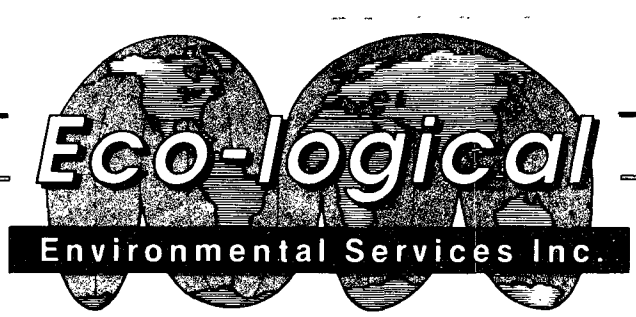
GW - 191

MONITORING REPORTS

DATE:
1998 - 1997



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

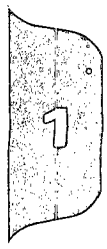
On Behalf of:
K N Energy, Inc.

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

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

TABLE OF CONTENTS

LIST OF FIGURES


1

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.

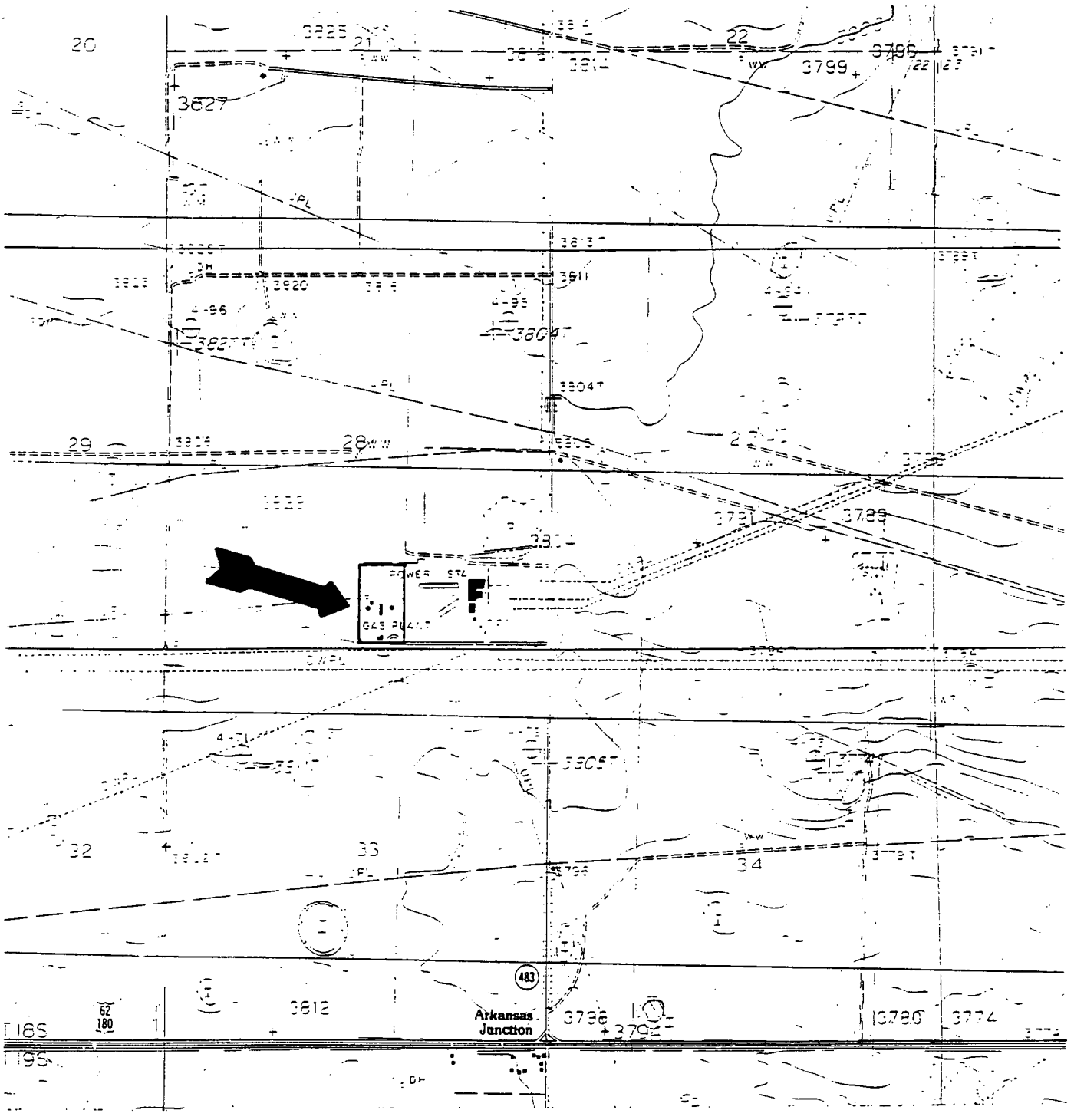
II. Chronology of Events

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



½ 0 1 MILE

APPROXIMATE SCALE IN MILES

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE 1:24,000 FEET

CONTOUR INTERVAL = 10 FEET

☐ SITE LOCATION

SITE COORDINATES: 24.08 ACRES IN SECTION 28, T18S, R36E, LEA COUNTY, NEW MEXICO

SOURCE: MONUMENT NORTH, NM / LEA COUNTY, 1985

PROJECT #: 279 / 512

DATE: MAY 10, 1996

FIGURE 1

GENERAL SITE LOCATION MAP

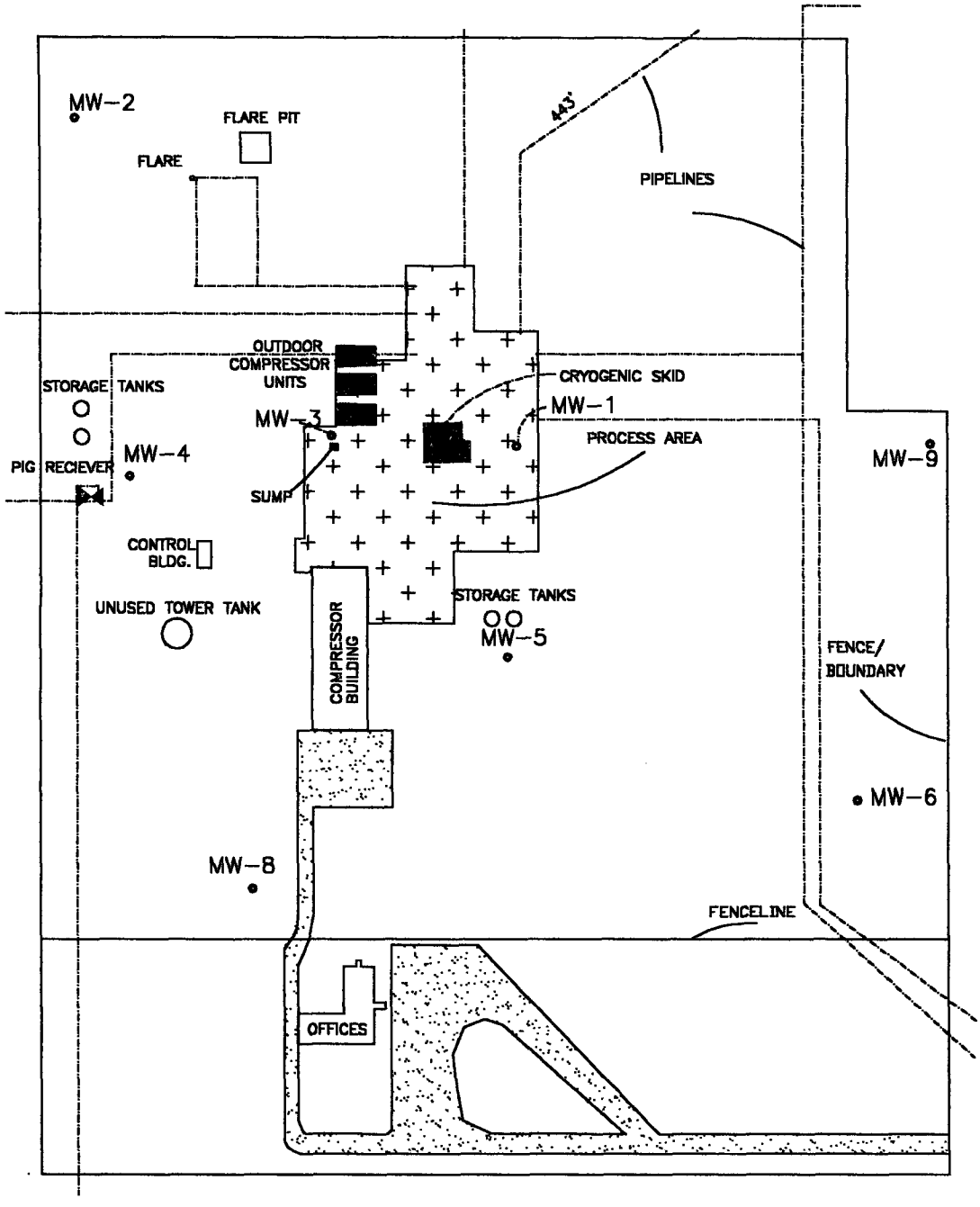
FORMER CABOT/MAPLE SITES

HOBBS NATURAL GAS PLANT

LEA COUNTY, NEW MEXICO

PREPARED FOR: KN ENERGY

Eco-logical ENVIRONMENTAL SERVICES, INC.



SCALE

0' 50' 100'

HOBBS GAS PLANT
SITE MAP

HOBBS, LEA COUNTY, NEW MEXICO

Figure 2

KN ENERGY

Prepared by
Eco-logical
ENVIRONMENTAL SERVICES, INC.
Midland, Texas

Generated by ECO

Draft Date: 10/20/97

f:\master\279512\sitemap.dwg

FORMER HOBBS GAS PLANT

GROUNDWATER ELEVATIONS

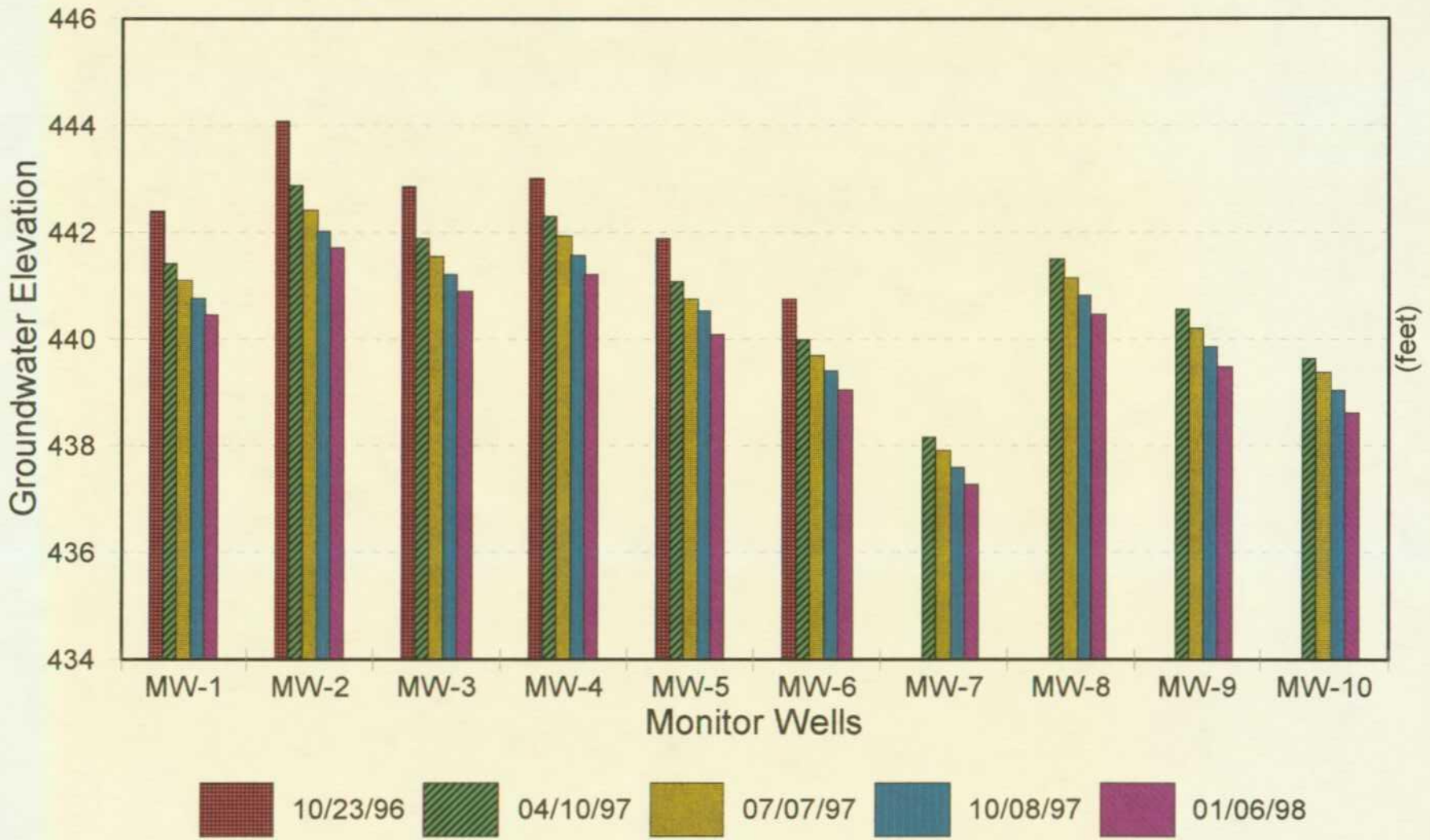
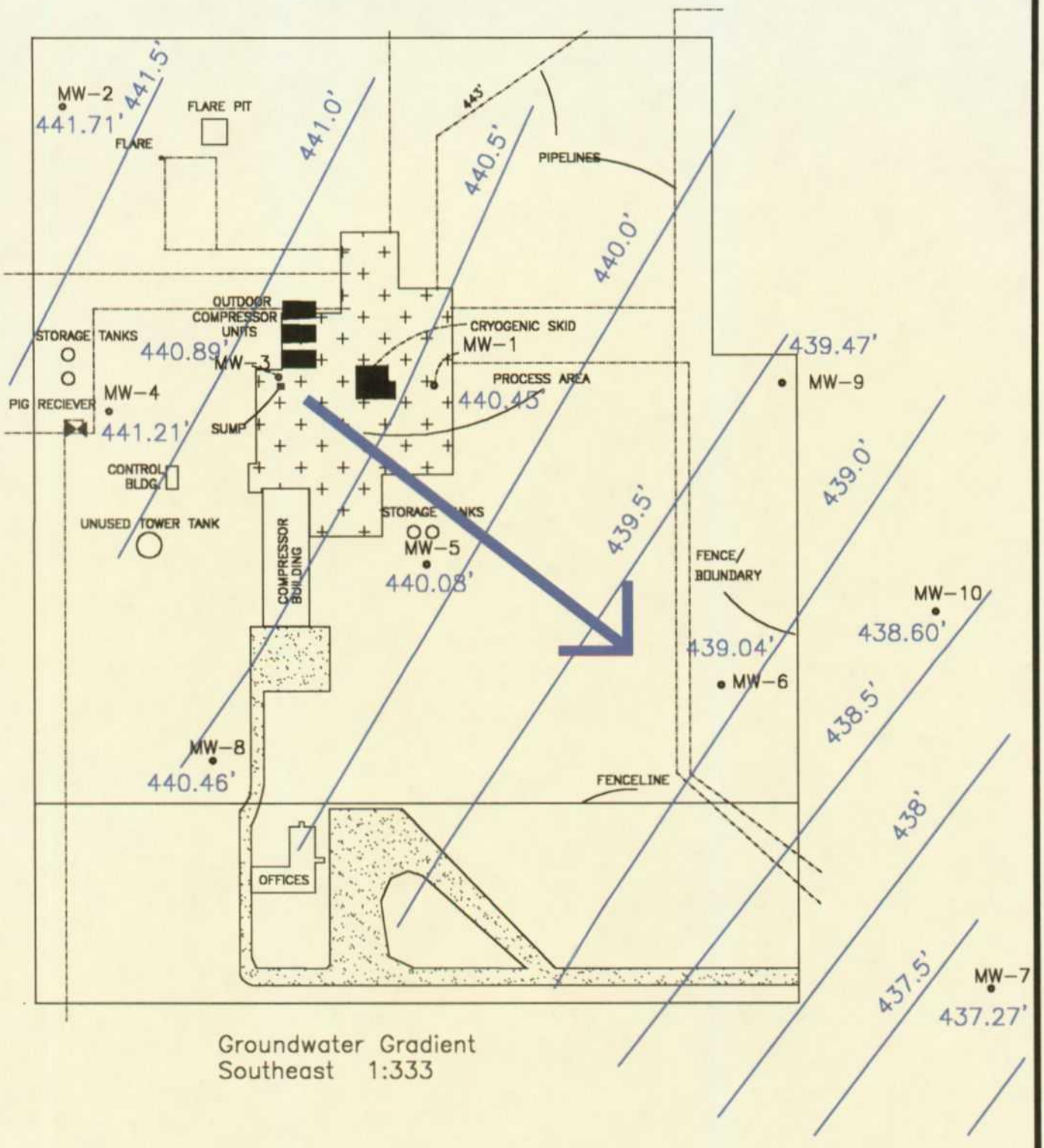


Figure 3



Groundwater Gradient
Southeast 1:333

SCALE
0' 50' 100'

HOBBS GAS PLANT
GROUNDWATER GRADIENT
January 6, 1998
HOBBS, LEA COUNTY, NEW MEXICO

Figure 4

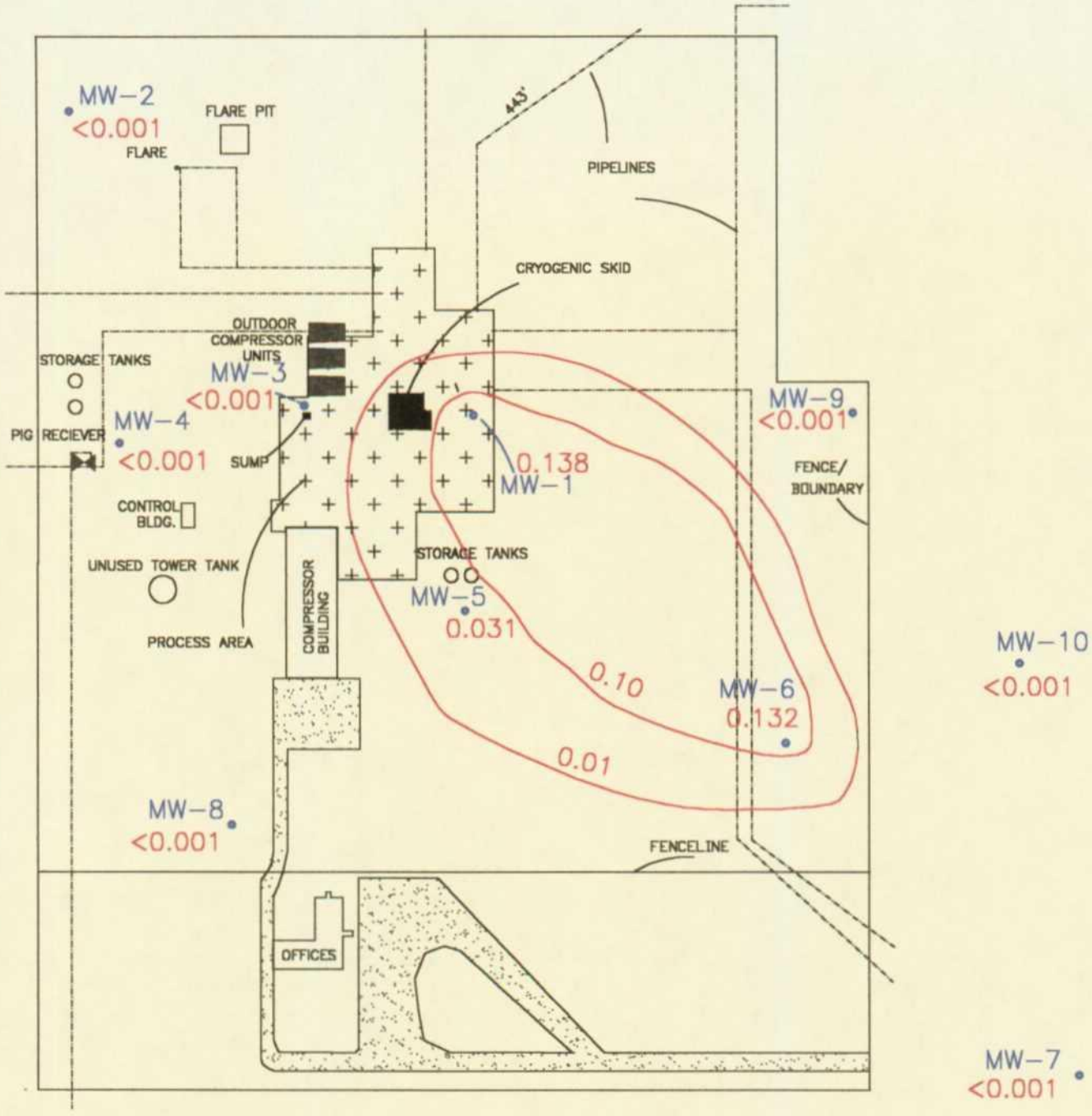
KN ENERGY

Prepared by
Eco-logical
ENVIRONMENTAL SERVICES INC.
Midland, Texas

Generated by ECO

Draft Date: 01/07/98

f:\master\279512\gw01-98.dwg



Benzene OCD Allowable Limit – 0.01 mg/l

Benzene Concnetrations presented in mg/l

SCALE

0' 50' 100'

