AP - 105

2012 AGWMR WT-1 Station Dehy Area

03 / 29 / 2013

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March 29, 2013

Mr. Glenn von Gonten
Environmental Bureau
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, New Mexico 87505

RE: Report of 2012 Groundwater Remediation Activities
WT-1 Station Dehy Area
Transwestern Pipeline Company, LLC
Lea County, New Mexico
Case #AP-105 (formerly GW-109)

Dear Glenn,

The enclosed Report of 2012 Groundwater Remediation Activities is submitted for your review and files.

If you have any questions or comments regarding this report, please contact me at (281) 797-3421 or Larry Campbell at (575) 625-8022.

Sincerely,

George Robinson

George C. Robinson, PE
President/Principal Engineer

xc w/attachment:

Richard Spell	Transwestern Pipeline Company
Larry Campbell	Transwestern Pipeline Company
Geoffrey R Leking	NMOCD Hobbs District Office

Report of 2012 Groundwater Remediation Activities

Transwestern Pipeline Company
WT-1 Compressor Station Dehy Area
Lea County, New Mexico

CASE # AP-105

Submitted to:
New Mexico Oil Conservation Division

March 25, 2013

Prepared For:
Transwestern Pipeline Company, LLC
6381 North Main Street
Roswell, NM 88201

Prepared by:
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7171 Highway 6 North, Suite 102
Houston, Texas 77095-2422

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1. Introduction

The last report of groundwater remediation activities covered activities completed through December 2011. This report presents a summary of monitoring and remediation activities completed between January 2012 and December 2012.

2. Groundwater Monitoring Activities

2.1 Groundwater Sampling Events

One annual groundwater sampling event was completed during 2012. This event was completed on June 26, 2012.

Prior to sampling, the depth to water, and the depth to hydrocarbon where phase-separated hydrocarbons (PSH) were present, was determined for each monitoring well. The measured depth to water and the corresponding water table elevation for each monitoring well are presented in Table 1. Similar measurements obtained from the SVE wells are presented in Table 2.

Groundwater samples were collected from selected monitoring wells in accordance with the sampling analysis plan. Samples were not collected from wells with accumulated PSH in the well casing. Groundwater samples were delivered to a laboratory for analysis for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA Method 8021B. A summary of the laboratory results and field-measured groundwater quality parameters (pH, temperature, electrical conductivity, and dissolved oxygen) are presented in Table 3. A copy of the laboratory results for this sampling event is included in Appendix B.

2.2 Results/Conclusions from Groundwater Sampling Events

2.2.1 Occurrence and Direction of Groundwater Flow

A water table elevation map based on measurements obtained in the course of the June 26, 2012 sampling event is included as Figure 3. The apparent direction of groundwater flow is toward the north and is consistent with water table elevation maps previously developed for this site.

A hydrograph for site monitoring wells is presented in Figure 6. The hydrograph shows a history of water table elevation change since depth to water measurements were first recorded at the site in 1994. The increase in water table elevation beginning in April 2005 is due to a water leak in the facility's fresh water distribution system that was discovered and repaired in early 2008.

2.2.2 Lateral Extent of Phase Separated Hydrocarbon

The lateral extent of PSH is presently defined by the periodic occurrence of PSH at the water table in monitor well MW-10 and wells SVE-5, SVE-11, SVE-12, and SVE-14. The volume and lateral extent of PSH in the area appears to be relatively limited. The thickness of accumulated PSH in wells is presented in Tables 1 and 2. The lateral distribution of PSH measured in wells in the course of the June 2012 sampling event is presented in Figure 4. Also indicated in Figure 4 is the estimated maximum extent of PSH measured in wells at the site. The current lateral extent of

PSH covers a considerably smaller area than the estimated maximum extent indicating that the SVE system has effectively reduced the impacted area.

The accumulation of PSH versus time is presented graphically for wells MW-10, SVE-5, SVE-11, and SVE-12 in Figures 7 through 10, respectively. A similar plot for well SVE-14 is not presented simply because accumulated PSH in this well has never been more than 0.01 feet.

The measured accumulation of PSH in wells has been considerably reduced since December 2008. During 2009 and 2010, a program was implemented to remove accumulated PSH from wells in an effort to evaluate the re-accumulation rate. This effort was successful in demonstrating that PSH would not re-accumulate in previously measured quantities. In June 2012, measurable accumulations of PSH were recorded as 0.05 in well MW-10, 0.06 feet in well SVE-5, 0.58 feet in well SVE-11, and 0.15 feet in well SVE-12. PSH was removed from these wells using an absorbent during the June event. The wells were subsequently gauged on August 31, 2012 and on October 12, 2012 and no re-accumulation of PSH was measured in any of these four wells. This program continues to support the conclusion that there is no mobile PSH near the water table in the affected area. A summary of depth measurements and product removal activities for the PSH removal efforts and subsequent monitoring is presented in Table 7.

2.2.3 Condition of Affected Groundwater

The primary constituent of concern in affected groundwater is benzene. The lateral distribution of benzene in groundwater is presented in Figure 5. The condition of affected groundwater has not changed significantly from previous sampling events as evidenced by the history of sample results presented in Table 3. The three monitor wells located downgradient of the release area (wells MW-11, MW-12, and MW-13) continue to yield groundwater samples that are non-detect for BTEX constituents. Monitor well MW-9, located about 200 feet upgradient of the release area, also yielded samples that are non-detect for BTEX constituents.

The sampling analysis plan for the site identifies three wells within the affected area to be sampled during the annual groundwater sampling event: wells MW-10, SVE-13, and SVE-14. A groundwater sample was not collected from well MW-10 during the June 2012 sampling event due to the presence of PSH in the well casing. A sample was collected from well SVE-14, although a sheen was observed in the purge water generated during sampling activities. Concentration history plots for wells SVE-13 and SVE-14 are presented in Figures 11 and 12, respectively.

In an effort to better define the lateral extent of affected groundwater, samples were collected from five additional SVE wells during the June 2012 sampling event. Two of the wells, SVE-8 and SVE-9, are located upgradient of the release area and sample results for these wells were non-detect for benzene. One of the wells, SVE-6, is located side-gradient (east) of the release area and sample results for this well was also non-detect for benzene. Well SVE-10 is located about 20 feet west of monitor well MW-10 which routinely contains a measurable accumulation of PSH; sample results for this well indicated a benzene concentration of 1200 ppb. Well SVE-2 is located about 75 feet downgradient of the release area and sample results for this well indicated a benzene concentration of 540 ppb. In light of these sample results, wells SVE-2 and SVE-10 have been added to the routine annual groundwater sampling analysis plan.

3. Status of Remediation Activities

3.1 Remediation Activities Completed through December 2012

The following remediation activities were completed since the last report of remediation activities:

1) Operation of the SVE system is limited to the warmer weather months. Condensed water collecting in the SVE conveyance lines during cold weather made the system ineffective. Thus, the SVE system was operated from July 3, 2012 through October 12, 2012.
2) Four vapor samples were collected from the SVE system during 2012. A summary of laboratory results for the SVE system is presented in Table 4. A concentration history plot for SVE vapor samples is included as Figure 13. It is apparent from the concentration history plot that the concentration of Volatile Organic Compounds (VOCs) has declined significantly since the remediation system was first placed in-service in June 1996. Laboratory results for SVE system samples also indicate that during 2012, the system was removing VOCs from the subsurface at an estimated rate of about 58 gallons equivalent per month. A copy of the laboratory reports for SVE system samples is included in Appendix A.

3.2 Remediation Activities Planned for January 2013 through December 2013

The SVE system is scheduled to operate from May 2013 through October 2013.

4. Proposed Modifications

4.1 Modifications to the Routine Groundwater Sampling Plan

Wells SVE-2 and SVE-10 have been added to the routine annual groundwater Sampling Analysis Plan (SAP). Annual sampling will continue in accordance with the SAP presented in Table 6.

4.2 Modifications to the Remediation System

Currently there are no modifications to the remediation system scheduled for 2013; however, site remediation efforts will continue to be evaluated in an effort to further define future remediation activities.

4.3 Reporting Frequency

Annual reporting of remediation activities will continue with the next scheduled report submitted to the OCD by April 1, 2014.

FIGURES

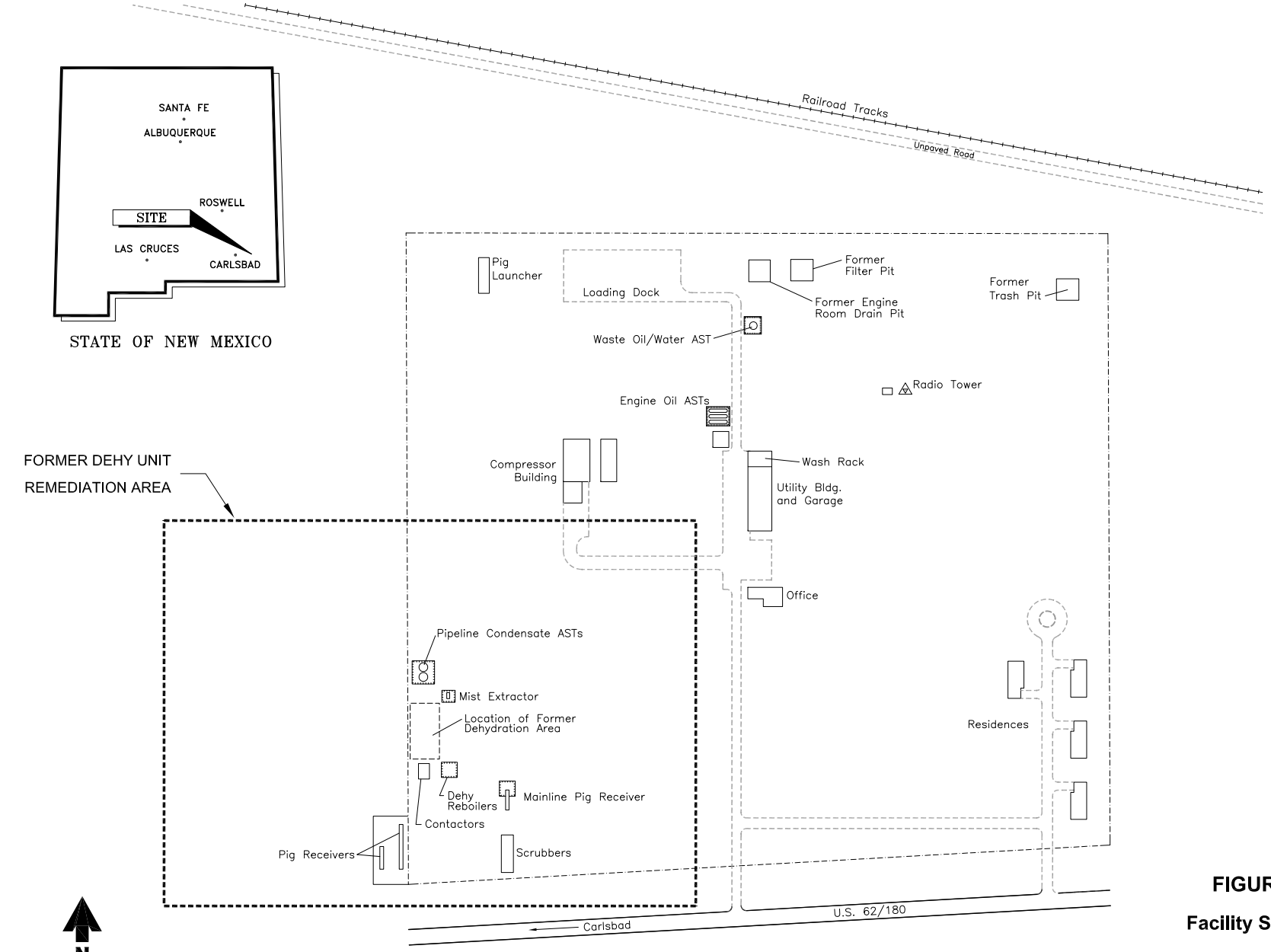

FIGURE 1

Facility Site Map

WT-1 COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY

O:/tw/wt-1 dehy/drawings/wt-1 dehy site diagram.dwg (12/14/11)

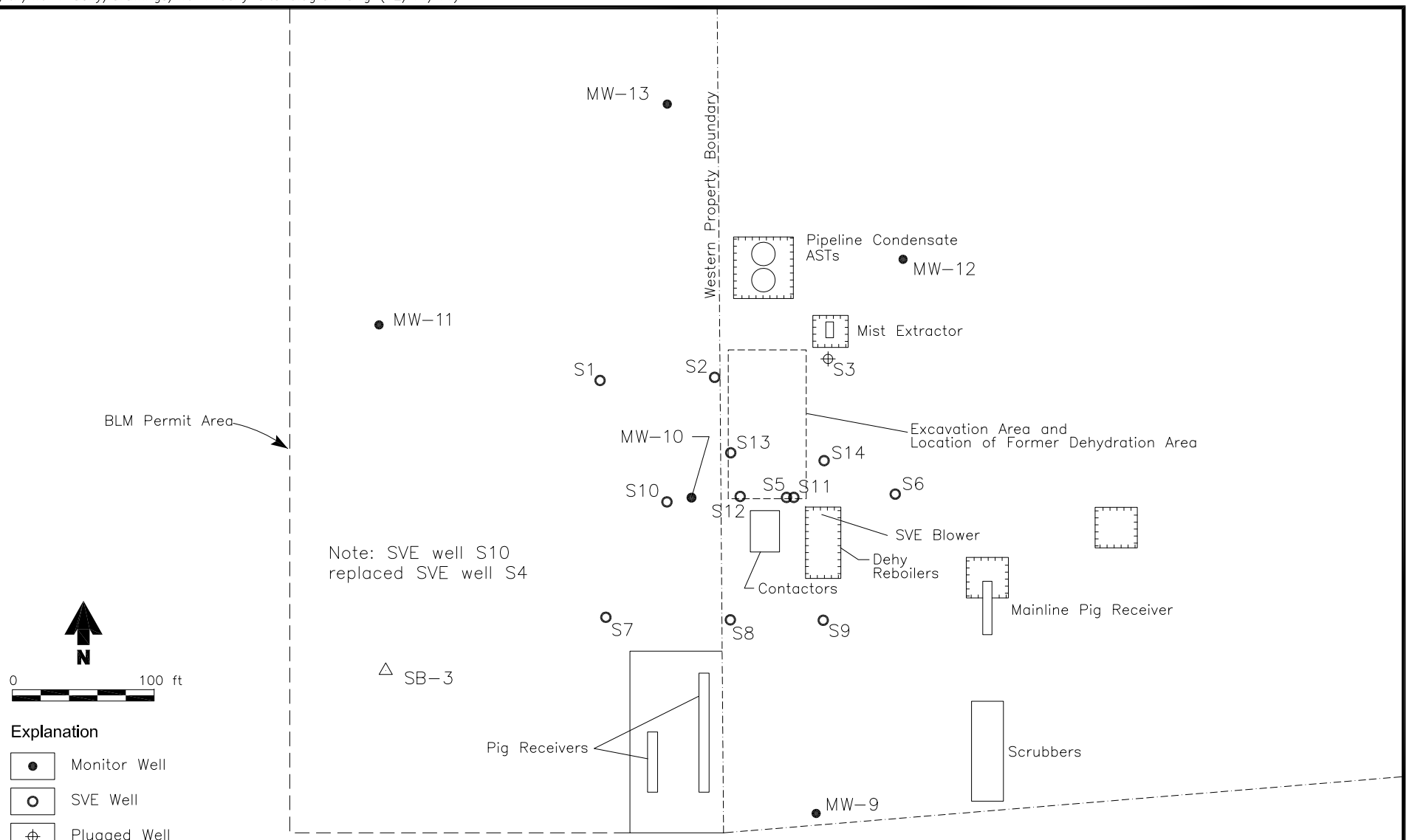

FIGURE 2

Site Diagram

WT-1 COMPRESSOR STATION
Dehydration Area

CYPRESS ENGINEERING SERVICES, INC.

