Cypress Engineering

7171 Highway 6 North, Suite 102
Houston, Texas 77095-2422
(281) 797-3420 office
(281) 859-1881 fax

February 20, 2012

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

RE: Report of 2011 Groundwater Remediation Activities
Transwestern Pipeline Company - WT-1 Station Dehy Area
Lea County, New Mexico
Case #AP-105 (formerly GW-109)

Dear Glenn,

The enclosed Report of 2011 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 2011 Groundwater Remediation Activities

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

CASE # GW-109

Submitted to:
New Mexico Oil Conservation Division

February 8, 2012

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

Prepared by:
Cypress Engineering Services, Inc.
7171 Highway 6 North, Suite 102
Houston, Texas 77095-2422

TABLE OF CONTENTS

LIST OF FIGURES

Figure

LIST OF TABLES

Table

LIST OF APPENDICES

1. Introduction

The last report of groundwater remediation activities covered activities completed through December 2010. This report presents a summary of monitoring and remediation activities completed between January 2011 and December 2011.

2. Groundwater Monitoring Activities

2.1 Groundwater Sampling Events

One annual groundwater sampling event was completed during 2011. This event was completed on November 10, 2011.

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 November 10, 2011 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 November 2011 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 impletented 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 November 2011, there was no measurable accumulation of PSH in well SVE-5, 0.01 feet in well SVE-11, 0.03 feet in well MW-10, and 0.11 feet in well SVE-12.

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 annual groundwater sampling events: wells MW-10, SVE-13, and SVE-14. A groundwater sample was not collected from well MW-10 during the November 2011 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 activites. Concentration history plots for wells SVE-13 and SVE-14 are presented in Figures 11 and 12, respectively.

3. Status of Remediation Activities

3.1 Remediation Activities Completed through December 2011

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 June 29, 2011 through November 12, 2011.

2) One vapor sample was collected from the SVE system during 2011. 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 2011, the system was removing VOCs from

the subsurface at an estimated rate of 84 gallons equivalent per month. A copy of the laboratory report for this sampling event is included in Appendix A.

3.2 Remediation Activities Planned for January 2012 through December 2012

The SVE system is scheduled to operate from May 2012 through October 2012.

4. Proposed Modifications

4.1 Modifications to the Routine Groundwater Sampling Plan

There are no planned changes to the 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 2012, however, a comprehensive site evaluation is in progress 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 February 28, 2013.