HOBBS GAS PLANT
BENZENE CONCENTRATION
IN GROUNDWATER
January 6, 1998
HOBBS, LEA COUNTY, NEW MEXICO
Generated by ECO

Figure 5

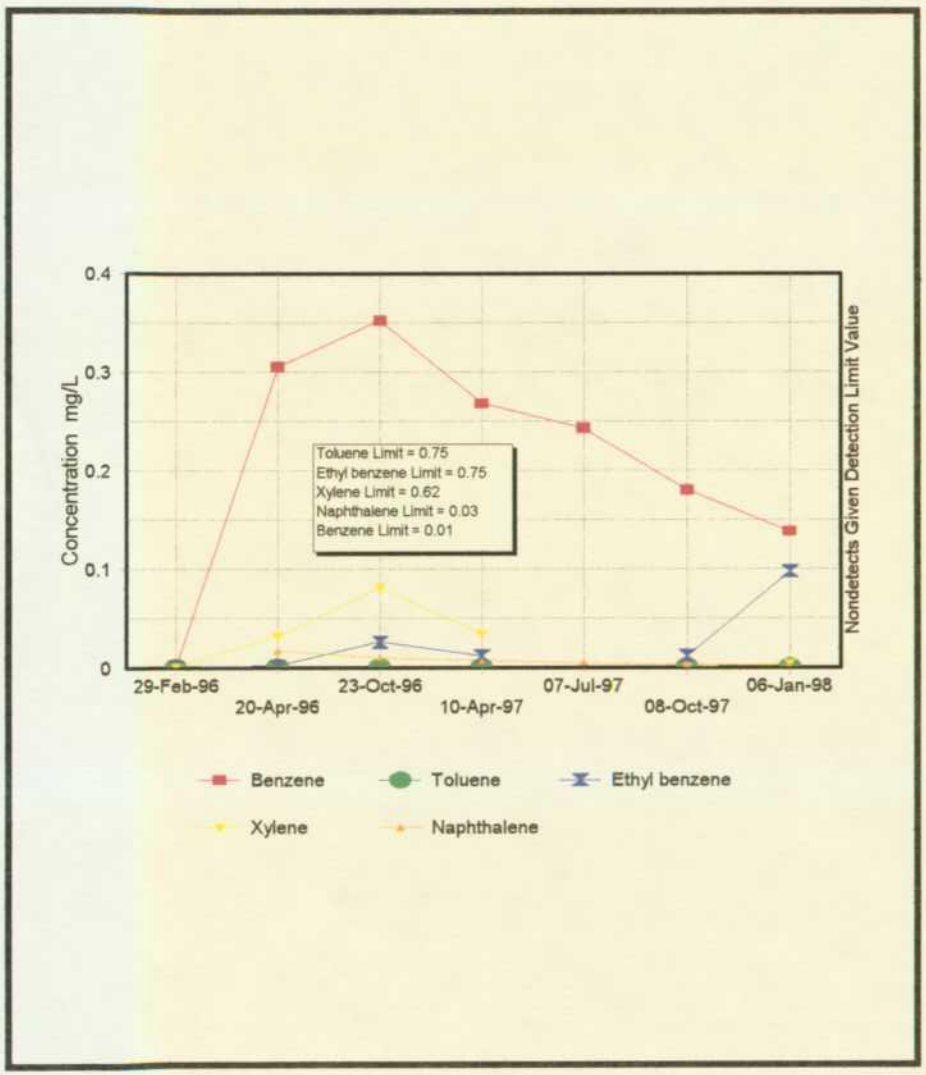
KN ENERGY

Draft Date: 01/26/98

Prepared by
Eco-logical
ENVIRONMENTAL SERVICES INC.
Midland, Texas

f:\master\279512\ben01-98.dwg

FORMER HOBBS GAS PLANT
MW-1 HISTORIC ANALYTICAL RESULTS



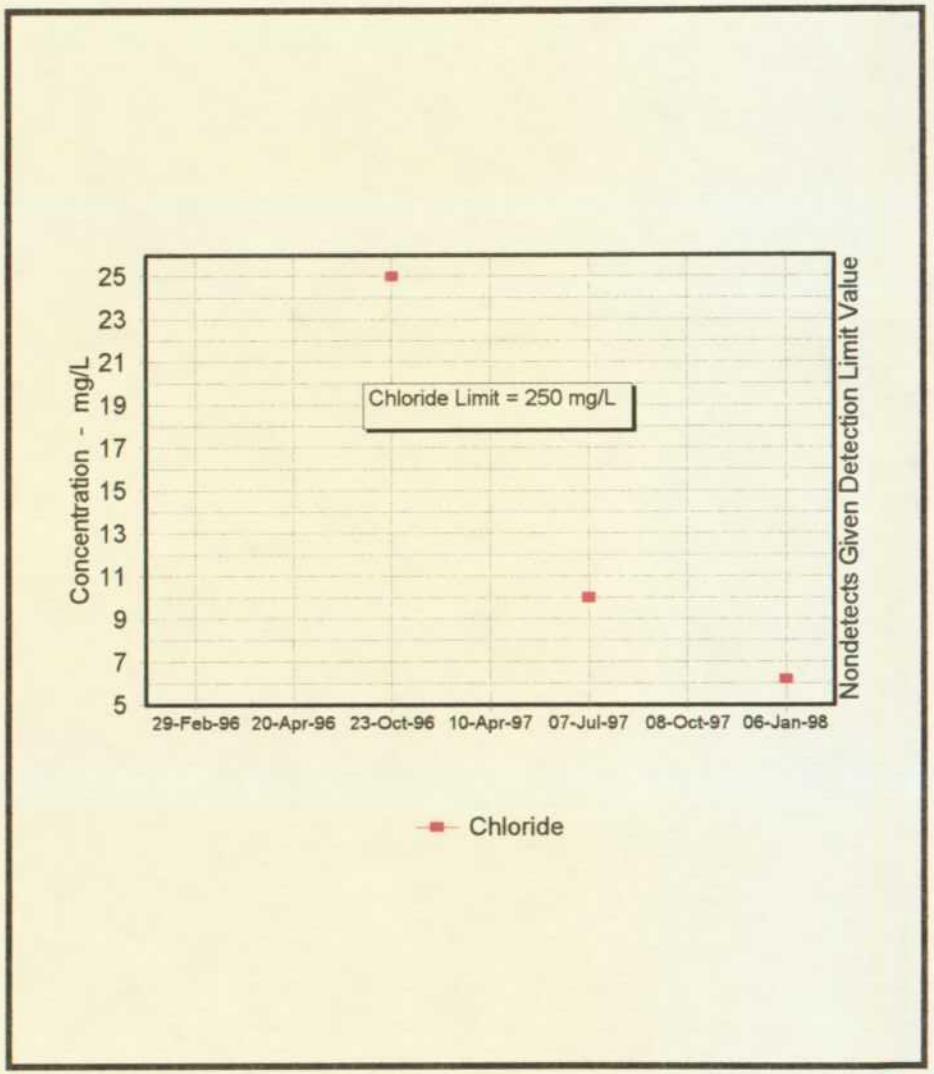
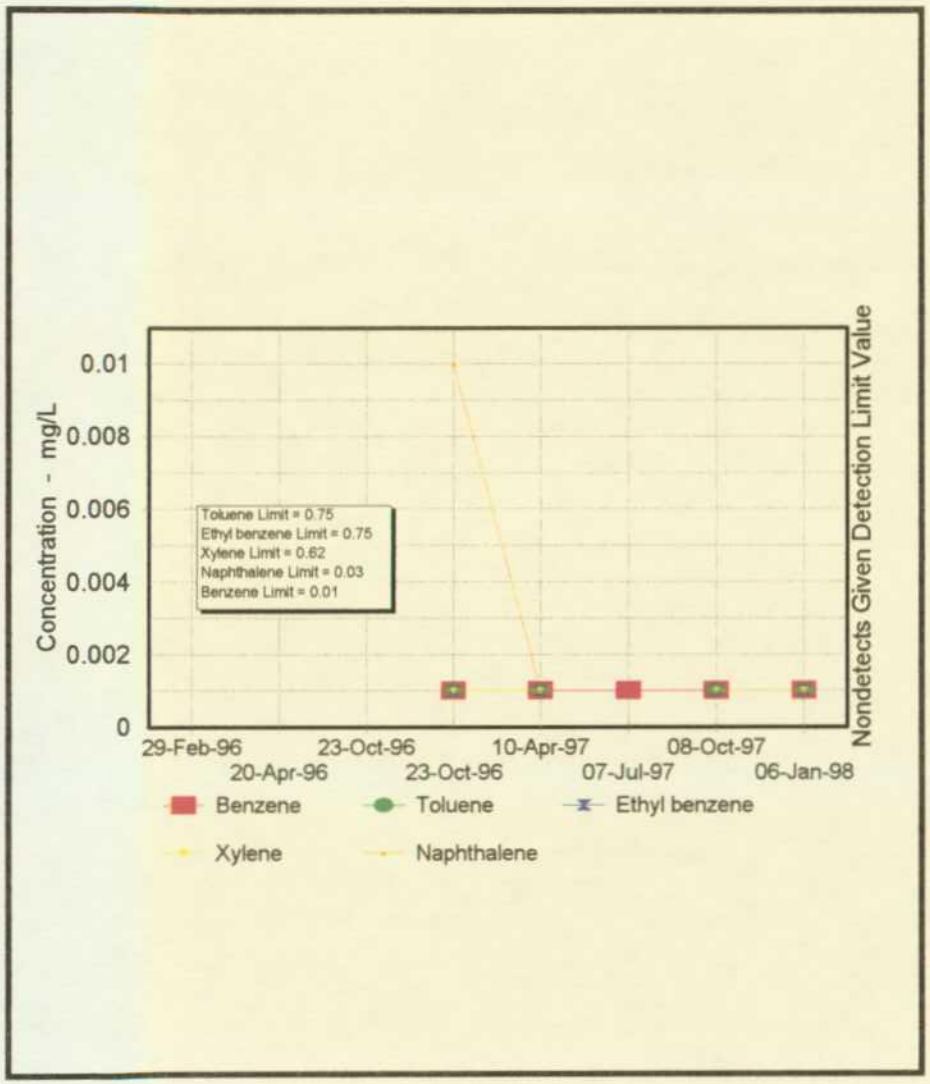


Figure 6

FORMER HOBBS GAS PLANT
MW-2 HISTORIC ANALYTICAL RESULTS



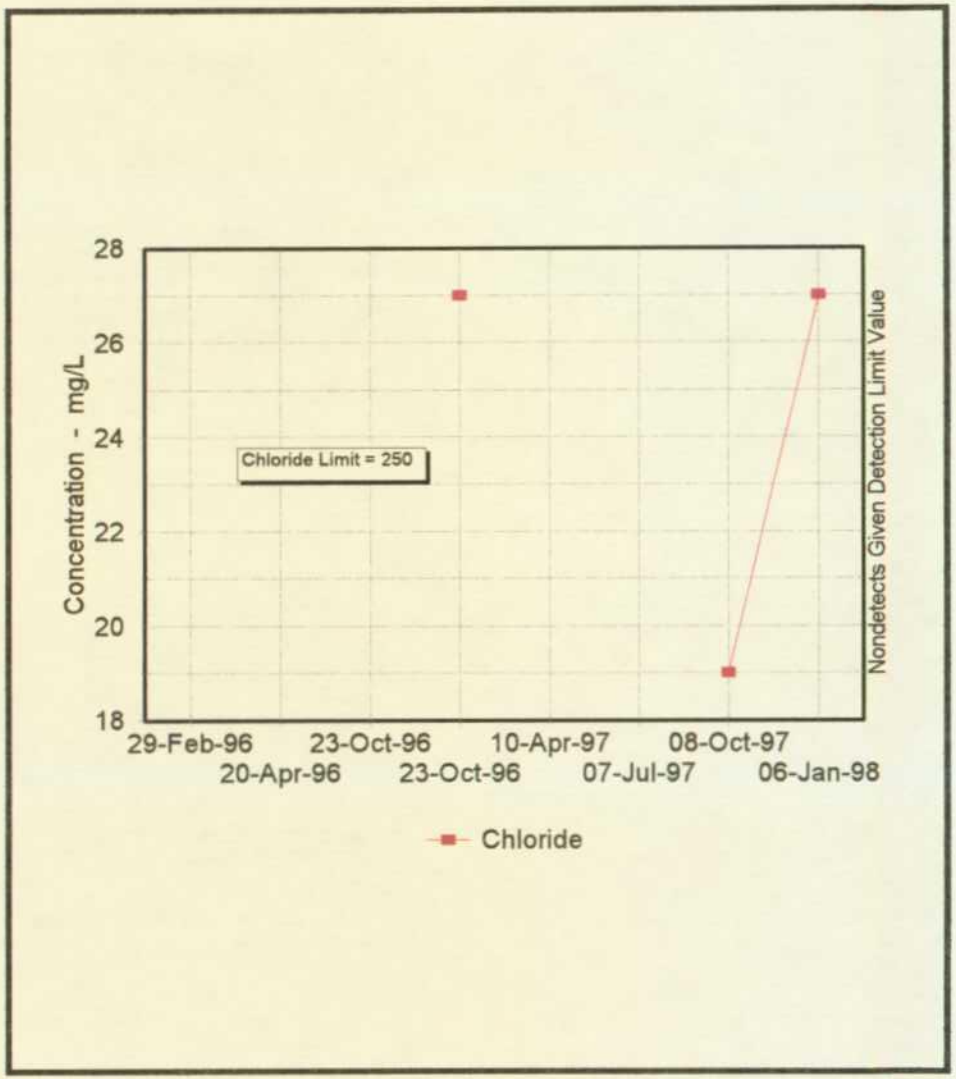
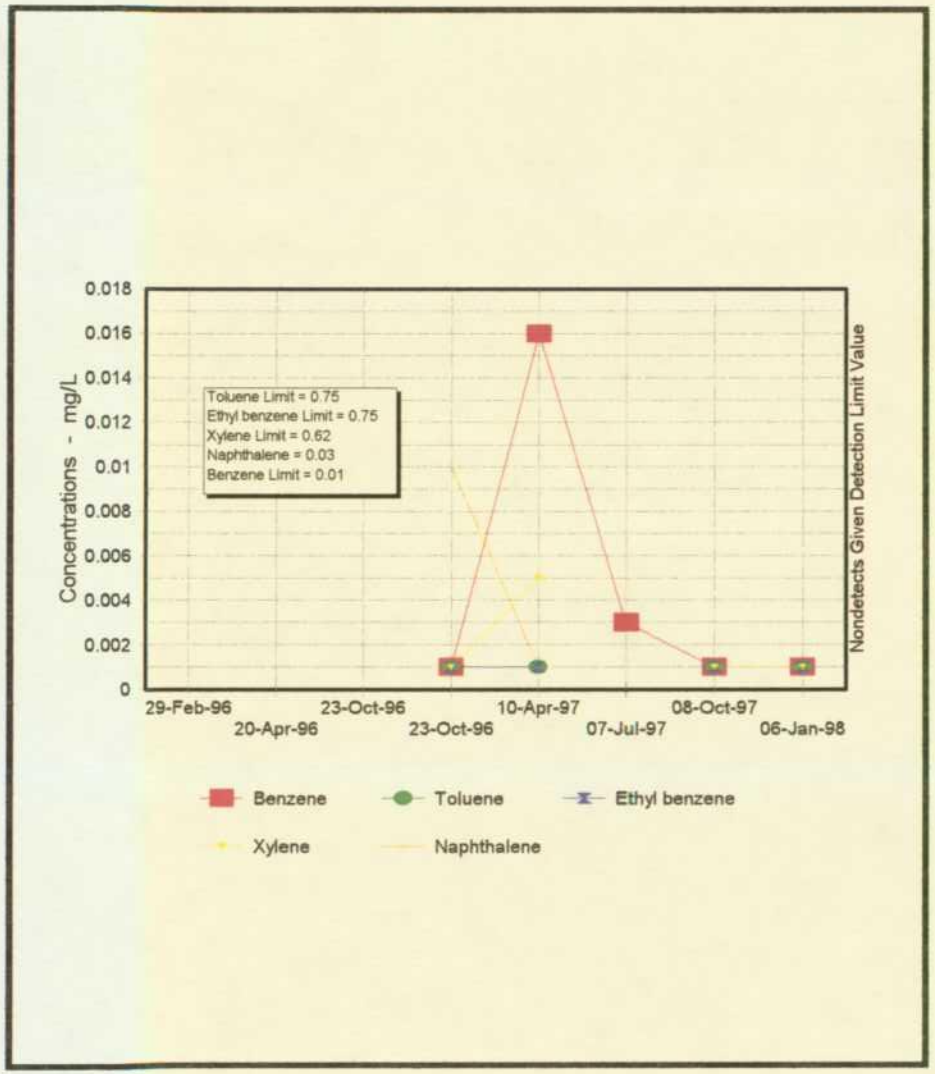


Figure 7

FORMER HOBBS GAS PLANT
MW-3 HISTORIC ANALYTICAL RESULTS



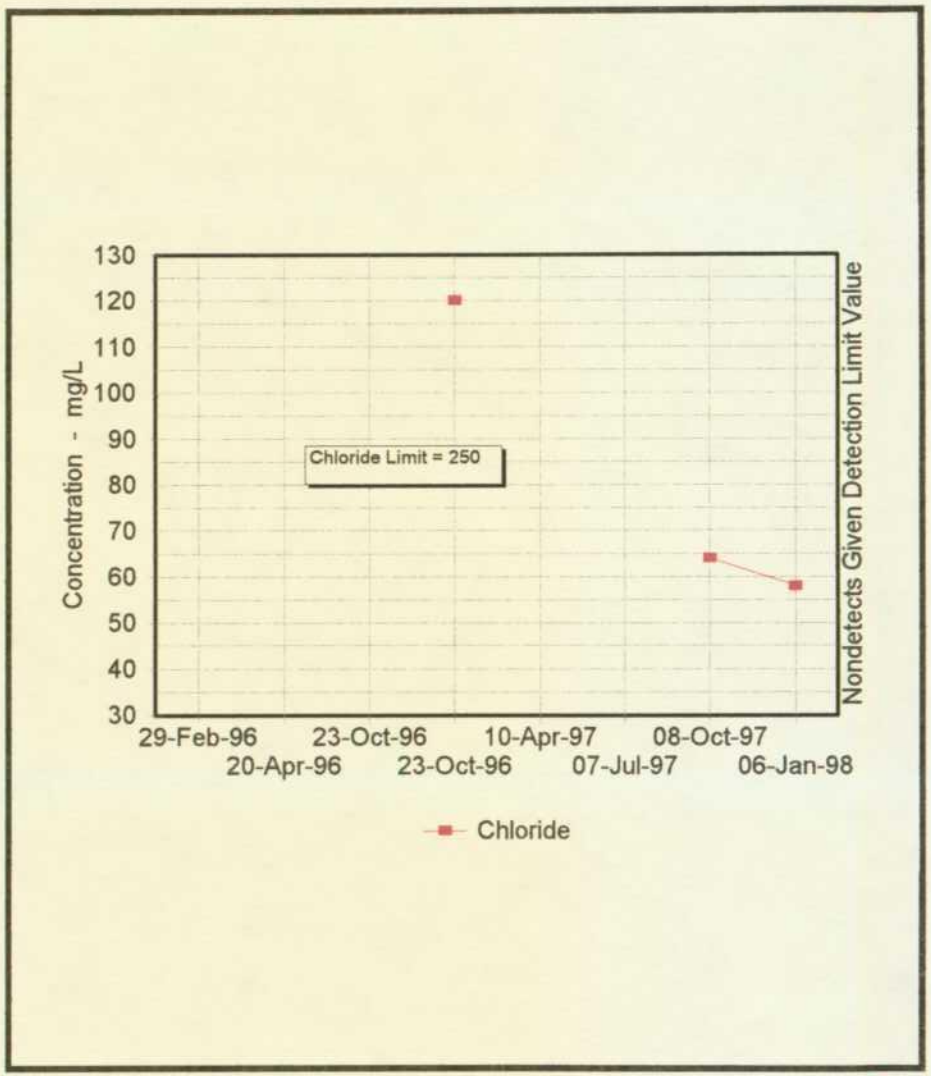
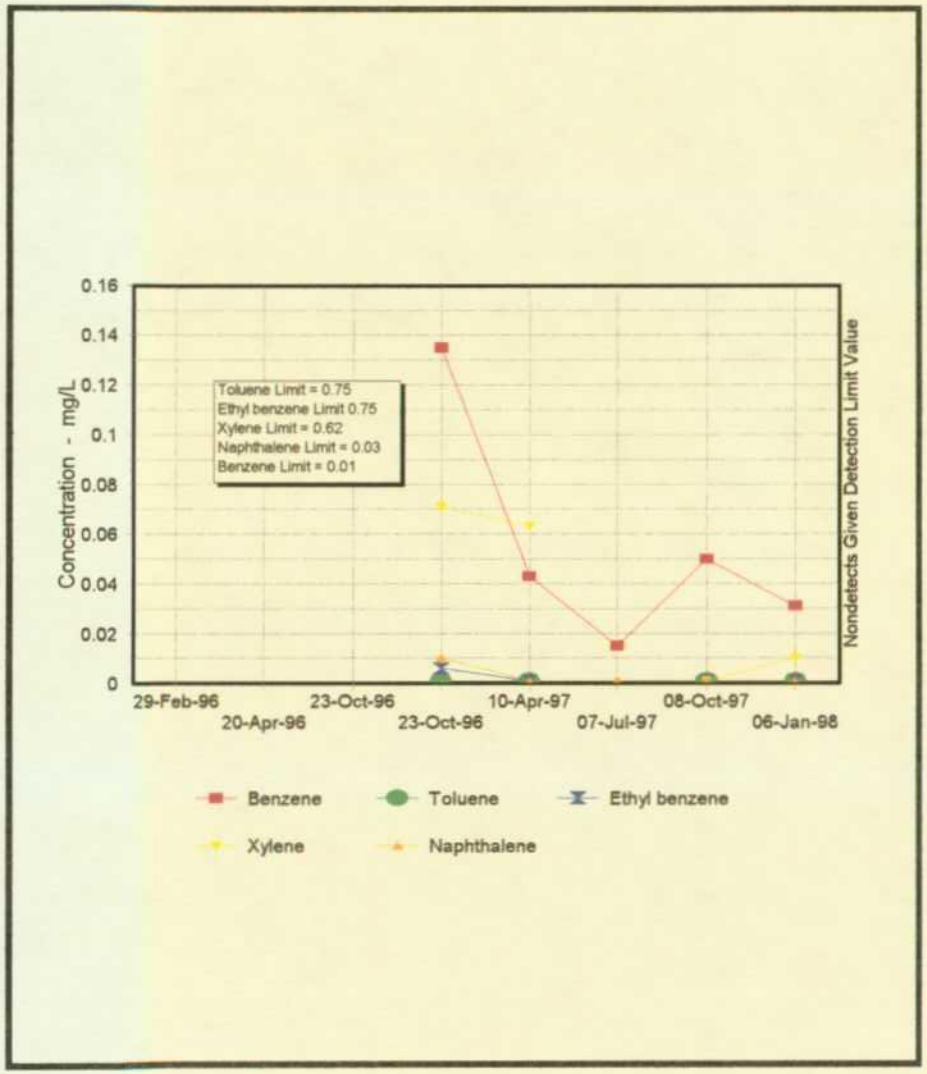


Figure 8

FORMER HOBBS GAS PLANT
MW-5 HISTORIC ANALYTICAL RESULTS



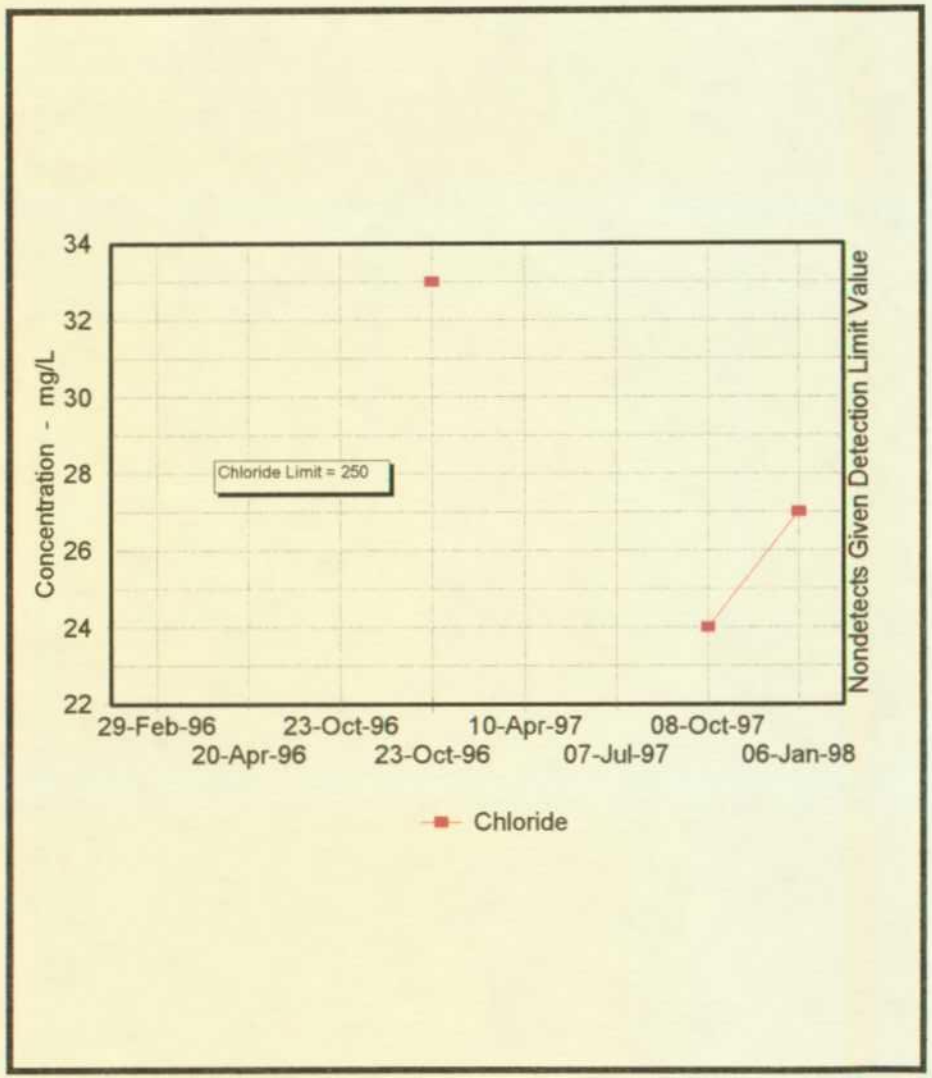
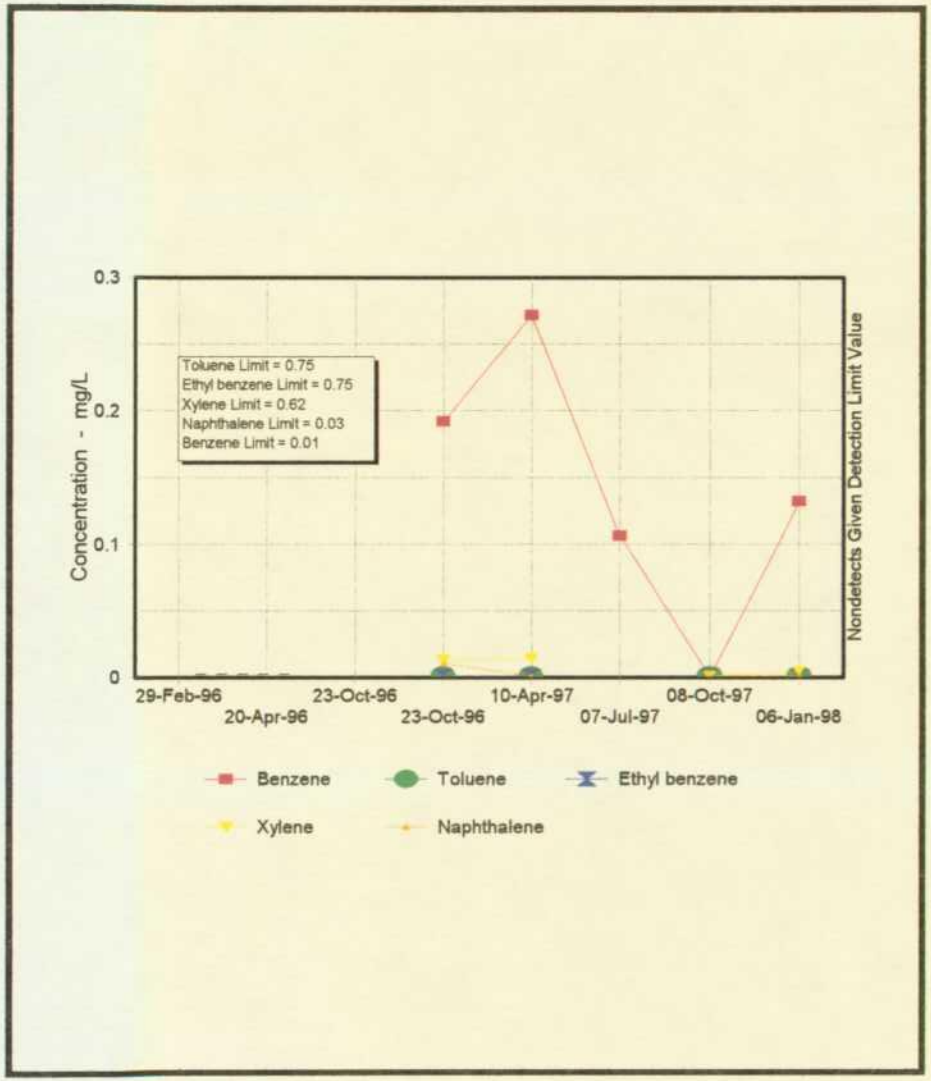


