AP - 001

ANNUAL MONITORING REPORT

YEAR(S): 2006

2000 ANNUAL GROUNDWATER MONITORING REPORT
FORMER BRICKLAND REFINERY SITE
SUNLAND PARK, NEW MEXICO
TERRACON PROJECT NO.: 66997611
February 5, 2001

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ENVIRONMENTAL BUREAU
OIL CONSERVATION DIVISION

Prepared for:

Mr. Troy Boley
Huntsman Polymers Corporation
3040 Post Oak Boulevard
Houston, Texas 77056

Prepared by:

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February 5, 2001

Mr. Troy M. Boley, Ph.D.
Huntsman Polymers Corporation
3040 Post Oak Boulevard
Houston, TX 77056

Re: 2000 Annual Groundwater Monitoring Report
Former Brickland Refinery Site
Sunland Park, New Mexico
Terracon Project No.: 66997611

Dear Mr. Boley:

Terracon has completed the two 2000 semi-annual monitoring events for the above-referenced site. The two monitoring events were completed in general compliance with the services outlined in Terracon's Task Order No. 2 (Terracon Proposal No.: P6699-033E) dated April 27, 1999, authorized by Mr. Roger Martin on April 30, 1999.

This 2000 Annual Groundwater Monitoring Report is based on results of field activities conducted by Terracon on June 12-14, 2000 and December 7-8, 2000, and contains monitoring methods, observations, conclusions, and recommendations made relative to the site. Please read the report carefully for details.

We appreciate the opportunity to be of service to you on this project and look forward to working with you in the future. If there are questions concerning the report or if we may be of further assistance, please call.

Sincerely,
TERRACON

Linda K. Riggins
Staff Geologist

Mary E. Wells, P.E.
Manager, Las Cruces Office

pc: Mr. Todd Carver

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FORMER BRICKLAND REFINERY SITE
SUNLAND PARK, NEW MEXICO
TERRACON PROJECT NO.: 66997611
February 5, 2001

1.0 EXECUTIVE SUMMARY

This 2000 Annual Groundwater Monitoring Report documents the results of two semi-annual groundwater monitoring operations conducted by Terracon at the former Brickand Refinery Site in Sunland Park, New Mexico. The semi-annual groundwater monitoring operations were conducted in June 2000 and December 2000. The report also contains the historical groundwater elevation and analytical data since 1993. In addition, the report includes a summary of the free product recovery system. This monitoring and sampling program was conducted in accordance with the Groundwater Monitoring Plan included in Section 3.5 of the Stage 2 Abatement Plan as approved by Lori Wrotenbery for Mr. Bill Olson of the New Mexico Oil Conservation Division (NMOCD) in their letter dated December 17, 1998.

This annual report includes the following elements required by the approved Groundwater Monitoring Plan and Stage 2 Abatement Plan:

- A description of the monitoring activities that occurred during the year, with corresponding conclusions and recommendations.
- Summary tables of the past and present laboratory analytical results of groundwater and surface water sampling.
- Plots of concentrations versus time for contaminants of concern for monitoring points MW-4, MW-6S, MW-7, MW-9S, MW-14, and MW-15.
- Copies of laboratory analytical reports for the activities conducted at the site during the past year.
- Plots of water table elevation versus time for each groundwater monitoring well.
- Groundwater surface contour maps for the two semi-annual monitoring events based on groundwater elevations obtained from the monitoring wells.
- Total benzene, toluene, ethylbenzene and xylene (BTEX) concentration maps for the two semi-annual monitoring events.
- Free-phase hydrocarbon thickness maps for the two semi-annual monitoring events.

The semi-annual monitoring includes the following items as required by the Groundwater Monitoring Plan and Stage 2 Abatement Plan as approved by the (NMOCD).

- Depth to groundwater measurements for the ten on-site monitoring wells and eight off-site monitoring wells. Water levels are not reported for the fourteen well points measured because they were designed to detect free-phase product at specific depth and the screen intervals do not correlate with the monitoring well screens.

- Free-phase product thickness measurements in the eighteen monitoring wells and fourteen well points, and a summary of the free-phase recovery system performance.

- Laboratory analytical testing results of groundwater samples collected from nine (9) monitoring wells in June and December (i.e. MW-3S, MW-3D, MW-4, MW-6s, MW-6D, MW-7, MW-9S, MW-14, and MW-15). Tests included BTEX, polynuclear aromatic hydrocarbons (PAH), and priority pollutant metals for samples collected in June, and BTEX for samples collected in December. The four interior monitoring wells (MW-4, MW-7, MW-14, and MW-15) were last sampled in 1995.

- Laboratory analytical testing results of two surface water samples from the Rio Grande River collected during each event: one from the upstream end of the site above MW-1, and one from the downstream end of the site below MW-9S.

Conclusions relevant to groundwater conditions and the remediation performance at the Brickand Refinery are presented below.

- BTEX concentrations in the upstream and downstream river samples remained below the laboratory detection limits. All results for the perimeter wells remained below NMWQCC standards. Toluene, ethylbenzene and total xylenes did not exceed NMWQCC standards (750 ug/L, 750 ug/L, and 620 ug/L, respectively) in all the groundwater samples collected during the June and December 2000 monitoring events. In June, three of the wells sampled had concentrations above the NMWQCC benzene standard of 10 ug/L. Results in interior wells MW-4, MW-7 duplicate sample of MW-7, and MW-14, indicated benzene levels at 400 ug/L, 74 ug/L 76 ug/L, and 250 ug/L, respectively. In December, only two of the interior wells had concentrations above the NMWQCC benzene standard of 10ug/L. Concentrations in wells MW-4, duplicate sample of MW-4, and MW-14, were 1120 ug/L, 1050 ug/L, and 2630 ug/L, respectively. These concentrations were consistent with results from studies in years 1993-1995 (see Table 3).

- PAH levels in the sampled monitoring wells were below laboratory detection limits. The analytical is consistent with most prior year analyses and indicates the groundwater is not adversely affected by PAH (see Table 4).

- The results for the analyses of priority pollutant metals for the June 2000 monitoring event indicate that the constituents were below the laboratory detection limits. After 1996, no constituent detected exceeded the NMWQCC standards. Based on the results of these metal analyses for 1997, 1998, 1999 and 2000 annual sampling events, the groundwater in the site area does not appear to be adversely affected or impacted by dissolved metals (see Table 5).

- Measurable thicknesses of free-phase product were detected in monitoring well MW-10 and well points WP-26S and WP-27D during the June 2000 monitoring event and varied from 0.03 feet in MW-10 to 1.70 feet in WP-26S. During the December 2000 monitoring event, product thickness measurements were detected in MW-10 and well points WP-26S and WP-27D, and varied from 0.06 feet in MW-10 to 1.19 feet in WP-26S. Both well point (WP) measurements are consistent with prior assessments (see Table 6).

- Since the installation of the Xitech product recovery system in December 1998, a total of approximately 67.6 gallons of free-phase product has been removed from monitoring well MW-10.

- Water level elevations varied from one to two feet between June and December and correlate with prior year readings.

2.0 PROCEDURES

Prior to sampling, the ten on-site monitoring wells and eight off-site monitoring wells were gauged for depth to groundwater using a KECK oil/water interface meter. Immediately prior to collecting groundwater samples during the June 13-14, 2000 and December 7-8, 2000 sampling events, each monitoring well was purged of a minimum of three well casing volumes of water and sampled using dedicated bailers. Nine monitoring wells (MW-3S, MW-3D, MW-4, MW-6S, MW-6D, MW-7, MW-9S, MW-14, and MW-15) were sampled to monitor the potential exposure pathway for contaminants of concern to reach the Rio Grande River. A total of 318 gallons and 288 gallons of water were purged from the sampled monitoring wells during the June 2000 and December 2000 monitoring events, respectively. Groundwater samples were collected for each well after purging. Groundwater parameters, including pH, conductivity, and temperature were measured during purging using a Hydac Model 910 pH/conductivity meter.

During each sampling event, the initial set of water samples were transferred into air-tight, septum-sealed, 40-ml glass VOA sample vials with zero head space and preserved with hydrochloric acid for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX) using EPA Method 8021. Duplicate samples of MW-7 and MW-4 were collected during the June and December monitoring events, respectively. During the June 2000 sampling event, a second set of water samples was transferred into appropriately preserved containers for analysis of polynuclear aromatic hydrocarbons (PAH) using EPA Method 8270C/625. Also during the June semi-annual sampling event, a third set of water samples were transferred into appropriately preserved containers for analysis of priority pollutant metals using various EPA Methods. The water samples from each event were placed in an ice-filled cooler immediately after collection and shipped to Trace Analysis, Inc. in El Paso, Texas for laboratory analysis. Chain-of-custody (COC) forms documenting sample identification numbers, collection times, and delivery times to the laboratories were completed for each set of samples. A summary of the purging and sampling methods is provided in Table 1 below.

Table 1
Well Sampling and Purging Methods

Well No.	2000 Sample Date	Purge Method	Sampling Method	Purge Volume	Laboratory Analytes
MW-3S	6/14/00	Hand Bailer	Dedicated bailer	12 gallons*	BTEX, PAH, and Metals
	12/08/00	Pump	Dedicated bailer	20 gallons	BTEX only
MW-3D	6/14/00	Hand Bailer	Dedicated bailer	64 gallons	BTEX, PAH, and Metals
	12/08/00	Pump	Dedicated bailer	61 gallons	BTEX only
MW-4	6/13/00	Hand Bailer	Dedicated bailer	29 gallons	BTEX, PAH, and Metals
	12/08/00	Pump	Dedicated bailer	25 gallons	BTEX only
MW-6S	6/14/00	Hand Bailer	Dedicated bailer	8 gallons*	BTEX, PAH, and Metals
	12/07/00	Pump	Dedicated bailer	8 gallons*	BTEX only
MW-6D	6/14/00	Hand Bailer	Dedicated bailer	64 gallons	BTEX, PAH, and Metals
	12/07/00	Pump	Dedicated bailer	60 gallons	BTEX only
MW-7	6/13/00	Hand Bailer	Dedicated bailer	24 gallons	BTEX, PAH, and Metals
	12/08/00	Pump	Dedicated bailer	19 gallons	BTEX only
MW-9S	6/14/00	Hand Bailer	Dedicated bailer	21 gallons	BTEX, PAH, and Metals
	12/07/00	Pump	Dedicated bailer	17 gallons	BTEX only
MW-14	6/13/00	Hand Bailer	Dedicated bailer	42 gallons	BTEX, PAH, and Metals
	12/08/00	Pump	Dedicated bailer	39 gallons	BTEX only
MW-15	6/13/00	Hand Bailer	Dedicated bailer	43 gallons	BTEX, PAH, and Metals
	12/07/00	Pump	Dedicated bailer	39 gallons	BTEX only
River Upstream	6/13/00	NA	Glass Jar	NA	BTEX, PAH, and Metals
	12/08/00	NA	Bailer	NA	BTEX only
River Downstream	6/13/00	NA	Glass Jar	NA	BTEX, PAH, and Metals
	12/08/00	NA	Bailer	NA	BTEX only

Table 1
Well Sampling and Purging Methods

Well No.	2000 Sample Date	Purge Method	Sampling Method	Purge Volume	Laboratory Analytes
Total volume purged during semi-annual monitoring event in June 2000:					318 gallons
Total volume purged during annual monitoring event in December 2000:					288 gallons
Total volume purged during semi-annual and annual monitoring events:					606 gallons

* Monitoring well purged dry during sampling event.

3.0 GROUNDWATER ELEVATIONS, HYDRAULIC GRADIENT AND FLOW DIRECTION

Historical groundwater elevations for the monitoring wells are provided in Table 2. Water levels are not listed for the well points because the well points were specifically designed to detect free-phase product at discrete depth and the screen intervals do not correlate with the monitoring well screens. Groundwater elevation contour maps for the June 2000 and December 2000 monitoring events are depicted in Figure 1a and 1b, respectively.

The hydraulic gradient beneath the former Brickland Refinery is relatively level. The hydraulic gradient in June 2000 was approximately 0.002 feet per foot and groundwater flow direction appeared to be parallel to or towards the Rio Grande River. The hydraulic gradient in December 2000 was approximately 0.0006 feet per foot and groundwater flow direction appeared to be similar to the June flow direction.

Hydrographs depicting the groundwater elevations versus time (1993 to present) for each water level monitoring well are presented in Appendix A. Groundwater levels in the monitoring wells typically correspond to the stage of the Rio Grande River bordering the site. Due to seasonal fluctuations in the river, water levels in the monitoring wells vary 2-3 feet over the course of a year. Water level data for June 2000 and December 2000 shows a pronounced decline between the two monitoring events.

Groundwater elevations in June 2000 correlate well with the higher levels measured during the summer months of previous years. Similarly, the groundwater elevations in December 2000 correlate well with the lower levels measured during the winter months of previous years.

Gage heights versus time (1993 to present) of the Rio Grande at Courchesne Bridge near the site are included in Appendix A.

Table 2
Brickland Refinery
Monitoring Well Groundwater Elevations

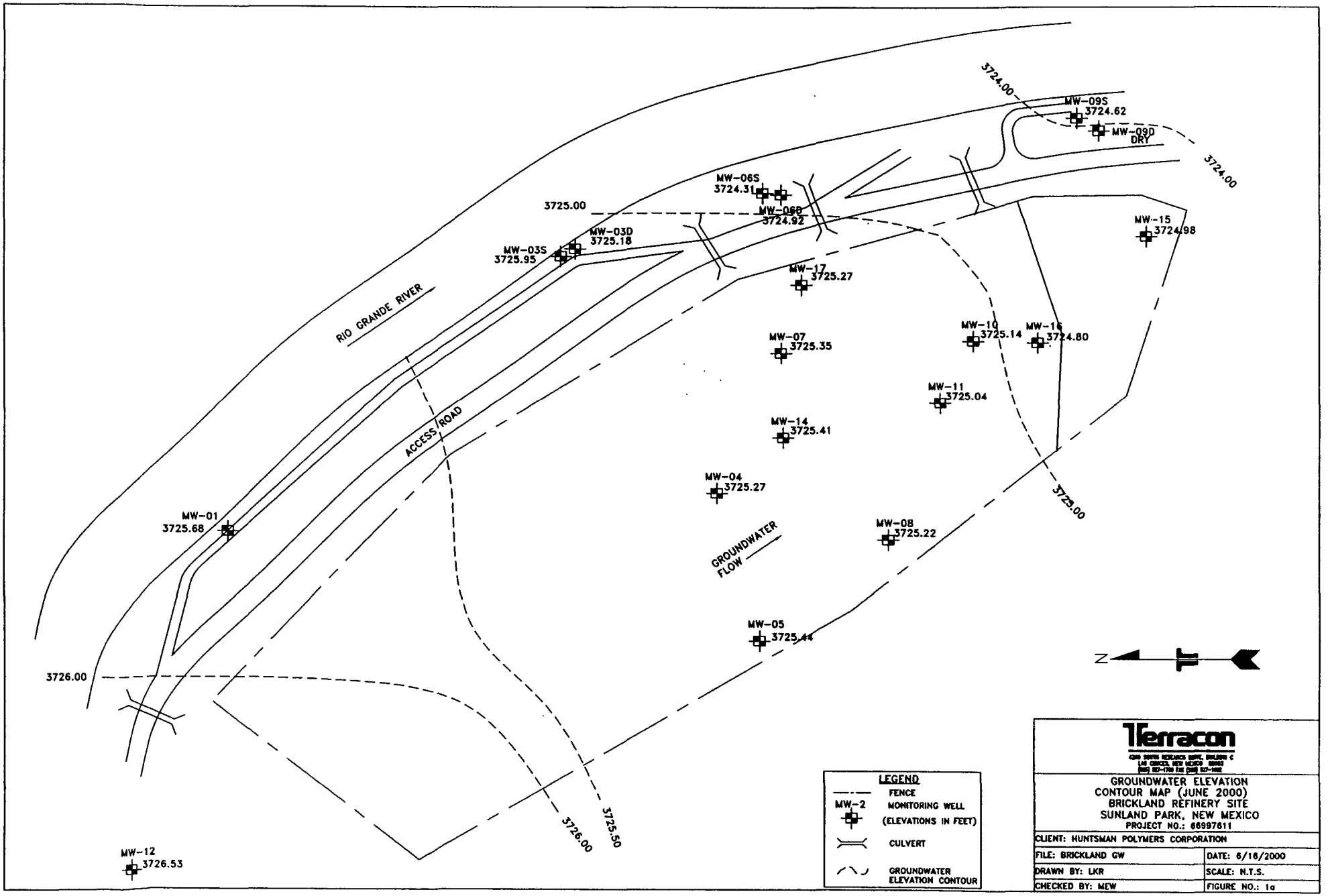
Well ID	Jul. 93	12/8/93	3/25/94	7/12/94	9/28/94	12/13/94	3/28/95	6/21/95	9/25/95	6/20/96	12/22/96	6/27/97
MW-1	3725.78	3724.30	3725.27	3726.54	3725.37	3724.35	NM	3726.66	NM	3725.72	3724.03	3726.31
MW-2	NM	NM	3726.39	3726.54	3725.89	3723.97	NM	3726.81	NM	3726.56	3724.67	3726.72
MW-3S	3725.29	3723.27	3725.20	3725.87	3724.50	3723.44	3725.35	3725.68	3724.98	3725.08	3723.10	3724.54*
MW-3D	3725.22	3723.30	3725.10	3725.78	3724.42	3723.35	3725.26	3725.75	3724.97	3725.00	3723.01	3725.46
MW-4	3725.21	3723.59	3725.36	3725.56	3724.68	3723.64	3725.56	3725.66	3725.40	3725.25	3723.31	3724.68
MW-5	3725.11	3723.59	3725.30	3725.88	3724.70	3723.65	3725.40	3725.86	3725.39	3725.37	3722.93	3724.17
MW-6S	3725.08	3723.78	3724.85	3725.55	3724.20	3723.03	3725.05	3725.53	3724.63	3724.83	3722.80	3725.29
MW-6D	3725.00	3723.75	3724.82	3725.57	3724.22	3723.00	3725.02	3725.48	3724.57	3724.75	3722.72	3725.25
MW-7	3725.16	3723.72	3725.16	3725.89	3724.46	3723.16	3725.36	3725.32	3725.23	NM	3723.16	3725.12
MW-8	3725.10	3723.42	3725.12	3725.77	3724.49	3723.45	3725.42	3725.74	3724.33	3725.29	3723.13	3724.21
MW-9S	3724.84	3723.52	3724.56	3725.29	3723.91	3722.81	3724.81	3725.21	3725.52	3724.49	3722.51	3724.84
MW-10	P	P	P	P	P	P	P	P	P	P	P	P
MW-11	3724.91	3722.90	3725.10	3725.75	P	3723.40	3725.35	3725.86	3724.98	3725.20	3723.10	3724.39
MW-12	3726.09	3724.91	3726.45	3727.05	3725.70	3723.65	NM	3727.15	3726.39	NM	3724.37	3726.34
MW-13	3725.22	NM	NM	3725.82	3724.71	3724.44	NM	3726.05	NM	3725.30	3723.27	3725.56
MW-14	NM	NM	NM	3726.03	3724.61	3723.58	3725.56	3726.01	3725.31	NM	3723.25	3725.07
MW-15	NM	NM	NM	3725.62	3724.28	3723.19	3724.97	3725.58	3724.87	NM	3721.90	3723.52
MW-16	NM	NM	NM	3725.43	3724.06	3722.93	3724.88	3725.44	3724.54	3724.65	3722.63	3723.59
MW-17	NM	NM	NM	3725.90	3724.46	3723.36	3725.38	3726.82	3726.05	NM	3723.07	3724.95

Notes: NM = Not measured.
P = Product observed.
* Remeasured in July.
D = Well Dry.

Table 2 (cont)
Brickland Refinery
Monitoring Well Groundwater Elevations

Well ID	1/8/98	6/24/98	12/21/98	6/1/99	12/14/99	6/12/00	12/5/00
MW-1	3724.13	3725.71	0.00	3725.85	3724.22	3725.68	3724.41
MW-2	3724.77	3728.47	0.00	3726.44	Plugged 6/99	Plugged 6/99	Plugged 6/99
MW-3S	3723.20	3724.58	0.00	3725.14	3723.32	3724.95	3723.5
MW-3D	3721.05	3725.14	0.00	3725.08	3723.24	3725.18	3723.43
MW-4	3723.44	3725.24	0.00	3725.34	3723.58	3725.27	3723.79
MW-5	3723.48	3724.38	0.00	3725.34	3723.58	3725.44	3723.82
MW-6S	3722.90	3724.97	0.00	3724.88	3723.09	3724.31	3723.23
MW-6D	3720.81	3724.9	Mar. 95	3724.84	3723.04	3724.92	3723.17
MW-7	3723.26	3725.31	0.00	3725.26	3723.46	3725.35	3723.63
MW-8	3722.31	3725.27	3725.56	3725.11	3723.43	3725.22	3723.64
MW-9S	3722.62	3725.79	3725.40	3724.55	3722.86	3724.62	3723.04
MW-10	P	P	P	P	P	P	P
MW-11	3723.15	3725.20	3725.42	3725.05	3723.34	3725.04	3723.52
MW-12	NM	3726.48	3725.35	3726.40	3724.59	3726.53	3724.73
MW-13	3723.55	3725.34	0.00	3725.25	Plugged 6/99	Plugged 6/99	Plugged 6/99
MW-14	3723.35	3725.38	3725.56	3725.36	3723.54	3725.41	3723.73
MW-15	3722.99	3728.60	3724.97	3724.87	3723.24	3724.98	3723.42
MW-16	3722.75	3725.02	3724.88	3724.68	3722.97	3724.80	3723.16
MW-17	D	3725.09	3725.38	3725.25	3723.36	3725.27	3723.5

Notes: NM = Not measured.
P = Product observed.
* Remeasured in July.
D = Well Dry.
Plugged 6/99 = Monitoring well abandoned (in accordance with NMED regulations) prior to soil cap installation in June 1999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MW-09D
DRY
3724.00
MW-06S
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MW-06D
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MW-15
3724.98
MW-03D
3725.18
MW-03S
3725.95
MW-17
3725.27
RIO GRANDE RIVER
MW-10
3725.14
MW-16
3724.80
MW-07
3725.35
MW-11
3725.04
ACCESS ROAD
MW-14
3725.41
MW-04
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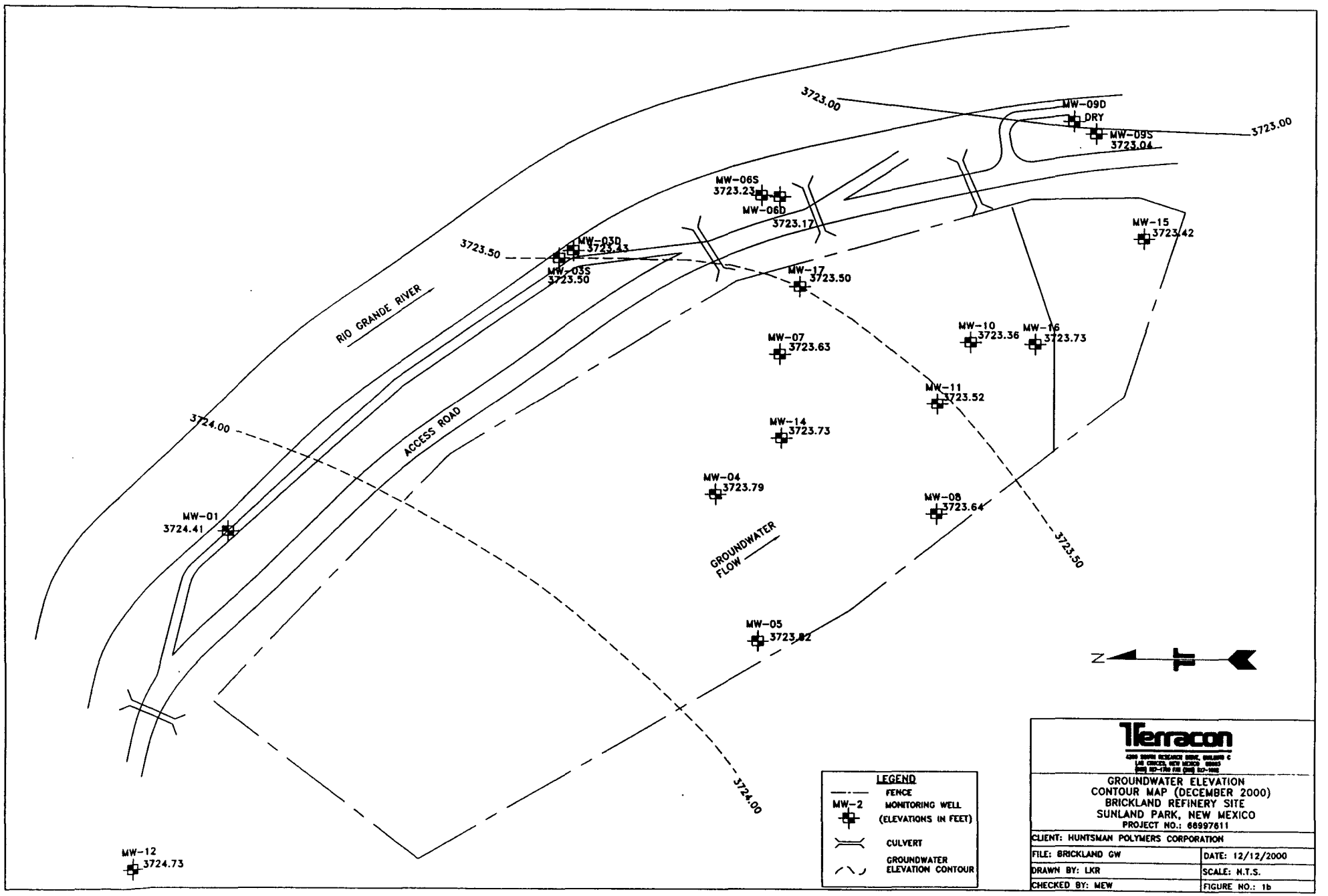
MW-01
3725.68
MW-08
3725.22
GROUNDWATER FLOW
MW-05
3725.44
N
3726.00
3725.50
3726.00
MW-12
3726.53
LEGEND
FENCE
MW-2
MONITORING WELL
(ELEVATIONS IN FEET)
CULVERT
GROUNDWATER ELEVATION CONTOUR
Terracon
GROUNDWATER ELEVATION CONTOUR MAP (JUNE 2000)
BRICKLAND REFINERY SITE
SUNLAND PARK, NEW MEXICO
PROJECT NO.: 66997611
CLIENT: HUNTSMAN POLYMERS CORPORATION
FILE: BRICKLAND GW
DATE: 6/16/2000
DRAWN BY: LKR
SCALE: N.T.S.
CHECKED BY: MEW
FIGURE NO.: 1a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RIO GRANDE RIVER
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GROUNDWATER FLOW
3723.50
MW-05
3723.82
N
MW-12
3724.73
3724.00
LEGEND
FENCE
MW-2
MONITORING WELL
(ELEVATIONS IN FEET)
CULVERT
GROUNDWATER ELEVATION CONTOUR
Terracon
GROUNDWATER ELEVATION
CONTOUR MAP (DECEMBER 2000)
BRICKLAND REFINERY SITE
SUNLAND PARK, NEW MEXICO
PROJECT NO.: 66997611
CLIENT: HUNTSMAN POLYMERS CORPORATION
FILE: BRICKLAND GW
DATE: 12/12/2000
DRAWN BY: LKR
SCALE: N.T.S.
CHECKED BY: MEW
FIGURE NO.: 1b

4.0 GROUNDWATER/SURFACE WATER QUALITY CONDITIONS

4.1 Distribution of Hydrocarbons in Groundwater/BTEX

A historical listing of benzene, toluene, ethylbenzene and xylenes (BTEX) concentrations for five offsite monitoring wells (MW-3S, MW-3D, MW-6S, MW-6D, and MW-9S) and four interior monitoring wells (MW-4, MW-7, MW14, and MW-15) is summarized in Table 3. This table lists BTEX concentrations for the period from December 1993 to December 2000. BTEX concentrations for sampling events prior to December 1993 are included in previously submitted reports.

4.1.1 Analyses

BTEX concentrations in the upstream and downstream river samples remained below the laboratory detection limits. All results for the perimeter wells remained below NMWQCC standards. Toluene, ethylbenzene and total xylenes did not exceed NMWQCC standards (750 ug/L, 750 ug/L, and 620 ug/L, respectively) in all the groundwater samples collected during the June and December 2000 monitoring events. In June, three of the wells sampled had concentrations above the NMWQCC benzene standard of 10 ug/L. Results in interior wells MW-4, MW-7 duplicate sample of MW-7, and MW-14, indicated benzene levels at 400 ug/L, 74 ug/L 76 ug/L, and 250 ug/L, respectively. In December, only two of the interior wells had concentrations above the NMWQCC benzene standard of 10 ug/L. Concentrations in wells MW-4, duplicate sample of MW-4, and MW-14, were 1120 ug/L, 1050 ug/L, and 2630 ug/L, respectively. These concentrations were consistent with results from studies in years 1993-1995 (see Table 3).

Hydrocarbon concentration maps depicting the BTEX concentrations for the two 2000 sampling events are presented in Figure 2a (June 13-14, 2000) and Figure 2b (December 7-8, 2000). BTEX concentrations in groundwater versus time for monitoring wells MW-4, MW-6S, MW-7, MW-9S, MW-14, and MW-15, are depicted in Figures 3a through 3f, respectively.

4.1.2 Comparison to Prior Data

Results from wells located on the eastern perimeter of the site, MW-3S, MW-3D, MW-6S, MW-6D, and MW-9S, continue to be below the NMWQCC standards. This is consistent with readings since the beginning of 1998. Comparisons with earlier data indicate either similar levels of detection or lower results for the year 2000.

The interior well analytical is consistent with results obtained during the 1993 to 1995 study period. The 1993 to 1995 data was presented in the "Final Site Investigation Report for the Former Brickland Refinery-Stage 1 Abatement Plan" dated December 20, 1996. In three of these four wells, MW-4, MW-7, and MW-14, the results vary widely during the year 2000 sampling program. This is also the case in the prior year data.

4.2 Distribution of Hydrocarbons in Groundwater/PAH

PAH concentrations were below laboratory detection levels for the June sampling event. As a result, no concentration map was constructed. Historical analytical results for PAH are listed in Table 4 (December 1993 to December 2000). The analytical is consistent with most prior year analyses and indicates the groundwater is not adversely affected by PAH. PAH concentrations for sampling events prior to December 1993 are included in previously submitted reports.

4.3 Distribution of Priority Pollutant Metals in Groundwater

Historical groundwater sample analytical results since 1996 for Priority Pollutant metals (antimony, arsenic, beryllium, cadmium, chromium, copper, lead, mercury, nickel, selenium, silver, thallium, and zinc) are presented in Table 5. The NMWQCC standards are also listed in the tables for comparison. Constituents with concentrations above the NMWQCC standards are highlighted in boldface type. Analytical results for years prior to 1996 are included in previously submitted reports. The results of the analyses for metals for the 2000 semi-annual monitoring event indicate that metal constituents were not present above laboratory detection limits.

Since 1996, the only analytes detected above NMWQCC standards were selenium and silver. In 1996 these two metals were detected above NMWQCC standards in MW 6D, and selenium was above the standard in MW9S. In 1997 selenium was detected in four wells and silver in one well (both below NMWQCC standards). Neither of these two metals was detected in 1998, 1999, or 2000. The groundwater does not appear to be adversely impacted by dissolved metals, based on the past seven years of monitoring.

4.4 Surface Water Analytical Results

Rio Grande river samples were obtained from both the upstream and downstream locations for June and December sampling events. All measurements were below laboratory detection levels.

