# GW - 191

# REPORTS

# **YEAR(S)**:





December 26, 2006

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

### RE: 2006 Plug and Abandonment Report Kinder Morgan, Inc. Former Hobbs Gas Plant, Lea County, NM New Mexico Oil Conservation Division (OCD) Discharge Plan GW-191 TRC Environmental Corporation (TRC)

Mr. Wayne Price:

Pursuant to your email received September 27, 2006; TRC initiated and completed field activities at the Former Hobbs Gas Plant located in Lea County (Figure 1) on November 2, 2006. Field activities included the abandonment of monitor wells at the subject site and adjoining properties.

Monitor well abandonment activities were completed on November 2, 2006 by White Drilling Company, Inc. (NM License Number WD-1456). Field activities were observed by a TRC Environmental representative. The abandoned wells included: MW-1, MW-2, MW-3, MW-4, MW-5, MW-6R, MW-8 and MW-10. Wells MW-7, MW-9, MW-11 and MW-12 were scheduled to be abandoned; however, Xcel Energy has requested that the wells be transferred to their custody for their ongoing monitoring activities. TRC is currently facilitating the proper paperwork between Kinder Morgan and Xcel Energy required to achieve this request. Locations of the abandoned monitor wells are presented on Figure 2, <u>Plugged and Abandoned Wells</u>. New Mexico Well Plugging Records are provided in Attachment A, <u>Plug and Abandonment Records</u>. Representative photo documentation of the field activities is included in Attachment B, <u>Field Activity Photos</u>.

With the acceptance of this report TRC hereby requests that the New Mexico OCD terminate the Former Hobbs Gas Plant discharge plan GW-191.

If you have any questions regarding these activities or the project please call Creed Caldwell IV, P.G. with TRC Environmental Corporation at (713) 821-6068.

Sincerely, TRC Environmental Corporation

Creed Caldwell IV, P.G. Project Manager

c: John Greer, Kinder Morgan W. Scott Brake, Xcel Energy Project File

# FIGURE 1

### SITE LOCATION MAP



## FIGURE 2

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### PLUGGED AND ABANDONED WELLS



# ATTACHMENT A

### PLUG AND ABANDONMENT RECORDS

File Number: NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD 1. OWNER OF WELL Name: Kinder Morgan, Inc. Work Phone: Home Phone: Contact: John Greer Address: One Allen Center, 500 Dallas St. Suite 1000 State: **TX** Zip: **77002** City: Houston 2. LOCATION OF WELL(A, B, C, or D required, E or F if known) A. \_\_\_\_1/4 \_\_\_1/4 \_\_\_\_1/4 Section: 28 Township: 18S Range: 36E N.M.P.M. in Lea County. \_\_\_\_\_feet, Y = \_\_\_\_\_feet, N.M. Coordinate System B. X = \_\_\_\_\_Zone in the \_\_\_\_\_ \_\_\_\_\_Grant. C. Latitude: 32 d 42 m 44.4 s Longitude: 103 d 21 m 24.2 s 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 \_\_\_\_\_\_ of the \_\_\_\_\_\_ County. G. Other: H. Give State Engineer File Number if existing well: I. On land owned by (required): **Excel Energy** 3. DRILLING CONTRACTOR: MW-6R License Number: WD-1456 Name: White Drilling Company, Inc. Work Phone: 325-893-2950 Agent: John W. White Home Phone: 325-893-2950 Mailing Address: P.O. Box 906 City: Clyde State: TX Zip: 79510 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: page 1 of 4 Form: wr-20

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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

### 5. PRINCIPAL WATER-BEARING STRATA: MW-6R

Depth	in Feet	Thickness	Description of	Estimated Yield
From	10	in feet	water-pearing formation	(GPM)
	<u></u>			

### 6. RECORD OF CASING

Diameter (inches)	Pounds per ft.	Threads per in.	Depth Top	in Feet Bottom	Length (feet)	Type of Shoe	Perfor From	ations To
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		·····		*****			<del></del>	
RECORD OF	MUDDING	AND CEME	NTING					

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### 8. PLUGGING RECORD

7.

Plugging Contractor:	White Drilling Company, Inc.
Address:	P.O. Box 906, Clyde, TX 79510
Plugging Method:	Hand Mix
Date Well Plugged:	11/2/06

Plugging approved by: Wayne Price

State Engineer Representative

	No. Deptl	n in Feet	Cubic Feet of Cement
	Тор	Bottom	
1	0.0	10.0	2 sks of cement/1.997 cu ft
2	10.0	80.0	8 sks of bentonite pellets
3			
4			
5			

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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

9. LOG OF HOLE: MW-6R

Depth in From	feet To	Thickness in feet	Color and Type of Material Encountered
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File Number: NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD ADDITIONAL STATEMENTS OR EXPLANATIONS: MW-6R 10. 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 FOR STATE ENGINEER USE ONLY Quad \_\_\_\_; FWL \_\_\_\_; FSL \_\_\_\_; Use \_\_\_\_; Location No. \_\_\_\_\_ File Number: Trn Number: page 4 of 4 Form: wr-20 Form provided by Forms On-A-Disk · 214-340-9429 · FormsOnADisk.com

### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

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I

1. OWNER OF WELL				
Name: Kinder Morgan, Inc.	Work Phone:			
Contact: John Greer	Home Phone:			
Address: One Allen Center, 500 Dallas St.				
Suite 1000				
City: Houston	State: <b>TX</b> Zip: <b>77002</b>			
2. LOCATION OF WELL(A, B, C, or D required, E or F if kno	wn)			
A1/41/41/4 Section: 28 Tow	mship: <u>18S</u> Range: <u>36E</u> N.M.P.M.			
in Lea	County.			
B. X =feet, Y =	feet, N.M. Coordinate System			
Zone in the	Grant.			
U.S.G.S. Quad Map				
C. Latitude: <u>32</u> d <u>42</u> m <u>45.2</u> s Longitu	nde: <u>103</u> d <u>21</u> m <u>21.6</u> s			
D. East (m), North (m), UTM	Zone 13, NAD (27 or 83)			
R 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				
n. Give State Bigineer file namber if existing wer	•			
I. On land owned by (required): Excel Energy				
I. On land owned by (required): Excel Energy				
I. On land owned by (required): Excel Energy 3.DRILLING CONTRACTOR: MW-10				
<pre>I. On land owned by (required): Excel Energy 3.DRILLING CONTRACTOR: MW-10 License Number: WD-1456</pre>				
I. On land owned by (required): Excel Energy 3. DRILLING CONTRACTOR: MW-10 License Number: WD-1456 Name: White Drilling Company, Inc.	Work Phone: <b>325-893-2950</b>			
I. On land owned by (required): Excel Energy 3. DRILLING CONTRACTOR: MW-10 License Number: WD-1456 Name: White Drilling Company, Inc. Agent: John W. White	Work Phone: 325-893-2950 Home Phone: 325-893-2950			
I. On land owned by (required): Excel Energy 3. DRILLING CONTRACTOR: MW-10 License Number: WD-1456 Name: White Drilling Company, Inc. Agent: John W. White Mailing Address: P.O. Box 906	Work Phone: <b>325-893-2950</b> Home Phone: <b>325-893-2950</b>			
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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

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э.	PRINCIPAL	WATER-BEARING	STRATA:	WM-TO

Depth in From	1 Feet To	Thickness in feet	Descri water-	ption of bearing form	nation		Esi	timated Yield (GPM)
6.RECORD ( Diameter (inches)	OF CASING Pounds per ft.	Threads per in.	Depth Top	in Feet Bottom	Length (feet)	Туре с	of Shoe	Perforations From To
7.RECORD (	DF MUDDING	G AND CEMEN	NTING					
Depth i From 	n Feet To E	Hole Sa Diameter of	cks mud	Cubic Feet of Cement		Method o	f Placem	ent
8. PLUGGING Plugging Plug Date W	S RECORD Contracto Address ging Method cell Plugged	r : White Drill s : P.O. Box 9 d : Hand Mix d : 11/2/06	ing Co 06, Cly	mpany, Inc. de, TX 79510				
Plugging	approved b	y∶ <mark>Wayne Pri</mark>	ce	State Eng	gineer Re	epresenta	ative	
	No. De Top 1 <b>0.0</b>	epth in Feet Bottom <b>10.0</b>	Cubi 2 sks	c Feet of Ce	ment 997 cu ft			
	2 10.0 3	66.0	7 sk	s of bentonite	pellets			

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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

9.LOG OF HOLE: MW-10

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Depth in From	feet To	Thickness in feet	Color and Type of Material Encountered
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A CONTRACTOR OF CONTRACTOR			
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NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS: MW-10 The undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and correct record of the above described hole. L\_\_\_\_\_ (mm/dd/year) Driyler FOR STATE ENGINEER USE ONLY Quad \_\_\_\_; FWL \_\_\_\_; FSL \_\_\_\_; Use \_\_\_\_; Location No. \_\_\_\_\_ Trn Number: File Number: Form: wr-20 page 4 of 4 Form provided by Forms On-A-Disk · 214-340-9429 · FormsOnADisk.com

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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

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1. OWNER OF WELL	
Name: Kinder Morgan, Inc.	Work Phone:
Address, One Allen Center 500 Dallas St	Home Phone:
Suite 1000	-
City: Houston	- State: <b>TX</b> Zip: <b>77002</b>
2. LOCATION OF WELL (A, B, C, or D required, E or F if know	n)
A. $1/4$ $1/4$ $1/4$ Section: 28 Town	ship: <u>185</u> Range: <u>36E</u> N.M.P.M.
in Lea	County.
B. X = feet, Y =	feet, N.M. Coordinate System
Zone in the	Grant.
U.S.G.S. Quad Map	
C. Latitude: 32 d 42 m 43.3 s Longitud	le: 103 d 21 m 31.3 s
D East (m) North (m) LITM	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 armed by (remitted) . Even Energy	
1. On rand owned by (required): <b>Excerencegy</b>	
3. DRILLING CONTRACTOR: MW-8	
License Number: WD-1456	
Name : White Drilling Company, Inc.	Work Phone: 325-893-2950
Agent : John W. White	Home Phone: 325-893-2950
Mailing Address: P.O. Box 906	
	_
City: Clyde	
A. DRILLING RECORD	
Circ of bolo:; Completed:	; Type coors:;
Size of hore: In.; fotal depth of well:	LL.;
Completed well is: (Shallow, alles	
Depth to water upon completion of well:	IC.
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5. PRI De Fr	pth in J om To	WATER-B Feet 1	EARING SI Thickness in feet	Descri water-	<b>MW-8</b> ption of bearing for	rmation		Es 	timated (GPM)	Yield
6.REC Di (i	ORD OF ameter nches)	CASING Pounds per ft.	Threads per in.	Depth Top	in Feet Bottom	Length (feet)	Туре о	f Shoe	Perfor From	rations To
<b>7. REC</b> De Fr	ORD OF	MUDDING Feet o D	AND CEME Hole S iameter o	ENTING acks	Cubic Fee of Cement		fethod of	E Placem		
8. PLU Plu	GGING ing C	RECORD	• White Dri	Iling Col	mpany, Inc.					
Plug	Pluggi Date Wel gging ap	Address ng Method 1 Plugged	: P.O. Box : Hand Mix : 11/2/06	906, Cly	de, TX 79510	)				
					State E	ngineer Re	presenta	tive		

No. Depth in Feet Cubic Feet of Cement Тор Bottom 1 0.0 10.0 2 sks of cement/1.997 cu ft 7.5 sks of bentonite 2 **10.0 69.0 pellets** 4\_\_\_\_\_ 5\_\_\_\_ 

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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

9. LOG OF HOLE: MW-8

Depth in From	feet To	Thickness in feet	Color and Type of Material Encountered
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10. ADDITIONAL STATEMENTS OR EXPLANATIONS:MW-8

NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

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1. OWNER OF WELL	
Name: Kinder Morgan, Inc.	Work Phone:
Address: One Allen Center 500 Dallas St	Home Phone:
Suite 1000	antin.
City: Houston	State: <b>TX</b> Zip: <b>77002</b>
2 TOGETON OF WELL'S D. C. on D. monthed B. on B. if have	
A. $1/4$ $1/4$ $1/4$ Section: <b>28</b> Tow	mship: <b>18S</b> Range: <b>36E</b> N.M.P.M.
in Lea	County.
B. $X = $ feet, $Y = $	feet, N.M. Coordinate System
U.S.G.S. Ouad Map	Grant.
C. Latitude: <u>32</u> d <u>42</u> m <u>45.7</u> s Longitu	de: <u>103</u> d <u>21</u> m <u>28.4</u> s
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): Excel Energy	
3. DRILLING CONTRACTOR: MW-5	
License Number: WD-1456	
Name: White Drilling Company, Inc.	Work Phone: 325-893-2950
Agent: John W. White	Home Phone: 325-893-2950
Mailing Address: P.O. Box 906	
city: ciyde	
4. DRILLING RECORD	
Drilling began:; Completed:	; Type tools:;
Size of hole:in.; Total depth of well:	ft.;
Completed well is: (shallow, artes	sian);
Depth to water upon completion of well:	ft.
File Number,	Trn Number.
Form: wr-20 page 1 of 4	
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### NEW MEXICO OFFICE OF THE STATE ENGINEER WE LL RECORD

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Depth in From 2	. Feet Io 	Thickness in feet	Descri: water-l	tion of taring for	mation		Es	timated (GPM)	Yield
6.RECORD O Diameter (inches)	P CASING Pounds per ft	Threads . per in.	Depth Top	T Feet Sottom	Length (feet)	Type of	Shoe	Perfor From	ations To
7. RECORD C	PF MUDDIN	G AND CEME		Cubic Foo					
From	To	Diameter o	f mud	of Cement					
8. PLUGGING Plugging Plug Date W	<b>RECORD</b> Contracto Addres ging Metho ell Plugge	or: White Dri ss: P.O. Box od: Hand Mix ed: 11/2/06	<b>lling C</b> or <b>90</b> 6, Cly	pan <b>y, Inc.</b> , T <b>X 79510</b>					
Plugging	approved 1	by: Wayne Pi	rice	State Er	gineer Re	presentat	ive		
	No. I	epth in Fee	t Cuoi	Feet of C	ement				
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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

9.LOG OF HOLE: MW-5

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Depth in From	feet To	Thickness in feet	Color and Type of Material Encountered
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10.	ADDITIONAL STATEMENTS OR EXPLANATIONS:MW-5					
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File Number: NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD 1. OWNER OF WELL Name: Kinder Morgan, Inc. Work Phone: Home Phone: Contact: John Greer Address: One Allen Center, 500 Dallas St. Suite 1000 State: **TX** Zip: **77002** City: Houston 2. LOCATION OF WELL(A, B, C, or D required, E or F if known) 1/4 1/4 1/4 Section: 28 Township: 18S Range: 36E N.M.P.M. Α. County. in Lea feet, Y = \_\_\_\_\_feet, N.M. Coordinate System \_\_\_\_\_Grant. U.S.G.S. Quad Map C. Latitude: 32 d 42 m 47.5 s Longitude: 103 d 21 m 32.8 s 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): ExcelEnergy 3. DRILLING CONTRACTOR: MW-4 License Number: WD-1456 Name: White Drilling Company, Inc. Work Phone: 325-893-2950 Home Phone: **325-893-2950** Agent: John W. White Mailing Address: P.O. Box 906 City: Clyde \_\_\_\_\_ State: TX \_ Zip: 79510 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: page 1 of 4 Form: wr-20 Form provided by Forms On-A-Disk · 214-340-9429 · FormsOnADisk.com

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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

5.	PRINCIPAL	WATER-BEARING	STRATA:	MW-4

	Depth in Feet From To	Thickness in feet	Descri water-	ption of bearing for	mation		Es 	timated (GPM)	Yield
6.	RECORD OF CASIN Diameter Pound (inches) per f	G ds Threads t. per in.	Depth Top	in Feet Bottom	Length (feet)	Type of	Shoe	Perfor From	rations To
7.	RECORD OF MUDDI Depth in Feet From To	NG AND CEMM Hole S Diameter c	ENTING Gacks of mud	Cubic Fee of Cement	t M		Placem		
8.	PLUGGING RECORD Plugging Contract Addre Plugging Meth Date Well Plugg	cor: White Dr ess: P.O. Box nod: Hand Mix ged: 11/2/06	illing Co 906, Cly	mpany, Inc. de, TX 79510	)				
	Plugging approved	by: Wayne P	rice						

State Engineer Representative

	No. Depth	n in Feet	Cubic Feet of Cement
	Top	Bottom	
1	0.0	10.0	2 sks of cement/1.997 cu ft
2	10.0	63.0	7 sks of bentonite pellets
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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

9.LOG OF HOLE: MW-4

Depth in From	feet To	Thickness in feet	Color and Type of Material Encountered
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NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS: MW-4 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. ~  $\frac{W}{(mm/dd/year)}$ Drilfer FOR STATE ENGINEER USE ONLY Quad ;FWL ;FSL ;Use ;Location No. File Number: Trn Number: \_\_\_\_\_page 4 of 4 Form: wr-20 Form provided by Forms On-A-Disk · 214-340-9429 · FormsOnADisk.com

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 Name:
 Kinder Morgan, Inc.
 Work Phone:

 Contact:
 John Greer
 Home Phone:

 Address:
 One Allen Center, 500 Dallas St.
 Home Phone:

 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 Section: 28 Township: 18S Range: 36E N.M.P.M. County. feet, Y = \_\_\_\_\_feet, N.M. Coordinate System Zone in the Grant. U.S.G.S. Quad Map C. Latitude: <u>32</u> d <u>42</u> m <u>47.9</u> s Longitude: <u>103</u> d <u>21</u> m <u>30.5</u> s 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:

File Number:

NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

I. On land owned by (required): Excel Energy

3. DRILLING CONTRACTOR: MW-3

in Lea

License Number: WD-1456 Name: White Drilling Company, Inc. Work Phone: 325-893-2950 Agent: John W. White Home Phone: 325-893-2950 Mailing Address: P.O. Box 906 \_\_\_\_\_\_ State: **TX** Zip: **79510** City: Clyde

H. Give State Engineer File Number if existing well:

4. DRILLING RECORD

1. OWNER OF WELL

B. X =

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: Form: wr-20

page 1 of 4

Trn Number:

File Number: NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD 5. PRINCIPAL WATER-BEARING STRATA: MW-3 Thickness Description of Estimated Yield Depth in Feet in feet water-bearing formation From To (GPM) 6. RECORD OF CASING Diameter Pounds Threads Depth in Feet Length Type of Shoe Perforations (inches) per ft. per in. Top Bottom (feet) From To \_\_\_\_ 7. RECORD OF MUDDING AND CEMENTING Hole Sacks Cubic Feet Method of Placement Depth in Feet of Cement From To Diameter of mud 8. PLUGGING RECORD Plugging Contractor: White Drilling Company, Inc. Address: P.O. Box 906, Clyde, TX 79510 Plugging Method: Hand Mix Date Well Plugged: 11/2/06 Plugging approved by: Wayne Price State Engineer Representative No. Depth in Feet Cubic Feet of Cement Bottom TOD 1 0.0 10.0 2 sks of cement/1.997 cu ft 2 10.0 63.0 7 sks of bentonite pellets 3\_\_\_\_\_ 5 

File Number:

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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

9. LOG OF HOLE: MW-3 Thickness Depth in feet Color and Type of Material Encountered in feet From То \_\_\_\_ \_\_\_\_\_

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page 3 of 4

Trn Number:

NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS: MW-3 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. 1 22 06 (mm/dd/year) Driller c FOR STATE ENGINEER USE ONLY Quad \_\_\_\_; FWL \_\_\_\_; FSL \_\_\_\_; Use \_\_\_\_\_; Location No. \_\_\_\_\_ page 4 of 4 Trn Number: File Number: Form: wr-20 Form provided by Forms On-A-Disk · 214-340-9429 · FormsOnADisk.com

### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

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File Number: NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD 5. PRINCIPAL WATER-BEARING STRATA: MW-2 Depth in Feet Thickness Description of Estimated Yield From To in feet water-bearing formation (GPM) -----\_\_\_\_\_ 6. RECORD OF CASING DiameterPoundsThreadsDepth in FeetLengthType of ShoePerforations(inches)per ft.per in.TopBottom(feet)FromTo \_ \_ \_\_\_\_ ------\_\_\_\_ ······ 7. RECORD OF MUDDING AND CEMENTING Depth in Feet Hole Sacks Cubic Feet Method of Placement From To Diameter of mud of Cement -..... \_\_\_\_ 8. PLUGGING RECORD Plugging Contractor: White Drilling Company, Inc. Address: P.O. Box 906, Clyde, TX 79510 Plugging Method: Hand Mix Date Well Plugged: 11/2/06 Plugging approved by: Wayne Price State Engineer Representative No. Depth in Feet Cubic Feet of Cement

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1	0.0	10.0	2 sks of cement/1.997 cu ft
2	10.0	60.0	7 sks of bentonite pellets
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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

### 9.LOG OF HOLE: MW-2

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NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

10. ADDITIONAL STATEMENTS OR EXPLANATIONS: MW-2 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. 11/22/06 (mm/ad/year) Driller FOR STATE ENGINEER USE ONLY Quad \_\_\_\_; FWL \_\_\_\_; FSL \_\_\_\_; Use \_\_\_\_; Location No. \_\_\_\_\_ Trn Number: File Number: \_\_\_\_\_page 4 of 4 Form: wr-20 Form provided by Forms On-A-Disk · 214-340-9429 · FormsOnADisk.com

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File Number: NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD 1. OWNER OF WELL Name: Kinder Morgan, Inc. Work Phone: Home Phone: Contact: John Greer Address: One Allen Center, 500 Dailas St. Suite 1000 State: **TX** Zip: **77002** City: Houston 2. LOCATION OF WELL(A, B, C, or D required, E or F if known) 1/4 1/4 1/4 Section: **28** Township: **18S** Range: **36E** N.M.P.M. Α. in **Lea** County. B. X = \_\_\_ feet, Y = \_\_\_\_\_feet, N.M. Coordinate System Zone in the \_\_\_\_\_ Grant. U.S.G.S. Quad Map C. Latitude: 32 d 42 m 47.8 s Longitude: 103 d 21 m 28.2 s 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 \_\_\_\_\_ of the \_\_\_\_\_\_ of the \_\_\_\_\_ of the \_\_\_\_\_ of the \_\_\_\_\_ of the dettee of the of the G. Other: H. Give State Engineer File Number if existing well: I. On land owned by (required): ExcelEnergy 3. DRILLING CONTRACTOR: MW-1 License Number: WD-1456 Name: White Drilling Company, Inc. Work Phone: 325-893-2950 Agent : John W. White Home Phone: **325-893-2950** Mailing Address: P.O. Box 906 City: Clyde State: TX Zip: 79510 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. Trn Number: File Number: page 1 of 4 Form: wr-20 Form provided by Forms On-A-Disk · 214-340-9429 · FormsOnADisk.com
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## NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

Depth in Feet       Thickness       Description of water-bearing formation       Estimated Yield (GPM)	5. PRINCIPAL WATER-BEA	ARING STRATA:	: MW-1					
6. RECORD OF CASING Diameter Pounds Threads Depth in Feet Length Type of Shoe Perforations (inches) per ft. per in. Top Bottom (feet) From To 	Depth in Feet Thi From To ir	ickness Descr n feet water	ription of r-bearing form	nation	18111-2977-011111111111111111111111111111111111	Est	imated } (GPM)	/ield
Diameter Pounds Threads Depth in Feet Length Type of Shoe Perforations (inches) per ft. per in. Top Bottom (feet) From To 	6. RECORD OF CASING					· · · · · · · · · · · · · · · · · · ·		
7. RECORD OF MUDDING AND CEMENTING Depth in Feet Hole Sacks Cubic Feet Method of Placement From To Diameter of mud of Cement  3. PLUGGING RECORD Plugging Contractor: White Drilling Company, Inc. Address: P.O. Box 906, Clyde, TX 79510 Plugging Method: Hand Mix Date Well Plugged: 11/2/06	Diameter Pounds ( (inches) per ft. )	Threads Dept per in. Top	h in Feet Bottom	Length (feet)	Type of	Shoe	Perfora From	tions To
7. RECORD OF MUDDING AND CEMENTING Depth in Feet Hole Sacks Cubic Feet Method of Placement From To Diameter of mud of Cement								
7. RECORD OF MUDDING AND CEMENTING Depth in Feet Hole Sacks Cubic Feet Method of Placement From To Diameter of mud of Cement					<u> </u>		·····	
Depth in Feet       Hole       Sacks       Cubic Feet       Method of Placement         From       To       Diameter       of mud       of Cement	7. RECORD OF MUDDING A	AND CEMENTING	3	*****				<u></u>
B. PLUGGING RECORD Plugging Contractor: White Drilling Company, Inc. Address: P.O. Box 906, Clyde, TX 79510 Plugging Method: Hand Mix Date Well Plugged: 11/2/06	Depth in Feet H From To Dian	ole Sacks meter of mud	Cubic Feet of Cement		ethod of	Placeme	nt	
B. PLUGGING RECORD Plugging Contractor: White Drilling Company, Inc. Address: P.O. Box 906, Clyde, TX 79510 Plugging Method: Hand Mix Date Well Plugged: 11/2/06								
Plugging Contractor:       White Drilling Company, Inc.         Address:       P.O. Box 906, Clyde, TX 79510         Plugging Method:       Hand Mix         Date Well Plugged:       11/2/06	8. PLUGGING RECORD							
Plugging Method: Hand Mix Date Well Plugged: 11/2/06	Plugging Contractor: Address:	White Drilling C P.O. Box 906. C	ompany, Inc. Iyde, TX 79510			,		
Date Well Plugged: 11/2/06	Plugging Method:	Hand Mix						
	Date Well Plugged:	11/2/06						
Plugging approved by: Wayne Price	Plugging approved by:	Wayne Price	Stata Bro	incor Bon	rocontat			

	No.	Depth	in	Feet	Cubic Feet of Cement		
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2	10.0 60.0		)	7 sks of bentonite pellets			
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### NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

9.LOG OF HOLE: MW-1

Depth in From	feet To	Thickness in feet	Color and Type of Material Encountered
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## NEW MEXICO OFFICE OF THE STATE ENGINEER WELL RECORD

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The undersic belief, the hole.	gned hereby certifies that, to the best of his knowledge and foregoing is a true and correct record of the above described $\underbrace{I(2406}_{(mm/dd/year)}$
The undersic belief, the hole.	<pre>gned hereby certifies that, to the best of his knowledge and foregoing is a true and correct record of the above described Drifler FOR STATE ENGINEER USE ONLY NL;FSL;Use;Location No</pre>
The undersic belief, the hole.	<pre>gned hereby certifies that, to the best of his knowledge and foregoing is a true and correct record of the above described</pre>
Quad;FV	gned hereby certifies that, to the best of his knowledge and foregoing is a true and correct record of the above described 
The undersic belief, the hole. Quad ;FW Number: Form: wr-20	pred hereby certifies that, to the best of his knowledge and foregoing is a true and correct record of the above described 

## ATTACHMENT B

## FIELD ACTIVITY PHOTOS



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Bentonite chips being top loaded into a monitor well.



Unsuccessful attempt by White Drilling to remove monitor well casing from the ground.



Bentonite chips being hydrated.



Monitor well location being recorded for report use.



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Monitor well surface completion being removed by White Drilling employees.



Bentonite chips being top loaded into a monitor well.



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White Drilling employee hydrating bentonite chips at intervals in monitor well.



White Drilling employees cementing the top of a monitor well.





July 10, 2006

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

Subject:2006 Semi-Annual Groundwater Monitoring Summary Report and<br/>Request for Site Closure<br/>Kinder Morgan, Inc. - Former Hobbs Gas Plant at Hobbs (Lea County), NM<br/>New Mexico Oil Conservation Division (NMOCD) Discharge Plan GW-191<br/>TRC Environmental Corporation Project #50942

## Mr. Price:

This letter report (and appendices) summarizes the semi-annual groundwater monitoring activities conducted at the above-referenced location in May 2006 by TRC Environmental Corporation (TRC). 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. Monitor wells MW-7, MW-10, MW-11, and MW-12 are located off-site on the adjacent Excel Energy Cunningham Power Station property and State of New Mexico property. Kinder Morgan, Inc. (KMI) has retained responsibility for the historical environmental impacts relating to the operation of the former gas plant facility.

Laboratory analytical results indicate concentrations of benzene, toluene, ethylbenzene, and xylenes (BTEX) are below the laboratory reporting limits for the last two years or four (4) semi-annual sampling events from November 2004 through May 2006. Based on laboratory analytical results for the last four (4) semi-annual groundwater sampling events, KMI is requesting site closure and monitor well plugging and abandonment.

### **GROUNDWATER SAMPLING PROCEDURES**

During each semi-annual sampling event, the 12 monitor wells were gauged for water levels and phase-separated hydrocarbons (PSH), if present. Groundwater levels and LNAPL thickness from each monitor well were recorded in a dedicated field book. Sampling was conducted in accordance with the New Mexico Oil Conservation Division (NMOCD) Discharge Plan GW-191.

Monitor wells MW-1 and MW-5 were not purged or sampled during the May 2006 event due to insufficient water columns present at both wells. Monitor wells MW-2, MW-4, and MW-8 were not required for purging and sampling as previously approved by the NMOCD.

Mr. Wayne Price, NMOCD 2006 Semi-Annual Groundwater Monitoring Summary Report & Request for Site Closure, Hobbs, NM July 10, 2006 Page 2 of 3

The non-dedicated gauging and sampling equipment were decontaminated prior to use at each monitor well location. Decontamination fluids and disposable personal protective equipment were placed in containers for temporary on-site storage. Each container was labeled for contents, accumulation date, and container number.

Groundwater samples were collected using a pre-cleaned 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 (EPA) 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 4 °C. Trip and equipment blank samples were collected and placed in the cooler with the groundwater samples. These samples were analyzed to determine if any sample contaminants were introduced during sample collection and delivery. A standard chain-of-custody form was completed and accompanied the groundwater samples to Trace Analysis, Inc. of Lubbock, Texas.

The collected 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.

## **GROUNDWATER ELEVATIONS**

Table 1 provides a cumulative summary of the groundwater elevations measured from September 1996 through May 2006.

### May 2006

Of the 12 wells that were gauged, only monitor well MW-5 was dry. Groundwater elevations ranged from 3,759.06 feet above mean sea level (MSL) at monitor well MW-2 (upgradient) to 3,748.75 feet MSL at monitor well MW-12 (downgradient).



Mr. Wayne Price, NMOCD 2006 Semi-Annual Groundwater Monitoring Summary Report & Request for Site Closure, Hobbs, NM July 10, 2006 Page 3 of 3

A potentiometric surface contour map for May 2006 is illustrated on Figure 3. The hydraulic gradient (direction of groundwater flow) is to the southeast at an approximate gradient of 0.005 ft./ft. This direction is consistent with historical gauging events.

### **GROUNDWATER ANALYTICAL RESULTS**

Table 2 provides a cumulative summary of groundwater analytical results from February 1996 through May 2006. The laboratory data sheets and the chain-of-custody form for the May 2006 sampling event is provided in Appendix A.

#### May 2006

For this sampling event, groundwater samples were collected from monitor wells MW-3, MW-6R, MW-7, MW-9, MW-10, MW-11, and MW-12. BTEX constituents were not detected above the laboratory reporting limit (<0.001 mg/L) in these samples. This is the fourth consecutive semi-annual sampling event in which BTEX constituents were not detected.

Chlorides were detected above the laboratory reporting limit (0.5 mg/L) at the following monitor well locations:

- MW-3 (42.8 mg/L);
- MW-6R (41.2 mg/L);
- MW-7 (48.3 mg/L);
- MW-9 (92.9 mg/L);
- MW-10 (138 mg/L);
- MW-11 (57.9 mg/L); and
- MW-12 (35.8 mg/L).

The reported chloride concentrations are well below the Water Quality Control Commission (WQCC) established guideline of 250 mg/L. This is the fourth consecutive semi-annual sampling event in which the chloride concentrations were well below the regulatory guideline.

A duplicate sample was collected from monitor well MW-7 in order to determine the reproducibility of the analytical results. This sample, labeled MW-99 on the sample chain-of-custody form, exhibited a nearly identical chloride concentration (48.2 mg/L) to the well MW-7 concentration (48.3 mg/L), thus indicating consistent laboratory results. BTEX constituents were not detected above the laboratory reporting limits in the duplicate sample.



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## QUALITY CONTROL REVIEW OF LABORATORY ANALYTICAL DATA

A review of the monitoring data and associated quality control (QC) data was performed for the May 2006 sampling 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.

BTEX compounds were not detected above laboratory reporting limits for the trip and equipment blank samples.

#### CONCLUSIONS

Based on the observations and results of the gauging and sampling events for May 2006 combined with a review of the historical site information, TRC concludes the following:

- Monitor well MW-5 was dry during the monitoring event;
- The hydraulic gradient is to the southeast. Monitor well MW-2 is upgradient and monitor well MW-12 is downgradient with respect to groundwater flow beneath the site area;
- BTEX constituents were not detected above the laboratory reporting limits during the May 2006 monitoring event;
- BTEX constituents have not been detected above the laboratory reporting limits for the last four (4) semi-annual sampling events or the equivalent of eight (8) quarterly sampling events;
- Chloride concentrations were below the WQCC established guideline of 250 mg/L; and
- Chloride concentrations have been below the WQCC established guideline for the last four (4) semi-annual sampling events or the equivalent of eight (8) quarterly sampling events.

### RECOMMENDATIONS

Based on the conclusions, KMI is requesting site closure and monitor well plugging and abandonment. Following NMOCD approval of site closure and monitor well plugging and abandonment, KMI/TRC will mobilize to the site to plug and abandon the monitor wells in accordance with New Mexico WQCC



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guidelines. Following plugging and abandonment, KMI will submit a Final Site Closure Report documenting field activities in relation to monitor well plugging and abandonment and IDW disposal.

If you have any questions, please do not hesitate to call me 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

JDD:rms

c: John Greer, Kinder Morgan Project File

Attachments



Tables

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# TABLES



						1
Monitor Well	Date	TOC Elevation * (ft MSL)	Depth to PSH (ft btoc)	Depth to GW (ft btoc)	PSH Thickness (ft)	GW Elevation (ft MSL)
MW-1: Scre	ened Interval ~	41-61 ft bgs.				
MW-1	9/17/1996	495.73	-	53.10	-	442.63
MW-1	10/23/1996	495.73	-	53.34	-	442.39
MW-1	4/10/1997	495.73	-	54.32	-	441.41
MW-1	7/7/1997	495.73	-	64.64	-	431.09
MW-1	10/8/1997	495.73	-	64.98	-	430.75
MW-1	1/6/1998	495.73	-	55.28	-	440.45
MW-1	4/3/1998	495.73	-	55.60		440.13
MW-1	6/25/1998	495.73	-	55.87		439.86
MW-1	10/2/1998	495.73	-	56.36		439.37
MW-1	1/5/1999	495.73	-	54.98	-	440.75
MW-1	4/1/1999	495.73	-	56.89	+	438.84
MW-1	7/14/1999	495.73	-	57.39	-	438.34
MW-1	10/22/1999	495.73	-	57.74	-	437.99
MW-1	1/25/2000	495.73	-	59.00	-	436.73
MW-1	4/3/2000	495.73		58.51	-	437.22
MW-1	7/17/2000	495.73	-	59.10	-	436.63
MW-1	10/24/2000	495.73	-	59.45	-	436.28
MW-1	1/24/2001	495.73		59.82	-	435.91
MW-1	10/18/2001	495.73		Dry		Dry
MW-1	3/19/2002	495.73	-	Dry	-	Dry
MW-1	8/14/2002	495.73		Dry	~	Dry
MW-1	1/13/2003	495.73	-	60.19	-	435.54
MW-1	8/26/2003	495.73	-	Dry	-	Dry
MW-1	5/11/2004	495.73	-	60.22	-	435.51
MW-1	11/22/2004	495.73	-	60.17		435.56
MW-1	2/24/2005	3,815.62	-	60.13	-	3,755.49
MW-1	5/18/2005	3,815.62	-	60.21		3,755.41
MW-1	11/15/2005	3,815.62	2	60.26	-	3,755.36
MW-1	5/21/2006	3,815.62	-	60.20	-	3,755.42
WW-2: Scre	ened Interval ~	43-63 ft bgs.				
MW-2	9/17/1996	Not Installed.				
MW-2	10/23/1996	502.41	-	58.33	-	444.08
MW-2	4/10/1997	502.41	-	59.54	-	442.87
MW-2	7/7/1997	502.41		60.00	-	442.41
MW-2	10/8/1997	502.41	-	60.39		442.02
MW-2	1/6/1998	502.41		60.70		441.71
MW-2	4/3/1998	502.41	-	61.06	( m	441.35
MW-2	6/25/1998	502.41	-	61.37	-	441.04
MW-2	10/2/1998	502.41	-	61.91	1.1	440.50
MW-2	1/5/1999	502.41	2	60.39		442.02
MW-2	4/1/1999	502.41	-	62.28	-	440.13

62.28

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7/14/1999

502.41

MW-2

440.13

Monitor		TOC Elevation *	Depth to PSH	Depth to GW	PSH Thickness	GW Elevation
Well	Date	(ft MSL)	(ft btoc)	(ft btoc)	(ft)	(ft MSL)
MW-2: Scre	ened Interval ~	43-63 ft bgs.				
MW-2	10/22/1999	502.41	-	62.31	(#1	440.10
MW-2	1/25/2000	502.41		62.34	-	440.07
MW-2	4/3/2000	502.41	-	62.34	(a)	440.07
MW-2	7/17/2000	502.41	•	62.34	-	440.07
MW-2	10/24/2000	502.41	-	62.37	-	440.04
MW-2	1/24/2001	502.41	-	62.37	-	440.04
MW-2	10/18/2001	502.41	-	62.37	-	440.04
MW-2	3/19/2002	502.41	-	Dry	-	Dry
MW-2	8/14/2002	502.41	-	Dry		Dry
MW-2	1/13/2003	502.41	-	62.39	-	440.02
MW-2	8/26/2003	502.41		62.41	-	440.00
MW-2	5/11/2004	502.41		62.48	-	439.93
MW-2	11/22/2004	502.41	-	62.49	-	439.92
MW-2	2/24/2005	3,821.54	-	62.46	-	3,759.08
MW-2	5/18/2005	3,821.54	-	62.49		3,759.05
MW-2	11/15/2005	3,821.54	-	62.50	-	3,759.04
MW-2	5/21/2006	3,821.54	-	62.48	-	3,759.06
MW-3: Scre	ened Interval ~	45-65 ft bgs.				
MW-3	9/17/1996	Not Installed.				
MW-3	10/23/1996	499.13	-	56.28	-	442.85
MW-3	4/10/1997	499.13	-	57.25	-	441.88
MW-3	7/7/1997	499.13	-	57.59	-	441.54
MW-3	10/8/1997	499.13	-	57.92		441.21
MW-3	1/8/1998	499.13	-	58.24	-	440.89
MW-3	4/3/1998	499.13	-	58.41	-	440.72
MW-3	6/25/1998	499.13	-	58.84	-	440.29
MW-3	10/2/1998	499.13	-	59.36		439.77
MW-3	1/5/1999	499.13	-	57.92	-	441.21
MW-3	4/1/1999	499.13	-	59.89	-	439.24
MW-3	7/14/1999	499.13	-	60.40		438.73
MW-3	10/22/1999	499.13	-	60.76	-	438.37
MW-3	1/25/2000	499.13		61.21	-	437.92
MW-3	4/3/2000	499.13	(a)	61.57		437.56
MW-3	7/17/2000	499.13	-	62.11	-	437.02
MW-3	10/24/2000	499.13	-	62.48	-	436.65
MW-3	1/24/2001	499.13		62.83	-	436.30
MW-3	10/18/2001	499.13		64.17	-	434.96
MW-3	3/19/2002	499,13	-	64.44	-	434.69
MW-3	8/14/2002	499.13	-	Drv	-	Drv
MW-3	1/13/2003	499,13	-	64.34		434,79
MW-3	8/26/2003	499.13	-	64.80	-	434.33
MW-3	5/11/2004	499.13	-	64.98		434.15
MW-3	11/22/2004	499.13	-	64.01		435.12
MW-3	2/24/2005	3,818.24	-	63.56		3,754.68
MW-3	5/18/2005	3,818,24	-	63.48		3,754,76
MW-3	11/15/2005	3,818,24	-	63.45		3,754,79
MW-3	5/21/2006	3,818.24	-	63.22	-	3,755.02

Monitor Well	Date	TOC Elevation * (ft MSL)	Depth to PSH (ft btoc)	Depth to GW (ft btoc)	PSH Thickness (ft)	GW Elevation (ft MSL)
MW-4: Scre	ened Interval ~	-45-65 ft bgs.				
MW-4	9/17/1996	Not Installed.				
MW-4	10/23/1996	501.12	-	58.12	-	443.00
MW-4	4/10/1997	501.12	-	58.83	-	442.29
MW-4	7/7/1997	501.12		59.19	-	441.93
MW-4	10/8/1997	501.12	-	59.56	-	441.56
MW-4	1/6/1998	501.12	-	59.91	-	441.21
MW-4	4/3/1998	501.12	-	60.21	-	440.91
MW-4	6/25/1998	501.12	-	60.48	-	440.64
MW-4	10/2/1998	501.12	-	60.97	-	440.15
MW-4	1/5/1999	501.12	-	59.56	-	441.56
MW-4	4/1/1999	501.12	-	61.57	-	439.55
MW-4	7/14/1999	501.12	-	62.03	-	439.09
MW-4	10/22/1999	501.12	-	62.37	-	438.75
MW-4	1/25/2000	501.12	-	62.82	-	438.30
MW-4	4/3/2000	501.12	-	63.14	-	437.98
MW-4	7/17/2000	501.12	-	63.73		437.39
MW-4	10/24/2000	501.12	-	64.10	-	437.02
MW-4	1/24/2001	501.12	-	64.45	-	436.67
MW-4	10/18/2001	501.12	-	Dry	-	Dry
MW-4	3/19/2002	501.12	- )	Dry		Dry
MW-4	8/14/2002	501.12	-	Dry	-	Dry
MW-4	1/13/2003	501.12	-	Dry		Dry
MW-4	8/26/2003	501.12	-	Dry	-	Dry
MW-4	5/11/2004	501.12		Dry	-	Dry
MW-4	11/22/2004	501.12		Dry	-	Dry
MW-4	2/24/2005	3,820.24		Dry	-	Dry
MW-4	5/18/2005	3,820.24	-	Dry	-	Dry
MW-4	11/15/2005	3,820.24	-	Dry		Dry
MW-4	5/21/2006	3,820.24	-	65.03	-	3,755.21
MW-5: Scre	ened Interval~	45-65 ft bgs.		The state of the s		
MW-5	9/17/1996	Not Installed.				
MW-5	10/23/1996	500.84		58.96	-	441.88
MW-5	4/10/1997	500.84	-	59.77	-	441.07
MW-5	7/7/1997	500.84	-	60.10	-	440.74
MW-5	10/8/1997	500.84	-	60.31	-	440.53
MW-5	1/6/1998	500.84	-	60.76	-	440.08
MW-5	4/3/1998	500.84	-	61.05	-	439.79
MW-5	6/25/1998	500.84	-	61.05	-	439.79
MW-5	10/2/1998	500.84		61.77	-	439.07
MW-5	1/5/1999	500.84	-	60.31	-	440.53
MW-5	4/1/1999	500.84	-	62.24	-	438.60
MW-5	7/14/1999	500.84	-	62.76	-	438.08
MW-5	10/22/1999	500.84		63.08		437.76

Monitor		TOC	Depth to	Denth to CW	PSH	CW Elevation
Well	Date	(ft MSL)	(ft btoc)	(ft btoc)	(ft)	GW Elevation (ft MSL)
May C. C.	Date	(ICMSL)	(IT DIOC)	(11 0100)	(III)	(it MSL)
MW-5: Scre	1/25/2000	45-05 ft bgs.		63.51		437.33
MW-5	4/3/2000	500.84	-	63.84	-	437.55
MW-5	7/17/2000	500.84		64.35	-	437.00
MW-5	10/24/2000	500.84		64.68		436.16
MW-5	1/24/2001	500.84		Dry		Dry
MW-5	10/18/2001	500.84		Dry		Dry
MW-5	3/19/2002	500.84		Dry		Dry
MW-5	8/14/2002	500.84		Dry	-	Dry
MW-5	1/13/2003	500.84		Dry		Dry
MW-5	8/26/2003	500.84		Dry		Dry
MW-5	5/11/2004	500.84		Dry		Dry
MW-5	11/22/2004	500.84	-	67.10	-	433.74
MW-5	2/24/2005	3 819 20	-	Dry	-	Dry
MW-5	5/18/2005	3,819,20		Dry	-	Dry
MW-5	11/15/2005	3,819,20		Dry		Dry
MW-5	5/21/2006	3,819.20		Dry	_	Dry
MW-6: Sere	ened Interval~	43-63 ft bgs.	-	Dig		Dig
MW-6	9/17/1996	Not Installed.				
MW-6	10/23/1996	496.27		55.53	-	440.74
MW-6	4/10/1997	496.27	-	56.28	-	439,99
MW-6	7/7/1997	496.27		56.58	-	439.69
MW-6	10/8/1997	496.27	-	56.68		439.59
MW-6	1/6/1998	496.27		57.23		439.04
MW-6	4/3/1998	496.27		57.49	-	438.78
MW-6	6/25/1998	496.27		57,49	-	438.78
MW-6	10/2/1998	496.27	-	57.17	-	439.10
MW-6	1/5/1999	496.27	-	56.88		439.39
MW-6	4/1/1999	496.27	-	58.52		437.75
MW-6	7/14/1999	496.27	-	59.08	-	437.19
MW-6	10/22/1999	496.27	-	59.36		436.91
MW-6	1/25/2000	496.27	-	59.77	-	436.50
MW-6	4/3/2000	496.27	-	60.08		436.19
MW-6	7/17/2000	496.27	-	60.50		435.77
MW-6	10/24/2000	496.27	-	60,86	-	435.41
MW-6	1/24/2001	496.27	-	61.22		435.05
MW-6	10/18/2001	496.27	-	Dry	-	Dry
MW-6	3/19/2002	496.27	-	Dry	-	Dry
MW-6	8/14/2002	496.27	-	Dry	-	Dry
MW-6	1/13/2003	496.27	-	62.57	-	433.70
MW-6	8/26/2003	496.27	-	Dry		Dry
MW-6	5/11/2004	496.27	- :	Dry	-	Dry
MW-6	11/22/2004	496.27	-	Dry		Dry
MW-6R: Sc	reened Interval	~60-80 ft bgs.				
MW-6R	2/24/2005	3,816.52	-	63.32	-	3,753.20
MW-6R	5/18/2005	3,816.52	-	63.48	-	3,753.04
MW-6R	11/15/2005	3,816.52	-	63.70	-	3,752.82
MW-6R	5/21/2006	3,816.52	-	63.39	-	3,753.13

Monitor Well	Date	TOC Elevation * (ft MSL)	Depth to PSH (ft btoc)	Depth to GW (ft btoc)	PSH Thickness (ft)	GW Elevation (ft MSL)
MW-7: Scre	ened Interval ~	49-69 ft bgs.				
MW-7	9/17/1996	Not Installed.				
MW-7	10/23/1996	Not Installed.				
MW-7	4/10/1997	495.44		57.28	-	438.16
MW-7	7/7/1997	495.44	-	57.54	-	437.90
MW-7	10/8/1997	495.44		57.85	4	437.59
MW-7	1/6/1998	495.44		58.17	-	437.27
MW-7	4/3/1998	495.44	-	58.47	-	436.97
MW-7	6/25/1998	495.44	-	58.70		436.74
MW-7	10/2/1998	495.44		58.99		436.45
MW-7	1/5/1999	495.44		57.85	-	437.59
MW-7	4/1/1999	495.44		59.36		436.08
MW-7	7/14/1999	495.44	-	59.84		435.60
MW-7	10/22/1999	495.44	-	60.14	-	435.30
MW-7	1/25/2000	495.44	-	60.58	-	434.86
MW-7	4/3/2000	495.44	-	60.83	-	434.61
MW-7	7/17/2000	495.44	-	61.10	-	434.34
MW-7	10/24/2000	495.44	-	61.46		433.98
MW-7	1/24/2001	495.44	-	61.84	-	433.60
MW-7	10/18/2001	495.44	-	62.79	-	432.65
MW-7	3/19/2002	495.44	-	63.43	-	432.01
MW-7	8/14/2002	495.44		63.67	-	431.77
MW-7	1/13/2003	495.44	-	63.65	-	431.79
MW-7	8/26/2003	495.44	63.91	63.92	Sheen	431.52
MW-7	5/11/2004	495.44		64.35	-	431.09
MW-7	11/22/2004	495.44	-	63.58	-	431.86
MW-7	2/24/2005	3,814.44	-	62.91	-	3,751.53
MW-7	5/18/2005	3,814.44	-	62.98	-	3,751.46
MW-7	11/15/2005	3,814.44	-	63.28	-	3,751.16
MW-7	5/21/2006	3,814.44	-	63.03	-	3,751.41
MW-8: Scre	ened Interval ~	-51-71 ft bgs.				The second second
MW-8	9/17/1996	Not Installed.				
MW-8	10/23/1996	Not Installed.				
MW-8	4/10/1997	501.81	-	60.32		441.49
MW-8	7/7/1997	501.81	-	60.67		441.14
MW-8	10/8/1997	501.81	-	61.00	-	440.81
MW-8	1/6/1998	501.81		61.35	-	440.46
MW-8	4/3/1998	501.81	-	61.61	-	440.20
MW-8	6/25/1998	501.81	-	61.87		439.94
MW-8	10/2/1998	501.81	-	62.27	-	439.54
MW-8	1/5/1999	501.81	-	61.00	-	440.81
MW-8	4/1/1999	501.81		62.79	-	439.02
MW-8	7/14/1999	501.81		63.10		438.62

Monitor Well	Date	TOC Elevation * (ft MSL)	Depth to PSH (ft btoc)	Depth to GW (ft btoc)	PSH Thickness (ft)	GW Elevation (ft MSL)
AW-8: Scre	ened Interval ~	51-71 ft bgs.				
MW-8	10/22/1999	501.81	-	63.51	-	438.30
MW-8	1/25/2000	501.81	-	63.97	-	437.84
MW-8	4/3/2000	501.81	-	64.26	-	437.55
MW-8	7/17/2000	501.81	-	64.68	-	437.13
MW-8	10/24/2000	501.81	-	65.04	14	436.77
MW-8	1/24/2001	501.81	-	64.38	2	437.43
MW-8	10/18/2001	501.81	-	66.51	-	435.30
MW-8	3/19/2002	501.81	-	66.99	-	434.82
MW-8	8/14/2002	501.81	-	67.23	-	434.58
MW-8	1/13/2003	501.81	-	67.12	2.	434.69
MW-8	8/26/2003	501.81	-	67.41	-	434.40
MW-8	5/11/2004	501.81	-	67.71		434.10
MW-8	11/22/2004	501.81	-	Dry	-	Dry
MW-8	2/24/2005	3.820.83	-	66.49	-	3,754.34
MW-8	5/18/2005	3,820.83	-	66.43	-	3,754.40
MW-8	11/15/2005	3,820,83		66.52	-	3,754.31
MW-8	5/21/2006	3.820.83	-	66.36		3,754,47
AW-9: Sere	ened Interval~	-48-68 ft bgs.				
MW-9	9/17/1996	Not Installed.				
MW-9	10/23/1996	Not Installed.				
MW-9	4/10/1997	496.85	-	56.29	-	440.56
MW-9	7/7/1997	496.85	-	56.66	-	440.19
MW-9	10/8/1997	496.85	-	57.00	-	439.85
MW-9	1/6/1998	496.85	-	57.38	-	439.47
MW-9	4/3/1998	496.85	-	57.67	-	439.18
MW-9	6/25/1998	496.85		57.95	-	438.90
MW-9	10/2/1998	496.85	-	58.34	-	438.51
MW-9	1/5/1999	496.85	-	57.00	-	439.85
MW-9	4/1/1999	496.85	-	58.73		438.12
MW-9	7/14/1999	496.85	-	59.31	-	437.54
MW-9	10/22/1999	496.85	-	59.61	-	437.24
MW-9	1/25/2000	496.85	-	60.07		436.78
MW-9	4/3/2000	496.85	-	60.43	-	436.42
MW-9	7/17/2000	496.85	-	60.92	-	435.93
MW-9	10/24/2000	496.85	-	61.30	-	435.55
MW-9	1/24/2001	496.85	-	61.67	-	435,18
MW-9	10/18/2001	496.85	-	62.94	-	433.91
MW-9	3/19/2002	496.85	-	63,47	-	433.38
MW-9	8/14/2002	496.85	-	63.95		432.90
MW-9	1/13/2003	496.85	(=)	63.33		433.52
MW-9	8/26/2003	496.85	-	63.80	-	433.05
MW-9	5/11/2004	496.85	-	64.03	-	432.82
MW 0	11/22/2004	496.85		62.00		433.86

62.39

62.50

62.63

62.27

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MW-9

MW-9

MW-9

MW-9

2/24/2005

5/19/2005

11/15/2005

5/21/2006

3,815.91

3,815.91

3,815.91

3,815.91

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3,753.52

3,753.41

3,753.28

3,753.64

Monitor Well	Date	TOC Elevation * (ft MSL)	Depth to PSH (ft btoc)	Depth to GW (ft btoc)	PSH Thickness (ft)	GW Elevation (ft MSL)
MW-10: Ser	eened Interval	~47-67 ft bgs.				
MW-10	9/17/1996	Not Installed.				
MW-10	10/23/1996	Not Installed.				
MW-10	4/10/1997	492.46	<b></b>	52.83		439.63
MW-10	7/7/1997	492.46	-	53.09	-	439.37
MW-10	10/8/1997	492.46	-	53.43	-	439.03
MW-10	1/6/1998	492.46	-	53.86	-	438.60
MW-10	4/3/1998	492.46	-	54.17	-	438.29
MW-10	6/25/1998	492.46	-	54.35		438.11
MW-10	10/2/1998	492.46	-	54.76		437.70
MW-10	1/5/1999	492.46		54.43	-	438.03
MW-10	4/1/1999	492.46	-	55.04	-	437.42
MW-10	7/14/1999	492.46	4	55.59	-	436.87
MW-10	10/22/1999	492.46	-	55.94	-	436.52
MW-10	1/25/2000	492.46	-	56.35	-	436.11
MW-10	4/3/2000	492.46	-	56.96		435.50
MW-10	7/17/2000	492.46	-	57.02	-	435.44
MW-10	10/24/2000	492.46	-	57.44	-	435.02
MW-10	1/24/2001	492.46	-	57.84	-	434.62
MW-10	10/18/2001	492.46		59.91	-	432.55
MW-10	3/19/2002	492.46	-	59.67	-	432.79
MW-10	8/14/2002	492.46	-	59.76	4	432.70
MW-10	1/13/2003	492.46	-	59.62	-	432.84
MW-10	8/26/2003	492.46	-	61.97		430.49
MW-10	5/11/2004	492.46	-)	60.41	-	432.05
MW-10	11/22/2004	492.46	-	65.28	-	427.18
MW-10	2/24/2005	3,811.42	-	NM	-	NM
MW-10	5/18/2005	3,811.42	-	58.75		3,752.67
MW-10	11/15/2005	3,811.42	-	59.93	-	3,751.49
MW-10	5/21/2006	3,811.42	-	58.50		3,752.92
MW-11: Ser	eened Interval	~60-80 ft bgs.				
MW-11	2/24/2005	3,811.66	= (	61.52	-	3,750.14
MW-11	5/18/2005	3,811.66	-	61.78		3,749.88
MW-11	11/15/2005	3,811.66	-	62.20		3,749.46
MW-11	5/21/2006	3,811.66	-	61.94	-	3,749.72
MW-12: Ser	eened Interval	~60-80 ft bgs.				
MW-12	2/24/2005	3,811.70	-	62.61	-	3,749.09
MW-12	5/18/2005	3,811.70	14	62.67		3,749.03
MW-12	11/15/2005	3,811.70	1.1	63.10	-	3,748.60
MW-12	5/21/2006	3,811.70	-	62.95	-	3,748.75

### NOTES:

GW = Groundwater

PSH = Phase-separated hydrocarbons

TOC = Top of casing

ft. MSL = Feet mean sea level

ft. btoc = Feet below top of casing

\* Top of casing elevations were surveyed to ft. MSL on 2/24/05 by John West Surveying.

