Water
2200 Market Street	Sampling Date: 01/06/98
Midland, TX 79703	Sample Condition: Intact & Cool 200
	Sample Received by: VW
	Project Name: Former Hobbs Gas Plant
	Project No: 279-512
TA # T88412	Project Location: Hobbs, NM
Field Code: MW-2	
A TOTA COUCT INTA A CONTRACT OF A	Extraction Date: 01/09/98
에는 사실에 가장되는 것이 가장되었다. 이렇게 가장되었는 것이 있는 것은 가장하는 것이 가장하는 것이 가장되었다. 가장 가장하는 것이 가장 가장되었다. 이 것은	Analysis Date: 01/10/98
이 것 같은 그는 것 같은 않아요. 이 가지 않는 것 같은 것 같	

	Reporting	Concentration		· · · · · ·		그 안에 가 많이 한 것 같아? 것을 가 ?
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Naphthalene	0.001	ND				

ND = NUI DEIECTED	ND = NOT DETH	ECTED	. •	
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SURROGATES	% RECOVERY
2-Fluorophenol SURR	40
Phenol-d6 SURR	36
Nitrobenzene-d5 SURR	51
2-Fluorobiphenyl SURR	46
2,4,6-Tribromophenol SURR	36
Terphenyl-d14 SURR	56
	• •

METHODS: EPA SW 846-3550, 8270. CHEMIST: RP/HW

Director, Dr. Blair Leftwich

Date



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

#### ANALYTICAL RESULTS FOR **ECO-LOGICAL ENVIRONMENTAL SERVICES** Attention: Carrie Eick

2200 Market Street

Midland, TX 79703

January 22, 1998 Receiving Date: 01/07/98 Sample Type: Water Sampling Date: 01/06/98

Sample Condition: Intact & C

Sample Received by: WY Project Name : Former Hobbs Gas Plant

Project No: 279-512

Project Location: Hobbs, NM

Extraction Date: 01/09/98

Analysis Date: 01/12/98 Ľ

TA # T88413

Field Code: MW-3

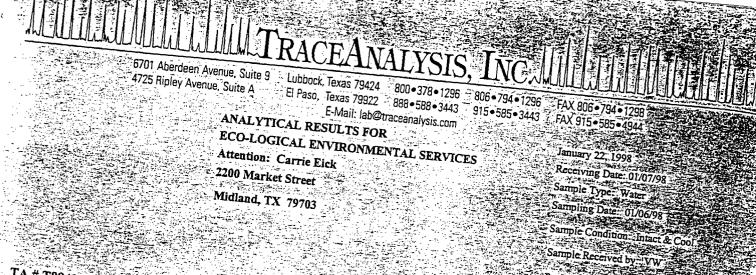
Reporting Concentration ~~%IA %EA - 77 at RPD EPA 8270 . . . (mg/L)OC Limit 35 - F ND 0.001 Naphthalene الح الجريد مرد ÷----

ND = NOT DETECTED

% RECOVERY SURROGATES 2-Fluorophenol SURR 39 Phenol-d6 SURR 34 Nitrobenzene-d5 SURR 64 54 2-Fluorobiphenyl SURR 50 2,4,6-Tribromophenol SURR Terphenyl-d14 SURR 74 ÷., METHODS: EPA SW 846-3550, 8270. CHEMIST: RP/HW . in the second ويهلكه ليرزأ ليظريني المويكات

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Director, Dr. Blair Leftwich



TA # T88414 Field Code: MW-4

					Extraction Date:	Hobbs, NM	
EPA 8270	Reporting	Connection			والمتعادية المراجع والمتحاط المتعادين والمراجع	103198 A	
Naphthalene	Limit	Concentration (mg/L)				01/10/98	
	0.001	NT)	QC	RPD	%FA	anne ga	

ND = 1	NOT	D man	
··· 4	101	DETECTED	
	· •		

#### SURROGATES

2-Fluorophenol SURR	% RECOVERY
Phenol-d6 SURR	42
Nitrobenzene-d5 SURR	38
2-Fluorobiphenyl SURR	58
2,4,6-Tribromophenol SURR	50
Terphenyl-d14 SURR	44
JUAK	62

METHODS: EPA SW 846-3550, 8270. A ......

CHEMIST: RP/HW 

Director, Dr. Blair Leftwich

-22-78

Project Location: Hobbs, NM

Project No: 279-512

Project Name- Former Hobbs Gas Plant



E-Mail: lab@traceanalysis.com

ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL SERVICES Attention: Carrie Eick 2200 Market Street

Midland, TX 79703

January 22, 1998

Receiving Date: 01/07/98 Sample Type: Water Sampling Date: 01/06/98 

Sample Condition- Intact & Co

Sample Received by VW Project Name: Former Hobbs Gas P 7 Project No: 279-512 

Project Location: Hobbs, NM . .

- Extraction Date: 01/09/98 ويقار المشاعد والم - 2-Analysis Date: 01/10/98

	Reporting	Concentration				
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	
Naphthalene	0.001	ND				

ND = NOT DETECTED 

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TA # T88415

Field Code: MW-5

% RECOVERY SURROGATES 36 **2-Fluorophenol SURR** Phenol-d6 SURR 32 Nitrobenzene-d5 SURR 54 48 2-Fluorobiphenyl SURR 2,4,6-Tribromophenol SURR 54 Terphenyl-d14 SURR 61 1 

te to at in METHODS: EPA SW 846-3550, 8270. CHEMIST: RP/HW

Director, Dr. Blair Leftwich 1.5.4

1-22-98



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ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL SERVICES Attention: Carrie Eick 2200 Market Street Midland, TX 79703

TA # T88416 Field Code: MW-6

Sample Type: Water Sampling Date: 01/06/ Sample Condition Intact & Cool Sample Received by 5 VW Project Name: Former Hobbs Gas Plant Project No: 279-512 Project Location: Hobbs, NM 

FAX 915 • 585 • 4944

January 22, 1998 Receiving Date: 01/07/98

- 6

Extraction Date: 01/09/98

Analysis Date: 01/10/98

/-22-58

Date

	Reporting	Concentration				
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	
Naphthalene	0.001	ND				

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	33
Phenol-d6 SURR	29
Nitrobenzene-d5 SURR	. 48
2-Fluorobiphenyl SURR	<b>41*</b>
2,4,6-Tribromophenol SURR	
Terphenyl-d14 SURR	50
METHODS: EPA SW 846-3550, 8270.	
CHEMIST: RP/HW	
*NOTE: Surrogate recovery out of	standard range due to matrix effect
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Director, Dr. Blair Leftwich <u>.</u>

## TRACEANALYSIS, 1

5701 Aberdeen Avenue, Suite 9 Lubbock, Texas 79424 800•378•1296 806•794•1296 FAX 806•794•1298 4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944 E-Mail: lab@traceanalysis.com

- ANALYTICAL RESULTS FOR
- ECO-LOGICAL ENVIRONMENTAL SERVICES
- Attention: Carrie Eick
- 2200 Market Street
- Midland, TX 79703

Renorting

28

46\*

38\*

32

45

January 22, 1998 Receiving Date: 01/07/98 Sample Type: Water Sampling Date 01/06/98 

Sample Condition-Intact & Cool  $\mathcal{P}_{\mathcal{P}}$ 

Sample Received by W e - Former Hobbs Gas Plan Project Name:: Former Hob Project No:: 279-512

Project Location: Hobbs, NM 

Extraction Date: 01/09/98

Analysis Date: 01/10/98

<ul> <li>All C. C. C. CONTRAGE Static Contract Manufactures Contract Co</li></ul>	Toporang	Controling allow		A 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1		······································
EPA 8270	Limit	(mg/L)	etter var	RPD	%EA	%IA
Naphthalene	0.001	ND ND				

Concentration

## 

ND = NOT DETECTED

TA # T88417

Field Code: MW-7

- 50 

#### % RECOVERY SURROGATES 31

2-Fluorophenol SURR States States Phenol-d6 SURR Nitrobenzene-d5 SURR

2-Fluorobiphenyl SURR 

2,4,6-Tribromophenol SURR

Terphenyl-d14 SURR Security Set

METHODS: EPA SW 846-3550, 8270.

CHEMIST: RP/HW

NOTE: Surrogate recovery out of standard range due to matrix effect.

Director, Dr. Blair Leftwich 

1-22-98



E-Mail: lab@traceanalysis.com

#### ANALYTICAL RESULTS FOR

ECO-LOGICAL ENVIRONMENTAL SERVICES 

Attention: Carrie Eick 2200 Market Street

-Midland, TX 79703

January 22, 1998 Receiving Date: 01/07/98 623 Sample Type: Water Sampling Date: 01/06/98 Sample Condition: Intact & Cool 14/10 <u>تيجي و</u> Sample Received by: VW Project Name: Former Hobbs Gas Plant Project No: 279-512

Project Location: Hobbs, NM. 

Extraction Date: 01/09/98 Analysis Date: 01/10/98 

	Reporting	Concentration				
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Naphthalene	0.001	ND				

ND = NOT DETECTED

TA # T88418

ž

Field Code: MW-8

Ξ.

SURROGATES	% RECOVERY
2-Fluorophenol SURR	33
Phenol-d6 SURR	30
Nitrobenzene-d5 SURR	45
2-Fluorobiphenyl SURR	40*
2,4,6-Tribromophenol SURR	32
Terphenyl-d14 SURR	44

METHODS: EPA SW 846-3550, 8270 CHEMIST: RP/HW

NOTE: Surrogate recovery out of standard range due to matrix effect.

1-22-98 4.3

Date

Director, Dr. Blair Leftwich 1-1-6-1

# TRACEANALYSIS, INC.

E-Mail: lab@traceanalysis.com Gir Territ

ANALYTICAL RESULTS FOR

ECO-LOGICAL ENVIRONMENTAL SERVICES Attention: Carrie Eick

2200 Market Street

Midland, TX 79703

January 22, 1998-Receiving Date: 01/07/98

Sample Type-Water Sampling Date: 01/06/98

Sample Condition Interior (Coo)

Sample Condition Infact 41 Sample Received by WW Project Name Former Hobbs Project No: 279-5125

Project Location: Hobbs 'NM 

Extraction Date: 01/09/98 1 Analysis Date:: 01/10/98

an an an the state of the state	- Reporting	Concentration		and a state of the second s	a the second second Party of	The second s
EPA 8270	Limit	(mg/L)	.≪QC =	RPD	%EA	**************************************
Naphthalene	0.001	ND				

#### ND = NOT DETECTED

TA # T88419

Field Code: MW-9

#### SURROGATES

2-Fluorophenoi SURR

وتبهته والعرقين

Phenol-d6 SURR

Nitrobenzene-d5 SURR elen de

2-Fluorobiphenyi SURR

المخيصين وسيترج والمتحجين المتحج والمع 2,4,6-Tribromophenol SURR

Terphenyl-d14 SURR

12 *.* . . METHODS: EPA SW 846-3550, 8270.

CHEMIST: RP/HW

% RECOVERY

34 31

.50

46 - 37

48

Director, Dr. Blair Leftwich

[-22-98



Receiving Date: 01/07/98

ANALYTICAL RESULTS FOR

ECO-LOGICAL ENVIRONMENTAL SERVICES

Attention: Carrie Eick

2200 Market Street

64

58

96

90

80

92

Midland, TX 79703

Sampling Date 21/06/98 3 Sample Condition Intact & Cool Sample Received by-VW Project Name Former Hobbs Gas Plant

Sample Type Water

Project No: 279-512 Project Location: Hobbs, NM 

Extraction Date: 01/09/98 

Analysis Date: 01/10/98 

#### TA # T88420

Field Code: MW-10

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Naphthalene 

ND = NOT DETECTED - - - -

الجنبة خدارا % RECOVERY

SURROGATES

معر بالمنازين 2-Fluorophenol SURR

Phenol-d6 SURR

13 A. Nitrobenzene-d5 SURR

1. 1. 1.

2-Fluorobiphenyl SURR - -----

2,4,6-Tribromophenol SURR

Terphenyl-d14 SURR 

METHODS: EPA SW 846-3550, 8270.

ملار : بود. ۱۳۹۹ - ۲۰۰۹ - ۲۰۰۶

CHEMIST: RP/HW

Date

Director, Dr. Blair Leftwich

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#### K N ENERGY, INC. FORMER HOBBS GAS PLANT HOBBS, NEW MEXICO ECO JOB NO. 279-512

 East
 10493.85
 10048.36
 10306.93
 10104.83
 10483.21
 10835.81
 11147.27
 10228.42
 10892.88
 11068.41

 North
 9537.29
 9871.37
 9547.91
 9510.93
 9332.16
 9165.31
 8820.05
 9098.68
 9535.65
 9273.17

#### 09/17/96

Well	MW-1
TOC	495.73
Product Depth	
H2O Depth	53.10
Product Thickness	
Adjusted Prod. Thick	0.00
Adj. Depth to Liquid	53.10
H2O Elev Adjusted	442.63

#### 10/23/96

Well	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6
TOC Product Depth	495.73	502.41	499.13	501.12	500.84	496.27
H2O Depth Product Thickness	53.34	58.33	56.28	58.12	58.96	55.53
Adjusted Prod. Thick	0.00	0.00	0.00	0.00	0.00	0.00
Adj Depth to Liquid	53.34	58.33	56.28	58.12	58.96	55.53
H2O Elev Adjusted	442.39	444.08	442.85	443.00	441.88	440.74

#### 04/10/97

Well	MW-1	MW-2	MW-3	MW-4	MW-5	MW-8	MW-7	MW-8	MW-9	MW-10
TOC	495.73	502.41	499.13	501.12	500.84	496.27	495.44	501.81	496.85	492.46
Product Depth H2O Depth	54.32	59.54	57.25	58.83	59.77	56.28	57.28	60.32	56.29	52.83
Product Thickness Adjusted Prod. Thick	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adj. Depth to Liquid	54.32	59.54	57.25	58.83	59.77	56.28	57.28	60.32	56.29	52.83
H2O Elev Adjusted	441.41	442.87	441.88	442.29	441.07	439.99	438.16	441.49	440.56	439.63

#### 07/07/97

Well	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MVV-9	MW-10
TOC	495.73	502.41	499.13	501. <b>1</b> 2	500.84	496.27	495.44	501.81	496.85	492.46
Product Depth H2O Depth Product Thickness	54.64	60.00	57.59	59.19	60.1	56.58	57.54	60.67	56.66	53.09
Adjusted Prod. Thick	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adj. Depth to Liquid	54.64	60.00	57.59	59.19	60.10	56.58	57.54	60.67	56.66	53.09
H2O Elev Adjusted	441.09	442.41	441.54	441.93	440.74	439.69	437.90	441.14	440.19	439.37

10/08/97										
Well	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
TOC	495.73	502.41	499.13	501. <b>12</b>	500.84	496.27	495.44	501.81	496.85	492.48
Product Depth H2O Depth Product Thickness	54.98	60.39	57.92	59.56	60.31	56.88	57.85	61	57	53.43
Adjusted Prod. Thick	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adj. Depth to Liquid	54.98	60.39	57.92	59.56	60.31	56.88	57.85	61.00	57.00	53.43
H2O Elev Adjusted	440.75	442.02	441.21	441.56	440.53	439.39	437.59	440.81	439.85	439.03

01/06/97

f:\master\279512\waterlev.wb2

Well	MW-1	MW-2	MW-3	MW-4	MW-5	MW-8	MW-7	MW-8	MW-9	MW-10
TOC Product Depth	495.73	502.41	499.13	501.12	500.84	496.27	495.44	501.81	496.85	492.46
H2O Depth Product Thickness	55.28	60.70	58.24	59.91	60.76	57.23	58.17	61.35	57.38	53.86
Adjusted Prod. Thick	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Adj. Depth to Liquid	55.28	60.70	58.24	59.91	60.76	57.23	58.17	61.35	57.38	53.86
H2O Elev Adjusted	440.45	441.71	440.89	441.21	440.08	439.04	437.27	440.46	439.47	438.60

							Average Elevation Drop
ELEV Drop between 10/23/96 end 04/10/97 ELEV Drop between	0.98	1.21	0.97	0.71	0.81	0.75	0.91
10/23/96 and 07/07/97	1.30	1.67	1.31	1.07	1.14	1.05	1.26
ELEV Drop between 10/23/96 and 10/08/97	1.64	2.06	1.64	1.44	1.35	1.35	1.58
ELEV Drop between 10/23/96 and 01/06/98	1.94	2.37	1.96	1.79	1.80	1.70	1.93

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QUARTERLY SAMPLING AND MONITORING REPORT

Environmental Services Inc.

O[O][C][C]

### JULY 7, 1997



Date Prepared: July 21, 1997 RECEIVED

GW-191

JAN 06 1998

Environmental Bureau Oil Conservation Division

ECO Project No.: 279-512

**Prepared for:** New Mexico Oil Conservation Division Mr. Patricio Sanchez

> On Behalf of: K N Energy, Inc.

**Prepared by:** Eco-logical Environmental Services, Inc. 2200 Market St. <u>Midland, Texas 79703</u> 915/5**20**,7535 Environmental Services Inc.

Oil Conservation Division Attn.: Mr. Patricio Sanchez 2040 S. Pacheco Santa Fe, NM 87505



July 28, 1997 ECO Job # 279-512

Re: K N Energy, Inc. - Former Hobbs Natural Gas Plant July Quarterly Sampling and Monitoring Report Hobbs, New Mexico

Dear Mr. Sanchez:

Eco-logical Environmental Services, Inc. (ECO) has completed the July sampling and quarterly monitoring at the Hobbs Natural Gas Plant in response to the OCD request. Findings are presented in the attached report.

Sincerely,

Eco-logical Environmental Services, Inc.

Carrie E. Eik

Carrie E. Eick, P.E. Project Manager

enclosure

cc: Mr. Wayne Price - OCD Hobbs Office Mr. Hayden Truscott - K N Energy, Inc.



JUL 31 1997

Environmental Bureau Oil Conservation Division

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ATTORNEY CLIENT PRIVILEGE

#### K N Energy, Inc. Hobbs Natural Gas Plant Hobbs, Lea County, New Mexico

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1.	REPORT SUMMARY
II.	CHRONOLOGY OF EVENTS
HI.	TABLES
IV.	CONCLUSIONS AND RECOMMENDATIONS
V.	QUALITY ASSURANCE / QUALITY CONTROL PROCEDURES
VI.	APPENDICES
	Analytical Reports / Chain of Custody Documentation
	List of Groundwater Level Measurements

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Figure 4 -	Groundwater Gradient Map 5	5
Figure 5 -	Benzene Isograd Map	7



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#### I. Report Summary

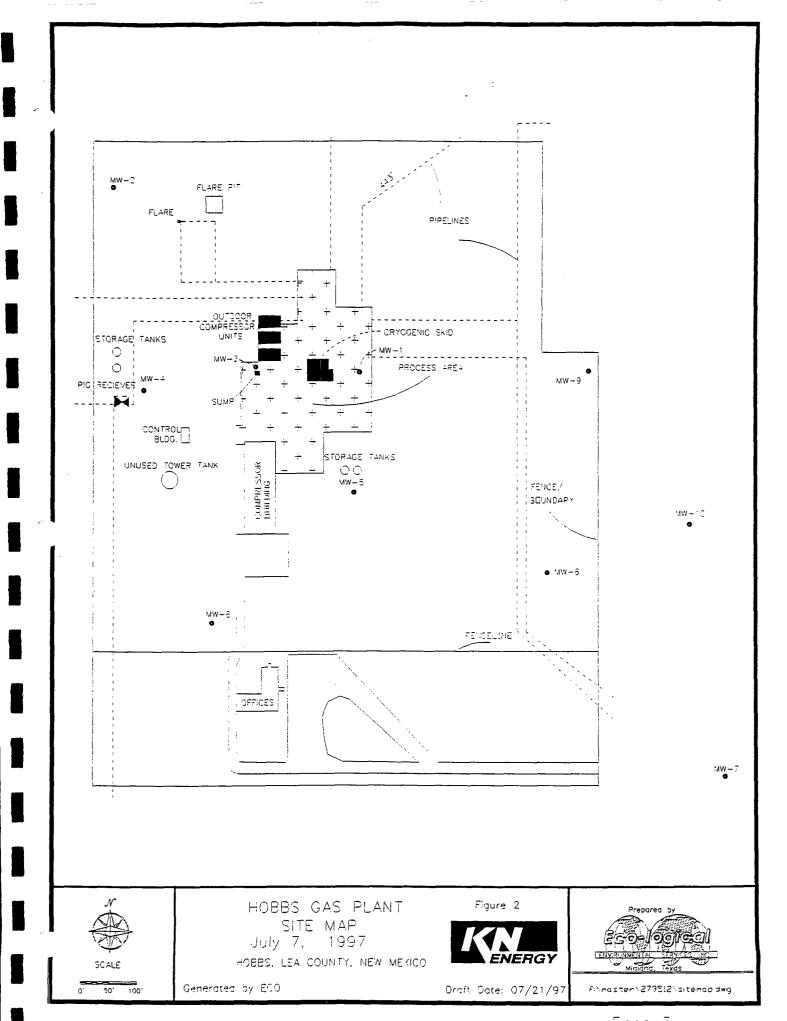
On July 7, 1997, Eco-logical Environmental Services, Inc. (ECO) personnel were onsite to purge and sample ten (10) monitor wells at the Former Hobbs Gas Plant west of Hobbs, New Mexico (see Figure 1). At the time of the sampling, none of the wells exhibited free product; however, two of the wells (MW-1 and MW-3) did contain hydrocarbon/septic odors. The objective of this sampling event was to fulfill the Abatement Plan presented to the Oil Conservation Division (OCD) in April 1997. This event involved the measurement of relative well depths and relative depths to water, purging the monitoring wells (MW), and sample collection and analysis.

Dissolved phase hydrocarbons are present in four of the ten monitor wells at the site (MW-1, MW-3, MW-5, and MW-6). Naphthalene continues to be present in MW-1, and chloride is present in MW-9. Figure 2 presents the site map with the locations of the monitor wells.

The initial task was to determine the static groundwater levels relative to the north side of the top of each well casing and to examine each well for the presence of phase separated hydrocarbons (PSH) utilizing an interface probe with a calibrated tape (see Tables 1 - 10). Wells were measured from the least impacted to the most impacted as determined by previous sampling events. All equipment was properly decontaminated between gauging of wells.