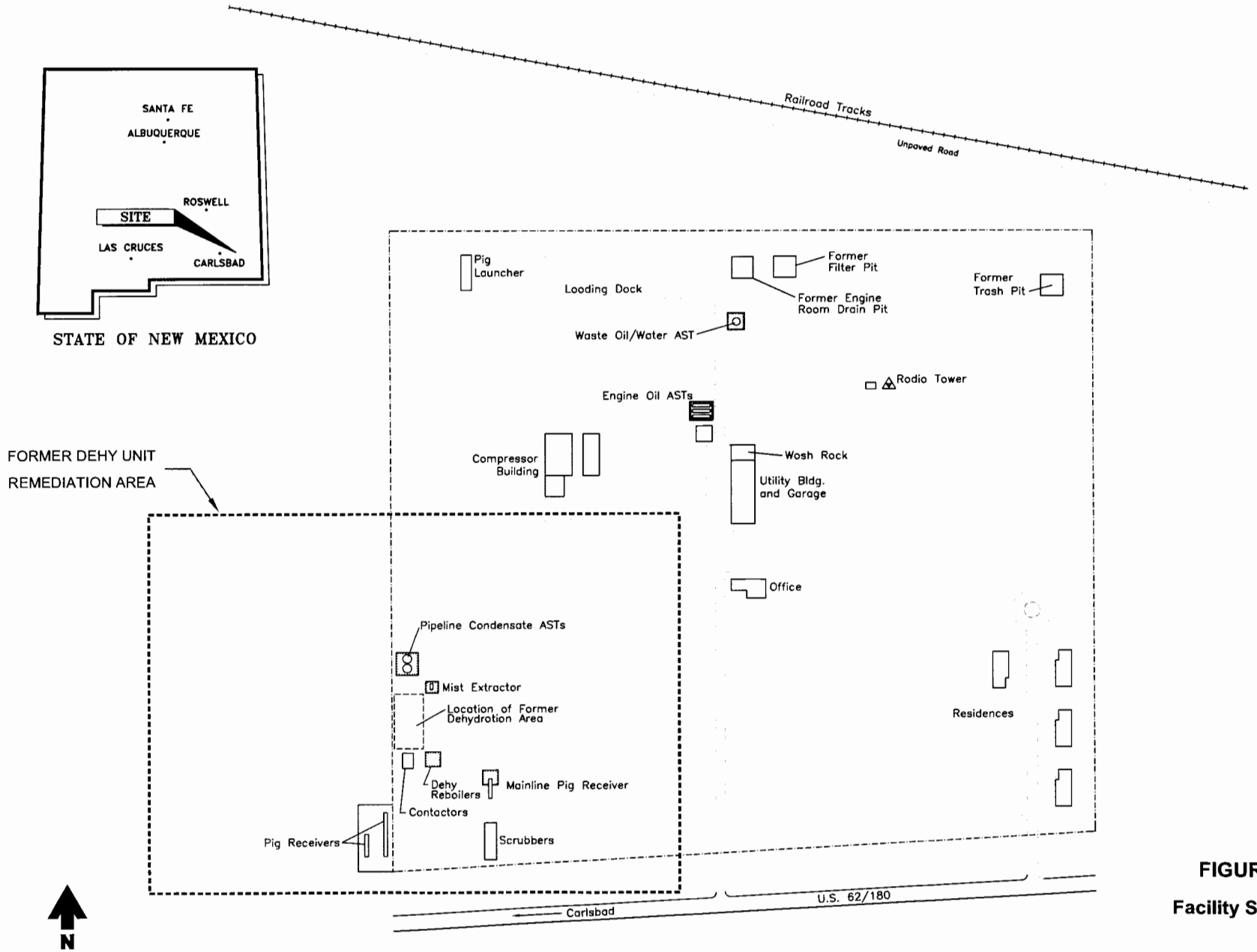

FIGURE 1

Facility Site Map

WT-1 COMPRESSOR STATION
TRANSWESTERN PIPELINE COMPANY

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

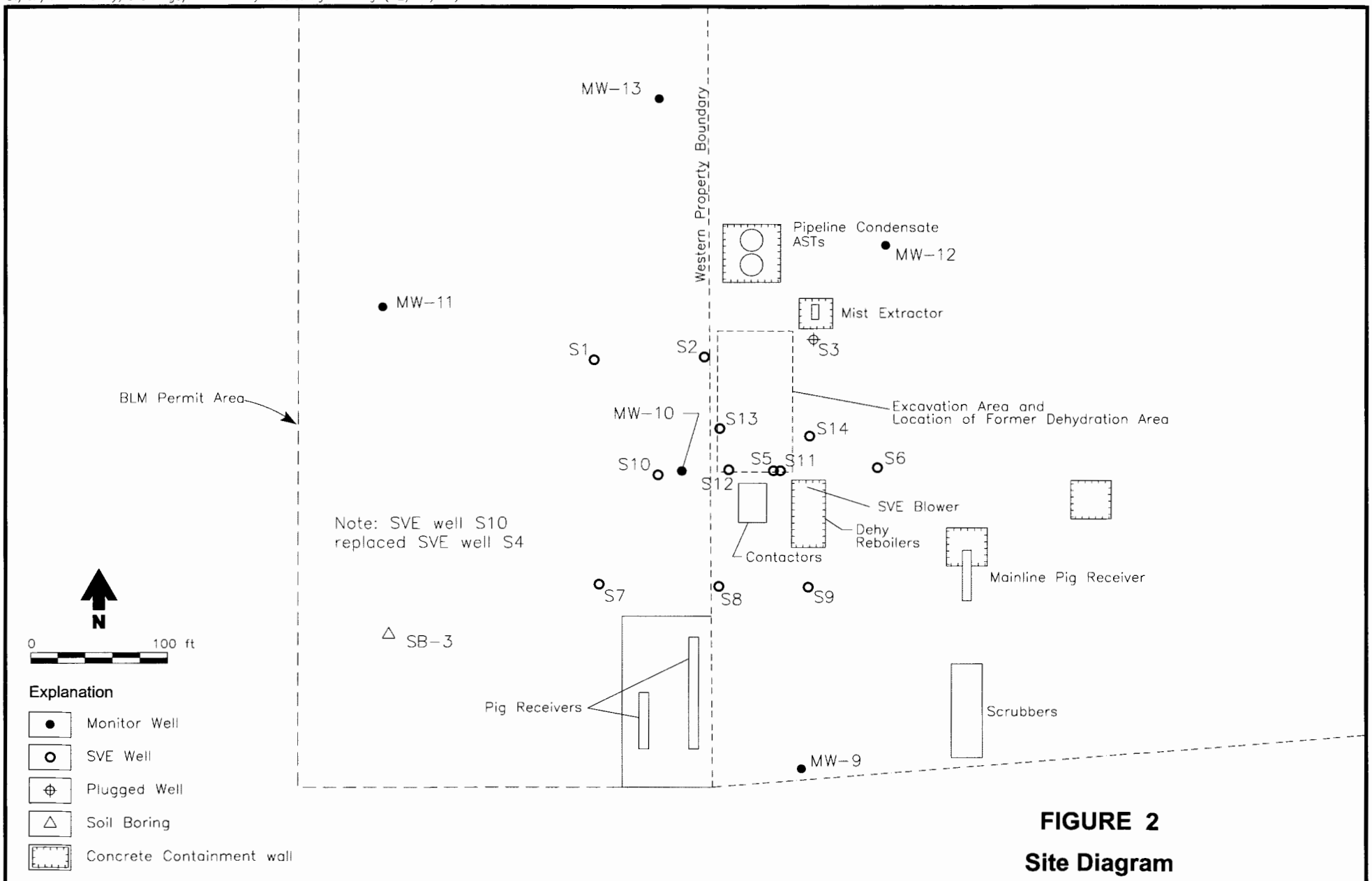

FIGURE 2

Site Diagram

WT-1 COMPRESSOR STATION
Dehydration Area

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

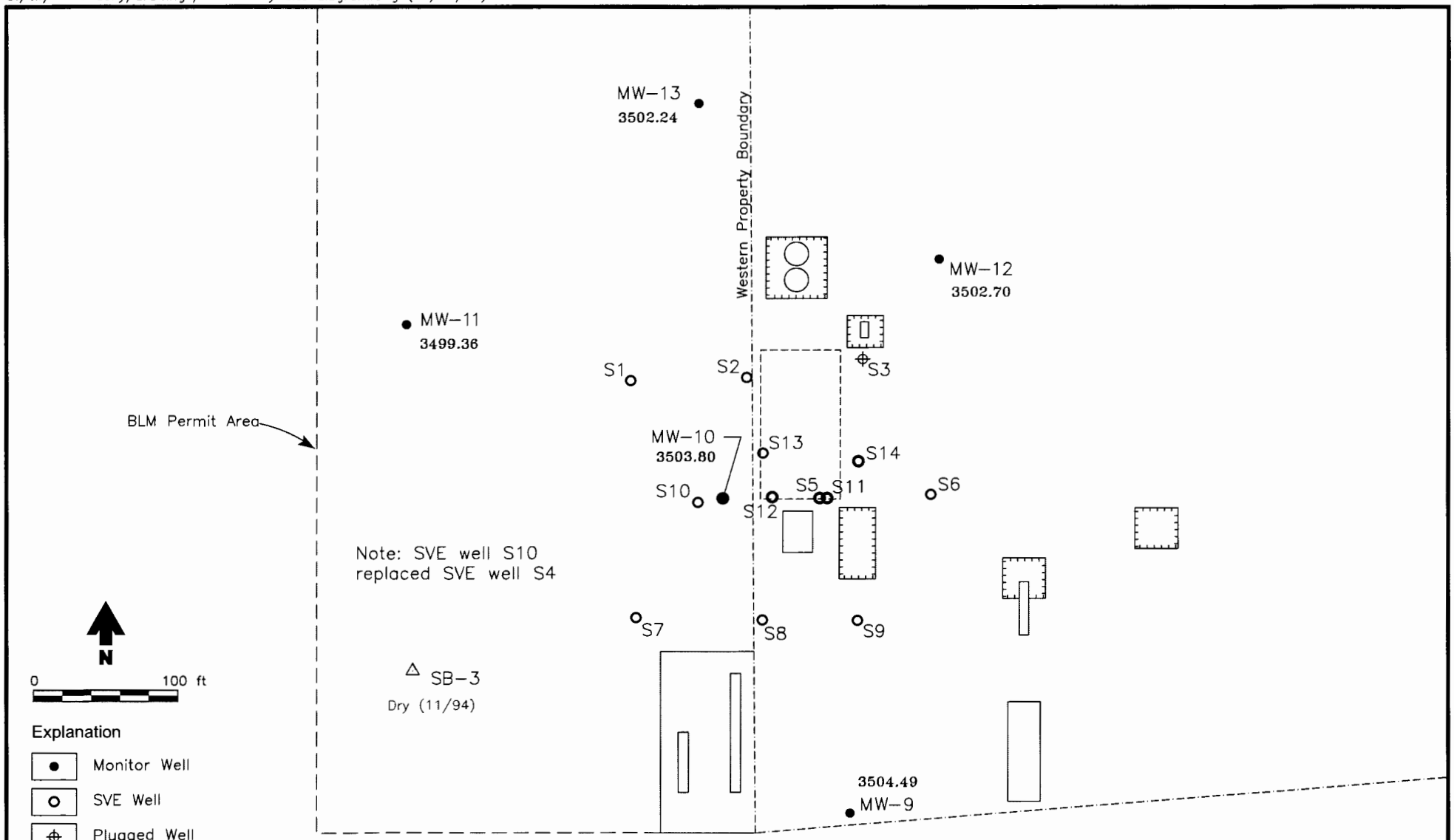

FIGURE 3

Groundwater Elevations

November 10, 2011

WT-1 COMPRESSOR STATION
Dehydration Area

CYPRESS ENGINEERING SERVICES, INC.

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

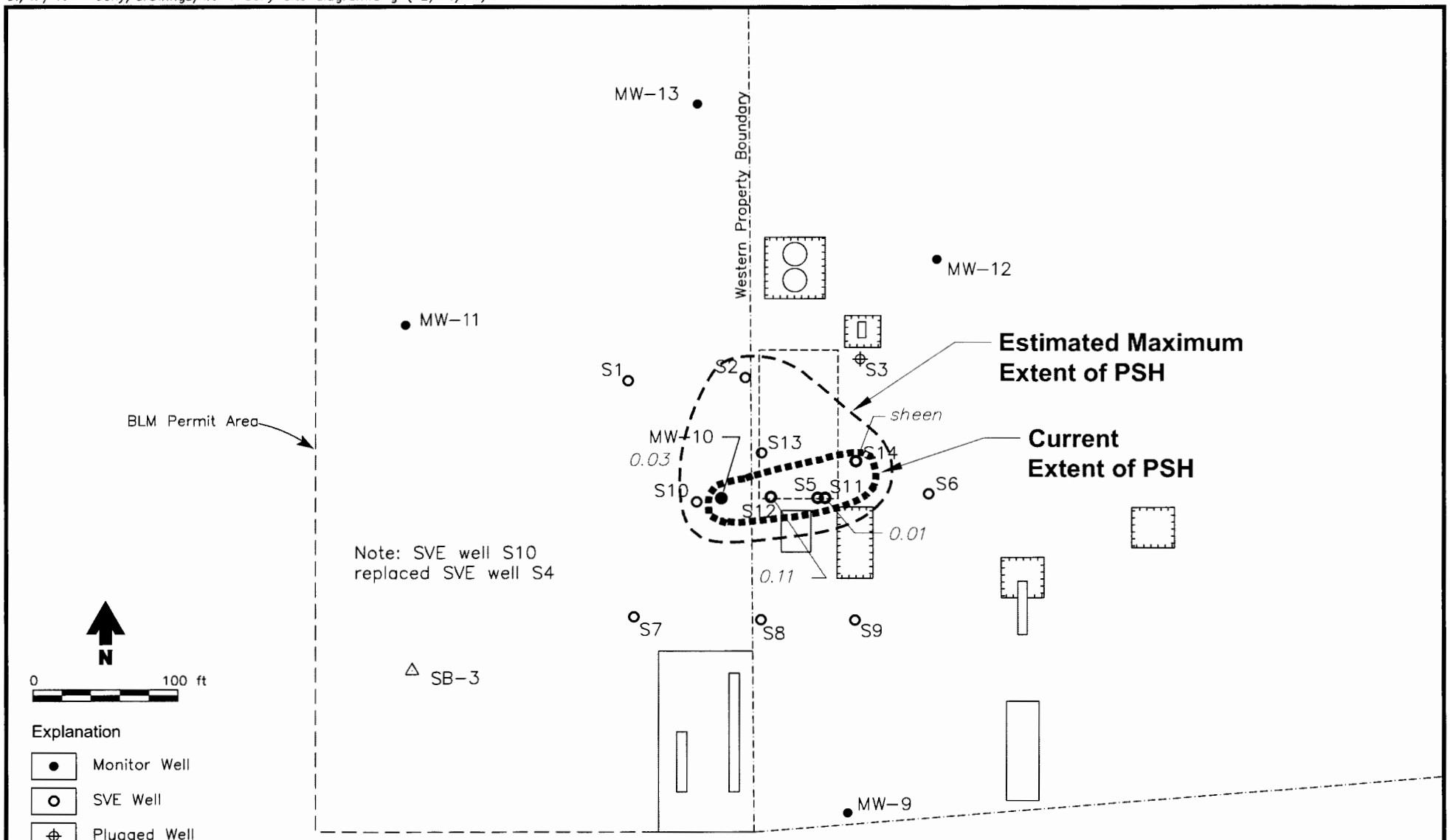

FIGURE 4

Distribution of PSH

November 10, 2011

WT-1 COMPRESSOR STATION
Dehydration Area

CYPRESS ENGINEERING SERVICES, INC.