Prior to 2/24/05 top of casing elevations were based on an arbitrary elevation of 500 ft.

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		Benzene	Toluene	Ethylbenzene	Xylenes	Phenol	Naphthalene	Chlorides
Monitor Well	Date	(mg/I)	(mg/I)	(mg/l)	(mg/l)	(mg/I)	(mg/l)	(mg/l)
V	VQCC Guideline:	0.01	0.75	0.75	0.62	0.005	0.03	250
MW-1	2/14/1996	0.083	<0.001	<0.001	0.01	**		**
MW-1	2/29/1996	<0.001	<0.001	<0.001	<0.001	<0.001	0.017	
MW-1	4/20/1990	0.305	<0.001	0.002	0.032	0.025	0.017	
MW-1	4/10/1997	0.268	<0.001	0.020	0.034	<0.023	0.010	
MW-1	7/7/1997	0.243					0.005	
MW-1	10/8/1997	0.180	< 0.001	0.012	< 0.001		0.003	<10
MW-1	1/5/1998	0.138	< 0.001	0.008	< 0.001		0.002	6.2
MW-1	4/3/1998	0.109	< 0.001	0.004	0.006		0.003	51
MW-1	6/25/1998	0.071	< 0.001	0.002	0.003		< 0.001	7.3
MW-1	10/2/1998	0.078	< 0.005	< 0.005	< 0.005		< 0.001	14
MW-1	1/5/1999	0.005	< 0.001	< 0.001	< 0.001			
MW-1	4/1/1999	< 0.005	< 0.005	< 0.005	< 0.005	**		
MW-1	7/14/1999	<0.005	<0.005	<0.005	< 0.005	**	**	
MW-1	10/22/1999	<0.001	<0.001	<0.001	< 0.001		**	
MW-1	1/25/2000	0.001	<0.001	<0.001	<0.001		**	
MW-1	4/3/2000	<0.005	<0.005	<0.005	<0.005		**	
MW-1	10/24/2000	<0.005	<0.005	0.005	<0.005		**	
MW-1	1/24/2000	<0.005	<0.005	<0.025	<0.005			
MW-1	10/18/2001	~0.005	\$0.005	Insufficient wate	column present	to purge/somple		
MW-1	3/19/2002			Insufficient wate	r column present	to purge/sample.		
MW-1	8/14/2002			Insufficient wate	r column present	to purge/sample.		
MW-1	1/13/2003			Insufficient water	r column present	to purge/sample.		
MW-1	8/26/2003			Insufficient wate	r column present	to purge/sample.		
MW-1	5/11/2004			Insufficient water	r column present	to purge/sample.		
MW-1	11/22/2004			Insufficient water	r column present	to purge/sample.		
MW-1	5/18/2005			Insufficient water	r column present	to purge/sample.		
MW-1	11/15/2005			Insufficient water	r column present	to purge/sample.		
MW-1	5/21/2006			Insufficient water	r column present	to purge/sample.		
MW-2	10/23/1996	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
MW-2	4/10/1997	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	<0.001	
MW-2	7/7/1997	<0.001						
MW-2	10/8/199/	<0.001	<0.001	<0.001	<0.001	**	<0.001	19
MW-2	4/3/1008	<0.001	<0.001	<0.001	<0.001		<0.001	06
MW-2	6/25/1008	<0.001	<0.001	<0.001	<0.001		<0.001	25
MW-2	10/2/1998	<0.001	<0.001	<0.001	<0.001		<0.001	
MW-2	1/5/1999		0.001	Sampling disc	ontinued as appro	wed by OCD.		
MW-2	1/13/2003	1.0		Sampling disc	ontinued as appro	wed by OCD.		
MW-2	8/26/2003			Sampling disc	ontinued as appro	wed by OCD.		
MW-2	5/11/2004			Sampling disc	ontinued as appro	wed by OCD.		
MW-2	11/22/2004			Sampling disc	ontinued as appro	wed by OCD.		
MW-2	5/18/2005			Sampling disc	ontinued as appro	wed by OCD.		
MW-2	11/15/2005			Sampling disc	ontinued as appro	wed by OCD.		
MW-2	5/21/2006			Sampling disc	ontinued as appro	wed by OCD		
MW-3	10/23/1996	0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
MW-3	4/10/1997	0.016	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	**
MW-3	7/7/1997	0.003	< 0.001	<0.001	<0.001	**		
MW-3	1/8/1997	<0.001	<0.001	<0.001	<0.001		<0.001	69
MW-3	4/3/1998	<0.001	<0.001	<0.001	<0.001		<0.001	130
MW-3	6/25/1998	<0.001	<0.001	<0.001	<0.001	**	<0.001	12
MW-3	10/2/1998	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	46
MW-3	1/5/1999	< 0.001	< 0.001	< 0.001	< 0.001			**
MW-3	4/1/1999	< 0.001	< 0.001	< 0.001	< 0.001			
MW-3	7/14/1999	< 0.001	< 0.001	< 0.001	< 0.001		**	
MW-3	10/22/1999	< 0.001	< 0.001	< 0.001	< 0.001			**
MW-3	1/25/2000	< 0.001	< 0.001	< 0.001	< 0.001	**		**
MW-3	4/3/2000	< 0.005	< 0.005	< 0.005	< 0.005	**	**	**
MW-3	7/17/2000	0.01	< 0.005	< 0.005	< 0.005	**		
MW-3	10/24/2000	0.02	0.008	< 0.005	0.014		-	**
MW-3	1/24/2001	<0.005	<0.005	<0.005	<0.005	**		**
MW-3	3/19/2001	<0.000	<0.001	<0.001	<0.001	**		
MW-3	8/14/2002			Insufficient wate	column present	to purpe/sample		
A 10 A 17 A	NOT 18			STATES STATES AND ADDRESS OF STATES	PLE PLE POLICIES	- from Box manufactor		

		Benzene	Toluene	Ethylbenzene	Xylenes	Phenol	Naphthalene	Chlorie
Monitor Well	Date	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/l)	(mg/I
NOV 2	VQCC Guideline:	0.00	0.75	0.75	0.02	0.005	0.03	250
MW-3	8/26/2003	<0.005	<0.005		<0.005		**	
MW-3	5/11/2004	Insufficient water column present to purgersample						
MW-3	11/22/2004	<0.001	<0.001	<0.001	<0.001	o purge sampre		156
MW-3	5/18/2005	< 0.001	< 0.001	<0.001	< 0.001			139
MW-3	11/15/2005	< 0.001	< 0.001	< 0.001	< 0.001			48.9
MW-3	5/21/2006	< 0.001	< 0.001	< 0.001	< 0.001	++		42.8
MW-4	10/23/1996	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	***
MW-4	4/10/1997	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	
MW-4	7/7/1997	< 0.001						
MW-4	10/8/1997	< 0.001	< 0.001	<0.001	< 0.001	**	< 0.001	<10
MW-4	1/6/1998	<0.001	<0.001	<0.001	< 0.001	**	<0.001	10
MW-4	4/3/1998	<0.001	<0.001	<0.001	<0.001	**	<0.001	38
MW-4	10/2/1998	<0.001	<0.001	<0.001	<0.001		<0.001	18
MW-4	1/5/1998	~0.001	0.001	Sampling disc	-0.001	ved by OCD	<0.001	10
MW-4	1/13/2003			Sampling disc	ontinued as appro	ved by OCD.		
MW-4	8/26/2003			Sampling discontinue	d as approved by	OCD. Well was d	Irv.	
MW-4	5/11/2004			Sampling discontinue	d as approved by	OCD. Well was d	iry.	
MW-4	11/22/2004			Sampling discontinue	d as approved by	OCD. Well was d	Iry.	
MW-4	5/18/2005			Sampling discontinue	d as approved by	OCD. Well was d	Iry.	
MW-4	11/15/2005			Sampling discontinue	d as approved by	OCD. Well was d	lry.	_
MW-4	5/21/2006			Sampling disc	ontinued as appro	ved by OCD.		
MW-5	10/23/1996	0.135	< 0.001	0.006	0.071	< 0.001	< 0.001	
MW-5	4/10/1997	0.043	< 0.001	< 0.001	0.063	< 0.001	0.001	
MW-5	7/7/1997	0.015	++				< 0.001	
MW-5	10/8/1997	0.050	< 0.001	< 0.001	< 0.001		0.001	24
MW-5	1/6/1998	0.031	<0.001	<0.001	0.010		<0.001	27
MW-5	4/3/1998	0.037	<0.001	0.002	0.019		0.001	09
MW-5	10/2/1998	0.017	<0.001	<0.001	<0.000		<0.001	23
MW-5	1/5/1999	0.005	<0.001	<0.001	<0.001		~0.001	07
MW-5	4/1/1999	0.003	< 0.001	< 0.001	< 0.001			
MW-5	7/14/1999	< 0.001	< 0.001	< 0.001	< 0.001			
MW-5	10/22/1999	< 0.001	< 0.001	< 0.001	< 0.001			
MW-5	1/25/2000	< 0.001	< 0.001	< 0.001	< 0.001			
MW-5	4/3/2000	< 0.005	< 0.005	< 0.005	< 0.005			
MW-5	7/17/2000	< 0.005	< 0.005	<0.005	< 0.005			
MW-5	10/24/2000	< 0.005	< 0.005	< 0.005	< 0.005			
MW-5	1/24/2001			Insufficient water	r column present (	to purge/sample.		
MW-5	10/18/2001			Insufficient water	r column present t	to purge/sample.		
MW-5	3/19/2002			Insufficient water	r column present i	to purge/sample.		
MW-5	8/14/2002			Insufficient water	r column present	to purge/sample.		
MW-5	8/26/2003			Insufficient water	r column present t	to purge/sample.		
MW-5	5/11/2004			Insufficient water	column present	to purge sample.	_	
MW-5	11/22/2004	<0.001	<0.001	c0.001	<0.001	o purge sample.		20.3
MW-SDup	11/22/2004	<0.001	<0.001	<0.001	<0.001			30.3
MW-5	5/18/2005	-0.001	501001	Insufficient write	column present	to nurne/cumsle		50.4
MW-5	11/15/2005			Insufficient water	column present i	to purge/sample		
MW-5	5/21/2006			Insufficient water	r column present 1	to purge/sample.		
MW-6	10/23/1996	0.192	< 0.001	0.006	0.013	<0.001	<0.001	
MW-6	4/10/1997	0.272	< 0.001	< 0.001	0.014	< 0.001	0.001	
MW-6	7/7/1997	0.106						
MW-6	10/8/1997	< 0.001	< 0.001	< 0.001	< 0.001	++	0.001	30
MW-6	1/6/1998	0.132	< 0.001	< 0.001	0.004		< 0.001	31
MW-6	4/3/1998	0.165	< 0.001	0.002	0.008		0.001	98
MW-6	6/25/1998	0.143	< 0.001	< 0.001	0.009	**	< 0.001	28
MW-6	10/2/1998	0.157	< 0.005	< 0.005	0.012		< 0.001	31
MW-6	1/5/1999	0.123	<0.001	<0.001	0.004	**	**	56
MW-6	4/1/1999	0.12	<0.001	<0.001	< 0.001	**	**	31
MW-0	10/22/1000	0.093	<0.005	<0.005	<0.005			34
MW-6	1/25/2000	0.105	<0.001	<0.001	<0.001			31.5
MW-6	4/3/2000	0.157	<0.001	<0.005	<0.005			33
MW-6	7/17/2000	0.126	< 0.005	< 0.005	< 0.005	**		33
MW-6	10/24/2000	0.031	<0.005	< 0.005	0.006			30

Monitor Well	Date	Benzene (mg/l)	Toluene (mg/l)	Ethylbenzene (mg/l)	Xylenes (mg/l)	Phenol (mg/l)	Naphthalene (mg/l)	Chlorides (mg/l)		
1	WQCC Guideline:	0.01	0.75	0.75	0.62	0.005	0.03	250		
MW-6	1/24/2001	0.02	< 0.005	< 0.005	< 0.005			28		
MW-6	10/18/2001	Insufficient water column present to purge/sample.								
MW-6	3/19/2002	Insufficient water column present to purge/sample.								
MW-6	8/14/2002		Insufficient water column present to purge/sample.							
MW-0	1/13/2003		Insufficient water column present to purge/sample.							
MW-0	8/20/2003			Insufficient water	column present	to purge/sample.				
MW-0	3/11/2004			Insufficient water	column present	to purge/sample.				
MW-6	5/18/2005		Dhumand	and abandoned in Febr	2005 seplar	to purge sample.	ell MW.6R			
MW-6R	5/18/2005	<0.001	<0.001	<0.001	<0.001			37.7		
MW-6R	11/15/2005	<0.001	<0.001	<0.001	< 0.001			41.4		
MW-6R	5/21/2006	< 0.001	< 0.001	< 0.001	< 0.001			41.2		
MW-7	1/9/1997	< 0.001	< 0.001	0.006	0.013	< 0.001	< 0.001			
MW-7	4/10/1997	< 0.001	< 0.001	< 0.001	0.014	< 0.001	0.001			
MW-7	7/7/1997	< 0.001						**		
MW-7	10/8/1997	< 0.001	< 0.001	< 0.001	< 0.001	-	0.001	33		
MW-7	1/6/1998	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	37		
MW-7	4/3/1998	< 0.001	< 0.001	< 0.001	< 0.001		0.001	120		
MW-7	6/25/1998	<0.001	<0.001	<0.001	<0.001	**	<0.001	33		
MW-/	10/2/1998	<0.001	<0.001	<0.001	<0.001		<0.001	24		
MW-7	4/1/1999	<0.001	<0.001	<0.001	<0.001			36		
MW-7	7/14/1999	<0.001	<0.001	<0.001	<0.001			35		
MW-7	10/22/1999	< 0.001	< 0.001	<0.001	< 0.001			35.2		
MW-7	1/25/2000	< 0.001	< 0.001	< 0.001	< 0.001			32		
MW-7	4/3/2000	< 0.001	< 0.001	< 0.001	< 0.001			31		
MW-7	7/17/2000	< 0.001	< 0.001	< 0.001	< 0.001			32		
MW-7	10/24/2000	< 0.001	< 0.001	< 0.001	< 0.001			33		
MW-7	1/24/2001	< 0.005	< 0.005	< 0.005	< 0.005			33		
MW-7	10/18/2001	0.025	< 0.001	< 0.001	< 0.001	**		39.5		
MW-7	3/19/2002	0.414	< 0.001	<0.001	<0.001		**	39.8		
MW-7	8/14/2002	0.750	<0.005	<0.005	<0.005			4/.1		
MW-7	8/26/2003	0.799	<0.005	<0.005	<0.005			38.3		
MW-7	5/11/2004	0.122	<0.001	<0.001	<0.001	npieu.		46.5		
MW-7	11/22/2004	< 0.001	< 0.001	< 0.001	< 0.001			47.6		
MW-7	5/18/2005	< 0.001	< 0.001	< 0.001	< 0.001			39.6		
MW-7Dup	5/18/2005	< 0.001	< 0.001	< 0.001	< 0.001			42.4		
MW-7	11/15/2005	< 0.001	< 0.001	< 0.001	< 0.001	**		47.4		
MW-7	5/21/2006	< 0.001	< 0.001	< 0.001	< 0.001		**	48.3		
MW-7Dup	5/21/2006	< 0.001	< 0.001	< 0.001	< 0.001			48.2		
MW-8	10/23/1996			1	Vell not installed					
MW-8	4/10/1997	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001			
MW-8	10/8/1007	<0.001	<0.001	<0.001	<0.001		<0.001	15		
MW-8	1/6/1998	<0.001	<0.001	<0.001	< 0.001		<0.001	27		
MW-8	4/3/1998	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	160		
MW-8	6/25/1998	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	26		
MW-8	10/2/1998	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	27		
MW-8	1/5/1999			Sampling disc	ontinued as appro	wed by OCD.				
MW-8	1/13/2003			Sampling disc	ontinued as appro	oved by OCD.				
MW-8	8/26/2003			Sampling disc	ontinued as appro	oved by OCD.				
MW-8	5/11/2004			Sampling disc	ontinued as appro	oved by OCD.				
MW-8	5/18/2004			Sampling disc	ontinued as appro	wed by OCD.				
MW-8	11/15/2005			Sampling disc	ontinued as appro	wed by OCD.				
MW-8	5/21/2006	-		Sampling disc	ontinued as appro	wed by OCD				
MW-9	10/23/1996			County mig disc	Vell not installed	and any subsets				
MW-9	4/10/1997	< 0.001	< 0.001	< 0.001	< 0.001	< 0.001	0.001	320		
MW-9	7/7/1997	< 0.001			**			41		
MW-9	10/8/1997	< 0.001	< 0.001	< 0.001	< 0.001		0.001	560		
MW-9	1/6/1998	< 0.001	< 0.001	< 0.001	< 0.001		< 0.001	490		
MW-9	4/3/1998	< 0.001	< 0.001	< 0.001	< 0.001	**	0.001	460		
MW-9	6/25/1998	< 0.001	< 0.001	< 0.001	< 0.001	**	< 0.001	290		
MW-9	10/2/1998	<0.001	<0.001	<0.001	<0.001	**	< 0.001	200		
MW-9	4/1/1000	<0.001	<0.001	<0.001	<0.001			260		
191 191 19 - 7	1 1/1/1///	-0.001	100.001	-0.001	100.001			100		

Page 3 of 4

		Benzene	Toluene	Ethylbenzene	Xylenes	Phenol	Naphthalene	Chlorides
Monitor Well	Date	(mg/l)	(mg/I)	(mg/l)	(mg/I)	(mg/I)	(mg/l)	(mg/I)
1	WQCC Guideline:	0.01	0.75	0.75	0.62	0.005	0.03	250
MW-9	7/14/1999	< 0.001	< 0.001	< 0.001	< 0.001			284
MW-9	10/22/1999	< 0.001	< 0.001	< 0.001	< 0.001		1	278
MW-9	1/25/2000	< 0.005	< 0.005	< 0.005	< 0.005	340	**	300
MW-9	4/3/2000	< 0.005	< 0.005	< 0.005	< 0.005			250
MW-9	7/17/2000	< 0.001	< 0.001	<0.001	< 0.001	**		95
MW-9	10/24/2000	< 0.001	< 0.001	< 0.001	< 0.001	144 /		40
MW-9	1/24/2001	< 0.005	< 0.005	< 0.005	< 0.005		**	42
MW-9	10/18/2001	< 0.001	< 0.001	< 0.001	< 0.001			166
MW-9	3/19/2002	0.0046	< 0.001	< 0.001	<0.001	1440		77.5
MW-9	8/14/2002	0.0022	< 0.001	< 0.001	< 0.001		++	106
MW-9	1/13/2003	< 0.001	< 0.001	< 0.001	< 0.001		**	92.1
MW-9	8/26/2003	< 0.005	< 0.005	< 0.005	< 0.005			111
MW-9	5/11/2004	< 0.001	< 0.001	< 0.001	< 0.001			206
MW-9	11/22/2004	< 0.001	< 0.001	< 0.001	< 0.001	- ++		104
MW-9	5/18/2005	< 0.001	< 0.001	< 0.001	< 0.001			91.5
MW-9	11/15/2005	< 0.001	< 0.001	<0.001	< 0.001			144
MW-9	5/21/2006	< 0.001	<0.001	< 0.001	<0.001	246	**	92.9
MW-10	10/23/1996			V	Vell not installed			
MW-10	4/10/1997	<0.001	< 0.001	< 0.001	<0.001	<0.001	0.001	
MW-10	7/7/1997	<0.001						8.8
MW-10	10/8/1997	<0.001	<0.001	<0.001	<0.001		0.001	110
MW-10	1/6/1998	<0.001	<0.001	<0.001	<0.001		<0.001	101
MW-10	4/3/1998	<0.001	<0.001	<0.001	<0.001		0.001	180
MW-10	0/25/1998	<0.001	<0.001	<0.001	<0.001		<0.001	140
MW-10	10/2/1998	<0.001	<0.001	<0.001	<0.001		<0.001	100
MW-10	4/1/1000	<0.001	<0.001	<0.001	<0.001			140
MW-10	4/1/1999	<0.001	<0.001	<0.001	<0.001			128
MW-10	10/22/1000	<0.001	<0.001	<0.001	<0.001			124
MW-10	1/25/2000	<0.001	<0.001	<0.001	<0.001			120
MW-10	4/3/2000	<0.001	<0.001	<0.001	<0.001			130
MW-10	7/17/2000	<0.001	<0.001	<0.001	<0.001			130
MW-10	10/24/2000	<0.001	<0.003	<0.005	<0.000			150
MW-10	1/24/2001	< 0.005	<0.005	<0.005	<0.005			18
MW-10	10/18/2001	< 0.001	< 0.001	<0.001	<0.001			119
MW-10	3/19/2002	0.0043	< 0.001	< 0.001	< 0.001			78.9
MW-10	8/14/2002	< 0.001	< 0.001	< 0.001	<0.001	-		96.4
MW-10	1/13/2003	< 0.001	< 0.001	< 0.001	<0.001			140
MW-10	8/26/2003	< 0.001	0.0012	< 0.001	< 0.001	1.000		162
MW-10	5/11/2004	< 0.001	< 0.001	< 0.001	< 0.001	-		111
MW-10D	5/11/2004	< 0.001	< 0.001	< 0.001	< 0.001		**	106
MW-10	11/22/2004	< 0.001	<0.001	< 0.001	< 0.001			26.8
MW-10	5/18/2005	< 0.001	< 0.001	< 0.001	< 0.001			197
MW-10	11/15/2005	< 0.001	< 0.001	< 0.001	< 0.001			183
MW-10	5/21/2006	< 0.001	< 0.001	< 0.001	< 0.001			138
MW-11	2/24/2005	< 0.001	< 0.001	< 0.001	<0.001			76.4
MW-11	5/18/2005	< 0.001	< 0.001	< 0.001	< 0.001			62.8
MW-11	11/15/2005	< 0.001	< 0.001	< 0.001	< 0.001		**	68.8
MW-11Dup	11/15/2005	< 0.001	< 0.001	< 0.001	< 0.001			
MW-11	5/21/2006	< 0.001	< 0.001	< 0.001	< 0.001	-		57.9
MW-12	2/24/2005	< 0.001	< 0.001	< 0.001	< 0.001	100	44.	43.7
MW-12	5/18/2005	< 0.001	< 0.001	< 0.001	< 0.001			36
MW-12	11/15/2005	< 0.001	< 0.001	< 0.001	< 0.001		**	36.4
MW-12	5/21/2006	< 0.001	< 0.001	< 0.001	< 0.001	( +++ ( )	**	35.8

#### NOTE:

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Shaded and **bolded** results exceed the New Mexico Water Quality Commission established guideline levels:

benzene = 0.01 mg/L and chlorides = 250 mg/L.

mg/L = milligrams per Liter or parts per million.

-- = Constituent not analyzed for.



## **FIGURES**











Appendix A

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# **APPENDIX A**

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## ANALYTICAL RESULTS



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Report Date: June 1, 2006 40299-0002-00004 Work Order: 6052306 Hobbs Gas Plant

## **Summary Report**

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

Report Date: June 1, 2006

Work Order: 6052306

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
91074	MW-12	water	2006-05-21	10:34	2006-05-23
91075	MW-11	water	2006-05-21	11:29	2006-05-23
91076	MW-7	water	2006-05-21	14:31	2006-05-23
91077	EBlank	water	2006-05-21	14:45	2006-05-23
91078	MW-10	water	2006-05-21	15:23	2006-05-23
91079	MW-6R	water	2006-05-21	16:11	2006-05-23
91080	MW-9	water	2006-05-21	16:56	2006-05-23
91081	MW-3	water	2006-05-21	17:40	2006-05-23
91082	MW-99	water	2006-05-21	00:00	2006-05-23
91083	TRIP	water	2006-05-21	00:00	2006-05-23

[]		E	BTEX		MTBE
	Benzene	Toluene	Ethylbenzene	Xylene	MTBE
Sample - Field Code	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
91074 - MW-12	<0.00100	< 0.00100	<0.00100	<0.00100	
91075 - MW-11	<0.00100	< 0.00100	<0.00100	<0.00100	
91076 - MW-7	< 0.00100	< 0.00100	< 0.00100	<0.00100	
91077 - EBlank	< 0.00100	< 0.00100	< 0.00100	<0.00100	
91078 - MW-10	< 0.00100	< 0.00100	< 0.00100	<0.00100	
91079 - MW-6R	< 0.00100	< 0.00100	< 0.00100	<0.00100	
91080 - MW-9	< 0.00100	< 0.00100	< 0.00100	<0.00100	
91081 - MW-3	< 0.00100	< 0.00100	< 0.00100	<0.00100	
91082 - MW-99	< 0.00100	< 0.00100	< 0.00100	<0.00100	
91083 - TRIP	< 0.00100	< 0.00100	<0.00100	< 0.00100	

## Sample: 91074 - MW-12

Param	Flag	Result	Units	RL
Chloride		35.8	mg/L	0.500

Sample: 91075 - MW-11

TraceAnalysis, Inc. • 6701 Aberdeen Ave., Suite 9 • Lubbock, TX 79424-1515 • (806) 794-1296

Report Date: June 1, 2006 40299-0002-00004	6	Work Order: 6052306 Hobbs Gas Plant	P	age Number: 2 of 2 Hobbs,NM
Param	Flag	Result	Units	$\mathbf{RL}$
Chloride		57.9	mg/L	0.500
Sample: 91076 - MW-3	7			
Param	Flag	Result	Units	RL
Chloride		48.3	mg/L	0.500
Sample: 91078 - MW-1	10			
Param	Flag	Result	Units	RL
Chloride		138	mg/L	0.500
Sample: 91079 - MW-6 Param	6 <b>R</b> Flag	Result	Units	RL
Chloride		41.2	mg/L	0.500
Sample: 91080 - MW-{	9			
Param	Flag	Result	Units	RL
Chloride	<u> </u>	92.9	mg/L	0.500
Sample: 91081 - MW-3	3			
Param	Flag	Result	Units	RL
Chloride		42.8	mg/L	0.500
Sample: 91082 - MW-8	<del>}</del> 9			
Param	Flag	Result	Units	RL
Chloride		48.2	mg/L	0.500

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Project Location:Hobbs,NMProject Name:Hobbs Gas PlantProject Number:40299-0002-00004

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

			Date	Time	Date
Sample	Description	Matrix	Taken	Taken	Received
91074	MW-12	water	2006-05-21	10:34	2006-05-23
91075	MW-11	water	2006-05-21	11:29	2006-05-23
91076	<b>MW-</b> 7	water	2006-05-21	14:31	2006-05-23
91077	EBlank	water	2006-05-21	14:45	2006-05-23
91078	MW-10	water	2006-05-21	15:23	2006-05-23
91079	MW-6R	water	2006-05-21	16:11	2006-05-23
91080	MW-9	water	2006-05-21	16:56	2006-05-23
91081	MW-3	water	2006-05-21	17:40	2006-05-23
91082	MW-99	water	2006-05-21	00:00	2006-05-23
91083	TRIP	water	2006-05-21	00:00	2006-05-23

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 15 pages and shall not be reproduced except in its entirety, without written approval of TraceAnalysis, Inc.

Dr. Blair Leftwich, Director

Report Date: June 1, 2006 40299-0002-00004 Work Order: 6052306 Hobbs Gas Plant ļ

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## **Analytical Report**

Sample: 91074 - MW-12

Analysis: BTEX		Analytical M	lethod:	S 8021B		Prep Meth	od: S 5030B
QC Batch: 26842		Date Analyz	ed:	2006-05-25		Analyzed	By: KB
Prep Batch: 23571		Sample Prep	aration:	2006-05-25		Prepared I	By: KB
		R	L				
Parameter Flag		Resu	lt	Units	Ι	Dilution	RL
Benzene		< 0.0010	Ю	mg/L		1	0.00100
Toluene		< 0.0010	0	mg/L		1	0.00100
Ethylbenzene		<0.0010	ю	mg/L		1	0.00100
Xylene		< 0.0010	0	mg/L		1	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0840	mg/L	, 1	0.100	84	78.1 - 125.4
4-Bromofluorobenzene (4-BFB)		0.0798	mg/L	, 1	0.100	80	46.4 - 136.5

#### Sample: 91074 - MW-12

Analysis:	Chloride (IC)	Analytical Method:	E 300.0		Prep Method:	N/A
QC Batch:	26933	Date Analyzed:	2006-05-25		Analyzed By:	WB
Prep Batch:	23635	Sample Preparation:	2006-05-24		Prepared By:	WB
		RL				
Parameter	Flag	Result	Units	Dilution		RL
Chloride		35.8	mg/L	5		0.500

#### Sample: 91075 - MW-11

Analysis: BTEX		Analytical N	Aethod:	S 8021B		Prep Met	thod: S 5030B
QC Batch: 26842		Date Analyz	zed:	2006-05-25		Analyzec	1By: KB
Prep Batch: 23571		Sample Prep	paration:	2006-05-25		Prepared	By: KB
		R	L				
Parameter	Flag	Resu	ılt	Units		Dilution	RL
Benzene		< 0.0010	)0	mg/L		1	0.00100
Toluene		< 0.0010	00	mg/L		1	0.00100
Ethylbenzene		< 0.0010	)0	mg/L		1	0.00100
Xylene	·	< 0.0010	00	mg/L		1	0.00100
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.0890	mg/L	1	0.100	89	78.1 - 125.4
4-Bromofluorobenzene (4-H	BFB)	0.0840	mg/L	. 1	0.100	84	46.4 - 136.5

Report Date 40299-0002	: June 1, 2006 -00004			ork Order: 60 Hobbs Gas P		Page	Number: 3 of Hobbs,N	
Sample: 910	975 - MW-11							
Analysis:	Chloride (IC)		Analyti	cal Method:	E 300.0		Prep	Method: N
OC Batch:	26933		Date A	nalvzed:	2006-05-25		Anal	vzed By: W
Prep Batch:	23635		Sample	Preparation:	2006-05-24		Prep	ared By: W
			RL					
Parameter	Flag		Result		Units		Dilution	F
Chloride		-	57.9	····	mg/L		5	0.5
Somula: 01(	N76 - NAXX 7							
Sample. 910								
Analysis:	BTEX		Analytical M	ethod: S 80	J21B		Prep Met	hod: $S 5030$
QC Batch:	26842		Date Analyze	ed: 200	6-05-25		Analyzed	і Ву: КВ
Prep Batch:	23571		Sample Prepa	tration: 200	6-05-25		Prepared	Ву: КВ
D	Floo		RI		Unito		Dilution	г
Parameter	riag	· · · · ·		<u>.</u>	mall		1	<u> </u>
Toluona				3	mg/L mg/I		1	0.001
Toluciic	<b>a</b>			) )	mg/L		1	0.001
Luiyiochzen Yulana				) ]	mg/I		1	0.001
		<u> </u>	<0.0010	, 	nig/L		1	0.001
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recover Limits
Trifluorotolu	ene (TFT)		0.0855	mg/L	1	0.100	86	78.1 - 125
4-Bromofluo	robenzene (4-BFB)		0.0788	mg/L	1	0.100	79	46.4 - 136
Sample: 91(	976 - MW-7							
Analysis:	Chloride (IC)		Analyti	cal Method:	E 300.0		Prep	Method: N
QC Batch:	26934		Date A	nalyzed:	2006-05-25		Anal	yzed By: W
Prep Batch:	23636		Sample	Preparation:	2006-05-24		Prep	ared By: W
			RL					
Parameter	Flag		Result		Units		Dilution	<u>I</u>
Chloride	· · · ·		48.3	····	mg/L		5	0.5
·								
Sample: 91(	)77 - EBlank							
Analysis:	BTEX		Analytical M	ethod: S 8	021B		Prep Met	hod: S 503
OC Batch	26842		Date Analyze	a: 200	6-05-25		Analyzed	і Ву: КВ
QC Duton.	23571		Sample Prepa	aration: 200	6-05-25		Prepared	Ву: КВ
Prep Batch:			RI					
Prep Batch:			- 10		<b>.</b>			
Prep Batch: Parameter	Flag		Resul	<u>t</u>	Units		Dilution	0.001
Prep Batch: Parameter Benzene	Flag		Resul	t	Units mg/L		Dilution	0.001
Prep Batch: Parameter Benzene Toluene	Flag		<pre></pre>	t) )	Units mg/L mg/L		Dilution 1 1	0.001
Prep Batch: Parameter Benzene Toluene Ethylbenzene	Flag		Resul <0.0010 <0.0010 <0.0010	t ) ) )	Units mg/L mg/L mg/L		Dilution 1 1 1	0.001 0.001 0.001

40299-0002-	00004		W	Ork Order: ( Hobbs Gas	5052306 Plant		Page	Hobbs,NM	
						Spike	Percent	Recovery	
Surrogate	_	Flag	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotolu	ene (TFT)		0.0812	mg/L	1	0.100	81	78.1 - 125	
4-Bromofluo	robenzene (4-BFB)	<u> </u>	0.0768	mg/L	1	0.100	77	46.4 - 136	
Sample: 910	78 - MW-10								
Analysis:	BTEX		Analytical M	lethod: S	8021B		Prep Met	thod: S 5030	
QC Batch:	26842		Date Analyz	ed: 20	06-05-25		Analyzeo	IBy: KB	
Prep Batch:	23571		Sample Prep	aration: 20	06-05-25		Prepared	Ву: КВ	
Parameter	Flag		R	L	Units	I	Dilution	F	
Renzene	1'1ag		<0.0010	<u></u>	mø/I		1	0.001	
Toluene			< 0.0010	õ	mg/L		1	0.001	
Ethvlbenzene	2		< 0.0010	Õ	mg/L		1	0.001	
Xylene			<0.0010	0	mg/L		1	0.001	
						Spike	Percent	Recover	
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotolue	ene (TFT)		0.0807	mg/L	1	0.100	81	78.1 - 125	
Sample: 910	78 - MW-10								
Sample: 910 Analysis:	<b>78 - MW-10</b> Chloride (IC)		Analyti	ical Method	E 300.0		Ргер	Method: N	
Sample: 910 Analysis: QC Batch:	<b>78 - MW-10</b> Chloride (IC) 26934		Analyt Date A	ical Method nalyzed:	E 300.0 2006-05-25		Prep Anal	Method: Na yzed By: W	
Sample: 910 Analysis: QC Batch: Prep Batch:	<b>78 - MW-10</b> Chloride (IC) 26934 23636		Analyti Date A Sample	ical Method nalyzed: Preparation	E 300.0 2006-05-25 a: 2006-05-24		Prep Anal Prep	Method: Na yzed By: W ared By: W	
Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch:	<b>78 - MW-10</b> Chloride (IC) 26934 23636		Analyti Date A Sample RL Bassit	ical Method nalyzed: Preparatior	E 300.0 2006-05-25 a: 2006-05-24		Prep Anal Prep Dilution	Method: Na yzed By: W ared By: W	
Sample: 910 Analysis: QC Batch: Prep Batch: Parameter Chloride	<b>78 - MW-10</b> Chloride (IC) 26934 23636 Flag		Analyti Date A Sample RL Result	ical Method nalyzed: Preparation	E 300.0 2006-05-25 a: 2006-05-24 Units		Prep Anal Prep Dilution	Method: N/ yzed By: W ared By: W	
Sample: 910 Analysis: QC Batch: Prep Batch: Parameter Chloride	<b>78 - MW-10</b> Chloride (IC) 26934 23636 Flag		Analyti Date A Sample RL Result 138	ical Method nalyzed: Preparation	E 300.0 2006-05-25 a: 2006-05-24 Units mg/L		Prep Anal Prep Dilution 10	Method: N/ lyzed By: W ared By: W    	
Sample: 910 Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 910	78 - MW-10 Chloride (IC) 26934 23636 Flag 79 - MW-6R		Analyti Date A Sample RL Result 138	ical Method nalyzed: Preparation	E 300.0 2006-05-25 n: 2006-05-24 Units mg/L		Prep Anal Prep Dilution 10	Method: N. lyzed By: W ared By: W F 0.5	
Sample: 910 Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 910 Analysis:	78 - MW-10 Chloride (IC) 26934 23636 Flag 79 - MW-6R BTEX		Analyti Date A Sample RL Result 138	ical Method nalyzed: Preparation	E 300.0 2006-05-25 a: 2006-05-24 Units mg/L 8021B		Prep Anal Prep Dilution 10 Prep Met	Method: N. lyzed By: W ared By: W <u>F</u> 0.5	
Sample: 910 Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 910 Analysis: QC Batch:	78 - MW-10 Chloride (IC) 26934 23636 Flag 79 - MW-6R BTEX 26842		Analyti Date A Sample RL Result 138 Analytical M Date Analyz	ical Method nalyzed: Preparation	E 300.0 2006-05-25 a: 2006-05-24 Units mg/L 8021B 006-05-25		Prep Anal Prep Dilution 10 Prep Met Analyzeo	Method: N/ lyzed By: W ared By: W <u>F</u> 0.5 0.5 1 bod: S 5030 1 By: KB	
Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: <u>Parameter</u> Chloride Sample: 910 Analysis: QC Batch: Prep Batch:	78 - MW-10 Chloride (IC) 26934 23636 Flag 79 - MW-6R BTEX 26842 23571		Analyti Date A Sample RL Result 138 Analytical M Date Analyz Sample Prep	ical Method nalyzed: Preparation	E 300.0 2006-05-25 a: 2006-05-24 Units mg/L 8021B 006-05-25 006-05-25		Prep Anal Prep Dilution 10 Prep Met Analyzec Prepared	Method: N/ lyzed By: W ared By: W F 0.5 0.5 1 By: KB By: KB	
Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Chloride Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch:	78 - MW-10 Chloride (IC) 26934 23636 Flag 79 - MW-6R BTEX 26842 23571		Analyti Date A Sample RL Result 138 Analytical M Date Analyz Sample Prep R	ical Method nalyzed: Preparation lethod: S ed: 20 aration: 20	E 300.0 2006-05-25 2006-05-24 Units mg/L 8021B 006-05-25 006-05-25		Prep Anal Prep Dilution 10 Prep Met Analyzec Prepared	Method: NA lyzed By: W ared By: W F 0.50 (1 By: KB By: KB	
Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Chloride Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene	78 - MW-10 Chloride (IC) 26934 23636 Flag 79 - MW-6R BTEX 26842 23571 Flag		Analyti Date A Sample RL Result 138 Analytical M Date Analyz Sample Prep R R Resu	ical Method nalyzed: Preparation lethod: S ed: 20 aration: 20 L	E 300.0 2006-05-25 a: 2006-05-24 Units mg/L 8021B 006-05-25 006-05-25 Units mg/L		Prep Anal Prep Dilution 10 Prep Met Analyzec Prepared Dilution	Method: N/ lyzed By: W ared By: W F 0.5 hod: S 5030 1 By: KB By: KB By: KB	
Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Chloride Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene	78 - MW-10 Chloride (IC) 26934 23636 Flag 79 - MW-6R BTEX 26842 23571 Flag		Analyti Date A Sample RL Result 138 Analytical M Date Analyz Sample Prep R Resu <0.0010 <0.0010	ical Method nalyzed: Preparation lethod: S ed: 20 aration: 20 L lt 0 0	E 300.0 2006-05-25 a: 2006-05-24 <u>Units</u> mg/L 8021B 906-05-25 906-05-25 <u>Units</u> mg/L mg/L	I	Prep Anal Prep Dilution 10 Prep Met Analyzec Prepared Dilution 1	Method: N/ lyzed By: W ared By: W F 0.50 thod: S 5030 t By: KB By: KB By: KB F 0.0010 0.0010	
Sample: 910 Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Benzene Toluene Ethylbenzene	<b>78 - MW-10</b> Chloride (IC) 26934 23636 Flag <b>79 - MW-6R</b> BTEX 26842 23571 Flag		Analyti Date A Sample RL Result 138 Analytical M Date Analyz Sample Prep R R Resu <0.0010 <0.0010	ical Method nalyzed: Preparation lethod: S ed: 20 aration: 20 L L L 1 0 0	E 300.0 2006-05-25 a: 2006-05-24 Units mg/L 8021B 006-05-25 006-05-25 Units mg/L mg/L mg/L		Prep Anal Prep Dilution 10 Prep Met Analyzec Prepared Dilution 1 1	Method: N/ lyzed By: W ared By: W F 0.50 thod: S 5030 1 By: KB By: KB By: KB F 0.0010 0.0010	
Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Chloride Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene	78 - MW-10 Chloride (IC) 26934 23636 Flag 79 - MW-6R BTEX 26842 23571 Flag		Analyti Date A Sample RL Result 138 Analytical M Date Analyz Sample Prep R R Resu <0.0010 <0.0010 <0.0010	ical Method nalyzed: Preparation lethod: S ed: 20 aration: 20 L lt 0 0 0 0	E 300.0 2006-05-25 a: 2006-05-24 <u>Units</u> mg/L 8021B 906-05-25 906-05-25 906-05-25 <u>Units</u> mg/L mg/L mg/L	I	Prep Anal Prep Dilution 10 Prep Met Analyzec Prepared Dilution 1 1 1 1 1	Method: N. lyzed By: W ared By: W F 0.5 thod: S 5030 1 By: KB By: KB By: KB F 0.001 0.001 0.001	
Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Chloride Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Parameter Benzene Foluene Ethylbenzene Xylene	78 - MW-10 Chloride (IC) 26934 23636 Flag 79 - MW-6R BTEX 26842 23571 Flag		Analyti Date A Sample RL Result 138 Analytical M Date Analyz Sample Prep R R Resu <0.0010 <0.0010 <0.0010	ical Method nalyzed: Preparation lethod: S ed: 20 aration: 20 L lt 0 0 0	E 300.0 2006-05-25 2006-05-24 Units mg/L 8021B 06-05-25 006-05-25 006-05-25 Units mg/L mg/L mg/L mg/L	Spike	Prep Anal Prep Dilution 10 Prep Met Analyzec Prepared Dilution 1 1 1 1 1 1 Percent	Method: N/ lyzed By: W ared By: W F 0.5 thod: S 5030 1 By: KB By: KB By: KB F 0.0014 0.0014 0.0014 0.0014 0.0014	
Sample: 910 Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene	78 - MW-10 Chloride (IC) 26934 23636 Flag 79 - MW-6R BTEX 26842 23571 Flag	Flag	Analyti Date A Sample RL Result 138 Analytical M Date Analyz Sample Prep R Result <0.0010 <0.0010 <0.0010	ical Method nalyzed: Preparation Preparation Sed: 20 aration: 20 L L L L L L L Units	E 300.0 2006-05-25 a: 2006-05-24 Units mg/L 8021B 006-05-25 006-05-25 006-05-25 Units mg/L mg/L mg/L mg/L mg/L	Spike	Prep Anal Prep Dilution 10 Prep Met Analyzec Prepared Dilution 1 1 1 1 1 1 1 2 2 2 2	Method: N/ lyzed By: W ared By: W F 0.50 thod: S 5030 t By: KB By: KB By: KB F 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010	
Sample: 910 Analysis: QC Batch: Prep Batch: Parameter Chloride Sample: 910 Analysis: QC Batch: Prep Batch: Prep Batch: Prep Batch: Parameter Benzene Toluene Ethylbenzene Xylene	<b>78 - MW-10</b> Chloride (IC) 26934 23636 Flag <b>79 - MW-6R</b> BTEX 26842 23571 Flag	Flag	Analyti Date A Sample RL Result 138 Analytical M Date Analyz Sample Prep R R Resul <0.0010 <0.0010 <0.0010 <0.0010 <0.0010	ical Method nalyzed: Preparation lethod: S ed: 20 aration: 20 L L L L L L Units mg/L	E 300.0 2006-05-25 a: 2006-05-24 Units mg/L 8021B 006-05-25 006-05-25 006-05-25 Units mg/L mg/L mg/L mg/L mg/L	Spike Amount 0.100	Prep Anal Prep Dilution 10 Prep Met Analyzed Prepared Dilution 1 1 1 1 1 1 1 1 2 Percent Recovery 85	Method: N/ yzed By: W ared By: W F 0.50 thod: S 5030 1 By: KB By: KB By: KB F 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010 0.0010	

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Report Date: 40299-0002-	: June 1, 2006 -00004	Work Ore Hobbs	der: 6052306 Gas Plant	Page Number: 5 of Hobbs,			
Sample: 910	)79 - MW-6R						
Analysis:	Chloride (IC)	Analytical Me	thod: E 300.0		Prep	Method: N/A	
QC Batch:	26934	Date Analyzed	l: 2006-05-25		Ana	lyzed By: WB	
Prep Batch:	23636	Sample Prepar	ration: 2006-05-24		Ргер	ared By: WB	
_	_	RL		_			
Parameter	Flag	Result	Units	D	ilution	RI	
Chloride		41.2	mg/L	· · · · · · · · · · · · · · · · · · ·	5	0.500	
Sample: 910	)80 - MW-9						
Analysis:	BTEX	Analytical Method:	S 8021B		Prep Me	thod: S 5030B	
QC Batch:	26842	Date Analyzed:	2006-05-25		Analyzed	1 By: KB	
Prep Batch:	23571	Sample Preparation:	2006-05-25		Prepared	By: KB	
		RL					
Parameter	Flag	Result	Units	Di	lution	RL	
Benzene		<0.00100	mg/L		1	0.00100	
Toluene		<0.00100	mg/L		1	0.0010	
Ethylbenzen	e	<0.00100	mg/L		1	0.0010	
Xylene		<0.00100	mg/L	· · · · · · · · · · · · · · · · · · ·	1	0.00100	
Sumorata	г	Jac Docult Linit	ta Dilution	Spike	Percent	Recovery	
Trifugrately	r	$\frac{1}{1}$ Result Unit			Recovery	78 1 125	
4-Bromofluo	robenzene (4-BFR)	0.0812 mg/	L 1	0.100	81	46 4 - 136 4	
			÷				
Sample: 910	)80 - MW-9						
Analysis:	Chloride (IC)	Analytical Me	thod: E 300.0		Prep	Method: N/A	
QC Batch:	26934	Date Analyzed	1: 2006-05-25		Ana	lyzed By: WB	
Prep Batch:	23636	Sample Prepar	ation: 2006-05-24		Prep	ared By: WB	
<b>D</b>		RL	<b>T</b> T <b>1</b> .		••	DI	
Parameter	Flag	Result	Units	D	ilution	RI	
		92.9	mg/L		3	0.500	
Sample: 910	981 - MW-3						
Analysis:	BTEX	Analytical Method:	S 8021B		Prep Met	thod: S 5030E	
QC Batch:	26840	Date Analyzed:	2006-05-25		Analyzed	iBy: KB	
Prep Batch:	23569	Sample Preparation:	2006-05-25		Prepared	By: KB	
D		RL	<b>* *</b> •.		1. 1.		
Parameter	Flag	Kesult	Units	Di	iution	RI	
D	1	<0.00100	mg/L		1	0.00100	
Benzene		0 00100	п		1	A AA1 A/	
Benzene Toluene		<0.00100	mg/L		1	0.00100	

<sup>1</sup>Sample was not <2 pH. Sample ran unpreserved.

Report Date: 40299-0002	: June 1, 2006 -00004		W	ork Order: 60 Hobbs Gas Pl	52306 lant	Page Number: 6 of Hobbs,N				
sample 9108	1 continued									
			R	L		_				
Parameter	Flag		Resu	lt	Units	D	vilution	RI		
Xylene			< 0.0010	0	mg/L	····	1	0.00100		
Surrogate		Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits		
Trifluorotolu	ene (TFT)		0.0972	mg/L	1	0.100	97	66.2 - 127.7		
4-Bromofluo	probenzene (4-BFB)		0.0970	mg/L	1	0.100	97	70.6 - 129.2		
Sample: 91(	081 - MW-3									
Analysis:	Chloride (IC)		Analyt	ical Method:	E 300.0		Prep	Method: N/A		
QC Batch:	26934		Date A	nalyzed:	2006-05-25		Anal	yzed By: WE		
Prep Batch:	23636		Sample	Preparation:	2006-05-24		Prepa	ared By: WE		
Doromatar	Flag		RL Result		Unite	т	Dilution	RI		
Chloride	114g		42.8		mg/I		5	0.500		
QC Batch: Prep Batch:	26840 23569		Date Analyz Sample Prep	ed: 200 aration: 200	6-05-25 6-05-25		Analyzed Prepared	l By: KB By: KB		
			R	L						
Parameter	Flag		Resu	lt	Units	C	Vilution	RI		
Benzene	. 2		< 0.0010	0	mg/L		1	0.0010		
Toluene	•		< 0.0010		mg/L		1	0.0010		
Zulyioenzen Xvlene	e		< 0.0010	ю Ю	mg/L		1	0.0010		
						Snike	Percent	Recovery		
Surrogate		Flag	Result	Units	Dilution	Amount	Recovery	Limits		
Trifluorotolu	ene (TFT)	<u>v</u>	0.0980	mg/L	1	0.100	98	66.2 - 127.		
4-Bromofluo	orobenzene (4-BFB)		0.0973	mg/L	1	0.100	97	70.6 - 129.		
Sample: 91(	)82 - MW-99									
Analysis:	Chloride (IC)		Analvt	ical Method:	E 300.0		Prep	Method: N/		
QC Batch:	26934		Date A	nalyzed:	2006-05-25		Anal	yzed By: WI		
-	23636		Sample	e Preparation:	2006-05-24		Prep	ared By: WI		
Prep Batch:										
Prep Batch:	1-1		RL		T 1	-	Dilution	<b>D</b> I		
Prep Batch: Parameter	Flag		RL Result		Units	I	Dilution 5	R		

<sup>2</sup>Sample was not <2 pH. Sample ran unpreserved.

