GW - 191

WORK PLANS

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2005 MAR 10 AM 10 16

Field Activity Report

Former Hobbs Gas Plant

Hobbs (Lea County), New Mexico

Prepared for:

KINDER MORGAN

One Allen Center
500 Dallas Street, Suite 1000
Houston, TX 77002

and

New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505

Prepared by:

TRC

Customer-Focused Solutions

2313 W. Sam Houston Parkway N., Suite 107
Houston, TX 77043
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March 2005

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Customer-Focused Solutions

March 16, 2005

Mr. Wayne Price
New Mexico Oil Conservation Division
1220 S. Saint Francis Drive
Santa Fe, NM 87505

Ref: Transmittal of Field Activity Report
Implementation of Contaminant Plume Delineation Work Plan (12/22/03)
Kinder Morgan, Inc. - Former Hobbs Gas Plant
Hobbs (Lea County), New Mexico
Discharge Plan GW-191
TRC Environmental Corporation Project #40299

Dear Mr. Price:

This letter report (and appendices) summarizes the field activities related to the installation and sampling of two (2) offsite monitor wells and the replacement of monitor well MW-6 (with MW-6R) conducted at the above-referenced location in February 2005. This work was conducted in accordance with the Contaminant Plume Delineation Work Plan approved by the New Mexico Oil Conservation Division on June 22, 2004. A site location map is illustrated on Figure 1. The site and general vicinity contain monitor wells MW-1 through MW-12 as illustrated on Figure 2.

Newly installed monitor wells MW-11 and MW-12 are located downgradient and offsite of the former gas plant facility on Xcel Energy Cunningham Power Station property and State of New Mexico property, respectively. Property access to these locations was granted in January and February 2005. Monitor well MW-6R is located approximately five (5) feet from MW-6 on the former gas plant facility. Kinder Morgan, Inc. (KMI) has retained responsibility for the historical environmental impacts relating to the operation of the former gas plant facility.

MONITOR WELL DRILLING, PLUGGING, AND DEVELOPMENT

Each monitor well was advanced by air rotary drilling techniques to a depth of 80 feet below grade. Cuttings from the air rotary drilling were collected, described, and field screened with a photo-ionization detector (PID). One soil sample was collected from monitor wells MW-11 (60 feet) and MW-12 (62 feet) and retained for laboratory analysis of benzene, toluene, ethylbenzene, and total xylenes (BTEX) by EPA Method 8021B. The TRC geologist determined the sample depths based on the PID readings and depth to groundwater (approximately 63 feet bgs).

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After the boring was advanced to total depth, a single string of four-inch-diameter flush-threaded Schedule 40 PVC casing and 0.02-inch slotted PVC well screen were lowered into the boring. Twenty-foot screen lengths were used in each monitor well with blank PVC casing extending up about three feet above the ground surface. The borehole annulus was gravel packed with 20/40-grade silica sand to about two feet above the top of the screen. Bentonite chips were added and allowed to swell to produce a seal of at least two feet in thickness. A fluid mixture of cement grout was pumped through a tremie pipe into the well annulus from the top of the bentonite seal to the ground surface.

Following the installation of monitor well MW-6R, monitor well MW-6 was plugged and abandoned. The casing and well screen were pulled completely intact from the ground. The remaining borehole was plugged with bentonite chips. The bentonite chips were then hydrated and allowed to swell to create a seal from the surface to the total depth of the boring. The well construction logs for each monitor well, state of New Mexico installation reports, and plugging report are included in Appendix A. Photographs of monitor well drilling, installation, and plugging are included in Appendix B.

The soil cuttings were contained in 55-gallon metal drums. Following installation, each monitor well was developed by purging at least three well volumes of water and allowing the turbidity to stabilize. The extracted water was containerized for temporary storage on-site. Each container was labeled for contents, and accumulation date. Eighteen drums of soil cuttings and purge water remain on-site for subsequent disposal management.

GROUNDWATER ELEVATIONS

Prior to monitor well purging and sampling, groundwater elevations were measured from each of the 12 monitor wells to aid in preparation of a potentiometric surface contour map included as Figure 3. Table 1 provides a summary of the groundwater elevations measured on February 24, 2005. Concurrent with measuring water levels, each monitor well (top of casing) was surveyed to feet above mean sea level (ft. MSL). Of the 12 wells that were gauged, monitor wells MW-4, and MW-5 were dry. Groundwater elevations ranged from 3,759.08 ft. MSL at monitor well MW-2 (upgradient) to 3,749.09 ft. MSL at monitor well MW-12 (downgradient). The hydraulic gradient (direction of groundwater flow) is to the southeast at an approximate gradient of 0.0047 ft./ft.

MONITOR WELL SAMPLING

Groundwater samples were collected using a submersible pump and dedicated tubing. The pumping rates were maintained between 0.25 to 0.5 liters per minute (L/min). Low-flow purging and sampling were conducted in accordance with the United States Environmental Protection Agency (USEPA) guidelines (EPA/540/S-95/504). Water quality parameters (*e.g.*, pH, specific conductance, turbidity, temperature, dissolved oxygen, and oxidation reduction potential) were measured using an in-line flow-through-cell. Purging continued until the parameters stabilized. The flow rate for sampling was maintained at the same rate at which purging was conducted. Samples were transferred directly from the dedicated tubing into the laboratory-provided glass

sample containers. The sample containers were sealed, labeled, and placed on ice inside a cooler to maintain a temperature of four (4) degrees Centigrade. A trip blank sample was collected and placed in the cooler with the groundwater samples. The trip blank sample was analyzed to determine if any sample contaminants were introduced during sample delivery. A standard chain-of-custody form was completed and accompanied the groundwater samples to Trace Analysis, Inc. of Lubbock, Texas.

The collected groundwater samples were analyzed for:

- BTEX by USEPA Method 8021B; and
- Chlorides by USEPA Method 300.0.

Appropriate quality control and assurance methods were employed, including the analyses of method blanks and laboratory control spikes.

ANALYTICAL RESULTS

Soil

Table 2 provides a summary of soil analytical results for samples collected from monitor wells MW-11 (60 ft. bgs) and MW-12 (62 ft. bgs). The laboratory data sheets and the chain-of-custody form are provided in Appendix C. BTEX constituents were not detected above the laboratory reporting limits or the New Mexico Environmental Department (NMED) soil screening levels (SSLs) for benzene (5.6 mg/kg), toluene (180 mg/kg), ethylbenzene (68 mg/kg), and total xylenes (63 mg/kg). Soil analytical results are included on Figure 4.

Groundwater

Table 3 provides a summary of the groundwater analytical results. For this sampling event, groundwater samples were collected from monitor wells MW-11 and MW-12. The laboratory data sheets and the chain-of-custody form are provided in Appendix D. BTEX constituents were not detected at either monitor well location above the laboratory reporting limits or the New Mexico Water Quality Control Commission (WQCC) guidelines for benzene (0.01 mg/L), toluene (0.75 mg/L), ethylbenzene (0.75 mg/L), and total xylenes (0.62 mg/L). Chlorides were detected at monitor wells MW-11 (76.4 mg/L) and MW-12 (43.7 mg/L), but below the WQCC established guideline of 250 mg/L. Groundwater analytical results are included on Figure 4.

QUALITY CONTROL REVIEW OF LABORATORY ANALYTICAL DATA

A review of the monitoring data and associated quality control (QC) data was performed for the soil and groundwater samples collected during this event. QC data indicate that measurement data are sufficient to meet project quality objectives, the data are defensible, and QC mechanisms are generally effective in ensuring measurement data reliability. No potential data quality issues were identified.

A low toluene concentration was detected (0.0014 mg/L) above the laboratory reporting limit (0.001 mg/L) for the trip blank sample that accompanied the groundwater samples to the laboratory. Toluene was not detected in groundwater at monitor wells MW-11 and MW-12.

CONCLUSIONS

Based on the observations and results of the drilling and sampling work conducted in February 2005, TRC concludes the following:

- The hydraulic gradient (direction of groundwater flow) is to the southeast. Monitor well MW-2 is upgradient and monitor wells MW-11 and MW-12 are downgradient with respect to groundwater flow. This flow direction is consistent with historical site information;

- BTEX constituents were not detected above the laboratory reporting limits or NMED SSLs in soil samples collected from monitor wells MW-11 (60 feet) and MW-12 (62 feet);

- BTEX constituents were not detected above the laboratory reporting limits or WQCC guidelines in groundwater samples collected from monitor wells MW-11 and MW-12; and

- Chloride concentrations from monitor wells MW-11 (76.4 mg/L) and MW-12 (43.7 mg/L) were below the WQCC established guideline of 250 mg/L.

The monitor wells will be gauged, purged, and sampled in May and November 2005 as part of the scheduled semiannual monitoring events.

If you have any questions, please do not hesitate to call us at 713.821.6004 or Mr. John Greer with Kinder Morgan at 713.369.9193.

Respectfully submitted,
TRC ENVIRONMENTAL CORPORATION

John D. Daniels, P.G.
Senior Project Manager

Bret A. Neff, P.G.
Project Geologist

Attachments: Tables, Figures, and Appendices A, B, C, and D

cc: Mr. John Greer (Kinder Morgan)
Project File

Tables

TABLES

TABLE 1
Summary of Groundwater Elevation Data
Kinder Morgan, Inc.
Former Hobbs Gas Plant
Hobbs, NM

Monitor Well	Date	TOC (ft. MSL)	Depth to Water (ft. btoc)	Groundwater Elevation (ft. MSL)
MW-1	2/24/05	3,815.62	60.13	3,755.49
MW-2	2/24/05	3,821.54	62.46	3,759.08
MW-3	2/24/05	3,818.24	63.56	3,754.68
MW-4	2/24/05	3,820.24	Dry	Dry
MW-5	2/24/05	3,819.90	Dry	Dry
MW-6R	2/24/05	3,816.52	63.32	3,753.20
MW-7	2/24/05	3,814.44	62.91	3,751.53
MW-8	2/24/05	3,820.83	66.49	3,754.34
MW-9	2/24/05	3,815.91	62.39	3,753.52
MW-10	2/24/05	3,811.42	NM	NM
MW-11	2/24/05	3,811.66	61.52	3,750.14
MW-12	2/24/05	3,811.70	62.61	3,749.09

NOTES:
Top of casing elevations were surveyed on 2/24/05 by John West Surveying.
TOC = Top of casing.
ft. MSL = Feet mean sea level.
ft. btoc = Feet below top of casing.
NM = not measured.

TABLE 2
Summary of Soil Analytical Results
February 22 and 23, 2005
Kinder Morgan, Inc.
Former Hobbs Gas Plant
Hobbs, NM

Analyte	NMED SSL	MW-11 (60')	MW-12 (62')
Benzene	5.6	ND (0.01)	ND (0.01)
Toluene	180	ND (0.01)	ND (0.01)
Ethylbenzene	68	ND (0.01)	ND (0.01)
Xylenes (total)	63	ND (0.01)	ND (0.01)

NOTES:
All concentrations reported in mg/kg (ppm).
BTEX analyzed by Method 8021B.
ND = Not detected above the laboratory limit of quantitation (shown in parentheses).
NMED SSL = New Mexico Environmental Department Soil Screening Level.

