3R - 308

CLOSURE REPORT

06/09/2011

3R308

Williams

Environmental Project Services
188 County Road 4900
Bloomfield, NM 87413

June 9, 2011

Mr. Glen Von Gonten
NM Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: CHAMBERLAIN #1 PIT REMEDIATION AND CLOSURE REPORT

Dear Mr. Von Gonten:

Enclosed please find information on remediation and closure activities associated with the unlined surface impoundment located at the Chamberlain #1 well site. Public Service Company of New Mexico (PNM) previously operated the site and initiated pit closure activities in April 1999. The site operation later became the responsibility of Williams upon purchase of Gas Company of New Mexico (GCNM) from PNM. Upon expiration of PNM's retained environmental liabilities associated with the sale, Williams agreed to complete necessary closure work. As such, the enclosed information reflects activities of both PNM and Williams, with documents prepared by both parties.

Site History

Excavation of petroleum hydrocarbon-impacted soil beneath the unlined surface impoundment was conducted in April 1999 and included removal of 971 cubic yards of soil. Excavation was terminated at a depth of 20 feet due to concern for excavation stability and limitations created by production equipment. Organic vapor levels were found to exceed 1,000 ppm on the floor of the excavation and thus PNM attempted to define the vertical extent of hydrocarbon impact. During this effort, ground water was discovered at approximately 50-55 feet bgs and sampling indicated the presence of BTEX contamination. PNM notified the NMOCD of the ground water impact through correspondence dated October 12, 1999.

Following the discovery of hydrocarbon contaminated ground water, four ground water monitoring wells were installed (MW-1, MW-2, MW-3, MW-4) in the fourth quarter of 1999. During the first sampling of the source area well (MW-2) in 1999, benzene (1,600 ug/l), toluene (7,300 ug/l), and xylene (5,500 ug/l) concentrations all exceeded NMWQCC standards. Early monitoring results showed declining BTEX concentrations each quarter. The two down gradient wells (MW-3 and MW-4) were installed to intercept contamination to the southwest as two soil borings to the southeast of the source area were found to be dry (auger refusal).

Site Hydrogeology

The Chamberlain #1 well site is located in Unit H, Section 14, Township 32N, Range 12W of San Juan County, New Mexico (Figure 1). The site is located on a topographic flat part of outlying dry wash tributaries of Jaquez Arroyo, an ephemeral tributary to the San Juan River. Depth to ground water is approximately 55 feet below ground surface (bgs) flowing generally to the southwest with a hydraulic gradient of 0.010 to 0.014.

Monitoring wells extend to a depth of approximately 60 feet bgs where bedrock was encountered in soil borings. All wells were constructed with 15 foot screened intervals that span the water table. Site lithology was reported as silty and gravelly sands with some clay encountered near the 60 foot depth. The well screened intervals extend approximately 8-feet into the saturated zone, just above bedrock. The water table elevation was observed to fluctuate by just a few inches during early monitoring when all wells were found to have water.

Monitoring Results

Concentrations of benzene, toluene, ethylbenzene and xylene (BTEX) were analyzed in water samples collected from October 1999 through March 2010. The monitoring network consists of four wells identified as MW-1 through MW-4. Only the source area well (MW-2) has been found to have any significant BTEX contamination. MW-1 had trace levels initially but dropped to non-detect during subsequent monitoring. With the exception of one outlier, both MW-3 and MW-4 never demonstrated any BTEX impacts, and along with the soil boring information, indicate very limited aerial extent of ground water. During the last 14 quarterly monitoring events, MW-2 (source area) was found to be dry and no ground water samples were collected. The last measured contaminant levels (October 2007) were at historic lows and were only slightly above WQCC standards. Also, MW-3 and MW-4 were found to be dry during the last three quarters of 2010 and the first quarter of 2011. Existing aquifer conditions limit further monitoring at the site.

With the exception of MW-2, which is dry, remaining monitoring wells have demonstrated four consecutive quarters of BTEX levels below WQCC standards. Williams has prepared a table summarizing the ground water analytical results for the last forty quarters. Copies of laboratory analytical reports are provided for the last four sampling events for each well, when samples were collected. For ease of review, the 2010 Site Summary Report is also included.

Summary

The unlined surface impoundment at the Chamberlain #1 site was addressed consistent with OCD Order 7940-C and with the guidelines pertaining to the remediation of unlined surface impoundments. The work included the removal of hydrocarbon-impacted soil and an evaluation of ground water impacted by the historical operation of the impoundment. A network of ground water monitoring wells was installed and ground water analyses showed that a small BTEX plume existed in the vicinity of the former pit location. Natural attenuation of the BTEX compounds along with extensive source removal resulted in contaminant degradation to concentrations less than WQCC MCLs. The monitoring results show that there have been no exceedances of WQCC standards for BTEX in ground water for a period of four consecutive quarters in up-gradient and down-gradient wells. The source area well has been dry for almost four years.

Based on current site conditions, Williams requests approval for closure of the Chamberlain #1 site. Following receipt of your closure approval, Williams will plug and abandon the monitoring wells in accordance with applicable guidelines. Williams appreciates your time in reviewing this site closure request. If you have any questions or require any additional information, please contact me at 801-232-8985 or Aaron Dailey at 505-632-4708.