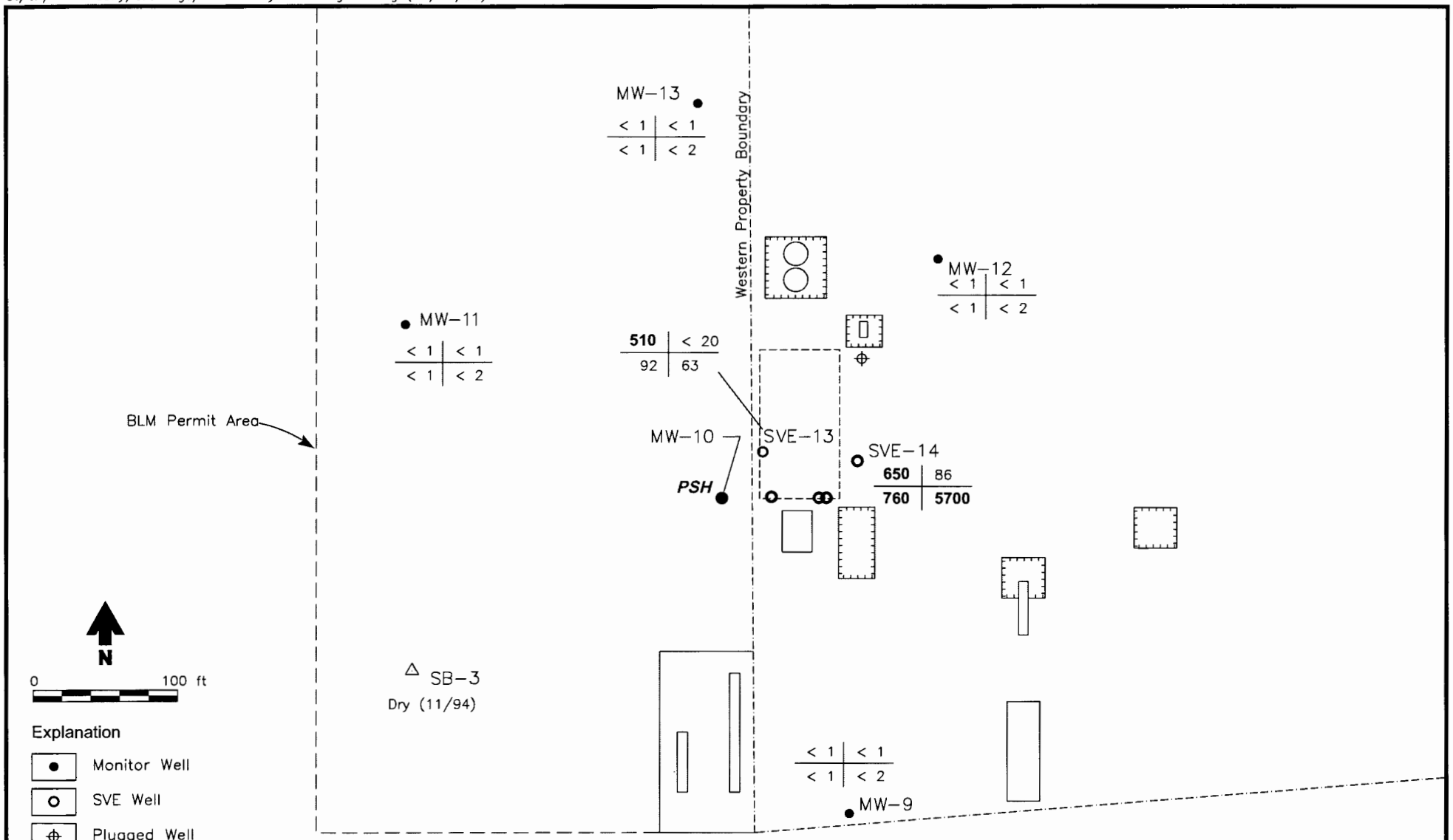

FIGURE 5

Distribution of BTEX

November 10, 2011

WT-1 COMPRESSOR STATION
Dehydration Area

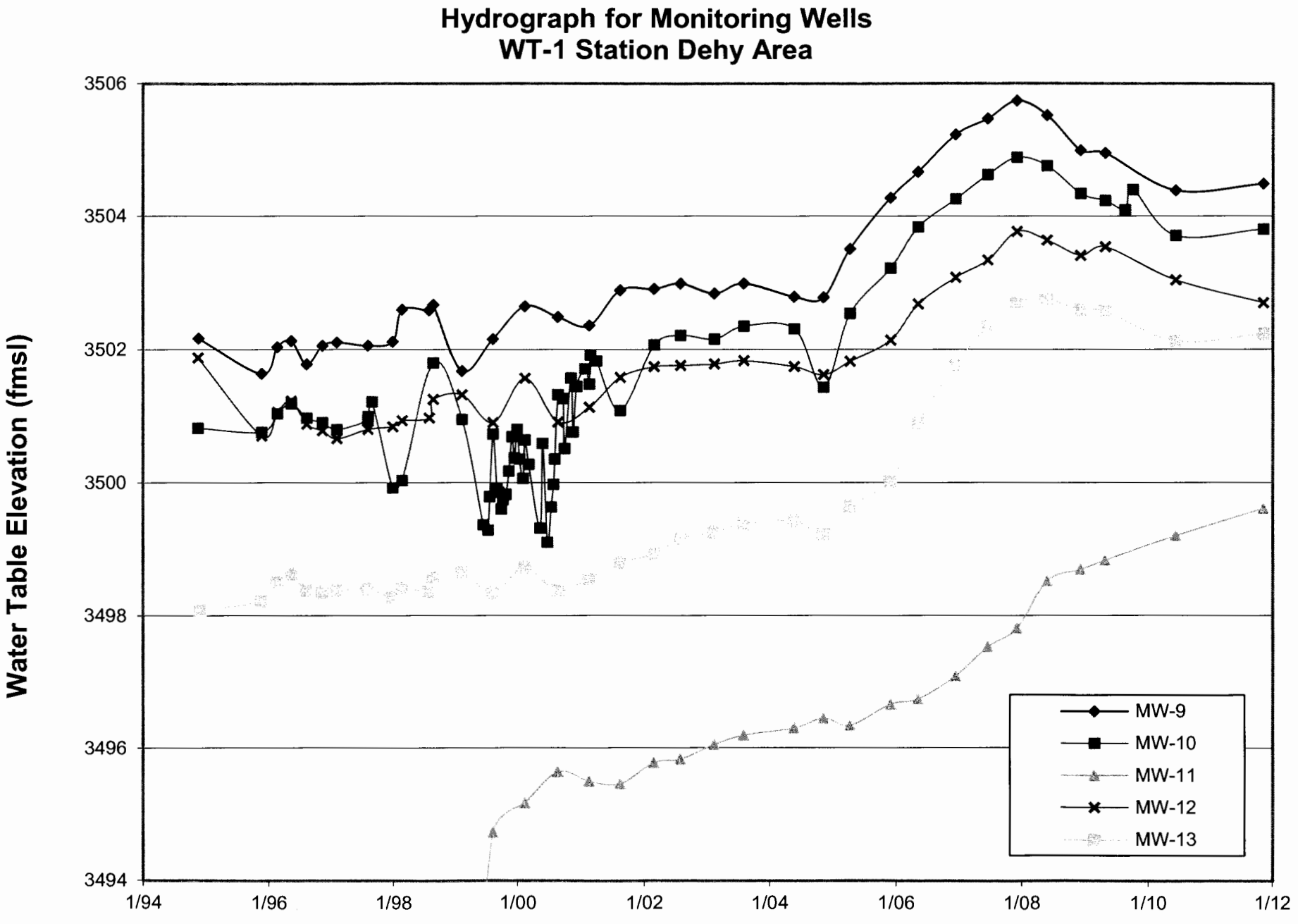
Hydrograph for Monitoring Wells
WT-1 Station Dehy Area
Water Table Elevation (fmsl)
3506
3504
3502
3500
3498
3496
3494
1/94
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12
MW-9
MW-10
MW-11
MW-12
MW-13