Depth to groundwater at the site ranges from 51 to 58 feet below the ground surface. These depths represent an average drop in the water table of 1.26 feet (see Figure 3) since the sampling event in October of 1996. The overall groundwater flow direction is stable to the southeast at a gradient of 1:330 (see Figure 4).

After obtaining all measurements, the volume of water in each casing was calculated. Three well volumes of groundwater were purged using a pneumatic pump or by hand bailing. After allowing the wells to recover to within 70 percent of the original water depth, samples were collected utilizing new, single use, one (1) liter bailers.



Page 3

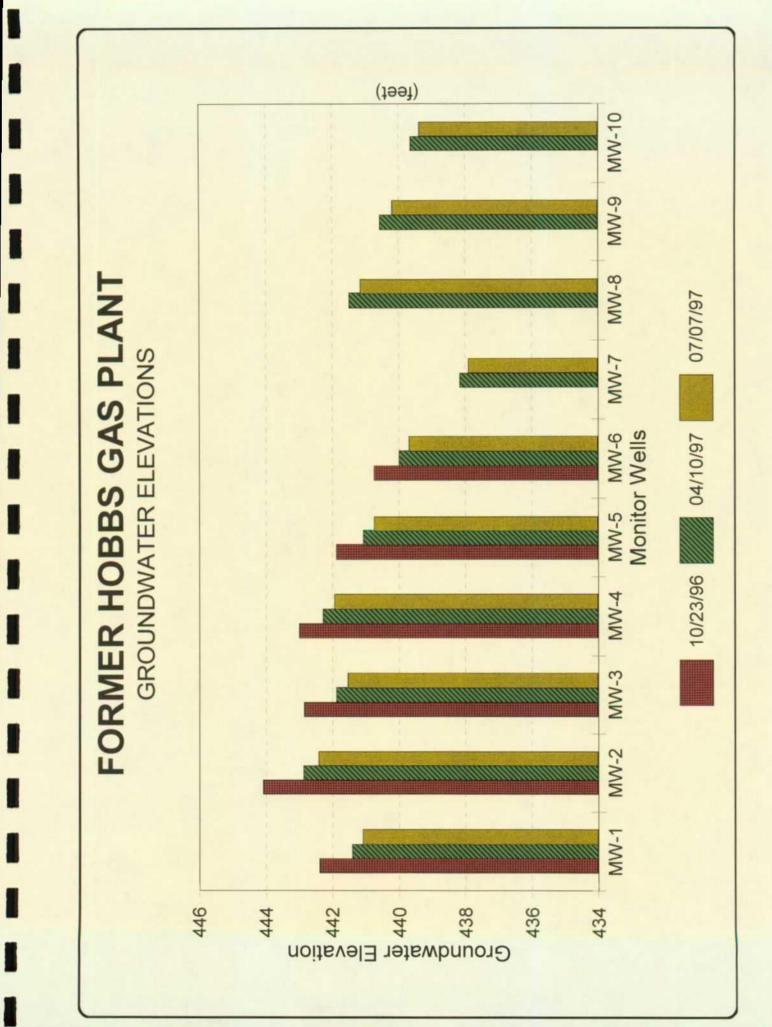
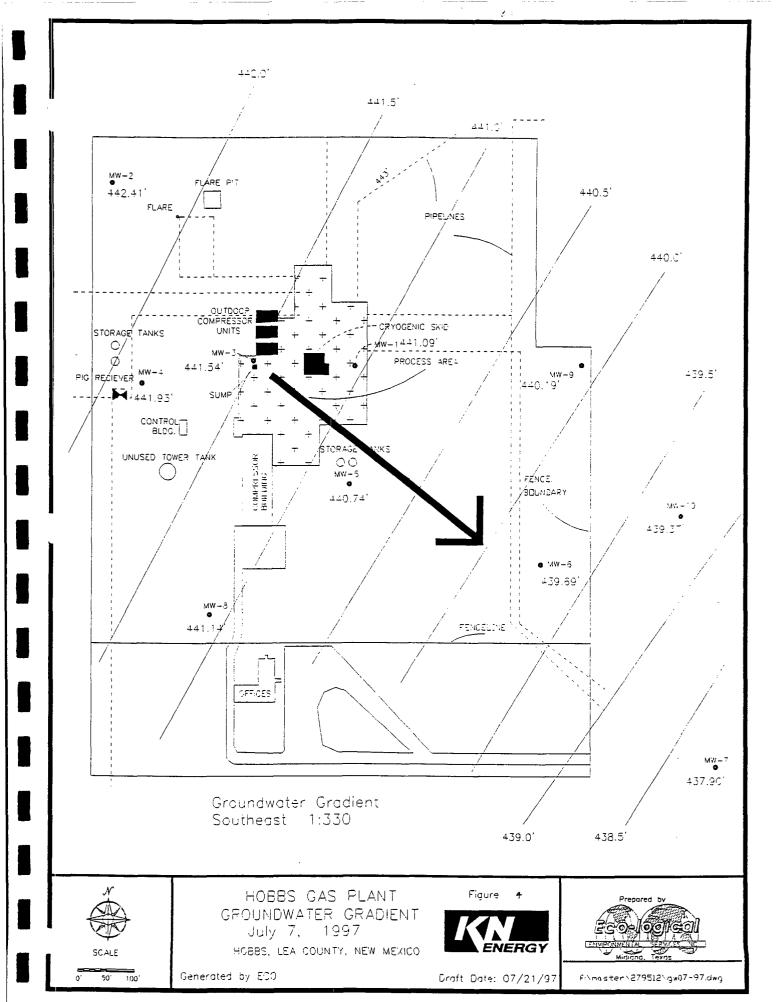
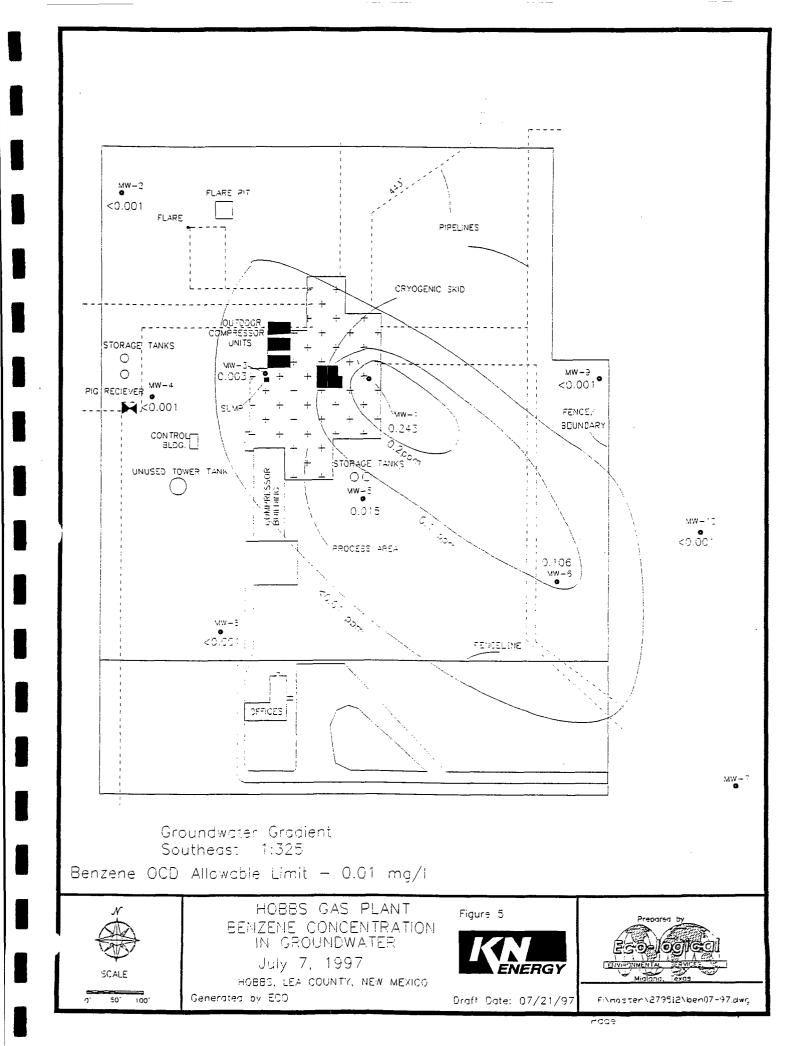


Figure 3



Groundwater samples were then submitted to TraceAnalysis, Inc., in Lubbock, Texas, for analysis. Based on previous analytical results and as specified in the April 1997 Abatement Plan, analysis included benzene in all wells, naphthalene in wells MW-1 and MW-5, and chloride in MW-9 and MW-10.

Benzene continues to be present above the WQCC 3103 Guideline level of 0.01 ppm in the water from wells MW-1, MW-5, and MW-6 at concentrations of 0.243, 0.015, and 0.106 ppm, respectively. The benzene concentration in the water from well MW-3 is currently below the guidelines with a level of 0.003 ppm. Chloride concentrations in MW-9 and MW-10 are now below the guideline level of 250 ppm at concentrations of 41 and 8.8 ppm, respectively. Naphthalene was formerly present in well MW-1 at concentrations above the guideline level but is currently at a concentration of 0.005 ppm, which is less than the guideline level of 0.03 ppm. Naphthalene is not present in the down-gradient well (MW-5). Results of the analysis of the water samples are presented in Tables 11 to 21 and are presented on graphs in the appendices. Figure 5 presents the estimated isograds for benzene. Section 6 contains the lab reports.



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#### II. Chronology of Events

The Oil Conservation Division (OCD) of New Mexico inspected the plant on October 16, 1995. During this inspection, they noted several deficiencies at the site relative to discharge plan compliance. The noted items referred to the need for new/additional containment structures at five locations, methods to insure tank integrity, and the delineation of impacted soils/rock at three locations. In a letter issued by the OCD on December 6, 1995, the above deficiencies were detailed in a seven point letter. This letter indicated that KN must propose and implement processes that would correct the noted deficiencies. The following chronology depicts the actions conducted at the facility:

1994	K N Energy took possession of the plant in 1994 following a merger with American Oil and Gas.
Dec. 1995	Work plan for soils delineation submitted.
Jan. 1996	Soils Work Plan approved.
Feb. 1996	Delineation of impacted soils and rock conducted and containment construction begins.
June 1996	Soils Delineation Investigation Report filed with request for Groundwater Delineation.
Oct. 1996	Work plan for groundwater delineation filed, OCD approval of plan, and monitor well installation begun.
Dec. 1996	K N announces impending closure of plant. ECO requests extension of time and change from Discharge Permit to Closure Plan.
Jan. 1997	Additional groundwater monitoring well installed and submission of Abatement Plan and Closure Plan Report.
Feb. 1997	OCD review and phone conversation with KN and ECO regarding Abatement Plan. A letter from the OCD presenting the conclusions of the meeting was received. Conclusions included that additional wells be installed to define the points of compliance in the groundwater and an update/amendment report be submitted.

April 1997	Three monitor wells installed and a quarterly sampling and monitoring event occurs.
May 1997	Submission of updated Abatement Report.
July 1997	Quarterly Sampling Event.

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#### III. Tables

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Table 1 Groundwater Table in Feet Monitor Well 1 Elevation of Screened Interval 436.7-456.7'									
Date	TD	TOC Elevation	Depth to	GW	Product Thickness	GW Elev. Corrected for PSH			
09/17/96	59.0	495.73	-	53.10	0.00	442.63			
10/23/96	59.0	495.73		53.34	0.00	442.39			
04/10/97	59.0	495.73		54.32	0.00	441.41			
07/07/97	59.0	495.73	_	54.64	0.00	441.09			

Table 2 Groundwater Table in Feet Monitor Well 2 Elevation of Screened Interval 440.4–460.4								
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH		
09/17/96			Well No	ot installed	<u></u>			
10/23/96	62.0	502.41	-	58.33	0.00	444.08		
04/10/97	62.0	502.41		59.54	0.00	442.87		
07/07/97	62.0	502.41	_	60.00	0.00	442.41		

			Table 3 Indwater Table Monitor Wel Screened Inte	3	23	
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corracted for PSH
09/17/96			Well N	ot Installed		
10/23/96	64.9	499.13	-	56.28	0.00	442.85
04/10/97	64.9	499.13	_	57.25	0.00	441.88
07/07/97	64.9	499.13	-	57.59	0.00	441.54

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Table 4 Groundwater Table in Feet Monitor Well 4 Elevation of Screened Interval 436.8-456.8								
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH		
09/17/96			Well N	ot installed		•		
10/23/96	64.3	501.12	-	58.12	0.00	443.00		
04/10/97	64.3	501.12	-	58.83	0.00	442.29		
07/07/97	64.3	501.12		59.19	0.00	441.93		

			Table 5 Indwater Table Monitor Well Screened Inter	5	3	
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
09/17/96			Weil No	ot installed		
10/23/96	64.5	500.84	-	58.96	0.00	441.88
04/10/97	64.5	500.84	-	59.77	0.00	441.07
07/07/97	64.5	500.84	_	60.10	0.00	440.74

Table 6 Groundwater Table in Feet Monitor Well 6 Elevation of Screened Interval 433.6-453.6								
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH		
09/17/96			Well N	lot Installed	1	<u>t</u>		
10/23/96	62.7	496.27	-	55.53	0.00	440.74		
04/10/97	62.7	496.27		56.28	0.00	439.99		
07/07/97	62.7	496.27	-	56.58	0.00	439,69		

Table 7 Groundwater Table in Feet Monitor Well 7 Elevation of Screened Interval 426.4-446.4								
Date	TD	TDC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH		
09/17/96			Well No	ot Installed				
10/23/96			Well No	ot Installed				
04/10/97	69.0	495.44	_	57.28	0.00	438.16		
07/07/97	69.0	495.44		57.54	0.00	437.90		

-			Table 8 ndwater Tabl Monitor Wel Screened Inte		9	
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
09/17/96		<b>I</b>	Well N	lot Installed	<u>+</u>	t
10/23/96			Well N	lot Installed		
04/10/97	70.9	501.81	50	60.32	0.00	441.49
07/07/97	70.9	501.81	-	60.67	0.00	441.49

			Table 9 ndwater Tabl Monitor We Screened Inte		.5	
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
09/17/96		ł	Well N	Not installed		
10/23/96			Well N	Not Installed		
04/10/97	67.3	496.85		56.29	0.00	440.56
07/07/97	67.3	496.85		56.66	0.00	440.19

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			Table 10 ndwater Tab Monitor Wel Screened Int	le in Feet	.0	
Date	TD	TDC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
09/17/96		<u> </u>	Well I	Not installed		
10/23/96			Well I	Not Installed		
04/10/97	66.5	492.46	-	52.83	0.00	439.63
07/07/97	66.5	492.46		53.09	0.00	439.37

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Н	Table 11 Historic Groundwater Analytical Results in mg/l MW-1									
Date	8	T	E	x	Pheno	Naphthalene				
02/14/96	0.063	<0.001	<0.001	0.008						
02/29/96	<0.001	<0.001	<0.001	<0.001						
04/20/96	0.305	<0.001	0.002	0.032	<0.001	0.017				
10/23/96	0.352	<0.001	0.026	0.081	0.025	0.01				
04/10/97	0.268	<0.001	0.012	0.034	<0.001	0.007				
07/07/97	0.243					0.005				

Shaded areas indicate over OCD Limits

Table 12 Historic Groundwater Analytical Results in mg/l MW-2									
Date	B	т	E	x	Pheno I	Naphthalene			
10/23/96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01			
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			
07/07/97	<0.001								

Table 13 Historic Groundwater Analytical Results in mg/l MW-3								
Date	B	т	E	x	Pheno I	Naphthalene		
10/23/96	0.001	<0.001	<0.001	<0.001	<0.001	<0.01		
04/10/97	0.016	<0.001	<0.001	0.005	<0.001	<0.001		
07/07/97	0.003							

Shaded areas indicate over OCD Limits

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Table 14 Historic Groundwater Analytical Results in mg/l MW-4									
Date	B	т	E	X	Pheno I	Naphthalene			
10/23/96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01			
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			
07/07/97	<0.001								

Table 15 Historic Groundwater Analytical Results in mg/l MW-5									
Date	8	т	E	x	Pheno	Naphthalene			
10/23/96	0.135	<0.001	0.006	0.071	<0.001	<0.01			
04/10/97	0.043	<0.001	<0.001	0.063	<0.001	0.001			
07/07/97	0.015					<0.001			

Shaded areas indicate over OCD Limits

Table 16 Historic Groundwater Analytical Results in mg/l MW-6								
Date	B	T	ŧ	x	Pheno	Naphthalene		
10/23/96	0,192	<0.001	<0.001	0.013	<0.001	<0.01		
04/10/97	0.272	<0.001	<0.001	0.014	<0.001	<0.001		
07/07/97	0.106							

Shaded areas indicate over OCD Limits

Table 17 Historic Groundwater Analytical Results in mg/I MW-7								
Date	В	т	E	X	Pheno I	Naphthalene		
01/09/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
07/07/97	<0.001							

	Historic G	Groundw i	able 18 vater Ana n mg/l MW-8	alytical F	Results			
Date	B	т	E	X	Pheno I	Naphthalene		
10/23/96		Well Not Installed						
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
07/07/97	<0.001							

	His	toric Gr	oundwat in	ole 19 ter Analy mg/I W-9	ytical Re	sults			
Date	в	T	E	X	Pheno	Naphthalene	Chiaride		
10/23/96		Well Not Installed							
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	320		
07/07/97	<0.001						41		

Table 20 Historic Groundwater Analytical Results in mg/l MW-10								
Date	8	т	E	x	Pheno I	Naphthalene	Chloride	
10/23/96	Well Not Installed							
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001		
07/07/97	<0.001						8.8	

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# IV. Conclusions and Recommendations

Three of the ten wells at the Former Hobbs Gas Plant continue to show dissolved phase hydrocarbons at levels above the OCD Guidelines. Following are the conclusions and recommendations following this quarterly sampling.

- Three (3) quarterly groundwater monitoring and sampling events have been conducted at this site.
- Groundwater has dropped an average of 1.26 feet since the sampling event of October 1996.
- Three monitor wells continue to contain concentrations of benzene above the OCD limits. Chloride and naphthalene levels continue to be present but at levels below the OCD Guidelines. The benzene, chloride, and naphthalene levels have continued to decline from previous sampling events.
  - Quarterly sampling and monitoring should continue.

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# V. Quality Assurance / Quality Control Procedures

Field quality assurance/quality control (QA/QC) measures consisted of equipment decontamination, use of disposable sampling equipment, calibration of field instruments, ensuring that the samples were analyzed within the EPA holding times, documentation of work activities in a bound logbook, and adherence to strict chain-of-custody protocol. The laboratory QA/QC measures were based on guidance published in the most current edition of the EPA Test Methods for Evaluating Solid Waste SW-846.

Quality Control samples were also obtained to evaluate the data. One duplicate sample was obtained from Well MW-1. Test results indicated that the duplicate analytical result was within 2.5% of the original sample. A trip blank was also analyzed with nondetectable results, indicating that no cross-contamination occurred during shipment. These results indicate adequate quality control. The following table presents the QA/QC results for comparison.

Quality Control Sample	Benzene (mg/L)
MW-1 Duplicate	0.237
MW-1	0.243
Trip	<0.001

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## 6701 Aberdeen Avenue

Lubbock, Texas 79424

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ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703

July 11, 1997 Receiving Date: 07/08/97 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM Prep Date: 07/08/97 Analysis Date: 07/08/97 Sampling Date: 07/07/97 Sample Condition: Intact & Cool Sample Received by: JH Project Name: Hobbs Gas Plant

TA#	FIELD CODE	BENZENE (mg/L)
T76954	MW-1	0.243
T76955	MW-2	<0.001
T76956	MW-3	0.003
T76957	MW-4	<0.001
T76958	MW-5	0.015
	MW-6	0.106
<sup>3</sup> 960	<b>MW-</b> 7	<0.001
. <del>3</del> 61	MW-8	<0.001
T76962	MW-9	<0.001
T76963	MW-10	<0.001
T76964	Trip	<0.001
T76965	MW-1-D	0.237
QC ·	Quality Control	0.093
RPD		1
% Extraction Accuracy		100
% Instrument Accuracy		94

REPORTING LIMIT

0.001

METHODS: EPA SW 846-8020, 5030. CHEMIST: AG BENZENE SPIKE AND QC: 0.100 mg/L BENZENE.

Director, Dr. Blair Leftwich

7-11-97

DATE

A Laboratory for Advanced Environmental Research and Analysis

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`•794•1296 FAX 806•794•1298	ANALYTICAL RESULTS I ECO-LOGICAL ENVIRON Attention: Carrie Eick 2200 Market Street Midland, TX 79703	
July 11, 1997 Receiving Date: 07/08/97 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM		Prep Date: 07/10/97 Analysis Date: 07/10/97 Sampling Date: 07/07/97 Sample Condition: Intact & Cool Sample Received by: JH Project Name: Hobbs Gas Plant
TA#	FIELD CODE	CHLORIDE (mg/L)
T76962 T76963 QC	MW-9 MW-10 Quality Control	41 8.8 23
RPD % Extraction Accuracy % Instrument Accuracy		0 91 93
REPORTING LIMIT		1.0
METHODS: EPA 300.0. CHEMIST: RC CHLORIDE SPIKE: 25 mg/L CHLO CHLORIDE QC: 24 mg/L CHLOR		
Director, Dr. Blair Leftwic	h	7-11-91 DATE
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6701 Aberdeen Avenue Lubbock, Texas 79424 6•794•1296 FAX 806•794•1298 TA #T76954 Field Code: MW-1		treet	TAL		July 11, 1997 Receiving Date: 07/ Sample Type: Wath Project No: 279-51 Project Location: F Sampling Date: 07/ Sample Condition: Sample Received by Project Name: Hob Extraction Date: 07 Analysis Date: 07	er 2 Iobbs, NM /07/97 I & C y: JH Ibs Gas Plant 7/09/97
EPA 8270	Limit	(mg/L)	RPD	%EA	%IA	
Naphthalene	0.001	0.005	64 104			

SURROGATES	% RECOVERY
Nitrobenzene-d5 SURR	76
2-Fluorobiphenyl SURR	73
Terphenyi-d14 SURR	90

METHODS: EPA SW 846-8270, 3550.