4.5 Analytical and QA/QC Data

The laboratory analysis sheets, the documentation of laboratory testing equipment calibration, and the Chain of Custody (COC) documentation are included in Appendix B.

Table 3
Brickland Refinery
BTEX Concentrations in Monitoring Wells and River Surface Water Samples
December 1993 through December 2000

MW-3S

Parameter	12/08/93	03/25/94	07/12/94	09/28/94	12/13/94	03/28/95	06/21/95	09/26/95	6/21/96	12/23/96	7/11/97	1/8/98	6/25/98	12/21/98	6/3/99	12/14/99	6/14/00	12/8/00
Benzene	ND	ND	0.8	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	4.9	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.9	ND	ND	ND
Xylenes	ND	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	5	ND	ND	ND

MW-3D

Parameter	12/08/93	03/23/94	07/12/94	09/28/94	12/13/94	03/28/95	06/21/95	09/26/95	6/21/96	12/23/96	6/26/97	1/8/98	6/25/98	12/21/98	6/3/99	12/14/99	6/14/00	12/8/00
Benzene	ND	ND	0.6	ND	ND	ND	ND	ND	ND	ND	ND,ND	ND	ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND,ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND,ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND,ND	ND	ND	ND	ND	ND	2	ND

MW-4

Parameter	12/08/93	03/25/94	07/12/94	09/27/94	12/13/94	03/28/95	06/21/95	09/26/95	6/21/96	12/23/96	7/11/97	1/8/98	6/25/98	12/23/98	6/2/99	12/14/99	6/2/99	12/8/00
Benzene	NS	130/110	1800	2000	220	220	NS	2200	NS	NS	NS	NS	NS	NS	NS	NS	400	1120/1050
Toluene	NS	ND/ND	12	ND	ND	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND, ND
Ethyl Benzene	NS	2.5/1.6	50	ND	ND	6	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	1.8	ND, ND
Xylenes	NS	ND/ND	ND	ND	ND	ND.	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	5.1	34, ND

Parameter	WQCC Std.	Detection Limit
Benzene	10	1.0 µg/L
Toluene	750	1.0 µg/L
Ethyl Benzene	750	1.0 µg/L
Xylenes	620	1.0 µg/L

Notes
NA = Not available
ND = Not detected
NS = Not sampled
µg/L = Micrograms per liter

Table 3 (cont)
Brickland Refinery
BTEX Concentrations in Monitoring Wells and River Surface Water Samples
December 1993 through December 2000

MW-6S

Parameter	12/08/93	03/25/94	07/12/94	09/28/94	12/13/94	03/28/95	06/21/95	9/25/95	6/21/96	12/23/96	6/26/97	1/8/98	6/25/98	12/22/98	6/3/99	12/14/99	6/14/00	12/7/00
Benzene	71	74	110	4.8	59	110	NS	180	330	50	130	14	130	ND	4.3, 6.4	ND	2.6	ND
Toluene	ND	ND	ND	2.8	ND	7	NS	120	160	ND	ND	ND	ND	ND	2.2, 2.2	ND	ND, 2.2	ND
Ethyl Benzene	52	12	30	34	ND	32	NS	ND	ND	ND	15	ND	40	ND	3.3, 4.1	ND	2.1	ND
Xylenes	ND	7.6	88	16	ND	43	NS	30	90	ND	ND	ND	ND	ND	ND, 2.2	ND	4.1	ND

MW-6D

Parameter	12/08/93	03/23/94	07/12/94	09/28/94	12/13/94	03/28/95	06/21/95	9/25/95	6/21/96	12/23/96	6/26/97	1/8/98	6/25/98	12/22/98	6/3/99	12/14/99	6/14/00	12/7/00
Benzene	ND	ND	ND	ND	ND	ND	ND	ND,ND	ND	ND	ND	ND	ND, ND	ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND,ND	ND	ND	ND	ND	ND, ND	ND	ND	ND	ND	ND
Ethyl Benzene	ND	ND	ND	ND	ND	ND	ND	ND,ND	ND	ND	ND	ND	ND, ND	ND	ND	ND	ND	ND
Xylenes	ND	1.6	ND	ND	ND	ND	ND	ND,ND	ND	ND	ND	ND	ND, ND	ND	ND	ND	1.7	ND

MW-7

Parameter	12/08/93	03/25/94	07/12/94	09/27/94	12/13/94	03/28/95	06/21/95	09/26/95	6/21/96	12/23/96	7/11/97	1/8/98	6/25/98	12/23/98	6/2/99	12/14/99	6/13/00	12/8/00
Benzene	NS	31	ND	ND	36	100	NS	4.9	NS	NS	NS	NS	NS	NS	NS	NS	74, 76	ND
Toluene	NS	ND	ND	ND	ND	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND,ND	ND
Ethyl Benzene	NS	2.1	ND	3.6	ND	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND, ND	ND
Xylenes	NS	0.6	3.2	1.3	ND	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	2.5, 1.6	ND

Parameter	WQCC Std.	Detection Limit
Benzene	10	1.0 µg/L
Toluene	750	1.0 µg/L
Ethyl Benzene	750	1.0 µg/L
Xylenes	620	1.0 µg/L

Notes
NA = Not available
ND = Not detected
NS = Not sampled
µg/L = Micrograms per liter

Table 3 (cont)
Brickland Refinery
BTEX Concentrations in Monitoring Wells and River Surface Water Samples
December 1993 through December 2000

MW-9S

Parameter	12/08/93	03/25/94	07/12/94	09/27/94	12/13/94	03/28/95	06/21/95	09/26/95	6/21/96	12/23/96	6/26/97	1/8/98	6/25/98	12/22/98	6/3/99	12/14/99	6/14/00	12/7/00
Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND,ND	1.9	ND, ND	ND	ND	ND	ND
Toluene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND,ND	2.7	2.7, ND	2.2	ND	14	ND
Ethyl Benzene	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND,ND	1.5	4.5, ND	2.5	ND	6.2	ND
Xylenes	ND	ND	0.6	ND	ND	0.6	ND	ND	ND	ND	ND	ND,ND	6.6	6.7, ND	24	8	43	ND

MW-14

Parameter	12/08/93	03/25/94	07/12/94	09/27/94	12/13/94	03/28/95	06/21/95	09/26/95	6/21/96	12/23/96	7/11/97	1/8/98	6/25/98	12/23/98	6/2/99	12/14/99	6/13/00	12/8/00
Benzene	*	*	23000	2900	930	1100	NS	5.7	NS	NS	NS	NS	NS	NS	NS	NS	250	2630
Toluene	*	*	ND	ND	ND	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND
Ethyl Benzene	*	*	ND	ND	ND	25	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	2.9	ND
Xylenes	*	*	ND	ND	ND	ND	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	5	ND

MW-15

Parameter	12/08/93	03/25/94	07/12/94	09/27/94	12/13/94	03/28/95	06/21/95	09/26/95	6/21/96	12/23/96	7/11/97	1/8/98	6/25/98	12/23/98	6/2/99	12/14/99	6/13/00	12/7/00
Benzene	**	**	34	270	290	NA	NS	90	NS	NS	NS	NS	NS	NS	NS	NS	1.9	ND
Toluene	**	**	ND	ND	ND	NA	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND
Ethyl Benzene	**	**	13	21	ND	NA	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	ND	ND
Xylenes	**	**	13	60	ND	NA	NS	ND	NS	NS	NS	NS	NS	NS	NS	NS	2.7	ND

Parameter	WQCC Std.	Detection Limit
Benzene	10	1.0 µg/L
Toluene	750	1.0 µg/L
Ethyl Benzene	750	1.0 µg/L
Xylenes	620	1.0 µg/L

Notes

NA = Not available
ND = Not detected
NS = Not sampled
µg/L = Micrograms per liter
* Well was installed 6/19/94
** Well was installed 6/21/94

Table 3 (cont)
Brickland Refinery
BTEX Concentrations in Monitoring Wells and River Surface Water Samples
December 1993 through December 2000

River - Upstream

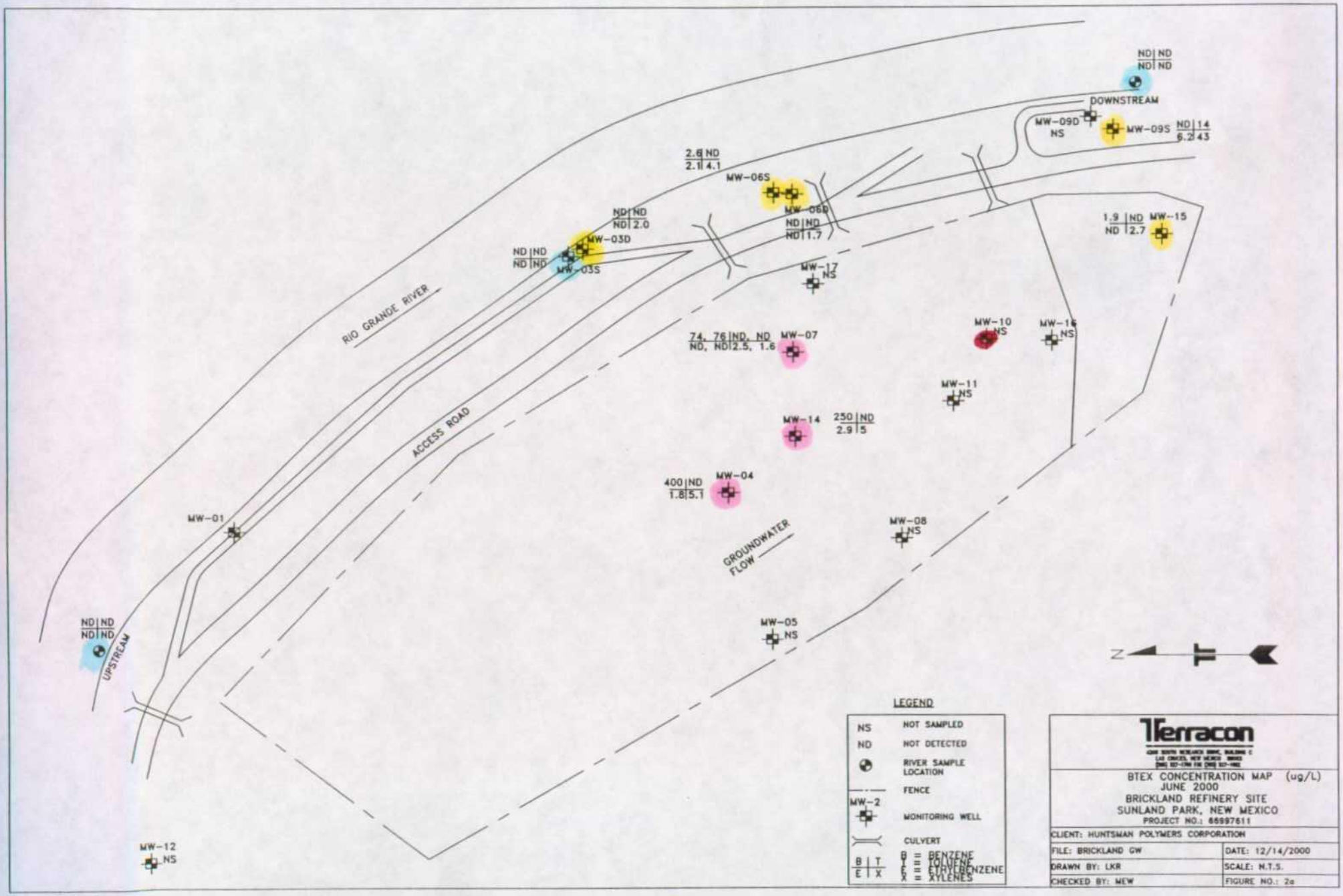
Parameter	12/08/93	03/25/94	07/12/94	09/27/94	12/13/94	03/28/95	06/21/95	09/26/95	6/21/96	12/23/96	7/11/97	1/8/98	6/25/98	12/23/98	6/2/99	12/14/99	6/13/00	12/8/00
Benzene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

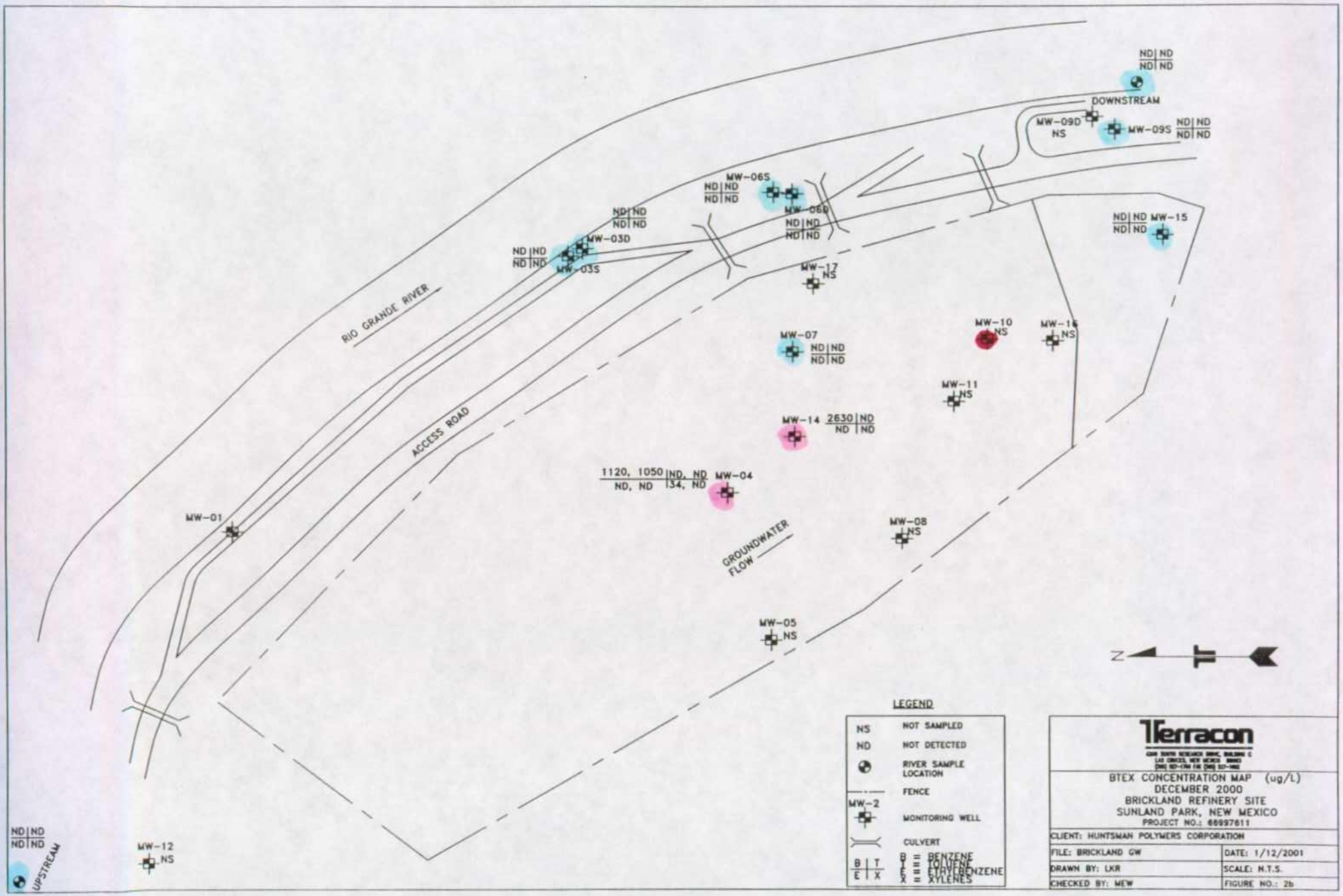
River - Downstream

Parameter	12/08/93	03/25/94	07/12/94	09/27/94	12/13/94	03/28/95	06/21/95	09/26/95	6/21/96	12/23/96	6/26/97	1/8/98	6/25/98	12/22/98	6/2/99	12/14/99	6/13/00	12/8/00
Benzene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Toluene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Xylenes	NS	NS	NS	NS	NS	NS	NS	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND

Parameter	WQCC Std.	Detection Limit
Benzene	10	1.0 µg/L
Toluene	750	1.0 µg/L
Ethyl Benzene	750	1.0 µg/L
Xylenes	620	1.0 µg/L

Notes
NA = Not available
ND = Not detected
NS = Not sampled
µg/L = Micrograms per liter


ND | ND
ND | ND
DOWNSTREAM
MW-09D
NS
MW-09S
ND | 14
6.2 | 43
2.6 | ND
2.1 | 4.1
MW-06S
MW-06D
ND | ND
ND | 1.7
ND | ND
ND | 2.0
MW-03D
ND | ND
ND | ND
MW-03S
1.9 | ND
ND | 2.7
MW-15
MW-17
NS
RIO GRANDE RIVER
74, 76 | ND, ND
ND, ND | 2.5, 1.6
MW-07
MW-10
NS
MW-16
NS
MW-11
NS
ACCESS ROAD
MW-14
250 | ND
2.9 | 5
400 | ND
1.8 | 5.1
MW-04
MW-01
MW-08
NS
GROUNDWATER FLOW
ND | ND
ND | ND
UPSTREAM
MW-05
NS
MW-12
NS
N
LEGEND
NS NOT SAMPLED
ND NOT DETECTED
RIVER SAMPLE LOCATION
FENCE
MW-2 MONITORING WELL
CULVERT
B | T
E | X
B = BENZENE
T = TOLUENE
E = ETHYLBENZENE
X = XYLENES
Terracon
BTEX CONCENTRATION MAP (ug/L)
JUNE 2000
BRICKLAND REFINERY SITE
SUNLAND PARK, NEW MEXICO
PROJECT NO.: 65997611
CLIENT: HUNTSMAN POLYMERS CORPORATION
FILE: BRICKLAND GW
DATE: 12/14/2000
DRAWN BY: LKR
SCALE: N.T.S.
CHECKED BY: MEW
FIGURE NO.: 2a



Terracon

BTEX CONCENTRATION MAP (ug/L)
DECEMBER 2000
BRICKLAND REFINERY SITE
SUNLAND PARK, NEW MEXICO
PROJECT NO.: 66997611

CLIENT: HUNTSMAN POLYMERS CORPORATION	
FILE: BRICKLAND GW	DATE: 1/12/2001
DRAWN BY: LKR	SCALE: N.T.S.
CHECKED BY: MEW	FIGURE NO.: 2b

Figure 3a
Brickland Refinery
MW-4 BTEX Concentrations Over Time

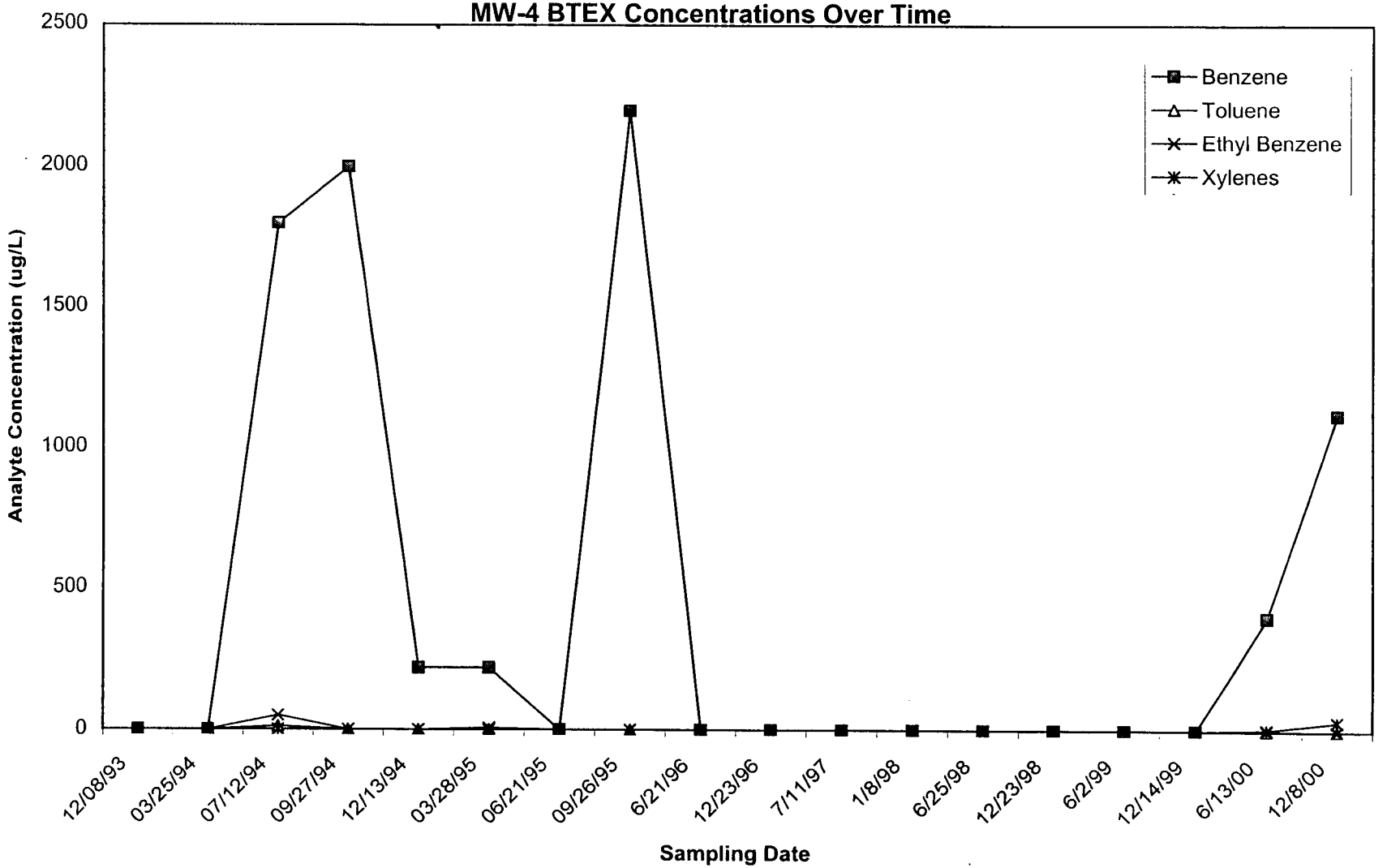


Figure 3b
Brickland Refinery
MW-6S BTEX Concentrations Over Time

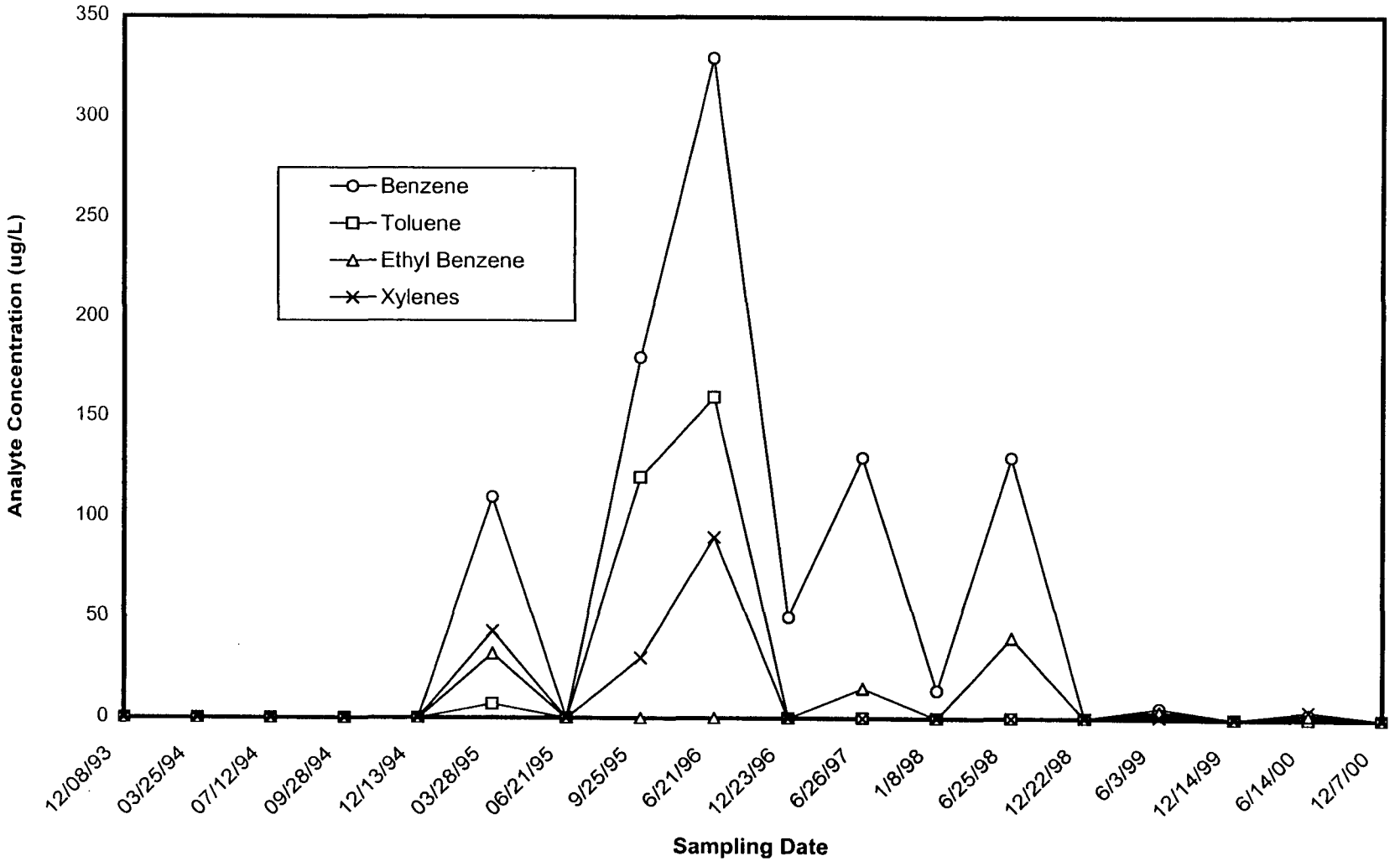


Figure 3c
Brickland Refinery
MW-7 BTEX Concentrations Over Time

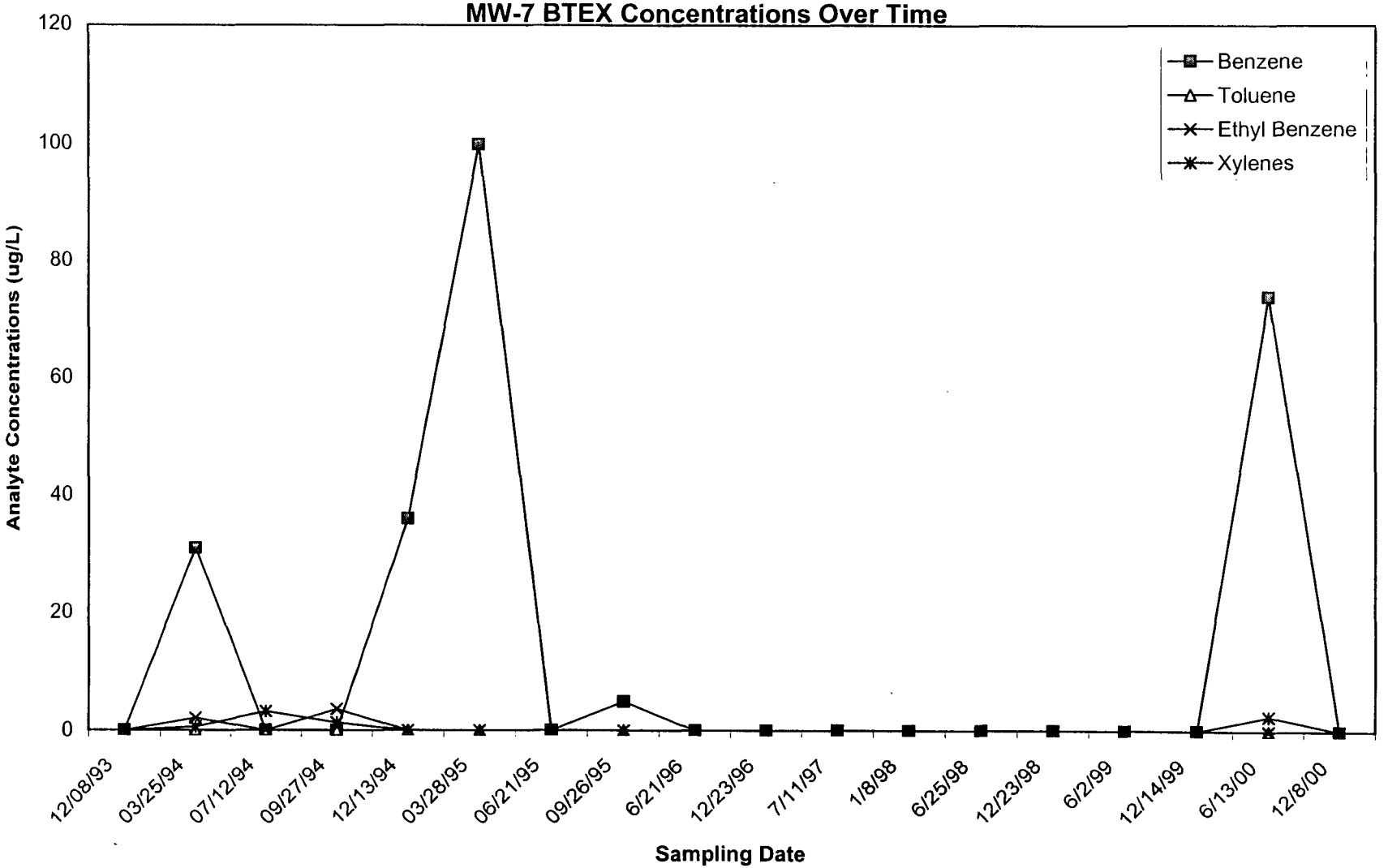
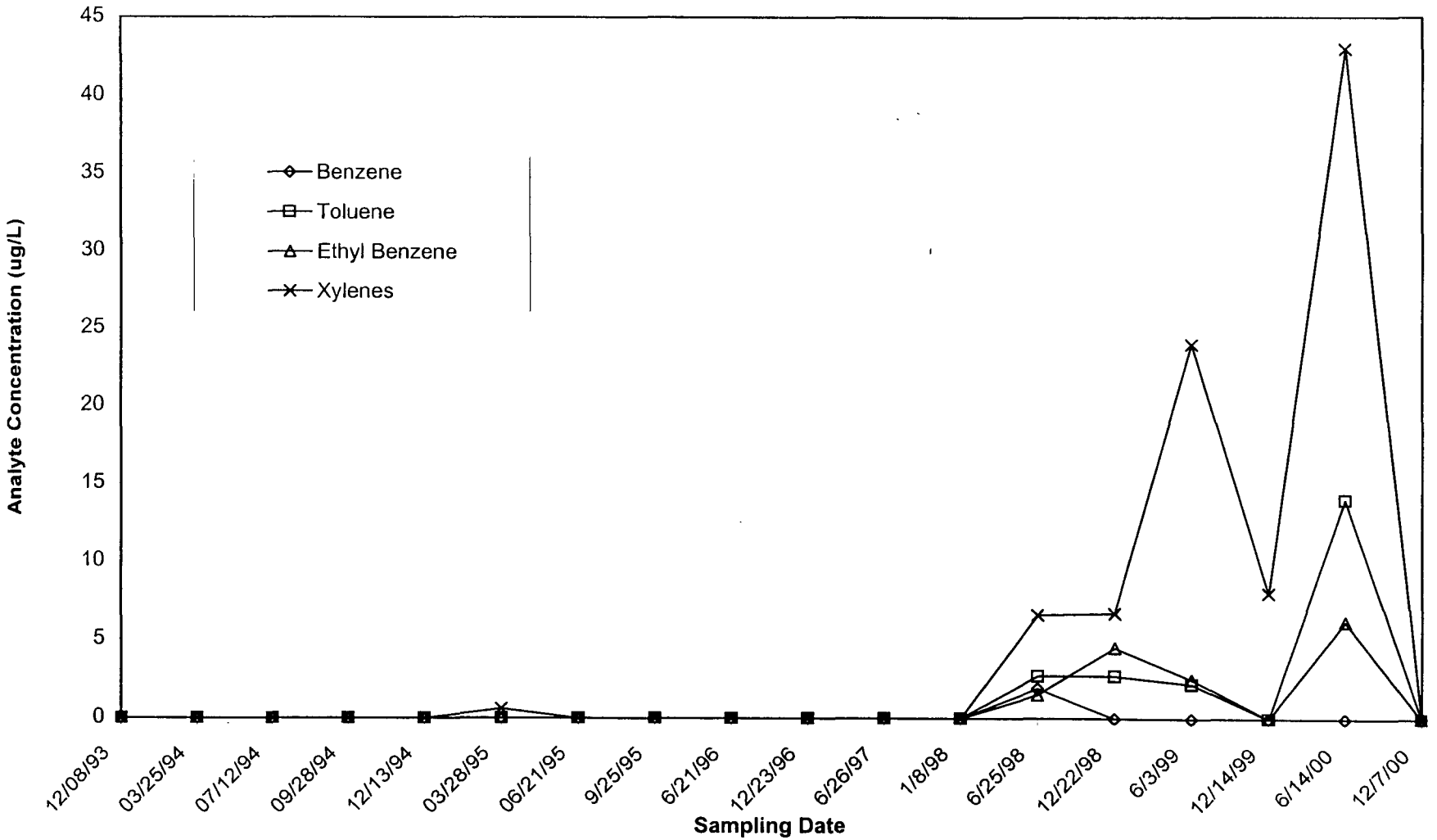