Respectfully,

Mark Harvey
Project Coordinator

Attachments

pc: Mr. Brandon Powell, NMOCD, District III
Mr. Bill Liess, BLM, Farmington District Office
Mr. Dan Reutlinger, Williams w/o attachments

Site Summary Report

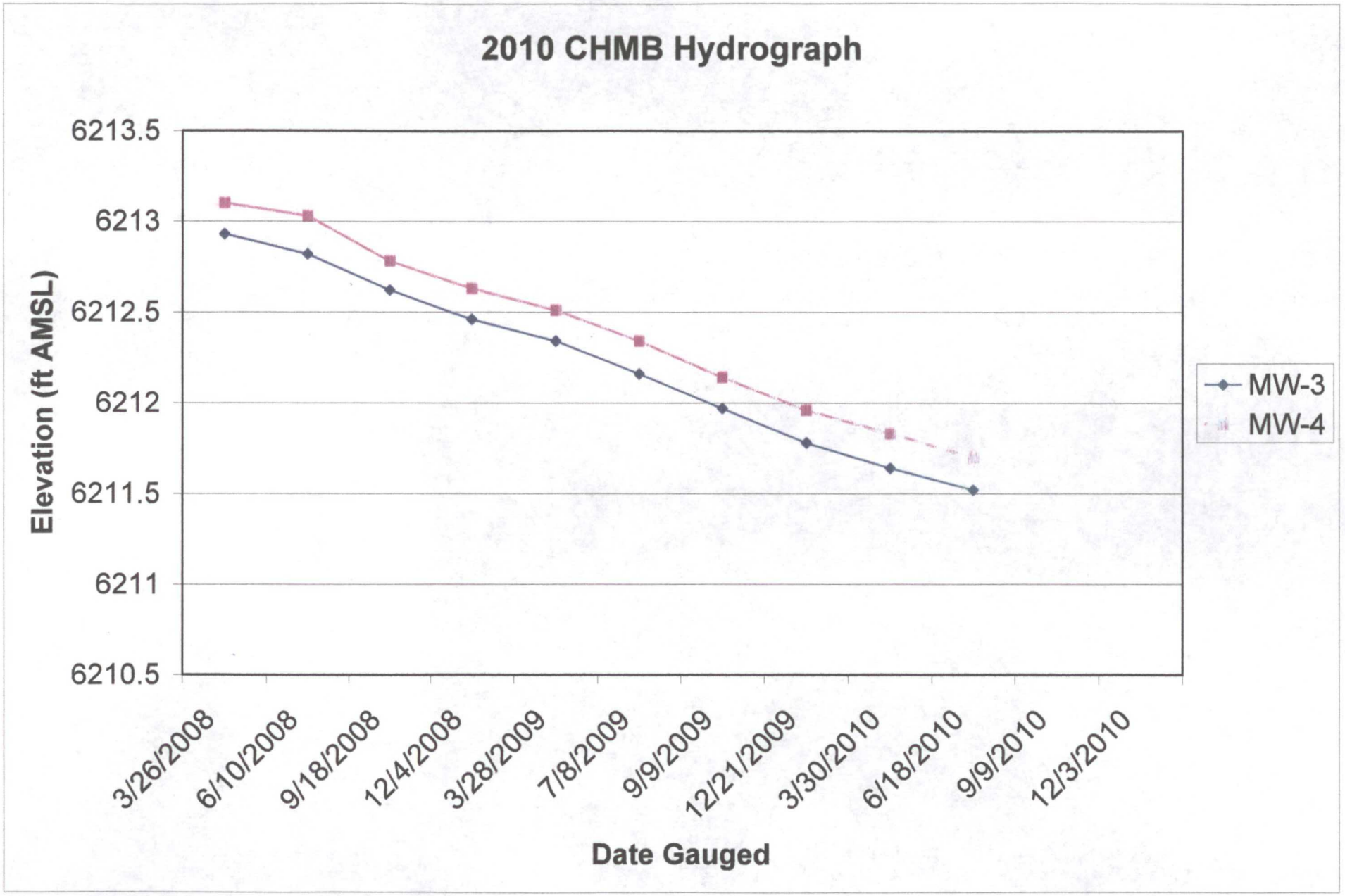
Site Name: Chamberlain 1 **Reporting Period: 2010**

Location: Unit F, Sec 14, Twn 32N, Rng 12W
Canyon: Jaquez Flat
Operator: Burlington

Status Narrative

Forty three quarters of water quality data have been collected from the four monitoring wells located at this site. Water levels throughout the monitoring period were again insufficient to collect samples from MW-2. This well has historically been the only monitoring well (located in the source area) found to have contaminant concentrations in excess of NMWQCC standards. The last sample collected and analyzed revealed only Benzene in excess of WQCC standards. Monitoring well MW-1 was also not sampled as it continues to be found dry at the time of monitoring. Laboratory results are provided in the attached table summarizing sample results for 2010. Copies of individual lab reports are retained in project files to be submitted upon site closure.

Ground water flows to the west-southwest with an average hydraulic gradient of 0.012. No significant seasonal variations in flow direction or gradient have been observed. Figure 2 shows the potentiometric surface for only one quarterly sampling event as water levels could not be measured in more than two wells. The monitoring period hydrograph does not indicate significant seasonal fluctuations in water table elevations. Nevertheless, water table elevations continue to decrease as they have over the past several years.


2010 CHMB Hydrograph
6213.5
6213
6212.5
6212
6211.5
6211
6210.5
Elevation (ft AMSL)
3/26/2008
6/10/2008
9/18/2008
12/4/2008
3/28/2009
7/8/2009
9/9/2009
12/21/2009
3/30/2010
6/18/2010
9/9/2010
12/3/2010
Date Gauged
MW-3
MW-4

LABORATORY RESULTS

Analytical Data Summary

Site Name:
Chamberlain 1

Reporting Period:
1/1/1999 To 3/30/2010

Well ID	Sample Date	Sample ID	Benzene ug/l	Toluene ug/l	Ethylbenzene ug/l	Xylene (Total) ug/l
MW-1						
	10/19/2000	151019OCT00	<1	<1	<1	<1
	1/11/2001	121911JAN01	<1	<1	<1	<1
	4/10/2001	112410APR01	<1	<1	<1	<1
	10/2/2001	123902OCT01	<1.0	<2.0	<2.0	<2.0
	3/12/2002	130012MAR02	ND	ND	ND	ND
	6/14/2002	122114JUN02	ND	ND	ND	ND
	9/10/2002	123310SEP02	ND	ND	ND	ND
	12/10/2002	125410DEC02	ND	ND	ND	ND
	3/20/2003	144220MAR03	ND	ND	ND	ND
	5/21/2003	130421MAY03	ND	ND	ND	ND
	12/6/2003	102606DEC03	ND	ND	ND	ND
	3/9/2004	121709MAR04	ND	ND	ND	ND
	6/24/2004	122524JUN04	ND	ND	ND	ND
	12/1/2004	134401DEC04	ND	ND	ND	ND
	9/13/2005	121313SEP05	ND	ND	ND	ND