Figure 9

FORMER HOBBS GAS PLANT
MW-6 HISTORIC ANALYTICAL RESULTS



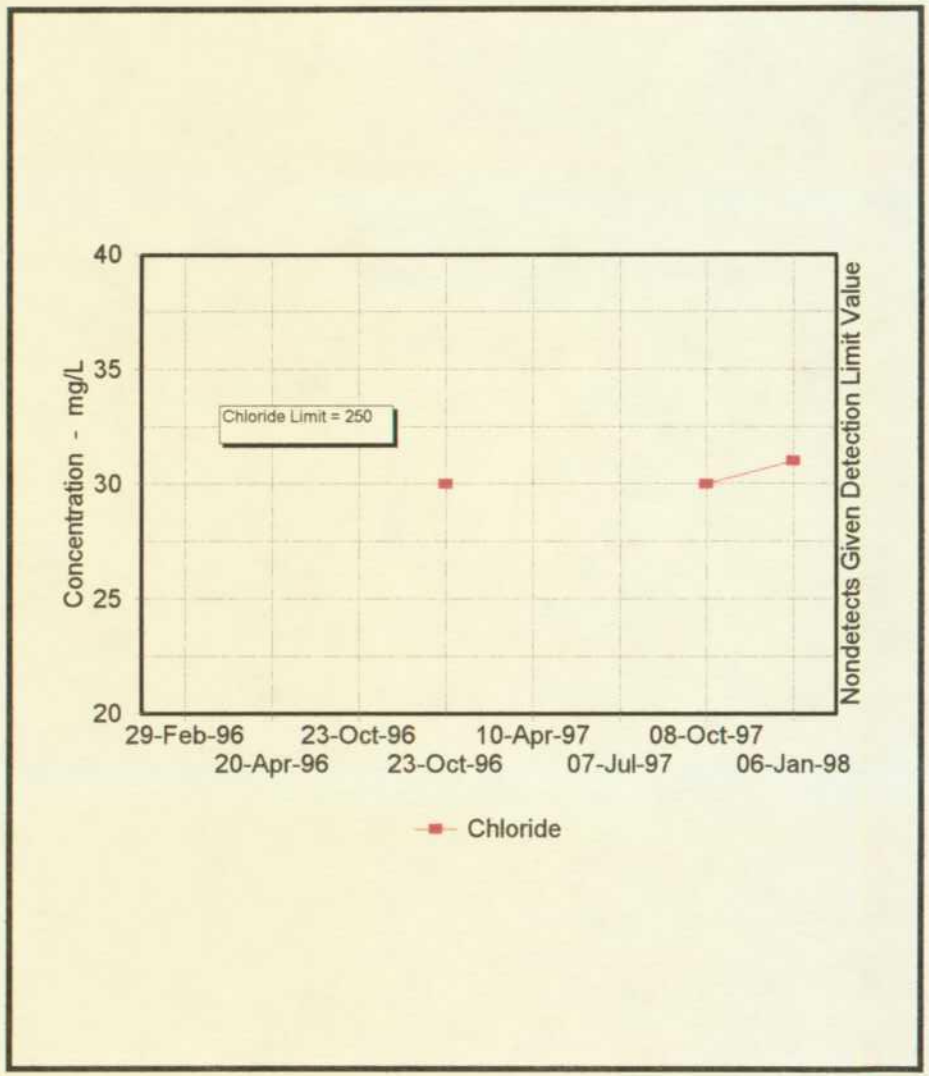


Figure 10

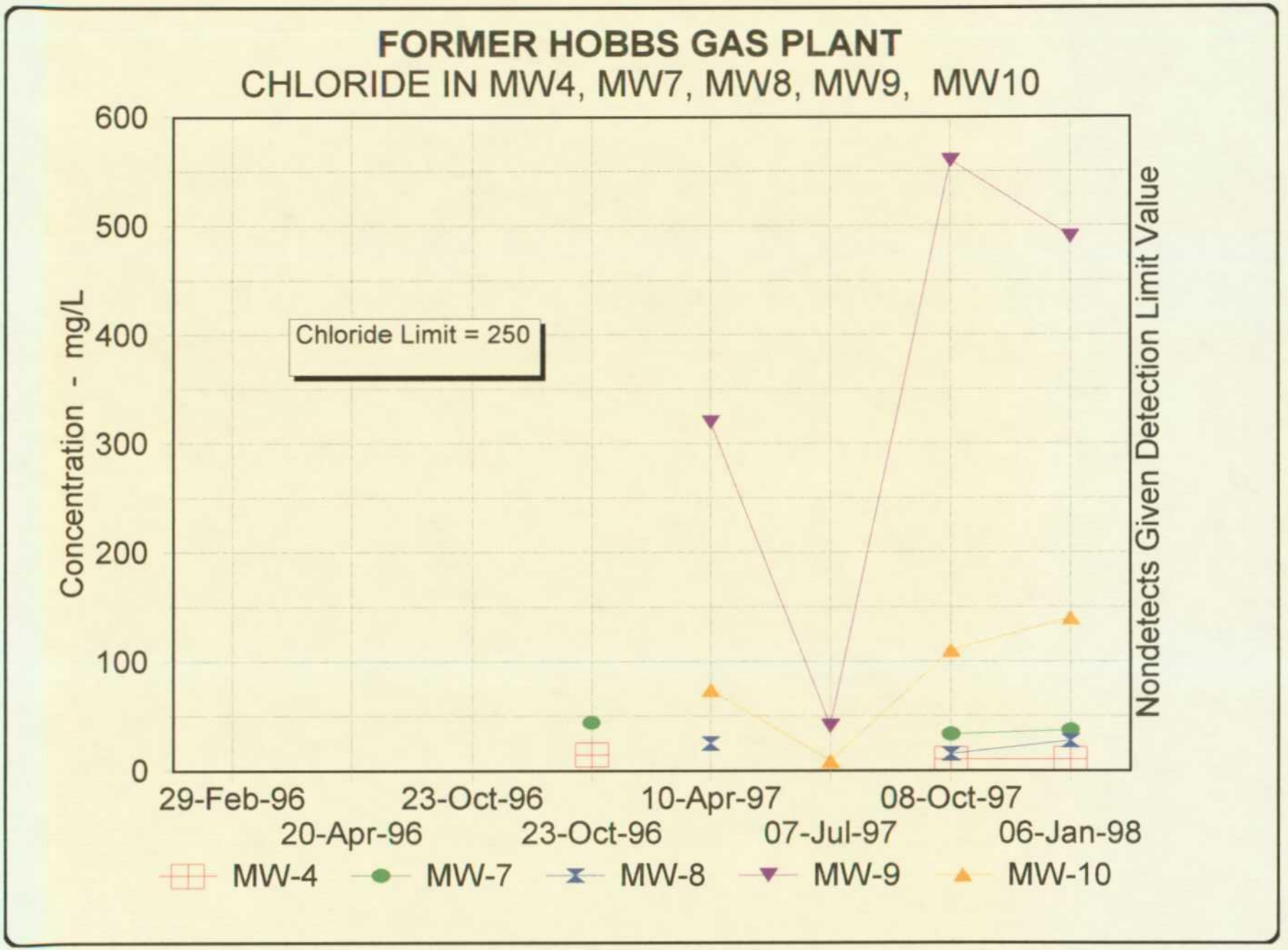

FORMER HOBBS GAS PLANT
CHLORIDE IN MW4, MW7, MW8, MW9, MW10
600
500
400
300
200
100
0
Concentration - mg/L
Chloride Limit = 250
Nondetects Given Detection Limit Value
29-Feb-96
20-Apr-96
23-Oct-96
23-Oct-96
10-Apr-97
07-Jul-97
08-Oct-97
06-Jan-98
MW-4
MW-7
MW-8
MW-9
MW-10

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 Installed					
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
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 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
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 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
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 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
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 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
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

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 Installed					
10/23/96	Well Not 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
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 Installed					
10/23/96	Well Not Installed					
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 Installed					
10/23/96	Well 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
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

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 Installed					
10/23/96	Well 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
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	B	T	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					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/l
MW-2

Date	B	T	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

Table 13
Historic Groundwater Analytical Results
in mg/l
MW-3

Date	B	T	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						
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/l
MW-4

Date	B	T	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	<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	B	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/l
MW-6

Date	B	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	B	T	E	X	Phenol	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	B	T	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/l
MW-9

Date	B	T	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	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	B	T	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						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.

7 MW's - Benz
of 4 MW - cl2

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 quality 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.

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR

Eco-Logical Environmental Services
Attention Carrie Eick
2200 Market Street
Midland TX 79703

Date: Jan 09, 1998
Date Rec: 1/7/98
Project: 279-512
Proj Name: Former Hobbs Gas Plant
Proj Loc: Hobbs, NM

Lab Receiving # : 9801000053
Sampling Date: 1/6/98
Sample Condition: Intact and Cool
Sample Received By: VW

TA#	Field Code	MATRIX	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)
T 88409	MW-1D	Water	0.154	<0.001	0.012	0.004	0.170
T 88410	Trip	Water	<0.001	<0.001	<0.001	<0.001	<0.001
T 88411	MW-1	Water	0.138	<0.005	0.008	<0.005	0.146
T 88412	MW-2	Water	<0.001	<0.001	<0.001	<0.001	<0.001
T 88413	MW-3	Water	<0.001	<0.001	<0.001	<0.001	<0.001
T 88414	MW-4	Water	<0.001	<0.001	<0.001	<0.001	<0.001
T 88415	MW-5	Water	0.031	<0.001	<0.001	0.010	0.041
T 88416	MW-6	Water	0.132	<0.001	<0.001	0.004	0.136
T 88417	MW-7	Water	<0.001	<0.001	<0.001	<0.001	<0.001
T 88418	MW-8	Water	<0.001	<0.001	<0.001	<0.001	<0.001
T 88419	MW-9	Water	<0.001	<0.001	<0.001	<0.001	<0.001
T 88420	MW-10	Water	<0.001	<0.001	<0.001	<0.001	<0.001
Method Blank			<0.001	<0.001	<0.001	<0.001	
Reporting Limit			0.001	0.001	0.001	0.001	
QC			0.097	0.097	0.097	0.285	
RPD			2	1	2	2	
% Extraction Accuracy			100	99	98	99	
% Instrument Accuracy			97	97	97	95	

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
BTEX	EPA 5030	1/7/98	EPA 8020	1/7/98	AG	0.100 ea	0.1 ea

Director, Dr. Blair Leftwich

1-9-98
Date

TRACE ANALYSIS, INC.

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

ANALYTICAL 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

TA#	FIELD CODE	CHLORIDE (mg/L)
T88411	MW-1	6.2
T88412	MW-2	27
T88413	MW-3	58
ICV		101
CCV		101
Reporting Limit		5.0
RPD		2
% Extraction Accuracy		94
% Instrument Accuracy		101

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

Director, Dr. Blair Leftwich

1-23-98
DATE

TRACE ANALYSIS, INC.

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

ANALYTICAL 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

TA#	FIELD CODE	CHLORIDE (mg/L)
T88414	MW-4	10
T88415	MW-5	27
T88416	MW-6	31
T88417	MW-7	37
T88418	MW-8	27
T88419	MW-9	490
T88420	MW-10	140
ICV		101
CCV		99
Reporting Limit		5.0
RPD		2
% Extraction Accuracy		94
% Instrument Accuracy		101

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

Director, Dr. Blair Leftwich

1-23-98
DATE

TRACE ANALYSIS, INC.

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

ANALYTICAL 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 & Cool
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: 01/13/98

TA # T88411

Field Code: MW-1

EPA 8270	Reporting Limit	Concentration (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

Director, Dr. Blair Leftwich

1-22-98
Date

TRACE ANALYSIS, INC.

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

ANALYTICAL 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 & Cool
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

TA # T88412
Field Code: MW-2

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

ND = NOT DETECTED

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

1-22-98
Date

TRACE ANALYSIS, INC.

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

ANALYTICAL 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 & Cool
Sample Received by: V.W.
Project Name: Former Hobbs Gas Plant
Project No: 279-512
Project Location: Hobbs, NM
Extraction Date: 01/09/98
Analysis Date: 01/12/98

TA # T88413

Field Code: MW-3

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

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	39
Phenol-d6 SURR	34
Nitrobenzene-d5 SURR	64
2-Fluorobiphenyl SURR	54
2,4,6-Tribromophenol SURR	50
Terphenyl-d14 SURR	74

METHODS: EPA SW 846-3550, 8270.

CHEMIST: RP/HW

1-22-98

Director, Dr. Blair Leftwich **Date**

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

ANALYTICAL 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 & Cool
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

TA # T88414
Field Code: MW-4

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

ND = NOT DETECTED

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

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

Director, Dr. Blair Leftwich

1-22-98
Date

TRACE ANALYSIS, INC.

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

ANALYTICAL 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 & Cool
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

TA # T88415
Field Code: MW-5

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

ND = NOT DETECTED

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

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

1-22-98

Director, Dr. Blair Leftwich — **Date**

TRACE ANALYSIS, INC.

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

ANALYTICAL 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 & Cool
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

TA # T88416
Field Code: MW-6

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

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	33
Phenol-d6 SURR	29
Nitrobenzene-d5 SURR	48
2-Fluorobiphenyl SURR	41*
2,4,6-Tribromophenol SURR	44
Terphenyl-d14 SURR	50

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
Date

TRACE ANALYSIS, INC.

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

ANALYTICAL 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 & Cool
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

TA # T88417

Field Code: MW-7

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

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	31
Phenol-d6 SURR	28
Nitrobenzene-d5 SURR	46*
2-Fluorobiphenyl SURR	38*
2,4,6-Tribromophenol SURR	32
Terphenyl-d14 SURR	45

METHODS: EPA SW 846-3550, 8270.

CHEMIST: RP/HW

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

Director, Dr. Blair Leftwich **Date** 1-22-98

TRACE ANALYSIS, INC.

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

ANALYTICAL 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 & Cool
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

TA # T88418

Field Code: MW-8

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

ND = NOT DETECTED

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.**

BL 1-22-98

Director, Dr. Blair Leftwich **Date**

TRACE ANALYSIS, INC.

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

ANALYTICAL 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 & Cool
Sample Received by: VW
Project Name: Former Hobbs Gas Plant
Project No: 279-5LZ
Project Location: Hobbs, NM
Extraction Date: 01/09/98
Analysis Date: 01/10/98

TA # T88419

Field Code: MW-9

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

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	34
Phenol-d6 SURR	31
Nitrobenzene-d5 SURR	50
2-Fluorobiphenyl SURR	46
2,4,6-Tribromophenol SURR	37
Terphenyl-d14 SURR	48

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

1-22-98

Director, Dr. Blair Leftwich — Date

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

January 22, 1998

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

Receiving Date: 01/07/98
Sample Type: Water
Sampling Date: 01/06/98
Sample Condition: Intact & Cool
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

TA # T88420
Field Code: MW-10

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

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	64
Phenol-d6 SURR	58
Nitrobenzene-d5 SURR	96
2-Fluorobiphenyl SURR	90
2,4,6-Tribromophenol SURR	80
Terphenyl-d14 SURR	92

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

Director, Dr. Blair Leftwich

1-22-98
Date

TraceAnalysis, Inc.

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

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

LAB Order ID #_____

Company Name: Eco-logical Env. Phone #: 915/520-7535
Address: Fax #:
Contact Person: Carrie Eick
Invoice to: (If different from above)
Project #: 279-512 Project Name: Hobbs Gas Plant
Project Location: Sampler Signature: Carrie E. Eick

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
	MW-7	1	1/4L	X						X		1-6-98	14:00
884/18	MW-8	2	VOA					X					12:40
	MW-8	1	L										
	MW-8	1	1/4L										
19	MW-9	2	VOA					X					13:30
	MW-9	1	L										
	MW-9	1	1/4L										
20	MW-10	2	VOA					X					10:40
	MW-10	1	L										
	MW-10	1	1/4L										

ANALYSIS REQUEST
(Circle or Specify Method No.)

MTBE 8020/602	BTEX 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8080/608	BOD, TSS, PH	Naphthalene 8270	Chloride 4500			Turn Around Time if different from standard	Hold
	X														X				
	X														X				
														X	X				
	X														X				
														X					
	X														X				
														X					
															X				

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Carrie E. Eick	1/6/98	4:55 PM	Helen Shelton	1/6/98	4:55 PM
Helen Shelton	1/6/98	6:30 PM			
			Received at Laboratory by:	Date:	Time:
			Vicki Windham	1-7-98	9:45 AM

LAB USE ONLY
Intact (Y) N
Headspace Y (N)
Temp -1 °
Log-In Review JP

REMARKS:
need by 1/21/98

Carrier # Greyhound 153-7578.8553

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C. 13 samples-115

ORIGINAL COPY

88409 - 20

TraceAnalysis, Inc.

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

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

LAB Order ID # 53

Company Name: Eco-logical Env. Serv.
Phone #: 915/520-7535

Address: 2200 Market st Midland, TX
Fax #: 915/520-7737

Contact Person: Carrie Eick

Invoice to: (If different from above)

Project #: 279-512
Project Name: Former Hobbs Gas Plant

Project Location: Hobbs, NM
Sampler Signature: Carrie E. Eick

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8020/602	BTEX 8020/602	TPH	PAH 8270	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	GC.MS Vol. 8240/8260/624	GC/MS Semi. Vol. 8270/625	PCB's 8080/608	Pest. 8080/608	BOD, TSS, PH	Naphthalene 8270	Chloride 4500	Turn Around Time if different from standard	Hold
88409	MW-1 D -1 D	2	VOA	X				X		X		1-6-98	13:25		X																
10	TRIP	2	VOA					X					—		X																
11	MW-1	2	VOA					X					13:20		X																
	MW-1	1	L																									X			
	MW-1	1	1/4L																										X		
12	MW-2	2	VOA					X					13:00		X																
	MW-2	1	L																									X			
	MW-2	1	1/4L																										X		
13	MW-3	2	VOA					X					13:05		X																
	MW-3	1	L																									X			
	MW-3	1	1/4L																										X		

Relinquished by: Carrie E. Eick Date: 1/6/98 Time: 4:55 PM
Received by: Helen Shelton Date: 1/6/98 Time: 4:55 PM

Relinquished by: Helen Shelton Date: 1/6/98 Time: 6:30 PM
Received by: Date: Time:

Relinquished by: Date: Time:
Received at Laboratory by: Vicki Woodman Date: 1-7-98 Time: 9:45 AM

LAB USE ONLY
Intact (Y) N
Headspace Y (N)
Temp 1 °
Log-In Review R

REMARKS:
Need by 1/21/98
W 1-23
7F

Submittal of samples constitutes agreement to Terms and Conditions listed on reverse side of C.O.C. 16 samples - 15

Carrier # Greyhound 155 758 859 3

F.D. 10.6/11. XCS (1/92) ORIGINAL COPY

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

East	10493.85	10046.36	10306.93	10104.63	10483.21	10835.81	11147.27	10228.42	10892.89	11066.41
North	9537.29	9871.37	9547.91	9510.93	9332.16	9185.31	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	495.73	502.41	499.13	501.12	500.84	496.27
Product Depth						
H2O Depth	53.34	58.33	56.28	58.12	58.96	55.53
Product Thickness						
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-6	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	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	54.64	60.00	57.59	59.19	60.1	56.58	57.54	60.67	56.66	53.09
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	54.64	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	501.12	500.84	496.27	495.44	501.81	496.85	492.46
Product Depth										
H2O Depth	54.98	60.39	57.92	59.56	60.31	56.88	57.85	61	57	53.43
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	54.98	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

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	501.12	500.84	496.27	495.44	501.81	496.85	492.46
Product Depth										
H2O Depth	55.28	60.70	58.24	59.91	60.76	57.23	58.17	61.35	57.38	53.86
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	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 and 04/10/97	0.98	1.21	0.97	0.71	0.81	0.75					0.91
ELEV Drop between 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

Eco-logical
Environmental Services Inc.

QUARTERLY SAMPLING AND MONITORING REPORT

JULY 7, 1997

GW-191

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

RECEIVED
JAN 06 1998
Environmental Bureau
Oil Conservation Division

Date Prepared:
July 21, 1997

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

Eco-logical
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. Eick

Carrie E. Eick, P.E.
Project Manager

enclosure

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

F:\master\279512\gw-07-97.rpt

ATTORNEY CLIENT PRIVILEGE

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

TABLE OF CONTENTS

LIST OF FIGURES


1

I. Report Summary

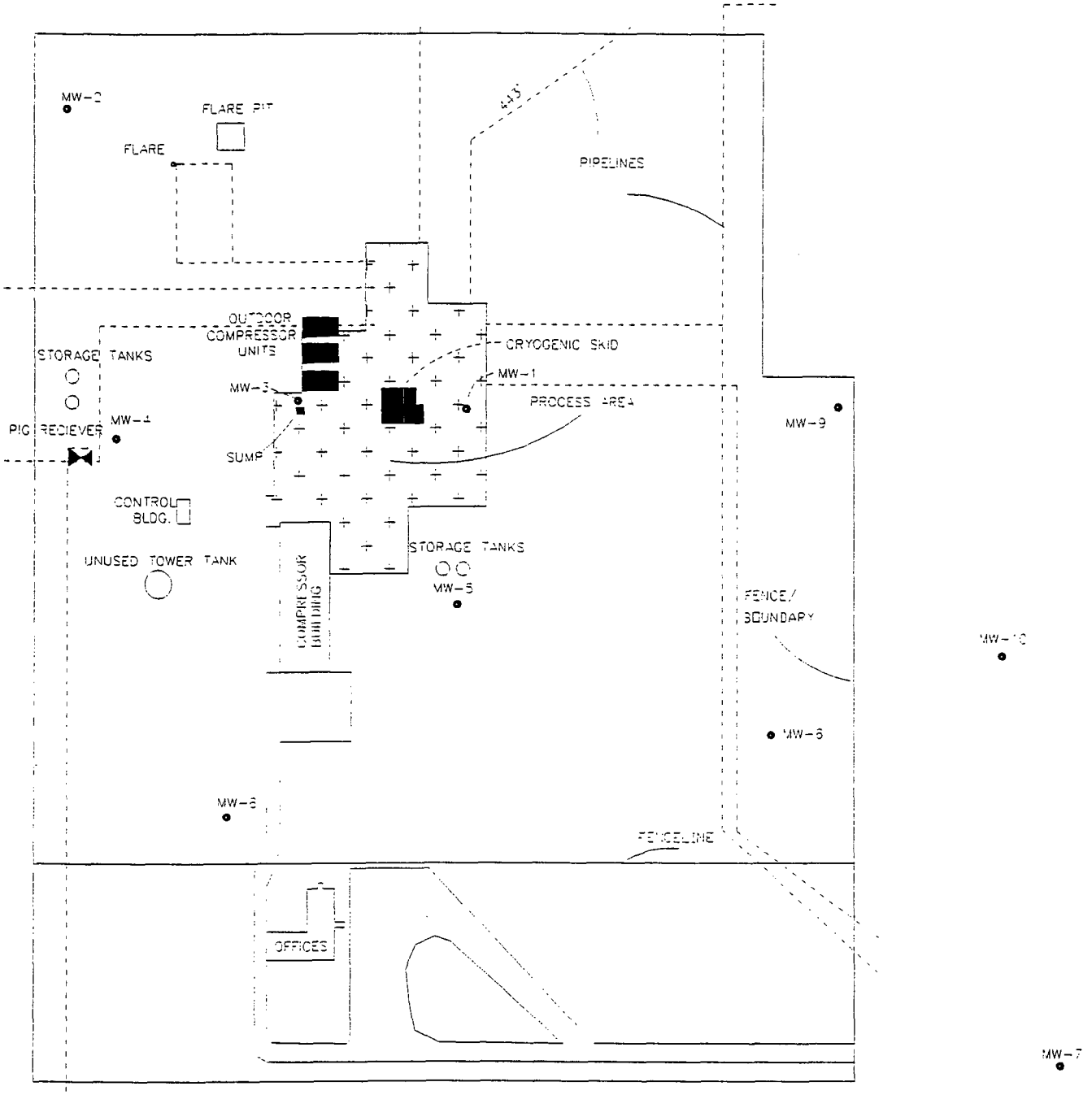
On July 7, 1997, Eco-logical Environmental Services, Inc. (ECO) personnel were on-site to purge and sample ten (10) monitor wells at the Former Hobbs Gas Plant west of Hobbs, New Mexico (see Figure 1). At the time of the sampling, none of the wells exhibited free product; however, two of the wells (MW-1 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.