TABLE 3
Summary of Groundwater Analytical Results
February 24, 2005
Kinder Morgan, Inc.
Former Hobbs Gas Plant
Hobbs, NM

Analyte	WQCC guideline	MW-11	MW-12
Benzene	0.01	ND (0.001)	ND (0.001)
Toluene	0.75	ND (0.001)	ND (0.001)
Ethylbenzene	0.75	ND (0.001)	ND (0.001)
Xylenes (total)	0.62	ND (0.001)	ND (0.001)
Chlorides	250	76.4	43.7

NOTES:
All concentrations reported in mg/L (ppm).
BTEX analyzed by Method 8021.
Chlorides analyzed by EPA Method 300.0.
ND = Not detected above the laboratory limit of quantitation (shown in parentheses).
WQCC = New Mexico Water Quality Control Commission.

Figures

TABLE 1
Summary of Groundwater Elevation Data
Kinder Morgan, Inc.
Former Hobbs Gas Plant
Hobbs, NM

Monitor Well	Date	TOC (ft. MSL)	Depth to Water (ft. btoc)	Groundwater Elevation (ft. MSL)
MW-1	2/24/05	3,815.62	60.13	3,755.49
MW-2	2/24/05	3,821.54	62.46	3,759.08
MW-3	2/24/05	3,818.24	63.56	3,754.68
MW-4	2/24/05	3,820.24	Dry	Dry
MW-5	2/24/05	3,819.90	Dry	Dry
MW-6R	2/24/05	3,816.52	63.32	3,753.20
MW-7	2/24/05	3,814.44	62.91	3,751.53
MW-8	2/24/05	3,820.83	66.49	3,754.34
MW-9	2/24/05	3,815.91	62.39	3,753.52
MW-10	2/24/05	3,811.42	NM	NM
MW-11	2/24/05	3,811.66	61.52	3,750.14
MW-12	2/24/05	3,811.70	62.61	3,749.09

NOTES:
Top of casing elevations were surveyed on 2/24/05 by John West Surveying.
TOC = Top of casing.
ft. MSL = Feet mean sea level.
ft. btoc = Feet below top of casing.
NM = not measured.

TABLE 2
Summary of Soil Analytical Results
February 22 and 23, 2005
Kinder Morgan, Inc.
Former Hobbs Gas Plant
Hobbs, NM

Analyte	NMED SSL	MW-11 (60')	MW-12 (62')
Benzene	5.6	ND (0.01)	ND (0.01)
Toluene	180	ND (0.01)	ND (0.01)
Ethylbenzene	68	ND (0.01)	ND (0.01)
Xylenes (total)	63	ND (0.01)	ND (0.01)

NOTES:
All concentrations reported in mg/kg (ppm).
BTEX analyzed by Method 8021B.
ND = Not detected above the laboratory limit of quantitation (shown in parentheses).
NMED SSL = New Mexico Environmental Department Soil Screening Level.

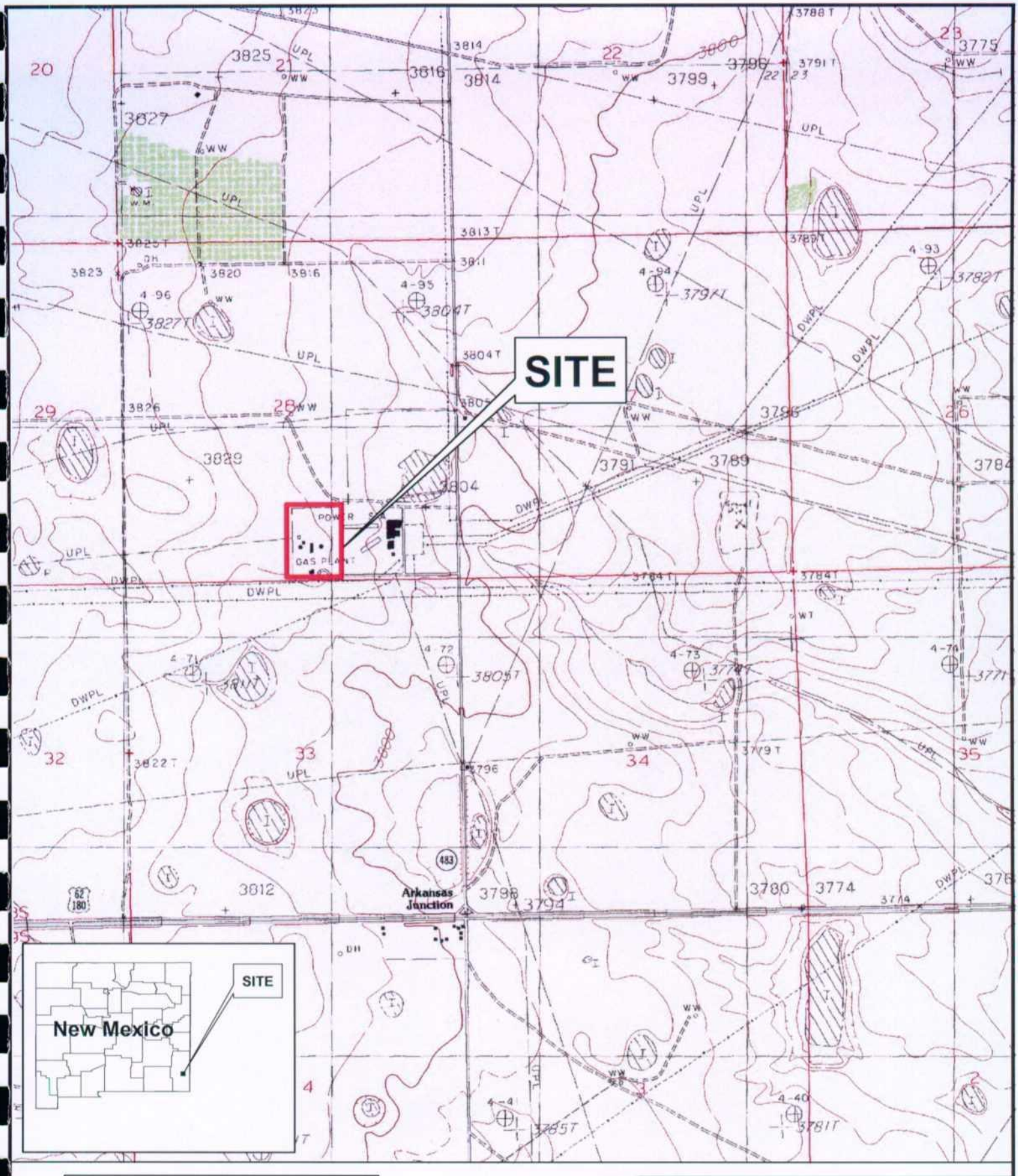
TABLE 3
Summary of Groundwater Analytical Results
February 24, 2005
Kinder Morgan, Inc.
Former Hobbs Gas Plant
Hobbs, NM

Analyte	WQCC guideline	MW-11	MW-12
Benzene	0.01	ND (0.001)	ND (0.001)
Toluene	0.75	ND (0.001)	ND (0.001)
Ethylbenzene	0.75	ND (0.001)	ND (0.001)
Xylenes (total)	0.62	ND (0.001)	ND (0.001)
Chlorides	250	76.4	43.7

NOTES:
All concentrations reported in mg/L (ppm).
BTEX analyzed by Method 8021.
Chlorides analyzed by EPA Method 300.0.
ND = Not detected above the laboratory limit of quantitation (shown in parentheses).
WQCC = New Mexico Water Quality Control Commission.

Figures

FIGURES



0 2,100 4,200 Feet

N

SOURCE:
USGS 7.5 MINUTE QUADRANGLE MAPS
FOR MONUMENT NORTH, NM (1979)
OBTAINED FROM NEW MEXICO RESOURCE
GEOGRAPHIC INFORMATION SYSTEM PROGRAM
VIA THEIR WEBSITE: http://www.rgis.unm.edu

SITE LOCATION MAP

KINDER MORGAN

FORMER HOBBS GAS PLANT
LEA COUNTY, NEW MEXICO

PROJECT NO.: 40299 | DATE: 3/05

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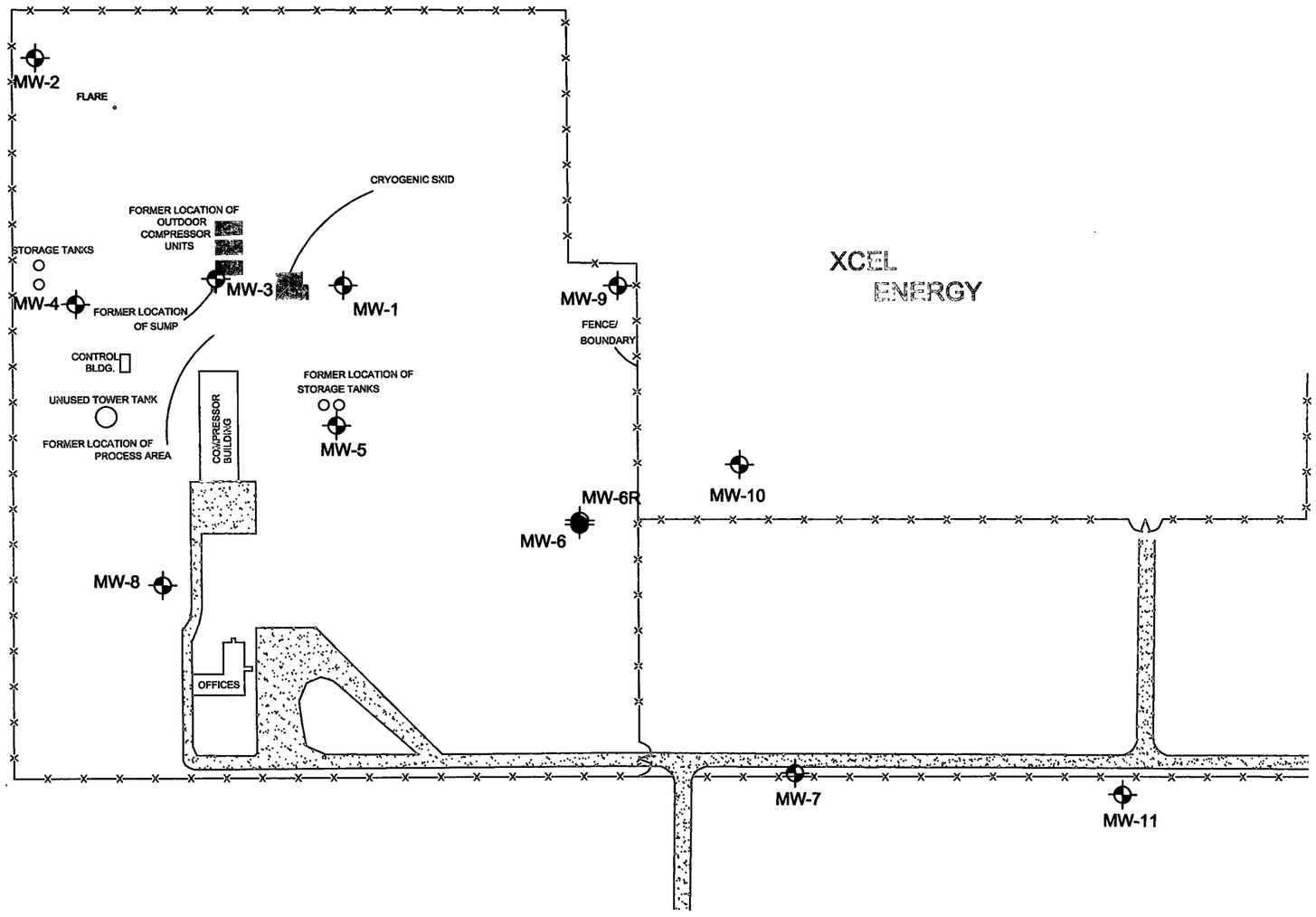
2313 W SAM HOUSTON PARKWAY N.
SUITE 107
HOUSTON, TEXAS 77043
713-821-7000