Figure 6

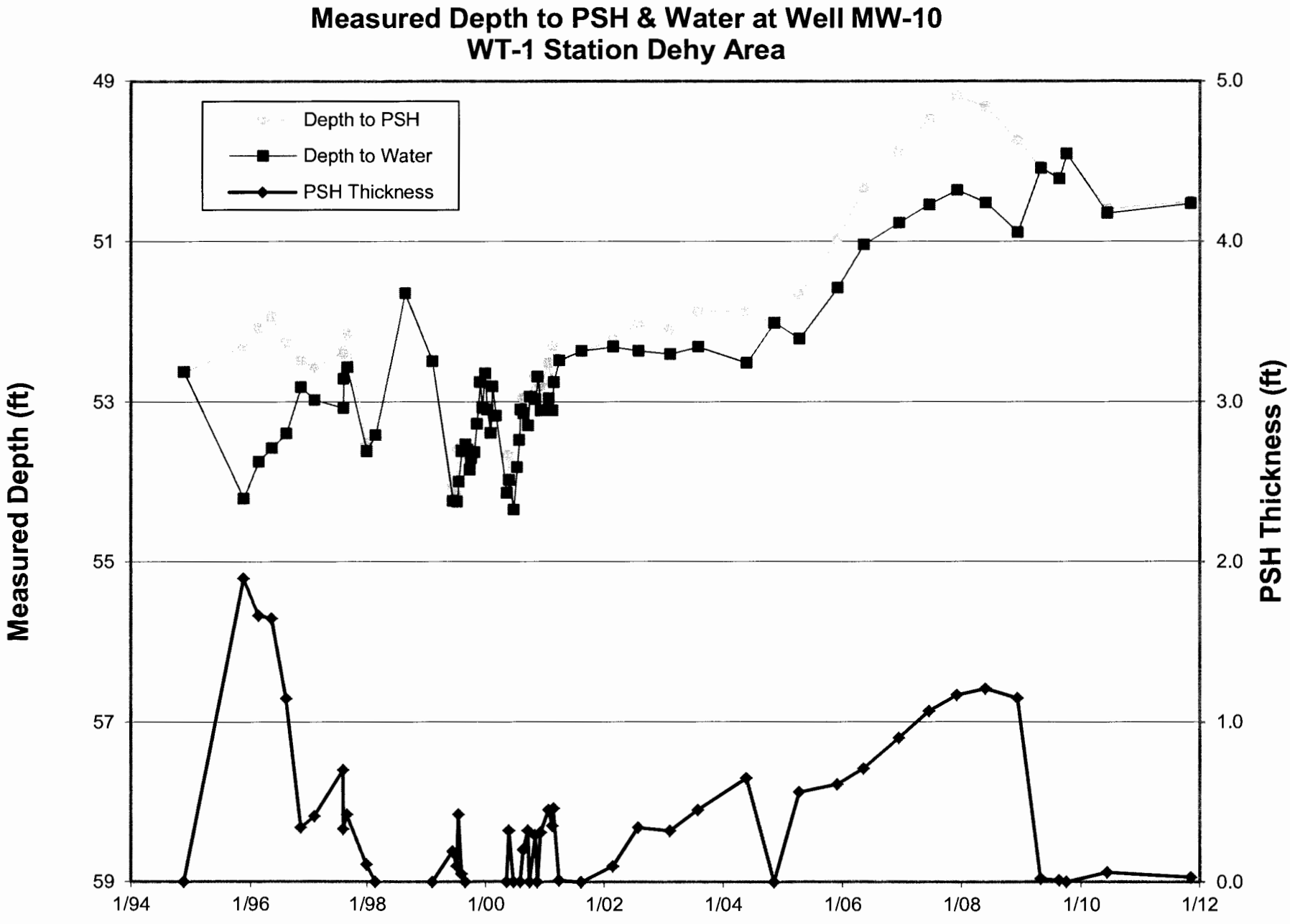
Measured Depth to PSH & Water at Well MW-10
WT-1 Station Dehy Area
Depth to PSH
Depth to Water
PSH Thickness
Measured Depth (ft)
PSH Thickness (ft)
49
51
53
55
57
59
5.0
4.0
3.0
2.0
1.0
0.0
1/94
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12

Figure 7

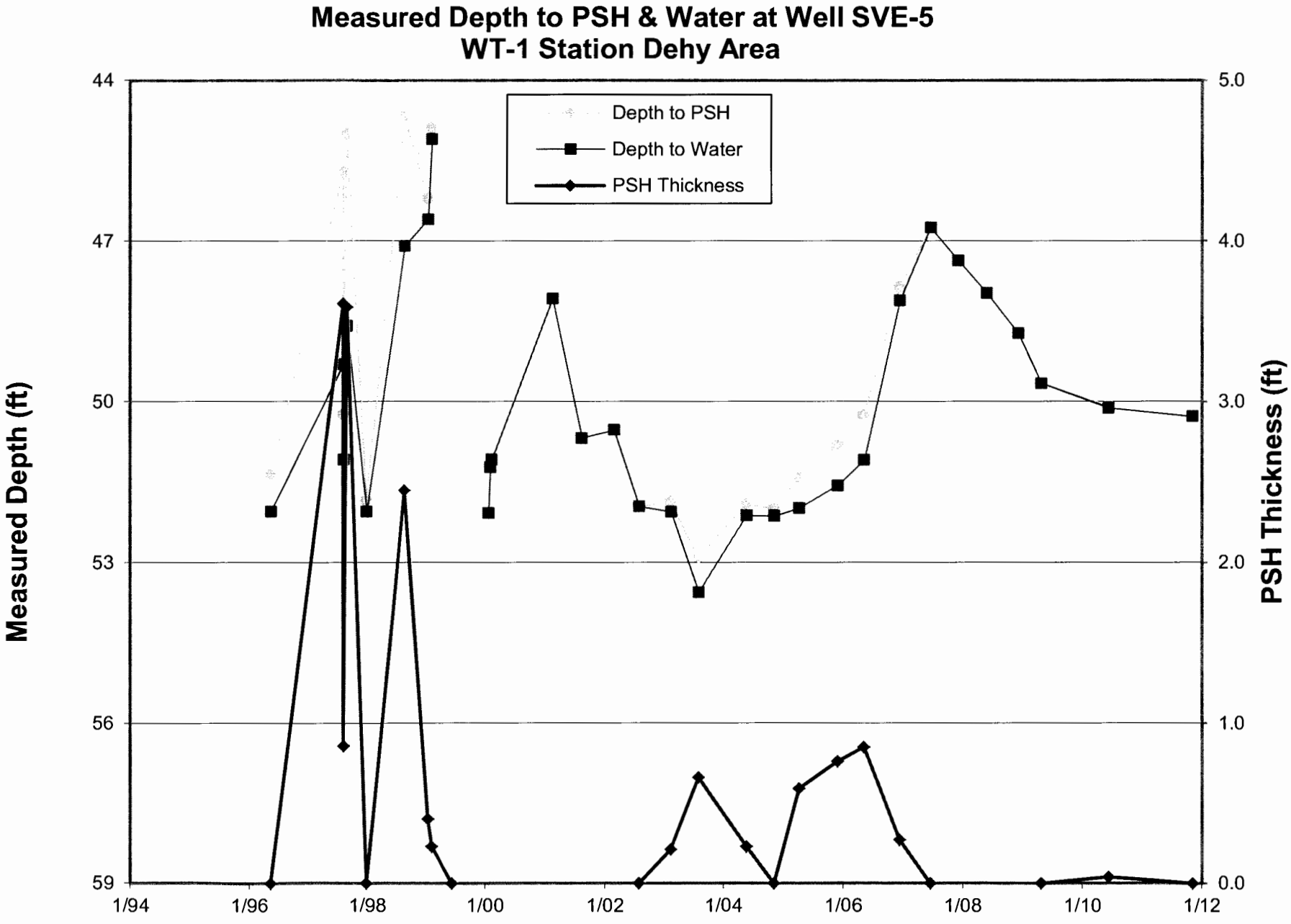
Measured Depth to PSH & Water at Well SVE-5
WT-1 Station Dehy Area
Depth to PSH
Depth to Water
PSH Thickness
Measured Depth (ft)
PSH Thickness (ft)
44
47
50
53
56
59
5.0
4.0
3.0
2.0
1.0
0.0
1/94
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12

Figure 8

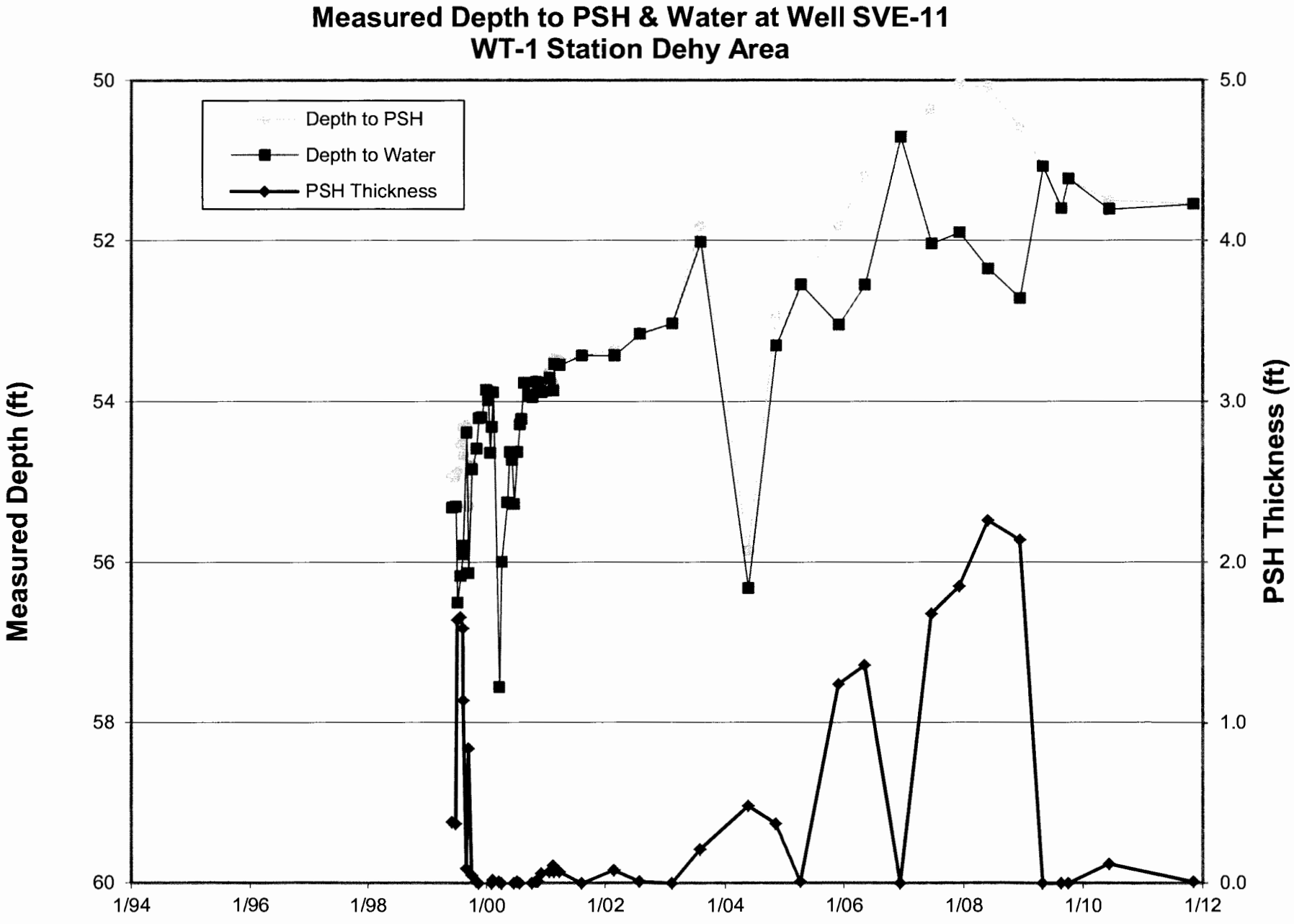
Measured Depth to PSH & Water at Well SVE-11
WT-1 Station Dehy Area
Depth to PSH
Depth to Water
PSH Thickness
Measured Depth (ft)
PSH Thickness (ft)
50
52
54
56
58
60
5.0
4.0
3.0
2.0
1.0
0.0
1/94
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12

