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Date: October 14, 2005

ARCO QUARTERLY GROUNDWATER MONITORING REPORT

Facility No.: 1919 Address:	660 Via de la Valle, Solana Beach, CA
ARCO Environmental Engineer :	Roy Thun
Consulting Co./Contact Person:	SECOR/Marci J. Richards and Bradley Eisenberg
SECOR Project No.:	08BP.U1919.05
Primary Agency/Regulatory ID No.:	County of San Diego, Departmental of Environmental Health (DEH), Land and Water Quality Division, Site Assessment and Mitigation Program (SAM), Danny Martinez/H05166-002

WORK PERFORMED THIS QUARTER [Third - 2005]:

1. Conducted third quarter 2005 groundwater monitoring and sampling.
2. Submitted the second quarter 2005 groundwater monitoring report.
3. Prepared a corrective action plan (CAP)
4. Collected groundwater data to evaluate the potential effectiveness of remediation by natural attenuation (RNA).

WORK PROPOSED FOR NEXT QUARTER [Fourth - 2005]:

1. Conduct fourth quarter 2005 groundwater monitoring and sampling.
2. Submit third quarter 2005 groundwater monitoring report.
3. Submit CAP for agency review
4. Conduct 30-day public notifications for the CAP pending agency approval.

PROFESSIONAL GEOLOGIST
BRADLEY G. EISENBERG
No. 6872
Exp 11/05
STATE OF CALIFORNIA

Current Phase of Project:	Monitoring	(Assessment, Remed., etc.)
Frequency of Sampling:	Quarterly (Well reduction 2nd, 3rd, 4th Quarters)	(Quarterly, etc.)
Frequency of Monitoring:	Quarterly	(Monthly, etc.)
Are Liquid Phase Hydrocarbons Present On-Site:	No	(Yes/No)
Cumulative LPH Recovered to Date:	180	(gallons)
LPH recovered This Quarter:	None	(gallons)
Bulk Soil Removed to Date:	Unknown	(cubic yards)

Date: October 14, 2005

ARCO QUARTERLY GROUNDWATER MONITORING REPORT (Cont'd)
ARCO Facility #1919

Bulk Soil Removed This Quarter:	None	(cubic yards)
Water Wells or Surface Waters within a 2000' Radius & Their Respective Directions:	None	(Distance and Direction)
Current Remediation Techniques:	None	(SVES, LPH Removal, etc.)
Permits for Discharge:	APCD	(NPDES, POTW, etc.)
Approximate Depth to Groundwater	3.24 to 23.91	(Measured Feet)
Groundwater Gradient:	Southwest	(Direction)
	0.005	(Magnitude)
Groundwater Beneficial Use	No (Exempt as Source of Drinking Water)	(Yes/ No)

DISCUSSION: On September 12, 2005 SECOR personnel gauged 18 groundwater monitoring wells and purged and sampled ten groundwater monitoring wells associated with the site (Figure 1), in general accordance with the well sampling reduction program. Field data was documented on the attached monitoring well gauging log and well purging/sampling logs. The depth to water ranged between 3.24 feet below ground surface (bgs) in MW-25 to 23.91 feet bgs in MW-26. Groundwater elevations ranged between 3.85 and 6.43 feet above mean sea level (MSL). Estimated groundwater flow direction was to the southwest at an approximate gradient of 0.005 (Figure 2). Liquid phase hydrocarbons (LPH) were not observed in the wells during the monitoring and sampling event.

In accordance with the attached sampling procedures, SECOR purged and sampled the groundwater monitoring wells. The samples collected from all monitoring wells purged were analyzed for gasoline-range organics (C_6-C_{12}; GRO); for benzene, toluene, ethylbenzene, and total xylenes (BTEX); and for the fuel oxygenates methyl tert-butyl ether (MTBE), ethyl tert-butyl ether (ETBE), di-isopropyl ether (DIPE), tert-amyl methyl ether (TAME), tert-butyl alcohol (TBA), and ethanol. Analytical results are summarized in Tables 2 and 3, and GRO, benzene, and MTBE concentration distribution is shown on Figure 3. Figure 4 depicts a dissolved benzene and MTBE isoconcentration map. Hydrographs showing changes in groundwater elevation and benzene and MTBE concentrations with time are also attached.

The groundwater samples, we're also analyzed for the following parameters to establish a baseline RNA data with the exception of the samples collected from wells MW-19A and MW-22: nitrate, ferrous and ferric iron, sulfate, sulfide, methane, ammonia, and alkalinity. The following parameters were measured in the field: dissolved oxygen (DO), oxidation reduction potential (ORP), specific conductivity (S Cond), pH, and temperature (T). The analytical results are summarized on Table 4. Field measurements are included on the attached sample information logs.

Date: October 14, 2005

ARCO QUARTERLY GROUNDWATER MONITORING REPORT (Cont'd)
ARCO Facility #1919

CONCLUSIONS AND RECOMMENDATIONS: Groundwater elevations were generally approximately one quarter to one half of a foot lower than the previous quarter. Groundwater sample analytical results were generally consistent with previous quarters. Dissolved benzene and/or MTBE concentrations were within the range of pervious results, expect for wells MW-15 and MW-21. The benzene concentration reported in well MW-5 (1,700 micrograms per liter [µg/L]) exceeds the concentrations within the well since 2002, but is within the range of historical benzene concentrations in this well since 2001. The dissolved benzene (490 µg/L) and MTBE (84 µg/L) concentrations reported in well MW-21 exceed the ranges since 2002, but are within the range of historical data in this well since 2000. Reported dissolved MTBE in down gradient wells ME-24 and MW-25 have continued a trend of decreasing concentrations. A discussion of RNA indicator monitoring and sampling results will be provided under separate cover. SECOR recommends the periodic groundwater monitoring and sampling program be changed to semi-annual.

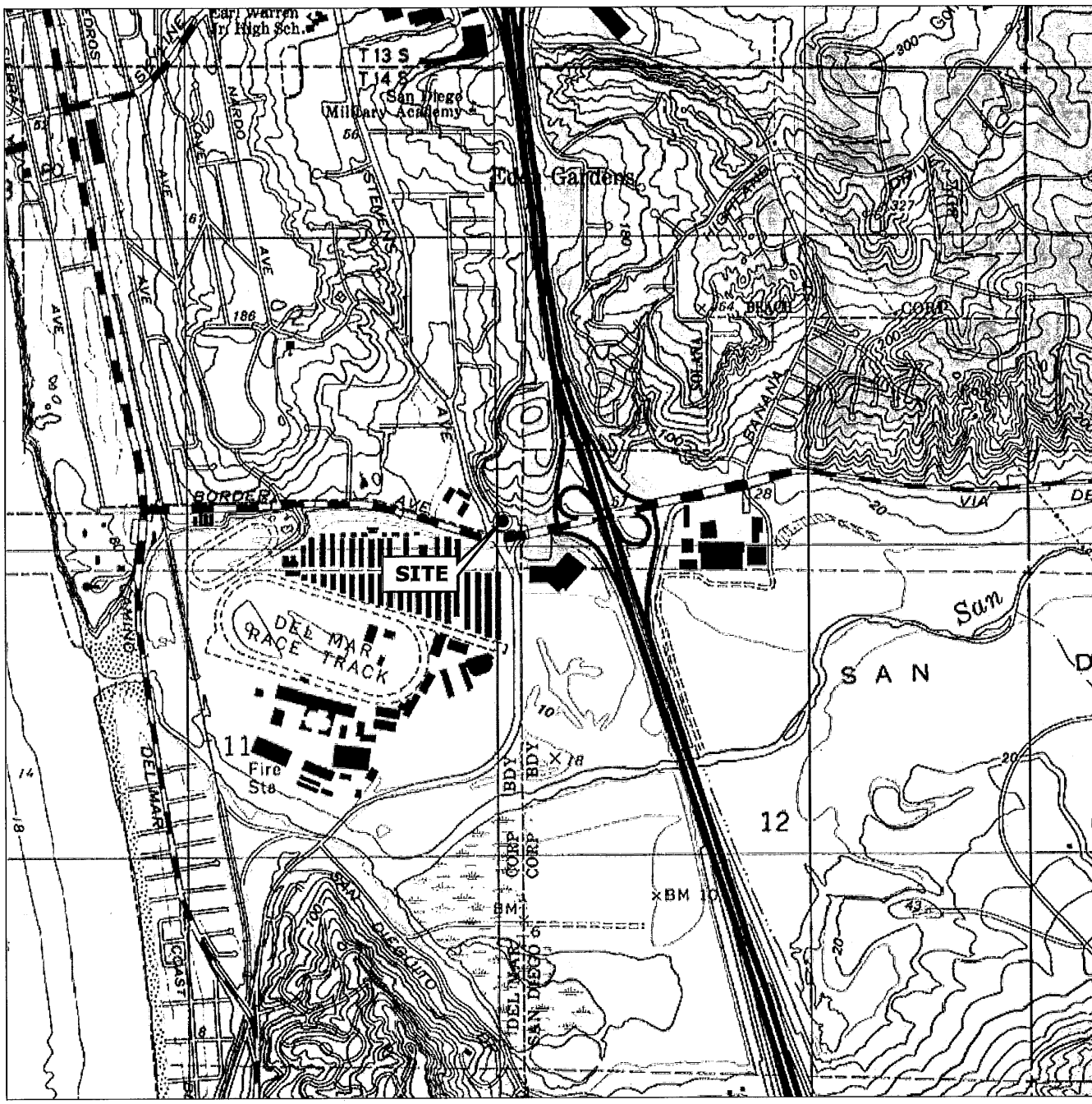
SUMMARY OF UNUSUAL ACTIVITIES: None

AGENCY DIRECTIVE REQUIREMENTS: Conduct purge groundwater sampling.

ATTACHED:

- Site Location Map (Figure 1)
- Site Plan (Figure 2)
- Groundwater Elevation Contour Map, September 12, 2005 (Figure 3)
- GRO, Benzene, and MTBE Concentrations in Groundwater September 12 and 13, 2005 (Figure 4)
- Benzene and MTBE Isoconcentration Map, September 12 and 13, 2005 (Figure 5)
- Summary of Groundwater Elevations, 2002 to Present (Table 1)
- Summary of Groundwater Sample Analytical Results, 2002 to Present (Table 2)
- Summary of Additional Oxygenates Analytical Results, 2002 to Present (Table 3)
- Summary of Baseline Natural Attenuation Data (Table 4)
- Hydrographs
- Monitoring Well Purging and Sampling Procedures – San Diego County
- Monitoring Well Gauging Log
- Well Purging and Sampling Logs
- Laboratory Report and Chain-of-Custody Documentation

cc: Roy Thun, Atlantic Richfield
Larry Bauman, Del Mar Fairgrounds
Paclantic Properties, LLC



REFERENCE: PROFFESIONAL USGS TOPOGRAPHIC SERIES

NORTH

0 2000 4000

APPROXIMATE SCALE IN FEET

SECOR 2655 CAMINO DEL RIO NORTH, SUITE 302 SAN DIEGO, CALIFORNIA PHONE: (619) 296-6195/296-6199 (FAX)	FOR: ARCO FACILITY #1919 660 VIA DE LA VALLE SOLANA BEACH, CALIFORNIA		SITE LOCATION MAP		FIGURE: 1
	JOB NUMBER: 08BP.U1919.05	DRAWN BY: PD	CHECKED BY:	APPROVED BY:	DATE: 10/12/05

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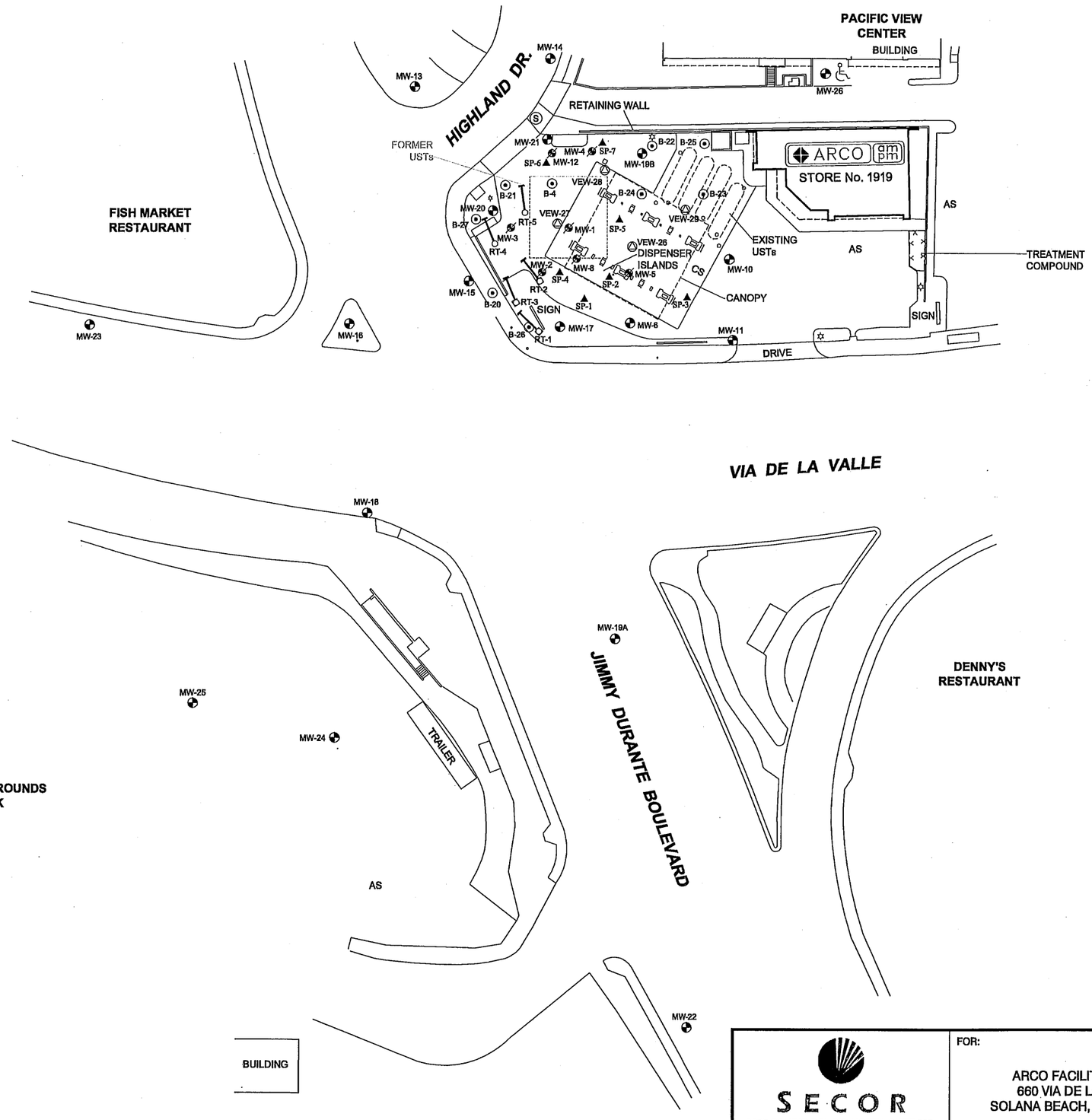
1919SLOC.dwg



LEGEND:

MW-26	GROUNDWATER MONITORING WELL
MW-12	DESTROYED MONITORING WELL
R-3	HORIZONTAL VAPOR EXTRACTION TRENCH
VEW-29	VAPOR EXTRACTION WELL
SP-6	SPARGE WELL
B-22	SOIL BOREHOLE
S	STORM DRAIN
☼	LIGHT POLE
AS	ASPHALT SURFACE
CS	CONCRETE SURFACE
USTs	UNDERGROUND STORAGE TANKS

SOURCE: SOUTHERN CALIFORNIA SURVEY, SEPTEMBER 26, 2003

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660 VIA DE LA VALLE
SOLANA BEACH, CALIFORNIA

SITE PLAN

FIGURE: 2

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
08BP.U1919.05	PD	WW	BGE	10/12/05