FIGURE 1



N

LEGEND

MW-1 - MONITOR WELL LOCATION

MW-6 - PLUGGED MONITOR WELL LOCATION

0 100 200 400

SCALE IN FEET
1" = 200'-0"

SITE MAP

KINDER MORGAN

FORMER HOBBS GAS PLANT
LEA COUNTY, NEW MEXICO

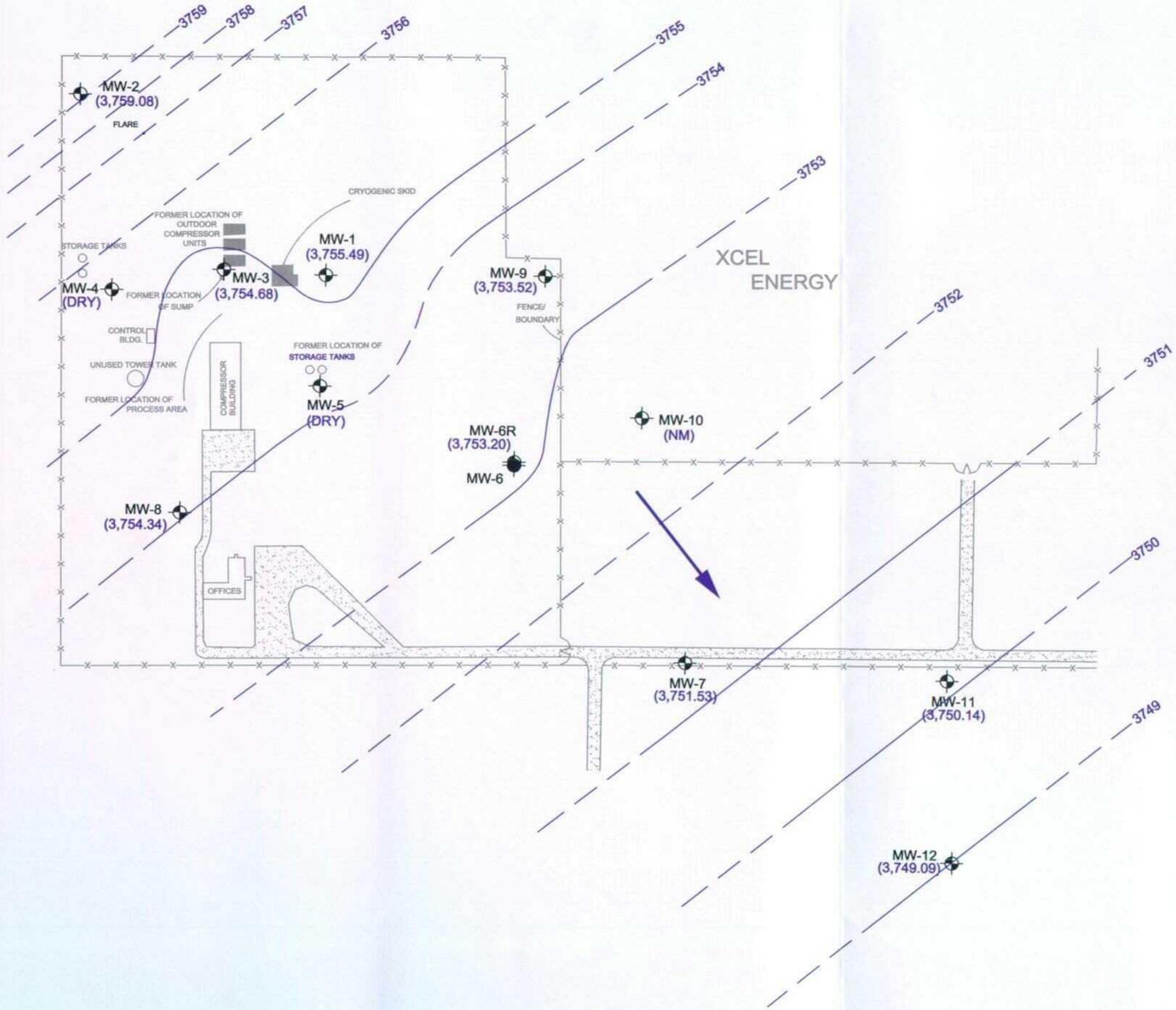
PROJECT NO.: 40299 | DATE: 3/05

TRC Environmental Corporation
Customer-Focused Solutions

2313 W. SAM HOUSTON PARKWAY N.
STE. 107
HOUSTON, TEXAS 77043
713-821-7000

FIGURE 2

HOU J:\Kinder Morgan\West Texas\Hobbs Gas Plant\Graphics\DWG\ KINDER MORGAN-HOBBS-FIG-2-SITE-MAP-3-05.dwg Layout1 03/16/05



N

LEGEND

MW-1 (3,755.49) - MONITOR WELL LOCATION W/ GROUNDWATER ELEVATION (ft. MSL)

MW-6 - PLUGGED MONITOR WELL LOCATION

- APPARENT DIRECTION OF GROUNDWATER FLOW

(NM) - NOT MEASURED DURING THIS EVENT

3751 - POTENTIOMETRIC SURFACE (ft. MSL)

0 100 200 400

SCALE IN FEET
1" = 200'-0"

POTENTIOMETRIC SURFACE CONTOUR MAP (FEBRUARY 24, 2005)

KINDER MORGAN

FORMER HOBBS GAS PLANT
LEA COUNTY, NEW MEXICO

PROJECT NO.: 40299 | DATE: 3/05

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HOUSTON, TEXAS 77043
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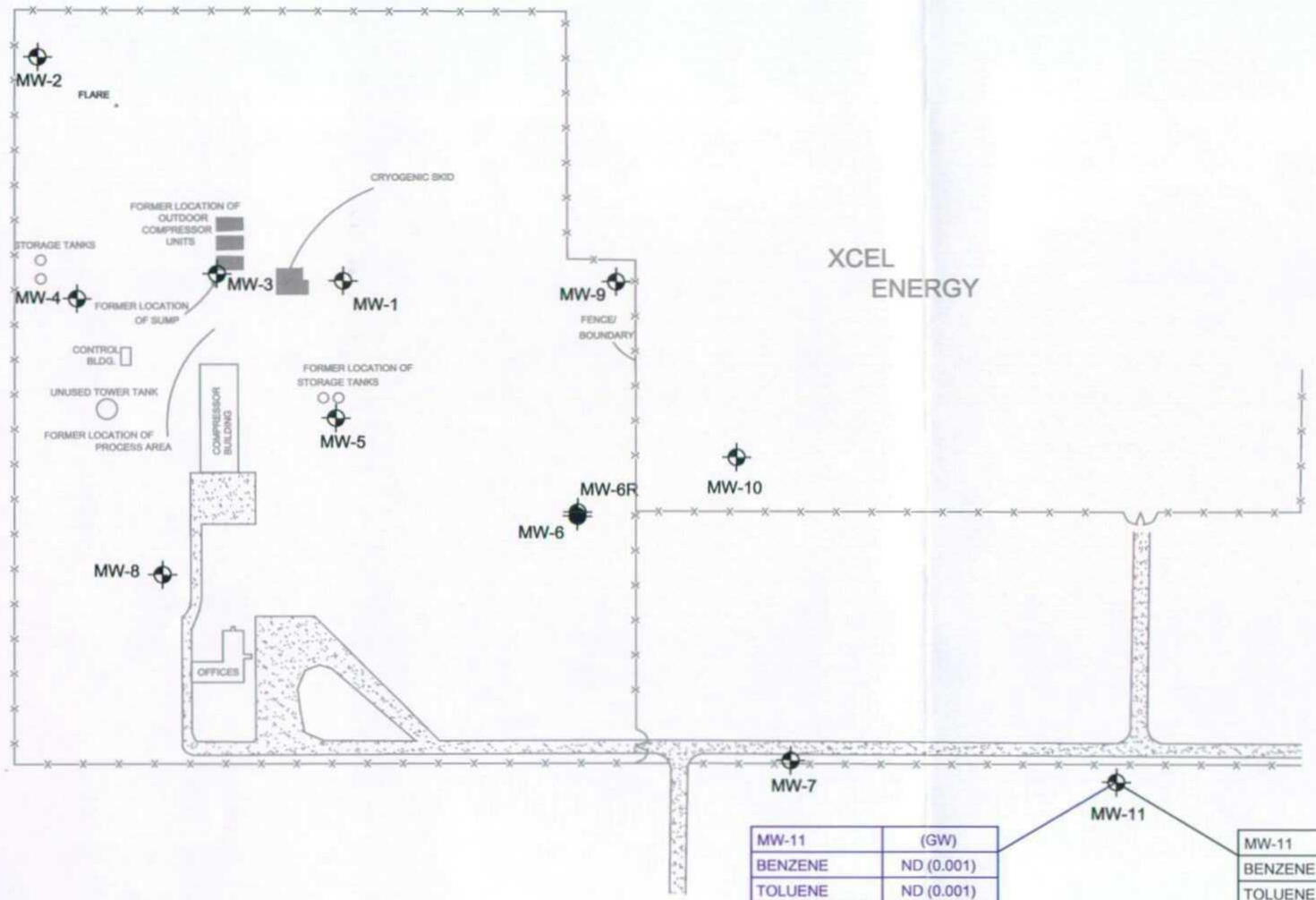
FIGURE 3



MW-11	(GW)
BENZENE	ND (0.001)
TOLUENE	ND (0.001)
ETHYLBENZENE	ND (0.001)
TOTAL XYLENES	ND (0.001)
CHLORIDES	76.4

MW-11	(60')
BENZENE	ND (0.01)
TOLUENE	ND (0.01)
ETHYLBENZENE	ND (0.01)
TOTAL XYLENES	ND (0.01)

MW-12	(GW)
BENZENE	ND (0.001)
TOLUENE	ND (0.001)
ETHYLBENZENE	ND (0.001)
TOTAL XYLENES	ND (0.001)
CHLORIDES	43.7

MW-12	(62')
BENZENE	ND (0.01)
TOLUENE	ND (0.01)
ETHYLBENZENE	ND (0.01)
TOTAL XYLENES	ND (0.01)

N

LEGEND

MW-1 - MONITOR WELL LOCATION

MW-6 - PLUGGED MONITOR WELL LOCATION

BENZENE ND (0.01) - SOIL SAMPLE CONCENTRATION RESULTS (ND = NOT DETECTED AT THE REPORTING LIMIT SHOWN)

BENZENE ND (0.001) - GROUNDWATER SAMPLE CONCENTRATION RESULTS (ND = NOT DETECTED AT THE REPORTING LIMIT SHOWN)

NOTE

ANALYTICAL RESULTS DISPLAYED IN PARTS PER MILLION (PPM) (mg/L OR mg/Kg).