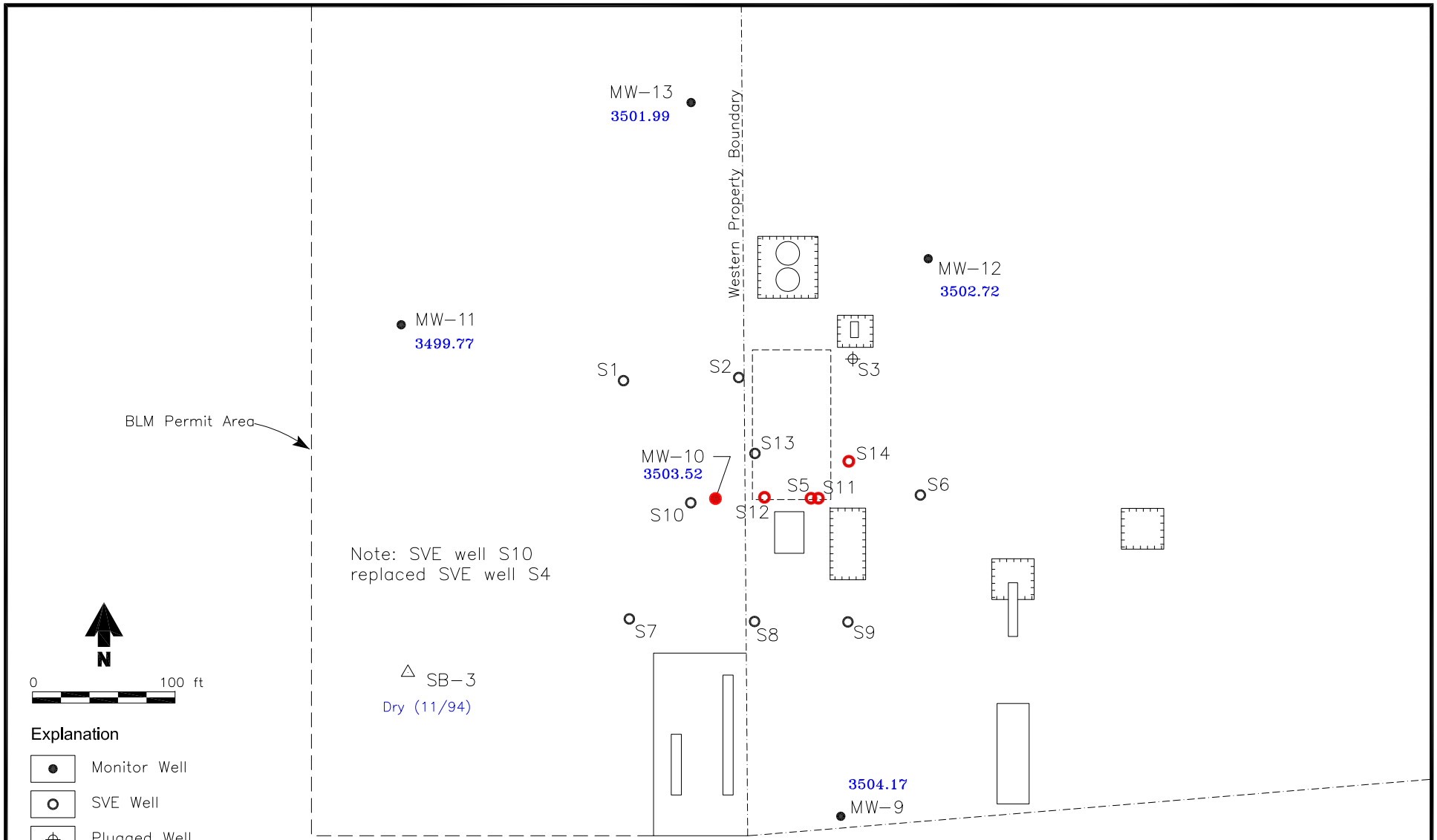

FIGURE 3

Groundwater Elevations

June 26, 2012

WT–1 COMPRESSOR STATION
Dehydration Area

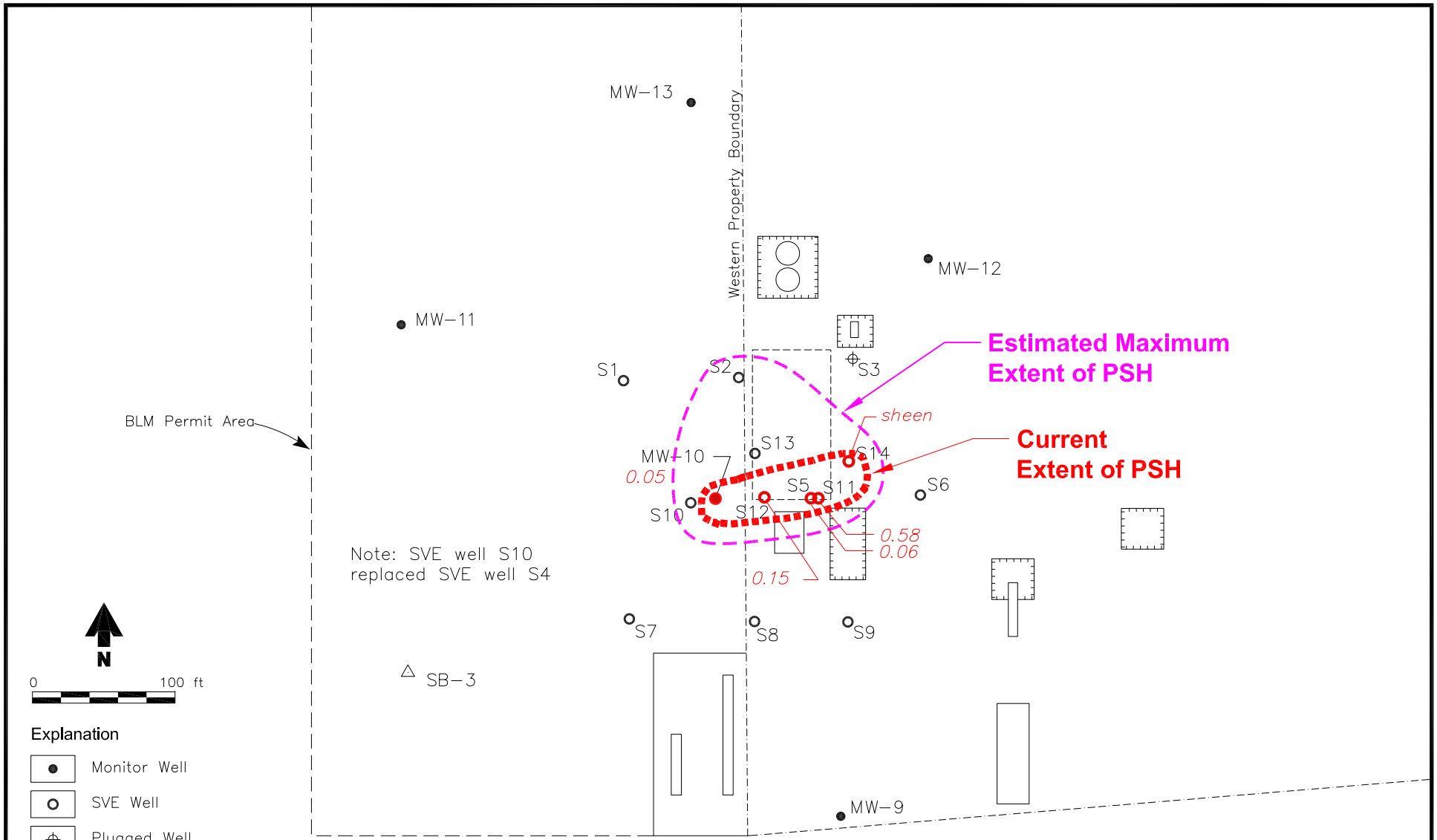

FIGURE 4

Distribution of PSH

June 26, 2012

WT–1 COMPRESSOR STATION
Dehydration Area

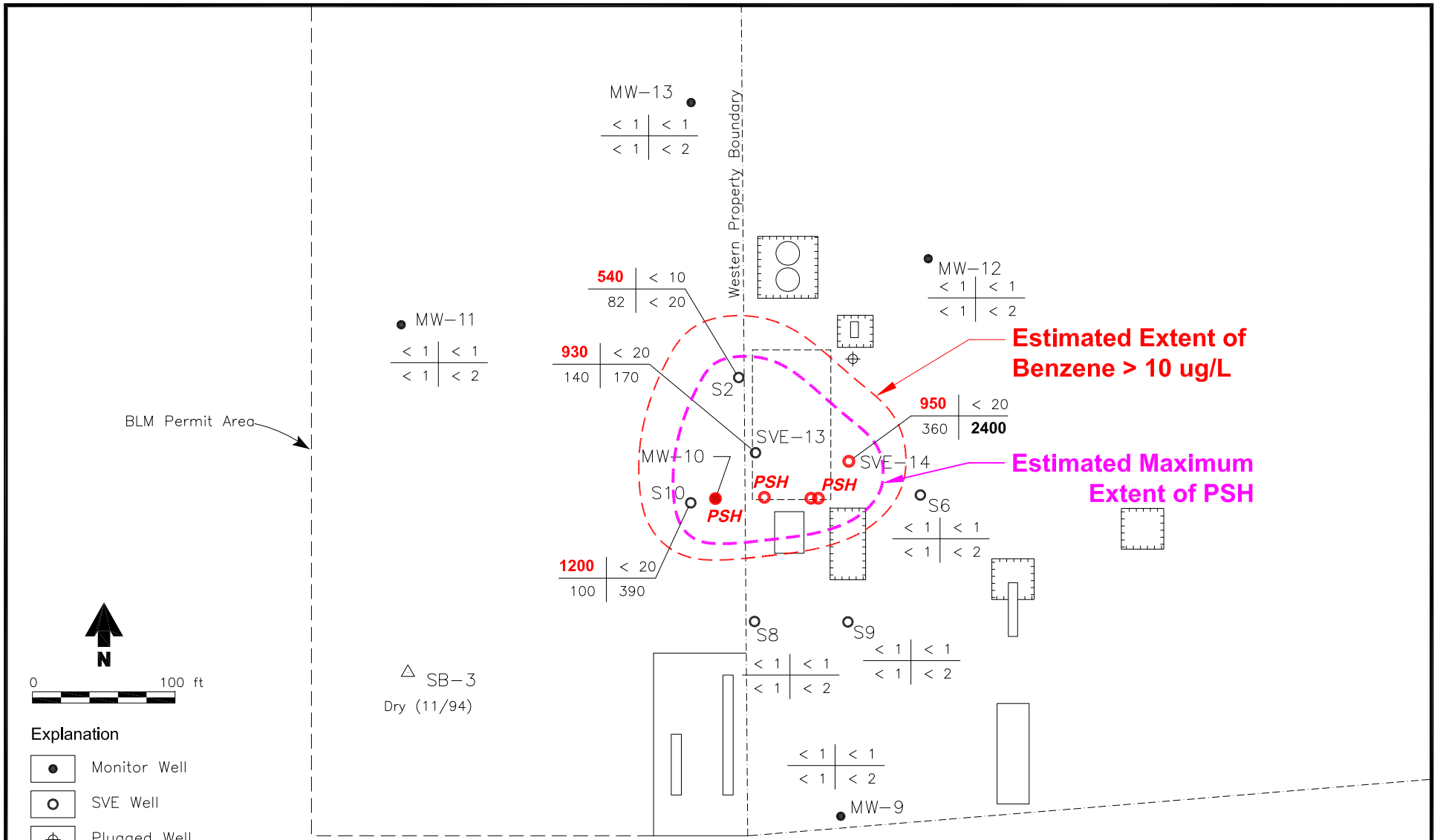

FIGURE 5

Distribution of BTEX

June 26, 2012

WT-1 COMPRESSOR STATION
Dehydration Area

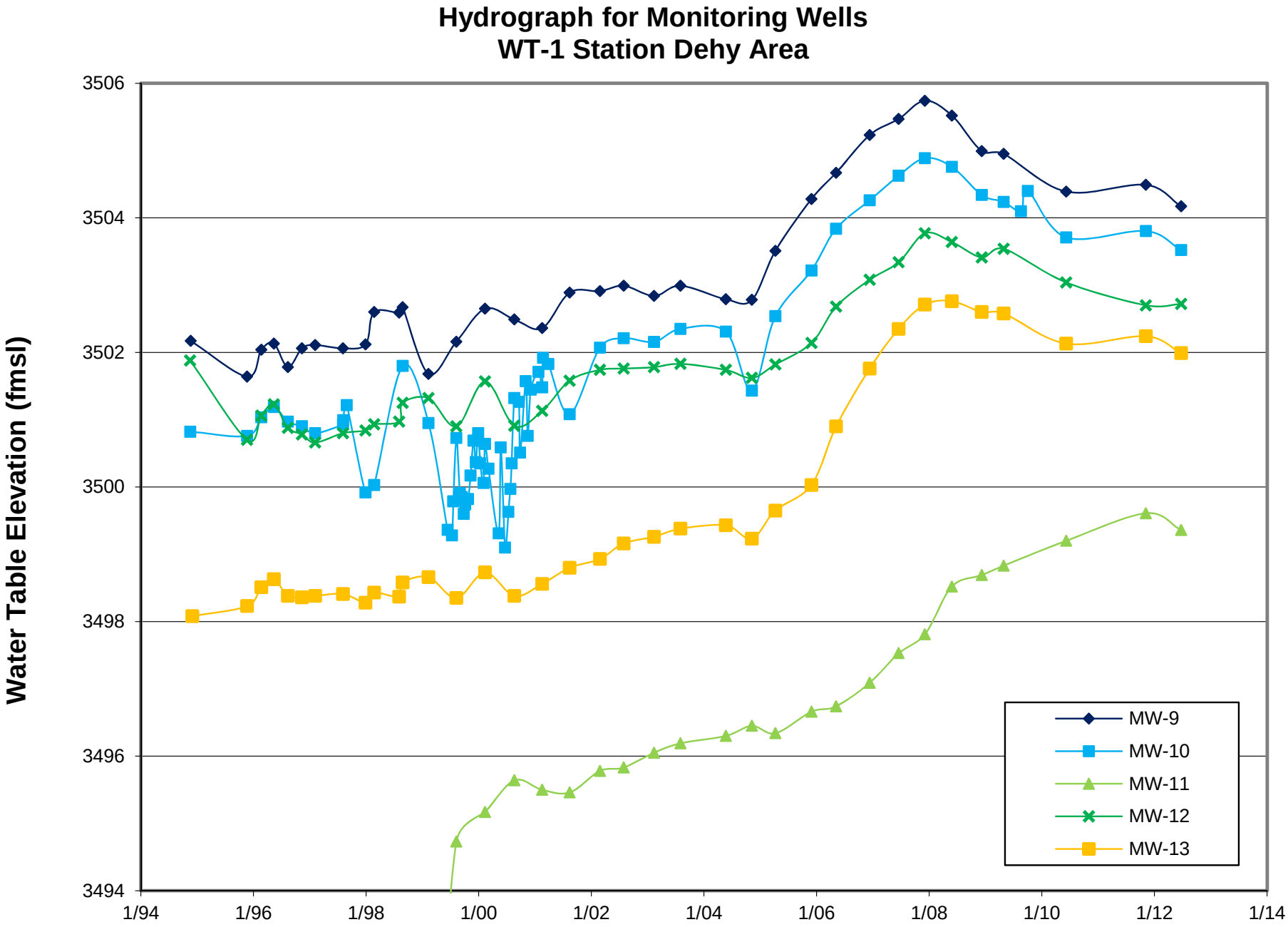
Hydrograph for Monitoring Wells
WT-1 Station Dehy Area
Water Table Elevation (fmsl)
3506
3504
3502
3500
3498
3496
3494
1/94
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12
1/14
MW-9
MW-10
MW-11
MW-12
MW-13

Figure 6

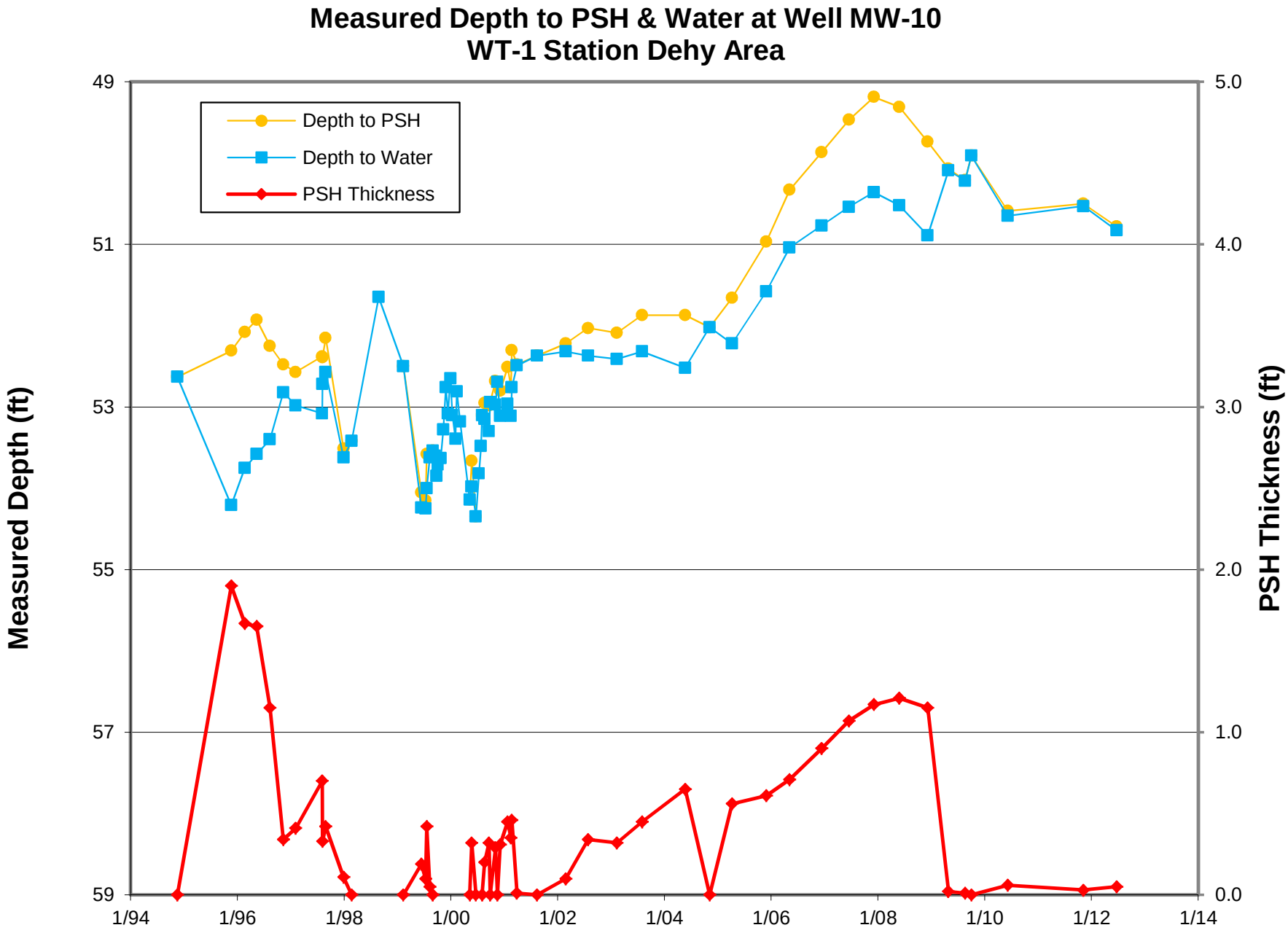
Measured Depth to PSH & Water at Well MW-10
WT-1 Station Dehy Area
Depth to PSH
Depth to Water
PSH Thickness
Measured Depth (ft)
PSH Thickness (ft)
49
51
53
55
57
59
5.0
4.0
3.0
2.0
1.0
0.0
1/94
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12
1/14

Figure 7

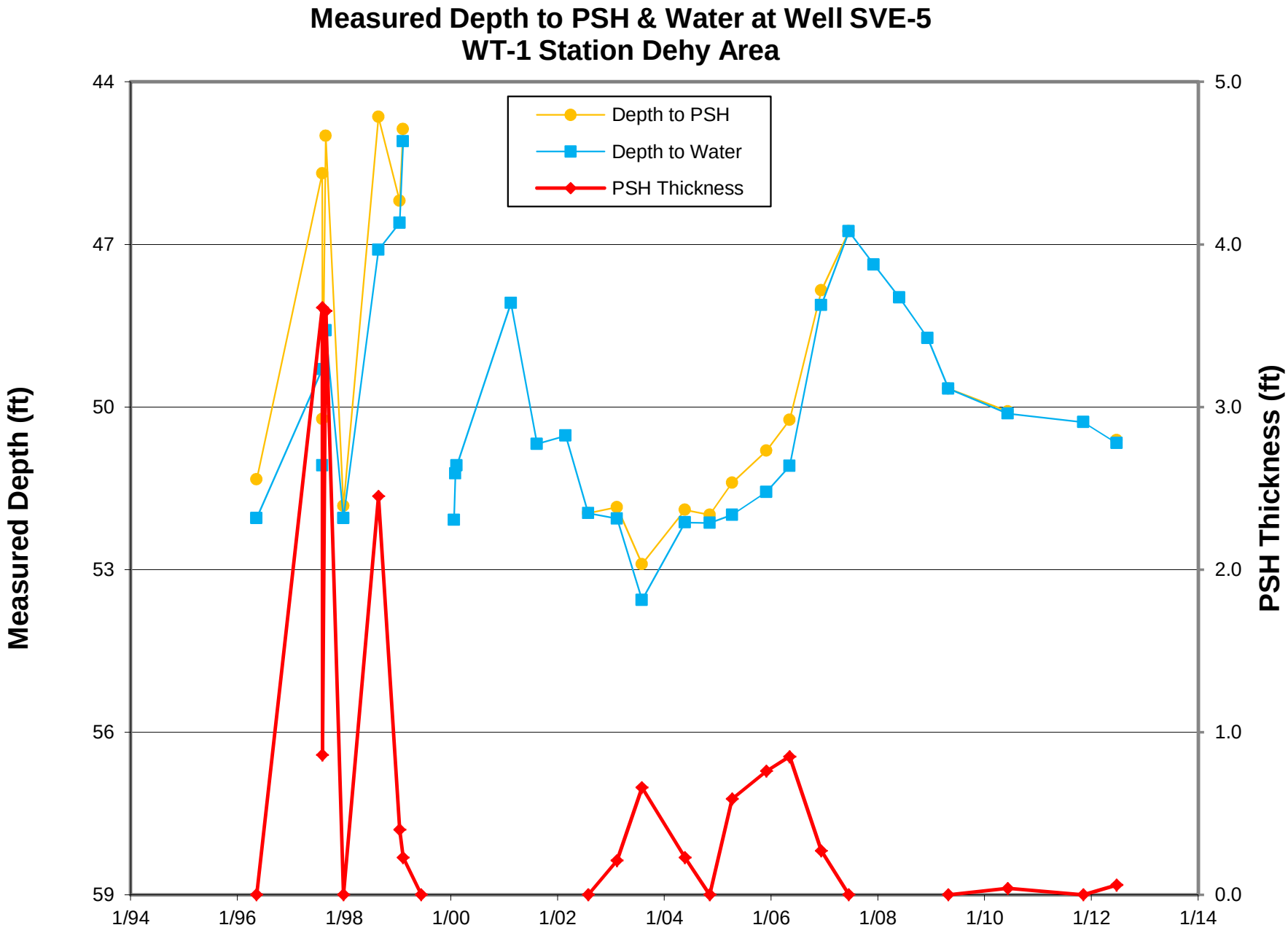
Measured Depth to PSH & Water at Well SVE-5
WT-1 Station Dehy Area
Depth to PSH
Depth to Water
PSH Thickness
Measured Depth (ft)
PSH Thickness (ft)
44
47
50
53
56
59
5.0
4.0
3.0
2.0
1.0
0.0
1/94
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12
1/14

Figure 8

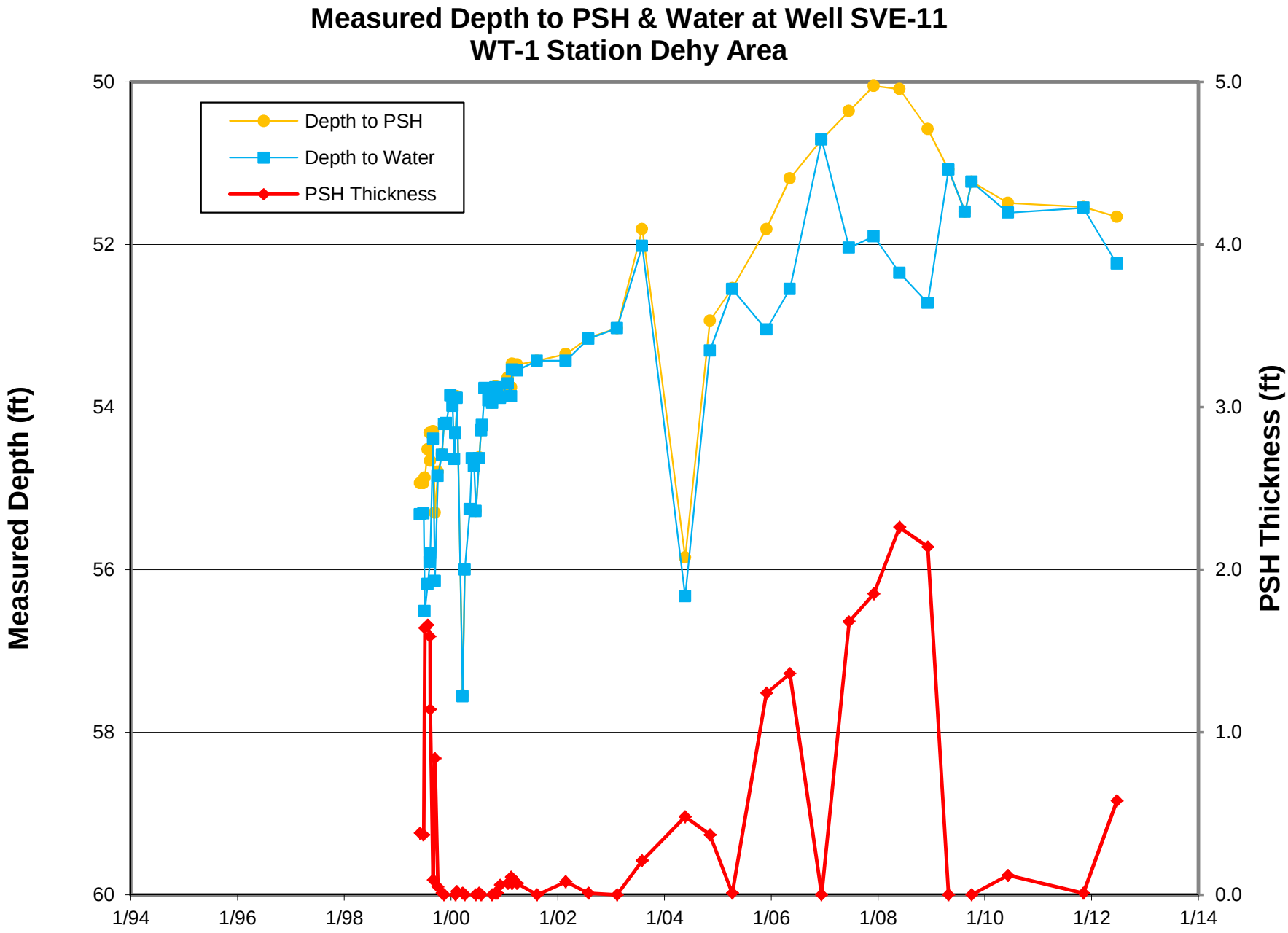
Measured Depth to PSH & Water at Well SVE-11
WT-1 Station Dehy Area
Depth to PSH
Depth to Water
PSH Thickness
Measured Depth (ft)
PSH Thickness (ft)
50
52
54
56
58
60
5.0
4.0
3.0
2.0
1.0
0.0
1/94
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12
1/14

Figure 9

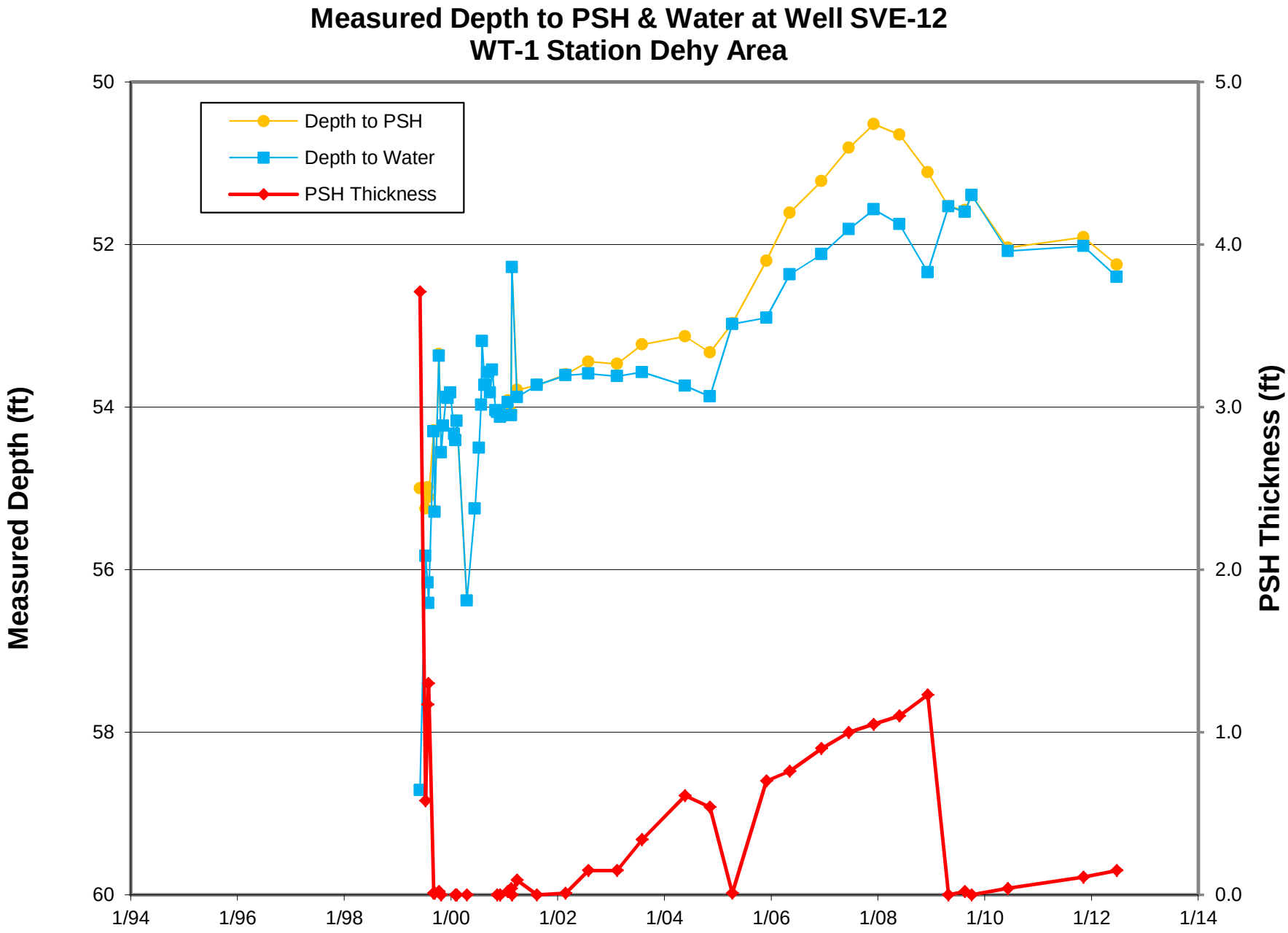
Measured Depth to PSH & Water at Well SVE-12
WT-1 Station Dehy Area
Depth to PSH
Depth to Water
PSH Thickness
Measured Depth (ft)
PSH Thickness (ft)
50
52
54
56
58
60
5.0
4.0
3.0
2.0
1.0
0.0
1/94
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12
1/14