Site Name:
Chamberlain 1

Reporting Period:
1/1/1999 To 3/30/2010

Well ID	Sample Date	Sample ID	Benzene ug/l	Toluene ug/l	Ethylbenzene ug/l	Xylene (Total) ug/l
MW-2						
	10/19/2000	154519OCT00	1370	160	62.4	361
	1/11/2001	123211JAN01	355	75.9	17.2	55.6
	4/10/2001	113610APR01	509	28.1	16.1	70.1
	10/2/2001	123002OCT01	370	49	22	45
	3/12/2002	131312MAR02	2100	140	100	370
	6/14/2002	124014JUN02	140	18.	6.7	19.
	9/10/2002	125910SEP02	120	23.	6.6	18.
	12/10/2002	131810DEC02	1800	97.	68.	220
	3/20/2003	152020MAR03	180	34.	8.5	37.
	5/21/2003	131721MAY03	1100	130	82.	300
	9/16/2003	132316SEP03	980	33.	28.	99.
	12/6/2003	095306DEC03	680	46.	30.	110
	3/9/2004	124509MAR04	700	49.	28.	97.
	6/24/2004	130824JUN04	400	32.	13.	46.
	9/21/2004	110421SEP04	75.	18.	2.1	27.
	12/1/2004	142701DEC04	75.	9.4	ND	16.
	3/2/2005	123602MAR05	130	16.	4.2	44.
	6/17/2005	092617JUN05	110	15.	5.6	39.
	9/13/2005	122613SEP05	63.	9.8	3.5	23.
	2/28/2006	120028FEB06	274	60.7	14.7	91.2
	6/22/2006	111022JUN06	38.9	13.2	2.1	21.1
	12/9/2006	141209DEC06	28.7	55.8	3.2	44.9
	3/20/2007	181920MAR07	30.2	68.8	5.6	68.7
	10/6/2007	151706OCT07	6.5	12.0	<1.0	12.4

Site Name:
Chamberlain 1

Reporting Period:
1/1/1999 To 3/30/2010

Well ID	Sample Date	Sample ID	Benzene ug/l	Toluene ug/l	Ethylbenzene ug/l	Xylene (Total) ug/l
MW-3						
	10/19/2000	144519OCT00	<1	<1	<1	<1
	1/11/2001	124411JAN01	<1	1.13	<1	1.38
	4/10/2001	114610APR01	<1	<1	<1	<1
	10/2/2001	124602OCT01	<1.0	<2.0	<2.0	<2.0
	3/12/2002	132212MAR02	ND	ND	ND	ND
	6/14/2002	123414JUN02	ND	ND	ND	ND
	9/10/2002	125210SEP02	ND	ND	ND	ND
	12/10/2002	131010DEC02	ND	ND	ND	ND
	3/20/2003	151120MAR03	ND	ND	ND	ND
	5/21/2003	125721MAY03	ND	ND	ND	ND
	12/6/2003	100506DEC03	ND	ND	ND	ND
	3/9/2004	123709MAR04	5.9	ND	ND	ND
	6/24/2004	125324JUN04	ND	ND	ND	ND
	12/1/2004	141401DEC04	ND	ND	ND	ND
	3/2/2005	122002MAR05	ND	ND	ND	ND
	9/13/2005	115813SEP05	ND	ND	ND	ND
	12/9/2006	135709DEC06	<1.0	<1.0	<1.0	<3.0
	3/20/2007	180320MAR07	<1.0	<1.0	<1.0	<3.0
	10/6/2007	145306OCT07	<1.0	<1.0	<1.0	<3.0
	12/19/2007	092319DEC07	<1.0	<1.0	<1.0	<3.0
	3/26/2008	144426MAR08	<1.0	<1.0	<1.0	<3.0
	6/10/2008	184810JUN08	<1.0	<1.0	<1.0	<3.0
	9/18/2008	180619SEP08	<1.0	<1.0	<1.0	<3.0
	12/4/2008	161604DEC08	<1.0	<1.0	<1.0	<3.0
	3/28/2009	164028MAR09	<1.0	<1.0	<1.0	<3.0
	7/8/2009	130708JUL09	<1.0	<1.0	<1.0	<3.0
	9/9/2009	180209SEP09	<1.0	<1.0	<1.0	<3.0
	12/21/2009	145921DEC09	<1.0	<1.0	<1.0	<3.0
	3/30/2010	112630MAR10	<1.0	<1.0	<1.0	<3.0