0 100 200 400

SCALE IN FEET
1" = 200'-0"

SOIL AND GROUNDWATER CONCENTRATION MAP MW-11 AND MW-12

KINDER MORGAN

FORMER HOBBS GAS PLANT
LEA COUNTY, NEW MEXICO

PROJECT NO.: 40299 | DATE: 3/05

TRC Environmental Corporation Customer-Focused Solutions
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FIGURE 4

Appendix A

APPENDIX A

WELL CONSTRUCTION LOGS, STATE OF NEW MEXICO INSTALLATION REPORTS, & PLUGGING REPORTS FOR EACH WELL

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BORING/MONITOR WELL DIAGRAM

WELL No. MW-6R

PROJECT: KMI - Former Gas Plant	DATE STARTED: 21 February 2005	GROUND ELEVATION: not surveyed
PROJECT MANAGER: John Daniels, P.G.	DATE FINISHED: 21 February 2005	LATITUDE: 32° 42' 44.38"
PROJECT GEOLOGIST: Bret Neff, P.G.	BORING DEPTH: 80'	LONGITUDE: 103° 21' 24.2"
DRILLING COMPANY: Straub Corporation	BOREHOLE DIAMETER: 8.75"	DATE SAMPLED: N/A
DRILLING METHOD: Air Rotary	WELL DIAMETER: 4" Schedule 40 PVC	LOCATION: Hobbs, NM
SAMPLING METHOD: Cuttings	TOP OF CASING ELEVATION: 3816.52' MSL	BORING LOCATION: Adjacent to MW-6

DEPTH (FEET)	ELEVATION MSL	WELL DIAGRAM	OVM (ppm)	RECOVERY (Feet)	USCS CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION
0		Grout (0-55')					LIMESTONE: Tan and cream colored, loose, damp, caliche (wackestone), no staining, no odor
5			0				
10			0				FINE SAND: Pink and tan, loose, damp, calcareous fine sand, no staining, no odor
15			0				
20			0				LIMESTONE: Light pink and tan, damp, caliche (wackestone), no staining, no odor
25			0				FINE SAND: Alternating layers of light pink and tan calcareous fine sand and calcareous fine sandstone, damp, no stains, no odor
30			0				
35			0				SANDSTONE: Pink, dry, no stains, no odor, calcareous fine sandstone
40			0				LIMESTONE: Pink, damp, alternating layers of caliche (wackestone) and fine sand, no stains, no odor
45							

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BORING/MONITOR WELL DIAGRAM

WELL No. MW-6R

PROJECT: KMI - Former Gas Plant	DATE STARTED: 21 February 2005	GROUND ELEVATION: not surveyed
PROJECT MANAGER: John Daniels, P.G.	DATE FINISHED: 21 February 2005	LATITUDE: 32° 42' 44.38"
PROJECT GEOLOGIST: Bret Neff, P.G.	BORING DEPTH: 80'	LONGITUDE: 103° 21' 24.2"
DRILLING COMPANY: Straub Corporation	BOREHOLE DIAMETER: 8.75"	DATE SAMPLED: N/A
DRILLING METHOD: Air Rotary	WELL DIAMETER: 4" Schedule 40 PVC	LOCATION: Hobbs, NM
SAMPLING METHOD: Cuttings	TOP OF CASING ELEVATION: 3816.52' MSL	BORING LOCATION: Adjacent to MW-6

DEPTH (FEET)	ELEVATION MSL	WELL DIAGRAM	OVM (ppm)	RECOVERY (Feet)	USCS CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION
45			0				SAND: Red, moist, loose, fine to medium sand, moderately sorted, no stains, no odor
50			0				SAND: Red, moist, loose, fine sand and sandstone, no odor, no staining
55		Bentonite Seal (55-57.5')	0				SAND: Red brown, moist to saturated, fine to medium sand, no staining, no odor
60		20/40 Filter Sand (57.5-80') Sch 40 PVC 0.01" slotted screen (59.5-79.5')	0				
65		▽ Initial water level: 63.4' (2/22/2005)	0				Saturated
70			0				SAND: Red brown, saturated, fine to medium sand and sandstone, no staining, no odor
75			0				
80		Sch 40 PVC bottom cap (79.5-80')	0				
85							
90							Total Depth of Boring: 80 ft

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BORING/MONITOR WELL DIAGRAM

WELL No. MW-11

PROJECT: KMI - Former Gas Plant	DATE STARTED: 22 February 2005	GROUND ELEVATION: 3813.14' MSL
PROJECT MANAGER: John Daniels, P.G.	DATE FINISHED: 22 February 2005	LATITUDE: 32° 42' 40.4"
PROJECT GEOLOGIST: Bret Neff, P.G.	BORING DEPTH: 80'	LONGITUDE: 103° 21' 14.96"
DRILLING COMPANY: Straub Corporation	BOREHOLE DIAMETER: 8.75"	DATE SAMPLED: 24 February 2005
DRILLING METHOD: Air Rotary	WELL DIAMETER: 4" Schedule 40 PVC	LOCATION: Hobbs, NM
SAMPLING METHOD: Cuttings	TOP OF CASING ELEVATION: 3811.66' MSL	BORING LOCATION: South of access road

DEPTH (FEET)	ELEVATION MSL	WELL DIAGRAM	OVM (ppm)	RECOVERY (Feet)	USCS CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION
0		Grout (0-55')					LIMESTONE: Tan and cream colored, damp, caliche (wackestone), no staining, no odor
	3810						
5			0				
							slightly more sandy
10			0				
	3800						slightly more carbonate
15			0				FINE SAND: Reddish pink, loose, damp, calcareous fine sand, no stains, no odor
20			0				LIMESTONE: Light pink, damp, caliche (wackestone), no stains, no odor
	3790						
25			0				FINE SAND: Alternating layers of damp, pink/red fine sand, sandstone, and caliche (wackestone), no stains, no odor
30			0				
	3780						SANDSTONE: Reddish pink, dry, calcareous fine sandstone, no stains, no odor
35			0				Alternating layers of sandstone and thin layers of caliche (wackestone)
40			0				FINE SAND: Orange red, dry, loose, fine sand, moderately sorted, no stains, no odor
	3770						
45							

GENERAL_HOBBS.GPJ TRC.GDT 3/15/05

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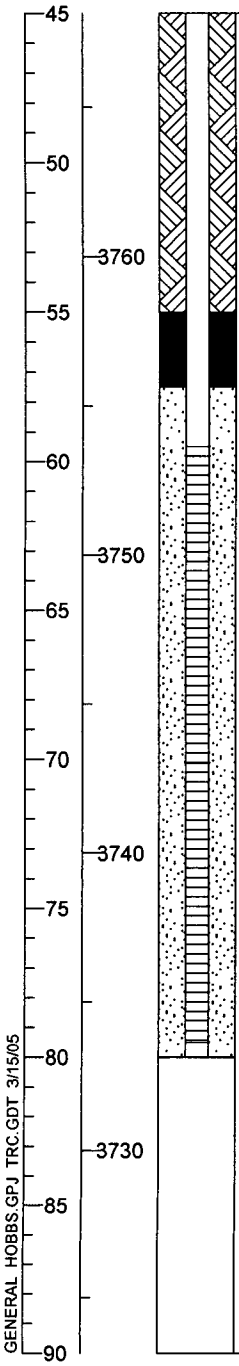
BORING/MONITOR WELL DIAGRAM

WELL No. MW-11

PROJECT: KMI - Former Gas Plant	DATE STARTED: 22 February 2005	GROUND ELEVATION: 3813.14' MSL
PROJECT MANAGER: John Daniels, P.G.	DATE FINISHED: 22 February 2005	LATITUDE: 32° 42' 40.4"
PROJECT GEOLOGIST: Bret Neff, P.G.	BORING DEPTH: 80'	LONGITUDE: 103° 21' 14.96"
DRILLING COMPANY: Straub Corporation	BOREHOLE DIAMETER: 8.75"	DATE SAMPLED: 24 February 2005
DRILLING METHOD: Air Rotary	WELL DIAMETER: 4" Schedule 40 PVC	LOCATION: Hobbs, NM
SAMPLING METHOD: Cuttings	TOP OF CASING ELEVATION: 3811.66' MSL	BORING LOCATION: South of access road



DEPTH (FEET)	OVM (ppm)	RECOVERY (Feet)	USCS CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION
45	0				FINE SAND: Orange red, dry, loose, fine sand, moderately sorted, no stains, no odor *(Continued)*
50	0				SANDSTONE: Alternating layers of reddish pink, fine sandstone and loose, orange red fine sand, no odor, no stains
55	0				Thin seams of milky white chert within the sandstone
60	0				SAND: Red brown, wet to saturated, fine to medium, moderately sorted sand, no stains, no odor MW-11 (60-61') 10:45 BTEX
65	0				Saturated
70	0				
75	0				
80	0				
85					Total Depth of Boring: 80 ft
90					

GENERAL HOBBS.GPJ TRC.GDT 3/15/05

TRC

BORING/MONITOR WELL DIAGRAM

WELL No. MW-12

PROJECT: KMI - Former Gas Plant	DATE STARTED: 22 February 2005	GROUND ELEVATION: not surveyed
PROJECT MANAGER: John Daniels, P.G.	DATE FINISHED: 23 February 2005	LATITUDE: 32° 42' 37.06"
PROJECT GEOLOGIST: Bret Neff, P.G.	BORING DEPTH: 80'	LONGITUDE: 103° 21' 14.84"
DRILLING COMPANY: Straub Corporation	BOREHOLE DIAMETER: 8.75"	DATE SAMPLED: 24 February 2005
DRILLING METHOD: Air Rotary	WELL DIAMETER: 4" Schedule 40 PVC	LOCATION: Hobbs, NM
SAMPLING METHOD: Cuttings	TOP OF CASING ELEVATION: 3811.7' MSL	BORING LOCATION: South of access road

DEPTH (FEET)	ELEVATION MSL	WELL DIAGRAM	OVM (ppm)	RECOVERY (Feet)	USCS CLASSIFICATION	GRAPHIC LOG	GEOLOGIC DESCRIPTION
0		Grout (0-55')					LIMESTONE: Tan and cream colored, damp, caliche (wackestone), no staining, no odor
5			0				slightly more sandy
10			0				slightly more carbonate
15			0				FINE SAND: *Reddish pink, loose, damp, calcareous fine sand, no stains, no odor*
20			0				
25			0				FINE SAND: Alternating layers of damp, pink/red fine sand, sandstone, and caliche (wackestone), no stains, no odor
30			0				
35			0				SANDSTONE: Reddish pink, dry, calcareous fine sandstone, no stains, no odor Alternating layers of sandstone and thin layers of caliche (wackestone)
40			0				FINE SAND: Yellow orange to orange, loose, dry, fine sand, moderately sorted, no stains, no odor Alternating thin layers of sandstone
45							