Figure 10

Concentration History Plot for Well SVE-13
WT-1 Station Dehy Area

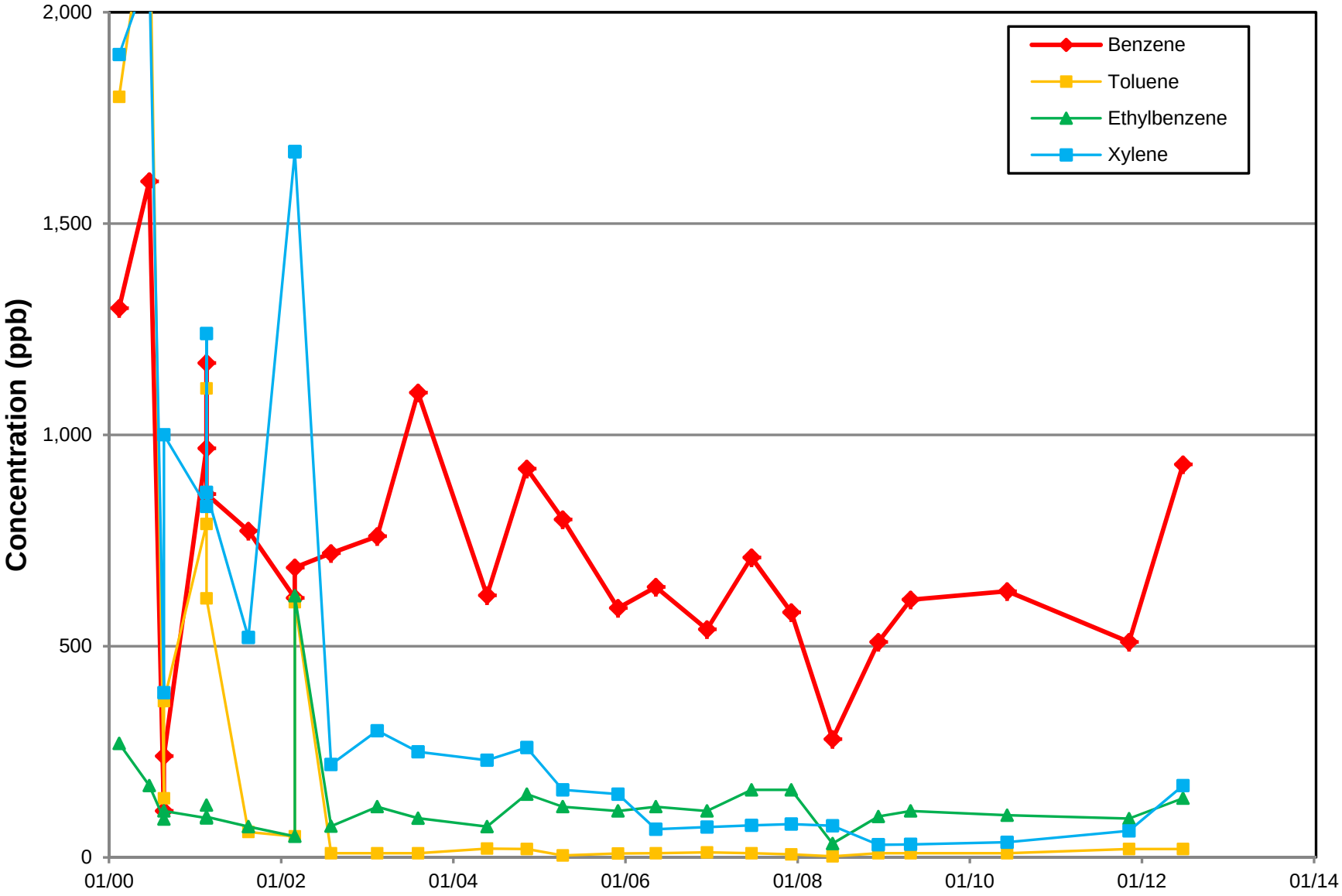

Figure 11

Concentration History Plot for Well SVE-14
WT-1 Station Dehy Area

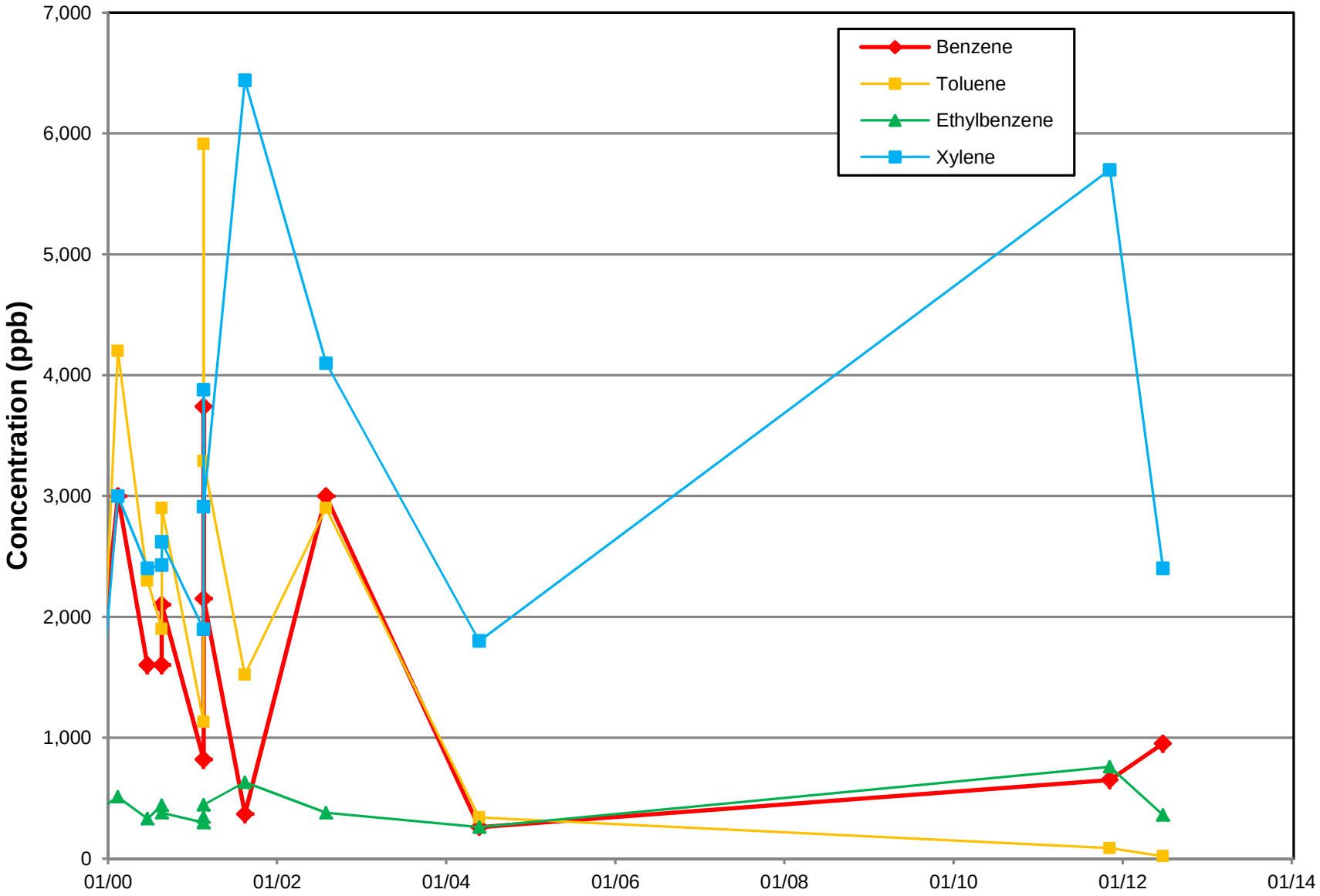

Figure 12

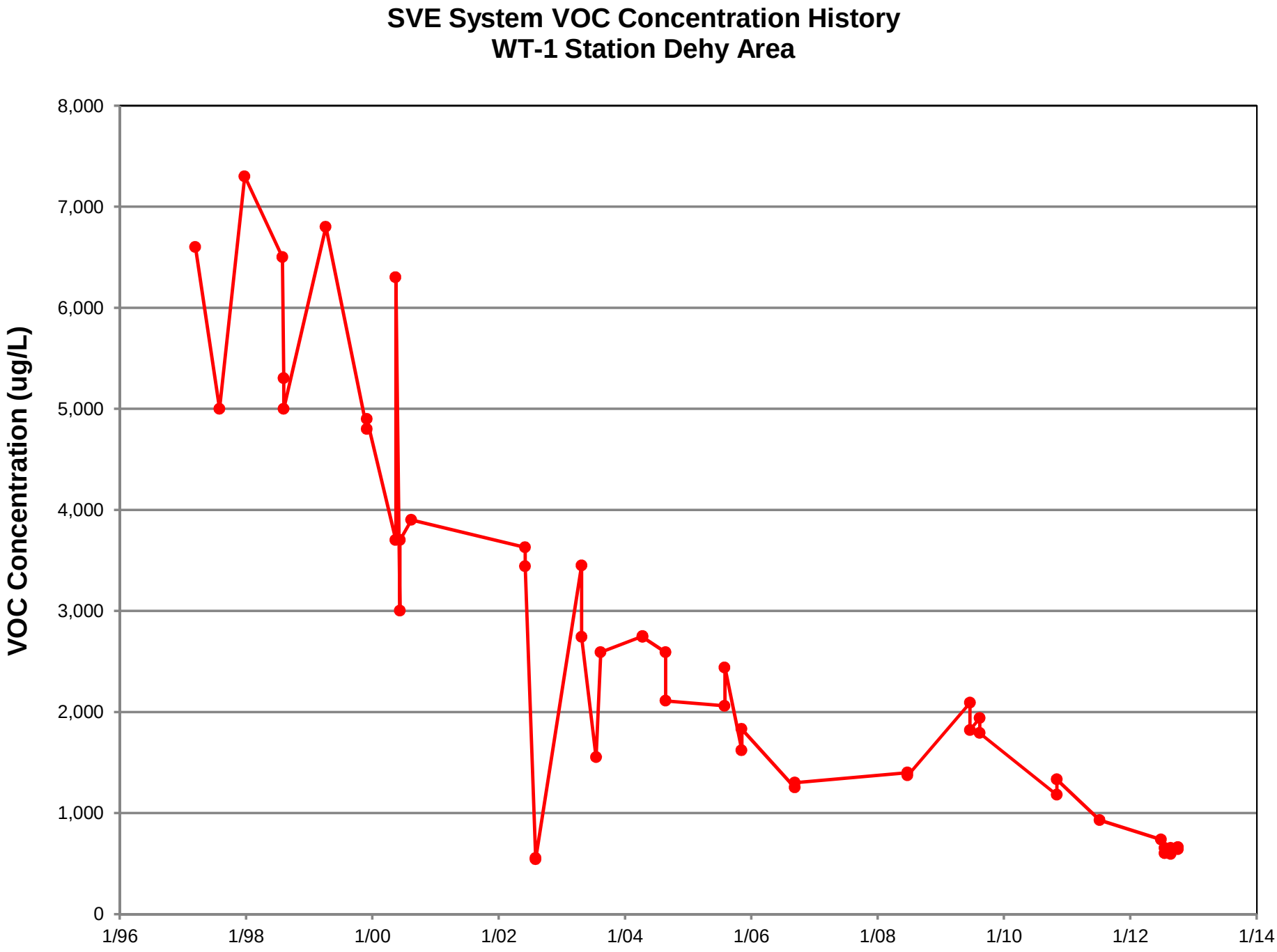
SVE System VOC Concentration History
WT-1 Station Dehy Area
VOC Concentration (ug/L)
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12
1/14

Figure 13

TABLES

Table 1. Summary of Groundwater Surface Elevations
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-9	11/21/94	3557.31 (b)	(a)	55.14	(a)	3502.17
	11/21/95		(a)	55.67	(a)	3501.64
	02/22/96		(a)	55.27	(a)	3502.04
	05/14/96		(a)	55.18	(a)	3502.13
	08/12/96		(a)	55.53	(a)	3501.78
	11/12/96		(a)	55.25	(a)	3502.06
	02/05/97		(a)	55.20	(a)	3502.11
	08/05/97		(a)	55.25	(a)	3502.06
	12/29/97		(a)	55.19	(a)	3502.12
	02/23/98*		(a)	54.71	(a)	3502.60
	08/05/98*		(a)	54.72	(a)	3502.59
	08/27/98		(a)	54.64	(a)	3502.67
	02/11/99*		(a)	55.63	(a)	3501.68
	08/11/99*		(a)	55.15	(a)	3502.16
	02/13/00*		(a)	54.66	(a)	3502.65
	08/21/00*		(a)	54.82	(a)	3502.49
	02/17/01*		(a)	54.95	(a)	3502.36
	08/15/01		(a)	54.42	(a)	3502.89
	02/27/02*		(a)	54.40	(a)	3502.91
	07/31/02*		(a)	54.32	(a)	3502.99
	02/13/03*		(a)	54.47	(a)	3502.84
	08/04/03*		(a)	54.32	(a)	3502.99
	05/24/04*		(a)	54.52	(a)	3502.79
	11/09/04*		(a)	54.53	(a)	3502.78
	04/11/05*		(a)	53.80	(a)	3503.51
	12/01/05*		(a)	53.03	(a)	3504.28
	05/10/06*		(a)	52.64	(a)	3504.67
	12/14/06*		(a)	52.08	(a)	3505.23
	06/20/07*		(a)	51.84	(a)	3505.47
	12/07/07*		(a)	51.57	(a)	3505.74
	05/30/08*		(a)	51.79	(a)	3505.52
	12/10/08*		(a)	52.32	(a)	3504.99
	05/01/09*		(a)	52.36	(a)	3504.95
	06/11/10*		(a)	52.92	(a)	3504.39
	11/10/11*		(a)	52.82	(a)	3504.49
	06/26/12*		(a)	53.14	(a)	3504.17

Table 1. Summary of Groundwater Surface Elevations
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-10	11/18/94	3553.45 (b)	(a)	52.63	(a)	3500.82
	11/21/95		52.31	54.21	1.90	3500.76
	02/22/96		52.08	53.75	1.67	3501.04
	05/14/96		51.93	53.58	1.65	3501.19
	08/12/96		52.25	53.40	1.15	3500.97
	11/12/96		52.48	52.82	0.34	3500.90
	02/05/97		52.57	52.98	0.41	3500.80
	08/05/97		52.38	53.08	0.70	3500.93
	08/07/97		52.39	52.72	0.33	3500.99
	08/29/97		52.15	52.57	0.42	3501.22
	12/29/97		53.51	53.62	0.11	3499.92
	02/23/98*		(a)	53.42	(a)	3500.03
	08/27/98		(a)	51.65	(a)	3501.80
	02/11/99*		(a)	52.50	(a)	3500.95
	06/15/99		54.05	54.24	0.19	3499.36
	07/13/99		54.15	54.25	0.10	3499.28
	07/22/99		53.58	54.00	0.42	3499.79
	08/11/99*	3554.31 (c)	53.57	53.62	0.05	3500.73
	09/02/99		(a)	53.54	(a)	3499.91
	09/14/99		(a)	53.60	(a)	3499.85
	09/28/99		(a)	53.85	(a)	3499.60
	10/07/99		(a)	53.71	(a)	3499.74
	10/26/99		(a)	53.63	(a)	3499.82
	11/11/99		(a)	53.28	(a)	3500.17
	11/30/99		(a)	52.76	(a)	3500.69
	12/14/99		(a)	53.08	(a)	3500.37
	12/30/99		(a)	52.65	(a)	3500.80
	01/13/00		(a)	53.10	(a)	3500.35
	02/03/00		(a)	53.39	(a)	3500.06
	02/13/00*		(a)	52.81	(a)	3500.64
	03/06/00		(a)	53.18	(a)	3500.27
	05/11/00		(a)	54.14	(a)	3499.31
	05/25/00		53.66	53.98	0.32	3500.59
	06/22/00		(a)	54.35	(a)	3499.10
	07/13/00		(a)	53.82	(a)	3499.63
	07/27/00		(a)	53.48	(a)	3499.97
	08/03/00		(a)	53.10	(a)	3500.35
	08/21/00*		52.95	53.15	0.20	3501.32
	09/19/00		52.98	53.30	0.32	3501.27
	09/28/00		(a)	52.94	(a)	3500.51
	11/03/00		52.68	52.97	0.29	3501.57
	11/16/00		(a)	52.69	(a)	3500.76
	12/06/00		52.80	53.11	0.31	3501.45

Table 1. Summary of Groundwater Surface Elevations
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-10 (cont.)	01/25/01		52.51	52.96	0.45	3501.71
	02/17/01*		52.76	53.11	0.35	3501.48
	02/23/01		52.30	52.76	0.46	3501.92
	03/30/01		52.48	52.49	0.01	3501.83
	08/15/01		(a)	52.37	(a)	3501.08
	02/27/02*		52.22	52.32	0.10	3502.07
	07/31/02*		52.03	52.37	0.34	3502.21
	02/13/03*		52.09	52.41	0.32	3502.16
	08/04/03*		51.87	52.32	0.45	3502.35
	05/24/04*		51.87	52.52	0.65	3502.31
	11/09/04*		(a)	52.02	sheen	3501.43
	04/11/05*		51.66	52.22	0.56	3502.54
	12/01/05*		50.97	51.58	0.61	3503.22
	05/10/06*		50.33	51.04	0.71	3503.84
	12/14/06*		49.87	50.77	0.90	3504.26
	06/20/07*		49.47	50.54	1.07	3504.63
	12/07/07*		49.19	50.36	1.17	3504.89
	05/30/08*		49.31	50.52	1.21	3504.76
	12/10/08*		49.74	50.89	1.15	3504.34
	05/01/09*		50.07	50.09	0.02	3504.24
	08/22/09*		50.21	50.22	0.01	3504.10
	10/05/09*		49.91	49.91	sheen	3504.40
	06/11/10*		50.59	50.65	0.06	3503.71
	11/10/11*		50.50	50.53	0.03	3503.80
	06/26/12*		50.78	50.83	0.05	3503.52

Table 1. Summary of Groundwater Surface Elevations
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-11	11/21/94	3547.84 (b)	(a)	DRY	(a)	DRY
	11/21/95		(a)	58.10	(a)	3489.74
	02/22/96		(a)	56.70	(a)	3491.14
	05/14/96		(a)	57.33	(a)	3490.51
	08/12/96		(a)	56.96	(a)	3490.88
	11/12/96		(a)	56.66	(a)	3491.18
	02/05/97		(a)	57.09	(a)	3490.75
	08/05/97		(a)	54.93	(a)	3492.91
	12/29/97		(a)	54.53	(a)	3493.31
	02/23/98*		(a)	53.97	(a)	3493.87
	08/05/98*		(a)	54.37	(a)	3493.47
	08/27/98		(a)	57.48	(a)	3490.36
	02/11/99*		(a)	53.11	(a)	3494.73
	08/11/99*		(a)	52.67	(a)	3495.17
	02/13/00*		(a)	52.20	(a)	3495.64
	08/21/00*		(a)	52.34	(a)	3495.50
	02/17/01*		(a)	52.38	(a)	3495.46
	08/15/01		(a)	52.06	(a)	3495.78
	02/27/02*		(a)	52.01	(a)	3495.83
	07/31/02*		(a)	51.79	(a)	3496.05
	02/13/03*		(a)	51.65	(a)	3496.19
	08/04/03*		(a)	51.54	(a)	3496.30
	05/24/04*		(a)	51.39	(a)	3496.45
	11/09/04*		(a)	51.50	(a)	3496.34
	04/11/05*		(a)	51.18	(a)	3496.66
	12/01/05*		(a)	51.10	(a)	3496.74
	05/10/06*		(a)	50.75	(a)	3497.09
	12/14/06*		(a)	50.31	(a)	3497.53
	06/20/07*		(a)	50.03	(a)	3497.81
	12/07/07*		(a)	49.32	(a)	3498.52
	05/30/08*		(a)	49.15	(a)	3498.69
	12/10/08*		(a)	49.01	(a)	3498.83
	05/01/09*		(a)	48.64	(a)	3499.20
	06/11/10*		(a)	48.23	(a)	3499.61
	11/10/11*		(a)	48.48	(a)	3499.36
	06/26/12*		(a)	48.07	(a)	3499.77

Table 1. Summary of Groundwater Surface Elevations
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-12	11/17/94	3551.19 (b)	(a)	49.31	(a)	3501.88
	11/21/95		(a)	50.49	(a)	3500.70
	02/22/96		(a)	50.13	(a)	3501.06
	05/14/96		(a)	49.96	(a)	3501.23
	08/12/96		(a)	50.31	(a)	3500.88
	11/12/96		(a)	50.41	(a)	3500.78
	02/05/97		(a)	50.53	(a)	3500.66
	08/05/97		(a)	50.39	(a)	3500.80
	12/29/97		(a)	50.35	(a)	3500.84
	02/23/98*		(a)	50.26	(a)	3500.93
	08/05/98*		(a)	50.22	(a)	3500.97
	08/27/98		(a)	49.94	(a)	3501.25
	02/11/99*		(a)	49.87	(a)	3501.32
	08/11/99*		(a)	50.29	(a)	3500.90
	02/13/00*		(a)	49.62	(a)	3501.57
	08/21/00*		(a)	50.28	(a)	3500.91
	02/17/01*		(a)	50.06	(a)	3501.13
	08/15/01		(a)	49.61	(a)	3501.58
	02/27/02*		(a)	49.45	(a)	3501.74
	07/31/02*		(a)	49.43	(a)	3501.76
	02/13/03*		(a)	49.41	(a)	3501.78
	08/04/03*		(a)	49.36	(a)	3501.83
	05/24/04*		(a)	49.45	(a)	3501.74
	11/09/04*		(a)	49.57	(a)	3501.62
	04/11/05*		(a)	49.37	(a)	3501.82
	12/01/05*		(a)	49.05	(a)	3502.14
	05/10/06*		(a)	48.51	(a)	3502.68
	12/14/06*		(a)	48.11	(a)	3503.08
	06/20/07*		(a)	47.85	(a)	3503.34
	12/07/07*		(a)	47.42	(a)	3503.77
	05/30/08*		(a)	47.55	(a)	3503.64
	12/10/08*		(a)	47.78	(a)	3503.41
	05/01/09*		(a)	47.65	(a)	3503.54
	06/11/10*		(a)	48.15	(a)	3503.04
	11/10/11*		(a)	48.49	(a)	3502.70
	06/26/12*		(a)	48.47	(a)	3502.72