Report Date: June 1, 2006 40299-0002-00004		V	Vork Orde Hobbs (	er: 6052306 Gas Plant	Page Number: 7 o Hobbs			
Sample: 91083 - TRIP								
Analysis: BTEX		Analytical N	Method:	S 8021B		Prep Met	hod: S 5030B	
QC Batch: 26839		Date Analyz	zed:	2006-05-25		Analyzed	i By: KB	
Prep Batch: 23568		Sample Prep	paration:	2006-05-25		Prepared	By: KB	
		F	RL					
Parameter Fla	ag	Res	ult	Units		Dilution	RL	
Benzene		< 0.001	00	mg/L		1	0.00100	
Toluene		< 0.001	00	mg/L		1	0.00100	
Ethylbenzene		< 0.001	00	mg/L		1	0.00100	
Xylene		< 0.001	00	mg/L		11	0.00100	
					Spike	Percent	Recovery	
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits	
Trifluorotoluene (TFT)	0	0.103	mg/L	1	0.100	103	66.2 - 127.7	
4-Bromofluorobenzene (4-BFB)		0.104	mg/L	1	0.100	104	70.6 - 129.2	

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Method Blank (1) QC Batch: 26839

		M	DL			
Flag		Re	sult	Uni	ts	RL
		< 0.0002	255	mg/	L	0.001
		< 0.0002	210	mg/	L	0.001
		< 0.000	317	mg/	L	0.001
		<0.000	603	mg/	L	0.001
				Spike	Percent	Recovery
Flag	Result	Units	Dilution	Amount	Recovery	Limits
	0.104	mg/L	1	0.100	104	76.1 - 117
	0.104	mg/L	1	0.100	104	58.5 - 118
	Flag Flag	Flag Flag Result 0.104 0.104	Flag   Re     <0.0001	MDL     Flag   Result     <0.000255	MDL     Flag   Result   Uni     <0.000255	MDL     Flag   Result   Units     <0.000255

Method Blank (1) QC Batch: 26840

			M	DL			
Parameter	Flag		Re	sult	Uni	ts	RL
Benzene			< 0.000	255	mg/	L	0.001
Toluene			< 0.000	210	mg/	L	0.001
Ethylbenzene			< 0.000	317	mg/	L	0.001
Xylene			< 0.000	603	mg/	L	0.001
					Spike	Percent	Recovery
Surrogate	Flag	Result	Units	Dilution	Amount	Recovery	Limits
Trifluorotoluene (TFT)		0.101	mg/L	1	0.100	101	76.1 - 117
4-Bromofluorobenzene (4-BFB)		0.101	mg/L	1	0.100	101	58.5 - 118

Method Blank (1) QC Batch: 26842

Report Date: June 1, 2000 40299-0002-00004	6	<u></u>	Work Order: 6052306 Hobbs Gas Plant					Page Number: 8 of 15 Hobbs,NM		
				MDL	a					
Parameter	Flag			Resul	t	U	nits			RL
Benzene			<(	).000153	3	m	g/L			0.001
Toluene			<(	).000283	\$	m	g/L			0.001
Ethylbenzene			<(	).000621	i –	m	g/L . a			0.001
Xylene			<(	1.000456	)	m	уL			0.001
	_	_				Spike	Pe	ercent	Rec	overy
Surrogate	Flag	Res	ult Un	its	Dilution	Amount	Re	covery		mits
Trifluorotoluene (TFT)		0.08	69 mg	;/L ~	1	0.100		87	80.4	- 108
4-Bromofluorobenzene (4	-BFB)	0.08	<u>49 mg</u>	<u>/L</u>	<u> </u>	0.100		85	/5.1	11/
Method Blank (1)										
QC Batch: 26933		Dat	e Analyzed:	2006	-05-25			Analyze	d By:	WB
Prep Batch: 23635		QC	Preparation	: 2006-	-05-24			Prepare	d By:	WB
				MDI						
Denemieter	Elec			MDL Regult		I T	nite			DI
Parameter Chlorida	Flag			<u>C 0552</u>						- 0.5
QC Batch: 26934 Prep Batch: 23636		Dat QC	e Analyzed: Preparation	2006- : 2006-	-05-25 -05-24			Analyze Prepare	d By: d By:	WB WB
F			I	MDL				ľ	2	
Parameter	Flag			Result		U	nits			RL
Chloride			<	0.0552		m	g/L			
										0.5
Laboratory Control Spil QC Batch: 26839 Prep Batch: 23568	ke (LCS-1)	Dat QC	te Analyzed: Preparation	2006 : 2006	-05-25 -05-25			Analyz Prepare	ed By: d By:	0.5 KB KB
Laboratory Control Spil QC Batch: 26839 Prep Batch: 23568 L	ke (LCS-1) .CS LCSD	Dat QC	te Analyzed: Preparation	2006 : 2006 Spike	-05-25 -05-25 Matrix	_		Analyz Prepare Rec.	ed By: :d By:	0.5 KB KB RPD
Laboratory Control Spil QC Batch: 26839 Prep Batch: 23568 L Param Re	ke (LCS-1) .CS LCSD esult Result	Dai QC Units	te Analyzed: Preparation Dil. A	2006 : 2006 Spike mount	-05-25 -05-25 Matrix Result	Rec.	RPD	Analyz Prepare Rec. Limit	ed By: d By:	0.5 KB KB RPD Limit
Laboratory Control Spil QC Batch: 26839 Prep Batch: 23568 L Param Re Benzene 0.	ke (LCS-1) CS LCSD esult Result 100 0.0955	Dat QC 	te Analyzed: Preparation Dil. A 1 (0	2006 :: 2006 Spike mount ).100	-05-25 -05-25 Matrix Result <0.00025	Rec.	RPD 5	Analyz Prepare Rec. Limit 80.8 - 1	ed By: d By:	0.5 KB KB Limit
Laboratory Control Spil QC Batch: 26839 Prep Batch: 23568 L Param Re Benzene 0. Toluene 0.	ke (LCS-1) CS LCSD esult Result 100 0.0955 100 0.0956	Dat QC Units mg/L mg/L	te Analyzed: Preparation Dil. A 1 ( 1 (	2006 :: 2006 Spike mount ).100 ).100	-05-25 -05-25 Matrix Result <0.00025 <0.00021	Rec. 5 100 0 100 7 102	RPD 5 4	Analyz Prepare Rec. Limit 80.8 - 1 78 - 11	ed By: d By: 12 4	0.5 KB KB RPD Limit 20 20
Laboratory Control Spil QC Batch: 26839 Prep Batch: 23568 L Param Re Benzene 0. Toluene 0. Ethylbenzene 0.	ke (LCS-1) CS LCSD esult Result .100 0.0955 .100 0.0956 .102 0.0978 .207 0.204	Dat QC Units mg/L mg/L mg/L	te Analyzed: Preparation Dil. A 1 ( 1 ( 1 (	2006 :: 2006 Spike mount ).100 ).100 ).100 ).200	-05-25 -05-25 Matrix Result <0.00025 <0.00021 <0.00031	Rec. 5 100 0 100 7 102 3 102	RPD 5 4 4	Analyz Prepare Rec. Limit 80.8 - 1 78 - 11 78.6 - 1	ed By: 2d By: 12 4 16	0.5 KB KB RPD Limit 20 20 20 20
Laboratory Control Spil QC Batch: 26839 Prep Batch: 23568 L Param Re Benzene 0. Toluene 0. Ethylbenzene 0. Xylene 0.	ke (LCS-1) CS LCSD esult Result .100 0.0955 .100 0.0956 .102 0.0978 .307 0.294	Dat QC Units mg/L mg/L mg/L mg/L	te Analyzed: Preparation Dil. A 1 ( 1 ( 1 ( 1 ( 1 (	2006 : 2006 Spike mount ).100 ).100 ).100 ).300	-05-25 -05-25 Matrix Result <0.00025 <0.000210 <0.00031 <0.00060	Rec. 5 100 0 100 7 102 3 102	RPD 5 4 4 4	Analyz Prepare Rec. Limit 80.8 - 1 78 - 1 78.6 - 1 83.2 - 1	ed By: d By: 12 4 16 12	0.5 KB KB Limit 20 20 20 20 20
Laboratory Control SpilQC Batch:26839Prep Batch:23568ParamReBenzene0.Foluene0.Ethylbenzene0.Xylene0.Percent recovery is based	ke (LCS-1) CS LCSD esult Result .100 0.0955 .100 0.0956 .102 0.0978 .307 0.294 on the spike resul	Dat QC Units mg/L mg/L mg/L t. RPD is ba	te Analyzed: Preparation Dil. A 1 () 1 () 1 () 1 () 1 () 1 () 1 () 1 ()	2006 2006 2006 2006 2006 2006 2006 2006	-05-25 -05-25 Matrix Result <0.00025 <0.000210 <0.00031 <0.00060 I spike duplic	Rec. 5 100 0 100 7 102 3 102 rate result.	RPD 5 4 4 4	Analyz Prepare Rec. Limit 80.8 - 1 78 - 11 78.6 - 1 83.2 - 1	ed By: cd By: 12 14 16 12	0.5 KB KB Limit 20 20 20 20
Laboratory Control SpilQC Batch:26839Prep Batch:23568Prep Batch:23568ParamReBenzene0.Toluene0.Ethylbenzene0.Xylene0.Percent recovery is based	ke (LCS-1) CS LCSD esult Result .100 0.0955 .100 0.0956 .102 0.0978 .307 0.294 on the spike resul	Dat QC <u>Units</u> mg/L mg/L mg/L t. RPD is ba LCS	te Analyzed: Preparation Dil. A 1 ( 1 ( 1 ( 1 c 1 c 1 c 1 c 1 c 1 c 1 c 1 c 1 c 1 c	2006 :: 2006 Spike mount ).100 ).100 ).100 ).100 ).300 pike and	-05-25 -05-25 Matrix Result <0.00025 <0.000210 <0.00031 <0.00060 I spike duplic	Rec. 5 100 0 100 7 102 3 102 ate result. Spike	RPD 5 4 4 4 LCS	Analyz Prepare Rec. Limi 80.8 - 1 78.6 - 1 83.2 - 1 LCSD	ed By: 2d By: 12 14 16 12 F	0.5 KB KB Limit 20 20 20 20
Laboratory Control Spil   QC Batch: 26839   Prep Batch: 23568   Param Re   Benzene 0.   Foluene 0.   Ethylbenzene 0.   Yercent recovery is based Surrogate	ke (LCS-1) <u>CS</u> LCSD <u>esult</u> <u>Result</u> <u>100</u> 0.0955 <u>100</u> 0.0956 <u>102</u> 0.0978 <u>307</u> 0.294 on the spike resul	Dat QC Units mg/L mg/L mg/L t. RPD is ba LCS Result	te Analyzed: Preparation Dil. A 1 ( 1 ( 1 ( 1 ( ased on the s LCSD Result	2006 : 2006 Spike mount ).100 ).100 ).100 ).100 ).300 pike and Units	-05-25 -05-25 Matrix Result <0.00025 <0.000210 <0.00031 <0.00060 I spike duplic Dil.	Rec. 5 100 0 100 7 102 3 102 ate result. Spike Amount	RPD 5 4 4 4 LCS Rec.	Analyz Prepare Rec. Limit 80.8 - 1 78 - 11 78.6 - 1 83.2 - 1 83.2 - 1 LCSD Rec.	ed By: 2d By: 12 14 16 12 F L	KB KB KB Limit 20 20 20 20 20 20
Laboratory Control Spil QC Batch: 26839 Prep Batch: 23568 L Param Re Benzene 0. Foluene 0. Coluene 0. Sthylbenzene 0. Kylene 0. Percent recovery is based Surrogate Frifluorotoluene (TFT)	ke (LCS-1) <u>CS</u> LCSD <u>esult</u> <u>Result</u> <u>100</u> 0.0955 <u>100</u> 0.0956 <u>102</u> 0.0978 <u>307</u> 0.294 on the spike resul	Dau QC Units mg/L mg/L mg/L t. RPD is ba LCS Result 0.103	te Analyzed: Preparation <u>S</u> Dil. A 1 ( 1 ( 1 ( 1 ( 1 ( 1 ( 1 ( 1 ( 1 ( 1 (	2006 : 2006 Spike mount ).100 ).100 ).100 ).300 pike and Units mg/L	-05-25 -05-25 Matrix Result <0.00025 <0.000210 <0.00031 <0.00060 I spike duplic Dil.	Rec.   5 100   0 100   7 102   3 102   ate result. Spike   Amount 0.100	RPD 5 4 4 4 LCS Rec. 103	Analyz Prepare Rec. Limit 80.8 - 1 78 - 1 78 - 1 78 - 1 83.2 - 1 83.2 - 1 LCSD Rec. 100	ed By: d By: 12 4 16 12 F L 79.9	0.5 KB KB Limit 20 20 20 20 20 20 20

40299-0002-00004	2006	2306 nt		Page Numb	Hobbs,N					
Laboratory Control	Spike (LC	S-1)								
OC Batch: 26840			Da	te Analyz	ed: 2006-	05-25			Analyzed	Bv: Kl
Pren Batch: 23569			00	C Prenarat	ion: 2006-	05-25			Prenared F	3v: K
100 D 2000			×.	• • • • • • • • • • •					<b>r</b>	
	LCS	LCSD			Spike	Matrix			Rec.	RP
Param	Result	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	Lin
Benzene	0.0981	0.0927	mg/L	1	0.100	< 0.00025	5 98	6	80.8 - 112	20
Toluene	0.0976	0.0930	mg/L	1	0.100	< 0.00021	0 98	5	78 - 114	20
Ethylbenzene	0.0981	0.0943	mg/L	1	0.100	< 0.00031	7 98	4	78.6 - 116	20
Xylene	0.296	0.284	mg/L	1	0.300	< 0.00060	3 99	4	83.2 - 112	20
Percent recovery is ba	used on the	spike resul	lt. RPD is t	based on th	ne spike and	spike duplic	ate result.			
			LCS	LCSD			Spike	LCS	LCSD	Rec.
Surrogate			Result	Result	Units	Dil.	Amount	Rec.	Rec.	Limit
Trifluorotoluene (TFI	Γ)		0.100	0.0986	mg/L	1	0.100	100	99	<b>79.9 - 1</b>
4-Bromofluorobenzer	ne (4-BFB)		0.0988	0.0972	mg/L	1	0.100	99	97	79 - 12
Laboratory Control QC Batch: 26842 Prep Batch: 23571	Spike (LC	S-1)	Da QC	ite Analyz C Preparat	ed: 2006- ion: 2006-	05-25 05-25			Analyzed I Prepared B	By: K By: K
Laboratory Control QC Batch: 26842 Prep Batch: 23571	Spike (LC LCS	S-1) LCSD	Da Qû	ate Analyz C Preparat	ed: 2006- ion: 2006- Spike	05-25 05-25 Matrix			Analyzed I Prepared E Rec.	By: K By: K RP
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param	Spike (LC LCS Result	S-1) LCSD Result	Da Qu Units	tte Analyz C Preparat Dil.	ed: 2006- ion: 2006- Spike Amount	05-25 05-25 Matrix Result	Rec.	RPD	Analyzed I Prepared E Rec. Limit	By: K By: K RP Lin
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene	Spike (LC LCS Result 0.106	S-1) LCSD Result 0.109	Da QC Units mg/L	tte Analyz C Preparat Dil. 1	ed: 2006- ion: 2006- Spike Amount 0.100	05-25 05-25 Matrix Result <0.00015	Rec.	RPD 3	Analyzed Prepared E Rec. Limit 80 - 120	By: K By: K RP Lin 20
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene	Spike (LC LCS Result 0.106 0.106	S-1) LCSD Result 0.109 0.108	Da QC Units mg/L mg/L	tte Analyz C Preparat Dil. 1 1	ed: 2006- ion: 2006- Spike Amount 0.100 0.100	05-25 05-25 Matrix Result <0.0001 <0.00028	Rec. 53 106 83 106	<b>RPD</b> 3 2	Analyzed I Prepared E Rec. Limit 80 - 120 80 - 120	By: K By: K RP Lin 20
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene	Spike (LC LCS Result 0.106 0.106 0.106	S-1) LCSD Result 0.109 0.108 0.107	Da Qu Units mg/L mg/L mg/L	tte Analyz C Preparat Dil. 1 1 1	ed: 2006- ion: 2006- Spike <u>Amount</u> 0.100 0.100 0.100	05-25 05-25 Matrix Result <0.00013 <0.00028 <0.00062	Rec. 53 106 83 106 21 106	RPD 3 2 1	Analyzed 1 Prepared E Rec. Limit 80 - 120 80 - 120 80 - 120	By: K By: K RP Lin 20 20 20
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene	Spike (LC LCS <u>Result</u> 0.106 0.106 0.321	S-1) LCSD Result 0.109 0.108 0.107 0.325	Da Qd Units mg/L mg/L mg/L mg/L	tte Analyz C Preparat Dil. 1 1 1 1 1	ed: 2006- ion: 2006- Spike Amount 0.100 0.100 0.100 0.300	05-25 05-25 Matrix Result <0.00012 <0.00022 <0.00062 <0.00062	Rec. 53 106 83 106 21 106 56 107	RPD 3 2 1 1	Analyzed ) Prepared E Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120	By: K By: K RP Lin 20 20 20 20
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba	LCS Result 0.106 0.106 0.321 used on the	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike result	Da Qd Units mg/L mg/L mg/L mg/L mg/L	tte Analyz C Preparat Dil. 1 1 1 1 1 1 2 2 2 2 2 2 2 2 2 2 2 2 2	ed: 2006- ion: 2006- Spike <u>Amount</u> 0.100 0.100 0.100 0.300 ne spike and	05-25 05-25 Matrix Result <0.00013 <0.00028 <0.00062 <0.00043 spike duplic	Rec. 53 106 83 106 21 106 56 107 ate result.	RPD 3 2 1 1	Analyzed F Prepared E Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120	By: K 3y: K <u>Lin</u> 20 20 20 20
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba	LCS Result 0.106 0.106 0.321 used on the	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike resul	Da Qd Units mg/L mg/L mg/L lt. RPD is t LCS	tte Analyz C Preparat Dil. 1 1 1 1 2 based on the LCSD	ed: 2006- ion: 2006- Spike Amount 0.100 0.100 0.100 0.300 ne spike and	05-25 05-25 Matrix Result <0.00012 <0.00022 <0.00062 <0.00062 spike duplic	Rec. 53 106 83 106 21 106 56 107 ate result. Spike	RPD 3 2 1 1 LCS	Analyzed F Prepared E Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120	By: K By: K RP Lin 20 20 20 20 8 C Rec.
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba	Spike (LC LCS Result 0.106 0.106 0.321 ased on the	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike resul	Da QC Units mg/L mg/L mg/L t. RPD is t LCS Result	tte Analyz C Preparat Dil. 1 1 1 2 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3	ed: 2006- ion: 2006- Spike Amount 0.100 0.100 0.100 0.300 ne spike and Units	05-25 05-25 Matrix Result <0.0001 <0.00022 <0.00062 <0.00062 <0.00062 spike duplic Dil.	Rec. 53 106 83 106 21 106 56 107 ate result. Spike Amount	RPD 3 2 1 1 LCS Rec.	Analyzed F Prepared E Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 Rec.	By: K By: K RP Lin 20 20 20 20 20 20 20 20 20 20 20 20 20
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba Surrogate Trifluorotoluene (TF)	Spike (LC LCS Result 0.106 0.106 0.106 0.321 ased on the	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike resul	Da QC Units mg/L mg/L mg/L mg/L t. RPD is t LCS Result 0.0997	tte Analyz C Preparat Dil. 1 1 1 1 2 2 3 3 3 3 3 3 3 3 3 3 3 3 3 3	ed: 2006- ion: 2006- Spike Amount 0.100 0.100 0.100 0.300 ne spike and Units mg/L	05-25 05-25 Matrix Result <0.00015 <0.00028 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.00062 <0.0	Rec. 53 106 83 106 21 106 56 107 ate result. Spike Amount 0.100	RPD   3   2   1   1   1   LCS   Rec.   100	Analyzed F Prepared E Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120	By: K By: K RP Lin 20 20 20 20 20 20 20 80 80 - 12
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba Surrogate Trifluorotoluene (TFI 4-Bromofluorobenzer	Spike (LC LCS Result 0.106 0.106 0.321 ased on the (4-BFB)	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike resul	Da QC Units mg/L mg/L mg/L mg/L t. RPD is b LCS Result 0.0997 0.103	Dil. Dil. 1 1 1 1 0ased on the LCSD Result 0.101 0.104	ed: 2006- ion: 2006- Spike Amount 0.100 0.100 0.100 0.300 ne spike and Units mg/L mg/L	05-25 05-25 Matrix Result <0.00015 <0.00065 <0.00045 spike duplic Dil. 1 1	Rec.     53   106     83   106     21   106     56   107     ate result.   Spike     Amount   0.100     0.100   0.100	RPD 3 2 1 1 1 LCS Rec. 100 103	Analyzed F Prepared E Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 101 101	By: K By: K RP Lin 20 20 20 20 20 20 20 20 80 80 - 11 80 - 11
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba Surrogate Trifluorotoluene (TFT 4-Bromofluorobenzer	Spike (LC LCS Result 0.106 0.106 0.321 ased on the C) he (4-BFB) Spike (LC	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike resul	Da QC Units mg/L mg/L mg/L t. RPD is t LCS Result 0.0997 0.103	tte Analyz C Preparat Dil. 1 1 1 2 based on the LCSD Result 0.101 0.104	ed: 2006- ion: 2006- Spike Amount 0.100 0.100 0.100 0.300 ne spike and Units mg/L mg/L	05-25 05-25 Matrix Result <0.00028 <0.00062 <0.00042 spike duplic Dil. 1 1	Rec. 53 106 83 106 21 106 56 107 ate result. Spike Amount 0.100 0.100	RPD 3 2 1 1 1 LCS Rec. 100 103	Analyzed F Prepared E Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 101 104	By: K By: K RP Lin 20 20 20 20 20 20 20 20 80 80 - 1 80 - 1
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba Surrogate Trifluorotoluene (TFI 4-Bromofluorobenzer	Spike (LC LCS Result 0.106 0.106 0.106 0.321 used on the (4-BFB) Spike (LC	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike resul	Da QC Units mg/L mg/L mg/L mg/L mg/L t. RPD is t LCS Result 0.0997 0.103	Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1	ed: 2006- ion: 2006- Spike <u>Amount</u> 0.100 0.100 0.300 ne spike and <u>Units</u> mg/L mg/L	05-25 05-25 Matrix Result <0.00013 <0.00023 <0.00043 spike duplic Dil. 1 1	Rec. 53 106 53 106 54 107 ate result. Spike Amount 0.100 0.100	RPD 3 2 1 1 1 LCS Rec. 100 103	Analyzed F Prepared F Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 LCSD Rec. 101 104	By: K By: K RP Lin 20 20 20 20 20 20 20 20 20 20 20 20 20
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba Surrogate Trifluorotoluene (TFT 4-Bromofluorobenzer Laboratory Control QC Batch: 26933 Bran Batch: 22625	Spike (LC LCS Result 0.106 0.106 0.106 0.321 used on the C) ne (4-BFB) Spike (LC	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike resul S-1)	Da QC Units mg/L mg/L mg/L mg/L t. RPD is t LCS Result 0.0997 0.103	tte Analyz Dil. 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 2 Dased on the LCSD Result 0.101 0.104	ed: 2006- ion: 2006- Spike Amount 0.100 0.100 0.300 ne spike and Units mg/L mg/L	05-25 05-25 Matrix Result <0.00012 <0.00062 <0.00042 spike duplic Dil. 1 1	Rec. 53 106 83 106 21 106 56 107 ate result. Spike Amount 0.100 0.100	RPD 3 2 1 1 1 LCS Rec. 100 103	Analyzed F Prepared F Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 LCSD Rec. 101 104	By: K By: K RP Lin 20 20 20 20 20 20 20 20 20 20 20 20 20
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba Surrogate Trifluorotoluene (TFI 4-Bromofluorobenzer Laboratory Control QC Batch: 26933 Prep Batch: 23635	Spike (LC LCS Result 0.106 0.106 0.106 0.321 ased on the (1) (4-BFB) Spike (LC	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike result S-1)	Da QC Units mg/L mg/L mg/L t. RPD is t LCS Result 0.0997 0.103 Da QC	tte Analyz C Preparat Dil. 1 1 1 1 2 2 3 3 3 3 4 4 5 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	ed: 2006- ion: 2006- Spike Amount 0.100 0.100 0.300 ne spike and Units mg/L mg/L ed: 2006- ion: 2006-	05-25 05-25 Matrix Result <0.0001 <0.00023 <0.00062 <0.00062 <0.00062 spike duplic Dil. 1 1 1	Rec. 53 106 83 106 21 106 56 107 ate result. Spike Amount 0.100 0.100	RPD 3 2 1 1 1 LCS Rec. 100 103	Analyzed F Prepared F Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 LCSD Rec. 101 104 Analyzed F Prepared B	By: K By: K RP Lin 20 20 20 20 20 20 20 20 20 20 20 20 20
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba Surrogate Trifluorotoluene (TF1 4-Bromofluorobenzer Laboratory Control QC Batch: 26933 Prep Batch: 23635	Spike (LC LCS Result 0.106 0.106 0.106 0.321 used on the (4-BFB) Spike (LC LCS	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike result S-1) LCSD	Da QC Units mg/L mg/L mg/L t. RPD is t LCS Result 0.0997 0.103 Da QC	tte Analyz C Preparat Dil. 1 1 1 1 based on th LCSD Result 0.101 0.104 tte Analyza	ed: 2006- ion: 2006- Spike Amount 0.100 0.100 0.100 0.300 ne spike and Units mg/L mg/L ed: 2006- ion: 2006- Spike	05-25 05-25 Matrix Result <0.00028 <0.00062 <0.00062 <0.00062 spike duplic Dil. 1 1 1 05-25 05-24 Matrix	Rec. 53 106 83 106 21 106 56 107 ate result. Spike Amount 0.100 0.100	RPD 3 2 1 1 1 LCS Rec. 100 103	Analyzed Prepared F Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120 LCSD Rec. 101 104 Analyzed F Prepared B Rec.	By: K By: K RP Lin 20 20 20 20 20 20 20 20 20 20 20 20 20
Laboratory Control QC Batch: 26842 Prep Batch: 23571 Param Benzene Toluene Ethylbenzene Xylene Percent recovery is ba Surrogate Trifluorotoluene (TFI 4-Bromofluorobenzer Laboratory Control QC Batch: 26933 Prep Batch: 23635	Spike (LC LCS Result 0.106 0.106 0.106 0.321 ised on the C) ise (4-BFB) Spike (LC LCS Result	S-1) LCSD Result 0.109 0.108 0.107 0.325 spike result S-1) LCSD Result	Da QC Units mg/L mg/L mg/L mg/L t. RPD is t LCS Result 0.0997 0.103 Da QC Units	tte Analyz C Preparat Dil. 1 1 1 1 1 0 ased on the LCSD Result 0.101 0.104 te Analyze C Preparati	ed: 2006- ion: 2006- Spike <u>Amount</u> 0.100 0.100 0.100 0.300 ne spike and <u>Units</u> mg/L mg/L ed: 2006- ion: 2006- Spike Amount	05-25 05-25 Matrix Result <0.00028 <0.00062 <0.00062 <0.00062 <0.00062 spike duplic Dil. 1 1 1 05-25 05-24 Matrix Result	Rec. 53 106 53 106 54 107 ate result. Spike Amount 0.100 0.100 0.100 Rec.	RPD 3 2 1 1 1 LCS Rec. 100 103 RPD	Analyzed F Prepared F Rec. Limit 80 - 120 80 - 120 80 - 120 80 - 120 80 - 120 LCSD Rec. 101 104 Analyzed F Prepared B Rec. Limit	By: K By: K RP Lin 20 20 20 20 20 20 20 20 20 20 20 20 20

QC Batch:	26934	Date Analyzed:	2006-05-25	Analyzed By:	WB
Prep Batch:	23636	QC Preparation:	2006-05-24	Prepared By:	WB

			·		• • • • • • •						
D	L	CS LC	SD	¥7 *.	DI	Spike	Matrix	D	DDD	Rec.	RPD
Param	Result Result Units Dil. Amount Result										
	12			mg/L	1	12.5	<0.0552		1	90 - 110	20
Percent recove	ry is base	d on the spi	ke resu	It. RPD is b	ased on th	e spike and s	pike duplicate	e result.			
Matrix Spike	(MS-1)										
OC Batch:	26839			Da	te Analyz	ed: 2006-0	5-25			Analyzed B	y: KB
Prep Batch:	23568			QC	Preparat	ion: 2006-0	5-25			Prepared B	/: KB
		MS	M	SD		Spike	Matrix			Rec.	RPI
Param		Result	Re	sult Uni	ts Dil.	Amount	Result	Rec.	RPD	Limit	Lim
Benzene		0.00100	r	na mg/	L 1	0.100	< 0.00025	5 1	200	70.9 - 126	20
Toluene	56	0.000500	r	na mg/	L 1	0.100	< 0.000210	0 0	200	70.8 - 125	20
Ethylbenzene	78	< 0.000317	' r	na mg/	L 1	0.100	< 0.00031	70	0	74.8 - 125	20
Xylene	910	0.000900	r	na mg/	L 1	0.300	< 0.000603	3 0	200	75.7 - 126	20
reicent lecove	Ty is base	u on the spi	ke resul	MS	MSD	e spike and s	pike dupiicate S	pike	MS	MSD	Rec.
Surrogate				Result	Result	Units	Dil. A	mount	Rec.	Rec.	Limit
Trifluorotoluer	ne (TFT)		-n	0.102	na	mg/L	1	0.1	102	0 7	3.6 - 12
4-Bromofluoro	benzene	(4-BFB)	12	0.103	па	mg/L	1	0.1	103	0 8	1.8 - 11-
Matrix Spike QC Batch: 2 Prep Batch: 2	(MS-1) 26840 23569			Da QC	te Analyz Preparati	ed: 2006-0 ion: 2006-0	5-25 5-25			Analyzed B Prepared By	y: KE /: KE
Matrix Spike QC Batch: 2 Prep Batch: 2	<b>(MS-1)</b> 26840 23569	MS	MSD	Da QC	te Analyz Preparati	ed: 2006-0 ion: 2006-0 Spike	5-25 5-25 Matrix			Analyzed B Prepared By Rec.	y: KE /: KE RPI
Matrix Spike QC Batch: 2 Prep Batch: 2 Param	( <b>MS-1</b> ) 26840 23569	MS Result	MSD Result	Da QC Units	te Analyz Preparat Dil.	ed: 2006-0 ion: 2006-0 Spike Amount	5-25 5-25 Matrix Result	Rec.	RPD	Analyzed B Prepared B Rec. Limit	y: KB /: KB RPI Limi
Matrix Spike QC Batch: 2 Prep Batch: 2 Param Benzene	(MS-1) 26840 23569	MS Result 0.0985	MSD Result na	Da QC Units mg/L	te Analyz Preparati Dil.	ed: 2006-0 ion: 2006-0 Spike <u>Amount</u> 0.100	5-25 5-25 Matrix Result <0.000255	Rec. 98	<u>RPD</u> 200	Analyzed B Prepared By Rec. Limit 70.9 - 126	y: KE 7: KE RPI Lim 20
Matrix Spike QC Batch: 2 Prep Batch: 2 Param Benzene Toluene	(MS-1) 26840 23569	MS Result 0.0985 0.0979	MSD Result na na	Da QC Units mg/L mg/L	te Analyz Preparati Dil. 1 1	ed: 2006-0 ion: 2006-0 Spike <u>Amount</u> 0.100 0.100	5-25 5-25 Matrix Result <0.000255 <0.000210	Rec. 98 98	RPD 200 200	Analyzed B Prepared By Rec. Limit 70.9 - 126 70.8 - 125	y: KE 7: KE RPI Lim 20 20
Matrix Spike QC Batch: 2 Prep Batch: 2 Param Benzene Toluene Ethylbenzene	(MS-1) 26840 23569 13 14 15	MS Result 0.0985 0.0979 0.0992	MSD Result na na na	Da QC Units mg/L mg/L mg/L	te Analyz Preparati Dil. 1 1 1	ed: 2006-0 ion: 2006-0 Spike <u>Amount</u> 0.100 0.100 0.100	5-25 5-25 Matrix Result <0.000255 <0.000210 <0.000317	Rec. 98 99 99	RPD 200 200 200	Analyzed B Prepared By Rec. Limit 70.9 - 126 70.8 - 125 74.8 - 125	y: KE /: KE RPI Lim 20 20 20
Matrix Spike QC Batch: 2 Prep Batch: 2 Param Benzene Toluene Ethylbenzene Xylene	(MS-1) 26840 23569 13 14 15 16	MS Result 0.0985 0.0979 0.0992 0.298	MSD Result na na na	Da QC Units mg/L mg/L mg/L mg/L	te Analyz Preparati Dil. 1 1 1 1	ed: 2006-0 ion: 2006-0 Spike <u>Amount</u> 0.100 0.100 0.100 0.300	5-25 5-25 Matrix Result <0.000255 <0.000210 <0.000317 <0.000603	Rec. 98 98 99 99	RPD 200 200 200 200 200	Analyzed B Prepared By Rec. Limit 70.9 - 126 70.8 - 125 74.8 - 125 75.7 - 126	y: KE /: KE RPI Lim 20 20 20 20 20
Matrix Spike QC Batch: 2 Prep Batch: 2 Param Benzene Foluene Ethylbenzene Xylene Percent recove	(MS-1) 26840 23569 13 14 15 16 ry is base	MS Result 0.0985 0.0979 0.0992 0.298 ed on the spi	MSD Result na na na ke resul	Da QC <u>Units</u> mg/L mg/L mg/L <u>mg/L</u> It. RPD is b	te Analyz Preparat Dil. 1 1 1 1 1 ased on th	ed: 2006-0 ion: 2006-0 Spike Amount 0.100 0.100 0.100 0.300 me spike and s	5-25 5-25 Matrix Result <0.000255 <0.000210 <0.000317 <0.000603 pike duplicate	Rec. 98 98 99 99 29 2 result.	RPD 200 200 200 200 200	Analyzed B Prepared By Rec. Limit 70.9 - 126 70.8 - 125 74.8 - 125 75.7 - 126	y: KE /: KE RPI Lim 20 20 20 20 20

<sup>3</sup>Matrix spike recoveries out of control limits due to spike error. Use LCS/LCSD to demonstrate analysis is under control.

<sup>4</sup>RPD is out of range because a matrix spike duplicate was not prepared. <sup>5</sup>Matrix spike recoveries out of control limits due to spike error. Use LCS/LCSD to demonstr

<sup>5</sup>Matrix spike recoveries out of control limits due to spike error. Use LCS/LCSD to demonstrate analysis is under control. <sup>6</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>7</sup>Matrix spike recoveries out of control limits due to spike error. Use LCS/LCSD to demonstrate analysis is under control. <sup>8</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>9</sup>Matrix spike recoveries out of control limits due to spike error. Use LCS/LCSD to demonstrate analysis is under control. <sup>10</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>11</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>12</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>13</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>14</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>15</sup>RPD is out of range because a matrix spike duplicate was not prepared.

<sup>16</sup>RPD is out of range because a matrix spike duplicate was not prepared.

	June 1, 2 30004				Work C Hob	bs Gas Plan	306 it			Page Numb	Hobbs
matrix spikes	continued	<i>d</i>									
Surrogate				MS Result	MSD Result	Units	Dil	Spike Amount	MS Rec	MSD Rec	Re Lin
Surrogate				NG	MOD	Cinto		Sailes		MED	
Surrogate				Result	Result	Units	Dil.	Amount	Rec.	Rec.	Lin
Trifluorotolue	ne (IFT)		17	0.0999	na	mg/L	1	0.1	100	0	73.6 -
4-Bromofluor	obenzene	(4-BFB)	) 18	0.0971	na	mg/L	1	0.1	97	0	81.8 -
Matrix Spike	e (MS-1)										
QC Batch:	26842			Da	ate Analyze	ed: 2006-	05-25			Analyzed	By:
Prep Batch:	23571			Q	C Preparati	on: 2006-	05-25			Prepared	By:
		MS	MSD			Spike	Matrix			Rec.	F
Param		Result	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	L
Benzene	19	0.108	na	mg/L	1	0.100	< 0.000153	108	200	88.4 - 11	4
Toluene	20	0.108	na	mg/L	1	0.100	<0.000283	5 108	200	81.4 - 11	6 0
Eunyibenzene	22	0.106	na	mg/L	1	0.100			200 200	82.3 - 11 77 0 11	0 7
Percent recov	erv is bas	$\frac{0.323}{\text{ed on the}}$	e spike resul	t. RPD is t	based on th	e spike and	spike duplica	ite result.	200	11.9 - 11	
	-		•	MS	MSD	•		Spike	MS	MSD	Re
Surrogate				Result	Result	Units	Dil.	Amount	Rec.	Rec.	Liı
Trifluorotolue	ne (TFT)		23	0.103	na	mg/L	1	0.1	103	0	84 -
4-Bromofluor	obenzene	(4-BFB)	) 24	0.107	na	mg/L	1	0.1	107	0	74 -
Matrix Spike	e (MS-1)										
OC Batch	26033			Da	te Analyze	ad 2006.	05.25			Analyzed	By.
Prep Batch:	23635			QQ	C Preparati	on: 2006-	05-23			Prepared	By: '
				,							
_	N	AS	MSD			Spike	Matrix	_		Rec.	F
Param	Re	sult	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	L
Chloride Percent recov	l(	$\frac{520}{\text{ed on the}}$	1640	mg/L	100	12.5	506 spike duplice	89 nte result	1	25.4 - 171	
1 0100111 1000 1	e (MS-1)		, spike roou			e spike und	spine adpine				
Matrix Spike	、			Da	te Analyze	ed: 2006-	05-25			Analyzed	By:
<b>Matrix Spike</b> QC Batch:	26934				•					-	
Param Chloride Percent recov	N Re 10 ery is bas e (MS-1)	4S ssult 520 ed on the	MSD Result 1640 spike resul	Units mg/L lt. RPD is t	Dil. 100 based on th	Spike Amount 12.5 e spike and ed: 2006-	Matrix Result 506 spike duplica	Rec. 89 tte result.	RPD 1		Rec. Limit 25.4 - 171 Analyzed

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	MS	MSD			Spike	Matrix	_		Rec.	RPI
Param	Result	Result	Units	Dil.	Amount	Result	Rec.	RPD	Limit	Limi
Chloride	765	776	mg/L	50	12.5	176	94	1	25.4 - 17	1 20
Percent recovery is	based on t	he spike resul	t. RPD is	based on	the spike and	spike duplic	ate result.			
Standard (ICV-1)										
QC Batch: 26839			Ľ	Date Analy	/zed: 2006-0	5-25			Analyze	d By: KE
				ICVs	ICVs	IC	Vs	Percent		
				True	Found	Per	cent	Recovery	7	Date
Param	Flag	Units	(	Conc.	Conc.	Reco	overy	Limits		Analyzed
Benzene		mg/L		0.100	0.101	10	01	85 - 115		2006-05-2
Toluene		mg/L	(	0.100	0.102	10	02	85 - 115		2006-05-2
Ethylbenzene		mg/L	(	0.100	0.104	10	04	85 - 115		2006-05-2
Xylene		mg/L		0.300	0.311	10	04	85 - 115		2006-05-2
Standard (CCV-1)										
QC Batch: 26839			E	ate Analy	zed: 2006-0	5-25			Analyze	d By: KB
			(	CCVs	CCVs	CC	CVs	Percent		
				True	Found	Per	cent	Recovery	y	Date
Param	Flag	Units	(	Conc.	Conc.	Reco	overy	Limits		Analyzed
Benzene		mg/L		0.100	0.0992	ç	9	85 - 115		2006-05-2
Toluene		mg/L	(	0.100	0.0979	9	8	85 - 115	•	2006-05-2
Ethylbenzene		mg/L	(	0.100	0.0978	ç	98	85 - 115		2006-05-2
Xylene		mg/L		0.300	0.296	9	9	85 - 115		2006-05-2
Standard (ICV-1)										
QC Batch: 26840			Ľ	Date Analy	yzed: 2006-0	5-25			Analyze	d By: KB
				ICVs	ICVs	IC	:Vs	Percent		
				True	Found	Per	cent	Recovery	y	Date
Param	Flag	Units	(	Conc.	Conc.	Rec	overy	Limits		Analyzed
Benzene		mg/L		0.100	0.0934	ç	93	85 - 115		2006-05-2
Toluene		mg/L	(	0.100	0.0936	9	94	85 - 115		2006-05-2
Ethylbenzene		mg/L	(	0.100	0.0949	ç	95	85 - 115		2006-05-2
Xylene		mg/L		0.300	0.286	9	95	85 - 115		2006-05-2
Standard (CCV-1)										
QC Batch: 26840			Ľ	Date Analy	yzed: 2006-0	5-25			Analyze	d By: KE
			(	CCVs	CCVs	CC	CVs	Percent		
				True	Found	Per	cent	Recover	y	Date
Param	Flag	Units	(	Conc.	Conc.	Rec	overy	Limits		Analyzed
Benzene		mg/L		0.100	0.0969	9	97	85 - 115		2006-05-2
Toluene		mg/L	(	0.100	0.0962	ç	96	85 - 115	i	2006-05-2
Ethylbenzene		mg/L	(	0.100	0.0955		96	85 - 115	i	2006-05-2
									0	ontinued

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Param	Flag	Units	ICVs True Conc.	ICVs Found Conc.	ICVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Chloride		mg/L	12.5	12.1	97	90 - 110	2006-05-25
Standard (C	CCV-1)						
QC Batch:	26934		Date Ana	lyzed: 2006-05	5-25	Ana	llyzed By: WB
			CCVs	CCVs	CCVs	Percent	
			True	Found	Percent	Recovery	Date
Param	Flag	Units	Conc.	Conc.	Recovery	Limits	Analyzed
Chloride		mg/L	12.5	12.3	98	90 - 110	2006-05-25

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## **STAGE 1 ABATEMENT PLAN**

# AND SITE CLOSURE PLAN HOBBS NATURAL GAS PLANT K N ENERGY, INC. HOBBS, LEA COUNTY, NEW MEXICO

Date Prepared: January 14, 1997

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ECO Project No.: 279-512

Environmentation for sou Oil Conservation Division

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, New Mexico 79703 915/520-7535



## STAGE 1 ABATEMENT PLAN

# AND SITE CLOSURE PLAN HOBBS NATURAL GAS PLANT K N ENERGY, INC. HOBBS, LEA COUNTY, NEW MEXICO

Date Prepared: January 14, 1997

ECO Project No.: 279-512

Prepared By:

Carrie E. Eick, P.E. Project Manager

Reviewed By:

Shane Estep, R.E.M. President

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

#### **1.0 EXECUTIVE SUMMARY**

Eco-logical Environmental Services, Inc. (ECO) was contracted by K N Energy, Inc. (KN) to conduct an environmental assessment of the groundwater at their facility identified as Hobbs Natural Gas Plant. The plant is located ten miles west of Hobbs, New Mexico. This project was conducted for the purpose of submitting an Abatement Plan and Closure Plan to the New Mexico Oil Conservation Division (OCD). Originally, the OCD required the investigation after their inspection in 1995, and at the time, requested a discharge plan. Since the OCD inspection was conducted, KN has closed the plant and the equipment is being removed. The purpose of this report is to request closure for the site and to present an abatement plan for the existing impacted groundwater.

The investigation conducted in February of 1996 revealed that the surface gravels and top four feet of rock were impacted with hydrocarbons in the area of the cryogenic skid, west sump, and the compressor units. Groundwater, encountered at a depth of 55', has also been impacted by historic operations. Currently the benzene concentration is above the health standards for groundwater in the shallow aquifer (State of New Mexico Water Quality Control Commission, Title 20, Chapter 6, Part 2). Lab analysis for the up and down gradient wells (MW-2 and MW-7) were found to be non-detect for the contaminants of concern as stated by the OCD Guidelines.

K N Energy is in the process of removing the equipment at the site including the sources that environmentally impacted the soils and groundwater. Seven monitor wells at the site will be sampled quarterly for benzene. Wells MW-1 and MW-5 will also be analyzed for naphthalene for one year. After one year, the site and analytical results from the wells will be evaluated and, if necessary, recommend a more active form of remediation in a Stage 2 Abatement Plan. Per OCD guidelines, quarterly sampling will continue for a minimum of two years after the agreed cleanup levels are reached.

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

#### 2.0 STAGE 1 ABATEMENT PLAN

#### 2.1 Site Description

<u>2.1.1 Location</u> K N Energy, Inc. Natural Gas Processing Plant is located approximately ten miles west of Hobbs, New Mexico, on U.S. Highway 180 to the west of Highway 483. The plant is located in the southeast 1/4 of Section 28, Township 18 South and Range 36 East. The approximate geographic coordinates for the center of the site, obtained with a Global Positioning Satellite (G.P.S.) receiver, were 32<sup>o</sup> 42' 57" N latitude and 103<sup>o</sup> 21' 13" W longitude. The plant encompasses 24 acres. The site is located in a rural environment. Adjacent properties are used for cattle grazing, an electric plant, and oil and gas production. The U.S.G.S. Monument North Quadrangle Map indicated the approximate site elevation at 3,815 feet above mean sea level (AMSL). The general surface topography of the site slopes down to the east at a 0.6% grade. A Site Location Map is included as Map 1. A facility layout diagram is presented on Map 2.

<u>2.1.2 Operational History</u> The plant was constructed in 1976 by Southwestern Public Service as a natural gas transmission facility. The site was purchased by Cabot Corporation in 1977 and was sold to Maple Properties in 1989. American Oil and Gas purchased the site in 1992 and in 1994, KN merged with American and became the owners. Equipment on-site consisted of compressors, generators, cryogenic equipment, amine units, aboveground storage tanks, glycol reboilers, cooling tower, and a flare pit.

No direct discharges to the ground surface or subsurface are known to have occurred since KN's ownership. During this groundwater investigation historic releases were found to have occurred from the west sump and possibly the cryoskid area. Historic releases from the compressors and cryoskid area were identified in a soils delineation report to the OCD (June 6, 1996).

<u>2.1.3 Site Investigation History</u> 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. 1996Delineation of impacted soils and rock conducted and containment<br/>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.

#### 2.2 Groundwater Investigation Findings

<u>2.2.1 Site Geology/Hydrology</u> Soils at the site were investigated during the advancement of 15 soil borings and seven monitor wells at the site during 1996 and 1997. The surface soils at the plant consist of two to four inches of sub-rounded gravel fill over 0 to 6 feet of very hard limestone, underlain by 1 to 11 feet of caliche. This in turn is underlain by 9 to 20 feet of dry sand. Sandstone is encountered, which at some locations, also contains layers of dry sand. The sandstone becomes very hard at depths beginning at 50 to 55 feet and varies in thickness of 1 to 11 feet. Moist sand is encountered at an average depth of 54 feet but can range from 47 to 59 feet below ground surface (bgs) and

is present to the bottom of the deepest well at 71 feet. No moist soils or rocks were encountered until the borings penetrated the water bearing sands below the very hard sandstone. Specific descriptions of the soils/rock encountered in the shallow borings is presented in the earlier Soils Delineation Investigation Report.

Soils from the installation of monitor wells did not indicate any impacted soils with the exception of the well placed near the west sump. The soils at this location were stained gray and contained hydrocarbon and septic odors to a depth of 53 feet (near the water table). Test results did not reveal any concentrations of TRPH or BTEX and no elevated levels of total metals were present. Well logs are presented in Section 4.

In October of 1996, measurement of the plant's new monitor wells indicated that the groundwater flow direction was southeast at 135 degrees from north. Gradient was 1:300 or a drop of 10 feet per 3,000 feet. Groundwater was encountered at depths between 53 and 58 feet bgs. Map 3 depicts the groundwater gradient.

A water well search of one mile radius around the center of the site revealed four water wells. The wells were constructed between 1957 and 1965. Based on water depths obtained at the time of installation, the regional groundwater flow is to the southeast at approximately a drop of 10 feet per 1,750 feet. These water levels, as compared with the water depth from MW-1, indicate that the depth to groundwater has remained fairly constant. The closest well is approximately 2,000 feet to the north and up-gradient. The remaining wells are approximately 1 mile to the north-northwest, northeast, and south-southeast. The screen intervals of the water wells are between 69 and 209 feet bgs. The location of the water wells are presented on Map 4 and the water well logs are present in Section 5.

<u>2.2.2</u> Surface Hydrology The surface gradient in the area slopes down to the east. The plant processing area itself directs rainwater to a low area near the amine units. No natural surface waters are present adjacent to or at the site. The closest natural surface water is located one-half mile east of the site at the beginning of an intermittent stream. This stream leads southeast to an intermittent pond found 1.25 miles east-southeast from the site. Since plant construction in 1976, the area has been kept free from vegetation. There are no signs of adverse impacts to surrounding vegetation and wildlife associated with the plant.

<u>2.2.3 Monitoring Program</u> Seven monitor wells were installed at the site. Well MW-1 was initially installed to show if any impact to groundwater had occurred. Its location was selected to be down-gradient from the main processing area. The remaining wells were positioned near potential sources or to provide points of compliance. Well locations are presented on Map 5.

<u>2.2.4 Analytical Results</u> In summary, the soils obtained and tested during the well installation contained no impacted soils with levels above published OCD Guidelines. Benzene was detected above the WQCC 3103 Guidelines in the water from wells MW-1, MW-5, and MW-6. Laboratory detection levels for phenol were above the OCD Guidelines allowable level and will be resampled during the first quarterly monitoring event at a detection level of 0.005 ppm. No free phase of any product was encountered. Results of the analysis of the soil samples and the water samples are presented in tables 1, 2, and 3 at the end of Section 2. Section 5 contains the lab reports.

<u>2.2.5 Recommendations</u> Recommendations include quarterly sampling for benzene in all wells and naphthalene in wells MW-1 and MW-5. The first round of sampling should include testing for phenol to a detection level of at least 0.005 ppm. The original testing did not reach this detection level. If phenols are found to be present above the WQCC level of 0.005 ppm, testing for phenol will also be completed quarterly. 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 for two years according to OCD Guidelines. Sampling will begin following the approval of this Closure Plan by the OCD.

Depth to groundwater and the presence of free product will be performed prior to each sampling event. This information will be used to prepare groundwater gradient maps.

#### 2.3 Quality Assurance Plan

The existing wells (and any future wells) are installed to the following specifications:

The wells are set to depths between 55 and 70 feet below grade. Twenty feet of factory slotted screen is installed. Both the screen and the riser are made of two or four inch diameters, schedule 40 PVC. The casing rises above the ground surface and is protected by a lockable steel aboveground protector. A concrete pad exists around each well. Sand filter pack surrounds the screen and is two to three feet above the top of the screen.

Two to four feet of a 3/8" chip bentonite seal is above the sand. The remaining portion of the well annulus is sealed with a cement/bentonite grout.

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

Any collected samples obtained with an elevated PID reading were packaged for delivery to TraceAnalysis. Samples were placed in clean sample jars and stored on ice. The samples were tested for BTEX, TPH, and WQCC 3103 total metals. If more than five samples from each well contained PID readings, the OCD was contacted and a mutual agreement made as to which samples to test. If no PID readings were encountered, the sample above the water table was submitted for testing for TPH and BTEX.

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

Wells were developed by pumping a minimum of three well volumes from the well. The pump and all equipment that came into contact with the water were washed and triple rinsed prior to moving to the next well. The wells were developed from what was suspected to be the least impacted to the most impacted. After development, the wells were 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 were collected from the wells as described in WQCC 3103.

All generated soil cuttings were stored onsite in a plastic lined bermed area or drums. All water was stored onsite in poly drums. The wastes will be characterized for the presence of Hazardous Constituents as defined by 40 CFR part 261. The wastes will be properly treated and disposed.

#### 2.4 Sampling and Analysis Plan

#### 2.4.1 Soils

<u>Sampling Schedule</u> - Soil samples were collected from the soil cuttings during drilling of the monitor wells every five feet. Where impacted soils were suspected and conditions permitted, a split spoon sampling device was hydraulically advanced into the soil horizon.

<u>Sample Analyses</u> - Up to five samples per well were analyzed. Samples were submitted for analysis if PID readings were present. Soil samples were tested for BTEX, TPH, and WQCC 3103 listed total metals.

<u>Sampling Methodology</u> - All sampling equipment was steam cleaned or washed and triple rinsed between samples. The drill rig and related equipment were steam cleaned between well locations. Where impacted soils were suspected and conditions permitted, a split spoon sampling device was used. Samples were placed into clean laboratory provided jars and placed on ice. Each jar was 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 was logged onto a Chain-of Custody Form which also indicated the above along with the required tests.

#### 2.4.2 Groundwater

<u>Sampling Schedule</u> - Water samples were collected from the well bores after a minimum of two to three days had passed since the well installation. Groundwater sampling will occur each quarter of the year for a period of two years. Quarterly sampling will begin after approval of this Closure Plan.

<u>Sample Analyses</u> - A set of samples from each of the seven wells will be collected. The full suite of sampling as stated in the WQCC 3130 Part A, was analyzed during the initial round of sampling. Future sampling will include:

Benzene (EPA 8020)	2 voas with HCl
or	
Benzene, Naphthalene (EPA Method 8240)	2 voas with HCI

<u>Sampling Methodology</u> - 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 until 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.

#### 2.5 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
- 3.  $H_2$ S meter on-site.

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 Health and Safety Plan will be noted.

#### 2.6 Activity Schedule

f:\master\279512\closplan.rpt

Quarterly sampling will begin after approval of this Closure Plan and every three months thereafter. Quarterly reports will be filed with the OCD within one month of receipt of the lab results. Quarterly summary reports will contain cumulative lab analysis for each well and a gradient map. A detailed report will be submitted as the fourth quarter report. This report will include an evaluation of the well data and any recommendations (Stage 2 Abatement Plan).



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#### 3.0 CLOSURE PLAN

#### 3.1 Closure Measures

The KN Hobbs Gas Plant was officially off line and unmanned on January 3, 1997. During December of 1996 and the early months of 1997 the plant is being disassembled and its equipment moved to other KN sites in North America. As part of this closure and dismantling, all above ground and below ground piping and equipment will be drained to insure no further releases. All remaining vessels are being drained of fluids which are then being disposed, recycled, or sold. The equipment is being assessed as to its condition and any equipment or containment systems that may be used at other sites are being moved.

After the equipment has been removed, the stained surface gravels and soils will be removed and remediated along with the gravels and soils stored near the flare pit.

#### 3.2 Maintenance and Monitoring Program

The plant will remain inside of a locked chain link fence to limit access to the public. Access to the site is limited to KN employees and their representatives. Any personnel onsite are there for the purposes of dismantling or moving equipment, observing the conditions of the site and the progress of the shut down, or monitoring the remaining impacted soils or groundwater.

General maintenance and access to the site will be occurring weekly until all usable equipment is removed. Environmental monitoring will be limited to any required abatement of the soils/rock and quarterly sampling of the groundwater. Quarterly sampling will begin upon approval of this Plan.

#### 3.3 Financial Assurity

The plant site and property will remain owned by KN, a nation wide company. KN is listed as a 1.4 billion dollar, publicly owned corporation on the New York Stock Exchange. It is the intention of KN to clean the site to the clean up standards to be agreed upon between the OCD and KN. KN has budgeted monies to address the site closure issues for the site

in New Mexico. This money has been reserved for state and federal environmental issues.

#### KN Headquarters

K N Energy, Inc. P.O. Box 281305 Lakewood, CO 802258304

#### 3.4 Stage 1 Abatement Plan

Abatement at the plant is proposed to consist of three items at this time. Item one is the removal of all potential sources. Sources have been identified as the west sump and the cryogenic system. At this time, these and all other equipment at the site have been shut down and are being drained of all remaining fluids and removed from the site.