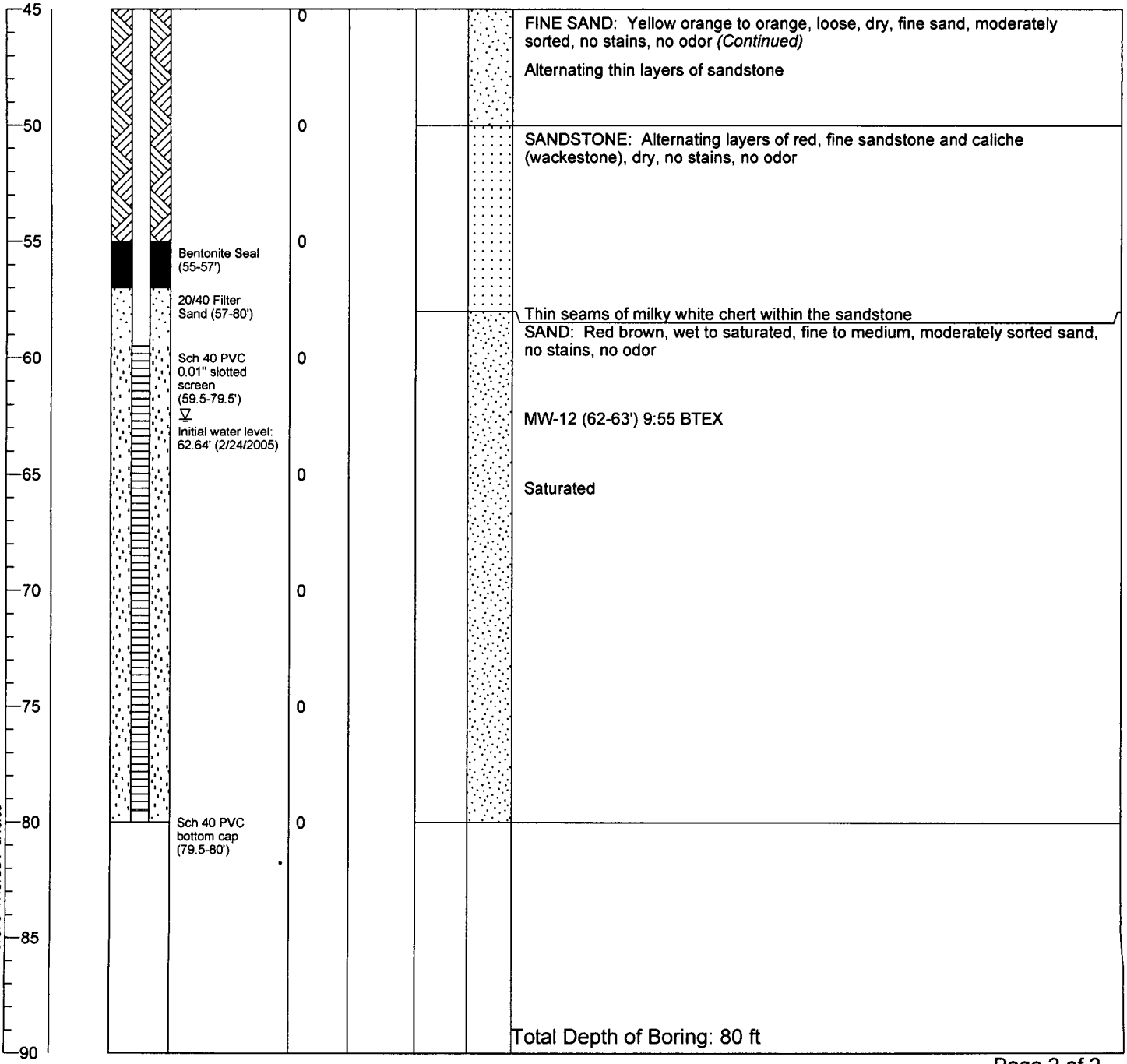
GENERAL HOBBS.GPJ TRC.GDT 3/15/05

TRC

BORING/MONITOR WELL DIAGRAM

WELL No. MW-12

PROJECT: KMI - Former Gas Plant	DATE STARTED: 22 February 2005	GROUND ELEVATION: not surveyed
PROJECT MANAGER: John Daniels, P.G.	DATE FINISHED: 23 February 2005	LATITUDE: 32° 42' 37.06"
PROJECT GEOLOGIST: Bret Neff, P.G.	BORING DEPTH: 80'	LONGITUDE: 103° 21' 14.84"
DRILLING COMPANY: Straub Corporation	BOREHOLE DIAMETER: 8.75"	DATE SAMPLED: 24 February 2005
DRILLING METHOD: Air Rotary	WELL DIAMETER: 4" Schedule 40 PVC	LOCATION: Hobbs, NM
SAMPLING METHOD: Cuttings	TOP OF CASING ELEVATION: 3811.7' MSL	BORING LOCATION: South of access road



GENERAL HOBBS.GPJ TRC.GDT 3/15/05

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name Kinder Morgan, Inc. Work Phone: _____
Contact: John Greer HomePhone: _____
Address : One Allen Center, 500 Dallas Street, Suite 1000
City: Houston, State: TX Zip: 77002

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section:____ Township:____ Range:____ N.M.P.M.
in _____ County.
B. X =_____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____
C. Latitude: 32d 42m 42N Longitude: 103d 21m 81w
D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)
E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey
F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.
G. Other: _____
H. Give State Engineer File Number if existing well: _____
I. On land owned by (required): _____

3. DRILLING CONTRACTOR

License Number: WD1478
Name: Straub Corporation Work Phone: 432-756-3489
Agent: Raymond Straub Jr Home Phone: _____

Mailing Address: P.O. Box 192
City: Stanton State: TX Zip: 79782

4. DRILLING RECORD

Drilling began:_____; Completed:____; Type tools: _____
Size of hole ____ in.; Total depth of well: ft.;
Completed well is: _____ (shallow, artesian);
Depth to water upon completion of well: _____ ft.
File Number: _____ Trn Number: _____

Owner's Well Number: **MW-6 Hobbs, Lea County, N.M.**

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of Estimated Yield water-bearing formation (GPM)

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth Top	in Feet Bottom	Length (feet)	Type of Shoe	Perforations From To

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
0	63		10		Topload Pelletized Bentonite/Cement Grout

8. PLUGGING RECORD

Plugging Contractor: Straub Corporation
Address: P.O. Box 192, Stanton, Texas 79782
Plugging Method: Topload Bentonite Holeplug/Cement Grout
Date Well Plugged 2-27-05
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feet of Cement
3			
4			
5			

File Number: _____ Trn Number: _____

Owner's Well Number: **MW-6 Hobbs, Lea County, N.M.**

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

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

File Number: _____ Trn Number: _____

Owner's Well Number: **MW-6 Hobbs, Lea County, N.M.**

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

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.

Raymond Straub Jr — 2-27-05
Driller — (mm/dd/year)

FOR STATE ENGINEER USE ONLY
Quad _____; FWL _____; FSL _____; Use _____; Location No. _____
File Number: _____ Trn Number: _____

Owner's Well Number: **MW-6 Hobbs, Lea County, N.M.**

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name Kinder Morgan, Inc. Work Phone: _____
Contact: John Greer HomePhone: _____
Address : One Allen Center, 500 Dallas Street, Suite 1000
_____
City: Houston, State: TX Zip: 77002

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section:____ Township:____ Range:____ N.M.P.M.
in _____ County.
B. X =_____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____
C. Latitude: ____32d ___42m ___42N Longitude:_____103d __21m ___81w
D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)
E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey
F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.
G. Other: _____
H. Give State Engineer File Number if existing well: _____
I. On land owned by (required): _____

3. DRILLING CONTRACTOR

License Number: ___WD1478_____
Name: Straub Corporation Work Phone: 432-756-3489
Agent: Raymond Straub Jr Home Phone: _____

Mailing Address: P.O. Box 192
_____
City: Stanton State: TX Zip: 79782

4. DRILLING RECORD

Drilling began: 2-21-05; Completed: 2-24-05 ; Type tools: Air Rotary Drilling Rig;
Size of hole _7___ in.; Total depth of well: 80 ft.;
Completed well is: _____ (shallow, artesian);
Depth to water upon completion of well: _____ ft.
File Number: _____ Trn Number: _____

Owner's Well Number: **MW-6R Hobbs, Lea County, N.M.**

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of Estimated Yield water-bearing formation (GPM)

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From	To
4			+ 43	60	62	Riser		
4			60	80	20	Screen .010		

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
0	55	4	8	5% Benontite/Cement Grout	Tremie
55	57	4	1	Bentonite Seal	Topload
57	80	4	9.5	20/40 sand	Topload

8. PLUGGING RECORD

Plugging Contractor: Straub Corporation
Address: P.O. Box 192, Stanton, Texas 79782
Plugging Method: Pouring Bentonite Holeplug/Cement Grout
Date Well Plugged: 2-24-05
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feet of Cement
3			
4			
5			

File Number: _____ Trn Number: _____

Owner's Well Number: **MW-6R Hobbs, Lea County, N.M.**

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE

MW-6R Hobbs, Lea County, N.M.

Depth in Feet From	To in feet	Thickness (in feet)	Color and Type of Material Encountered
0	1	1	Brown Silty Sand/ Caliche Cobbles
1	8	7	Caliche
8	15	7	Tan Calcified Sand
15	20	5	Light Brown Sand
20	24	4	Tan Calcified sand
24	26	2	Dense Calcium
26	31	5	Tan Caliche Sand/ Sandstone
31	42	11	Tan Sandstone
42	49	7	Light Brown Sand
49	51	2	Pink Sandstone
51	52	1	Light Brown Sand
52	52.5	.5	Pink Sandstone
52.5	54	1.5	Brown Sand
54	55	1	Pink Sandstone
55	80	25	Brown Sandstone

File Number: _____ Trn Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

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.

Raymond Straub Jr — 2-24-05
Driller — (mm/dd/year)

FOR STATE ENGINEER USE ONLY
Quad _____; FWL _____; FSL _____; Use _____; Location No. _____
File Number: _____ Trn Number: _____

Owner's Well Number: **MW-6R Hobbs, Lea County, N.M.**

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name Kinder Morgan, Inc. Work Phone: _____
Contact: John Greer HomePhone: _____
Address : One Allen Center, 500 Dallas Street, Suite 1000
City: Houston, State: TX Zip: 77002

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section:____ Township:____ Range:____ N.M.P.M.
in _____ County.
B. X =_____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____
C. Latitude: ___32d ___42m ___42N Longitude:____103d __21m ___81w
D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)
E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey
F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.
G. Other: _____
H. Give State Engineer File Number if existing well: _____
I. On land owned by (required): _____

3. DRILLING CONTRACTOR

License Number: ___WD1478_____
Name: Straub Corporation Work Phone: 432-756-3489
Agent: Raymond Straub Jr Home Phone: _____

Mailing Address: P.O. Box 192
City: Stanton State: TX Zip: 79782

4. DRILLING RECORD

Drilling began: 2-22-05; Completed: 2-24-05 _____; Type tools: Air Rotary Drilling Rig;
Size of hole _7__ in.; Total depth of well: 85 ft.;
Completed well is: _____ (shallow, artesian);
Depth to water upon completion of well: _____ ft.
File Number: _____ Trn Number: _____

Owner's Well Number: **MW-11 Hobbs, Lea County, N.M.**

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of Water-bearing formation	Estimated Yield (GPM)

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From	To
4			+ 43	60	62	Riser		
4			60	80	20	Screen .010		

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
0	55	4	7	5% Benontite/Cement Grout	Tremie
55	58	4	.5	Bentonite Seal	Topload
58	80	4	27.5	20/40 sand	Topload

8. PLUGGING RECORD

Plugging Contractor: _____
Address: _____
Plugging Method: _____
Date Well Plugged: _____
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feet of Cement
3			
4			
5			

File Number: _____ Trn Number: _____

Owner's Well Number: **MW-11 Hobbs, Lea County, N.M.**

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE
MW-11 Hobbs, Lea County, N.M.

Depth in Feet From	To in feet	Thickness (in feet)	Color and Type of Material Encountered
0	1	1	Brown Silty Sand/ Caliche Cobbles
1	10	9	Caliche
10	13	3	Tan Calcified Sand
13	20	7	Tan Sand
20	24	4	Tan Calcified sand
24	25	1	Tan calcified sand/ Sandstone
25	27	2	Caliche
27	36	9	Calcified Cemented sandstone (Hard)
36	40	4	Pink Sandstone & Sandstone layers
40	42	2	Tan Calcified Sand
42	43	1	Tan Calcified Sandstone
43	45	2	Tan Sand/ Sandstone layers
45	53	8	Light Brown Sand / Sandstone layers
53	57	4	Light Tan – Tan Sandstone
57	85	8	Sandy & Damp
85	TD		

File Number: _____ Trn Number: _____

Owner's Well Number: **MW-11 Hobbs, Lea County, N.M.**

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

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.