Figure 9

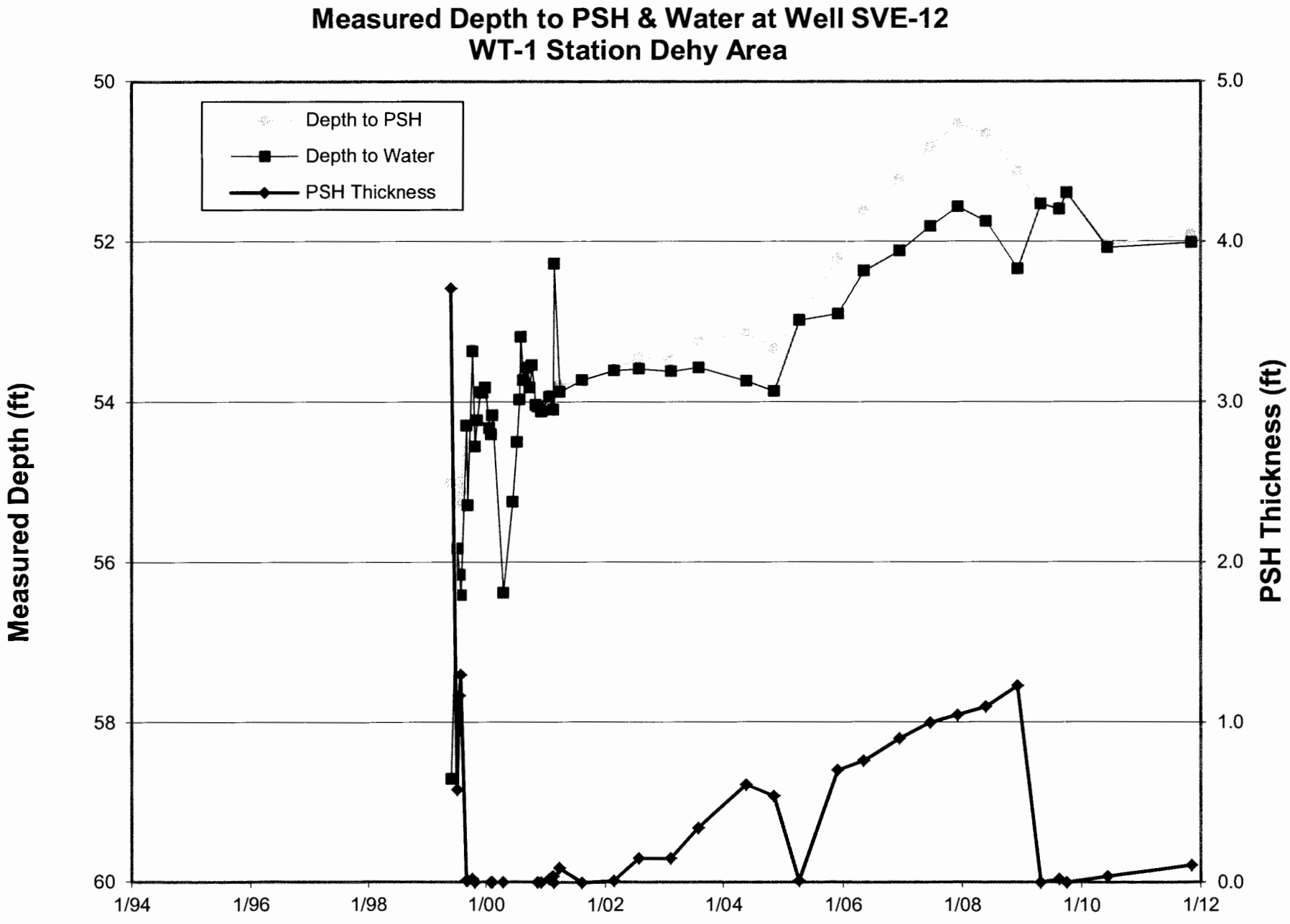
Measured Depth to PSH & Water at Well SVE-12
WT-1 Station Dehy Area
Depth to PSH
Depth to Water
PSH Thickness
Measured Depth (ft)
PSH Thickness (ft)
50
52
54
56
58
60
5.0
4.0
3.0
2.0
1.0
0.0
1/94
1/96
1/98
1/00
1/02
1/04
1/06
1/08
1/10
1/12