Site Name:
Chamberlain 1

Reporting Period:
1/1/1999 To 3/30/2010

Well ID	Sample Date	Sample ID	Benzene ug/l	Toluene ug/l	Ethylbenzene ug/l	Xylene (Total) ug/l
MW-4						
	10/19/2000	140419OCT00	<1	<1	<1	<1
	1/11/2001	125611JAN01	<1	<1	<1	<1
	4/10/2001	115810APR01	<1	<1	<1	<1
	10/2/2001	125002OCT01	<1.0	<2.0	<2.0	<2.0
	3/12/2002	133212MAR02	ND	ND	ND	ND
	6/14/2002	122814JUN02	ND	ND	ND	ND
	9/10/2002	124310SEP02	ND	ND	ND	ND
	12/10/2002	130210DEC02	ND	ND	ND	ND
	3/20/2003	150020MAR03	ND	ND	ND	ND
	5/21/2003	124821MAY03	ND	ND	ND	ND
	12/6/2003	101506DEC03	ND	ND	ND	ND
	3/9/2004	122709MAR04	ND	ND	ND	ND
	6/24/2004	123724JUN04	ND	ND	ND	ND
	12/1/2004	140101DEC04	ND	ND	ND	ND
	3/2/2005	120602MAR05	ND	ND	ND	ND
	9/13/2005	114513SEP05	ND	ND	ND	ND
	10/6/2007	150506OCT07	<1.0	<1.0	<1.0	<3.0
	12/19/2007	093519DEC07	<1.0	<1.0	<1.0	<3.0
	3/26/2008	145426MAR08	<1.0	<1.0	<1.0	<3.0
	6/10/2008	185610JUN08	<1.0	<1.0	<1.0	<3.0
	9/18/2008	181519SEP08	<1.0	<1.0	<1.0	<3.0
	12/4/2008	162504DEC08	<1.0	<1.0	<1.0	<3.0
	3/28/2009	164828MAR09	<1.0	<1.0	<1.0	<3.0
	7/8/2009	125908JUL09	<1.0	<1.0	<1.0	<3.0
	9/9/2009	175309SEP09	<1.0	<1.0	<1.0	<3.0
	12/21/2009	150821DEC09	<1.0	<1.0	<1.0	<3.0
	3/30/2010	113430MAR10	<1.0	<1.0	<1.0	<3.0

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Fax: 913.599.1759

Lab Project Number: 6089771
Client Project ID: CHMB

Lab Sample No: 607729936 Project Sample Number: 6089771-001 Date Collected: 12/01/04 13:44
Client Sample ID: 134401DEC04 Matrix: Water Date Received: 12/09/04 08:50

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC Volatiles									
Aromatic Volatile Organics	Method: EPA 8021								
Benzene	ND	ug/l	2.0	1.0	12/13/04 19:53	ARF	71-43-2		
Ethylbenzene	ND	ug/l	2.0	1.0	12/13/04 19:53	ARF	100-41-4		
Toluene	ND	ug/l	2.0	1.0	12/13/04 19:53	ARF	108-88-3		
Xylene (Total)	ND	ug/l	5.0	1.0	12/13/04 19:53	ARF	1330-20-7		
a,a,a-Trifluorotoluene (S)	98	%		1.0	12/13/04 19:53	ARF	98-08-8		

CHMB #1

Date: 12/15/04

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NM GW Davis & CHMB
Pace Project No.: 6029909

Sample: 151706OCT07 **Lab ID: 6029909008** Collected: 10/06/07 15:17 Received: 10/12/07 08:50 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**6.5**	ug/L	1.0	1		10/16/07 17:07	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		10/16/07 17:07	100-41-4	
Toluene	**12.0**	ug/L	1.0	1		10/16/07 17:07	108-88-3	
Xylene (Total)	**12.4**	ug/L	3.0	1		10/16/07 17:07	1330-20-7	
Dibromofluoromethane (S)	106	%	76-128	1		10/16/07 17:07	1868-53-7	
Toluene-d8 (S)	101	%	83-109	1		10/16/07 17:07	2037-26-5	
4-Bromofluorobenzene (S)	100	%	78-122	1		10/16/07 17:07	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	82-134	1		10/16/07 17:07	17060-07-0	
Preservation pH	**4.0**		1.0	1		10/16/07 17:07		pH

CHMB #2

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ANALYTICAL RESULTS

ct: NMGW FLR 47-X and CHMB
e Project No.: 6025330

mple: 154726JUN07 **Lab ID: 6025330003** Collected: 06/26/07 15:47 Received: 07/06/07 08:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		07/07/07 20:06	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		07/07/07 20:06	100-41-4	
Toluene	ND	ug/L	1.0	1		07/07/07 20:06	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		07/07/07 20:06	1330-20-7	
Dibromofluoromethane (S)	122	%	76-128	1		07/07/07 20:06	1868-53-7	
Toluene-d8 (S)	99	%	83-109	1		07/07/07 20:06	2037-26-5	
4-Bromofluorobenzene (S)	118	%	78-122	1		07/07/07 20:06	460-00-4	
1,2-Dichloroethane-d4 (S)	190	%	82-134	1		07/07/07 20:06	17060-07-0	S3

CHMB #2

REPORT OF LABORATORY ANALYSIS

ACCREDITED IN ACCORDANCE WITH nelac

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ANALYTICAL RESULTS

Project: FLR 47X +CHMG #1
Pace Project No.: 6020670

Sample: 181920MAR07 **Lab ID: 6020670004** Collected: 03/20/07 18:19 Received: 03/30/07 08:35 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**30.2**	ug/L	1.0	1		04/04/07 14:30	71-43-2	
Ethylbenzene	**5.6**	ug/L	1.0	1		04/04/07 14:30	100-41-4	
Toluene	**68.8**	ug/L	1.0	1		04/04/07 14:30	108-88-3	
Xylene (Total)	**68.7**	ug/L	3.0	1		04/04/07 14:30	1330-20-7	
Dibromofluoromethane (S)	98	%	76-128	1		04/04/07 14:30	1868-53-7	
Toluene-d8 (S)	102	%	83-109	1		04/04/07 14:30	2037-26-5	
4-Bromofluorobenzene (S)	107	%	78-122	1		04/04/07 14:30	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	82-134	1		04/04/07 14:30	17060-07-0	
Preservation pH	**1.0**			1		04/04/07 14:30		

CHMB #2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CHMB AND DAVIS
Pace Project No.: 6013482

Sample: 143119SEP06 CHB2 **Lab ID: 6013482001** Collected: 09/19/06 14:31 Received: 09/21/06 08:55 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	**20.9**	ug/L	1.0	1		09/25/06 19:02	71-43-2	
Ethylbenzene	**2.4**	ug/L	1.0	1		09/25/06 19:02	100-41-4	
Toluene	**23.5**	ug/L	1.0	1		09/25/06 19:02	108-88-3	
Xylene (Total)	**22.1**	ug/L	3.0	1		09/25/06 19:02	1330-20-7	
Dibromofluoromethane (S)	104	%	87-116	1		09/25/06 19:02	1868-53-7	
Toluene-d8 (S)	100	%	83-113	1		09/25/06 19:02	2037-26-5	
4-Bromofluorobenzene (S)	101	%	84-117	1		09/25/06 19:02	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	80-126	1		09/25/06 19:02	17060-07-0	
Preservation pH	**1.0**			1		09/25/06 19:02		