Raymond Straub Jr — 2-24-05
Driller — (mm/dd/year)

FOR STATE ENGINEER USE ONLY
Quad _____; FWL _____; FSL _____; Use _____; Location No. _____
File Number: _____ Trn Number: _____

Owner's Well Number: **MW-11 Hobbs, Lea County, N.M.**

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

1. OWNER OF WELL

Name Kinder Morgan, Inc. Work Phone: _____
Contact: John Greer HomePhone: _____
Address : One Allen Center, 500 Dallas Street, Suite 1000
City: Houston, State: TX Zip: 77002

2. LOCATION OF WELL (A, B, C, or D required, E or F if known)

A. ____1/4 ____1/4 ____1/4 Section:____ Township:____ Range:____ N.M.P.M.
in _____ County.
B. X = _____ feet, Y = _____ feet, N.M. Coordinate System
_____ Zone in the _____ Grant.
U.S.G.S. Quad Map _____
C. Latitude: ____32d ____42m ____42N Longitude:____103d ____21m ____81w
D. East _____ (m), North _____ (m), UTM Zone 13, NAD __ (27 or 83)
E. Tract No. _____, Map No. _____ of the _____ Hydrographic Survey
F. Lot No. _____, Block No. _____ of Unit/Tract _____ of the
_____ Subdivision recorded in _____ County.
G. Other: _____
H. Give State Engineer File Number if existing well: _____
I. On land owned by (required): _____

3. DRILLING CONTRACTOR

License Number: WD1478
Name: Straub Corporation Work Phone: 432-756-3489
Agent: Raymond Straub Jr Home Phone: _____

Mailing Address: P.O. Box 192
City: Stanton State: TX Zip: 79782

4. DRILLING RECORD

Drilling began: 2-23-05; Completed: 2-24-05; Type tools: Air Rotary Drilling Rig;
Size of hole 7 in.; Total depth of well: 85 ft.;
Completed well is: _____ (shallow, artesian);
Depth to water upon completion of well: _____ ft.
File Number: _____ Trn Number: _____

Owner's Well Number: MW – 12 Hobbs, Lea County, NM

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

5. PRINCIPAL WATER-BEARING STRATA

Depth in Feet From	To	Thickness in feet	Description of Estimated Yield water-bearing formation (GPM)

6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth in Feet Top	Bottom	Length (feet)	Type of Shoe	Perforations From To
4			+ 43	60	62	Riser	
4			60	80	20	Screen .020	

7. RECORD OF MUDDING AND CEMENTING

Depth in Feet From	To	Hole Diameter	Sacks of mud	Cubic Feet of Cement	Method of Placement
0	55	4	7	5% Benontite/Cement Grout	Tremie
55	57	4	.5	Bentonite Seal	Topload
57	80	4	20.5	20/40 sand	Topload

8. PLUGGING RECORD

Plugging Contractor: Straub Corporation
Address: P.O. Box 192, Stanton, Texas 79782
Plugging Method: Pouring Bentonite Holeplug/Cement Grout
Date Well Plugged: 2-24-05
Plugging approved by: _____
State Engineer Representative

No.	Depth in Feet Top	Bottom	Cubic Feet of Cement
3			
4			
5			

File Number: _____ Trn Number: _____

Owner's Well Number: MW – 12 Hobbs, Lea County, NM

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

9. LOG OF HOLE
MW-12 Hobbs, Lea Co, NM

Depth in Feet From	To in feet	Thickness (in feet)	Color and Type of Material Encountered
0	1	1	Brown Silty Sand/ Caliche Cobbles
1	4	3	Caliche
4	8	4	Sandy Caliche
8	12	4	Tan Sand
12	20	8	Tan Sand / Soft Sandstone
20	27	7	Light Brown Sand
27	31	4	Tan Sandstone Calcified (Cemented)
31	40	9	Pink Cemented Sandstone
40	45	5	Tan Calcified gravel Sandstone
45	48	3	Tan Calcified Gravel
48	49	1	Tan Sandstone
49	57	8	Pink Cemented Sandstone
57	75	18	Brown Sand
75	85	10	Brown Sand/ Sandstone
	TD 85		

File Number: _____ Trn Number: _____

Owner's Well Number: MW – 12 Hobbs, Lea County, NM

File Number: _____

NEW MEXICO OFFICE OF THE STATE ENGINEER
WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS:

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.

Raymond Straub Jr _____ 2-24-05
Driller (mm/dd/year)

FOR STATE ENGINEER USE ONLY
Quad _____; FWL _____; FSL _____; Use _____; Location No. _____
File Number: _____ Trn Number: _____

Owner's Well Number: MW – 12 Hobbs, Lea County, NM

Appendix B

APPENDIX B

SITE PHOTOS

APPENDIX B

PHOTOGRAPHIC REPORTING DATA SHEET

Client/Project:	Kinder Morgan, Inc. – Former Gas Plant	**Photographer:**	Bret Neff, P.G.
Name of Site:	Former Hobbs Gas Plant	**Location:**	Hobbs, NM

PHOTO #1 DESCRIPTION:

View looking north at air rotary drilling of MW-6R. February 21, 2005.

PHOTO #2 DESCRIPTION:

View looking west at pulling MW-6 casing and screen from ground. February 21, 2005.

TRC
Customer-Focused Solutions

APPENDIX B
PHOTOGRAPHIC REPORTING DATA SHEET

Client/Project:	Kinder Morgan, Inc. – Former Gas Plant	**Photographer:**	Bret Neff, P.G.
Name of Site:	Former Hobbs Gas Plant	**Location:**	Hobbs, NM

PHOTO #3 DESCRIPTION:

View looking east at tremie grouting well annulus of MW-11. February 24, 2005.

PHOTO #4 DESCRIPTION:

View looking northeast at completed well pad at MW-11. February 24, 2005.

TRC
Customer-Focused Solutions

Appendix C

APPENDIX C

SOIL ANALTICAL LABORATORY RESULTS
&
CHAIN-OF-CUSTODY FORM

TRACE ANALYSIS, INC.

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

Analytical and Quality Control Report

Brett Neff
TRC
2313 W Sam Houston Parkway N.
Suite 107
Houston, TX 77043

Report Date: March 3, 2005
Work Order: 5022519

Project Location: Hobbs,NM
Project Name: Hobbs Gas Plant
Project Number: 40299-0002-0002

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
55802	MW-11 (60')	soil	2005-02-22	10:45	2005-02-25
55803	MW-12 (62')	soil	2005-02-22	09:55	2005-02-25

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

This report consists of a total of 5 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Blair Leftwich

Dr. Blair Leftwich, Director

Analytical Report

Sample: 55802 - MW-11 (60')

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	16266	Date Analyzed:	2005-03-01	Analyzed By:	MS
Prep Batch:	14350	Sample Preparation:	2005-03-01	Prepared By:	MS

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	10	0.00100
Toluene		<0.0100	mg/Kg	10	0.00100
Ethylbenzene		<0.0100	mg/Kg	10	0.00100
Xylene		<0.0100	mg/Kg	10	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.14	mg/Kg	10	0.100	114	47.1 - 124
4-Bromofluorobenzene (4-BFB)		1.12	mg/Kg	10	0.100	112	51.7 - 123

Sample: 55803 - MW-12 (62')

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5035
QC Batch:	16222	Date Analyzed:	2005-02-26	Analyzed By:	MS
Prep Batch:	14308	Sample Preparation:	2005-02-26	Prepared By:	MS

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.0100	mg/Kg	10	0.00100
Toluene		<0.0100	mg/Kg	10	0.00100
Ethylbenzene		<0.0100	mg/Kg	10	0.00100
Xylene		<0.0100	mg/Kg	10	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.09	mg/Kg	10	0.100	109	47.1 - 124
4-Bromofluorobenzene (4-BFB)		0.979	mg/Kg	10	0.100	98	51.7 - 123

Method Blank (1) QC Batch: 16222

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00153	mg/Kg	0.001
Toluene		<0.000954	mg/Kg	0.001
Ethylbenzene		<0.000954	mg/Kg	0.001
Xylene		<0.00300	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.01	mg/Kg	10	0.100	101	47.2 - 109
4-Bromofluorobenzene (4-BFB)	[1]	0.378	mg/Kg	10	0.100	38	63.4 - 130

[1]BFB out of control. TFT recovery in control showing analysis to be in control.

Method Blank (1) QC Batch: 16266

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.00153	mg/Kg	0.001
Toluene		<0.000954	mg/Kg	0.001
Ethylbenzene		<0.000954	mg/Kg	0.001
Xylene		<0.00300	mg/Kg	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		1.04	mg/Kg	10	0.100	104	47.2 - 109
4-Bromofluorobenzene (4-BFB)	[2]	0.454	mg/Kg	10	0.100	45	63.4 - 130

Laboratory Control Spike (LCS-1) QC Batch: 16222

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Benzene	0.909	0.994	mg/Kg	10	0.100	<0.0153	91	9	71.9 - 117	9.4
Toluene	0.920	0.996	mg/Kg	10	0.100	<0.00954	92	8	74.1 - 115	8.2
Ethylbenzene	0.958	1.02	mg/Kg	10	0.100	<0.00954	96	6	77.8 - 115	9.7
Xylene	3.10	3.30	mg/Kg	10	0.300	<0.0300	103	6	80.6 - 119	10.3

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.05	1.10	mg/Kg	10	0.100	105	110	60.7 - 130
4-Bromofluorobenzene (4-BFB)	0.940	0.976	mg/Kg	10	0.100	94	98	75.3 - 114

Laboratory Control Spike (LCS-1) QC Batch: 16266

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Benzene	0.905	0.941	mg/Kg	10	0.100	<0.0153	90	4	71.9 - 117	9.4
Toluene	0.911	0.949	mg/Kg	10	0.100	<0.00954	91	4	74.1 - 115	8.2
Ethylbenzene	0.955	0.992	mg/Kg	10	0.100	<0.00954	96	4	77.8 - 115	9.7
Xylene	3.09	3.22	mg/Kg	10	0.300	<0.0300	103	4	80.6 - 119	10.3

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	1.05	1.07	mg/Kg	10	0.100	105	107	60.7 - 130
4-Bromofluorobenzene (4-BFB)	0.972	0.993	mg/Kg	10	0.100	97	99	75.3 - 114

Standard (CCV-1) QC Batch: 16222

[2] BFB surrogate recovery outside normal limits in MB-1. TFT surrogate recovery shows analysis to be in control.

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0969	97	85 - 115	2005-02-26
Toluene		mg/Kg	0.100	0.100	100	85 - 115	2005-02-26
Ethylbenzene		mg/Kg	0.100	0.104	104	85 - 115	2005-02-26
Xylene		mg/Kg	0.300	0.334	111	85 - 115	2005-02-26

Standard (CCV-2) QC Batch: 16222

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0985	98	85 - 115	2005-02-26
Toluene		mg/Kg	0.100	0.101	101	85 - 115	2005-02-26
Ethylbenzene		mg/Kg	0.100	0.103	103	85 - 115	2005-02-26
Xylene		mg/Kg	0.300	0.344	115	85 - 115	2005-02-26

Standard (CCV-1) QC Batch: 16266

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0948	95	85 - 115	2005-03-01
Toluene		mg/Kg	0.100	0.0944	94	85 - 115	2005-03-01
Ethylbenzene		mg/Kg	0.100	0.0986	99	85 - 115	2005-03-01
Xylene		mg/Kg	0.300	0.318	106	85 - 115	2005-03-01

Standard (CCV-2) QC Batch: 16266

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/Kg	0.100	0.0907	91	85 - 115	2005-03-01
Toluene		mg/Kg	0.100	0.0924	92	85 - 115	2005-03-01
Ethylbenzene		mg/Kg	0.100	0.0928	93	85 - 115	2005-03-01
Xylene		mg/Kg	0.300	0.306	102	85 - 115	2005-03-01

Page 1 of 1

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email: lab@traceanalysis.com

TraceAnalysis, Inc.