Table 1. Summary of Groundwater Surface Elevations
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
MW-13	12/01/94	3547.78 (b)	(a)	49.70	(a)	3498.08
	11/21/95		(a)	49.55	(a)	3498.23
	02/22/96		(a)	49.27	(a)	3498.51
	05/14/96		(a)	49.15	(a)	3498.63
	08/12/96		(a)	49.40	(a)	3498.38
	11/12/96		(a)	49.42	(a)	3498.36
	02/05/97		(a)	49.40	(a)	3498.38
	08/05/97		(a)	49.37	(a)	3498.41
	12/29/97		(a)	49.50	(a)	3498.28
	02/23/98*		(a)	49.35	(a)	3498.43
	08/05/98*		(a)	49.41	(a)	3498.37
	08/27/98		(a)	49.20	(a)	3498.58
	02/11/99*		(a)	49.12	(a)	3498.66
	08/11/99*		(a)	49.43	(a)	3498.35
	02/13/00*		(a)	49.05	(a)	3498.73
	08/21/00*		(a)	49.40	(a)	3498.38
	02/17/01*		(a)	49.22	(a)	3498.56
	08/15/01		(a)	48.98	(a)	3498.80
	02/27/02*		(a)	48.85	(a)	3498.93
	07/31/02*		(a)	48.62	(a)	3499.16
	02/13/03*		(a)	48.52	(a)	3499.26
	08/04/03*		(a)	48.40	(a)	3499.38
	05/24/04*		(a)	48.35	(a)	3499.43
	11/09/04*		(a)	48.55	(a)	3499.23
	04/11/05*		(a)	48.13	(a)	3499.65
	12/01/05*		(a)	47.75	(a)	3500.03
	05/10/06*		(a)	46.88	(a)	3500.90
	12/14/06*		(a)	46.02	(a)	3501.76
	06/20/07*		(a)	45.43	(a)	3502.35
	12/07/07*		(a)	45.07	(a)	3502.71
	05/30/08*		(a)	45.02	(a)	3502.76
	12/10/08*		(a)	45.18	(a)	3502.60
	05/01/09*		(a)	45.20	(a)	3502.58
	06/11/10*		(a)	45.65	(a)	3502.13
	11/10/11*		(a)	45.54	(a)	3502.24
	06/26/12*		(a)	45.79	(a)	3501.99

NOTES:
PSH - Phase separated hydrocarbon
Corrections to ground water surface elevation for presence of PSH is calculated using a specific gravity of 0.8
(a) Not applicable since no measurable thickness of hydrocarbon is present
(b) Survey by John West Engineering (Hobbs, NM) dated 11/94
(c) Survey by Cypress Engineering dated 08/11/99
"*" Indicates depth measurements on this date were associated with a routine groundwater sampling event

Table 2. Summary of Groundwater Surface Elevations at SVE Wells
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-1	05/14/96	3551.22 (e)	(a)	51.01	(a)	3500.21
	08/06/97		(a)	49.09	(a)	3502.13
	02/11/99*		(a)	51.52	(a)	3499.70
	08/11/99*		(a)	52.17	(a)	3499.05
	02/13/00*		(a)	51.32	(a)	3499.90
	08/21/00*		(a)	51.85	(a)	3499.37
	02/17/01*		(a)	51.55	(a)	3499.67
	08/15/01		(a)	51.17	(a)	3500.05
	02/27/02*		(a)	50.90	(a)	3500.32
	07/31/02*		(a)	50.79	(a)	3500.43
	02/13/03*		(a)	50.71	(a)	3500.51
	08/04/03*		(a)	50.63	(a)	3500.59
	05/24/04*		(a)	50.80	(a)	3500.42
	11/09/04*		(a)	50.73	(a)	3500.49
	04/11/05*		(a)	50.72	(a)	3500.50
	12/01/05*		(a)	50.44	(a)	3500.78
	05/10/06*		(a)	50.05	(a)	3501.17
	12/14/06*		(a)	48.37	(a)	3502.85
	06/20/07*		(a)	49.09	(a)	3502.13
	12/07/07*		(a)	48.57	(a)	3502.65
	05/30/08*		(a)	48.42	(a)	3502.80
	12/10/08*		(a)	48.43	(a)	3502.79
	05/01/09*		(a)	48.24	(a)	3502.98
	06/11/10*		(a)	48.44	(a)	3502.78
	11/10/11*		(a)	48.70	(a)	3502.52
	06/26/12*		(a)	48.62	(a)	3502.60

Table 2. Summary of Groundwater Surface Elevations at SVE Wells
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-2	05/14/96	3551.96 (e)	50.63	51.38	0.75	3501.18
	08/06/97		50.95	52.15	1.20	3500.77
	08/07/97		50.93	51.64	0.71	3500.89
	08/29/97		50.75	51.16	0.41	3501.13
	12/29/97		51.02	51.76	0.74	3500.79
	06/26/98		(a)	50.87	(a)	3501.09
	07/13/98		(a)	50.87	(a)	3501.09
	02/11/99*		(a)	50.15	(a)	3501.81
	08/11/99*		(a)	51.26	(a)	3500.70
	02/13/00*		(a)	50.57	(a)	3501.39
	08/21/00*		(a)	50.68	(a)	3501.28
	02/17/01*		(a)	50.55	(a)	3501.41
	08/15/01		(a)	50.07	(a)	3501.89
	07/31/02*		(a)	49.81	(a)	3502.15
	02/13/03*		(a)	49.89	(a)	3502.07
	08/04/03*		(a)	49.68	(a)	3502.28
	05/24/04*		(a)	49.70	(a)	3502.26
	11/09/04*		(a)	49.85	(a)	3502.11
	04/11/05*		(a)	50.31	(a)	3501.65
	12/01/05*		(a)	49.62	(a)	3502.34
	05/10/06*		(a)	48.15	(a)	3503.81
	12/14/06*		(a)	47.82	(a)	3504.14
	06/20/07*		(a)	47.48	(a)	3504.48
	12/07/07*		(a)	47.28	(a)	3504.68
	05/30/08*		(a)	47.40	(a)	3504.56
	12/10/08*		(a)	47.84	(a)	3504.12
	05/01/09*		(a)	47.92	(a)	3504.04
	06/11/10*		(a)	48.56	(a)	3503.40
	11/10/11*		(a)	48.33	(a)	3503.63
	06/26/12*		(a)	48.64	(a)	3503.32
SVE-3	05/14/96	3552.75 (e)	(a)	50.95	(a)	3501.80
	08/06/97		(a)	47.70	(a)	3505.05
	12/29/97		(a)	51.44	(a)	3501.31
	02/11/99*		(a)	46.45	(a)	3506.30
	08/11/99*		(a)	51.03	(a)	3501.72
	02/13/00*		(a)	51.17	(a)	3501.58
	02/17/01*		(a)	51.08	(a)	3501.67
	08/15/01		(a)	50.87	(a)	3501.88
	02/27/02*		(a)	50.61	(a)	3502.14
	07/31/02*		(a)	50.57	(a)	3502.18
	02/13/03*		(a)	50.56	(a)	3502.19
	08/04/03*		(a)	50.46	(a)	3502.29
	05/24/04*		--	TD@41.00	--	--
	11/09/04*		--	TD@41.00	--	--
	12/01/04	(f)	--	--	--	--

Table 2. Summary of Groundwater Surface Elevations at SVE Wells
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-4	05/14/96	3553.03 (d)	51.91	53.67	1.76	3500.77
	08/06/97		50.56	52.24	1.68	3502.13
	08/07/97		52.84	53.39	0.55	3500.08
	08/29/97		50.50	51.74	1.24	3502.28
	12/29/97		52.02	53.04	1.02	3500.81
	06/26/98		50.58	52.30	1.72	3502.11
	07/13/98		50.52	52.30	1.78	3502.15
	07/24/98		50.38	51.80	1.42	3502.37
	09/23/98		50.11	51.31	1.20	3502.68
	01/07/99		50.70	51.36	0.66	3502.20
	01/27/99		50.65	51.18	0.53	3502.27
SVE-5	05/14/96	3554.39 (e)	51.34	--	--	(a)
	08/06/97		45.69	49.30	3.61	3507.98
	08/07/97		50.22	51.08	0.86	3504.00
	08/29/97		45.00	48.59	3.59	3508.67
	12/29/97		51.83	--	--	(a)
	08/26/98		44.65	47.10	2.45	3509.25
	01/17/99		46.20	46.60	0.40	3508.11
	02/11/99*		44.87	45.10	0.23	3509.47
	06/15/99		<52.05	<52.05	na	na
	07/15/99		<52.05	<52.05	na	na
	08/13/99		<52.05	<52.05	na	na
	09/14/99		<52.05	<52.05	na	na
	10/07/99		<52.05	<52.05	na	na
	11/16/99		<52.05	<52.05	na	na
	12/16/99		<52.05	<52.05	na	na
	01/25/00		(a)	52.08	(a)	3502.31
	02/03/00		(a)	51.23	(a)	3503.16
	02/13/00*		(a)	51.08	(a)	3503.31
	02/17/01*		(a)	48.08	(a)	3506.31
	08/15/01		(a)	50.68	(a)	3503.71
	02/27/02*		(a)	50.53	(a)	3503.86
	07/31/02*		(a)	51.96	(a)	(a)
	02/13/03*		51.85	52.06	0.21	3502.50
	08/04/03*		52.90	53.56	0.66	3501.36
	05/24/04*		51.90	52.13	0.23	3502.44
	11/09/04*		51.99	to TD @ 52.14	--	--
	04/11/05*		51.40	51.99	0.59	3502.87
	12/01/05*		50.81	51.57	0.76	3503.43
	05/10/06*		50.24	51.09	0.85	3503.98
	12/14/06*		47.85	48.12	0.27	3506.49
	06/20/07*		(a)	46.76	(a)	3507.63
	12/07/07*		(a)	47.37	(a)	3507.02
	05/30/08*		(a)	47.98	(a)	3506.41
	12/10/08*		(a)	48.73	(a)	3505.66
	05/01/09*		(a)	49.66	(a)	3504.73
	06/11/10*		50.08	50.12	0.04	3504.30
	11/10/11*		(a)	50.28	(a)	3504.11
	06/26/12*		50.61	50.67	0.06	3503.77

Table 2. Summary of Groundwater Surface Elevations at SVE Wells
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-6	05/14/96	3553.74 (e)	(a)	54.30	(a)	3499.44
	08/06/97		(a)	49.75	(a)	3503.99
	02/11/99*		(a)	52.05	(a)	3501.69
	08/11/99*		(a)	52.59	(a)	3501.15
	02/13/00*		(a)	51.95	(a)	3501.79
	02/17/01*		(a)	51.88	(a)	3501.86
	08/15/01		(a)	51.36	(a)	3502.38
	02/27/02*		(a)	51.22	(a)	3502.52
	07/31/02*		(a)	51.03	(a)	3502.71
	02/13/03*		(a)	51.16	(a)	3502.58
	08/04/03*		(a)	50.88	(a)	3502.86
	05/24/04*		(a)	51.18	(a)	3502.56
	11/09/04*		(a)	50.99	(a)	3502.75
	04/11/05*		(a)	51.82	(a)	3501.92
	12/01/05*		(a)	49.94	(a)	3503.80
	05/10/06*		(a)	49.45	(a)	3504.29
	12/14/06*		(a)	48.88	(a)	3504.86
	06/20/07*		(a)	48.50	(a)	3505.24
	12/07/07*		(a)	48.18	(a)	3505.56
	05/30/08*		(a)	48.32	(a)	3505.42
	12/10/08*		(a)	48.81	(a)	3504.93
	05/01/09*		(a)	48.79	(a)	3504.95
	06/11/10*		(a)	49.31	(a)	3504.43
	11/10/11*		(a)	49.33	(a)	3504.41
	06/26/12*		(a)	49.50	(a)	3504.24
SVE-7	05/14/96	3553.81 (e)	(a)	53.89	(a)	3499.92
	08/06/97		(a)	51.40	(a)	3502.41
	12/29/97		(a)	54.14	(a)	3499.67
	02/11/99*		(a)	53.65	(a)	3500.16
	08/11/99*		(a)	54.18	(a)	3499.63
	02/13/00*		(a)	53.37	(a)	3500.44
	08/21/00*		(a)	53.98	(a)	3499.83
	02/17/01*		(a)	53.64	(a)	3500.17
	08/15/01		(a)	53.28	(a)	3500.53
	02/27/02*		(a)	52.93	(a)	3500.88
	07/31/02*		(a)	52.87	(a)	3500.94
	02/13/03*		(a)	52.71	(a)	3501.10
	08/04/03*		(a)	52.61	(a)	3501.20
	05/24/04*		(a)	52.63	(a)	3501.18
	11/09/04*		(a)	52.70	(a)	3501.11
	04/11/05*		(a)	52.38	(a)	3501.43
	12/01/05*		(a)	51.85	(a)	3501.96
	05/10/06*		(a)	51.23	(a)	3502.58
	12/14/06*		(a)	50.46	(a)	3503.35
	06/20/07*		(a)	50.04	(a)	3503.77
	12/07/07*		(a)	49.53	(a)	3504.28
	05/30/08*		(a)	49.45	(a)	3504.36
	12/10/08*		(a)	49.71	(a)	3504.10
	05/01/09*		(a)	49.65	(a)	3504.16
	06/11/10*		(a)	50.11	(a)	3503.70
	11/10/11*		(a)	50.15	(a)	3503.66
	06/26/12*		(a)	50.24	(a)	3503.57

Table 2. Summary of Groundwater Surface Elevations at SVE Wells
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-8	05/14/96	3555.25 (e)	(a)	53.55	(a)	3501.70
	08/06/97		(a)	51.72	(a)	3503.53
	12/29/97		(a)	54.07	(a)	3501.18
	02/11/99*		(a)	53.06	(a)	3502.19
	08/11/99*		(a)	54.02	(a)	3501.23
	02/13/00*		(a)	53.33	(a)	3501.92
	08/21/00*		(a)	53.57	(a)	3501.68
	02/17/01*		(a)	53.34	(a)	3501.91
	08/15/01		(a)	53.08	(a)	3502.17
	02/27/02*		(a)	52.94	(a)	3502.31
	07/31/02*		(a)	52.83	(a)	3502.42
	02/13/03*		(a)	52.86	(a)	3502.39
	08/04/03*		(a)	52.73	(a)	3502.52
	05/24/04*		(a)	52.74	(a)	3502.51
	11/09/04*		(a)	52.87	(a)	3502.38
	04/11/05*		(a)	52.39	(a)	3502.86
	12/01/05*		(a)	51.60	(a)	3503.65
	05/10/06*		(a)	51.07	(a)	3504.18
	12/14/06*		(a)	50.67	(a)	3504.58
	06/20/07*		(a)	50.18	(a)	3505.07
	12/07/07*		(a)	50.03	(a)	3505.22
	05/30/08*		(a)	50.12	(a)	3505.13
	12/10/08*		(a)	50.58	(a)	3504.67
	05/01/09*		(a)	50.63	(a)	3504.62
	06/11/10*		(a)	52.13	(a)	3503.12
	11/10/11*		(a)	52.04	(a)	3503.21
	06/26/12*		(a)	52.34	(a)	3502.91
SVE-9	05/14/96	3555.36 (e)	(a)	54.13	(a)	3501.23
	08/06/97		(a)	50.06	(a)	3505.30
	02/11/99*		(a)	50.97	(a)	3504.39
	08/11/99*		(a)	54.39	(a)	3500.97
	02/13/00*		(a)	53.65	(a)	3501.71
	08/21/00*		(a)	54.22	(a)	3501.14
	02/17/01*		(a)	53.57	(a)	3501.79
	08/15/01		(a)	53.14	(a)	3502.22
	02/27/02*		(a)	53.01	(a)	3502.35
	07/31/02*		(a)	52.78	(a)	3502.58
	02/13/03*		(a)	52.88	(a)	3502.48
	08/04/03*		(a)	52.63	(a)	3502.73
	05/24/04*		(a)	52.81	(a)	3502.55
	11/09/04*		(a)	52.78	(a)	3502.58
	04/11/05*		(a)	53.53	(a)	3501.83
	12/01/05*		(a)	51.81	(a)	3503.55
	05/10/06*		(a)	51.10	(a)	3504.26
	12/14/06*		(a)	50.61	(a)	3504.75
	06/20/07*		(a)	50.31	(a)	3505.05
	12/07/07*		(a)	49.91	(a)	3505.45
	05/30/08*		(a)	50.00	(a)	3505.36
	12/10/08*		(a)	50.46	(a)	3504.90
	05/01/09*		(a)	50.48	(a)	3504.88
	06/11/10*		(a)	51.03	(a)	3504.33
	11/10/11*		(a)	50.97	(a)	3504.39
	06/26/12*		(a)	51.22	(a)	3504.14

Table 2. Summary of Groundwater Surface Elevations at SVE Wells
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-10	06/04/99	3554.40 (e)	52.86	52.88	0.02	3501.54
	06/29/99		53.25	53.32	0.07	3501.14
	07/08/99		51.63	51.70	0.07	3502.76
	07/27/99		51.23	51.41	0.18	3503.13
	08/11/99*		53.12	53.32	0.20	3501.24
	08/26/99		51.63	51.77	0.14	3502.74
	09/28/99		56.65	56.79	0.14	3497.72
	10/07/99		54.98	55.23	0.25	3499.37
	10/26/99		54.68	54.77	0.09	3499.70
	11/11/99		55.79	55.85	0.06	3498.60
	11/30/99		55.03	55.07	0.04	3499.36
	12/14/99		54.52	54.53	0.01	3499.88
	12/30/99		53.91	53.94	0.03	3500.48
	01/13/00		53.56	53.59	0.03	3500.83
	01/25/00		53.50	53.52	0.02	3500.90
	02/03/00		53.61	53.63	0.02	3500.79
	02/13/00*		53.53	53.58	0.05	3500.86
	03/06/00		54.11	54.12	0.01	3500.29
	03/23/00		(a)	54.95	(a)	3499.45
	04/06/00		54.05	54.07	0.02	3500.35
	04/20/00		54.19	54.20	0.01	3500.21
	05/11/00		54.21	54.22	0.01	3500.19
	05/25/00		(a)	54.21	(a)	3500.19
	06/08/00		(a)	54.18	(a)	3500.22
	06/22/00		(a)	54.18	(a)	3500.22
	07/13/00		(a)	54.19	(a)	3500.21
	07/27/00		(a)	54.19	(a)	3500.21
	08/03/00		54.03	54.04	0.01	3500.37
	08/21/00*		(a)	54.02	(a)	3500.38
	09/14/00		(a)	53.60	(a)	3500.80
	09/28/00		(a)	53.58	(a)	3500.82
	10/12/00		(a)	53.55	(a)	3500.85
	11/03/00		(a)	53.35	(a)	3501.05
	11/16/00		(a)	53.29	(a)	3501.11
	12/06/00		(a)	53.25	sheen	3501.15
	01/25/01		(a)	53.11	(a)	3501.29
	02/17/01*		53.04	53.05	0.01	3501.36
	02/23/01		(a)	53.00	(a)	3501.40
	03/30/01		(a)	52.95	(a)	3501.45
	08/15/01		(a)	56.16	(a)	3498.24
	02/27/02*		(a)	52.70	(a)	3501.70
	07/31/02*		(a)	52.60	(a)	3501.80
	02/13/03*		(a)	52.47	sheen	3501.93
	08/04/03*		(a)	52.30	sheen	3502.10
	05/24/04*		(a)	52.27	(a)	3502.13
	11/09/04*		(a)	52.37	sheen	3502.03
	04/11/05*		(a)	52.06	(a)	3502.34
	12/01/05*		(a)	51.50	(a)	3502.90
	05/10/06*		(a)	50.89	sheen	3503.51
	12/14/06*		(a)	50.53	(a)	3503.87
	06/20/07*		(a)	50.10	sheen	3504.30
	12/07/07*		(a)	49.85	sheen	3504.55
	05/30/08*		(a)	49.82	(a)	3504.58
	12/10/08*		(a)	50.12	(a)	3504.28
	05/01/09*		(a)	50.23	(a)	3504.17
	06/11/10*		(a)	50.71	(a)	3503.69
	11/10/11*		(a)	50.58	(a)	3503.82
	06/26/12*		(a)	50.82	(a)	3503.58

Table 2. Summary of Groundwater Surface Elevations at SVE Wells
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-11	06/04/99	3555.33 (e)	54.94	55.32	0.38	3500.31
	06/29/99		54.94	55.31	0.37	3500.32
	07/08/99		54.87	56.51	1.64	3500.13
	07/27/99		54.52	56.18	1.66	3500.48
	08/11/99*		54.32	55.91	1.59	3500.69
	08/13/99		54.66	55.80	1.14	3500.44
	09/02/99		54.30	54.39	0.09	3501.01
	09/14/99		55.30	56.14	0.84	3499.86
	10/05/99		54.80	54.85	0.05	3500.52
	11/02/99		54.58	54.59	0.01	3500.75
	11/16/99		(a)	54.21	(a)	3501.12
	12/02/99		(a)	54.20	(a)	3501.13
	12/30/99		(a)	53.86	(a)	3501.47
	01/13/00		(a)	53.99	(a)	3501.34
	01/25/00		(a)	54.64	(a)	3500.69
	02/03/00		(a)	54.32	(a)	3501.01
	02/13/00*		53.87	53.89	0.02	3501.46
	03/23/00		57.55	57.56	0.01	3497.78
	04/06/00		(a)	56.00	(a)	3499.33
	05/11/00		(a)	55.26	(a)	3500.07
	05/25/00		(a)	54.63	(a)	3500.70
	06/08/00		(a)	54.73	(a)	3500.60
	06/22/00		(a)	55.28	(a)	3500.05
	07/13/00		54.62	54.63	0.01	3500.71
	07/27/00		(a)	54.29	(a)	3501.04
	08/03/00		(a)	54.22	(a)	3501.11
	08/21/00*		(a)	53.77	(a)	3501.56
	09/14/00		(a)	53.92	(a)	3501.41
	09/28/00		(a)	53.92	(a)	3501.41
	10/12/00		(a)	53.95	(a)	3501.38
	11/03/00		53.75	53.76	0.01	3501.58
	11/16/00		53.76	53.77	0.01	3501.57
	12/06/00		53.83	53.89	0.06	3501.49
	01/25/01		53.64	53.71	0.07	3501.68
	02/17/01*		53.76	53.87	0.11	3501.55
	02/23/01		53.47	53.54	0.07	3501.85
	03/30/01		53.48	53.55	0.07	3501.84
	08/15/01		(a)	53.43	(a)	3501.90
	02/27/02*		53.35	53.43	0.08	3501.96
	07/31/02*		53.15	53.16	0.01	3502.18
	02/13/03*		(a)	53.03	sheen	3502.30
	08/04/03*		51.81	52.02	0.21	3503.48
	05/24/04*		55.85	56.33	0.48	3499.38
	11/09/04*		52.94	53.31	0.37	3502.32
	04/11/05*		52.54	52.55	0.01	3502.79
	12/01/05*		51.81	53.05	1.24	3503.27
	05/10/06*		51.19	52.55	1.36	3503.87
	12/14/06*		(a)	50.71	sheen	3504.62
	06/20/07*		50.36	52.04	1.68	3504.63
	12/07/07*		50.05	51.90	1.85	3504.91
	05/30/08*		50.09	52.35	2.26	3504.79
	12/10/08*		50.58	52.72	2.14	3504.32
	05/01/09*		(a)	51.08	(a)	3504.25
	08/22/09*		(a)	51.60	(a)	3503.73
	10/05/09*		51.23	51.23	sheen	3504.10
	06/11/10*		51.49	51.61	0.12	3503.82
	11/10/11*		51.54	51.55	0.01	3503.79
	06/26/12*		51.66	52.24	0.58	3503.55