CHMB #2

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NW GW DOGE & CHMB & FLR40
Pace Project No.: 6076338

Sample: 112630MAR10 **Lab ID: 6076338008** Collected: 03/30/10 11:26 Received: 04/01/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		04/06/10 04:15	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		04/06/10 04:15	100-41-4	
Toluene	ND	ug/L	1.0	1		04/06/10 04:15	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/06/10 04:15	1330-20-7	
Dibromofluoromethane (S)	99	%	86-112	1		04/06/10 04:15	1868-53-7	
Toluene-d8 (S)	103	%	90-110	1		04/06/10 04:15	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-113	1		04/06/10 04:15	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	82-119	1		04/06/10 04:15	17060-07-0	
Preservation pH	**1.0**		1.0	1		04/06/10 04:15		

CHMB #3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NM GW CHMB & DOGE & FLR 47X
Pace Project No.: 6071540

Sample: 145921 DEC 09 **Lab ID: 6071540010** Collected: 12/21/09 14:59 Received: 12/22/09 09:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		01/01/10 07:22	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		01/01/10 07:22	100-41-4	
Toluene	ND	ug/L	1.0	1		01/01/10 07:22	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		01/01/10 07:22	1330-20-7	
Dibromofluoromethane (S)	98	%	87-113	1		01/01/10 07:22	1868-53-7	
Toluene-d8 (S)	99	%	89-111	1		01/01/10 07:22	2037-26-5	
4-Bromofluorobenzene (S)	95	%	87-115	1		01/01/10 07:22	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	81-121	1		01/01/10 07:22	17060-07-0	
Preservation pH	**1.0**		1.0	1		01/01/10 07:22		

CHMB #3

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Lenexa, KS 66219
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ANALYTICAL RESULTS

Project: NM GROUND WATER ICE & CHMB
Pace Project No.: 6066017

Sample: 180209SEP09 **Lab ID: 6066017010** Collected: 09/09/09 18:02 Received: 09/15/09 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		09/17/09 23:38	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/17/09 23:38	100-41-4	
Toluene	ND	ug/L	1.0	1		09/17/09 23:38	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/17/09 23:38	1330-20-7	
Dibromofluoromethane (S)	101	%	87-113	1		09/17/09 23:38	1868-53-7	
Toluene-d8 (S)	101	%	89-111	1		09/17/09 23:38	2037-26-5	
4-Bromofluorobenzene (S)	101	%	87-115	1		09/17/09 23:38	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	81-121	1		09/17/09 23:38	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/17/09 23:38		

CHMB #3

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NM GW DVS & CHMB & PRTCHD
Pace Project No.: 6062711

Sample: 130708JUL09 **Lab ID: 6062711007** Collected: 07/08/09 13:07 Received: 07/11/09 09:00 Matrix: Water

Comments: • The samples were received outside of required temperature range. Analysis was completed upon client approval.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		07/17/09 19:07	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		07/17/09 19:07	100-41-4	
Toluene	ND	ug/L	1.0	1		07/17/09 19:07	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		07/17/09 19:07	1330-20-7	
Dibromofluoromethane (S)	94	%	87-113	1		07/17/09 19:07	1868-53-7	
Toluene-d8 (S)	94	%	89-111	1		07/17/09 19:07	2037-26-5	
4-Bromofluorobenzene (S)	95	%	87-115	1		07/17/09 19:07	460-00-4	
1,2-Dichloroethane-d4 (S)	95	%	81-121	1		07/17/09 19:07	17060-07-0	
Preservation pH	**1.0**		1.0	1		07/17/09 19:07		

CHMB #3

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ANALYTICAL RESULTS

Project: NW GW DOGE & CHMB & FLR40
Pace Project No.: 6076338

Sample: 113430MAR10 **Lab ID: 6076338009** Collected: 03/30/10 11:34 Received: 04/01/10 09:00 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		04/06/10 04:31	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		04/06/10 04:31	100-41-4	
Toluene	ND	ug/L	1.0	1		04/06/10 04:31	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		04/06/10 04:31	1330-20-7	
Dibromofluoromethane (S)	97	%	86-112	1		04/06/10 04:31	1868-53-7	
Toluene-d8 (S)	101	%	90-110	1		04/06/10 04:31	2037-26-5	
4-Bromofluorobenzene (S)	104	%	87-113	1		04/06/10 04:31	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	82-119	1		04/06/10 04:31	17060-07-0	
Preservation pH	**1.0**		1.0	1		04/06/10 04:31		

CHMB # 4

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: NM GW CHMB & DOGE & FLR 47X
Pace Project No.: 6071540

Sample: 150821 DEC 09 **Lab ID: 6071540011** Collected: 12/21/09 15:08 Received: 12/22/09 09:40 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		01/01/10 07:38	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		01/01/10 07:38	100-41-4	
Toluene	ND	ug/L	1.0	1		01/01/10 07:38	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		01/01/10 07:38	1330-20-7	
Dibromofluoromethane (S)	96	%	87-113	1		01/01/10 07:38	1868-53-7	
Toluene-d8 (S)	98	%	89-111	1		01/01/10 07:38	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-115	1		01/01/10 07:38	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	81-121	1		01/01/10 07:38	17060-07-0	
Preservation pH	**1.0**		1.0	1		01/01/10 07:38		