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 5022519

Company Name: TRC Environmental — Phone #: 713 821-7000
Address: (Street, City, Zip) — Fax #:
e-mail: 713 821-6000
Contact Person: Bret Neff
Invoice to: (If different from above) Kinder Morgan - John Greer
Project #: 40299 — Project Name: Former Hobbs Gas Plant
Project Location: Hobbs, NM — Sampler Signature:

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
55802	MW-11 (60')	1			X								X	2/22	1045
03	MW-12 (62')	1			X								X	2/23	0955

ANALYSIS REQUEST (Circle or Specify Method No.)

MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	TX 1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol 8260B/624	GC/MS Semi Vol 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD TSS pH	Moisture Content				Turn Around Time if different from standard	Hold
	X																				
	X																				

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Bret Neff	2/24	1100			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
				2-25-05	12:39

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

ORIGINAL COPY

LAB USE ONLY

Intact (Y) N
Headspace Y / N
Temp 2.0 °
Log-in Review MA

REMARKS:

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Carrier # FedEx 823726251053

Appendix D

APPENDIX D

GROUNDWATER ANALYTICAL LABORATORY RESULTS
&
CHAIN-OF-CUSTODY FORM

TRACEANALYSIS, INC.

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

Analytical and Quality Control Report

Brett Neff
TRC
2313 W Sam Houston Parkway N.
Suite 107
Houston, TX 77043

Report Date: March 4, 2005

Work Order: 5022719

Project Location: Hobbs,NM
Project Name: Hobbs Gas Plant
Project Number: 40299-0002-00004

Enclosed are the Analytical Report and Quality Control Report for the following sample(s) submitted to TraceAnalysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
55932	MW-11	water	2005-02-24	15:05	2005-02-26
55933	MW-12	water	2005-02-24	15:55	2005-02-26
55960	Trip Blank	water	2005-02-24	00:00	2005-02-26

These results represent only the samples received in the laboratory. The Quality Control Report is generated on a batch basis. All information contained in this report is for the analytical batch(es) in which your sample(s) were analyzed.

Blair Leftwich

Dr. Blair Leftwich, Director

Analytical Report

Sample: 55932 - MW-11

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	16313	Date Analyzed:	2005-03-03	Analyzed By:	JG
Prep Batch:	14399	Sample Preparation:	2005-03-03	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0916	mg/L	1	0.100	92	48.4 - 119
4-Bromofluorobenzene (4-BFB)		0.0983	mg/L	1	0.100	98	17.1 - 138

Sample: 55932 - MW-11

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	16436	Date Analyzed:	2005-03-04	Analyzed By:	WB
Prep Batch:	14459	Sample Preparation:	2005-03-04	Prepared By:	WB

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**76.4**	mg/L	10	0.500

Sample: 55933 - MW-12

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	16313	Date Analyzed:	2005-03-03	Analyzed By:	JG
Prep Batch:	14399	Sample Preparation:	2005-03-03	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		<0.00100	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0943	mg/L	1	0.100	94	48.4 - 119
4-Bromofluorobenzene (4-BFB)		0.102	mg/L	1	0.100	102	17.1 - 138

Sample: 55933 - MW-12

Analysis:	Chloride (IC)	Analytical Method:	E 300.0	Prep Method:	N/A
QC Batch:	16436	Date Analyzed:	2005-03-04	Analyzed By:	WB
Prep Batch:	14459	Sample Preparation:	2005-03-04	Prepared By:	WB

Parameter	Flag	RL Result	Units	Dilution	RL
Chloride		**43.7**	mg/L	5	0.500

Sample: 55960 - Trip Blank

Analysis:	BTEX	Analytical Method:	S 8021B	Prep Method:	S 5030B
QC Batch:	16313	Date Analyzed:	2005-03-03	Analyzed By:	JG
Prep Batch:	14399	Sample Preparation:	2005-03-03	Prepared By:	JG

Parameter	Flag	RL Result	Units	Dilution	RL
Benzene		<0.00100	mg/L	1	0.00100
Toluene		**0.00140**	mg/L	1	0.00100
Ethylbenzene		<0.00100	mg/L	1	0.00100
Xylene		<0.00100	mg/L	1	0.00100

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0908	mg/L	1	0.100	91	48.4 - 119
4-Bromofluorobenzene (4-BFB)		0.102	mg/L	1	0.100	102	17.1 - 138

Method Blank (1) QC Batch: 16313

Parameter	Flag	MDL Result	Units	RL
Benzene		<0.000650	mg/L	0.001
Toluene		<0.00101	mg/L	0.001
Ethylbenzene		<0.000840	mg/L	0.001
Xylene		<0.000737	mg/L	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
Trifluorotoluene (TFT)		0.0939	mg/L	1	0.100	94	48.4 - 119
4-Bromofluorobenzene (4-BFB)		0.103	mg/L	1	0.100	103	17.1 - 138

Method Blank (1) QC Batch: 16436

Parameter	Flag	MDL Result	Units	RL
Chloride		<0.337	mg/L	0.5

Laboratory Control Spike (LCS-1) QC Batch: 16313

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Benzene	0.0976	0.0986	mg/L	1	0.100	<0.000650	98	1	81.9 - 114	20
Benzene	0.0976	<0.000650	mg/L	1	0.100	<0.000650	98		81.9 - 114	20
Toluene	0.101	0.102	mg/L	1	0.100	<0.00101	101	1	82.8 - 112	20
Toluene	0.101	<0.00101	mg/L	1	0.100	<0.00101	101		82.8 - 112	20
Ethylbenzene	0.101	0.106	mg/L	1	0.100	<0.000840	101	5	82.2 - 111	20
Ethylbenzene	0.101	<0.000840	mg/L	1	0.100	<0.000840	101		82.2 - 111	20
Xylene	0.286	0.301	mg/L	1	0.300	<0.000737	95	5	83.5 - 112	20
Xylene	0.286	<0.000737	mg/L	1	0.300	<0.000737	95		83.5 - 112	20

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

Surrogate	LCS Result	LCSD Result	Units	Dil.	Spike Amount	LCS Rec.	LCSD Rec.	Rec. Limit
Trifluorotoluene (TFT)	0.0902	0.00	mg/L	1	0.100	90		48.4 - 119
Trifluorotoluene (TFT)	0.0902	0.0865	mg/L	1	0.100	90	86	48.4 - 119
4-Bromofluorobenzene (4-BFB)	0.0863	0.00	mg/L	1	0.100	86		17.1 - 138
4-Bromofluorobenzene (4-BFB)	0.0863	0.0920	mg/L	1	0.100	86	92	17.1 - 138

Laboratory Control Spike (LCS-1) QC Batch: 16436

Param	LCS Result	LCSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	13.6	13.5	mg/L	1	12.5	<0.337	109	1	90 - 110	20

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

Matrix Spike (MS-1) QC Batch: 16436 Spiked Sample: 55628

Param	MS Result	MSD Result	Units	Dil.	Spike Amount	Matrix Result	Rec.	RPD	Rec. Limit	RPD Limit
Chloride	2040	2000	mg/L	100	12.5	694	108	2	70.7 - 124	20

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

Standard (ICV-1) QC Batch: 16313

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.100	100	85 - 115	2005-03-03
Toluene		mg/L	0.100	0.103	103	85 - 115	2005-03-03
Ethylbenzene		mg/L	0.100	0.105	105	85 - 115	2005-03-03
Xylene		mg/L	0.300	0.303	101	85 - 115	2005-03-03

Standard (CCV-1) QC Batch: 16313

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.100	0.101	101	85 - 115	2005-03-03
Toluene		mg/L	0.100	0.101	101	85 - 115	2005-03-03

continued...

standard continued ...

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Ethylbenzene		mg/L	0.100	0.105	105	85 - 115	2005-03-03
Xylene		mg/L	0.300	0.300	100	85 - 115	2005-03-03

Standard (ICV-1) QC Batch: 16436

Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	13.5	108	90 - 110	2005-03-04

Standard (CCV-1) QC Batch: 16436

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	13.6	109	90 - 110	2005-03-04

Report Date: March 4, 2005
40299-0002-00004

Work Order: 5022719
Hobbs Gas Plant

Page Number: 6 of 6
Hobbs,NM

Page 1 of 1

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Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 5022719

Company Name: TRC
Phone #: 713 821-7000
Address: (Street, City, Zip)
Fax #:
e-mail: 713 821-6000
Contact Person: Bret Noff
Invoice to: (If different from above) Kinder Morgan - John Greer
Project #: 40299
Project Name: Former Hobbs Gas Plant
Project Location: Hobbs
Sampler Signature: Bret Noff

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCl	HNO_3	H_2SO_4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
55932	MW-11	3		X				X					X	2/24	1505
33	MW-12	3		X				X					X	2/24	1555
55960	Trip Blank	2		✓				✓						2/24	

ANALYSIS REQUEST (Circle or Specify Method No.)

LAB #	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	TX 1005 Extended (C35)	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/2007	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC/MS Vol 8260B/624	GC/MS Semi Vol 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD TSS pH	Moisture Content	Chlorides			Turn Around Time if different from standard	Hold
55932		X																X				
33		X																X				
55960		✓																				

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Bret Noff	2/25	1000			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
			[illegible] Smith	2-26-05	9:00 am

LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp 4 °
Log-in Review

REMARKS:

- ☐ Dry Weight Basis Required
- ☐ TRRP Report Required
- ☐ Check If Special Reporting Limits Are Needed

Carrier # Fed Ex 822668327107

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

ORIGINAL COPY

TRC

Customer-Focused Solutions

Eco-logical
Environmental Services Inc.

New Mexico Oil Conservation Division
2040 South Pacheo
Santa Fe, NM 87505

October 9, 1996
ECO # 279-512

Re.: Delineation Work Plan
K N Energy, Inc.
Hobbs Gas Plant GW-191
Lea County, New Mexico

Dear Mr. Patricio Sanchez:

As requested by the New Mexico Oil Conservation District (OCD), and on behalf of K N Energy, Inc. (KN), Eco-logical Environmental Services, Inc. (ECO) is pleased to submit the following work plan. This plan is to be used to delineate the impacted groundwater for the KN Hobbs Gas Plant. The plant is located approximately 10 miles west of the city of Hobbs, New Mexico on US Highway 180.

SITE HISTORY

The plant, American Processing, L.P. Hobbs Gas Plant, was constructed in 1976. In 1992 KN Energy became the operators of the site. The OCD of New Mexico inspected the plant on October 16, 1995. During this inspection they noted several deficiencies at the site relative to the discharge plan compliance. As a result of this investigation, one groundwater monitor well was installed. This well was placed down-gradient from the main processing area of the plant to detect if the groundwater was impacted. Results indicated that BTEX constituents were present above the levels stated in Water Quality Control Commission WQ3103.