Item two is to remove the loose surface gravels that have been stained in the areas of the cryoskid, compressors, flare pit, storage tanks and other isolated areas. These gravels will be remediated on site to TRPH levels of less than 1,000 ppm. Once clean, the gravels are anticipated to be spread on site.

Item three is to perform quarterly monitoring of the groundwater beginning after OCD approval of this Closure Plan. Groundwater will be sampled specifically for benzene in all wells and also for naphthalene in wells MW-1 and MW-5. Sampling will occur for a period of one year to establish any trends at the site. Due to the remoteness of the site and the closest down gradient well over one mile to the south, active remediation is not recommend at this time. After one year of groundwater sampling, the lab data will be evaluated. If contaminant concentrations are not decreasing, and the OCD requires cleanup rather than an EPA risk evaluation, an active remediation process will begin. The active remediation may require well tests and involve bio-remediation, air sparging, or vapor extraction. This information will be presented in a Stage 2 Abatement Plan. If the concentrations of the contaminate compounds are found to be decreasing, quarterly sampling will continue until eight consecutive sampling events are below the agreed cleanup levels.










												ABLE											
			×.				-	P	B AN	ALYSIS H	OBBS S FRO	S GAS M MO	PLAN <sup>-</sup> NITOR	WELL	SOILS								
	:									õ	tober Janu:	18 to ary 3,	20, 19: 1997	96									
Weil	Depth	НН	a	T	ш	×	As	e Se	Gd	5	å	Ag	Ba	F	ĥ	°.	ច	Р. В	hM	ž	۲	ß	Ŷ
MW-1										Previ	ously ex	disting w	ell - No S	Soils Anal	yzed								
MW-2	38-40	<10	<0.05	<0.05 <	<0.05	<0.05	<10	<10	8	<5 5	<10	<b>€</b> 5	62	2500	<0.25	ų	8	2190	18.3	<20	6.36	ŝ	<10
MW-2	44-46	10.2	<0.05	<0.05 <	<0.05	<0.05	<10	<10	8	ŝ	<10	0.7	33	1950	<0.25	ΰ	\$	2020	18	<20	4.44	ŝ	<10
MW-2	54-56	<10	<0.05	<0.05 <	<0.05	<0.05	40 10	<10	8	ŝ	<10 <	<0.5	√20	913	<0.25	Ø	5	866	7.5	<20	2.79	ų	<10
MW-2	58-60	<10	<0.05	<0.05	<0.05	<0.05	<10	<10	Ş	5.71	<10 <	<0.5	47	2150	<0.25	Ø	\ V	2660	24.7	<20	5.01	ů	<10
MW-3	4-6	<10	<0.05	<0.05	<0.05	<0.05	10	<10	\$	Ş	<10	1.3	173	1160	<0.25	3	4.24	735	5.9	<20	2.51	Q	<10
6-WM	14-16	<10	<0.05	<0.05	<0.05	<0.05	14	<10	Ŷ	ŝ	<10	0.6	170	1560	<0.25	ę	2	2130	13.7	<20	5.16	ų	<10
MW-3	18-20	<10	<0.05	<0.05	<0.05	<0.05	<10	<10	\$	Ş	- 10	<0.5	191	2510	<0.25	ę	2	2070	22.2	<20	6.15	Ş	<10
MW-3	34-36	<10	<0.05	<0.05 <	<0.05	<0.05	<10	<10	۶	5.34	- 10	<0.5	103	2030	<0.25	ę	5	1830	13.8	<20	6.44	ŝ	<10
MW-3	48-50	<10	<0.05	<0.05	<0.05	<0.05	11	<10	ç	5.47	<10	<0.5	<20	2010	<0.25	3	5	2140	17.9	<20	6.5	ŝ	<10
MW-3	64-65	<10	<0.05	<0.05 <	<0.05	<0.05		•	•	-					•		•	•		•	•		-
MW-4	34-36	<10	<0.05	<0.05 <	<0.05	<0.05	<10	<10	2	5.3	<10	<5	170	1800	<0.25	ę	<5	1500	10	<20	4.6	Q	<10
MW-4	48-50	<10	<0.05	<0.05	<0.05	<0.05	11	<10	\$	₽	40 ^10	ŝ	37	2100	<0.25	ų	<5	2500	19	<20	6.5	ŝ	<10
MW-5	28-30	<10	<0.05	<0.05	<0.05	<0.05	<10	<10	ų	5.8	<10	<5	190	2900	<0.25	ę	5	2500	21	<20	4.3	3	<10
MW-5	48-50	11.9	<0.05	<0.05 <	<0.05	<0.05	<10	<10	<b></b> 2	ŝ	<10	<b>5</b>	22	2300	<0.25	ę	5 ح5	2300	25	<20	5.8	ŝ	<10
MW-5	62-65	51.7	<0.05	<0.05	<0.05	<0.05	•	1	1	•			1	,	•	•	ı	•	,	1	•	4	'
MW-6	44-46	<10	<0.05	<0.05 <	<0.05	<0.05	<10	<10	ç	ŝ	<10	5	26	1900	<0.25	ų	5	1900	18	<20	4.4	Q	<10
MW-6	58-61	41.9	<0.05	<0.05 <	<0.05	<0.05	•		1	•					'	'	•	,	ı	ı	•	•	,
7-WM	54-56	<10	<0.05	<0.05	<0.05	<0.05	t.	•	ı	•	•			•	•	4	ı	•	a	ı	4	I	
OCD		100	10				100*	<b>50•</b>	20*	100*	100+	100* 2	+000										
20 times	s TCLP val	lue tor H	azardous	s Classifik	ication		All res	sults in n	g/kg		Shade	d Result	s are ove	∋r known	OCD limit	S S							

	e i	Ī	1					1		I
	Sulfat	37	55	120	45	100	ន	67	600	100.00
	Chloride	55	ଷ	120	14	33	8	4	550	
	рН	7.3	7.7	7.4	7.5	7.1	7.4		6 to 9	
	Benzo- a- pyrene	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.00007	
	PAH Naphthalene	0.025	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.03	
S	×	0.081	<0.001	<0.001	<0.001	0.071	0.013	<0.001	0.620	
ER TES'	ш	0.026	<0.001	<0.001	<0.001	0.006	<0.001	<0.001	0.750	
IDWATE	F	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	<0.001	0.750	
NT GROUN 6	. 00	0.352	<0.001	0.001	<0.001	0.135	0.192	<0.001	0.01	
E 2 S PLA VELL 3, 199	Ra pc/L	16	в	9	2	ი	6		30	
TABLI S GA TOR V	Na	39	33	45	6.9	94	39			
HOBB MONI Octo	Ca	160	58	150	91	160	100			
ROM	Мg	45	ဖ	16	1	27	12			
SIS F	¥	5.5	4.8	7.5	4.1	6.2	4.6			
NALY	Mn	0.16	<0.01	<0.01	<0.01	0.11	<0.01		0.2	
LAB A	Ba	0.34	<0.20	<0.20	<0.20	0.28	<0.20		1.0	
	Alkalinity	609	152	243	244	244	274			
	Phenol	0.01	<0.01	<0.01	<0.01	<0.01	<0.01	<0.001	0.005	
	Fluoride	0.5	1.1	0.6	0.7	0.5	0.7		1.6	
	Nitrate- N	<1.0	2.9	7.8	3.7	<1.0	1.41	1.7	10	
	TDS	737	356	760	392	853	511		1000	
	Weil	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	OCD Limit	

<0.20 80 80 80 H L Mdd R 0.008 <0.001 0.032 × ¤dd <0.001 <0.001 0.002 ыщ <0.001 <0.001 <0.001 ⊢ mdd 0.305 **CUMULATIVE LAB RESULTS FOR MW-1** 0.083 `<.001 в mdd <0.001 <0.001 . BH Mdd R **TABLE 3** 6.01 0 <0.01 Ppm Ppm ЯX <0.2 ppm ppm \$0.2 20.2 R <u>6</u> a Mqq Å. R <0.02 ≤0.02 bp md ЯŻ <0.05 <0.05 p mq R NR indicates Test Not Run <0.1 Se ppm ő ЯZ TDS = 1,446 ppm <0.1 As ppm <u>6</u>.1 ЯŻ 02/29/96 04/20/96 02/14/96 Date

 
 756
 25
 0.4
 67
 670
 0.017

 Chloroform, Bromodichloromethane, Dibromochloromethane, Bromoform = ND
 Naphthalene mdd \*HCO3 mdd Sulfate mdd н Прт TABLE 3 Continued р Бр TDS ppm N03-NO2)-N 2.6 mdd 82.5 ppm Ppm ppm Ca 148 23.8 BM Mdd жщ 7.1 Date

\* Alkalinity as CaCO3

Remaining PAH by EPA 8270 ND



## MONITOR WELL NO. MW-1 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq)	Ονε	erburden/Lithologic Description	USCS	Graphic	Log	Depth (feet)	We Constru Grapł	ell action nics	Well Construction Details
	0.0-2.0	G		 \  4	FILL - Gra grained, di LIMESTO CALICHE no odor	avel, light gray, coarse ry, no odor, no stain NE - gray, dry, no odor - light yellow brown, mo	 išt,			0			Surf. Elev: 496.32 ft TOC Elev: 495.73 ft Flush Mount Manhole Cover with 4x4 foot Concrete Pad
	4.0-6.0	G G		4	with cherty	y/limey layers							
	8.0-10.0	G		5	SAND - ve medium gr with sands	ery light yellow brown, rained, moist, no odor stone seams				- - - -			
	12.0-14.0	GGG	4	5	becoming i grained	light orange brown, fine	SP			- - 			
	16.0-18.0	G G		4						- - - 20			2 inch Diameter Sch. 40 PVC Riser with Cement-Bentonite Grout
				5	SANDSTC moist, no (	DNE - light yellow brown, odor				- - - 25			
	25.0-30.0	3		5	SAND - lig grained, m	ght yellow brown, fine loist, no odor	SP						
┝ <u>─</u> ─			<u> </u>		<u>_</u>	Continued Next Page							
Drill Dril Log	ling Co: <u>McDo</u> led by: <u>T. Mc</u> ged by: <u>C. Ei</u>	<u>nalc</u> :Dor c <u>k</u>	<u>l Drillin</u> nald	ng	7	LEGEN ✓ Water level enc. ✓ Static Water leve	D during drill el	ing		Water	levels:		ftftftft
Dril	ling started:	2/1	3/96		<u> </u>	Free Phase Pr	oduct level			Dates	Measure	d:	02/14/96
Dril	ling completed:	2/1	.3/96		Sar	nplers:				Notes	: <u>SE</u>	of M	ain Processing
Drill	ing method: <u>A</u>	<u>ir R</u>	<u>otary</u>	<u></u>	[G	Grab Sample	-			Are	a Eleva	ation ]	Relative to Site
Deve	elopment method:	_!	Pump		—   ×	Shelby Tube	Split Bar	rel		<u>Dat</u>	um		

Figure 1

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# MONITOR WELL NO. MW-1 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure 1

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Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
30			<del>-</del>		Continued from previous page			30	- 1841 - 1864 -	
				5	SANDSTONE - light yellow brown, with sand layers, moist, no odor					
35	33.0-35.0	G			LIMESTONE/SANDSTONE with chert layers, brown, dry, no odor					
	35.0-38.0	G		- 5 -	IMESTONE - light brown dry no odor				500 Star	Bentonite Chip Seal
40 -				- 5 - 5	DOLOMITE - light pink brown, dry, no odor			40		Top of Screen
45 -			 		CAND Habit because from anticed service			45		Filter Sand
- - 50 -	47.0-50.0	G		5	no odor			- - - 50_		
				5	becoming moist			· ↓ ↓ ↓		Screen, 0.010 Slot
<u>55</u>						SP		55		
60 -								- <u>60</u>		Bottom of Screen at 60'
<u>65</u>								<u>65</u>		
70								- - - - <u>70</u>		

# MONITOR WELL NO. MW-2 KN Energy - Hobbs Gas Plant

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Hobbs, New Mexico

Project	No: 279-512								Page 1 of 2	
Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(wdd) NNH	Overburden/Lithologic Description	Graphic Graphic	Depth (feet)	Well Construction Graphics	Well Construction Details	
	0.0-2.0 2.0-4.0 4.0-6.0 6.0-8.0 8.0-10.0 10.0-12.0 12.0-14.0 14.0-16.0 16.0-18.0 18.0-20.0 20.0-22.0 22.0-24.0 24.0-26.0 24.0-26.0 26.0-28.0 28.0-30.0				FILL - GRAVEL with sand, dry, no odor         LIMESTONE (Limey Caliche) - light         gray brown, dry, no odor         CALICHE - limey, light brown, moist, no odor         SAND - fine grained, with caliche         lenses, moist, no odor         no caliche         with sandstone lenses         becoming light brown         SANDSTONE - very light gray brown, moist, no odor, highly silicified quartz sandstone	GP SP			TOC Elev: 502.41 ft Surf. Elev: 499.92 ft Aboveground Wellhead Protector with 2.5x2.5 foot Concrete Pad 4 inch Diameter Sch. 40 PVC Riser with Cement-Bentonite Grout	
	 				Continued Next Page					
Dril Dril Log Dril	Illing Co: <u>McDo</u> Iled by: <u>T. Mc</u> gged by: <u>C. Eic</u> Illing started:	nalc Don k 10/	l Drillin ald 18/96	ng	LEGEND         ⊥       ⊥         ↓       Water level enc. durin         ↓       Static Water level         ↓       Free Phase Product	g drilling level	Water levels: ft ft ft Dates Measured:			
Dril Dril Dev	lling completed:	<u>10/</u> ir R	18/96 otary Pump		Samplers:          Grab Sample          Split Spoon          Split Spoon          Shelby Tube	lit Barrel ger	Note: Col Dat	s: <u>Near No</u> rner Elevatio tum	orthwest Fence	

Figure



# MONITOR WELL NO. MW-2 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure 2

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Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq)	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					· · · · · · ·	-		·
- - -	32.0-34.0	G	L		becoming very light brown			- - -		
<u>35</u>	34.0-36.0	G		0	becoming light brown less silicified			<u>- 35</u> 		Bentonite Chip Seal
	36.0-38.0	G		0.3	becoming new brown, less sheried			-   		
40	38.0-40.0	G					· · · · · · · · · · · · · · · · · · ·			Top of Screen
	40.0-42.0	G			SAND - brown, very fine grained, moist,		· · · · · · · · · · · · · · · · · · ·	-   -   -		
45	42.0-44.0	G		0.1	very slight sweet odor with sandstone lenses			- 15		
	44.0-46.0	G			becoming light pink brown, slight			- <u>+)</u> - 		Filter Sand
	46.0-48.0	σ		0	sweet odor, no sandstone tenses	SP		-		
<u>50</u>	50.0-52.0	קומ	-	-	becoming very moist, no odor			<u>50</u>		4 inch Diameter Sch. 40 P Screen, 0.020 Slot
	52.0-54.0	У С						-     -		
55	54.0-56.0	G		0.5	SANDSTONE - nick brown most no					
	56.0-58.0	G		م ۱ ۱ ـ ـ ـ ـ	odor very very hard, highly silicified SAND - light pink brown, very fine			-		
60 -	58.0-01.0	G		0.8	grained, wet, no odor becoming brown, with trace clay	SP		- - - <u>60</u>		Pottom of Sproon at 50.9'
		_						-		Endcap at 60.1' Termination Depth at 61' with Filter Sand
65								<u>65</u>		
70 -										



Project

Depth (feet)

0

5

10

15

20

25

30

### **MONITOR WELL NO. MW-3**

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

ject	No: 279-512				· · · · · · · · · · · · · · · · · · ·					Page 1 of 2
(feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mdd)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
	0.0-2.0 2.0-4.0 4.0-6.0 6.0-8.0 8.0-10.0 10.0-12.0 12.0-14.0 14.0-16.0 16.0-18.0 18.0-20.0 20.0-22.0 22.0-24.0 24.0-26.0 26.0-28.0 28.0-30.0			0.1 0.1 0.2 0.3	FILL - Gravel, with sand         LIMESTONE (Limey Caliche) - light         brown, dry, no odor         CALICHE - light brown, moist, very         slight hydrocarbon odor         becoming light brown gray, visually         impacted         with sand, very slightly odor of old         hydrocarbons         SAND - light gray, very fine grained,         moist, very slight hydrocarbon odor,         visually impacted         becoming light gray brown with caliche         lenses, slightly visually impacted         becoming light gray brown, no caliche, not         visually impacted         becoming light gray brown, very         slightly visually impacted         becoming light gray brown, very         slightly visually impacted         becoming light gray, noderate septic odor         becoming light brown, moderate septic odor         with call calls to 31	SP				TOC Elev: 499.13 ft Surf. Elev: 497.30 ft Aboveground Wellhead Protector with 2.5x2.5 foot Concrete Pad 4 inch Diameter Sch. 40 PVC Riser with Cement-Bentonite Grout
Dri	lling Co: McDo	nale D	<u>1 Drillin</u> 	ng				Wate	r levels:	ft
Dri	Iled by: <u>T. Mc</u>	<u>Dor</u>	nald		Water level enc. during	g drillir	ıg			ft
Log	gged by: <u>C. Eic</u>	<u>k</u>			X Static Water level					ft
Dri	lling started:	<u>10/</u>	19/96		Free Phase Product	level		Dates	s Measured: _	
Dri	lling completed:	<u>10/</u>	<u>19/96</u>		Samplers:			Note	s: <u>Near No</u>	rth Side of Amine
Dri	lling method: <u>Ai</u>	r R	<u>otary</u>		🖾 Grab Sample			<u>Sur</u>	np, South of	Compressor Units
Dev	velopment method:		Pump		🖾 Split Spoon 🛛 🛄 Spl	it Barre	el	Ele	vation Relat	ive to Site Datum
-				<u></u>	Shelby Tube Au	ger				

Figure 3



## MONITOR WELL NO. MW-3 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure 3

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Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(wdd) NNH	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			becoming brown gray, slight septic odor, visually impacted		· · · · · · · · · · · · · · · · · · ·	-		*
	32.0-34.0	G			with slight hydrocarbon odor		· · · · · · · · · · · · · · · · · · ·	- 		
35 -	34.0-36.0	G		3.5	visually impacted			- <u>35</u> 		
	36.0-38.0	G		0	becoming light brown with sand, very,		· · · · · · · · · · · · · · · · · · ·	-		Bentonite Chip Seal
40	38.0-40.0	G		ر ۱ ۱	very slight septic odor, no hydrocarbon odor SAND - light brown, fine grained, with	; ;		 		
	40.0-42.0	G			sandstone seams, moist, very slight septic odor	SP				
	42.0-44.0	G		 -0-	SANDSTONE - brown, with sand seams, moist, very slight septic odor			- 45		Top of Screen
	44.0-40.0  46.0-48.0	2			slight septic and hydrocarbon odor, visually impacted becoming gray, visually impacted			-		
	48.0-50.0	р С		0.3		SP		-		
50 -	50.0-52.0	G G						<u>50</u>		Filter Sand
	52.0-54.0	G		 	SANDSTONE - pink brown, moist, verv		 			4 inch Diameter Sch. 40 I
55 -	54.0-56.0	G			highly silicified quartz SAND - pink brown, very fine grained, wet, no odor	'		 		Screen, 0.020 Slot
	56.0-58.0	G			with trace clay, saturated					
- - 60 -	58.0-60.0	G		0		SP		60		
	60.0-62.0	G			becoming dark pink brown, very slight septic odor			-		
	62.0-64.0	G								Bottom of Screen at 63' Endcap at 63.3'
65	<u> </u>	<u> </u>						<u>65</u>		Termination Depth at 65' with Filter Sand
70								- 70		



#### **MONITOR WELL NO. MW-4**

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure

Project No: 279-512 1 of 2 Page Recovery (f1/f1) Sampler Depth (feet) Depth (feet) Sample ID Overburden/Lithologic Well Well Graphi Log (mad USCS Construction Interval Construction Graphics Details (ft, bgs) Description TOC Elev: 501.12 ft Surf. Elev: 499.32 ft 0 0 FILL - gravel, dark brown, with sand G GP 0.0-2.0 and clay, dry, no odor Aboveground Wellhead Protector with 2.5x2.5 foot CALICHE - light brown, with sand, Concrete Pad 2.0-4.0 G moist, no odor SANDSTONE - brown, moist, no odor, 0 highly silicified quartz G 4.0-6.0 with limestone lenses 6.0-8.0 G with caliche 0 G 8.0-10.0 with sand G 10.0-12.0 G 12.0-14.0 0 15 G 14.0-16.0 SAND - light brown, with caliche layers, . moist, no odor, very fine grained G 16.0-18.0 no caliche becoming light pink brown 0 18.0-20.0 3 4 inch Diameter Sch. 40 PVC 20Riser with Cement-Bentonite SP Grout G 20.0-22.0 becoming dark pink brown G 22.0-24.0 \_0\_\_ SANDSTONE - very light brown, moist, 24.0-26.0 no odor, highly silicified quartz 26.0-28.0 28.0-30.0 à 30 30 **Continued Next Page** Drilling Co: McDonald Drilling LEGEND Water levels: ft  $\nabla$ T. McDonald Water level enc. during drilling Drilled by: ft Logged by: C. Eick T Static Water level ft Y 10/19/96 Free Phase Product level Drilling started: Dates Measured: West Side of Cooling Drilling completed: 10/19/96 Samplers: Notes: Grab Sample Tower Foundation, East of West Drilling method: Air Rotary  $\boxtimes$ Split Barrel Split Spoon **Product Tanks Elevation Relative** Development method: Pump Shelby Tube Auger to Site Datum



-

### **MONITOR WELL NO. MW-4**

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure 4

uepth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	NH	(mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
20						Continued from previous page			20		
<u>30</u> 	30.0-32.0	G				becoming light pink brown, with sand seams	·	• <del>•</del> • • • •	<u>30</u> 		· · · · · · · · · · · · · · · · · · ·
	32.0-34.0	G				becoming very light brown		· · · · · ·			
<u>35</u>	34.0-36.0	G		0.	2	no sand seams			- <u>35</u>		
	36.0-38.0	G									
40	38.0-40.0	G			)			· · · · · · · · · · · · · · · · · · ·	- - - 40		Bentonite Chip Seal
	40.0-42.0	G				with sand seams		· · · · · · · · · · · · · · · · · · ·			
	42.0-44.0	G			<b>`</b>	with said scalls					Top of Screen
45 1	44.0-46.0	G			,			· · · · · · · · · · · · · · · · · · ·	<u>45</u>		
	46.0-48.0	G		0	 .3	SAND - dark pink brown, very fine			-		
50 - -	48.0-50.0	G				becoming very moist			 		Filter Sand
	50.0-52.0	G				becoming wet	SP		-		
55 1	52.0-54.0	G G		- 6	→ -	SANDSTONE - brown, moist, no odor,			55		4 inch Diameter Sch. 40 PV Screen, 0.020 Slot
	56.0-58.0	מער		[`_		very, very, silicified quartz SAND - brown, very fine grained, with trace clay, saturated, no odor	7 - ـ ـ ـ ـ		-		
	58.0-60.0	У Г С		(	)				-		
<u>60</u> -	60.0-62.0	G				becoming dark pink brown	SP		<u>60</u>		
	62.0-64.0	G									Bottom of Screen at 63'
<u>65</u> -	<u>64.0 65.0</u>	G			)				 - 65 -		Endcap at 63.3' Termination Depth at 65'
T T T T											with Filter Sand
70									- 70		



### **MONITOR WELL NO. MW-5**

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure 5

Project No. 279-512

2 1 Dage of

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq)	Over	burden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Constructi Graphic	ion s	Well Construction Details
0						al light grow brown with		<b>.</b>	_0		ि स्र	TOC Elev: 500.84 ft Surf. Elev: 499.08 ft
	0.0-2.0	G			sand and cla	$r_{\rm r}$ , nght gray brown, when $r_{\rm r}$ , moist, no odor	GP		-  -		Ø	Aboveground Wellhead
	2.0-4.0	G			CALICHE	- light brown, moist, no odor			- - -			Concrete Pad
5	4.0-6.0	G		0	becoming v	ery light brown with sand		}—( ⊧0=	_ 5			
		М		-	SAND - ver seams, mois	ry light brown, with caliche st, no odor			-			
	6.0-8.0	G							-		Ø	
- - 10	8.0-10.0	G		0	no caliche				- - - 10			
	10.0-12.0	G										
	12.0-14.0	G										
15 -	14.0-16.0	G		0	becoming in	gnt brown	SP		<u>15</u>			
	16.0-18.0	G										
- - 20 -	18.0-20.0	G		0					_ 			4 inch Diameter Sch. 40 PVC Riser with Cement-Bentonite
	20.0-22.0	G										Grout
	22.0-24.0	G			with sandsto	one lenses			-			
25 -	24.0-26.0 G				SANDSTO	NE - very light brown, moist,			- <u>25</u>			
	26.0-28.0	G			very silicifi	ed quartz			-			
30	28.0-30.0	G		0.3	very very s	light sweet odor			- 30			
					С	ontinued Next Page					~ ~ /	
Dril	ling Co: McDo	nald	Drilli	ng		LEGEND			Wate	r levels:		ft
Dril	lled by: <u>T. Mo</u>	<u>cDon</u>	ald		\ <u>_</u>	Water level enc. dur	ing drilli	ng				ft
	ged by: <u>C. Ele</u>	<u>uk</u> 10/	20/06		<u> </u>	- Static water level	ot level		Data	Mangurad		ft
Dril	ling completed:	_ <u>10/2</u>	20/96		<u>+</u>   Sam	plers:			Notes	s: <u>Sout</u>	<u>h Si</u>	de of East Product
Dril	ling method: <u>A</u>	ir Ro	otary		G	Grab Sample			and	Water 7	Fank	s Elevation relative
Dev	elopment method:	]	Pump		🛛	Split Spoon S	plit Barr	el	to s	ite datun	n	
!						Shelby Tube 🖉 A	uger		l			

## MONITOR WELL NO. MW-5 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Project	No: 279-512									Page 2 of 2
Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
					Continued from previous page			-		
30	30.0-32.0	G			with sand lenses		<u>-</u> . <del>-</del> .	30		
	32.0-34.0	G			SAND - very light brown, compact, with sandstone lenses, moist, no odor	SP				
35 -	34.0-36.0	G		0	SANDSTONE - very light brown, moist,			- 35		
	36.0-38.0	G			no odor, highly silicified quartz					
40	38.0-40.0	G		0				40		Bentonite Chip Seal
-	40.0-42.0	G			becoming light brown					
	42.0-44.0	G		]						Top of Screen
45	44.0-46.0	G		0				- <u>45</u>		
	46.0-48.0	G			SAND - pink brown, very fine grained, moist, no odor					
- 50 -	48.0-50.0	G		0				- - - <u>50</u>		
	50.0-52.0	G			becoming wet	SP				Filter Sand
	52.0-54.0	G			becoming wet					4 inch Diameter Sch. 40 PVC Screen, 0.020 Slot
55 -	54.0-56.0	G			SANDSTONE - pink brown, moist, no odor, very highly silicified quartz			<u>55</u>		
	56.0-58.0	G			SAND - pink brown, very fine grained, trace clay, saturated, no odor becoming dark vellow brown					
- 60	58.0-60.0	G		V 		SD		<u> </u>		
	60.0-62.0	G				or				
	62.0-65.0	G								Bottom of Screen at 63' Endcap at 63.3'
65							<u> :</u>	- <u>65</u> - -		Termination Depth at 65' with Filter Sand
	1									
								70		

Figure 5



# MONITOR WELL NO. MW-6 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure 5

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq)	Overb	urden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Wo Constru Grap	ell Iction hics	Well Construction Details
0									0			TOC Elev: 496.27 ft Surf. Elev: 493.89 ft
	0.0-2.0	G			FILL - gravel	with sand and clay ight brown, moist, no odor	GP		-			Aboveground Wellhead Protector with 2.5x2.5 foot
-	2.0-4.0	G			becoming very	y light brown			-			Concrete Pad
5 -	4.0-6.0	G		0					- 5			
-	6.0-8.0	G							-			
-  10	8.0-10.0	G		0					-  - 10			
- T - T	10.0-12.0	G			SAND - very	light brown, very fine		>0	-			
	12.0-14.0	G			Branica, mois				-			
15 -	14.0-16.0	G		0					- <u>15</u>			
	16.0-18.0	G					SP		-			4 inch Diameter Sch. 40 PVC Riser with Cement-Bentonite
 20	18.0-20.0	G		0	bosoning list	4 harring			- - 20			Grout
	20.0-22.0	G			becoming light	i brown			-			
	22.0-24.0	G			SANDSTONE silicified quart	E - very light brown, highly z. moist, no odor			-			
25	24.0-26.0	G		0	•			· · · · · · · · · · · · · · · · · · ·	- 25			
	26.0-28.0	G						· · · · · · · · · · · · · · · · · · ·	-			
 30	28.0-30.0	G		U					- - - <u>30</u>			
					Con	tinued Next Page	1					l
Dril	ling Co: <u>MCDO</u> led by: <b>T. M</b> C	nalc Dor	<u>i Drillin</u> ald	<u>ıg</u>	—   <sub>v</sub>	Water level enc. during	g drilli	ng	Water	r levels:		ft ft
Log	ged by: <u>C. Ei</u>	:k			¥	Static Water level	0	U				ft
Dril	ling started:	10/	20/96		<u> </u>	Free Phase Product	level		Dates	Measure	ed:	
Drill	ling completed:	10/	20/96		Sampl	ers:			Notes	:: <u>Ne</u>	ar Sou	utheast Fence
Drill Dev	ling method: <u>A</u> elopment method:	<u>ir R</u>	otary Pump		Gi d   🛛 s	Grab Sample Split Spoon	it Barro	el	<u>Co</u> Dat	rner El tum	evatio	n Relative to Site
					I 🖬 s	Shelby Tube 📕 Au	ger					



**MONITOR WELL NO. MW-6** 



### **MONITOR WELL NO. MW-7**

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure 7

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Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f†/ft)	(mqq)		Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	W Constr Grap	ell uction bhics	Well Construction Details
0	· · · · · · · · · · · · · · · · · · ·			1	SILT dry, 1 LIMI odor CAL moist	Y SAND - brown, very fine grained, no odor ESTONE - very light brown, dry, no ICHE - light brown, with sand, t, no odor	SM		0			TOC Elev: ft Surf. Elev: ft Aboveground Steel Protector with concrete pad
	8.0-10.0	G		0	SAN occas odor	D - light brown, fine grained, sional caliche layers, moist, no			- 10			
<u>15</u>	18.0-20.0	G		0	becor becor sands	ming light pink brown ming light orange brown with stone seams	SP		<u>15</u>			4" Diameter Sch. 40 PVC Riser with cement/bentonite grout
<u>-</u> 25 - - - - - - - - - - - - - - - - - -	28.0-30.0	G		0	SAN sand very	DSTONE - light orange brown, with seams, moist, no odor hard, becoming light brown gray Continued Next Page			- <u>25</u> - <u>-</u> - <u>-</u>			
Dri	illing Co: McDor	nald	l Drillin	1g		LEGEND			Wate	r levels:		ft
Dr	illed by: <u>T. Mc</u>	Don	ald			$\underline{\nabla}$ Water level enc. during	g drilli:	ng				ft
Lo	gged by: <u>C. Eic</u>	<u>k</u>	/07	¥.,		Static Water level	lous					ft
Dri	illing completed.	<u>1/3</u>	<u>ופו</u> 197			Samplers:	ievel		Dates Notes	Measur S: A	<sup>red:</sup>	mately 180' East of
Dri	illing method: <u>Ai</u>	<u>r R</u>	otary			G Grab Sample			Ma	in Gat	e on A	ccess Road
De	velopment method:	_]	<u>Pump</u>			Split Spoon Spl	it Barro	el				



### MONITOR WELL NO. MW-7 KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure 7

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq)	Overburden/Lithologic Description	USCS	Graphic	Log	Depth (feet)	Well Construction Graphics	Well Construction Details
20					Continued from previous page				30		
30 	38.0-40.0	G		0	becoming light brown, no sand seams less consolidated, with sand seams sand layer very consolidated sand layers, weakly consolidated, becoming brown	· · ·			<u>30</u> <u>35</u> <u>35</u> <u>40</u> <u>45</u> <u>50</u>		4.5' of Bentonite Chip Seal
55 -	54.0-56.0	G	<u></u>	0	becoming strongly consolidated, no sand				<u>- 55</u>		Sch. 40 Slotted Screen with Filter Sand
60	58.0-60.0	G		0  0	SAND - orange brown, medium to fine grained, wet, no odor				60		
65 	60.0-62.0	G				SP					Bottom of Screen at 68' Endcap at 68.3'



### MONITOR WELL NO. MW-7

KN Energy - Hobbs Gas Plant

Hobbs, New Mexico

Figure 7

279-512 Project No:

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
					Continued from previous page					
70								- 70		Filter Sand
4								- 		
								-		
75								-		
								-		
<u>80</u> 								- <u>80</u> 		
								-		
								-		
<u>85</u> -								 		
								-		
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- 20								-	:	
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-								-		
- -								<u>95</u> - 		
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								-		
								110		





February 13, 1996

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

> Re: AIC Job #02-0045897 Water Well Search Hobbs Gas Plant Hwy 180 7 Hwy 483 Hobbs, New Mexico

Dear Mr. Eick:

At your request, Agency Information Consultants, Inc. (AIC) has conducted a water well search for the above-referenced site. Water well records in New Mexico are maintained by the New Mexico State Engineers Office in Santa Fe. These records are sorted geographically (by the township/range grid system), and AIC has obtained copies of all water wells on record in the sections concerning the site. AIC does not guarantee the accuracy of the information as provided by the original sources, nor can we guarantee that no plotting errors have occured. The purpose of these maps is to give the user a "working approximation" of the positions of reported well positions. AIC has plotted those wells that are in the area of review on the enclosed map.

#### SUMMARY

AIC was able to locate 4 water wells in the sections concerning the area of review.

Thank you for using AIC for this project. Please call me if you have any questions.

Diane Barnes Production Manager Form WR-23

Ore, ist.

### STATE ENGINEER OFFICE

1-1- 1

A

WELL RECÓ

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest 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 1A and Section 5 need be completed. Section 1 28 (A) Owner of well boutbasset malie forrice, soliter, Street and Number City lights State light word to

1 4	••			Well was drilled under Permit Noand is located in the
5			·	(B) Drilling Contractor Dob Bord & Son License No. A6494 Street and Number 1945 N. 4th 5t.
				 City LiAS COUSES State How how too
		·	1	Drilling was commenced 19
1	(P	lat of 64	0 acres).	 Drilling was completed

Elevation at top of casing in feet above sea level\_\_\_\_\_\_ Total depth of well\_\_\_\_\_\_ State whether well is shallow or artesian\_\_\_\_\_\_ Depth to water upon completion\_\_\_\_\_\_

Section	2		PRIN	CIPAL WATER-BEARING STRATA
No.	Depth	in Feet	Thickness in	Description of Water-Bearing Formation
	From	То	rect	
1				
2	· · · · ·			Soud on beek
3				
4	·			1 Ma
5	••			A second s

RECORD OF CASING Section 3

Basin

Dia	Pounds	Threads	De	pth		-	Chas	Peri	forations
in.	ft.	in	Top	Bottom	reet	Type	- 880e	From	To
2 3/4	11.51				3091			891	(1) <b>9</b> 1
							\$		
	· ·								

Section 4			RECORD	OF MUDDING	AND CEME	<b>ATING</b>	÷ •
Depth	in Feet	Diameter	Tons	No. Sacks of		Methods Used	
From	То	Hole in in.	Clay	Cement			. · ·
						•	
•		·					
······							

PLUGGING RECORD Section 5 License No. Name of Plugging Contractor\_\_\_\_ ..... Street and Number\_\_\_\_\_ City\_\_\_\_ \_\_\_\_\_ State\_\_\_\_\_ \_\_\_\_\_Tons of Roughage used\_\_\_\_ \_Type of roughage\_\_\_\_\_ Tons of Clay used ..... . .. \_\_\_19\_\_\_\_ Date Plugged Plugging method used Cement Plugs were placed as follows:

Plugging approved	by:	•
-------------------	-----	---

		Cemen	t I lugs wel	e placed as follows:
Supervisor	No.	Depth From	of Plug To	No. of Sacks Used
The Real Property in the second s				

FOR USE OF	STATE ENGINEER ONLY	$\square$		_			
Date Received	AUG 4 1955						
	OFFICE GROUND WATCH SUPERVISOR						
File No. <u>2-/350</u>	RUSWEIL, K. M. KEKICU Use	h	d.	L	ocation No	18.34	58 4/11/1

Denu	n Feet	Thickness		
Tom	To	in Feet	Color	Type of Material Encountered
0	<u> </u>	<i>j</i> 1		Chot she have
5	<u>.</u>	23		Clitcha
33	30	2		and is gravel
30	43	13	· ·	Lino rock
43	.4	1	·· <u>···</u> ·······························	Sand
11	54	10		Line rock
54	59	. 5		ilerd-sand rock
59	64	5	·	Yellow cletcho
<u>.</u>	65	1		ilard-aand stone
65	_74	9	-	Sand water
74	75	1		Cletchs
75	03	_5	· · · ·	Sand
30	92	12		Sund stone
92	136	44		Sand & gravaal
136	1/0_	4		Clotche
140	150	_10		Sand
150	154	_4		Cletchs
154	170	16		Sand & gravel
20	174	_4		STK Boulders
74	192	22		Sand, gravel, houlders -
92	195	_3		Boulders
95	204	9		Gravel & sand
204	206	2		- Red Bod
				38.1.6
			· · · · · · · · · · · · · · · · · · ·	Depth to KTrcOL
			· · ·	Elev of KTrc_34177
				100 No 18,36.29 11/11/2
				thete Cugany Field Chast

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 well

S . . .

1-15

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 $\omega_{ij} =$ 

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: T

: ....

<u>s.</u>

Well Driffer

4.....

SOURCE OF ALTITUDE GUIN Interpolated from Topo. Sheet Determined by Inst. Leveling X(South)'Other\_

#### T-P Coal J11 WELL RECORD State W

INSTRUC IS: This form should be executed in triplicate, is rably typewritten, and submitted to the nearest distate 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 1A and Section 5 need be completed.

Section	1
---------	---

uri1

(A) Owner of well Rowan Drilling Co.

	Street and Number Box 1873
	City Midland State Texas
	Well was drilled under Permit Noand is located in the
	(B) Drilling Contractor_Abbott_Broc_License No. WD-46 Street and NumberBox 637
	City Hobbs State New Mexico
	Drilling was commenced December 27 19.57
(Plat of 640 acres)	Drilling was completed

Elevation at top of casing in feet above sea level\_\_\_\_\_\_Total depth of well\_\_\_\_\_Total depth of well\_\_\_\_\_\_Total d State whether well is shallow or artesian Shallow Depth to water upon completion 45

Section 2 PRINCIPAL WATER-BEARING STRATA

From         To         Feet           1         45         125         80         Water Sand           2	No	Depth	in Feet	Thickness in	Description of Water-Bearing Formation		
1     45     125     80     Water Sand       2		From	To	Feet			
2 2 3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	1	45	125	80	Water Sand		
3 4 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	2						
4 5	3						
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Section 3

Se

RECORD OF CASING

Dia	Pounds	Threads in	Depth		Treat	Barro Shar	Perfo	rations
in.	ft.		Ţoŗ	Bottom		Type Shoe	From	To
	NON						•	
	NURG				• ·	· •	·	
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	ALCOVAD						
Diameter	Tons	No. Sacks of Cement	2. E. 20	Methods Used			
Hole in in.	Clay						
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			<u>_</u>				
				······································			
	Diameter Hole in in.	Diameter Tons Hole in in. Clay	Diameter Tons No. Sacks of Cement	Diameter     Tons     No. Sacks of Cement       Hole in in.     Clay     Cement	Diameter     Tons     No. Sacks of Cement     Methods Used		

Section 5 PLUGGING RECORD

Name of Plugging Contractor	License No
Street and Number.	<u></u> <u></u>
Tons of Clay used	edType of roughage
Plugging method used	Date Plugged19
Plugging approved by:	Cement Plugs were placed as follows:

Plugging approved by:

	Basin Supervisor		No	Depth From	of Plug To	No. of Sacks Used	
FOR USE OF	STATE ENGINEER ONLY						
Date Received	DEC 31 1957	T					
File No. <u>2-3757</u>	Use_O	<u>.</u> کد		$\sum r$	ocation No.	19.36 28.110	
	Que	ωı	n r	re			

Section 6			LOG	OF WELL
Depth From	in Feet	Thickness in Fect	Color	Type of Material Encountered
0	1	1.		8011
1	17	16		Oaliche
17	25	8		Sand Rock
25	40	15		Dry Sand
<u></u>	1.5	5		Band Book
115	125	80		Water Sand
		· ·		
	1			
	1	1		
<u> </u>			· · · · · · · · · · · · · · · · · · ·	
- <u></u>	1	1		
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	e	2		.1.
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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 well.

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Well Driller ્રેટ ۶. : ۰,

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Form WR-23 FIELD ENGR. LOG

#### STATE ENGINEER OFFICE

#### WELL REC )

INSTRUCAIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest 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 1A and Section 5 need be completed. Section 1

	(A) Owner of well LOPENO 3211	3. 13
	Street and Number	[33
	City	State State
	Well was drilled under Permit No	11 and is located in the Twp. 1. Rge 30 1. License No. D-208
	City Uil Center, Drilling was commenced i.ov. 24	State 19 5.5
(Plat of 640 acres)	Drilling was completed 1.07. 26,	19

109 Elevation at top of casing in feet above sea level. Challon . ú5 \_\_\_\_\_Depth to water upon completion. State whether well is shallow or artesian\_

Section	2		PRINC	CIPAL WATER-BEARING STRATA
No.	Depth 1 From	n Feet To	Thickness in Feet	Description of Water-Bearing Formation
1	69	100	31	Course Later send
2				
3				
4		1		
5				

Section 3 RECORD OF CASING

Dia	Pounds	Threads	De	pth	E	These Shae	Perfore	tions
in.	ft.	· in	Top	Bottom	reet	Type Shoe	From	To
6 "		· ·	0	4	41	,	lione	
	(6 " n	ople in	con of	hole,	10 othe	r nipe use	d.)	
						·•		
			·	······	· · · · · · · · · · · · · · · · · · ·			······································

RECORD OF MUDDING AND CEMENTING Section 4

		• • • • • • • • • • • • • • • • • • • •									
	Methods Used	No. Sacks of "	Tons	Diameter	Depth in Feet						
		Cement	Clay	Hole in in.	То	From					
	· · ·										
	· .	·									
	· · · · · · · · · · · · · · · · · · ·		•	· · ·							
· · ·						} 1					

Section	5
0	•

#### PLUGGING RECORD

Name	of	Plugging	Contractor		License	No	
------	----	----------	------------	--	---------	----	--

City. Street and Number..... State: Tons of Clay used..... \_\_\_\_\_Tons of Roughage used\_\_\_\_\_\_ \_\_\_\_\_Type of roughage\_ \_\_\_\_\_Date Plugged\_\_\_

Plugging method used\_\_\_ Plugging approved by:

Cement Plugs were placed as follows:

19.

Basin Supervisor	No.	Depth From	of Plug To	No. of Sacks Used
FOR USE OF STATE INCIDENTATION				
Date Received				
le No. 2-4/011Use Dara	<u></u>	Lc	ecation No.	18.36.33.444

С

Section 6

LOG OF WELL

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Depth From	in Feet To	Thickness in Fect	Color	Type of Material Encountered
0	65	65	Grevish	Jaliche
65	69	4	Grevish	Hard Rock
69	100	31	Grevish	Jourse Hater-sand
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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 well.

W. L. Man Doy Well Driller \_\_...

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SI	<b>NTA</b>	F

STATE ENGINEER OFFICE

well No.

4

WELL	RECORD
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ļ INSTRUCTIONS: 'Luis form should be exem .... .

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<b></b>	1			er of wel	<u>New</u>	<u>Hextoo Ele</u>	stric Co.	
1			Street an	d Number	r			
	-  -		_ City	HQ]	bbs			Yew Nexico
		l	Well was	drilled u	inder Pern	nit No	<u>72-13</u> an	d is located in t
		<u> </u>	Center	۶ł	43	4 of Section $34$	Twp. 185	Rge. 302
{	1		(B) Dril	ling Conti	ractor. <u>A</u>	bbott Bros	Lice	nse No. $\pi D - 40$
			Street an	d Number	<u>P.0.</u>	Box 637	· .	
			City	Hobba			State	lew Nexico
			Drilling	was comn	nenced	February 1	: 	<u> </u>
·	Plat of 640	acres)	Drilling	was compl	leted	r rebiaut	9 10	1905
Elevati	on at top o	of casing in t	feet shove s	ea level		Total de	pth of well £0	190
State w	vhether we	ll is shallow	r or artesian	Shall	low	Depth to wa	ter upon comple	tion 70
	-							
Section	2		PRIN	CIPAL W	ATER-BEAR	ING STRATA		
No.	Depth I	In Feet	Thickness in Feet		De	scription of Wate	r-Bearing Formatio	n
	70	101						
· · · · · · ·		101		Sana	[	•		
2				ļ		·		
3		· · _						·
4								•
5				· · ·				·
Section	3			RECOR		SING	-	
Dia	Pounda	Threads	De	pth	1	1	Perío	rations
in.	fi.	in	Top	Bottom	Feet	Type Shoe	From	To
24 "	hole							· ·
14"	.375	weld	0	190	190	open	70	190
	wall	· .		1. <u>1. 1. 1</u> .	· As hips			
			·		1645 V			
		<u> </u>	•		1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -	· · · · · ·	·- ·	
	<u> </u>	<u> </u>	BECOR				• •	
Section	4		RECOR			d cementing		
Section Dept	4 th in Feet	Diameter Hole in in	RECOR Tons L Clay	D OF MUL	DDING AN	d Cementing	Methods Used	
Section Dept From	4 h in Feet	Diameter Hole in in	RECOR Tons L Clay	D OF MUI No. Sa Cem	DDING AN	d cementing	Methods Used	
Section Dept	4 th in Feet To	Diameter Hole in in	RECOR Tons L. Clay	D OF MUI	DDING AN	d Cementing	Methods Used	
Section Dept From	4 Lh in Feet To	Diameter Hole in in	RECOR Tons L. Clay	D OF MUI	DDING AN	D CEMENTING	Methods Used	
Section Dept From	4 th in Feet To	Diameter Hole in in	RECOR Tons L. Clay	D OF MUI	DDING AN	D CEMENTING	Methods Used	
Section Dept From	4 hh in Feet To	Diameter Hole in in	RECOR Tons Clay	D OF MUI	DDING AN cets of pent	D CEMENTING	Methods Used	
Section Dept From	4 h in Feet To 5	Diameter Hole in in	RECOR Tons L Clay	D OF MUI No. 5a Cerr PLUGG	DDING AN tests of tent	D CEMENTING	Methods Used	
Section Dept From ection	4 th in Feet To 5 f Plugging	Diameter Hole in in	RECOR Tons Clay	D OF MUL No. Sa Cerr PLUGG	DDING AN Indexs of inent inent ine	D CEMENTING	Methods Used	
Section Dept From ection	4 th in Feet To 5 f Plugging und Number	Diameter Hole in in	RECOR Tons Clay	D OF MUI No. Sa Cerr PLUGG	DDING AN cease of nent Sing Reco	D CEMENTING	Methods Used	
Section Dept From ection	4 th in Feet To I 5 f Plugging und Numbe Clay used	Diameter Hole in in	RECOR Tons Clay	D OF MUI No. Sa Cerr PLUGG	DDING AN cdas of aent Sent	D CEMENTING	Methods Used	

Basin Supervisor	No.	Depth From	To	No. of Sacks Used
FOR USE OF STATE ENGINEER ONLY				
File No L-5176-X-3 Use 200	Ĺ	L	colior. 'No.	18.36 34

Section 6

LOG OF WELL

	Depth	in Feet	Thickness		
	From	To	in Feet	Color	Type of Material Encountered
	0	7	7		Caliche
	7	21	14		sand
	21	24	3		rock
	24	30	. 6		sand
	30	40	10		sand
i	40	48	8		rock
	48	70	12		sand
	70	90	20		sand
	90	100	10	Brown	sand
	100	115	15		sand
ŀ.	115	140	25		sand
ŀ	140	155	15.		sand
	155	175	20	Brown	sand
	175	181	6		sand
1 .	181	186	5		sandy <b>cå</b> ay
	186	190	· 4	red	clay
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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 well.