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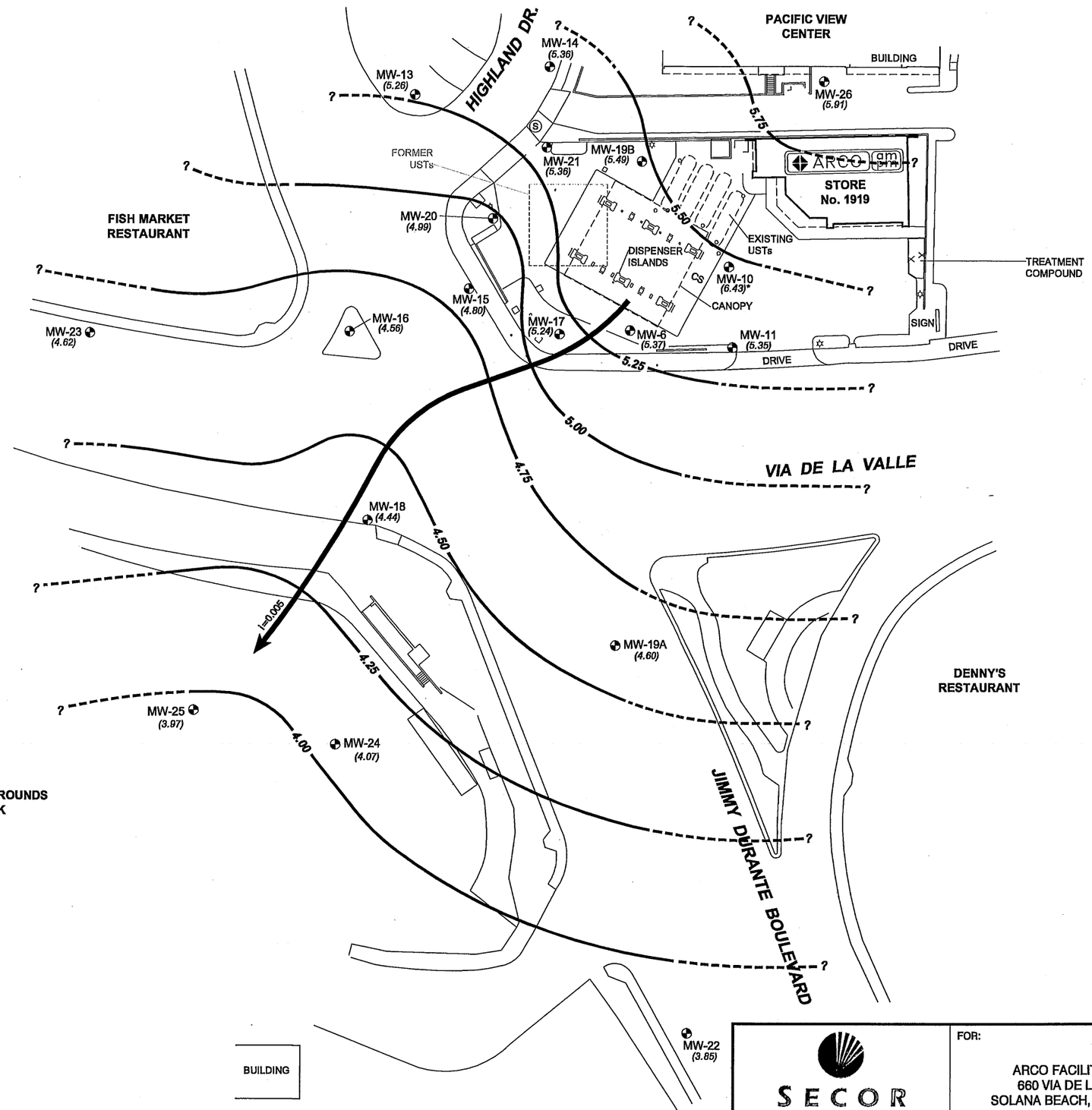

LEGEND:

MW-26	GROUNDWATER MONITORING WELL
(S)	STORM DRAIN
☼	LIGHT POLE
AS	ASPHALT SURFACE
CS	CONCRETE SURFACE
USTs	UNDERGROUND STORAGE TANKS
(4.07)	GROUNDWATER ELEVATION IN FEET ABOVE MEAN SEA LEVEL (MSL)
?---4.50—	ESTIMATED GROUNDWATER ELEVATION CONTOUR IN FEET ABOVE MSL. DASHED WHERE INFERRED. QUERIED WHERE UNKNOWN.
i=0.005	APPROXIMATE DIRECTION OF GROUNDWATER FLOW AND HYDRAULIC GRADIENT (i)
UST	UNDERGROUND STORAGE TANK
[NM]	GROUNDWATER ELEVATION NOT MEASURED- INACCESSIBLE
*	GROUNDWATER ELEVATION WAS NOT USED TO CREATE CONTOUR MAP

0 60 120

APPROXIMATE SCALE (FEET)

REFERENCE:
SOUTHERN CALIFORNIA SURVEY, REPORT DATED SEPTEMBER 26, 2003

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FOR:
ARCO FACILITY #1919
660 VIA DE LA VALLE
SOLANA BEACH, CALIFORNIA

GROUNDWATER ELEVATION CONTOUR MAP, SEPTEMBER 12, 2005

FIGURE: 3

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
08BP.U1919.05	PD			10/12/05

FILEPATH:Q:\CADD-08\PROJECTS 2005\ARCO\1919-2K5\1919GW9-05.DWG|PDODGE|OCT 12, 2005 AT 9:30|LAYOUT: MODEL

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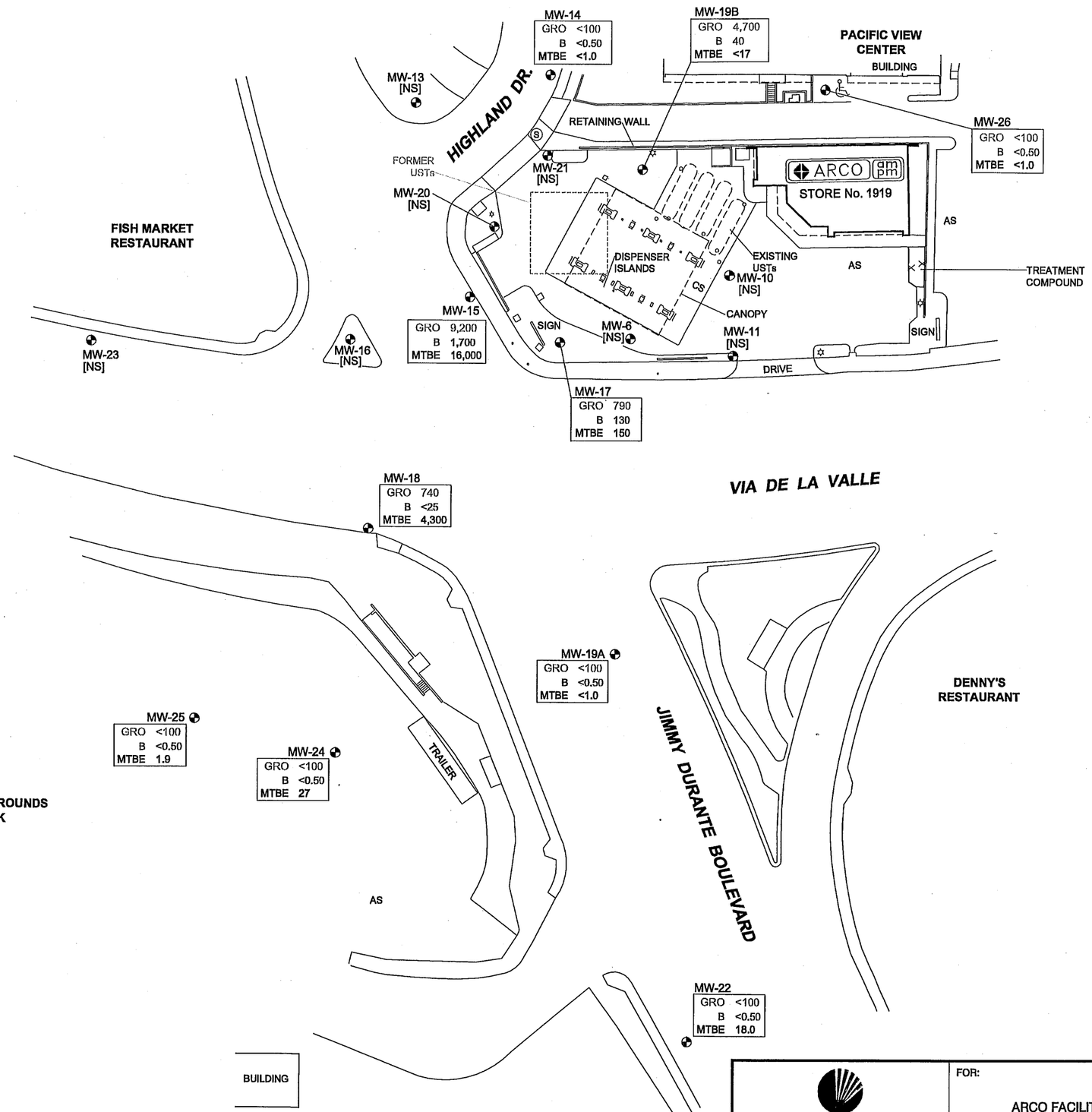

LEGEND:

MW-26	GROUNDWATER MONITORING WELL
(S)	STORM DRAIN
☼	LIGHT POLE
AS	ASPHALT SURFACE
CS	CONCRETE SURFACE
USTs	UNDERGROUND STORAGE TANKS
GRO <100 B <0.50 MTBE <1.0	NO PURGE AND PURGE GROUNDWATER SAMPLE ANALYTICAL CONCENTRATION IN MICROGRAMS PER LITER (μg/L), RESPECTIVELY
GRO	GASOLINE-RANGE ORGANICS C6-C12
B	BENZENE
MTBE	METHYL TERT-BUTYL ETHER
<	BELOW LABORATORY REPORTING LIMIT SHOWN
NS	NOT SAMPLED

0 60 120

APPROXIMATE SCALE (FEET)

REFERENCE:
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FOR:
ARCO FACILITY #1919
660 VIA DE LA VALLE
SOLANA BEACH, CALIFORNIA

GRO, BENZENE, AND MTBE CONCENTRATIONS IN GROUNDWATER SEPTEMBER 12 AND 13, 2005

FIGURE: 4

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
08BP.U1919.05	PD			10/12/05

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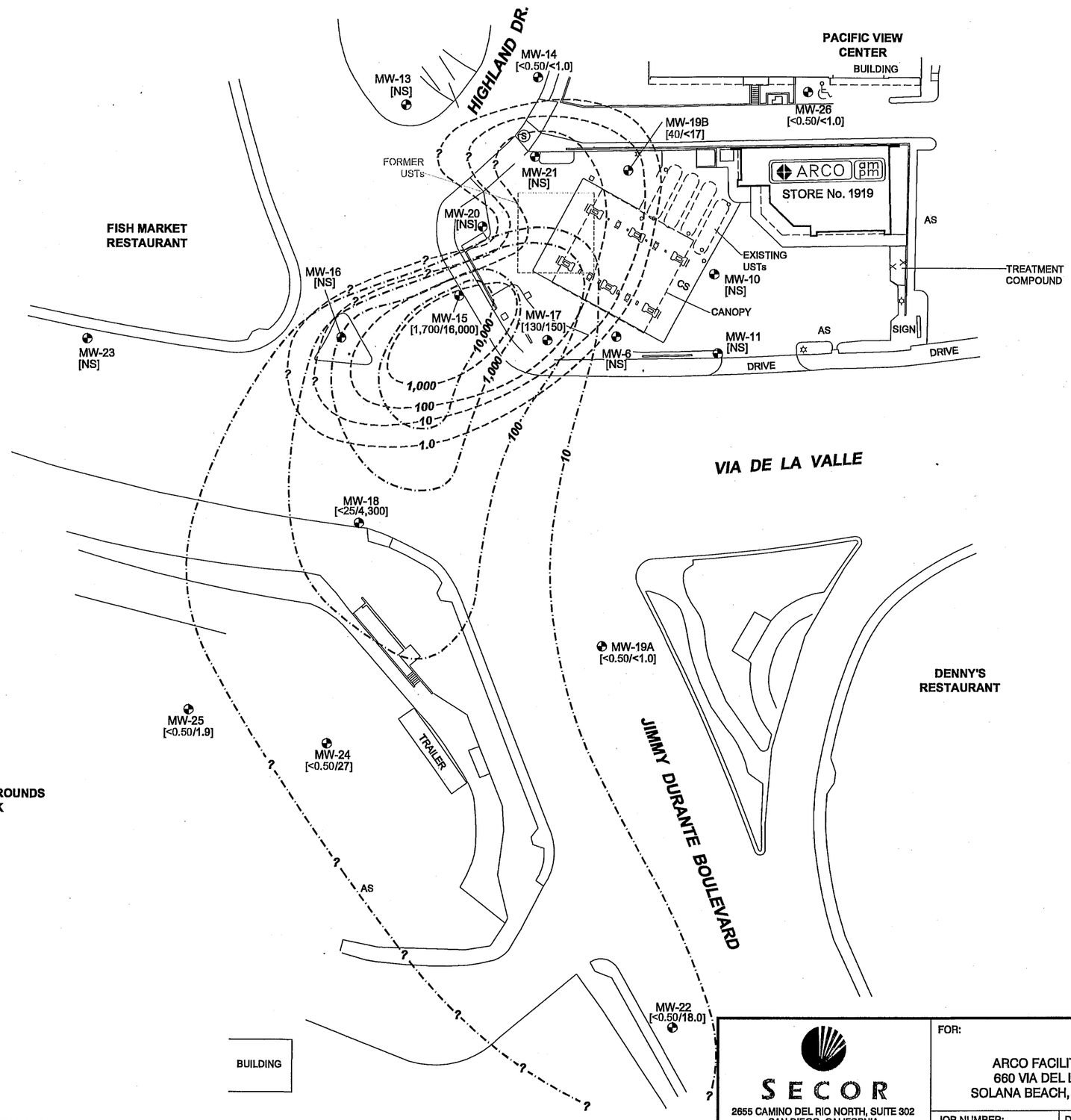

LEGEND:

MW-26	GROUNDWATER MONITORING WELL
(S)	STORM DRAIN
☼	LIGHT POLE
AS	ASPHALT SURFACE
CS	CONCRETE SURFACE
USTs	UNDERGROUND STORAGE TANKS
[<0.50/<1.0]	BENZENE AND MTBE CONCENTRATIONS IN MICROGRAMS PER LITER (μg/L)
10 ?	ESTIMATED BENZENE ISOCONCENTRATION CONTOUR IN μg/L, QUERIED WHERE UNKNOWN
10 ?	ESTIMATED MTBE ISOCONCENTRATION CONTOUR IN μg/L, QUERIED WHERE UNKNOWN
MTBE	METHYL TERT-BUTYL ETHER
<	BELOW LABORATORY REPORTING LIMIT
NS	NOT SAMPLED

0 60 120

APPROXIMATE SCALE (FEET)

REFERENCE:
SOUTHERN CALIFORNIA SURVEY, REPORT DATED SEPTEMBER 26, 2003

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PHONE: (619) 296-6195/296-6199 (FAX)

FOR:
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660 VIA DEL LA VALLE
SOLANA BEACH, CALIFORNIA

BENZENE AND MTBE ISOCONCENTRATION MAP SEPTEMBER 12 AND 13, 2005

FIGURE: 5

JOB NUMBER:	DRAWN BY:	CHECKED BY:	APPROVED BY:	DATE:
08BP.U1919.05	PD	WW	BGE	10/12/05

FILEPATH:Q:\CADD-08\PROJECTS 2005\ARCO\1919-2K5\1919ISO9-05.DWG|PDODGE|OCT 12, 2005 AT 16:31|LAYOUT: MODEL

1919ISO9-05.dwg

TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS, 2002 TO PRESENT
ARCO Facility #1919

Well Identification / Surveyed Well Elevation[1] (Feet MSL)	Date Measured	Depth to Water (Feet)	LPH Thickness (Feet)	Groundwater Elevation[2] (Feet MSL)
MW-1	01/14/93	7.69	0.01	6.33
14.02	02/20/93	7.69	Sheen	6.30
	03/16/93	7.77	Sheen	6.25
	04/14/93	7.64	Sheen	6.38
	05/10/93	7.99	0.03	6.05 [3]
	09/02/93	8.13	0.05	5.93 [3]
	10/01/93	Well Destroyed		
MW-2	01/14/93	6.98	Sheen	5.95
12.93	02/20/93	6.77	Sheen	6.16
	03/16/93	6.72	Sheen	6.21
	04/14/93	6.80	Sheen	6.13
	05/10/93	6.90	Sheen	6.03
	09/02/93	7.08	Sheen	5.85
	10/01/93	Well Destroyed		
MW-3	01/14/93	6.38	0.00	4.17
12.55	04/14/93	6.94	0.00	5.61
	09/02/93	6.99	0.00	5.56
	10/01/93	Well Destroyed		
MW-4	01/14/93	7.28	Sheen	6.06
13.34	02/20/93	7.01	Sheen	6.33
	03/16/93	7.12	Sheen	6.22
	04/14/93	7.14	Sheen	6.20
	05/10/93	7.29	0.00	6.05
	09/02/93	7.37	0.00	5.97
	10/01/93	Well Destroyed		
MW-5	01/14/93	8.56	0.01	5.99 [3]
14.54	02/20/93	8.16	Sheen	6.38
	03/16/93	8.31	0.02	6.25 [3]
	04/14/93	8.47	0.09	6.14 [3]
	05/10/93	8.64	0.16	6.02 [3]
	09/02/93	8.88	0.30	5.88 [3]
	10/01/93	Well Destroyed		
MW-6	01/28/02	10.13	0.00	5.98
16.11	04/17/02	10.10	0.00	6.01
	07/09/02	10.17	0.00	5.94
	10/21/02	10.44	0.00	5.67
	02/21/03	10.27	0.00	5.84
	05/08/03	10.47	0.00	5.64
	07/25/03	10.39	0.00	5.72
15.96	11/21/03	10.66	0.00	5.30
	02/25/04	10.52	0.00	5.44
	06/21/04	10.55	0.00	5.41
	09/13/04	10.78	0.00	5.18
	12/20/04	10.62	0.00	5.34
	03/07/05	9.84	0.00	6.12
	05/16/05	10.28	0.00	5.68
	09/12/05	10.59	0.00	5.37

TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS, 2002 TO PRESENT

ARCO Facility #1919

Well Identification / Surveyed Well Elevation[1] (Feet MSL)	Date Measured	Depth to Water (Feet)	LPH Thickness (Feet)	Groundwater Elevation[2] (Feet MSL)
MW-7	01/14/93	7.00	Sheen	5.47
12.47	02/20/93	6.61	0.29	6.08 [3]
	03/16/93	6.83	0.02	5.66 [3]
	04/14/93	6.88	0.14	5.70 [3]
	05/10/93	6.95	0.03	5.54 [3]
	09/02/93	7.03	Sheen	5.44
	10/01/93	Well Destroyed		
MW-8	01/14/93	7.80	0.01	6.04 [3]
13.83	02/20/93	7.51	Sheen	6.32
	03/16/93	7.61	Sheen	6.22
	04/14/93	7.70	0.02	6.15 [3]
	05/10/93	7.86	0.07	6.02 [3]
	09/02/93	7.99	0.08	5.90 [3]
	10/01/93	Well Destroyed		
MW-10	01/28/02	10.70	0.00	6.04
16.74	04/17/02	10.67	0.00	6.07
	07/09/02	10.73	0.00	6.01
	10/21/02	11.03	0.00	5.71
	02/21/03	10.87	0.00	5.87
	05/08/03	11.04	0.00	5.70
	07/25/03	11.02	0.00	5.72
16.59	11/21/03	11.16	0.00	5.43
	02/25/04	11.16	0.00	5.43
	06/21/04	11.21	0.00	5.38
	09/13/04	11.38	0.00	5.21
	12/20/04	11.21	0.00	5.38
	03/07/05	10.48	0.00	6.11
	05/16/05	10.94	0.00	5.65
	09/12/05	10.16	0.00	6.43
MW-11	01/28/02	7.62	0.00	5.95
13.57	04/17/02	7.55	0.00	6.02
	07/09/02	7.65	0.00	5.92
	10/21/02	7.96	0.00	5.61
	02/21/03	7.78	0.00	5.79
	05/08/03	7.87	0.00	5.70
	07/25/03	7.85	0.00	5.72
13.40	11/21/03	8.17	0.00	5.23
	02/25/04	7.95	0.00	5.45
	06/21/04	7.98	0.00	5.42
	09/13/04	8.22	0.00	5.18
	12/20/04	8.00	0.00	5.40
	03/07/05	7.27	0.00	6.13
	05/16/05	7.74	0.00	5.66
	09/12/05	8.05	0.00	5.35
MW-12	01/14/93	8.20	0.00	6.07
14.27	04/14/93	8.20	0.00	6.07
	09/02/93	8.27	0.00	6.00
	10/01/93	Well Destroyed		

TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS, 2002 TO PRESENT

ARCO Facility #1919

Well Identification / Surveyed Well Elevation[1] (Feet MSL)	Date Measured	Depth to Water (Feet)	LPH Thickness (Feet)	Groundwater Elevation[2] (Feet MSL)
MW-13	01/28/02	6.97	0.00	5.96
12.93	04/17/02	6.95	0.00	5.98
	07/09/02	6.97	0.00	5.96
	10/21/02	7.37	0.00	5.56
	02/21/03	7.28	0.00	5.65
	05/08/03	7.36	0.00	5.57
	07/25/03	7.32	0.00	5.61
12.79	11/21/03	7.63	0.00	5.16
	02/25/04	7.54	0.00	5.25
	06/21/04	7.66	0.00	5.13
	09/13/04	7.67	0.00	5.12
	12/20/04	7.52	0.00	5.27
	03/07/05	6.96	0.00	5.83
	05/16/05	7.35	0.00	5.44
	09/12/05	7.53	0.00	5.26
MW-14	01/28/02	8.14	0.00	6.45
14.59	04/17/02	8.73	0.00	5.86
	07/09/02	8.72	0.00	5.87
	10/21/02	Not Measured - Not Accessible		
	02/21/03	9.08	0.00	5.51
	05/08/03	9.31	0.00	5.28
	07/25/03	9.13	0.00	5.46
14.62	11/21/03	9.31	0.00	5.31
	02/25/04	9.31	0.00	5.31
	06/21/04	9.40	0.00	5.22
	09/13/04	9.47	0.00	5.15
	12/20/04	9.23	0.00	5.39
	03/07/05	8.70	0.00	5.92
	05/16/05	6.08	0.00	8.54
	09/12/05	9.26	0.00	5.36
MW-15	01/28/02	5.88	0.00	5.79
11.67	04/17/02	5.61	0.00	6.06
	07/09/02	5.90	0.00	5.77
	10/21/02	Not Measured - Not Accessible		
	02/21/03	Not Measured - Not Accessible		
	05/08/03	Not Measured - Not Accessible		
	07/25/03	Not Measured - Not Accessible		
11.30	11/21/03	7.05	Sheen	4.25
	02/25/04	6.25	0.00	5.05
	06/21/04	6.40	0.00	4.90
	09/13/04	6.60	0.00	4.70
	12/20/04	6.47	0.00	4.83
	03/07/05	5.43	0.00	5.87
	05/16/05	6.16	0.00	5.14
	09/12/05	6.50	0.00	4.80
MW-16	01/28/02	7.92	0.00	5.19
13.11	04/17/02	7.69	0.00	5.42

TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS, 2002 TO PRESENT

ARCO Facility #1919

Well Identification / Surveyed Well Elevation[1] (Feet MSL)	Date Measured	Depth to Water (Feet)	LPH Thickness (Feet)	Groundwater Elevation[2] (Feet MSL)
MW-16	07/09/02	7.96	0.00	5.15
Cont'd	10/21/02	8.41	0.00	4.70
	02/21/03	7.91	0.00	5.20
	05/08/03	8.08	0.00	5.03
	07/25/03	8.01	0.00	5.10
	11/21/03	8.50	0.00	4.58
	02/25/04	8.28	0.00	4.80
	06/21/04	8.34	0.00	4.74
	09/13/04	8.56	0.00	4.52
13.08	12/20/04	8.48	0.00	4.60
	03/07/05	7.52	0.00	5.56
	05/16/05	8.17	0.00	4.91
	09/12/05	8.52	0.00	4.56
MW-17	01/28/02	9.30	0.00	5.88
15.18	04/17/02	9.21	0.00	5.97
	07/09/02	9.32	0.00	5.86
	10/21/02	9.60	0.00	5.58
	02/21/03	9.39	0.00	5.79
	05/08/03	9.57	0.00	5.61
	07/25/03	9.43	0.00	5.75
15.00	11/21/03	9.96	0.00	5.04
	02/25/04	9.60	0.00	5.40
	06/21/04	9.70	0.00	5.30
	09/13/04	9.91	0.00	5.09
	12/20/04	9.78	0.00	5.22
	03/07/05	8.96	0.00	6.04
	05/16/05	9.48	0.00	5.52
	09/12/05	9.76	0.00	5.24
MW-18	01/28/02	8.73	0.00	5.02
13.75	04/17/02	8.55	0.00	5.20
	07/09/02	8.85	0.00	4.90
	10/21/02	9.24	0.00	4.51
	02/21/03	8.74	0.00	5.01
	05/08/03	8.91	0.00	4.84
	07/25/03	8.78	0.00	4.97
13.74	11/21/03	9.36	0.00	4.38
	02/25/04	9.03	0.00	4.71
	06/21/04	9.18	0.00	4.56
	09/13/04	9.37	0.00	4.37
	12/20/04	9.32	0.00	4.42
	03/07/05	8.22	0.00	5.52
	05/16/05	8.98	0.00	4.76
	09/12/05	9.30	0.00	4.44
*MW-19A	01/28/02	8.27	0.00	5.15
13.42	04/17/02	8.08	0.00	5.34
	07/09/02	8.35	0.00	5.07
	10/21/02	8.68	0.00	4.74

TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS, 2002 TO PRESENT

ARCO Facility #1919

Well Identification / Surveyed Well Elevation[1] (Feet MSL)	Date Measured	Depth to Water (Feet)	LPH Thickness (Feet)	Groundwater Elevation[2](Feet MSL)
*MW-19A	02/21/03	8.24	0.00	5.18
Cont'd	05/08/03	8.39	0.00	5.03
	07/25/03	8.25	0.00	5.17
	11/21/03	8.79	0.00	4.60
13.39	02/25/04	8.45	0.00	4.94
	06/21/04	8.54	0.00	4.85
	09/13/04	8.91	0.00	4.48
	12/20/04	8.76	0.00	4.63
	03/07/05	7.76	0.00	5.63
	05/16/05	8.42	0.00	4.97
	09/12/05	8.79	0.00	4.60
MW-19B	01/28/02	10.76	0.00	6.06
16.82	04/17/02	10.74	0.00	6.08
	07/09/02	10.78	0.00	6.04
	10/21/02	11.14	0.00	5.68
	02/21/03	10.99	0.00	5.83
	05/08/03	11.15	0.00	5.67
	07/25/03	11.08	0.00	5.74
16.67	11/21/03	11.42	0.00	5.25
	02/25/04	11.28	0.00	5.39
	06/21/04	11.36	0.00	5.31
	09/13/04	11.48	0.00	5.19
	12/20/04	11.30	0.00	5.37
	03/07/05	10.62	0.00	6.05
	05/16/05	11.03	0.00	5.64
	09/12/05	11.18	0.00	5.49
MW-20	01/28/02	7.50	0.00	5.88
13.38	04/17/02	7.48	0.00	5.90
	07/09/02	7.59	0.00	5.79
	10/21/02	7.95	0.00	5.43
	02/21/03	7.74	0.00	5.64
	05/08/03	7.87	0.00	5.51
	07/25/03	7.74	0.00	5.64
13.26	11/21/03	8.35	0.00	4.91
	02/25/04	8.12	0.00	5.14
	06/21/04	8.15	0.00	5.11
	09/13/04	8.36	0.00	4.90
	12/20/04	8.19	0.00	5.07
	03/07/05	7.39	0.00	5.87
	05/16/05	7.86	0.00	5.40
	09/12/05	8.27	0.00	4.99
MW-21	01/28/02	7.63	0.00	6.14
13.77	04/17/02	7.62	0.00	6.15
	07/09/02	7.65	0.00	6.12
	10/21/02	8.04	0.00	5.73
	02/21/03	7.89	0.00	5.88
	05/08/03	8.03	0.00	5.74

TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS, 2002 TO PRESENT

ARCO Facility #1919

Well Identification / Surveyed Well Elevation[1] (Feet MSL)	Date Measured	Depth to Water (Feet)	LPH Thickness (Feet)	Groundwater Elevation[2] (Feet MSL)
MW-21	07/25/03	8.00	0.00	5.77
13.52	11/21/03	8.32	0.00	5.20
Cont'd	02/25/04	8.16	0.00	5.36
	06/21/04	8.28	0.00	5.24
	09/13/04	8.40	0.00	5.12
	12/20/04	8.20	0.00	5.32
	03/07/05	7.52	0.00	6.00
	05/16/05	7.83	0.00	5.69
	09/12/05	8.16	0.00	5.36
MW-22	01/28/02	5.36	0.00	4.45
9.81	04/17/02	5.07	0.00	4.74
	07/09/02	5.24	0.00	4.57
	10/21/02	5.55	0.00	4.26
	02/21/03	5.27	0.00	4.54
	05/08/03	5.25	0.00	4.56
	07/25/03	5.05	0.00	4.76
9.78	11/21/03	5.65	0.00	4.13
	02/25/04	5.49	0.00	4.29
	06/21/04	5.61	0.00	4.17
	09/13/04	5.91	0.00	3.87
	12/20/04	5.77	0.00	4.01
	03/07/05	4.63	0.00	5.15
	05/16/05	5.31	0.00	4.47
	09/12/05	5.93	0.00	3.85
MW-23	01/28/02	7.23	0.00	5.22
12.45	04/17/02	6.99	0.00	5.46
	07/09/02	7.28	0.00	5.17
	10/21/02	7.80	0.00	4.65
	02/21/03	7.13	0.00	5.32
	05/08/03	7.44	0.00	5.01
	07/25/03	7.39	0.00	5.06
12.42	11/21/03	7.98	0.00	4.44
	02/25/04	7.73	0.00	4.69
	06/21/04	7.81	0.00	4.61
	09/13/04	7.99	0.00	4.43
	12/20/04	7.94	0.00	4.48
	03/07/05	6.67	0.00	5.75
	05/16/05	7.49	0.00	4.93
	09/12/05	7.80	0.00	4.62
MW-24	11/21/03	4.64	0.00	4.19
8.83	02/25/04	4.28	0.00	4.55
	06/21/04	4.49	0.00	4.34
	09/13/04	4.78	0.00	4.05
	12/20/04	4.55	0.00	4.28
	03/07/05	3.50	0.00	5.33
	05/16/05	4.32	0.00	4.51
	09/12/05	4.76	0.00	4.07

TABLE 1

SUMMARY OF GROUNDWATER ELEVATIONS, 2002 TO PRESENT
ARCO Facility #1919

Well Identification / Surveyed Well Elevation[1] (Feet MSL)	Date Measured	Depth to Water (Feet)	LPH Thickness (Feet)	Groundwater Elevation[2] (Feet MSL)
MW-25	11/21/03	3.21	0.00	4.00
7.21	02/25/04	2.83	0.00	4.38
	06/21/04	Not Measured - Inaccessible		
	09/13/04	3.24	0.00	3.97
	12/20/04	3.09	0.00	4.12
	03/07/05	1.99	0.00	5.22
	05/16/05	2.81	0.00	4.40
	09/12/05	3.24	0.00	3.97
MW-26	11/21/03	23.93	0.00	5.89
29.82	02/25/04	23.79	0.00	6.03
	06/21/04	23.83	0.00	5.99
	09/13/04	24.14	0.00	5.68
	12/20/04	23.93	0.00	5.89
	03/07/05	23.19	0.00	6.63
	05/16/05	23.61	0.00	6.21
	09/12/05	23.91	0.00	5.91

Survey elevation and depth to water measurements prior to 9/28/94 summarized from Alton Geoscience Reports.

Notes:

[1] = Elevations are in feet above mean sea level (MSL).
[2] = Groundwater elevation in feet MSL = Surveyed Well Elevation - Depth to Water
[3] = Elevations adjusted by adding (0.75 x LPH thickness) to measured water elevations.
LPH = Liquid - Phase Hydrocarbons
* MW-19 was renamed MW-19A after the installation of another MW-19 (now MW-19B).