Figure 10

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

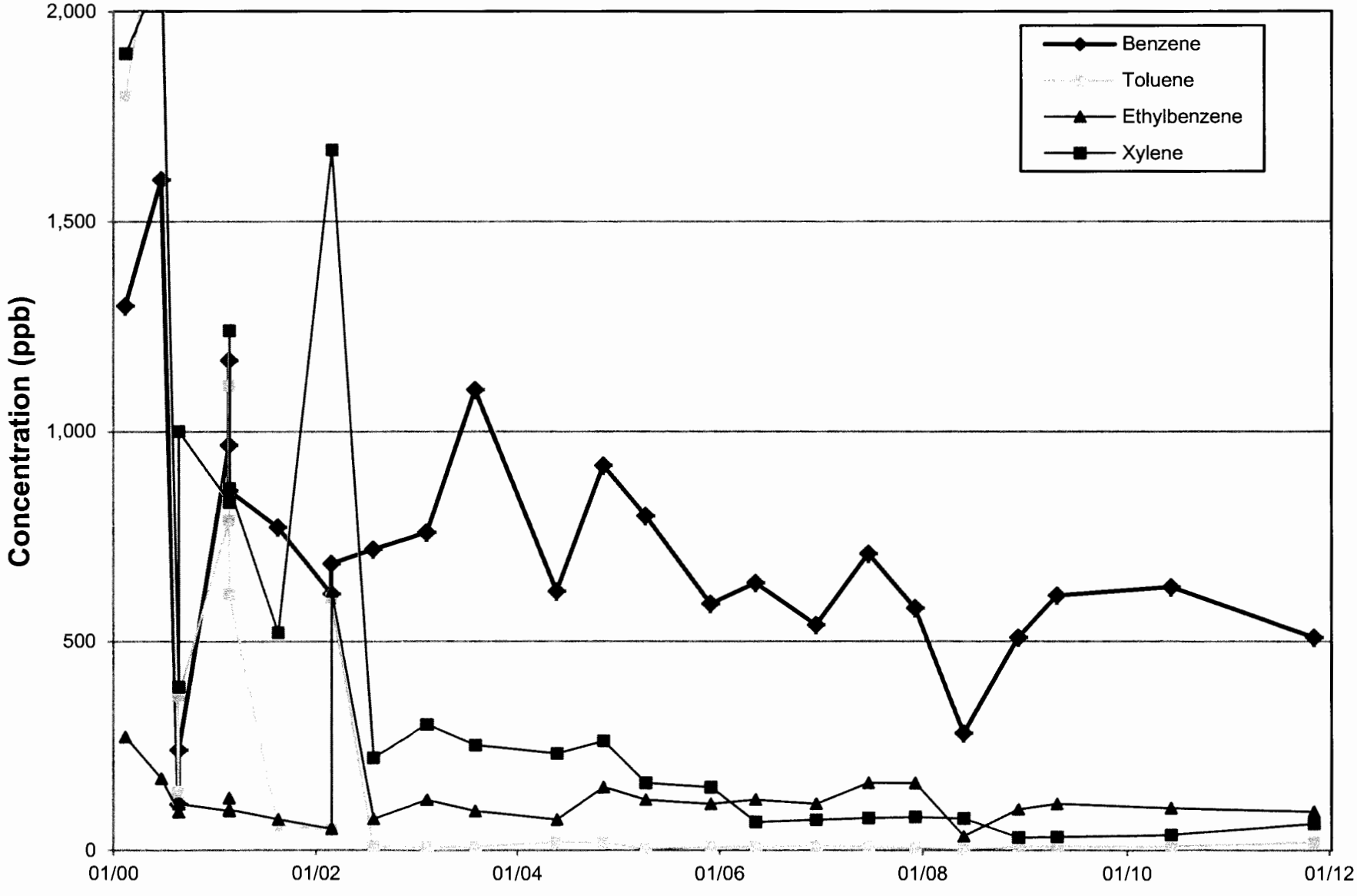

Figure 11

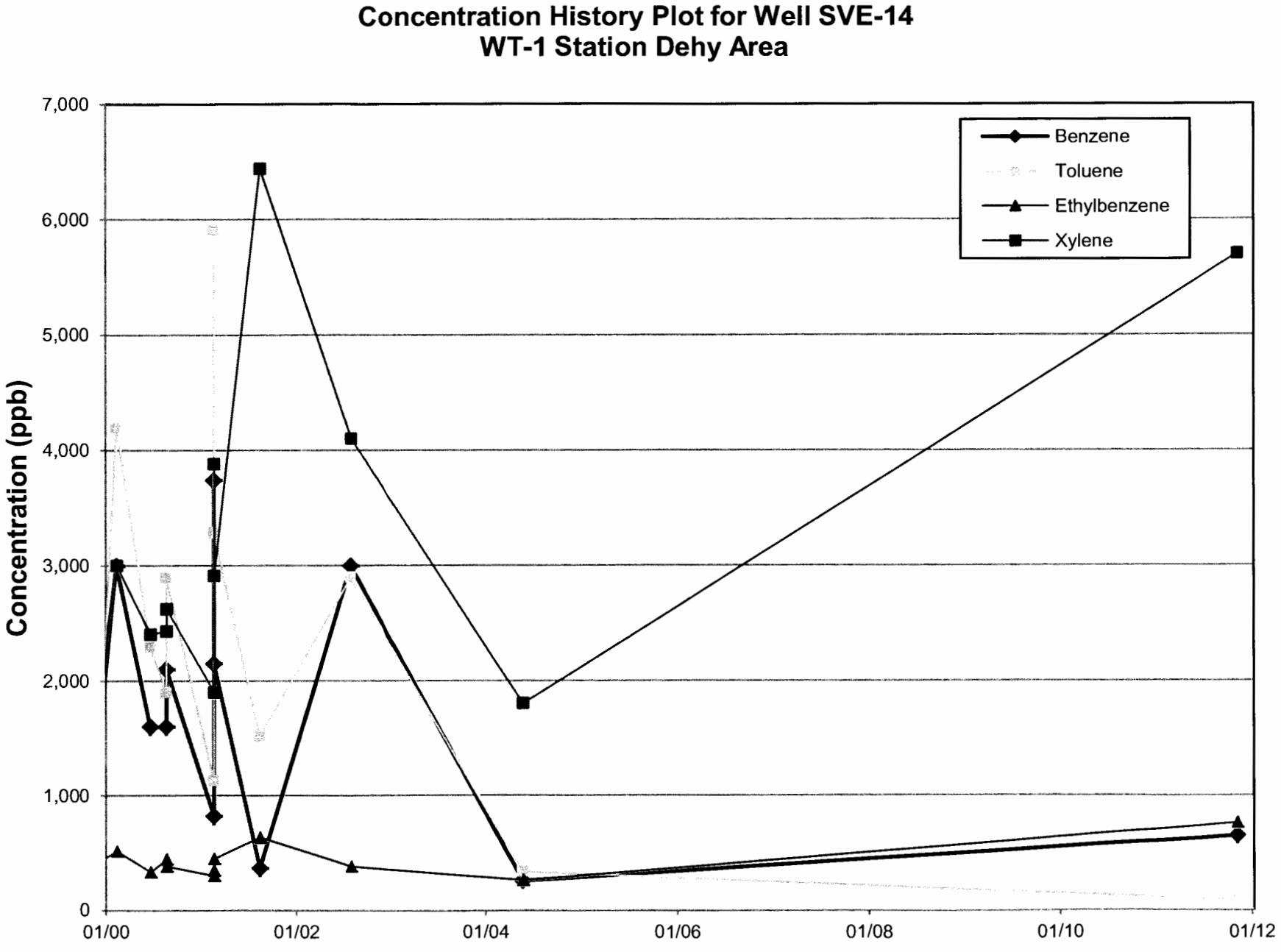
Concentration History Plot for Well SVE-14
WT-1 Station Dehy Area
Concentration (ppb)
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
01/00
01/02
01/04
01/06
01/08
01/10
01/12
Benzene
Toluene
Ethylbenzene
Xylene

Figure 12

SVE System VOC Concentration History
WT-1 Station Dehy Area

Figure 13

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

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)
	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

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

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

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

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

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
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

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
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

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
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

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

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

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

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

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

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

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

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

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

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-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

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**

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	665	200	0.5	0.2	60
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

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-13	BTEX	510	
SVE-14	BTEX	650	contains PSH intermittently

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

APPENDIX A

Laboratory Reports for Soil Vapor Samples

HALL
ENVIRONMENTAL
ANALYSIS
LABORATORY

COVER LETTER

Monday, July 25, 2011

George Robinson
Cypress Engineering
7171 Highway 6 North
Suite 102
Houston, TX 770952422

TEL: (281) 797-3420
FAX (281) 859-1881

RE: TWP WT-1

Order No.: 1107644

Dear George Robinson:

Hall Environmental Analysis Laboratory, Inc. received 1 sample(s) on 7/19/2011 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. Below is a list of our accreditations. 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.

Please do not hesitate to contact HEAL for any additional information or clarifications.

Sincerely,

Andy Freeman, Laboratory Manager

NM Lab # NM9425 NM0901
AZ license # AZ0682

Hall Environmental Analysis Laboratory, Inc.

Date: *25-Jul-11*
Analytical Report

CLIENT:	Cypress Engineering	**Client Sample ID:**	SVE Total WT-1
Lab Order:	1107644	**Collection Date:**	7/17/2011 2:30:00 PM
Project:	TWP WT-1	**Date Received:**	7/19/2011
Lab ID:	1107644-01	**Matrix:**	AIR

Analyses	Result	PQL	Qual	Units	DF	Date Analyzed
EPA METHOD 8015B: GASOLINE RANGE						Analyst: **RAA**
Gasoline Range Organics (GRO)	929	25.0		µg/L	5	7/19/2011 2:51:59 PM
% GRO Hydrocarbons: C05-C6	4.80	0		µg/L	5	7/19/2011 2:51:59 PM
% GRO Hydrocarbons: C06-C7	16.7	0		µg/L	5	7/19/2011 2:51:59 PM
% GRO Hydrocarbons: C07-C8	31.7	0		µg/L	5	7/19/2011 2:51:59 PM
% GRO Hydrocarbons: C08-C9	26.6	0		µg/L	5	7/19/2011 2:51:59 PM
% GRO Hydrocarbons: C09-C10	14.2	0		µg/L	5	7/19/2011 2:51:59 PM
% GRO Hydrocarbons: C10-C11	4.40	0		µg/L	5	7/19/2011 2:51:59 PM
% GRO Hydrocarbons: C11-C12	1.30	0		µg/L	5	7/19/2011 2:51:59 PM
% GRO Hydrocarbons: C12-C14	0.300	0		µg/L	5	7/19/2011 2:51:59 PM
% GRO Hydrocarbons: C14+	ND	0		µg/L	5	7/19/2011 2:51:59 PM
Surr: BFB	160	49.7-209		%REC	5	7/19/2011 2:51:59 PM

Qualifiers:

*	Value exceeds Maximum Contaminant Level	B	Analyte detected in the associated Method Blank
E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	MCL	Maximum Contaminant Level
NC	Non-Chlorinated	ND	Not Detected at the Reporting Limit
PQL	Practical Quantitation Limit	S	Spike recovery outside accepted recovery limits

CORE LABORATORIES

201 Deerwood Glen Dr
Deer Park, TX 77536
281-478-1300

HALL ENVIRONMENTAL ANALYSIS LAB INC
Andy Freeman
4901 HAWKINS NW, SUITE D
ALBUQUERQUE, NM 87109-4372

Report Number : 57801-112192
Date Reported: 7/22/2011
Date Received: 7/20/2011

Analytical Report

Sample No. 112192-001 **Sample ID 1107644-01B** **Date Sampled 7/17/2011 2:30:0**

SVE Total WT-1

Test	Result	Units	Method	Date	Analyst
Refinery Gas Analysis, Extended					
Hydrogen	<0.05	Mol %	UOP-539	7/21/2011	KTN
Oxygen	19.11	Mol %			
Nitrogen	79.75	Mol %			
Carbon Monoxide	<0.01	Mol %			
Carbon Dioxide	0.94	Mol %			
Hydrogen Sulfide	<0.01	Mol %			
Methane	0.19	Mol %			
Ethylene	<0.01	Mol %			
Ethane	<0.01	Mol %			
opylene	<0.01	Mol %			
Propane	<0.01	Mol %			
Isobutane	<0.01	Mol %			
Isobutylene	<0.01	Mol %			
1-Butene	<0.01	Mol %			
1,3-Butadiene	<0.01	Mol %			
n-Butane	<0.01	Mol %			
trans-2-Butene	<0.01	Mol %			
cis-2-Butene	<0.01	Mol %			
Isopentane	<0.01	Mol %			
n-Pentane	<0.01	Mol %			
Hexanes Plus	0.01	Mol %			
Total	100.00	Mol %			
Pressure Base	14.696	psia			
Molar Mass Ratio	0.99819				
Compressibility Factor	0.99962				
Gross Heating Value (Dry)	2.5	BTU/CF (Ideal)			
Gross Heating Value (Dry)	2.5	BTU/CF (Real)			
Net Heating Value (Dry)	2.3	BTU/CF (Ideal)			
Net Heating Value (Dry)	2.3	BTU/CF (Real)			
Properties of Hexanes Plus	-				
--Average Molecular Weight	112.7	g/mol			
---Relative Density	0.7264	60/60			
-Gross Heating Value	6098.0	BTU/CF			