CHMB #4

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ANALYTICAL RESULTS

Project: NM GROUND WATER ICE & CHMB
Pace Project No.: 6066017

Sample: 175309SEP09 **Lab ID: 6066017009** Collected: 09/09/09 17:53 Received: 09/15/09 08:45 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		09/17/09 23:22	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		09/17/09 23:22	100-41-4	
Toluene	ND	ug/L	1.0	1		09/17/09 23:22	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		09/17/09 23:22	1330-20-7	
Dibromofluoromethane (S)	99	%	87-113	1		09/17/09 23:22	1868-53-7	
Toluene-d8 (S)	100	%	89-111	1		09/17/09 23:22	2037-26-5	
4-Bromofluorobenzene (S)	102	%	87-115	1		09/17/09 23:22	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	81-121	1		09/17/09 23:22	17060-07-0	
Preservation pH	**1.0**		1.0	1		09/17/09 23:22		

CHMB # 4

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ANALYTICAL RESULTS

Project: NM GW DVS & CHMB & PRTCHD
Pace Project No.: 6062711

Sample: 125908JUL09 **Lab ID: 6062711006** Collected: 07/08/09 12:59 Received: 07/11/09 09:00 Matrix: Water

Comments: • The samples were received outside of required temperature range. Analysis was completed upon client approval.

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV UST, Water	Analytical Method: EPA 8260							
Benzene	ND	ug/L	1.0	1		07/17/09 18:53	71-43-2	
Ethylbenzene	ND	ug/L	1.0	1		07/17/09 18:53	100-41-4	
Toluene	ND	ug/L	1.0	1		07/17/09 18:53	108-88-3	
Xylene (Total)	ND	ug/L	3.0	1		07/17/09 18:53	1330-20-7	
Dibromofluoromethane (S)	99	%	87-113	1		07/17/09 18:53	1868-53-7	
Toluene-d8 (S)	102	%	89-111	1		07/17/09 18:53	2037-26-5	
4-Bromofluorobenzene (S)	96	%	87-115	1		07/17/09 18:53	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	81-121	1		07/17/09 18:53	17060-07-0	
Preservation pH	**1.0**		1.0	1		07/17/09 18:53		

CHMB #4

PIT REMEDIATION AND CLOSURE REPORT

District I
P O Box 1980, Hobbs, NM

District II
Drawer DD, Artesia, NM 88221

District III
1000 Rio Brazos Rd, Aztec, NM 87410

State of New Mexico
Energy, Minerals and Natural Resources Department

OIL CONSERVATION DIVISION

2040 South Pacheco Street
Santa Fe, New Mexico 87505

SUBMIT 1 COPY TO APPROPRIATE DISTRICT OFFICE AND 1 COPY TO SANTA FE OFFICE

PIT REMEDIATION AND CLOSURE REPORT

Operator: PNM Gas Services (Burlington) **Telephone:** 324-3764

Address: 603 W. Elm Street Farmington, NM 87401

Facility or Well Name: Chamberlain #1

Location: Unit: F Sec. 14 T. 32 N R. 12 W County San Juan

Pit Type: Separator ___ Dehydrator X Other ___

Land Type: BLM ___ State ___ Fee X Other ___

Pit Location: Pit dimensions: length 20' width 20' depth 3'

(Attach diagram) Reference: wellhead X other ___

Footage from reference: 180'

Direction from reference: 70° Degrees East North ___ of West South X

Depth to Ground Water: (Vertical distance from contaminants to seasonal high water elevation of ground water)	Less than 50 feet 50 feet to 99 feet Greater than 100 feet	(20 points) (10 points) (0 points)	0
Wellhead Protection Area: (Less than 200 feet from a private domestic water source, or; less than 1,000 feet from all other water sources)	Yes No	(20 points) (0 points)	0
Distance to Surface Water: (Horizontal distance to perennial lakes, ponds, rivers, streams, creeks, irrigation canals and ditches)	Less than 200 feet 200 feet to 1,000 feet Greater than 1,000 feet	(20 points) (10 points) (0 points)	0
RANKING SCORE (TOTAL POINTS):			0

Date Remediation Started: 4/20/99 **Date Completed:** 4/21/99

Remediation Method: (Check all appropriate sections)
Excavation X Approx. Cubic Yard 971
Landfarmed X Amount Landfarmed (cubic yds) 900
Other

Remediation Location: (i.e., landfarmed onsite, name and location of offsite facility)
Onsite X Offsite

Backfill Material Location: Push clean landfarm into open pit

General Description of Remedial Action:
Excavated pit 41' x 32' x 20'

Ground Water Encountered: No X Yes ☐ Depth

Final Pit Closure Sampling: (if multiple samples, attach sample result and diagram of ~~sample locations and depths~~)
Sample Location Bottom @ 20' 5pt. Comp.
Walls @ 15'
Sample depth 20'
Sample date 4/21/99 Sample time [redacted]

Sample Results
Benzene (ppm)
Total BTEX (ppm)
Field headspace (ppm) 38.6 ppm
TPH Method

Vertical Extent (ft) Risk Assessment form attached Yes ☐ No ☐

Ground Water Sample: Yes ☐ No X (If yes, attach sample results)

I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY KNOWLEDGE AND MY BELIEF

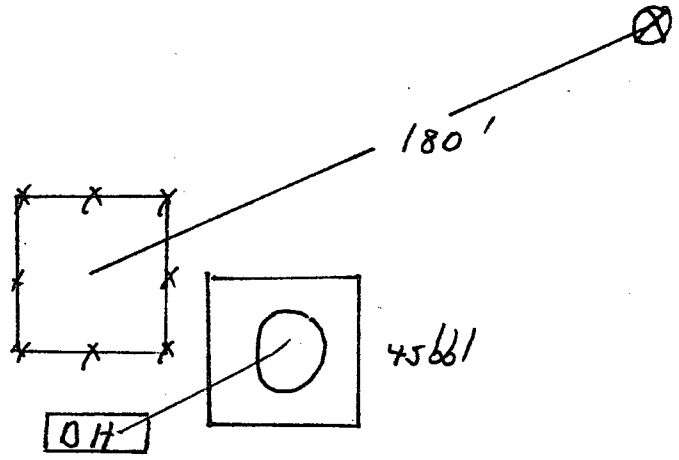
DATE 4/21/99
SIGNATURE [signature]
PRINTED NAME AND TITLE Denver Bearden Administrator III