Murrell abbott

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Cool	ant Cu (mg/kg	2 V	2 2	27 V	~ ∼	4.91	2	ю	74	98																	
/96 8/96 tact & ML	Gas Pl Co (mg/kg)	ŝ	Š	ő	ŝ	4.91	т	7	75	98													. DQ .	1611 15	Zn, Mo.		
/23/96 : 10/24 : 10/1 ion: In ed by:	Hobbs Hg mg/kg)	<0.25	<0.25	<0.25	<0.25	0.0048	0.25	0	95	95													ma/ka Co		Mn, Ní,		
1298 ate: 10 is Date ng Date Condit Receiv	t Name: Al mg/kg (	2,500	1,950	913	2,150	4.96	20	15	96	66													- 0.0. :		u, Fe, l	1	
806.794. Prep D Analys Samplie Sample Sample	Projec Ba mg/kg (	62	33	<20	47	4.89	20	4	76	98													: RR Se. Cu	Fe.	0 0 0 1 0 1	ATE .	
FAX	Åg (mg/kg)	<5.0	0.7	<0.5	<0.5	5.35	0.5	7	103	107	Mo	(mg/L)	<10	<10	<10	<10	4.7	10	7	69	94		n, Mo, B .0 mg/kg	by/bu c	, Ba, Al		
•794•1296	LS Pb (mg/kg)	<10	<10	<10	<10	4.97	10	7	73	66	Ø	(mg/L)	<3.0	<3.0	<3.0	<3.0	6.48	3.0	н	95	109		n, Ni, Z) Al: 100	Mo; 400.0	, Pb, Ag	ł	
FOR FOR MMENTAL Eick	TAL META Cr mg/kg) (	<5.0	<5.0	<5.0	5.71	4.77	ហ	г	76	95	Zn	(mg/L)	6.36	4.44	2.79	5.01	4.97	7	Q	77	66		lu, Fe, M TAs, Ba.	Ni, Zn,	e, cd, cr		
. Texas 7942 . RESULTS L ENVIRO Carrie .t St. X 79703	cđ mg/kg) (	<2.0	<2.0	<2.0	<2.0	4.91	2	٣	70	98	Nİ	(ng/L)	<20	<20	<20	<20	4.91	20	7	73	98		Al, Co, C 0.0 mg/kg	Co, Mn,	/L As, Se	rich	ell
Lubbock NALYTICAL CO-LOGICA: tention: 200 Markes idland, T	se mg/kg) (	<10	<10	<10	<10	4.97	10	ო	79	66	Mn	(mg/L)	18.3	18	7.5	24.7	5.03	0.1	4	76	101		Ag, Ba, 1 kg B: 80	g/kg Pb,	5.0 mg	air Leftw	ice McDon
en Avenue Ec At At Mi	As (mg/kg) (	<10	<10	<10	<10	5.14	10	7	85	103	ЪС	(mg/L)	2,190	2,020	\$998	2,660	4.99	ю	19	95	100	7471.	. Cr, Pb, 1: 120 mg/	; 200.0 m	5.0 mg/L B	r, Dr. Bla	r. Dr. Bri
6701 Aberdi NM																						, 3051, ;	, Se, Cd, mg/kg Hc	mg/kg Ci	; t Hg; t	Directo	Directo
.0/22/96 .0/22/96 .1 .512 .512	ODE	38-40')	14-46')	54-56')	58-60')	Control			racy	racy			38-40')	14-46')	54-56')	58-60')	Control			iracy	ıracy	846-6010	As (E: 2.50	80.0	0.005 m		
04, 1996 I Date: 1 Pe: Soi 0: 279- ocation:	FIELD CC	MW-2 (3	MW-2 (4	MW-2 (5	MW-2 (5	Quality	LIMIT		ion Accu	lent Accu			MW-2 (:	MW-2 (+	MW-2 (!	MW-2 (5	Quality	LIMIT :		ion Accu	lent Accu	EPA SW	HG: CB ALS SPIK		ALS QC:		
November Receiving Sample Ty Project N	TP#	T60768	T60769	T60770	T60771	δc	REPORTING	RPD	% Extract	<pre>% Instrum</pre>			T60768	T60769	T60770	T60771	õc	REPORTING	RPD	<pre>% Extract</pre>	<pre>% Instrum</pre>	<b>METHODS:</b>	CHEMIST: TOTAL MET		TOTAL ME1		
	6701 Aberdeen AvenueLubbock, Texas 79424806e794e1296FAX 806e794e1298November 04, 1996ANALYTICAL RESULTS FORPrep Date: 10/23/96Receiving Date: 10/22/96ECO-LOGICAL ENVIRONMENTALAnalysis Date: 10/24/96Sample Type:Soil2200 Market St.Sampling Date: 10/18/96Project No:279-512Midland, TX79703Sample Received by: ML	6701 Aberdeen AvenueLubbock, Texas 79424806-794-1296FAX 806-794-1298November 04, 1996ANALYTICAL RESULTS FORPrep Date: 10/23/96Receiving Date: 10/22/96ECO-LOGICAL ENVIRONMENTALPrep Date: 10/23/96Receiving Date: 10/22/96ECO-LOGICAL ENVIRONMENTALAnalysis Date: 10/24/96Sample Type: SoilAttention: Carrie EickSampling Date: 10/24/96Project No: 279-5122200 Market St.Sample Condition: Intact & CoolProject Location: Hobbs, NMMidland, TX 79703Project Name: Hobbs Gas PlantProject Location: Hobbs, NMAsSeCdCrProject Location: Hobbs, NMAsSeCdCrProject Location: Hobbs, NMFIELD CODERidland, TX 79703Project Name: Hobbs Gas PlantProject Location: HobbAsSeCdCrProject Location: HobbsMidland, TX 79703Project Name: Hobbs Gas PlantProject Location: HobbE(mg/kg) (mg/kg)	6701 Aberdeen AvenueLubbock, Texas 79424806+794+1296FAX 806-794+1298November 04, 1996ANALYTICAL RESULTS FOR ANALYTICAL RESULTS FORPrep Date: 10/23/96Receiving Date: 10/22/96ECO-LOGICAL ENVIRONMENTAL Attention: Carrie EickPrep Date: 10/23/96Sample Type: SoilAttention: Carrie EickRanlysis Date: 10/24/96Project No: 279-5122200 Market St.Sample Condition: Intact & CoolProject Location: Hobbs, NMMidland, TX 79703Project Name: Hobbs Gas PlantProject Location: Hobbs, NMAsSeCdCrProject Location: Hobbs, NMAsSeCdCrProject Location: Hobbs, NMMidland, TX 79703Project Name: Hobbs Gas PlantTA#FIELD CODEAsSeCdCrTA#FIELD CODE(mg/kg)(mg/kg)(mg/kg)(mg/kg)(mg/kg)T60768Mw-2 (38-40')<10	November 04, 1996 6701 Aberdeen Avenue Lubbock Texas 79424 806+794+1296 FAX 806-794+1298 rep Date: 10/23/96 Prep Date: 10/23/96 Prep Date: 10/22/96 Prep Date: 10/22/96 Prep Date: 10/22/96 Project No: 279-512 Attention: Carrie Eick Sample Type: Soil Project No: 279-512 Midland, TX 79703 Sample Condition: Intact & Cool Project Location: Hobbs, NM Midland, TX 79703 Sample Received by: ML Project Name: Hobbs Gas Plant Project Name: Hobbs Gas Plant Totat Location: Hobbs, NM Totat Name Name Name Name Name Name Name Name	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $			MMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMMM		Bit Notember 04, 1996         6/01 Aberdeen Avenue         Lubbock, Faxs 79424         806+794+1296         FAX 806+794+1296         FAX 806+794+1296           Receiving Date:         10/22/96         ECO-LOGICAL ENVIRONMENTAL         Prep Date:         10/23/96           Receiving Date:         10/22/96         ECO-LOGICAL ENVIRONMENTAL         Analysis Date:         10/24/96           Receiving Date:         10/22/96         ECO-LOGICAL ENVIRONMENTAL         Analysis Date:         10/24/96           Frobect No:         279-512         Z200 Market St.         Carrie Eick         Sample Project Name:         10/24/96           Project Location:         Hobbs, NM         Midland, TX         79703         Sample Received by: ML         Encl Acol           TA#         FIELD CODE         (mg/kg)         (mg/kg)         (mg/kg)         (mg/kg)         mg/kg)         mg/kg)         mg/kg)         mg/kg)           T60708         MM-2         (38-40')         <10	Right of the formation of the for	Normber 04, 1996         G/01 Abendeen Avenue         Lubbock, Fexas 7947         806+794+1296         FAX 806+794+1298           Receiving Date:         10/22/96         Antantion:         Carrie Bick         Analysis Date:         10/23/96           Sample Type:         South Carrie Bick         Antantion:         Carrie Bick         Analysis Date:         10/23/96           Sample Type:         South Carrie Bick         Analysis Date:         10/23/96         Analysis Date:         10/23/96           Sample Type:         South Type:         South Avenue         Carrie Bick         Sample received by: Multiple           Project No:         279-512         Sample Received by: Multiple         Sample Received by: Multiple           Project Location:         Hobbs, NM         Midland, TX         9703         Sample Received by: Multiple           Project Location:         Hobbs, NM         Midland, TX         9703         Mark         Mark           Project Location:         Hobbs, NM         Midland, TX         9703         Mark         Mark           Project Location:         Mark         Sample Received by: Multiple         Mark         Mark         Mark           FielD         CODE         Mark         Mark         Mark         Mark         Mark         Mark					Normber         04, 196         G701 Alterdeen Avenue         Lubbock Tess         340.1700         Receiving Date:         10/23/96           Receiving Date:         10/22/96         Antartront RESULTS FOR         Receiving Date:         10/23/96           Receiving Date:         10/22/96         Antartront RESULTS FOR         Receiving Date:         10/23/96           Receiving Date:         10/22/96         Antention:         Carrie Bick         Sampling Date:         10/18/96           Receiving Date:         10/22/96         Attention:         Carrie Bick         Sampling Date:         10/18/96           Recolution:         10/22/96         Attention:         Carrie Bick         Sampling Date:         10/18/96           Recolution:         10/24/96         Attention:         Carrie Bick         Sampling Date:         10/18/96           Recolution:         10/24/96         Attention:         Carrie Bick         Carrie Bick         Sampling Date:         10/18/96           Recolution:         Market St.         TOTMA METALS         TOTMA METALS         Sampling Date:         10/18/96           Recolution:         Market St.         TOTMA METALS         Sampling Date:         10/18/96         Market St.           State         Market St.         Market St. <t< td=""><td></td><td></td><td></td><td><math display="block"> \begin{array}{c c c c c c c c c c c c c c c c c c c </math></td><td><math display="block"> \begin{array}{c c c c c c c c c c c c c c c c c c c </math></td><td></td><td>Normere 04, 1996         GT(1) Allendien Avenua         Lubbeck Teams 704+1206         FXX 901-123/96           Receiving Date: 10/22/95         EXALITIOLAL RESULTS POR Ecological Results Points         Samplies Date: 10/22/96           Receiving Date: 10/22/95         EXALITIOLAL RESULTS POR Ecological Reveal VII         Samplies Condition: 1124/96           Receiving Date: 10/22/95         Excention: Carrie Stick Samplies Condition: 1124/96         Samplies Condition: 1124/96           Recopert Jocation: Bobbe, NM         Nicidinal, TX 79/03         Samplies Condition: 1124/96         Analysis Date: 10/24/96           Recopert Jocation: Bobbe, NM         Nicidinal, TX 79/03         Samplies Condition: 1124/96         Samplies Condition: 1124/96           Recopert Jocation: Bobbe, NM         NML         Zonation         Samplies Condition: 1124/96         Samplies Condition: 1124/96           Recoprised Note: 2002         Recopert Jocation: Bobbe Samples         Note         Samplies Condition: 1124/96           Recoprised Note: 2002         Recopert Jocation: Bobbe Samples         Samplies Condition: 1124/96         Samplies Condition: 1124/96           Recopert Jocation: Bobbe Samples         Not Natrial Samples         Samplies Condition: 1124/96         Samplies Condition: 1124/96           Recopert Jocation         Samples         Samplies Condition: 1000         Samples Condition: 10024/96         Samples Condition: 10024/96</td><td></td><td>Bornellen Alemia         Eucliden /td><td>Secondation Neuron         Statistics Ford         State         Total Secondation         State         Total Secondation         <thtotal secondation<="" th=""> <thtotal secondation<="" t<="" td=""></thtotal></thtotal></td></t<>				$ \begin{array}{c c c c c c c c c c c c c c c c c c c $	$ \begin{array}{c c c c c c c c c c c c c c c c c c c $		Normere 04, 1996         GT(1) Allendien Avenua         Lubbeck Teams 704+1206         FXX 901-123/96           Receiving Date: 10/22/95         EXALITIOLAL RESULTS POR Ecological Results Points         Samplies Date: 10/22/96           Receiving Date: 10/22/95         EXALITIOLAL RESULTS POR Ecological Reveal VII         Samplies Condition: 1124/96           Receiving Date: 10/22/95         Excention: Carrie Stick Samplies Condition: 1124/96         Samplies Condition: 1124/96           Recopert Jocation: Bobbe, NM         Nicidinal, TX 79/03         Samplies Condition: 1124/96         Analysis Date: 10/24/96           Recopert Jocation: Bobbe, NM         Nicidinal, TX 79/03         Samplies Condition: 1124/96         Samplies Condition: 1124/96           Recopert Jocation: Bobbe, NM         NML         Zonation         Samplies Condition: 1124/96         Samplies Condition: 1124/96           Recoprised Note: 2002         Recopert Jocation: Bobbe Samples         Note         Samplies Condition: 1124/96           Recoprised Note: 2002         Recopert Jocation: Bobbe Samples         Samplies Condition: 1124/96         Samplies Condition: 1124/96           Recopert Jocation: Bobbe Samples         Not Natrial Samples         Samplies Condition: 1124/96         Samplies Condition: 1124/96           Recopert Jocation         Samples         Samplies Condition: 1000         Samples Condition: 10024/96         Samples Condition: 10024/96		Bornellen Alemia         Eucliden	Secondation Neuron         Statistics Ford         State         Total Secondation         State         Total Secondation         Total Secondation <thtotal secondation<="" th=""> <thtotal secondation<="" t<="" td=""></thtotal></thtotal>

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Cool	ant Cu (mg/k		4.2.	V 9	~	42	<b>7</b>	4.9	N	m	74	98																	•	
//////////////////////////////////////	Gas Pl Co (mg/kg)	1	~~ `	₩ 1	Ŷ	е Ч	Ŷ	4.91	m	2	75	98															1, Ag;	CM MC	1	
//////////////////////////////////////	Hobbs Hg mg/kg)	10	<0.25	<0.25	<0.25	<0.25	<0.25	0.0048	0.25	0	95	95															ng/kg Co	(N . U)	1 - 1 - 1	
1298 1298 is Date ng Date r condit	t Name: Al mg/kg		1,160	1,560	2,510	2,030	2,010	4.96	20	15	96	66															; 20.0 1	u. Fe. J	·	1
Prep D Analys Sample Sample	Projec Ba mg/kg (		173	170	191	103	<20	4.89	20	4	76	98														: RR	Se, Cu	ге. Со. С	1 -96	TE
FAX	Ag (mg/kg)	,	с. Т	0.6	<0.5	<0.5	<0.5	5.35	0.5	2	103	107	Mo	(mg/l.)	<10	<10	<10	<10	<10	4.7	10	7	69	94		n, Mo, B	0 mg/kg	, Ba, Al	- 1/	ACI
5, INC	LS Pb (mg/kg)		<10	<10	<10	<10	<10	4.97	10	7	73	66	£	(mg/L)	<3.0	<3.0	<3.0	<3.0	<3.0	6.48	3.0	Ч	95	109		n, Ni, Zı	A1, 100	ru; tuu. . Pb. Ag	•	1
MLYSIS 4 806 FOR NMENTAL Eick	)TAL META Cr (mg/kg)	4	ۍ ۷	ۍ ۷	<5	5.34	5.47	4.77	'n	ч	76	95	Zn	(J/6m)	2.51	5.16	6.15	6.44	6.5	4.97	7	9	<i>LL</i>	66		Cu, Fe, M	j As, Ba,	at, cd. Cr	•	
EANA (, Texas 7942 C, Texas 7942 L RESULTS AL ENVIRO AL ENVIR	T( cd (mg/kg)		<ul> <li>V</li> </ul>	~~ ~	<b>7</b> 2	~2	77 V	4.91	5	Ч	70	98	Nİ	(mg/L)	<20	<20	<20	<20	<20	4.91	20	7	73	98		Al, Co, C	0.0 mg/kg	/LAS, Se		40.
TRAC Lubbock NALYTICAL NALYTICAL NALYTICAL CO-LOGICA ttention: 200 Marke	Se (mg/kg) (		<10	<10	<10	<10	<10	4.97	10	ო	19	66	Mn	(mg/L)	5.9	13.7	22.2	13.8	17.9	5.03	0.1	4	76	101		Aq, Ba,	kg B; 80	19/ AJ FU	R	
	As (mg/kg) (		10	14	<10	<10	11	5.14	10	7	85	103	ъe	(mg/L)	735	2,130	3,070	1,830	2,140	4.99	m	19	95	100	7471.	Cr, Pb,	1: 120 mg/	., 200.0 mg/L B	•	19 20 2
6701 Aberd																									3051,	Se, Cd,	mg/kg Ho	ייש, אמי (י אלב Ha; (י		Directo
0/22/96 512 Hobbs,	DE		t-6')	(4-16')	8-201)	14-36')	18-50')	Control			racy	racy			[-6')	(191-4)	8-201)	14-36')	18-50')	Control			racy	racy	846-6010,	As,	E: 2.50	0.005 mc		
04, 1996 Date: 1 pe: Soi o: 279- ocation:	FIELD CO		MW-3 (4	MW-3 (1	MW-3 (1	MW-3 (3	MW-3 (4	Quality	LIMIT		ion Accu.	ent Accu.			MW-3 (4	MW-3 (1	MW-3 (1	MW-3 (3	MW-3 (4	Quality	LIMIT		ion Accu.	ent Accu.	EPA SW	Hq: CB	ALS SPIK	ALS QC:		
November November Receiving Sample Ty Project N	TA#		T60772	T60773	T60774	T60775	T60776	5C	REPORTING	RPD	% Extract	& Instrum			T60772	T60773	T60774	T60775	T60776	ъс	REPORTING	RPD	<pre>% Extract</pre>	% Instrum	<b>METHODS:</b>	CHEMIST:	TOTAL MET.	TOTAL MET	1	

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		NULLAL WULLING	TRAC	CEAN	ALYSI	S, IN(	C				MUUN		
Novembe: Receivii Sample 1	r 04, 1996 ng Date: 10/22/96 Type: Soil	5701 Aberdeen Avenue	Lubbo ANALYTICA ECO-LOGIC Attentior	ck, Texas 794 ML RESULT ML ENVIR	424 81 15 FOR 10 NMENTAL 10 Eick	J6●794●1296	FA	(806•/94 Prep ] Analy Sampl	1298 Date: 10 sis Date ing Date	)/23/96 e: 10/24 e: 10/1	1/96 9/96	-	
Project Project	No: 279-512 Location: Hobbs, 1	WN	2200 Mark Midland,	tet St. TX 7970 1	3 FOTAL MET	ALS		Sample Sample Proje	e Condif e Receiv ct Name	cion: In ved by: : Hobbs	ML ML Sas Pl	cool ant	
TA#	FIELD CODE	As (mg/kg)	Se (mg/kg)	Cđ (mg/kg)	Cr (mg/kg)	(by/bu) dg	Ag (mg/kg)	Ba mg/kg	Al (mg/kg	Hg (mg/kg)	Co (mg/kg)	Cu (mg/kg)	
T60778	MW-4 (34-36')	<10	<10	<2.0	5.3	<10	<5.0	170	1,800	<0.25	₩ 9	<5.0	
QC QC	MW-4 (48-50') Quality Control	LL 5.47	4.89	4.77	4.72	<10 4.86	<5	3/ 4.91	2,100 4.98	67.02 0.0048	<3 4.82	4.93	
REPORTIN	IIMIT ON	10	10	7	'n	10	0.5	20	20	0.25	m	5.0	
RPD		17	17	. 15	4	14	1	17	17	0	15	22	
% Extrac	ction Accuracy	89	73	75	82	76	101	79	114	95	77	87	
% Instru	ument Accuracy	110	98	95	94	97	108	98	100	95	96	66	
		Fe / mc / I /	Mn / mc / T./	Ni (mc/1)	2n / == / 1 /	B (==~17)	MO / m~ /1 /						
T60778	MW-4 (34-36')	1,500	10	<20	4.6	( <u>1</u> , <u>1</u> , <u>1</u> ) <3.0	01>						
T60779	MW-4 (48-50')	2,500	19	<20	6.5	<3.0	<10						
БС	Quality Control	4.95	4.96	4.81	4.92	6.48	4.64						-
REPORTIN	VG LIMIT	m	0.1	20	N	3.0	10						
RPD		21	15	ო	15	L	18						
% Extrac	ction Accuracy	105	81	78	82	95	72						
<pre>% Instru</pre>	ument Accuracy	л Л	66	96	86	109	63						
METHODS: CHEMIST:	: EPA SW 846-6010, Ha: CB As.	3051, 7471. Se. Cd. Cr. Pb.	AG, Ba.	Al Co.	Cu Fo	Mn Ni 7	Ro Mo	4 4 4					
TOTAL ME	TALS SPIKE: 2.50 n 200.0	ng/kg Hg; 120 mg mg/kg Pb, Co, 1	g/kg B; 80 Mn. Ni. Zi	00.0 mg/k	cg As, Se 00.0 mg/k	, Ba, Al; c Cu: 400	20.0 mg	/kg Cd,	Ag; 80	.0 mg/k	g Cr;		
TOTAL M	ETALS QC: 0.005 mg/	/L Hg; 6.0 mg/L	B; 5.0 m	g/L As, S	se, cd, c	r, Pb, Ag	J, Ba, Al	1 0' 1 0'	u, Fe,	Mn, Ni,	Zn, Mo.		
		Director, Dr. B Director, Dr. B	lair Left ruce McDo	wich			10	ATE .	1				
				11)									

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November 04, 1996 Receiving Date: 10/2 Sample Type: Soil Project No: 279-512 Project Location: H	2/96 6701 Aberde 2/96 obbs, NM		Lubbo ANALYTICP SCO-LOGIC Attention 2200 Mark	ck, Texas 794 LL RESULT AL ENVIR AL ENVIR AL ENVIR Carri tet st. TX 7970	124 81 124 81 124 81 124 81 124 81 124 81 124 81 124 81 124 81 13 13 13 13 14 14 14 14 14 14 14 14 14 14 14 14 14	06 • 794 • 129		Prep 1 Prep 1 Analys Samply Sample Sample Projec	1298 1298 1298 10 Date: 1 10 Date 2 Conditions: 1 2 Receiver Name	0/23/96 e: 10/24 e: 10/2 tion: In/2 ved by:	/96 0/96 tact & C ML Gas Plá	bool the second se
TA# FIELD CODE		As (mg/kg)	Se (mg/kg)	cđ (mg/kg)	Cr (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba mg/kg	Al (mg/kg	Hg (mg/kg)	co (mg/kg)	Cu (mg/kg)
T60780 MW-5 (28-2	(,0)	<10	<10	<2.0	5.8	<10	<5.0	190	2,900	<0.25	<3	<5.0
T60781 MW-5 (48-5	(, 0)	<10	<10	<2.0	<5.0	<10	<5.0	22	2,300	<0.25	ç	<5.0
QC Quality Cor	itrol	5.47	4.89	4.77	4.72	4.86	5.39	4.91	4.98	0.0048	4.82	4.93
REPORTING LIMIT		10	10	ъ	ß	10	0.5	20	20	0.25	m	5.0
RPD		17	17	15	4	14	ч	17	17	o	15	22
% Extraction Accurac	Y	68	73	75	82	76	101	79	114	95	77	87
% Instrument Accurac	Å	110	98	95	94	97	108	98	100	95	96	66
		يتا 0	Mn	Ĭ	Zn	Ø	Mo					
		(mg/L)	(mg/L)	(mg/L)	(I)(I)	(л <u>/</u> рш)	(mg/L)					
T60780 MW-5 (28-5	(.0)	2,500	21	<20	4.3	<3.0	<10					
T60781 MW-5 (48-5	(,0)	2,300	25	<20	5.8	<3.0	<10					
QC Quality Cor	ltrol	4.95	4.96	4.81	4.92	6.48	4.64					1
REPORTING LIMIT		б	0.1	20	ы	3.0	10					
RPD		21	15	ო	15	н	18					
% Extraction Accurac	X	105	81	78	82	95	72					
% Instrument Accurac	×	66	66	96	98	109	63					
METHODS: EPA SW 846 CHEMIST: Hg: CB	-6010, 3051, 7 As, se, cd,	471. Cr, Pb,	Ag, Ba,	Al, Co,	Cu, Fe,	4n, Ni, 2	Zn, Mo, B	: RR				
TOTAL METALS SPIKE:	2.50 mg/kg Hg 200.0 mg/kg P	; 120 mg	/kg B; 8( n, Ni, Z1	1/5m 0.0C	tg As, Se 00.0 mg/k	, Ba, Al; 7 Cu: 400	20.0 mg/kg	r/kg Cd, Fe.	Ag; 80	•0 mg/kg	g Cr;	
TOTAL METALS QC: 0.	005 mg/L Hg; 6	.0 mg/L	B. 5.0 mg	g/L As, S	se, cd, c	r, Pb, Ac	J, Ba, Al	CO.	u, Fe,	Mn, Ni,	Zn, Mo.	
				40		•		2 - 7 c				

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Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

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DATE
November Receivir Sample T Project	Control Control Control Control Control Aberd 6701 Aberd 6701 Aberd 10, 1996 6701 Aberd Fype: Soil No: 279-512 NM Location: Hobbs, NM		TRAC Lubboc MALYTICA MALYTICA SCO-LOGIC SCO-LOGIC MALK (200 MALK	EAN/ K, Texas 794, L. RESULTS AL ENVIRC E Carrie et St. TX 79703	ALYSI 24 80 5 FOR DIMENTAL 3 Eick 3 MET	S, IN( 6•794•1296	C. MULLI	806-794 Prep 1 Analy Sample Sample Sample	1298 1298 1298 1298 10 Date: 1 10 Date 10 Date 10 Date 10 Date	0/23/96 e: 10/24 e: 10/24 tion: In ved by:	//////////////////////////////////////	
TA#	FIELD CODE	As (mg/kg)	Se (mg/kg)	cd (mg/kg)	Cr (mg/kg)	Pb (mg/kg)	Ag (mg/kg)	Ba mg/kg	Al (mg/kg	Нд (ру/ус)	со Со	Cu (mg/kg)
т60783 QC	MW-6 (44-46') Quality Control	<10 5.47	<10 4.89	<2.0 4.77	<5.0 4.72	<10 4.86	<5.0 5.39	26 4.91	1,900 4.98	<0.25 0.0048	<3 4.82	<5.0 4.93
REPORTIN	JIMIT	10	10	ы	ы	10	0.5	20	20	0.25	m	5.0
RPD % Extrac % Instru	stion Accuracy ıment Accuracy	17 89 110	17 73 98	15 75 95	4 82 94	14 76 97	1 101 108	17 79 98	17 114 100	0 56 5	15 77 96	22 87 99
		Fe (mg/L)	Mn (mg/L)	Ni (mg/L)	Zn (mg/L)	B (mg/L)	Mo (mg/L)					
T60783 QC	MW-6 (44-46') Quality Control	1,900 4.95	18 4.96	<20 4.81	4.4 4.92	<3.0 6.48	<10 4.64					ł
REPORTIN	G LIMIT	m	0.1	20	7	3.0	10					, <b></b>
RPD % Extrac % Instru	stion Accuracy ment Accuracy	21 105 99	15 81 99	3 78 96	15 82 98	1 95 109	18 72 93					
METHODS: CHEMIST: TOTAL ME TOTAL ME	<pre>EPA SW 846-6010, 3051, Hg: CB As, Se, Cd TALS SPIKE: 2.50 mg/kg H 200.0 mg/kg TALS QC: 0.005 mg/L Hg; Directo</pre>	7471. , Cr, Pb, g; 120 mg Pb, Co, M 6.0 mg/L br, Dr. Bl	Ag, Ba, /kg B; 80 n, Ni, Zn B; 5.0 mg	Al, Co, 00.0 mg/k 1, Mo; 10 4/L As, S	cu, Fe, l g As, Se, 0.0 mg/kç e, Cd, Ci	4n, Ni, Z Ba, Al; g Cu; 400 c, Pb, A <u>c</u>	n, Mo, B 20.0 mg 1.0 mg/kg 1, Ba, Al	: RR /kg cd, Fe. TE	Ag; 80	0.0 mg/kç Mn, Ni,	g Cr; Zn, Mo.	
	Directo	or, Dr. Br	uce McDo	nell								

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ANALYSIS REQUEST	SPECIAL HANDLING					s٨	eb to	) <b># [</b>	nuors m AA2A xi bid	nT NH									~		the first com	Pb, H3, Sc.		Certer Certer
STODY RECORD AND	ANALYSIS REQUEST				<b>K</b>	5	١٧٢	s selitelo 7 J M	:LP Volatile :LP Semi V :1 :1 :1 :2 :2 :2 :2 :2 :2 :2 :2 :2 :2 :2 :2 :2	7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7 7	< .				•		•			•×	13 List inc			
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k, Texas 79424 06) 794 1298	7535 7737	L	1703		ł			SAMPLING	TTE NE		05: P % & /.	א א א	1.2	10/10/ ×.5	\$:32	64:8	9:F	Р С	9:30	L 1100	REMA	Der 1	t (	32010
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6701 Aberdeen A Tel (806) 794 1 1 (	Phone#: 713 FAX#: 715	3200	N1014~	Project Name :	HOBBS G	Sampler Signatu	mi E E	AATRIX	כר חםפב א אריק												I A A Date	ALLETIN !		tory by: Date
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	01 Aberdeen Avenue	LLKACEANA Lubbock, Texas 79424	806-7	94-1296	FAX 806•794	•1298		
Date: Jan 08, 1997 Date Rec: 1/7/97 Project: 279-512 Proj Name: HOBS GAS PL Proj Loc: HOBBS, NM	A A A A T M	NALYTICAL RESULT CO-LOGICAl Envi tention CARRIE E 200 Market Street idland	rs FOR ironmenta Ick TX 7	al Servic 9703	CeS Lab Receiv Sampling L Sample Con Sample Rec	'ing # : Date: 1/3/ Ndition: 1	9701000083 97 Intact and ML	Cool
TA# Field Code	MATRIX TR (mo	PHC //Ra)	BENZENE (ma/Ka)	TOLUENE (ma/Ka)	ETHYL- BENZENE (mg/Kg)	M, P, O XYLENE (ma/Kq)	TOTAL BTEX mg/Kg	
T 65488 MW-7 54-56' QC	Soil <10	0.0	<0.050	<0.050 0.091	<0.050	<0.050 0.281	<0.050	
RPD .		2	Ч	ц	7	Т		
<pre>% Extraction Accuracy % Instrument Accuracy</pre>		100	89 91	90 16	92 91	94 94		
						i.		
Reporting Limit:		10	0.05	0.05	0.05	0.05		[
TEST PREP METHOD	PREP DATE	ANALYSIS METHOD	ANAL COMP	JYSIS CH	EMIST	QC: mg/L	SPIKE: mg/Kg	
BTEX EPA 50	30 1/8/97	EPA 8020	1/	8/97	RW	0.100 ea	5.0ea	T
TRPHC EPA 35	50 1/7/97	EPA 418.1	1/	7/97	AG	100	250	
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6701 Aberdeen Avenue

Lubbock, Texas 79424

806 • 794 • 1296

FAX 806 • 794 • 1298

ANALYTICAL RESULTS FOR Eco-Logical Environment Attention CARRIE EICK 2200 Market Street Midland TX 79703

Nov 01, 1996 Date: 10/25/96 Date Rec: Project: 279-512 Proj Name: HOBS GAS PLANT Proj Loc: HOBBS, NM

Lab Receiving # : 9610000371 Sampling Init Date: 10/23/96 Sampling Compl Date: 10/23/96 Samples Intact, Cool: Yes Sample Received By: ML

TA#	Field Code	MATRIX	TRPHC (mg/L)	
T 61002	2 MW-1	Water	<0.200	
T 61003	3 MW-2	Water	<0.200	
т 61004	4 MW-3	Water	<0.200	
т 61005	5 MW-4	Water	<0.200	
т 61006	6 MW-5	Water	<0.200	
т 61001	7 MW-6	Water	<0.200	
QC ·			103	
RPD			2	
% Extr	action Accuracy:		101	
<pre>% Inst</pre>	crument Accuracy:	•	103	

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Report	ing Limit:				0.2		
TEST	PREP METHOD	PREP DATE	ANALYSIS METHOD	ANALYSIS COMPLETED	CHEMIST	QC: (mg/L)	SPIKE: (mg/L)
TRPHC	N/A	10/30/96	EPA 418.1	10/30/96	AG	100	8.5

11-1-96 Director, Dr. Blair Leftwich Date Dr. Bruce McDonell Director, 'RACEANALYSIS, ING

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 Prep Date: 10/25/96 November 04, 1996 11 Receiving Date: 10/25/96 Analysis Date: 10/25/96 Sampling Date: 10/23/96 Sample Type: Water Project No: 279-512 Sample Condition: Intact & Cool Sample Received by: ML Project Location: Hobbs, NM Project Name: Hobbs Gas Plant

TA#	FIELD CODE	pH (s.u.)	CYANIDE (mg/L)	CHLORIDE (mg/L)	SULFATE (mg/L)
T61002	MW-1	7.3	<0.01	25	37
<b>T61003</b>	MW-2	7.7	<0.01	29	55
T61004	MW-3	7.4	<0.01	120	120
T61005	MW-4	7.5	<0.01	· 14	45
T61006	MW-5	7.1	<0.01	33	100
T61007	MW-6	7.4	<0.01	30	83
QC	Quality Control	7.0	0.04	27	27
REPORTING LI	MIT		0.01	1.0	1.0
RPD		0	0	0	3
<pre>% Extraction</pre>	Accuracy	`	75	107	109 <sup>°</sup>
<pre>% Instrument</pre>	Accuracy	100	85	108	108

METHODS: EPA 150.1, 300.0, 335.2. CHEMIST: CYANIDE/CHLORIDE/SULFATE: MS pH: JT CYANIDE SPIKE AND QC: 0.04 mg/L CYANIDE. CHLORIDE SPIKE: 500 mg/L CHLORIDE. CHLORIDE QC: 25 mg/L CHLORIDE. SULFATE SPIKE: 500 mg/L SULFATE. SULFATE QC: 25 mg/L SULFATE.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

11-4-96

DATE

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

October 31, 1996 Receiving Date: 10/25/96 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM Prep Date: 10/29/96 Analysis Date: 10/29/96 Sampling Date: 10/23/96 Sample Condition: Intact & Cool Sample Received by: ML Project Name: Hobbs Gas Plant

TA#	FIELD CODE	TDS (mg/L)	NITRATE-N (mg/L)	FLUORIDE (mg/L)	PHENOLS (mg/L)	ALKALINITY (mg/L)	
<b>T61002</b>	MW-1	737	<1.0	0.5	0.01	609	
T61003	MW-2	356	2.9	1.1	<0.01	152	
т61004	MW-3	760	7.8	0.6	<0.01	243	
T61005	MW-4	392	3.7	0.7	<0.01	244	
T61006	MW-5	853	<1.0	0.5	<0.01	593	
T61007	MW-6	511	1.41	0.7	<0.01	274	
QC	Quality Control		10.0	0.98	0.68		
RPD		0	21	6	0	0	
% Extra	ction Accuracy		114	95	105		
<pre>% Instr</pre>	ument Accuracy		100	96	91		

METHODS: EPA 160.1, 300.0, 340.2, 420.2, 310.1. CHEMIST: TDS/FLUORIDE/PHENOLS: MS/RCD NITRATE-N SPIKE: 200 mg/L NITRATE-N. NITRATE-N QC: 10 mg/L NITRATE-N. FLUORIDE SPIKE: 1.1 mg/L FLUORIDE. FLUORIDE QC: 1.0 mg/L FLUORIDE. PHENOLS SPIKE: 0.668 mg/L PHENOLS. PHENOLS QC: 0.8 mg/L PHENOLS.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

NITRATE-N: MS

ALKALINITY: RCD

11-4-96

DATE

ANALU A ANALU ANALU ANALU ANA		11/05/96 =: 11/05/96 =: 10/23/96 tion: Intact & Cool red by: ML : Hobbs Gas Plant		(T/ɓw) WDIOS	39	33	45	6°3	94	39	24.55	0.40	1	96	98		11-7-96	Date
	FAX 806•794•1298	Prep Date: Analysis Date Sampling Date Sample Condi Sample Receiv Project Name:	METALS	CALCIUM (mg/L)	160	58	150	16	160	100	24.2	0.10	o	16	97			I
, INC.	•794•1296	TAL K	DISSOLVED	MAGNESIUM (mg/l)	45	6.0	16	11	27	12	23.9	0.10	o	94	96	IUM, SODIUM. SODIUM.		
RACEANALYSIS	Lubbock, Texas 79424 806	ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMEN7 Attention: Carrie Eic <sup>1</sup> 2200 Market Street Midland, TX 79703		POTASSIUM (mg/L)	5.5	4.8	7.5	4.1	6.2	4.6	25.3	0.30	m	103	101	ASSIUM, MAGNESIUM, CALC UM, MAGNESIUM, CALCUM,	M	tir Leftwich Joe McDonell
	6701 Aberdeen Avenue	6 10/25/96 .er 1-512 1: Hobbs, NM		Field Code	MW-1	MW-2	E-WM	MW-4	MW-5	MW-6	Quality Control			uracy	uracy	846-3005, 6010. SPIKE: 100.0 mg/L POT QC: 25.0 mg/L POTASSI		Director, Dr. Bla Director, Dr. Bri
		November 07, 199 Receiving Date: Sample Type: Wat Project No: 279 Project Location		ТА#	T61002	T61003	T61004	T61005	T61006	T61007	бc	Reporting Limit	RPD	% Extraction Acc	% Instrument Acc	METHODS: EPA SW CHEMIST: RR DISSOLVED METALS DISSOLVED METALS		

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

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October 31, 1996 Receiving Date: 10/25/96 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM

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Prep Date: 10/28/96 Analysis Date: 10/28/96 Sampling Date: 10/23/96 Sample Condition: Intact & Cool Sample Received by: ML Project Name: Hobbs Gas Plant

TA#: T61002 FIELD CODE: MW - 1

	Concentration	Reporting
8240 Compounds	(ug/L)	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	*352	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

MTRACEANALYSIS, INC.

TA #: T61002 FIELD CODE: MW - 1

		Concentration	Reporting
8240 Compounds		(ug/L)	Limit
Dibromochloromethane	.1	ND	1
Tetrachloroethene		ND	1
Chlorobenzene		ND	1
Ethylbenzene		26	1
m & p-Xylene		79	1
Bromoform		ND	1 .
Styrene		ND	1
o-Xylene		2	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
Tentatively Identified Compounds and Est	imated c	oncentrations (	uq/L)
	RT	CONC.	
(1) Propyl-Benzene	19.30	19	
(2) (1-methylethyl)-benzene	19.48	40	
(3) 1-ethyl-2-methyl-benzene	20.00	69	
(4) 1,3,5-trimethyl-benzene	20.29	224	
(5) Unidentified Hydrocarbon	21.64	25	
(6) 2,3-dihydro-1-methylindene	22.83	21	
(7) 1-methyl-4-(1-methylethyl)-benzene	24.62	22	
(8) 1,2,3,4-tetrahydro-Napthalene	25.27	22	
(9) Napthalene	26.76	23	
SURROGATES 8	RECOVER	Y	
Dibromofluoromethane	102		
Toluene-d8	99		
4-Bromofluorobenzene	98		
ND = Not Detected *NOTE: Estimated concentration. Respon	ise over	standard range.	
METHODS: EPA SW 846-5030; EPA 8260.			
CHEMIST: RP			10-31-96
F Jr			
Director, Dr. Blair Leftwich	L		Date
Director, Dr. Bruce McDonell			

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6701 Aberdeen Avenue		
Lubbock Texas 79/2/		
	ANALYTICAL RESULTS FOR	
806 • 794 • 1296	ECO-LOGICAL ENVIRONMENTAL	
FAX 806 • 794 • 1298	Attention: Carrie Eick	
	2200 Market St.	
	Midland, TX 79703	
October 31 1000		Due 2010 10/05/06
Decoder 31, 1996		Prep Date: 10/25/96
Sample Type: Water	۰ <b>.</b>	Analysis Date: $10/23/96$
Project No: 279-512	•	Sample Condition: Intact & Cool
Project Location: Hobbs NM		Sample Beceived by: MI.
		Project Name: Hobbs Gas Plant
TA#: T61003		
FIELD CODE: MW - 2	Concentratio	n Reporting
8240 Compounds		
0240 Compounds	(((),))	
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-Dichioroethane	ND	1
		1
	ND	, 50 1
	ND	1
1, 2-Dichloroothano	ND	1
	ND	1
Carbon Tetrachlorido	ND	1
1 2-Dichloropropage	ND	1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
	ND	1
cis-1,3-Dichloropropene		-
cis-1,3-Dichloropropene 4-Methyl-2-pentanone	ND	50
cis-1,3-Dichloropropene 4-Methyl-2-pentanone trans-1,3-Dichloropropene	ND ND	50
cis-1,3-Dichloropropene 4-Methyl-2-pentanone trans-1,3-Dichloropropene Toluene	ND ND	50 1 1
cis-1,3-Dichloropropene 4-Methyl-2-pentanone trans-1,3-Dichloropropene Toluene 1,1,2-Trichloroethane	ND ND ND	50 1 1 1

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TA #: T61003 FIELD CODE: MW - 2

	Concentration	Reporting	
8240 Compounds	(ug/L)	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	

Tentatively Identified Compounds and Estimated concentrations (ug/L)

			RT	CONC.
(1)	Unidentified	Hydrocarbon	17.20	1
(2)	Unidentified	Hydrocarbon	19.40	1

SURROGATES	% RECOVERY
Dibromofluoromethane	102
Toluene-d8	99
4-Bromofluorobenzene	96

ND = Not Detected

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

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

10-31-96

Date

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

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October 31, 1996 Receiving Date: 10/25/96 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM Prep Date: 10/25/96 Analysis Date: 10/25/96 Sampling Date: 10/23/96 Sample Condition: Intact & Cool Sample Received by: ML Project Name: Hobbs Gas Plant

**T61004** TA#:

	Concentration	Reporting
8240 Compounds	(ug/L)	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	1	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

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TRACEANALYSIS, INC.

TA #: T61004 FIELD CODE: MW - 3

	Concentration	Reporting	
8240 Compounds	(ug/L)	Limit	
Dibromochloromethane	i <sup>i</sup> 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	<pre>% RECOVERY</pre>
Dibromofluoromethane	104
Toluene-d8	100
4-Bromofluorobenzene	97

ND = Not Detected

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

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

10-31-96

Date

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6701 Aberdeen Avenue Lubbock, Texas 79424 ANALYTICAL RESULTS FOR 806 • 794 • 1296 ECO-LOGICAL ENVIRONMENTAL FAX 806 • 794 • 1298 Attention: Carrie Eick 2200 Market St. Midland, TX 79703 Prep Date: 10/25/96 October 31, 1996 Receiving Date: 10/25/96 Analysis Date: 10/25/96 Sample Type: Water Sampling Date: 10/23/96 Sample Condition: Intact & Cool Project No: 279-512 Project Location: Hobbs, NM Sample Received by: ML Project Name: Hobbs Gas Plant TA#: T61005 FIELD CODE: MW - 4 Reporting Concentration Limit 8240 Compounds (ug/L) 1 Dichlorodifluoromethane ND 1 Chloromethane ND 1 Vinyl chloride ND Bromomethane 5 ND 1 Chloroethane ND Trichlorofluoromethane 1 ND 1,1-Dichloroethene 1 ND 5 Iodomethane ND Carbon disulfide 1 ND 5 Methylene chloride ND trans-1,2-Dichloroethene 1 ND 1,1-Dichloroethane 1 ND Vinyl acetate ND 1 2-Butanone 50 ND Chloroform 1 ND 1,1,1-Trichloroethane ND 1 1,2-Dichloroethane 1 ND Benzene 1 ND Carbon Tetrachloride 1 ND 1,2-Dichloropropane ND 1 Trichloroethene 1 ND Bromodichloromethane ND ٦ cis-1,3-Dichloropropene 1 ND 50 4-Methyl-2-pentanone ND trans-1,3-Dichloropropene ND 1 Toluene ND 1 1,1,2-Trichloroethane 1 ND 2-Hexanone 50 ND

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TRACEANALYSIS, INC.

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## TA #: T61005 FIELD CODE: MW - 4

	Concentration	Reporting
8240 Compounds	(ug/L)	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	<pre>% RECOVERY</pre>	
Dibromofluoromethane	104	
Toluene-d8	100	
4-Bromofluorobenzene	97	

ND = Not Detected

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

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell ļ.

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10-31-96

Date

6701 Aberdeen Avenue Lubbock, Texas 79424 ANALYTICAL RESULTS FOR 806 • 794 • 1296 ECO-LOGICAL ENVIRONMENTAL FAX 806 • 794 • 1298 Attention: Carrie Eick 2200 Market St. Midland, TX 79703 October 31, 1996 Prep Date: 10/25/96 Receiving Date: 10/25/96 Analysis Date: 10/25/96 1 Sample Type: Water Sampling Date: 10/23/96 Project No: 279-512 Sample Condition: Intact & Cool Project Location: Hobbs, NM Sample Received by: ML Project Name: Hobbs Gas Plant TA#: T61006 FIELD CODE: MW - 5 Concentration Reporting 8240 Compounds Limit (ug/L) Dichlorodifluoromethane 1 ND Chloromethane 1 ND Vinyl chloride 1 ND Bromomethane 5 ND Chloroethane ND 1 Trichlorofluoromethane ND 1 1,1-Dichloroethene ND 1 Iodomethane ND 5 Carbon disulfide ND 1 Methylene chloride 5 ND trans-1,2-Dichloroethene 1 ND 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 135 1 Carbon Tetrachloride 1 ND 1,2-Dichloropropane 1 ND Trichloroethene 1 ND Bromodichloromethane ND 1 cis-1,3-Dichloropropene ND 1 4-Methyl-2-pentanone ND 50 trans-1,3-Dichloropropene ND 1 Toluene 1 ND 1,1,2-Trichloroethane 1 ND 2-Hexanone ND 50

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FRACEANALYSIS, INC.

TA #: T61006 FIELD CODE: MW - 5

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	Concentration	Reporting	
8240 Compounds	(ug/L)	Limit	
Dibromochloromethane	ND	1	
Tetrachloroethene	ND	1	
Chlorobenzene	ND	1	
Ethylbenzene	6	1	
m & p-Xylene	71	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	

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Tentatively Identified Compounds and Estimated concentrations (ug/L)

		RT	CONC.
(1)	Unidentified Hydrocarbon	8.75	9
(2)	Amylene Hydrate	11.78	12
(3)	Unidentified Hydrocarbon	14.15	5
(4)	Propyl-Benzene	19.34	4
(5)	1-ethyl-4-methyl-benzene	19.51	8
(6)	1-ethy1-2-methy1-benzene	20.03	22
(7)	1,2,3-trimethyl-benzene	20.33	40

### SURROGATES

**% RECOVERY** 

Dibromofluoromethane	102
Toluene-d8	99
4-Bromofluorobenzene	95

ND = Not Detected

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

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

10-31-96

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Date

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6701 Aberdeen Avenue		
Lubhock Texas 79424		
	ANALYTICAL RESULTS FOR	
806 • 794 • 1296	ECO-LOGICAL ENVIRONMENTA	\L
FAX 806 • 794 • 1298	Attention: Carrie Eick	
	2200 Market St.	
	Midland, TX 79703	
October 31, 1996		Prep Date: 10/25/96
Receiving Date: 10/25/96	,	Analysis Date: 10/25/96
Sample Type: Water	1	Sampling Date: 10/23/96
Project No: 279-512		Sample Condition: Intact & Cool
Project Location: Hobbs, NM		Sample Received by: ML
		Project Name: Hobbs Gas Plant
ጥል# ፣ ጥና1007		
FIELD CODE: $MW - 6$		
	Concentration	n Reporting
8240 Compounds	(ug/L)	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-Dichioroethane	ND	1
Vinyl acetate	ND	50
	ND	1
1 1 1-Trichloroothano	ND	1
1,1,1-IIIChioroethane	ND	1
Benzene	192	1
Carbon Tetrachloride	ND	-
1,2-Dichloropropane	ND	- 1
Trichloroethene	ND	1
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	1
4-Methy1-2-pentanone	ND	50
trans-1,3-Dichloropropene	ND	1
Toluene	ND	1
1,1,2-Trichloroethane	ND	1
2-Hexanone	ND	50

A Laboratory for Advanced Environmental Besearch and Analysis

MILLIUM TRACEAM

TA #: T61007 FIELD CODE: MW - 6

	Concentration	Reporting	
8240 Compounds	(ug/L)	Limit	
Dibromochloromethane	<sup>1</sup> ND	1	
Tetrachloroethene	ND	1	
Chlorobenzene	ND	1	
Ethylbenzene	ND	1	
m & p-Xylene	13	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	

Tentatively Identified Compounds and Estimated concentrations (ug/L)

		RT	CONC.
(1)	(1-methylethyl)-Benzene	18.63	3
(2)	1,2,4-trimethyl-benzene	19.59	8
(3)	1-ethyl-2-methyl-benzene	20.03	8
(4)	1,2,3-trimethyl-Benzene	20.32	16

### SURROGATES

**% RECOVERY** 

Dibromofluoromethane	104
Toluene-d8	100
4-Bromofluorobenzene	95

ND = Not Detected

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

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

10-31-96 Date

PAGE 2 of 2

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

October 31, 1996 Receiving Date: 10/25/96 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM Prep Date: 10/28/96 Analysis Date: 10/28/96 Sampling Date: 10/23/96 Sample Condition: Intact & Cool Sample Received by: ML Project Name: Hobbs Gas Plant

50

T61008 TA#:

	Concentration	Reporting
8240 Compounds	(ug/L)	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

A Laboratory for Advanced Environmental Research and Analysis

**RACEANALYSIS**, INC

ND

## TA #: T61008 FIELD CODE: Trip Blank

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	Concentration	Reporting	
8240 Compounds	(ug/L)	Limit	
Dibromochloromethane	<sup>1</sup> 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		100
Toluene-d8	•	99
4-Bromofluorobenzene		94

ND = Not Detected

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

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

10-31-96

Date

LYTICAL RESULTS FOR L.J-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market St. Midland, TX 79703

November 04, 1996 Receiving Date: 10/25/96 Sample Type: Water Sampling Date: 10/23/96 Sample Condition: I & C Sample Received by: ML Project No: 279-512 Project Location: Hobbs, NM Project Name: Hobbs Gas Plant Extraction Date: 10/25/96 Analysis Date: 10/28/96

PAH	Reporting	<b>T61002</b>				
8270 Compounds (mg/L)	Limit	MW-1	QC	RPD	<b>%EA</b>	<b>%IA</b>
Naphthalene	0.001	0.016	80	2	51	100
Acenaphthylene	0.001	ND	79	0	59	99
Acenaphthene	0.001	ND	79	0	56	99
Fluorene	0.001	ND	80	3	62	100
Phenanthrene	0.001	ND	80	6	56	100
Anthracene	0.001	ND	75	2	65	94
Fluoranthene	0.001	ND	79	5	80	99
Pyrene	0.001	ND	79	0	83	99
Benzo[a]anthracene	0.001	ND	82	18	79	103
Chrysene	0.001	ND	75	22	91	94
Benzo[b]fluoranthene	0.001	ND	82	15	78	103
Benzo[k]fluoranthene	0.001	ND	73	3	81	91
Benzo[a]pyrene	0.001	ND	80	25	80	100
Indeno[1,2,3-cd]pyrene	0.001	ND	67	26	57	84
Dibenz[a,h]anthracene	0.001	ND	70	27	58	88
Benzo[g,h,i]perylene	0.001	ND	66	25	54	83
2-methylnaphthalene	0.001	0.005				
1-methylnaphthalene	0.001	0.004				

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ND = Not Detected

Nitrobenzene-d5 SURR 2-Fluorobiphenyl SURR Terphenyl-d14 SURR METHODS: EPA SW 846-8270, 3510. CHEMIST: RD/CC

80

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

& RECOVERY

57

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11-4-96

DATE

/ LYTICAL RESULTS FOR L.J-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market St. Midland, TX 79703

November 04, 1996 Receiving Date: 10/25/96 Sample Type: Water Sampling Date: 10/23/96 Sample Condition: I & C Sample Received by: ML Project No: 279-512 Project Location: Hobbs, NM Project Name: Hobbs Gas Plant Extraction Date: 10/25/96 Analysis Date: 10/28/96

РАН	Reporting	<b>T61003</b>				
8270 Compounds (mg/L)	Limit	MW-2	QC	RPD	%EA	%IA
Naphthalene	0.001	ND	80	2	51	100
Acenaphth <b>ylene</b>	0.001	ND	79	0	59	99
Acenaphthene	0.001	ND	79	0	56	99
Fluorene	0.001	ND	80	3	62	100
Phenanthrene	0.001	ND	80	6	56	100
Anthracene	0.001	ND	75	2	65	94
Fluoranthene	0.001	ND	79	5	80	99
Pyrene	0.001	ND	79	0	83	99
Benzo[a]anthracene	0.001	ND	82	18	79	103
Chrysene	0.001	ND	75	22	91	94
Benzo[b]fluoranthene	0.001	ND	82	15	78	103
Benzo[k]fluoranthene	0.001	ND	73	3	81	91
Benzo[a]pyrene	0.001	ND	80	25	80	100
Indeno[1,2,3-cd]pyrene	0.001	ND	67	26	57	84
Dibenz[a,h]anthracene	0.001	ND	70	27	58	88
Benzo[g,h,i]perylene	0.001	ND	66	25	54	83
2-methylnaphthalene	0.001	ND				
1-methylnaphthalene	0.001	ND				

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ND = Not Detected

CHEMIST: RD/CC

Nitrobenzene-d5 SURR 2-Fluorobiphenyl SURR Terphenyl-d14 SURR METHODS: EPA SW 846-8270, 3510.

& RECOVERY

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11-4-96 DATE

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

/ LYTICAL RESULTS FOR Eco-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market St. Midland, TX 79703

November 04, 1996 Receiving Date: 10/25/96 Sample Type: Water Sampling Date: 10/23/96 Sample Condition: I & C Sample Received by: ML Project No: 279-512 Project Location: Hobbs, NM Project Name: Hobbs Gas Plant Extraction Date: 10/25/96 Analysis Date: 10/28/96

PAH	Reporting	<b>T61004</b>				
8270 Compounds (mg/L)	Limit	MW-3	QC	RPD	*EA	\$IA
Naphthalene	0.001	ND	80	2	51	100
Acenaphthylene	0.001	ND	79	0	59	99
Acenaphthene	0.001	ND	79	0	56	99
Fluorene	0.001	ND	80	3	62	100
Phenanthrene	0.001	ND	80	6	56	100
Anthracene	0.001	ND	75	2	65	94
Fluoranthene	0.001	ND	79	5	80	99
Pyrene	0.001	ND	79	0	83	99
Benzo[a]anthracene	0.001	ND	82	18	79	103
Chrysene	0.001	ND	75	22	91	94
Benzo[b]fluoranthene	0.001	ND	82	15	78	103
Benzo[k]fluoranthene	0.001	ND	73	3	81	91
Benzo[a]pyrene	0.001	ND	80	25	80	100
Indeno[1,2,3-cd]pyrene	0.001	ND	67	26	57	84
Dibenz[a,h]anthracene	0.001	ND	70	27	58	88
Benzo[g,h,i]perylene	0.001	ND	66	25	54	83
2-methylnaphthalene	0.001	ND				
1-methylnaphthalene	0.001	ND				

ND = Not Detected

CHEMIST:

Nitrobenzene-d5 SURR 2-Fluorobiphenyl SURR Terphenyl-d14 SURR METHODS: EPA SW 846-8270, 3510.

RD/CC

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**% RECOVERY** 

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1-4-96 DATE

TraceAnalysis. In

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

F 'YTICAL RESULTS FOR Eco-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market St. Midland, TX 79703

November 04, 1996 Receiving Date: 10/25/96 Sample Type: Water Sampling Date: 10/23/96 Sample Condition: I & C Sample Received by: ML Project No: 279-512 Project Location: Hobbs, NM Project Name: Hobbs Gas Plant Extraction Date: 10/25/96 Analysis Date: 10/28/96

PAH	Reporting	T61005				
8270 Compounds (mg/L)	Limit	MW-4	QC	RPD	*EA	%IA
Naphthalene	0.001	ND	80	2	51	100
Acenaphthylene	0.001	ND	79	0	59	99
Acenaphthene	0.001	ND	79	0	56	99
Fluorene	0.001	ND	80	3	62	100
Phenanthrene	0.001	ND	80	6	56	100
Anthracene	0.001	ND	75	2	65	94
Fluoranthene	0.001	ND	79	5	80	99
Pyrene	0.001	ND	79	0	83	99
Benzo[a]anthracene	0.001	ND	82	18	79	103
Chrysene	0.001	ND	75	22	91	94
Benzo[b]fluoranthene	0.001	ND	82	15	78	103
Benzo[k]fluoranthene	0.001	ND	73	3	81	91
Benzo[a]pyrene	0.001	ND	80	25	80	100
Indeno[1,2,3-cd]pyrene	0.001	ND	67	26	57	84
Dibenz[a,h]anthracene	0.001	ND	70	27	58	88
Benzo[g,h,i]perylene	0.001	ND	66	25	54	83
2-methylnaphthalene	0.001	ND				
1-methylnaphthalene	0.001	ND				

, I

ND = Not Detected

Nitrobenzene-d5 SURR 2-Fluorobiphenyl SURR Terphenyl-d14 SURR METHODS: EPA SW 846-8270, 3510. CHEMIST: RD/CC

8 RECOVERY 57 58 67

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11-4-96

DATE

Director, Dr. Bruce McDonell

Director, Dr. Blair Leftwich

A YTICAL RESULTS FOR EC-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market St. Midland, TX 79703

November 04, 1996 Receiving Date: 10/25/96 Sample Type: Water Sampling Date: 10/23/96 Sample Condition: I & C Sample Received by: ML Project No: 279-512 Project Location: Hobbs, NM Project Name: Hobbs Gas Plant Extraction Date: 10/25/96 Analysis Date: 10/29/96

PAH	Reporting	<b>T61006</b>				
8270 Compounds (mg/L)	Limit	MW-5	QC	RPD	<b>€EA</b>	\$IA
Naphthalene	0.001	ND	79	2	51	99
Acenaphthylene*	0.001	ND	76	0	59	95
Acenaphthene*	0.001	ND	78	0	56	98
Fluorene*	0.001	ND	75	3	62	94
Phenanthrene	0.001	ND	79	6	56	99
Anthracene	0.001	ND	77	2	65	96
Fluoranthene	0.001	ND	76	5	80	95
Pyrene	0.001	ND	78	0	83	98
Benzo[a]anthracene	0.001	ND	79	18	79	99
Chrysene	0.001	ND	74	22	91	93
Benzo[b]fluoranthene	0.001	ND	86	15	78	108
Benzo[k]fluoranthene	0.001	ND	66	3	81	83
Benzo[a]pyrene	0.001	ND	81	25	80	101
Indeno[1,2,3-cd]pyrene	0.001	ND	67	26	57	84
Dibenz[a,h]anthracene	0.001	ND	66	27	58	83
Benzo[g,h,i]perylene	0.001	ND	65	25	54	81
2-methylnaphthalene	0.001	ND	·			
1-methylnaphthalene	0.001	ND				
ND = Not Detected *NOTE: Estimated concentration. Surrogate recovery out of limits. * RECOVERY						
Nitrobenzene-d5 SURR 2-Fluorobiphenyl SURR Terphenyl-d14 SURR		39 *40 91				
METHODS: EPA SW 846-8270, CHEMIST: RD/CC	3510.	A S			11-	4-96
	Director, D	r. Blair Leftwic	eh		DATE	E

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Director, Dr. Bruce McDonell

TRACEANALYSIS

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

November 04, 1996 Receiving Date: 10/25/96 Sample Type: Water Sampling Date: 10/23/96 Sample Condition: I & C Sample Received by: ML Project No: 279-512 Project Location: Hobbs, NM Project Name: Hobbs Gas Plant Extraction Date: 10/25/96 Analysis Date: 10/28/96

PAH	Reporting	<b>T61007</b>				
8270 Compounds (mg/L)	Limit	MW-6	QC	RPD	*EA	%IA
Naphthalene	0.001	ND	80	2	51	100
Acenaphthylene	0.001	ND	79	0	59	99
Acenaphthene	0.001	ND	79	0	56	99
Fluorene	0.001	ND	80	3	62	100
Phenanthrene	0.001	ND	80	6	56	100
Anthracene	0.001	ND	75	2	65	94
Fluoranthene	0.001	ND	79	5	80	99
Pyrene	0.001	ND	79	0	83	99
Benzo[a]anthracene	0.001	ND	82	18	79	103
Chrysene	0.001	ND	75	22	91	94
Benzo[b]fluoranthene	0.001	ND	82	15	78	103
Benzo[k]fluoranthene	0.001	ND	73	3	81	91
Benzo[a]pyrene	0.001	ND	80	25	80	100
Indeno[1,2,3-cd]pyrene	0.001	ND	67	26	57	84
Dibenz[a,h]anthracene	0.001	ND	70	27	58	88
Benzo[g,h,i]perylene	· 0.001	ND	66	25	54	83
2-methylnaphthalene	0.001	ND				
1-methylnaphthalene	0.001	ND				

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ND = Not Detected

CHEMIST: RD/CC

Nitrobenzene-d5 SURR 2-Fluorobiphenyl SURR Terphenyl-d14 SURR METHODS: EPA SW 846-8270, 3510.