Table 2. Summary of Groundwater Surface Elevations at SVE Wells
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-12	06/04/99	3555.64 (e)	55.00	58.71	3.71	3499.90
	07/13/99		55.25	55.83	0.58	3500.27
	07/27/99		54.99	56.16	1.17	3500.42
	08/03/99		55.11	56.41	1.30	3500.27
	09/07/99		54.29	54.30	0.01	3501.35
	09/14/99		55.28	55.29	0.01	3500.36
	10/12/99		53.35	53.37	0.02	3502.29
	10/28/99		(a)	54.56	(a)	3501.08
	11/11/99		(a)	54.23	(a)	3501.41
	11/30/99		(a)	53.88	(a)	3501.76
	12/14/99		(a)	53.89	(a)	3501.75
	12/30/99		(a)	53.82	(a)	3501.82
	01/25/00		(a)	54.33	(a)	3501.31
	02/03/00		(a)	54.41	(a)	3501.23
	02/13/00*		(a)	54.17	sheen	3501.47
	04/20/00		(a)	56.38	(a)	3499.26
	06/15/00		(a)	55.25	(a)	3500.39
	07/13/00		(a)	54.50	(a)	3501.14
	07/27/00		(a)	53.97	(a)	3501.67
	08/03/00		(a)	53.19	(a)	3502.45
	08/21/00*		(a)	53.73	(a)	3501.91
	09/14/00		(a)	53.57	(a)	3502.07
	09/28/00		(a)	53.82	(a)	3501.82
	10/12/00		(a)	53.54	(a)	3502.10
	11/03/00		(a)	54.04	(a)	3501.60
	11/16/00		(a)	54.06	(a)	3501.58
	12/06/00		(a)	54.12	sheen	3501.52
	01/25/01		53.92	53.94	0.02	3501.72
	02/17/01*		54.06	54.10	0.04	3501.57
	02/23/01		(a)	52.28	(a)	3503.36
	03/30/01		53.79	53.88	0.09	3501.83
	08/15/01		(a)	53.73	(a)	3501.91
	02/27/02*		53.60	53.61	0.01	3502.04
	07/31/02*		53.44	53.59	0.15	3502.17
	02/13/03*		53.47	53.62	0.15	3502.14
	08/04/03*		53.23	53.57	0.34	3502.34
	05/24/04*		53.13	53.74	0.61	3502.39
	11/09/04*		53.33	53.87	0.54	3502.20
	04/11/05*		52.97	52.98	0.01	3502.67
	12/01/05*		52.20	52.90	0.70	3503.30
	05/10/06*		51.61	52.37	0.76	3503.88
	12/14/06*		51.22	52.12	0.90	3504.24
	06/20/07*		50.81	51.81	1.00	3504.63
	12/07/07*		50.52	51.57	1.05	3504.91
	05/30/08*		50.65	51.75	1.10	3504.77
	12/10/08*		51.11	52.34	1.23	3504.28
	05/01/09*		(a)	51.53	(a)	3504.11
	08/22/09*		51.58	51.60	0.02	3504.06
	10/05/09*		(a)	51.39	(a)	3504.25
	06/11/10*		52.04	52.08	0.04	3503.59
	11/10/11*		51.91	52.02	0.11	3503.71
	06/26/12*		52.25	52.40	0.15	3503.36

Table 2. Summary of Groundwater Surface Elevations at SVE Wells
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-13	06/04/99	3554.11 (e)	53.73	54.83	1.10	3500.16
	06/24/99		53.65	54.02	0.37	3500.39
	07/15/99		53.97	54.02	0.05	3500.13
	07/27/99		53.28	53.30	0.02	3500.83
	08/11/99*		53.37	53.39	0.02	3500.74
	08/26/99		(a)	53.27	(a)	3500.84
	09/14/99		(a)	53.93	(a)	3500.18
	09/28/99		(a)	53.24	(a)	3500.87
	10/07/99		(a)	53.36	(a)	3500.75
	10/21/99		(a)	53.51	(a)	3500.60
	11/11/99		(a)	53.00	(a)	3501.11
	11/30/99		(a)	52.56	(a)	3501.55
	12/14/99		(a)	52.54	(a)	3501.57
	12/30/99		(a)	52.38	(a)	3501.73
	01/25/00		(a)	54.18	(a)	3499.93
	02/03/00		(a)	52.79	(a)	3501.32
	02/13/00*		(a)	52.60	(a)	3501.51
	03/06/00		(a)	53.45	(a)	3500.66
	03/23/00		(a)	56.07	(a)	3498.04
	04/06/00		(a)	54.76	(a)	3499.35
	05/11/00		(a)	53.54	(a)	3500.57
	05/25/00		(a)	52.68	(a)	3501.43
	06/08/00		(a)	53.16	(a)	3500.95
	06/22/00		(a)	54.22	(a)	3499.89
	07/13/00		(a)	52.91	(a)	3501.20
	07/27/00		(a)	52.67	(a)	3501.44
	08/03/00		(a)	52.48	(a)	3501.63
	08/21/00*		(a)	52.47	(a)	3501.64
	09/14/00		(a)	52.65	(a)	3501.46
	09/28/00		(a)	52.58	(a)	3501.53
	10/12/00		(a)	52.57	(a)	3501.54
	11/03/00		(a)	52.49	(a)	3501.62
	11/16/00		(a)	52.51	(a)	3501.60
	12/06/00		(a)	52.59	(a)	3501.52
	01/25/01		(a)	52.41	(a)	3501.70
	02/17/01*		(a)	52.55	(a)	3501.56
	02/23/01		53.72	53.74	0.02	3500.39
	03/30/01		(a)	52.26	(a)	3501.85
	08/15/01		(a)	52.16	(a)	3501.95
	02/27/02*		(a)	52.14	(a)	3501.97
	07/31/02*		(a)	51.93	(a)	3502.18
	02/13/03*		(a)	52.01	(a)	3502.10
	08/04/03*		(a)	51.81	(a)	3502.30
	05/24/04*		(a)	51.70	(a)	3502.41
	11/09/04*		(a)	50.90	(a)	3503.21
	04/11/05*		(a)	51.49	(a)	3502.62
	12/01/05*		(a)	50.86	(a)	3503.25
	05/10/06*		(a)	49.18	(a)	3504.93
	12/14/06*		(a)	48.76	(a)	3505.35
	06/20/07*		(a)	48.46	(a)	3505.65
	12/07/07*		(a)	48.21	(a)	3505.90
	05/30/08*		(a)	49.38	(a)	3504.73
	12/10/08*		(a)	49.86	(a)	3504.25
	05/01/09*		(a)	49.98	(a)	3504.13
	06/11/10*		(a)	49.11	(a)	3505.00
	11/10/11*		(a)	50.34	(a)	3503.77
	06/26/12*		(a)	49.65	(a)	3504.46

Table 2. Summary of Groundwater Surface Elevations at SVE Wells
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Top of Casing (ft)	Depth to PSH (ft)	Depth to Water (ft)	PSH (ft)	Surface Elevation (ft)
SVE-14	06/04/99	3554.83 (e)	(a)	54.43	(a)	3500.40
	06/24/99		(a)	52.01	(a)	3502.82
	07/15/99		(a)	52.76	(a)	3502.07
	07/27/99		(a)	52.03	(a)	3502.80
	08/11/99*		(a)	54.13	(a)	3500.70
	08/26/99		(a)	52.40	(a)	3502.43
	09/14/99		(a)	52.61	(a)	3502.22
	09/28/99		(a)	52.36	(a)	3502.47
	10/07/99		(a)	52.14	(a)	3502.69
	10/21/99		(a)	54.37	(a)	3500.46
	11/11/99		(a)	53.09	(a)	3501.74
	11/30/99		(a)	51.51	(a)	3503.32
	12/14/99		(a)	51.16	(a)	3503.67
	12/30/99		(a)	53.32	(a)	3501.51
	01/13/00		(a)	53.51	(a)	3501.32
	01/25/00		(a)	51.42	(a)	3503.41
	02/03/00		(a)	51.28	(a)	3503.55
	02/13/00*		(a)	53.36	(a)	3501.47
	02/17/01*		(a)	53.31	(a)	3501.52
	08/21/00*		(a)	53.37	(a)	3501.46
	02/17/01*		(a)	53.31	(a)	3501.52
	08/15/01		(a)	52.95	(a)	3501.88
	02/27/02*		(a)	52.88	sheen	3501.95
	07/31/02*		(a)	52.67	(a)	3502.16
	02/13/03*		(a)	52.75	sheen	3502.08
	08/04/03*		52.56	52.57	0.01	3502.27
	05/24/04*		(a)	52.51	(a)	3502.32
	11/09/04*		(a)	51.65	(a)	3503.18
	04/11/05*		(a)	49.37	(a)	3505.46
	12/01/05*		51.65	51.66	0.01	3503.18
	05/10/06*		(a)	50.02	(a)	3504.81
	12/14/06*		(a)	49.56	(a)	3505.27
	06/20/07*		(a)	49.08	(a)	3505.75
	12/07/07*		(a)	48.64	Sheen	3506.19
	05/30/08*		(a)	49.92	Sheen	3504.91
	12/10/08*		(a)	50.34	Sheen	3504.49
	05/01/09*		(a)	50.42	Sheen	3504.41
	06/11/10*		(a)	49.99	Sheen	3504.84
	11/10/11*		(a)	50.97	Sheen	3503.86
	06/26/12*		(a)	50.22	Sheen	3504.61

Notes:
(a) Not Applicable
(b) No elevation data available
(c) Survey by John West Engineering, Hobbs, NM dated 11/94
(d) Survey by John West Engineering, Hobbs, NM dated 02/22/96
(e) Survey by Cypress Engineering, Houston, TX dated 08/11/99
(f) SVE-3 plugged and abandoned on 12-01-04 by George Friend.
"*" Indicates depth measurements on this date were associated with a routine groundwater sampling event

Table 3. Summary of Groundwater Analyses
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date		Field Measured Parameters				BTEX Concentration - (ug/L)			
			DO (mg/L)	pH (Units)	Temp. (C)	Conductivity (us/cm)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard			none	6-9	none	none	10	750	750	620
MW-9	11/21/94		-	-	-	-	**12**	< 0.5	< 0.5	< 0.5
	11/21/95		-	7.03	19.4	2,890	4	3	< 2	11
	02/22/96		-	6.48	22.2	2,980	**13**	< 2	< 2	< 2
	05/14/96		-	-	-	-	**14**	< 2	< 2	< 2
	08/12/96		-	6.79	27.0	3,090	**14**	< 2	< 2	< 3
	11/12/96		-	6.97	16.6	-	9	< 2	< 2	< 2
	02/05/97		3.0	7.26	16.3	3,900	**13**	< 2	< 2	< 2
	08/05/97		1.8	6.97	20.7	3,580	3	< 2	< 2	< 2
	02/24/98		4.2	7.00	20.3	3,550	**16.3**	< 5	< 5	< 5
	08/05/98		2.2	6.93	22.6	3,910	1.9	< 1	< 1	< 1
	02/12/99		-	-	-	-	6	< 1	< 1	< 1
	08/11/99		3.1	6.9	21.0	3,230	< 2	< 2	< 2	< 2
	02/13/00		-	-	-	-	3.0	< 1	< 1	< 1
	08/21/00	(a)	-	-	-	-	1.5	< 0.5	0.5	0.9
	02/17/01		-	-	-	-	< 0.500	< 0.500	< 0.500	< 0.10
	08/15/01		2.6	7.12	22.5	3,140	2.06	< 1	< 1	< 2
	02/27/02		3.6	6.94	21.9	4,130	6	< 1	< 1	< 1
	08/01/02		3.7	6.80	21.5	3,810	< 0.50	< 0.50	< 0.50	< 0.50
	02/13/03		2.8	6.98	22.7	4,310	0.86	< 0.50	< 0.50	< 0.50
	08/05/03		2.1	6.91	23.3	3,830	0.60	< 0.50	< 0.50	< 0.50
	05/24/04		2.7	7.07	22.9	4,090	< 0.50	< 0.50	< 0.50	< 0.50
	11/09/04*		3.3	6.83	20.6	4,423	< 0.50	< 0.50	< 0.50	< 0.50
	04/11/05		-	-	-	-	< 0.50	< 0.50	< 0.50	< 0.50
	12/01/05		4.6	7.16	19.8	3,977	< 0.50	< 0.50	< 0.50	< 0.50
	05/10/06		6.1	6.98	21.0	4,104	< 1	< 1	< 1	< 3
	12/14/06		5.5	6.95	20.5	4,355	< 1	< 1	< 1	< 3
	06/21/07		5.8	7.18	20.9	4,132	< 1	< 1	< 1	< 2
	12/07/07		4.9	6.90	20.4	3,957	< 1	< 1	< 1	< 2
	05/30/08		4.1	7.38	21.7	4,002	< 1	< 1	< 1	< 2
	12/11/08		4.6	6.95	20.2	3,633	< 1	< 1	< 1	< 2
	04/27/09		5.6	6.48	20.9	4,491	< 1	< 1	< 1	< 2
	06/11/10		6.0	6.29	21.1	4,662	< 1	< 1	< 1	< 2
	11/10/11		4.0	6.79	20.4	4,112	< 1	< 1	< 1	< 2
	06/26/12		4.9	6.98	22.7	4,637	< 1	< 1	< 1	< 2

Table 3. Summary of Groundwater Analyses
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date	Field Measured Parameters				BTEX Concentration - (ug/L)			
		DO (mg/L)	pH (Units)	Temp. (C)	Conductivity (us/cm)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard		none	6-9	none	none	10	750	750	620
MW-10	11/18/94	-	-	-	-	**9,000**	**16,000**	620	**8,500**
	08/05/98	-	-	-	-	**4,000**	**7,500**	190	**3,100**
	02/12/99	-	-	-	-	**4,300**	**7,700**	340	**3,300**
	11/18/99	-	-	-	-	**3,400**	**5,600**	280	**3,100**
	02/13/00	-	-	-	-	**4,800**	**9,200**	710	**6,200**
	06/20/00	-	-	-	-	**3,700**	**6,600**	380	**3,900**
	08/15/01	-	-	-	-	**4,590**	**454**	429	**4,680**

Table 3. Summary of Groundwater Analyses
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date		Field Measured Parameters				BTEX Concentration - (ug/L)			
			DO (mg/L)	pH (Units)	Temp. (C)	Conductivity (us/cm)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard			none	6-9	none	none	10	750	750	620
MW-11	11/21/94	(b)	-	-	-	-	-	-	-	-
	11/21/95		-	-	-	-	< 2	< 2	< 2	< 2
	02/22/96		-	7.34	21.9	1,920	< 2	< 2	< 2	< 2
	05/14/96		-	-	-	-	< 2	< 2	< 2	< 2
	08/12/96		-	7.11	25.7	2,050	< 2	< 2	< 2	< 3
	11/11/96		6.0	7.15	19.9	-	< 2	< 2	< 2	< 2
	02/05/97		7.0	7.56	14.8	2,300	< 2	< 2	< 2	< 2
	08/05/97		5.3	7.19	21.2	2,280	< 2	< 2	< 2	< 2
	02/24/98		6.5	7.35	18.8	2,100	< 5	< 5	< 5	< 5
	08/05/98		7.2	7.15	20.4	2,250	< 1	< 1	< 1	< 1
	02/12/99		-	-	-	-	< 1	< 1	< 1	< 1
	08/11/99		8.8	7.42	20.8	1,800	< 2	< 2	< 2	< 2
	02/13/00		6.6	7.83	19.6	2,050	< 1	< 1	< 1	< 1
	08/21/00	(a)	6.7	7.41	21.6	1,720	< 0.5	< 0.5	< 0.5	< 1
	02/17/01		-	-	-	-	< 0.500	< 0.500	< 0.500	< 0.10
	08/15/01		6.0	7.20	20.3	1,932	< 1	< 1	< 1	< 2
	02/27/02		6.3	7.38	21.6	2,020	< 1	< 1	< 1	< 1
	08/01/02		7.9	6.87	23.5	1,700	< 0.50	< 0.50	< 0.50	< 0.50
	02/13/03		6.1	7.41	22.3	1,960	< 0.50	< 0.50	< 0.50	< 0.50
	08/05/03		5.0	7.47	22.7	1,660	< 0.50	< 0.50	< 0.50	< 0.50
	05/24/04		5.1	7.46	21.9	1,780	< 0.50	< 0.50	< 0.50	< 0.50
	11/09/04*		5.8	7.14	20.2	1,775	< 0.50	< 0.50	< 0.50	< 0.50
	04/11/05		-	-	-	-	< 0.50	< 0.50	< 0.50	< 0.50
	12/01/05		5.8	7.46	19.5	1,456	< 0.50	< 0.50	< 0.50	< 0.50
	05/10/06		7.3	7.36	20.1	1,481	< 1	< 1	< 1	< 3
	12/14/06		7.3	7.28	20.0	1,374	< 1	< 1	< 1	< 3
	06/21/07		7.4	6.99	20.3	1,322	< 1	< 1	< 1	< 2
	12/07/07		6.7	7.26	20.0	1,216	< 1	< 1	< 1	< 2
	05/30/08		7.0	6.92	21.1	1,636	< 1	< 1	< 1	< 2
	12/11/08		6.2	7.24	19.4	1,648	< 1	< 1	< 1	< 2
	04/27/09		6.8	6.84	20.3	2,195	< 1	< 1	< 1	< 2
	06/11/10		7.6	6.28	20.9	2,572	< 1	< 1	< 1	< 2
	11/10/11		4.1	6.94	19.9	2,549	< 1	< 1	< 1	< 2
	06/26/12		5.6	7.00	21.3	2,809	< 1	< 1	< 1	< 2

Table 3. Summary of Groundwater Analyses
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date		Field Measured Parameters				BTEX Concentration - (ug/L)			
			DO (mg/L)	pH (Units)	Temp. (C)	Conductivity (us/cm)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard			none	6-9	none	none	10	750	750	620
MW-12	11/17/94		-	-	-	-	< 0.5	1.9	< 0.5	3.1
	11/21/95		-	6.97	19.2	3,260	< 2	< 2	< 2	< 2
	02/22/96		-	6.71	22.6	3,400	< 2	< 2	< 2	< 2
	05/14/96		-	-	-	-	< 2	< 2	< 2	< 2
	08/12/96		-	6.70	26.8	3,430	< 2	< 2	< 2	< 3
	11/12/96		6.0	7.06	19.3	-	< 2	< 2	< 2	< 2
	02/05/97		7.0	7.23	15.8	3,900	< 2	< 2	< 2	< 2
	08/05/97		4.9	6.85	21.8	3,880	< 2	< 2	< 2	< 2
	02/24/98		6.0	7.06	20.1	3,570	< 5	< 5	< 5	< 5
	08/05/98		5.6	6.96	22.1	3,830	< 1	< 1	< 1	< 1
	02/12/99		-	-	-	-	< 1	< 1	< 1	< 1
	08/11/99		6.7	7.13	20.7	3,770	< 2	< 2	< 2	< 2
	02/13/00		5.4	7.10	20.1	3,780	< 1	< 1	< 1	< 1
	08/21/00	(a)	6.7	7.06	21.1	3,350	< 0.5	0.5	0.8	1.1
	02/17/01		-	-	-	-	< 0.500	< 0.500	< 0.500	< 0.10
	08/15/01		4.5	7.23	20.7	3,690	< 1	< 1	< 1	< 2
	02/27/02		4.6	7.01	22.4	4,030	< 1	< 1	< 1	< 1
	08/01/02		4.3	6.84	21.4	3,580	< 0.50	< 0.50	< 0.50	< 0.50
	02/13/03		4.3	7.04	22.8	3,930	< 0.50	< 0.50	< 0.50	< 0.50
	08/05/03		4.1	7.05	23.4	3,380	< 0.50	< 0.50	< 0.50	< 0.50
	05/24/04		4.1	7.09	22.1	3,540	< 0.50	< 0.50	< 0.50	< 0.50
	11/09/04*		4.2	6.90	20.4	3,547	< 0.50	< 0.50	< 0.50	< 0.50
	04/11/05		-	-	-	-	< 0.50	< 0.50	< 0.50	< 0.50
	12/01/05		3.5	7.09	19.7	3,000	< 0.50	< 0.50	< 0.50	< 0.50
	05/10/06		4.8	6.75	20.5	3,128	< 1	< 1	< 1	< 3
	12/14/06		4.2	7.06	20.0	2,999	< 1	< 1	< 1	< 3
	06/21/07		4.4	7.11	20.4	3,049	< 1	< 1	< 1	< 2
	12/07/07		4.0	6.80	20.0	3,021	< 1	< 1	< 1	< 2
	05/30/08		6.3	6.59	21.8	3,106	< 1	< 1	< 1	< 2
	12/11/08		3.5	6.87	19.5	2,645	< 1	< 1	< 1	< 2
	04/27/09		4.7	6.44	20.5	3,244	< 1	< 1	< 1	< 2
	06/11/10		4.3	6.15	20.9	3,330	< 1	< 1	< 1	< 2
	11/10/11		3.0	6.58	19.8	3,251	< 1	< 1	< 1	< 2
	06/26/12		3.3	6.80	21.0	3,597	< 1	< 1	< 1	< 2