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919

All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	GRO	B	T	E	X	MTBE
MW-1	01/14/93	Not Sampled - Measured LPH Thickness					
	02/20/93	Not Sampled - LPH Sheen					
	03/16/93	Not Sampled - LPH Sheen					
	04/14/93	Not Sampled - LPH Sheen					
	05/10/93	Not Sampled - Measured LPH Thickness					
	09/02/93	Not Sampled - Measured LPH Thickness					
	10/01/93	Well Destroyed					
MW-2	01/14/93	Not Sampled - LPH Sheen					
	02/20/93	Not Sampled - LPH Sheen					
	03/16/93	Not Sampled - LPH Sheen					
	04/14/93	Not Sampled - LPH Sheen					
	05/10/93	Not Sampled - LPH Sheen					
	09/02/93	Not Sampled - LPH Sheen					
	10/01/93	Well Destroyed					
MW-3	01/14/93	Not Sampled					
	01/14/93	Not Sampled					
	04/14/93	Not Sampled					
	09/02/93	Not Sampled					
	10/01/93	Well Destroyed					
MW-4	01/14/93	Not Sampled - LPH Sheen					
	02/20/93	Not Sampled - LPH Sheen					
	03/16/93	Not Sampled - LPH Sheen					
	04/14/93	Not Sampled - LPH Sheen					
	05/10/93	Not Sampled					
	09/02/93	Not Sampled					
	10/01/93	Well Destroyed					
MW-5	01/14/93	Not Sampled - Measured LPH Thickness					
	02/20/93	Not Sampled - LPH Sheen					
	03/16/93	Not Sampled - Measured LPH Thickness					
	04/14/93	Not Sampled - Measured LPH Thickness					
	05/10/93	Not Sampled - Measured LPH Thickness					
	09/02/93	Not Sampled - Measured LPH Thickness					
	10/01/93	Well Destroyed					
MW-6	01/28/02 NP	1,400	110	0.52	96	2.2	150
	04/17/02 NP	2,400	370	1.4	820	4.7	150
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02 NP	3,500	750	<5.0	630	<15	110
	02/21/03 NP	<500	0.56	<0.50	2.7	<1.5	62
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03 NP	740	47	0.83	79	<1.5	120
	11/21/03 NP	820	30	<0.50	32	<1.5	94
	11/21/03	670	110	<0.50	140	<1.5	200
	02/25/04	<500	<0.50	<0.50	<0.50	<1.5	59
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/08/05	<100	<0.50	<0.50	<0.50	<1.0	3.5
	05/16/05	Not Sampled - Well Reduction Program					
	09/12/05	Not Sampled - Well Reduction Program					

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919

All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	GRO	B	T	E	X	MTBE
MW-1	01/14/93	Not Sampled - Measured LPH Thickness					
	02/20/93	Not Sampled - LPH Sheen					
	03/16/93	Not Sampled - LPH Sheen					
	04/14/93	Not Sampled - LPH Sheen					
	05/10/93	Not Sampled - Measured LPH Thickness					
	09/02/93	Not Sampled - Measured LPH Thickness					
	10/01/93	Well Destroyed					
MW-2	01/14/93	Not Sampled - LPH Sheen					
	02/20/93	Not Sampled - LPH Sheen					
	03/16/93	Not Sampled - LPH Sheen					
	04/14/93	Not Sampled - LPH Sheen					
	05/10/93	Not Sampled - LPH Sheen					
	09/02/93	Not Sampled - LPH Sheen					
	10/01/93	Well Destroyed					
MW-3	01/14/93	Not Sampled					
	01/14/93	Not Sampled					
	04/14/93	Not Sampled					
	09/02/93	Not Sampled					
	10/01/93	Well Destroyed					
MW-4	01/14/93	Not Sampled - LPH Sheen					
	02/20/93	Not Sampled - LPH Sheen					
	03/16/93	Not Sampled - LPH Sheen					
	04/14/93	Not Sampled - LPH Sheen					
	05/10/93	Not Sampled					
	09/02/93	Not Sampled					
	10/01/93	Well Destroyed					
MW-5	01/14/93	Not Sampled - Measured LPH Thickness					
	02/20/93	Not Sampled - LPH Sheen					
	03/16/93	Not Sampled - Measured LPH Thickness					
	04/14/93	Not Sampled - Measured LPH Thickness					
	05/10/93	Not Sampled - Measured LPH Thickness					
	09/02/93	Not Sampled - Measured LPH Thickness					
	10/01/93	Well Destroyed					
MW-6	01/28/02 NP	1,400	110	0.52	96	2.2	150
	04/17/02 NP	2,400	370	1.4	820	4.7	150
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02 NP	3,500	750	<5.0	630	<15	110
	02/21/03 NP	<500	0.56	<0.50	2.7	<1.5	62
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03 NP	740	47	0.83	79	<1.5	120
	11/21/03 NP	820	30	<0.50	32	<1.5	94
	11/21/03	670	110	<0.50	140	<1.5	200
	02/25/04	<500	<0.50	<0.50	<0.50	<1.5	59
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/08/05	<100	<0.50	<0.50	<0.50	<1.0	3.5
	05/16/05	Not Sampled - Well Reduction Program					
	09/12/05	Not Sampled - Well Reduction Program					

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919

All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	GRO	B	T	E	X	MTBE
MW-7	01/14/93	Not Sampled - LPH Sheen					
	02/20/93	Not Sampled - Measured LPH Thickness					
	03/16/93	Not Sampled - Measured LPH Thickness					
	04/14/93	Not Sampled - Measured LPH Thickness					
	05/10/93	Not Sampled - Measured LPH Thickness					
	09/02/93	Not Sampled - LPH Sheen					
	10/01/93	Well Destroyed					
MW-8	01/14/93	Not Sampled - Measured LPH Thickness					
	02/20/93	Not Sampled - LPH Sheen					
	03/16/93	Not Sampled - LPH Sheen					
	04/14/93	Not Sampled - Measured LPH Thickness					
	05/10/93	Not Sampled - Measured LPH Thickness					
	09/02/93	Not Sampled - Measured LPH Thickness					
	10/01/93	Well Destroyed					
MW-10	01/28/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	04/17/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02 NP	<500	<0.50	<0.50	<0.50	<1.50	<1.0
	02/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	1.1
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	11/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	11/21/03	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	02/25/04	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/08/05	<100	<0.50	<0.50	<0.50	<1.0	<1.0
	05/16/05	Not Sampled - Well Reduction Program					
	09/12/05	Not Sampled - Well Reduction Program					
MW-11	01/28/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	04/17/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	02/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	11/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	11/21/03	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	02/25/04	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/08/05	<100	<0.50	<0.50	<0.50	<1.0	<1.0
	05/16/05	Not Sampled - Well Reduction Program					
	09/12/05	Not Sampled - Well Reduction Program					

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919
All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	GRO	B	T	E	X	MTBE
MW-12	01/14/93	94,962	3,463	6,161	3,397	17,783	--
	04/14/93	48,000	2,500	3,500	1,600	7,500	--
	09/02/93	54,000	4,100	5,500	2,500	13,000	--
	10/01/93	Well Destroyed					
MW-13	01/28/02 NP	<500	<0.50	<0.50	<0.50	<1.5	1.1
	04/17/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	07/09/02 NP	Not Sampled - Well Reduction Program					
	10/21/02 NP	<500	<0.50	<0.50	<0.50	<1.5	1.8
	02/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03	Not Sampled - Well Reduction Program					
	11/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	11/21/03	<500	<0.50	<0.50	<0.50	<1.5	18
	02/25/04	<500	<0.50	<0.50	<0.50	<1.5	17
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/08/05	<100	<0.50	<0.50	<0.50	<1.0	9.3
	05/16/05	Not Sampled - Well Reduction Program					
	09/12/05	Not Sampled - Well Reduction Program					
MW-14	01/28/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	04/17/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02	Not Sampled - Well Reduction Program					
	02/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03	Not Sampled - Well Reduction Program					
	11/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	11/21/03	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	02/25/04	<500	<0.50	<0.50	<0.50	<1.5	2.0
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/07/05	<100	<0.50	<2.0	<0.50	<1.0	<1.0
	05/16/05	Not Sampled - Well Reduction Program					
	09/13/05	<100	<0.50	<0.50	<0.50	<1.0	<1.0
MW-15	01/28/02 NP	4,000	1,300	<62	390	<190	24,000
	04/17/02 NP	1,700	540	<100	180	<300	7,400
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02	Not Sampled - Well Not Accessible					
	02/21/03	Not Sampled - Well Not Accessible					
	05/08/03	Not Sampled - Well Not Accessible					
	07/25/03	Not Sampled - Well Not Accessible					
	11/21/03	Not Sampled - LPH Sheen					
	02/25/04	2,400	910	<200	<200	<600	51,000
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/08/05	Not Analyzed - Suspect Sample					
	05/16/05	Not Sampled - Well Reduction Program					
	09/13/05	9,200	1,700	<100	170	<200	16,000

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919

All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	GRO	B	T	E	X	MTBE
MW-16	01/28/02 NP	<500	<40	<40	<40	<120	7,000
	04/17/02 NP	<500	<50	<50	<50	<150	5,000
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02 NP	<500	<50	<50	<50	<150	7,200
	02/21/03 NP	<500	<50	<50	<50	<150	5,600
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03	Not Sampled - Well Reduction Program					
	11/21/03 NP	<500	<25	<25	<25	<75	6,300
	11/21/03	<500	<50	<50	<50	<150	6,000
	02/25/04	<500	<50	<50	<50	<150	5,900
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/08/05	Not Analyzed - Suspect Sample					
	05/16/05	Not Sampled - Well Reduction Program					
	09/12/05	Not Sampled - Well Reduction Program					
MW-17	01/28/02 NP	13,000	6,300	<40	1,500	<120	760
	04/17/02 NP	7,900	4,100	<25	1,200	<75	520
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02 NP	2,800	600	<5.0	610	<15	13
	02/21/03 NP	3,900	860	<5.0	1,200	<15	110
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03 NP	700	1,600	16	1,100	46	56
	11/21/03 NP	5,700	2,600	<20	1,200	<60	47
	11/21/03	510	150	<5.0	80	<15	1,300
	02/25/04	<500	21	<5.0	42	<15	620
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/08/05	160	4.7	<2.5	4.3	<5.0	220
	05/16/05	Not Sampled - Well Reduction Program					
	09/13/05	790	130	3.1	70	27	150
MW-18	01/28/02 NP	<500	<40	<40	<40	<120	5,600
	04/17/02 NP	<500	<25	<25	<25	<75	6,500
	07/09/02 NP	<500	<25	<25	<25	<75	7,800
	10/21/02 NP	<500	<50	<50	<50	<150	9,100
	02/21/03 NP	<500	<20	<20	<20	<60	6,000
	05/08/03 NP	<500	<0.500	<0.500	<0.500	<1.50	3,840
	07/25/03 NP	<500	<200	<200	<200	<600	73,000
	11/21/03 NP	<500	<20	<20	<20	<60	2,800
	11/21/03	<500	<25	<25	<25	<75	6,100
	02/25/04	<500	<50	<50	<50	<150	9,100
	06/21/04	<500	<50	<50	<50	<150	8,200
	09/13/04	<500	<50	<50	<50	<150	6,100
	12/20/04	1,300	<50	<50	<50	<50	2,900
	03/07/05	<100	<1.2	<1.2	<1.2	<2.5	200
	05/16/05	680	<50	<50	<50	<100	3,300
	09/12/05	740	<25	<25	<25	<50	4,300

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919
All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	GRO	B	T	E	X	MTBE
MW-19A*	01/28/02 NP	<500	<0.50	<0.50	<0.50	<1.5	4.3
	04/17/02 NP	<500	<0.50	<0.50	<0.50	<1.5	1.4
	07/09/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	10/21/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	02/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	05/08/03 NP	<500	<0.500	<0.500	<0.500	<1.50	<1.00
	07/25/03 NP	<500	<0.50	<0.50	<0.50	<1.5	1.0
	11/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	1.8
	11/21/03	<500	<0.50	<0.50	<0.50	<1.5	16
	02/25/04	<500	<0.50	<0.50	<0.50	<1.5	10
	06/21/04	<500	<0.50	<0.50	<0.50	<1.5	14
	09/13/04	<500	<0.50	<0.50	<0.50	<1.5	6.3
	12/20/04	<100	<1.0	<1.0	<1.0	<1.0	3.2
	03/07/05	<100	<0.50	<0.50	<0.50	<1.0	8.6
	05/16/05	<100	<0.50	<0.50	<0.50	<1.0	2.8
	09/12/05	<100	<0.50	<0.50	<0.50	<1.0	<1.0
MW-19B*	01/28/02 NP	3,800	280	40	470	150	<4.0
	04/17/02 NP	4,000	250	23	530	300	<5.0
	07/09/02 NP	6,800	380	18	630	330	<5.0
	10/21/02 NP	3,900	450	<5.0	1,100	19	<10
	02/21/03 NP	1,400	77	<5.0	410	<15	<10
	05/08/03 NP	7,100	302	9.67	1,690	91.1	<1.00
	07/25/03 NP	3,200	180	<5.0	950	<15	12
	11/21/03 NP	4,600	150	<5.0	1,000	22	63
	11/21/03	6,800	190	160	1,400	550	290
	02/25/04	7,600	170	340	1,800	1,100	180
	06/21/04	7,100	75	110	1,100	440	29
	09/13/04	8,300	68	180	1,200	810	<20
	12/20/04	2,100	20	35	280	140	<5.0
	03/08/05	8,900	81	840	1,800	2,200	<25
	05/16/05	4,100	52	330	1,200	1,100	<25
	09/12/05	4,700	40	190	1,000	640	<17
MW-20	01/28/02 NP	550	20	1.1	56	7.2	<1.0
	04/17/02 NP	4,200	28	26	610	130	<1.0
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02 NP	510	4.8	<0.5	14	<1.5	<1.0
	02/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03 NP	<500	1.3	<0.50	1.1	<1.5	<1.0
	11/21/03 NP	<500	2.8	<0.50	5.2	<1.5	<1.0
	11/21/03	<500	1.2	<0.50	0.83	<1.5	<1.0
	02/25/04	<500	<0.50	<0.50	1.2	<1.5	<1.0
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/08/05	<100	<0.50	<0.50	13.0	5.4	<1.0
	05/16/05	Not Sampled - Well Reduction Program					
	09/12/05	Not Sampled - Well Reduction Program					

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919
All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	GRO	B	T	E	X	MTBE
MW-21	01/28/02 NP	2,200	19	18	510	38	<10
	04/17/02 NP	6,300	69	100	1,300	460	<5.0
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02 NP	3,700	50	7.8	1,200	<15	<10
	02/21/03 NP	<500	20	<2.5	320	<7.5	<5.0
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03 NP	1,700	40	<2.5	540	150	<5.0
	11/21/03 NP	1,600	110	<5.0	550	30	<10
	11/21/03	4,900	170	80	720	1,000	<10
	02/25/04	6,000	240	160	1,000	1,800	<10
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/08/05	9,700	490	490	1,700	4,500	84
	05/16/05	Not Sampled - Well Reduction Program					
	09/12/05	Not Sampled - Well Reduction Program					
MW-22	01/28/02 NP	<500	<0.50	<0.50	<0.50	<1.5	44
	04/17/02 NP	<500	<0.50	<0.50	<0.50	<1.5	21
	07/09/02 NP	<500	<0.50	<0.50	<0.50	<1.5	13
	10/21/02 NP	<500	<0.50	<0.50	<0.50	<1.50	17
	02/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	27
	05/08/03 NP	<500	<0.500	<0.500	<0.500	<1.50	7.9
	07/25/03 NP	<500	<0.50	<0.50	<0.50	<1.5	7.7
	11/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	8.9
	11/21/03	<500	<0.50	<0.50	<0.50	<1.5	33
	02/25/04	<500	<0.50	<0.50	<0.50	<1.5	29
	06/21/04	<500	<0.50	<0.50	<0.50	<1.5	47
	09/13/04	<500	<0.50	<0.50	<0.50	<1.5	72
	12/20/04	<100	<1.0	<1.0	<1.0	<1.0	38
	03/07/05	<100	<0.50	1.1	<0.50	<1.0	8.8
	05/16/05	<100	<0.50	<0.50	<0.50	<1.0	8.0
	09/12/05	<100	<0.50	<0.50	<0.50	<1.0	18
MW-23	01/28/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	04/17/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	07/09/02	Not Sampled - Well Reduction Program					
	10/21/02 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	02/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	05/08/03	Not Sampled - Well Reduction Program					
	07/25/03	Not Sampled - Well Reduction Program					
	11/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	11/21/03	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	02/25/04	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	06/21/04	Not Sampled - Well Reduction Program					
	09/13/04	Not Sampled - Well Reduction Program					
	12/20/04	Not Sampled - Well Reduction Program					
	03/07/05	<100	<0.50	<25	<0.50	<1.0	<1.0
	05/16/05	Not Sampled - Well Reduction Program					
	09/12/05	Not Sampled - Well Reduction Program					

TABLE 2

SUMMARY OF GROUNDWATER SAMPLE ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919

All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	GRO	B	T	E	X	MTBE
MW-24	11/21/03 NP	<500	<5.0	<5.0	<5.0	<15	790
	11/21/03	<500	<2.5	<2.5	<2.5	<7.5	480
	02/25/04	<500	<2.5	<2.5	<2.5	<7.5	430
	06/21/04	<500	<2.5	<2.5	<2.5	<7.5	340
	09/13/04	<500	<2.5	<2.5	<2.5	<7.5	450
	12/20/04	<100	<2.5	<2.5	<2.5	<2.5	130
	03/08/05	<100	<0.50	<0.50	<0.50	<1.0	69
	05/16/05	<100	<0.50	<0.50	<0.50	<1.0	32
	09/12/05	<100	<0.50	<0.50	<0.50	<1.0	27
MW-25	11/21/03 NP	<500	<10	<10	<10	<30	2,400
	11/21/03	<500	<10	<10	<10	<30	2,000
	02/25/04	<500	<10	<10	<10	<30	2,200
	06/21/04	Not Sampled - Inaccessible					
	09/13/04	<500	<1.0	<1.0	<1.0	<3.0	140
	12/20/04	<100	<1.0	<1.0	<1.0	<1.0	82
	03/08/05	<100	<0.50	<0.50	<0.50	<1.0	72
	05/16/05	<100	<0.50	<0.50	<0.50	<1.0	3.8
	09/12/05	<100	<0.50	<0.50	<0.50	<1.0	1.9
MW-26	11/21/03 NP	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	11/21/03	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	02/25/04	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	06/21/04	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	09/13/04	<500	<0.50	<0.50	<0.50	<1.5	<1.0
	12/20/04	<100	<1.0	<1.0	<1.0	<1.0	<1.0
	03/07/05	<100	<0.50	<0.50	<0.50	<1.0	<1.0
	05/16/05	<100	<0.50	<0.50	<0.50	<1.0	<1.0
	09/12/05	<100	<0.50	<0.50	<0.50	<1.0	<1.0

Data in the table prior to 9/28/94 summarized from Alton Geoscience Reports.