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**% RECOVERY** 

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11-4-96

DATE

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

			TRAC	EANA	SISAT	S. INC			LULAL			
Novembe	6701 Aberde	en Avenue	Lubbock	(, Texas 7942 <sup>4</sup> AL RESULT	4 806 S FOR	•794•1296	FAX	806•794•1 Prep I	298 Date: 10	1/26/96		
Receivi	ng Date: 10/25/96		ECO-LOGIC	CAL ENVIR	ONMENTAL			Analys	is Date	10/28	/96	
Sample Project	Type: Water No: 279-512		Attention 2200 Marl	1: Carri set St.	e Eick			Sample	.ng vate • Condit	ion: In	3/90 tact &	Cool
Project	Location: Hobbs, NM		Midland,	TX 7970	3			sampl€	Receiv	ed by:	ML	
					COTAL MET	ALS		Projec	t Name:	Hobbs	Gas Pl	ant
TA#	FIELD CODE	As (mg/L)	Se (mg/L)	cd (mg/L)	cr (mg/L)	Pb (mg/L)	Ag (mg/L)	Ba (mg/L)	Al (mg/L)	Нд (л/рш)	со (mg/L)	Cu (mg/L)
T61002	MW-1	<0.10	<0.05	<0.01	<0.05	<0.05	<0.05	0.34	<0.20	<0.001	<0.03	<0.02
T61003	MW-2	<0.10	<0.05	<0.01	<0.05	<0.05	<0.05	<0.20	<0.20	<0.001	<0.03	<0.02
T61004	ММ-З	<0.10	<0.05	<0.01	<0.05	<0.05	<0.05	<0.20	<0.20	<0.001	<0.03	<0.02
T61005	MW-4	<0.10	<0.05	<0.01	<0.05	<0.05	<0.05	<0.20	<0.20	<0.001	<0.03	<0.02
T61006	MW-5	<0.10	<0.05	<0.01	<0.05	<0.05	<0.05	0.28	<0.20	<0.001	<0.03	<0.02
T61007	MW-6	<0.10	<0.05	<0.01	<0.05	<0.05	<0.05	<0.20	<0.20	<0.001	<0.03	<0.02
бc	Quality Control	5.35	5.22	5.28	5.01	5.23	5.39	4.89	4.81	0.005	5.17	4.91
REPORTI	NG LIMIT	0.10	0.05	0.01	0.05	0.10	0.05	0.20	0.20	0.001	0.03	0.02
к <i>г</i> р			с ¦	N O		-	۲. ۲.	с (	-	4 0	-	с (
<pre>% Extra % Instr(</pre>	ction Accuracy ument Accuracy	105	96 104	101 106	104	98 105	81 108	8 8 8 6	46 96	100	99 103	۲6 86
		ъе	Ш	Nİ	Zn	ß	Mo	D				
		(mg/L)	(mg/L)	(mg/L)	(mg/L)	(J/pm)	(mg/L)	(mg/L)				
T61002	MW-1	<0.05	0.16	<0.20	<0.02	<0.03	<0.10	<0.50				
T61003	MW-2	<0.05	<0.01	<0.20	<0.02	<0.03	<0.10	<0.50				
T61004	MW-3	<0.05	<0.01	<0.20	<0.02	<0.03	<0.10	<0.50				
T61005	MW-4	<0.05	<0.01	<0.20	<0.02	<0.03	<0.10	<0.50				
T61006	2 – MM A – ETV	<0.05										
	nuelity Control	5,06	5,21	5.19	5,11	4.75	4.93	05.02				
REPORTI	NG LIMIT	0.05	0.01	0.20	0.02	0.03	0.10	0.50				
RPD		Ч	0	0	Ч	16	Ч	0				
<pre>% Extra</pre>	ction Accuracy	98	100	100	101	75	95	108				
% Instr	ument Accuracy	101	104	104	102	95	66	96	•			
METHODS	: EPA SW 846-6010, 3015,	7470.										
CHEMIST TOTAT W	: As, Se, Cd, Cr, Pb, Ag, ETAIS SDIVE: 8 0 m2/1 AG	Ba, Al, Se Ba	Co, Cu,	Fe, Mn, N ma/i Ca	di, Zn, B Δα. Ο Β.	, Mo, U: "~/ī /~.	RR 2 0 m2/1		g: CB	1 5		
	I/5m 2000.0	Hg; 4.0 n	10/F U.	1~~~~~ / 5	· · · · · · · · · · · · · · · · · · ·	1> /5	· / Fin 0 · *			T, 4110 1	108 10	
TOTAL M	ETALS QC: 5.0 mg/L As, Se	e, Cd, Cr,	Pb, Ag,	Ba, Al,	co, cu,	Fe, Mn, l	Vi, Zn, 1	3, Mo; 0	.005 mg	/r Hg;	4.0 mg/;	с и.
	Directo	or, Dr. B	lair Left	wich		•		ATE				
	Direct	or, Dr. B	ruce McDo	onell			I	1				

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806•794•1296				
FAX 806•794•1298				
	ANALYTICAL RES	ULTS FOR		
	ECO-LOGICAL EN	IVIRONMENTAL		
	Attention: Ca	Irrie Eick		
	2200 Market St Midland TX 7	19703	Extraction Dat	e: 10/18/
October 23, 1996 Receiving Date: Sample Type: Wat Project No: 116	10/16/96 ter -032		Analysis Date: Sampling Date: Sample Conditi Sample Receive	10/19/96 10/15/96 on: I & C ed by: ML
Project Location	: Odessa, TX		Project Name:	Baker -
				Hillmont
TA#	FIELD CODE	TOTAL As (mg/L)	TOTAL Cr (mg/L)	TOTAL PI (mg/L)
 T60502	MW-1	0.007	<0.05	<0.05
T60503	MW-2	0.219	<0.05	<0.05
T60504	MW-3A	0.009	<0.05	<0.05
т60505	MW-4	0.012	<0.05	<0.05
т60506	MW-5	<0.005	<0.05	<0.05
т60507	MW-6	0.043	<0.05	<0.05
QC	Quality Control	0.093	0.51	1.24
Reporting Limit		0.005	0.05	0.10
RPD		1	0	1
<pre>% Extraction Acc % Instrument Acc</pre>	uracy uracy	98	95 102	92
			-	
METHODS: EPA SW CHEMIST: RR	846-3015, 6010, 7060.			
TOTAL Pb SPIKE: TOTAL Pb QC: 1. TOTAL Cr SPIKE:	2.0 mg/L TOTAL Pb. 25 mg/L TOTAL Pb. 0.8 mg/L TOTAL Cr.			
TOTAL Cr QC: 0. TOTAL AS SPIKE:	5 mg/L TOTAL Cr. 0.0975 mg/L TOTAL As.			
TUTAL AS QC: 0.	100 mg/L TOTAL As.	1 - 0		
	17	10-2)	-76	
Dire	ctor, Dr. Blair Leftwich ctor, Dr. Bruce McDonell	DATE	-	1
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Phone: (505) 982-9841/(800) 545-2188

TraceAnalysis, Inc 6701 Aberdeen Avenue Lubbock, TX 79424

Attn: Melissa Lopez Invoice Number:

Order #: 96-10-207
Date: 11/05/96 10:44
Work ID: Water (NR)
Date Received: 10/29/96
Date Completed: 11/05/96
Client Code: TRACE\_ANAL

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# SAMPLE IDENTIFICATION

Sample	Description	61005 MW-4	61006 MW-5	61007 MW-6
Sample	Number	40	02	06
Evine e	Correction to the second second second second second second second second second second second second second se	ALCOR MWHI	61003 MM-2	61004 hW-3
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Remainder of sample(s) for routine analysis will be disposed of three weeks from final report date. Sample(s) for bacteria analysis only, will be disposed of immediately after analysis. This is not applicable if other arrangements have been made.

ertified By

Controls for Environmental Pollution, Inc. P. D. Box 5351 Santa Fe, NM 87502 Phone: (505) 982-9841/(800) 545-2188

日本語の商業は同時に、「An 研究」、「Abarraran」は、Angela 国の新たった、「Abarraran」は、Angela

Attn. Melissa Luper Invoice Number:

Order #: 96-10-207 Date: 11/05/96 10:44 Work ID: Water (NR) Date Received: 10/29/96 Date Completed: 11/05/96 Client Code: TRACE\_ANAL

## SAMPLE IDENTIFICATION

Sample	Descriptic	61005 MW-4	61006 MW-5	61007 MW-6
Sample	Number	40	00	06
Samp 1 e	Description		CAR DOCIS	SICO4 NH-S
Sample	1692717	ņ	(u c)	т О

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Our reports are rendered upon the condition that they are not other purposes over our signature or in connection with our to be reproduced wholly or in part for advertising and/or name without special permission in writing.

Remainder of sample(s) for routine analysis will be disposed of three weeks from final report date. Sample(s) for bacteria analysis only, will be disposed of immediately after analysis. This is not applicable if other arrangements have been made.

Cerkified By

Urder # 90-10-000 11/05/96 10:44

Controls for Environmental TEST RESULTS BY SAMPLE

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Sample: OIA &1002 MW-1	Co11	ectèd: 10/23/96			
<u>Test Description</u> Total Radium	<u>Result</u> 16+/-2	<u>D. L.</u> 1	<u>Units</u> pCi∕liter	<u>Analyzed</u> 10/31/96	MM MM
Sample 024 61003 MM-2	Co11	ected: 10/23/96			
less fremmingtion Total Radium	<u>Result</u> 3+/-1	<u>D. L.</u> 1	<u>Units</u> pCi/liter	<u>Analyzed</u> 10/31/96	BL MM
Sample: 03A &1004 MW-3	C011	ected: 10/23/96			
<u>Test Description</u> Total Radium	<u>Result</u> 6+/-2	<u>D. L.</u> 1	<u>Units</u> pCi/liter	<u>Analyzed</u> 10/31/96	MM
Sample: 04A 61005 MM-4	Coll	ected: 10/23/96			

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<u>Analyzed</u> 10/31/96 Units pCi/liter Collected: 10/23/96 D. L. <u>Result</u> 9+/-2

MMM

<u>Analyzed</u> 10/31/96

<u>Units</u> pCi/liter

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<u>1). L.</u>

<u>Result</u> 2+/-1

6-1004 MW--5

Sample 734

<u>Tertal Radium</u>

Total Reduct

Collected: 10/23/96

61007 MW-6

Sample: 06A

<u>Test Det. Etten</u> Total Radium

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M M M M M	
<u>Analyzed</u> 10/31/96	
Units pCi/liter	
<u>D. L.</u> 1	
<u>Result</u> 6+/-2	

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

November 04, 1996 Receiving Date: 10/25/96 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM Prep Date: 10/28/96 Analysis Date: 10/30/96 Sampling Date: 10/23/96 Sample Condition: Intact & Cool Sample Received by: ML Project Name: Hobbs Gas Plant

> TOTAL PCB's (mg/L)

> > 0.0002

8 76

101

TA#	FIELD CODE	(mg/L)	
T61002	MW-1	<0.0002	
T61003	MW-2	<0.0002	
т61004	MW-3	<0.0002	
T61005	MW-4	<0.0002	
T61006	MW-5	<0.0002	
т61007	MW-6	<0.0002	
QC	Quality Control	0.505	

REPORTING LIMIT

RPD	
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f	Ext	ra	cti	on	Acc	uracv
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% Instrument Accuracy

METHODS: EPA SW 846-3510, 8080. CHEMIST: MB TOTAL PCB'S SPIKE: 0.005 mg/kg TOTAL PCB's. TOTAL PCB'S QC: 0.5 mg/L TOTAL PCB'S.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

11-4-96

DATE

TRACEANALYSIS INC.
A Laboratory for Advanced Environmental Research and Analysis

$\mathcal{F} = \frac{\mathcal{F}^{1}}{\mathcal{C}^{1}}$	ANALYSIS REQUEST BANDLING HANDLING				۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲ ۲	85a C 5 88a C 7 1 1 1 7 1 1 1 7 1 1 7 1 7 1 7 1 7 1 7	1122 P 252 252 P 252 252 P 252	(, MTBE Metals Metals Metals Semi V MAT MAT MAT MAT MAT MAT MAT MAT MAT MAT	Ноја Езх С И С И 1010 540 8540 8540 8540 1011 101	×		*	×	······································	· ×	×	×	×*		MARKS   please filter remining sample	12 Liter contriver		1999 AL	omplete test 1:5t Attucked	81/c
<b>J</b> Inc. 6701 Aberdeen Avenue Lubbock, Texas 7942 1 (806) 794 1296 Fax (806) 794 1298 1 (800) 378 1296	Phone#: 915/520-7535 FAX#: 915/520.7737	2200 MARHER ST	MIDLAND, TX 79703	Project Name: Hobbs Gas Plant	Sampler Signature:	Carri 7. Ent	α α ματαιχ βreservative samplin α μετηού	аиіати яз Зэр КорИ з Р О 2	# СО Уоlum Ууоlum Ала Ала Ниоз Ниоз Ниоз Ниоз Ниоз Ниоз Ниоз Ниоз	1 1 1 X 1 1 X 1 1 X 1 X 1 X X X X X X X	ל אר X X     X X     ל     ל		2 ar x x				7 New X X X X X X X X X X X X X X X X X X X	X cos X		Received by: Date: Time: RE	Shawmer James 10/34/94 11:25	Received by: Date: Date: Time:	Received at Laboratory by: Date: Time:	(MADR 10-25-4, 10:30C	
TraceAnalysis	Project Manager: CARRIE EICK	Company Name & Address:	ECO-LOGICAL	Project#: 279-512	Project Location:	HOBISS, NM		LAB # FIELD CODE	(LAB USE)	1-mw -0010)	Mw-1	<u>م</u> د - ۱	- mm	- ~~	7.6-1	- Mr.	1- MW	61003 TRIP BLANK		Relinquished by: Date: Time:	(1:11 1/2 10 1 2 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	Relinquished by: Date: Time: MILIMURO CUMURO IN 24/9 6 4:45	Relinguished by: Date: Time:	Hilden Shirton Polay Ale 3: 30PM	
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C. Fel (806) 794 1290 Phone #: FAX #: FAX #: FAX #: FAX #: FAX #: Froject Name : Project Received by Received by P - P - P - P - # CONTRINERS	6701     Aberdeen Avenue     Lubbock, Texas 79424       Tel (806)     794     1298       1 (800)     378     1298       1     (800)     378       1     1296     CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST	Phone #: SPECTAI ANALYSIS REQUEST HANDLIN HANDLIN		L Db Hg Sd Pb Hg Sd Pb Hg Sd Pb Hg Sd	Sampler Signature:	MATRIX PRESERVATIVE SAMPLING AS Solution	WATER   Soll   Soll   HCL   HOL   HOL   HOL   HOL   HOL <th>X X X X X X X X X X X</th> <th></th> <th>·×</th> <th>·&gt;</th> <th>×</th> <th>×</th> <th></th> <th></th> <th></th> <th></th> <th>r: Date: Time: REMARKS</th> <th>"In Date: Time: See Attached Test LIST</th> <th>A alletter 10/24/19/10 4:45 PM Laboratory by Date: Time:</th>	X X X X X X X X X X X		·×	·>	×	×					r: Date: Time: REMARKS	"In Date: Time: See Attached Test LIST	A alletter 10/24/19/10 4:45 PM Laboratory by Date: Time:	
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0701 Алыснык Avanue Lubbock: Toxas 78424 805+794+1296

FAX 805+794+1298

January 13, 1997 Receiving Date: 01/10/97 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM	ECO-LOGICAL ENVIRONMEN Attention: Carrie Ein 2200 Market Street Midland, TX 79703	ntal Ck	Extraction Dat Analysis Date: Sampling Date: Sample Conditi Sample Receive Project Name:	e: 01/10/97 01/10/97 01/09/97 on: I & C ed by: ML Hobbs Gas Plant
TA#	FIELD CODE	SULFATE (mg/L)	CHLORIDE (mg/L)	NITRATE-N (mg/L)
T65605	MW-7	97	44	1.7
ÕC.	Quality Control	25	25	10
Reporting Limit		1.0	1.0	0.10

RPD	o	2	0
<pre>% Extraction Accuracy</pre>	105	102	104
Instrument Accuracy	98	100	100

METHODS: EPA 300.0. CHEMIST: MS CHLORIDE SPIKE: 500 mg/L CHLORIDE. CHLORIDE QC: 25 mg/L CHLORIDE. NITRATE-N SPIKE: 200 mg/L NITRATE-N. NITRATE-N QC: 5.0 mg/L NITRATE-N. SULFATE SPIKE: 500 mg/L SULFATE. SULFATE QC: 25 mg/L SULFATE.

1-13-91

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonall

DATE

A Laboratory for Advanced Environmental Research and Analysis

#### Jan-13-97 04:08P

6701 Aberdoon Avenue Lubbock, Toxas 79424 806•794•1296 FAX 806•794•1298

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

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#### PAGE 1 of 2

January 13, 1997 Receiving Date: 01/10/97 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM

Prep Date: 01/10/97 Analysis Date: 01/10/97 Sampling Date: 01/09/97 Sample Condition: Intact & Cool Sample Received by: ML Project Name: Hobbs Gas Plant

FIELD CODE: MW-7 TA #: T65605

	Concentration	Reporting
8240 Compounds	(ug/L)	Limit
Dichlorodifluoromethane	ND	1
Chloromethane	ND	1
Vinyl chloride	ND	1
Bromomethane	ND	÷ c
Chloroethane	ND	5
Trichlorofluoromethane	ND	1
1,1-Dichloroethene	ND	1
Iodomethane	ND	± E
Carbon disulfide	ND	5
Methylene chloride	ND	
trans-1,2-Dichloroethene	ND	1
1,1-Dichloroethane	ND	1
Vinyl acetate	aw	1
2-Butanone	ND	1
Chloroform	ND	30
1,1,1-Trichlorosthane	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	30
Toluene	ND	- 1
1,1,2-Trichloroethane	ND	÷ 1
2-Hexanone	ND	50
LUI UM LUM TRACE	ANALYSIS, INC.	

A Laboratory for Advanced Environmental Research and Analysis

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

FIELD CODE: NW-7 TA #: 165605

8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	i ND	1
Tetrachlorosthene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	ND	1
Bromoform		1
Styrene	ND	1
O-Xylene	ND	•
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 (EDB)	ND	2 5

Surrogates	* RECOVERY
Dibromofluoromethane	99
Toluene-d8	95
4-Bromofluorobenzene	91

ND = Not Detected

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

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

1-13-97

Date

PAGE 2 of 2

#### Jan-13-97 04:09P

5701 Aberdoon Avenue

Lubbock, Texas 79424

806 • 794 • 1296

TAX 806 • / 94 • 1298

#### TA #T65605 Field Code: MW-7

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

**~** . . .

January 13, 1997 Receiving Date: 01/10/97 Sample Type: Water Sampling Date: 01/09/97 Sample Condition: 1 & C Sample Received by: ML Project Name: Hobbs Gas Plant Project No: 279-512 Project Location: Hobbs, NM Extraction Date: 01/10/97 Analysis Dots: 01/11/07

	Reporting	Concentration			dialysis Date: 01/	11/9/
EPA 8270	Limit	(mg/L)	QC	RPD	%EA	%LA
henal	0.001	ND	83	4	21	104
-Chiorophenol	0.005	ND		4	38	
-Methylphenol	0.001	ND				
l-Methylphenol/3-Methylphenol	0.001	ND				
l-Nitrophenol	0.005	ND	82			103
1,4-Dimethylphenol	0.005	ND				
1,4-Dichlorophenol	0.005	ND	76			95
Naphthalene	0.001	ND				
2,6-Dichlorophenol	0.005	ND				
-Chiara-3-methylphenol	0.005	ND	76	7	49	95
1-Methylnuphthalene	0.001	ND				
2,4,6-Trichloruphenol	0.005	ND	81			101
1,4,5-Trichlorophenol	0.005	ND				
2,4-Dinitrophenni	0.005	ND				
4-Nitruphenol	0.005	ND		10	29	
1,3,4,6-Tetrachlorophenol	0.005	ND				
1-Methylnaphthalone	0.001	DND				
4,6-Dinitro-2-methylphenol	0.001	ND				
Pentachiorophenol	0.005	ND	76	0	54	95
Benzola]pyrene	0.001	ND	82			103
SURROGATES	% RECOVERY					
2-Fluorophenol SURK	28					
Phenol-de SURR	30					

Phenol-66 SURR Nitrobenzene-d5 SURR 2-Fluorobiphenyi SURR 2,4,6-Tribromophenni SURR

Terphenyl-d14 SURR METHODS: EPA SW 846-8270, 3510.

CHEMIST: RD/CC

Director, Dr. Bluir Leftwich Director, Dr. Bruce McDonell

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1-13-97 Date.

A Laboratory for Advanced Environmental Research and Analysis

	F.05
ANALYTICAL RESULTS FOR	
ECO-LOGICAL ENVIRONMENTAL	
Attention: Carrie Eick	
2200 Market St.	
MIGIANG, TX 79703	Pren Date: 01/10/97
	Analysis Date: 01/13/97
	Sampling Date: 01/09/97
	Sample Condition: Intact & Coo
NA	Sample Received by: ML Project Name: Hobbs Gas Plant
	TOTAL PCB's
FIELD CODE	(mg/L)
VW - 7	-0.0001
Quality Control	
	0,0001
	0.0001
	o
	80
	88
, 8080.	
J/L TOTAL PCB's. /L TOTAL PCB's.	
183	1-13-97
, Dr. Bruce McDonell	DATE
11	
MTRACEANALYSIS,	INC. MINING IN MANAGE
	ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market St. Midland, TX 79703 MM FIELD CODE MW - 7 Quality Control MW - 7 Quality Control 8080. JL TOTAL PCB's. L TOTAL PCB's.

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	RATRIX	PRESERVATIVE METHOD	SAMPLING		:8 sA gA 3 sA gA 2 sA gA	olatiles	1-30 Hb	1∀∩ტ うく `1	jo # [		
FIELD CODE	* CONTAINE Volume/Amou WATER SOIL AIR AIR	ม ∡ ) ∿ <sup>ณ</sup> เกีย เกีย เกีย เกีย เกีย เกีย เกีย เกีย	) Этад Эміт	атех, мтве тен	Total Metals	RCI RCI	270 10728 270 10728 10728	8:14M C ~ B ~ 1 1 ~ C ~ B ~ V	Tum around Fax ASA F	рюн	
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# REPORT DELINEATION INVESTIGATION HOBBS NATURAL GAS PLANT K N ENERGY, INC. HOBBS, LEA COUNTY, NEW MEXICO

Date Prepared: June 6, 1996

# RECEIVED

JUL 0 9 1996

Environmental Bureau Oil Conservation Division

ECO Project No.: 279-512

Prepared For: New Mexico Oil Conservation Division Mr. Chris Eustice

> On Behalf of: K N Energy, Inc.

Prepared By: Eco-logical Environmental Services, Inc. 2200 Market St. Midland, New Mexico 79703 915/520-7535



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

Date Prepared:

June 6, 1996

ECO Project No.: 279-512

Prepared By:

Camie E. Eick

Carrie E. Eick, P.E. Project Manager

**Reviewed By:** 

Shane Estep, R.E.M. President

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

### **1.0 EXECUTIVE SUMMARY**

Eco-logical Environmental Services, Inc. (ECO) was contracted by K N Energy, Inc. (K N) to conduct an environmental assessment of shallow soils and groundwater at their facility identified as Hobbs Natural Gas Plant located ten miles west of Hobbs, New Mexico. This project was requested by the New Mexico Oil Conservation Division (OCD) after their inspection in 1995. The OCD inspection of the facility was to determine compliance with the state discharge permitting requirements. Since the OCD inspection was conducted, K N has decided to close the processing portion of the plant and operate the facility only as a compressor station. As a result, the plant equipment would be removed from the site.

The scope of work involved sampling and delineating the impacted soils and rock at the facility to address the environmental issues raised during the OCD approval process of the discharge plan. Specific concerns addressed in this inspection related to the Cryogenic Skid, the Flare Pit, the Compressor Units, and groundwater.

In mid February, 1996, soil borings were advanced at the site to observe impacts to the soils and one monitor well was installed at the site to evaluate the water depth and quality. Soil conditions at the site consist of 2 to 6 feet of hard limestone, underlain by 1 to 8 feet of caliche. This in turn is underlain by 11 to 13 feet of dry sand and 5 feet of sandstone. Layers of sand and sandstone exist to a depth of 33 feet where a 14 foot layer of limestone is present to a depth of 47 feet. At this depth a sand is encountered which becomes moist at 52 feet. Groundwater is present at a depth of 53 feet.

Selected soil and water samples were analyzed for the suspected contaminants and compared to the OCD action level guidelines. It was determined that groundwater was encountered at a depth of 53 feet below grade and may be impacted. In addition, the site is greater than 1,000 feet from a surface water body or source and greater than 200 feet from a domestic water source. As a result, the soil clean up levels that could be considered are 1,000 ppm Total Petroleum Hydrocarbons (TRPH), 50 ppm total BTEX, and 10 ppm of Benzene.

Following these guidelines, it appears that the top two to four feet to the north and northeast of the cryogenic skid must be remediated. These areas contained stained

surface gravel and rock with TRPH values of 2,520 to 32,800 ppm. The top two feet of soil/rock in the flare pit as wells as the existing soil (gravel) piles must also be remediated to a depth of two feet. The TRPH values are 5,590 and 386,000, respectively. The gravel piles are from historic cleanup of small stained areas from the plant. The final area of investigation is the area of the compressor units. This area also contains stained surface gravels and impacted adjacent rock two to four feet deep. The impacted areas are concentrated in the stained gravels directly adjacent to the units and to the east of the middle and south unit as well as to the south of the south unit. TRPH values above the 1,000 ppm limit ranged from 4,770 to 6,390 ppm.

The amount of the affected rock and surface gravel is estimated to be 412 cubic yards. Removal of the surface gravels is possible, however, removal of the rock layer appears inappropriate due to its close proximity to working equipment and pipelines. This area is recommended to be treated biologically or left in place and monitored until such time as plant closure.

Test results from three separate episodes of groundwater samples indicate that benzene is present above the health standards for groundwater (State of New Mexico Water Quality Control Commission, Title 20, Chapter 6, Part 2). Sample results also indicate that the amount of benzene varied. It is suggested that three additional monitor wells be installed to evaluate the amount of benzene as well as PAH, chlorinated hydrocarbons, TRPH, metals, and anion/cations in the groundwater before any conclusions are made as to the possible impacts to groundwater.



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

#### 2.0 INTRODUCTION

#### 2.1 Background

The plant, American Processing, L.P. Hobbs Natural Gas Plant, was constructed in 1976. In 1994 K N Energy, Inc. became the operator and owner of the facility. 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. The letter addressed that methods must be proposed that would address and implement processes that would correct the noted deficiencies.

#### 2.2 Site Description

K N Energy, Inc. Natural Gas Processing Plant is located approximately ten miles west of Hobbs on U.S. Highway 180 to the west of Highway 483. The approximate geographic coordinates for the center of the site obtained with a Global Positioning Satellite (GPS) receiver and were 32°42' 57" N latitude and 103° 21' 13" W longitude. The site is located in a rural environment. Adjacent properties are used for cattle grazing and an electric plant. The U.S.G.S. Monument North Quadrangle Map indicated the approximate site elevation at 3,815 feet above mean sea level (AMSL). The general surface topography of the site is sloping down to the east from the west. A Site Location Map is included as Map 1. A site layout diagram is presented on Map 2.







#### 3.0 SCOPE OF SERVICES

#### 3.1 Scope of Work

It is the intention of this investigation to delineation the impacted soils/rock associated with the Cryogenic Skid, the Flare Pit, and the Compressor Units. The objective of the environmental assessment was to gather data and render an opinion on the environmental conditions present at the property relative to the amount of impacted soils/rock in both a vertical and horizontal extent adjacent to each of the three areas, and potential impacts to shallow groundwater.

Each area is located on separate locations at the site. As a result, each location was investigated separately. The general method of investigation was similar at each site. The soils around each site were investigated by the advancement of several soil borings. Samples were collected from the borings and selected samples submitted for analysis. Boring locations were chosen based on visual observations of surface impacted soils. Step out borings were located based on accessability and attempts were made to locate the borings between two previous boring locations which were observed to be impacted during the field investigation (based on odor, PID readings, and visible indications of impacted soils). Samples to be analyzed were selected based on highest PID readings, strongest odors, largest amount of observed impacted soils, and anticipated depth of impacted soils/rock. Samples from each individual step out boring were composite samples of the suspected impacted depth zones in the initial borings advanced in surface stained soil areas.

Depth to groundwater was evaluated from a review of a water well inventory based on registered wells located within a one mile radius of the center of the site and the installation of one monitor well. The well was developed and sampled for constituents thought to possibly cause impact to the groundwater from plant operations including TRPH, BTEX, and RCRA 8 total metals.

This report presents the findings of the field and analytical investigation and any conclusions derived from this investigation. Also included are recommendations for remediation.

### 3.2 Involved Parties

Eco-logical Environmental Services, Inc. has completed the preliminary investigation of the hydrocarbon impacted soils/rock at the Hobbs Natural Gas Plant. This investigation was under the request of K N Energy, Inc.. Additional contractors used during the investigation included McDonald Drilling to advance the borings and TraceAnalysis to conduct the laboratory testing. Both subcontractors were under the direction of Eco-logical personnel.

#### 3.3 Limitations

The professional opinions expressed herein do not necessarily represent scientific certainties. Findings, conclusions, and recommendations were based solely on the observations made during the site inspection, analytical data, and other data available to ECO. ECO makes no representation concerning hazardous or toxic substances or other latent conditions which may be discovered by means of investigation or techniques that were beyond the scope of work undertaken by ECO during this investigation.

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#### 4.0 SITE GEOLOGY/HYDROLOGY

Soil conditions at the site were investigated by drilling 15 soil borings and one monitor well. The surface soils at the plant consist of two to four inches of sub-rounded gravel fill over 2 to 6 feet of very hard limestone, underlain by 1 to 8 feet of caliche. This in turn is underlain by 11 to 13 feet of dry sand and 5 feet of sandstone. A five foot layer of dry sand is again encountered at a depth of 31 feet and underlain by 2 feet of sandstone and 5 feet of interbedded limestone and sandstone. A hard layer of limestone is again encountered at a depth of 38 feet. Sand is encountered at a depth of 47 feet and is present to the bottom of the deepest boring at 60 feet.

No moist soils or rocks were encountered until a depth of 52 feet. This depth corresponds to the last sand horizon encountered at a depth of 47 feet. The sands become saturated at a depth of 53 feet where the static water level was measured.

A water well search of one mile radius around the center of the site revealed four water wells. The wells were constructed between 1957 and 1965. Based on water depths obtained at the time of installation, the regional groundwater flow is to the southeast at approximately a drop of 10 feet per 1,750 feet. These water levels, as compared to the water depth from MW-1, indicate that the depth to groundwater has remained fairly constant. The closest well is approximately 2,000 feet to the north and assumed upgradient. The remaining wells are located approximately 1 mile to the north-northwest, northeast, and south-southeast. Well logs and a location map are present in Section 11.



#### 5.0 SITE INVESTIGATIONS

#### 5.1 Field Investigation and Sampling Techniques

Sampling at the sites was conducted by advancing soil borings in selected locations. All borings were advanced with a Badger Drilling Rig using air rotary techniques. Boring locations were selected based on visually stained surface soils, accessibility, and safety. After boring completion, all borings were filled with a cement/bentonite grout to the surface. Graphical representations of the borings logs are presented in Section 12.

Samples were collected with a spilt spoon sampling device which was hydraulically pushed into non-lithified soils. The sampler was washed and rinsed between each use. Samples were also collected as grab samples. This method involved placement of a screen catcher by the surface of the hole and catching drill cuttings as they rose to the surface. Prior to each sampling zone, the bore hole was blown clean prior to the advancement of the drill bit.

All equipment used during the collection of samples and between each borehole were steam cleaned. Proper sampling protocol was utilized to collect, test, and store the samples including the use of clean surgical type gloves to handle each sample and were changed between samples. Samples were subjected to a headspace test with a PID and a soil description including observations of odor and visual signs of impaction of hydrocarbons were noted on a field boring log. After boring completion, samples were selected for analytical testing and placed into clean laboratory glass jars with a Teflon lid. All samples were labeled and placed on ice. Laboratory samples were recorded on a Chain-of-Custody form and signed by the site supervisor and the receiving laboratory. The following schedule details the tests that were performed on each sample per site.

#### Cryogenic Skid

- Total Petroleum Hydrocarbons (EPA Method 418.1)
- BTEX (EPA SW 846-8020)
- Total RCRA Metals (EPA Method SW 846-3051, 6010, 7471)

Flare Pit

- Total Petroleum Hydrocarbons (EPA Method 418.1)
- BTEX (EPA SW 846-8020)

Soil Piles

- Total Petroleum Hydrocarbons (EPA Method 418.1)
- Total RCRA Metals (EPA Method SW 846-3051, 6010, 7471)
- Semi-Volatiles (EPA Method 8270)
- Volatiles (EPA Method 8240)

#### **Compressor Units**

- Total Petroleum Hydrocarbons (EPA Method 418.1)
- BTEX (EPA SW 846-8020)
- Total RCRA Metals (EPA Method SW 846-3051, 6010, 7471)
- GC Scan for Glycol (EPA Method 8000)
- Volatiles (EPA Method 8240)

#### Groundwater

- Total Petroleum Hydrocarbons (EPA Method 418.1)
- BTEX (EPA SW 846-8020)
- Total Dissolved Solids (EPA 160.1)
- Volatiles (EPA Method 8240)
- Polycyclic Aromatic Hydrocarbons (EPA 8270)
- Major Anions and Cations
- Halogenated Hydrocarbons
- Total RCRA Metals (EPA Method SW 846-3015, 6010, 7470)

Boring locations were selected in the field based on areas of visibly impacted soils and possible ponding of contamination areas. The locations were also selected based on accessibility to a drill rig and aboveground and underground obstructions such as piping, electrical conduits, and foundations. All soil cuttings and generated water were removed and placed adjacent to the west side of the flare pit. The solid material was placed on plastic sheeting and covered with additional plastic and the water was placed into a poly drum. Final disposal will occur during remediation of the site. Boring logs are presented in Section 12.

### 5.2 Cryogenic Skid

The Cryogenic Skid is approximately 37 feet long and 22.5 feet wide. It is elevated above a concrete base on a metal skid (Photos 1 and 2, Section 10.0, arrows indicate boring

locations). The concrete is covered with oily liquid residues. Several pieces of equipment were observed to have historic staining from leaks including a small motor located on the north edge near the sidewalk. Impacted gravels and stained sidewalks were observed on the adjacent ground. This area, as well as the northeast corner, contained stained gravel. No free liquids were observed in these areas. One boring was advanced in each of these areas. Petroleum odors were detected in both borings from the surface to a depth of four to eight feet where no odors were detected. A chemical odor was then detected in both borings at a depth of 14 to 16 feet. Additional borings were advanced to attempt to determine the extent of the impacted soils/rock. However, impacted soils were still evident in two additional borings from the surface to six feet to the west and from the surface to the boring termination to the southeast. Contamination was not apparent to the north. Additional areas of investigation are limited to non-existent due to access limitations.

Soil conditions in this area are best described as two to four inches of gravel base underlain by one to six feet of very hard limestone. This is underlain by three to seven feet of caliche. The borings terminated at depths of 22 feet in a fine grained sand where a sandstone and or limestone layer is encountered. Map 3 depicts the boring locations as well as impacted soils extent.

#### 5.3 Flare Pit and Soil Piles

The inside dimensions of the Flare Pit are approximately 32 feet long and 16 feet wide with the outside dimensions of 55 by 43 feet. The pit bottom is two to three feet below the surrounding grade and the berms rise four to five feet above the bottom. The bottom of the flare pit is stained black and contains one to two inches of free soils on top of limestone. Several piles of oil stained gravel are present on the inside of the pit berm (Photos 3 and 4, Section 10.0). No free liquids were observed in the area outside of a small fiberglass tank located at the south end of the pit. One boring was advanced in bottom of the pit. Petroleum odors were detected in first sample obtained from the surface to two foot depth. No additional odors were detected in this boring or the surrounding borings. The surrounding borings were advanced around the pit to attempt to determine the horizontal extent of any impacted soils/rock beyond the bermed area. No odors or visible evidence was detected during the field investigation.

Soil conditions in this area are best described as two to four inches of gravel base underlain by two to six feet of very hard limestone. This is underlain by zero to five feet



of caliche. The borings terminated at a depths of 10 feet in a fine grained sand. Map 4 depicts the boring locations as well as impacted soils/rock extent.

#### 5.4 **Compressor Unit**

The Compressor Units occupy an area of 30 by 80 feet. Each unit is slightly different but all are located on individual concrete slabs approximately 20 to 23 feet long and 20 feet wide (Photo 5, Section 10.0). The concrete contains free oily liquids and antifreeze (Photo 6, Section 10.0). One boring was advanced in an area of heavily stained gravel adjacent to the concrete pad. Petroleum odors were detected in the boring from the surface to a depth of four feet. Additional borings were advanced to attempt to determine the extent of the impacted soils/rock. Where present, petroleum odors were detected at the surface but not below a depth of four feet. Additional areas of investigation are limited to non-existent due to access limitations, with the exception of the westerly direction. Map 5 depicts the boring locations as well as impacted soils/rock extent.

Soil conditions in this area are best described as two to four inches of gravel base underlain by one to four feet of very hard limestone. This is underlain by one to five feet of caliche. The borings terminated at a depths of eight to eleven feet in a fine grained East por Wayne Price. Also, see map - provisions page. to (MAP3) sand.

#### Groundwater 5.5

One Monitor Well (MW-1) was installed to the west of the Cryogenic Skid. Air rotary techniques were used to advance the hole and a two inch diameter PVC well was installed. Groundwater was encountered at an approximate depth of 53 feet below grade. The water bearing zone was a sand beneath a hard limestone. The sand layer begins at a depth of 47 feet. The well contains a 20 foot screened interval from 60 to 40 feet, with two (2) inch PVC casing extending to the surface. The well is sand-packed with 8/16" sand from 60 to 36 feet, with 4 feet of bentonite pellets above the sand, and cement slurry from the top of the bentonite to the surface. A well diagram is provided in Section 12.

Based on the rough date provided from the water well search the groundwater flow direction is to the southeast at approximately a drop of 10 feet per 1.750 feet. These water levels, as compared to the water depth from MW-1, indicate that the depth to groundwater has remained fairly constant.






### 6.0 ANALYTICAL RESULTS

#### 6.1 Cryogenic Skid

Thirteen samples were obtained to evaluate the amount of the impacted soils/rock in the area of the Cryogenic Skid. Of these samples, three contained results higher than the OCD action level. These areas were concentrated near the surface in the gravel, the top two to four feet of the limestone, and in the stained areas. Table 1 presents the results of the laboratory testing. Complete laboratory reports are included in Section 13.

	TABLE 1 CRYOGENIC SKID AREA ANALYTICAL RESULTS													
	As ppm	Se ppm	Cr ppm	Cd ppm	Pb ppm	Ba ppm	Ag ppm	Hg ppm	B ppm	T ppm	E ppm	X ppm	TPH ppm	
SB-1 (0-2)	<10	<50	6.5	<2	<10	670	<1	<0.25	<0.05	<0.05	<0.05	0.077	32,800	
SB-1 (2-4)	21.1		6.25			652			<0.05	<0.05	<0.05	0.055	3,220	
SB-1 (8-10)	<10	<50	<5	<2	<10	266	<1	<0.25	<0.05	<0.05	<0.05	<0.05	31	
SB-2 (0-4)	13	<50	<5	\$2	<10	428	<1	<0.25	<0.05	<0.05	<0.05	0.539	9,360	
SB-2 (14-16)	<10	<50	<5	<2	<10	70	<1	<0.25	<0.05	<0.05	<0.05	<0.05	<10	
SB-2 (18-20)	<10	<50	<5	<2	<10	59	<1	<0.25	<0.05	<0.05	<0.05	<0.05	<10	
SB-3 (0-4)	<10	<50	<5	<2	<10	457	<1	<0.25	<0.05	<0.05	<0.05	<0.05	40	
SB-3 (8-10)	12	<50	<5	<2	<10	319	<1	<0.25	<0.05	<0.05	<0.05	<0.05	<10	
SB-3 (18-20)	<10		<5			52.4			<0.05	<0.05	<0.05	<0.05	<10	
SB-3 (22-24)	<10		5.2			180			<0.05	<0.05	<0.05	<0.05	<10	
SB-4 (0-6)	<10	<50	<5	<2	<10	456	<1	<0.25	<0.05	<0.005	<0.05	0.109	2,520	
SB-4 (10-20)									<0.05	<0.05	<0.05	<0.05	<10	
SB-5 (0-12)	<10		<5			30.5			<0.05	<0.05	<0.05	<0.05	<10	

#### 6.3 Flare Pit and Soil Piles

Seven samples were obtained to evaluate the amount of the impacted soils/rock in the area of the Flare Pit and Soil Piles in the Flare Pit. Of these samples, only the Soil Piles (made of gravel from previous small historic cleanups from unknown areas around the site) and the top two feet of soil and limestone in the Pit contained results higher than the OCD action level. Table 2 presents the results of the laboratory testing. Complete laboratory reports are included in Section 13.

	TABLE 2												
	FLARE PIT AND SOIL PILES ANALYTICAL RESULTS												
	As ppm	Se ppm	Cr ppm	Cd ppm	Pb ppm	Ba ppm	Ag ppm	Hg ppm	B ppm	T ppm	E ppm	X ppm	TPH ppm
Soil Piles	<10	<50	16.4	3.8	34.6	93	<1	<0.25	<0.025	<0.025	<0.025	<0.025	386,000
SB-6 (0-2)	NR	NR	NR	NR	NR	NR	NR	NR	<0.05	<0.05	<0.05	0.107	5,590
SB-6 (4-6)	NR	NR	NR	NR	NR	NR	NR	NR	<0.05	<0.05	<0.05	<0.05	27
SB-6 12-13	NR	NR	NR	NR	NR	NR	NR	NR	<0.05	<0.05	<0.05	<0.05	<10
SB-7 (0-8)	NR	NR	NR	NR	NR	NR	NR	NR	<0.05	<0.05	<0.05	<0.05	<10
SB-8 (0-8)	NR	NR	NR	NR	NR	NR	NR	NR	<0.05	<0.05	<0.05	<0.05	<10
SB-9 (0-10)	NR	NR	NR	NR	NR	NR	NR	NR	<0.05	<0.05	<0.05	<0.05	<10

Soil Piles Non-Detect for remaining 8240 Compounds, Non-Detect for 8270 except for Endosulfan-1 (0.0049), Endrin (0.0065), and a-Chlordane (0.0031), Also tentatively identified Hexacoasane, Docosane, 2-methylelcosane, Heneicosane, Octadecane, 4-methylnonadecane, 8-methylheptadecane, and 2,6,10,14-tetramethyl-hexadecane

#### 6.4 Compressor Units

Ten samples were obtained to evaluate the amount of the impacted soils/rock in the area of the Compressor Units. Of these samples, three contained results higher than the OCD action level. These areas were concentrated in the surface gravels in the stained areas as well as the limestone to depths of two to four feet between the units and to the south of the south unit. Table 3 presents the results of the laboratory testing. Complete laboratory reports are included in Section 13.

	TABLE 3													
	COMPRESSOR UNITS ANALYTICAL RESULTS													
	As ppm	Se ppm	Cr ppm	Cd ppm	Pb ppm	Ba ppm	Ag ppm	Hg ppm	B ppm	T ppm	E ppm	X ppm	TPH ppm	
Stain 0-0.25	NR	NR	NR	NR	NR	NR	NR	NR	<.05	<0.05	<0.05	<0.05	4,770	
SB-10 (2-4)	<10	<50	<5	<2	<10	484	<1	<0.25	<.025	0.053	0.058	0.415	6,390	
SB-10 (4-6)	<10	<50	6.5	<2	<10	670	<1	<0.25	<.025	<0.025	<0.025	<.025	523	
SB-10 (9-11)	<10	<50	<5	<2	<10	356	<1	<0.25	<.025	<0.025	<0.025	<.025	11	
SB-11 (0-4)	<10	<50	7.7	<2	<10	400	<1	<0.25	<.025	<0.025	<0.025	<.025	16	
SB-12 (0-2)	<10	<50	<5	7.2	<10	497	<1	<0.25	<.025	<0.025	<0.025	<.025	5,990	
SB-12 (2-4)				<2		1,060			<0.05	<0.05	<0.05	<0.05	<10	
SB-13 (0-4)	<10	<50	7.3	<2	<10	237	<1	<0.25	<.025	<0.025	<0.025	<.025	<10	
SB-14 (0-4)	<10	<50	5.7	<2	<10	684	<1	<0.25	<.025	<0.025	<0.025	<.025	25	
SB-15 (0-4)	<10	<50	7.2	<2	<10	371	<1	<0.25	<.025	<0.025	<0.025	<.025	234	

Soil Boring Samples Non-Detect for Glycol and remaining 8240 Compounds

#### 6.5 Groundwater

Three sampling episodes were conducted at well MW-1 to determine if the groundwater was impacted from the site operations. The first sampling event revealed minor levels of Benzene and Xylene. The Benzene level was above the OCD level for groundwater. A second sampling event was performed. During this sampling event, separate disposable bailers were used for both sampling and well purging. This event revealed no detection of BTEX constituents. A third sampling event was conducted per the March 27, 1996 OCD letter requiring specific analytical tests not previously performed. During this event, Benzene, xylene, naphthalene, and cations and anions were detected. Table 4 presents the results of the laboratory testing. Complete laboratory reports are included in Section 13.

	TABLE 4 WATER WELL SAMPLES ANALYTICAL RESULTS												
	WATER WELL SAMPLES ANALY TICAL RESULTS												
Date	As	Se	Cr	Cd	Pb	Ba	Ag	Hg	В	т	E	x	ТРН
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
02/14/96	<0.1	<0.1	<0.05	<0.02	<0.1	<0.2	<0.01	<0.001	0.083	<0.001	<0.001	0.008	<0.20
02/29/96	NR	NR	NR	NR	NR	NR	NR	NR	`<.001	<0.001	<0.001	<0.001	NR
04/20/96	<0.1	<0.1	<0.05	<0.02	<0.1	<0.2	<0.01	<0.001	0.305	<0.001	0.002	0.032	<0.20

TDS = 1,446 ppm

NR indicates Test Not Run

### TABLE 4 Continued WATER WELL SAMPLES ANALYTICAL RESULTS

Date	K	Mg	Ca	Na	N0 <sub>3</sub> -NO2)-N	TDS	Ch	F	Sulfate	*HCO <sub>3</sub>	Naphthalene
	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm	ppm
04/20/96	7.1	23.8	148	82.5	2.6	756	25	0.4	67	670	0.017

\* Alkalinity as CaCO3

Remaining PAH by EPA 8270 ND

Chloroform, Bromodichloromethane, Dibromochloromethane, Bromoform = ND

19

#### 7.0 OCD REMEDIATION GUIDELINES

The New Mexico Oil Conservation Division issues remediation guidelines for leaks, spills and releases of petroleum related materials. In the guidelines, clean up levels for soils have been set for Benzene, BTEX, and TPH. Which cleanup level that should be obtained is determined by the ranking of the site. If the site is given a ranking of above 19 the cleanup levels would be 10, 50, and 100, respectively. The Hobbs Natural Gas Plant technically has this ranking because the deepest impacted soil/rock has been documented to be at a depth of four to six feet below grade and only 47 feet above groundwater (present at a depth of 53 feet) and groundwater may be impacted. It is believed that due to the three layers of hard rock and two layers of dry sands between the impacted soil/rock and the groundwater that cleanup levels of the second ranking standard could be used. These values for soil cleanup are 10 ppm for Benzene, 50 ppm for BTEX, and 1,000 ppm for TRPH. The OCD may consider these levels.

Two of the three sampling rounds indicate that the groundwater contains levels of benzene above the health standard limits of 0.01 mg/l. Due to the many hard rock layers and dry sand layers located above the groundwater it is surmised that the contaminate may be from off-site. The site does exist in a hydrocarbon producing area.



#### 8.0 CONCLUSIONS

#### 8.1 Soil/Rock

The OCD ranks sites based on the depth to groundwater below the deepest ground impacted soils/rock, distance to wellheads, and distance to surface water bodies. Groundwater at the Plant is at 53 feet below grade and between 47 to 51 feet below the deepest levels of impacted soils/rock observed. In addition, three layers of hard rock and two layers of sand exist between the surface and the water bearing strata. No private wells are known to exist within 200 feet of the site or within 1,000 feet of other water wells. Finally, the site is not located within 1,000 feet of a surface water body. This information, along with the opinion of Eco-logical personnel ranks the site and identifies the remediation action level of 1,000 ppm for TRPH, 50 ppm for total BTEX, and 10 ppm for Benzene.

Based on the above action levels, some areas of the plant will be remediated. The surface gravels around each of the units and the soil/gravel piles in the Flare Pit can easily be removed and treated and/or disposed. The affected surface limestone presents slight complications. This rock is very hard and can only be removed by jack hammer or explosives. Both methods appear to be inappropriate due to the close proximity of plant operations and pipelines. The option of capping the affected areas is also under consideration. It is the intention of K N to stop any ongoing releases and implement additional operations and maintenance procedures. This will include the installation of containment systems and implementation of better housekeeping measures.

The following table presents the estimated amount of affected gravels and rock that must be remediated or capped. The total volume of affected gravels and limestone above the level of 1,000 ppm is estimated to be 43 and 369 cubic yards, respectively.

TABLE 5	IMPACTED SOII	IMPACTED SOILS/ROCK VOLUMES						
Site	Surface Area (ft)	Gravel Depth (ft)	Rock Depth (ft)	Gravel (cy)	Rock (cy)			
Cryogenic Skid	5 x 37 + 8 x 15	0.33	4	4	45			
Flare Pit	16 x 32	0.25	2	5	38			
Soil/Gravel Piles and Cuttings	N/A	N/A	N/A	10	0			
Compressor Units	3 x 86 (west area) 3(30 x 9) (center areas) 10 x 86 (east area)	0.33	4	24	286			
			TOTAL	43	369			

### 8.2 Groundwater

Standards based on groundwater of 10,000 mg/l TDS concentrations or less for human health standards were met with the exception of benzene where the standard was 0.01 mg/l and test results were 0.08 mg/l, non-detect, and 0.305 mg/l on three separate sampling events. Based on three sampling events, a potential exists for groundwater contamination.



#### 9.0 **RECOMMENDATIONS**

#### 9.1 Soil/Rock

In addition to stopping the sources of the contamination, it is recommended that two types of remediation be performed at this site. The affected gravels can be removed and properly disposed. The affected rock can not easily be removed. It is recommended that one of the following options be considered:

- The rock may be left in place and the area monitored. Monitoring would take the form of removing any accumulated water/liquids to minimize any additional impacted soils/rock;
- Place a plastic liner on top of the rock and then cap the area to keep liquids from contacting the impacted rock, with monitoring.