Table 3. Summary of Groundwater Analyses
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date		Field Measured Parameters				BTEX Concentration - (ug/L)			
			DO (mg/L)	pH (Units)	Temp. (C)	Conductivity (us/cm)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard			none	6-9	none	none	10	750	750	620
MW-13	12/01/94		-	-	-	-	< 0.5	< 0.5	< 0.5	< 0.5
	11/21/95		-	7.63	20.3	1,530	< 2	< 2	< 2	< 2
	02/22/96		-	7.18	24.1	1,880	< 2	< 2	< 2	< 2
	05/14/96		-	-	-	-	< 2	3	< 2	7
	08/12/96		-	7.02	26.7	1,980	< 2	< 2	< 2	< 3
	11/11/96		4.0	7.18	18.8	-	< 2	< 2	< 2	< 2
	02/05/97		7	7.65	17.7	1,900	< 2	< 2	< 2	< 2
	08/05/97		5.2	7.38	21.1	1,830	< 2	< 2	< 2	< 2
	02/24/98		4.5	7.27	19.5	1,703	< 5	< 5	< 5	< 5
	08/05/98		5.5	7.28	20.30	1,840	< 1	< 1	< 1	< 1
	02/12/99		-	-	-	-	< 1	< 1	< 1	< 1
	08/11/99		6.5	7.42	20.6	1,700	< 2	< 2	< 2	< 2
	02/13/00		5.2	7.37	19.3	1,753	< 1	< 1	< 1	< 1
	08/21/00	(a)	6.4	7.57	21.1	1,640	0.4	0.5	2.3	2.9
	02/17/01		-	-	-	-	< 0.500	< 0.500	< 0.500	< 0.10
	08/15/01		4.2	7.42	20.6	1,646	< 1	< 1	< 1	< 2
	02/27/02		4.1	7.33	21.7	1,804	< 1	< 1	< 1	< 1
	08/01/02		4.5	6.90	20.7	1,600	< 0.50	< 0.50	< 0.50	< 0.50
	02/13/03		4.2	7.37	22.3	1,803	< 0.50	< 0.50	< 0.50	< 0.50
	08/05/03		4.6	7.42	22.5	1,620	< 0.50	< 0.50	< 0.50	< 0.50
	05/24/04		4.4	7.43	22.0	1,800	< 0.50	< 0.50	< 0.50	< 0.50
	11/09/04*		4.8	7.11	20.0	1,979	< 0.50	< 0.50	< 0.50	< 0.50
	04/11/05		-	-	-	-	< 0.50	< 0.50	< 0.50	< 0.50
	12/01/05		3.6	7.26	18.8	1,928	< 0.50	< 0.50	< 0.50	< 0.50
	05/10/06		5.2	7.14	20.5	2,427	< 1	< 1	< 1	< 3
	12/14/06		2.0	6.93	19.7	2,710	< 1	< 1	< 1	< 3
	06/21/07		1.9	6.99	20.2	2,921	< 1	< 1	< 1	< 2
	12/07/07		1.5	6.80	19.9	3,130	< 1	< 1	< 1	< 2
	05/30/08		1.6	7.49	20.9	3,424	< 1	< 1	< 1	< 2
	12/11/08		1.0	6.84	19.3	2,994	< 1	< 1	< 1	< 2
	04/27/09		3.5	6.40	20.5	3,758	< 1	< 1	< 1	< 2
	06/11/10		3.4	6.24	20.8	3,771	< 1	< 1	< 1	< 2
	11/10/11		1.6	6.72	19.5	3,556	< 1	< 1	< 1	< 2
	06/26/12		2.5	6.93	21.2	3,881	< 1	< 1	< 1	< 2

Table 3. Summary of Groundwater Analyses
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date		Field Measured Parameters				BTEX Concentration - (ug/L)			
			DO (mg/L)	pH (Units)	Temp. (C)	Conductivity (us/cm)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard			none	6-9	none	none	10	750	750	620
SVE-2	07/28/12		-	-	-	-	**540**	< 10	82	< 20
SVE-6	06/26/12		2.6	7.17	21.8	3,006	< 1	< 1	< 1	< 2
SVE-8	06/26/12		2.8	6.90	21.2	5,393	< 1	< 1	< 1	< 2
SVE-9	06/26/12		2.1	7.11	23.0	3,706	< 1	< 1	< 1	< 2
SVE-10	06/26/12		-	-	-	-	**1,200**	< 20	100	390
SVE-13	02/13/00		-	-	-	-	**1,300**	**1,800**	270	**1,900**
	06/20/00		-	-	-	-	**1,600**	**2,300**	170	**2,100**
@ 1 well vol	08/21/00	(a)	-	-	-	-	**110**	140	91	390
	08/21/00	(a)	-	-	-	-	**240**	370	110	**1,000**
@ 1 well vol	02/18/01		-	-	-	-	**968**	**789**	93.2	**831**
	02/18/01		-	-	-	-	**1,170**	**1,110**	124	**1,240**
(Dup MW-17)	02/18/01		-	-	-	-	**860**	613	96.2	**864**
	08/15/01		-	-	-	-	**773**	60.1	73.1	520.3
	02/28/02		-	-	-	-	**614**	< 50	< 50	**1,670**
(Dup MW-24)	02/28/02		-	-	-	-	**686**	604	619	**1,670**
	08/01/02		-	-	-	-	**720**	< 10	74	220
	02/13/03		-	-	-	-	**760**	< 10	120	300
	08/05/03		-	-	-	-	**1,100**	< 10	93	250
	05/24/04		-	-	-	-	**620**	21	73	230
	11/09/04*		-	-	-	-	**920**	< 20	150	260
	04/11/05		-	-	-	-	**800**	4.8	120	160
	12/01/05		-	-	-	-	**590**	9.5	110	150
	05/11/06		-	-	-	-	**640**	< 10	120	67
	12/14/06		-	-	-	-	**540**	12	110	72
	06/21/07		-	-	-	-	**710**	< 10	160	76
	12/07/07		-	-	-	-	**580**	7.5	160	79
	05/30/08		-	-	-	-	**280**	2.8	33	75
	12/11/08		-	-	-	-	**510**	< 10	97	30
	04/27/09		-	-	-	-	**610**	< 10	110	31
	06/11/10		1.3	6.2	22.0	4770	**630**	< 10	100	36
	11/10/11		-	-	-	-	**510**	< 20	92	63
	06/26/12		-	-	-	-	**930**	< 20	140	170

Table 3. Summary of Groundwater Analyses
TW WT-1 Compressor Station Dehy Area

Well	Sampling Date		Field Measured Parameters				BTEX Concentration - (ug/L)			
			DO (mg/L)	pH (Units)	Temp. (C)	Conductivity (us/cm)	Benzene	Toluene	Ethylbenzene	Total Xylenes
NMWQCC Standard			none	6-9	none	none	10	750	750	620
SVE-14	09/08/99		1.2	6.89	22.0	2,460	**1,600**	**1,200**	360	**1,300**
	11/18/99		-	-	-	-	**1,400**	560	400	**970**
	02/13/00		-	-	-	-	**3,000**	**4,200**	510	**3,000**
	06/20/00		-	-	-	-	**1,600**	**2,300**	330	**2,400**
@ 1 well vol	08/21/00	(a)	-	-	-	-	**1,600**	**1,900**	440	**2,430**
	08/21/00	(a)	5.6	7.25	22.8	2830	**2,100**	**2,900**	380	**2,620**
@ 1 well vol	02/18/01		-	-	-	-	**819**	**1,130**	297	**1,900**
	02/18/01		-	-	-	-	**3,740**	**5,910**	344	**3,880**
(Dup MW-18)	02/18/01		-	-	-	-	**2,150**	**3,290**	445	**2,910**
	08/15/01		-	-	-	-	**369**	**1,520**	632	**6,440**
	08/01/02		-	-	-	-	**3,000**	**2,900**	380	**4,100**
	05/24/04		-	-	-	-	**260**	340	260	**1,800**
	11/10/11		-	-	-	-	**650**	86	**760**	**5,700**
	06/26/12		-	-	-	-	**950**	< 20	360	**2,400**

NOTES:
(a) Trip Blank contained low concentrations of BTEX constituents.
(b) No sample collected due to insufficient volume of water in well.
(c) @ 1 well vol - Sample collected after purging 1 casing volume; all others collected after 3 casing volumes.
(d) Dup MW-17 - Blind duplicate sample collected and labeled as MW-17.

Table 4. Summary of SVE System Vapor Concentration Monitoring
TW WT-1 Compressor Station Dehy Area

	SVE Blower Unit				
Date	Total NMHC C(ug/L)	Flow Rate Q(scfm)	Potential Emissions M(lb/hr)	Estimated M(tons/mo)	Estimated M(gals/mo)
03/20/97	6,600	200	4.9	1.8	594
08/06/97	5,000	200	3.7	1.4	450
12/30/97	7,300	200	5.5	2.0	656
08/05/98	6,500	200	4.9	1.8	585
08/12/98	5,300	200	4.0	1.4	477
08/12/98	5,000	200	3.7	1.4	450
04/13/99	6,800	200	5.1	1.9	612
12/07/99	4,800	200	3.6	1.3	432
12/07/99	4,900	200	3.7	1.3	441
05/22/00	3,700	200	2.8	1.0	333
05/22/00	6,300	200	4.7	1.7	567
06/15/00	3,000	200	2.2	0.8	270
06/15/00	3,700	200	2.8	1.0	333
08/21/00	3,900	200	2.9	1.1	351
06/10/02	3,630	200	2.7	1.0	326
06/10/02	3,440	200	2.6	0.9	309
08/09/02	551	200	0.4	0.2	50
08/09/02	543	200	0.4	0.1	49
05/02/03	3,450	200	2.6	0.9	310
05/02/03	2,740	200	2.1	0.7	246
07/25/03	1,550	200	1.2	0.4	139
08/21/03	2,590	200	1.9	0.7	233
04/20/04	2,750	200	2.1	0.8	247
04/20/04	2,740	200	2.1	0.7	246
08/30/04	2,590	200	1.9	0.7	233
08/30/04	2,110	200	1.6	0.6	190
08/08/05	2,060	200	1.5	0.6	185
08/08/05	2,440	200	1.8	0.7	219
11/14/05	1,620	200	1.2	0.4	146
11/14/05	1,830	200	1.4	0.5	165
09/18/06	1,250	200	0.9	0.3	112
09/18/06	1,300	200	1.0	0.4	117
07/01/08	1,400	200	1.0	0.4	126
07/01/08	1,370	200	1.0	0.4	123
06/27/09	2,090	200	1.6	0.6	188
06/27/09	1,820	200	1.4	0.5	164
08/22/09	1,940	200	1.5	0.5	174
08/22/09	1,790	200	1.3	0.5	161
11/12/10	1,180	200	0.9	0.3	106
11/12/10	1,330	200	1.0	0.4	120
07/17/11	929	200	0.7	0.3	84
07/06/12	738	200	0.6	0.2	66
07/28/12	601	200	0.5	0.2	54
07/28/12	653	200	0.5	0.2	59
08/31/12	652	200	0.5	0.2	59
08/31/12	594	200	0.4	0.2	53
10/12/12	640	200	0.5	0.2	58
10/12/12	660	200	0.5	0.2	59

Notes:
1) Concentrations based on Hall Lab analysis of SVE system samples
2) A flow rate of 200 scfm was used in the calculation because this is value specified in the NOI application

Table 5. Summary of Completion Details for Soil Borings Completed as Wells
TWP WT-1 Compressor Station Dehy Area

Well	Source[a]	Date of Completion	Measuring Point Elevation (ft)	Northing (ft)	Easting (ft)	Total Depth of Boring (ft bgs)	Measured Depth of Well (ft from TOC)	Surface Completion Type	Casing Diameter (in.)	Screen Interval (ft bgs)	Top of Sand Pack (ft bgs)
MW-9	Eades Drlg/DBS	11/18/94	3557.31 (b)	-1209.40	-1254.20	60.5	na	Flush Mount	2	44-59	40.5
MW-10	Eades Drlg/DBS	11/17/94	3553.45 (b)	-986.60	-1342.10	62.5	63.57	Flush Mount	2	47.5-62.5	43.5
MW-11	Eades Drlg/DBS	11/21/94	3547.84 (b)	-864.70	-1562.50	65.0	59.78	Flush Mount	2	45-60	38.5
MW-12	Eades Drlg/DBS	11/16/94	3551.19 (b)	-818.40	-1192.90	60.0	60.11	Flush Mount	2	45-60	42.3
MW-13	Eades Drlg/DBS	11/16/94	3547.78 (b)	-708.90	-1359.20	58.0	57.52	Flush Mount	2	43-58	39.5
SVE-1	Eades Drlg/DBS	10/04/95	3551.22 (d)	-903.90	-1406.60	55.0	54.49	Flush Mount	2	35-55	32.9
SVE-2	Eades Drlg/DBS	10/05/95	3551.96 (d)	-901.70	-1325.80	53.0	52.75	Flush Mount	2	33-53	30.8
SVE-3	Eades Drlg/DBS	10/05/95	3552.75 (d)	-888.70	-1245.80	55.0	55.30	Flush Mount	2	35-55	32.6
SVE-3 P&A	CES	12/01/04	--	--	--	--	--	--	--	--	--
SVE-4	Eades Drlg/DBS	10/04/95	3553.03 (c)	-989.20	-1359.10	55.0	na	Flush Mount	2	30-55	27.9
SVE-4 P&A (e)	GPI/CES	05/25/99	--	--	--	--	--	--	--	--	--
SVE-5	Eades Drlg/DBS	10/04/95	3554.39 (d)	-986.40	-1275.10	52.7	52.11	Flush Mount	2	32.7-52.7	30.0
SVE-6	Eades Drlg/DBS	10/05/95	3553.74 (d)	-984.10	-1198.40	55.0	54.29	Flush Mount	2	35-55	32.8
SVE-7	Eades Drlg/DBS	10/04/95	3553.81 (d)	-1071.00	1402.50	58.0	57.68	Flush Mount	2	33-58	31.8
SVE-8	Eades Drlg/DBS	10/05/95	3555.25 (d)	-1072.80	-1314.70	56.5	56.76	Flush Mount	2	36.5-56.5	34.8
SVE-9	Eades Drlg/DBS	10/05/95	3555.36 (d)	-1073.10	-1249.20	56.2	55.90	Flush Mount	2	36.2-56.2	34.2
SVE-10 (e)	GPI/CES	05/25/99	3554.40 (d)	-989.58	-1359.42	66.6	64.46	Flush Mount	4	47.5-62.5	42.7
SVE-11	GPI/CES	05/14/99	3555.33 (d)	-986.39	-1269.94	63.4	63.93	Flush Mount	4	47.5-62.5	44.5
SVE-12	GPI/CES	05/14/99	3555.64 (d)	-985.74	-1307.78	63.5	63.55	Flush Mount	4	47.5-62.5	42.7
SVE-13	GPI/CES	05/10/99	3554.11 (d)	-954.94	-1314.42	64.8	63.21	Flush Mount	4	47.5-62.5	42.3
SVE-14	GPI/CES	05/14/99	3554.83 (d)	-960.46	-1248.58	63.4	63.97	Flush Mount	4	47.5-62.5	43.5

NOTES:
(a) Driller/Consultant
(b) Survey by John West Engineering on 11/94
(c) Survey by John West Engineering on 2/96
(d) Survey by Cypress Engineering on 8/99
(e) SVE-10 is an overdrill of SVE-4
na - Information not available

Table 6. Monitor Well Sampling Locations, Frequency, and Sample Analysis Plan
TW WT-1 Compressor Station Dehy Area

Well ID	Analytical Requirements for Annual Event	Benzene (ppb) Latest Result	Comments
MW-9	BTEX	< 1	
MW-10	BTEX	na	contains PSH
MW-11	BTEX	< 1	clean downgradient well
MW-12	BTEX	< 1	clean downgradient well
MW-13	BTEX	< 1	clean downgradient well
SVE-2	BTEX	540	
SVE-10	BTEX	1200	
SVE-13	BTEX	930	
SVE-14	BTEX	950	contains PSH intermittently

Notes:
1) na - not available
2) BTEX - BTEX Compounds by EPA Method 8021B

Table 7. Summary for Product Removal Efforts
TW WT-1 Compressor Station Dehy Area

		Initial Measurements			Removal Actions	Post Measurements		
Well	Date	Depth to PSH (ft)	Depth to Water or PSH/Water Interface (ft)	PSH Thickness (ft)	Removal Methods	Depth to PSH (ft)	Depth to Water or PSH/Water Interface (ft)	PSH Thickness (ft)
MW-10	12/10/08	49.74	50.89	1.15				
	03/09/09				Put in Sock Filter			
	03/16/09	51.16	51.31	0.15	Changed Sock Filter			
	03/22/09	--	50.21	--	Changed Sock Filter			
	03/29/09	--	49.95	--	Changed Sock Filter			
	04/08/09				Removed Sock Filter			
	06/11/10	50.59	50.65	0.06	Bailed		50.80	
	06/19/10	--	50.74	--				
	07/05/10	--	50.96	--				
	08/08/10	--	50.60	--				
	10/08/10	--	50.60	--				
	12/03/10	--	50.40	--				
	06/27/12	50.78	50.83	0.05	Used Absorbent		51.12	
	08/31/12	--	50.80	--				
	10/12/12	--	50.95	--				
SVE-5	06/11/10	50.08	50.12	0.04	Bailed		51.70	sheen
	06/19/10	50.05	50.05	sheen				
	07/05/10	50.63	50.70	0.07	Bailed		51.40	
	08/08/10	50.09	50.09	sheen				
	10/08/10	50.80	50.85	0.05	Bailed		51.56	
	12/03/10	--	50.56	--				
	06/27/12	50.61	50.67	0.06	Used Absorbent		50.97	
	08/31/12	--	50.85	--				
	10/12/12	--	50.90	--				
SVE-11	12/10/08	50.58	52.72	2.14				
	03/09/09				Put in Sock Filter			
	03/16/09	51.13	51.16	0.03	Changed Sock Filter			
	03/22/09	--	51.18	--	Changed Sock Filter			
	03/29/09	--	51.12	--	Changed Sock Filter			
	04/08/09				Removed Sock Filter			
	06/11/10	51.49	51.61	0.12	Bailed		51.88	sheen
	06/19/10	51.48	51.48	sheen				
	07/05/10	51.78	51.82	0.04	Bailed		51.88	
	08/08/10	--	51.60	--				
	10/08/10	--	51.73	--				
	12/03/10	--	51.41	--				
	06/27/12	51.66	52.24	0.58	Bailed / Absorbent	51.97	51.97	sheen
	08/31/12	--	52.00	--				
	10/12/12	--	52.07	--				
SVE-12	12/10/08	51.11	52.34	1.23				
	03/09/09				Put in Sock Filter			
	03/16/09	--	51.50	--	Changed Sock Filter			
	03/22/09	--	51.55	--	Changed Sock Filter			
	03/29/09	--	51.41	--	Changed Sock Filter			
	04/08/09				Removed Sock Filter			
	06/11/10	52.04	52.08	0.04	Bailed		52.20	sheen
	06/19/10	52.18	52.18	sheen				
	07/05/10	52.35	52.37	0.02	Bailed		52.35	
	08/08/10	50.09	50.09	sheen				
	10/08/10	51.95	52.00	0.05	Bailed		52.05	sheen
	12/03/10	51.70	51.75	0.05	Bailed		51.92	
	06/27/12	52.25	52.40	0.15	Used Absorbent		52.39	
	08/31/12	--	52.14	--				
	10/12/12	--	52.37	--				

APPENDICES

APPENDIX A

Laboratory Reports for Soil Vapor Samples

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 19, 2012

Sandra Sharp

Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3421
FAX (281) 859-1881

RE: TWP WT-1 Station OrderNo.: 1207417

Dear Sandra Sharp:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/11/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: WT-1 Station SVE Effluent
Project: TWP WT-1 Station
Collection Date: 7/6/2012 1:20:00 PM
Lab ID: 1207417-001 **Matrix:** AIR **Received Date:** 7/11/2012 11:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	738	25.0		µg/L	5	7/17/2012 1:28:03 PM
% GRO Hydrocarbons: C05-C6	5.30	0		%	5	7/17/2012 1:28:03 PM
% GRO Hydrocarbons: C06-C7	16.9	0		%	5	7/17/2012 1:28:03 PM
% GRO Hydrocarbons: C07-C8	30.7	0		%	5	7/17/2012 1:28:03 PM
% GRO Hydrocarbons: C08-C9	26.5	0		%	5	7/17/2012 1:28:03 PM
% GRO Hydrocarbons: C09-C10	14.6	0		%	5	7/17/2012 1:28:03 PM
% GRO Hydrocarbons: C10-C11	4.40	0		%	5	7/17/2012 1:28:03 PM
% GRO Hydrocarbons: C11-C12	1.20	0		%	5	7/17/2012 1:28:03 PM
% GRO Hydrocarbons: C12-C14	0.400	0		%	5	7/17/2012 1:28:03 PM
% GRO Hydrocarbons: C14+	ND	0		%	5	7/17/2012 1:28:03 PM
Surr: BFB	160	43.1-185		%REC	5	7/17/2012 1:28:03 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: WT-1 Station SVE Effluent Dupl
Project: TWP WT-1 Station
Collection Date: 7/6/2012 1:20:00 PM
Lab ID: 1207417-002 **Matrix:** AIR **Received Date:** 7/11/2012 11:45:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	66.0	25.0		µg/L	5	7/17/2012 1:55:23 PM
% GRO Hydrocarbons: C05-C6	4.00	0		%	5	7/17/2012 1:55:23 PM
% GRO Hydrocarbons: C06-C7	13.3	0		%	5	7/17/2012 1:55:23 PM
% GRO Hydrocarbons: C07-C8	31.2	0		%	5	7/17/2012 1:55:23 PM
% GRO Hydrocarbons: C08-C9	23.3	0		%	5	7/17/2012 1:55:23 PM
% GRO Hydrocarbons: C09-C10	20.7	0		%	5	7/17/2012 1:55:23 PM
% GRO Hydrocarbons: C10-C11	4.60	0		%	5	7/17/2012 1:55:23 PM
% GRO Hydrocarbons: C11-C12	1.60	0		%	5	7/17/2012 1:55:23 PM
% GRO Hydrocarbons: C12-C14	0.900	0		%	5	7/17/2012 1:55:23 PM
% GRO Hydrocarbons: C14+	0.400	0		%	5	7/17/2012 1:55:23 PM
Surr: BFB	96.8	43.1-185		%REC	5	7/17/2012 1:55:23 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1207417**

19-Jul-12

Client: Cypress Engineering

Project: TWP WT-1 Station

Sample ID	**1207255-001ADUP**	SampType:	**DUP**		TestCode:	**EPA Method 8015B: Gasoline Range**				
Client ID:	**BatchQC**	Batch ID:	**R4044**		RunNo:	**4044**				
Prep Date:		Analysis Date:	**7/13/2012**		SeqNo:	**115492**	Units:	**%REC**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		2000		97.1	43.1	185	0	0	

Sample ID	**1207419-001ADUP**	SampType:	**DUP**		TestCode:	**EPA Method 8015B: Gasoline Range**				
Client ID:	**BatchQC**	Batch ID:	**R4077**		RunNo:	**4077**				
Prep Date:		Analysis Date:	**7/16/2012**		SeqNo:	**116768**	Units:	**%REC**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB	1900		2000		93.3	43.1	185	0	0	

Sample ID	**1207417-002ADUP**	SampType:	**DUP**		TestCode:	**EPA Method 8015B: Gasoline Range**				
Client ID:	**WT-1 Station SVE E**	Batch ID:	**R4106**		RunNo:	**4106**				
Prep Date:		Analysis Date:	**7/17/2012**		SeqNo:	**117684**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	62	25						5.61	24.2	
Surr: BFB	8300		10000		83.0	43.1	185	0	0	

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: CYP Work Order Number: 1207417

Received by/date: 07/11/12

Logged By: **Ashley Gallegos** 7/11/2012 11:45:00 AM

Completed By: **Ashley Gallegos** 7/11/2012 3:07:33 PM

Reviewed By: 07/11/12

Chain of Custody

1. Were seals intact?	Yes	No	Not Present ✔
2. Is Chain of Custody complete?	Yes ✔	No	Not Present
3. How was the sample delivered?	UPS		