Chamberlain #1
Burlington
Sec. 14, 32N, 12W, F

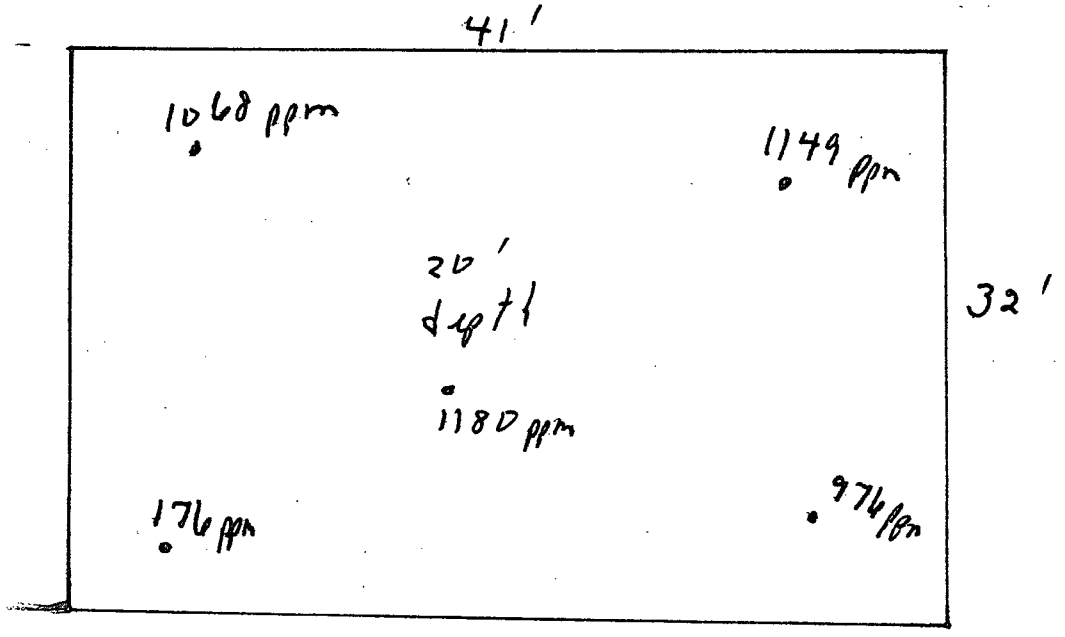
4/20/99

N

Site diagram:



End of excavation:



not to scale

GC

OFF: (505) 325-5667

ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *29-Apr-99*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Chamberlain #1
Work Order:	9904045	**Client Sample ID:**	9904211015; Bottom @ 20ft.
Lab ID:	9904045-01A **Matrix:** SOIL	**Collection Date:**	4/21/99 10:15:00 AM
Project:	Chamberlain #1	**COC Record:**	7571

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015B**				Analyst: **DC**
T/R Hydrocarbons: C10-C28	1400	25		mg/Kg	1	4/28/99
AROMATIC VOLATILES BY GC/PID		**SW8021B**				Analyst: **HR**
Benzene	1900	1000		µg/Kg	1000	4/22/99
Toluene	66000	5000		µg/Kg	2500	4/21/99
Ethylbenzene	19000	2500		µg/Kg	2500	4/21/99
m,p-Xylene	230000	5000		µg/Kg	2500	4/21/99
o-Xylene	46000	2500		µg/Kg	2500	4/21/99

362900
362.9 ppm

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *29-Apr-99*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Chamberlain #1
Work Order:	9904045	**Client Sample ID:**	9904211020; Walls @ 15ft.
Lab ID:	9904045-02A **Matrix:** SOIL	**Collection Date:**	4/21/99 10:20:00 AM
Project:	Chamberlain #1	**COC Record:**	7571

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015B**				Analyst: **DC**
T/R Hydrocarbons: C10-C28	ND	25		mg/Kg	1	4/27/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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ON SITE TECHNOLOGIES, LTD.

LAB: (505) 325-1556

ANALYTICAL REPORT

Date: *14-Jun-99*

Client:	PNM - Public Service Company of NM	**Client Sample Info:**	Chamberlain #1 LF
Work Order:	9906007	**Client Sample ID:**	9906021222; 6pt. Comp
Lab ID:	9906007-02A **Matrix:** SOIL	**Collection Date:**	6/2/99 12:22:00 PM
Project:	PNM Pit Remediation Landfarms	**COC Record:**	7715

Parameter	Result	PQL	Qual	Units	DF	Date Analyzed
DIESEL RANGE ORGANICS		**SW8015B**				Analyst: **DC**
T/R Hydrocarbons: C10-C28	150	25		mg/Kg	1	6/8/99

Qualifiers:

PQL - Practical Quantitation Limit

ND - Not Detected at Practical Quantitation Limit

J - Analyte detected below Practical Quantitation Limit

B - Analyte detected in the associated Method Blank

S - Spike Recovery outside accepted recovery limits

R - RPD outside accepted recovery limits

E - Value above quantitation range

Surr: - Surrogate

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OFF: (505) 325-5667

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-1556

On Site Technologies, LTD.

Date: *29-Apr-99*

CLIENT: PNM - Public Service Company of NM
Project: Chamberlain #1
Lab Order: 9904045

CASE NARRATIVE

Samples were analyzed using the methods outlined in the following references:

Test Methods for Evaluating Solid Waste, Physical/Chemical Methods, SW846, 3rd Edition

All method blanks, laboratory spikes, and/or matrix spikes met quality assurance objectives.