Notes:

GRO = Gasoline-range organics (C_6-C_{12}) (DHS Modified EPA Method 8015)
B = Benzene
T = Toluene
E = Ethylbenzene
X = Total Xylenes
BTEX = Analyzed by EPA Method 8260B.
MTBE = Methyl-tert-butyl ether analyzed by EPA Method 8260.
< = Less than indicated laboratory reporting limit
-- = Sample not analyzed
NP = Sample collected by no-purge sampling procedures
* MW-19 was renamed MW-19A after the installation of another well designated MW-19 (now MW-19B).

TABLE 3

SUMMARY OF ADDITIONAL OXYGENATES ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919
All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	TBA	DIPE	ETBE	TAME	ETHANOL
MW-1	Well Destroyed 10/93					
MW-2	Well Destroyed 10/93					
MW-3	Well Destroyed 10/93					
MW-4	Well Destroyed 10/93					
MW-5	Well Destroyed 10/93					
MW-6	01/28/02 NP	<25	<5.0	<5.0	17	--
	04/17/02 NP	<25	<5.0	<5.0	24	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02 NP	<500	<50	<50	<50	--
	02/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	05/08/03	Not Sampled - Well Reduction Program				
	07/25/03 NP	<50	<5.0	<5.0	16	<150
	11/21/03 NP	<50	<5.0	<5.0	11	<150
	11/21/03	66	<5.0	<5.0	8.1	<150
	02/25/04	<50	<5.0	<5.0	<5.0	<150
	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/08/05	<25	<2.0	<2.0	<2.0	<500
	05/16/05	Not Sampled - Well Reduction Program				
	09/12/05	Not Sampled - Well Reduction Program				
MW-7	Well Destroyed 10/93					
MW-8	Well Destroyed 10/93					
MW-10	01/28/02 NP	<25	<5.0	<5.0	<5.0	--
	04/17/02 NP	<25	<5.0	<5.0	<5.0	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02 NP	<50	<5.0	<5.0	<5.0	--
	02/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	05/08/03	Not Sampled - Well Reduction Program				
	07/25/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03	<50	<5.0	<5.0	<5.0	<150
	02/25/04	<50	<5.0	<5.0	<5.0	<150
	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/08/05	<25	<2.0	<2.0	<2.0	<500
	05/16/05	Not Sampled - Well Reduction Program				
	09/12/05	Not Sampled - Well Reduction Program				
MW-11	01/28/02 NP	<25	<5.0	<5.0	<5.0	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02 NP	<50	<5.0	<5.0	<5.0	--
	02/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	05/08/03	Not Sampled - Well Reduction Program				
	07/25/03	<50	<0.50	<0.50	<0.50	<150
	11/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03	<50	<5.0	<5.0	<5.0	<150
	02/25/04	<50	<5.0	<5.0	<5.0	<150

TABLE 3

SUMMARY OF ADDITIONAL OXYGENATES ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919
All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	TBA	DIPE	ETBE	TAME	ETHANOL
MW-11 Cont'd	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/08/05	<25	<2.0	<2.0	<2.0	<500
	05/16/05	Not Sampled - Well Reduction Program				
	09/12/05	Not Sampled - Well Reduction Program				
MW-12	Well Destroyed 10/93					
MW-13	01/28/02 NP	<25	<5.0	<5.0	<5.0	--
	04/17/02 NP	<25	<5.0	<5.0	<5.0	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02 NP	<50	<5.0	<5.0	<5.0	--
	02/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	05/08/03	Not Sampled - Well Reduction Program				
	07/25/03	Not Sampled - Well Reduction Program				
	11/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03	<50	<5.0	<5.0	<5.0	<150
	02/25/04	<50	<5.0	<5.0	<5.0	<150
	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/08/05	<25	<2.0	<2.0	<2.0	<500
	05/16/05	Not Sampled - Well Reduction Program				
	09/12/05	Not Sampled - Well Reduction Program				
MW-14	01/28/02 NP	<25	<5.0	<5.0	<5.0	--
	04/17/02 NP	<25	<5.0	<5.0	<5.0	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02	Not Sampled				
	02/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	05/08/03	Not Sampled - Well Reduction Program				
	07/25/03	Not Sampled - Well Reduction Program				
	11/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03	<50	<5.0	<5.0	<5.0	<150
	02/25/04	<50	<5.0	<5.0	<5.0	<150
	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/07/05	<25	<2.0	<2.0	<2.0	<500
	05/16/05	Not Sampled - Well Reduction Program				
	09/13/05	<25	<2.0	<2.0	<2.0	<500
MW-15	01/28/02 NP	3,600	<620	<620	<620	--
	04/17/02 NP	<5,000	<1,000	<1,000	<1,000	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02	Not Sampled - Well Reduction Program				
	02/21/03	Not Sampled - Not Accessible				
	05/08/03	Not Sampled - Well Reduction Program				
	07/25/03	Not Sampled - Well Reduction Program				

TABLE 3

SUMMARY OF ADDITIONAL OXYGENATES ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919

All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	TBA	DIPE	ETBE	TAME	ETHANOL
MW-15 Cont'd	11/21/03	Not Sampled - LPH Sheen				
	02/25/04	51,000	<2,000	<2,000	<2,000	<60,000
	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/08/05	Not Analyzed - Suspect Sample				
	05/16/05	Not Sampled - Well Reduction Program				
	09/13/05	63,000	<400	<400	<400	<100,000
MW-16	01/28/02 NP	<2,000	<400	<400	<400	--
	04/17/02 NP	<2,500	<500	<500	<500	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02 NP	<5,000	<500	<500	<500	--
	02/21/03 NP	<5,000	<500	<500	<500	<15,000
	05/08/03	Not Sampled - Well Reduction Program				
	07/25/03	Not Sampled - Well Reduction Program				
	11/21/03 NP	<2,500	<250	<250	<250	<7,500
	11/21/03	<5,000	<500	<500	<500	<15,000
	02/25/04	<5,000	<500	<500	<500	<15,000
	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/08/05	Not Analyzed - Suspect Sample				
	05/16/05	Not Sampled - Well Reduction Program				
	09/12/05	Not Sampled - Well Reduction Program				
MW-17	01/28/02 NP	<2,000	<400	<400	<400	--
	04/17/02 NP	<1,200	<250	<250	<250	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02 NP	<500	<50	<50	<50	--
	02/21/03 NP	<500	<50	<50	<50	<1,500
	05/08/03	Not Sampled - Well Reduction Program				
	07/25/03 NP	<500	<50	<50	<50	<1,500
	11/21/03 NP	<2,000	<200	<200	<200	<6,000
	11/21/03	<500	<50	<50	<50	<1,500
	02/25/04	<500	<50	<50	<50	<1,500
	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/08/05	250	<10	<10	<10	<2500
	05/16/05	Not Sampled - Well Reduction Program				
	09/13/05	360	<5.0	<5.0	<5.0	<1,200
MW-18	01/28/02 NP	<2,000	<400	<400	<400	--
	04/17/02 NP	<1,200	<250	<250	<250	--
	07/09/02 NP	1,700	<250	<250	<250	--
	10/21/02 NP	<5,000	<500	<500	<500	--
	02/21/03 NP	<2,000	<200	<200	<200	<6,000
	05/08/03 NP	78.7	<1.00	<1.00	15.6	<50.0
	07/25/03 NP	<20,000	<2,000	<2,000	<2,000	<60,000

TABLE 3

SUMMARY OF ADDITIONAL OXYGENATES ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919

All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	TBA	DIPE	ETBE	TAME	ETHANOL
MW-18 Cont'd	11/21/03 NP	<2,000	<200	<200	<200	<6,000
	11/21/03	<2,500	<250	<250	<250	<7,500
	02/25/04	<5,000	<500	<500	<500	<15,000
	06/21/04	<5,000	<500	<500	<500	<15,000
	09/13/04	<5,000	<500	<500	<500	<15,000
	12/20/04	2,300	<100	<100	<100	<25,000
	03/07/05	1,800	<5.0	<5.0	<5.0	<1,200
	05/16/05	<2,500	<200	<200	<200	<50,000
	09/12/05	3,000	<100	<100	<100	<25,000
MW-19A*	01/28/02 NP	<25	<5.0	<5.0	<5.0	--
	04/17/02 NP	<25	<5.0	<5.0	<5.0	--
	07/09/02 NP	<25	<5.0	<5.0	<5.0	--
	10/21/02 NP	<50	<5.0	<5.0	<5.0	--
	02/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	05/08/03 NP	<25.0	<1.00	<1.00	<1.00	<50.0
	07/25/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03	<50	<5.0	<5.0	<5.0	<150
	02/25/04	<50	<5.0	<5.0	<5.0	<150
	06/21/04	<50	<5.0	<5.0	<5.0	<150
	09/13/04	<50	<5.0	<5.0	<5.0	<150
	12/20/04	<25	<2.0	<2.0	<2.0	<500
	03/07/05	<25	<2.0	<2.0	<2.0	<500
	05/16/05	<25	<2.0	<2.0	<2.0	<500
	09/12/05	<25	<2.0	<2.0	<2.0	<500
MW-19B*	01/28/02 NP	<100	<20	<20	<20	--
	04/17/02 NP	<120	<25	<25	<25	--
	07/09/02 NP	<120	<25	<25	<25	--
	10/21/02 NP	<500	<50	<50	<50	--
	02/21/03 NP	<500	<50	<50	<50	<1,500
	05/08/03 NP	<25.0	<1.00	<1.00	<1.00	<50.0
	07/25/03 NP	<500	<50	<50	<50	<1,500
	11/21/03 NP	<500	<50	<50	<50	<1,500
	11/21/03	<1,000	<100	<100	<100	<3,000
	02/25/04	<1,000	<100	<100	<100	<3,000
	06/21/04	<1,000	<100	<100	<100	<3,000
	09/13/04	<1,000	<100	<100	<100	<3,000
	12/20/04	<120	<10	<10	<10	<2,500
	03/08/05	<620	<50	<50	<50	<12,000
	05/16/05	<620	<50	<50	<50	<12,000
	09/12/05	<420	<33	<33	<33	<8,300
MW-20	01/28/02 NP	<25	<5.0	<5.0	<5.0	--
	04/17/02 NP	<25	<5.0	<5.0	<5.0	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02 NP	<50	<5.0	<5.0	<5.0	--
	02/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	05/08/03	Not Sampled - Well Reduction Program				

TABLE 3

SUMMARY OF ADDITIONAL OXYGENATES ANALYTICAL RESULTS, 2002 TO PRESENT

ARCO Facility #1919

All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	TBA	DIPE	ETBE	TAME	ETHANOL
MW-20 Cont'd	07/25/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03	<50	<5.0	<5.0	<5.0	<150
	02/25/04	<50	<5.0	<5.0	<5.0	<150
	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/08/05	<25	<2.0	<2.0	<2.0	<500
	05/16/05	Not Sampled - Well Reduction Program				
	09/12/05	Not Sampled - Well Reduction Program				
MW-21	01/28/02 NP	<250	<50	<50	<50	--
	04/17/02 NP	<120	<25	<25	<25	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02 NP	<500	<50	<50	<50	--
	02/21/03 NP	<250	<25	<25	<25	<750
	05/08/03	Not Sampled - Well Reduction Program				
	07/25/03 NP	<250	<25	<25	<25	<750
	11/21/03 NP	<500	<50	<50	<50	<1,500
	11/21/03	<500	<50	<50	<50	<1,500
	02/25/04	<500	<50	<50	<50	<1,500
	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/08/05	<620	<50	<50	<50	<12000
	05/16/05	Not Sampled - Well Reduction Program				
	09/12/05	Not Sampled - Well Reduction Program				
MW-22	01/28/02 NP	<25	<5.0	<5.0	<5.0	--
	04/17/02 NP	<25	<5.0	<5.0	<5.0	--
	07/09/02 NP	<25	<5.0	<5.0	<5.0	--
	10/21/02 NP	<50	<5.0	<5.0	<5.0	--
	02/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	05/08/03 NP	<25.0	<1.00	<1.00	<1.00	<50.0
	07/25/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03	170	<5.0	<5.0	<5.0	<150
	02/25/04	160	<5.0	<5.0	<5.0	<150
	06/21/04	91	<5.0	<5.0	<5.0	<150
	09/13/04	110	<5.0	<5.0	<5.0	<150
	12/20/04	150	<2.0	<2.0	<2.0	<500
	03/07/05	200	<2.0	<2.0	<2.0	<500
	05/16/05	98	<2.0	<2.0	<2.0	<500
	09/12/05	860	2.1	<2.0	<2.0	<500
MW-23	01/28/02 NP	<25	<5.0	<5.0	<5.0	--
	04/17/02 NP	<25	<5.0	<5.0	<5.0	--
	07/09/02	Not Sampled - Well Reduction Program				
	10/21/02 NP	<50	<5.0	<5.0	<5.0	--
	02/21/03 NP	<50	<5.0	<5.0	<5.0	<150

TABLE 3

SUMMARY OF ADDITIONAL OXYGENATES ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919
All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	TBA	DIPE	ETBE	TAME	ETHANOL
MW-23 Cont'd	05/08/03	Not Sampled - Well Reduction Program				
	07/25/03	Not Sampled - Well Reduction Program				
	11/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03	<50	<5.0	<5.0	<5.0	<150
	02/25/04	<50	<5.0	<5.0	<5.0	<150
	06/21/04	Not Sampled - Well Reduction Program				
	09/13/04	Not Sampled - Well Reduction Program				
	12/20/04	Not Sampled - Well Reduction Program				
	03/07/05	<25	<2.0	<2.0	<2.0	<500
	05/16/05	Not Sampled - Well Reduction Program				
	09/12/05	Not Sampled - Well Reduction Program				
MW-24	11/21/03 NP	<500	<50	<50	<50	<1,500
	11/21/03	<250	<25	<25	<25	<750
	02/25/04	<250	<25	<25	<25	<750
	06/21/04	<250	<25	<25	<25	<750
	09/13/04	<250	<25	<25	<25	<750
	12/20/04	<62	<5.0	<5.0	<5.0	<1,200
	03/08/05	<25	<2.0	<2.0	<2.0	<500
	05/16/05	88	<2.0	<2.0	<2.0	<500
	09/12/05	120	<2.0	<2.0	<2.0	<500
MW-25	11/21/03 NP	<1,000	<100	<100	<100	<3,000
	11/21/03	<1,000	<100	<100	<100	<3,000
	02/25/04	<1,000	<100	<100	<100	<3,000
	06/21/04	Not Sampled - Inaccessible				
	09/13/04	310	<10	<10	<10	<300
	12/20/04	460	<2.0	<2.0	<2.0	<500
	03/08/05	330	<2.0	<2.0	<2.0	<500
	05/16/05	480	<2.0	<2.0	<2.0	<500
	09/12/05	210	<2.0	<2.0	<2.0	<500

TABLE 3

SUMMARY OF ADDITIONAL OXYGENATES ANALYTICAL RESULTS, 2002 TO PRESENT
ARCO Facility #1919

All Results Reported in Micrograms per Liter (µg/L)

Well Identification	Sampling Date	TBA	DIPE	ETBE	TAME	ETHANOL
MW-26	11/21/03 NP	<50	<5.0	<5.0	<5.0	<150
	11/21/03	<50	<5.0	<5.0	<5.0	<150
	02/25/04	<50	<5.0	<5.0	<5.0	<150
	06/21/04	<50	<5.0	<5.0	<5.0	<150
	09/13/04	<50	<5.0	<5.0	<5.0	<150
	12/20/04	<25	<2.0	<2.0	<2.0	<500
	03/07/05	<25	<2.0	<2.0	<2.0	<500
	05/16/05	<25	<2.0	<2.0	<2.0	<500
	09/12/05	<25	<2.0	<2.0	<2.0	<500

Notes:

TBA = Tert-butyl alcohol
DIPE = Di-isopropyl ether
ETBE = Ethyl tert-butyl ether
TAME = tert-Amyl methyl ether
Samples analyzed by EPA Method 8260B.
< = Less than indicated laboratory reporting limit
NP = Samples collected by no-purge procedures.
-- = Sample not analyzed.
* MW-19 was renamed MW-19A after the installation of another well designated MW-19 (now MW-19B).