Figure 3d
Brickland Refinery
MW-9S BTEX Concentrations Over Time



Annual 2000 Well data (MW-9S BTEX)

Figure 3e
Brickland Refinery
MW-14 BTEX Concentrations Over Time

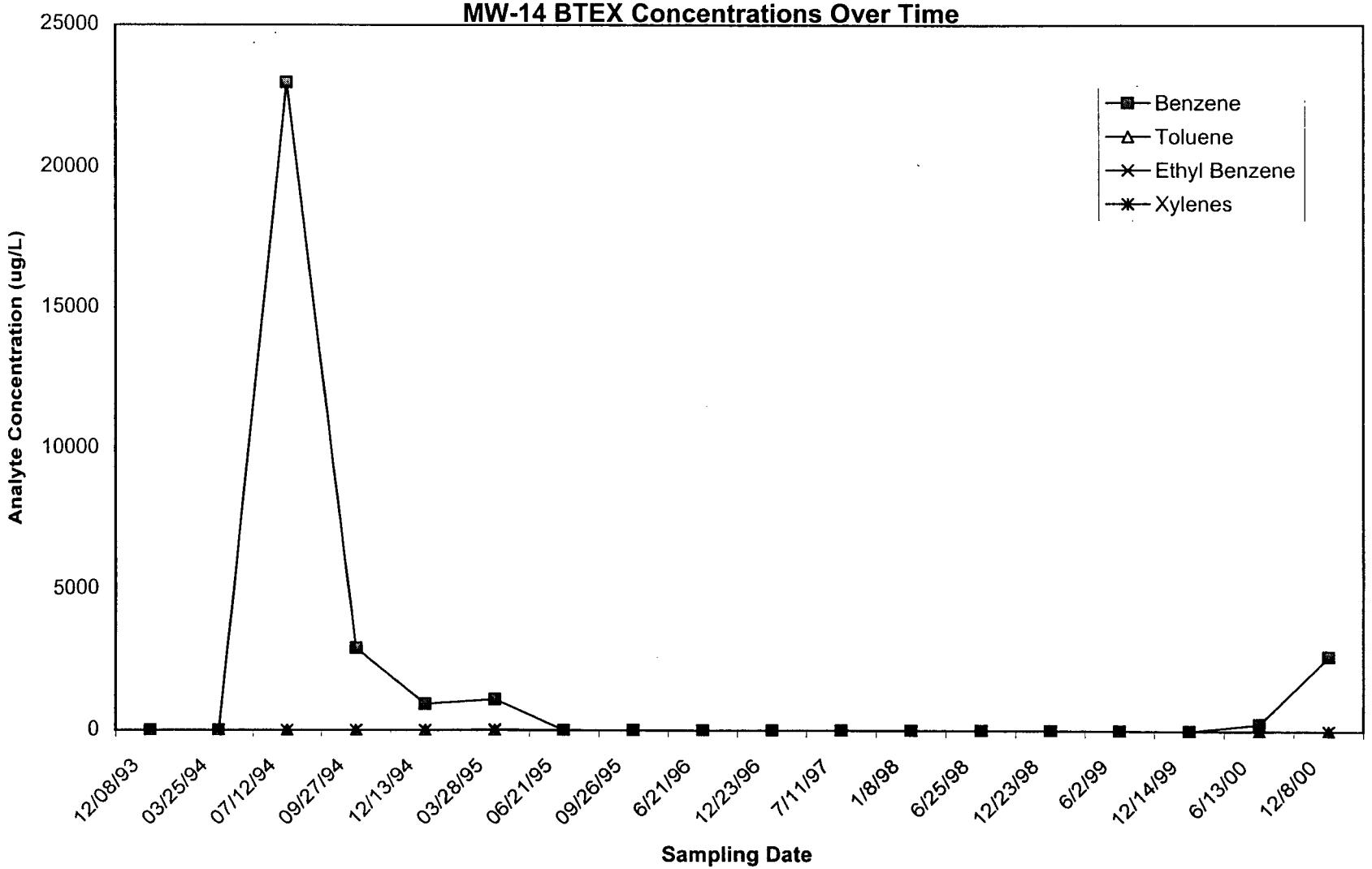


Figure 3f
Brickland Refinery
MW-15 BTEX Concentrations Over Time

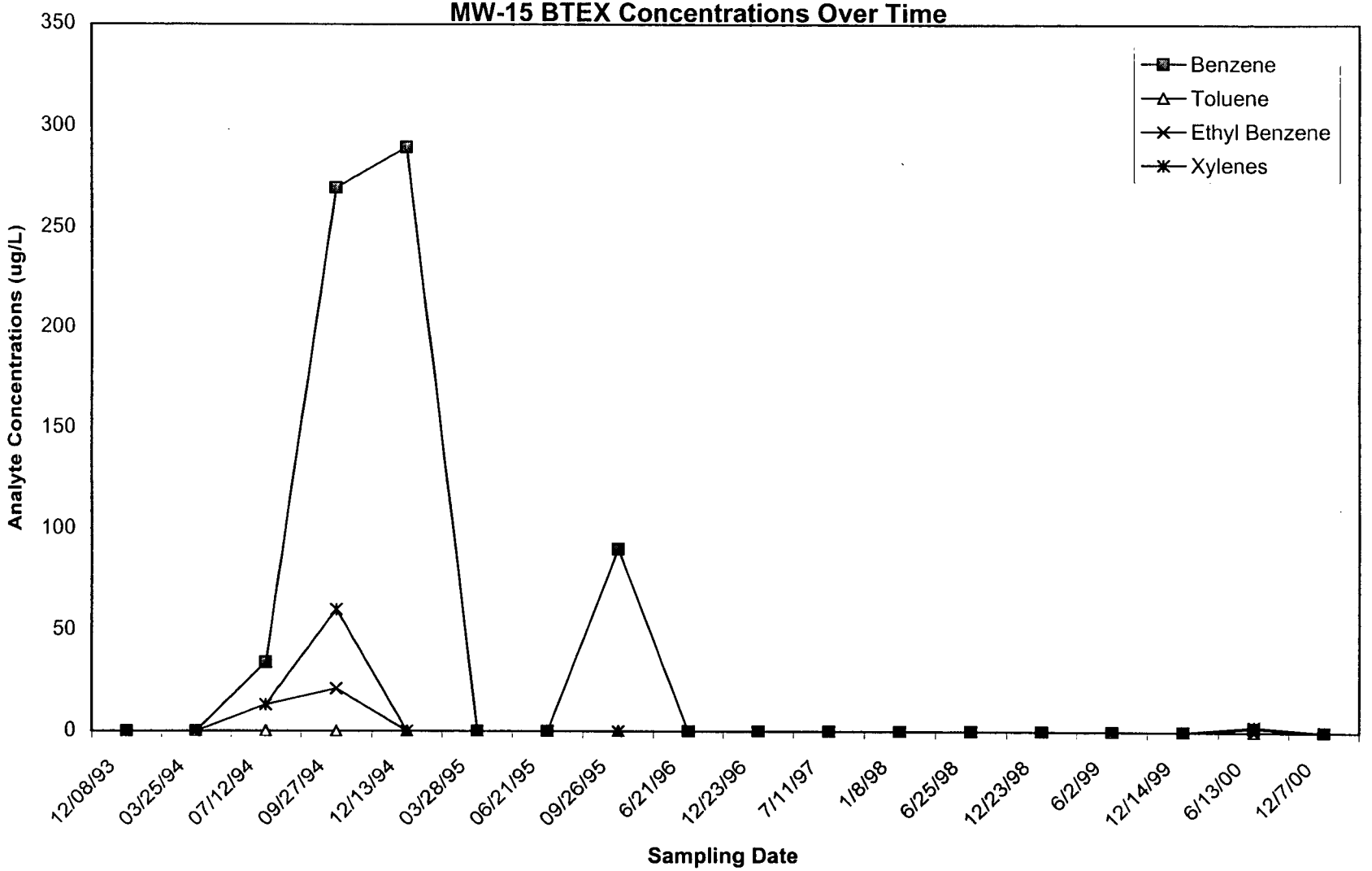


Table 4

Brickland Refinery

Total PAH Concentrations in Monitoring Wells and River Surface Water Samples (December 1993 to June 2000)

Well ID	12/8/93	3/25/94	7/12/94	9/28/94	12/13/94	3/28/95	6/21/95
MW-3S	ND	ND	ND	ND	ND	ND	ND
MW-3D	ND	ND	ND	ND	ND	ND	ND
MW-4	NS	ND, ND	ND	ND	ND	NS	NS
MW-6S	ND	ND	ND	ND	ND	ND	15, 10
MW-6D	ND	-	ND	ND	ND	ND	ND
MW-7	NS	ND	ND	ND	ND	NS	NS
MW-9S	ND	ND	ND	ND	ND	ND	ND
MW14	*	*	670	40	ND	ND	12
MW15	**	**	117	126	84	ND	ND
Riv-Up	---	---	---	---	---	---	---
Riv-Down	---	---	---	---	---	---	---

Notes: All Results in Micrograms per Liter (µg/L)

ND indicates constituent was not detected

NS indicates well was not sampled

--- Indicates water sample was not analyzed for polynuclear aromatic hydrocarbons (PAH).

* Well was installed 6/19/94

** Well was installed 6/21/94

Table 4 (con't)

Brickland Refinery

Total PAH Concentrations in Monitoring Wells and River Surface Water Samples (December 1993 to June 2000)

Well ID	9/1/95	6/21/96	6/26/97	6/25/98	6/3/99	6/14/00
MW-3S	ND	ND	ND	ND	ND	ND
MW-3D	ND	ND	ND, ND	ND	ND	ND
MW-4	NS	NS	NS	NS	NS	ND
MW-6S	ND	ND	ND	ND	22, 32	ND
MW-6D	ND	ND, ND	ND	ND, ND	ND	ND
MW-7	NS	NS	NS	NS	NS	ND, ND
MW-9S	ND	ND	ND	ND	ND	ND
MW14	ND	NS	NS	NS	NS	ND
MW15	ND	NS	NS	NS	NS	ND
Riv-Up		ND	ND	ND	ND	ND
Riv-Down		ND	ND	ND	ND	ND

Notes: All Results in Micrograms per Liter (µg/L)

ND indicates constituent was not detected

NS indicates well was not sampled

--- Indicates water sample was not analyzed for polynuclear aromatic hydrocarbons (PAH).

Table 5
Brickland Refinery
Metal Analytical Results for Monitoring Well and River Surface Water Samples

Well ID	Sample Date	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
MW-3S	6/21/96	ND	0.020	ND	0.0021	0.023	ND	ND	ND	ND	0.050	ND	ND	ND
	6/26/97	ND	0.010	ND	ND	ND	ND	ND	ND	ND	0.020	ND	ND	0.013
	6/25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.340
	6/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-3D	6/21/96	ND	0.010	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/26/97	ND	0.010	ND	0.0019	ND	ND	ND	ND	0.007	ND	ND	ND	ND
	6/26/97	0.010	0.020	ND	0.0024	ND	ND	ND	ND	0.016	ND	0.009	ND	0.006
	6/25/98	ND	ND	ND	ND	ND	ND	ND	ND	0.006	ND	ND	ND	ND
	6/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-4	6/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NMWQCC Std.		NS	0.1	NS	0.0100	0.050	1.0	0.05	0.0020	0.2	0.05	0.05	NS	10.0
Reference		NS	A	NS	A	A	B	A	A	C	A	A	NS	B
Laboratory Detection Limit		0.010	0.010	0.001	0.0005	0.005	0.005	0.003	0.0002	0.005	0.010	0.005	0.01	0.005

mg/L = Milligrams per liter

Concentrations listed in **boldface** type indicate levels exceed New Mexico Water Quality Control Commission (NMWQCC) standards.

NA indicates sample was not analyzed for this constituent.

ND indicates concentration was below laboratory detection limits.

NS indicates no NMWQCC standard established.

A indicates standard is from NMWQCC Regulatory Standards Section 3103A - Human Health Standard

B indicates standard is from NMWQCC Regulatory Standards Section 3103B - Domestic Water Supply

C indicates standard is from NMWQCC Regulatory Standards Section 3103C - Irrigation Use

Table 5 (cont)
Brickland Refinery
Metal Analytical Results for Monitoring Well and River Surface Water Samples

Well ID	Sample Date	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
MW-6S	6/21/96	ND	0.020	ND	ND	ND	ND	0.003	ND	ND	0.020	ND	ND	ND
	6/26/97	0.010	0.070	ND	0.0015	ND	0.008	ND	ND	ND	0.020	ND	ND	0.008
	6/25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/3/99	ND, ND	ND, ND	ND, ND	ND, ND	ND, ND	ND, ND	ND, ND	ND, ND	ND, ND	ND, ND	ND, ND	ND, ND	ND, 0.12
	6/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-6D	6/21/96	ND	ND	0.002	ND	0.031	ND	ND	ND	ND	**0.120**	**0.056**	ND	ND
	6/21/96	0.010	0.020	0.003	0.0044	ND	ND	ND	ND	0.008	ND	0.007	0.014	ND
	6/26/97	0.010	0.010	ND	0.0020	ND	0.006	ND	ND	0.025	ND	ND	ND	ND
	6/25/98	ND	ND	ND	ND	ND	ND	ND	ND	0.015	ND	ND	ND	ND
	6/25/98	ND	ND	ND	ND	ND	ND	ND	ND	0.012	ND	ND	ND	ND
	6/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.053
	6/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-7	6/13/00	ND,ND	ND,ND	ND,ND	ND,ND	ND,ND	ND,ND	ND,ND	ND,ND	ND,ND	ND,ND	ND,ND	ND,ND	ND,ND
NMWQCC Std.		NS	0.1	NS	0.0100	0.050	1.0	0.05	0.0020	0.2	0.05	0.05	NS	10.0
Reference		NS	A	NS	A	A	B	A	A	C	A	A	NS	B
Laboratory Detection Limit		0.010	0.010	0.001	0.0005	0.005	0.005	0.003	0.0002	0.005	0.010	0.005	0.01	0.005

mg/L = Milligrams per liter

Concentrations listed in **boldface** type indicate levels exceed New Mexico Water Quality Control Commission (NMWQCC) standards.

NA indicates sample was not analyzed for this constituent.

ND indicates concentration was below laboratory detection limits.

NS indicates no NMWQCC standard established.

A indicates standard is from NMWQCC Regulatory Standards Section 3103A - Human Health Standard

B indicates standard is from NMWQCC Regulatory Standards Section 3103B - Domestic Water Supply

C indicates standard is from NMWQCC Regulatory Standards Section 3103C - Irrigation Use

Table 5 (cont)
Brickland Refinery
Metal Analytical Results for Monitoring Well and River Surface Water Samples

Well ID	Sample Date	Antimony	Arsenic	Beryllium	Cadmium	Chromium	Copper	Lead	Mercury	Nickel	Selenium	Silver	Thallium	Zinc
MW-9S	6/21/96	0.020	ND	ND	0.0007	ND	0.044	ND	ND	ND	**0.070**	ND	0.040	ND
	6/26/97	0.020	0.020	ND	ND	ND	ND	ND	ND	ND	0.030	ND	ND	ND
	6/25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	10/6/98	ND	NA	NA	0.001	ND	0.006	ND	ND	ND	ND	ND	NA	ND
	6/3/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/14/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-14	6/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
MW-15	6/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
River/	6/21/96	ND	ND	ND	ND	ND	ND	0.007	ND	ND	ND	ND	ND	0.013
Upstream	6/26/97	ND	ND	ND	ND	ND	0.010	ND	ND	ND	0.010	ND	ND	0.009
	6/25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/2/99	ND	ND	ND	ND	ND	0.280	ND	ND	ND	ND	ND	ND	0.170
	6/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
River/	6/21/96	ND	ND	ND	ND	0.008	ND	0.005	ND	ND	ND	ND	ND	0.006
Down-	6/26/97	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
stream	6/25/98	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
	6/2/99	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	0.110
	6/13/00	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
NMWQCC Std.		NS	0.1	NS	0.0100	0.050	1.0	0.05	0.0020	0.2	0.05	0.05	NS	10.0
Reference		NS	A	NS	A	A	B	A	A	C	A	A	NS	B
Laboratory Detection Limit		0.010	0.010	0.001	0.0005	0.005	0.005	0.003	0.0002	0.005	0.010	0.005	0.01	0.005

mg/L = Milligrams per liter

Concentrations listed in **boldface** type indicate levels exceed New Mexico Water Quality Control Commission (NMWQCC) standards.

NA indicates sample was not analyzed for this constituent.

ND indicates concentration was below laboratory detection limits.

NS indicates no NMWQCC standard established.

A indicates standard is from NMWQCC Regulatory Standards Section 3103A - Human Health Standard

B indicates standard is from NMWQCC Regulatory Standards Section 3103B - Domestic Water Supply

C indicates standard is from NMWQCC Regulatory Standards Section 3103C - Irrigation Use

5.0 FREE-PHASE PRODUCT AND REMEDIATION SYSTEM PERFORMANCE

5.1 Free-Phase Product Thickness

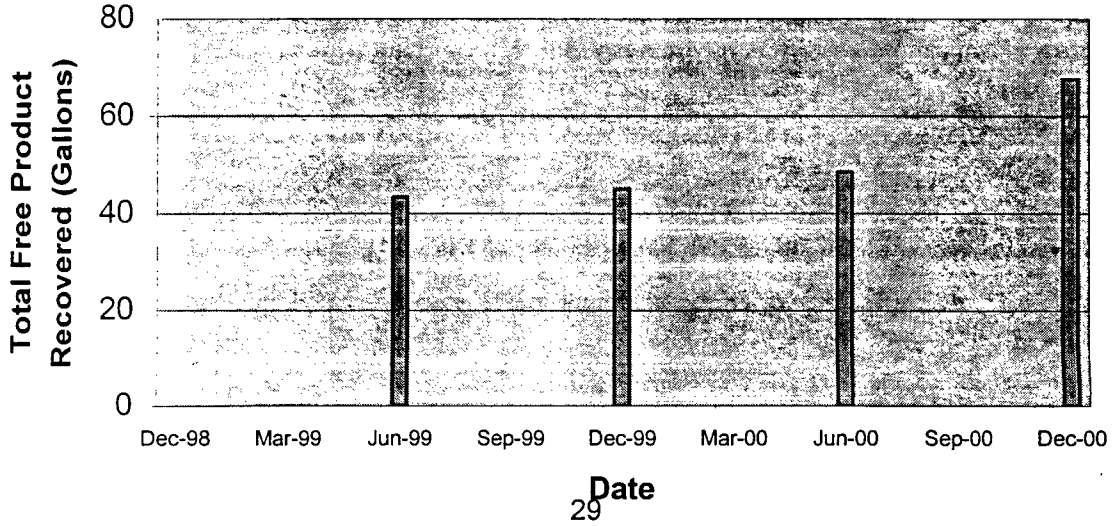
Free-phase product thickness was measured in each monitoring well and well point with a KECK oil/water interface meter. The year 2000 and historical product thickness measurements for each monitoring point are listed in Table 6. Free-Phase Hydrocarbon Thickness maps for the June 2000 and December 2000 monitoring events are depicted in Figures 4a and 4b, respectively. Monitoring points with measurable thicknesses of free-phase product during the June 2000 and December 2000 monitoring events are summarized below.

Free-Phase Product Thickness		
Well ID	**6/13/00, 6/14/00**	**12/07/00, 12/08/00**
MW-10	0.03	0.06
WP-26S	1.70	1.19
WP-27D	0.29	0.45

Both well point (WP) measurements are consistent with prior assessments.

5.2 Removal and Off-Site Destruction of Free-Phase Product and Contaminated Groundwater

As of December 22, 2000, a total of approximately 67.6 gallons of free-phase product had been removed from monitoring well MW-10 (see chart below). About one-third, or 22.6 gallons, was removed during the year 2000.



Additionally, a total of 318 gallons and 288 gallons of water were purged from the sampled monitoring wells during the June 2000 and December 2000 monitoring events, respectively. Terracon coordinated and subcontracted with Rhino Environmental Services, Inc. (Rhino) for the off-site destruction of the contaminated groundwater and free-phase product. The purged groundwater of each monitoring event was stored in a 325-gallon polyethylene tank by Terracon field personnel. This tank was transported from the site to Rhino for off-site destruction of the contaminated groundwater. The contaminated groundwater was sampled and analyzed by Rhino in order to generate a waste profile for the transportation, storage and destruction of the waste. Rhino will use the laboratory analyses and their sampling results to prepare waste manifests for Terracon to submit to Huntsman for signature. At the time of this report, the free-phase product tank was less than one-half full, therefore off-site destruction was not initiated.

5.3 Remediation System

Due to the continued presence of free-phase product, concentrated near the south portion of the site, a product recovery system was installed at monitoring well MW-10 as recommended in the approved Stage 2 Abatement Plan. Installation of the Xitech product recovery system was completed on December 23, 1998. The product recovery system consists of the following components:

- Xitech Model ADJ 1000 Smart Skimmer with polyethylene tubing
- Xitech Model 2500 ES Electronic Timer powered by a 12-volt battery with solar panel
- 80-gallon fiberglass-reinforced plastic (FRP) tank for product recovery containment with automatic shutoff sensor
- One K-size (220 cubic feet) bottle of nitrogen gas with regulator to supply
- The components listed above are mounted on a metal stand
- The components listed above are contained within a 300-gallon capacity corrugated galvanized steel stock tank for secondary containment
- The Xitech recovery system and monitoring well MW-10 are enclosed within a 10-foot long by 10-foot wide by 8-foot tall chainlink fence. The top foot of the fence has 3 strands of barbed wire. Access is provided through a 5-foot wide locked gate.
- The components listed above are situated on a 6-inch layer of gravel.

A schematic drawing and specifications of the installed Xitech product recovery system is provided in Appendix C. The system does not contain any below-grade lines; therefore no pressurized integrity testing is required. Currently, the control box is set to pump for 10 minutes once per day. Site visits are conducted at approximately bi-weekly intervals to monitor system performance, adjust pump cycle if deemed appropriate, replace the bottled nitrogen supply when necessary, perform maintenance to system components, and to check for any vandalism.

Table 6
Brickland Refinery
Free-Phase Hydrocarbon Thickness Measurements (feet)

Well ID	Sept. 93	Dec. 93	Mar. 94	Jul. 94	Sept. 94	Dec. 94	Mar. 95	Dec. 95	Jun. 96	Dec. 96	Jul. 97	Jan. 98	Jun. 98	Dec. 98	Jun. 99	Dec. 99	Jun. 00	Dec. 00
MW-1	NM	NM	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-2	NM	NM	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	A	A	A
MW-3S	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00
MW-3D	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-4	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-5	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-6S	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00
MW-6D	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00
MW-7	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-8	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-9S	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-10	5.42	3.58	NM	3.45	2.40	2.46	NM	2.29	2.3	2.14	2.01	2.26	2.21	2.50	0.14	0.00	0.03	0.06
MW-11	NM	NM	0.00	0.00	0.05	NM	NM	0.16	0	<0.01	<0.01	<0.01	0.00	0.00	0.00	0.00	0.00	0.00
MW-12	NM	NM	0.00	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00
MW-13	NM	NM	NM	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	A	A	A
MW-14	NM	NM	NM	0.00	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-15	NM	NM	NM	0.00	0.00	0.00	0.00	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
MW-16	NM	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Dry	0.00	0.00	0.00
MW-17	NM	NM	NM	0.00	0.00	0.00	0.00	0.00	NM	0.00	0.00	Dry	0.00	0.00	0.00	0.01	0.00	0.00

Notes:

NM = Monitoring point was not measured

Dry = Monitoring point was dry

A = Monitoring well abandoned under supervision of then Terracon employee Mr. Gregory J. Contaldo, C.P.G., NMED Certified Scientist #109, in June 1999 prior to soil cap installation

Table 6 (cont)

Brickland Refinery

Free-Phase Hydrocarbon Thickness Measurements (feet)

Well ID	Sept. 93	Dec. 93	Mar. 94	Jul. 94	Sept. 94	Dec. 94	Mar. 95	Dec. 95	Jun. 96	Dec. 96	Jul. 97	Jan. 98	Jun. 98	Dec. 98	Jun. 99	Dec. 99	Jun. 00	Dec. 00
WP-1	NM	NM	NM	0.00	0.00	0.00	NM	0.16	NM	<0.01	0.00	Dry	0.00	0.74	0.01	0.00	0.00	0.00
WP-2	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP-3	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP-4	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-5	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-6	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	<0.01	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-7	NM	NM	NM	0.00	0.00	0.00	NM	NM	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP-8	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-9	0.01	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-10	NM	NM	NM	0.00	0.20	Dry	NM	0.00	NM	Dry	0.00	Dry	0.00	Dry	0.00	Plugged	Plugged	Plugged
WP-11	0.01	NM	NM	0.00	Dry	Dry	NM	NM	NM	Dry	0.00	Dry	0.00	Dry	0.00	Plugged	Plugged	Plugged
WP-12	NM	NM	NM	0.00	Dry	NM	NM	0.00	NM	Dry	0.00	Dry	0.00	Dry	Dry	Plugged	Plugged	Plugged
WP-13	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	Dry	0.00	Dry	0.00	Dry	0.00	Plugged	Plugged	Plugged
WP-14	NM	NM	NM	0.00	Tar	NM	NM	0.14	NM	Tar	Tar	Tar	Tar	Tar	Tar	Tar	Tar	Tar
WP-15	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.20	Dry	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-16	NM	NM	NM	0.00	NM	NM	NM	0.00	NM	Dry	Dry	Dry	0.00	Dry	Dry	Plugged	Plugged	Plugged
WP-17	NM	NM	NM	0.00	Dry	Dry	NM	0.00	NM	Dry	0.12	Dry	0.00	Dry	Dry	Plugged	Plugged	Plugged
WP-18	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	<0.01	<0.01	Dry	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-19	NM	0.01	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-20	NM	NM	NM	0.00	NM	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged

Notes:

NM = Monitoring point was not measured

Dry = Monitoring point was dry

Tar = Thickness measurement not obtainable because of presence of thick tar-like substance in well point.