SCOPE OF WORK

It is the intention of this plan to address the delineation of the impacted groundwater at the plant by the letter from the OCD to KN of September 26, 1996. This letter indicates that the extent of the impacted groundwater must be identified and characterized. The following items and procedures will be followed:

2200 Market 79703 (915) 520-7535 Midland, Texas Fax (915) 520-7737

1. Install five monitor wells. One up-gradient well will be placed near the northwest fence corner surrounding the plant. One down-gradient well will be placed near the southeast fence corner. The remaining wells will be located by potential sources that may have impacted the groundwater: the west condensate tanks, the central sump near the amine skid (south of the compressor units), and by the sump located adjacent to the north end of the generator building.

   It is anticipated that these wells will be drilled to a depth of 60 feet below grade. Twenty feet of factory slotted screen will be installed from 40 to 60 feet. The well screen will be placed such that 10 feet of the screen is in the water and 10 feet is out of the current water level. Both the screen and the riser will be made of four inch diameters, schedule 40 PVC. The casing will rise above the ground surface two to three feet and protected by a lockable steel aboveground protector. A 4 foot by 4 foot by 4 inch concrete pad will be constructed around each pad. Sand filter pack will be placed by the screen to two to three feet above the top of the screen. Two to four feet of a 3/8" chip bentonite seal will be placed above the sand and hydrated. The remaining portion of the well annulus will be sealed with a cement/bentonite grout.

2. Each well will be logged and soil samples screened by a PID meter. Samples will be obtained from drill cuttings every two feet for the purpose of soil descriptions. PID readings will be made on a five foot interval or where impacted soil odors are detected. Each well will be depicted on a well drawing which will indicate well construction, water level, PID readings, and soil/rock descriptions.

3. Any collected samples obtained with an elevated PID reading will be packaged for delivery to TraceAnalysis. Samples will be placed in clean sample jars and stored on ice. The samples will be tested for BTEX, TPH, and WQCC 3130 total metals. If more than four samples from each well contain PID readings, the OCD will be contacted and a mutual agreement made as to which samples to test.

4. Once the wells have been installed, the site will be surveyed to establish the site boundaries, well locations and elevations, and major site equipment. The resulting map will be scaled and will indicate the well locations. This map, along with the depth to groundwater, will be used to establish groundwater gradient and flow direction.

5. Wells will be developed by pumping a minimum of three well volumes until the water becomes relatively free of fine particles. The pump and all equipment that came into contact with the water will be washed and triple rinsed prior to moving to the next well. The wells will be developed from what is suspected to be the least impacted to the most impacted. After development, the wells will be

sampled by lowering a single use, weighted bailer gently into the water to minimize the disturbance to any volatile contaminates in the water. During the first round of water sampling the full suite of samples will be collected from the wells as described in WQCC 3103. The water quality characterization samples will only be obtained from the up-gradient well. After the test results have been received, KN and ECO will propose to the OCD what contaminates are of concern at the site.

6. After review of the lab results, it will then be decided if additional wells are required to delineate any contamination plume. If free product is detected, temporary wells may be used to evaluate the extent of the free phase.

7. Based on the groundwater test results, an isobar map will be created for each contaminate present.

8. All generated soil cuttings will be stored onsite in a plastic lined bermed area and water will be stored onsite in poly drums. The wastes will be characterized for the presence of Hazardous Constituents as defined by 40 CFR part 261. It is anticipated that the wastes will be treated at the same time as the treatment of the groundwater and any soils treatment required from other on-site activities.

9. Upon completion of the above scope of work, a Groundwater Contamination Delineation Report will be made to the OCD (Santa Fe and Hobbs District) which contains the findings along with all construction diagrams, groundwater maps, and analysis. This report will also include remedial strategies for the site.

The Sampling and Analysis Plan as well as a Health and Safety Plan is attached.

A review of the seven items mentioned in the KN Letter to the OCD of January 26, 1996 is summarized below.

The investigation conducted in February 1996 indicates that the contamination caused by the cryoskid, compressor units, and flare pit do not appear to be reaching the groundwater and are not currently thought of as possible sources. The product storage tanks and pig receiver will be investigated by the installation of a monitor well or soil boring to establish the vertical extent of any impacts to the soil in these areas.

SCHEDULE OF ACTIVITIES

Eco-logical Environmental will begin conducting the delineation on behalf of KN on October 18 to 20, 1996. At this time the five monitor wells will be installed. Well development and sampling will occur during the week of October 21, 1996. Laboratory results are anticipated to be available by November 7, 1996. Any additional wells

should be installed during the month of November to early December. We anticipate the completion of and the submission of a final report by December 30, 1996.

Respectfully Submitted,

Eco-logical Environmental Services, Inc.

Carrie E. Eick

Carrie E. Eick, P.E.
Project Manager

Shane Estep
President

cc: Wayne Price, OCD - Hobbs, NM
Hayden Truscott, K N Energy, Inc. - Lakewood, CO

HOBBS GAS PLANT
K N ENERGY, INC.
SAMPLING AND ANALYSIS PLAN

Soils

Sampling Schedule - Soil samples will be collected from the soil cuttings during drilling of the monitor wells. Where impacted soils are suspected and conditions permit, a split spoon sampling device will be hydraulically advanced into the soil horizon.

Sample Analyses - Up to four samples per well will be analyzed. Samples will be submitted for analysis if PID readings are present. If more than four samples per well contain PID readings, the OCD will be contacted and the need for more testing discussed. At a minimum it is anticipated that samples immediately above the water table and at the termination depth will be analyzed. Soil samples will be tested for BTEX, TPH, and WQCC 3103 listed total metals.

Sampling Methodology - All sampling equipment will be steam cleaned or washed and triple rinsed between samples. The drill rig and related equipment will be steam cleaned between well locations. Where impacted soils are suspected and conditions permit, a split spoon sampling device will be used. Samples will be placed into clean laboratory provided jars and placed on ice. Each jar will be marked with the following:

- Job number,
- Sample location and depth,
- Time and date of collection,
- Name of technician, and
- Preservation.

In addition to the sample labels, each sample will be logged onto a Chain-of Custody Form which will also indicate the above along with the required tests.

Groundwater

Sampling Schedule - Water samples will be collected from the well bores after a minimum of two to three days have passed. Groundwater sampling will occur each quarter of the year for a period of one year after any remediation has appeared to be complete.

Sample Analyses - A set of samples from each well will be collected. The full suite of sampling as stated in the WQCC 3130 Part A, will be tested during the first round of sampling. Water quality samples including Nitrate, TDS, and pH will also be collected from the up-gradient well.

Sampling Methodology - Each well will be purged by pumping, the pump will be cleaned between wells and the order of the purging and sampling will be from the cleanest to dirtiest suspected well. A minimum of three well volumes or untill the well is dry will be purged and placed into poly drums. A disposable bailer and clean string or Teflon wire, which will be used solely and specifically for that well, will be used to collect the water sample. The bailer will be gently lowered into each well so as not to disrupt the casing environment. Agitation is kept to a minimum to reduce aeration of the sample. Each well will be gaged for water level and product thickness (if present) prior to purging. Samples will be placed into clean laboratory provided jars and placed on ice. Each jar will be marked with the following:

- Job number,
- Sample location and depth,
- Time and date of collection,
- Name of technician, and
- Preservation.

In addition to the sample labels, each sample will be logged onto a Chain-of Custody Form which will also indicate the above along with the required tests.

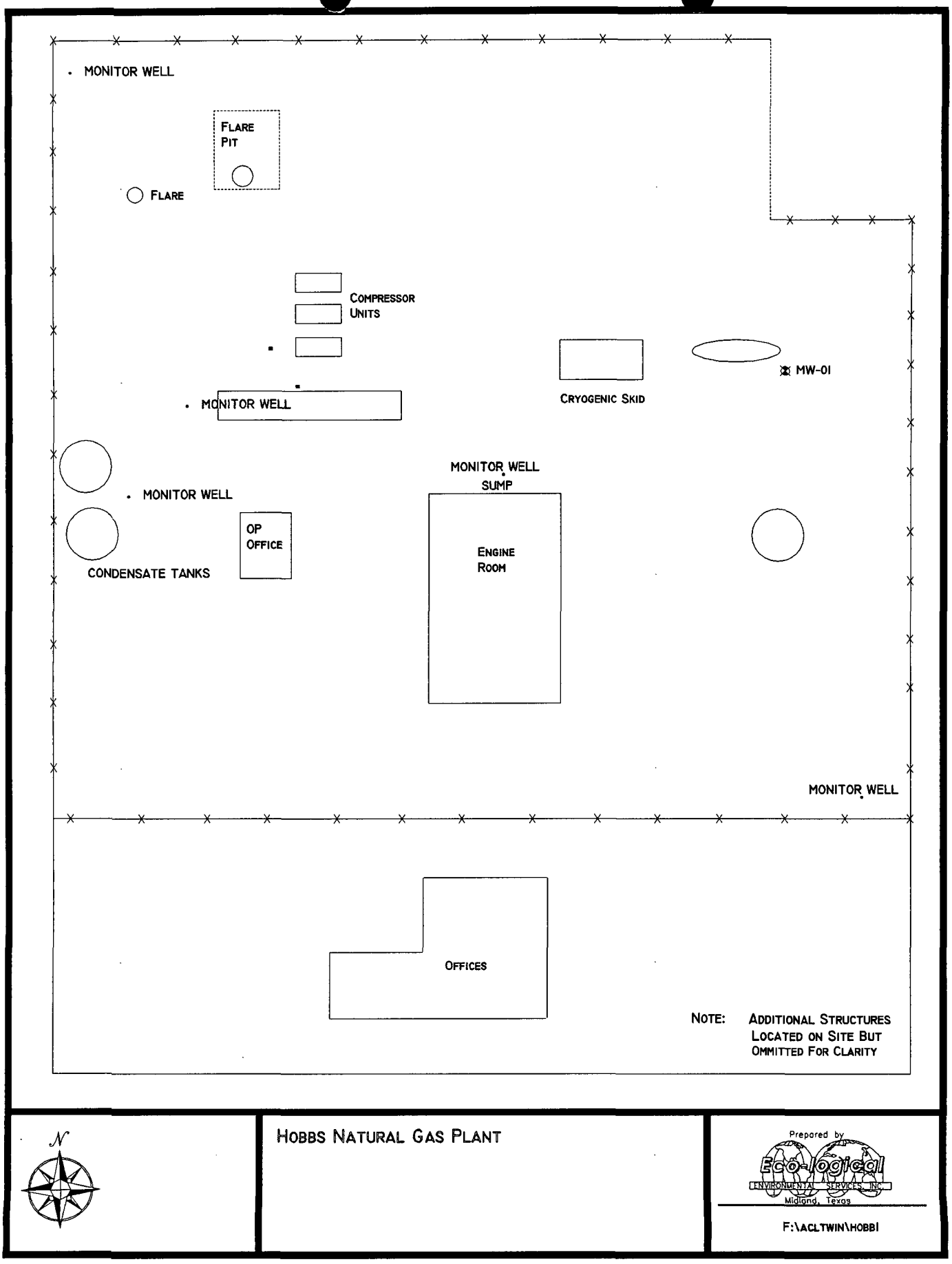
HEALTH AND SAFETY

Safe work practices will be followed at all times. In addition to Level C PPE, the following personal protective equipment will be used at all times:

1. Safety Glasses
2. Work or chemical resistant gloves

During the execution of any sampling activities, if an environment is encountered which exceeds the standards of the existing level of PPE or of the training of the worker, all workers will leave the work area immediately. Workers will not reenter the area until the area has been monitored and the proper PPE and/or training has been obtained.

Any variations to the Plan will be noted.



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HOBBS NATURAL GAS PLANT

Prepared by
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