TABLE 4

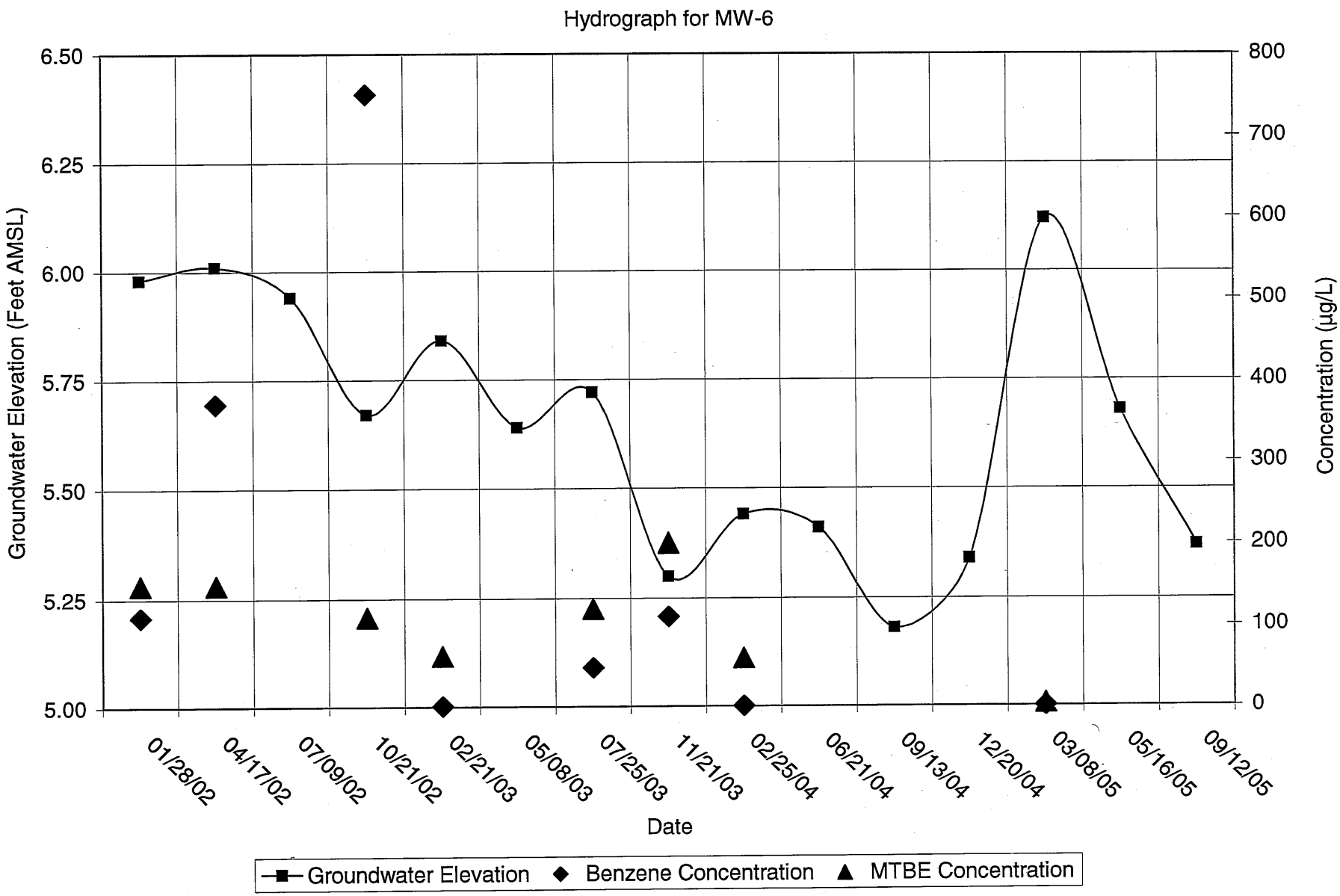
SUMMARY OF BASELINE NATURAL ATTENUATION DATA
ARCO Facility #1919
660 Via de la Valle, Solana Beach, CA

Well Identification	Petroleum Hydrocarbon Concentrations						Indicators of Natural Attenuation and General Groundwater Parameters												
	GRO	B	T	E	X	MTBE	DO	Nitrate	Fe III	Fe II	Sulfate	Sulfide	Methane	Ammonia	Total Alkalinity	ORP	S Cond	pH	Temp
	µg/L							µg/L								(mV)	(mS/cm)		(°C)
MW-14	<100	<0.50	<0.50	<0.50	<1.0	<1.0	0.63/2.92	911	4,160	<200	263,000	<100	<1.0	<100	196,000	-42/28.1	3.221/2.478	7.78/7.70	22.32/22.80
MW-15	9,200	1,700	<100	170	<200	16,000	0.27/0.78	<100	8,670	<200	641,000	5,530	3,500	740	1,410,000	-277.5/-118.3	4.391/4.783	8.69/8.71	25.03/25.23
MW-17	790	130	3.1	70	27	150	0.29/0.32	1,610	4,070	678	647,000	<100	410	361	534,000	-94.0/-14.7	2.254/6.781	7.93/7.21	23.25/22.85
MW-18	740	<25	<25	<25	<50	4,300	0.23/0.40	<100	29,400	<200	440,000	1,530	400	714	702,000	-16.4/-248.9	4.157/4.687	7.76/9.11	23.97/23.16
MW-19B	4,700	40	190	1,000	640	<17	0.24/0.86	111	5,570	258	181,000	114	690	644	716,000	-268.5/-117.8	2.400/2.344	8.84/8.64	24.06/24.30
MW-24	<100	<0.50	<0.50	<0.50	<1.0	27	0.43/0.34	<100	18,300	<200	692,000	154	340	1,970	699,000	-106.7/-196.6	5.260/9.020	7.66/8.66	27.23/24.90
MW-25	<100	<0.50	<0.50	<0.50	<1.0	1.9	0.27/0.70	<100	38,000	2860	509,000	158	330	5,190	685,000	-98.3/-87.8	4.465/5.570	7.76/7.58	26.09/24.66
MW-26	<100	<0.50	<0.50	<0.50	<1.0	<1.0	7.03/6.99	17,500	17,200	<200	500,000	159	2.4	<100	417,000	2.6/34.9	2.395/2.828	7.95/8.34	21.20/21.21

Notes:

Samples for GRO, BTEX, and MTBE were collected on September 1 2, 2005.
Samples for indicators of natural attenuation and general groundwater parameters were collected on September 12, 2005.

GRO = Gasoline range organics C6-C12 (DHS-Modified EPA Method 8015)
BTEX = Benzene, toluene, ethylbenzene, and total xylenes (EPA Method 8260B)
MTBE = Methyl tert-butyl ether (EPA Method 8260B)
DO = Dissolved oxygen (field measurement - pre & post purge)
Nitrate = Nitrate as nitrogen (EPA Method 300.0)
Fe III = Ferric iron (laboratory calculation)
Fe II = Ferrous iron (EPA Method 6010B-Diss)
Sulfate = Sulfate (EPA Method 300.0)
Sulfide = Sulfide (EPA Method 376.2)
Methane = Methane (EPA Method RSK-175 Mod)
Ammonia = Ammonia (EPA Method 350.3)
Alkalinity = Alkalinity as calcium carbonate (CaCO3) (EPA Method 310.1)
ORP = Oxidation-reduction potential (field measurement - pre & post purge)
S Cond = Specific conductivity (field measurement - pre & post purge)
pH = pH (field measurement - pre & post purge)
Temp = Temperature (field measurement - pre & post purge)
µg/L = Micrograms per Liter
mg/L = Milligrams per Liter
mV = Millivolts
mS/cm = millisiemens per centimeter
°C = Degrees celcius
< = Below indicated laboratory reporting limit
NS = Not sampled
NM = Not measured



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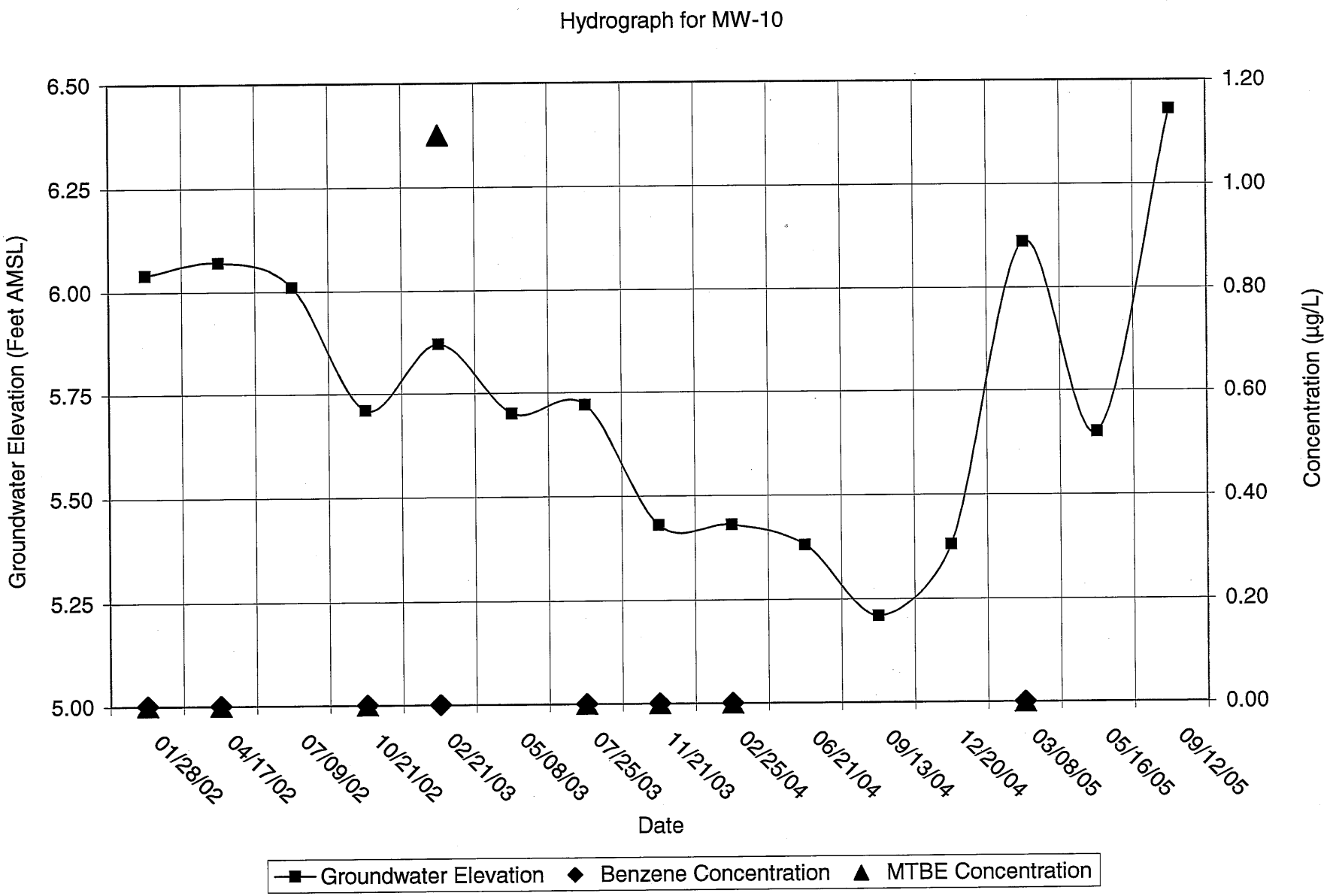

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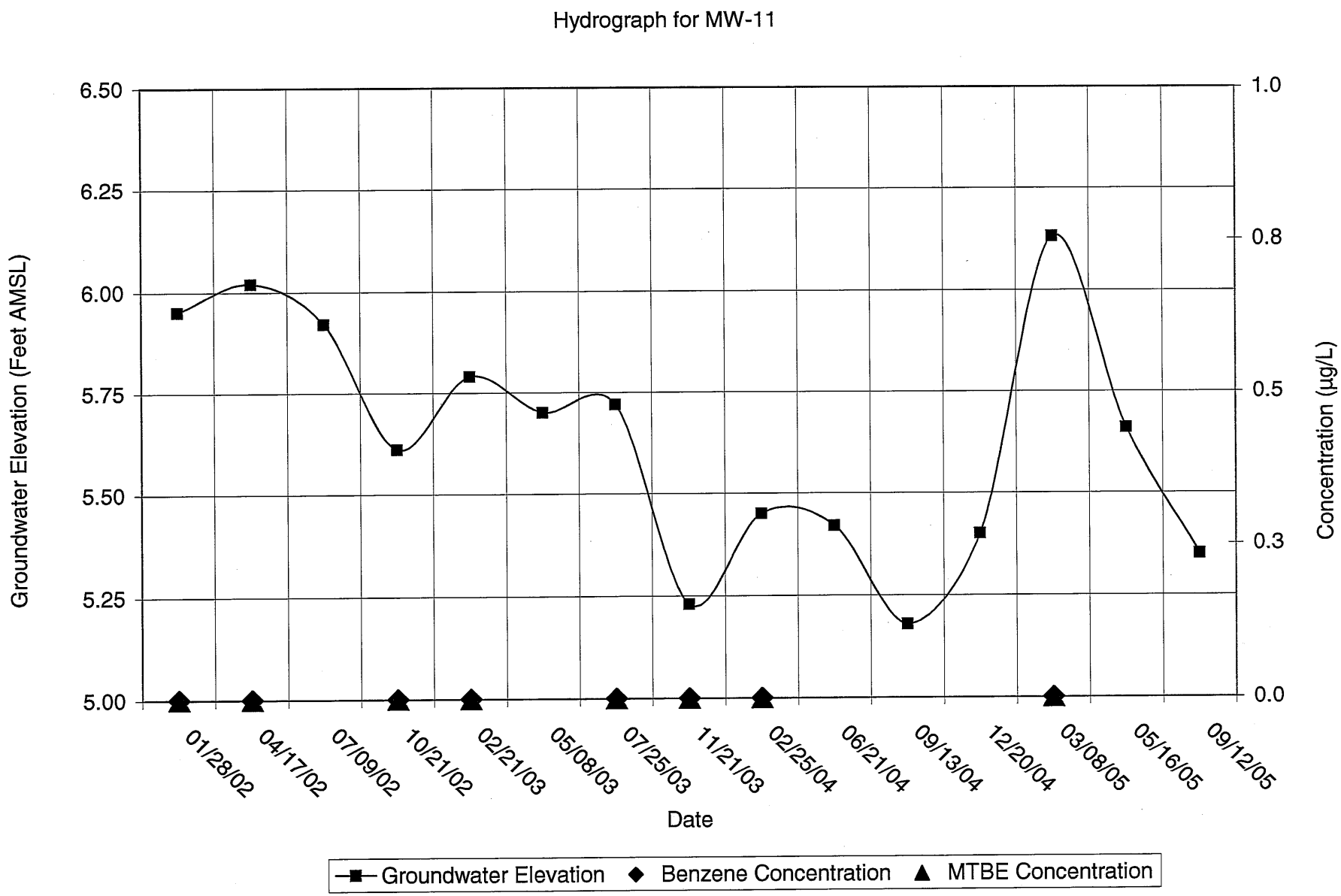