SCALE

0' 50' 100'

HOBBS GAS PLANT
SITE MAP
July 7, 1997

HOBBS, LEA COUNTY, NEW MEXICO

Figure 2

KN ENERGY

Prepared by Eco-logical Environmental Services, Inc. Midland, Texas

Generated by ECO

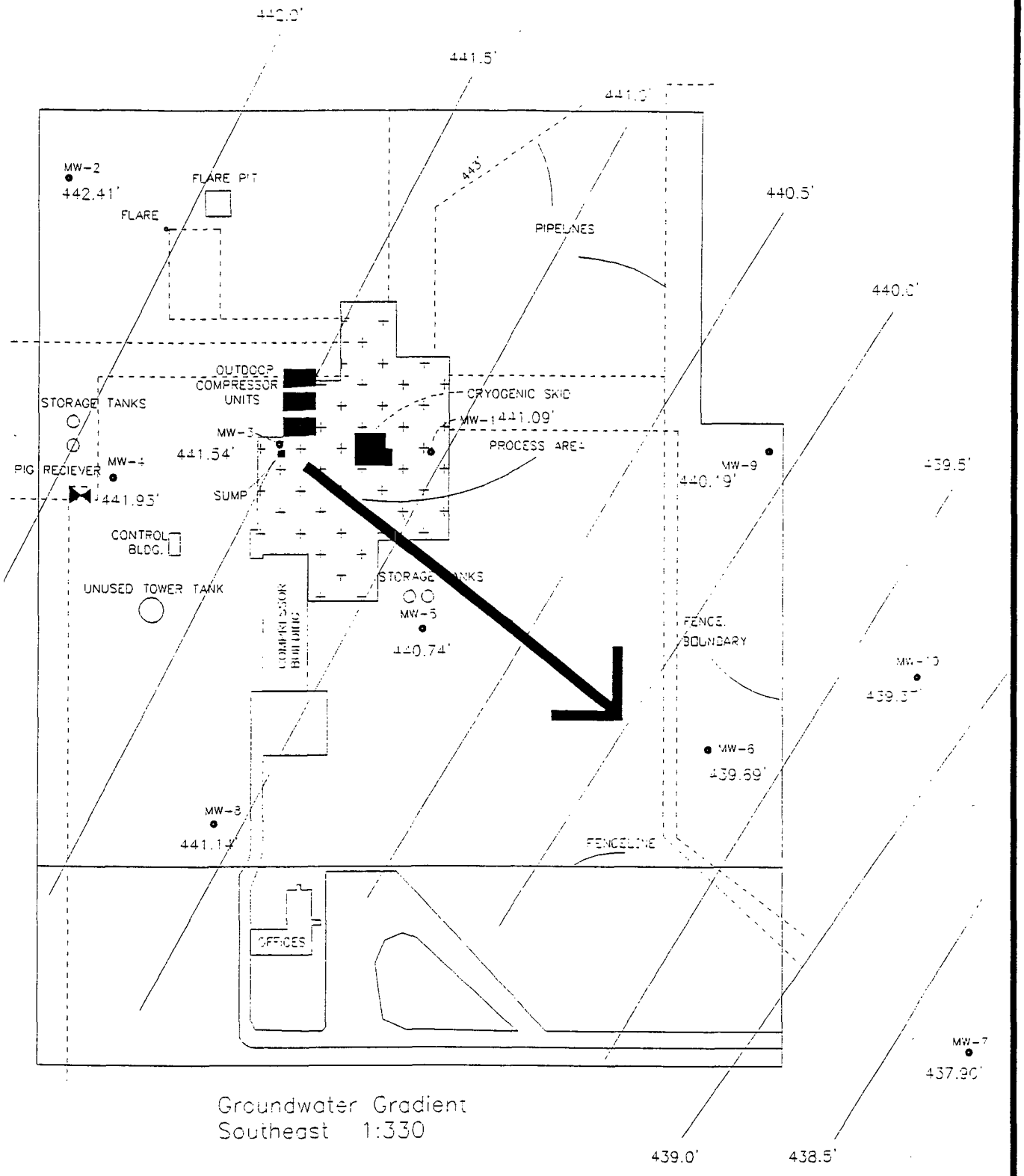
Draft Date: 07/21/97

F:\master\279512\sitemap.dwg

FORMER HOBBS GAS PLANT

GROUNDWATER ELEVATIONS

Figure 3



Groundwater Gradient
Southeast 1:330

SCALE
0' 50' 100'

HOBBS GAS PLANT
GROUNDWATER GRADIENT
July 7, 1997
HOBBS, LEA COUNTY, NEW MEXICO

Figure 4

KN ENERGY

Prepared by
Eco-logical
ENVIRONMENTAL SERVICES INC.
Midland, Texas

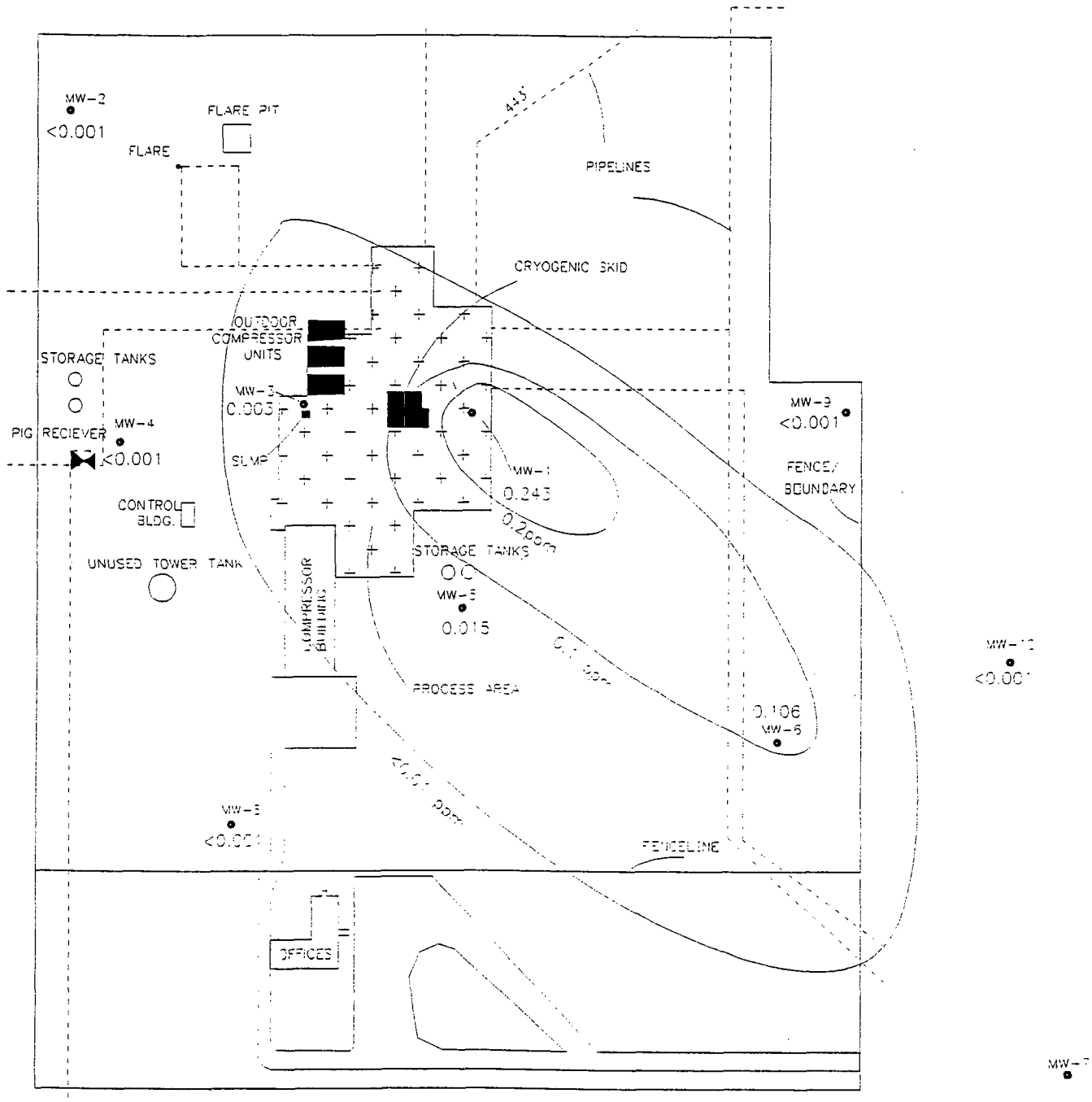
Generated by ECO

Draft Date: 07/21/97

F:\master\279512\gw07-97.dwg

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.



Groundwater Gradient
Southeast 1:325

Benzene OCD Allowable Limit – 0.01 mg/l

SCALE
0' 50' 100'

HOBBS GAS PLANT
BENZENE CONCENTRATION
IN GROUNDWATER
July 7, 1997
HOBBS, LEA COUNTY, NEW MEXICO
Generated by ECO

Figure 5

KN ENERGY

Draft Date: 07/21/97

Prepared by
Eco-logical
ENVIRONMENTAL SERVICES INC.
Midland, Texas

F:\master\279512\ben07-97.dwg

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.

III. Tables

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 Not Installed					
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
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 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

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 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 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 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 Not 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
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	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
09/17/96	Well Not Installed					
10/23/96	Well Not 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
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 Installed					
10/23/96	Well Not Installed					
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

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 Installed					
10/23/96	Well 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

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 Installed					
10/23/96	Well 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

Table 11
Historic Groundwater Analytical Results
in mg/l
MW-1

Date	B	T	E	X	Phenol	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
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	T	E	X	Phenol	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	T	E	X	Phenol	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

Table 14
Historic Groundwater Analytical Results
in mg/l
MW-4

Date	B	T	E	X	Phenol	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	B	T	E	X	Phenol	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	E	X	Phenol	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/l
MW-7

Date	B	T	E	X	Phenol	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					

Table 18 Historic Groundwater Analytical Results in mg/l MW-8						
Date	B	T	E	X	Phenol	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					

Table 19 Historic Groundwater Analytical Results in mg/l MW-9							
Date	B	T	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	320
07/07/97	<0.001						41

Table 20 Historic Groundwater Analytical Results in mg/l MW-10							
Date	B	T	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						8.8

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.

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

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

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
T76959	MW-6	0.106
T76960	MW-7	<0.001
T76961	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

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

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: 07/10/97
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	MW-9	41
T76963	MW-10	8.8
QC	Quality Control	23
RPD		0
% Extraction Accuracy		91
% Instrument Accuracy		93
REPORTING LIMIT		1.0

METHODS: EPA 300.0.
CHEMIST: RC
CHLORIDE SPIKE: 25 mg/L CHLORIDE.
CHLORIDE QC: 24 mg/L CHLORIDE.

Director, Dr. Blair Leftwich

7-11-97
DATE

6701 Aberdeen Avenue
Lubbock, Texas 79424
6•794•1296
FAX 806•794•1298

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
Sampling Date: 07/07/97
Sample Condition: I & C
Sample Received by: JH
Project Name: Hobbs Gas Plant
Extraction Date: 07/09/97
Analysis Date: 07/10/97

TA #T76954
Field Code: MW-1

EPA 8270	Reporting Limit	Concentration (mg/L)	QC	RPD	%EA	%IA
Naphthalene	0.001	0.005	83	29	64	104

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

METHODS: EPA SW 846-8270, 3550.

CHEMIST: HW/CC

7-11-97

Director, Dr. Blair Leftwich **Date**

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

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
Sampling Date: 07/07/97
Sample Condition: I & C
Sample Received by: JH
Project Name: Hobbs Gas Plant
Extraction Date: 07/09/97
Analysis Date: 07/10 /97

TA #T76958
Field Code: MW-5

EPA 8270	Reporting Limit	Concentration (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

ND NOT DETECTED

METHODS: EPA SW 846-8270, 3550.

CHEMIST: HW/CC

7-11-97

Director, Dr. Blair Leftwich **Date**

TraceAnalysis, Inc.

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

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: CARRIE E. EICH
Phone #: 915 520-7535
FAX #: 915 520-7737
Company Name & Address: ECO-LOGICAL 2200 MARKET MIDLAND, TX 79703
Project #: 279-512
Project Name: HOBBS GAS PLANT
Project Location: HOBBS, NM
Sampler Signature: Carrie E. Eich

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	ANALYSIS REQUEST: BTEX MTBE BENZENE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	Chloride	Naphthalene	SPECIAL HANDLING: Turn around # of days	Fax ASAP	Hold
76954	MW-1	2	VOA	X				X		X		7-2-97	15:00	X										X*		X	
1	MW-1	1	L										↓														
55	MW-2	2	VOA					X					10:45	X													
56	MW-3	2	VOA					X					13:15	X													
57	MW-4	2	VOA					X					12:35	X													
58	MW-5	2	VOA					X					14:20	X													
58	MW-5	A 1	L										14:20											X*			
59	MW-6	2	VOA					X					14:00	X													
60	MW-7	2	VOA					X					9:30	X													
61	MW-8	2	VOA					X					12:10	X													
62	MW-9	2	VOA					X					11:30	X													

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Carrie Eich	7/7/97	6:45PM	Helen Ketter	7/7/97	6:45PM
Helen Ketter	7/7/97	9:20PM			
			Received at Laboratory by:	Date:	Time:
				7/8/97	11:50AM

REMARKS
Benzene DL at least 0.001 ppm
chloride DL at least 10 ppm
Naphthalene DL at least 0.001 ppm

p 1/2

Sped Greyhound

CT 20 samples - HS

189AB

TraceAnalysis, Inc.

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

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: CARRIE E. EICK
Phone #:
FAX #:
Company Name & Address:
Project #: 279-512
Project Name: HOBBS GAS PLANT
Project Location:
Sampler Signature: Carrie E. Eick

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	BTEX MTBE BENZENE	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240 / 8260	8270	Chloride
162	MW-9	1	1/4L	X						X		7-7-97	11:30										X
163	MW-10	2	VOA	X				X		X			10:15	X									
⊥	MW-10	1	1/4L	X						X			⊥										X
164	TRIP	2	VOA	X						X			1500	X									
165	MW-11D 1-D	2	VOA	X				X		X			15:05	X									

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Carrie E. Eick	7/7/97	6:45 AM	Helen Shelton	7/7/97	10:45 AM
Helen Shelton	7/7/97	9:20 PM	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
				7/8/97	1150A

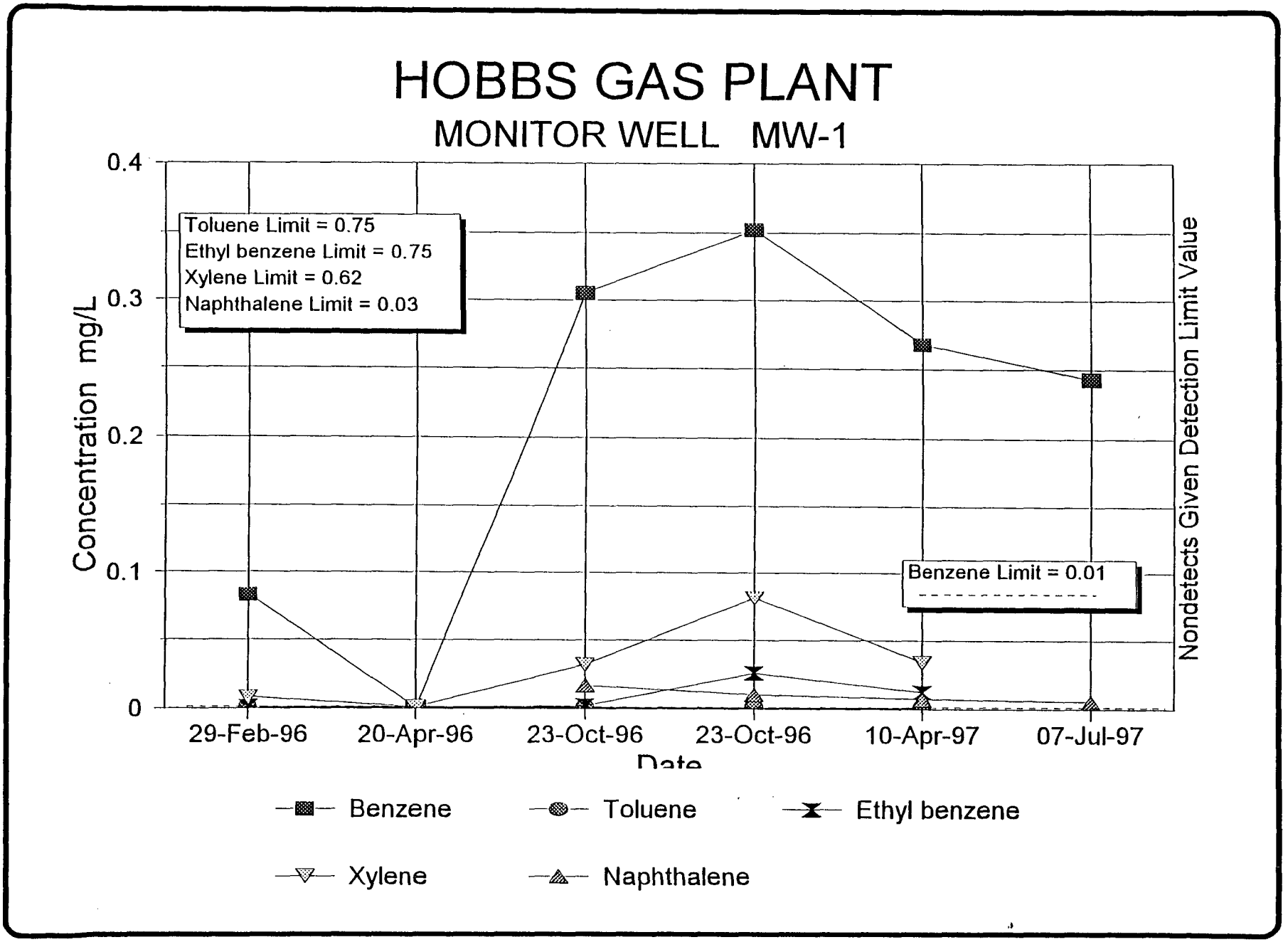
SPECIAL HANDLING: Turn around # of days — Fax ASAP — Hold

REMARKS

p 2/2

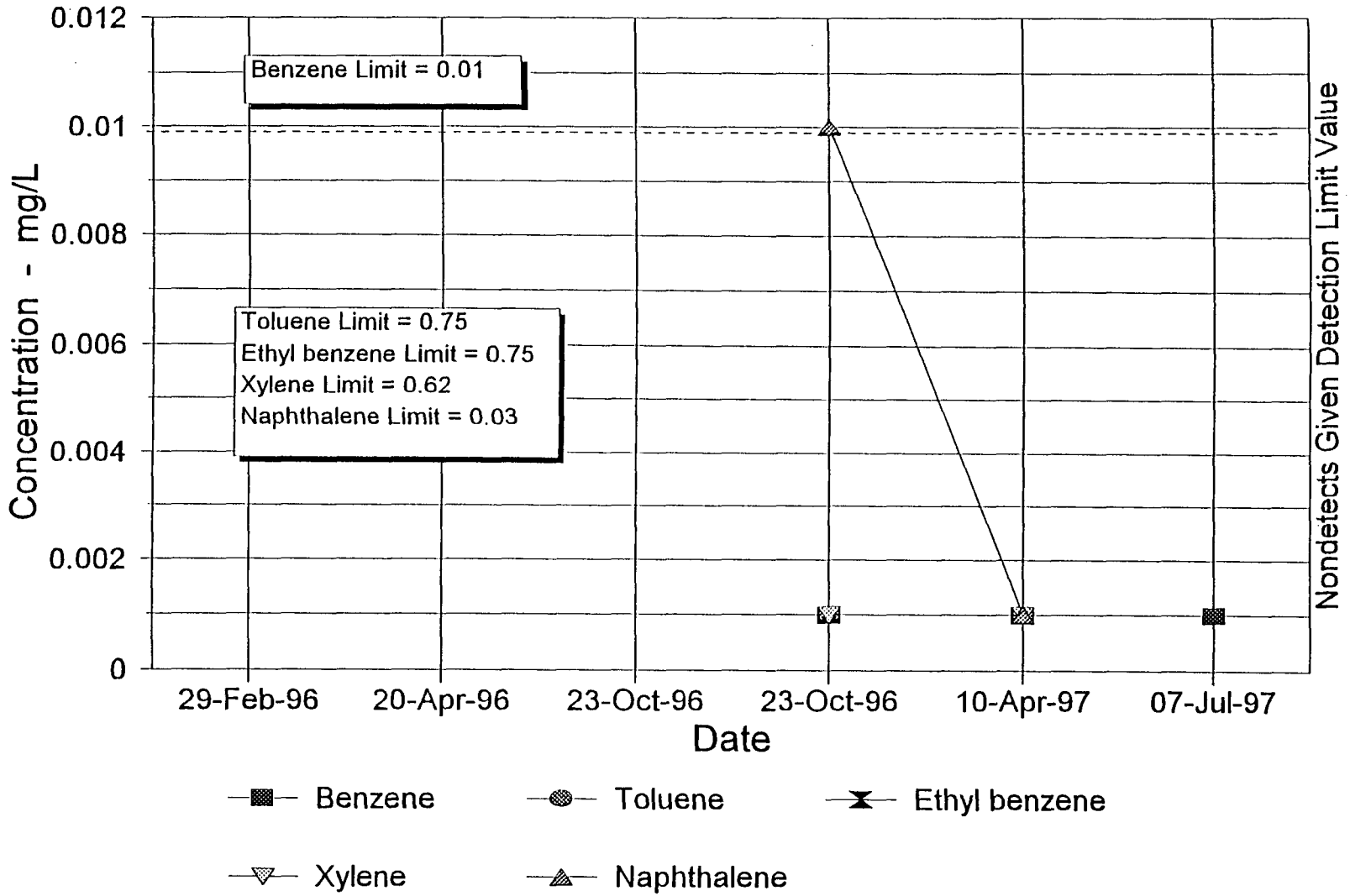
Shipped Greyhound C/I 8 samples - HS

189AB


HOBBS GAS PLANT
MONITOR WELL MW-1
Concentration mg/L
0.4
0.3
0.2
0.1
0
Toluene Limit = 0.75
Ethyl benzene Limit = 0.75
Xylene Limit = 0.62
Naphthalene Limit = 0.03
Benzene Limit = 0.01
Nondetects Given Detection Limit Value
29-Feb-96
20-Apr-96
23-Oct-96
23-Oct-96
10-Apr-97
07-Jul-97
Date
Benzene
Toluene
Ethyl benzene
Xylene
Naphthalene