CHEMIST: HW/CC

Director, Dr. Blair Leftwich

Date

7-11-97

A Laboratory for Advanced Environmental Research and Analysis

5701 Aberdeen Avenue Lubbock, Texas 79424 •794•1296 FAX 806•794•1298 TA #T76958 Field Code: MW-5	ECO-LOGICA Attention: Car 2200 Market S Midland, TX 7	treet		Receiving Date: 07/0 Sample Type: Water Project No: 279-512 Project Location: Ho Sampling Date: 07/0 Sample Condition: I Sample Received by: Project Name: Hobb Extraction Date: 07/0	bbs, NM 7/97 & C JH 5 Gas Plant	
	Reporting	Concentration			Analysis Date: 07/	10 /97
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	83	29	64	104

SURROGATES	% RECOVERY
Nitrobenzene-d5 SURR	71
2-Fluorobiphenyl SURR	73
Terphenyl-d14 SURR	80

N NOT DETECTED

METHODS: EPA SW 846-8270, 3550.

CHEMIST: HW/CC

Director, Dr. Blair Leftwich

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7-11-57

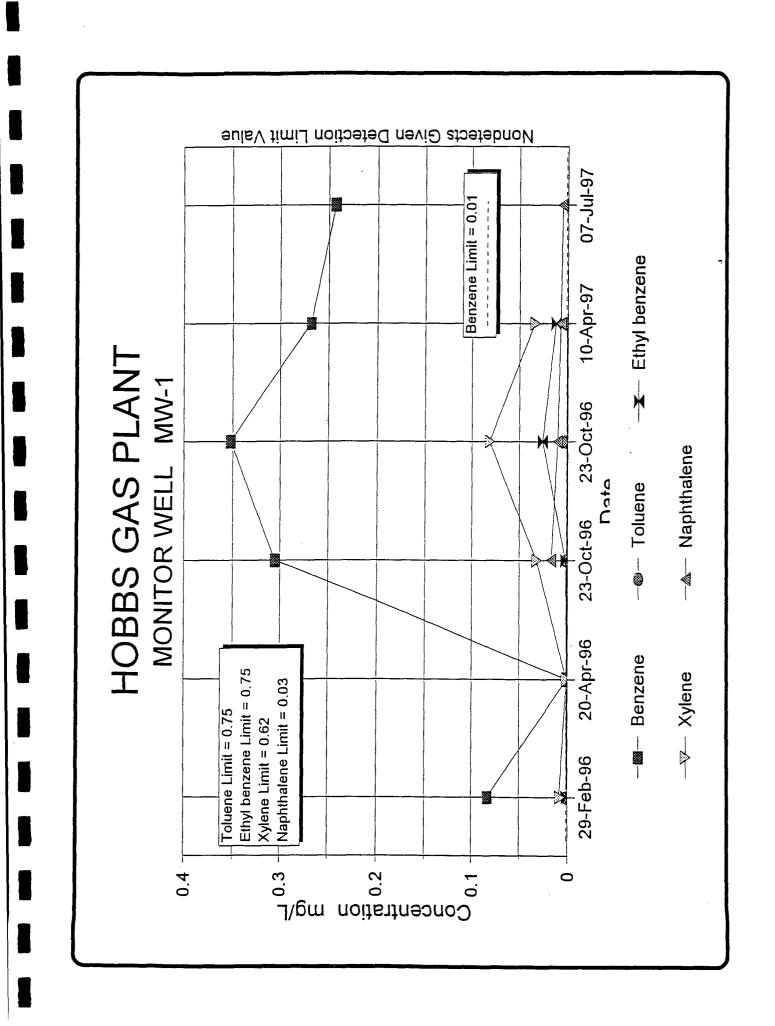
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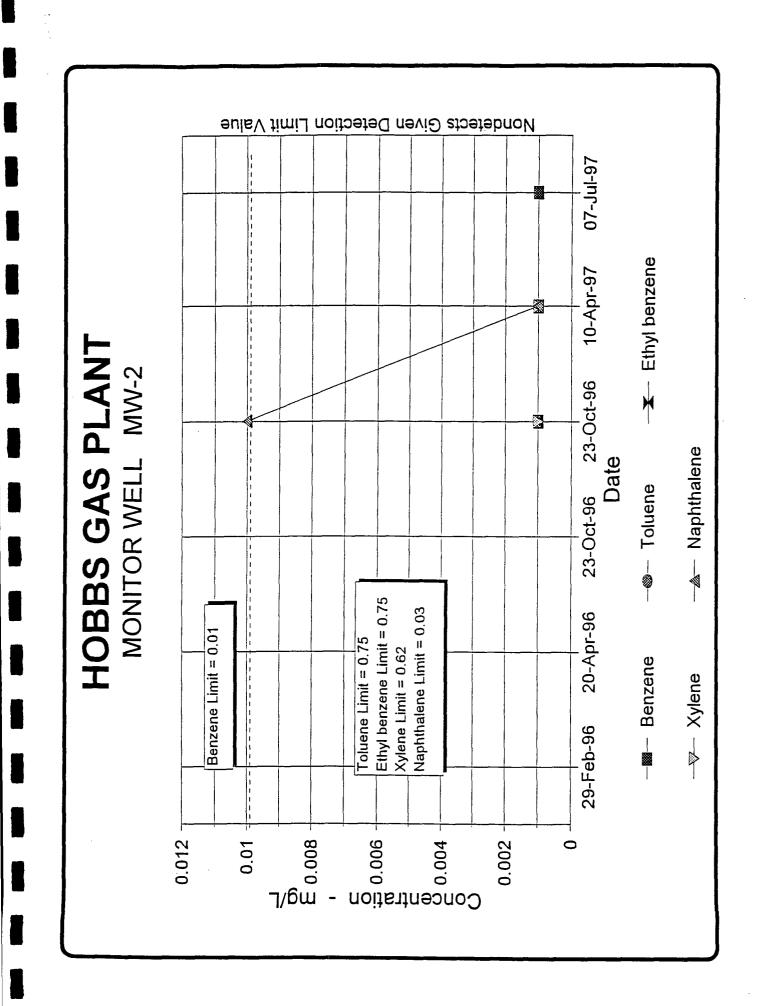
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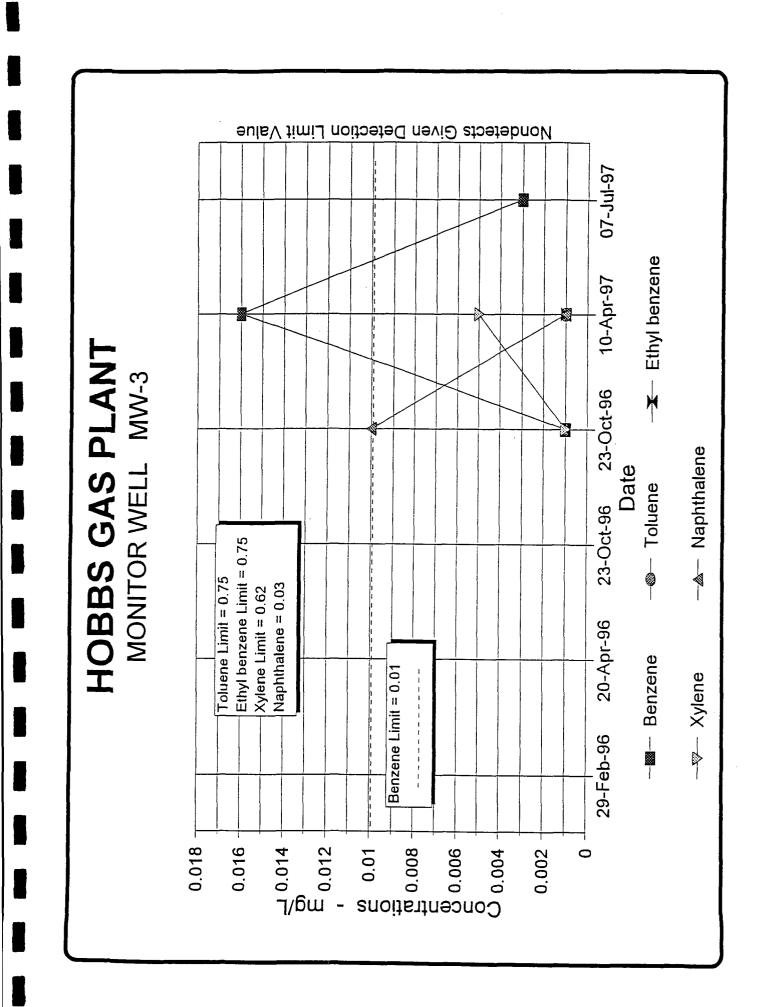
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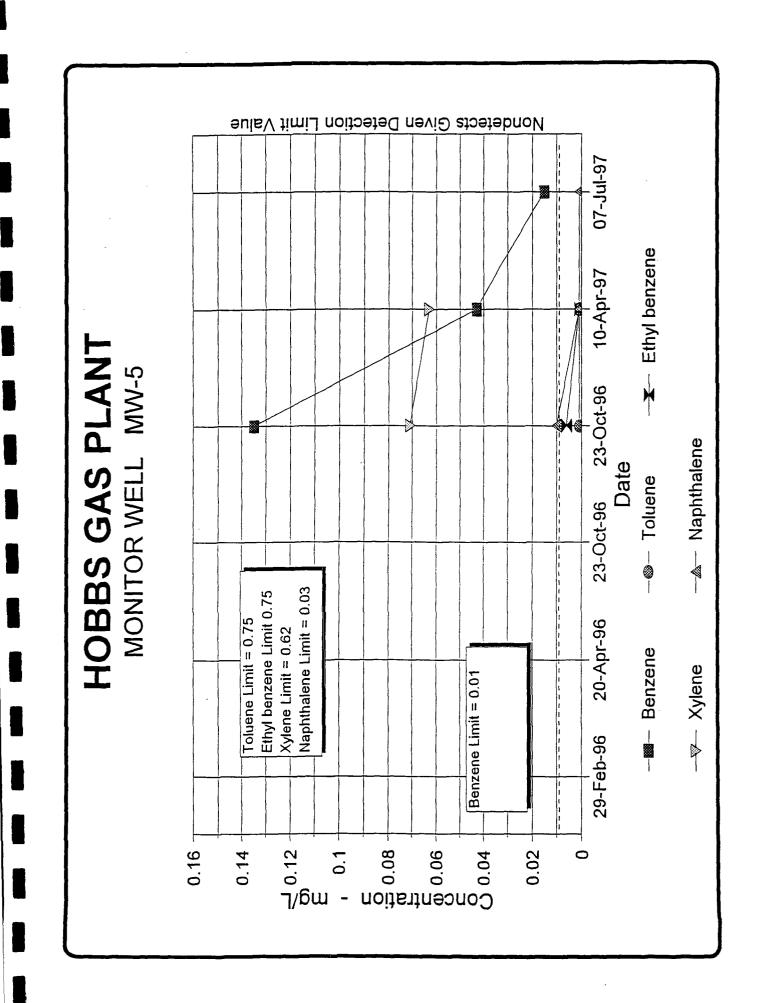
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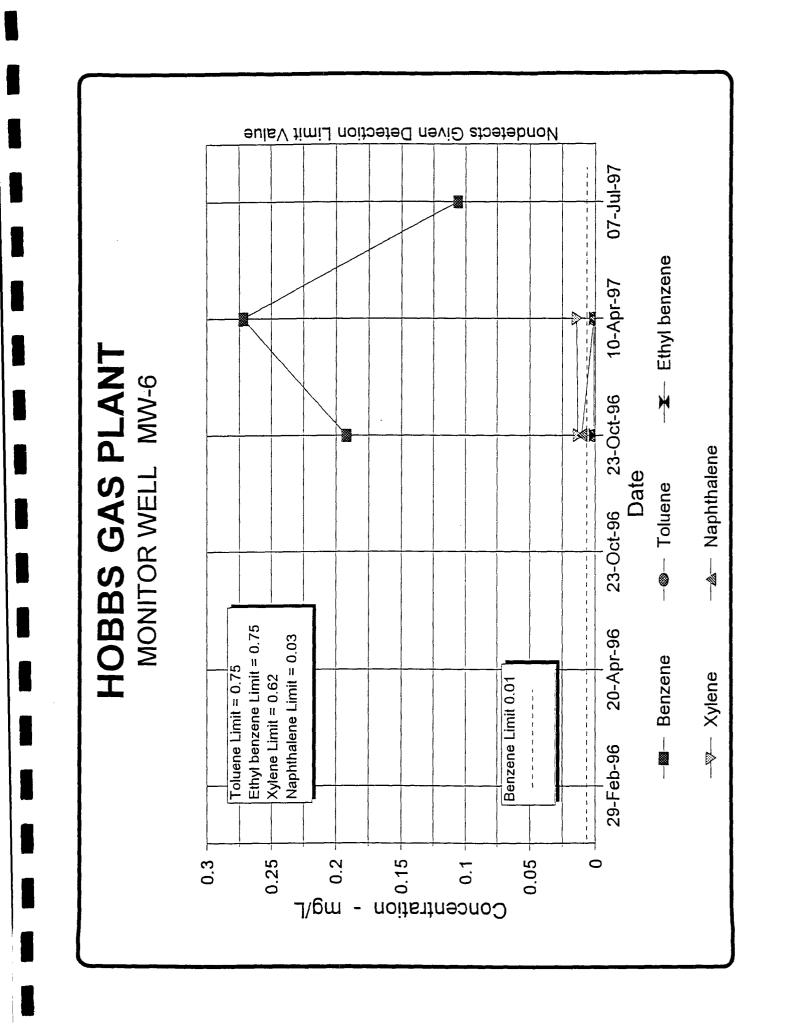
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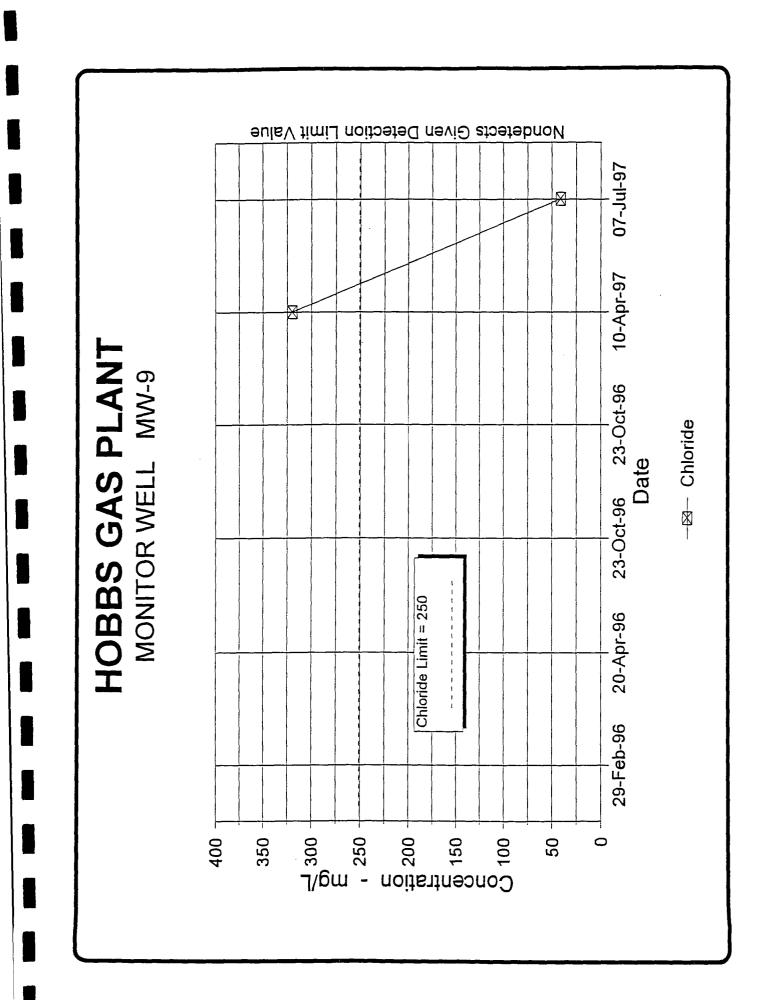


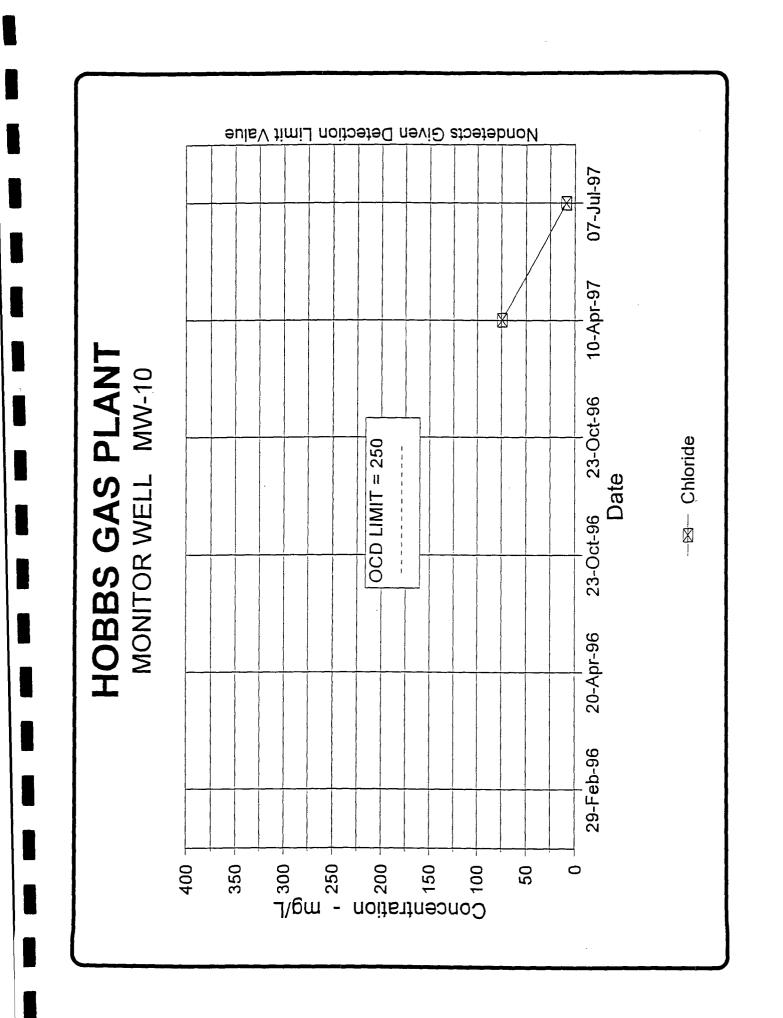












### K N ENERGY, INC. FORMER HOBBS GAS PLANT HOBBS, NEW MEXICO ECO JOB NO. 279-512

## 09/17/98

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10	495.73	502.41	499.13	501.12	500.84	496.27
	53.34	58.33	56.28	58.12	58.96	55.53
	0.00	0.00	0.00	0.00	0.00	0.00
	53.34	58.33	56.28	58.12	58.96	55,53
	442.39	444.08	442.85	443.00	441.88	440.74

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1.5-	495.73	502.41	499.13	501.12	500.84	496.27	495.44	501.81	496.85	492.46
	54.32	59.54	57.25	58.83	59.77	56.28	57.28	60.32	56.29	52.83
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	54.32	59.54	57.25	58.83	59.77	56.28	57.28	60.32	56.29	52.83
1201-1 MARTIN	441.41	442.87	441.88	442.29	441.07	439.99	438.16	441.49	440.56	439.63

### 07/07/97

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495.73	502.41	499.13	501.12	500.84	496.27	495.44	501.81	496.85	492.46
54.64	60.00	57.59	59.19	60.1	56.58	57.54	60.67	56.66	53.09
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
54.64	60.00	57.59	59.19	60.10	56.58	57.54	60.67	56.66	53.09
441.09	442.41	441.54	441.93	440.74	439.69	437.90	441.14	440.19	439.37

	0.98	1.21	0.97	0.71	0.81	0.75	0.91
<b>–</b>	1.30	1.67	1.31	1.07	1.14	1.05	1.26

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# STAGE 1 ABATEMENT UPDATE AND QUARTERLY MONITORING AND SAMPLING (April 10, 1997) HOBBS NATURAL GAS PLANT K N ENERGY, INC. HOBBS, LEA COUNTY, NEW MEXICO

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Date Prepared: May 10, 1997

RECEIVED

ECO Project No.: 279-512

**Prepared For:** New Mexico Oil Conservation Division Mr. Patricio Sanchez

> **On Behalf of:** K N Energy, Inc.

*Prepared By:* Eco-logical Environmental Services, Inc. 2200 Market St. Midland, Texas 79703 915/520-7535 JAN 06 1998

Environmental Bureau Oil Conservation Division



# STAGE 1 ABATEMENT UPDATE AND QUARTERLY MONITORING AND SAMPLING (April 10, 1997) HOBBS NATURAL GAS PLANT K N ENERGY, INC. HOBBS, LEA COUNTY, NEW MEXICO

Date Prepared: May 10, 1997

ECO Project No.: 279-512

Prepared By:

Carrie E. Eick

Carrie E. Eick, P.E. Project Manager

**Reviewed By:** 

1and

Shane Estep, R.E.M. President

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## K N Energy, Inc. Hobbs Natural Gas Plant Hobbs, Lea County, New Mexico

## **1.0 EXECUTIVE SUMMARY**

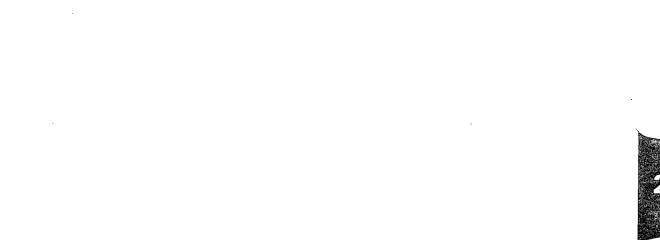
Eco-logical Environmental Services, Inc. (ECO) was contracted by K N Energy, Inc. (KN) to conduct an environmental assessment of the groundwater at their facility identified as the Hobbs Natural Gas Plant. The plant is located ten miles west of Hobbs, New Mexico (Figure 1). This portion of the project was conducted for the purpose of completing the delineation of the impacted groundwater. This is an amendment report to the Stage 1 Abatement report dated January 14, 1997.