Plugged = Monitoring point removed and hole plugged with bentonite in June 1999

Table 6 (cont)
Brickland Refinery
Free-Phase Hydrocarbon Thickness Measurements (feet)

Well ID	Sept. 93	Dec. 93	Mar. 94	Jul. 94	Sept. 94	Dec. 94	Mar. 95	Dec. 95	Jun. 96	Dec. 96	Jul. 97	Jan. 98	Jun. 98	Dec. 98	Jun. 99	Dec. 99	Jun. 00	Dec. 00
WP-21	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	Dry	0.06	Dry	0.00	Dry	0.00	Plugged	Plugged	Plugged
WP-22	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	NM	NM	NM	0.00	NM	NM	Plugged	Plugged	Plugged
WP-23	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	NM	NM	NM	0.00	NM	0.00	Plugged	Plugged	Plugged
WP-24	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-25	0.05	0.05	NM	0.22	NM	0.20	NM	1.56	NM	NM	NM	<0.01	0.00	1.05	0.70	Dry	Dry	Dry
WP-26S	NM	0.12	NM	2.20	2.59	1.53	NM	0.00	NM	0.00	1.29	Tar	0.00	0.39	1.82	1.55	1.70	1.19
WP-26D	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP-27S	NM	NM	NM	0.00	0.00	0.00	NM	NM	NM	0.00	0.00	0.00	0.00	0.07	0.00	0.00	0.00	0.00
WP-27D	NM	NM	NM	0.11	0.45	0.49	NM	NM	NM	0.48	0.44	1.18	0.00	0.00	0.13	0.35	0.29	0.45
WP-28	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	Dry	0.00	Dry	0.00	Plugged	Plugged	Plugged
WP-29	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	<0.01	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-30	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP-31	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
WP-32	NM	NM	NM	Dry	Dry	Dry	NM	Dry	NM	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
WP-33	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	<0.01	<0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00
WP-34	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-35	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged
WP-36	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.00	0.00	0.00	0.00	Dry	0.00	Plugged	Plugged	Plugged
WP-37	NM	NM	NM	0.00	0.00	0.00	NM	0.00	NM	0.04	0.17	0.00	0.00	0.00	0.00	Plugged	Plugged	Plugged

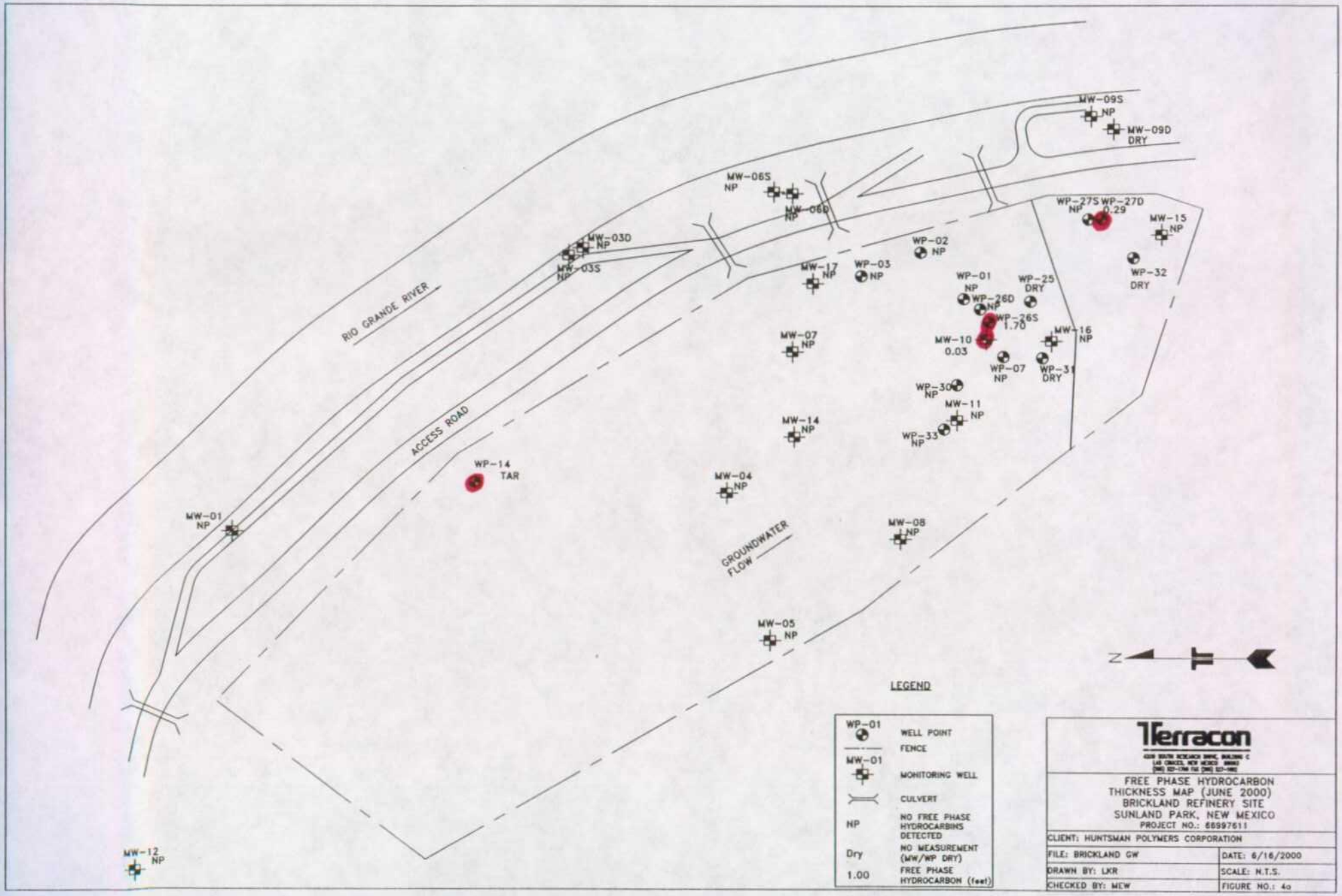
Notes:

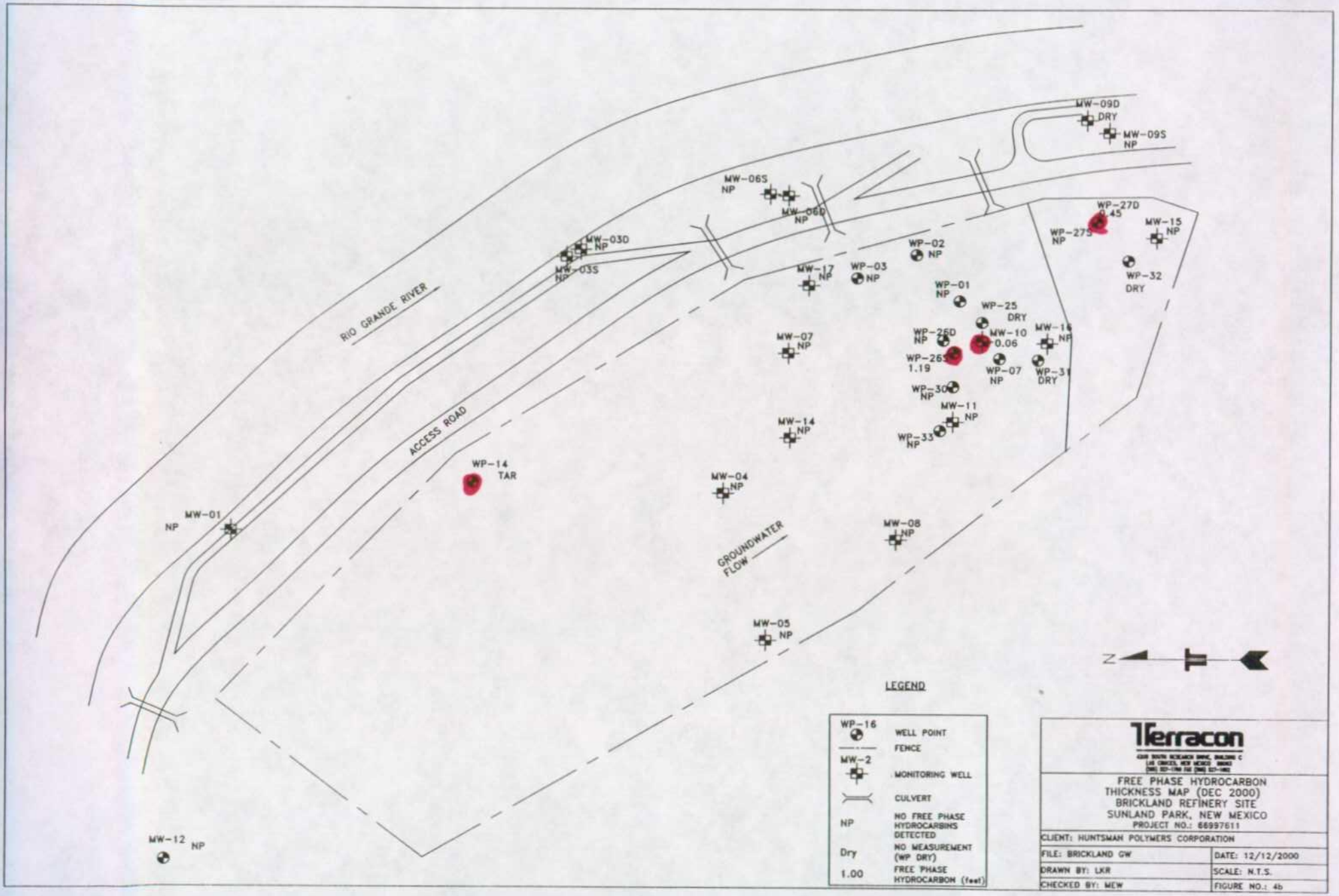
NM = Monitoring point was not measured (Note: WP-22 was damaged and unmeasureable in June 1999)

Dry = Monitoring point was dry

Tar = Thickness measurement not obtainable because of presence of thick tar-like substance in well point.

Plugged = Monitoring point removed and hole plugged with bentonite in June 1999


MW-09S
NP
MW-09D
DRY
MW-06S
NP
MW-06D
NP
WP-27S
NP
WP-27D
0.29
MW-15
NP
MW-03D
NP
MW-03S
NP
WP-02
NP
WP-32
DRY
MW-17
NP
WP-03
NP
WP-01
NP
WP-25
DRY
WP-26D
NP
WP-26S
1.70
MW-16
NP
MW-10
0.03
MW-07
NP
WP-07
NP
WP-31
DRY
WP-30
NP
MW-11
NP
MW-14
NP
WP-33
NP
RIO GRANDE RIVER
ACCESS ROAD
WP-14
TAR
MW-04
NP
MW-01
NP
MW-08
NP
GROUNDWATER
FLOW
MW-05
NP
MW-12
NP
N
LEGEND
WP-01
WELL POINT
FENCE
MW-01
MONITORING WELL
CULVERT
NP
NO FREE PHASE HYDROCARBONS DETECTED
Dry
NO MEASUREMENT (MW/WP DRY)
1.00
FREE PHASE HYDROCARBON (feet)
Terracon
FREE PHASE HYDROCARBON
THICKNESS MAP (JUNE 2000)
BRICKLAND REFINERY SITE
SUNLAND PARK, NEW MEXICO
PROJECT NO.: 66997611
CLIENT: HUNTSMAN POLYMERS CORPORATION
FILE: BRICKLAND GW
DATE: 6/16/2000
DRAWN BY: LKR
SCALE: N.T.S.
CHECKED BY: MCW
FIGURE NO.: 4a


MW-09D
DRY
MW-09S
NP
MW-06S
NP
MW-06D
NP
MW-03D
NP
MW-03S
NP
WP-27D
0.45
WP-27S
NP
MW-15
NP
WP-02
NP
WP-32
DRY
MW-17
NP
WP-03
NP
WP-01
NP
WP-25
DRY
WP-25D
NP
MW-10
0.06
MW-16
NP
WP-26S
1.19
WP-07
NP
WP-31
DRY
WP-30
NP
MW-11
NP
WP-33
NP
MW-07
NP
MW-14
NP
RIO GRANDE RIVER
ACCESS ROAD
WP-14
TAR
MW-01
NP
MW-04
NP
MW-08
NP
GROUNDWATER FLOW
MW-05
NP
MW-12
NP
N
LEGEND
WP-16
WELL POINT
FENCE
MW-2
MONITORING WELL
CULVERT
NP
NO FREE PHASE HYDROCARBONS DETECTED
Dry
NO MEASUREMENT (WP DRY)
1.00
FREE PHASE HYDROCARBON (feet)
Terracon
FREE PHASE HYDROCARBON THICKNESS MAP (DEC 2000)
BRICKLAND REFINERY SITE
SUNLAND PARK, NEW MEXICO
PROJECT NO.: 66997611
CLIENT: HUNTSMAN POLYMERS CORPORATION
FILE: BRICKLAND GW
DATE: 12/12/2000
DRAWN BY: LKR
SCALE: N.T.S.
CHECKED BY: MEW
FIGURE NO.: 4b

6.0 CONCLUSIONS

Conclusions relevant to groundwater conditions and the remediation performance at the Brickand Refinery are presented below.

- BTEX concentrations in the upstream and downstream river samples remained below the laboratory detection limits. All results for the perimeter wells remained below NMWQCC standards. Toluene, ethylbenzene and total xylenes did not exceed NMWQCC standards (750 ug/L, 750 ug/L, and 620 ug/L, respectively) in all the groundwater samples collected during the June and December 2000 monitoring events. In June, three of the wells sampled had concentrations above the NMWQCC benzene standard of 10 ug/L. Results in interior wells MW-4, MW-7, duplicate sample of MW-7, and MW-14, indicated benzene levels at 400 ug/L, 74 ug/L 76 ug/L, and 250 ug/L, respectively. In December, only two of the interior wells had concentrations above the NMWQCC benzene standard of 10 ug/L. Concentrations in wells MW-4, duplicate sample of MW-4, and MW-14, were 1120 ug/L, 1050 ug/L, and 2630 ug/L, respectively. These concentrations were consistent with results from studies in years 1993-1995 (see Table 3).

- PAH levels in the sampled monitoring wells were below laboratory detection limits. The analytical is consistent with most prior year analyses and indicates the groundwater is not adversely affected by PAH.

- The results for the analyses of priority pollutant metals for the June 2000 monitoring event indicate that the constituents were below the laboratory detection limits. After 1996, no constituent detected exceeded the NMWQCC standards. Based on the results of these metal analyses for 1997, 1998, 1999 and 2000 annual sampling events, the groundwater in the site area does not appear to be adversely affected or impacted by dissolved metals (see Table 5).

- Measurable thicknesses of free-phase product were detected in monitoring well MW-10 and well points WP-26S and WP-27D during the June 2000 monitoring event and varied from 0.03 feet in MW-10 to 1.70 feet in WP-26S. Product thickness measurements were also detected in MW-10 and well points WP-26S and WP-27D during the December 2000 monitoring event, and varied from 0.06 feet in MW-10 to 1.19 feet in WP-26S. Both well point (WP) measurements are consistent with prior assessments (see Table 6).

- Since the installation of the Xitech product recovery system in December 1998, a total of approximately 67.6 gallons of free-phase product has been removed from monitoring well MW-10. About one-third, or 22.6 gallons, was removed during the year 2000.

- Water level elevations varied from one to two feet between June and December and correlate with prior year readings.

7.0 RECOMMENDATIONS

The following recommendations are suggested for the remediation system and monitoring operations at the Brickland Refinery.

- Continue free product recovery operations since the present system has been effective in recovering free product from MW-10.

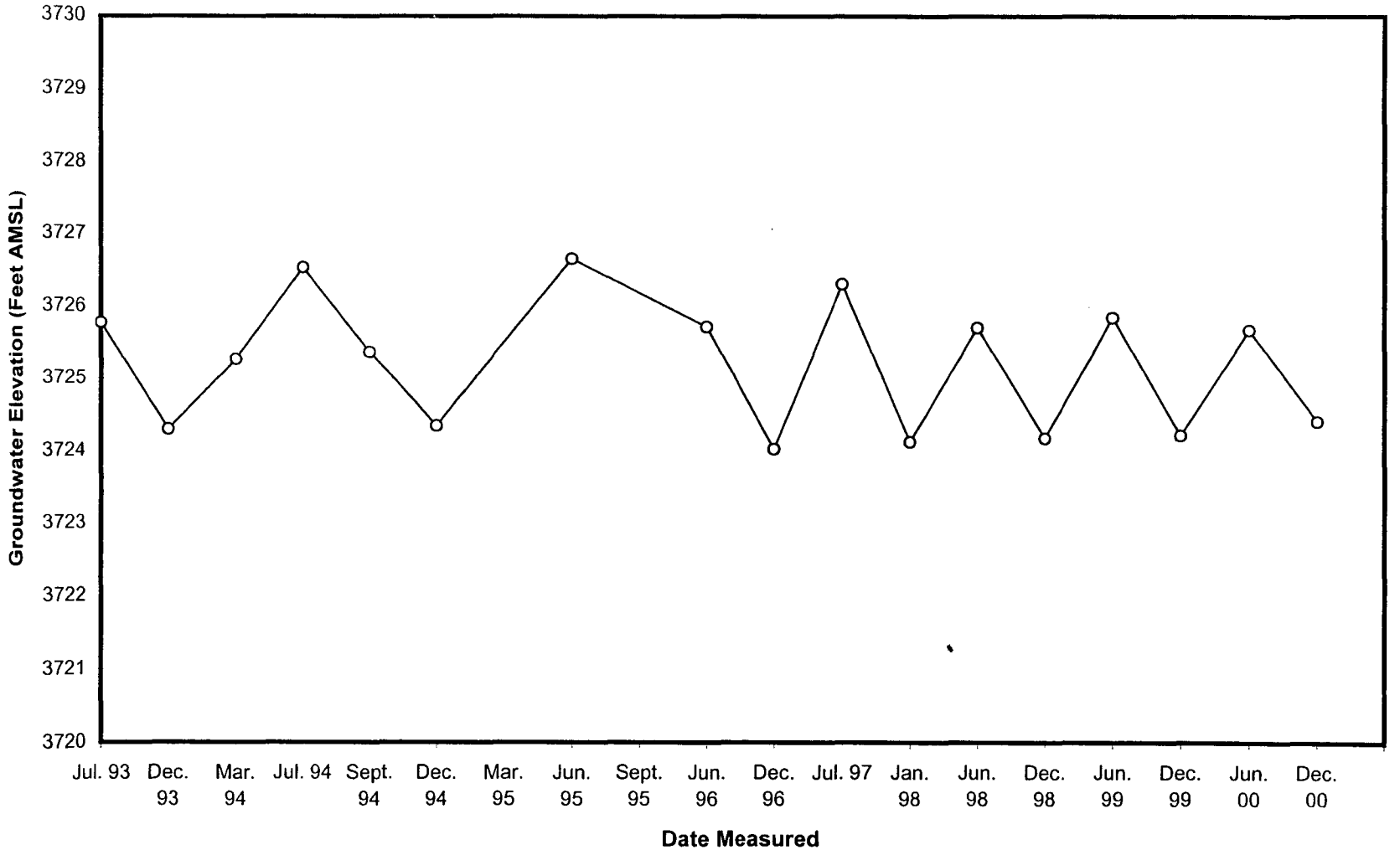
- Continue the sampling and monitoring program on a semi-annual basis. The next sampling event is scheduled for June 2001.

- Since the groundwater does not appear to be adversely impacted by dissolved metals, based on the past seven years of monitoring, analysis of dissolved metals may be an unnecessary expense.

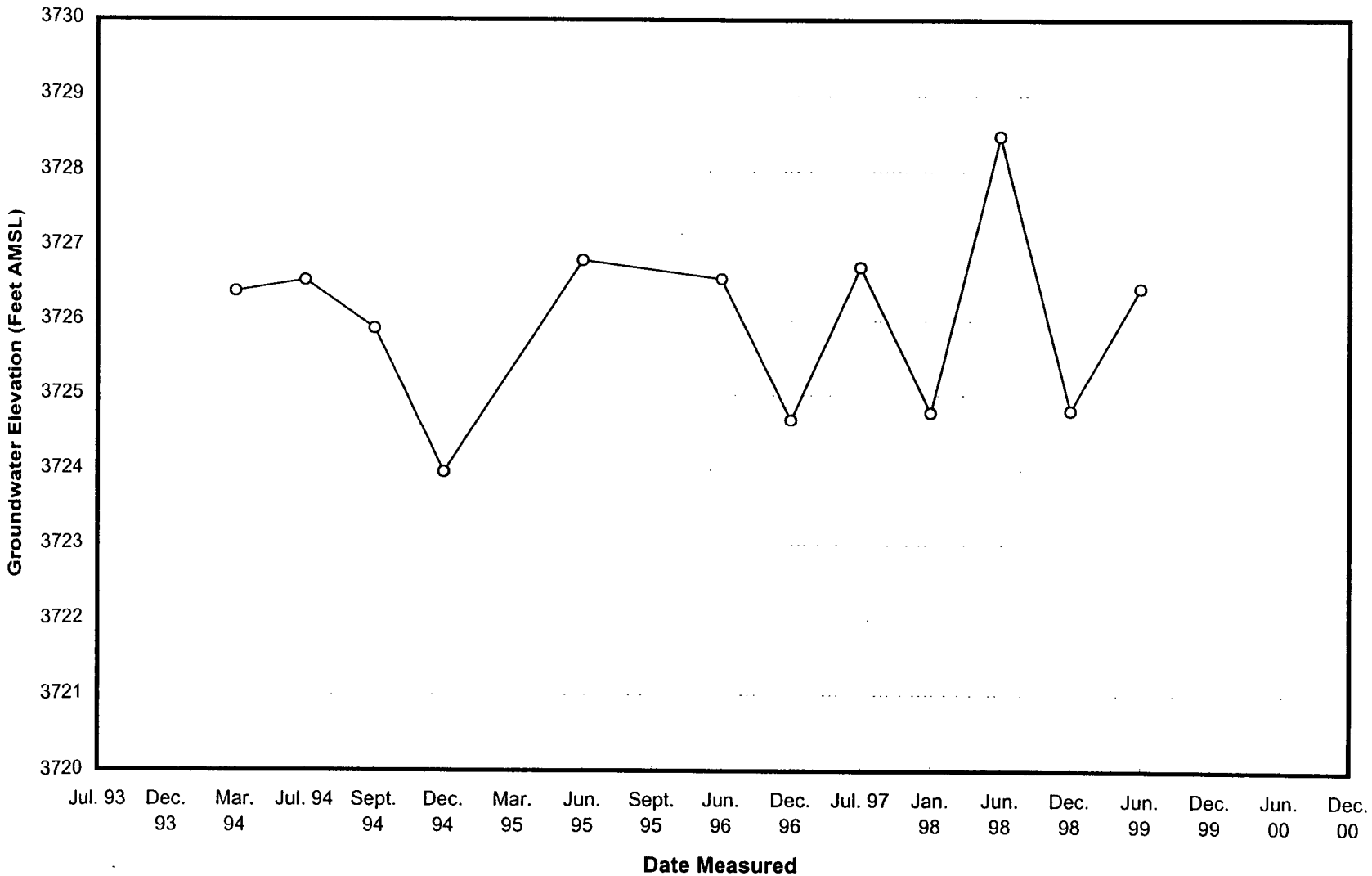
- During the preparation of this report, it was discovered that the list of metals for analyses had changed sometime prior to 1996. Future tests for metals, if required, should incorporate the New Mexico Water Quality Control Commission's list of Constituents of Concern in Groundwater (arsenic, barium, cadmium, chromium, lead, total mercury, selenium, silver, copper, iron, manganese, zinc, aluminum, boron, cobalt, molybdenum, and nickel).

- Well points that have never contained measurable or trace amounts of free-phase product could be removed from the monitoring plan. These well points include the following: WP-2, WP-3, WP-7, WP-26D, WP-30, WP-31, and WP-32. The other well points should be maintained for semi-annual monitoring.

Brickland Refinery
MW-1 Groundwater Elevation Over Time



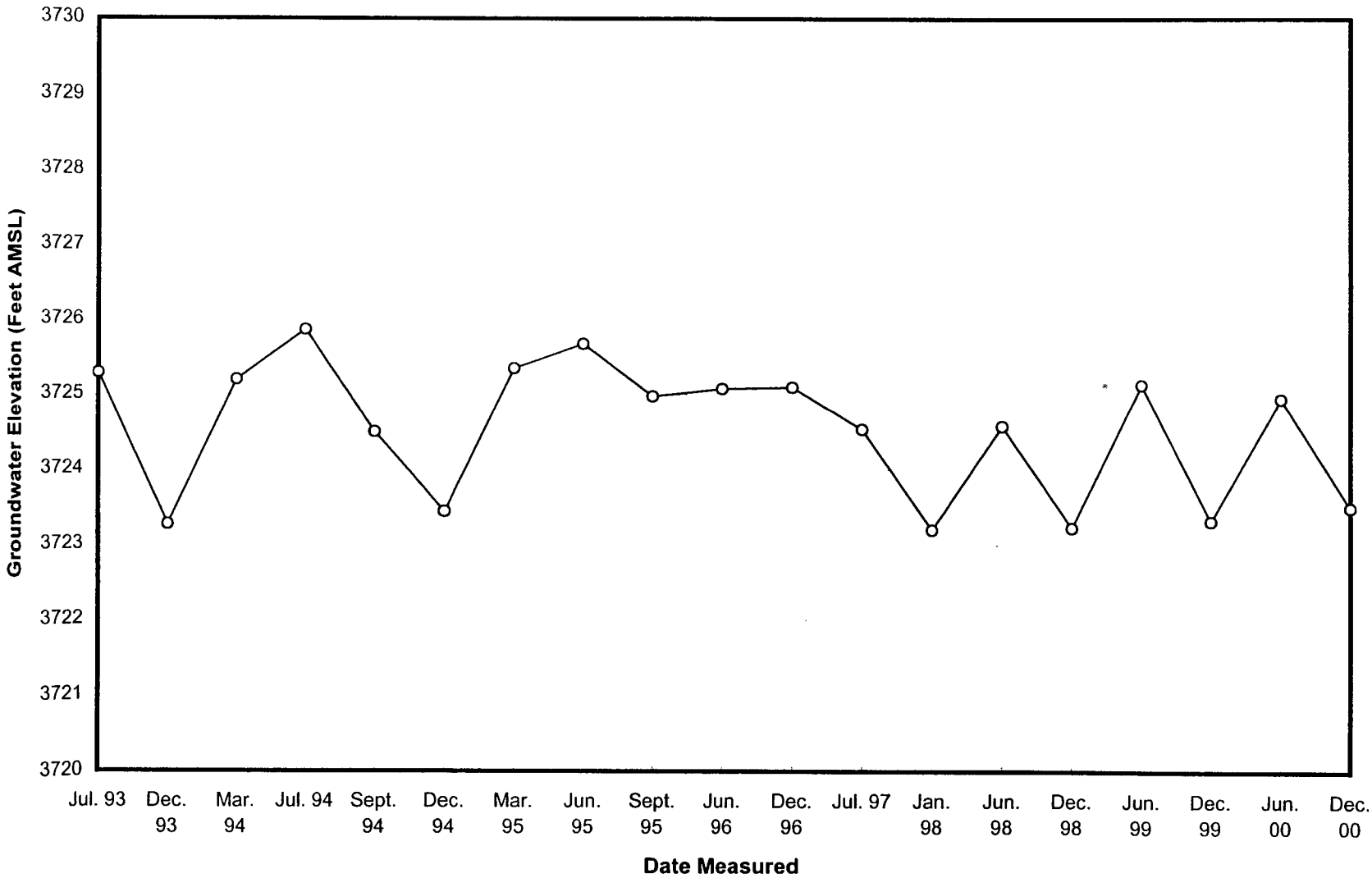
Brickland Refinery
MW-2 Groundwater Elevation Over Time