#### 9.2 Groundwater

Due to the anticipated closure of the plant (with the exception of the compressors) all potential sources that may impact the groundwater should be removed or upgraded. It is then recommended that three additional wells be installed. One placed up-gradient to evaluate the quality of the groundwater arriving on site and two down-gradient to help determine groundwater flow direction. All wells should be sampled quarterly for a period of one year. After a period of one year, the results should be reviewed and remediation or closure plan be written and submitted to the OCD.





Cryogenic Skid. Looking southwest at SB-1 location. Note surface staining.



2.

Cryogenic Skid. Looking West at SB-1, SB-2, and SB-4. Note Surface Contamination.



Flare Pit. Looking Northwest at SB-8. Note Contaminated Soil Piles on Berm Slopes.



Looking Northeast at SB-6 and SB-8. Note Contaminated Soil Piles on Berm Flare Pit. Slopes.

4.



Compressor Units. Looking Southeast at middle and South Units and SB-14 and SB-15.



6.

5.

Compressor Units. Looking Southwest at Middle Unit near SB-10. Note Surface Contamination and Weep Holes.





February 13, 1996

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

> Re: AIC Job #02-0045897 Water Well Search Hobbs Gas Plant Hwy 180 7 Hwy 483 Hobbs, New Mexico

Dear Mr. Eick:

At your request, Agency Information Consultants, Inc. (AIC) has conducted a water well search for the above-referenced site. Water well records in New Mexico are maintained by the New Mexico State Engineers Office in Santa Fe. These records are sorted geographically (by the township/range grid system), and AIC has obtained copies of all water wells on record in the sections concerning the site. AIC does not guarantee the accuracy of the information as provided by the original sources, nor can we guarantee that no plotting errors have occured. The purpose of these maps is to give the user a "working approximation" of the positions of reported well positions. AIC has plotted those wells that are in the area of review on the enclosed map.

#### SUMMARY

AIC was able to locate 4 water wells in the sections concerning the area of review.

Thank you for using AIC for this project. Please call me if you have any questions.

Diane Barnes Production Manager



Form WR-23

• 5

Ose, is f. STATE ENGINEER OFFICE

#### WELL RECORD

F71

A

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest 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 1A and Section 5 need be completed.

	Street and Number	
	City Hobba	State <u>Nou Merrico</u>
	Well was drilled under Permit No	and is located in the Twp <u>H_10Rge</u>
	(B) Drilling Contractor Sob Bord & Son Street and Number 1945 N. 47	License No. <u>A6 494</u> h 5 f.
 <u> </u>	City LASS Cruses	State New Montion
1	Drilling was commenced	
	Drilling was completed	

Elevation at top of casing in feet above sea level\_\_\_\_\_\_ Total depth of well\_\_\_\_\_ \_\_\_\_\_Depth to water upon completion\_\_\_ State whether well is shallow or artesian\_\_\_\_

Section	2		PRINCIPAL WATER-BEARING STRATA							
No	Depth	in Feet	Thickness in	Description of Water-Bearing Formation						
110.	From	То	Feet							
1										
2				Soud on beek						
3										
4										
5	· ·									

Section .	>			KEUOF		21110			
Dia	Pounds	Threads	De	pth	Freet	1	Shaa	Perf	orations
in.	ft.	in	Top	Bottom	Feet	Type	5006	From	То
12 3/4	(1.51				(T) <b>9</b> 1			391	(1) <b>9!</b>
							•		
				1					

RECORD OF CASING

#### RECORD OF MUDDING AND CEMENTING Section 4

	1	No. Sacks of	Tons	Diameter	Depth in Feet	
Methods Used		Cement	Clay	Hole in in.	То	From
				, , , ,		

#### PLUGGING RECORD Section 5 i.

Name of Plugging Contractor		License No	
Street and Number	City	State	
Tons of Clay used	used	_Type of roughage	
Plugging method used	Date	Plugged	

Plugging approved by:

Castion 2

#### Cement Plugs were placed as follows:

		_ '	1 200	Depth	of Plug	No. of Sacha Haad
· · · · · · · · · · · · · · · · · · ·	Basin Supervisor	· ,		From	To	NO. OI SACKE USED
FOR USE OF	STATE ENGINEER ONLY		['	[]		
Date Received	AUG 4 1955		<b> </b>			
	OFFICE GROUND WATCO DIPERVISOR ROSWELL, NEW MERICO	Ĺ				
File No. 2 - / 550	Use	Such	<u>/</u>	L/	ocation No.	18.36.38.4/11/1

Form WIR-23 Wig-

 $\mathcal{S}, \mathcal{F}, \in \mathcal{F}_{t}$  state engineer office

T-P Coal State W

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest 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 1A and Section 5 need be completed.

WELL RECORD

C.	otion	. 1
- <b>3</b> H	CLIO:	

	(A) Owner of well Rowan Drilling Co.
	Street and Number BOX 1873
	City Midland State Texas
	Well was drilled under Permit Noand is located in the
	(B) Drilling Contractor_Abbott_Bros-License No.wD-46
	Street and NumberBox 637
┠───┤───┤	City Hobbs StateNew Mexico
	Drilling was commenced December 27 19.57
	Drilling was completed December 28 19.57
(Plat of 640 acres)	

Elevation at top of casing in feet above sea level\_\_\_\_\_\_Total depth of well\_\_\_\_\_Total l  2	F
	2

#### PRINCIPAL WATER-BEARING STRATA

No	Depth	in Feet	Thickness in	Description of Water-Bearing Formation		
	From	To	Feet			
1	45	125	80	Water Sand		
2						
3						
4						
5						

#### Section 3 RECORD OF CASING

Dia	Pounds	Threads	Dej	pth	Foot	Type Shee	Perfor	Ations
in.	ft.	in	Ţop	Bottom	Aces	Type Suce	From	To
	NONE						•	
	MOND					· · ·	· ·	
· · · · · · · · · · · · · · · · · · ·								· · · · · · · · · · · · · · · · · · ·

#### Section 4

#### RECORD OF MUDDING AND CEMENTING

Depth i	n Feet	Diameter	Tons	No. Sacks of	Methode Used
From	То	Hole in in.	Clay	Cement	
		1 1			

### Section 5

#### PLUGGING RECORD

Name	of Plugging	Contractor		License	No
Street	and Number		ty S	State	
Tons o	f Clay used			roughag	ſe

Date Plugged..

Cement Plugs were placed as follows:

.19\_

Plugging method used.. Plugging approved by:

		- No	. Depth	of Plug	No. of Speke Hand
	Basin Supervisor		From	To	No. of Sacks Used
FOR USE OF	STATE ENGINEER ONLY	<b>1</b>			
Date Received	DEC 31 1957				
	CEPTS				
File No. <u>2-3757</u>	Use_O.V		∕_L	ocation No.	19.36 28.110
	( Oil ~	all dr	sen)		

Ь

J11

Section 6	•			LOG OF WELL			
Depth	in Feet	Thickness in Feet	Color	Type of Material Encountered			
		+					
				Boll			
	17	10		Call and			
17	25	8					
	40	15		Dry Sana			
_40	45.	5	<u> </u>	Sand Rock			
_45	125	80		Water Sand			
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e undersigned hereby certifies that, to the best of his knowledge and belief, the foregoing is a true and cort record of the above described well.

., <u>,</u> , ,

e. Fe

Well Driller 3

#### FORT WR-23 FIELD ENGK, LOG

#### STATE ENGINEER OFFICE

#### WELL RECORD

INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest 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 1A and Section 5 need be completed.

Section 1	(A) Owner of well Lorence Sighess	
	Street and Number F. 6. Box 133 house,	State L: 1 CS.
	Well was drilled under Permit No.     L=4011       30     34     34     35       4     34     34     35     T       (B) Drilling Contractor     30     Vell 1.05       Stant and Number     4     0     802.74	and is located in the wp. <u>1.300 Rge 30 12</u> License No. <u>1992</u>
<b>  </b>	City	. State
	Drilling was commenced Eov. 24 Drilling was completed	19_5 19_7 19_7

(Plat of 640 acres)

Decinon 2	s	ection	2
-----------	---	--------	---

#### PRINCIPAL WATER-BEARING STRATA

No	Depth i	n Feet	Thickness in	Description of Water-Bearing Formation
110.	From	To	Feet	
1	69	100	31	Course later sona
2				· · · · · · · · · · · · · · · · · · ·
3				- warmen and the second second second second second second second second second second second second second se
4				
5				

#### Section 3 RECORD OF CASING

Dia	Pounds	Threads	De	epth Fast Type Shoe		Perforations		
in.	ft.	in	Top	Bottom		Type Bloe	From	To
6 "			0	4	4'	2	Lone	
	(6 " ni	ople in	ion of	hole,	io othe	r oipe use	d.)	

#### Section 4 RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter	Tons No. Sacks o	No. Sacks of	Methode IIred		
From	То	Hole in in.	Clay Cement				
					•		
	1		•				

Section 5	PLUG	€ING	RECO	RD			
Name of Plugging Co	ontractor		****			License No	
Street and Number	*****	Cit	ty				
Tons of Clay used	Tons of Roughage	used_			Type of	roughage	
Plugging method used	L			Dat	e Plugged.		
Plugging approved by	:			Cemen	t Plugs wer	re placed as follows:	
		:	No	Depth	of Plug	No. of Secks Heed	
	Basin Supervisor			From	To	No. or Gauss Osec	
FOR USE OF	STATE INCINEREADALY						
Date Received	DEC 2 1958						
12112 45-1	Office \$10						
	ROSWELL, NEW MENCO	Ĺ			بهورها وراقي		
File No 2-401	Use	Das	<u> </u>	L	ocation No	18.36. 33.444	

Section 6

LOG OF WELL

Depth	in Feet	Thickness		Type of Material Encountered			
From	То	in Feet					
0	65	65	Greyish	Ualiche			
65	69	4	Greyish	Hard Lock			
69	100	31	Greyish	Course deter-send			
				· · · · · · · · · · · · · · · · · · ·			
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	<u>.</u>			· · · · · · · · · · · · · · · · · · ·			

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 well.

W. L. Man Dory Well Driller

#### Form WR-23 SANTA FE



## WELL RECORD



INSTRUCTIONS: This form should be executed in triplicate, preferably typewritten, and submitted to the nearest 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 1A and Section 5 need be completed.

Section 1

	Street and Number	a
 J	City	State New Nextco
	Well was drilled under Permit No.	$\frac{23a-4}{3}$ and is located in t
	Center 4 of Section 34	Twp. 185 Rge. 30E
 9 1	(B) Drilling Contractor Abbott Bros.	License No. WD-46
	Street and Number P.O. Box 637	
 	City Hobbs	State New Mexico
1	Drilling was commenced February 12	19 <i>0</i> 5
	E Fahruari	10 55

\_\_\_\_Total depth of well £2 190 Elevation at top of casing in feet above sea level State whether well is shallow or artesian Shallow Depth to water upon completion 70.

#### Section 2

#### PRINCIPAL WATER-BEARING STRATA

No	Depth in Feet		Thickness in	Description of Water-Bearing For	mation				
	From	To	Feet						
1	70	181	111	Sand	· ·				
2				· · ·	· · ·				
3					·····				
4									
5		1		· · ·					

ection	3			•				
Dia in.	Pounds	Threads	D	epth	Reat	Turne Shoe	Peri	lorations
	ft.	in .	Top	Bottom	Feet	Type blue	From	To
24 "	hole							
14″	.375	weld	0	190	190	open	70	190
	wall	•	•					
	1							

Section	4

#### RECORD OF MUDDING AND CEMENTING

Depth in Feet		Diameter	Tons	No. Sacks of	Methods Lised
From	To	Hole in in.	Clay Cement		
				1.	
		·			
	· ·			1	· · · · · · · · · · · · · · · · · · ·
					-

Section 5

#### PLUGGING RECORD

Name of Plugging Contractor		License No	
Street and Number	City	State	
Tons of Clay used	Tons of Roughage used	Type of roughage	
Plugging method used		Date Plugged	19
Plugging approved by:		Cement Plugs were placed as f	ollows:
		Double of Diver	·····

Basin Supervisor	No.	From	To	No. of Sacks Used
FOR USE OF STATE ENGINEER ONLY				
18 18 19 SZ 834 18 31				
File No. L - 5176 - X - 3 Use Da	ri	L	oc dior. No.	18.36 34

Section 6

LOG OF WELL

Depth in Feet		Thickness	0-1	Type of Material Encountered			
From	То	in Feet	Color				
0	7	7		Caliche			
7	21	14		sand			
21	24	3		rock			
28	30	6		sand			
30	40	10		sand			
40	48	8		rock			
48	70	12		sand			
70	90	20		sand			
90	100	10	Brown	sand			
100	115	15		sand			
115	140	25		sand			
140	155	15		sand			
155	175	20	Brown	sand			
175	181	6		sand			
181	186	5		sandy c <b>i</b> ay			
186	190	4	red	clay			
		·					
			<u></u>				
				· · · · · · · · · · · · · · · · · · ·			

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 well.

Murrell abbott Well Driller 20:



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1	b	Ļ				
1	E					

# MONITOR WELL NO. MW-1 KN Energy Hobbs Gas Plant

Hobbs, New Mexico

Project N	No: 279-512												Page 1 of 2
Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq) UIq		Overburden/Lithologic Description	USCS	Graphic	Depth	(feet)	W Constru Grap	ell uction hics	Well Construction Details
	0.0-2.0 2.0-4.0 4.0-6.0 6.0-8.0 8.0-10.0 10.0-12.0 12.0-14.0 14.0-16.0 16.0-18.0 18.0-20.0 25.0-30.0	G     G     G     G     G     G		4 4 4 5 5 4 5 4 5 5 4 5 5	FILL grain LIMI CAL no oc with SAN medi with becon grain	<ul> <li>Gravel, light gray, coarse led, dry, no odor, no stain</li> <li>ESTONE - gray, dry, no odor</li> <li>ICHE - light yellow brown, moist, dor</li> <li>cherty/limey layers</li> <li>D - very light yellow brown, um grained, moist, no odor</li> <li>sandstone seams</li> <li>ming light orange brown, fine led</li> <li>DSTONE - light yellow brown, t, no odor</li> <li>D - light yellow brown, fine</li> <li>ed, moist, no odor</li> </ul>	SP SP			) 5 10 15 20 25 30			Surf. Elev: Grade ft TOC Elev: ft Flush Mount Manhole Cover with 4x4 foot concrete pad
Drillin	ng Co: McDor	hler	Drillir	10		LEGEND			Tu	later	lavale	<u> </u>	
	ng Co. <u>IVICIOU</u>	Don	old a	-6		Water level one duri	na de:11:	<b>n</b> c	"	AICT	104012:		ft
						V Statia Water laws	ig uriill	ng					ft
Logge	ed by: <u>C. Efc</u>	к			—	Static Water level							ft
Drilli	ng started:	2/13	/96			✓ Free Phase Product	t level		D	ates	Measur	ed:	02/14/96
Drillin	ng completed:	2/13	/96			Samplers:			N	lotes			
Drillin	ng method: <u>Ai</u>	r Ro	tary			Grab Sample			_				
Devel	opment method:	<u>——</u>	. <u> </u>			Split Spoon Ja	m Tube		-				
			<u> </u>			Sneldy lude LA	iger		1_				

Plate 1



### MONITOR WELL NO. MW-1

KN Energy Hobbs Gas Plant Hobbs, New Mexico

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Plate 1

Page 2 of 2

Project No: 279-512

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	PID (mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	Well Construction Graphics	Well Construction Details
30					Continued from previous page			30		
-					SANDSTONE - light yellow brown, with sand layers, moist, no odor			-		
35	33.0-35.0	G			LIMESTONE/SANDSTONE with chert layers, brown, dry, no odor		· · · · · · · · · · · · · · · · · · ·	- 35		
	35.0-38.0	G						-		Bentonite Chip Seal
40 -				- <u>5</u> - - <u>5</u> - 5	LIMESTONE - light brown, dry, no odor DOLOMITE - light pink brown, dry, no odor			- - - - - - -		Top of Screen
- - - 45 - - -								- - - - - - - -		Filter Sand
- - - 50	47.0-50.0	G		5	SAND - light brown, fine grained, moist, no odor			- - - - 50		
• 1 • 1 • 1 • 1				5	becoming moist	SP		- - - - - - - -		4 inch diameter screen, Schedule 40, 0.010 slot
55 -								55		
- 60 - -								- <u>60</u> -		Bottom of Screen at 60'
- - - 65								65		
70								- 70_		



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# SOIL BORING NO. SB-1 KN Energy Hobbs Gas Plant

Hobbs, New Mexico

0	Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	(mqq)	Benzene (ppm)	Toluene (ppm)	Ethyl- benzene (ppm)	Xylene
$ \begin{array}{c ccccccccccccccccccccccccccccccccccc$	0	0.0-2.0 2.0-4 <u>.</u> 0 4.0-6.0	G G G		29 9	FILL - Gravel, stained brown, coarse grained, dry, petroleum odor LIMESTONE - brown gray, stained, petroleum odor becoming light brown with caliche CALICHE - light brown, dry, no odor	ĢP (		_0	32,800 3,220	<0.05 <0.05	r <u>f. Elev:</u> <0.05 <0.05	<u>Grade_ft_</u> < 0.05 < 0.05	0.0
12.0-14.0       G       4         15       14.0-15.3       13         16.0-18.0       G       3         18.0-20.0       10         20       20.0-22.0       6		6.0-8.0 8.0-10.0 10.0-12.0	G M G		6  24 4	with sand SAND - light orange brown, fine grained, moist, no odor becoming light yellow brown becoming very light red brown			- - - - - - - - - - - - - - - - - - -	31	<0.05	< 0.05	< 0.05	<0.
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$		12.0-14.0 14.0-15.3 16.0-18.0	G X G	-	4 13 3	slight chemical odor SANDSTONE LENSE becoming moist no odor	SP		- - - - - - -					
	20 -	18.0-20.0 20.0-22.0	X		10 6				- <u>20</u> - <u>-</u> 					
	Drilli Drille Logg Drilli Drilli	ng Co: <u>McDo</u> ed by: <u>T. Mc</u> ed by: <u>C. Eic</u> ng started: ng completed:	nald Don k 2/1: 2/1:	l Drillin ald 3/96 3/96	1g	LEGEND ↓ Water level enc. durin ↓ Water level prior to ba ↓ Samplers:	g drillin ackfillin	ng ng	Wate Date Note:	r ievel: Measured s: <u>Cr</u>	vogenic	Skid	No Wai	ter

Figure 1



# SOIL BORING NO. SB-2 KN Energy Hobbs Gas Plant

Hobbs, New Mexico

	No: 279-512 Sample ID	- Ler	/ery f†)		Overburden/Lithologic		hic 9	th (†=	тÊ	ene	Ê	ene E		of au
(fec	Interval (ft, bgs)	Samp	Recov (ft/	dd) Id	Description	USCS	Grap Lo	Dep (fe(	dd) d1	Benz	dd)	Tolu (pp	Ethy benz (pp	) FX
0								0			_Su	rf. Elev:	Grade ft	
	0.0-2.0	G		י ו ו	FILL - Gravel, stained brown gray, coarse grained, dry, petroleum odor LIMESTONE - brown gray, with caliche	GP (								
	2.0-4.0	G		50 	Layer, petroleum odor			-	9,360	<0	.05	<0.05	< 0.05	0.539
5 -	4.0-8.0	G		6	petroleum odor			- 5						
- - - - - - - - - 	8.0-14.0							- - - - - 10						
		G			SAND - gray brown, medium grained, moist, no odor		- Q -							
<u>15</u> - - -	14.0-16.0	M		15	becoming brown gray, moderate chemical odor becoming light red brown, no odor	SP			<10	<0	.05	< 0.05	< 0.05	<0.0
- - - - 20 -	18.0-20.0	X		9 4	becoming orange brown, very slight chemical odor				< 10	<0	.05	< 0.05	< 0.05	<0.0
	22.0-25.0	G			LIMESTONE/SANDSTONE - brown, dry, no odor			-						
25								25	`					
30								30						
Drill	ling Co: <u>McDo</u>	nald	Drillin	g	<u>LEGEND</u>			Water	level:					ft
Drill Logg	ged by: <u>C. Eic</u>	Don k				g arillir ickfillin	ng g							ft ft
Drill	ling started:	2/13	8/96		-			Date	Measured	: _				
Drill	ling completed:	<u>2/13</u> r Pc	96 <u>/96</u>		Samplers:			Notes	: <u>Cry</u>	<u>voger</u> ed	nic (	<u>Skid</u>	<u>No Wat</u>	<u>er</u>
Deve	elopment method:	<u></u>	nai y		Split Spoon	lit Barre	el	_ <u>ER(</u>	Junter	<u></u>				
					Shelby Tube Au	ger								

Figure 2



#### SOIL BORING NO. SB-3 KN Energy Hobbs Gas Plant

Hobbs, New Mexico

Figure 3

279-512 Project No:

1 Page of 1 Recovery (f1/f1) Sampler Benzene Toluene Xylene Depth (feet) Depth (feet) (mqq) Sample ID Overburden/Lithologic Graphi Log (mqq) (mqq) (mqq) (mqq) TPH USCS Interval Description (ft, bgs) Surf. Elev: Grade ft ٥ **G**P FILL - Gravel, gray, coarse grained, dry, 0.0-4.0 no odor LIMESTONE - gray, dry, very slight petroleum odor < 0.05 < 0.05 < 0.05 56 40 < 0.05 CALICHE - very light brown, dry, moderate organic odor 22 4.0-4.5 ٥ SAND - light gray, fine grained, with silt, dry, petroleum odor 8.0-10.0 86 <10 < 0.05 < 0.05 < 0.05 < 0.05 10 10 becoming very light brown, dry 10.0-14.0 -15 15 SP 18.0-20.0 84 <10 < 0.05 < 0.05 < 0.05 < 0.05 20 20SANDSTONE - light brown, dry, slight G 22.0-24.0 petroleum odor 5 < 0.05 < 0.05 < 0.05 < 0.05 <10 25 25 30 30 **McDonald Drilling** Drilling Co: LEGEND Water level: ft Drilled by: T. McDonald  $\overline{\Delta}$ Water level enc. during drilling ft T Logged by: C. Eick Water level prior to backfilling ft Drilling started: 2/14/96 Date Measured: <u>2/14/96</u> Samplers: Drilling completed: Notes: Cryogenic Skid No Water\_\_\_\_ G Grab Sample Air Rotary Drilling method: Encountered  $\boxtimes$ Split Barrel Split Spoon Development method: Auger Shelby Tube

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### SOIL BORING NO. SB-4

KN Energy Hobbs Gas Plant Hobbs, New Mexico

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq) UId	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	(mqq)	Benzene (ppm)	Toluene (ppm)	Ethyl- benzene (ppm)	Xylene (ppm)
	0.0-1.5 1.5-6.0 6.0-10.0 10.0-15.0 15.0-20.0	G G G		4	FILL - Gravel, light gray, coarse grained, dry, no odor         LIMESTONE - gray, dry, moderate petroleum odor         CALICHE - very light brown, dry, moderate petroleum odor         SANDSTONE/CALICHE LAYERS - very light gray brown, dry, no odor         SAND - light brown gray, fine grained, dry, very slight petroleum odor         organic odor	SP			< 10	< 0.05	<pre>vrf. Elev: &lt; 0.05</pre>	Grade_ft_ < 0.05	0.109
Drilli Drille Logg Drilli Drilli Drilli Devel	ng Co: <u>McDor</u> ed by: <u>T. Mc</u> ed by: <u>C. Eic</u> ng started: ng completed: ng method: <u>Ai</u> opment method:	nald Don: k 2/14 2/14 r Rc	Drillin ald 1/96 1/96 otary	g	LEGEND         ↓       ↓         ↓       Water level enc. during         ↓       Water level prior to base         ↓       Samplers:         ↓       Grab Sample         ↓       Split Spoon	g drillin ckfillin it Barre	ng g	Wate Date Note:	r level: Measured s: <u>Cr</u> counter	- - - - - - - - - - - - - - - - - - -	Skid	No Wat	ft ft ft ter

Figure 4



# SOIL BORING NO. SB-5 KN Energy Hobbs Gas Plant

Hobbs, New Mexico

Project No:	279-512												Page 1	of
Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq) DIG	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	ТРН	Benzene	(mqq)	Toluene (ppm)	Ethyl- benzene (ppm)	Xylene (ppm)
_0	0.0-6.0	G		2	FILL - Gravel, gray, coarse grained, dry, no odor LIMESTONE - light gray, dry, no odor becoming brown gray	GP (		0			S <u>u</u>	r <u>f. Elev:</u>	Grade_ft_	
5	6.0-10.0	G		2	CALICHE - very light gray brown, dry, no odor SAND - very light brown fine grained.				< 10	) <(	0.05	< 0.05	< 0.05	< 0.05
	10.0-18.0	G		2	dry, no odor	SP		- <u>10</u> 						
20	18.0-20.0	X		2	becoming light brown with siltstone lenses			20						
25														
Drilling Drilled b Logged I	Co: <u>McDo</u> y: <u>T. Mc</u> oy: <u>C. Eic</u>	nald Don: k	Drillin ald		LEGEND         ✓       Water level enc. durin         ✓       Water level prior to ba	g drillir ckfillin	ıg g	Water	level:	<u></u>		·····		ft ft ft
Drilling Drilling Develop	completed: nethod: <u>Ai</u> nent method:	2/14	/96		Samplers: Grab Sample Split Spoon Spl Shelby Tube	it Barre ger	-1	Notes Enc	:: <u>C</u>	ryoge red	enic	Skid	No Wat	er

Figure 5

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## SOIL BORING NO. SB-6 KN Energy Hobbs Gas Plant

Hobbs, New Mexico

roject	No: 279-512						_						Page 1	of
Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq) UId	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	(mqq)	Benzene	(mqq)	Toluene (ppm)	Ethyl- benzene (ppm)	Xylene
0	0.0-2.0	G			FILL - Gravel, gray, coarse grained, dry, petroleum odor	GP (					_Su	rf. <u>Elev:</u>	Grade_ft_	
	2.0-4.0	G		- 68	LIMESTONE - gray, dry, strong petroleum odor with caliche layers, no odor				5,590	<(	0.05	< 0.05	< 0.05	0.107
5	4.0-6.0	G		2				- - <u>5</u> -	27	<(	).05	< 0.05	< 0.05	< 0.05
	6.0-8.0	М		1	SAND - very light yellow brown, fine grained, dry, no odor			-						
- 10 -	8.0-10.0	G		1				_ 						
	12.0-13.3	X		1		SP		-	<10	<0	).05	< 0.05	<0.05	< 0.05
	13.3-16.0	G	:	1				- - <u>15</u>	:					
	16.0-20.0	G		1				- - - - -						
<u>20</u>							<u></u>	- 20						
25								- 25						
30 -								30						
Drill	ing Co: <u>McDo</u>	nald	Drillin	g	<u>LEGEND</u>			Water	level:					ft
Drill	ed by: <u>T. Mc</u>	Don	ald			g drillin	ng							ft
Drill	ing started.	<u>×</u> 2/1/	1/96		valer level prior to ba	ckfillin	g	Date 1	Macaunat			<u> </u>	<u>-</u>	ft
Drill	ing completed:	2/14	4/96		Samplers:			Notes	: Fla	: re P	it	No Wa	nter	
Drilli	ing method: <u>Ai</u>	r Ro	otary		Grab Sample			Enc	ountere	ed	G	rade 2-3	B feet	
Deve	lopment method:				Split Spoon 🔲 Spl	it Barre	1	belo	w surr	ounc	ling	grade		
	·····				Shelby Tube 📕 Au	ger								

Figure 6

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SOIL BORING NO. SB-7 KN Energy Hobbs Gas Plant Hobbs, New Mexico

Projec	t No: 279-512										_	]	Page 1	of 1	
Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq) OIq	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	TPH	Benzene	(mqq)	Toluene (ppm)	Ethyl- benzene (ppm)	Xylene (ppm)	
0	0.020	6			FILL - Gravel, gray, coarse grained, no	GP		0			S <u>ı</u>	r <u>f. Elev:</u>	Grade_ft_		
	2.0.4.0			٤-2	LIMESTONE - very light gray with caliche, dry, no odor	'									
5	2.0-4.0	9		2	CALICHE - very light brown, dry, no		-0-	F 5	< 10	) <	:0.05	< 0.05	< 0.05	< 0.05	
	4.0-0.0			2	odor									•	
	0.0-8.0			0											
10								- <u>10</u>							
								- - <u>15</u>							
								- - -							
20								<u>20</u>							
25								25							
								  -    -		1		1			
								- 30							
			Drillir		LECEND			Wata	r level:						
Dri	lled by: <u>T. Mcl</u>	Don	ald	•6		g drilli	ng	Walc						ft ft	
Log	gged by: <u>C. Eic</u>	<u>k</u>	1/04		Vater level prior to ba	ckfillin	ıg	-						ft	
Dri Dri	lling started:	<u>2/14</u> 2/14	1/96 1/96		Samplers:			Date Note	Measur s: <u>F</u>	<sup>ed:</sup> lare	Pit	No Wa	ater	\	
Dri	lling method: Ai	r Ro	otary		Grab Sample			En	counte	ered	red				
Dev	velopment method:			<u>_</u>	🖾 Split Spoon 🛛 🛄 Spl	it Barro	el								
			<del>а "</del>			ger		<u> </u> _							

Figure 7



## SOIL BORING NO. SB-8 KN Energy Hobbs Gas Plant

Hobbs, New Mexico

Project	No: 279-512							47				]	Page 1	of 1
Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	(mqq)	Benzene	(mqq)	Toluene (ppm)	Ethyl- benzene (ppm)	Xylene (ppm)
0								0			Su	rf. Elev: (	Grade_ft_	
	0.0-2.0	G		0	FILL - Gravel, gray, dry, no odor LIMESTONE - very light gray brown, with caliche, dry, no odor	<u>GP</u> '		-						
	2.0-8.0				CALICHE - very light brown, dry, no odor			-						
5 -		G		0					< 10	<0	0.05	<0.05	< 0.05	< 0.05
	8.0-10.0	M		0	SAND - very light brown gray, fine grained with silt, dry, no odor	SP		-						
								- <u>10</u> 						
													•	
<u>15</u>						i		- <u>15</u> 						
					•			-						
20 - -								- 20						
								-						
25								25						
								- - -						
- - 														
Drill	ing Co: McDor	ald	Drillin	g	LEGEND			Water	level:			······································		
Drill	ed by: <u>T. McI</u>	Dona	ald		∑ Water level enc. during	g drillir	ng						<del></del>	ft
Log	ged by: <u>C. Eick</u>	<u> </u>	107		<b>Y</b> Water level prior to ba	ckfillin	g						- <u> </u>	ft
Drill	ing started:	2/14 2/14	<u>/96</u> /96					Date I	Measured	l: Tre Pi	it	No Wa	ter.	\
Drill	ing method: <u>Air</u>	Ro	tary		G Grab Sample			Enc	<u>counter</u>	ed				
Deve	lopment method:				Split Spoon Spl	it Barre	1							
					Shelby Tube Au	ger								

Figure 8

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#### SOIL BORING NO. SB-9 KN Energy Hobbs Gas Plant

Hobbs, New Mexico

Figure 9

279-512 Project No:

1 Page of 1 Recovery (ft/ft) Ethyl-benzene (ppm) Benzene Toluene Sampler Xylene Depth (feet) Depth (feet) Graphi Log (udd) (mqq) (udd) Sample ID (mqq Overburden/Lithologic (mqq) ТРН USCS Interval (ft, bgs) Description Surf. Elev: Grade ft ۵ n GP FILL - Gravel, gray, coarse grained, dry, 0.0-2.0 3 no odor ι<u>-2</u>-LIMESTONE - light brown gray, dry, no odor 3 2.0-4.0 LIMESTONE/CALICHE - very light 2 brown, dry, no odor CALICHE - very light brown, dry, no G 4.0-6.0 odor 2 <10 < 0.05 < 0.05 < 0.05 < 0.05 0 G 6.0-8.0 2 SAND - very light brown, dry, no odor SP 8.0-10.0 G 2 10 15 20 20 25 30 30 McDonald Drilling LEGEND Drilling Co: Water level: ft Drilled by: T. McDonald Ā Water level enc. during drilling ft C. Eick Ţ Water level prior to backfilling Logged by: ft Drilling started: 2/14/96 Date Measured: Samplers: 2/14/96 No Water Drilling completed: Notes: Flare Pit G Grab Sample Drilling method: Air Rotary Encountered  $\square$ Split Barrel Split Spoon Development method: Auger Shelby Tube
1000	
30888	

SOIL BORING NO. SB-10 KN Energy Hobbs Gas Plant Hobbs, New Mexico

# # # # # # # # # # # # # # # # # # #	Project	No: 279-512											Page 1	of 1
0       0       0       Surf. Eley: Grade ft.         0       0       0       Surf. Eley: Grade ft.         20-4.0       G       176       LikeStole: gray brown, mist.         0       0       0       0       0         20-4.0       G       176       LikeStole: Tay brown, mist.       0         0       0       0       0       0       0         4.0-6.0       G       7       CALCHE - light brown, dry, modor       0       0         0       0.025 <th>Depth (feet)</th> <th>Sample ID Interval (ft, bgs)</th> <th>Sampler</th> <th>Recovery (f†/f†)</th> <th>(wdd) DId</th> <th>Overburden/Lithologic Description</th> <th>USCS</th> <th>Graphic Log</th> <th>Depth (feet)</th> <th>(mqq)</th> <th>Benzene (ppm)</th> <th>Toluene (ppm)</th> <th>Ethyl- benzene (ppm)</th> <th>Xylene (ppm)</th>	Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f†/f†)	(wdd) DId	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	(mqq)	Benzene (ppm)	Toluene (ppm)	Ethyl- benzene (ppm)	Xylene (ppm)
0.0-2.0       G       1.8       peroleum odor       1         2.0-4.0       G       1.26       1.18       moderate peroleum odor       5         5       4.0-6.0       G       7       7       5       5.350       0.025	_0					FILL - Gravel, grav, coarse grained, dry,	- GP		0		S	urf. Elev:	Grade_ft_	
2.0-4.0       G       126       LinkStrönklich Licht = Tight gray		0.0-2.0	G		ι ι <u>18-</u> -	petroleum odor LIMESTONE - gray brown, moist,			-		i.			
5       4.0.6.0       7       CALICHE sign brown, dry, no odor       0       5       523       <0.025		2.0-4.0	G		126	LIMESTONE/CALICHE - light gray brown, dry, slight petroleum odor			•   - •	6,390	< 0.02	5 0.053	0.058	0.415
6.08.0       G       4         8.09.0       G       -5         9.0-11.0       3         9.0-11.0       3         11       <0.025	5 -	4.0-6.0	G			CALICHE - light brown, dry, no odor			- 5	523	< 0.02	5 < 0.025	< 0.025	< 0.025
10       9.0-11.0       3       SAND - light brown, dry, no odor       SP       10       11       <0.025		6.0-8.0	G		4				-	L.				
3       SP       11       <0.025		8.0-9.0	G		5	SAND - light brown, dry, no odor		-0-	- 10					
20       15         20       15         20       20         21       20         22       20         23       20         24       25         25       25         26       25         27       20         28       25         29       20         20       20         20       20         20       20         20       20         20       20         20       20         21       20         22       25         23       20         24       25         25       25         26       27         27       28         28       Water level more to ackfilling         29       Water level prior to backfilling         20       2141/26         20       2141/26         20       2141/26         20       2141/26         20       2141/26         20       2141/26         20       2141/26         20       2141/26		9.0-11.0	Å		3		SP		-	11	< 0.02	5 <0.025	<0.025	< 0.025
15       15         20       20         21       20         22       20         23       20         24       25         25       25         26       25         27       20         28       20         29       20         20       20         20       20         210       20         225       20         230       20     <									-					
20       20         20       20         25       25         30       25         30       25         30       25         30       25         30       25         30       25         30       25         30       25         25       25         30       25         25       25         30       25         30       30         Drilling Co:       McDonald Drilling         Drilling tared:       2/14/96         Drilling method:       2/14/96         Drilling method:       Air Rotary         Development method:       Split Spoon         Shelby Tube       Auger									- 15					
20       20         25       20         30       25         30       25         30       25         30       25         30       25         30       25         30       30         Drilling Co:       McDonald Drilling         Drilling co:       T. McDonald         Logged by:       C. Eick         Drilling startet:       2/14/96         Drilling completed:       2/14/96         Drilling method:       Air Rotary         Development method:       Split Spoon         Split Spoon       Split Barrel         Mater Incontret       Mater Incontret         Shelby Tube       Auger									-					
20       20         25       25         30       25         30       25         30       25         30       30         Drilling Co:       McDonald Drilling         Drilling Co:       McDonald         Image: Drilling started:       2/14/96         Drilling completed:       2/14/96         Drilling method:       Air Rotary         Development method:       Split Spoon         Shelby Tube       Auger									- - -					
25       25         30       25         30       30         Drilling Co:       McDonald Drilling         Drilling Co:       McDonald Drilling         Drilled by:       T. McDonald         Drilling started:       2/14/96         Drilling completed:       2/14/96         Drilling method:       Air Rotary         Development method:       Split Spoon         Shelby Tube       Auger	<u>20</u>								- <u>20</u> -					
25       25         30       25         30       25         30       30         Drilling Co:       McDonald Drilling         Drilled by:       T. McDonald         Logged by:       C. Eick         Drilling started:       2/14/96         Drilling method:       2/14/96         Drilling method:       Samplers:         Drilling method:       Split Spoon         Split Spit Barrel       Split Barrel         Mater Encountered       Water Encountered									-					
30       30         30       30 <td>25</td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>25</td> <td></td> <td></td> <td></td> <td></td> <td></td>	25								25					
30       30         Drilling Co:       McDonald Drilling         Drilling Co:       McDonald         Drilled by:       T. McDonald         Logged by:       C. Eick         Drilling started:       2/14/96         Drilling completed:       2/14/96         Drilling method:       Air Rotary         Development method:       Split Spoon         Split Spoon       Split Barrel         Shelby Tube       Auger									-					
30       30       30         Drilling Co:       McDonald Drilling       LEGEND       Water level:       ft         Drilled by:       T. McDonald       X       Water level enc. during drilling       ft         Logged by:       C. Eick       X       Water level prior to backfilling       ft         Drilling started:       2/14/96       Samplers:       Date Measured:       Notes:       Compressor Units       No         Drilling method:       Air Rotary       Grab Sample       Split Spoon       Split Barrel       Water Encountered       Water Encountered         Shelby Tube       Auger       Auger       Split Barrel       Split Barrel       Split Barrel									-					
Drilling Co:       McDonald Drilling       LEGEND       Water level:       ft         Drilled by:       T. McDonald       Image: Constraint of the second se	30			ĺ					30					
Drilled by:       T. McDonald       ↓       ↓       Water level enc. during drilling      ft         Logged by:       C. Eick       ↓       Water level prior to backfilling      ft         Drilling started:       2/14/96       Date Measured:          Drilling completed:       2/14/96       Samplers:       Notes:       Compressor Units       No         Drilling method:       Air Rotary       G Grab Sample       Water Encountered	Dril	ling Co: <u>McDo</u>	nald	Drillir	g	<u>LEGEND</u>			Water	r level:				ft
Drilling started:       2/14/96       Date Measured:	Dril Log	led by: <u>T. Mc</u> ged by: <u>C. Eic</u>	<u>Don</u> k	ald		↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓ ↓	g drillin Ickfillin	ng g						ft ft
Drilling method:     Air Rotary     G     Grab Sample     Water Encountered       Development method:     Split Spoon     Split Barrel       Shelby Tube     Auger	Dril	ling started:	<u>2/14</u> 2/14	4/96		Samplers			Date	Measured	:	ne Unita	No	
Development method: Split Spoon L Split Barrel Shelby Tube Auger	Dril	ling method: <u>Ai</u>	<u>r R</u>	otary		Grab Sample			<u>Wa</u>	ter Enc	ountere	ed	110	
	Dev	elopment method:				🖄 Split Spoon 🛄 Spl   🖬 Shelby Tube 💭 Au	it Barre ger	el						

Figure 10

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## SOIL BORING NO. SB-11

KN Energy Hobbs Gas Plant Hobbs, New Mexico

Fig	ure
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279-512 Project No:

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (ft/ft)	(mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	НЧТ	(mqq)	Benzene	(mqq)	Toluene (ppm)	Ethyl- benzene (ppm)	Xylene
	0.0-2.0 2.0-4.0 4.0-8.0	GGG		2.	FILL - Gravel, gray, coarse grained, dry, no odor LIMESTONE - light gray, dry, no odor CALICHE - very light brown, dry, no odor					16	<0	9.025	r <u>f. E</u> l <u>e</u> v: <0.02	<u>-</u> <u>Grade_ft_</u> 5 < 0.025	<0.02
Drill Drill Logg Drill Drill Drill Deve	ing Co: <u>McDo</u> ed by: <u>T. Mc</u> ged by: <u>C. Eic</u> ing started: ing completed: ing method: <u>Ai</u> clopment method:	nald Don k 2/14 2/14 ir Ro	Drillin ald 4/96 4/96 btary	1g	LEGEND ✓ Water level enc. during ✓ Water level prior to ba Samplers: Grab Sample Split Spoon Spl Shelby Tube Aug	g drillin ckfillin it Barro ger	ng Ng El	Wate Date Notes Wa	r leve Meas s:	sured: Cor Ence	npro	esso	r Units d	 	ft ft ft

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# SOIL BORING NO. SB-12 KN Energy Hobbs Gas Plant Hobbs, New Mexico

roject No:	279-512	_												Page I	ot
Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq) UIq	Overburden/Lithologic Description	USCS	Graphic	Depth	(+eet)	(mqq)	Benzene	(mqq)	Toluene (ppm)	Ethyl- benzene (ppm)	Xylene (ppm)
	0.0-2.0 2.0-4.0 4.0-6.0 6.0-8.0 8.0-10.0				FILL - Gravel, gray, coarse grained, dry, slight petroleum odor LIMESTONE - brown gray, dry, slight petroleum odor SAND - gray, fine grained, dry, no odor very, very slight petroleum odor	GP f			) ; ;	5,990 <10	<0 <0	Su .025 ).05	r <u>f. Elev:</u> <0.025 <0.05	Grade_ft_ <0.025 <0.05	<0.025
Drilling Drilled Logged Drilling Drilling Develop	Co: <u>McDo</u> by: <u>T. Mc</u> by: <u>C. Eic</u> started: completed: method: <u>Ai</u>	nald Don k 2/14 2/14 ir Re	Drillin ald 4/96 4/96 otary	ng	LEGEND         ✓       Water level enc. during         ✓       Water level prior to ba         ✓       Water level prior to ba         ✓       Grab Sample         ✓       Split Spoon       Spl         ✓       Shelby Tube       Au	g drillin ckfillin it Barre ger	ng g	Wa Da No 	ter tes Vat	level: Measured : <u>Cor</u> ter Enc	mpro	esso	r Units d	   	ft ft ft

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Figure 12

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SOIL BORING NO. SB-13 KN Energy Hobbs Gas Plant Hobbs, New Mexico

							Fi ]	gure 13		
		a		01		Page	1	- of	1	ſ
НЧТ	(mqq)	Benzen	(mqq)	Toluen	(mqq)	Ethyl-		yy l ene	(mqq)	
			_Su	r <u>f. E</u>	lev:	<u>Grade</u>	ft_			
<	:10	<0	.025	<0	.025	<0.0	)25	<0.	025	
						-				

Project No: 279-512

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Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	HdT	(mqq)	Benzene	(mqq)	Toluene	(mqq)	Ethyl- benzene (ppm)	Xylene	(mqq)
	0.0-2.0 2.0-4.0 4.0-6.0 6.0-8.0 8.0-10.0			2	FILL - Gravel, gray, coarse grained, dry, no odor LIMESTONE - light gray, dry, no odor CALICHE - light brown, dry, no odor SAND - very light brown, with caliche, dry, no odor no caliche, becoming very light gray	SP					<0	S <u>u</u> .025	r <u>f.</u> <u>E</u> I. <0.	<u>2</u> v: 0	<u>G</u> ra <u>de</u> ft <0.025	<0	.025
30 Dri Dri Dri Dri Dri Dri	Iling Co: <u>McDor</u> Iled by: <u>T. Mc</u> ged by: <u>C. Eic</u> Iling started: Iling completed: Iling method: <u>Ai</u> velopment method:	nalc Dor k 2/1 2/1 r R	1 Drillin nald 4/96 4/96 otary	ng	LEGEND         ✓       Water level enc. durin         ✓       Water level prior to ba         ✓       Samplers:         ✓       Grab Sample         ✓       Split Spoon       Split Spit Au	g drilli ackfillir lit Barro ger	ng ag el	30     Wate     Date     Note     Wate	r leve Meas s:	l: Cor Enco	npro	esso tere	r Un d	its	  	f	t t -

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	_		

Project No:

Depth (feet)

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279-512

#### **SOIL BORING NO. SB-14**

KN Energy Hobbs Gas Plant Hobbs, New Mexico

Ethyl-benzene (ppm) Recovery (f1/f1) Benzene Toluene Sampler Xylene Depth (feet) (mqq) (mqq) (mqq) Sample ID Overburden/Lithologic Graphi Log UId (mad) TPH USCS Interval Description (ft, bgs) Surf. Elev: Grade ft 0 GP FILL - Gravel, gray, coarse grained, dry, 0.0-2.0 G no odor -2-LIMESTONE - brown gray, dry, no odor L 25 <0.025 <0.025 <0.025 < 0.025 CALICHE - light brown, dry, no odor G 2.0-4.0 2 G 4.0-6.0 - <u>-</u> SAND - very light brown, fine grained, dry, no odor SP 6.0-8.0 G 2 10 15 20 25 30 McDonald Drilling LEGEND Water level: Drilling Co: ft Water level enc. during drilling T. McDonald Ā Drilled by: ft C. Eick T Water level prior to backfilling Logged by: ft 2/14/96 Drilling started: Date Measured: Compressor Units 2/14/96 Samplers: Notes: No Drilling completed: G Grab Sample Water Encountered Air Rotary Drilling method:  $\boxtimes$ Split Barrel Split Spoon Development method: Shelby Tube Auger

Figure 14

1 of

(mqq)

Page



1

# SOIL BORING NO. SB-15 KN Energy Hobbs Gas Plant

Hobbs, New Mexico

Depth (feet)	Sample ID Interval (ft, bgs)	Sampler	Recovery (f1/f1)	(mqq)	Overburden/Lithologic Description	USCS	Graphic Log	Depth (feet)	(mqq)	Benzene	(mqq)	Toluene (ppm)	Ethyl- benzene (ppm)	Xylene
0	0.0-2.0	G		 ! !-2	FILL - Gravel, gray, coarse grained, dry, no odor LIMESTONE - brown gray, dry, no odor			0			_Su	rf. <u>Elev:</u>	Grade ft	
	2.0-4.0	G		2	CALICHE - light brown, dry, no odor			-	234	<0	.025	<0.025	< 0.025	<0
5	4.0-6.0	G			SAND - very light brown, fine grained,		-0-	5						
	6.0-8.0	G		2		SP		-	1		I			
10								- 10						
								-						
								- 15						
-								-						
								-						
<u>20</u> -								<u>20</u>						
25								25						
								-			1			
- 30														
Drill	ing Co: <u>McD</u>	onalo	l Drillin	1g	LEGEND			Water	r level:					 
Drill	ed by: <u>T. M</u>	<u>cDor</u> ck	nald		↓ Water level enc. durin	g drillin ockfillin	ng o					<u> </u>		1
Drill	ing started:	2/1	4/96			~~~111111	ъ	Date	Measured	: _				1
Drill	ing completed:	2/1	4/96		Samplers:			Notes	: <u>Co</u>	mpro	esso	r Units	No	
Drill	ing method: <u>A</u>	ir R	otary	<u> </u>	Grab Sample			Wa	<u>ter Enc</u>	ount	ere	d		
Deve	lopment method:	_			Split Spoon Spl	lit Barre	el							

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FAX RDG 704 1708 TRACEANALYSIS, INC. 6701 Aberdeen Avenue

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		6701 Aberdeen A	venue Lubbock, Texas 7 <sup>3</sup>	9424 8	06•794•1296	FAX 806•79	4•1298	
February 28	3, 1996		ANALYTICAL RESULTS ECO-LOGICAL ENVIRO	FOR NMENTAL		β, α	rep Date: nalveis Di	02/17/96 te: 02/18/96
Receiving 1	Jate: 02/	16/96	Attention: Carrie	Eick		: v	ampling Da	te: 02/13-14/96
Sample Type Project No:	e: Soil	~	2200 Market Street			S C	ample Conc	lition: Intact &
Project Lot	cation: H	2 obbs Gas Plant	SUICI VI UNIBINI			<u>и</u>	ampie kece roject Nan	etved by: UH Ne: NA
			00000	ana 2 na a	anan tou	ETHYL- Dengeme	M, P, O	TOTAL
TA#	Field	Code	(mg/kg)	(by/bu)	(by/bu)	(by/bu)	(mg/kg)	(mg/kg)
748313	SB-10	(2-4)	6,390	NR	NR	NR	NR	NR
T48314	SB-9	0-10	<10	<0.050	<0.050	<0.050	<0.050	<0.050
T48315	SB-8	0-8	<10	<0.050	<0.050	<0.050	<0.050	<0.050
T48316	SB-7	0-8	<10	<0.050	<0.050	<0.050	<0.050	<0.050
T48317	SB-6	0-2	5,590	<0.050	<0.050	<0.050	0.107	0.107
T48318	SB-6	4-6	27	<0.050	<0.050	<0.050	<0.050	<0.050
T48319	SB-6	12-13	<10	<0.050	<0.050	<0.050	<0.050	<0.050
T48320	Compr€	essor Stack Stain	4,770	<0.050	<0.050	<0.050	<0.050	<0.050
T48321	SB-2	0-4	9,360	<0.050	<0.050	<0.050	0.539	0.539
T48322	SB-2	14-16	<10	<0.050	<0.050	<0.050	<0.050	<0.050
T48323	SB-2	18-20	<10	<0.050	<0.050	<0.050	<0.050	<0.050
T48324	SB-4	0-6	2,520	<0.050	<0.050	<0.050	0.109	0.109
T48325	SB-1	0-2	32,800	<0.050	<0.050	<0.050	0.077	0.077
<b>T48326</b>	SB-1	8-10	31	<0.050	<0.050	<0.050	<0.050	<0.050
<b>T48327</b>	SB-3	0-4	40	<0.050	<0.050	<0.050	<0.050	<0.050
T48328	SB-3	8-10	<10	<0.050	<0.050	<0.050	<0.050	<0.050
Ъс	Qualit	y Control	101	0.097	0.095	0.093	0.309	
Reporting I	,imit		10	0.050	0.050	0.050	0.050	
RPD			0	m	ស	ო	m	
% Extractic	on Accura	сy	100	06	06	88	92	
% Instrumer	it Accura	cy	102	98	96	94	103	
NR = NOT RI	N							
METHODS: E	PA SW 84	6-8020, 5030, 3550	High Level; EPA 418	.1.				

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

BTEX SPIKE: 2.500 mg/kg BTEX.

BTEX QC: 0.100 mg/L BTEX. TRPHC SPIKE: 250 mg/kg TRPHC

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TRPHC QC: 100 mg/L TRPHC.

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

February 19, 1996 Receiving Date: 02/16/96 Sample Type: Soil Project No: 279-512 Project Location: Hobbs Gas Plant Extraction Date: 02/17/96 Analysis Date: 02/18/96 Sampling Date: 02/14/96 Sample Condition: Intact & Cool Sample Received by: DH Project Name: NA

TRPHC TA# FIELD CODE (mg/kg) T48294 386,000 Soil Piles T48295 234 SB-15 0-4 т48296 25 SB-14 0-4 T48297 SB-13 0-4 <10 T48298 5,990 SB-12 0-2 T48299 SB-11 0-4 16 T48300 SB-10 9-11 11 T48301 523 SB-10 4-6 QC 101 Quality Control

REPORTING LIMIT10RPD2% Extraction Accuracy100% Instrument Accuracy102

METHODS: EPA SW 846-3550 HIGH LEVEL; EPA 418.1. TRPHC SPIKE: 250 mg/kg TRPHC. TRPHC QC: 100 mg/L TRPHC.

2.19-96 DATE Director, Dr. Blair Leftwich Dr. Bruce McDonell or. A Laboratory for Advanced Environmental Research and Analysis

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

February 28, 1996 Receiving Date: 02/16/96 Sample Type: Soil Project No: 279-512 Project Location: Hobbs Gas Plant Extraction Date: 02/27/96 Analysis Date: 02/27/96 Sampling Date: 02/14/96 Sample Condition: Intact & Cool Sample Received by: DH Project Name: NA

ETHYLENE GLYCOL

<100

<100

<100

<100

90.4

FIELD	CODE		(mg/kg)	
SB-15	0-4		<100	<u></u>
SB-14	0-4		<100	
SB-13	0-4		<100	
SB-12	0-2	•	<100	

T48299 T48300 T48301 T48313

TA#

T48295

T48296

T48297

т48298

QC

#### REPORTING LIMIT

100

RPD	9
<pre>% Extraction Accuracy</pre>	22
<pre>% Instrument Accuracy</pre>	95

SB-11 0-4

SB-10 4-6

SB-10 2-4

Quality Control

SB-10 9-11

METHODS: EPA 8000. ETHYLENE GLYCOL SPIKE: 50 mg/kg ETHYLENE GLYCOL. ETHYLENE GLYCOL QC: 100 mg/L ETHYLENE GLYCOL.