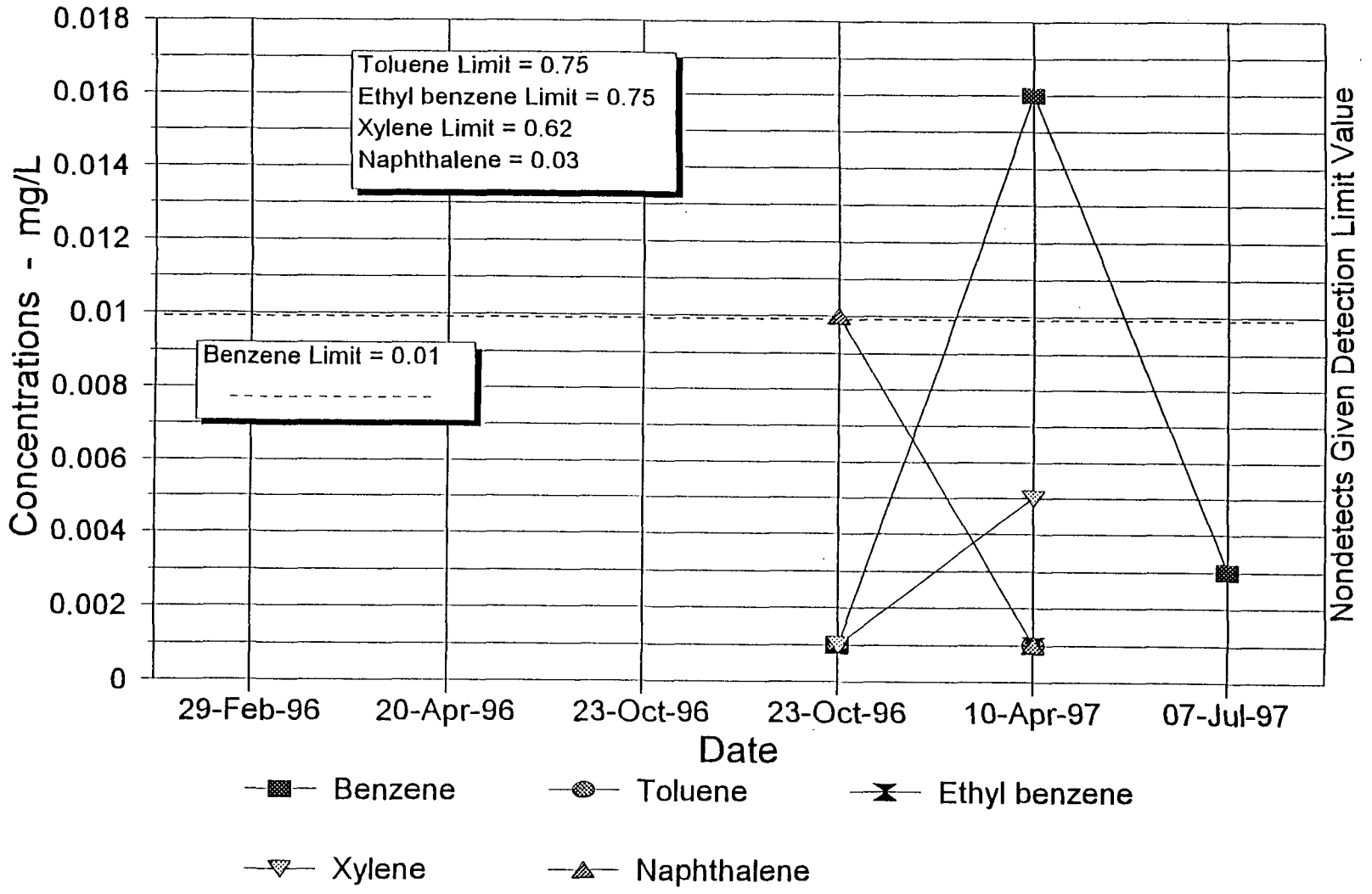
HOBBS GAS PLANT

MONITOR WELL MW-2



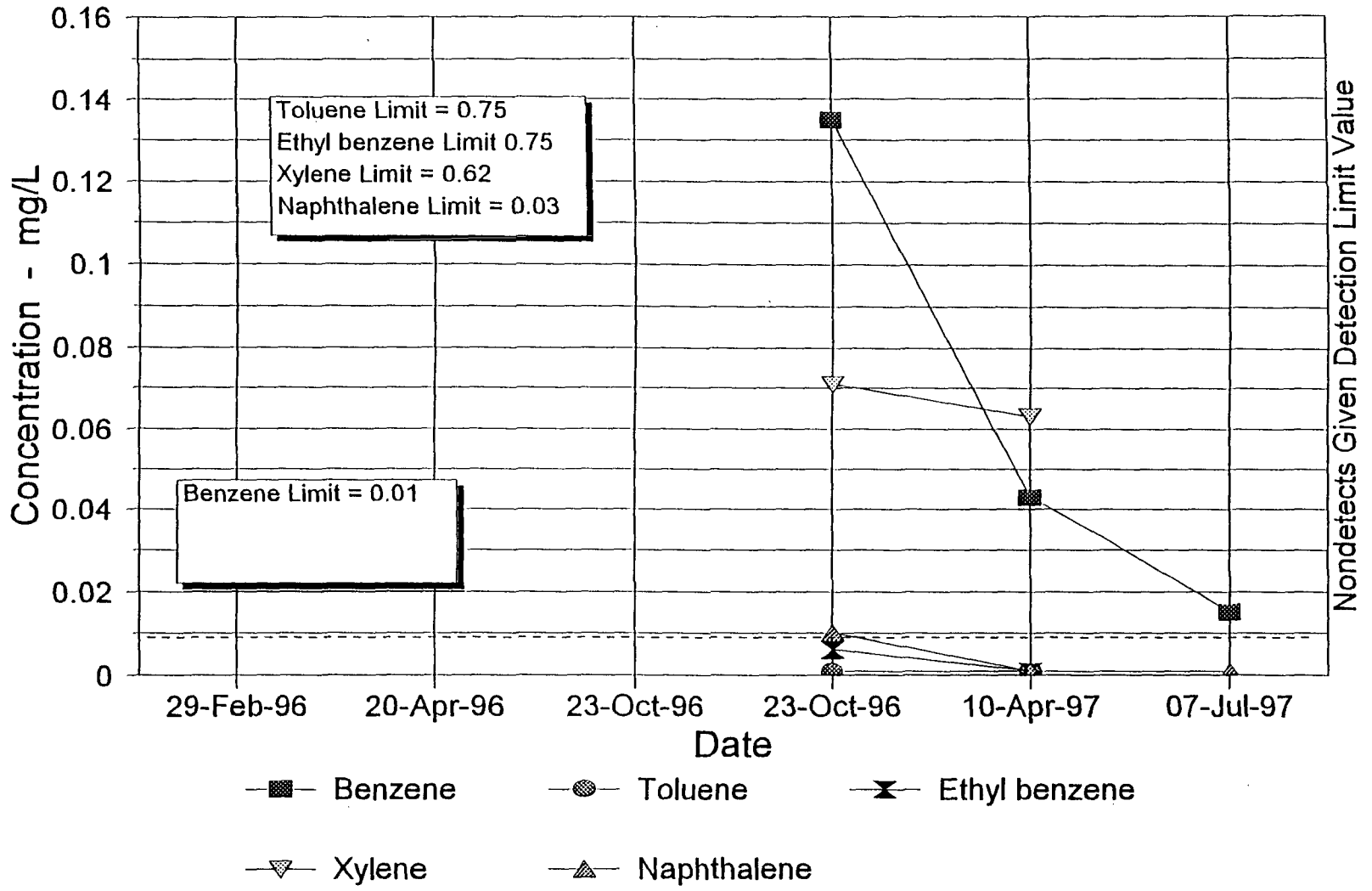
HOBBS GAS PLANT

MONITOR WELL MW-3



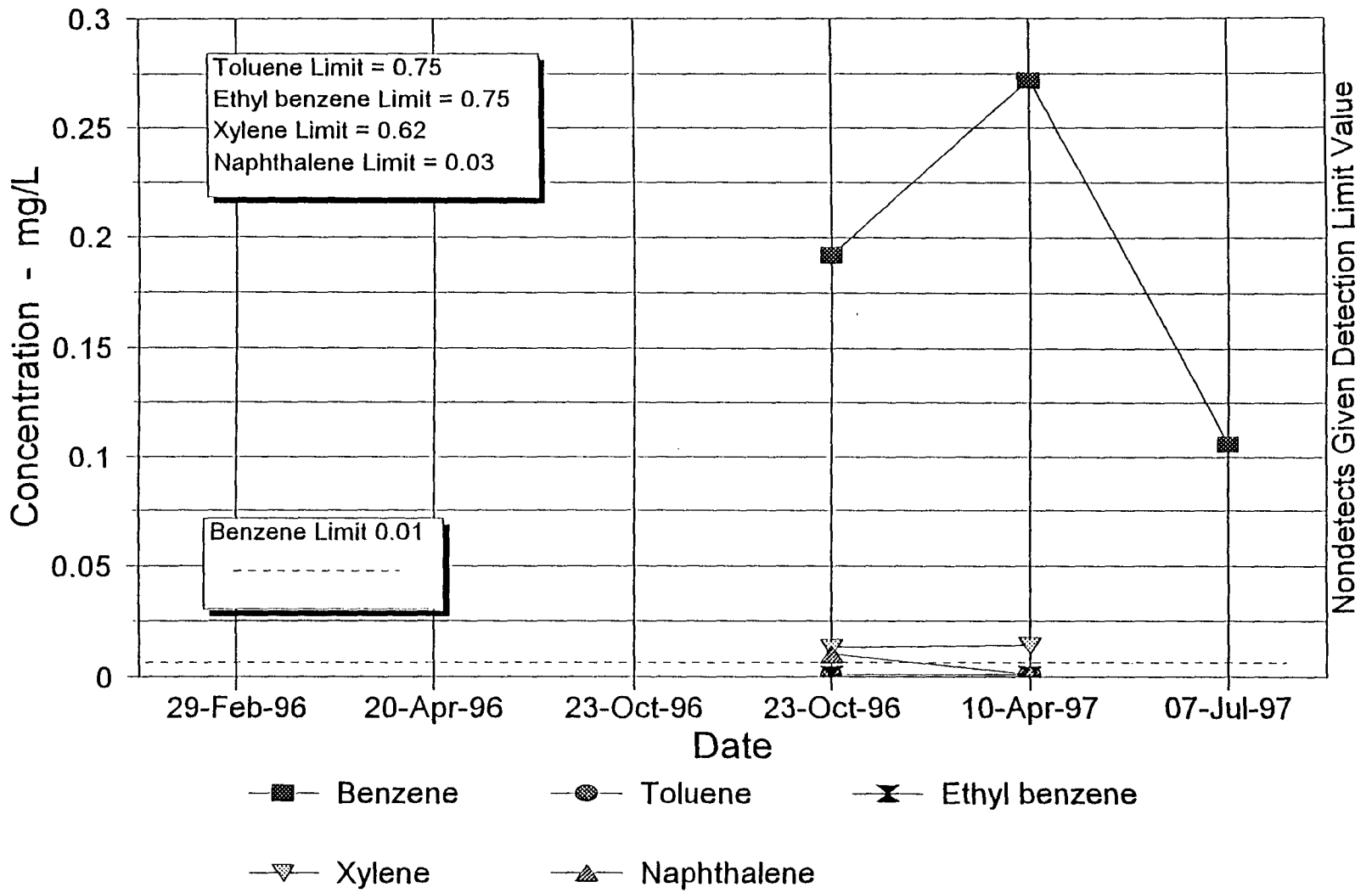
HOBBS GAS PLANT

MONITOR WELL MW-5



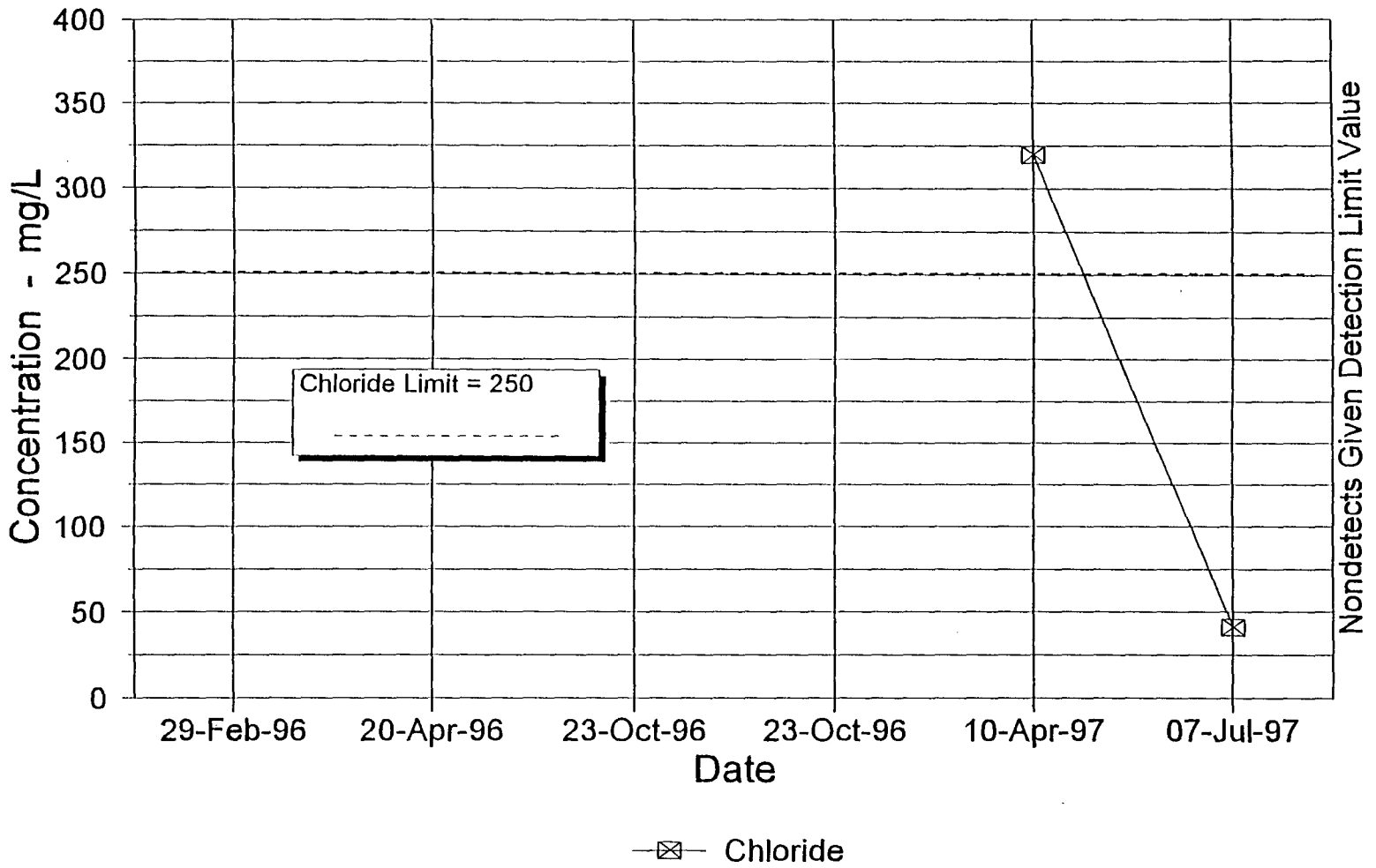
HOBBS GAS PLANT

MONITOR WELL MW-6



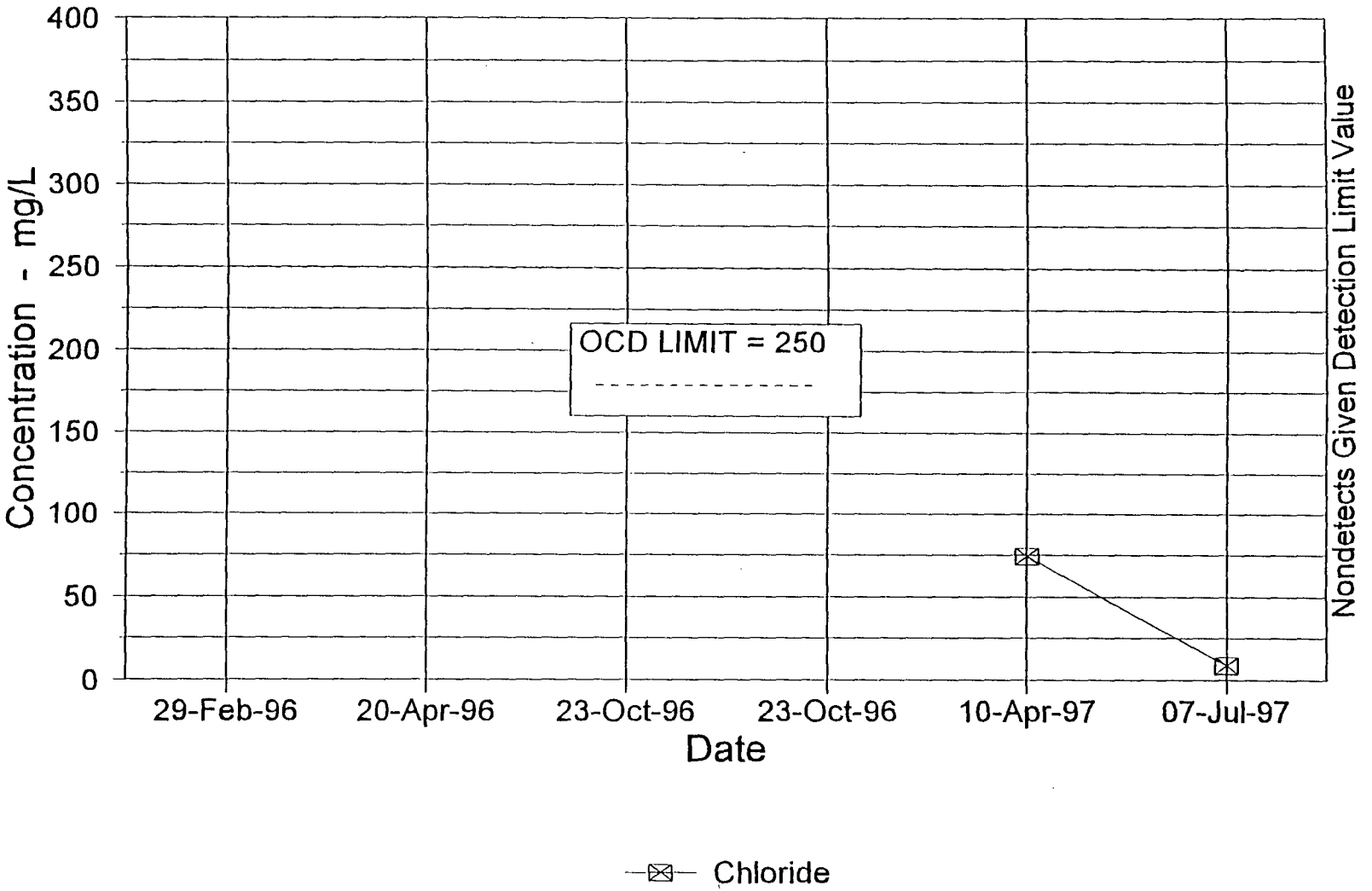
HOBBS GAS PLANT

MONITOR WELL MW-9



HOBBS GAS PLANT

MONITOR WELL MW-10



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

[redacted]										
East	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]
North	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]	[redacted]

09/17/96

[redacted]	
[redacted]	495.73
[redacted]	53.10
[redacted]	0.00
[redacted]	53.10
[redacted]	442.63

10/23/96

Well	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6
[redacted]	495.73	502.41	499.13	501.12	500.84	496.27
[redacted]	53.34	58.33	56.28	58.12	58.96	55.53
[redacted]	0.00	0.00	0.00	0.00	0.00	0.00
[redacted]	53.34	58.33	56.28	58.12	58.96	55.53
[redacted]	442.39	444.08	442.85	443.00	441.88	440.74

\97

Well	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10
[redacted]	495.73	502.41	499.13	501.12	500.84	496.27	495.44	501.81	496.85	492.46
[redacted]	54.32	59.54	57.25	58.83	59.77	56.28	57.28	60.32	56.29	52.83
[redacted]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
[redacted]	54.32	59.54	57.25	58.83	59.77	56.28	57.28	60.32	56.29	52.83
[redacted]	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	MW-9	MW-10
[redacted]	495.73	502.41	499.13	501.12	500.84	496.27	495.44	501.81	496.85	492.46
[redacted]	54.64	60.00	57.59	59.19	60.1	56.58	57.54	60.67	56.66	53.09
[redacted]	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
[redacted]	54.64	60.00	57.59	59.19	60.10	56.58	57.54	60.67	56.66	53.09
[redacted]	441.09	442.41	441.54	441.93	440.74	439.69	437.90	441.14	440.19	439.37

[redacted]										[redacted]
[redacted]	0.98	1.21	0.97	0.71	0.81	0.75				0.91
[redacted]	1.30	1.67	1.31	1.07	1.14	1.05				1.26

f:\vmsstor\279512\watarlev.wb2

Eco-logical
Environmental Services Inc.

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

GW-191

Date Prepared:
May 10, 1997

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

Eco-logical
Environmental Services Inc.

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:

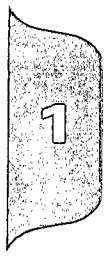
Shane Estep

Shane Estep, R.E.M.
President

2200 Market Street 79703 • (915) 520-7535 • FAX (915) 520-7737

TABLE OF CONTENTS

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


1

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.

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.

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.

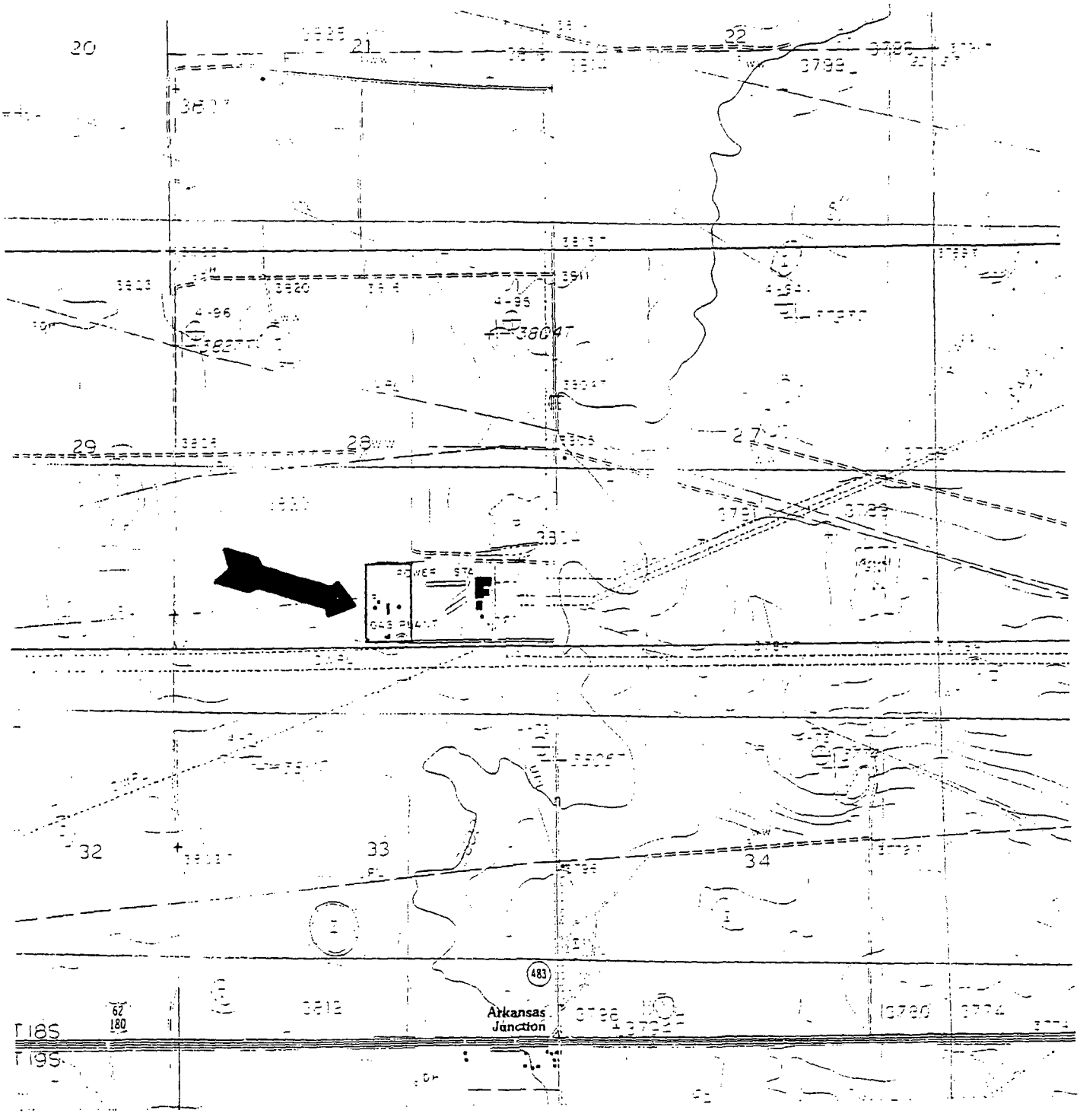
After obtaining all water level measurements, the volume of water in each casing was calculated. The wells were then purged using a pneumatic pump or hand bailed. The wells were purged until at least three (3) casing volumes of water were removed, or until dry. After allowing the wells to recover to 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).