P.O. BOX 2606 • FARMINGTON, NM 87499

Unlined Surface Impoundment Assessment Form

Site Information:

Well Name:	CHAMBERLAIN #1
Operator:	S.R.C.
Legal Description: Sec / Twn / Rng / Unit	14 / 32 / 12 / F
Meter #:	4010-21 PNM ☐Y ☐N
Vulnerable Area	☐ Original ☐ Expanded ☒ Extended ☐ Other
Date: / Time:	12/12/95 11:30 (AM) PM
Well Pad Dimensions:	L 125' W 100'
GCL Data Sheet #:	456 RUN #304
Canyon:	JAQUEZ FLAT
Quad Map (#):	ADOBE DOWNS
Site:	☒ Active ☐ Abandoned ☐ P & A ☐ Temp. Disconnected
Dehydrator/Separator/Drip:	☒ Dehydrator ☒ Drip ☒ Separator ☐ None
Other Discharges	

Pit Information:

PNM Pit #1: ☒ Yes ☐ No

Pit Dimensions:

DH ☒	SEP ☒	DR ☒
L 25	W 25	D 3

Ref: WH ☒ Other

Distance from Ref. 90' 180

Degrees: 70 Wof S

VDW	90
HDW	200
Water Sources	☐ Water Well ☒ Listed Canyon ☐ Stock Pond ☐ Other
OCD Rank: Score	
Depth to Water	0 10
W/H Prot. Area	0 20
Dist to Surf. Water	0 20
Total	0 50

OVM ____ ppm

Testhole Depth STAINED

Soil Desc. CLAY/SAND

☐ Active ☐ SAT ☒ Inactive ☐ Inaccessible

Fenced ☒ Yes ☐ No

Birdcones ☒ Yes ☐ No

Netting ☐ Yes ☒ No

Other Pits:

Pit #	Fence	Net	OVM	Inacc.	Tank
2	Y	N	—		OPEN TANK-RM
3	Y	N	—		TANK
4	Y	N	—		TANK

Lab Sample: ☐ Yes ☒ No Sample #(s): ____ COC#: ____

Geographical:

Geology: ☐ SS ☒ Clay ☒ Sand ☐ Outcrop ☐ Rock ☐ Gravel ☐ Cliffs ☒ Silt ☐ Other

Terrain: ☐ Mesa Top ☐ Trailing Slope ☒ River Bottom ☐ Other

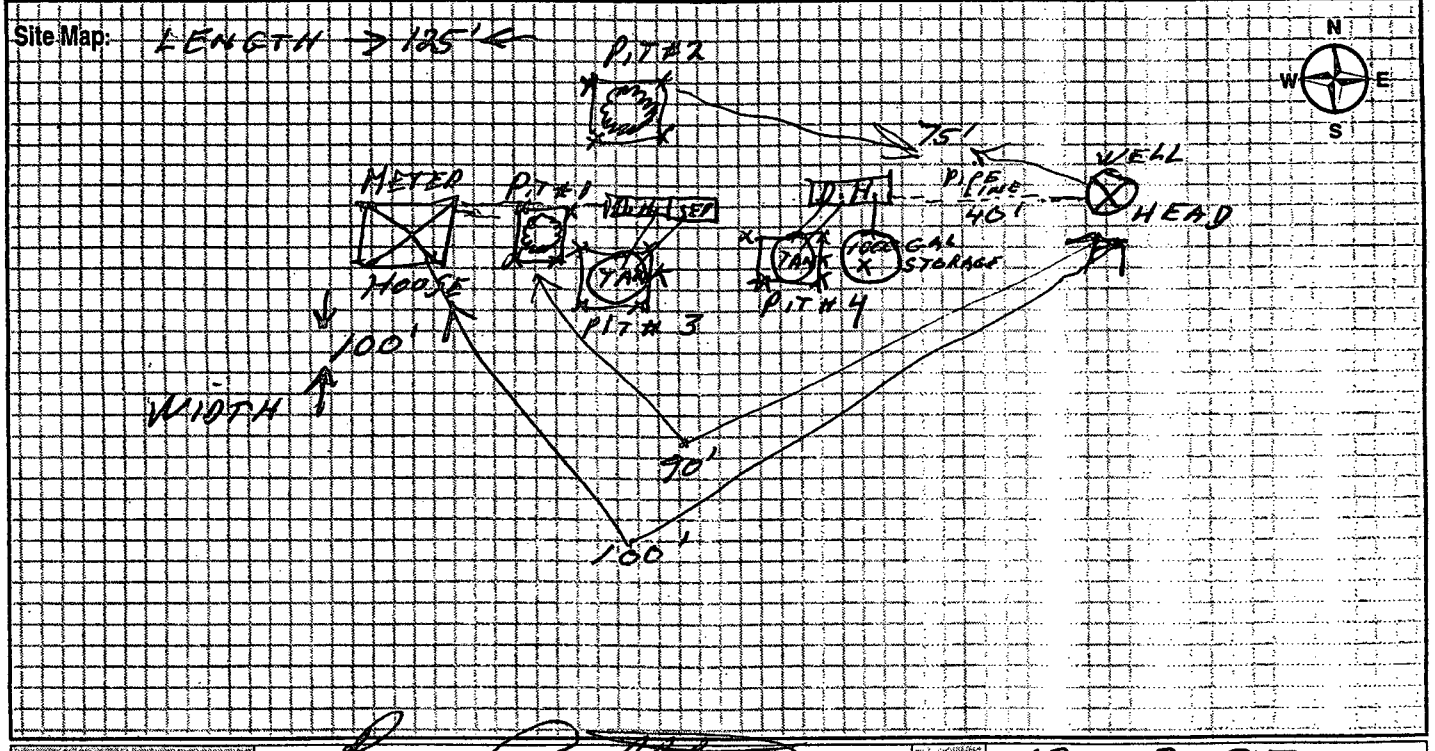
Land Use: ☒ Grazing ☐ Residential ☐ Recreation ☐ Other

Land Type: ☐ BLM ☐ State ☒ Fee ☐ Other

Vegetation: Well Pad ☐ Normal ☒ Stressed ☒ None; Area ☒ ☐ ☐

General Comments: BOTH OPEN PITS (#1+2) ARE INACTIVE - EQUIP. IN FAIR CONDITION

Site Map:



Assessor's Signature: Ron Cauthen Date: 12-12-95