Note: Well Plugged in
June 1999

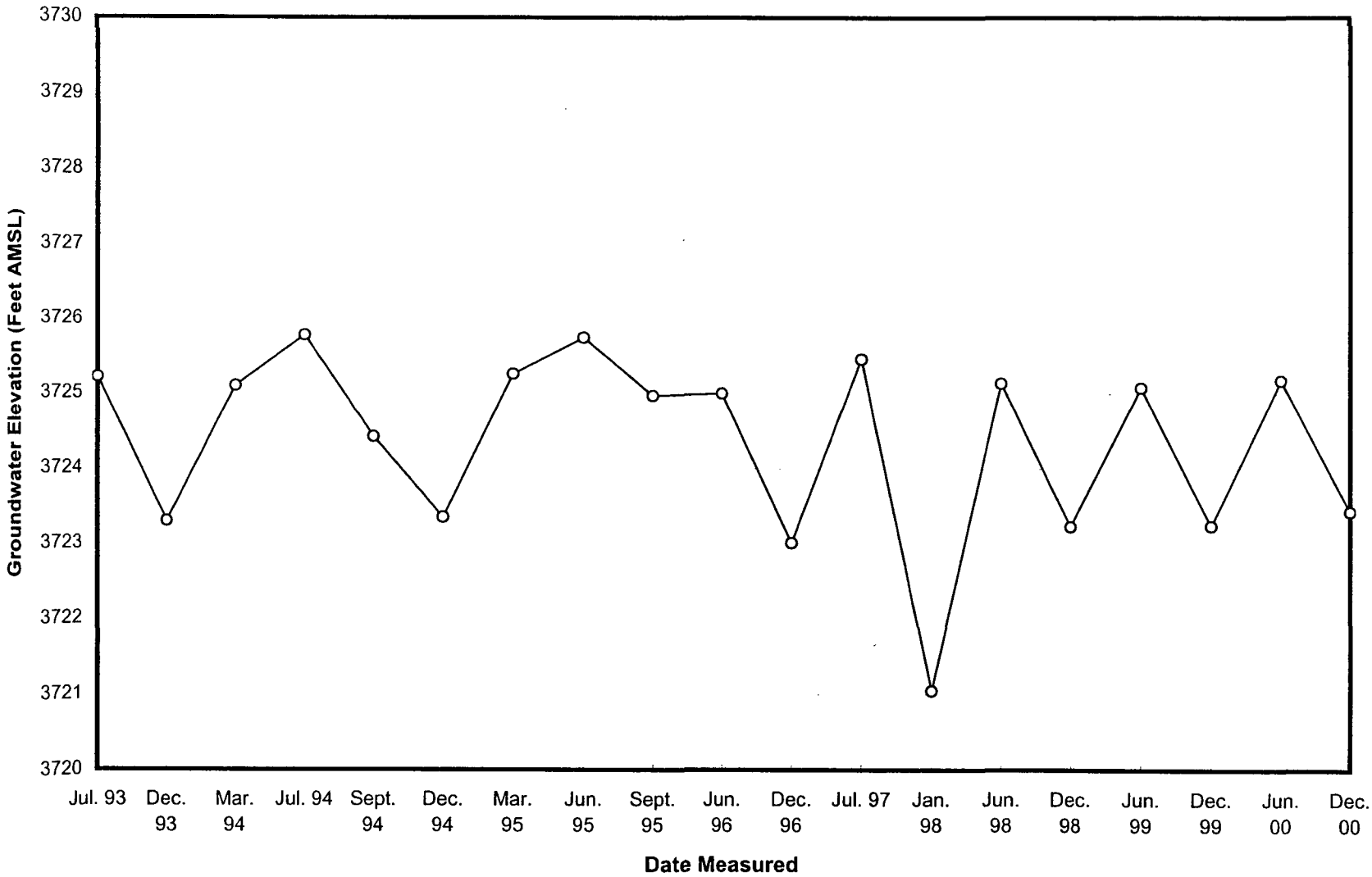
Annual 2000 Well data:MW-2 WL

Brickland Refinery
MW-3S Groundwater Elevation Over Time



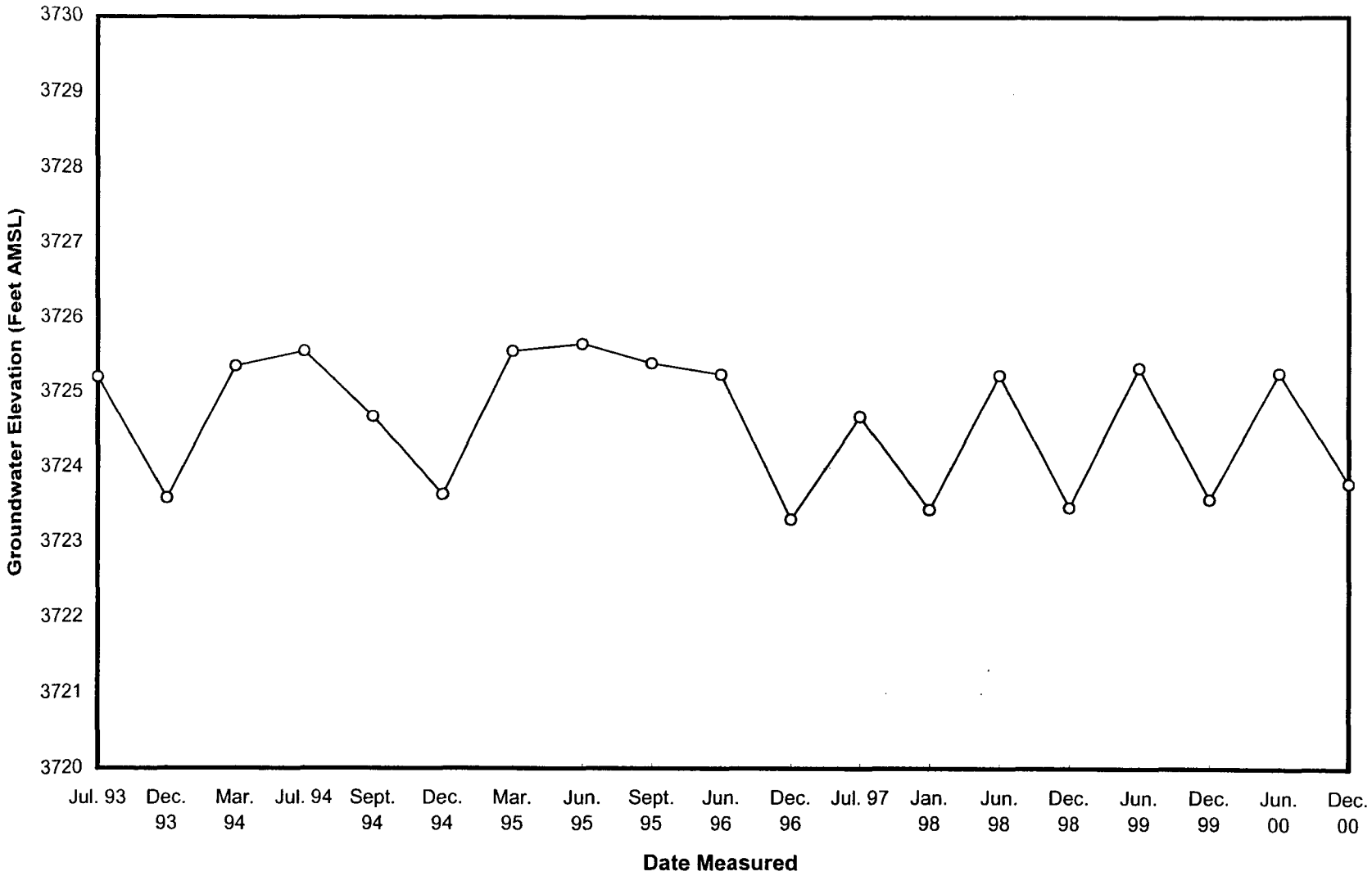
Annual 2000 Well data:MW-3S WL

Brickland Refinery
MW-3D Groundwater Elevation Over Time



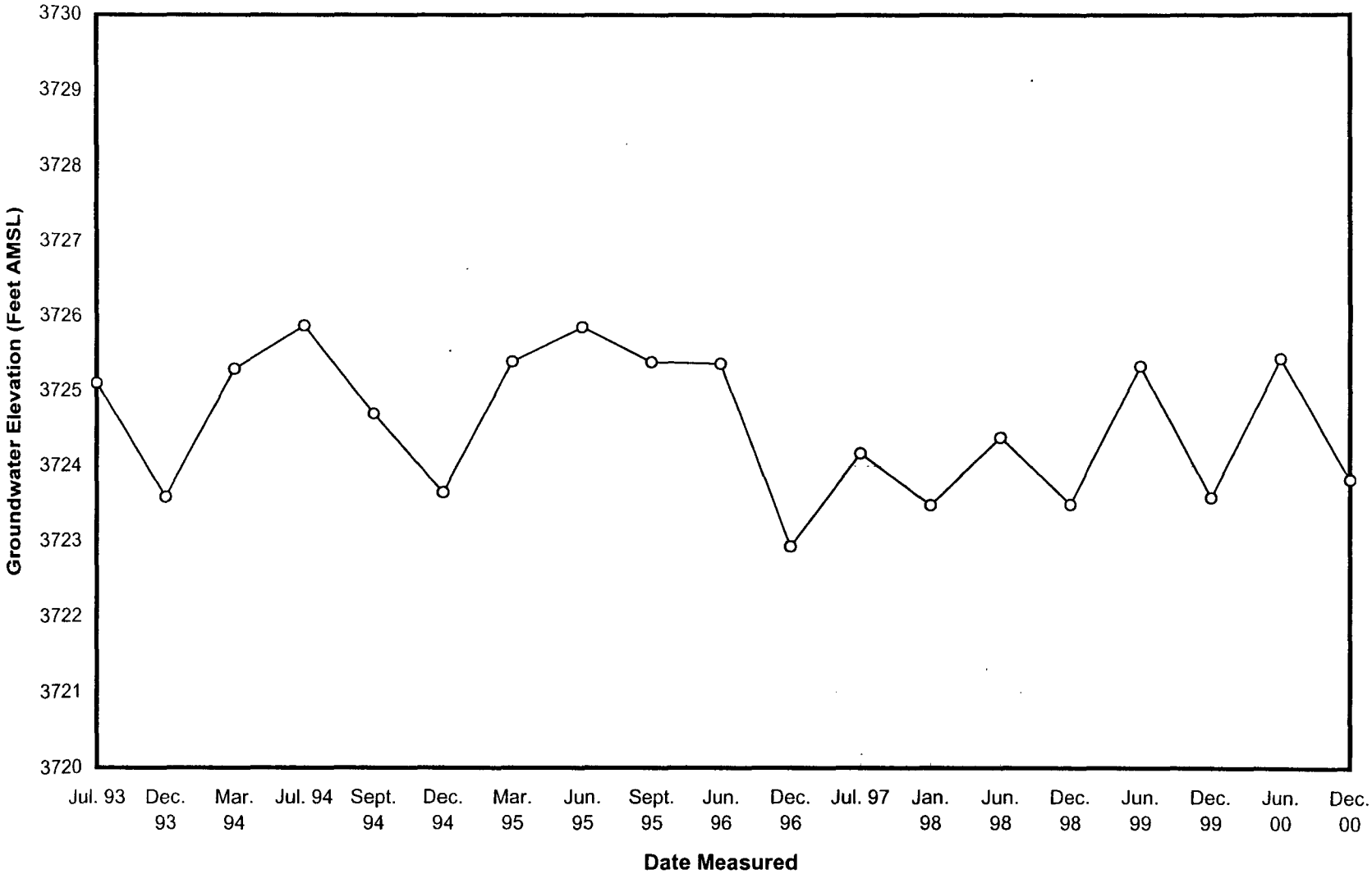
Annual 2000 Well data:MW-3D WL

Brickland Refinery
MW-4 Groundwater Elevation Over Time



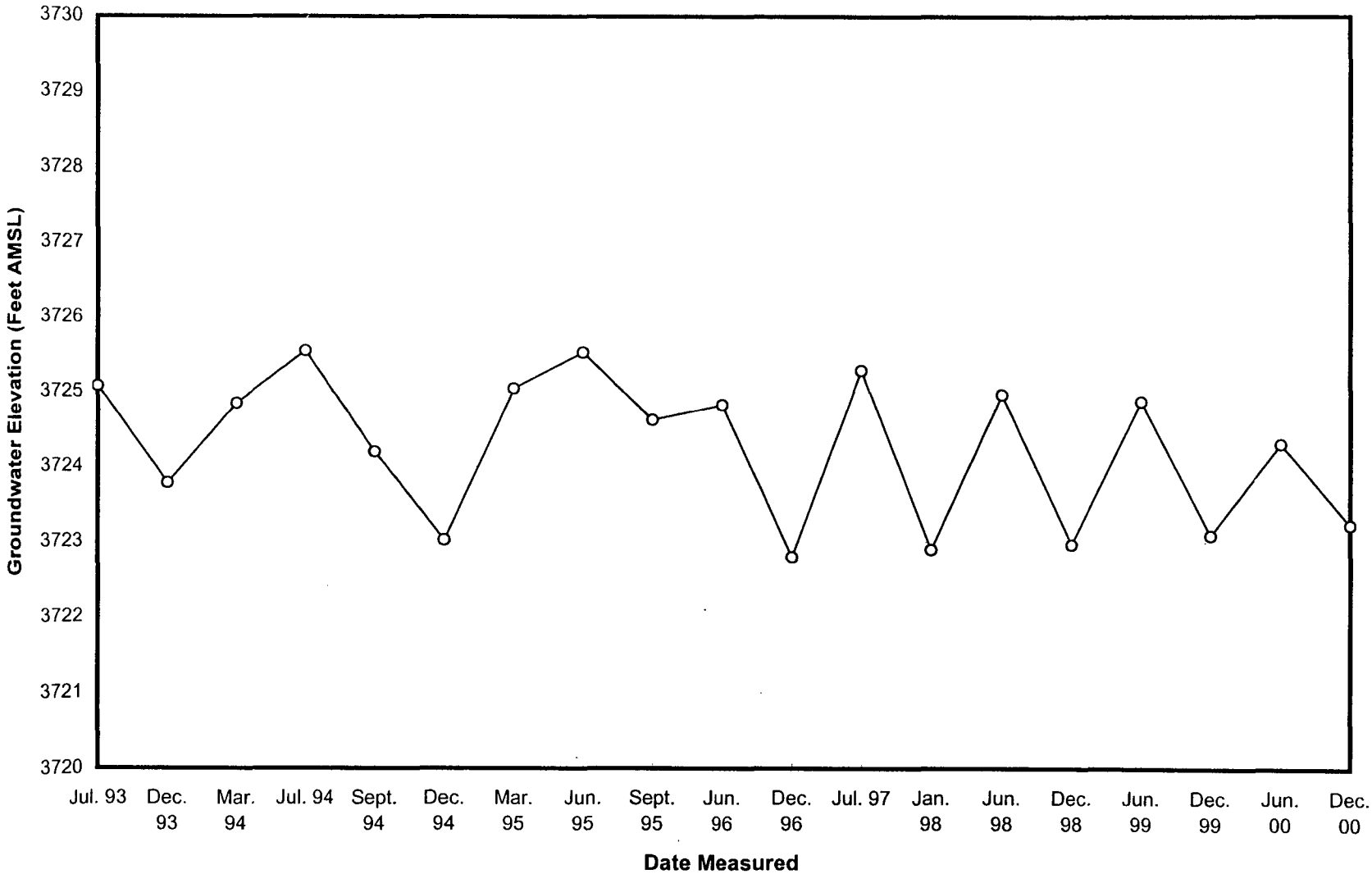
Annual 2000 Well data:MW-4 WL

Brickland Refinery
MW-5 Groundwater Elevation Over Time



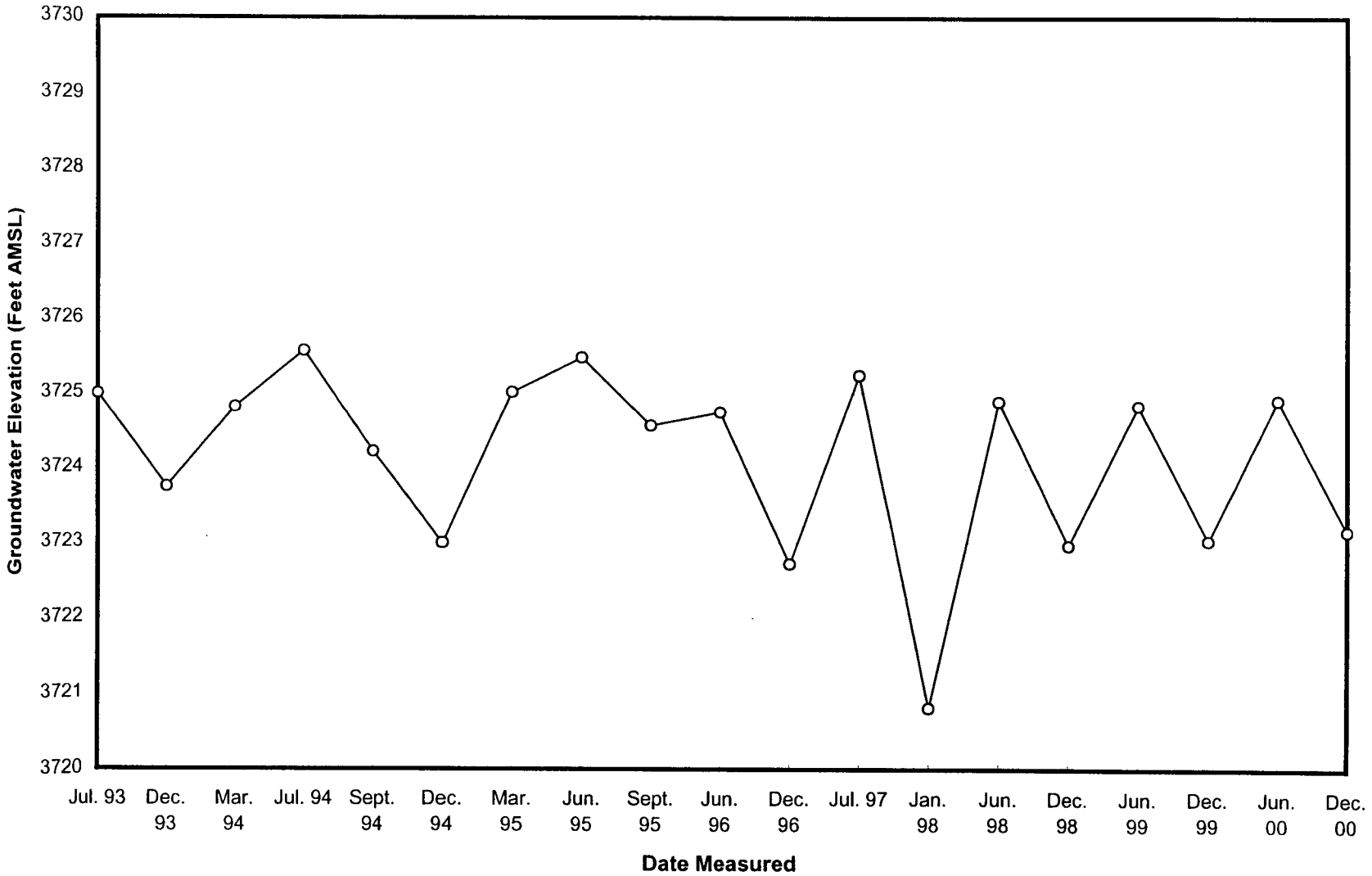
Annual 2000 Well data:MW-5 WL

Brickland Refinery
MW-6S Groundwater Elevation Over Time



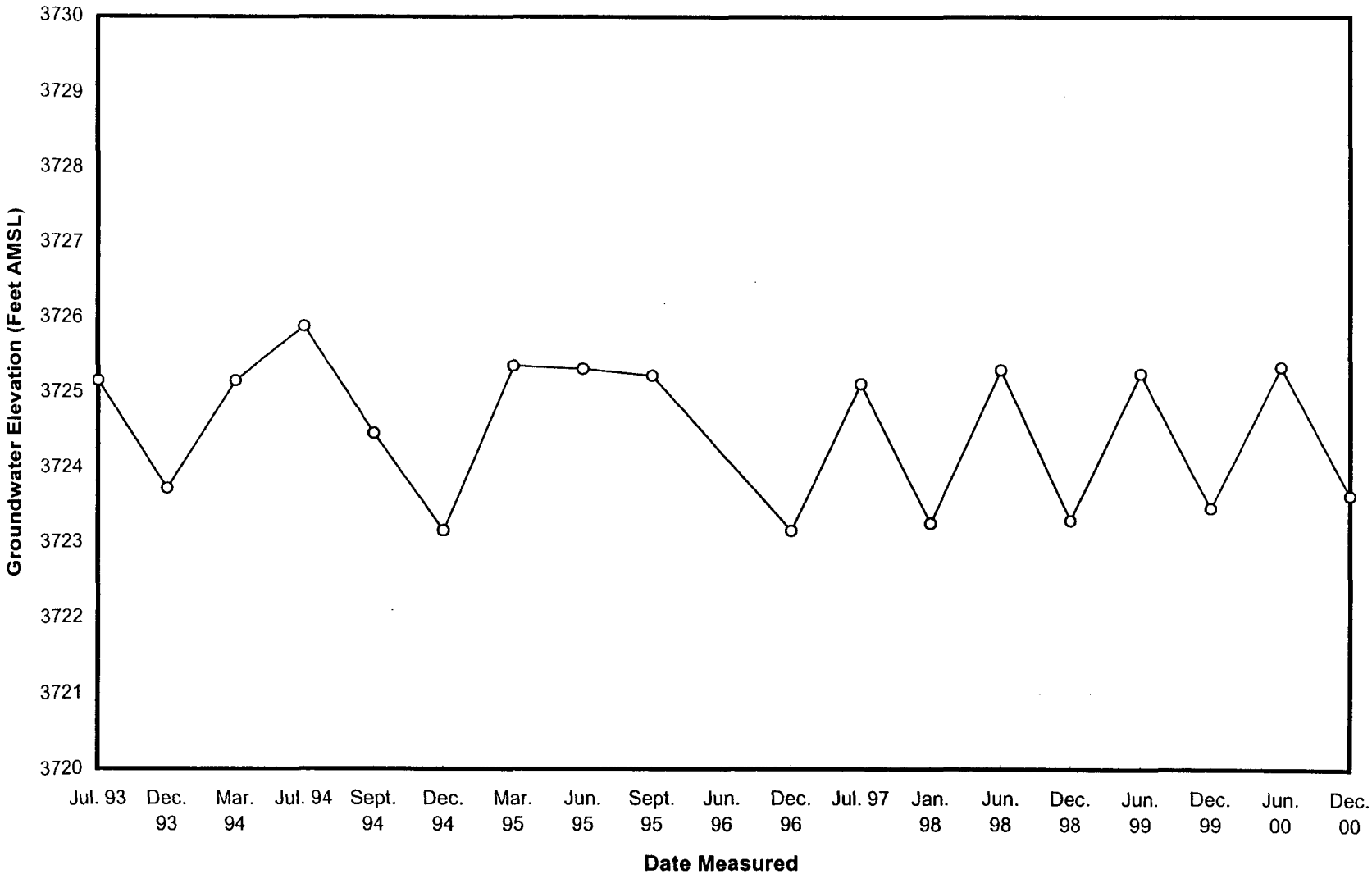
Annual 2000 Well data:MW-6S WL

Brickland Refinery
MW-6D Groundwater Elevation Over Time



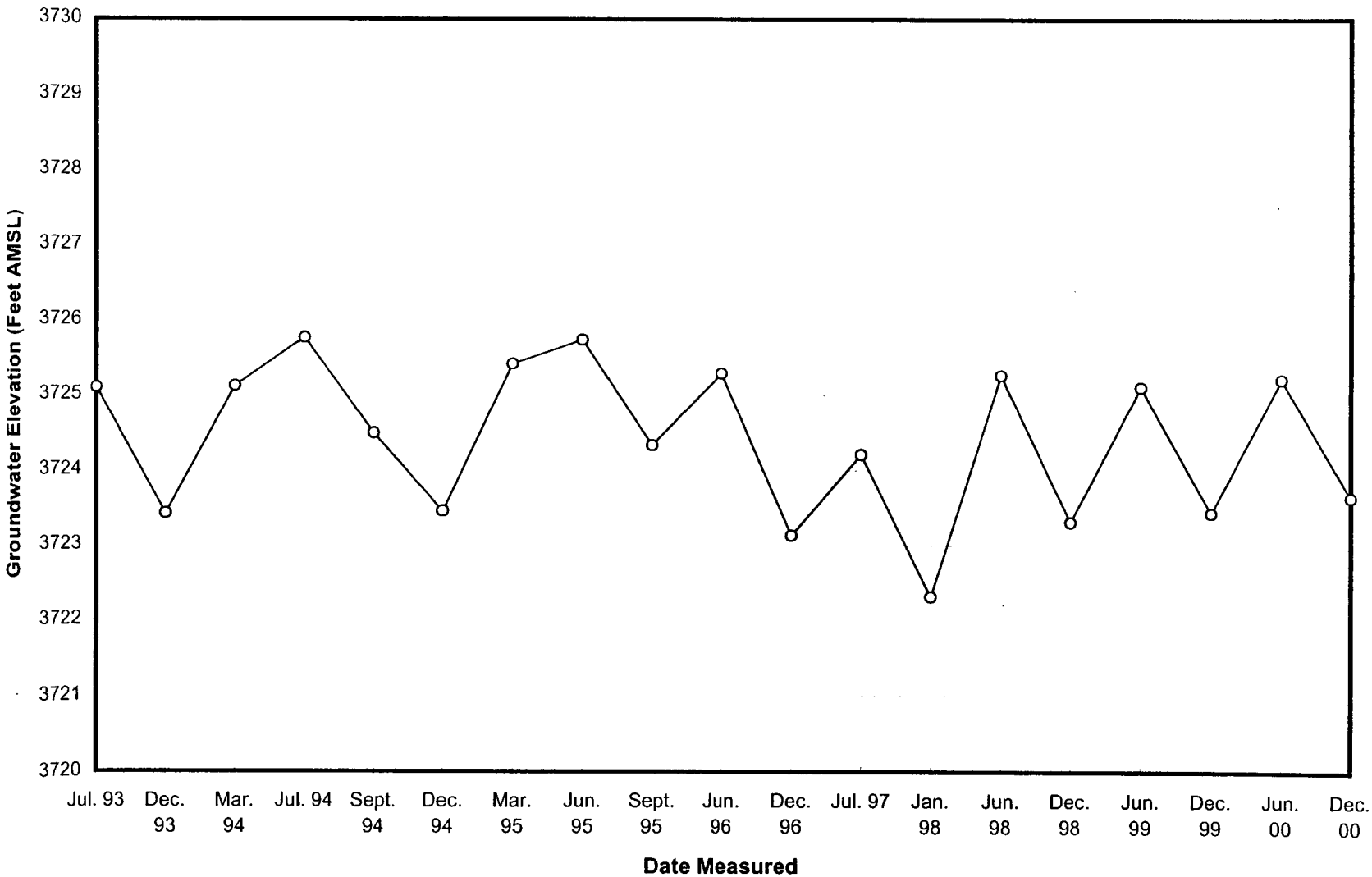
Annual 2000 Well data:MW-6D WL

Brickland Refinery
MW-7 Groundwater Elevation Over Time



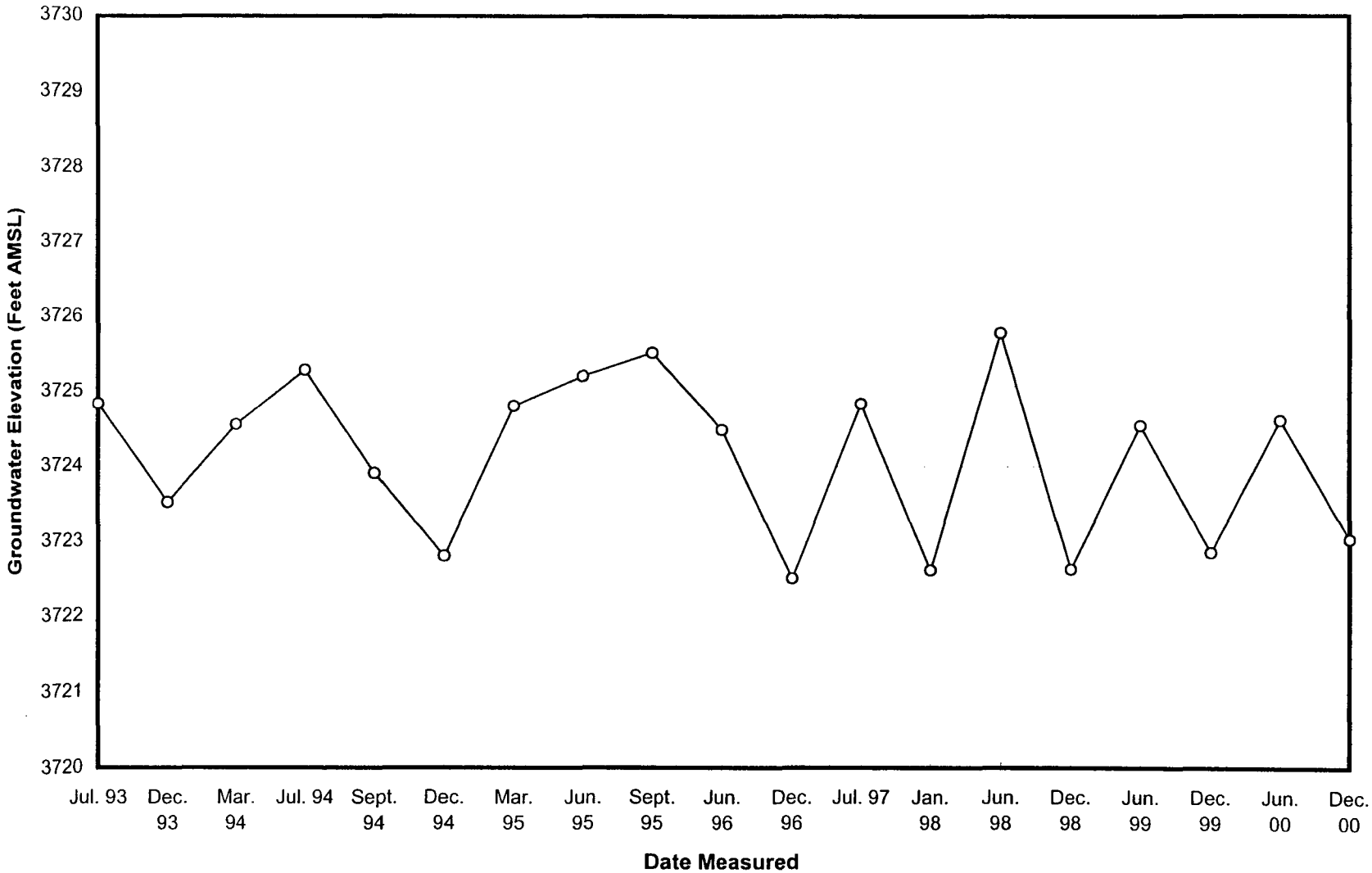
Annual 2000 Well data:MW-7 WL

Brickland Refinery
MW-8 Groundwater Elevation Over Time



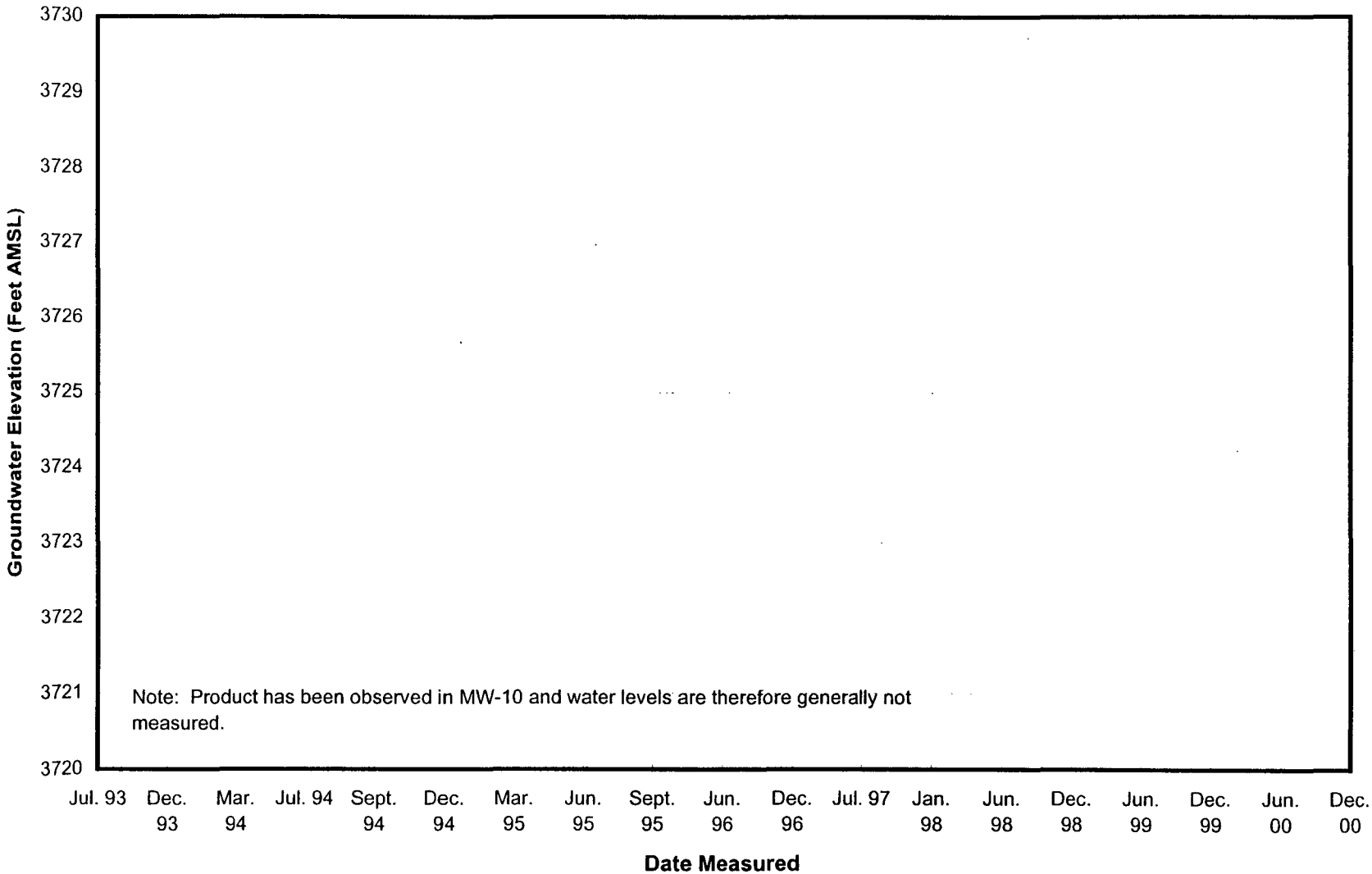
Annual 2000 Well data:MW-8 WL

Brickland Refinery
MW-9S Groundwater Elevation Over Time

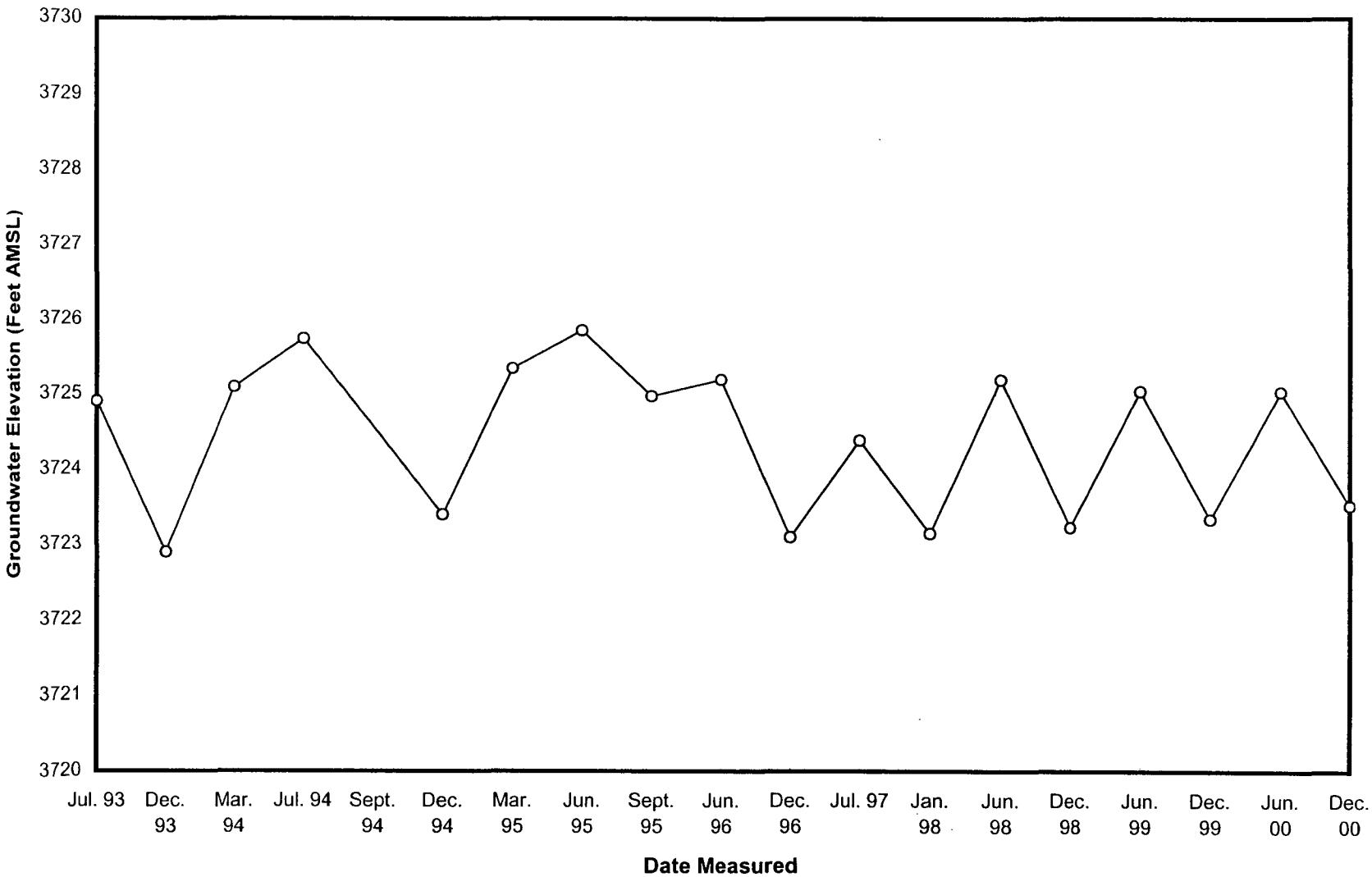


Annual 2000 Well data:MW-9S WL

Brickland Refinery
MW-10 Groundwater Elevation Over Time

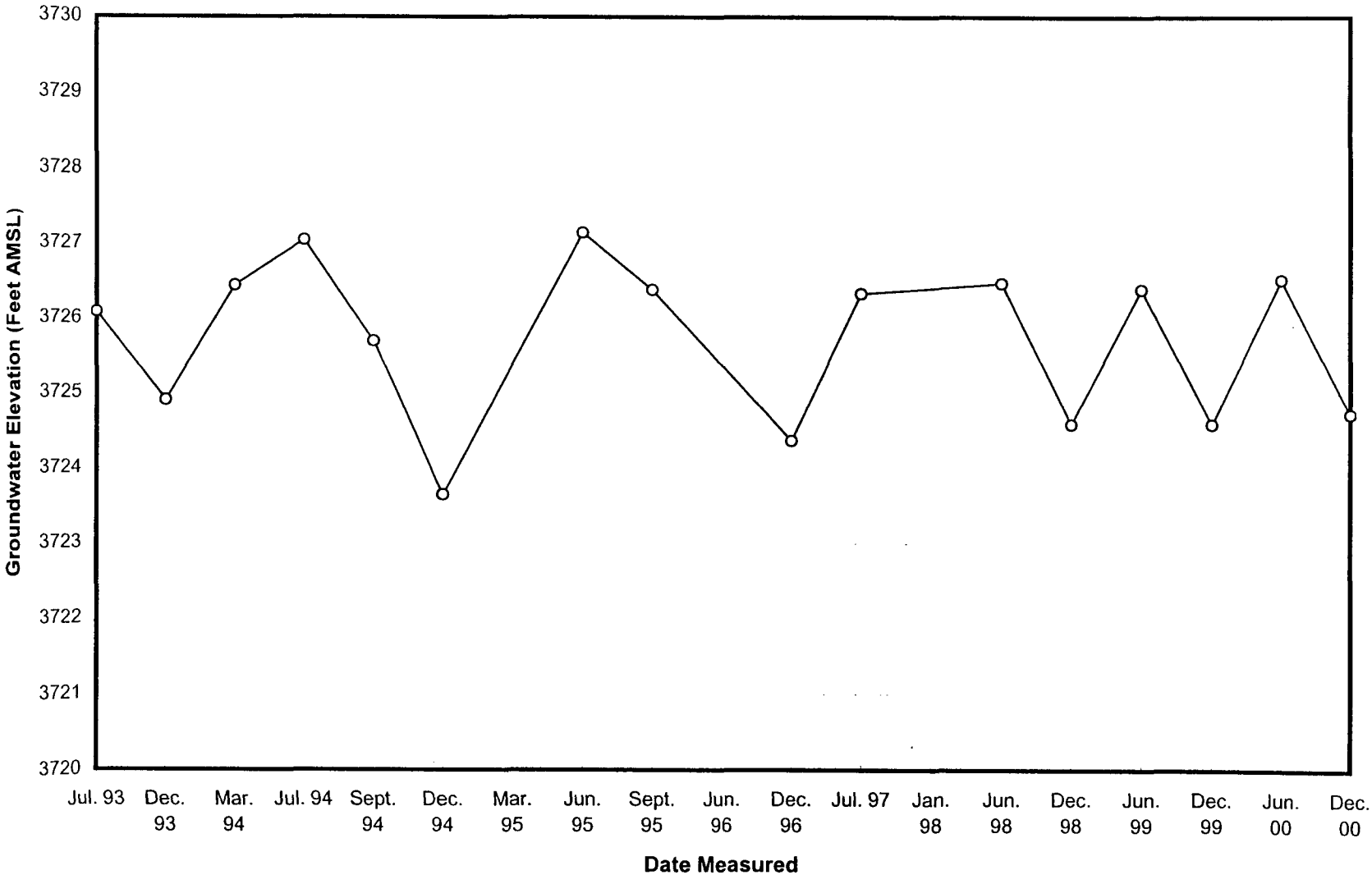


Brickland Refinery
MW-11 Groundwater Elevation Over Time



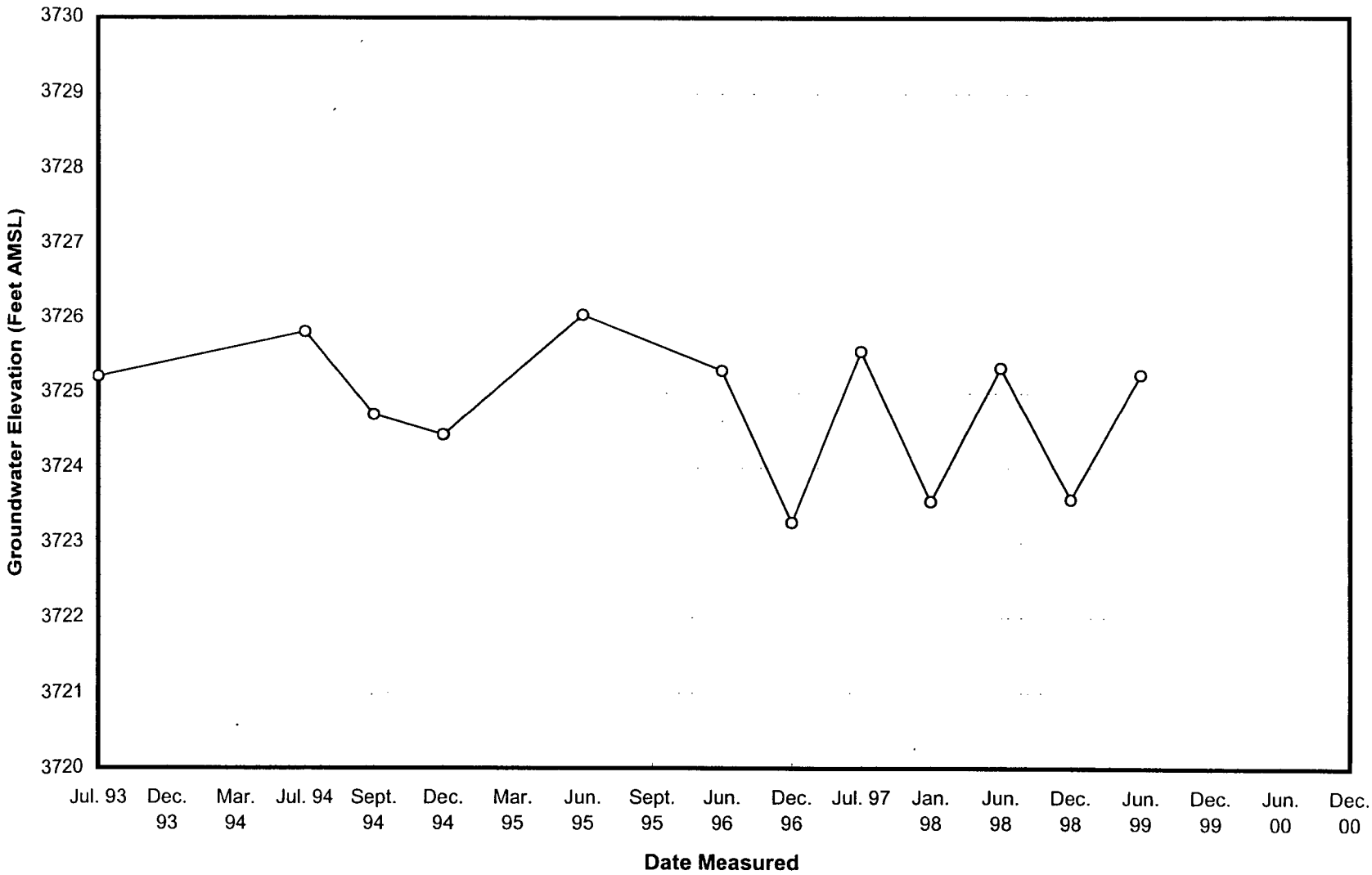
Annual 2000 Well data:MW-11 WL

Brickland Refinery
MW-12 Groundwater Elevation Over Time



Annual 2000 Well data:MW-12 WL

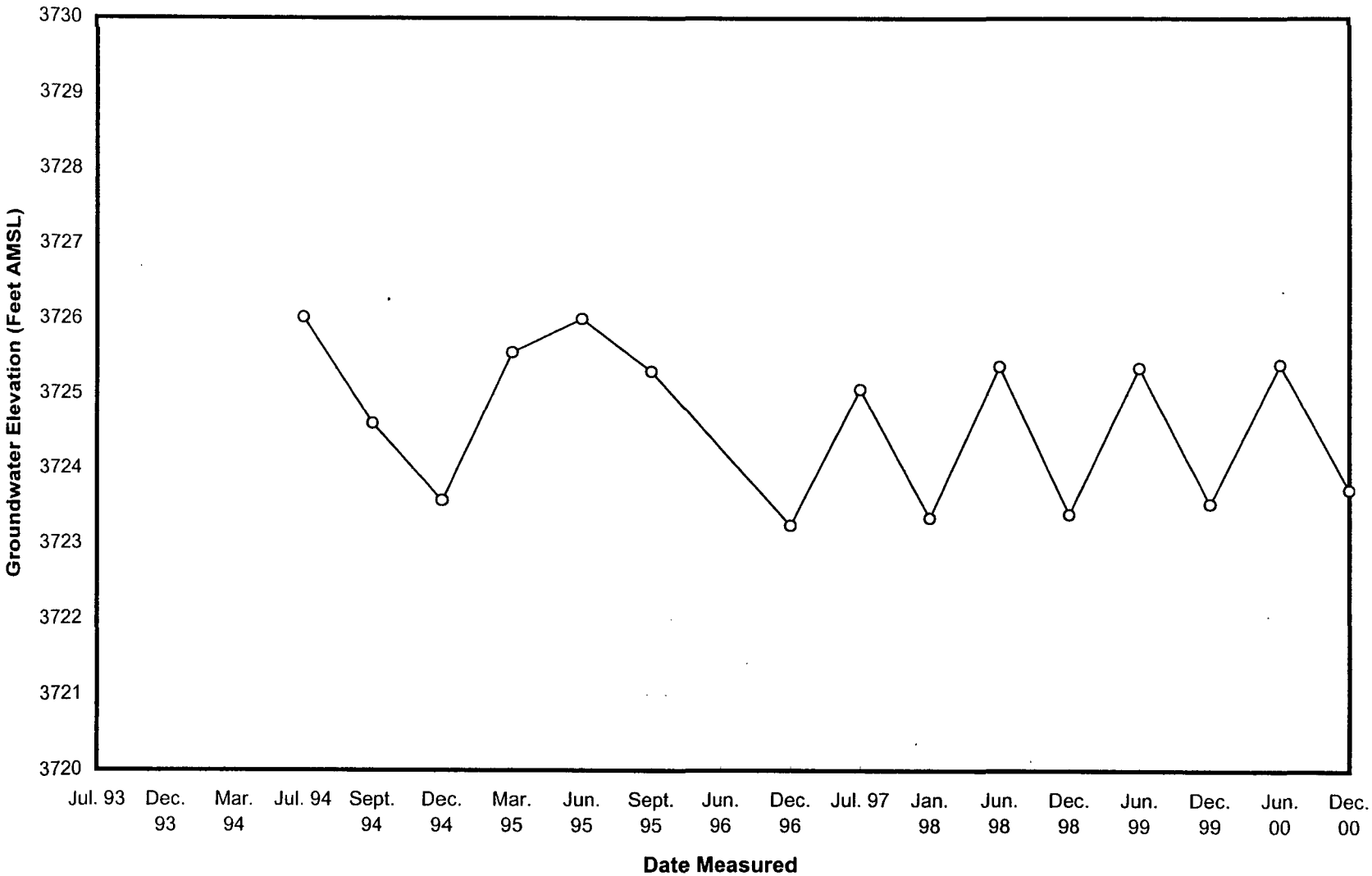
Brickland Refinery
MW-13 Groundwater Elevation Over Time



Note: Well Plugged in
June 1999

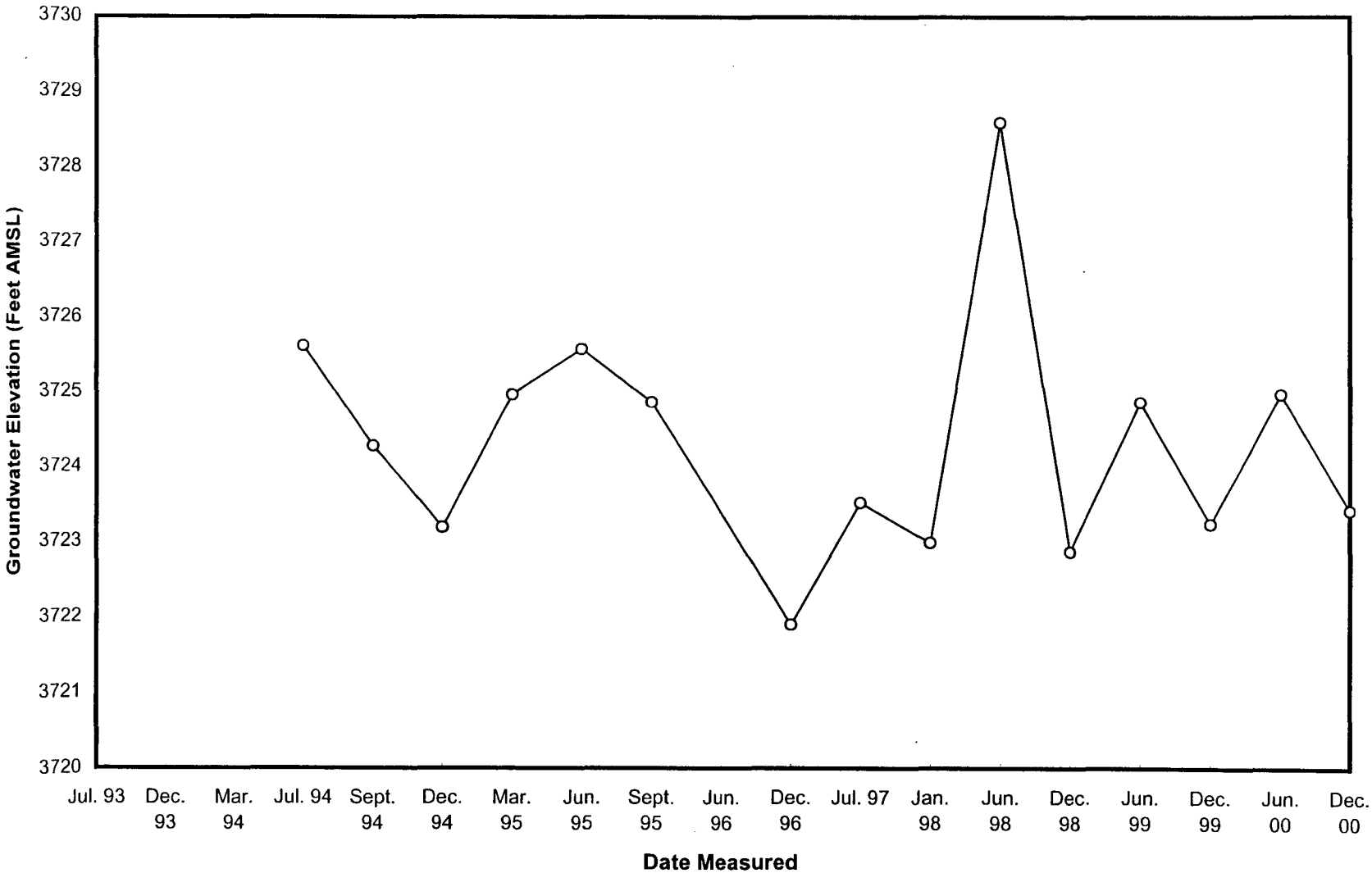
Annual 2000 Well data:MW-13 WL

Brickland Refinery
MW-14 Groundwater Elevation Over Time



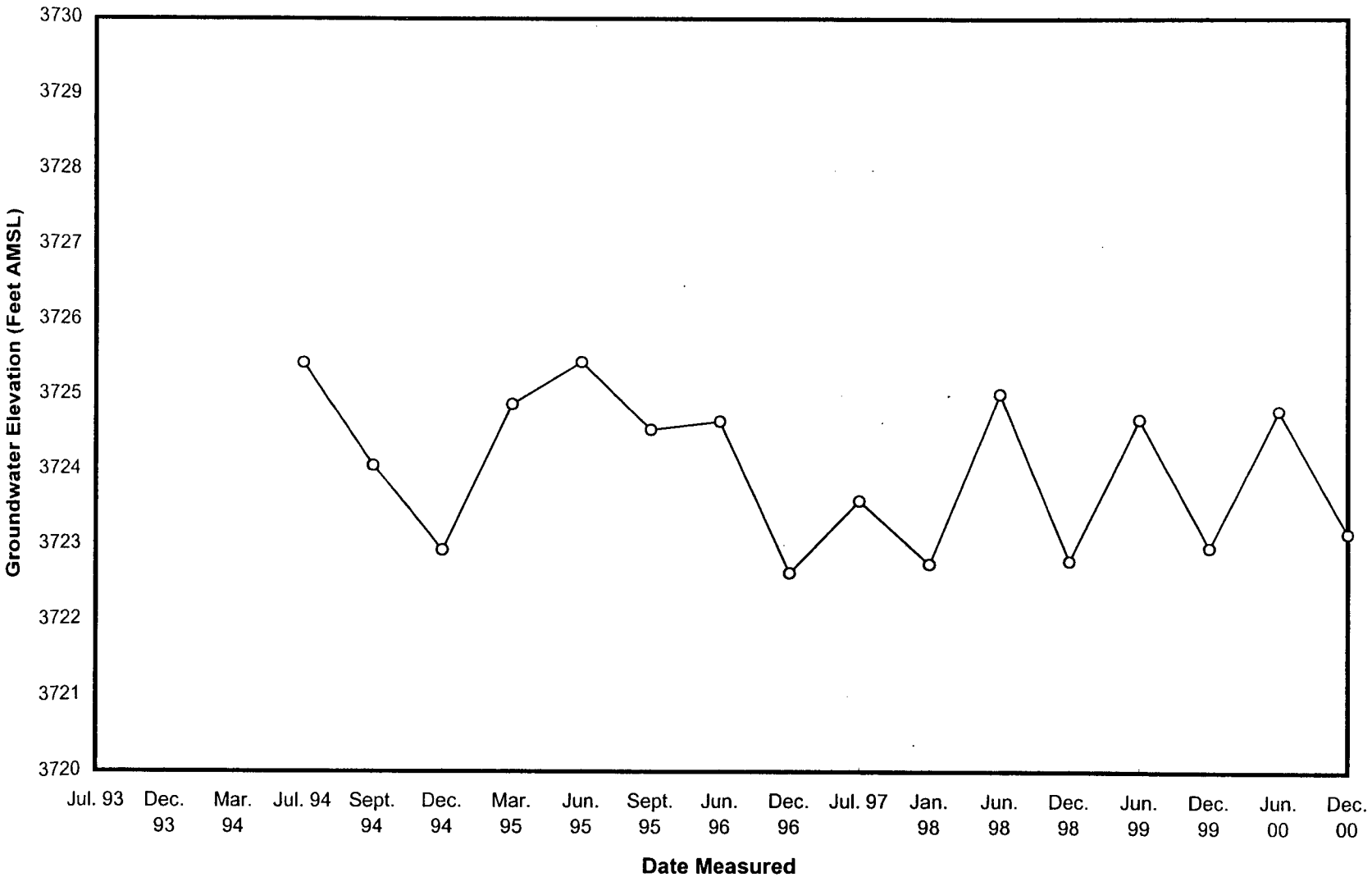
Annual 2000 Well data:MW-14 WL

Brickland Refinery
MW-15 Groundwater Elevation Over Time



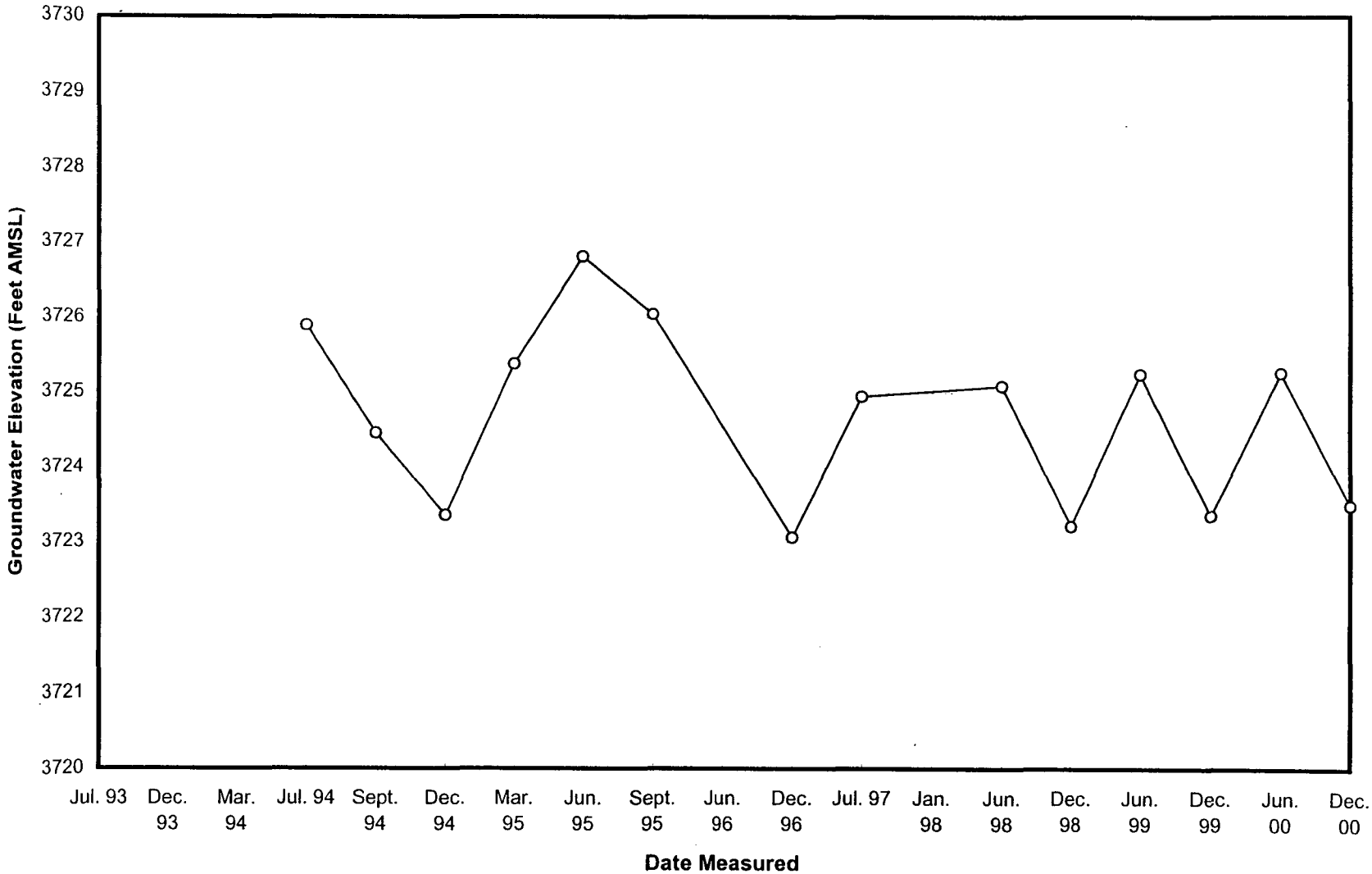
Annual 2000 Well data:MW-15 WL

Brickland Refinery
MW-16 Groundwater Elevation Over Time



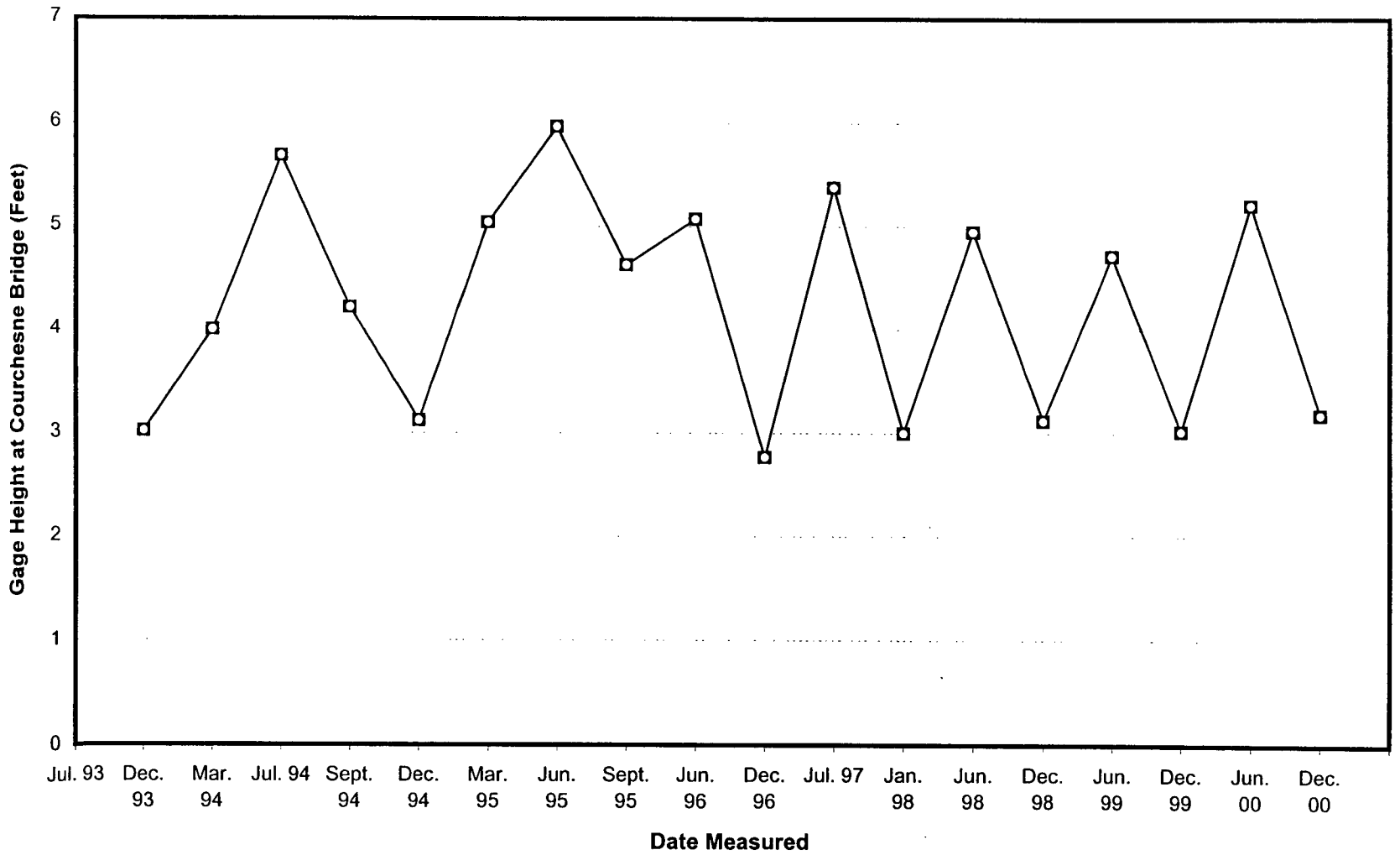
Annual 2000 Well data:MW-16 WL

Brickland Refinery
MW-17 Groundwater Elevation Over Time



Annual 2000 Well data:MW-17 WL

Brickland Refinery
Rio Grande River Stage Over Time



TRACEANALYSIS, INC.

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4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

REPORT SUMMARY

July 21, 2000

CLIENT: **Terracon Incorporated**
PO Box 5067
Las Cruces, NM 88003

SAMPLE DATE: 06/13/00

PROJECT ID: Huntsman

ANALYSES REQUESTED: Total 8 Metals, BTEX, PAH, Zn, Tl, Sb, Ni, Cu, Be

TEMPERATURE UPON RECEIPT: 5° Celsius
Temperature acceptance range for most analysis is 2 – 6 degrees Celsius.

Sample pH was approximately 6. Recovery spike compounds anthracene and phenanthrene were out of acceptance criteria in the laboratory control samples.

Laboratory analyses were performed on samples utilizing procedures published in Standards Methods for the Examination of Water and Wastewater, 18th Edition 1992; EPA Test Methods for Evaluating Solid Waste 3rd Edition, through December 1996 revisions; or EPA Methods for the Chemical Analysis of Water and Wastes [EPA-600/4-79-020], March 1983, and the latest promulgated updates. This is an integral part of the report and must be included with all copies.

Stefan A. Long
Laboratory Director

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002858
INVOICE NO.: 22105918
REPORT DATE: 06-26-00
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : MW-15
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --

Metals - Liquid

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-22-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Zinc	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-22-00	E-200.7	N. Munir

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Melissa Woods
MANAGING DIRECTOR

TRACEANALYSIS, INC.
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4725 Ripley Avenue, Suite A | El Paso, Texas 79922 | 888•588•3443 | 915•585•3443 | FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002859
INVOICE NO.: 22105918
REPORT DATE: 06-26-00
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : MW-04
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --

Metals - Liquid

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-22-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Zinc	<0.05	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-22-00	E-200.7	N. Munir

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Melissa Brooks
MANAGING DIRECTOR

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002860
INVOICE NO.: 22105918
REPORT DATE: 06-26-00
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : MW-14
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --

Metals - Liquid

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-22-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Zinc	<0.05	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-22-00	E-200.7	N. Munir

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002861
INVOICE NO.: 22105918
REPORT DATE: 06-26-00
REVIEWED BY: M
PAGE : 1 OF 1

CLIENT SAMPLE ID : MW-07
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --

Metals - Liquid

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-22-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Zinc	<0.05	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-22-00	E-200.7	N. Munir

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4725 Ripley Avenue, Suite A El Paso, Texas 79922 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002862
INVOICE NO.: 22105918
REPORT DATE: 06-26-00
REVIEWED BY: M
PAGE : 1 OF 1

CLIENT SAMPLE ID : RIV-S
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --

Metals - Liquid

DATA TABLE

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-22-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Zinc	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-22-00	E-200.7	N. Munir

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002863
INVOICE NO.: 22105918
REPORT DATE: 06-26-00
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : RIV-N
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --

Metals - Liquid

DATA TABLE

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-22-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Zinc	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-22-00	E-200.7	N. Munir

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002864
INVOICE NO.: 22105918
REPORT DATE: 06-26-00
REVIEWED BY: n
PAGE : 1 OF 1

CLIENT SAMPLE ID : Duplicates
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --

Metals - Liquid

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-22-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-22-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Zinc	<0.10	mg/L	0.10	06-22-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-22-00	E-200.7	N. Munir

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. G
LAS CRUCES, NM 88003

SAMPLE NO.: 20002858
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY: JR
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-15
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: FEM

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --
ANALYSIS DATE .: 03-21-00

REMARKS -

Sample pH approximately 6.

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	1.9	ug/L	1.0
Toluene	<1.0	ug/L	1.0
Ethylbenzene	<1.0	ug/L	1.0
Total Xylenes	2.7	ug/L	1.0

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002858
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
aaa Trifluorotoluene .....:	108.0	87-118
4-Bromoflurobenzene .....:	103.0	91-109

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ANALYTICAL REPORT

CLIENT TERRAGON
4200 S. RESEARCH DR., BLDG.
LAS CRUCES, NM 88003

SAMPLE NO.: 20002859
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY: M
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-04
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: FEM

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --
ANALYSIS DATE .: 06-28-00

REMARKS -

Sample pH was approximately 6.

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	400	ug/L	1.0
Toluene	<1.0	ug/L	1.0
Ethylbenzene	1.8	ug/L	1.0
Total Xylenes	5.1	ug/L	1.0

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002859
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -

	Percent Recovery	Range
aaa Trifluorotoluene	109.0	87-118
4-Bromoflurobenzene	104.0	91-109

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002860
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY: K
PAGE : 1 OF 2

CLIENT SAMPLE ID :	MW-14
SAMPLE TYPE .....:	Water
SAMPLED BY .....:	--
SUBMITTED BY ....:	--
SAMPLE SOURCE ...:	Huntsman
ANALYST .....:	FEM
AUTHORIZED BY :	L. RIGGINS
CLIENT P.O. :	--
SAMPLE DATE ...:	06-13-00
SUBMITTAL DATE :	06-15-00
EXTRACTION DATE:	--
ANALYSIS DATE .:	06-28-00

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	250	ug/L	1.0
Toluene	<1.0	ug/L	1.0
Ethylbenzene	2.9	ug/L	1.0
Total Xylenes	5.0	ug/L	1.0

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002860
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY: RK

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
aaa Trifluorotoluene .....:	105.0	87-118
4-Bromoflurobenzene .....:	102.0	91-109

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002861
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY: [illegible]
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-07
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: FEM

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --
ANALYSIS DATE .: 06-28-00

REMARKS -

Sample pH was approximately 6.