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ✔	No	NA
5. Was an attempt made to cool the samples?	Yes ✔	No	NA
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA
7. Sample(s) in proper container(s)?	Yes ✔	No	
8. Sufficient sample volume for indicated test(s)?	Yes ✔	No	
9. Are samples (except VOA and ONG) properly preserved?	Yes ✔	No	
10. Was preservative added to bottles?	Yes	No ✔	NA
11. VOA vials have zero headspace?	Yes	No	No VOA Vials ✔
12. Were any sample containers received broken?	Yes	No ✔	
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	# of preserved bottles checked for pH:
14. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	(<2 or >12 unless noted)
15. Is it clear what analyses were requested?	Yes ✔	No	Adjusted?
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by:

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: Date:

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1		Good	Yes			

Chain-of-Custody Record

HALL ENVIRONMENTAL ANALYSIS LABORATORY

www.hallenvironmental.com

4901 Hawkins NE - Albuquerque, NM 87109

Tel. 505-345-3975 Fax 505-345-4107

Client: Cypress Engineering Services Inc
ATTN: George Robinson PE

Mailing Address: 777 Highway 6 North
Houston, TX 77095

Phone #: 281.797.3420

email or Fax#: george.robinson@cypressinc.us

QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)

Accreditation
☐ NELAP ☐ Other _____

☐ EDD (Type) _____

Turn-Around Time:
☒ Standard ☐ Rush _____

Project Name: TWP WT-1 Station

Project #: SVE Effluent Sampling 2012

Project Manager: Sandy Sharp

Sampler: CM Barahill, PG

On Ice: ☐ Yes ☒ No

Sample Temperature:

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1207417
7/06/12	13:20	Air	WT-1 Station SVE Effluent	1x1 Liter Tedlar	None	-001
7/06/12	13:20	Air	WT-1 Station SVE Effluent Duplicate	1x1 Liter Tedlar	None	-002

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
		X													
		X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/10/12	1300			07/11/12	1145
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Analysis: TPH mod 8015 GRO
Questions? Please Call Sandy Sharp @ 281.797.3421

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 06, 2012

Sandra Sharp

Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3421
FAX (281) 859-1881

RE: TWP WT-1 Station De-Hy Area OrderNo.: 1207D34

Dear Sandra Sharp:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/31/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE Exhaust
Project: TWP WT-1 Station De-Hy Area
Collection Date: 7/28/2012 2:00:00 PM
Lab ID: 1207D34-001 **Matrix:** AIR
Received Date: 7/31/2012 12:58:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	601	25.0		µg/L	5	8/1/2012 3:27:05 PM
% GRO Hydrocarbons: C05-C6	2.90	0		%	5	8/1/2012 3:27:05 PM
% GRO Hydrocarbons: C06-C7	12.7	0		%	5	8/1/2012 3:27:05 PM
% GRO Hydrocarbons: C07-C8	32.3	0		%	5	8/1/2012 3:27:05 PM
% GRO Hydrocarbons: C08-C9	31.8	0		%	5	8/1/2012 3:27:05 PM
% GRO Hydrocarbons: C09-C10	13.1	0		%	5	8/1/2012 3:27:05 PM
% GRO Hydrocarbons: C10-C11	4.30	0		%	5	8/1/2012 3:27:05 PM
% GRO Hydrocarbons: C11-C12	2.30	0		%	5	8/1/2012 3:27:05 PM
% GRO Hydrocarbons: C12-C14	0.600	0		%	5	8/1/2012 3:27:05 PM
% GRO Hydrocarbons: C14+	ND	0		%	5	8/1/2012 3:27:05 PM
Surr: BFB	180	43.1-185		%REC	5	8/1/2012 3:27:05 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE Exhaust Duplicate
Project: TWP WT-1 Station De-Hy Area
Collection Date: 7/28/2012 2:00:00 PM
Lab ID: 1207D34-002 **Matrix:** AIR
Received Date: 7/31/2012 12:58:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	653	25.0		µg/L	5	8/1/2012 3:54:48 PM
% GRO Hydrocarbons: C05-C6	2.80	0		%	5	8/1/2012 3:54:48 PM
% GRO Hydrocarbons: C06-C7	12.2	0		%	5	8/1/2012 3:54:48 PM
% GRO Hydrocarbons: C07-C8	30.2	0		%	5	8/1/2012 3:54:48 PM
% GRO Hydrocarbons: C08-C9	32.2	0		%	5	8/1/2012 3:54:48 PM
% GRO Hydrocarbons: C09-C10	12.4	0		%	5	8/1/2012 3:54:48 PM
% GRO Hydrocarbons: C10-C11	7.50	0		%	5	8/1/2012 3:54:48 PM
% GRO Hydrocarbons: C11-C12	2.10	0		%	5	8/1/2012 3:54:48 PM
% GRO Hydrocarbons: C12-C14	0.600	0		%	5	8/1/2012 3:54:48 PM
% GRO Hydrocarbons: C14+	ND	0		%	5	8/1/2012 3:54:48 PM
Surr: BFB	189	43.1-185	S	%REC	5	8/1/2012 3:54:48 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: CYP Work Order Number: 1207D34

Received by/date: AG 07/31/12

Logged By: **Anne Thorne** 7/31/2012 12:58:00 PM Anne Thorne

Completed By: **Anne Thorne** 7/31/2012 Anne Thorne

Reviewed By: 07/31/12

Chain of Custody

1. Were seals intact?	Yes ☐	No ☐	Not Present ☑
2. Is Chain of Custody complete?	Yes ☑	No ☐	Not Present ☐
3. How was the sample delivered?	UPS		

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ☐	No ☐	NA ☑
5. Was an attempt made to cool the samples?	Yes ☐	No ☐	NA ☑
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ☐	No ☐	NA ☑
7. Sample(s) in proper container(s)?	Yes ☑	No ☐	
8. Sufficient sample volume for indicated test(s)?	Yes ☑	No ☐	
9. Are samples (except VOA and ONG) properly preserved?	Yes ☑	No ☐	
10. Was preservative added to bottles?	Yes ☐	No ☑	NA ☐
11. VOA vials have zero headspace?	Yes ☐	No ☐	No VOA Vials ☑
12. Were any sample containers received broken?	Yes ☐	No ☑	
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ☑	No ☐	
14. Are matrices correctly identified on Chain of Custody?	Yes ☑	No ☐	
15. Is it clear what analyses were requested?	Yes ☑	No ☐	
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ☑	No ☐	

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

Chain-of-Custody Record

Client: Cypress Engineering Services
ATTN: George Robinson PE
Mailing Address: 7171 Highway 6 North, Ste 102 Houston, TX 77095
Phone #: 281. 797. 3420
email or Fax#: george.robinson@cypressinc.us
QA/QC Package: Cypress Inc. WS-
☐ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☑ Standard ☐ Rush _____
Project Name: TNP WT-1 Station De-Hy Area
Project #: SVE Exhaust Air Sampling 2012
Project Manager: Dr Sandy Sharp
Sampler: CM Barnhill, PE
On Ice: ☐ Yes ☑ No
Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1207D34	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015D (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions ($F, Cl, NO_3, NO_2, PO_4, SO_4$)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
7/28/12	1400	Air	SVE Exhaust	1x1 Liter Tedlar	None	-001			X									
7/28/12	1400	Air	SVE Exhaust Duplicate	1x1 Liter Tedlar	None	-002			X									

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/30/12	0930			07/31/12	1258
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Any Questions Please Call Sandy Sharp 281. 797. 3421

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

September 10, 2012

Sandra Sharp

Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3421
FAX

RE: TWP WT-1 Station De-Hy Area OrderNo.: 1209073

Dear Sandra Sharp:

Hall Environmental Analysis Laboratory received 2 sample(s) on 9/5/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE Exhaust Effluent
Project: TWP WT-1 Station De-Hy Area
Collection Date: 8/31/2012 1:00:00 PM
Lab ID: 1209073-001 **Matrix:** AIR
Received Date: 9/5/2012 10:29:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	652	50.0		µg/L	10	9/5/2012 2:33:38 PM
% GRO Hydrocarbons: C05-C6	2.00	0		%	10	9/5/2012 2:33:38 PM
% GRO Hydrocarbons: C06-C7	9.10	0		%	10	9/5/2012 2:33:38 PM
% GRO Hydrocarbons: C07-C8	21.6	0		%	10	9/5/2012 2:33:38 PM
% GRO Hydrocarbons: C08-C9	22.3	0		%	10	9/5/2012 2:33:38 PM
% GRO Hydrocarbons: C09-C10	26.9	0		%	10	9/5/2012 2:33:38 PM
% GRO Hydrocarbons: C10-C11	13.7	0		%	10	9/5/2012 2:33:38 PM
% GRO Hydrocarbons: C11-C12	2.70	0		%	10	9/5/2012 2:33:38 PM
% GRO Hydrocarbons: C12-C14	1.30	0		%	10	9/5/2012 2:33:38 PM
% GRO Hydrocarbons: C14+	0.400	0		%	10	9/5/2012 2:33:38 PM
Surr: BFB	137	43.1-185		%REC	10	9/5/2012 2:33:38 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE Exhaust Effluent Duplicate
Project: TWP WT-1 Station De-Hy Area
Collection Date: 8/31/2012 1:00:00 PM
Lab ID: 1209073-002 **Matrix:** AIR
Received Date: 9/5/2012 10:29:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	594	50.0		µg/L	10	9/5/2012 3:00:45 PM
% GRO Hydrocarbons: C05-C6	2.20	0		%	10	9/5/2012 3:00:45 PM
% GRO Hydrocarbons: C06-C7	10.2	0		%	10	9/5/2012 3:00:45 PM
% GRO Hydrocarbons: C07-C8	33.4	0		%	10	9/5/2012 3:00:45 PM
% GRO Hydrocarbons: C08-C9	24.3	0		%	10	9/5/2012 3:00:45 PM
% GRO Hydrocarbons: C09-C10	18.6	0		%	10	9/5/2012 3:00:45 PM
% GRO Hydrocarbons: C10-C11	7.40	0		%	10	9/5/2012 3:00:45 PM
% GRO Hydrocarbons: C11-C12	2.40	0		%	10	9/5/2012 3:00:45 PM
% GRO Hydrocarbons: C12-C14	1.10	0		%	10	9/5/2012 3:00:45 PM
% GRO Hydrocarbons: C14+	0.400	0		%	10	9/5/2012 3:00:45 PM
Surr: BFB	135	43.1-185		%REC	10	9/5/2012 3:00:45 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits		

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209073**

10-Sep-12

Client: Cypress Engineering

Project: TWP WT-1 Station De-Hy Area

Sample ID **5ML RB**	SampType: **MBLK**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **PBW**	Batch ID: **R5332**	RunNo: **5332**
Prep Date:	Analysis Date: **9/5/2012**	SeqNo: **151916** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	0.050								
Surr: BFB	19		20.00		97.2	69.8	119			

Sample ID **2.5UG GRO LCS**	SampType: **LCS**	TestCode: **EPA Method 8015B: Gasoline Range**
Client ID: **LCSW**	Batch ID: **R5332**	RunNo: **5332**
Prep Date:	Analysis Date: **9/5/2012**	SeqNo: **151917** Units: **mg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	0.48	0.050	0.5000	0	96.0	75.9	119			
Surr: BFB	17		20.00		86.4	69.8	119			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1209073**

10-Sep-12

Client: Cypress Engineering

Project: TWP WT-1 Station De-Hy Area

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R5332**	RunNo:	**5332**					
Prep Date:		Analysis Date:	**9/5/2012**	SeqNo:	**151932**	Units:	**%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	22		20.00		110	55	140			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R5332**	RunNo:	**5332**					
Prep Date:		Analysis Date:	**9/5/2012**	SeqNo:	**151933**	Units:	**%REC**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Bromofluorobenzene	23		20.00		114	55	140			

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: CYP Work Order Number: 1209073

Received by/date: _____

Logged By: **Anne Thorne** 9/5/2012 10:29:00 AM Anne Thorne

Completed By: **Anne Thorne** 9/5/2012 Anne Thorne

Reviewed By: 09/05/12

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? UPS

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. ~~Was an attempt made to cool the samples?~~ Yes ☐ No ☐ NA ☑
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☐ No ☐ NA ☑
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. VOA vials have zero headspace? Yes ☐ No ☐ No VOA Vials ☑
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

Dec Con B Effluent Dup collection date is 08/31/12

19. **Cooler Information**

Chain-of-Custody Record

Client: Cypress Engineering Services Inc
ATTN: George Robinson, PE
Mailing Address: 4727 Highway 6 North #102
Houston, TX 77095
Phone #: 281.797.3420
email or Fax#:
QA/QC Package: george.robinson@cypressinc.us
☑ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☐ Standard ☐ Rush
Project Name: Twp WT-1 Station De-Hy Area
Project #: SVE Effluent Sampling 2012
Project Manager: Sandy Sharp
Sampler: M Barnhill PE
On Ice: ☐ Yes ☑ No
Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No.
08/31/12	1300	Air	SVE Exhaust Effluent	1x1L Tedlar	None	1209073-001
08/31/12	1300	Air	SVE Exhaust Effluent Duplicate	1x1L Tedlar	None	-002

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH Method 8015B (Gas/Diesel)	TPH (Method 418.1)	EDB (Method 504.1)	8310 (PNA or PAH)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
		X									
		X									

Date:	Time:	Relinquished by:	Received by:	Date	Time
09/04/12	1630			09/05/12	1029
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Analysis: TPH Mod 8015 GRO
Questions? Please Call Sandy Sharpe 281.797.3420

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

October 29, 2012

Sandra Sharp

Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3421
FAX

RE: TWP WT-1 Station Dc-Hy Area OrderNo.: 1210762

Dear Sandra Sharp:

Hall Environmental Analysis Laboratory received 2 sample(s) on 10/16/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1210762**
Date Reported: **10/29/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE Exhaust Effluent
Project: TWP WT-1 Station Dc-Hy Area
Collection Date: 10/12/2012 8:00:00 AM
Lab ID: 1210762-001
Matrix: AIR
Received Date: 10/16/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	640	5.0		µg/L	1	10/23/2012 11:30:50 AM
Surr: BFB	677	43.1-185	S	%REC	1	10/23/2012 11:30:50 AM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE Exhaust Effluent Duplicate
Project: TWP WT-1 Station Dc-Hy Area
Collection Date: 10/12/2012 8:00:00 AM
Lab ID: 1210762-002 **Matrix:** AIR
Received Date: 10/16/2012 10:00:00 AM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **NSB**
Gasoline Range Organics (GRO)	660	5.0		µg/L	1	10/23/2012 12:53:59 PM
Surr: BFB	687	43.1-185	S	%REC	1	10/23/2012 12:53:59 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits
RL	Reporting Detection Limit	S	Spike Recovery outside accepted recovery limits

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1210762**

29-Oct-12

Client: Cypress Engineering

Project: TWP WT-1 Station Dc-Hy Area

Sample ID	**1210762-001ADUP**	SampType:	**DUP**		TestCode:	**EPA Method 8015B: Gasoline Range**				
Client ID:	**SVE Exhaust Efflue**	Batch ID:	**R6438**		RunNo:	**6438**				
Prep Date:		Analysis Date:	**10/23/2012**		SeqNo:	**185181**	Units:	**µg/L**		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	650	5.0						0.684	21	
Surr: BFB	13000		2000		669	43.1	185	0	0	S

Qualifiers:

*	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
P	Sample pH greater than 2	R	RPD outside accepted recovery limits

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: CYP Work Order Number: 1210762

Received by/date: 10/16/12

Logged By: **Ashley Gallegos** 10/16/2012 10:00:00 AM

Completed By: **Ashley Gallegos** 10/16/2012 11:11:53 AM

Reviewed By: 10/16/12

Chain of Custody

1.	Were seals intact?	Yes		No		Not Present ✔
2.	Is Chain of Custody complete?	Yes	✔	No		Not Present
3.	How was the sample delivered?	UPS				

Log In

4.	Coolers are present? (see 19. for cooler specific information)	Yes	✔	No		NA
5.	Was an attempt made to cool the samples?	Yes	✔	No		NA
6.	Were all samples received at a temperature of >0° C to 6.0°C	Yes	✔	No		NA
7.	Sample(s) in proper container(s)?	Yes	✔	No		
8.	Sufficient sample volume for indicated test(s)?	Yes	✔	No		
9.	Are samples (except VOA and ONG) properly preserved?	Yes	✔	No		
10.	Was preservative added to bottles?	Yes		No	✔	NA
11.	VOA vials have zero headspace?	Yes		No		No VOA Vials ✔
12.	Were any sample containers received broken?	Yes		No	✔	
13.	Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes	✔	No		# of preserved bottles checked for pH:
14.	Are matrices correctly identified on Chain of Custody?	Yes	✔	No		(<2 or >12 unless noted)
15.	Is it clear what analyses were requested?	Yes	✔	No		Adjusted?
16.	Were all holding times able to be met? (If no, notify customer for authorization.)	Yes	✔	No		Checked by:

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes | No | NA ✔

Person Notified: Date:

By Whom: Via: eMail | Phone | Fax | In Person

Regarding:

Client Instructions:

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1		Good	Yes			

Chain-of-Custody Record

Client: Cypress Engineering Services Inc
ATTN: George Robinson PE
Mailing Address: 11111 Highway 6 North ste 102
Houston Tx 77095
Phone #: 281.797.3420
email or Fax#: george.robinson@cypressinc.us
QA/QC Package: Standard ☐ Level 4 (Full Validation)
Accreditation ☐ NELAP ☐ Other ____
☐ EDD (Type) ____

Turn-Around Time: ☒ Standard ☐ Rush ____
Project Name: Twp WT-1 Station De-Hy Area
Project #: SVE Effluent Sampling 2012
Project Manager: Sandy Sharp
Sampler: CM Barnhill, PE
On Ice: ☐ Yes ☒ No
Sample Temperature:

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Analysis Request

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1210702	BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH (8015B) (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
9/12/12	0800	Air	SVE Exhaust Effluent	1x1 Liter Tedlar	None	-001			X													
9/12/12	0800	Air	SVE Exhaust Effluent Duplicate	1x1 Liter Tedlar	None	-002			X													

Date:	Time:	Relinquished by:	Received by:	Date	Time
9/13/12	1030			10/10/12	1000
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Any Questions Please Call Sandy Sharpe 281.797.3421

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

APPENDIX B

Laboratory Reports for Groundwater Samples

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

July 12, 2012

George Robinson

Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3420
FAX (281) 859-1881

RE: Transwestern Pipeline Co WT-1 DEHY OrderNo.: 1206C63

Dear George Robinson:

Hall Environmental Analysis Laboratory received 12 sample(s) on 6/29/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