Three additional wells were installed and sampled at the site in April 1997. On April 10, 1997, the new wells were developed and all wells were sampled. One soil sample was obtained from each new well near the groundwater table. Test results did not reveal any soil impacts above the OCD levels.

Groundwater, encountered at a depth of 55', has been impacted by historic operations of the plant. Currently, the benzene concentration is above the health standards for groundwater in the shallow aquifer in four (4) of the ten (10) monitor wells on site (State of New Mexico Water Quality Control Commission, Title 20, Chapter 6, Part 3, Section 3103, Subsection A). Chloride was also above the allowable levels for domestic water supply as stated in the same Title 20, Subsection B. Lab analysis for the up, down, and side gradient wells were found to be non-detect or below the allowable levels for benzene as stated by these guidelines.

Benzene continues to be present above the WQCC 3103 Guidelines in the water from wells MW-1, MW-3, MW-5, and MW-6 at levels of 0.268, 0.016, 0.043, and 0.272 ppm, respectively. Chloride concentration in MW-9 is also above the WQCC guidelines at a level of 320 ppm. Phenols were tested at lower detection levels and were found to be less than 0.001 ppm. Naphthalene was present in two wells (MW-1 and MW-5) but at levels below the guidelines. Results of the analysis of the water samples are presented in Tables 12 to 22. Figure 4 presents the estimated isograds for benzene. Section 6 contains the lab reports.

Current recommendations include, that ten monitor wells at the site will be sampled quarterly for benzene. Wells MW-1 and MW-5 will also be analyzed for naphthalene, and MW-9 and MW-10 will be analyzed for chloride. After one year, the site and analytical results from the wells will be evaluated and, if necessary, a recommendation of an active form of remediation in a Stage 2 Abatement Plan will be presented. Per OCD guidelines, quarterly sampling will continue for a minimum of two years after the agreed cleanup levels are reached.



## K N Energy, Inc. Hobbs Natural Gas Plant Hobbs, Lea County, New Mexico

# 2.0 STAGE 1 ABATEMENT PLAN UPDATE

# 2.1 Site Investigation History

The Oil Conservation Division (OCD) of New Mexico inspected the plant on October 16, 1995. During this inspection they noted several deficiencies at the site relative to discharge plan compliance. The noted items referred to the need for new/additional containment structures at five locations, methods to insure tank integrity, and the delineation of impacted soils/rock at three locations. In a letter issued by the OCD on December 6, 1995, the above deficiencies were detailed in a seven point letter. This letter indicated that KN must propose and implement processes that would correct the noted deficiencies. The following chronology depicts the actions conducted at the facility:

Dec. 1995	Workplan for soils delineation submitted.
Jan. 1996	Soils workplan approved.
Feb. 1996	Delineation of impacted soils and rock conducted and containment construction begins.
June 1996	Soils Delineation Investigation Report filed with request for Groundwater Delineation.
Oct. 1996	Workplan for groundwater delineation filed, OCD approval of plan, and monitor well installation begun.
Dec. 1996	K N announces impending closure of plant. ECO requests extension of time and change from Discharge Permit to Closure Plan.
Jan 1997	Additional groundwater monitoring well installed and submission of Abatement Plan and Closure Plan Report.
Feb 1997	OCD review and phone conversation with KN and ECO regarding Abatement Plan. A letter from the OCD presenting the conclusions of the meeting was received. Conclusions included that additional wells be installed to define the points of compliance in the groundwater and an update/amendment report be submitted.

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# April 1997 Three monitor wells installed and a quarterly sampling and monitoring event occurs.

May 1997 Submission of updated Abatement Report.

# 2.2 Groundwater Investigation Findings

2.2.1 Monitoring Program All new wells were developed using a 20 foot steel bailer to set the filter sands. These wells were developed until a minimum of three well volumes of water were removed or until the water became free of fine particles. The second task was to determine the static groundwater levels relative to the north side of the top of each well casing and to examine each well for the presence of PSH utilizing an interface probe with a calibrated tape (see Tables 1 to 10). Wells were measured from the least impacted to the most impacted as determined by previous sampling events. All equipment was properly decontaminated between gauging of wells. Well logs are presented in Section 5.

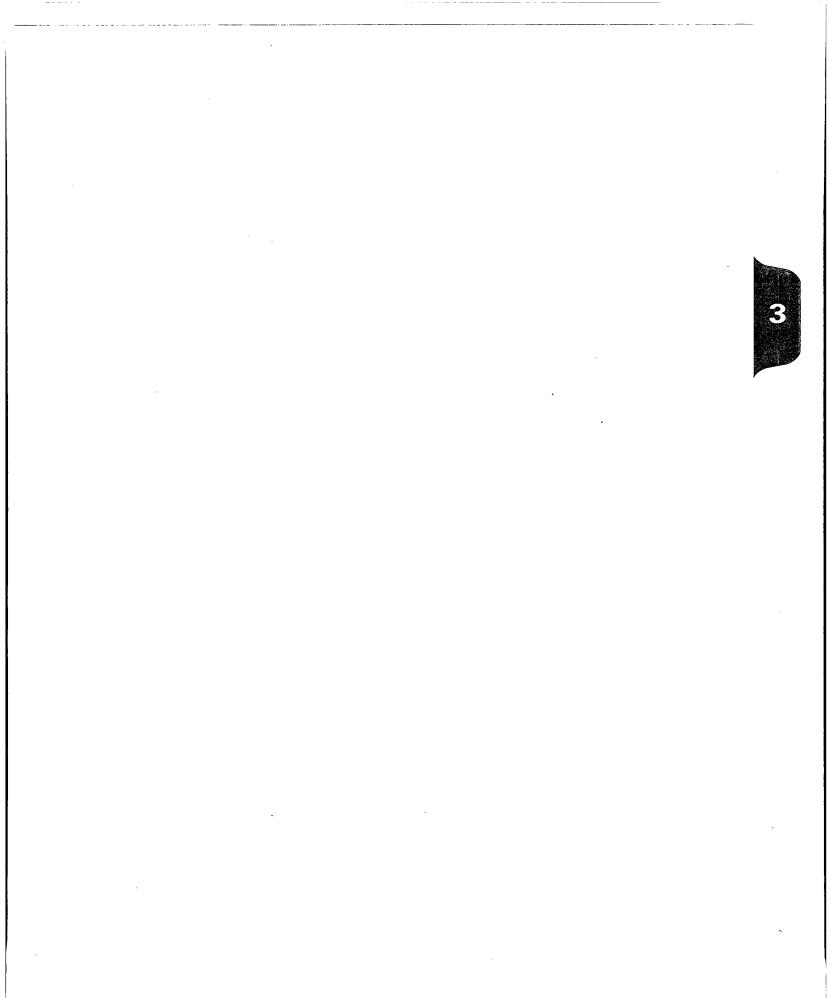
After obtaining all water level measurements, the volume of water in each casing was calculated. The wells were then purged using a pneumatic pump or hand bailed. The wells were purged until at least three (3) casing volumes of water were removed, or until dry. After allowing the wells to recover to within 70 percent of the original depth, samples were collected utilizing new, single use, one (1) liter bailers. Groundwater samples were then submitted to TraceAnalysis, Inc., in Lubbock, Texas, for analysis

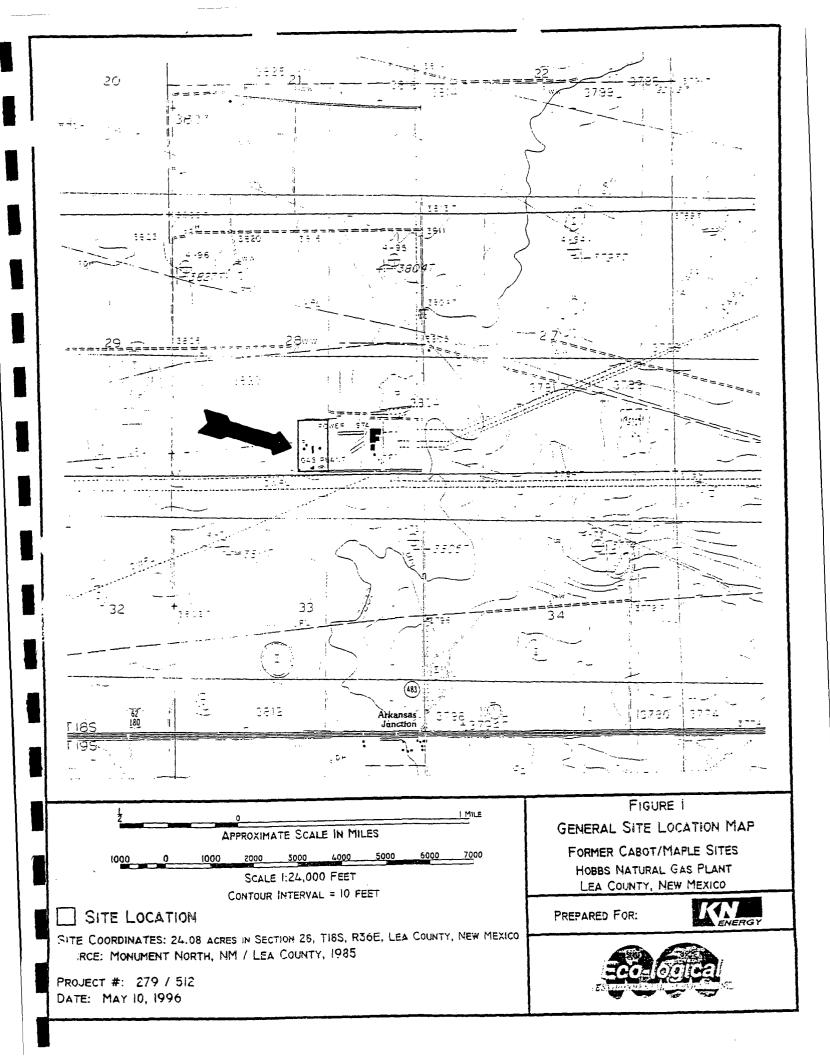
No PSH was detected in the wells. Groundwater at the site ranges from 53 to 58 feet below the ground surface. The depth to groundwater has increased in the initial wells (MW-1 to MW-6). This is indicative of an overall drop in the water table of approximately 0.90 feet (see Figure 2) having occurred since the initial sampling event in October of 1996. The overall groundwater flow direction is to the southeast at a gradient of 1:325 (see Figure 3).

<u>2.2.2 Analytical Results</u> In summary, the soils obtained and tested during the well installation contained no impacted soils with levels above published OCD Guidelines. Results of the analysis of the soil samples are presented in Table 11.

Benzene continues to be present above the WQCC 3103 Guidelines in the water from wells MW-1, MW-3, MW-5, and MW-6 at levels of 0.268, 0.016, 0.043, and 0.272 ppm, respectively. Chloride concentration in MW-9 is also above the WQCC guidelines at a level of 320 ppm. Phenols were tested at lower detection levels and were found to be less than 0.001 ppm. Naphthalene was present in two wells (MW-1 and MW-5) but at levels below the guidelines. Results of the analysis of the water samples are presented in Tables 12 to 22. Figure 4 presents the estimated isograds for benzene. Section 6 contains the lab reports.

2.2.3 Conclusions and Recommendations Benzene and chloride are present in the groundwater above the allowable limits. The source of benzene is from historic operations of the plant. Chloride is present in the well at the central northeast corner of the plant. The source of the chloride is thought to be from offsite activities involving land irrigation or associated operations at the adjacent property. Recommendations include quarterly sampling for benzene in all wells, naphthalene in wells MW-1 and MW-5, and chloride in MW-9 and MW-10. After a period of one year, the water analysis for the site will be evaluated and recommendations made for further activities. Quarterly sampling will occur during the months of July, October, January, and April.





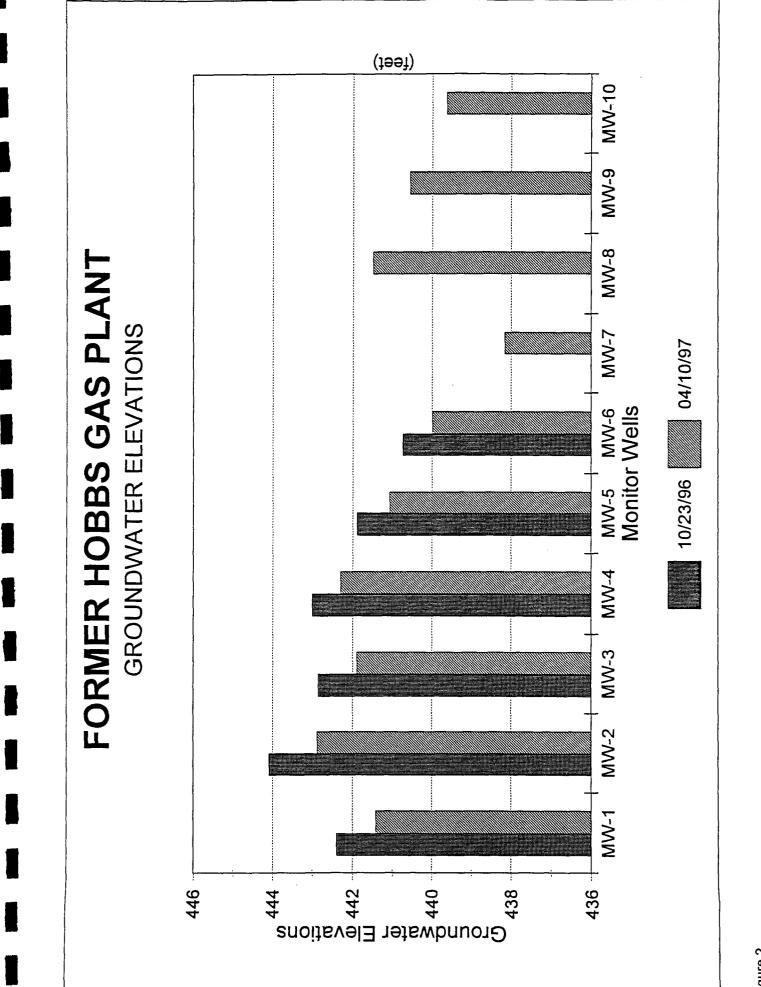
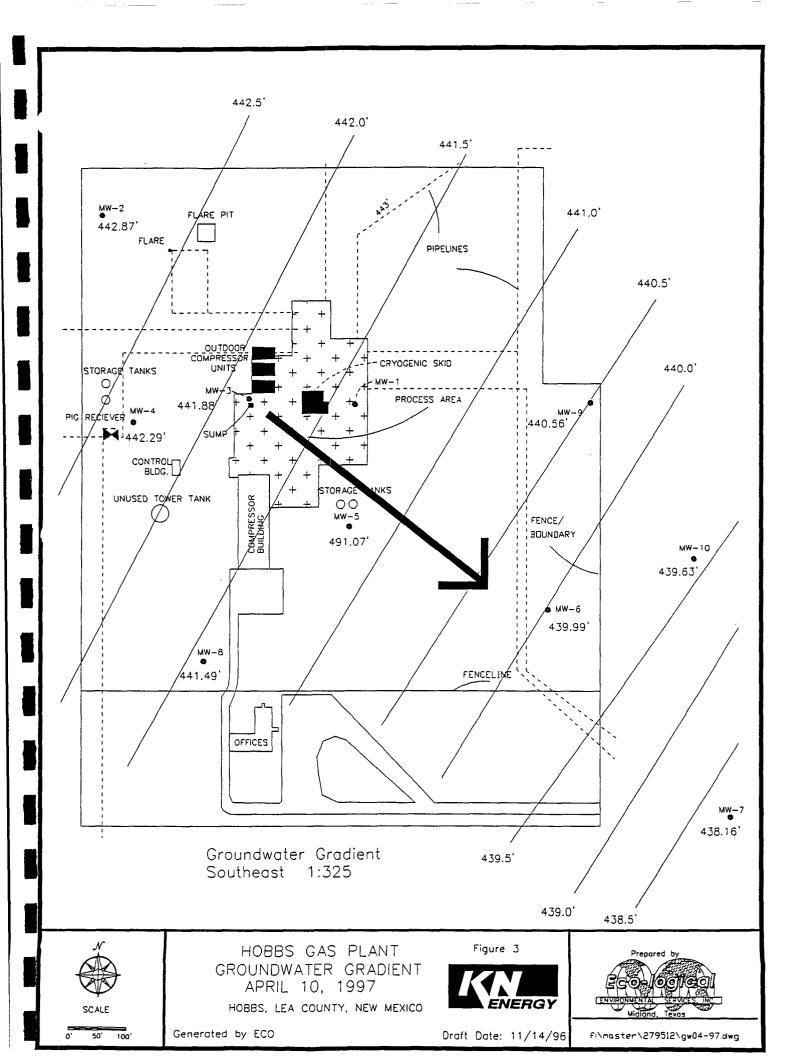


Figure 2



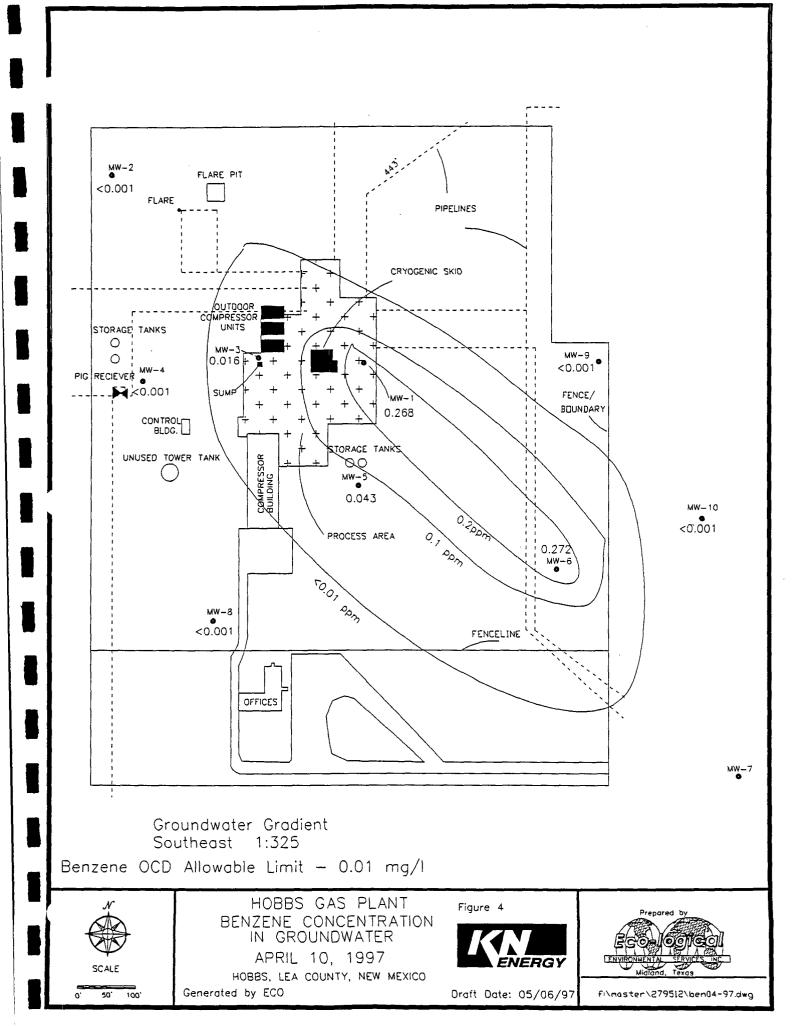


	Table 1 Groundwater Table in Feet Monitor Well 1 Elevation of Screened Interval 436.7-456.7'								
Date TD TOC Depth to GW Product GW El Elevation Depth to GW Product GW El Thickness PSI-									
09/17/96	59.0	495.73	-	53.10	0.00	442.63			
10/23/96	59.0	495.73		53.34	0.00	442.39			
04/10/97	59.0	495.73	-	54.32	0.00	441.41			

			Table 2 undwater Table Monitor Well f Screened Inte	2	).4	
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
09/17/96			U Well N	ot installed	4	
10/23/96	62.0	502.41		58.33	0.00	444.08
04/10/97	62.0	502.41		59.54	0.00	442.87

	Table 3 Groundwater Table in Feet Monitor Well 3 Elevation of Screened Interval 434.2-454.23							
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH		
09/17/96			Well N	ot installed				
10/23/96	64.9	499.13	-	56.28	0.00	442.85		
04/10/97	64.9	499.13		57.25	0.00	441.88		

Table 4 Groundwater Table in Feet Monitor Well 4 Elevation of Screened Interval 436.8-456.8							
Date	Date         TD         TOC         Depth to PSH         Depth to GW         Product         GW Elev.           Elevation         Elevation         Depth to PSH         Depth to GW         Product         Finit GW Elev.						
09/17/96	Well Not Installed						

	Table 4         Groundwater Table in Feet         Monitor Well 4         Elevation of Screened Interval 436.8-456.8							
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH		
10/23/96	64.3	501.12	-	58.12	0.00	443.00		
04/10/97	64.3	501.12	_	58.83	0.00	442.29		

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			Table 5 oundwater Table Monitor Wel of Screened Inte	15	.3	
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
09/17/96			Well N	ot Installed		
10/23/96	64.5	500.84	-	58.96	0.00	441.88
04/10/97	64.5	500.84		59.77	0.00	441.07

			Table 6 undwater Table Monitor Well f Screened Inte	6	.6	
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
09/17/96			Well No	ot installed		
10/23/96	62.7	496.27	-	55.53	0.00	440.74
04/10/97	62.7	496.27	-	56.28	0.00	439.99

			Table 7 undwater Table Monitor Well f Screened Inte	7	4			
Date	מז	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Carrected for PSH		
09/17/96			Well N	ot installed				
10/23/96	10/23/96 Well Not Installed							
04/10/97	69.0	495.44	-	57.28	0.00	438.16		

			Table 8 oundwater Table Monitor Well f Screened Inte		,					
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH				
09/17/96			Well N	ot installed						
10/23/96			Well N	ot installed						
04/10/97	70.9 501.81 60.32 0.00 441.49									