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	74.	ug/L	1.0
Toluene	<1.0	ug/L	1.0
Ethylbenzene	<1.0	ug/L	1.0
Total Xylenes	2.5	ug/L	1.0

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002861
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY: MR

D A T A T A B L E (Cont.)

Surrogate Information -

	Percent Recovery	Range
aaa Trifluorotoluene .....:	109.0	87-118
4-Bromoflurobenzene .....:	104.0	91-109

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. 6
LAS CRUCES, NM 88003

SAMPLE NO.: 20002862
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY: MR
PAGE : 1 OF 2

CLIENT SAMPLE ID : RIV-S
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: FEM

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --
ANALYSIS DATE .: 06-28-00

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	<1.0	ug/L	1.0
Toluene	<1.0	ug/L	1.0
Ethylbenzene	<1.0	ug/L	1.0
Total Xylenes	<1.0	ug/L	1.0

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002862
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY: MS

D A T A T A B L E (Cont.)

Surrogate Information -

	Percent Recovery	Range
aaa Trifluorotoluene .....:	110.0	87-118
4-Bromoflurobenzene .....:	106.0	91-109

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG 6
LAS CRUCES, NM 88003

SAMPLE NO.: 20002863
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY: MK
PAGE : 1 OF 2

CLIENT SAMPLE ID : RIV-N
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: FEM

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --
ANALYSIS DATE .: 06-28-00

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	<1.0	ug/L	1.0
Toluene	<1.0	ug/L	1.0
Ethylbenzene	<1.0	ug/L	1.0
Total Xylenes	<1.0	ug/L	1.0

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002863
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
aaa Trifluorotoluene .....:	104.0	87-118
4-Bromoflurobenzene .....:	101.0	91-109

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. G
LAS CRUCES, NM 88003

SAMPLE NO.: 20002864
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY:
PAGE : 1 OF 2

CLIENT SAMPLE ID : Duplicates
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: FEM

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: --
ANALYSIS DATE .: 06-28-00

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	76.	ug/L	1.0
Toluene	<1.0	ug/L	1.0
Ethylbenzene	<1.0	ug/L	1.0
Total Xylenes	1.6	ug/L	1.0

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR., BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002864
INVOICE NO.: 22105918
REPORT DATE: 07-07-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
aaa Trifluorotoluene .....:	107.0	87-118
4-Bromoflurobenzene .....:	104.0	91-109

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ANALYTICAL REPORT

CLIENT TERRAGON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002858
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: L
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-15
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: 06-20-00
ANALYSIS DATE .: 07-04-00

REMARKS -

Recoveries of spike compounds anthracene and phenanthrene were out of acceptance criteria in the laboratory control samples.

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002858
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: 4
PAGE : 2 OF 2

D A T A T A B L E (Cont.)

Surrogate Information -

	Percent Recovery	Range
2-Fluorophenol	37.2	1- 97
Phenol-d5	26.6	1- 97
Nitrobenzene-d5	70.9	30-103
2-Fluorobiphenyl	69.9	40-117
2,4,6-Tribromophenol	109.0	49-135
Terphenyl-d14	21.7	1-148

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG. G
LAS CRUCES, NM 88003

SAMPLE NO.: 20002859
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: [signature]
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-04
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: 06-20-00
ANALYSIS DATE .: 07-04-00

REMARKS -

Recoveries of spike compounds anthracene and phenanthrene were out of acceptance criteria in the laboratory control samples.

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

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MANAGING DIRECTOR

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002859
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: 1

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
2-Fluorophenol	37.8	1- 97
Phenol-d5	27.5	1- 97
Nitrobenzene-d5	70.5	30-103
2-Fluorobiphenyl	71.7	40-117
2,4,6-Tribromophenol	105.0	49-135
Terphenyl-d14	27.2	1-148

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002860
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: [signature]
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-14
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: 06-20-00
ANALYSIS DATE .: 07-04-00

REMARKS -

Recovery of spike compounds anthracene and phenanthrene were out of acceptance criteria in the laboratory control samples.

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

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Melissa Brock
MANAGING DIRECTOR

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002860
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: u

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
2-Fluorophenol	34.7	1- 97
Phenol-d5	25.6	1- 97
Nitrobenzene-d5	66.9	30-103
2-Fluorobiphenyl	67.1	40-117
2,4,6-Tribromophenol	97.1	49-135
Terphenyl-d14	27.1	1-148

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002861
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: L
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-07
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: 06-20-00
ANALYSIS DATE .: 07-04-00

REMARKS -

Recovery of spike compounds anthracene and phenanthrene were out of acceptance criteria in the laboratory control samples.

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

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Melissa Crosby

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002861
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: [signature]

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
2-Fluorophenol	35.9	1- 97
Phenol-d5	27.9	1- 97
Nitrobenzene-d5	71.1	30-103
2-Fluorobiphenyl	72.5	40-117
2,4,6-Tribromophenol	109.0	49-135
Terphenyl-d14	25.3	1-148

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002862
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY:
PAGE : 1 OF 2

CLIENT SAMPLE ID : RIV-S
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: 06-20-00
ANALYSIS DATE .: 07-04-00

REMARKS -

Recovery of spike compounds anthracene and phenanthrene were out of acceptance criteria in the laboratory control samples.

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

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Melissa Brook
MANAGING DIRECTOR

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002862
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: V

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
2-Fluorophenol	28.2	1- 97
Phenol-d5	24.4	1- 97
Nitrobenzene-d5	71.6	30-103
2-Fluorobiphenyl	67.2	40-117
2,4,6-Tribromophenol	79.5	49-135
Terphenyl-d14	43.9	1-148

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002863
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: k
PAGE : 1 OF 2

CLIENT SAMPLE ID : RIV-N
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: 06-20-00
ANALYSIS DATE .: 07-04-00

REMARKS -

Recovery of spike compounds anthracene and phenanthrene were out of acceptance criteria in the laboratory control samples.

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

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Melissa Brook
MANAGING DIRECTOR

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002863
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -

	Percent Recovery	Range
2-Fluorophenol	28.9	1- 97
Phenol-d5	25.2	1- 97
Nitrobenzene-d5	70.8	30-103
2-Fluorobiphenyl	70.1	40-117
2,4,6-Tribromophenol	94.2	49-135
Terphenyl-d14	46.8	1-148

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e-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002864
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY:
PAGE : 1 OF 2

CLIENT SAMPLE ID : Duplicates
SAMPLE TYPE .....: Water
SAMPLED BY .....: --
SUBMITTED BY ....: --
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-13-00
SUBMITTAL DATE : 06-15-00
EXTRACTION DATE: 06-20-00
ANALYSIS DATE .: 07-04-00

REMARKS -

Recovery of spike compounds anthracene and phenanthrene were out of acceptance criteria in the laboratory control samples.

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

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Melissa Brost
MANAGING DIRECTOR

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002864
INVOICE NO.: 22105918
REPORT DATE: 07-17-00
REVIEWED BY: (

D A T A T A B L E (Cont.)

Surrogate Information -

	Percent Recovery	Range
2-Fluorophenol	36.8	1- 97
Phenol-d5	24.4	1- 97
Nitrobenzene-d5	69.3	30-103
2-Fluorobiphenyl	65.2	40-117
2,4,6-Tribromophenol	113.0	49-135
Terphenyl-d14	25.9	1-148

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1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 00061507

Company Name: [illegible] Phone #: (505) 527-1700

Address: (Street, City, Zip) P.O. B[illegible] 5057 88003 [illegible] Dr [illegible], Las Cruces, NM Fax #: (505) 527-1092

Contact Person: [illegible]

Invoice to: (If different from above)

Project #: 6691761[illegible] Project Name: Huntsman

Project Location: Huntsman / Sunland Park Sampler Signature: [signature]

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME	MTBE 8021B/602	BTEX 8021B/602	TPH 418.1/TX1005	PAH 8270C	Total Metals Ag As Ba Cd Cr Pb Se Hg 6010B/200.7	TCLP Metals Ag As Ba Cd Cr Pb Se Hg	TCLP Volatiles	TCLP Semi Volatiles	TCLP Pesticides	RCI	GC-MS Vol. 8260B/624	GC/MS Semi. Vol. 8270C/625	PCB's 8082/608	Pesticides 8081A/608	BOD, TSS, pH	Turn Around Time if different from standard	Hold
20002858	MW-15 3	~~5~~ 3		X				X		X		6-13	11:01		X															
	~~MW-[illegible]~~	1		X					X	X								X												
		1		X						X							X													
20002859	MW-04	3		X				X		X		6-13	11:54		X															
		1		X					X	X								X												
		1		X						X							X													
20002860	MW-14	3		X				X		X		6-13	1:50		X															
		1		X					X	X								X												
		1		X						X							X													
20002861	MW-07	3		X				X		X		6-13	2:48		X															
		1		X					X	X								X												

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
D. Small	6-15	11:14am			
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by: [signature]	Date:	Time:

LAB USE ONLY
Log-in Review

REMARKS: For Total M[illegible] See Attached List

Carrier #

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

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Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

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El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #: 0006150?

Company Name: TERRACON
Phone #: (505) 527-1700
Address: (Street, City, Zip) 4200 S. RESEARCH DR., BUILDING G, LAS CRUCES, NM 88003
Fax #: (505) 527-1092
Contact Person: LINDA RIGGINS
Invoice to: (If different from above)
Project #: 66997611
Project Name: HUNTSMAN
Project Location: SUNLAND PARK, NM
Sampler Signature: "FSmall for LINDA RIGGINS

ANALYSIS REQUEST
(Circle or Specify Method No.)

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	SAMPLING: DATE	TIME
	MW-07	1		X									X		6-13	3:45
20002862	RIV-5	3		X				X							6-13	3:18
		1		X					X						"	"
		1		X									X		"	"
20002863	RIV-N	3		X				X							6-13	3:35
		1		X					X						"	"
		1		X									X		"	"
20002864	DUPLICATES	3		X				X							6-13	—
		1		X					X						"	
		1		X									X		"	

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

Relinquished by: FSmall Date: 6-15 Time: 11:14am
Received by: Date: Time:
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received at Laboratory by: Date: 6/15/06 Time: 11:14

LAB USE ONLY
Intact Y N
Headspace Y N
Temp 5°C
Log-in Review

REMARKS: FOR TOTAL METALS SEE ATTACHED SHEET

Carrier #

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

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E-Mail: lab@traceanalysis.com

REPORT SUMMARY

July 21, 2000

CLIENT: **Terracon Incorporated**
PO Box 5967
Las Cruces, NM 88003

SAMPLE DATE: 06/14/00

PROJECT ID: Huntsman

ANALYSES REQUESTED: Total 8 Metals, PAH, BTEX

TEMPERATURE UPON RECEIPT: 6° Celsius
Temperature acceptance range for most analysis is 2 – 6 degrees Celsius.

TFT surrogate recovery did not meet QC criteria; however, BFB surrogate recovery was within control limits.

Laboratory analyses were performed on samples utilizing procedures published in Standards Methods for the Examination of Water and Wastewater, 18th Edition 1992; EPA Test Methods for Evaluating Solid Waste 3rd Edition, through December 1996 revisions; or EPA Methods for the Chemical Analysis of Water and Wastes[EPA-600/4-79-020], March 1983, and the latest promulgated updates. This is an integral part of the report and must be included with all copies.

Stefan A. Long
Laboratory Director

TRACE ANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002797
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY: u
PAGE : 1 OF 1

CLIENT SAMPLE ID : MW-9S
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --

Metals - Liquid

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-20-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Zinc	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-20-00	E-200.7	N. Munir

(1) Copy to Client

Melissa Brook
MANAGING DIRECTOR

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002798
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY: ce
PAGE : 1 OF 1

CLIENT SAMPLE ID : MW-06D
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --

Metals - Liquid

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-20-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Zinc	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-20-00	E-200.7	N. Munir

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Melissa Brook
MANAGING DIRECTOR

TRACEANALYSIS, INC.

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002799
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : MW-06S
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --

Metals - Liquid

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-20-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Zinc	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-20-00	E-200.7	N. Munir

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E Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002801
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : MW-03S
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --

Metals - Liquid

DATA TABLE

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-20-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Zinc	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-20-00	E-200.7	N. Munir

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002797
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY: M
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-9S
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman
ANALYST .....: F. MARTINEZ

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --
ANALYSIS DATE .: 06-19-00

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	<4.0	ug/L	4.0
Toluene	14	ug/L	4.0
Ethylbenzene	6.2	ug/L	4.0
Total Xylenes	43	ug/L	4.0

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002797
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
aaa Trifluorotoluene .....:	80.1	87-118
4-Bromoflurobenzene .....:	88.4	91-109

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002798
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY:
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-06D
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman
ANALYST .....: F. MARTINEZ

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --
ANALYSIS DATE .: 06-19-00

REMARKS -

TFT Surrogate recovery did not meet QC criteria; however, BFB surrogate recovery was within control limits.

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	<1.0	ug/L	1.0
Toluene	<1.0	ug/L	1.0
Ethylbenzene	<1.0	ug/L	1.0
Total Xylenes	1.7	ug/L	1.0

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ANALYTICAL REPORT

CLIENT TERRACON
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SAMPLE NO. : 20002798
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY: h
PAGE : 2 OF 2

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
aaa Trifluorotoluene ..... :	70.0	87-118
4-Bromoflurobenzene ..... :	82.6	91-109

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002799
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY: W
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-06S
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman
ANALYST .....: F. MARTINEZ

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --
ANALYSIS DATE .: 06-19-00

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	2.6	ug/L	2.0
Toluene	<2.0	ug/L	2.0
Ethylbenzene	2.1	ug/L	2.0
Total Xylenes	4.1	ug/L	2.0

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
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LAS CRUCES, NM 88003

SAMPLE NO. : 20002799
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
aaa Trifluorotoluene	86.5	87-118
4-Bromoflurobenzene	94.9	91-109

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ANALYTICAL REPORT

CLIENT TERRACON
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LAS CRUCES, NM 88003

SAMPLE NO. : 20002800
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY:
PAGE : 1 OF 1

CLIENT SAMPLE ID : MW-03D
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --

Metals - Liquid

D A T A T A B L E

Parameter	Result	Unit	Detection Limit	Analysis Date	Test Method	Analyst
Total Antimony	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Arsenic	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Cadmium	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Chromium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Copper	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Mercury	<0.001	mg/L	0.001	06-18-00	E-245.1	N. Munir
Total Lead	<0.15	mg/L	0.15	06-20-00	E-200.7	N. Munir
Total Nickel	<0.05	mg/L	0.05	06-20-00	E-200.7	N. Munir
Total Selenium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Silver	<0.002	mg/L	0.002	06-20-00	E-272.2	N. Munir
Total Thallium	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Zinc	<0.10	mg/L	0.10	06-20-00	E-200.7	N. Munir
Total Beryllium	<0.02	mg/L	0.02	06-20-00	E-200.7	N. Munir

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002800
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY:

CLIENT SAMPLE ID : MW-03D
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman
ANALYST .....: F. MARTINEZ

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --
ANALYSIS DATE .: 06-19-00

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	<1.0	ug/L	1.0
Toluene	<1.0	ug/L	1.0
Ethylbenzene	<1.0	ug/L	1.0
Total Xylenes	2.0	ug/L	1.0

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ANALYTICAL REPORT

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LAS CRUCES, NM 88003

SAMPLE NO. : 20002800
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
aaa Trifluorotoluene .....:	98.6	87-118
4-Bromoflurobenzene .....:	103.2	91-109

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BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002801
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY:

CLIENT SAMPLE ID : MW-03S
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman
ANALYST .....: F. MARTINEZ

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --
ANALYSIS DATE .: 06-19-00

Petroleum Contaminants by 8021B

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Benzene	<1.0	ug/L	1.0
Toluene	<1.0	ug/L	1.0
Ethylbenzene	<1.0	ug/L	1.0
Total Xylenes	<1.0	ug/L	1.0

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR.
BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002801
INVOICE NO.: 22105909
REPORT DATE: 06-26-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -

	Percent Recovery	Range
aaa Trifluorotoluene .....:	97.3	87-118
4-Bromoflurobenzene .....:	100.0	91-109

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002797
INVOICE NO.: 22105909
REPORT DATE: 07-17-00
REVIEWED BY: L
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-9S
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --
ANALYSIS DATE .: 07-06-00

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002797
INVOICE NO.: 22105909
REPORT DATE: 07-17-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
2-Fluorophenol	35.7	1- 97
Phenol-d5	25.0	1- 97
Nitrobenzene-d5	65.0	30-103
2-Fluorobiphenyl	67.8	40-117
2,4,6-Tribromophenol	73.7	49-135
Terphenyl-d14	34.6	1-148

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG. C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002798
INVOICE NO.: 22105909
REPORT DATE: 07-17-00
REVIEWED BY: W
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-06D
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --
ANALYSIS DATE .: 07-06-00

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

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ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002798
INVOICE NO.: 22105909
REPORT DATE: 07-17-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
2-Fluorophenol	38.0	1- 97
Phenol-d5	26.5	1- 97
Nitrobenzene-d5	72.6	30-103
2-Fluorobiphenyl	72.1	40-117
2,4,6-Tribromophenol	73.2	49-135
Terphenyl-d14	40.9	1-148

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002799
INVOICE NO.: 22105909
REPORT DATE: 07-17-00
REVIEWED BY: ✓
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-06S
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --
ANALYSIS DATE .: 07-06-00

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

(1) Copy to Client

Melissa Brook
MANAGING DIRECTOR

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002799
INVOICE NO.: 22105909
REPORT DATE: 07-17-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
2-Fluorophenol	32.2	1- 97
Phenol-d5	3.5	1- 97
Nitrobenzene-d5	57.5	30-103
2-Fluorobiphenyl	57.3	40-117
2,4,6-Tribromophenol	62.2	49-135
Terphenyl-d14	18.2	1-148

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002800
INVOICE NO.: 22105909
REPORT DATE: 07-17-00
REVIEWED BY: K
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-03D
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --
ANALYSIS DATE .: 07-06-00

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

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Melissa Brooks
MANAGING DIRECTOR

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002800
INVOICE NO.: 22105909
REPORT DATE: 07-17-00
REVIEWED BY: [signature]

D A T A T A B L E (Cont.)

Surrogate Information -

	Percent Recovery	Range
2-Fluorophenol	32.1	1- 97
Phenol-d5	22.8	1- 97
Nitrobenzene-d5	55.0	30-103
2-Fluorobiphenyl	59.9	40-117
2,4,6-Tribromophenol	63.8	49-135
Terphenyl-d14	52.0	1-148

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E-Mail: lab@traceanalysis.com

ANALYTICAL REPORT

CLIENT TERRAGON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO.: 20002801
INVOICE NO.: 22105909
REPORT DATE: 07-17-00
REVIEWED BY:
PAGE : 1 OF 2

CLIENT SAMPLE ID : MW-03S
SAMPLE TYPE .....: Water
SAMPLED BY .....: L.R.
SUBMITTED BY ....: L.R.
SAMPLE SOURCE ...: Huntsman
ANALYST .....: B. Murphy

AUTHORIZED BY : L. RIGGINS
CLIENT P.O. : --
SAMPLE DATE ...: 06-14-00
SUBMITTAL DATE : 06-14-00
EXTRACTION DATE: --
ANALYSIS DATE .: 07-06-00

8270C PAH - Water

D A T A T A B L E

Parameter	Result	Unit	Detection Limit
Naphthalene	<0.01	mg/L	0.01
Acenaphthylene	<0.01	mg/L	0.01
Acenaphthene	<0.01	mg/L	0.01
Fluorene	<0.01	mg/L	0.01
Anthracene	<0.01	mg/L	0.01
Phenanthrene	<0.01	mg/L	0.01
Fluoranthene	<0.01	mg/L	0.01
Pyrene	<0.01	mg/L	0.01
Benz[a]anthracene	<0.01	mg/L	0.01
Chyrsene	<0.01	mg/L	0.01
Benzo[b&k]fluoranthene	<0.01	mg/L	0.01
Benzo[a]pyrene	<0.01	mg/L	0.01
Indeno[1,2,3-cd]pyrene	<0.01	mg/L	0.01
Dibenz[a,h]anthracene	<0.01	mg/L	0.01
Benzo[g,h,i]perylene	<0.01	mg/L	0.01

(1) Copy to Client

Melissa Brooks
MANAGING DIRECTOR

ANALYTICAL REPORT

CLIENT TERRACON
4200 S. RESEARCH DR. BLDG C
LAS CRUCES, NM 88003

SAMPLE NO. : 20002801
INVOICE NO.: 22105909
REPORT DATE: 07-17-00
REVIEWED BY:

D A T A T A B L E (Cont.)

Surrogate Information -	Percent Recovery	Range
2-Fluorophenol	29.2	1- 97
Phenol-d5	22.1	1- 97
Nitrobenzene-d5	57.5	30-103
2-Fluorobiphenyl	61.5	40-117
2,4,6-Tribromophenol	65.8	49-135
Terphenyl-d14	62.7	1-148

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TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 00061410

Company Name: Terracon
Phone #: 505 527-1700
Address: (Street, City, Zip) 4200 S Research Dr Bldg C PO BOX 5067 LAS CRUCES NM 88003
Fax #: 505 527-1092
Contact Person: LINDA RIGGINS
Invoice to: (If different from above)
Project #: 66997611
Project Name: Huntsman
Project Location: Sunland Park
Sampler Signature: Linda Riggins

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
20002797	MW-9S	3		X				X		X		6-14	10:06
		1		X					X	X			
		1		X						X	X		
20002798	MW-06D	3		X				X		X		6-14	11:10
		1		X					X	X			
		1		X						X	X		
20002799	MW-06S	3		X				X		X		6-14	11:36
		1		X					X	X			
		1		X						X	X		
20002800	MW-03D	3		X				X		X		6-14	1:38
		1		X					X	X			

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

Relinquished by: Linda Riggins Date: 6-14-00 Time: 2:57p
Received by: Sheryl Golden Date: 6/14/00 Time: 2:57PM
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: Date: Time:
Received at Laboratory by: Date: 6/14/00 Time: 15:30

LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp 6 °
Log-In Review

REMARKS: For Total Metals Please See Attached List

Carrier #

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

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El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # 00061410

Company Name: Terracon Phone #: 505 527 1700

Address: (Street, City, Zip) PO BOX 5067 Fax #: 505 527 1092
4200 S. Research Dr Bldg C LAS CRUCES NM 88003

Contact Person: LINDA RIGGINS

Invoice to:
(If different from above)

Project #: 66997611 Project Name: Huntsman

Project Location: Sunland Park Sampler Signature: Linda Riggs

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	ICE	NONE	SAMPLING: DATE	TIME
20002800	MW-03D	1		X						X	X	6-14	1:38
20002801	MW-03S	3		X				X		X		6-14	2:00
		1		X					X	X			
		1		X						X	X		

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

Relinquished by: Linda Riggs Date: 6-14-00 Time: 2:57p
Received by: Sheryl Golden Date: 6/14/00 Time: 2:57P

Relinquished by: Date: Time:
Received by: Date: Time:

Relinquished by: Date: Time:
Received at Laboratory by: Date: 6/14/00 Time: 15:30

LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp 6 °
Log-In Review

REMARKS:
For Total Metals
See Attached
List

Carrier #

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

TRACEANALYSIS, INC.

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155 McCutcheon, Suite H El Paso, Texas 79932 888•588•3443 915•585•3443 FAX 915•585•4944
E-Mail: lab@traceanalysis.com

Analytical and Quality Control Report

Linda Riggins
Terracon
Terracon 4200 S. Research Drive Bld. C
Las Cruces, NM 88003

Report Date: January 3, 2001

Order ID Number: A00121201

Project Number: 66997611
Project Name: Former Brickland Refinery
Project Location: Sunland Park, NM

Enclosed are the Analytical Results and Quality Control Data Reports for the following samples submitted to Trace-Analysis, Inc.

Sample	Description	Matrix	Date Taken	Time Taken	Date Received
160562	MW-15	Water	12/7/00	12:35	12/12/00
160563	MW-9S	Water	12/7/00	13:27	12/12/00
160564	MW-6D	Water	12/7/00	14:48	12/12/00
160565	MW-6S	Water	12/7/00	15:19	12/12/00
160566	MW-3D	Water	12/7/00	12:18	12/12/00
160567	MW-3S	Water	12/7/00	13:04	12/12/00
160568	RIV-Down	Water	12/7/00	13:23	12/12/00
160569	MW-4	Water	12/7/00	14:09	12/12/00
160570	MW-14	Water	12/7/00	15:05	12/12/00
160571	MW-7	Water	12/7/00	15:40	12/12/00
160572	RIV-UP	Water	12/7/00	16:10	12/12/00
160573	Dup	Water	12/7/00	:	12/12/00
160574	Trip Blank	Water	12/7/00	:	12/12/00

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

Dr. Blair Leftwich, Director

Analytical and Quality Control Report

Sample: 160562 - MW-15

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07712	Date Analyzed:	12/21/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06745	Date Prepared:	12/21/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.486	mg/L	5	0.10	97	72 - 128
4-BFB		0.403	mg/L	5	0.10	80	72 - 128

Sample: 160563 - MW-9S

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07712	Date Analyzed:	12/21/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06745	Date Prepared:	12/21/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.479	mg/L	5	0.10	96	72 - 128
4-BFB		0.402	mg/L	5	0.10	80	72 - 128

Sample: 160564 - MW-6D

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07712	Date Analyzed:	12/21/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06745	Date Prepared:	12/21/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.477	mg/L	5	0.10	96	72 - 128

Continued ...

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
4-BFB		0.402	mg/L	5	0.10	80	72 - 128

Sample: 160565 - MW-6S

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07712	Date Analyzed:	12/21/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06745	Date Prepared:	12/21/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.476	mg/L	5	0.10	95	72 - 128
4-BFB		0.402	mg/L	5	0.10	80	72 - 128

Sample: 160566 - MW-3D

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07712	Date Analyzed:	12/21/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06745	Date Prepared:	12/21/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.51	mg/L	5	0.10	102	72 - 128
4-BFB		0.409	mg/L	5	0.10	82	72 - 128

Sample: 160567 - MW-3S

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07714	Date Analyzed:	12/22/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06747	Date Prepared:	12/22/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.463	mg/L	5	0.10	92	72 - 128
4-BFB		0.436	mg/L	5	0.10	87	72 - 128

Sample: 160568 - RIV-Down

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07714	Date Analyzed:	12/22/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06747	Date Prepared:	12/22/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.466	mg/L	5	0.10	93	72 - 128
4-BFB		0.436	mg/L	5	0.10	87	72 - 128

Sample: 160569 - MW-4

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07713	Date Analyzed:	12/21/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06746	Date Prepared:	12/21/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		1.12	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		0.034	mg/L	5	0.001
Total BTEX		1.15	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.424	mg/L	5	0.10	84	72 - 128
4-BFB		0.46	mg/L	5	0.10	92	72 - 128

Sample: 160570 - MW-14

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07713	Date Analyzed:	12/21/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06746	Date Prepared:	12/21/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		2.63	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		2.63	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.491	mg/L	5	0.10	98	72 - 128
4-BFB		0.439	mg/L	5	0.10	87	72 - 128

Sample: 160571 - MW-7

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07483	Date Analyzed:	12/16/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06538	Date Prepared:	12/16/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.005	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		<0.005	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.459	mg/L	1	0.10	92	72 - 128
4-BFB		0.428	mg/L	1	0.10	86	72 - 128

Sample: 160572 - RIV-UP

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07483	Date Analyzed:	12/16/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06538	Date Prepared:	12/16/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.098	mg/L	1	0.10	98	72 - 128
4-BFB		0.088	mg/L	1	0.10	88	72 - 128

Sample: 160573 - Dup

Analysis:	BTEX	Analytical Method:	S 8021B	QC Batch:	QC07483	Date Analyzed:	12/16/00
Analyst:	RC	Preparation Method:	5035	Prep Batch:	PB06538	Date Prepared:	12/16/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		1.05	mg/L	5	0.001
Toluene		<0.005	mg/L	5	0.001
Ethylbenzene		<0.005	mg/L	5	0.001
M,P,O-Xylene		<0.005	mg/L	5	0.001
Total BTEX		1.05	mg/L	5	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.464	mg/L	1	0.10	93	72 - 128
4-BFB		0.458	mg/L	1	0.10	92	72 - 128

Sample: 160574 - Trip Blank

Analysis: BTEX Analytical Method: S 8021B QC Batch: QC07483 Date Analyzed: 12/16/00
Analyst: RC Preparation Method: 5035 Prep Batch: PB06538 Date Prepared: 12/16/00

Param	Flag	Result	Units	Dilution	RDL
Benzene		<0.001	mg/L	1	0.001
Toluene		<0.001	mg/L	1	0.001
Ethylbenzene		<0.001	mg/L	1	0.001
M,P,O-Xylene		<0.001	mg/L	1	0.001
Total BTEX		<0.001	mg/L	1	0.001

Surrogate	Flag	Result	Units	Dilution	Spike Amount	Percent Recovery	Recovery Limits
TFT		0.102	mg/L	1	0.10	102	72 - 128
4-BFB		0.093	mg/L	1	0.10	93	72 - 128

Quality Control Report
Method Blank

Sample: Method Blank

QCBatch: QC07483

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Sample: Method Blank

QCBatch: QC07712

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
TFT		0.092	mg/L	0.10	92	72 - 128

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Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
4-BFB		0.127	mg/L	0.10	127	72 - 128

Sample: Method Blank QCBatch: QC07713

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Sample: Method Blank QCBatch: QC07714

Param	Flag	Results	Units	Reporting Limit
Benzene		<0.001	mg/L	0.001
Toluene		<0.001	mg/L	0.001
Ethylbenzene		<0.001	mg/L	0.001
M,P,O-Xylene		<0.001	mg/L	0.001
Total BTEX		<0.001	mg/L	0.001

Surrogate	Flag	Result	Units	Spike Amount	Percent Recovery	Recovery Limit
TFT		0.096	mg/L	0.10	96	72 - 128
4-BFB		0.092	mg/L	0.10	92	72 - 128

Quality Control Report
Lab Control Spikes and Duplicate Spikes

Sample: LCS QC Batch: QC07483

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.11	mg/L	1	0.10	<0.001	110		80 - 120	20
Benzene		0.103	mg/L	1	0.10	<0.001	103		80 - 120	20
Toluene		0.099	mg/L	1	0.10	<0.001	99		80 - 120	20
Ethylbenzene		0.099	mg/L	1	0.10	<0.001	99		80 - 120	20
M,P,O-Xylene		0.273	mg/L	1	0.30	<0.001	91		80 - 120	20

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Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.104	mg/L	1	0.10	104	72 - 128
4-BFB		0.097	mg/L	1	0.10	97	72 - 128

Sample: LCSD

QC Batch: QC07483

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.101	mg/L	1	0.10	<0.001	101	8	80 - 120	20
Benzene		0.095	mg/L	1	0.10	<0.001	95	8	80 - 120	20
Toluene		0.091	mg/L	1	0.10	<0.001	91	8	80 - 120	20
Ethylbenzene		0.092	mg/L	1	0.10	<0.001	92	7	80 - 120	20
M,P,O-Xylene		0.251	mg/L	1	0.30	<0.001	83	8	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.1	mg/L	1	0.10	100	72 - 128
4-BFB		0.092	mg/L	1	0.10	92	72 - 128