CORE LABORATORIES

201 Deerwood Glen Dr
Deer Park, TX 77536
281-478-1300

HALL ENVIRONMENTAL ANALYSIS LAB INC
Andy Freeman
4901 HAWKINS NW, SUITE D
ALBUQUERQUE, NM 87109-4372

Report Number : 57801- 112192
Date Reported: 7/22/2011
Date Received: 7/20/2011

Analytical Report

Sample No. 112192-001 **Sample ID 1107644-01B** **Date Sampled 7/17/2011 2:30:0**

SVE Total WT-1

Test	Result	Units	Method	Date	Analyst
---Vapor Equivalent	20.40	cu. ft./gal			
Hexanes Plus	0.013	Mol %	GPA-2286		
---Pentenes	<0.001	Mol %			
---2,2-Dimethylbutane	<0.001	Mol %			
---2-Methylpentane	<0.001	Mol %			
---3-Methylpentane	<0.001	Mol %			
---n-Hexane	<0.001	Mol %			
---Hexenes	<0.001	Mol %			
---Methylcyclopentane	<0.001	Mol %			
---Benzene	0.001	Mol %			
---Cyclohexane	<0.001	Mol %			
---2-Methylhexane	<0.001	Mol %			
---3-Methylhexane	<0.001	Mol %			
---Dimethylcyclopentanes	<0.001	Mol %			
---n-Heptane	0.001	Mol %			
---Heptenes	<0.001	Mol %			
---Methylcyclohexane	0.001	Mol %			
---Trimethylcyclopentanes	<0.001	Mol %			
---Toluene	<0.001	Mol %			
---2-Methylheptane	0.001	Mol %			
---3-Methylheptane	0.001	Mol %			
---Dimethylcyclohexanes	<0.001	Mol %			
---n-Octane	0.002	Mol %			
---Ethylbenzene	<0.001	Mol %			
---Xylenes	<0.001	Mol %			
---C9 Naphthenes	0.001	Mol %			
---C9 Paraffins	0.002	Mol %			
---n-Nonane	0.002	Mol %			
---Decanes Plus	0.001	Mol %			

CORE LABORATORIES

201 Deerwood Glen Dr
Deer Park, TX 77536
281-478-1300

HALL ENVIRONMENTAL ANALYSIS LAB INC
Andy Freeman
4901 HAWKINS NW, SUITE D
ALBUQUERQUE, NM 87109-4372

Report Number : 57801- 112192
Date Reported: 7/22/2011
Date Received: 7/20/2011

Analytical Report

Sample No. 112192-001 **Sample ID 1107644-01B** **Date Sampled 7/17/2011 2:30:0**

SVE Total WT-1

Test	Result	Units	Method	Date	Analyst

Approved By: M. Jean Waits

QA/QC SUMMARY REPORT

Client: Cypress Engineering
Project: TWP WT-1 **Work Order:** 1107644

Analyte	Result	Units	PQL	SPK Va	SPK ref	%Rec	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Method: EPA Method 8015B: Gasoline Range											
Sample ID: 5ML-RB		*MBLK*				Batch ID: **R46620**		Analysis Date:	7/19/2011 9:58:57 AM		
Gasoline Range Organics (GRO)	ND	mg/L	0.050								
Sample ID: 2.5UG GRO LCS		*LCS*				Batch ID: **R46620**		Analysis Date:	7/19/2011 11:59:15 AM		
Gasoline Range Organics (GRO)	0.5286	mg/L	0.050	0.5	0	106	81.8	120			

Qualifiers:

E	Estimated value	H	Holding times for preparation or analysis exceeded
J	Analyte detected below quantitation limits	NC	Non-Chlorinated
ND	Not Detected at the Reporting Limit	R	RPD outside accepted recovery limits

Hall Environmental Analysis Laboratory, Inc.

Sample Receipt Checklist

Client Name CYP | Date Received: 7/19/2011

Order Number 1107644 | Received by: AT

Checklist completed by: _____ Signature | 07/19/11 Date | Sample ID labels checked by: AT Initials

Matrix: | Carrier name: FedEx

Shipping container/cooler in good condition?	Yes ☑	No ☐	Not Present ☐		
Custody seals intact on shipping container/cooler?	Yes ☑	No ☐	Not Present ☐	Not Shipped ☐	
Custody seals intact on sample bottles?	Yes ☐	No ☐	N/A ☑		
Chain of custody present?	Yes ☑	No ☐			
Chain of custody signed when relinquished and received?	Yes ☑	No ☐			
Chain of custody agrees with sample labels?	Yes ☑	No ☐			
Samples in proper container/bottle?	Yes ☑	No ☐			
Sample containers intact?	Yes ☑	No ☐			
Sufficient sample volume for indicated test?	Yes ☑	No ☐			
All samples received within holding time?	Yes ☑	No ☐			
Water - VOA vials have zero headspace? No VOA vials submitted ☑		Yes ☐	No ☐		
Water - Preservation labels on bottle and cap match?	Yes ☐	No ☐	N/A ☑		
Water - pH acceptable upon receipt?	Yes ☐	No ☐	N/A ☑		
Container/Temp Blank temperature?		<6° C Acceptable If given sufficient time to cool.			

Number of preserved bottles checked for pH: _____

<2 >12 unless noted below.

COMMENTS:

Client contacted _____ Date contacted: _____ Person contacted _____

Contacted by: _____ Regarding: _____

Comments: _____

Corrective Action _____

Chain-of-Custody Record

Client: Cypress Engineering

Mailing Address: 7171 Hwy 6 N Ste 102
Houston, TX 77095

Phone #: 281-797-3421

email or Fax#: 281-859-1881

QA/QC Package:

☒ Standard ☐ Level 4 (Full Validation)

Accreditation

☐ NELAP ☐ Other ____________

☐ EDD (Type) ____________

Turn-Around Time:

☒ Standard ☐ Rush ____________

Project Name: Transwestern Pipeline ~~WT-1 + Bell Lake~~ 7/19/11

Project #: WT-1 / ~~Bell Lake~~ AT

Project Manager: George Robinson

Sampler: Eddie Brewer

Office Use

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. [illegible]
~~7/19/11~~ AT 7/19/11	~~[illegible]~~	~~Air~~	~~SVE Total~~ BL	~~1L Tedlar Bags~~ 5	~~Ø~~	
7/17/11	~~[illegible]~~ 2:30pm	Air	SVE Total WT-1	5 1L Tedlar bags	Ø	-1

Sample Request ID	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)	Ext Refinery Gas Anal UOP 539	Air Bubbles (Y or N)
~~SVE Total~~ BL			~~X~~									~~X~~	
SVE Total WT-1			X									X	

Date:	Time:	Relinquished by:	Received by:	Date	Time
7/18/11	9:10	E. Brewer			

Remarks: UOP 539 - Report @ least 30 gases

APPENDIX B

Laboratory Reports for Groundwater Samples

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

November 23, 2011

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

RE: Transwester Pipeline Co. WT-1 Detty Order No.: 1111010

Dear George Robinson:

Hall Environmental Analysis Laboratory received 7 sample(s) on 11/15/2011 for the analyses presented in the following report.

There were no problems with the analytical events associated with this report unless noted in the Case Narrative. Analytical results designated with a "J" qualifier are estimated and represent a detection above the Method Detection Limit (MDL) and less than the Reporting Limit (PQL). These analytes are not reviewed nor narrated as to whether they are laboratory artifacts.

Quality control data is within laboratory defined or method specified acceptance limits except if noted.

If you have any questions regarding these tests results, please feel free to call.

Sincerely,

Andy Freeman
Laboratory Manager
4901 Hawkins NE
Albuquerque, NM 87109

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

Case Narrative

WO#: **1111010**
Date: **11/23/2011**

CLIENT: Cypress Engineering
Project: Transwester Pipeline Co. WT-1 Detty

This report in its entirety consists of the documents listed below. All documents contain the Hall Environmental Analysis Laboratory Work Order Number assigned to this report.

1. Paginated Report including: Case Narrative, Analytical Results and Applicable Quality Control Summary Reports.

2. A Cover Letter that immediately precedes the Paginated Report.

3. Paginated copies of the Chain of Custody Documents supplied with this sample set.

Concentrations reported with a J flag in the Qual field are values below the reporting limit (RL) but greater than the established method detection limit (MDL). There is greater uncertainty associated with these results and data should be considered as estimated.

Concentrations reported with an E flag in the Qual field are values that exceed the upper quantification range. There is greater uncertainty associated with these results and data should be considered as estimated.