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			Table 9 Indwater Tabl Monitor Wel Screened Inte		.5	
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
09/17/96			Well N	lot installed		
10/23/96			Well N	lot installed		
04/10/97	67.3	496.85	_	56.29	0.00	440.56

			Table 10 pundwater Table Monitor Well f Screened Inte	10	0	
Date	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
09/17/96			Well No	ot Instailed		
10/23/96			Well No	ot Installed		
04/10/97	66.5	492.46		52.83	0.00	439.63

			S	oil An	-	ai Res	ו/mg	om M		r Wells	5			
Well	Depth ft	TRP H	в	т	E	x	As	Se	Cd	Cr	РЪ	Ag	Ba	Hg
MW-8	56-58	<10	<0.05	<0.05	0.06	0.364	<10	<10	<5	<5	<10	<5	37	<0.25
MW-9	50-52	<10	<0.05	<0.05	<0.05	0.078	10	<10	<5	5.8	<10	<5	<20	<0.25
MW-10	51-52	<10	<0.05	<0.05	<0.05	<0.05	<10	<10	<5	<5	<10	<5	66	<0.25
OCD LIMITS		100	10				100*	20*	20*	100*	100*	100*	2000*	

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\* 20 times TCLP value for Hazardous Classification

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Shaded Results are over known OCD limits

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			Gro	undwate	Table 12 er Analyt in mg/l ril 17, 19	tical Res	ults				
Analyte	MVV-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	OCD Limit
As								<0.10	<0.10	<0.10	0.1
								<0.20	<0.20	<0.20	1.0
Cd								<0.005	<0.005	<0.005	0.01
Cr								<0.05	<0.05	<0.05	0.05
Pb								<0.002	<0.002	<0.002	0.05
Hg								<0.001	<0.001	<0.001	0.002
Se								0.004	0.005	0.002	0.05
Ag			[					<0.05	<0.05	<0.05	0.05
Cu			Γ					<0.02	<0.02	<0.02	1.0
Fe	1							<0.03	<0.03	<0.03	1.0
Mn								<0.05	<0.05	<0.05	0.2
Zn								0.20	0.54	0.75	10.0
AI								<0.20	<0.20	<0.20	5.0
В								<1.0	<1.0	<1.0	0.75
Co								<0.03	<0.03	<0.03	0.05
Мо								<0.10	<0.10	<0.10	1.0
Ni								<0.20	<0.20	<0.20	0.2
Cyanide								<0.01	<0.01	<0.01	0.2
Fluoride								1.2	0.99	0.51	1.6
Nitrate (NO3 as N)								<1.0	1.4	<1.0	10.0
Chloride								25	320	74	250
Sulfate								56	89	270	600
TDS								370	940	760	1000
pН								7.9	7.7	7.9	6-9
Phenol	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.005
В	0.268	<0.001	0.016	<0.001	0.043	0.272	<0.001	<0.001	<0.001	<0.001	0.01
т	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.75
E	0.012	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.75
x	0.034	<0.001	0.005	<0.001	0.063	0.014	<0.001	<0.001	<0.001	<0.001	0.62

			Gro		12 - Cor er Analy	tinued tical Res	ults		~		
Analyte	MW-1	MW-2	MW-3	MW-4	MW-5	MVV-6	MW-7	8-WM	MW-9	MW-10	OCD Limits
Carbon Tetrachloride								<0.001	<0.001	<0.001	0.01
EDC								<0.001	<0.001	<0.001	0.01
1,1-DCE								<0.001	<0.001	<0.001	0.005
PCE								0.002	<0.001	<0.001	0.02
TCE								<0.001	<0.001	<0.001	0.1
Methylene chloride								<0.005	<0.005	<0.005	0.1
Chloroform								<0.001	0.053	<0.001	0.1
1,1- Dichloroethane								<0.001	<0.001	<0.001	0.025
EDB								<0.005	<0.005	<0.005	0.0001
1,1,1- Trichloroethane								<0.001	<0.001	<0.001	0.06
1,1,2- Trichloroethane								<0.001	<0.001	<0.001	0.01
1,1,2,2- Tetrachloroethane								<0.001	<0.001	<0.001	0.01
Vinyl chloride								<0.001	<0.001	<0.001	0.001
Naphthalenes	0.007	<0.001	<0.001	<0.001	0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.03
Benzo-a-pyrene								<0.001	<0.001	<0.001	0.0007

✓Bromodichloromethane = 0.018 , Dibromochloromethane = 0.009 mg/l, Bromoform = 0.010 mg/l Shaded numbers indicate over OCD Limits

н	Table 13 Historic Groundwater Analytical Results in mg/l MW-1											
Date	в	т	E	×	Pheno 1	Naphthalene						
02/14/96	0.083	<0.001	<0.001	0.008								
02/29/96	<0.001	<0.001	<0.001	<0.001								
04/20/96	0.305	<0.001	0.002	0.032	<0.001	0.017						
10/23/96	0.352	<0.001	0.026	0.081	0.025	0.01						
04/10/97	0.268	<0.001	0.012	0.034	<0.001	0.007						

Shaded areas indicate over OCD Limits

	Table 14 Historic Groundwater Analytical Results in mg/l MW-2									
Date	в	т	E	x	Pheno I	Naphthalene				
10/23/96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01				
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				

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	Table 15 Historic Groundwater Analytical Results in mg/l MW-3									
Date	в	т	E	x	Pheno	Naphthalene				
10/23/96	0.001	<0.001	<0.001	<0.001	<0.001	<0.01				
04/10/97	0.016	<0.001	<0.001	0.005	<0.001	<0.001				

Shaded areas indicate over OCD Limits

	Table 16 Historic Groundwater Analytical Results in mg/l MW-4									
Date	в	T	E	x	Pheno 1	Naphthalene				
10/23/96	<0.001	<0.001	<0.001	<0.001	<0.001	<0.01				
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				

	Historic G	iroundw Ì	able 17 ater Ana n mg/l MW-5	alytical F	Results	
Date	8	т	E	x	Pheno I	Naphthalene
10/23/96	0.135	<0.001	0.006	0.071	<0.001	<0.01
04/10/97	0.043	<0.001	<0.001	0.063	<0.001	0.001

Shaded areas indicate over OCD Limits

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Table 18 Historic Groundwater Analytical Results in mg/l MW-6											
Date	в	T	E	x	Pheno I	Naphthalene					
10/23/96	0.192	<0.001	<0.001	0.013	<0.001	<0.01					
04/10/97	04/10/97 0.272 <0.001 <0.001 0.014 <0.001 <0.001										

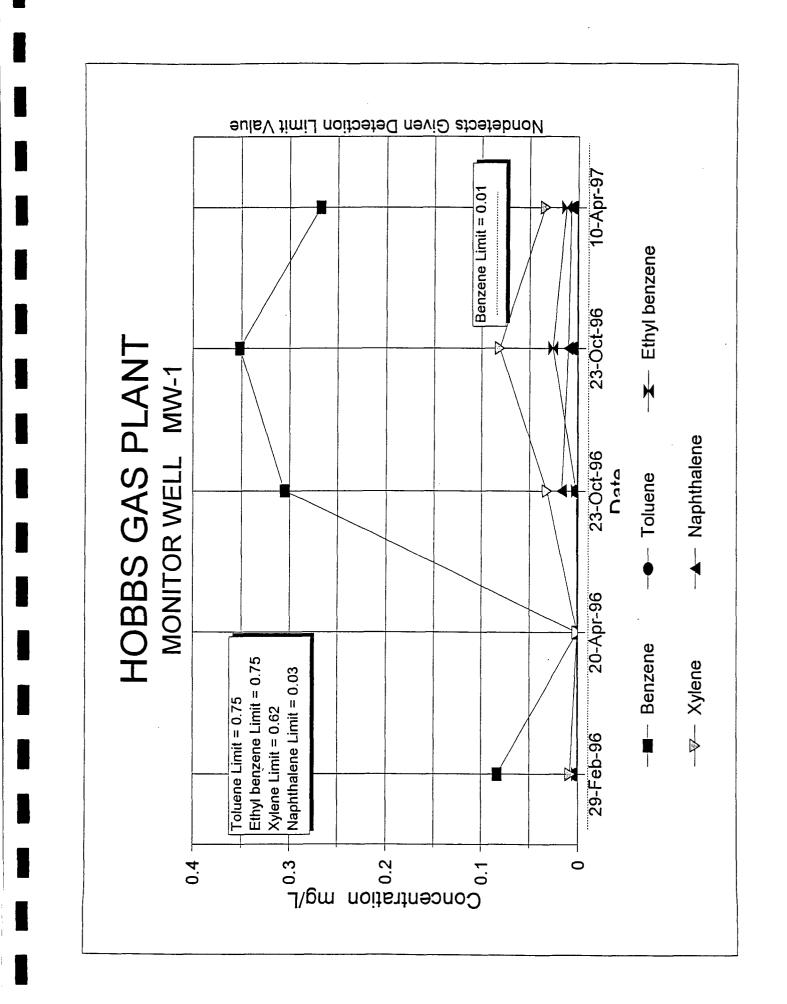
Shaded areas indicate over OCD Limits

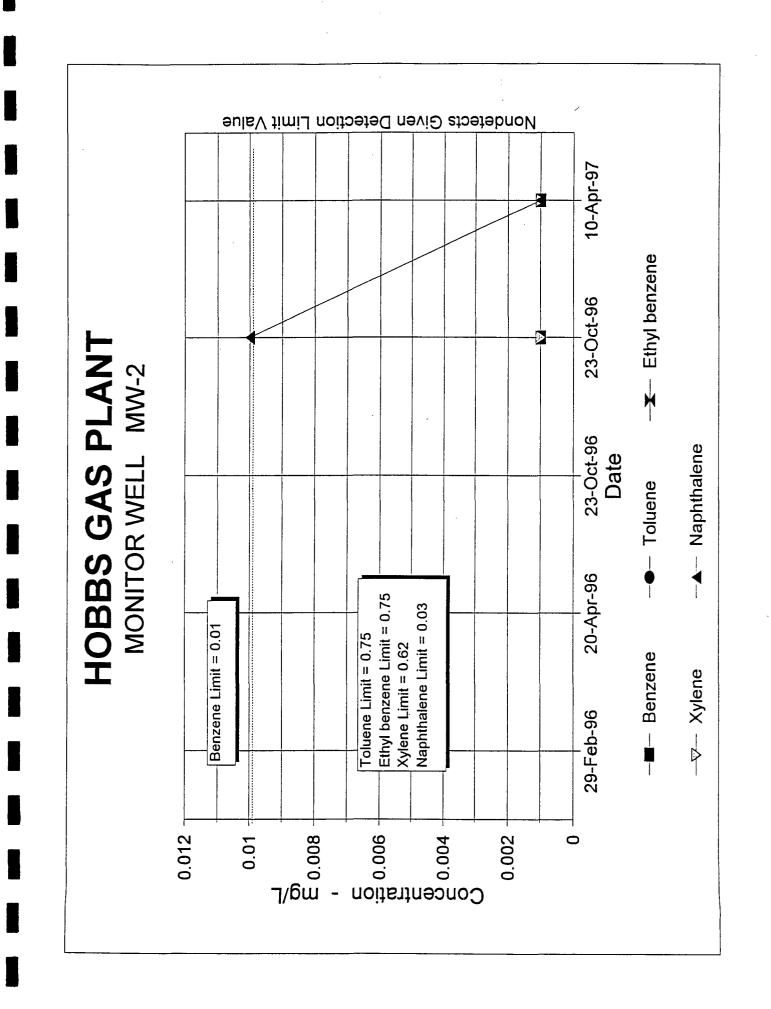
	Historic G	Groundw i	able 19 vater Ana n mg/l MW-7	alytical F	Results					
Date	в	T	E	X	Pheno I	Naphthalene				
01/09/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001				
04/10/97	04/10/97 <0.001 <0.001 <0.001 <0.001 <0.001 <0.001									

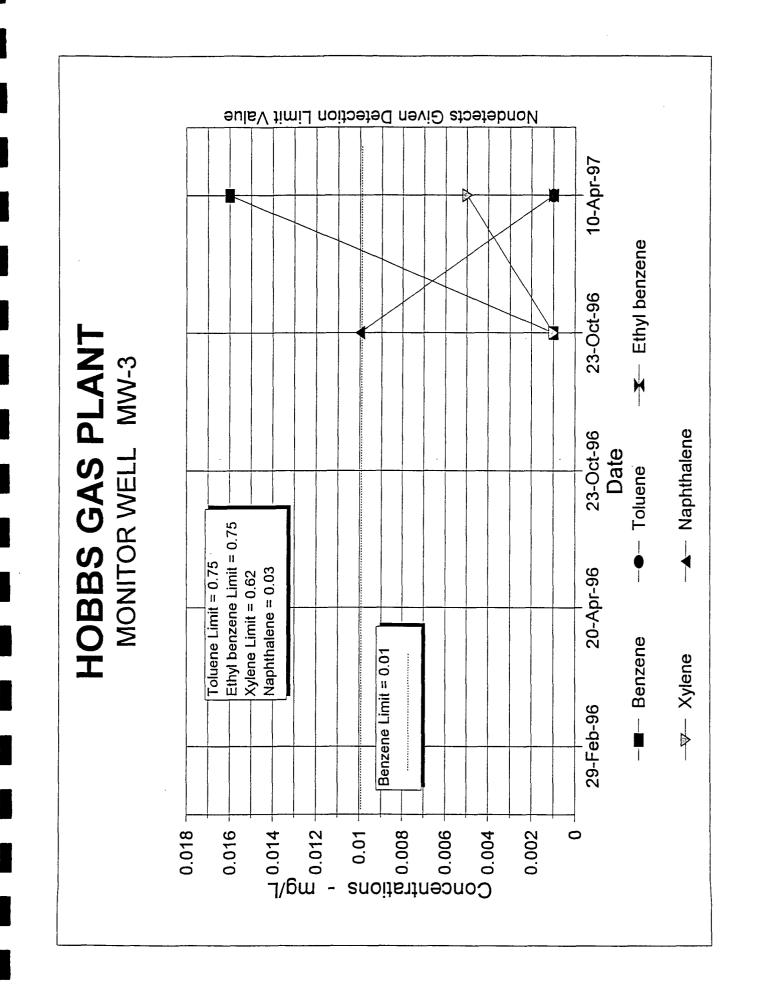
Н	istoric G	Groundw i	able 20 ater Ana n mg/l MW-8	alytical F	Results	
Date	в	т	E	x	Pheno	Naphthalene
10/23/96			Well !	Not Install	ed	
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

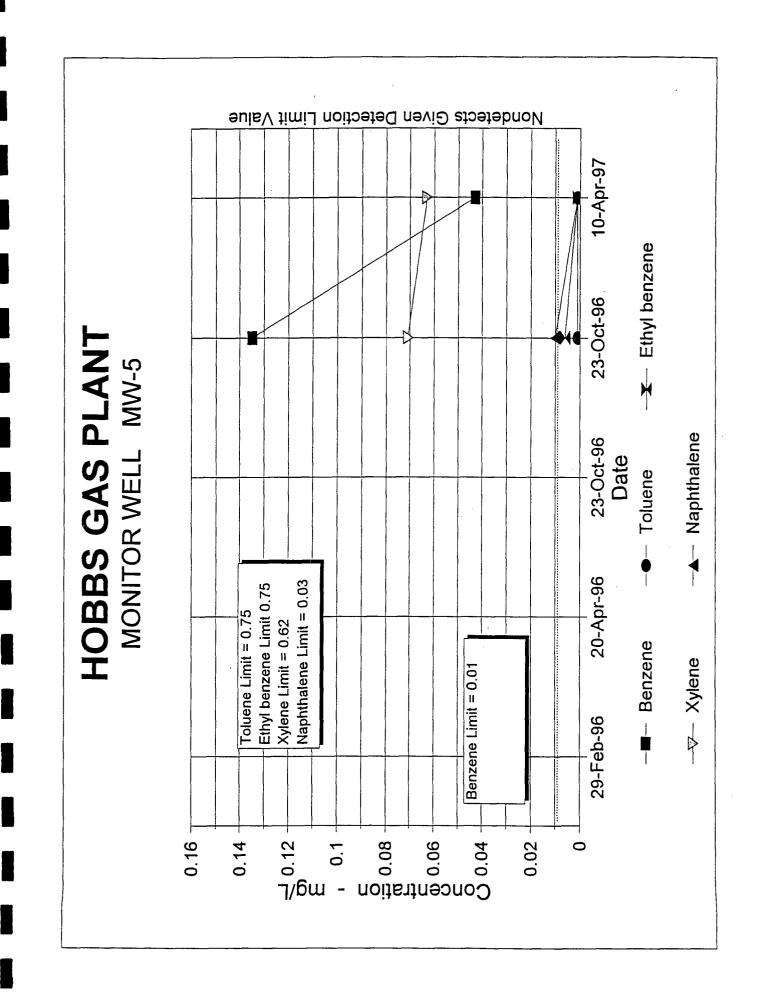
	Historic G	Groundw i	able 21 /ater Ana n mg/l MW-9	alytical F	Results	
Date	в	T	E	x	Pheno	Naphthalene
10/23/96			Well I	Not Install	ed	
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

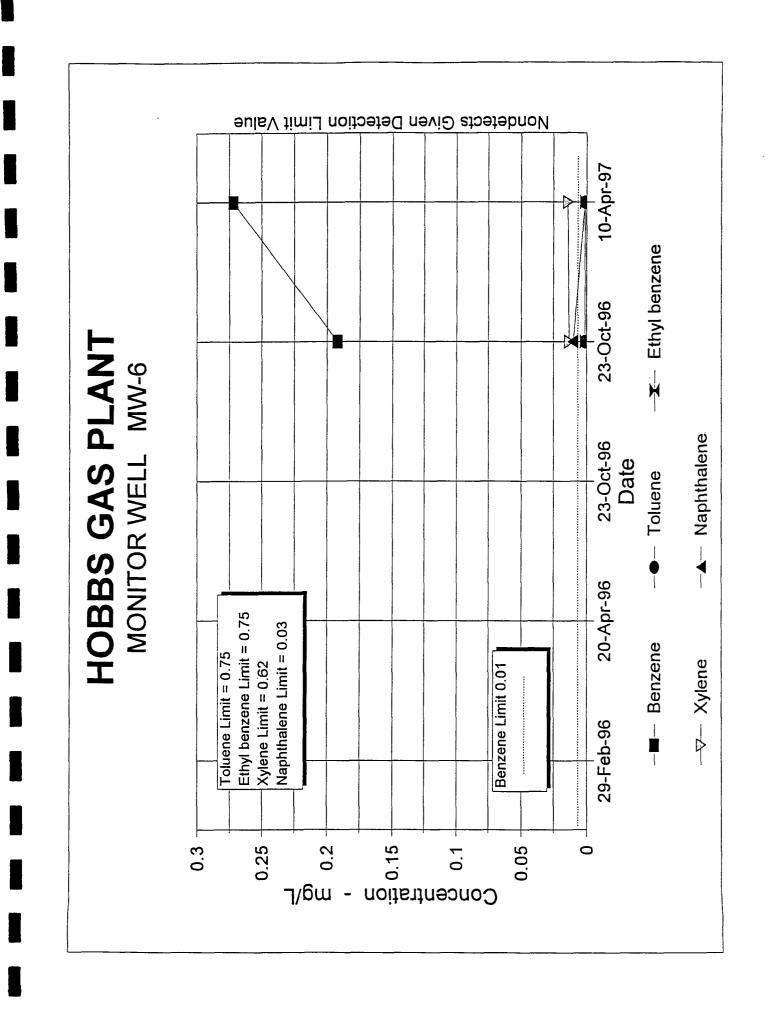
	Historic G	Groundw i	able 22 vater Ana n mg/l viW-10	alytical F	Results				
Date	B	т	E	x	Pheno	Naphthalene			
10/23/96	10/23/96 Well Not Installed								
04/10/97	<0.001 <0.001 <0.001 <0.001 <0.001 <0.001								