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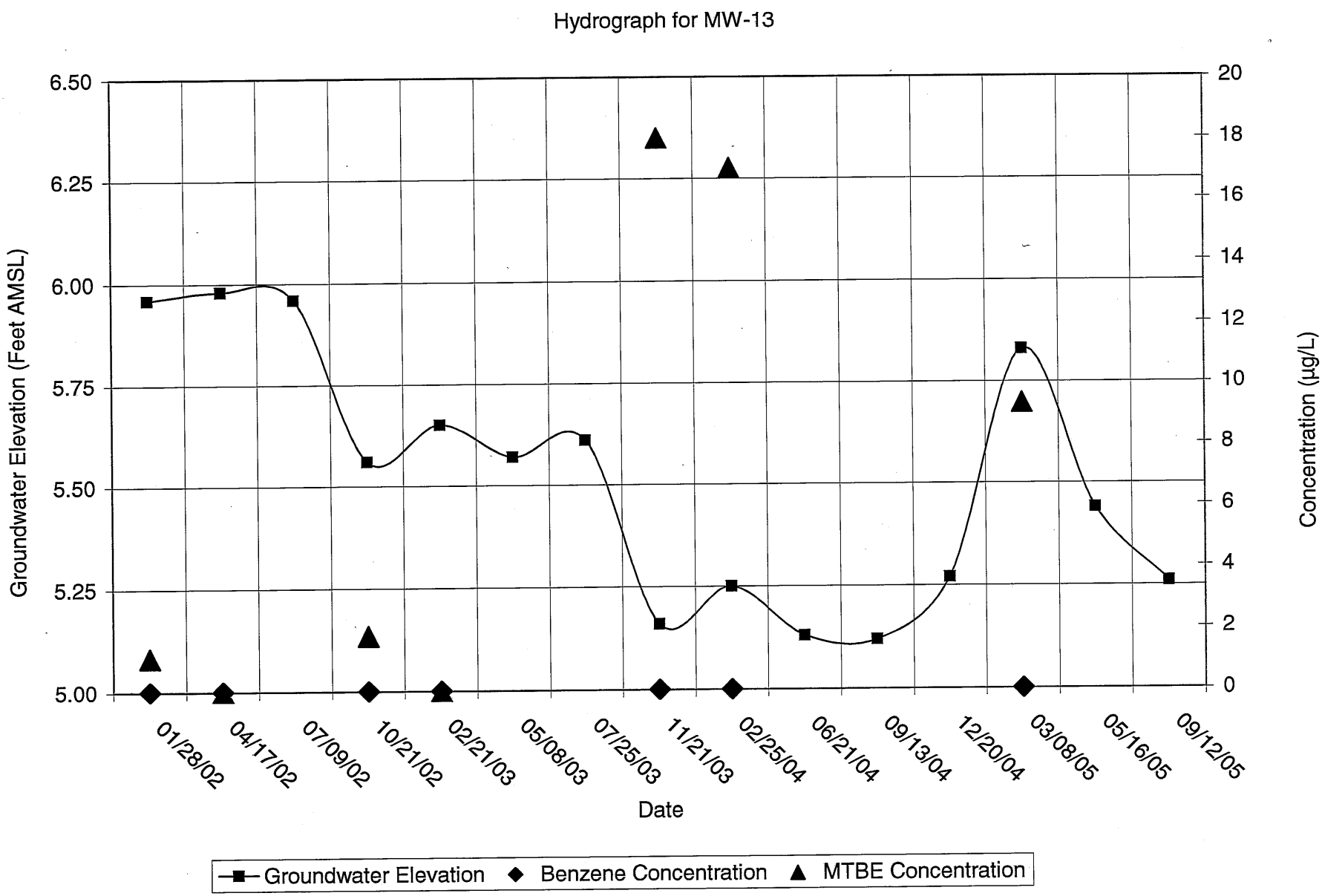

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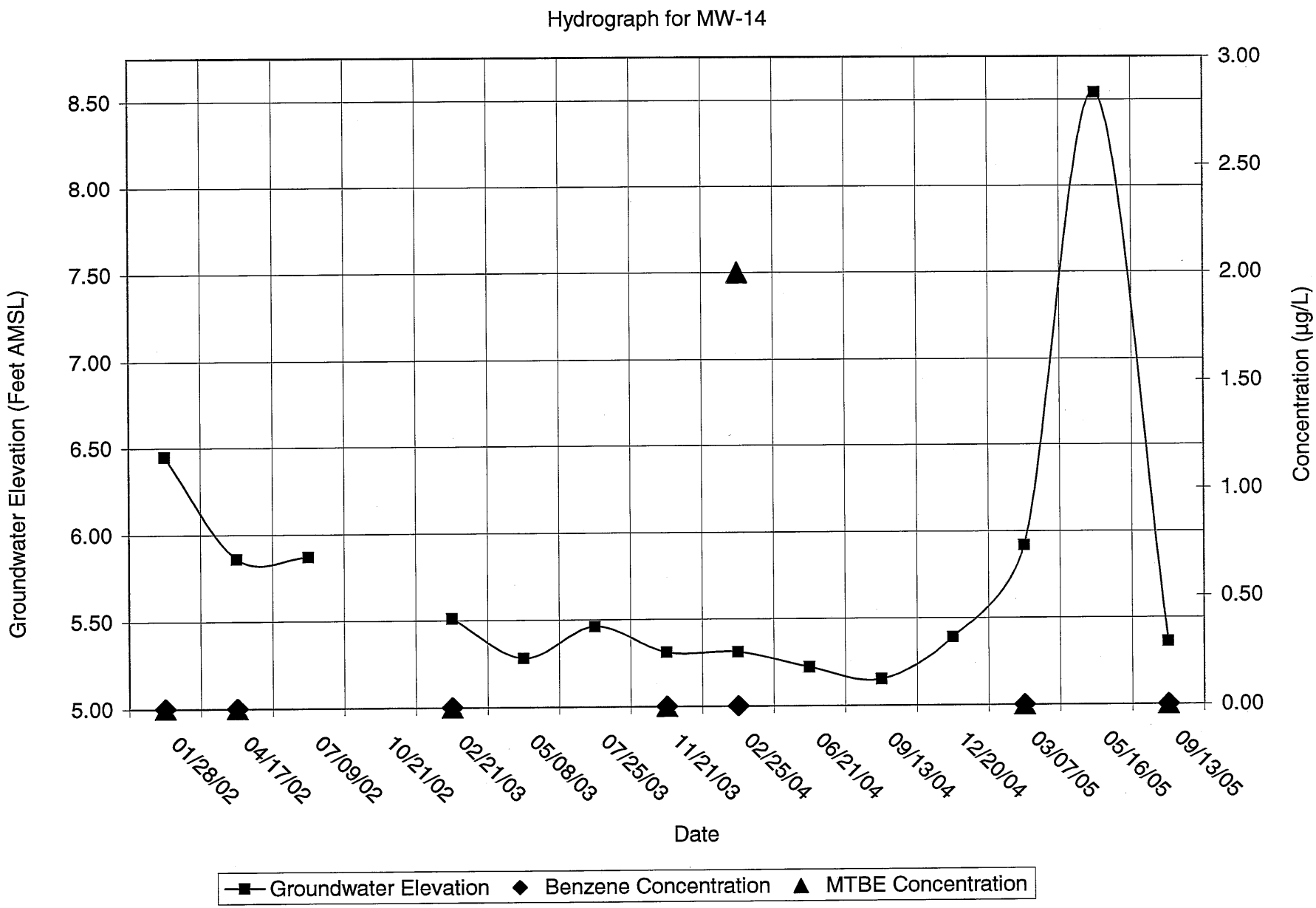

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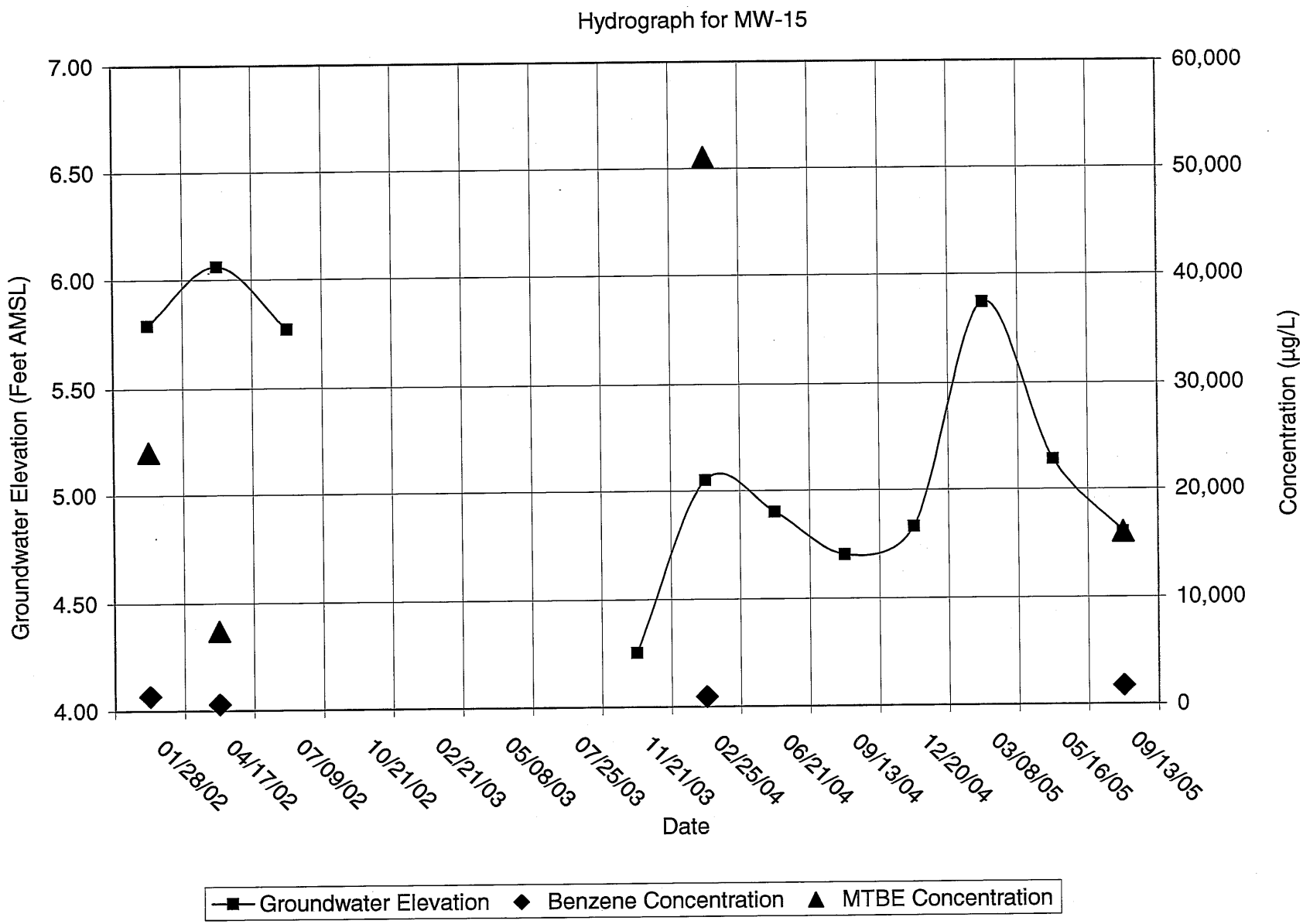

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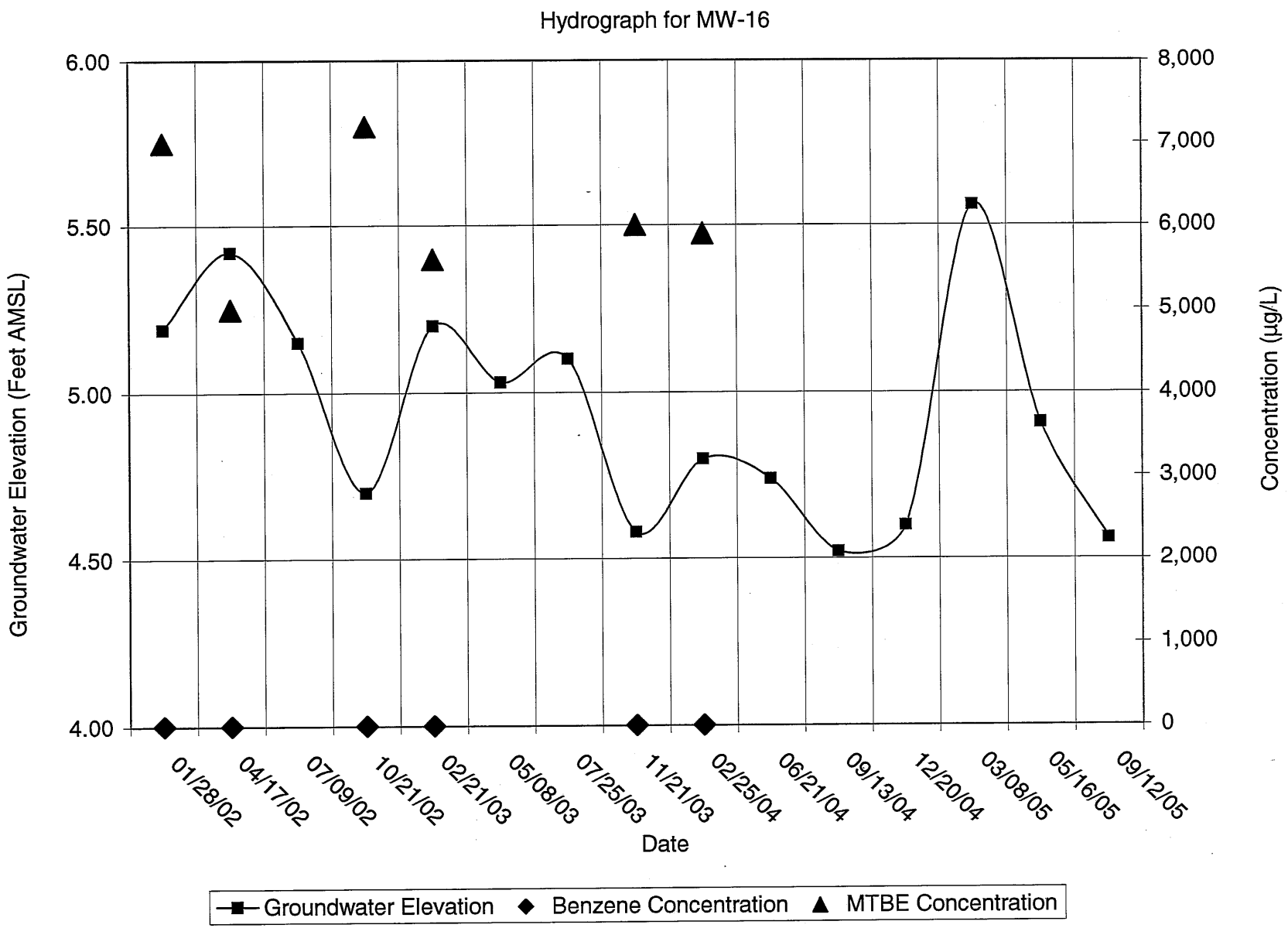

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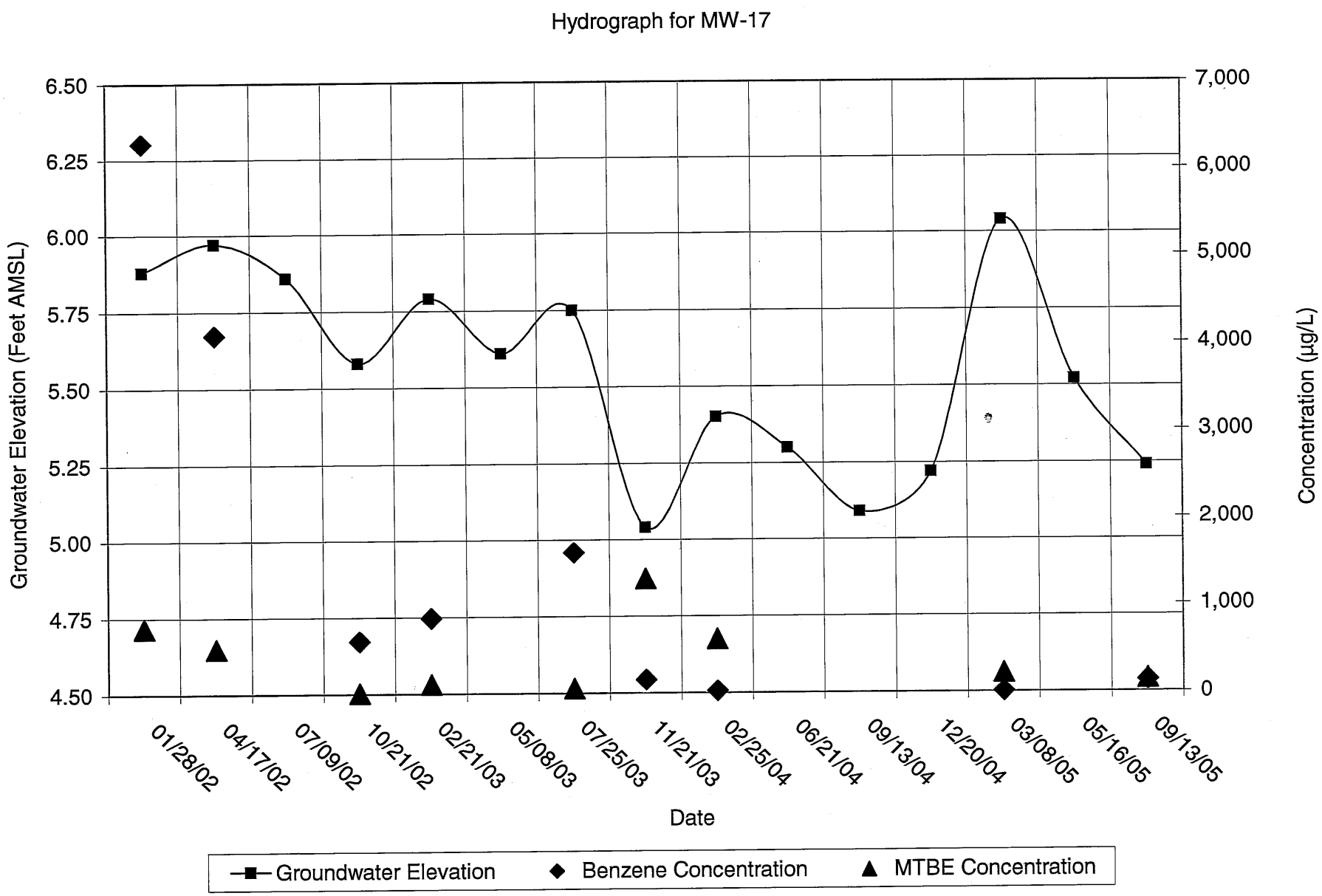