<u>2/28/9</u>9 DATE Director, Dr. Blair Leftwich irector, Dr. Bruce McDonell

TRACEANALYSIS, INC. WULLUULUL 

6701 Aberdeen Avenue

Lubbock, Texas 79424

FAX 806 • 794 • 1298 806 • 794 • 1296

> ECO-LOGICAL ENVIRONMENTAL ANALYTICAL RESULTS FOR

**Carrie Eick** 2200 Market Street 79703 Midland, TX Attention:

> Project Location: Hobbs Gas Plant Receiving Date: 02/16/96 Project No: 279-512 Sample Type: Soil February 26, 1996

Sample Condition: Intact & Cool 02/19/96 Sampling Date: 02/13-14/96 Analysis Date: 02/22/96 Sample Received by: DH **Extraction Date:** Project Name: NA

> (mg/kg) TOTAL METALS

TA#	Field (	Code	As	Se	Cr	Cd	qa	Åg	Ва	Н	
T48301	SB-10	4-6	<10	<50	6.5	5	<10	4	670	<0.25	
T48313	SB-10	2-4	<10	<50	< 5 <	77 V	<10	4	484	<0.25	
T48321	SB-2	0-4	13	<50	<5<	~~ √	<10	4	428	<0.25	
T48322	SB-2	14-16	<10	<50	S V	<b>?</b> √	<10	<b>1</b>	70	<0.25	
T48323	SB-2	18-20	<10	<50	۸ ۲	ç	<10	<b>1</b>	59	<0.25	
T48324	SB-4	0-6	35	<50	S V	~ √	<10	7	456	<0.25	
T48325	SB-1	0-2	<10	<50	17	\$	<10	4	257	<0.25	
T48326	SB-1	8-10	<10	<50	< 5 <	ç	<10	7	266	<0.25	
T48327	SB-3	0-4	<10	<50	۲ د	~ ∨	<10	₽	457	<0.25	
T48328	SB-3	8-10	12	<50	<2 <	5	<10	7	319	<0.25	
S	Qualit	y Control	23.8	10.0	1.9	6.9	23.4	1.0	1.0	2.5	
Reporti	imil gu	ţt.	10	50	ß	7	10	ы	7	0.25	
RPD			н	o	7	Ч	7	0	o	ω	
<pre>% Extra</pre>	ction A	ccuracy	98	98	95	86	96	96	93	100	
<pre>% Instr</pre>	ument A	ccuracy	95	100	95	92	94	100	100	97	

METHODS: EPA SW 846-3051, 6010, 7471.

TCLP METALS QC: 25.0 mg/L As, Pb; 10.0 mg/L Se; 2.0 mg/L Cr; 7.5 mg/L Cd; 1.0 mg/L Ag, Ba; 2.5 mg/L Hg. TOTAL METALS SPIKE: 800 mg/kg As, Se, Ba; 80 mg/kg Cr; 20 mg/kg Cd, Ag; 200 mg/kg Pb; 2.5 mg/kg Hg.

Blair Leftwich Director, Dr. Bruce McDonell Director, Dr.

Date

			6701 Aberdeen	Avenue Lubt	CEAN.	ALYSI 24 BOL	<b>S, INC</b> 3•794•1296	FAX 8	066-794-125			-
februar Receivi Sample Project Project	ry 26, 19 Ing Date Type: 19 2 No: 20 2 Locatio	996 : 02/16/96 Soil 79-512 on: Hobbs	Gas Plant	ANALYTICA ECO-LOGIC Attention 2200 Mark Midland,	L RESULTS AL ENVIRON : Carrie et Street TX 79703	FOR NMENTAL Eick			2xtractic Analysis Sampling Sample Co Sample Re	n Date: Date: 02 Date: 02 ndition: ceived b	02/19/96 :/22/96 :/14/96 Intact & Cool Y: DH	
r <i>A#</i>	Field (	Code		Аs	TOTAL MET Se	CALS (mg/ Cr	kg) Cd	qd	Ъġ	Ba	БĦ	
T48294	Soil P	iles		<10	<50	16.4	3.8	34.6	4	93	<0.25	
T48295	SB-15	0-4		<10	<50	7.2	~	<10	4	371	<0.25	
T48296	SB-14	0-4		<10	<50	5.7	<b>°</b>	<10	4	684	<0.25	
T48297	SB-13	0-4		<10	<50	7.3	77 V	<10	4	237	<0.25	
T48298	SB-12	0-2		<10	<50	د ۲	7.2	<10	<u>ک</u>	497	<0.25	

<0.25 0.25 2.5 100 97 ω 116 100 356 1.0 ω 2 1.0 1.0 122 100 2 ч 24.4 <10 0 87 98 10 <2 <2 <2 7.4 12 95 99 2 100 <5
<7.7
<5
<5
2.1</pre> 105 н S 10.7 <50 0 95 107 20 <10<25.0 <10 93 100 10 0 Quality Control % Extraction Accuracy % Instrument Accuracy 9-11 Reporting Limit SB-11 SB-10 T48299 T48300 RPD g

<0.25 <0.25

<10 <10

<50 <50

0-2 0-4

400

METHODS: EPA SW 846-3051, 6010, 7471.

25.0 mg/L As, Pb; 10.0 mg/L Se; 2.0 mg/L Cr; 7.5 mg/L Cd; 1.0 mg/L Ag, Ba; 2.5 mg/L Hg. 800 mg/kg As, Se, Ba; 80 mg/kg Cr; 20 mg/kg Cd, Ag; 200 mg/kg Pb; 2.5 mg/kg Hg. TOTAL METALS SPIKE: TCLP METALS QC:

Director, Dr. Blair Leftwich Directof, Dr. Bruce McDonell

S, 2/26 D'ate,

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

#### PAGE 1 of 2

February 26, 1996Prep Date: 02/20/96Receiving Date: 02/16/96Analysis Date: 02/20/96Sample Type: SoilSampling Date: 02/14/96Project No: 279-512Sample Condition: Intact & CoolProject Location: Hobbs Gas PlantSample Received by: DHProject Name:NA

T48294 Reporting 8240 Compounds (ug/kg) Soil Piles Limit Dichlorodifluoromethane ND 25 Chloromethane ND 25 Vinyl chloride ND 25 Bromomethane 125 ND 25 Chloroethane ND 25 Trichlorofluoromethane ND 1,1-Dichloroethene ND 25 Iodomethane ND 125 Carbon disulfide ND 25 Methylene chloride 125 ND 25 trans-1,2-Dichloroethene ND 25 1,1-Dichloroethane ND Vinyl acetate 25 ND 2-Butanone 1,250 ND Chloroform NĎ 25 1,1,1-Trichloroethane ND 25 1,2-Dichloroethane ND 25 Benzene 25 ND Carbon Tetrachloride ND 25 1,2-Dichloropropane 25 ND Trichloroethene ND 25 Bromodichloromethane 25 ND cis-1,3-Dichloropropene 25 ND 4-Methyl-2-pentanone ND 1,250 trans-1,3-Dichloropropene 25 ND Toluene ND 25 1,1,2-Trichloroethane 25 ND 2-Hexanone 1,250 ND

A Laboratory for Advanced Environmental Research and Analysis

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8240 Compounds	<b>T48294</b>	Reporting
(ug/kg)	Soil Piles	Limit
Dibromochloromethane	ND	25
Tetrachloroethene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
m & p-Xylene	ND	25
Bromoform	ND	25
Styren <b>e</b>	ND	25
o-Xylene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
trans 1,4-Dichloro-2-butene	ND	125
cis 1,4-Dichloro-2-butene	ND	125
1,4-Dichlorobenzene	ND	50
1,3-Dichlorobenzene	ND	50
1,2-Dichlorobenzene	ND	50

SURROGATES	& RECOVERY
Dibromofluoromethane	92
Toluene-d8	96
4-Bromofluorobenzene	95

\*ND = Not Detected

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METHODS: EPA SW 846-5030; EPA 8260.

Director, Dr. Blair Leftwich

Director, Dr. Brair Leftwich Director, Dr. Bruce McDonell

2/28/96 Date

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

#### PAGE 1 of 2

February 28, 1996Prep DatReceiving Date: 02/16/96AnalysisSample Type: SoilSamplingProject No: 279-512Sample CProject Location: Hobbs Gas PlantSample R

Prep Date: 02/23/96 Analysis Date: 02/23/96 Sampling Date: 02/14/96 Sample Condition: Intact & Cool Sample Received by: DH Project Name: NA

	<b>T48295</b>	
	SB-15	Reporting
8240 Compounds (ug/kg)	0-4	Limit
Dichlorodifluoromethane	ND	25
Chloromethane	ND	25
Vinyl chloride	ND	25
Bromomethane	ND	125
Chloroethane	ND	25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
Iodomethane	ND	125
Carbon disulfide	ND	25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	ND	25
Bromodichloromethane	ND	25
cis-1,3-Dichloropropene	ND	25
4-Methyl-2-pentanone	ND	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	ND	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250

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	T48295	
8240 Compounds	SB-15	Reporting
(ug/kg)	0-4	Limit
Dibromochloromethane	ND	25
Tetrachloroethene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
m & p-Xylene	ND	25
Bromoform	ND	25
Styrene	ND	- 25
o-Xylene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
trans 1,4-Dichloro-2-butene	ND	125
cis 1,4-Dichloro-2-butene	ND	125
1,4-Dichlorobenzene	ND	50
1,3-Dichlorobenzene	ND	50
1,2-Dichlorobenzene	ND	50

SURROGATES	<b>% RECOVERY</b>
Dibromofluoromethane	79
Toluene-d8	88
4-Bromofluorobenzene	88

\*ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.

Director, Dr. Blair Leftwich

Director, Dr. Bruce McDonell

2/28/96 Date

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

#### PAGE 1 of 2

February 26, 1996 Receiving Date: 02/16/96 Sample Type: Soil Project No: 279-512 Project Location: Hobbs Gas Plant Prep Date: 02/20/96 Analysis Date: 02/20/96 Sampling Date: 02/14/96 Sample Condition: Intact & Cool Sample Received by: DH Project Name: NA

	т48296	
	SB-14 0-4	Reporting
8240 Compounds	(ug/kg)*	Limit
Dichlorodifluoromethane	ND	25
Chloromethane	ND	25
Vinyl chloride	ND	25
Bromomethane	ND	125
Chloroethane	ND	25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
Iodomethane	ND	125
Carbon disulfide	ND	25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	ND	25
Bromodichloromethane	ND	25
cis-1,3-Dichloropropene	ND	25
4-Methyl-2-pentanone	ND	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	ND	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250
LIUM TRACE	Analysis, Inc.	

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	<b>T48296</b>	
	SB-14 0-4	Reporting
8240 Compounds	(ug/kg)*	Limit
Dibromochloromethane	ND	25
Tetrachloroethene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
m & p-Xylene	ND	25
Bromoform	ND	25
Styrene	ND	25
o-Xylene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
trans 1,4-Dichloro-2-butene	ND	125
cis 1,4-Dichloro-2-butene	ND	125
1,4-Dichlorobenzene	ND	50
1,3-Dichlorobenzene	ND	50
1,2-Dichlorobenzene	ND	50

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SURROGATES	* RECOVERY
Dibromofluoromethane	69
Toluene-d8	86
4-Bromofluorobenzene	88

\* Estimated concentration. Surrogate recovery out of limits due to sample matrix effects.

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

2/28/96 Date

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

#### PAGE 1 of 2

February 26, 1996	Prep Date: 02/20/96	
Receiving Date: 02/16/96	Analysis Date: 02/20/96	
Sample Type: Soil	Sampling Date: 02/14/96	
Project No: 279-512	Sample Condition: Intact & Cool	
Project Location: Hobbs Gas Plant	Sample Received by: DH	
	Project Name: NA	

	<b>T48297</b>	Reporting
8240 Compounds (ug/kg)	SB-13 0-4	Limit
Dichlorodifluoromethane	ND	25
Chloromethane	ND	25
Vinyl chloride	ND	25
Bromomethane	ND	125
Chloroethane	ND	25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
Iodomethane	ND	125
Carbon disulfide	ND	25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	ND	25
Bromodichloromethane	ND	25
cis-1,3-Dichloropropene	ND	25
4-Methyl-2-pentanone	ND	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	ND	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250

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8240 Compounds	<b>T48297</b>	Reporting
(ug/kg)	SB-13 0-4	Limit
Dibromochloromethane	ND	25
Tetrachloroethene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
m & p-Xylene	ND	25
Bromoform	ND	25
Styrene	ND	25
o-Xylene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
trans 1,4-Dichloro-2-butene	ND	125
cis 1,4-Dichloro-2-butene	ND	125
1,4-Dichlorobenzene	ND	50
1,3-Dichlorobenzene	ND	50
1,2-Dichlorobenzene	ND	50

SURROGATES	& RECOVERY
Dibromofluoromethane	72
Toluene-d8	82
4-Bromofluorobenzene	84

\*ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell -

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

PAGE 1 of 2

February 26, 1996Prep Date: 02/20/96Receiving Date: 02/16/96Analysis Date: 02/20/96Sample Type: SoilSampling Date: 02/14/96Project No: 279-512Sample Condition: Intact & CoolProject Location: Hobbs Gas PlantSample Received by: DHProject Name:NA

T48298 Reporting 8240 Compounds (ug/kg) Limit SB-12 0-2 25 Dichlorodifluoromethane ND Chloromethane ND 25 Vinyl chloride 25 ND Bromomethane ND 125 Chloroethane 25 ND Trichlorofluoromethane ND 25 25 1,1-Dichloroethene ND 125 Iodomethane ND Carbon disulfide ND 25 Methylene chloride ND 125 trans-1,2~Dichloroethene 25 ND 1,1-Dichloroethane 25 ND Vinyl acetate 25 ND 2-Butanone 1,250 ND Chloroform ND 25 1,1,1-Trichloroethane 25 ND 1,2-Dichloroethane 25 ND Benzene ND 25 Carbon Tetrachloride 25 ND 1,2-Dichloropropane ND 25 Trichloroethene 25 ND Bromodichloromethane ND 25 cis-1,3-Dichloropropene ND 25 4-Methyl-2-pentanone 1,250 ND trans-1,3-Dichloropropene ND 25 Toluene ND 25 1,1,2-Trichloroethane ND 25 2-Hexanone ND 1,250

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8240 Compounds	T48298	Reporting
(ug/kg)	SB-12 0-2	Limit
Dibromochloromethane	ND	25
Tetrachloroethene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
m & p-Xylene	ND	25
Bromoform	ND	25
Styrene	ND	25
o-Xylene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
trans 1,4-Dichloro-2-butene	ND	125
cis 1,4-Dichloro-2-butene	ND	125
1,4-Dichlorobenzene	ND	50
1,3-Dichlorobenzene	ND	50
1,2-Dichlorobenzene	ND	50

SURROGATES	\ RECOVERY
Dibromofluoromethane	79
Toluene-d8	95
4-Bromofluorobenzene	95

\*ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

2/28/96 Date

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

PAGE 1 of 2

February 26, 1996Prep Date: 02/20/96Receiving Date: 02/16/96Analysis Date: 02/20/96Sample Type: SoilSampling Date: 02/14/96Project No: 279-512Sample Condition: Intact & CoolProject Location: Hobbs Gas PlantSample Received by: DHProject Name:NA

T48299 Reporting 8240 Compounds (ug/kg) SB-11 0-4 Limit Dichlorodifluoromethane ND 25 Chloromethane 25 ND Vinyl chloride 25 ND Bromomethane ND 125 Chloroethane ND 25 Trichlorofluoromethane 25 ND 1,1-Dichloroethene ND 25 Iodomethane ND 125 Carbon disulfide ND 25 Methylene chloride ND 125 trans-1,2-Dichloroethene 25 ND 1,1-Dichloroethane ND 25 Vinyl acetate ND 25 2-Butanone ND 1,250 Chloroform 25 ND 1,1,1-Trichloroethane ND 25 1,2-Dichloroethane 25 ND Benzene ND 25 Carbon Tetrachloride ND 25 1,2-Dichloropropane ND 25 Trichloroethene ND 25 Bromodichloromethane ND 25 cis-1,3-Dichloropropene ND 25 4-Methyl-2-pentanone 1,250 ND trans-1,3-Dichloropropene 25 ND Toluene ND 25 1,1,2-Trichloroethane ND 25 2-Hexanone ND 1,250

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8240 Compounds	<b>T48299</b>	Reporting
(ug/kg)	SB-11 0-4	Limit
Dibromochloromethane	ND	25
Tetrachloroethene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
m & p-Xylene	ND	25
Bromoform	ND	25
Styrene	ND	_ 25
o-Xylene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
trans 1,4-Dichloro-2-butene	ND	125
cis 1,4-Dichloro-2-butene	ND	125
1,4-Dichlorobenzene	ND	50
1,3-Dichlorobenzene	ND	50
1,2-Dichlorobenzene	ND	50

SURROGATES	% RECOVERY
Dibromofluoromethane	76
Toluene-d8	95
4-Bromofluorobenzene	97

\*ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

2/28/96 Date

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

#### PAGE 1 of 2

February 26, 1996 Receiving Date: 02/16/96 Sample Type: Soil Project No: 279-512 Project Location: Hobbs Gas Plant Prep Date: 02/20/96 Analysis Date: 02/20/96 Sampling Date: 02/14/96 Sample Condition: Intact & Cool Sample Received by: DH Project Name: NA

	<b>T48300</b>	Reporting
	SB-10 9-11	
8240 Compounds	(ug/kg)*	Limit
Dichlorodifluoromethane	ND	25
Chloromethane	ND	25
Vinyl chloride	ND	25
Bromomethane	ND	<b>125</b>
Chloroethane	ND	25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
Iodomethane	ND	125
Carbon disulfide	ND	25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Carbon Tetrachloride	. ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	ND	25
Bromodichloromethane	ND	25
cis-1,3-Dichloropropene	ND	25
4-Methyl-2-pentanone	ND	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	ND	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250
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	т48300	
	SB-10 9-11	Reporting
8240 Compounds	(ug/kg)*	Limit
Dibromochloromethane	ND	25
Tetrachloroethene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
m & p-Xylene	ND	25
Bromoform	ND	25
Styrene	ND	25
o-Xylene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
trans 1,4-Dichloro-2-butene	ND	125
cis 1,4-Dichloro-2-butene	ND	125
1,4-Dichlorobenzene	ND	50
1,3-Dichlorobenzene	ND	50
1,2-Dichlorobenzene	ND	50

SURROGATES	\$ RECOVERY
Dibromofluoromethane	57
Toluene-d8	71
4-Bromofluorobenzene	72

\* Estimated Concentration. Surrogate recovery out of limits due to sample matrix effects.

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.

2/28/96 Date

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

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

#### PAGE 1 of 2

February 26, 1996 Receiving Date: 02/16/96 Sample Type: Soil Project No: 279-512 Project Location: Hobbs Gas Plant

Prep Date: 02/20/96 Analysis Date: 02/20/96 Sampling Date: 02/14/96 Sample Condition: Intact & Cool Sample Received by: DH Project Name: NA

8240 Compounds (ug/kg)	т48301	Reporting
	SB-10 4-6	Limit
Dichlorodifluoromethane	ND	25
Chloromethane	ND	25
Vinyl chloride	ND	25
Bromomethane	ND	125
Chloroethane	ND	25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
Iodomethane	ND	125
Carbon disulfide	ND	25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	ND	25
Bromodichloromethane	ND	25
cis-1,3-Dichloropropene	ND	25
4-Methyl-2-pentanone	ND	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	ND	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250

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8240 Compounds	T48301	Reporting
(ug/kg)	28-10 4-0	DIMIC
Dibromochloromethane	ND	25
Tetrachloroethene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	ND	25
m & p-Xylene	. ND	25
Bromoform	ND	25
Styrene	ND	25
o-Xylene	ND	25
1,1,2,2-Tetrachloroethane	ND	25
trans 1,4-Dichloro-2-butene	ND	125
cis 1,4-Dichloro-2-butene	ND	125
1,4-Dichlorobenzene	ND	50
1,3-Dichlorobenzene	ND	50
1,2-Dichlorobenzene	ND	50

SURROGATES	<pre>% RECOVERY</pre>
Dibromofluoromethane	84
Toluene-d8	106
4-Bromofluorobenzene	107

\*ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.

Director, Dr. Blair Leftwich

Director, Dr. Bruce McDonell

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2/28/96 Date

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

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redruary 20, 1990	riep bace. 02/20/30
Receiving Date: 02/16/96	Analysis Date: 02/20/96
Sample Type: Soil	Sampling Date: 02/14/96
Project No: 279-512	Sample Condition: Intact & Cool
Project Location: Hobbs Gas Plant	Sample Received by: DH
	Project Name: NA

	<b>T48313</b>	
	SB-10 2-4	Reporting
8240 Compounds	(ug/kg)*	Limit
Dichlorodifluoromethane	ND	25
Chloromethane	ND	25
Vinyl chloride	ND	25
Bromomethane	ND	125
Chloroethane	ND	25
Trichlorofluoromethane	ND	25
1,1-Dichloroethene	ND	25
Iodomethane	ND	125
Carbon disulfide	ND	25
Methylene chloride	ND	125
trans-1,2-Dichloroethene	ND	25
1,1-Dichloroethane	ND	25
Vinyl acetate	ND	25
2-Butanone	ND	1,250
Chloroform	ND	25
1,1,1-Trichloroethane	ND	25
1,2-Dichloroethane	ND	25
Benzene	ND	25
Carbon Tetrachloride	ND	25
1,2-Dichloropropane	ND	25
Trichloroethene	ND	25
Bromodichloromethane	ND	25
cis-1,3-Dichloropropene	ND	25
4-Methyl-2-pentanone	ND	1,250
trans-1,3-Dichloropropene	ND	25
Toluene	53	25
1,1,2-Trichloroethane	ND	25
2-Hexanone	ND	1,250

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### ECO-LOGICAL ENVIRONMENTAL

Project No: 279-512

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Location: Hobbs Gas Plant

	<b>T48313</b>	
	SB-10 2-4	Reporting
8240 Compounds	(ug/kg) *	Limit
Dibromochloromethane	ND	25
Tetrachloroethene	ND	25
Chlorobenzene	ND	25
Ethylbenzene	58	25
m & p-Xylene	298	25
Bromoform	ND	25
Styrene	- ND	25
o-Xylene	117	25
1,1,2,2-Tetrachloroethane	ND	25
trans 1,4-Dichloro-2-butene	ND	125
cis 1,4-Dichloro-2-butene	ND	125
1,4-Dichlorobenzene	ND	50
1,3-Dichlorobenzene	ND	50
1,2-Dichlorobenzene	ND	50
Tentatively Identified Compounds		
methyl-cyclohexane	254	
ethyl-cyclohexane	193	
Nonane	447	
Decane	474	
1,3,5-trimethyl benzene	316	
1,2,3-trimethyl benzene	287	

SURROGATES	¥ RECOVERY
Dibromofluoromethane	55
Toluene-d8	71
4-Bromofluorobenzene	68

\*Estimated Concentration. Surrogate recovery out of limits due to sample matirx effects.

ND = Not Detected

METHODS: EPA SW 846-5030; EPA 8260.

Director, Dr. Blair Leftwich

Director, Dr. Bruce McDonell

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

February 27, 1996 Receiving Date: 02/16/96 Sample Type: Soil Sampling Date: 02/149/96 Sample Condition: I & C Sample Received by: DH Project Name: NA Project Location: Hobbs Gas Plant

Extraction Date: 02/21/96

	Reporting	T48294			Analysis Date: 0	2/25/96
EPA 8270 (mg/kg)	Limit	Soil Piles	QC	RPD	%EA	%IA
N-Nitrosodimethylamine	2.50	ND				
2-Picoline	2.50	ND				
Methyl methanesulfonate	2.50	ND				
Ethyl methanesulfonate	2.50	ND				
Phenol	2.50	ND	107.0	6	77	107
Anlline	12.50	ND				
bis(2-Chloroethyl)ether	12.50	ND				
2-Chlorophenol	12.50	ND		6	83	
1,3-Dichlorobenzene	2.50	ND				
1,4-Dichlorobenzene	2.50	ND	108	5	77	108
Benzyl alcohol	12.50	ND				
1,2-Dichlorobenzene	2.50	ND				
2-Methylphenol	2.50	ND				
bis(2-chloroisopropyI)ether	12.50	ND				
4-Methylphenol/3-Methylphenol	2.50	ND				
Acetophenone	12.50	ND				
n-Nitrosodi-n-propylamine	2.50	ND		4	92	
Hexachloroethane	2.50	ND				
Nitrobenzene	2.50	ND	1			
N-Nitrosopiperidine	12.50	ND				
Isophorone	12.50	ND				
2-Nitrophenol	12.50	ND	101			101
2,4-Dimethylphenol	12.50	ND				
bis(2-Chloroethoxy)methane	2.50	ND				
Benzoic acid	25.00	ND				
2,4-Dichlorophenol	12.50	ND	98	· · ·		98
1,2,4-Trichlorobenzene	2.50	ND		3	91	
a,a-Dimethylphenethylamine	25.00	ND				
Naphthalene	2.50	ND				
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	Reporting	T48294				
EPA 8270 (mg/kg)	Limit	Soil Piles	QC	RPD	%EA	%IA
4-Chloroaniline	12.5	ND				
2,6-Dichlorophenol	12.5	ND				
Hexachlorobutadiene	2.5	ND	91			91
N-Nitroso-di-n-butylamine	12.5	ND				
4-Chloro-3-methylphenol	12.5	ND	103	3	96	103
2-Methylnaphthalene	2.5	ND				
1,2,4,5-Tetrachlorobenzene	2.5	ND	-			
Hexachlorocyclopentadiene	2.5	ND				
2,4,6-Trichlorophenol	12.5	ND	103			103
2,4,5-Tricklorophenol	12.5	ND				
2-Chloronaphthalene	2.5	ND				
1-Chloronaphthalene	2.5	ND				
2-Nitroaniline	12.5	ND				
Dimethylphthalate	2.5	ND				
Acenaphthylene	2.5	ND				
2,6-Dinitrotoluene	2.5	ND				
3-Nitroaniline	12.5	ND				
Acenaphthene	2.5	ND	101	3	87	101
2,4-Dinitrophenol	12.5	ND		·		
Dibenzofuran	12.5	ND				
Pentachlorobenzene	2.5	ND				
4-Nitrophenol	12.5	ND		6	59	
1-Napthylamine	12.5	ND				
2,6-Dinltrotoluene	2.5	ND		4	89	
2-Napthylamine	12.5	ND				
2,3,4,6-Tetrachlorophenol	12.5	ND				
Fluorene	2.5	ND				
Diethylphthalate	2.5	ND				
4-Chlorophenyl-phenylether	2.5	ND				
4-Nitroaniline	12.5	ND				
4,6-Dinitro-2-methylphenol	2.5	ND				
n-Nitrosodiphenylamine & Diphenylamine	2.5	ND	95			95
Diphenylhydrazine	12.5	ND				

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	Reporting	<b>T48294</b>	<b></b>		·	
EPA 8270 (mg/kg)	Limit	Soil Piles	QC	RPD	\$EA	*IA
4-Bromophenyl-phenylether	2.5	ND		l		
Phenacetin	12.5	ND				
Hexachlorobenzene	2.5	ND				
4-Aminobiphenyl	12.5	ND				
Pentachlorophenol	12.5	ND	115	7	37	115
Pentachloronitrobenzene	12.5	ND				
Pronamide	2.5	ND				
Phenanthrene	2.5	ND				
Anthracene	2.5	ND				
Di-n-butylphthalate	2.5	ND				
Fluoranthene	2.5	ND	109			109
Benzidine	25	ND				
Pyrene .	2.5	סא		0	120	
p-Dimethylaminoazobenzene	2.5	ND				
Butylbenzylphthalate	2.5	ND				
Benzo[a]anthracene	2.5	ND				
3,3-Dichlorobenzidine	2.5	ND				
Chrysene	2.5	ND				
bis(2-Ethylhexyl)phthalate	2.5	ND				
Di-n-octlphthalate	2.5	ND				
Benzo[b]fluoranthene	2.5	ND				
7,12-Dimethylbenz (a) anthracene	2.5	ND				
Benzo[k]fluoranthene	2.5	ND				
Benzo[a]pyrene	2.5	ND	98			98
3-Methylcholanthrene	2.5	ND				
Dibenzo(a,j)acridine	2.5	ND				
Indepo(1, 2, 3-od)					····	
Dibenz(a hlanthraces	<.5 2 E	200 200				
Benzola h ilnemilero	2.5					
Printo 18' u' TiberArene	2.5	RD ND	l	1	L	

Page 3 of 4

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#### ECO-LOGICAL ENVIRONMENTAL

Project No: 279-512

Project Location: Hobbs Gas Plant

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	Reporting	T48294				
EPA 8270 (mg/kg)	Limit	Soil Piles	<u>QC</u>	RPD	\$EA	\$IA
a-BHC	0.0025	ND	0.024	10	88	96
ь-внс	0.0025	ND	0.028	4	104	112
g-BHC	0.0025	ND	0.023	4	92	92
d-BHC	0.0025	ND	0.026	4	96	104
Heptachlor	0.0025	ND	0.024	8	100	96
Aldrin	0.0025	ND	0.023	4	92	92
Heptachlor epoxide	0.0025	DM	0.027	8	108	108
Endosulfan-1	0.0025	0.0049	0.025	9	96	100-
Endosulfan-2	0.005	ND	0.057	4	98	114
P, P'-DDE	0.005	ND	0.055	2	100	110
Dieldrin	0.005	ND	0.047	. 7	90	94
Endrin	0.005	0.0065	0.052	9	94	104
P, P'-DDD	0.005	ND	0.057	2	108	114
Endrin Aldehyde	0.005	ND	0.049	2	86	98
Endosulfan Sulfate/P,P'-DDT	0.005	ND	0.055	2	94	110
Endrin Ketone	0.005	ND	0.057	2	94	114
Methoxychlor	0.025	ND	0.274	2	93	110
a-Chlordane	0.0025	0.0031	0.022	5	88	88
g-Chlordane	0.0025	ND	0.024	4	92	96
Toxaphene	0.25	ND	2.12	10	129	106
PCB's	2.5	DIA		2	79	96

TENTATIVELY IDENTIFIED COMPOUNDS AND ESTIMATED CONCENTRATIONS (mg/kg)

Hexacosane	14.8	4-methylnonadecane	23.6
Docosane	16.5	8-methylheptadecane	16.6
2-methyleicosane	16.5	2,6,10,14-tetramethyl-hexadecane	33.9
Heneicosane	20.3		
Octadecane	22.5		
	* RECOVERY	r	
2-Fluorophenol SURR	74		
Phenol-d6 SURR	72		
Nitrobenzene-d5 SURR	72		
2-Fluorobiphenyl SURR	80		
2,4,6-Tribromophenol SURR	76		
Terphenyl-d14 SURR	104		

METHODS: EPA SW 846-8270, 8080, 3510.

Director, Dr. Blair Leftwich

2/29/96 Date

Director, Dr. Bruce McDonell

6701 Aberdeen Avenu	Lubbod	EAN. ck, Texas 794	ALYSI 24 BC	S, INC 6•794•1296	FAX	806 • 794 • 120			
February 28, 1996 Receiving Date: 02/16/96 Sample Type: Water Project No: 279-512 Project Location: Hobbs Gas Plant	ANALYTICAL ECO-LOGICAI Attention: 2200 Market Midland, Ty	RESULTS L ENVIRON Carrie t Street K 79703	FOR IMENTAL Eick			Extractíc Analysis Sampling Sample Cc Sample Re Project h	on Date: Date: 02 Date: 02 ondition: eceived b Mame: NA	02/27/96 /27/96 /14/96 Intact & Cool y: DH	
	E	POTAL MET	'ALS (mg/	<b>(</b> г)		-			
TA# Field Code	As	Se	Cr	Cđ	ЪЪ	Ba	Ag	Нд	
T48293 MW - 1 QC Quality Control	<0.1 24.7	<0.1 10.1	<0.05 7.2	<0.02 2.1	<0.1 23.2	<0.2 0.94	<0.01 0.098	<0.001 0.0051	Į
Reporting Limit	0.1	0.1	0.05	0.02	0.1	0.2	0.01	0.001	
RPD % Extraction Accuracy % Instrument Accuracy	ө 88 93	3 89 101	4 105 96	6 90 105	0 85 93	3 86 94	0 85 98	6 97 102	
METHODS: EPA SW 846-3015, 6010, 7470. Total Metals Spike: 8.0 mg/L As, Se, Ba Total Metals QC: 25.0 mg/L As, Pb; 10.0	, 0.8 mg/L mg/L Se; 7	cr, 0.2 /.5 mg/L	mg/L Cd, Cr; 2.0 n	Ag, 2.0 n ng/L cd; 1	ng/L Pb; 1.0 mg/L	0.05 mg/] Ag, Ba; (	L Hg. 0.005 mg/	.р. Нд.	
Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell				2 2 Date	1 kil				

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	UNLUULUUUUUUUUUUUUU		[RACEA]	VALYSI 9424 80	S, INC.	HUUUUUUUUUUU	4-1298	ULAILMULI	
February 23, Receiving Da Sample Type: Project No: Project Loca	1996 te: 02/16/96 Water 279-512 tion: Hobbs Gas Plant		ANALYTICAL F ECO-LOGICAL Attention: 2200 Market Midland, TX	ESULTS FOR ENVIRONMEN Carrie Eicl Street 79703	CAL C	<u> </u>	cep Date: Jalysis Da umpling Da umple Cond umple Rece coject Nam	02/17/96 te: 02/17/96 te: 02/14/96 ition: Intact ived by: DH e: NA	ƙ Cool
TA#	Field Code	(T/Sm)	TRPHC (mg/L)	BENZENE (mg/L)	(mg/l)	ETHYL- BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)	
T48293 QC	MW - 1 Quality Control	1,466	<0.200 103.000	0.083 0.089	<0.001 0.090	<0.001 0.087	0.008 0.287	0.091	
Reporting Li	mít	ł	0.200	0.001	0.001	0.001	0.001		
RPD % Extraction % Instrument	l Accuracy Accuracy	11	1 96 103	9 0 8 9 2	9 6 90 2	6 8 8 8 8 8 9	7 98 96		
*NoTE: Hold	ling time exceeded.								·
METHODS: EF BTEX SPIKE A TRPHC SPIKE: TRPHC QC: 1	A SW 846-8020, 5030; F ND QC: 0.100 BTEX. 8.5 mg/L TRPHC. .00 mg/L TRPHC.	PA 418.1,	160.1.						

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Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

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2-23-96 Date
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6701 Aberdeen Avenue Lubbock, Texas 79424 806•794•1296 FAX 806•794•1298

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

March 13, 1996 Receiving Date: 02/16/96 Sample Type: Soil Project No: 275-512 Project Location: Hobbs, NM Extraction Date: 03/06/96 Analysis Date: 03/06/96 Sampling Date: 02/13-14/96 Sample Condition: I & C Sample Received by: ML Project Name: Hobbs Gas Plant

1.1

TA#	FIELD CODE	TOTAL As (mg/kg)	TOTAL Cr (mg/kg)	TOTAL Ba (mg/kg)
T48302	SB-1 (2-4)	21.1	6.25	653
т48306	SB-3 (18-20)	<10.0	<5.0	52.4
T48307	SB-3 (22-24)	<10.0	5.2	180
T48308	SB-5 (0-12)	<10.0	<5.0	30.5
<b>ÕC</b>	Quality Control	21.4	1.53	3.2
REPORTING LI	MIT	10.0	5.0	20.0
RPD		3	1	1
% Extraction	Accuracy	88	101	109
% Instrument	: Accuracy	86	76	107

METHODS: EPA SW 846-3051, 6010. TOTAL METALS SPIKE: 800.0 mg/kg As; 80.0 mg/kg Cr; 1,000 mg/kg Ba. TOTAL METALS QC: 25.0 mg/L As; 2.0 mg/L Cr; 3.0 mg/L Ba.

Director, Dr. Blair Leftwich

3-13-96

DATE

Director, Dr. Bruce McDonell

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

March 13, 1996 Receiving Date: 02/16/96 Sample Type: Soil Project No: 275-512 Project Location: Hobbs, NM Extraction Date: 03/06/96 Analysis Date: 03/06/96 Sampling Date: 02/14/96 Sample Condition: I & C Sample Received by: ML Project Name: Hobbs Gas Plant

TA#	FIELD CODE	TOTAL Cd (mg/kg)	TOTAL Ba (mg/kg)
 T48311	SB-12 (2-4)	<2.0	1,060
QC	Quality Control	7.74	3.2

REPORTING LIMIT	2.0	20.0
RPD	5	1
<b>% Extraction Accuracy</b>	92	109
<pre>% Instrument Accuracy</pre>	103	107

METHODS: EPA SW 846-3051, 6010. TOTAL METALS SPIKE: 20.0 mg/kg Cd; 1,000 mg/kg Ba. TOTAL METALS QC: 7.5 mg/L Cd; 3.0 mg/L Ba.

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

3-13-96

DATE

LUULAMAN TRACEANALYSIS, INC. MANALLUULAMAN

FAX 806 • 794 • 1298 \_\_\_\_\_ TRACEANALYSIS, INC. MULLI 806 • 794 • 1296 6701 Aberdeen Avenue

Lubbock, Texas 79424

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

Project Location: Hobbs, NM

Project No: 275-512 Sample Type: Soil

Receiving Date: 02/16/96

March 08, 1996

Sample Condition: Intact & Cool Project Name: Hobbs Gas Plant Sampling Date: 02/13-14/96 Analysis Date: 03/07/96 Sample Received by: ML Prep Date: 03/07/96

					-	ETHYL-	M, P, O	TOTAL
		TRPHC	MTBE	BENZENE	TOLUENE	BENZENE	XYLENE	BTEX
TA#	Field Code	(mg/kg)	(by/bw)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(by/bu)
T48302	SB-1 (2-4)	3,220	<0.050	<0.050	<0.050	<0.050	0.055	0.055
T48306	SB-3 (18-20)	<10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T48307	SB-3 (22-24)	<10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T48309	SB-4 (10-20)	<10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T48308	SB-5 (0-12)	<10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
T48311	SB-12 (2-4)	<10	<0.050	<0.050	<0.050	<0.050	<0.050	<0.050
ő	Quality Control	100	0.101	0.093	060.0	0.087	0.290	
Reporting	Limit	10	0.050	0.050	0.050	0.050	0.050	

RPD	г	4	4	4	4	4
<pre>% Extraction Accuracy</pre>	108	105	98	94	63	98
<pre>% Instrument Accuracy</pre>	100	102	94	06	88	97
METHODS: EPA SW 846-8020, 5030, 355	) HIGH LEVEL;	EPA 418.1.				

MTBE/BTEX SPIKE: 2.500 mg/kg MTBE/BTEX. 0.100 mg/L MTBE/BTEX. TRPHC SPIKE: 250 mg/kg TRPHC. TRPHC QC: 100 mg/L TRPHC. MTBE/BTEX QC:

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

3- 6-96

Date

05:43 ECOLOGICAL ENV min PAGE 01 ML1 Turis . NUM all samples on car SPIRCIAL BANDLING Samples adually ucd on 2-16-16 4.40 HOrO CHAIN-OF-CUSTODY RECORD AND ANALYSIS REQUEST PIOH regardless & hold tru 9424 XB7 X う Tum around # of days (aritelis soon ind (2/15/a6) ۲°, SV Ň <u>8</u> 8 1-4-1  $\succ$ 2 × ANALYSIS REQUEST P3 ×. 0+01 0128 7575 9926 / 9260 **B**CI TCLP Semi Volation Run these TCLP Volution MEL 1554 TCLP MANA Ag As Ba Cd Cr Pb Hg 34 Total Metals Ag As Ba Cd Cr Pb Hg Se ×× × XX × × XX HGT XX REMARKS BTEX, NUME 59 5 5 SAMPLING 6701 Aberdees Averse Labbock, Texas 79424 Tel (806) 794 1396 Fax (806) 794 1298 1 (800) 378 1296 JML 29703 2/12/14 0Ç : || XXXX: 415/520-7737 र्म **3TAO** Plonett 915/520. 75 35 HOBBS CAS PLANT **FRESSERVATIVE** Į Ï Ĭ METHOD NONE 3-5-94 16-11-2 MIDLAND, TX 2200 MARKET SO E. Euch SONH Ï Dete Ü, нсг Serter Re SLUDGE MATROX Carrie Readwed of Laboratory by AIA mologa × 2011 **TraceAnalysis, Inc.** ABTAW Reated by 402 Received by muomA\umulo\ & CONTAINERS Ĭ ļ Į 22-24 02-01 イーク 3 18-20 FIELD CODE とう Z EICH Ä ä Deter EC 0 - LOGICAL 58-12 58-3 58 - 3 Cumping Name & Address 58-1 58.5 SE - 4 が 275-512 71-20Egp JARRIE Tojad Manger HOBBS To part Leader Relevand by return to the second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second second seco 6 08 07 ŝ \_ LAB USE) 205 817 3 V NO S DITL

03/05/1996

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		CRACEANALYSIS, INC					<b>.</b>
	6701 Aberdeen Avenue	Lubbock, Texas 79424 806•794•1296	FAX 806•79	<b>14•</b> 1298			
March 07, 1996 Receiving Date: 03/02/96 Sample Type: Water Project No: 279-512 Project Location: Hobbs,	WN	ANALYTICAL RESULTS FOR ECO-LOGICAL ENVIRONMENTAL Attention: Carrie Eick 2200 Market Street Midland, TX 79703	איס דאיס	rep Date: nalysis Da ampling Da ample Cond ample Rece roject Nam	03/06/96 te: 03/06 te: 02/29/ ition: Int ived by: e: Hobbs	6/96 96 act & Cool McD Gas Plant	
та#	Field Code	BENZENE (mg/L)	(mg/L)	ETHYL- BENZENE (mg/L)	M, P, O XYLENE (mg/L)	TOTAL BTEX (mg/L)	
т49078 QC	MW - 1 Quality Control	100.0>	<0.001 0.095	<0.001 0.093	<0.001 0.311	<0.001	
Reporting Limit		00.0	0.001	0.001	0.001		
RPD & Extraction Accuracy % Instrument Accuracy		Ϋ́ ο̈́ ο̈́	6 4 4 9 6 4 4 9	9 2 3 9 4 4	4 104 104	ч	
METHODS: EPA SW 846-8020 MTBE/BTEX SPIKE AND QC:	0, 5030. 0.100 MTBE/3TEX.						
	AN		1-96				
Director, D	)r. Blair Leftwich	Da	te				

Director, Dr. Bruce McDonell

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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 29, 1996 Receiving Date: 04/23/96 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM Prep Date: 04/25/96 Analysis Date: 04/25/96 Sampling Date: 04/20/96 Sample Condition: Intact & Cool Sample Received by: ML Project Name: Hobbs Gas Plant

FIELD CODE: MW - 1 TA #: T51468

8240 Compounds	Concentration (ug/L)	Reporting Limit
Chloroform	ND	1
Bromodichloromethane	ND	1
Dibromochloromethane	ND	1
Bromoform	ND	1

RECOVERY
109
109
102

ND = Not Detected

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

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

4-29-96

Date

ILLUM TRACEANALYSIS, INC. MINING LING

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 29, 1996 Receiving Date: 04/23/96 Sample Type: Water Proj. Locat.: Hobbs, NM Sampling Date: 04/20/96 Sample Condition: I & C Sample Received by: ML Project No: 279-512 Project Name: Hobbs Gas Plant Extraction Date: 04/23/96 Analysis Date: 04/24/96

PAH	Reporting	<b>T51468</b>				
8270 Compounds (mg/L)	Limit	MW - 1	QC	RPD	*EA	\$1A
Naphthalene	0.001	0.017	108	0	90	108
Acenaphthylene	0.001	ND	102	0	97	102
Acenaphthene	0.001	ND	97	2	91	97
Fluorene	0.001	ND	97	2	95	97
Phenanthrene	0.001	ND	100	0	88	100
Anthracene	0.001	ND	101	0	83	101
Fluoranthene	0.001	ND	105	2	94	105
Pyrene	0.001	ND	86	3	100	86
Benzo[a]anthracene	0.001	ND	109	2	90	109
Chrysene	0.001	ND	109	6	139	109
Benzo[b]fluoranthene	0.001	ND	97	1	109	97
Benzo[k]fluoranthene	0.001	ND	111	6	120	111
Benzo[a]pyrene	0.001	ND	107	5	112	107
Indeno[1,2,3-cd]pyrene	0.001	ND	111	2	127	111
Dibenz[a,h]anthracene	0.001	ND	100	1	153	100
Benzo[g,h,i]perylene	0.001	ND	103	2	118	103

ND = Not Detected

Nitrobenzene-d5 SURR	
2-Fluorobiphenyl SURR	
Terphenyl-d14 SURR	

METHODS: EPA SW 846-8270, 3510.

Director, Dr Blair Leftwich

% RECOVERY 87 91 94

1/19/96 DATE

Director, Dr. Bruce McDonell

RACEA

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

PAGE 1 of 2

May 01, 1996 Receiving Date: 04/23/96 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM Prep Date: 04/25/96 Analysis Date: 04/25/96 Sampling Date: 04/20/96 Sample Condition: Intact & Cool Sample Received by: ML Project Name: Hobbs Gas Plant

FIELD CODE: MW - 1 TA#: T51468

Concentration Reporting (ug/L) Limit 8240 Compounds 1 Dichlorodifluoromethane ND 1 ND Chloromethane 1 ND Vinvl chloride 5 ND Bromomethane Chloroethane ND 1 Trichlorofluoromethane ND 1 ND 1 1,1-Dichloroethene 5 Iodomethane ND 1 Carbon disulfide ND 5 Methylene chloride ND 1 ND trans-1,2-Dichloroethene 1 ND 1,1-Dichloroethane Vinyl acetate ND 1 50 ND 2-Butanone Chloroform ND 1 1,1,1-Trichloroethane ND 1 1 1,2-Dichloroethane ND 253\* 1 Benzene 1 Carbon Tetrachloride ND ND 1 1,2-Dichloropropane 1 Trichloroethene ND Bromodichloromethane ND 1 1 cis-1,3-Dichloropropene ND 4-Methyl-2-pentanone ND 50 1 trans-1,3-Dichloropropene ND Toluene ND 1 1,1,2-Trichloroethane 1 ND 2-Hexanone ND 50

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

FIELD CODE: MW - 1 TA#: T51468

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8240 Compounds	Concentration (ug/L)	Reporting Limit
Dibromochloromethane	ND	1
Tetrachloroethene	ND	1
Chlorobenzene	ND	1
Ethylbenzene	ND	1
m & p-Xylene	35	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

SURROGATES	t RECOVERY
Dibromofluoromethane	109
Toluene-d8	109
4-Bromofluorobenzene	102

\*NOTE: Estimated concentration. Response over standard range.

ND = Not Detected

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

Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

5-1-96

Date

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April 25, 19 Receiving Da Sample Type: Project No: Project Loca	96 te: 04/23/96 Water 279-512 tion: Ноbbв, NM	ANALYTICAL ECO-LOGIC? Attention: 2200 Marke Midland, T	L RESULTS LL ENVIRO Carrie et Street X 79703	FOR NMENTAL Eick	· · ·	بع يو يو يو يو	rep Date: nalygis Da ampling Da ample Cond ample Rece roject Nam	04/23/96 te: 04/23/96 te: 04/20/96 ition: Intact & Cool ived by: ML e: Hobbs Gas Plant
TA#	Field Code	TRPHC (mg/L)	MTBE (mg/L)	BENZENE (mg/L)	TOLUENE (mg/L)	ETHYL- BENZENE (mg/L)	M,P,O XYLENE (mg/L)	TOTAL BTEX (mg/L)
T51468 QC	MW - 1 Quality Control	<0.200 103.500	<0.001 0.096	0.305 0.0102	<0.001 0.103	0.002 0.100	0.032 0.193	0.339
Reporting Li	nit	<0.200	0.001	0.001	0.001	0.001	0.001	
RPD % Extraction % Instrument	Accuracy Accuracy	1 84 104	15 108 96	2 104 102	2 105 103	2 102 100	4 98 97	
METHODS: EP. MTBE/BTEX SP TRPHC SPIKE:	A SW 846-8020, 5030; EPA ( IKE AND QC: 0.100 mg/L M 8.500 mg/L TRPHC.	418.1. TBE/BTEX. TRP	: SC H	100.000 mg/	L TRPHC.	5-90		

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Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

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ULUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUUU	ILL TRAC	EANA , Texas 7942	LYSIS <sup>4 806</sup>	, INC	AMUL VILL	06 • 794 • 1298			· ·
April 29, 1996 Receiving Date: 04/23/96 Sample Type: Water Project No: 279-512 Project Location: Hobbs, NM	ANALYTICAL ECO-LOGICAl Attention: 2200 Marke Midland, T	RESULTS L ENVIRON Carrie t Street X 79703	FOR IMENTAL Eick		Extracti Analygis Sampling Sample C Sample R Project	on Date: Date: 04 Date: 04 ondition: eceived b Name: Hob	04/23/9 /25/96 /20/96 Intact Y: ML bs Gas I	6 & Cool lant	
		<b>FOTAL MET</b>	tals (mg/	Ę.					
TA# Field Code	As	Se	Cđ	Cr	ЪЪ	Ag	Ba	Нд	
T51468 MW - 1 QC Quality Control	<0.1 2.26	<0.1 1.58	<0.02 1.8	<0.05 1.75	<0.1 1.7	<0.01 2.11	<0.2 1.75	<0.001 0.0051	
Reporting Limit	0.1	0.1	0.02	0.05	0.1	0.01	0.2	0.001	
RPD % Extraction Accuracy % Instrument Accuracy	0 107 113	0 77 79	2 78 90	88 88 0	1 109 85	1 85 105	88 88	0 98 102	
METHODS: EPA SW 846-3015, 6010, CHEMISTS: As,Se,Cr,Cd,Pb,Ag,Ba: TOTAL METALS SPIKE: 8.0 mg/L As, TOTAL METALS QC: 2.0 mg/L As, S	7470. RR Hg: 1, Se; 0.2 mg/ e, Cd, Cr, Pb	RC L Cd, Àg ', Àg, Ba	; 0.0050	L Cr; 2.( mg/L Hg.	qd 1∕ɓw (	; 30.0 mg	/L Ba; O	.0050 mg/L H	
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Director, Dr. Blair Leftwich Director, Dr. Bruce McDonell

Date

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ALLULA MAULA	04/23/96 =: 04/25/96 =: 04/20/96 tion: Intact & C red by: ML : Hobbs Gas Pla	(T/ɓw) WnIdos	82.5 0.51	0.4	1 88 99	2 K
	FAX 806•794•1298 Prep Date: ( Analysis Date Sampling Date Sample Condit Sample Receiv Project Name:	CALCIUM (mg/L)	148 1.85	0.01	0 8 F 6	4.29-
	794•1296 AL	MAGNESIUM (mg/L)	23.8 1.57	10.01	1 91 79	
ACEANALYSIS	ubbock, Texas 79424 806 MALYTICAL RESULTS FOR CO-LOGICAL ENVIRONMENT CO-LOGICAL CALCAL CO-LOGICAL CALCAL CO-LOGICAL CALCAL CO-LOGICAL CALCAL CO-LOGICAL CALCAL CO-LOGICAL CALCAL CO-LOGICAL CALCAL CO-LOGICAL CALCAL CALCAL CO-LOGICAL CALCAL CALCAL CO-LOGICAL CALCAL CALCAL CO-LOGICAL CALCAL CALCAL CO-LOGICAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL CALCAL	POTASSIUM (mg/L)	7.1 23.75	0.3	1 118 119	CALCIUM, SODIUM. SSIUM, SODIUM, CALCIUM.
MUNULA MUNT	6701 Aberdeen Avenue 04/23/96 er =512 : Hobbs, NM	Field Code	MW - 1 Quality Control		uracy uracy	0.7. /L POTASSIUM, MAGNESIUM, OTASSIUM; 2.0 mg/L MAGNE OTASSIUM; 2.0 mg/L MAGNE Director, Dr. Bla Director, Dr. Bru
	April 29, 1996 Receiving Date: ( Sample Type: Wat( Project No: 279 Project Location	₩¥T	T51468 QC	Reporting Limit	RPD % Extraction Acc % Instrument Acc	METHODS: EPA 20 CHEMIST: RR SPIKE: 100.0 mg QC: 20.0 mg/L P <sup>i</sup>

DE-794-1298	Prep Date: 04/23/96 Analysis Date: 04/23/96 Sampling Date: 04/20/96 Sample Condition: Intact & Cool Sample Received by: ML Project Name: Hobbs Gas Plant	ALKALINITY SULFATE (mg/L as CaCo3) (mg/L) HCO3 CO3	67 670 0 10.0	2 83 103	1 0 0 <sup>,</sup>	NITY: JT SULFATE. ATE. $\gamma 25-75$ Date
INC MUUIL	t k	FLUORIDE (mg/L)	0.4 0.91	13 85 95	0.1	: MS/BD; ALKALI IDE; 10.0 mg/L 10.0 mg/L SULF
VALYSIS, 9424 806-71	AL RESULTS FOR CAL ENVIRONMEN 1: Carrie Eic tet Street TX 79703	CHLORIDE (mg/L)	25 494	1 100 99	0.5	00 CI-B. MS; FLUORIDE. .0 mg/L FLUOR g/L FLUORIDE;
ACEAN bbock, Texas 7	ANALYTICA ECO-LOGIC Attentior 2200 Mark Midland,	TDS (mg/L)	756 	0	1	340.2; 45 SULFATE: LORIDE; 1 DE; 1.0 m DE; 1.0 m Leftwich
		(NO3-NO2)-N (mg/r)	2.6 1.01	4 111 100	0.01	375.4, 310.1, TDS, CHLORIDE, 4; 500 mg/L CH 00 mg/L CHLORII 00 mg/L CHLORII
6701 Aberde	9, 1996 ng Date: 04/23/96 Type: Water No: 279-512 Location: Hobbs, NM	FIELD CODE	MW - 1 Quality Control	stion Accuracy ment Accuracy	NG LIMIT DV	<pre>EPA 353.3, 160.1,  s: (N03-N02)-N: JW;  1.33 mg/L (N03-N02)-I ) mg/L (N03-N02)-N; 5( </pre>
ALIVILIIL	April 2 Receivi Sample Project Project	та#	т51468 QC	RPD % Extra( % Instri	REPORTI	METHODS CHEMIST SPIKE: QC: 1.(

	REQUEST	SPECIAL HANDLING				sá	sb t	o # t	Tan around Fax ASA Fold blot						2		020	L CE 4-23-16	Heos OH	th	
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