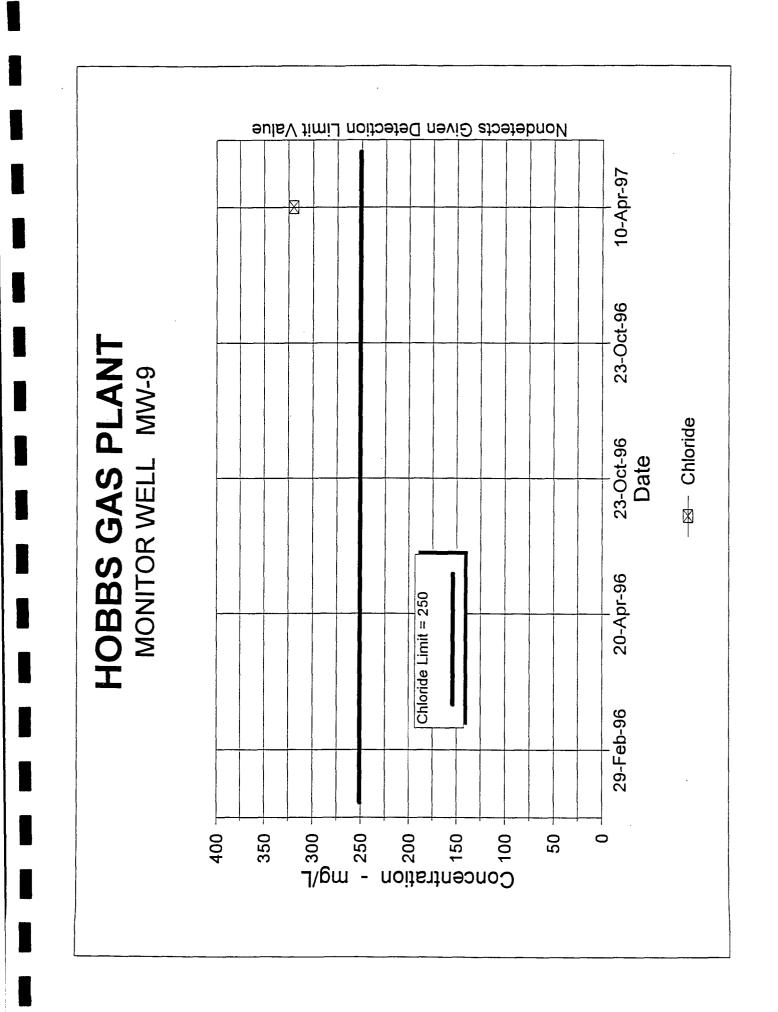


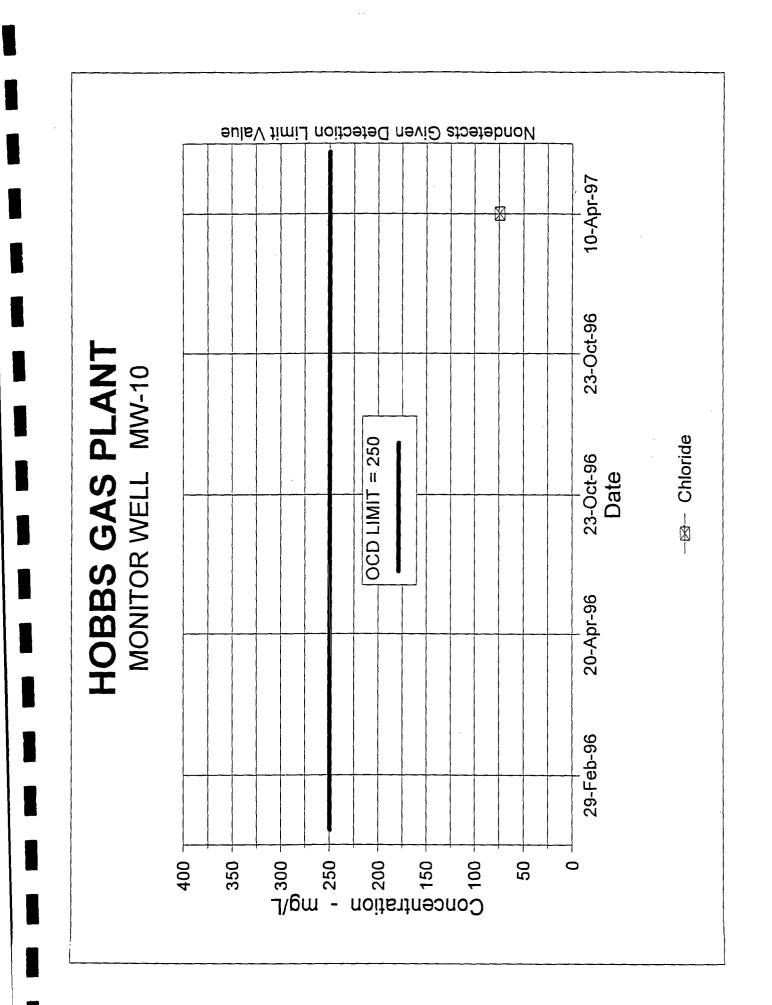












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## **MONITOR WELL NO. MW-8**

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure

Project No: 279-512 Page 1 of 2 Recovery (f1/f1) Sampler Depth (feet) (feet) Sample ID (mqq) Overburden/Lithologic Graphi Well Well Log USCS Dep Construction Construction Intervai Description Graphics Details (ft, bgs) TOC Elev: 501.81 ft Surf. Elev: 500.14 ft 0 FILL - SANDY GRAVEL, medium, gray GP 17 and brown, moist, no odor Aboveground Steel Protector  $\cap$ CALICHE - very light brown, moist, no with 2.5' by 2.5' Concrete odor, very hard Pad becoming less hard becoming soft, sandy becoming yellow brown, very sandy 0 G 10.5-12.0 SAND - yellow brown, slightly orange. fine grained, moist, no odor 20 SP 0 4" Diameter Sch. 40 PVC 20.0 21.0 Riser with cement/bentonite with sandstone lenses grout SANDSTONE - yellow brown, moist, no odor, soft becoming very light gray brown, moderately hard, some caliche 30 30 Continued Next Page Drilling Co: McDonald Drilling LEGEND 439.8 Water levels: ft 又 T. McDonald Water level enc. during drilling Drilled by: ft T Logged by: <u>C. Eick</u> Static Water level ft V Free Phase Product level 4/7/97 4/10/97 Drilling started: Dates Measured: 4/7/97 Samplers: illing completed: Notes: Northwest of Office G Grab Sample Drilling method: Air Rotary  $\boxtimes$ Split Spoon Split Barrel Surge and Development method: Shelby Tube Auger Purge



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# MONITOR WELL NO. MW-8 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Dept. (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Weil Construction Details
30	, <b></b>				Continued from previous page			30		
	30.0-32.0	G		- <u>-</u> -	becoming brown, no caliche		•, <del>•</del> , <del>•</del> , •			
								-		
35 -							· · · · · · · · · · · · · · · · · · ·	- <u>35</u> -		
111								- - -		÷
40				0			· · · · · · · · · · · · · · · · · · ·	- - - <u>40</u>		
+	<del> 40.0-41.0</del>	G		U				-		
							· · · · · · · · · · · · · · · · · · ·	-		3.5' of 3/8" Bentonite Chi
45_1					very hard		· · · · · · · · · · · · · · · · · · ·	<u>45</u>		Seal
					SAND - yellow brown, very fine grained, moist, no odor			-		
<u>50</u> -				0				- <u>50</u>		
	50.0-52.0	G						-		
55										
	56.0-58.0	G		0	sandstone lenses			-   -   -		
					becoming dark yellow brown, saturated	SP		-		Sch. 40 PVC .010 Factory Slotted Screen with 5
<u>60</u>								- <u>60</u> - -		Filter Sand
بليلي						i		-		
<u>65</u>								- 65 -		
	66.0-68.0	G		0				-		
70								- 70		Bottom of Screen at 68' Endcap at 68.25' Filter Sand

Figure



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Hobbs, New Mexico

Dept. (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq)		Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
0									0		TOC Elev: 496.85 ft Surf. Elev: 494.41 ft
لملململ				\	brow SAN	- SANDY GRAVEL, gray and n, moist, no odor DY CLAY/CLAYEY SAND - dark n, moist, no odor	GP SC				Aboveground Steel Protector with 2.5' by 2.5' Concrete Pad
5 					CAL	ning dark redbrown ICHE - very light yellow brown, with and sandstone, moist, no odor			- 5		
2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1					becon	ning yellow brown with tone lenses		0 0 0 0 0 010 0 0	- - - - - - - - -		
						D - yellow brown, fine grained.	SP		- - - - - -		
20						DSTONE - light yellow brown to pink brown, moist, no odor, soft			- <u>20</u>		4" Diameter Sch. 40 PVC Riser with cement/bentonite grout
						D - light yellow brown, with tone lenses, moist, no odor			25		
						Continued Next Page					
Drill	ing Co: <u>McDo</u>	nald	Drillir	ng		LEGEND			Water	levels:	ft
	ed by: <u>T. Mc</u>		ald			$\nabla$ Water level enc. during	g drillin	ıg			ft
Drill	ted by: <u>C. Eic</u> ing started: ing completed:	<u>k</u> 4/8/ 4/9/				<ul> <li>Static Water level</li> <li>Free Phase Product</li> <li>Samplers:</li> </ul>	level		-	Measured:	ft 4/10/97 Cryoskid by East
1	-		otary			G Grab Sample				<u>celine</u>	C. J COMMA DJ LADL
1	lopment method:		Surge a	nd			it Barre	el 🛛			
Pu	rge					Shelby Tube	zer	İ			

Figure



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## MONITOR WELL NO. MW-9 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure

(feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	NNH	(mqq)	Overburden/Lithologic Description	uscs	Graphi( Log	Depth (feet)	Well Construction Graphics	Weil Construction Details
30						Continued from previous page			30		
5						SANDSTONE - pink brown, moist, no odor, hard (well lithified)			- 35		
	38.0-40.0	G		0					-   -   - 40 -   -   -   -   -   -   -   -   -   -		3.25' of 3/8" Bentonite Chi Seal
5						SAND - yellow brown, very fine grained, moist, no odor			- - - <u>45</u>		
							SP				
	50.0-52.0	G		0		becoming dark yellow brown, wet			<u>50</u>		
5						SANDSTONE - pink brown, moist, hard SAND - dark yellow brown, very fine grained, samrated, no odor			- - - -		Sch. 40 PVC .010 Factory Slotted Screen with Filter Sand
لبلبلكيل							SP		- - - - - - - - - - - -		
									- - - - - - - - - - - - - - - - - - -		Bottom of Screen at 64' Endcap at 64.3'
$\Gamma$											Filter Sand

1010	

# MONITOR WELL NO. MW-10 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

roject	No: 279-512										Page 1 of
Dept. (feet)	Sampie ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq)		Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Weil Construction Details
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0				`	no od ĈALI	- GRAVELLY SAND, brown, moist, lor ICHE - light yellow brown, moist, lor, hard	SP	000000000000000000000000000000000000000	0		Surf. Elev: 492.48 ft TOC Elev: 492.46 ft Flushmount Steel Protector with 4' by 4' Concrete Pad
<u>1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -</u>					becon	ning very hard			- - - - - - -		
	14.0-15.5	G			calich	D - light yellow brown with soft e, moist, no odor CHE - light yellow brown, moist, or	SP		- <u>15</u> - <u>-</u>		
20 -						DSTONE - light brown, moist. caliche, no odor		>	<u>20</u>		4" Diameter Sch. 40 PVC Riser with cement/bentonite grout
25 -					no od SANE sand l becom	D - very light yellow brown, moist, or DSTONE - very light brown, with enses, moist, no odor ning light brown, slightly pink, no moist, very hard (well lithified)	SP		25		
30						Continued Next Page			_30	•••• •••	
Drill	Drilling Co: McDonald Drilling					LEGEND			Water	levels:	
Drille	Drilled by: <u>T. McDonald</u>				_	$\underline{\nabla}$ Water level enc. during	; drillin	g			ft
Logg	Logged by: <u>C. Eick</u>				_	Y Static Water level					ft
Drilli	Drilling started:				<b>Y</b> Free Phase Product 1	evel	·	Dates	Measured:	4/10/97	
illi 1					Samplers: Notes: East of East Fenceline or				East Fenceline on		
								SPS Plant on West side of South			
	lopment method:	_5	Surge a	nd	Split Spoon Split Barrel <u>Cooling Tower</u>						
Pur	Purge				Shelby Tube Auger						

Figure

# MONITOR WELL NO. MW-10 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure

(feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq)	Overburden/Lithologic Description	uscs	Graphic Log	Depth (feet)	Well Construction Graphics	Weil Construction Details
30					Continued from previous page			30		
					SAND - light yellow brown, fine grained, sandstone lenses, moist, no odor SANDSTONE - light yellow brown, with sand layers, moist, no odor, hard SAND - yellow brown, very fine grained, moist, no odor	SP SP		- <u>35</u> - <u>35</u> - <u>40</u> - <u>45</u>		2.65' of 3/8" Bentonite Chi Seal
	<u>51.0 52.0</u> 52.5-54.0 56.0-58.0	GGG			SANDSTONE - dark yellow brown, moist, no odor, hard SAND - dark yellow brown, very fine grained, moist, no odor SANDSTONE - brown, moist, no odor, hard (well lithified) SAND - dark yellow brown, very fine grained, moist, no odor SANDSTONE - pink brown, wet, no odor, very hard (well lithified) SAND - dark yellow brown, very fine grained, wet, no odor SANDSTONE SAND - dark yellow brown, very fine grained, saturated, no odor	- SP		- <u>50</u> - <u>55</u> - <u>55</u> - <u>- </u> - <u></u>		Sch. 40 PVC .010 Factory Slotted Screen with Filter Sand
						SP		- 65		Bottom of Screen at 66' Endcap at 66.3' Filter Sand

#### Revised June 1972

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#### STATE ENGINEER OFFICE

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#### WELL RECORD

#### Section 1. GENERAL INFORMATION

Street or Po	ost Office Ad	ogical 1 dress 220( land.TX	<u>) Market</u>		<u>Servi</u>	ces,	Inc. Owne	r's Well No. M	1W-8
	& Regul	ations (	Governir	a Dril	lling 	OÉ W is local	ells and app ted in the:	propriat	ions and u
3. <u>_NW</u>	K SW K	SW_ %S	$SE_4$ of Se	ection $-28$	<u>B</u> To	wnship	18_south Ran	ige <u>36 ea</u>	st_N.M.P.N.
b. Tract No	0	of Map No	•	o	of the				
		of Block No I in					<u></u>		
d. X=		_ feet, Y=		fee			te System		Zone in Grant.
(B) Drilling Co	ntractor <u>Ti</u>	mothy W.	. McDona	ld/McD	Donald	Dri	lling Co	WD-13	25
Address P.O.	Box 13	462 00	lessa,TX	7976	58-346	2	·		
Drilling Began	4-7-97	Com	pieted $4-$	7-97	Тур	e tools	Air Rotary	Size of h	ole 7 7/8 <sub>in</sub> .
Elevation of land	surface or _	N/A		a	t weil is	381	8 ft. Total depth	of well	<u>70</u> ît.
Completed well is	s 🖾 st	allow 🗖 a					ter upon completion	of well	<u>58</u> ít.
Depth in	Feet	Sec Thickness	tion 2. PRIN	CIPAL WA	ATER-BE.	RING	STRATA	Fstim	ited Yield
From	To	in Feet		 			g Formation	(gailons	per minute)
58	70	12		,very n.satu			led,dk yello	<b>w</b> 5	· · ·
				<u> </u>					
			Sectio	n 3. RECC	ORD OF C	ASING			
Diameter (inches)	Pounds per foot	Threads		in Feet		ength (eet)	Type of Sho	e	erforations
	<u> </u>	per in.	Top	Bottor	<u>m (</u>			Fro	
4	1.96	2	0	48		48	Bottom Ca	p 48	3 68
Depth in	Feet	Secti Hole	on 4. RECO	······	JDDING A Cubic F				
From	To	Diameter	of M		of Cem		Metho	d of Placeme	ent
0	42.5	7 7/8	N/A		10.6	2	Pumped dow	n annula	15
		, <u>, , , , , , , , , , , , , , , , , , </u>	Sectio	n S. PLUC	GING RE	CORD			
Plugging Contract Address						No.	Depth in	Feet	Cubic Feet
Plugging Method Date Well Plugged							Тор	Bottom	of Cement
Plugging approved						2			
		State Eng	ineer Repres	entative		3			

#### FOR USE OF STATE ENGINEER ONLY

Date Received

File No.\_

Quad \_\_\_\_\_ FWL \_\_\_\_ FSL\_\_\_

4

\_\_ Use \_\_\_\_\_ Location No. \_\_\_

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	. = · ·		
Depth From	To	Thickness in Feet	Color and Type of Material Encountered
0	.5	.5	Fill-Gravelly Sand-brown, moist, no odor
.5	14	13.5	Caliche-lt yellow brown, moist, no odor
14	15.5	1.5	Sand-lt yellow brown, w/Caliche, moist, no odor
15.5	20.5	5	Caliche-lt yellow brown, moist, no odor
20.5	24	3.5	Sandstone-lt brown, moist, some Caliche, no odor
24	26	2	Sand-lt yellow brown, moist, no odor
26	27.5	1.5	Sandstone-lt brown,w/Sand lenses,moist,no odor
27.5	35.5	8	1t brown, slightly pink, no Sand, moist
35.5	37	1.5	Sand-lt yellow brown, Sandstone lenses, moist, no odor
37	39	2 .	Sandstone-lt yellow brown, w/Sand layers, moist, noodor
39	48.25	9.25	Sand-yellow brown, moist, no_odor
48.25	49.75	1.50	Sandstone-dk yellow brown, moist, no odor
49.75	50.50	.75	Sand-dk_vellow_brown,moist,no_odor
50.50	51	.50	Sandstone-brown,moist,no_odor
51	52.50	1.50	Sand-dk yellow brown, moist, no odor
52	55	2.50	Sandstone-pink brown, wet, no odor
5.5	55.25	.25	Sand-dk_yellow_brown.wet.no_odor
55.25	55.75	50	Sandstone
55_75	68	12 25	Sand-dk_yellow_brown_saturated_no_odor
<del></del>			
<u> </u>	<u> </u>		

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

hick Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

#### Revised June 1972

#### STATE ENGINEER OFFICE

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#### WELL RECORD

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Section 1. GENERAL INFORMATION

(A)	Owner of Street or	well <u>Eco-1</u> Post Office Ad State <u>Mid</u>	ogiacl dress <u>22</u>	Environn 00 Marke	mental S et	ervices	, Inc. Owne	r's Well No	-9
_	City and	State Mid	land, TX	79703					
	t-Rules I was drilled ound Wa	s & Regul Lunder Permit Ater in N	ations No ew Mexi	Govering co. Ai	ticle T	and is loca -17.2		-	
	3. <u>- 5 W</u>	_ %4 <u></u> %4	/4	<u></u>		IOwnshi	p_18_south Rar	ige <u>16 645.0</u>	<u>N.M.P.</u> 36.
		ovision, recorded							
			. (eet, Y=		feet, l	N.M. Coordin	ate System		
							Lling Co Eicense No	WD-1325	
		). Box 13							
							Air Rotary		
Elev	vation of lar	nd surface or _	N/A		at w	eil is3814	ft. Totai depth	of weil6	<u>б</u> ít.
Соп	npleted well	lis ⊠ sh	ailow 🗖	artesian.		Depth to wa	ater upon completion	af weil	53ft.
				ction 2. PRIN	CIPAL WATI	ER-BEARING	STRATA		
	From	in Feet To	Thickness in Feet	s   I	Description of	f Water-Bearir	ng Formation	Estimated (gailons per	
	53	66	13		-		n,moist,Sand urated	5	
						<u></u>		·	
				Sectio	B 3 RECOR	O OF CASING			
	Diameter	Pounds	Threads		in Feet	Length		Perío	rations
	(inches)	per foot	per in.	Top	Bottom	(feet)	Type of Sho	From	To
	4	1.96	2	0	44	44	Bottom Ca	p 44	64
				<u></u>					
L	d			ion 4. RECOI			EMENTINC	<u>`</u>	
	Depth	in Feet	Hole	Sack		Cubic Feet	1		
	From	To	Diameter	of M	ud bu	of Cement	Metho	d of Placement	
	0	39	7 7/8	N/	A	9.75	Pumped down	annulas	
				<u> </u>			}		
L							!	<u></u>	لـــــــــــــــــــــــــــــــــــــ
	ning Contra	N	/A	260110	1 J. FLUGUI	NG RECORE	,		

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad \_\_\_\_\_ FWL \_\_\_\_\_ FSL \_\_\_\_

File No.\_\_

Use \_\_\_\_\_ Location No. \_\_\_\_\_

countered
moist,no odor
odor
ge,moist,no odor
odor
<u></u>
· · · · · · · · · · · · · · · · · · ·
·····

Section 7. REMARKS AND ADDITIONAL INFORMATION

The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole.

L Mch Driller

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the appropriate district office of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 1(a) and Section 5 need be completed.

Depth	In Feet	Thickness	Color and Type of Material Encountered
From	То	in Feet	 
0	.75	.75	Fill-Sandy Gravel-gray & brown, moist, no odor
.75	4.50	3.75	Sandy Clay/Clayey Sand-dk brown,moist
4.50	5.75	1.25	dk red brown
5.75	8.50	2.75	Caliche-very 1t yellow brown, w/Sand&Sandstone, moist
8.50	14	5.50	yellow brown,w/Sandstone lenses
14	18	4	Sand-yellow brown, Sandstone lenses, moist, no odor
18	27	9	Sandstone-lt yellow brown to lt pink brown, moist
27	32	5	Sand-lt yellow brown, w/Sandstone lenses, moist, noodor
32	43	11	Sandstone-pink brown, moist, no odor
43	50	7	Sand-yellow brown, moist, no odor
50	53 ·	3	dk yellow brown, wet
53	53.25	.25	Sandstone-pink brown,moist
53.25	66	12.75	Sand-dk yellow brown, saturated, no odor
		İ	
		<u> </u>	
	1		
	+		
		1	
	+		
<u></u>		<u> </u>	

Section 7. REMARKS AND ADDITIONAL INFORMATION

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The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct fecord of the above Mch described hole. ! 12

Driller INSTRUCTIONS: This form should be executed in triplicate, preferably typewritterl, and submitted to the appropriate district office

1

1

of the State Engineer. All sections, except Section 5, shall be answered as completely and accurately as possible when any well is drilled, repaired or deepened. When this form is used as a plugging record, only Section 11a1 and Section 5 need be completed.