2.2.2 Analytical Results 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.



½ 0 1 MILE

APPROXIMATE SCALE IN MILES

1000 0 1000 2000 3000 4000 5000 6000 7000

SCALE 1:24,000 FEET

CONTOUR INTERVAL = 10 FEET

☐ SITE LOCATION

SITE COORDINATES: 24.08 ACRES IN SECTION 26, T18S, R36E, LEA COUNTY, NEW MEXICO

SOURCE: MONUMENT NORTH, NM / LEA COUNTY, 1985

PROJECT #: 279 / 512

DATE: MAY 10, 1996

FIGURE 1

GENERAL SITE LOCATION MAP

FORMER CABOT/MAPLE SITES

HOBBS NATURAL GAS PLANT

LEA COUNTY, NEW MEXICO

PREPARED FOR: KN ENERGY

Ecological

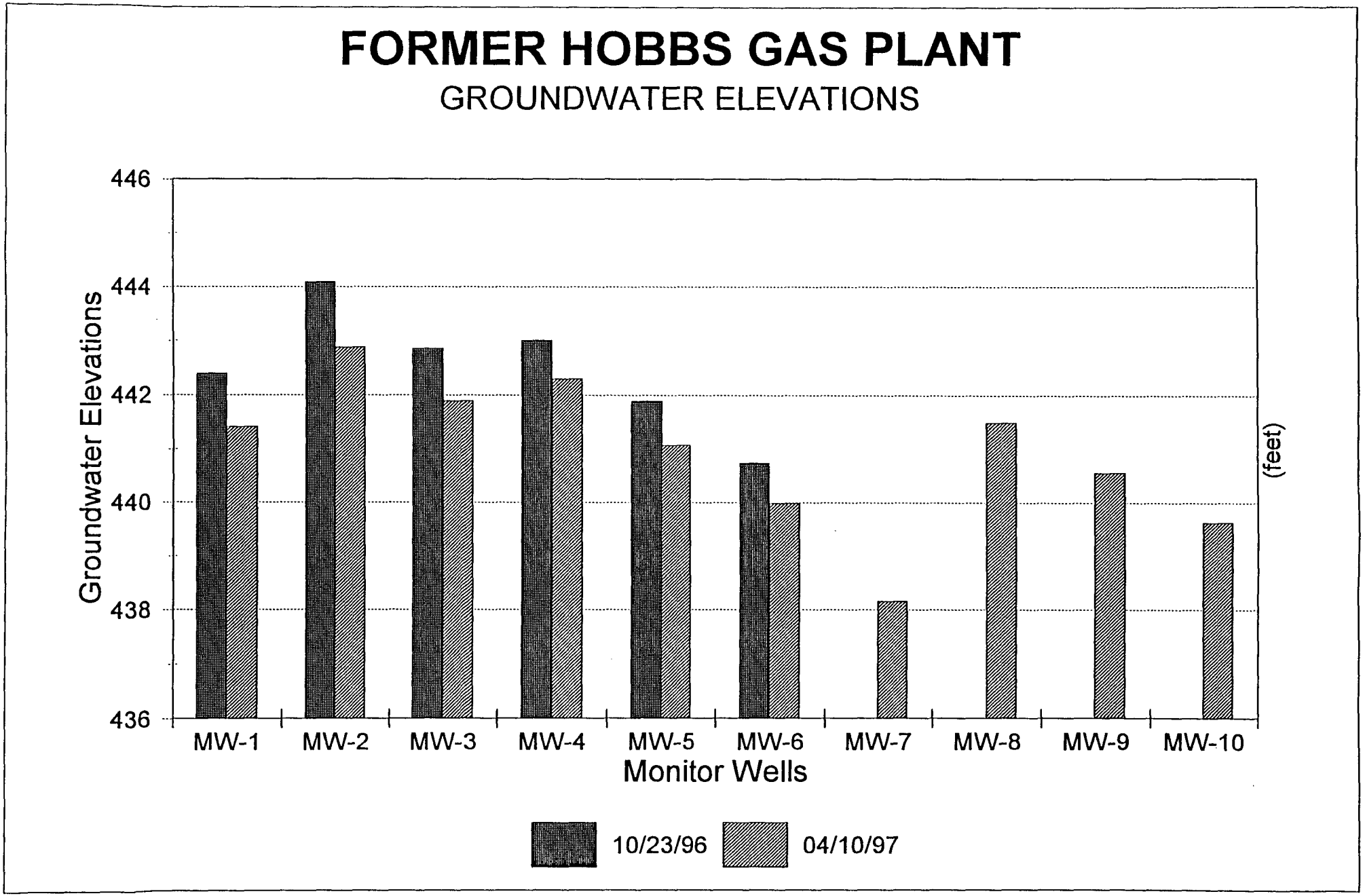
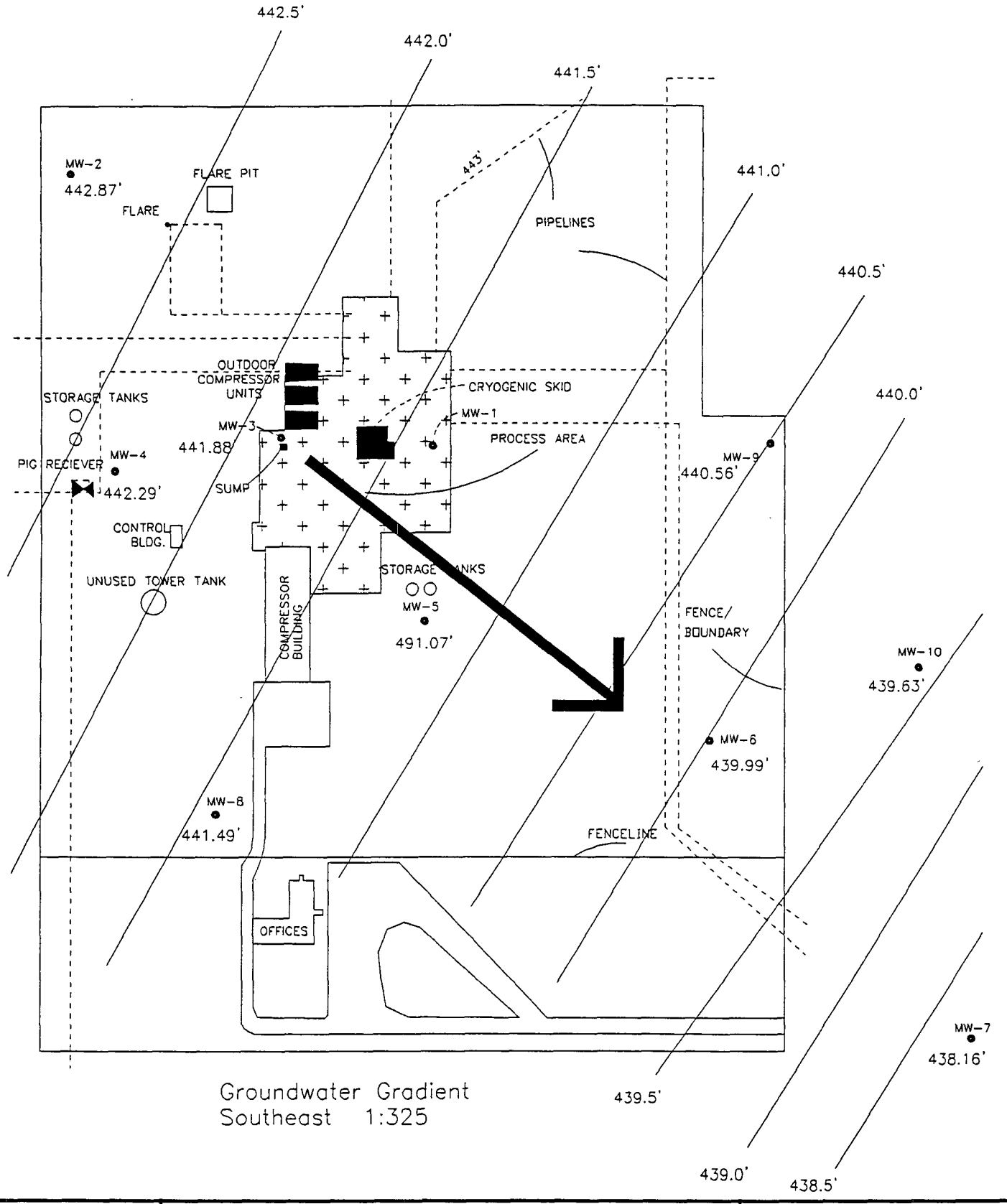

FORMER HOBBS GAS PLANT
GROUNDWATER ELEVATIONS
Groundwater Elevations
446
444
442
440
438
436
(feet)
MW-1
MW-2
MW-3
MW-4
MW-5
MW-6
MW-7
MW-8
MW-9
MW-10
Monitor Wells
10/23/96
04/10/97

Figure 2



N

SCALE

0' 50' 100'

HOBBS GAS PLANT
GROUNDWATER GRADIENT
APRIL 10, 1997

HOBBS, LEA COUNTY, NEW MEXICO

Figure 3

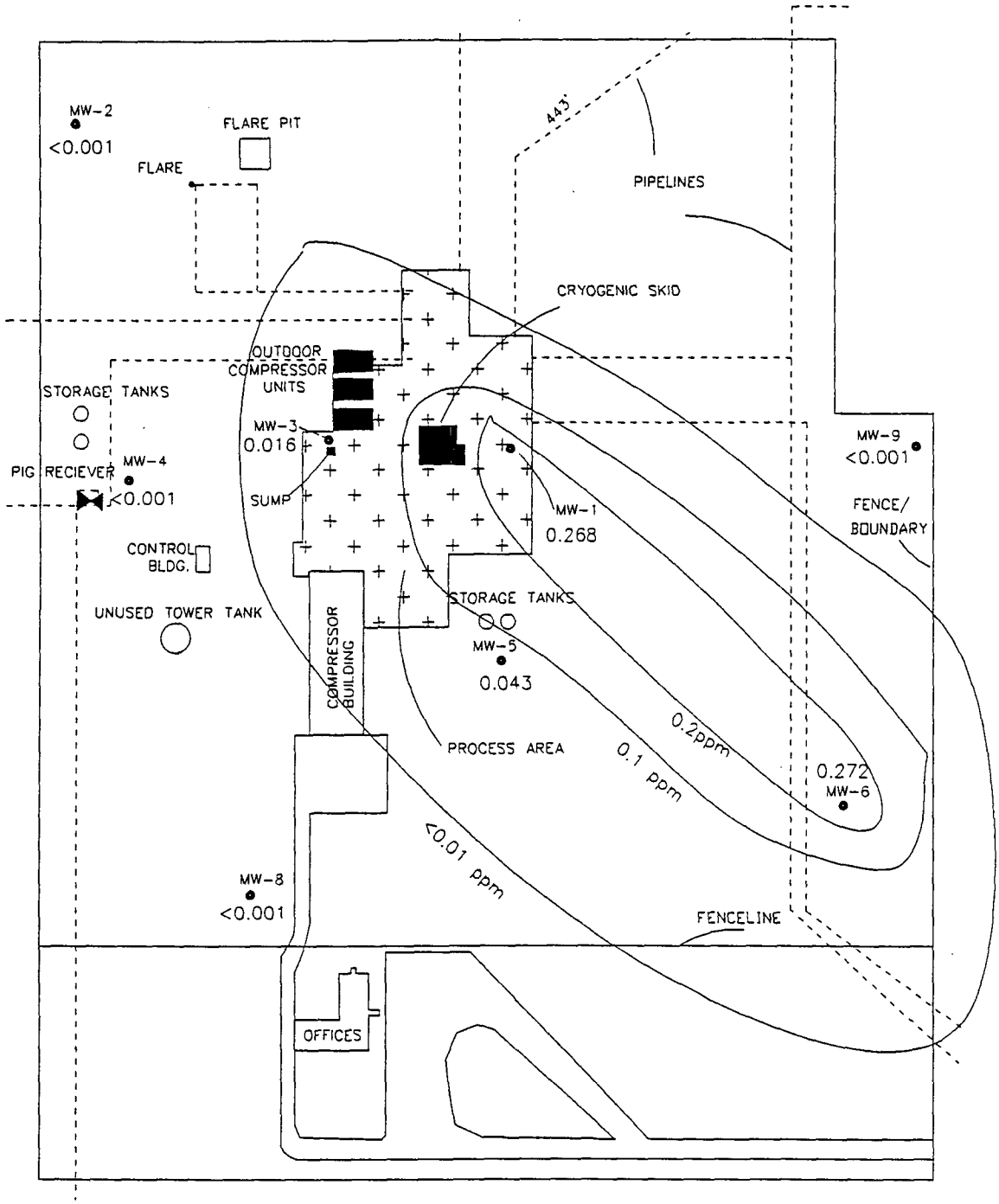
KN ENERGY

Prepared by
Eco-logical
ENVIRONMENTAL SERVICES, INC.
Midland, Texas

Generated by ECO

Draft Date: 11/14/96

f:\master\279512\gw04-97.dwg



Groundwater Gradient
Southeast 1:325

Benzene OCD Allowable Limit – 0.01 mg/l

SCALE

0' 50' 100'

HOBBS GAS PLANT
BENZENE CONCENTRATION IN GROUNDWATER
APRIL 10, 1997

HOBBS, LEA COUNTY, NEW MEXICO

Generated by ECO

Figure 4

KN ENERGY

Prepared by
Ecological
ENVIRONMENTAL SERVICES INC
Midland, Texas

Draft Date: 05/06/97

f:\master\279512\ben04-97.dwg

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

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 Installed					
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 Not 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	TD	TOC Elevation	Depth to PSH	Depth to GW	Product Thickness	GW Elev. Corrected for PSH
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

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 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
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 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
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 Installed					
10/23/96	Well Not Installed					
04/10/97	69.0	495.44	--	57.28	0.00	438.16

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 Installed					
10/23/96	Well Not Installed					
04/10/97	70.9	501.81	–	60.32	0.00	441.49

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 Installed					
10/23/96	Well Not Installed					
04/10/97	67.3	496.85	–	56.29	0.00	440.56

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 Installed					
10/23/96	Well Not Installed					
04/10/97	66.5	492.46	–	52.83	0.00	439.63

Table 11
Soil Analytical Results from Monitor Wells
in mg/l
April 7 to April 8, 1997

Well	Depth ft	TRPH	B	T	E	X	As	Se	Cd	Cr	Pb	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*	

* 20 times TCLP value for Hazardous Classification Shaded Results are over known OCD limits

Table 12
Groundwater Analytical Results
in mg/l
April 17, 1997

Analyte	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9 ✓	MW-10	OCD Limits
As								<0.10	<0.10	<0.10	0.1
Ba								<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								<0.02	<0.02	<0.02	1.0
Fe								<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
Al								<0.20	<0.20	<0.20	5.0
B								<1.0	<1.0	<1.0	0.75
Co								<0.03	<0.03	<0.03	0.05
Mo								<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
pH								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
B	0.268	<0.001	0.016	<0.001	0.043	0.272	<0.001	<0.001	<0.001	<0.001	0.01
T	<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

TABLE CONTINUED

Table 12 - Continued Groundwater Analytical Results											
Analyte	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	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

Table 13 Historic Groundwater Analytical Results in mg/l MW-1						
Date	B	T	E	X	Phenol	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	B	T	E	X	Phenol	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

Table 15
Historic Groundwater Analytical Results
in mg/l
MW-3

Date	B	T	E	X	Phenol	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	B	T	E	X	Phenol	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

Table 17
Historic Groundwater Analytical Results
in mg/l
MW-5

Date	B	T	E	X	Phenol	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

Table 18
Historic Groundwater Analytical Results
in mg/l
MW-6

Date	B	T	E	X	Phenol	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

Shaded areas indicate over OCD Limits

Table 19
Historic Groundwater Analytical Results
in mg/l
MW-7

Date	B	T	E	X	Phenol	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

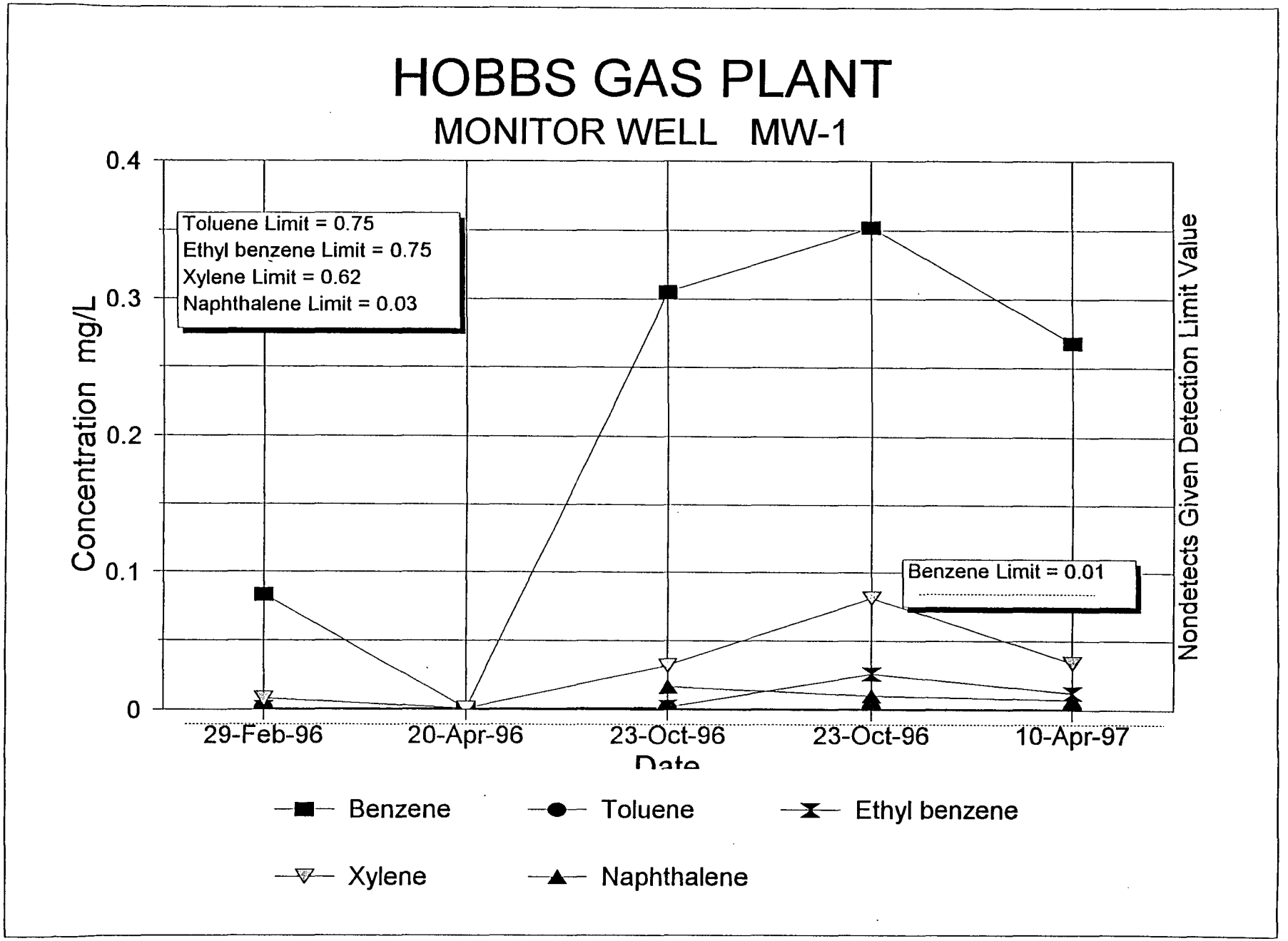
Table 20
Historic Groundwater Analytical Results
in mg/l
MW-8

Date	B	T	E	X	Phenol	Naphthalene
10/23/96	Well Not Installed					
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Table 21
Historic Groundwater Analytical Results
in mg/l
MW-9

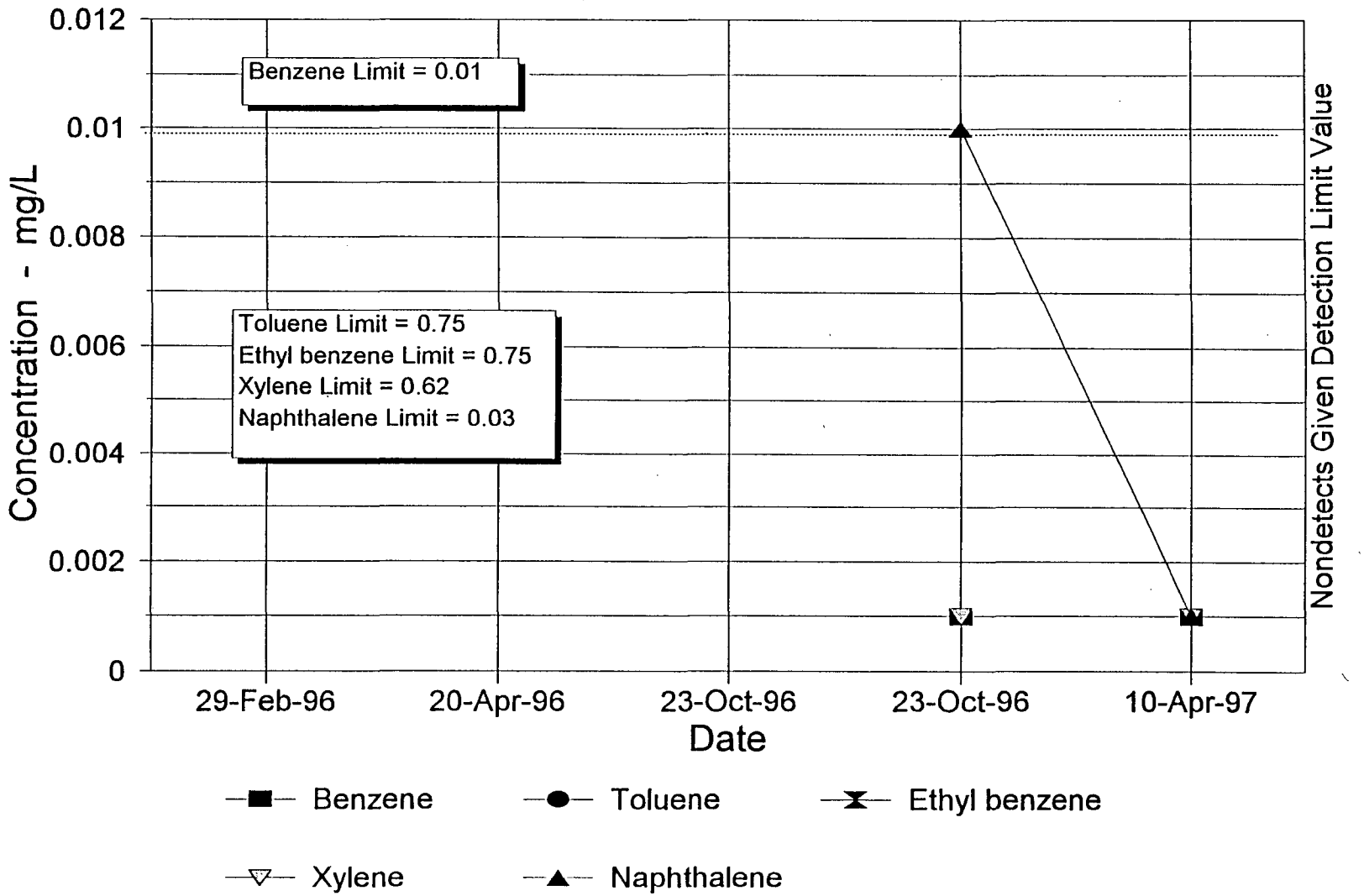
Date	B	T	E	X	Phenol	Naphthalene
10/23/96	Well Not Installed					
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001

Table 22 Historic Groundwater Analytical Results in mg/l MW-10						
Date	B	T	E	X	Phenol	Naphthalene
10/23/96	Well Not Installed					
04/10/97	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001


HOBBS GAS PLANT
MONITOR WELL MW-1
0.4
0.3
0.2
0.1
0
Concentration mg/L
Toluene Limit = 0.75
Ethyl benzene Limit = 0.75
Xylene Limit = 0.62
Naphthalene Limit = 0.03
Benzene Limit = 0.01
Nondetects Given Detection Limit Value
29-Feb-96
20-Apr-96
23-Oct-96
23-Oct-96
10-Apr-97
Date
Benzene
Toluene
Ethyl benzene
Xylene
Naphthalene