Analytical Report
Lab Order **1206C63**
Date Reported: **7/12/2012**

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: MW-11
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 5:30:00 PM
Lab ID: 1206C63-001
Matrix: AQUEOUS
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/4/2012 4:15:06 AM
Toluene	ND	1.0		µg/L	1	7/4/2012 4:15:06 AM
Ethylbenzene	ND	1.0		µg/L	1	7/4/2012 4:15:06 AM
Xylenes, Total	ND	2.0		µg/L	1	7/4/2012 4:15:06 AM
Surr: 1,2-Dichloroethane-d4	96.9	70-130		%REC	1	7/4/2012 4:15:06 AM
Surr: 4-Bromofluorobenzene	115	70-130		%REC	1	7/4/2012 4:15:06 AM
Surr: Dibromofluoromethane	105	69.8-130		%REC	1	7/4/2012 4:15:06 AM
Surr: Toluene-d8	93.5	70-130		%REC	1	7/4/2012 4:15:06 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: MW-13
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 5:25:00 PM
Lab ID: 1206C63-002
Matrix: AQUEOUS
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/4/2012 4:43:15 AM
Toluene	ND	1.0		µg/L	1	7/4/2012 4:43:15 AM
Ethylbenzene	ND	1.0		µg/L	1	7/4/2012 4:43:15 AM
Xylenes, Total	ND	2.0		µg/L	1	7/4/2012 4:43:15 AM
Surr: 1,2-Dichloroethane-d4	96.2	70-130		%REC	1	7/4/2012 4:43:15 AM
Surr: 4-Bromofluorobenzene	114	70-130		%REC	1	7/4/2012 4:43:15 AM
Surr: Dibromofluoromethane	103	69.8-130		%REC	1	7/4/2012 4:43:15 AM
Surr: Toluene-d8	93.7	70-130		%REC	1	7/4/2012 4:43:15 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: MW-12
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 4:45:00 PM
Lab ID: 1206C63-003
Matrix: AQUEOUS
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/4/2012 5:11:36 AM
Toluene	ND	1.0		µg/L	1	7/4/2012 5:11:36 AM
Ethylbenzene	ND	1.0		µg/L	1	7/4/2012 5:11:36 AM
Xylenes, Total	ND	2.0		µg/L	1	7/4/2012 5:11:36 AM
Surr: 1,2-Dichloroethane-d4	96.5	70-130		%REC	1	7/4/2012 5:11:36 AM
Surr: 4-Bromofluorobenzene	115	70-130		%REC	1	7/4/2012 5:11:36 AM
Surr: Dibromofluoromethane	103	69.8-130		%REC	1	7/4/2012 5:11:36 AM
Surr: Toluene-d8	96.6	70-130		%REC	1	7/4/2012 5:11:36 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: MW-9
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 4:10:00 PM
Lab ID: 1206C63-004
Matrix: AQUEOUS
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/4/2012 5:39:56 AM
Toluene	ND	1.0		µg/L	1	7/4/2012 5:39:56 AM
Ethylbenzene	ND	1.0		µg/L	1	7/4/2012 5:39:56 AM
Xylenes, Total	ND	2.0		µg/L	1	7/4/2012 5:39:56 AM
Surr: 1,2-Dichloroethane-d4	92.3	70-130		%REC	1	7/4/2012 5:39:56 AM
Surr: 4-Bromofluorobenzene	110	70-130		%REC	1	7/4/2012 5:39:56 AM
Surr: Dibromofluoromethane	96.9	69.8-130		%REC	1	7/4/2012 5:39:56 AM
Surr: Toluene-d8	96.5	70-130		%REC	1	7/4/2012 5:39:56 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE-6
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 6:50:00 PM
Lab ID: 1206C63-005 **Matrix:** AQUEOUS **Received Date:** 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/4/2012 6:08:08 AM
Toluene	ND	1.0		µg/L	1	7/4/2012 6:08:08 AM
Ethylbenzene	ND	1.0		µg/L	1	7/4/2012 6:08:08 AM
Xylenes, Total	ND	2.0		µg/L	1	7/4/2012 6:08:08 AM
Surr: 1,2-Dichloroethane-d4	95.1	70-130		%REC	1	7/4/2012 6:08:08 AM
Surr: 4-Bromofluorobenzene	112	70-130		%REC	1	7/4/2012 6:08:08 AM
Surr: Dibromofluoromethane	103	69.8-130		%REC	1	7/4/2012 6:08:08 AM
Surr: Toluene-d8	95.9	70-130		%REC	1	7/4/2012 6:08:08 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE-9
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 7:05:00 PM
Lab ID: 1206C63-006
Matrix: AQUEOUS
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/4/2012 6:36:19 AM
Toluene	ND	1.0		µg/L	1	7/4/2012 6:36:19 AM
Ethylbenzene	ND	1.0		µg/L	1	7/4/2012 6:36:19 AM
Xylenes, Total	ND	2.0		µg/L	1	7/4/2012 6:36:19 AM
Surr: 1,2-Dichloroethane-d4	95.8	70-130		%REC	1	7/4/2012 6:36:19 AM
Surr: 4-Bromofluorobenzene	114	70-130		%REC	1	7/4/2012 6:36:19 AM
Surr: Dibromofluoromethane	103	69.8-130		%REC	1	7/4/2012 6:36:19 AM
Surr: Toluene-d8	93.1	70-130		%REC	1	7/4/2012 6:36:19 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE-8
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 6:25:00 PM
Lab ID: 1206C63-007
Matrix: AQUEOUS
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/4/2012 7:04:30 AM
Toluene	ND	1.0		µg/L	1	7/4/2012 7:04:30 AM
Ethylbenzene	ND	1.0		µg/L	1	7/4/2012 7:04:30 AM
Xylenes, Total	ND	2.0		µg/L	1	7/4/2012 7:04:30 AM
Surr: 1,2-Dichloroethane-d4	95.5	70-130		%REC	1	7/4/2012 7:04:30 AM
Surr: 4-Bromofluorobenzene	118	70-130		%REC	1	7/4/2012 7:04:30 AM
Surr: Dibromofluoromethane	104	69.8-130		%REC	1	7/4/2012 7:04:30 AM
Surr: Toluene-d8	92.1	70-130		%REC	1	7/4/2012 7:04:30 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE-61
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 1:10:00 PM
Lab ID: 1206C63-008
Matrix: AQUEOUS
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/4/2012 9:53:42 AM
Toluene	ND	1.0		µg/L	1	7/4/2012 9:53:42 AM
Ethylbenzene	ND	1.0		µg/L	1	7/4/2012 9:53:42 AM
Xylenes, Total	ND	2.0		µg/L	1	7/4/2012 9:53:42 AM
Surr: 1,2-Dichloroethane-d4	94.5	70-130		%REC	1	7/4/2012 9:53:42 AM
Surr: 4-Bromofluorobenzene	120	70-130		%REC	1	7/4/2012 9:53:42 AM
Surr: Dibromofluoromethane	102	69.8-130		%REC	1	7/4/2012 9:53:42 AM
Surr: Toluene-d8	95.4	70-130		%REC	1	7/4/2012 9:53:42 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE-10
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 5:10:00 PM
Lab ID: 1206C63-009
Matrix: AQUEOUS
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	1200	20		µg/L	20	7/6/2012 1:19:36 PM
Toluene	ND	20		µg/L	20	7/6/2012 1:19:36 PM
Ethylbenzene	100	20		µg/L	20	7/6/2012 1:19:36 PM
Xylenes, Total	390	40		µg/L	20	7/6/2012 1:19:36 PM
Surr: 1,2-Dichloroethane-d4	98.5	70-130		%REC	20	7/6/2012 1:19:36 PM
Surr: 4-Bromofluorobenzene	115	70-130		%REC	20	7/6/2012 1:19:36 PM
Surr: Dibromofluoromethane	104	69.8-130		%REC	20	7/6/2012 1:19:36 PM
Surr: Toluene-d8	94.3	70-130		%REC	20	7/6/2012 1:19:36 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE-13
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 3:25:00 PM
Lab ID: 1206C63-010
Matrix: AQUEOUS
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	930	20		µg/L	20	7/6/2012 1:47:56 PM
Toluene	ND	20		µg/L	20	7/6/2012 1:47:56 PM
Ethylbenzene	140	20		µg/L	20	7/6/2012 1:47:56 PM
Xylenes, Total	170	40		µg/L	20	7/6/2012 1:47:56 PM
Surr: 1,2-Dichloroethane-d4	94.7	70-130		%REC	20	7/6/2012 1:47:56 PM
Surr: 4-Bromofluorobenzene	100	70-130		%REC	20	7/6/2012 1:47:56 PM
Surr: Dibromofluoromethane	103	69.8-130		%REC	20	7/6/2012 1:47:56 PM
Surr: Toluene-d8	94.3	70-130		%REC	20	7/6/2012 1:47:56 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE-14
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date: 6/27/2012 4:05:00 PM
Lab ID: 1206C63-011
Matrix: AQUEOUS
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	950	20		µg/L	20	7/6/2012 2:16:22 PM
Toluene	ND	20		µg/L	20	7/6/2012 2:16:22 PM
Ethylbenzene	360	20		µg/L	20	7/6/2012 2:16:22 PM
Xylenes, Total	2400	40		µg/L	20	7/6/2012 2:16:22 PM
Surr: 1,2-Dichloroethane-d4	95.6	70-130		%REC	20	7/6/2012 2:16:22 PM
Surr: 4-Bromofluorobenzene	97.1	70-130		%REC	20	7/6/2012 2:16:22 PM
Surr: Dibromofluoromethane	104	69.8-130		%REC	20	7/6/2012 2:16:22 PM
Surr: Toluene-d8	93.7	70-130		%REC	20	7/6/2012 2:16:22 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: TRIP BLANK
Project: Transwestern Pipeline Co WT-1 DEHY
Collection Date:
Lab ID: 1206C63-012
Matrix: TRIP BLANK
Received Date: 6/29/2012 12:00:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8260: VOLATILES SHORT LIST						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	7/4/2012 12:14:52 PM
Toluene	ND	1.0		µg/L	1	7/4/2012 12:14:52 PM
Ethylbenzene	ND	1.0		µg/L	1	7/4/2012 12:14:52 PM
Xylenes, Total	ND	2.0		µg/L	1	7/4/2012 12:14:52 PM
Surr: 1,2-Dichloroethane-d4	94.8	70-130		%REC	1	7/4/2012 12:14:52 PM
Surr: 4-Bromofluorobenzene	109	70-130		%REC	1	7/4/2012 12:14:52 PM
Surr: Dibromofluoromethane	99.2	69.8-130		%REC	1	7/4/2012 12:14:52 PM
Surr: Toluene-d8	96.0	70-130		%REC	1	7/4/2012 12:14:52 PM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1206C63**

12-Jul-12

Client: Cypress Engineering

Project: Transwestern Pipeline Co WT-1 DEHY

Sample ID **5ml-rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R3963**	RunNo: **3963**
Prep Date:	Analysis Date: **7/6/2012**	SeqNo: **113355** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.4		10.00		93.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		112	70	130			
Surr: Dibromofluoromethane	10		10.00		101	69.8	130			
Surr: Toluene-d8	9.3		10.00		93.5	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R3963**	RunNo: **3963**
Prep Date:	Analysis Date: **7/6/2012**	SeqNo: **113356** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.8	84.1	126			
Toluene	18	1.0	20.00	0	91.8	80	120			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		98.0	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	11		10.00		106	69.8	130			
Surr: Toluene-d8	9.1		10.00		90.9	70	130			

Sample ID **1207170-001ams**	SampType: **MS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R3963**	RunNo: **3963**
Prep Date:	Analysis Date: **7/6/2012**	SeqNo: **113357** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	16	1.0	20.00	50.39	-170	71.1	135			S
Toluene	14	1.0	20.00	8.883	26.5	74	121			S
Surr: 1,2-Dichloroethane-d4	9.3		10.00		93.4	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130			
Surr: Dibromofluoromethane	10		10.00		100	69.8	130			
Surr: Toluene-d8	9.4		10.00		93.9	70	130			

Sample ID **1207170-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R3963**	RunNo: **3963**
Prep Date:	Analysis Date: **7/6/2012**	SeqNo: **113358** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	16	1.0	20.00	50.39	-172	71.1	135	2.60	21.9	S
Toluene	13	1.0	20.00	8.883	22.6	74	121	5.69	18.5	S
Surr: 1,2-Dichloroethane-d4	9.4		10.00		94.2	70	130	0	0	
Surr: 4-Bromofluorobenzene	11		10.00		107	70	130	0	0	

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1206C63**

12-Jul-12

Client: Cypress Engineering

Project: Transwestern Pipeline Co WT-1 DEHY

Sample ID **1207170-001amsd**	SampType: **MSD**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **BatchQC**	Batch ID: **R3963**	RunNo: **3963**
Prep Date:	Analysis Date: **7/6/2012**	SeqNo: **113358** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: Dibromofluoromethane	9.9		10.00		98.8	69.8	130	0	0	
Surr: Toluene-d8	9.5		10.00		95.1	70	130	0	0	

Sample ID **5ml rb**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R3867**	RunNo: **3867**
Prep Date:	Analysis Date: **7/3/2012**	SeqNo: **113372** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.6		10.00		96.1	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		113	70	130			
Surr: Dibromofluoromethane	10		10.00		104	69.8	130			
Surr: Toluene-d8	9.4		10.00		94.3	70	130			

Sample ID **100ng lcs**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R3867**	RunNo: **3867**
Prep Date:	Analysis Date: **7/3/2012**	SeqNo: **113373** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	97.9	84.1	126			
Toluene	19	1.0	20.00	0	93.4	80	120			
Surr: 1,2-Dichloroethane-d4	10		10.00		99.5	70	130			
Surr: 4-Bromofluorobenzene	10		10.00		104	70	130			
Surr: Dibromofluoromethane	11		10.00		106	69.8	130			
Surr: Toluene-d8	9.6		10.00		96.0	70	130			

Sample ID **1206c63-007ams**	SampType: **MS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **SVE-8**	Batch ID: **R3867**	RunNo: **3867**
Prep Date:	Analysis Date: **7/4/2012**	SeqNo: **113374** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	19	1.0	20.00	0	97.0	71.1	135			
Toluene	19	1.0	20.00	0	95.2	74	121			
Surr: 1,2-Dichloroethane-d4	9.6		10.00		95.6	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		117	70	130			
Surr: Dibromofluoromethane	10		10.00		102	69.8	130			
Surr: Toluene-d8	9.7		10.00		96.7	70	130			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1206C63**

12-Jul-12

Client: Cypress Engineering

Project: Transwestern Pipeline Co WT-1 DEHY

Sample ID **1206c63-007amsd**	SampType: **MSD**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **SVE-8**	Batch ID: **R3867**	RunNo: **3867**
Prep Date:	Analysis Date: **7/4/2012**	SeqNo: **113375** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	99.0	71.1	135	2.00	21.9	
Toluene	18	1.0	20.00	0	89.9	74	121	5.73	18.5	
Surr: 1,2-Dichloroethane-d4	9.9		10.00		99.4	70	130	0	0	
Surr: 4-Bromofluorobenzene	12		10.00		117	70	130	0	0	
Surr: Dibromofluoromethane	11		10.00		108	69.8	130	0	0	
Surr: Toluene-d8	9.1		10.00		91.3	70	130	0	0	

Sample ID **b12**	SampType: **MBLK**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **PBW**	Batch ID: **R3867**	RunNo: **3867**
Prep Date:	Analysis Date: **7/4/2012**	SeqNo: **113383** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 1,2-Dichloroethane-d4	9.5		10.00		95.1	70	130			
Surr: 4-Bromofluorobenzene	12		10.00		115	70	130			
Surr: Dibromofluoromethane	10		10.00		101	69.8	130			
Surr: Toluene-d8	9.4		10.00		94.2	70	130			

Sample ID **100ng lcs2**	SampType: **LCS**	TestCode: **EPA Method 8260: Volatiles Short List**
Client ID: **LCSW**	Batch ID: **R3867**	RunNo: **3867**
Prep Date:	Analysis Date: **7/3/2012**	SeqNo: **113384** Units: **µg/L**

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	20	1.0	20.00	0	98.4	84.1	126			
Toluene	19	1.0	20.00	0	94.6	80	120			
Surr: 1,2-Dichloroethane-d4	9.8		10.00		97.7	70	130			
Surr: 4-Bromofluorobenzene	11		10.00		110	70	130			
Surr: Dibromofluoromethane	11		10.00		106	69.8	130			
Surr: Toluene-d8	9.3		10.00		93.1	70	130			

Qualifiers:

- */X Value exceeds Maximum Contaminant Level.
- E Value above quantitation range
- J Analyte detected below quantitation limits
- R RPD outside accepted recovery limits
- B Analyte detected in the associated Method Blank
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- RL Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: CYP — Work Order Number: 1206C63

Received by/date: LM 06/29/12

Logged By: **Ashley Gallegos** **6/29/2012 12:00:00 PM** AG

Completed By: **Ashley Gallegos** **6/29/2012 2:36:35 PM** AG

Reviewed By: MS 06/29/12

Chain of Custody

1. Were seals intact?	Yes	No	Not Present ✔	
2. Is Chain of Custody complete?	Yes ✔	No	Not Present	
3. How was the sample delivered?	UPS			

Log In

4. Coolers are present? (see 19. for cooler specific information)	Yes ✔	No	NA	
5. Was an attempt made to cool the samples?	Yes ✔	No	NA	
6. Were all samples received at a temperature of >0° C to 6.0°C	Yes ✔	No	NA	
7. Sample(s) in proper container(s)?	Yes ✔	No		
8. Sufficient sample volume for indicated test(s)?	Yes ✔	No		
9. Are samples (except VOA and ONG) properly preserved?	Yes ✔	No		
10. Was preservative added to bottles?	Yes	No ✔	NA	
11. VOA vials have zero headspace?	Yes ✔	No	No VOA Vials	
12. Were any sample containers received broken?	Yes	No ✔		
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes ✔	No	# of preserved bottles checked for pH:	
14. Are matrices correctly identified on Chain of Custody?	Yes ✔	No	(<2 or >12 unless noted)	
15. Is it clear what analyses were requested?	Yes ✔	No	Adjusted?	
16. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes ✔	No	Checked by:	

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes No NA ✔

Person Notified: Date:

By Whom: Via: eMail Phone Fax In Person

Regarding:

Client Instructions:

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	1.2	Good	Yes			

Chain-of-Custody Record

Client: Cypress Engineering
7171 Hwy 6 North Ste 102
Mailing Address: Houston TX 77095

Phone #: 281 797 3420
email or Fax#:
QA/QC Package:
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other
☐ EDD (Type)

Turn-Around Time:
☒ Standard ☐ Rush
Project Name: TRANSWESTERN PIPELINE CO WT-1 DEHY
Project #: TWP WT-1 DEHY
Project Manager: GEORGE ROBINSON
Sampler:
On Ice: ☒ Yes ☐ No
Sample Temperature: 1.2

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1201C63
12/27/12	1730	Water	MW-11	3/40ml	HCl	-001
	1725		MW-13			-002
	1645		MW-12			-003
	1610		MW-9			-004
	1850		SVE-6			-005
	1905		SVE-9			-006
	1825		SVE-8			-007
	1310		SVE-61			-008
	1710		SVE-10			-009
	1525		SVE-13			-010
	1605		SVE-14			-011
—	—	—	TRIP BLANK	2/40ml		-012

Analysis Request

BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)					Air Bubbles (Y or N)
X															
X															
X															
X															
X															
X															
X															
X															
X															
X															
X															
X															

Remarks:

Date	Time	Relinquished by:	Received by:	Date	Time
12/28/12	1200			12/29/12	1200
Date:	Time:	Relinquished by:	Received by:	Date	Time

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

August 06, 2012

Sandra Sharp

Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422
TEL: (281) 797-3421
FAX

RE: TWP WT-1 Station OrderNo.: 1207D28

Dear Sandra Sharp:

Hall Environmental Analysis Laboratory received 2 sample(s) on 7/31/2012 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to www.hallenvironmental.com or the state specific web sites. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. All samples are reported as received unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman

Laboratory Manager

4901 Hawkins NE
Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: SVE-2
Project: TWP WT-1 Station
Collection Date: 7/28/2012 2:30:00 PM
Lab ID: 1207D28-001
Matrix: AQUEOUS
Received Date: 7/31/2012 12:58:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	540	10		µg/L	10	8/4/2012 9:42:11 AM
Toluene	ND	10		µg/L	10	8/4/2012 9:42:11 AM
Ethylbenzene	82	10		µg/L	10	8/4/2012 9:42:11 AM
Xylenes, Total	ND	20		µg/L	10	8/4/2012 9:42:11 AM
m,p-Xylene	ND	10		µg/L	10	8/4/2012 9:42:11 AM
o-Xylene	ND	10		µg/L	10	8/4/2012 9:42:11 AM
Surr: 4-Bromofluorobenzene	94.2	55-140		%REC	10	8/4/2012 9:42:11 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Cypress Engineering
Client Sample ID: Trip Blank
Project: TWP WT-1 Station
Collection Date:
Lab ID: 1207D28-002
Matrix: AQUEOUS
Received Date: 7/31/2012 12:58:00 PM

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **NSB**
Benzene	ND	1.0		µg/L	1	8/2/2012 12:54:19 AM
Toluene	ND	1.0		µg/L	1	8/2/2012 12:54:19 AM
Ethylbenzene	ND	1.0		µg/L	1	8/2/2012 12:54:19 AM
Xylenes, Total	ND	2.0		µg/L	1	8/2/2012 12:54:19 AM
m,p-Xylene	ND	1.0		µg/L	1	8/2/2012 12:54:19 AM
o-Xylene	ND	1.0		µg/L	1	8/2/2012 12:54:19 AM
Surr: 4-Bromofluorobenzene	78.0	55-140		%REC	1	8/2/2012 12:54:19 AM

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit
S	Spike Recovery outside accepted recovery limits	U	Samples with CalcVal < MDL

QC SUMMARY REPORT

Hall Environmental Analysis Laboratory, Inc.

WO#: **1207D28**

06-Aug-12

Client: Cypress Engineering

Project: TWP WT-1 Station

Sample ID	**5ML RB**	SampType:	**MBLK**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**PBW**	Batch ID:	**R4607**	RunNo:	**4607**					
Prep Date:		Analysis Date:	**8/1/2012**	SeqNo:	**129287**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	ND	1.0								
Toluene	ND	1.0								
Ethylbenzene	ND	1.0								
Xylenes, Total	ND	2.0								
Surr: 4-Bromofluorobenzene	15		20.00		75.5	55	140			

Sample ID	**100NG BTEX LCS**	SampType:	**LCS**	TestCode:	**EPA Method 8021B: Volatiles**					
Client ID:	**LCSW**	Batch ID:	**R4607**	RunNo:	**4607**					
Prep Date:		Analysis Date:	**8/1/2012**	SeqNo:	**129288**	Units:	**µg/L**			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Benzene	22	1.0	20.00	0	108	80	120			
Toluene	22	1.0	20.00	0	112	80	120			
Ethylbenzene	22	1.0	20.00	0	112	80	120			
Xylenes, Total	69	2.0	60.00	0	114	80	120			
Surr: 4-Bromofluorobenzene	16		20.00		79.8	55	140			

Qualifiers:

*/X	Value exceeds Maximum Contaminant Level.	B	Analyte detected in the associated Method Blank
E	Value above quantitation range	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	ND	Not Detected at the Reporting Limit
R	RPD outside accepted recovery limits	RL	Reporting Detection Limit

HALL ENVIRONMENTAL ANALYSIS LABORATORY

Hall Environmental Analysis Laboratory
4901 Hawkins NE
Albuquerque, NM 87109
TEL: 505-345-3975 FAX: 505-345-4107
Website: www.hallenvironmental.com

Sample Log-In Check List

Client Name: CYP Work Order Number: 1207D28

Received by/date: AG 07/31/12

Logged By: **Anne Thorne** 7/31/2012 12:58:00 PM Anne Thorne

Completed By: **Anne Thorne** 7/31/2012 Anne Thorne

Reviewed By: 07/31/12

Chain of Custody

1. Were seals intact? Yes ☐ No ☐ Not Present ☑
2. Is Chain of Custody complete? Yes ☑ No ☐ Not Present ☐
3. How was the sample delivered? UPS

Log In

4. Coolers are present? (see 19. for cooler specific information) Yes ☑ No ☐ NA ☐
5. Was an attempt made to cool the samples? Yes ☑ No ☐ NA ☐
6. Were all samples received at a temperature of >0° C to 6.0°C Yes ☑ No ☐ NA ☐
7. Sample(s) in proper container(s)? Yes ☑ No ☐
8. Sufficient sample volume for indicated test(s)? Yes ☑ No ☐
9. Are samples (except VOA and ONG) properly preserved? Yes ☑ No ☐
10. Was preservative added to bottles? Yes ☐ No ☑ NA ☐
11. VOA vials have zero headspace? Yes ☑ No ☐ No VOA Vials ☐
12. Were any sample containers received broken? Yes ☐ No ☑
13. Does paperwork match bottle labels? (Note discrepancies on chain of custody) Yes ☑ No ☐
14. Are matrices correctly identified on Chain of Custody? Yes ☑ No ☐
15. Is it clear what analyses were requested? Yes ☑ No ☐
16. Were all holding times able to be met? (If no, notify customer for authorization.) Yes ☑ No ☐

# of preserved bottles checked for pH: _____ (<2 or >12 unless noted)

Adjusted? _____

Checked by: _____

Special Handling (if applicable)

17. Was client notified of all discrepancies with this order? Yes ☐ No ☐ NA ☑

Person Notified: _____ Date _____

By Whom: _____ Via: ☐ eMail ☐ Phone ☐ Fax ☐ In Person

Regarding: _____

Client Instructions: _____

18. Additional remarks:

19. **Cooler Information**

Cooler No	Temp °C	Condition	Seal Intact	Seal No	Seal Date	Signed By
1	4.8	Good	Yes			

Chain-of-Custody Record

Client: Cypress Engineering Services LLC
ATTN: George Robinson PE
Mailing Address: 777 Hishway 6 North, ste 102
Houston, TX 77095
Phone #: 281.797.3420
email or Fax#: george.robinson@cypressinc.us
QA/QC Package: Cypressinc.us
☒ Standard ☐ Level 4 (Full Validation)
Accreditation
☐ NELAP ☐ Other _____
☐ EDD (Type) _____

Turn-Around Time:
☐ ~~Standard~~ ☐ Rush _____
Project Name: TWP WT-1 Station
Project #: De-Hy Area GW Monitoring 2012
Project Manager: Sandy Sharp
Sampler: CM Barnhill, PE
On Ice: ☑ Yes ☐ No
Sample Temperature: 4.8

HALL ENVIRONMENTAL ANALYSIS LABORATORY
www.hallenvironmental.com
4901 Hawkins NE - Albuquerque, NM 87109
Tel. 505-345-3975 Fax 505-345-4107

Date	Time	Matrix	Sample Request ID	Container Type and #	Preservative Type	HEAL No. 1207D28	Analysis Request: BTEX + MTBE + TMB's (8021)	BTEX + MTBE + TPH (Gas only)	TPH 8015B (GRO / DRO / MRO)	TPH (Method 418.1)	EDB (Method 504.1)	PAH's (8310 or 8270 SIMS)	RCRA 8 Metals	Anions (F,Cl,NO_3,NO_2,PO_4,SO_4)	8081 Pesticides / 8082 PCB's	8260B (VOA)	8270 (Semi-VOA)	Air Bubbles (Y or N)
7/26/12	1430	H_2O	SVE-2	3x40mL VOA's	$HgCl_2$	-001	X											
				MJ 7/31														
			Trip Blank	1 7x40mL VOAs	$HgCl_2$	-002	X											

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/30/12	0930			07/31	1258
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Any Questions Please Call Sandy Sharpe 281.797.3420

If necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.