Any comments or problems with the analytical events associated with this report are noted below.
Analytical Comments for METHOD 8021BTEX_W, SAMPLE 1111010-006A, Batch ID R77: pH>2

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

Analytical Report

WO#: **1111010**
Date Reported: **11/23/2011**

CLIENT: Cypress Engineering
Project: Transwester Pipeline Co. WT-1 Detty

Lab Order: 1111010

Lab ID: 1111010-001 **Collection Date:** 11/10/2011 2:36:00 PM
Client Sample ID: MW-12 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	11/15/2011 10:40:13 PM
Toluene	ND	1.0		µg/L	1	11/15/2011 10:40:13 PM
Ethylbenzene	ND	1.0		µg/L	1	11/15/2011 10:40:13 PM
Xylenes, Total	ND	2.0		µg/L	1	11/15/2011 10:40:13 PM
Surr: 4-Bromofluorobenzene	99.8	76.5-115		%REC	1	11/15/2011 10:40:13 PM

Lab ID: 1111010-002 **Collection Date:** 11/10/2011 3:05:00 PM
Client Sample ID: MW-9 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	11/16/2011 12:35:34 AM
Toluene	ND	1.0		µg/L	1	11/16/2011 12:35:34 AM
Ethylbenzene	ND	1.0		µg/L	1	11/16/2011 12:35:34 AM
Xylenes, Total	ND	2.0		µg/L	1	11/16/2011 12:35:34 AM
Surr: 4-Bromofluorobenzene	99.2	76.5-115		%REC	1	11/16/2011 12:35:34 AM

Lab ID: 1111010-003 **Collection Date:** 11/10/2011 4:10:00 PM
Client Sample ID: MW-11 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	11/16/2011 1:04:20 AM
Toluene	ND	1.0		µg/L	1	11/16/2011 1:04:20 AM
Ethylbenzene	ND	1.0		µg/L	1	11/16/2011 1:04:20 AM
Xylenes, Total	ND	2.0		µg/L	1	11/16/2011 1:04:20 AM
Surr: 4-Bromofluorobenzene	101	76.5-115		%REC	1	11/16/2011 1:04:20 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		

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

Analytical Report

WO#: **1111010**
Date Reported: **11/23/2011**

CLIENT: Cypress Engineering
Project: Transwester Pipeline Co. WT-1 Detty
Lab Order: 1111010

Lab ID: 1111010-004 **Collection Date:** 11/10/2011 4:20:00 PM
Client Sample ID: MW-13 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	11/16/2011 1:33:08 AM
Toluene	ND	1.0		µg/L	1	11/16/2011 1:33:08 AM
Ethylbenzene	ND	1.0		µg/L	1	11/16/2011 1:33:08 AM
Xylenes, Total	ND	2.0		µg/L	1	11/16/2011 1:33:08 AM
Surr: 4-Bromofluorobenzene	102	76.5-115		%REC	1	11/16/2011 1:33:08 AM

Lab ID: 1111010-005 **Collection Date:** 11/10/2011 4:51:00 PM
Client Sample ID: S-13 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	510	20		µg/L	20	11/16/2011 2:30:42 AM
Toluene	ND	20		µg/L	20	11/16/2011 2:30:42 AM
Ethylbenzene	92	20		µg/L	20	11/16/2011 2:30:42 AM
Xylenes, Total	63	40		µg/L	20	11/16/2011 2:30:42 AM
Surr: 4-Bromofluorobenzene	103	76.5-115		%REC	20	11/16/2011 2:30:42 AM

Lab ID: 1111010-006 **Collection Date:** 11/10/2011 5:20:00 PM
Client Sample ID: S-14 **Matrix:** AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	650	50		µg/L	50	11/16/2011 3:28:23 AM
Toluene	86	50		µg/L	50	11/16/2011 3:28:23 AM
Ethylbenzene	760	50		µg/L	50	11/16/2011 3:28:23 AM
Xylenes, Total	5,700	100		µg/L	50	11/16/2011 3:28:23 AM
Surr: 4-Bromofluorobenzene	115	76.5-115	S	%REC	50	11/16/2011 3:28:23 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		

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

Analytical Report

WO#: **1111010**
Date Reported: **11/23/2011**

CLIENT: Cypress Engineering
Project: Transwester Pipeline Co. WT-1 Detty
Lab Order: 1111010

Lab ID: 1111010-007
Collection Date:
Client Sample ID: Trip Blank
Matrix: AQUEOUS

Analyses	Result	RL	Qual	Units	DF	Date Analyzed
EPA METHOD 8021B: VOLATILES						Analyst: **RAA**
Benzene	ND	1.0		µg/L	1	11/16/2011 4:26:00 AM
Toluene	ND	1.0		µg/L	1	11/16/2011 4:26:00 AM
Ethylbenzene	ND	1.0		µg/L	1	11/16/2011 4:26:00 AM
Xylenes, Total	ND	2.0		µg/L	1	11/16/2011 4:26:00 AM
Surr: 4-Bromofluorobenzene	99.5	76.5-115		%REC	1	11/16/2011 4:26:00 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		

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

Quality Control Report

WO#: **1111010**
23-Nov-11

Analysis: EPA Method 8021B: Volatiles
Method: 8021 **Batch ID:** R77

Method Blank

RunID: 77 Units: µg/L
Analysis Date: 11/15/2011 10:11:25 P Analyst: RAA

Analyte	Result	Rep Limit	Rep Qual
Benzene	ND	1.0	
Toluene	ND	1.0	
Ethylbenzene	ND	1.0	
Xylenes, Total	ND	2.0	
Surr: 4-Bromofluorobenzene	21	0	

Laboratory Control Sample (LCS)

RunID: 77 Units: µg/L
Analysis Date: 11/15/2011 3:27:44 PM Analyst: RAA

Analyte	LCS Spike Added	LCS Result	LCS % Recovery	LCSD Spike Added	LCSD Result	LCSD % Recovery	RPD	RPD Limit	Low Limit	High Limit	Qual
Benzene	20.00	19	97.2								
Toluene	20.00	20	100								
Ethylbenzene	20.00	20	100								
Xylenes, Total	60.00	60	99.7								
Surr: 4-Bromofluorobenzene	20.00	21	103								

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		

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 Receipt Checklist

Client Name **CYP** Date and Time Receive **11/15/2011**

Work Order Numbe **1111010** RcptNo: **1** Received by **Ashley Gallegos**

Checklist Completed By: Ashley Gallegos Checked by: _____

Completed Date: 11/15/2011 1:16:44 PM Checked Date: _____

Carrier name Client

Shipping cooler present and in acceptable condition?	Yes ☑	No ☐	NA ☐
Chain of custody present?	Yes ☑	No ☐	
Chain of custody signed when relinquished and received?	Yes ☑	No ☐	
Chain of custody agrees with sample labels?	Yes ☑	No ☐	Not Present ☐
Are matrices correctly identified on Chain of custody?	Yes ☑	No ☐	
Is it clear what analyses were requested?	Yes ☑	No ☐	
Custody Seals present?	Yes ☐	No ☑	
Custody seals intact on sample bottles?	Yes ☐	No ☐	NA ☑
Samples in proper container/bottle?	Yes ☑	No ☐	
Were correct preservatives used and noted?	Yes ☑	No ☐	
Sample containers intact?	Yes ☑	No ☐	
Sufficient sample volume for indicated test?	Yes ☑	No ☐	
Were container lables complete (ID, Pres, Date)?	Yes ☑	No ☐	
All samples received within holding time?	Yes ☑	No ☐	
Was an attempt made to cool the samples?	Yes ☑	No ☐	
All samples received at a temp. of > 0° C to 6.0° C?	Yes ☑	No ☐	
Response when temperature is outside of range:			
Preservative added to bottles:			
Sample Temp. taken and recorded upon receipt?	Yes ☑	No ☐	2.6 °C
Water - Were bubbles absent in VOC vials?	Yes ☑	No ☐	NA ☐
Water - pH acceptable upon receipt?	Yes ☐	No ☐	NA ☑
Sample Condition?	Intact ☑	Broken ☐	Leaking ☐

Number of preserved bottles checked for pH: _____

<2 or >12 unless noted Adjusted? _____ Checked by _____

Client Contacted? ☐ Yes ☑ No ☐ NA Person Contacted: Comments:

Contact Mode: ☐ Phone: ☐ Fax: ☐ Email: ☐ In Person:

Date Contacted: Contacted By:

Regarding:

CorrectiveAction:

Chain-of-Custody Record

Client: Cypress Engineering Services

7171 Highway 6 North Ste 102

Mailing Address: Houston, TX 77095

Phone #: 281.797.3424

email or Fax#: 281.859.1881

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 Detty

Project #: TWP WT-1 Detty

Project Manager: George Robinson Sandy Sharp

Sampler: CM Barnhill, PG

[redacted]

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	[redacted]	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)
11/10/11	1436	H2O	MW-12	3x40mL VOAs	HCl	1	X															N
↓	1505	↓	MW-9	↓	↓	2	↓															↓
↓	1610	↓	MW-11	↓	↓	3	↓															↓
↓	1620	↓	MW-13	↓	↓	4	↓															↓
↓	1651	↓	S-13	↓	↓	5	↓															↓
↓	1720	↓	S-14	↓	↓	6	↓															↓
			Trip Blank	2x40mL VIALS	HCl	7	↓															↓

Date:	Time:	Relinquished by:	Received by:	Date	Time
11/14/11	1540	[signature]	[signature]	11/15/11	1200
Date:	Time:	Relinquished by:	Received by:	Date	Time

Remarks: Any Questions Please Call Sandy Sharp @ 281.797.3424