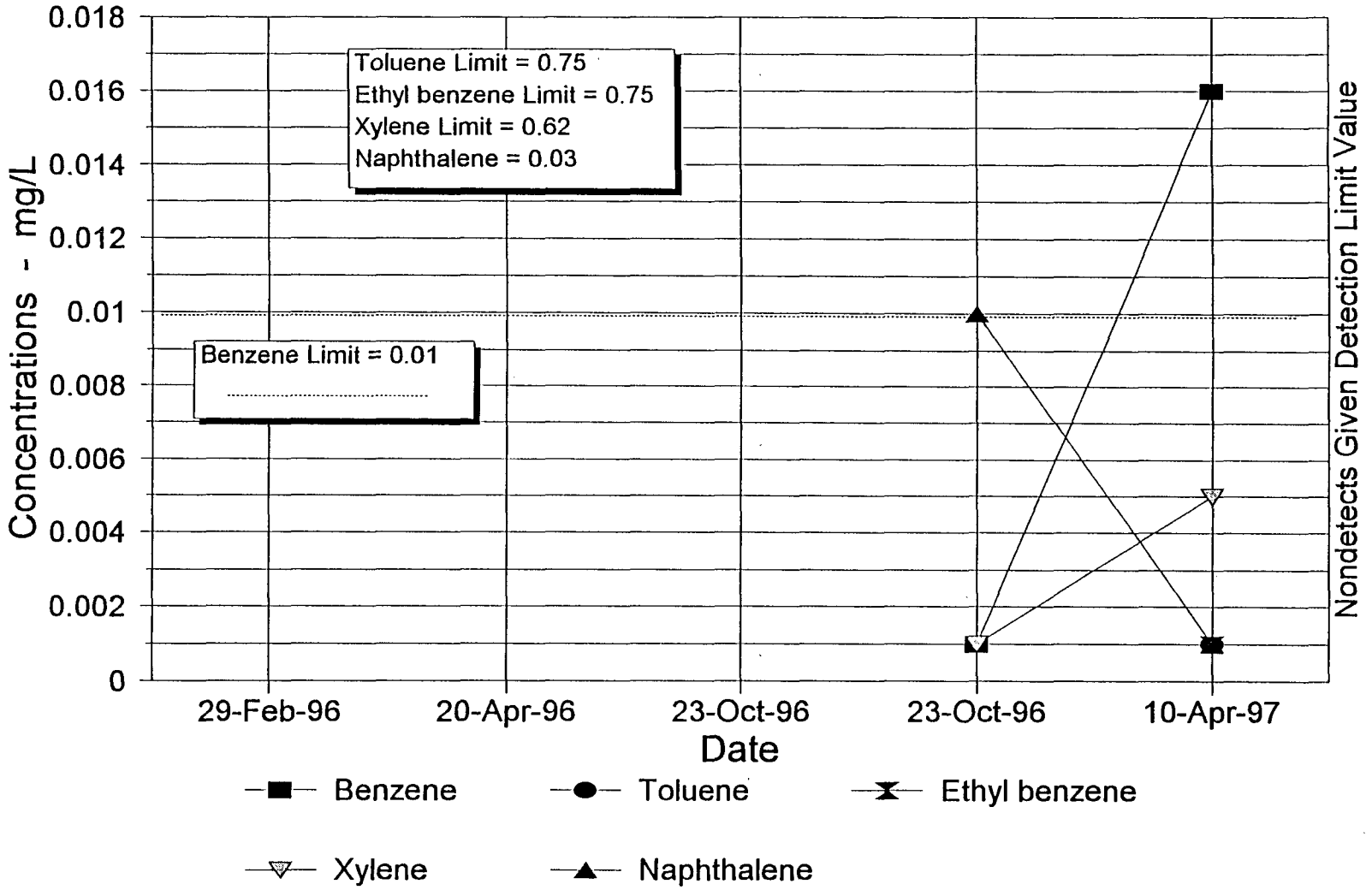
HOBBS GAS PLANT

MONITOR WELL MW-2



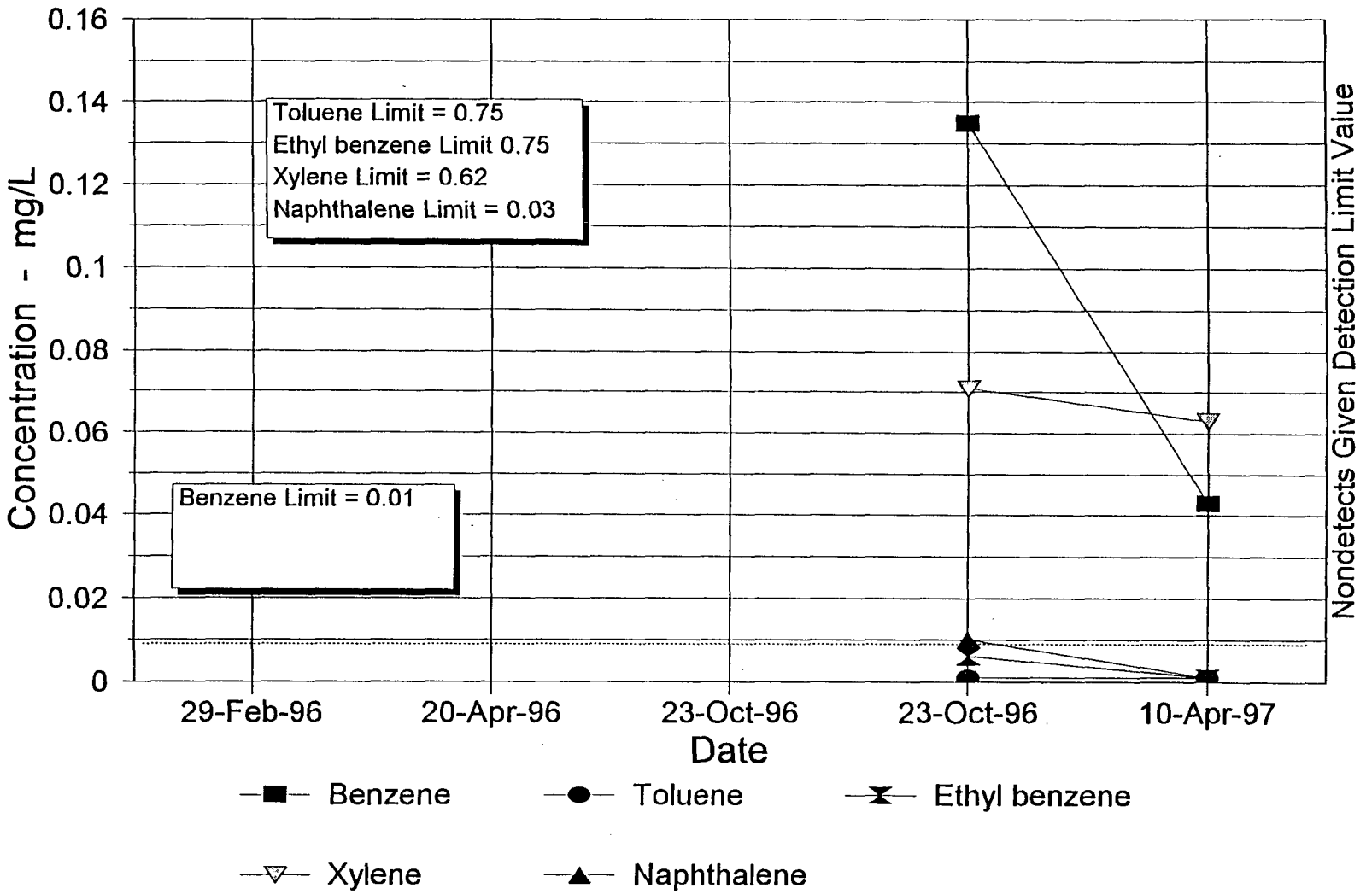
HOBBS GAS PLANT

MONITOR WELL MW-3



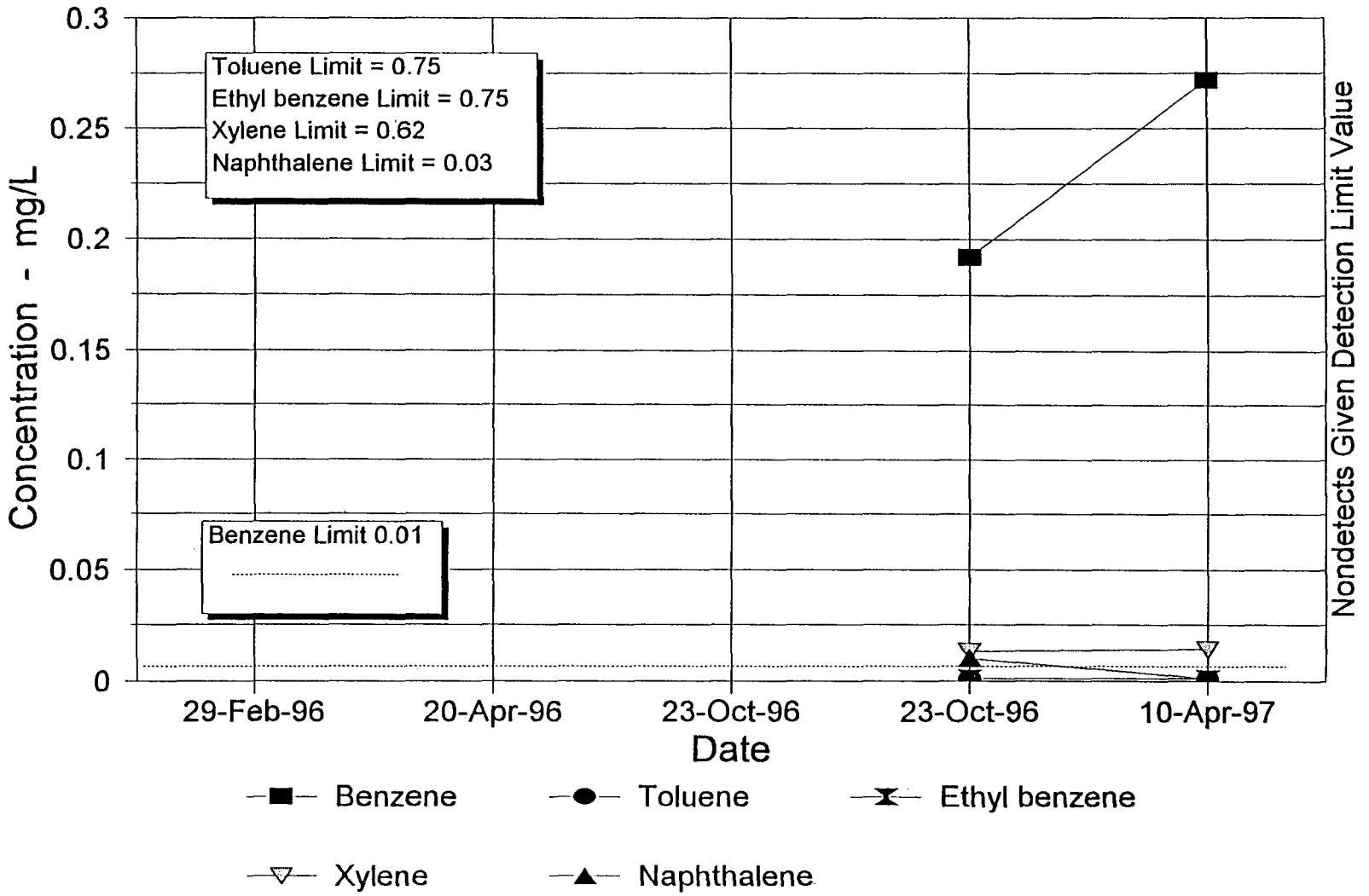
HOBBS GAS PLANT

MONITOR WELL MW-5



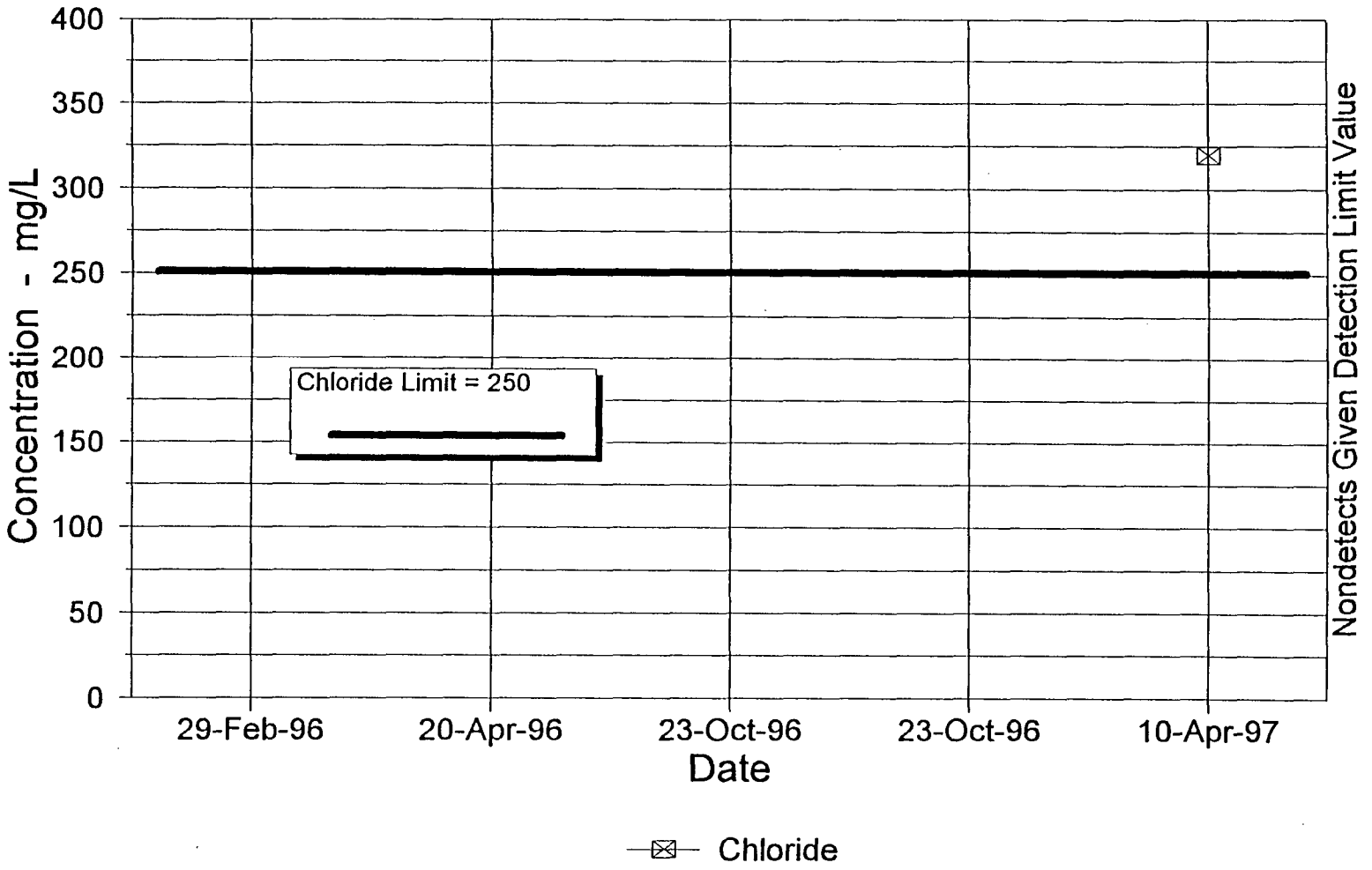
HOBBS GAS PLANT

MONITOR WELL MW-6



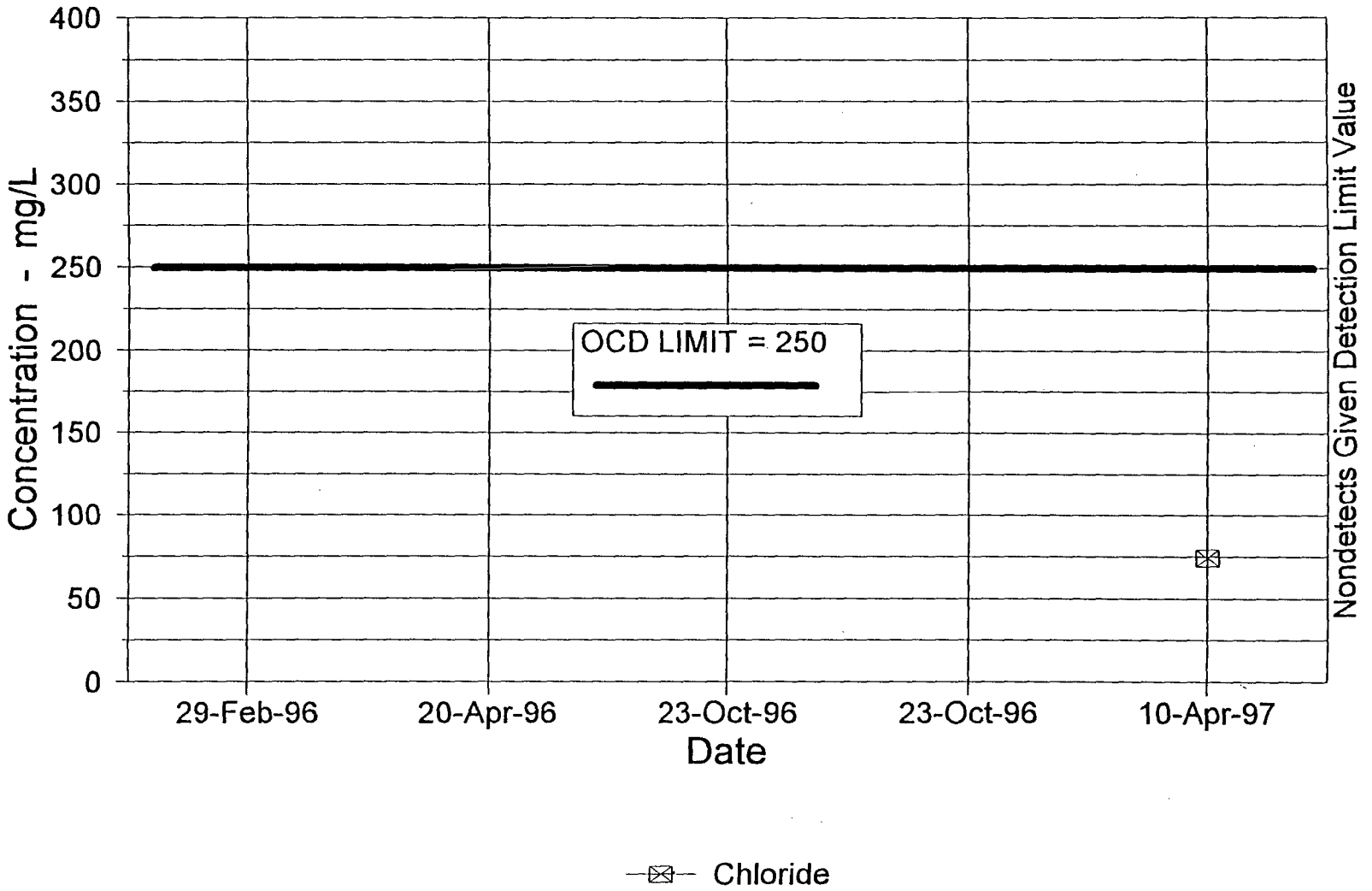
HOBBS GAS PLANT

MONITOR WELL MW-9



HOBBS GAS PLANT

MONITOR WELL MW-10



MONITOR WELL NO. MW-8

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure

Project No: 279-512

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	HNU (ppm)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
0								0		TOC Elev: 501.81 ft Surf. Elev: 500.14 ft
					FILL - SANDY GRAVEL, medium, gray and brown, moist, no odor	GP				
					CALICHE - very light brown, moist, no odor, very hard					Aboveground Steel Protector with 2.5' by 2.5' Concrete Pad
5					becoming less hard			5		
					becoming soft, sandy					
10								10		
	10.5-12.0	G		0	becoming yellow brown, very sandy					
15								15		
					SAND - yellow brown, slightly orange, fine grained, moist, no odor					
20						SP		20		
	20.0-21.0	G		0	with sandstone lenses					4" Diameter Sch. 40 PVC Riser with cement/bentonite grout
25								25		
					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

Drilled by: T. McDonald

Logged by: C. Eick

Drilling started: 4/7/97

Drilling completed: 4/7/97

Drilling method: Air Rotary

Development method: Surge and Purge

LEGEND

- Water level enc. during drilling
- Static Water level
- Free Phase Product level

Samplers:

- Grab Sample
- Split Spoon
- Split Barrel
- Shelby Tube
- Auger

Water levels: 439.8 ft

ft

ft

Dates Measured: 4/10/97

Notes: Northwest of Office

MONITOR WELL NO. MW-8

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure

Project No: 279-512

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	HNU (ppm)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
30					Continued from previous page			30		
	30.0-32.0	G		0	becoming brown, no caliche					
35								35		
40								40		
	40.0-41.0	G		0						
45					very hard			45		3.5' of 3/8" Bentonite Chip Seal
					SAND - yellow brown, very fine grained, moist, no odor					
50								50		
	50.0-52.0	G		0						
55								55		
	56.0-58.0	G		0	sandstone lenses					
					becoming dark yellow brown, saturated	SP				Sch. 40 PVC .010 Factory Slotted Screen with ' Filter Sand
60								60		
65								65		
	66.0-68.0	G		0						
70								70		Bottom of Screen at 68' Endcap at 68.25' Filter Sand

MONITOR WELL NO. MW-9

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure

Project No: 279-512

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	HNU (ppm)	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
					FILL - SANDY GRAVEL, gray and brown, moist, no odor	GP				
					SANDY CLAY/CLAYEY SAND - dark brown, moist, no odor	SC				Aboveground Steel Protector with 2.5' by 2.5' Concrete Pad
5					becoming dark redbrown			5		
					CALICHE - very light yellow brown, with sand and sandstone, moist, no odor					
10					becoming yellow brown with sandstone lenses			10		
15					SAND - yellow brown, fine grained, sandstone lenses, moist, no odor	SP		15		
					SANDSTONE - light yellow brown to light pink brown, moist, no odor, soft					
20								20		4" Diameter Sch. 40 PVC Riser with cement/bentonite grout
25								25		
					SAND - light yellow brown, with sandstone lenses, moist, no odor					
30								30		

Continued Next Page

Drilling Co: McDonald Drilling

Drilled by: T. McDonald

Logged by: C. Eick

Drilling started: 4/8/97

illing completed: 4/9/97

Drilling method: Air Rotary

Development method: Surge and Purge

LEGEND

- Water level enc. during drilling
- Static Water level
- Free Phase Product level

Samplers:

- Grab Sample
- Split Spoon
- Split Barrel
- Shelby Tube
- Auger

Water levels: 438.1 ft

ft

ft

Dates Measured: 4/10/97

Notes: East of Cryoskid by East Fenceline

MONITOR WELL NO. MW-9

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure

Project No: 279-512

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	HNU (ppm)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
30					Continued from previous page			30		
						SP				
					SANDSTONE - pink brown, moist, no odor, hard (well lithified)					
35								35		
	38.0-40.0	G		0						
40								40		3.25' of 3/8" Bentonite Chip Seal
					SAND - yellow brown, very fine grained, moist, no odor					
45								45		
						SP				
50								50		
	50.0-52.0	G		0	becoming dark yellow brown, wet					
					SANDSTONE - pink brown, moist, hard					
55					SAND - dark yellow brown, very fine grained, saturated, no odor			55		Sch. 40 PVC .010 Factory Slotted Screen with Filter Sand
60						SP		60		
65								65		Bottom of Screen at 64' Endcap at 64.3'
										Filter Sand
70								70		

MONITOR WELL NO. MW-10

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure

Project No: 279-512

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	HNU (ppm)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
0					FILL - GRAVELLY SAND, brown, moist, no odor	SP		0		Surf. Elev: 492.48 ft TOC Elev: 492.46 ft Flushmount Steel Protector with 4' by 4' Concrete Pad
					CALICHE - light yellow brown, moist, no odor, hard					
5								5		
10					becoming very hard			10		
15	14.0-15.5	G		0	SAND - light yellow brown with soft caliche, moist, no odor	SP		15		
					CALICHE - light yellow brown, moist, no odor					
20								20		4" Diameter Sch. 40 PVC Riser with cement/bentonite grout
					SANDSTONE - light brown, moist, some caliche, no odor					
25					SAND - very light yellow brown, moist, no odor	SP		25		
					SANDSTONE - very light brown, with sand lenses, moist, no odor becoming light brown, slightly pink, no sand, moist, very hard (well lithified)					
30								30		

Continued Next Page

Drilling Co: McDonald Drilling

Drilled by: T. McDonald

Logged by: C. Eick

Drilling started: 4/9/97

illing completed: 4/9/97

Drilling method: Air Rotary

Development method: Surge and Purge

LEGEND

- Water level enc. during drilling
- Static Water level
- Free Phase Product level

Samplers:

- Grab Sample
- Split Spoon
- Split Barrel
- Shelby Tube
- Auger

Water levels: 439.7 ft

ft

ft

Dates Measured: 4/10/97

Notes: East of East Fenceline on SPS Plant on West side of South Cooling Tower

MONITOR WELL NO. MW-10

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure

Project No: 279-512

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	HNU (ppm)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
					Continued from previous page					
30								30		
35					SAND - light yellow brown, fine grained, sandstone lenses, moist, no odor	SP		35		
					SANDSTONE - light yellow brown, with sand layers, moist, no odor, hard					
40					SAND - yellow brown, very fine grained, moist, no odor	SP		40		2.65' of 3/8" Bentonite Chip Seal
45								45		
					SANDSTONE - dark yellow brown, moist, no odor, hard					
50					SAND - dark yellow brown, very fine grained, moist, no odor	SP		50		
	51.0-52.0	G		0	SANDSTONE - brown, moist, no odor, hard (well lithified)	SP				
	52.5-54.0	G		0	SAND - dark yellow brown, very fine grained, moist, no odor					
55					SANDSTONE - pink brown, wet, no odor, very hard (well lithified)	SP		55		Sch. 40 PVC .010 Factory Slotted Screen with Filter Sand
					SAND - dark yellow brown, very fine grained, wet, no odor					
	56.0-58.0	G		0	SANDSTONE					
					SAND - dark yellow brown, very fine grained, saturated, no odor					
60						SP		60		
65								65		Bottom of Screen at 66' Endcap at 66.3' Filter Sand
70								70		

Revised June 1972

STATE ENGINEER OFFICE

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Eco-logical Environmental Services, Inc. Owner's Well No. MW-8

Street or Post Office Address 2200 Market

City and State Midland, TX 79703

Well was drilled under Permit No. Exempt-Rules & Regulations Governing Drilling of Wells and appropriations and use of Ground Water in New Mexico. Article 1-17.2 and is located in the:

a. NW ¼ SW ¼ SW ¼ SE ¼ of Section 28 Township 18 south Range 36 east N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____
Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Timothy W. McDonald/McDonald Drilling Co. License No. WD-1325

Address P.O. Box 13462 Odessa, TX 79768-3462

Drilling Began 4-7-97 Completed 4-7-97 Type tools Air Rotary Size of hole 7 7/8 in.