#### Revised June 1972

#### STATE ENGINEER OFFICE WELL RECORD

#### Section 1. GENERAL INFORMATION

	. Midla	nd, TX 7	Marke	t	·	Inc. Owner's		·
xempt-Rules &	Regula	tions Go	vernin	g Drilli	ng of We	lls and appr	opriations	and us
Well was drilled und f Ground Water	r in Ne	w Mexico	. Art	icle 1-1	7.2			
a. <u>SF</u> ½	_NE_ %_	_SW_ ¼ _S	E % of Se	ction _28	Township	18 south Range	- <del>16-aast-</del>	_N.M.P.SI.
b. Tract No		_ of Map No		of the				
							<del> </del>	
				C				
d. X=						e System		
(B) Drilling Contr	actor Tim	othy W.	McDona	ld/McDona	ald Dril	ling Con W	D-1325	
						Air Rotary		•
Elevation of land su	rface or	N/A		at wel	1 is3813	ft. Total depth of	f well 68	ít.
Completed well is	🖄 sha	illow 🗆 ar	tesian.		Depth to wat	er upon completion o	f well54	ft.
		Secti	on 2. PRIN	CIPAL WATE	R-BEARING S	STRATA		
Depth in Fe	et	Thickness		Description of '		1	Estimated Y	
From	To	in Feet				,wet,no odor	(galions per m 5	inute)
54 6	58	14	Sand	yellow b	prown ,s	aturated	5	
					·			
L						l_		
Diameter F	Pounds	Threads		n 3. RECORD	OF CASING Length		Perfor	rione
	er foot	per in.	Тор	Bottom	(feet)	Type of Shoe	From	To
4	1.96	2	0	46	. 44	Bottom Cap	46	66
					}			
L					L			!
				RD OF MUDD		MENTING		
Depth in Fe From	To	Hole Diameter	Sacl of M		ibic Feet Cement	Method	of Placement	
0 4	11.25	7 7/8	N/2	A 1	10.31	Pumped down	annulas	
						~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		
L				<u>_</u>				

#### Section 5. PLUGGING RECORD

Plugging ContractorN/A				
Address	- No.	Depth	in Feet	Cubic Feet
Plugging Method	-	Тор	Bottom	of Cement
Date Well Plugged	- 1	1		
Plugging approved by:	2	1		
	- 3			
State Engineer Representative	4	1	1	

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad \_\_\_\_\_ FWL \_\_\_\_ FSL \_\_\_\_

File No.\_\_\_

\_\_\_\_\_ Use \_\_\_\_\_ Location No. \_\_\_\_\_

6701 Aberdeen Avenue Lubbock, Texas 79424 806-794-1296 FAX 806-794-1298
-------------------------------------------------------------------------

ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Strett Midland, TX 79703

> April 18, 1997 Receiving Date: 04/10/97 Sample Type: Soil Project No: 279-512 Project Location: Hobbs, NM

TOTAL METALS (mg/kg)

Sample Condition: Intact & Cool

Sampling Date: 04/07-08/97

Extraction Date: 04/16/97 Analysis Date: 04/16/97 Project Name: Hobbs Gas Plant

Sample Received by: JH

TA≸	Field Code	lode	Ав	S B	Cd	Cr	ЪЪ	Ba	Ag	ЬH	
T71098 MW-8 T71099 MW-9	МW-8 МW-9		<10 <10	<10 <10	<5.0 <5.0	<5.0 5.8	<10 <10	37 <20	<5.0 <5.0	) + <0.25 ) <0.25	
T71100 QC		1	<10 4.8	<10 4.9	<5.0 4.9	<5.0 4.9	<10 4.8	66 4.9	<5.0	<0.25 0.0051	
Reporting Limit	ng Limit	.1	10	10	5.0	5.0	10	20	5.0	0.25	
RPD & Extraction Accuracy & Instrument Accuracy	stion Ac ment Ac	ccuracy ccuracy	5 79 95	4 75 97	5 79 98	4 76 97	0 76 96	0 84 99	1 95 102	2 104 104	

Cr, Pb, Ba; 2.0 mg/L Ag; 0.005 mg/L Hg. TOTAL METALS SPIKE: 200 mg/kg As, Se, Cd, Cr, Pb, Ba, Ag; 2.5 mg/kg Hg. As, Se, Cd, Cr, Pb, Ba, Ag: R TOTAL METALS QC: 5.0 mg/L As, Se, Cd, EPA SW 846-3051, 6010, 7471. METHODS: CHEMIST:

Director, Dr. Blair Leftwich

8-18-57

Date

	970400 /7/97 Intac Y: JH	JE g)	0.364 0.424 0.078 0.078	v	0.307	8	101	102		QC: SPIKE: (mg/L) (mg/Kg)	0.100ea 5ea 100 250	
FAX 806 • 794 • 1298	vın Dat ndi cei	E	0.060 0. <0.050 0.	v	0.100 0.	8	98	100	05	CHEMIST	RW · 0 AG	30
CEANALYSIS, INC MUN ock. Texas 79424 806.0794.1296 FA CCAL RESULTS FOR gical Environmental Services			<0.050	<0.050	0.100	8	96	100	0.05	ANALYSIS CH COMPLETED	4/15/97 4/11/97	11 90
Lubbock, Texas 79424 806-794- Lubbock, Texas 79424 806-794- ANALYTICAL RESULTS FOR ECO-LOGICAL Environmental Attention Carrie Eick	Street TX 79703	MTBE BENZENE (mg/Kg) (mg/Kg)	<pre>&lt;0.050 &lt;0.050</pre> <pre>&lt;0.050 &lt;0.050</pre>		0.094 0.102	6	91 98	94 102	0.0	ANALYSIS A METHOD C	8020 418.1	
LUDDOCK, Texas 79424 LUDDOCK, Texas 79424 ANALYTICAL RESULTS I ECO-LOGICAL ENVIRO Attention Carrie Eick	2200 Market Midland	TRPHC 1 (mg/Kg) (n	<10.0 <0.		0 66	7	104	66	10		EPA EPA	0
6701 Aberdeen Avenue		MATRIX	Soil	Soil						PREP DATE	4/12/97 4/11/97	£
	16 N/4/ HO. HO.	Field Code	-8 (56-58') -9 (50-52')	0			<pre>% Extraction Accuracy</pre>	Instrument Accuracy	Limit:	PREP . METHOD	· EPA 5030 EPA 3550	
	e: e Rec ject; j Nan j Loc		Т71098 МW-8 ММ-9		бc	RPD	& Extracti	<b>%</b> Instrume	rting	TEST	MTBE/BTEX TRPHC	

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Date

Director, Dr. Blair Leftwich  $\mathbf{N}$ 

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IS REQUEST	SPECIAL HANDLING			skep	to # t	Tum around Fax ASA P Hold	X						<u></u>	
CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST	ANALYSIS REQUEST		PD Hg S	Ba Cd Cr	ج × A gA SA gA SA gA	BTEX, MTRE         REX, MTRE         TOLP Volatile         TCLP Volatile         TCLP Volatile         TCLP Volatile         TCLP Volatile         TCLP Volatile						HS F 4/18/97 gev		<u>\</u>
Lubbock, Texas 79424 Fax (806) 794 1298 78 1296	2535 7737		7~6		SAMPLING	ataq amit	05:11 24/4h	4/2/42 3:30 1/2/47 10:05-	i			Inic: REMARKS		9.254
Aberdeen Avenue Lubbool 806) 794 1296 Fax (8( 1 (800) 378 1296	C 622 219	29.703	6-AS PLANT	w	PRESERVATIVE METHOD	NONE ICE HNO3 HCC	×	× /				Date: Tinte: 11/1/97 4.7	Date - Time:	May 4/10/17
6701 Tel (	Phone #: FAX #:	MART ST	ect Nam BS	Sumpler Signature:	MATRIX	MATER SOIL SIR SIR SIR		→ → → → → → → → → → → → → → → → → → →				Received by: Received by I have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a have a hav		Harony by: 1
s, Inc		mololy				ж СОИТАНИЗ Копите/Атион	1 -1 02		-			Received by:	Kecelved by:	Roopiwed at Labo
TraceAnalysis, Inc.	RRI E EICH	e & Address: Е Со- Соб-1 СЛС	215 -	BS, NN		FIELD CODE	S,	(22-12 ( 52-12 (	MW-10 52.5-24			Date:	Witten 4/19/19	: Date: Tine: Beogra
	Project Manager: C A /	Company Name & Address: CCO- C	Pruject #: 279-	Project Location: $H \circ \mathcal{B} \mathcal{B}^{\varsigma}$		LAB # LAB USE ONLY	ab 011_					Relinquished by:	NO NON MAN	Relinquished by:

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	LULULULULULULULULULULULULULULULULULULU	DULLAL AULULA	LTRA	PACEANA Lubbock, Texas 79424	NAL, N	CEANALYSIS, INC. MUL ock. Texas 79424 806-794-1296 F	IS, INC 806-794-1296	AULL III	MULLILILI FAX 806 • 794 • 1298	1298			
April 30, 1997 Receiving Date: ( Sample Type: Wate Project No: 279- Project Location:	1997 Date: 04/14/97 ре: Water D: 279-512 Dcation: Hobbв, NM			ANALYTICAL   ECO-LOGICAL Attention: 2200 Market Midland, TX	E C	ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703	R NTAL Ck			Extraction Date: Analysis Date: 04 Sampling Date: 04 Sample Condition: Sample Received by Project Name: Hob	Extraction Date: 04/2 Analysis Date: 04/21/ Sampling Date: 04/10/ Sample Condition: I & 0 Sample Received by: JH Project Name: Hobbs G	tte: 04 : 04/2 : 04/1 : 04/1 : 101: I folon: I Hobbe P <sup>D</sup>	:: 04/21/97 04/21/97 04/10/97 bn: I & C I by: JH Hobbs Gas Plant
					TOTAL METALS	ETALS	(IJ/2m)						
TA# Ej	Field Code	Нд	As	Cr	Ag	Ba	Al	C	9 J	Mn	Mo	Nİ	uz
T71391 MV T71392 MV	MW-8 MW-9	<0.001 <0.001	<0.10 <0.10	<0.05 <0.05	<0.05 <0.05	<0.20 <0.20	<0.20 <0.20	<0.03<03	<0.03 <0.03	<0.05 <0.05	<0.10	<0.20	0.20 0.54
1393	MW-10	<0.001	<0.10	<0.05	<0.05	<0.20	<0.20	<0.03	<0.03	<0.05		<0.20	0.75
ōc ōr	Quality Control	0.0049	4.6	4.8	0.96	4.6	4.7	4.8	4.8	4.8	4.7	4.8	4.7
Reporting Limit	uimit.	0.001	0.10	0.05	0,05	0.20	0.20	0.03	0.03	0.05	0.10	0.20	0.02
RPD		2	4	4	æ	4	2	9	e	ы С	4	9	ى ا
% Extractic	Extraction Accuracy	103	87	88	88	91	94	96	96	78	96	89	91
<b>%</b> Instrumer	Instrument Accuracy	100	87	95	96	63	94	67	95	95	94	95	95
METHODS: EPA CHEMIST: Hg: Total Metals Total Metals	A SW 846-3015, CB AB, SPIKE: 0.005 QC: 0.005 mg/	6010, 7470. Cr, Ag, Ba, Al, mg/L Hg; 2.0 mg, L Hg; 5.0 mg/L <i>l</i>	~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~ ~	e, Mn, Ba, 1 Ba, 1	, Мо, Nİ. Al, Со, I Al, Со,	., Zn: RR Fe, Mn, Mo, Fe, Mn, Mo	~ 、	•	Zn; 1.5 mg/L Cr, Zn; 1.0 mg/L Ag	Cr, Ag. L Ag.			
	Director, Dr. Blair Leftwich	UN Blair Le	ftwich				'	4/30/9 Date	e (47				1 7 12 12 12 12 12 12 12 12 12 12 12 12 12

#### May-09-97 11:37A

6701 Aberdeen Avenue Lubbock, Texas 79424 306 • 794 • 1296 FAX 806 • 794 • 1298

> ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market St. Midland, TX 79703

May 07, 1997 Receiving Date: 04/14/97 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM Prep Date: 05/05/97 Analysis Date: 05/05/97 Sampling Date: 04/10/97 Sample Condition: I & C Sample Received by: JH Project Name: Hobbs Gas Plant

TA≠	FIELD CODE	TOTAL Cu (mg/L)	TOTAL B (mg/L)	TOTAL Pb (mg/L)	TOTAL Se (mg/L)	TOTAL Cd (mg/L)
T71391	MW-8	<0.02	<1.0	<0.002	0.004	<0.005
T71392	MW-9	<0.02	<1.0	<0.002	0.005	<0.005
T71393	MW-10	<0.02	<1.0	<0.002	0.002	<0.005
QC	Quality Control	4.8	4.7	0.027	0.097	0.0025
D		4	10	6	2	o
	tion Accuracy	94	93	98	93	98
	ment Accuracy	95	94	108	97	100
REPORTING	5 LIMIT	0.02	1.0	0.002	0.002	0.005

METHODS: EPA SW 846-3015, 6010, 7421, 7740, 7131. CHEMIST: RR TOTAL METALS SPIKE: 5.0 mg/L Cu, B; 0.040 mg/L Pb; 0.100 mg/L Se; 0.0050 mg/L Cd. TOTAL METALS QC: 5.0 mg/L Cu, B; 0.025 mg/L Pb; 0.100 mg/L Se; 0.0025 mg/L Cd.

Director, Dr. Blair Leftwich

5-7-51 DATE

A Laboratory for Advanced Environmental Research and Analysis

### May-09-97 11:37A

6701 Aberdeen Avonue Lubbock, Texas 79424 806 • 794 • 1296 FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market St. Midland, TX 79703

April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM

Prep Date: 04/14/97 Analysis Date: 04/14/97 Sampling Date: 04/10/97 Sample Condition: 1 & C Sample Received by: JH Project Name: Hobbs Gas Plant

TA#	FIELD CODE	CHLORIDE (mg/L)	NITRATE-N (mg/L)	SULFATE (mg/L)	TD\$ (mg/L)	CYANIDE (mg/L)
T71391 T71392 T71393 QC	MW-8 MW-9 MW-10 Quality Control	25 320 74 25	<1.0 1.4 <1.0 9.5	56 89 270 24	370 940 760	<0.01 <0.01 <0.01 0.040
RPD % Extractic % Instrume	n Accuracy Int Accuracy	4 98 98	1 <del>96</del> 97	4 98 96	<u>0</u> 	11 90 101
REPORTIN	IG LIMIT	1.0	1.0	1.0		0.01

METHODS: EPA 300.0, 160.1, 335.2. CHEMIST: MS CHLORIDE SPIKE: 25 mg/L CHLORIDE. NITRATE-N SPIKE: 10 mg/L NITRATE-N. SULFATE SPIKE: 25 mg/L SULFATE. CYANIDE SPIKE AND QC: 0.04 mg/L CYANIDE.

CHLORIDE QC: 24 mg/L CHLORI NITRATE-N QC: 9.8 mg/L NITRATE-N. SULFATE QC: 24 mg/L SULFATE.

Director, Dr. Blair Leftwich

4-30-97 DATE

A Laboratory for Advanced Environmental Research and Analysis

#### May-09-97 11:37A

6701 Aberceen Avenue Lubbock, Texas 79424 806 • 794 • 1296 FAX 806 • 794 • 1298

ANALYTICAL F	RESULTS FOR
ECO-LOGICAL	ENVIRONMENTAL
Attention:	Carrie Eick
2200 Market	St.
Midland, TX	79703

May 07, 1997 Receiving Data: 04/14/97 Sampla Type: Water Project No: 279-512 Project Location: Hobbs, NM

Prep Date: 04/14/97 Analysis Date: 04/14/97 Sampling Date: 04/10/97 Sample Condition: I & C Sample Received by: JH Project Name: Hobbs Gas Plant

TA#	FIELD CODE	FLUORIDE (mg/L)	рН (з.ч.)
T71391	MW-8	1.2	7.9
<b>T</b> 71392	MW-9	0.99	7.7
<b>T</b> 71 <b>3</b> 93	MW-10	0.51	7.9
QC	Quality Control	1,1	7.0
REPORTING LIMIT		0.1	
		0.1	

RPD		
	0	٥
S Extraction Accuracy	105	
<pre>% Instrument Accuracy</pre>	107	100

METHODS: EPA 340.2, 150.1. CHEMIST: FLUORIDE: MS pH: HC/MS FLUORIDE SPIKE: 2.0 mg/L FLUORIDE. FLUORIDE QC: 1.0 mg/L FLUORIDE.

Director, Dr. Blair Leftwich

5-7-57

DATE

A Laboratory for Advanced Environmental Research and Analysis

Multilitie     Entropolation     Manual Mark Trans 1987     Mode 741-136       Entropolation     Entropolation     Manual Mark Trans 1987     Mode 741-136       Entropolation     Entropolation     Manual Mark Trans 1987     Mode 741-136       Entropolation     Manual Mark Trans 1987     Mode 741-136     Mode 741-136       Entropolation     Mark Trans 1987     Mode 741-136     Mode 741-136       Entropolation     Mark Trans 187     Mode 741-136     Mode 741-136       Entropolation     Mark Trans 187     Mode 741-136     Mode 741-136       Entropolation     Mode 741-136     Mode 741-							
April 10, 100     Multiple Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Annue and Ann	00243 ct and	TOTAL BTEX (mg/L)	<pre>&lt;</pre>	0.286 <0.001 <0.001		SPIKE: (mg/L)	0.1ea
Field Code     MATRIX     ESULTS FOR       Apr 18, 1997     FOULDER     MADRIENT CAL RESULTS FOR       Field Code     MATRIX     ECC-LOGICal Environmental Servic       Frield Code     MATRIX     ECC-LOGICal Environmental Servic       Res:     VALENC     Mater     VOLUENE       Res:     VAL     Water     0.001     0.001       RM-1     Water     0.001     0.001     0.001       RM-2     Water     0.001     0.001     0.001       RM-3     Water     0.001     0.001     0.001       RM-4     Water     0.001     0.001     0.001       RM-4     Water     0.001     0.001     0.001       RM-5     Water     0.001     0.001     0.001       RM-5     Water     0.001     0.001     0.001       RM-5     Water     0.001     0.001     0.001       RM-6     Water     0.001     0.001     0.001       RM-7     Water	# :	M, P, O XYLENE (mg/L)	<pre>&lt;</pre>	0.014 <0.001 <0.001 0.313	111 104	0.001 QC: (mg/L)	0.100 ea
Field Code     MATRIX     BENZENALYSIS, INC.       Rec:     NOI Abendeen Avenue     Lubbook, Tess 39424     BEN-39424       6701 Abendeen Avenue     Lubbook, Tess 39424     BEN-39424     BEN-39424       6701 Abendeen Avenue     Lubbook, Tess 39424     BEN-306-3941296       6701 Abendeen Avenue     Lubbook, Tess 39424     BEN-306-3941296       6701 Abendeen Avenue     Lubbook, Tess 39424     BEN-306-3941296       6701 Abendeen Avenue     Lubbook, Tess 306-3941296     Ecc-1004201       6701 Accurs (10, 000     Counter 1005     Counter 1005     Counter 1005       6701 Avenue     Matter     Street 0, 0001     Counter 1001       68 Mw-1     Wutter     Outer     Counter 0, 016     Counter 0, 016       80 Mw-1     Water     Outer     Count     Count     Count       80 Mw-1     Water     Outer     Count     Count     Count       80 Mw-2     Water     Outer     Count     Count     Count       80 Mw-3     Water     Water     Count     Count     Count       80 Mw-5     Water     Outer     Count     Count     Count       80 Mw-5     Water     Outer     Count     Count     Count       80 Mw-5     Water     Outer     Count     Count<	FAX 806.794 FAX 806.794 Ces Lab Receiv Sample Rec		<pre>&lt;0.001</pre> <pre>&lt;0.001</pre> <pre>&lt;0.001</pre> <pre>&lt;0.001</pre>	<pre>&lt;0.001</pre> <pre>&lt;0.001</pre> <pre>&lt;0.001</pre> <pre>0.105</pre>	111 105	0.001 HEMIST	
Image: Control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of the control of t	<b>5, INC.</b> -794-1296 tal Servi-		100.0> 100.0> 100.0>	<pre>&lt;0.001 &lt;0.001 &lt;0.001 </pre>	111 105	D 10	/16/97 4-18-9 Date
Bit     Bit     Bit     Bit     Bit       Ete:     Apr     18, 1997     Unbuck, Texas 79, Exos       Ete:     Apr     18, 1997     Exos     Logical End       Ete:     Apr     18, 1997     Exos     Exos     Logical End       oject:     N/A     NAL     Attention Carrie       oject:     N/A     MATRIX     Exos     Exos       oject:     N/A     Water     200 Market Stree       oject:     N/A     Water     200 Market Stree       oject:     N/A     Water     200 Market Stree       71386     Mu-1     Water     200 Market Stree       71386     Mu-2     Water     71386       71386     Mu-3     Water     71386       71386     Mu-3     Water     71386       71386     Mu-5     Water     71386       71386     Mu-5     Water     71386       71386     Mu-5     Water     71386       71386     Mu-5     Water     71386       71387     Mater     Mater     71387       71388     Mu-5     Water     71386       71388     Mu-5     Water     71386       71388     Mu-5     Water     71386	AL/SI 24 806 LTTS FOR VI FONMEN Eick TX	BENZENE (mg/L)	<pre>&lt; 0.001</pre>	0.272 <0.001 <0.001 0.104	109 104	0.001 AN CO	<b>4</b>
Image: State of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state of the state o	RACFAN Lubbock Texas 794 YTICAL RESU Logical En ntion Carrie Market Stree					ANALYSIS METHOD	
te: Apr 18, 1997 te: Apr 18, 1997 te Rec: 4/14/97 oj cc: HOBS GAS PLANT oj Loc: HOBS, NM differential and and marking Mu-1 marking Limit: ST PREP porting Limit: PREP prisector, Dr. B1	deen Avenue Ecco- Atte Midl	TRIX	ater ater ter	ater ater ater		PREP DATE	
te: Apr 18, te: Apr 18, te Rec: 4/14 oject: N/A oject: N/A oj Loc: HOBB oj Loc: HOBB 71386 MW-7 71386 MW-7 71388 MW-6 71388 MW-6 71394 Trip Bla 71394 Trip Bla	6701 Aber 6701 Aber 1997 797 GAS PLANT S, NM		3333		curacy curacy	PREP METHOD	5030 Dr.
	Date: Apr 18, Date Apr 18, Date Rec: 4/14 Project: N/A Proj Loc: HOBB			1389 MW-6 1390 MW-7 1394 Trip 1394 Trip	Extraction Ac Instrument Acc	Reporting Limit: TEST	BTEX

6701 Aberdeen Avenue Lubbock, Texas 79424 775+794+1296 FAX 806+794+1298	ANALYTICAL RESULTS FOR Eco-Logical Environmen Attention Carrie Eick 2200 Market Street Midland TX 79703	tal Services
Date: Apr 18, 1997 Date Rec: 4/14/97 Project: N/A Proj Name: HOBS GAS PLANT Proj Loc: HOBBS, NM		Lab Receiving # : 9704000243 Sampling Date: 4/10/97 Sample Condition: Intact and Cool Sample Received By: JH
TA# Field Code	MATRIX	TRPHC (mg/L)
T71392 MW-9	Water	<0.500
ðc		100
RPD		7
<pre>% Extraction Accuracy: % Instrument Accuracy:</pre>		98 100

. . . . . . . . .