Sample: LCS

QC Batch: QC07712

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.106	mg/L	1	0.10	<0.001	106		80 - 120	20
Benzene		0.104	mg/L	1	0.10	<0.001	104		80 - 120	20
Toluene		0.101	mg/L	1	0.10	<0.001	101		80 - 120	20
Ethylbenzene		0.104	mg/L	1	0.10	<0.001	104		80 - 120	20
M,P,O-Xylene		0.309	mg/L	1	0.30	<0.001	103		80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.1	mg/L	1	0.10	100	72 - 128
4-BFB		0.114	mg/L	1	0.10	114	72 - 128

Sample: LCSD

QC Batch: QC07712

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.109	mg/L	1	0.10	<0.001	109	3	80 - 120	20
Benzene		0.104	mg/L	1	0.10	<0.001	104	0	80 - 120	20

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Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
Toluene		0.101	mg/L	1	0.10	<0.001	101	0	80 - 120	20
Ethylbenzene		0.107	mg/L	1	0.10	<0.001	107	3	80 - 120	20
M,P,O-Xylene		0.326	mg/L	1	0.30	<0.001	108	5	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.099	mg/L	1	0.10	99	72 - 128
4-BFB		0.119	mg/L	1	0.10	119	72 - 128

Sample: LCS

QC Batch: QC07713

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.1	mg/L	1	0.10	<0.001	100	3	80 - 120	20
Benzene		0.097	mg/L	1	0.10	<0.001	97	0	80 - 120	20
Toluene		0.097	mg/L	1	0.10	<0.001	97	0	80 - 120	20
Ethylbenzene		0.096	mg/L	1	0.10	<0.001	96	3	80 - 120	20
M,P,O-Xylene		0.286	mg/L	1	0.30	<0.001	95	5	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.089	mg/L	1	0.10	89	72 - 128
4-BFB		0.104	mg/L	1	0.10	104	72 - 128

Sample: LCSD

QC Batch: QC07713

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.099	mg/L	1	0.10	<0.001	99	1	80 - 120	20
Benzene		0.098	mg/L	1	0.10	<0.001	98	1	80 - 120	20
Toluene		0.096	mg/L	1	0.10	<0.001	96	1	80 - 120	20
Ethylbenzene		0.098	mg/L	1	0.10	<0.001	98	2	80 - 120	20
M,P,O-Xylene		0.292	mg/L	1	0.30	<0.001	97	2	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.09	mg/L	1	0.10	90	72 - 128
4-BFB		0.107	mg/L	1	0.10	107	72 - 128

Sample: LCS

QC Batch: QC07714

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.107	mg/L	1	0.10	<0.001	107	1	80 - 120	20
Benzene		0.116	mg/L	1	0.10	<0.001	116	2	80 - 120	20
Toluene		0.106	mg/L	1	0.10	<0.001	106	2	80 - 120	20
Ethylbenzene		0.1	mg/L	1	0.10	<0.001	100	4	80 - 120	20
M,P,O-Xylene		0.307	mg/L	1	0.30	<0.001	102	5	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.097	mg/L	1	0.10	97	72 - 128
4-BFB		0.097	mg/L	1	0.10	97	72 - 128

Sample: LCSD QC Batch: QC07714

Param	Flag	Sample Result	Units	Dil.	Spike Amount Added	Matrix Result	% Rec.	RPD	% Rec. Limit	RPD Limit
MTBE		0.117	mg/L	1	0.10	<0.001	117	9	80 - 120	20
Benzene		0.124	mg/L	1	0.10	<0.001	124	7	80 - 120	20
Toluene		0.115	mg/L	1	0.10	<0.001	115	8	80 - 120	20
Ethylbenzene		0.108	mg/L	1	0.10	<0.001	108	8	80 - 120	20
M,P,O-Xylene		0.332	mg/L	1	0.30	<0.001	110	8	80 - 120	20

Surrogate	Flag	Result	Units	Dil.	Spike Amount	% Rec.	% Rec. Limit
TFT		0.099	mg/L	1	0.10	99	72 - 128
4-BFB		0.099	mg/L	1	0.10	99	72 - 128

Quality Control Report
Continuing Calibration Verification Standards

Sample: CCV (1) QC Batch: QC07483

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.1	100	80 - 120	12/16/00
Benzene		mg/L	0.10	0.098	98	80 - 120	12/16/00
Toluene		mg/L	0.10	0.093	93	80 - 120	12/16/00
Ethylbenzene		mg/L	0.10	0.095	95	80 - 120	12/16/00
M,P,O-Xylene		mg/L	0.30	0.25	83	80 - 120	12/16/00

Sample: CCV (2) QC Batch: QC07483

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.105	105	80 - 120	12/16/00
Benzene		mg/L	0.10	0.098	98	80 - 120	12/16/00
Toluene		mg/L	0.10	0.093	93	80 - 120	12/16/00
Ethylbenzene		mg/L	0.10	0.095	95	80 - 120	12/16/00
M,P,O-Xylene		mg/L	0.30	0.25	83	80 - 120	12/16/00

Sample: ICV (1)

QC Batch: QC07483

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.119	119	80 - 120	12/16/00
Benzene		mg/L	0.10	0.108	108	80 - 120	12/16/00
Toluene		mg/L	0.10	0.104	104	80 - 120	12/16/00
Ethylbenzene		mg/L	0.10	0.103	103	80 - 120	12/16/00
M,P,O-Xylene		mg/L	0.30	0.286	95	80 - 120	12/16/00

Sample: CCV (1)

QC Batch: QC07712

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.106	106	80 - 120	12/21/00
Benzene		mg/L	0.10	0.105	105	80 - 120	12/21/00
Toluene		mg/L	0.10	0.103	103	80 - 120	12/21/00
Ethylbenzene		mg/L	0.10	0.102	102	80 - 120	12/21/00
M,P,O-Xylene		mg/L	0.30	0.297	99	80 - 120	12/21/00

Sample: CCV (2)

QC Batch: QC07712

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.1	100	80 - 120	12/21/00
Benzene		mg/L	0.10	0.098	98	80 - 120	12/21/00
Toluene		mg/L	0.10	0.094	94	80 - 120	12/21/00
Ethylbenzene		mg/L	0.10	0.096	96	80 - 120	12/21/00
M,P,O-Xylene		mg/L	0.30	0.274	91	80 - 120	12/21/00

Sample: ICV (1)

QC Batch: QC07712

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.12	120	80 - 120	12/21/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.10	0.103	103	80 - 120	12/21/00
Toluene		mg/L	0.10	0.102	102	80 - 120	12/21/00
Ethylbenzene		mg/L	0.10	0.116	116	80 - 120	12/21/00
M,P,O-Xylene		mg/L	0.30	0.345	115	80 - 120	12/21/00

Sample: CCV (1)

QC Batch: QC07713

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.099	99	80 - 120	12/21/00
Benzene		mg/L	0.10	0.095	95	80 - 120	12/21/00
Toluene		mg/L	0.10	0.092	92	80 - 120	12/21/00
Ethylbenzene		mg/L	0.10	0.093	93	80 - 120	12/21/00
M,P,O-Xylene		mg/L	0.30	0.274	91	80 - 120	12/21/00

Sample: CCV (2)

QC Batch: QC07713

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.086	86	80 - 120	12/21/00
Benzene		mg/L	0.10	0.086	86	80 - 120	12/21/00
Toluene		mg/L	0.10	0.083	83	80 - 120	12/21/00
Ethylbenzene		mg/L	0.10	0.082	82	80 - 120	12/21/00
M,P,O-Xylene		mg/L	0.30	0.244	81	80 - 120	12/21/00

Sample: ICV (1)

QC Batch: QC07713

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.094	94	80 - 120	12/21/00
Benzene		mg/L	0.10	0.094	94	80 - 120	12/21/00
Toluene		mg/L	0.10	0.093	93	80 - 120	12/21/00
Ethylbenzene		mg/L	0.10	0.092	92	80 - 120	12/21/00
M,P,O-Xylene		mg/L	0.30	0.274	91	80 - 120	12/21/00

Sample: CCV (1)

QC Batch: QC07714

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.102	102	80 - 120	12/21/00

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Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
Benzene		mg/L	0.10	0.108	108	80 - 120	12/24/00
Toluene		mg/L	0.10	0.096	96	80 - 120	12/24/00
Ethylbenzene		mg/L	0.10	0.094	94	80 - 120	12/24/00
M,P,O-Xylene		mg/L	0.30	0.272	90	80 - 120	12/24/00

Sample: CCV (2)

QC Batch: QC07714

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.103	103	80 - 120	12/24/00
Benzene		mg/L	0.10	0.116	116	80 - 120	12/24/00
Toluene		mg/L	0.10	0.106	106	80 - 120	12/24/00
Ethylbenzene		mg/L	0.10	0.099	99	80 - 120	12/24/00
M,P,O-Xylene		mg/L	0.30	0.304	101	80 - 120	12/24/00

Sample: ICV (1)

QC Batch: QC07714

Param	Flag	Units	CCVs True Conc.	CCVs Found Conc.	CCVs Percent Recovery	Percent Recovery Limits	Date Analyzed
MTBE		mg/L	0.10	0.114	114	80 - 120	12/24/00
Benzene		mg/L	0.10	0.119	119	80 - 120	12/24/00
Toluene		mg/L	0.10	0.109	109	80 - 120	12/24/00
Ethylbenzene		mg/L	0.10	0.103	103	80 - 120	12/24/00
M,P,O-Xylene		mg/L	0.30	0.316	105	80 - 120	12/24/00

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID # A00121201

Company Name: Terracon
Phone #: (505) 527-1700
Address: (Street, City, Zip) PO Box 5067 / 4200 S. Research Dr., Bldg C, Las Cruces, NM 88003
Fax #: (505) 527-1092
Contact Person: LINDA RIGGINS
Invoice to: (If different from above) Huntsman Polymers Cooperation
Project #: 66997611
Project Name: Former Brickland Refinery
Project Location: Sunland Park, NM
Sampler Signature: Linda Riggins

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	Chemical	SAMPLING: DATE	TIME
160562	MW15	3	40ml	X									X		X	12/7	12:35
63	MW9S	3	40ml	X									X		X	12/7	1:27
64	MW6D	3	40ml	X									X		X	12/7	2:48
65	MW6S	3	40ml	X									X		X	12/7	3:19
66	MW3D	3	40ml	X									X		X	12/8	12:18
67	MW3S	3	40ml	X									X		X	12/8	1:04
68	RIV-DOWN	3	40ml	X									X		X	12/8	1:23
69	MW4	3	40ml	X									X		X	12/8	2:09
70	MW14	3	40ml	X									X		X	12/8	3:05
71	[redacted] MW7	3	40ml	X									X		X	12/8	3:40
72	RIV-UP	3	40ml	X									X		X	12/8	4:10

ANALYSIS REQUEST

(Circle or Specify Method No.)

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

Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Linda Riggins	12/11/00	2:15	[signature]	12/11/00	1415
Relinquished by:	Date:	Time:	Received by:	Date:	Time:
Relinquished by:	Date:	Time:	Received at Laboratory by:	Date:	Time:
[signature]	12/11/00	16:00	Vicki Dudley	12-12-00	10:00 am

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

LAB USE ONLY

Intact Y / N
Headspace Y / N
Temp 4 °
Log-in Review [signature]

REMARKS:

1/3

Carrier # Walk-in

6701 Aberdeen Avenue, Ste. 9
Lubbock, Texas 79424
Tel (806) 794-1296
Fax (806) 794-1298
1 (800) 378-1296

TraceAnalysis, Inc.

4725 Ripley Dr., Ste A
El Paso, Texas 79922-1028
Tel (915) 585-3443
Fax (915) 585-4944
1 (888) 588-3443

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

LAB Order ID #

Company Name: Terracon
Phone #: (505) 527-1700
Address: (Street, City, Zip) PO Box 5067/4200 S. Research Dr, Bldg C, Las Cruces, NM, 88003
Fax #: (505) 527-1092
Contact Person: LINDA RIGGINS
Invoice to: (If different from above) Huntsman Polymers Corporation
Project #: 66997611
Project Name: Former Brickland Refinery
Project Location: Sunland Park, NM
Sampler Signature: Linda Riggins

LAB # (LAB USE ONLY)	FIELD CODE	# CONTAINERS	Volume/Amount	MATRIX: WATER	SOIL	AIR	SLUDGE	PRESERVATIVE METHOD: HCL	HNO3	NaHSO4	H2SO4	NaOH	ICE	NONE	Chemical	SAMPLING: DATE	TIME
160573	DUP	3	40ml	X									X		X	12/8	
74	TRIP BLANK	2	40ml	X									X				

ANALYSIS REQUEST
(Circle or Specify Method No.)

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

Relinquished by: Linda Riggins Date: 12/11/00 Time: 2:15
Received by: Date: 12/11/00 Time: 1415
Relinquished by: Date: Time:
Received by: Date: Time:
Relinquished by: June Irene Date: 12-11-00 Time: 16:00
Received at Laboratory by: Vicki Hensley Date: 12/12/00 Time: 10:00

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

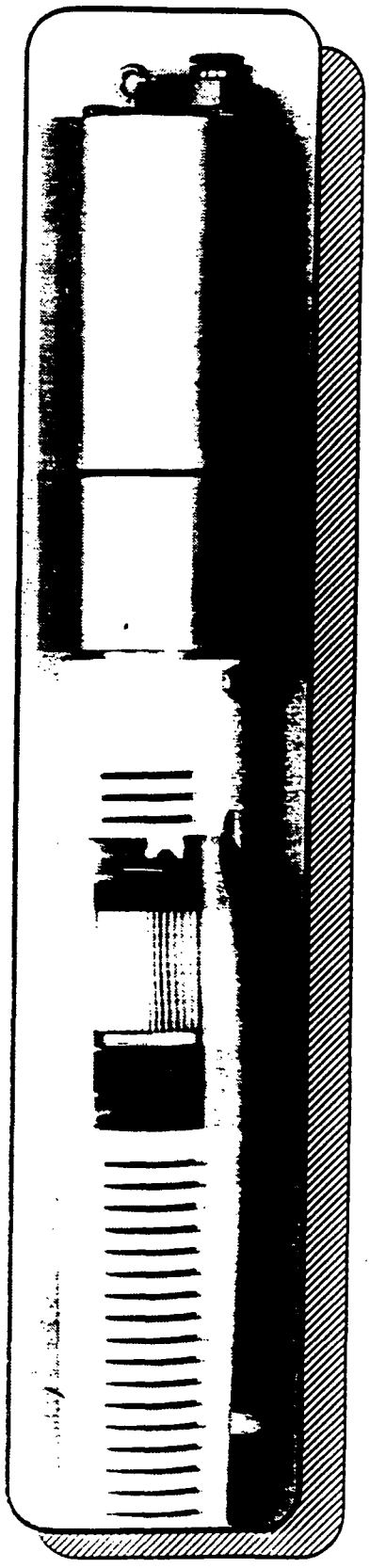
LAB USE ONLY
Intact Y / N
Headspace Y / N
Temp 4 °
Log-in Review MS

REMARKS:
Please return blue
cc DG 12/11

Carrier # WAVE - N

4" LNAPL Recovery Skimmer

The ADJ1000 Skimmer removes product ONLY down to a sheen, operates on bottled gas, is intrinsically safe, and can be installed in less than 1 hour. The ADJ1000 requires no above ground controls to operate. Requires a 4" well diameter, has 30 inches of float travel, uses a dual entry hydrophobic filter, pumps over 25 GPH, and consumes less than .5 CFM of air. The Optional Xitech Programmable Site Managers provide intermittent pumping control for the ADJ1000 Skimmer, continuous electronic monitoring of the high level tank shutoff sensor, displays total run time of system, and operate on a 12DC/120AC/220AC power sources.

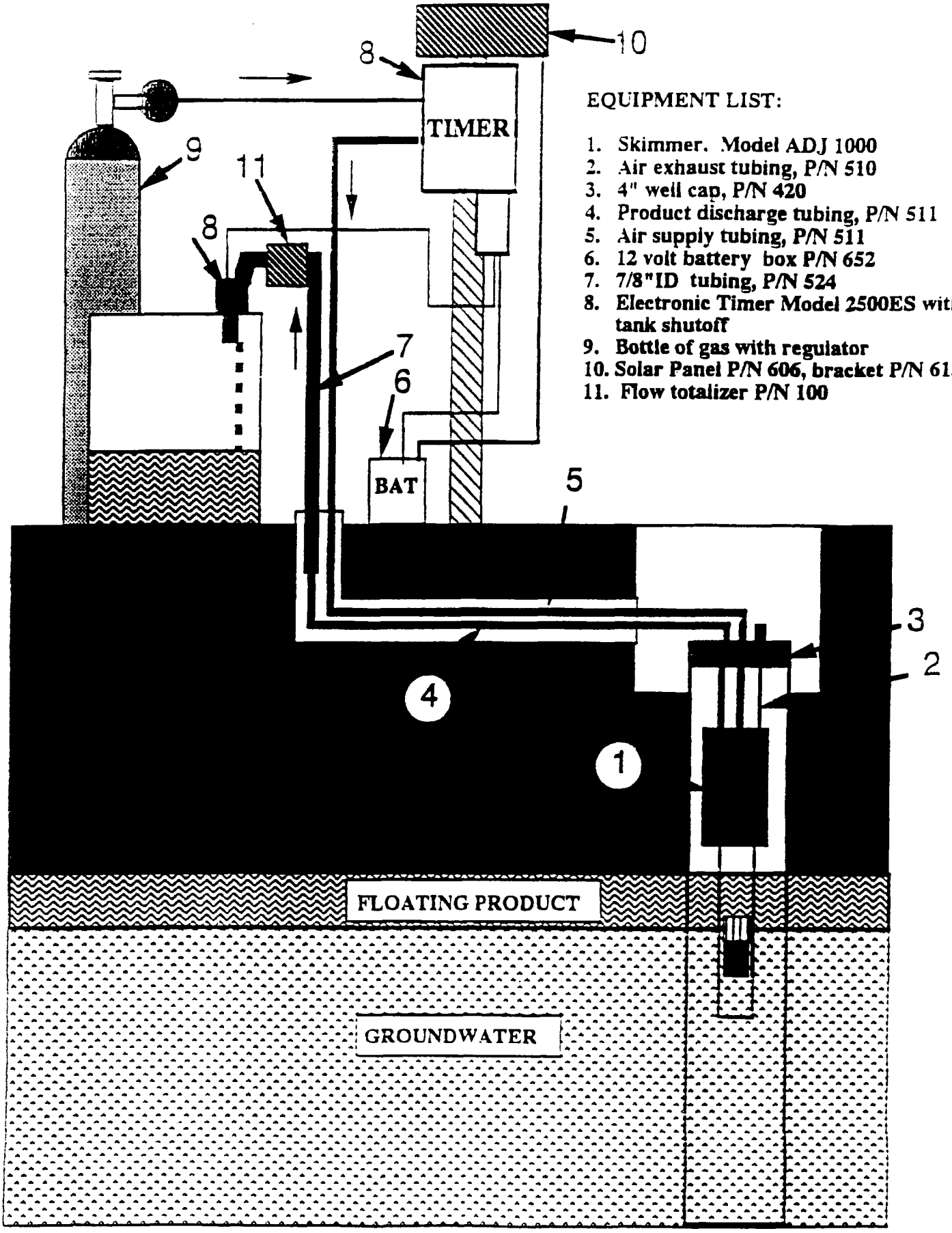


Specifications

Pumping range from 5-25 GPH
Skimmer float travel: 30 inches
Operating pressure range: 35-125 PSIG
Maximum operating well depth: 200 feet
Max air requirements: .5 CFM@125 PSIG
Air quality requirements: 5-10 Microns
Size: 3-1/2" DIA. X 48" L
Weight: 11 LBS
Materials : PVC, SST, Viton, Buna, Al
Order No. **ADJ1000**

U.S. Patent# 5,326,458

XITECH LNAPL RECOVERY SYSTEM
Without the use of AC Power



EQUIPMENT LIST:

1. Skimmer. Model ADJ 1000
2. Air exhaust tubing, P/N 510
3. 4" well cap, P/N 420
4. Product discharge tubing, P/N 511
5. Air supply tubing, P/N 511
6. 12 volt battery box P/N 652
7. 7/8"ID tubing, P/N 524
8. Electronic Timer Model 2500ES with tank shutoff
9. Bottle of gas with regulator
10. Solar Panel P/N 606, bracket P/N 613
11. Flow totalizer P/N 100

2500ES Electronic Timer with Tank Shut-off

Without the use of AC power

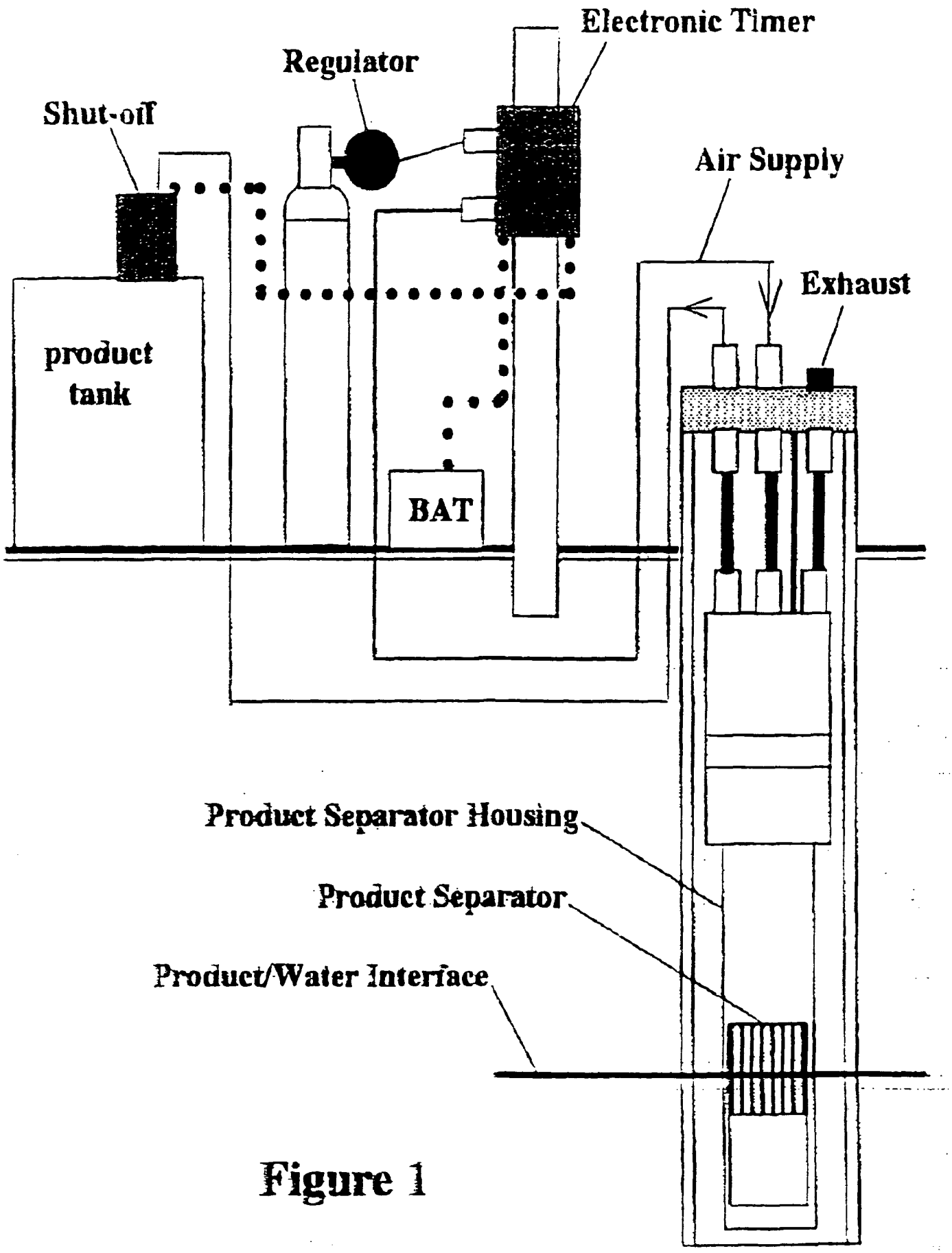


Figure 1

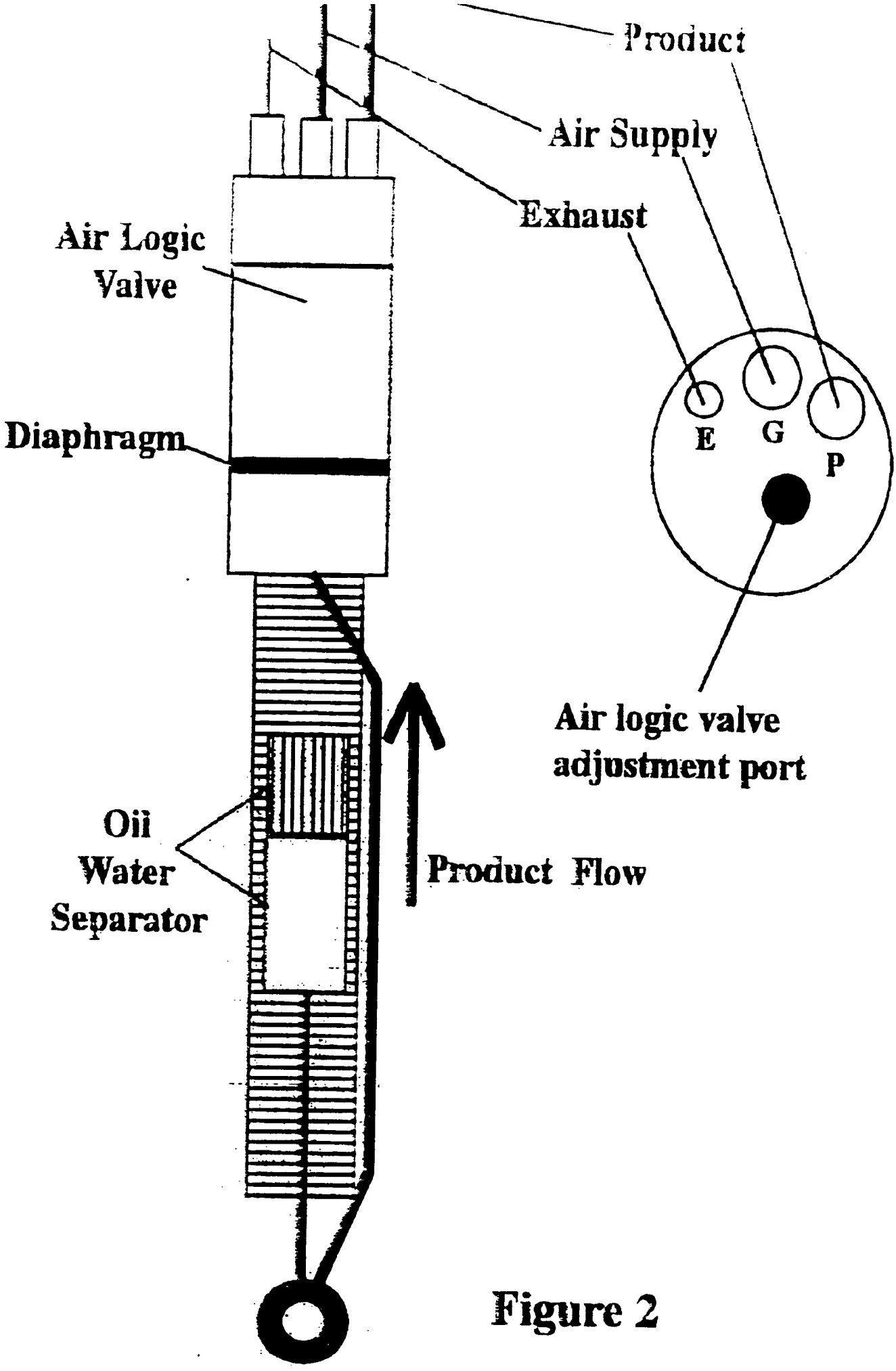

Product
Air Supply
Exhaust
Air Logic
Valve
Diaphragm
E
G
P
Air logic valve
adjustment port
Oil
Water
Separator
Product Flow

Figure 2

2500ES Electronic Timer

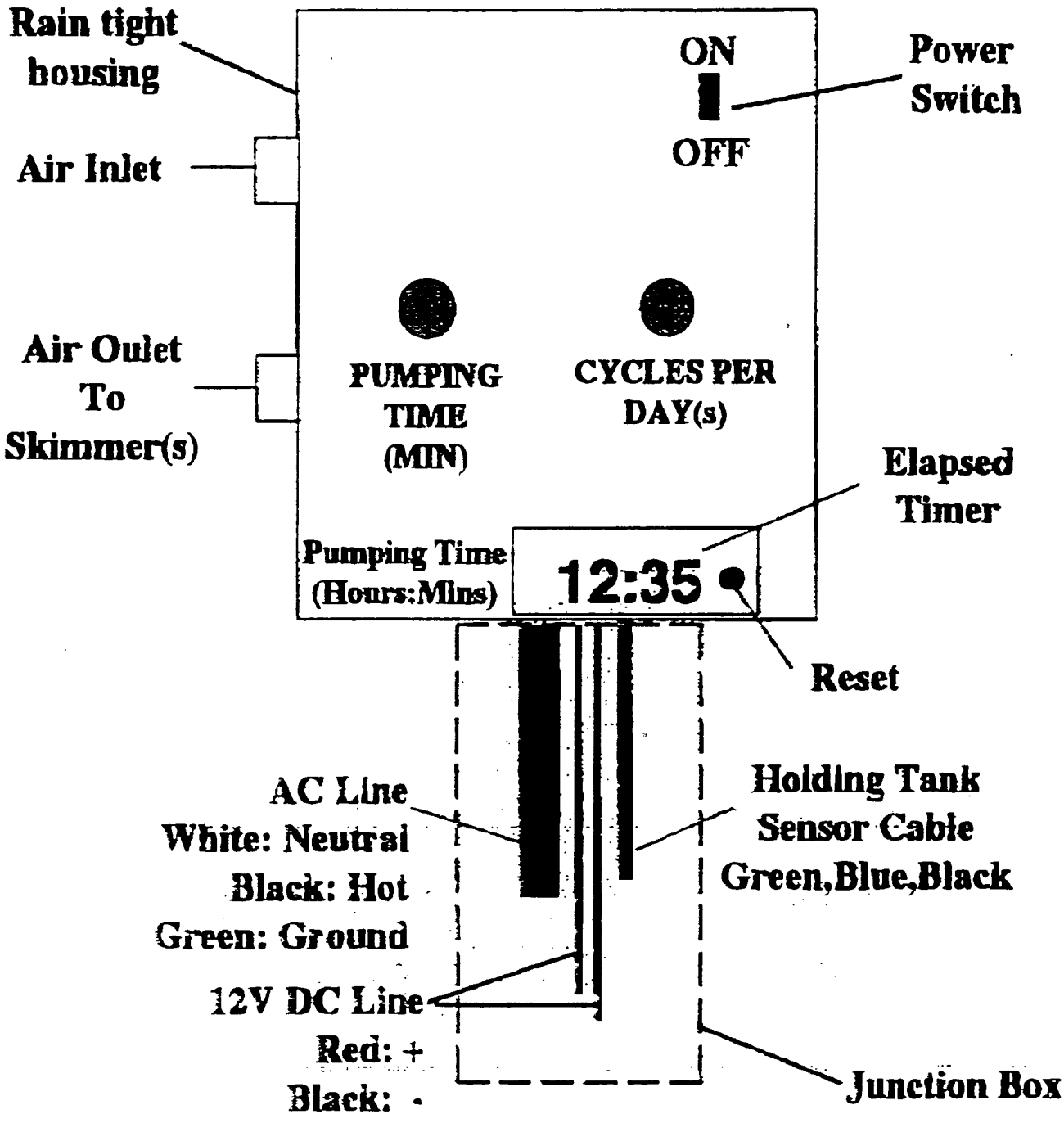


Figure 3