Elevation of land surface or N/A at well is 3818 ft. Total depth of well 70 ft.

Completed well is [X] shallow [ ] artesian. Depth to water upon completion of well 58 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
58	70	12	Sand, very fine grained, dk yellow brown, saturated	5

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4	1.96	2	0	48	48	Bottom Cap	48	68

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
0	42.5	7 7/8	N/A	10.62	Pumped down annulas

Section 5. PLUGGING RECORD

Plugging Contractor N/A

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____
State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Depth in Feet From	Depth in Feet 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	lt 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 yellow 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
55	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

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.

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

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Eco-logiacl Environmental Services, Inc. Owner's Well No. MW-9

Street or Post Office Address 2200 Market

City and State Midland,TX 79703

Well was drilled under Permit No. Exempt-Rules & Regulations Govering Drilling of Wells and appropriations and use of Ground Water in New Mexico. Article 1-17.2 and is located in the:

a. SW ¼ NE ¼ SW ¼ SE ¼ of Section 28 Township 18 south Range 36 east N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____ Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Timothy W. McDonald/McDonald Drilling Co License No. WD-1325

Address P.O. Box 13462 Odessa,TX 79768-3462

Drilling Began 4-8-97 Completed 4-9-97 Type tools Air Rotary Size of hole 7 7/8 in.

Elevation of land surface or N/A at well is 3814 ft. Total depth of well 66 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 53 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
53	66	13	Sandstone-pink brown,moist,Sand dk yellow brown,saturated	5

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4	1.96	2	0	44	44	Bottom Cap	44	64

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
0	39	7 7/8	N/A	9.75	Pumped down annulas

Section 5. PLUGGING RECORD

Plugging Contractor N/A

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by: _____ State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

Depth in Feet From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
0	1	1	Fill-Sandy Gravel-gray & brown,moist,no odor
1	6	5	Caliche-very lt brown,moist,no odor
6	10.50	4.50	Sandy
10.50	15	4.50	very Sandy,yellow brown
15	21	6	Sand-yellow brown,slightly orange,moist,no odor
21	25	4	with Sandstone lenses
25	28	3	Sandstone-yellow brown,moist,no odor
28	30	2	very lt gray brown,some Caliche
30	47	17	brown,no Caliche
47	56	9	Sand-yellow brown,moist,no odor
56	58	2	Sandstone lenses
58	70	12	dk yellow brown,saturated

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.

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 From	Depth in Feet To	Thickness in Feet	Color and Type of Material Encountered
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 lt 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

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.

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

WELL RECORD

Section 1. GENERAL INFORMATION

(A) Owner of well Eco-logical Environmental Services, Inc. Owner's Well No. MW-10

Street or Post Office Address 2200 Market

City and State Midland,TX 79703

Well was drilled under Permit No. Exempt-Rules & Regulations Governing Drilling of Wells and appropriations and use of Ground Water in New Mexico. Article 1-17.2 and is located in the:

a. SE ¼ NE ¼ SW ¼ SE ¼ of Section 28 Township 18 south Range 36 east N.M.P.M.

b. Tract No. _____ of Map No. _____ of the _____

c. Lot No. _____ of Block No. _____ of the _____

Subdivision, recorded in _____ County.

d. X= _____ feet, Y= _____ feet, N.M. Coordinate System _____ Zone in the _____ Grant.

(B) Drilling Contractor Timothy W. McDonald/McDonald Drilling Co. License No. WD-1325

Address P.O. Box 13462 Odessa,TX 79768-3462

Drilling Began 4-9-97 Completed 4-9-97 Type tools Air Rotary Size of hole 7 7/8 in.

Elevation of land surface or N/A at well is 3813 ft. Total depth of well 68 ft.

Completed well is ☒ shallow ☐ artesian. Depth to water upon completion of well 54 ft.

Section 2. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	Depth in Feet To	Thickness in Feet	Description of Water-Bearing Formation	Estimated Yield (gallons per minute)
54	68	14	Sandstone-pink brown,wet,no odor Sand,yellow brown ,saturated	5

Section 3. RECORD OF CASING

Diameter (inches)	Pounds per foot	Threads per in.	Depth in Feet Top	Depth in Feet Bottom	Length (feet)	Type of Shoe	Perforations From	Perforations To
4	1.96	2	0	46	44	Bottom Cap	46	66

Section 4. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	Depth in Feet To	Hole Diameter	Sacks of Mud	Cubic Feet of Cement	Method of Placement
0	41.25	7 7/8	N/A	10.31	Pumped down annulas

Section 5. PLUGGING RECORD

Plugging Contractor N/A

Address _____

Plugging Method _____

Date Well Plugged _____

Plugging approved by:

_____

State Engineer Representative

No.	Depth in Feet Top	Depth in Feet Bottom	Cubic Feet of Cement
1			
2			
3			
4			

FOR USE OF STATE ENGINEER ONLY

Date Received

Quad _____ FWL _____ FSL _____

File No. _____ Use _____ Location No. _____

TRACE ANALYSIS, INC.
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

Extraction Date: 04/16/97
Analysis Date: 04/16/97
Sampling Date: 04/07-08/97
Sample Condition: Intact & Cool
Sample Received by: JH
Project Name: Hobbs Gas Plant

TOTAL METALS (mg/kg)

TA#	Field Code	As	Se	Cd	Cr	Pb	Ba	Ag	Hg
T71098	MW-8 (56-58)	<10	<10	<5.0	<5.0	<10	37	<5.0	<0.25
T71099	MW-9 (50-52)	<10	<10	<5.0	5.8	<10	<20	<5.0	<0.25
T71100	MW-10 (51-52)	<10	<10	<5.0	<5.0	<10	66	<5.0	<0.25
QC	Quality Control	4.8	4.9	4.9	4.9	4.8	4.9	2.0	0.0051
Reporting Limit		10	10	5.0	5.0	10	20	5.0	0.25
RPD		5	4	5	4	0	0	1	2
% Extraction Accuracy		79	75	79	76	76	84	95	104
% Instrument Accuracy		95	97	98	97	96	99	102	104

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

BL

Director, Dr. Blair Leftwich

4-18-97

Date

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
Eco-Logical Environmental Services
Attention Carrie Eick
2200 Market Street
Midland TX 79703

Date: Apr 16, 1997
Date Rec: 4/10/97
Project: N/A
Proj Name: HOBS GAS PLANT
Proj Loc: HOBBS, NM

Lab Receiving # : 9704000185
Sampling Date: 4/7/97 - 4/8/97
Sample Condition: Intact and Cool
Sample Received By: JH

TA#	Field Code	MATRIX	TRPHC (mg/Kg)	MTBE (mg/Kg)	BENZENE (mg/Kg)	TOLUENE (mg/Kg)	ETHYL-BENZENE (mg/Kg)	M,P,O XYLENE (mg/Kg)	TOTAL BTEX (mg/Kg)
T71098	MW-8 (56-58')	Soil	<10.0	<0.050	<0.050	<0.050	0.060	0.364	0.424
T71099	MW-9 (50-52')	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	0.078	0.078
T71100	MW-10 (51-52')	Soil	<10.0	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
QC			99	0.094	0.102	0.100	0.100	0.307	
RPD			2	6	8	8	8	8	
% Extraction Accuracy			104	91	98	98	98	101	
% Instrument Accuracy			99	94	102	100	100	102	
Reporting Limit:			10	0.05	0.05	0.05	0.05	0.05	

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/Kg)
MTBE/BTEX	EPA 5030	4/12/97	EPA 8020	4/15/97	RW	0.100 ea	5 ea
TRPHC	EPA 3550	4/11/97	EPA 418.1	4/11/97	AG	100	250

Director, Dr. Blair Leftwich

4-16-97
Date

105

TraceAnalysis, Inc.

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

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: CARRIE EICK
Phone #: 915 520 7535
FAX #: 915 520 7737

Company Name & Address: ECO-LOGICAL 2200 MARCY ST MIDLAND TX 79703

Project #: 279-S12
Project Name: HOBBS GAS PLANT

Project Location: HOBBS, NM
Sampler Signature: Carrie E. Eick

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
71098	MW-8 (56-58')	1	4oz		X					X		4/1/97	11:50
99	MW-9 (50-52)	1	4oz		X					X		4/2/97	3:00
71100	MW-10 51-52.5	1	4oz		X					X		4/8/97	10:05
101	MW-10 52.5-54	1	4oz		X					X		4/8/97	10:10

ANALYSIS REQUEST: BTEX, MTBE (8020) X; TPH 418.1 X; Total Metals Ag As Ba Cd Cr Pb Hg Se X; TCLP Metals Ag As Ba Cd Cr Pb Hg Se; TCLP Volatiles; TCLP Semi Volatiles; RCI; 8240 / 8260; 8270

SPECIAL HANDLING: Turn around # of days; Fax ASAP X; Hold X

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Carrie Eick	4/9/97	4:30	Nelda Hatton	4/9/97	4:30 PM
Nelda Hatton	4/9/97	8:30AM			
			Received at Laboratory by: J. D. Randall	4/10/97	9:25

REMARKS: F 4/18/97 SM

A / B

Shipped Greyhound 126-1089-857-8 C/T Samples - HS 100AC

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

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

Extraction Date: 04/21/97
Analysis Date: 04/21/97
Sampling Date: 04/10/97
Sample Condition: I & C
Sample Received by: JH
Project Name: Hobbs Gas Plant

TOTAL METALS (mg/L)

TA#	Field Code	Hg	As	Cr	Ag	Ba	Al	Co	Fe	Mn	Mo	Ni	Zn
T71391	MW-8	<0.001	<0.10	<0.05	<0.05	<0.20	<0.20	<0.03	<0.03	<0.05	<0.10	<0.20	0.20
T71392	MW-9	<0.001	<0.10	<0.05	<0.05	<0.20	<0.20	<0.03	<0.03	<0.05	<0.10	<0.20	0.54
T71393	MW-10	<0.001	<0.10	<0.05	<0.05	<0.20	<0.20	<0.03	<0.03	<0.05	<0.10	<0.20	0.75
QC	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		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	8	4	2	6	3	5	4	6	5
% Extraction Accuracy		103	87	88	88	91	94	96	96	78	96	89	91
% Instrument Accuracy		100	87	95	96	93	94	97	95	95	94	95	95

METHODS: EPA SW 846-3015, 6010, 7470.
CHEMIST: Hg: CB As, Cr, Ag, Ba, Al, Co, Fe, Mn, Mo, Ni, Zn: RR
TOTAL METALS SPIKE: 0.005 mg/L Hg; 2.0 mg/L As, Ba, Al, Co, Fe, Mn, Mo, Ni, Zn; 1.5 mg/L Cr, Ag.
TOTAL METALS QC: 0.005 mg/L Hg; 5.0 mg/L As, Cr, Ba, Al, Co, Fe, Mn, Mo, Ni, Zn; 1.0 mg/L Ag.

Director, Dr. Blair Leftwich

4/30/97
Date

6701 Aberdeen Avenue
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

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
RPD		4	10	6	2	0
% Extraction Accuracy		94	93	98	93	98
% Instrument Accuracy		95	94	108	97	100
REPORTING 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

5-7-97
DATE

6701 Aberdeen Avenue
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
L

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	CHLORIDE (mg/L)	NITRATE-N (mg/L)	SULFATE (mg/L)	TDS (mg/L)	CYANIDE (mg/L)
T71391	MW-8	25	<1.0	56	370	<0.01
T71392	MW-9	320	1.4	89	940	<0.01
T71393	MW-10	74	<1.0	270	760	<0.01
QC	Quality Control	25	9.5	24	—	0.040
RPD		4	1	4	0	11
% Extraction Accuracy		98	96	98	—	90
% Instrument Accuracy		98	97	96	—	101
REPORTING 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

6701 Aberdeen Avenue
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

May 07, 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: I & C
Sample Received by: JH
Project Name: Hobbs Gas Plant

TA#	FIELD CODE	FLUORIDE (mg/L)	pH (s.u.)
T71391	MW-8	1.2	7.9
T71392	MW-9	0.99	7.7
T71393	MW-10	0.51	7.9
QC	Quality Control	1.1	7.0
REPORTING LIMIT		0.1	---
RPD		0	0
% Extraction Accuracy		105	---
% Instrument Accuracy		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

5-7-97
DATE

TRACE ANALYSIS, INC.
6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

ANALYTICAL RESULTS FOR
Eco-Logical Environmental Services
Attention Carrie Eick
2200 Market Street
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	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL-BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)
T 71384	MW-1	Water	0.268	<0.001	0.012	0.034	0.314
T 71385	MW-2	Water	<0.001	<0.001	<0.001	<0.001	<0.001
T 71386	MW-3	Water	0.016	<0.001	<0.001	0.005	0.021
T 71387	MW-4	Water	<0.001	<0.001	<0.001	<0.001	<0.001
T 71388	MW-5	Water	0.043	<0.001	<0.001	0.063	0.106
T 71389	MW-6	Water	0.272	<0.001	<0.001	0.014	0.286
T 71390	MW-7	Water	<0.001	<0.001	<0.001	<0.001	<0.001
T 71394	Trip Blank	Water	<0.001	<0.001	<0.001	<0.001	<0.001
QC			0.104	0.105	0.105	0.313	
RPD			1	0	0	0	
% Extraction Accuracy			109	111	111	111	
% Instrument Accuracy			104	105	105	104	
Reporting Limit:			0.001	0.001	0.001	0.001	

TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
BTEX	EPA 5030	4/16/97	EPA 8020	4/16/97	RW	0.100 ea	0.1 ea

Director, Dr. Blair Leftwich

4-18-97
Date

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

ANALYTICAL RESULTS FOR
Eco-Logical Environmental Services
Attention Carrie Eick
2200 Market Street
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)
T 71392	MW-9	Water	<0.500
QC			100
RPD			7
% Extraction Accuracy:			98
% Instrument Accuracy:			100

Reporting 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

Director, Dr. Blair Leftwich

4-18-97
Date

TRACE ANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

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

ANALYTICAL RESULTS FOR
Eco-Logical Environmental Services
Attention Carrie Eick
2200 Market Street
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)
T 71391	MW-8	Water	<0.500
T 71393	MW-10	Water	<0.500
QC			100
RPD			7
% Extraction Accuracy:			98
% Instrument Accuracy:			100

Reporting 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

Director, Dr. Blair Leftwich

4-18-97
Date

TRACEANALYSIS, INC.
A Laboratory for Advanced Environmental Research and Analysis

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

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
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

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	5
Chloroethane	ND	1
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	5
Carbon disulfide	ND	1
Methylene chloride	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	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	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	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	1
Tetrachloroethene	2	1
Chlorobenzene	ND	1
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	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	95
Toluene-d8	102
4-Bromofluorobenzene	98

ND = Not Detected

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

Director, Dr. Blair Leftwich

5-8-97
Date

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

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
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-9
TA #: T71392

8240 Compounds	Concentration (ug/L)	Reporting Limit
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	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	53	1
1,1,1-Trichloroethane	ND	1
1,2-Dichloroethane	ND	1
Benzene	ND	1
Carbon Tetrachloride	ND	1
1,2-Dichloropropane	ND	1
Trichloroethene	ND	1
Bromodichloromethane	18	1
cis-1,3-Dichloropropene	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

ECO-LOGICAL ENVIRONMENTAL **PAGE 2 of 2**
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	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	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

Director, Dr. Blair Leftwich

5-8-97
Date

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

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
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-10
TA #: T71393

8240 Compounds	Concentration (ug/L)	Reporting Limit
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	ND	5
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	ND	1
2-Butanone	ND	50
Chloroform	ND	1
1,1,1-Trichloroethane	ND	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	ND	1
4-Methyl-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-exanone	ND	50

ECO-LOGICAL ENVIRONMENTAL

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

FIELD CODE: MW-10
TA #: T71393

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
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	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

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

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

TA #T71391
Field Code: MW-8

EPA 8270 - BNA's (mg/L)	Reporting Limit	Concentration (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
Benzo[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, 3510.
CHEMIST: HC/CC

Director, Dr. Blair Leftwich

4/30/97
Date

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

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

TA #T71392
Field Code: MW-9

EPA 8270 - BNA's (mg/L)	Reporting Limit	Concentration (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
Benzo[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, 3510.

CHEMIST: HC/CC

Director, Dr. Blair Leftwich

4/30/97
Date

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

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

TA #T71393
Field Code: MW-10

EPA 8270 - BNA's (mg/L)	Reporting Limit	Concentration (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
Benzo[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	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.

CHEMIST: HC/CC

Director, Dr. Blair Leftwich

4/30/97
Date

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

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

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

ND = NOT DETECTED

SURROGATES	% RECOVERY
2-Fluorophenol SURR	49
Phenol-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

4/30/97
Date

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

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# 71385
FIELD CODE:MW-2

EPA 8270	Reporting Limit	Concentration (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
Fluorophenol SURR	60
Phenol-d6 SURR	51
Nitrobenzene-d5 SURR	87
2-Fluorobiphenyl SURR	92
2,4,6-Tribromophenol SURR	84
Terphenyl-d14 SURR	139

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

Director, Dr. Blair Leftwich

4/30/97
Date

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

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

EPA 8270	Reporting Limit	Concentration (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
Fluorophenol SURR	49
Phenol-d6 SURR	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

4/30/97
Date

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

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

EPA 8270	Reporting Limit	Concentration (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
Fluorophenol SURR	66
Phenol-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

4/30/97
Date

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

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

EPA 8270	Reporting Limit	Concentration (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
2-Fluorophenol SURR	65
Phenol-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: HC/CC

Director, Dr. Blair Leftwich

4/30/97
Date

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

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# 71389
FIELD CODE:MW-6

EPA 8270	Reporting Limit	Concentration (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-d6 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: HC/CC

Director, Dr. Blair Leftwich

4/30/97
Date

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

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

EPA 8270	Reporting Limit	Concentration (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	58
Phenol-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

4/30/97
Date

7284-94

24²

TraceAnalysis, Inc.

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

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: CARRIE EICH

Phone #: 915/520-7535

FAX #: 915/520-7737

Company Name & Address: ECO-LOGICAL ENVIRON MENTAL

Project #: 279-512

Project Name: HOBBS GAS PLANT

Project Location: HOBBS, ~~TX~~ NM

Sampler Signature: Carrie E. Eich

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
71384	MW-1	2	VOA	X				X		X		4/11/97	
⊥	MW-1	1	L	↓				↓		↓		↓	↓
85	MW-2	3	VOA					X					
⊥	MW-2	1	L										
86	MW-3	2	VOA					X					14:00
⊥	MW-3	1	L										L
87	MW-4	2	VOA					X					
⊥	MW-4	1	L										
88	MW-5	2	VOA					X					
⊥	MW-5	1	L										
89	MW-6	2	VOA					X					

ANALYSIS REQUEST																					SPECIAL HANDLING					
BTEX, ~~MTBE~~	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240/8260	8270 - Phenol, Naphthalene													Turn around # of days	Fax ASAP	Hold			
X								X														X				
								X														↓				
X								X																		
								X																		
X								X																		
								X																		
X								X																		
								X																		
X								X																		
								X																		
X								X																		

Relinquished by: Date: Time:

Received by: Date: Time:

Relinquished by: Helen Shelton Date: 4/11/97 Time: 6:30 PM

Received by: Date: Time:

Relinquished by: Date: Time:

Received at Laboratory by: Jill Kendall Date: 4/14/97 Time: 11:05

REMARKS

page 1/24

Phenol DL = .001 ppm } 8270

Naphthalene DL = .001 ppm } 8270

B

Shipped Greyhound 126-689-859-0 CL 17 samples - HS 10AD

TraceAnalysis, Inc.

6701 Aberdeen Ave. Lubbock, Texas 79424
Tel (806) 794 1296 Fax (806) 794 1298
1 (800) 378 1296

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: CARRIE E. RICH
Phone #: 915/520-7535
FAX #: 915/520-7535

Company Name & Address: ECO-LOGICAL ENVIRONMENTAL

Project #: 279-512
Project Name: HOBBS GAS PLANT

Project Location: HOBBS, NM
Sampler Signature: Carrie E. Rich

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE N_2O	SAMPLING: DATE	TIME
71389	MW-6	1	L	X						X		4/1	
90	MW-7	3	VOA	↓				X		↓			
↓	MW-7	1	L										
91	MW-8	1	1/2L						X				15:00
	MW-8	1	L										
	MW-8	2	L										
	MW-8	1	1/2L					X					
	MW-8	1	L								X		
	MW-8	1	L										
	MW-8	2	VOA					X					
92	MW-9	1	1/2L						X	↓			16:30

ANALYSIS REQUEST

BTEX ~~8021B~~	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles WATER QUAL	TCLP Semi Volatiles	~~8010~~ CYANIDE	8240/~~8260~~	8270 PHENOL, Naphthalene	Total As, Ba, Cd, Cr, Pb, Hg, Se, Ag	Total As, Cu, Fe, Mn, Zn, Al, Co, Mo, Ni	PHENOL by 8270	8270 PAH
X								X				
						X		X				
	X											
				X			X					
					X				X	X		
											X	
												X

SPECIAL HANDLING

Turn around # of days
X Fax ASAP
Hold

Relinquished by: Carrie E. Rich Date: 4/11/97 Time: 3:40PM
Received by: Date: Time:

Relinquished by: Helen Shelton 4/11/97 6:30PM
Received by: Date: Time:

Relinquished by: Date: Time:
Received at Laboratory by: [signature] 4/14/97 11:05A

REMARKS
page 2/4
phenol, naphthalene D.L. = .001 ppm
Water Qual. List - Attached
Required D.L. - Attached

Shipped Greyhound 126-689-859-0 CL 14 Samples - HS

104AD

243

TraceAnalysis, Inc.

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

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: CARRIE E EICH
Phone #: 915 520 7535
FAX #:
Company Name & Address: ECO
Project #: 279-512
Project Name: Hobbs GAS PLANT
Project Location: HOBBS, NM
Sampler Signature: Carrie E. Eich

SPECIAL HANDLING: Turn around # of days; Fax ASAP; Hold

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE NaOH	SAMPLING: DATE	TIME
71392	MW-9	1	L	X						X			10:30
	MW-9	2	L										
	MW-9	1	½L					X					
	MW-9	1	L								X		
	MW-9	1	L										
	MW-9	2	VOA					X					
71393	MW-10	1	½L						X				17:30
	MW-10	1	L										
	MW-10	2	L										
	MW-10	1	½L					X					
	MW-10	1	L										

ANALYSIS REQUEST	
BTEX ~~MTBE~~	
TPH	X
Total Metals Ag As Ba Cd Cr Pb Hg Se	
TCLP Metals Ag As Ba Cd Cr Pb Hg Se	
~~TCLP Volatiles~~ water Gen I	X
TCLP Semi Volatiles	
~~RCI~~ CYANIDE	X
8240 / ~~8260~~ LOL	X
PHENOL by 8270	X
Total As Ba Cd Cr Pb Hg Se	
B Ag Cr Fe Mn Zn Al	
Co Mo Ni	
8270 PAH	X

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Carrie E. Eich		3:40 PM			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Helen Shelton	4/11/97	6:30 PM			
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
			J.D. Randall	4/14/97	11:05

REMARKS

page 3/4

Shipped Greyhound # 126-659-859-0

C/T/A 14 samples - HS

104 AD

24

TraceAnalysis, Inc.

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

CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST

Project Manager: CARRIE EICH

Phone #:

FAX #:

Company Name & Address: ECO

Project #: 279 S12

Project Name: HOBBS GAS PLANT

Project Location: HOBBS, NM

Sampler Signature: Carrie E. Eich

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
71393	MW-10	1	L	X						X			17:30
1	MW-10	2	VOA	↓				X		↓			↓
394	TRIP BLANK	2	VOA	↓						↓			↓

ANALYSIS REQUEST

BTEX, [illegible]	TPH	Total Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Metals Ag As Ba Cd Cr Pb Hg Se	TCLP Volatiles	TCLP Semi Volatiles	RCI	8240/[illegible] VOL	8270	WATER QUAL.
X							X		X

SPECIAL HANDLING

- Turn around # of days
- Fax ASAP
- Hold

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Carrie E. Eich	4/11/97	3:40PM	[illegible]		3:40PM
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Helen Shelton	4/11/97	6:30PM			
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
			[illegible]	4/14/97	11:05A

REMARKS

page 4/4

B

Shipped Greyhound # 126 689-959-0 C/F 5 samples - HS

1044D