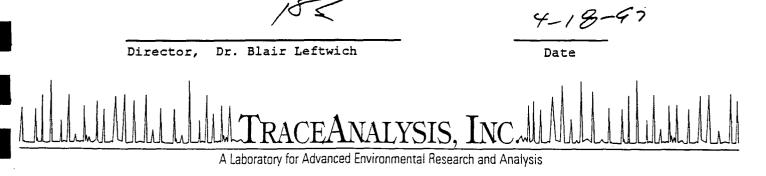
report	ing Limit:				0.5		
TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
TRPHC	N/A	4/17/97	EPA 418.1	4/17/97	AG	100	8.5
	Directo	or, Dr. Bla	ir Leftwich		Date		
			4	LYSIS, IN			

6701 Aberdeen Avenue					
Lubbock, Texas 79424	ANALYTICAL RESULTS FOR Eco-Logical Environmental Services Attention Carrie Eick 2200 Market Street				
<u>00</u> 6 ● 794 ● 1296					
rAX 806●794●1298	Midland TX 79703				
Date: Apr 18, 1997 Date Rec: 4/14/97 Project: N/A Proj Name: HOBS GAS PLANT Proj Loc: HOBBS, NM		Lab Receiving # : 9704000243 Sampling Date: 4/10/97 Sample Condition: Intact and Cool Sample Received By: JH			
TA# Field Code	MATRIX	TRPHC (mg/L)			
T71391 MW-8	Water	<0.500			
T71393 MW-10	Water	<0.500			
QC		100			
RPD		7			
<pre>% Extraction Accuracy:</pre>		98			

100

% Instrument Accuracy:

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
TRPHC	N/A	4/17/97	EPA 418.1	4/17/97	AG	100	8.5



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ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703

PAGE 1 of 2

April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM Prep Date: 04/17/97 Analysis Date: 04/17/97 Sampling Date: 04/10/97 Sample Condition: Intact & Cool Sample Received by: JH Project Name: Hobbs Gas Plant

FIELD CODE: MW-8 \_\_TA #: T71391

Concentration Reporting Limit 8240 Compounds (ug/L)1 Dichlorodifluoromethane ND ND 1 Chloromethane 1 ND XVinyl chloride 5 Bromomethane ND 1 Cr. oethane ND ND 1 Trichlorofluoromethane 1,1-Dichloroethene 4 ND 1 5 Iodomethane ND Carbon disulfide ND 1 5 ND Methylene chloride trans-1,2-Dichloroethene ND 1 21,1-Dichloroethane ND 1 Vinyl acetate ND 1 2-Butanone 50 ND x Chloroform ND 1 1 1,1,1-Trichloroethane ND 1,2-Dichloroethane ND 1 XBenzene 1 ND 1 Carbon Tetrachloride ND ,2-Dichloropropane ND 1 Trichloroethene ND 1 Bromodichloromethane ND 1 1 is-1,3-Dichloropropene ND 4-Methyl-2-pentanone 50 ND trans-1,3-Dichloropropene ND 1 oluene ND 1 ,1,2-Trichloroethane 1 ND 2-1 anone ND 50

ECO-LOGICAL ENVIRONMENTAL Project No: 279-512 Project Location: Hobbs, NM Project Name: Hobbs Gas Plant

FIELD CODE: MW-8 TA #: T71391

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	
Tetrachioroethene	2	1
Chlorobenzene	ND	1 <del>1</del>
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	DN	5
1.4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1.2-Dichlorobenzene	ND	2
1,2-Dibromoethane	ND	5

SURROGATES	% RECOVERY
Dibromofluoromethane Toluene-d8	95 102
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260. CHEMIST: RP

Director, Dr. Blair Leftwich

5-8-97

Date

PAGE 2 of 2

6701 Aberdeen Avenue Lubbock, Texas 79424 pn6•794•1296 . X 806 • 794 • 1298 ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703 PAGE 1 of 2 Prep Date: 04/17/97 April 30, 1997 Receiving Date: 04/14/97 Analysis Date: 04/17/97 Sample Type: Water Sampling Date: 04/10/97 Project No: 279-512 Sample Condition: Intact & Cool Sample Received by: JH Project Location: Hobbs, NM Project Name: Hobbs Gas Plant FIELD CODE: MW-9 TA #: T71392 Concentration Reporting 8240 Compounds Limit (uq/L)Dichlorodifluoromethane ND 1 Chloromethane ND 1 Vinyl chloride ND 1 Bromomethane ND 5 oroethane ND 1 Trichlorofluoromethane ND 1 1,1-Dichloroethene ND 1 Iodomethane ND 5 Carbon disulfide ND 1 Methylene chloride 5 ND

trans-1,2-Dichloroethene

1,1-Dichloroethane

1,1,1-Trichloroethane

Carbon Tetrachloride

1,2-Dichloropropane

Bromodichloromethane

4-Methyl-2-pentanone

1,1,2-Trichloroethane

cis-1,3-Dichloropropene

trans-1,3-Dichloropropene

Trichloroethene

1,2-Dichloroethane

Vinyl acetate

2-Butanone

Chloroform

Benzene

Toluene

2-"9xanone

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ND

ND

ND

ND

53

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ECO-LOGICAL ENVIRONMENTAL Project No: 279-512 Project Location: Hobbs, NM Project Name: Hobbs Gas Plant

FIELD CODE: MW-9 TA #: T71392

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	9	<u></u>
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Elhyibenzene	ND	1
m & p-Xylene	ND	1
Bromoform	10	1
Styrene	ND	1
o-Xylene	ND	· 1
1.1.2.2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
1,2-Dibromoethane	ND	5

SURROGATES	% RECOVERY
Dibromofluoromethane	99
Toluene-d8	102
4-Bromofluorobenzene	99

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260. CHEMIST: RP

5-8-97

Director, Dr. Blair Leftwich

Date

PAGE 2 of 2

6701 Aberdeen Avenue Lubbock, Texas 79424 an6 • 794 • 1296 ....X 806 • 794 • 1298 ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703 PAGE 1 of 2 Prep Date: 04/17/97 April 30, 1997 Analysis Date: 04/17/97 Receiving Date: 04/14/97 Sampling Date: 04/10/97 Sample Type: Water Sample Condition: Intact & Cool Project No: 279-512 Sample Received by: JH Project Location: Hobbs, NM Project Name: Hobbs Gas Plant FIELD CODE: MW-10 TA #: T71393 Reporting Concentration Limit 8240 Compounds (ug/L)Dichlorodifluoromethane ND 1 ND 1 Chloromethane Vinyl chloride ND 1 5 Bromomethane ND oroethane ND 1 Trichlorofluoromethane ND 1 1,1-Dichloroethene ND 1 ND 5 Iodomethane ND 1 Carbon disulfide 5 ND Methylene chloride trans-1,2-Dichloroethene ND 1 1,1-Dichloroethane ND 1 Vinyl acetate ND 1 50 2-Butanone ND Chloroform ND 1 ND 1,1,1-Trichloroethane 1 1,2-Dichloroethane ND 1 Benzene ND 1 Carbon Tetrachloride ND 1 1,2-Dichloropropane ND 1 Trichloroethene ND 1 Bromodichloromethane ND 1 cis-1,3-Dichloropropene 1 ND 4-Methyl-2-pentanone ND 50 trans-1,3-Dichloropropene ND 1 Toluene ND 1 1,1,2-Trichloroethane ND 1 2-rexanone ND 50 RACEANA

#### ECO-LOGICAL ENVIRONMENTAL Project No: 279-512 Project Location: Hobbs, NM Project Name: Hobbs Gas Plant

. .....

FIELD CODE: MW-10 TA #: T71393

	Concentration	Reporting
8240 Compounds	(ug/ <b>L</b> )	Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromotorm	ND	1
Styrene	ND	1
o-Xylene	ND	1
1,1,2,2-Tetrachloroethane	ND	1
trans 1,4-Dichloro-2-butene	ND	5
cis 1,4-Dichloro-2-butene	ND	5
1,4-Dichlorobenzene	ND	2
1,3-Dichlorobenzene	ND	2
1,2-Dichlorobenzene	ND	2
1,2-Dibromoethane	ND	5

SURROGATES	% RECOVERY
Dibromofluoromethane	101
Toluene-d8	101
4-Bromofluorobenzene	98

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260. CHEMIST: RP

Director, Dr. Blair Leftwich

5-8-97

Date

PAGE 2 of 2

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## TA #T71391 Field Code: MW-8

#### ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703

April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Sampling Date: 04/10/97 Sample Condition: I & C Sample Received by: JH Project Name: Hobbs Gas Plant Project No: 279-512 Project Location: Hobbs, NM Extraction Date: 04/15/97 Analysis Date: 04/17/97

	Reporting	Concentration			Analysis Date: 0	)4/17/97
EPA 8270 - BNA's (mg/L)	Limit	(mg/L)	QC	RPD	%EA	%IA
Phenol	0.001	ND	78	13	45	98
Naphthalene	0.001	ND	74	16	80	93
Acenaphthylene	0.001	ND	79	16	97	99
Acenaphthene	0.001	ND	80	18	91	100
Fluorene	0.001	ND	78	15	91	98
Phenanthrene	0.001	ND	79	7	88	99
Anthracene	0.001	ND	81	4	102	101
Fluoranthene	0.001	ND	79	4	112	99
Pyrene	0.001	ND	79	4	111	99
Benzo[a]anthracene	0.001	ND	77	2	105	96
Chrysene	0.001	ND	79	3	102	99
Benzo[b]fluoranthene	0.001	ND	80	10	103	100
mzo[k]fluoranthene	0.001	ND	90	22	122	113
Benzo[a]pyrene	0.001	ND	81	5	107	• 101
Indeno[1,2,3-cd]pyrene	0.001	ND	74	0	98	93
Dibenz[a,h]anthracene	0.001	ND	74	0	93	93
Benzo[g,h,i]perylene	0.001	ND	72	1	97	100

ND = NOT DETECTED

SURROGATES	* RECOVERY
2-Fluorophenol SURR	70
Phenol-d6 SURR	61
Nitrobenzene-d5 SURR	99
2-Fluorobiphenyl SURR	108
2,4,6-Tribromophenol SURR	106
Terphenyl-d14 SURR	135
METHOD: EPA SW 846-8270, 351	10. I N
CHEMIST: HC/CC	Mar 2 Lan 2
	Director, Dr. Blair Leftwich

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Field Code: MW-9

TA #T71392

#### ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703

April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Sampling Date: 04/10/97 Sample Condition: 1 & C Sample Received by: JH Project Name: Hobbs Gas Plant Project No: 279-512 Project Location: Hobbs, NM Extraction Date: 04/15/97 Analysis Date: 04/17/97

	Reporting	Concentration	Analysis Date: 04/17/97				
EPA 8270 - BNA's (mg/L)	Limit	(mg/L)	QC	RPD	%EA	%IA	
Phenol	0.001	ND	78	13	45	98	
Naphthalene	0.001	ND	74	16	80	93	
Acenaphthylene	0.001	ND	79	16	97	99	
Acenaphthene	0.001	ND	80	18	91	100	
Fluorene	0.001	ND	78	15	91	98	
Phenanthrene	0.001	ND	79	7	88	99	
Anthracene	0.001	ND	81	4	102	101	
Fluoranthene	0.001	ND	79	4	112	99	
Pyrene	0.001	ND	79	4	111	99	
Benzo[a]anthracene	0.001	ND	77	2	105	96	
Chrysene	0.001	ND	79	3	102	99	
Benzo[b]fluoranthene	0.001	ND	80	10	103	100	
.zo[k]fluoranthene	0.001	ND	90	22	122	113	
Benzo[a]pyrene	0.001	ND	81	5	107	101	
Indeno[1,2,3-cd]pyrene	0.001	ND	74	0	98	93	
Dibenz[a,h]anthracene	0.001	ND	74	0	93	93	
Benzo[g,h,i]perylene	0.001	ND	72	1	97	100	

ND = NOT DETECTED

SURROGATES	\$ RECOVERY
2-Fluorophenol SURR	71
Phenol-d6 SURR	61
Nitrobenzene-d5 SURR	100
2-Fluorobiphenyl SURR	106
2,4,6-Tribromophenol SURR	107
Terphenyl-d14 SURR	135
METHOD: EPA SW 846-8270, 35	10.
CHEMIST: HC/CC	Man 21al
•	Director, Dr. Blair Leftwich

Date

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## TA #T71393 Field Code: MW-10

#### ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703

April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Sampling Date: 04/10/97 Sample Condition: I & C Sample Received by: JH Project Name: Hobbs Gas Plant Project No: 279-512 Project Location: Hobbs, NM Extraction Date: 04/15/97 Analysis Date: 04/17/97

	Reporting	Concentration	Analysis Date: 04/17/97			
EPA 8270 - BNA's (mg/L)	Limit	(mg/L)	QC	RPD	%EA	%IA
Phenol	0.001	ND	78	13	45	98
Naphthalene	0.001	ND ·	74	16	80	93
Acenaphthylene	0.001	ND	79	16	97	99
Acenaphthene	0.001	ND	80	18	91	100
Fluorene	0.001	ND	78	15	91	98
Phenanthrene	0.001	ND	79	7	88	99
Anthracene	0.001	ND	81	4 .	102	101
Fluoranthene	0.001	ND	79	4	112	99
Pyrene	0.001	ND	79	4	111	99
Benzo [a] anthracene	0.001	ND	77	2	105	96
Chrysene	0.001	ND	79	3	102	99
Penzo (b) fluoranthene	0.001	ND	80	10	103	100
	0.001	ND	90	22	122	113
Benzo (a) pyrene	0.001	ND	81	5	107	101
Indeno[1,2,3-cd]pyrene	0.001	ND	74	. 0	98	93
Dibenz[a,h]anthracene	0.001	ND	74	0	93	93
Benzo[g,h,i]perylene	0.001	ND	72	1	97	100

ND = NOT DETECTED

Surrogates	+ RECOVERY
2-Fluorophenol SURR	57
Phenol-d6 SURR	49
Nitrobenzene-d5 SURR	86
2-Fluorobiphenyl SURR	89
2,4,6-Tribromophenol SURR	95
Terphenyl-d14 SURR	141
METHOD: EPA SW 846-8270, 3510	. r
CHEMIST: HC/CC	MEN

Director, Dr. Blair Leftwich

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ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703

April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Sampling Date: 04/10/97 Sample Condition: I & C Sample Received by: JH Project No: 279-512 Project Location: Hobbs, NM Project Name: Hobbs Gas Plant Extraction Date: 04/15/97 Analysis Date: 04/17/97

TA# 71384 FIELD CODE:MW-1

	Reporting	Concentration				
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Phenoi	0.001	ND	78	13	45	98
Naphthalene	0.001	0.007	74	16	80	93

ND = NOT DETECTED

SURROGATES	* RECOVERY
?-Fluorophenol SURR	49
Thenol-d6 SURR	49
Nitrobenzene-d5 SURR	82
2-Fluorobiphenyl SURR	90
2,4,6-Tribromophenol SURR	113
Terphenyl-d14 SURR	122

METHOD: EPA SW 846-8270, 3510. CHEMIST: HC/CC

Director, Dr. Blair Leftwich

1/30/9 Date

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TA# 71385 FIELD CODE:MW-2

#### ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703

April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Sampling Date: 04/10/97 Sample Condition: I & C Sample Received by: JH Project No: 279-512 Project Location: Hobbs. NM Project Name: Hobbs Gas Plant Extraction Date: 04/15/97 Analysis Date: 04/17/97

	Reporting	Concentration			· · · · ·	
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Phenoi	0.001	ND	78	13	45	98
Naphthalene	0.001	ND	74	16	80	93

ND = NOT DETECTED

SURROGATES	& RECOVERY
	~
'luorophenol SURR	60
nol-d6 SURR	51
Nitrobenzene-d5 SURR	87
2-Fluorabiphenyl SURR	92
2,4,6-Tribromophenol SURR	84
Terphenyl-d14 SURR	139

METHOD: EPA SW 846-8270, 3510. CHEMIST: EC/CC

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6701 Aberdeen Avenue Lubbock, Texas 79424 °06 • 794 • 1296 ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703 April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Sampling Date: 04/10/97 Sample Condition: I & C Sample Received by: JH Project No: 279-512 Project Location: Hobbs. NM Project Name: Hobbs Gas Plant Extraction Date: 04/15/97 Analysis Date: 04/17/97

## TA# 71386 FIELD CODE:MW-3

	Reporting	Concentration				
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Phenol	0.001	ND	78	13	45	98
Naphthalene	0.001	ND	74	16	80	93

ND = NOT DETECTED

Surrogates	\$ RECOVERY
Juorophenol SURR	49
	41
Nitrobenzene-d5 SURR	75
2-Fluorobiphenyl SURR	81
2,4,6-Tribromophenol SURR	91
Terphenyl-d14 SURR	138

METHOD: EPA SW 846-8270, 3510. CHEMIST: HC/CC

Director, Dr. Blair Leftwich

Date

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ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703

April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Sampling Date: 04/10/97 Sample Condition: I & C Sample Received by: JH Project No: 279-512 Project Location: Hobbs. NM Project Name: Hobbs Gas Plant Extraction Date: 04/15/97 Analysis Date: 04/17/97

TA# 71387 FIELD CODE:MW-4

	Reporting	Concentration				
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Phenoi	0.001	ND	78	13	45	98
Naphthalene	0.001	ND	74	16	80	93

ND = NOT DETECTED

SURROGATES	\$ RECOVERY
Fluorophenol SURR	66
encl-d6 SURR	56
Nitrobenzene-d5 SURR	92
2-Fluorobiphenyl SURR	97
2,4,6-Tribromophenol SURR	90
Terphenyl-d14 SURR	137

METHOD: EPA SW 846-8270, 3510. CHEMIST: HC/CC

Director, Dr. Blair Leftwich

4/30/9.

Date

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ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703

April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Sampling Date: 04/10/97 Sample Condition: I & C Sample Received by: JH Project No: 279-512 Project Location: Hobbs. NM Project Name: Hobbs Gas Plant Extraction Date: 04/15/97 Analysis Date: 04/17/97

#### TA# 71388 FIELD CODE:MW-5

	Reporting	Concentration				
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Phenol	0.001	ND	78	13	45	98
Naphthalene	0.001	0.001	74	16	80	93

ND = NOT DETECTED

SURROGATES	* RECOVERY
- Fluorophenol SURR	65
enol-d6 SURR	54
Nitrobenzene-d5 SURR	92
2-Fluorobiphenyl SURR	98
2,4,6-Tribromophenol SURR	124
Terphenyl-d14 SURR	145

METHOD: EPA SW 846-8270, 3510. CHEMIST: EC/CC

Director, Dr. Blair Leftwich

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#### TA# 71389 FIELD CODE:MW-6

	Reporting	Concentration				
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Phenol	0.001	ND	78	13	45	98
Naphthalene	0.001	ND	74	16	80	. 93

ND = NOT DETECTED

SURROGATES	\$ RECOVERY
2-Fluorophenol SURR	54
.enol-df SURR	45
Nitrobenzene-d5 SURR	76
2-Fluorobiphenyl SURR	78
2,4,6-Tribromophenol SURR	103
Terphenyl-d14 SURR	128

METHOD: EPA SW 846-8270, 3510. CHEMIST: EC/CC

Director, Dr. Blair Leftwich

4/30/97 Date

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ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703

April 30, 1997 Receiving Date: 04/14/97 Sample Type: Water Sampling Date: 04/10/97 Sample Condition: I&C Sample Received by: JH Project No: 279-512 Project Location: Hobbs. NM Project Name: Hobbs Gas Plant Extraction Date: 04/15/97 Analysis Date: 04/17/97

# TA# 71390 FIELD CODE:MW-7

	Reporting	Concentration				
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%IA
Phenol	0.001	ND	78	13	45	98
Naphthalene	0.001	ND	74	16	80	93

ND = NOT DETECTED

SURROGATES	t RECOVERY
<sup>2</sup> Pluorophenol SURR	58
nol-d6 SURR	50
Nitrobenzene-d5 SURR	81
2-Fluorobiphenyl SURR	84
2,4,6-Tribromophenol SURR	82
Terphenyl-d14 SURR	138

METHOD: EPA SW 846-8270, 3510. CHEMIST: HC/CC

Director, Dr. Blair Leftwich

Date

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alys Row me	TraceAnalysis, Inc. 6701 Aberdeen Avenue Lubbock, Texas 79424 1 (800) 378 1296 Fax (806) 794 1298 1 (800) 378 1296 1 (800) 378 1296	Phone#: 1・5/520・フ535 FAX#: 9・5/520・フラ3フ ANALYSIS REQUEST SPECIAL		Project Name: HOBDS GAS. PLANT PD PD PD	4+4 × 1/1	MATRIX PRESERVATIVE SAMPLING AS AS AS AS AS AS AS AS AS AS AS AS AS	Volume/Amor Volume/Amor SOIL SOIL SOIL AIR SCUDGE HCC HNO3 BTEX, MEBE TOLP Volatile TCLP Volatile TCLP Volatile TCLP Semi V RCI SS40 / 8260	1X	3 Vot				2 Vo A	1		Time: Received by: Date: Time: REMARKS	Received by: Date: Time: Phenol	- Received at Jaboratory by: Datey Time: Northerne DL : , 001 ppm
	nc.	A E	[N1AL				Volume/Amoi Agtaw Moz	V.º 4	1	i	<u></u>	<u> </u>		1	2 100 1	Received by:		Rootved at Jaboratory

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S, Inc. 6701 Aberdeen Avenue Lubbock, Texas 79424 Tel (806) 794 1296 Pax (806) 794 1298 1 (800) 378 1296	Phone#: 915 520 ア535 FAX#:	Project Name: Hebbs GAS DLANT Sampler Signature: Carvis E. EwX	* CONTRINERS * CONTRINERS * CONTRINERS * CONTRINERS * CONTRINE * CONTRIVE * CONTRIVE * CONTRINE * CONTRINE	1     1     1     1       2     2     1     1     1		2 1409			Received by: Date; Time: REMARKS	Received by: Date: Time:	Received us laborations by: Dyte: 1/11/17.11.05
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<b>S</b> , <b>Inc.</b> 6701 Aberdeen Avenue Lubbock, Texas 79424 <sup>1296</sup> Tax (806) 794 1296 <sup>1 (800) 378 1296</sup>	Phone#: FAX#:	Project Name: Project Name: HOBBS FAS PLANT Sumpler Signature: Carvi E. E.K	t MATRI	# CONTRIN: Volume/Amou SOIL SOIL AIR AIR HNO3 ICE ICE ICE ICE ICE ICE	2 WA   X   X   1   17:30			ist in Dates		Beorived in Horstory by Duye: Time:
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