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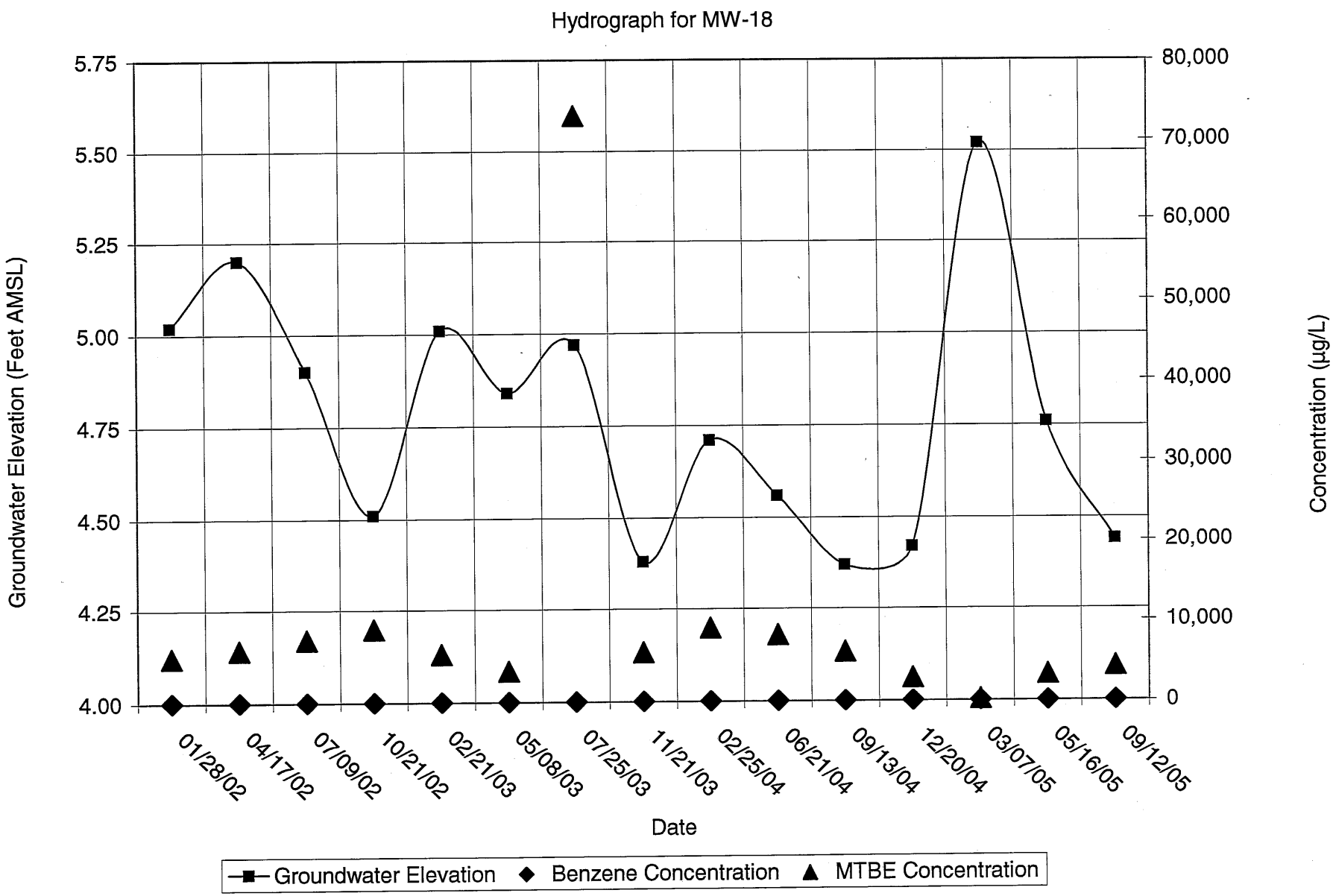

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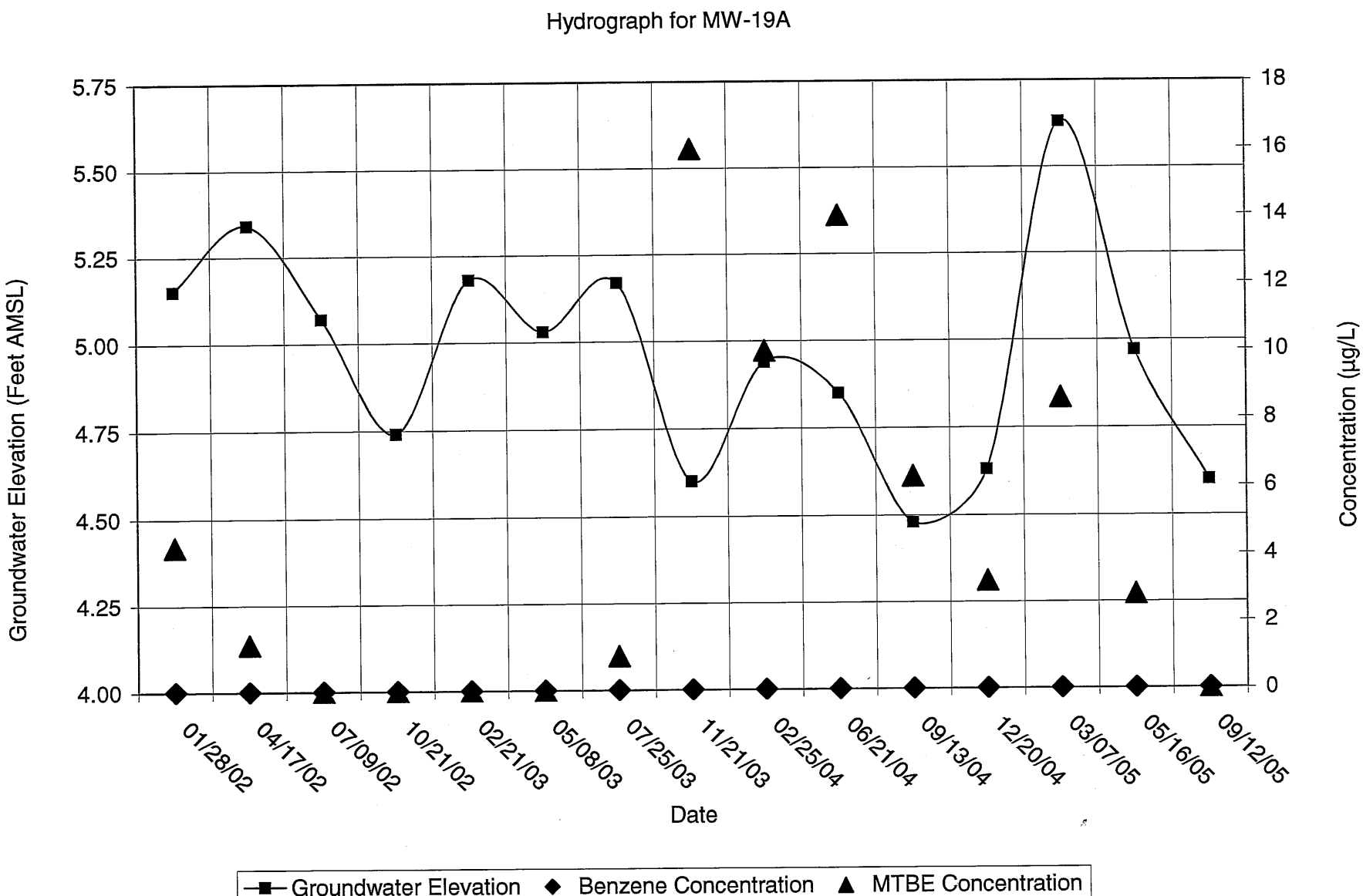

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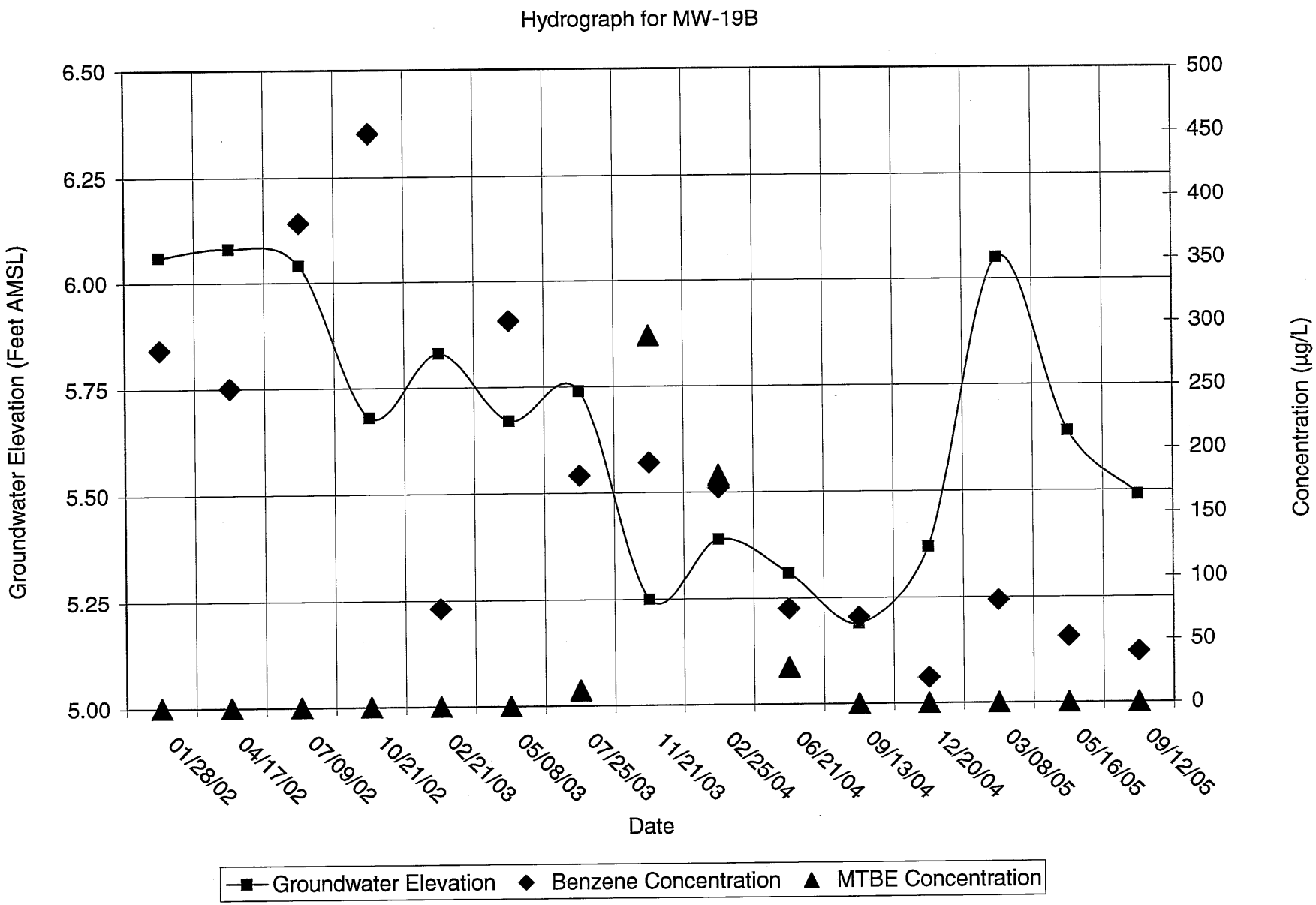

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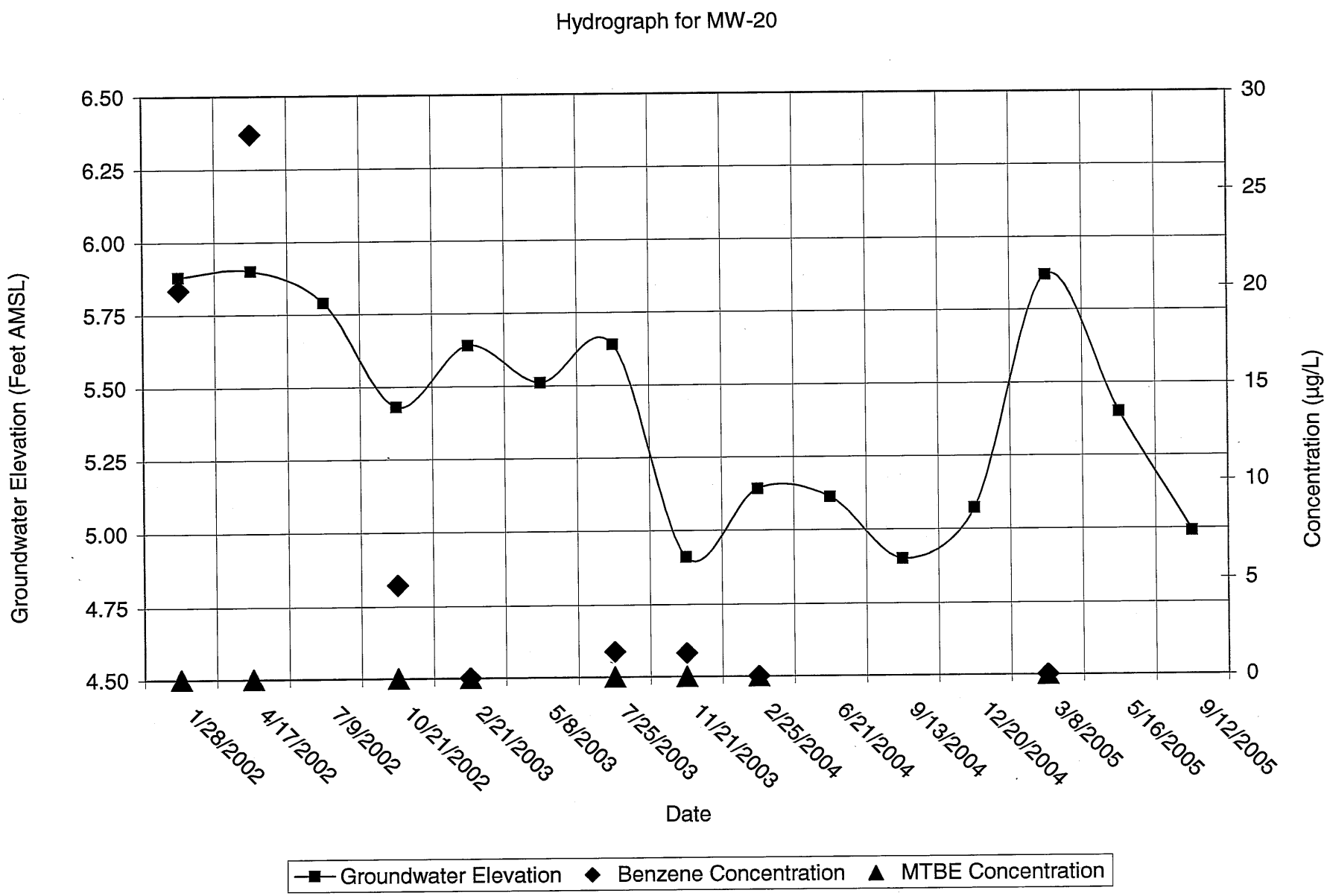

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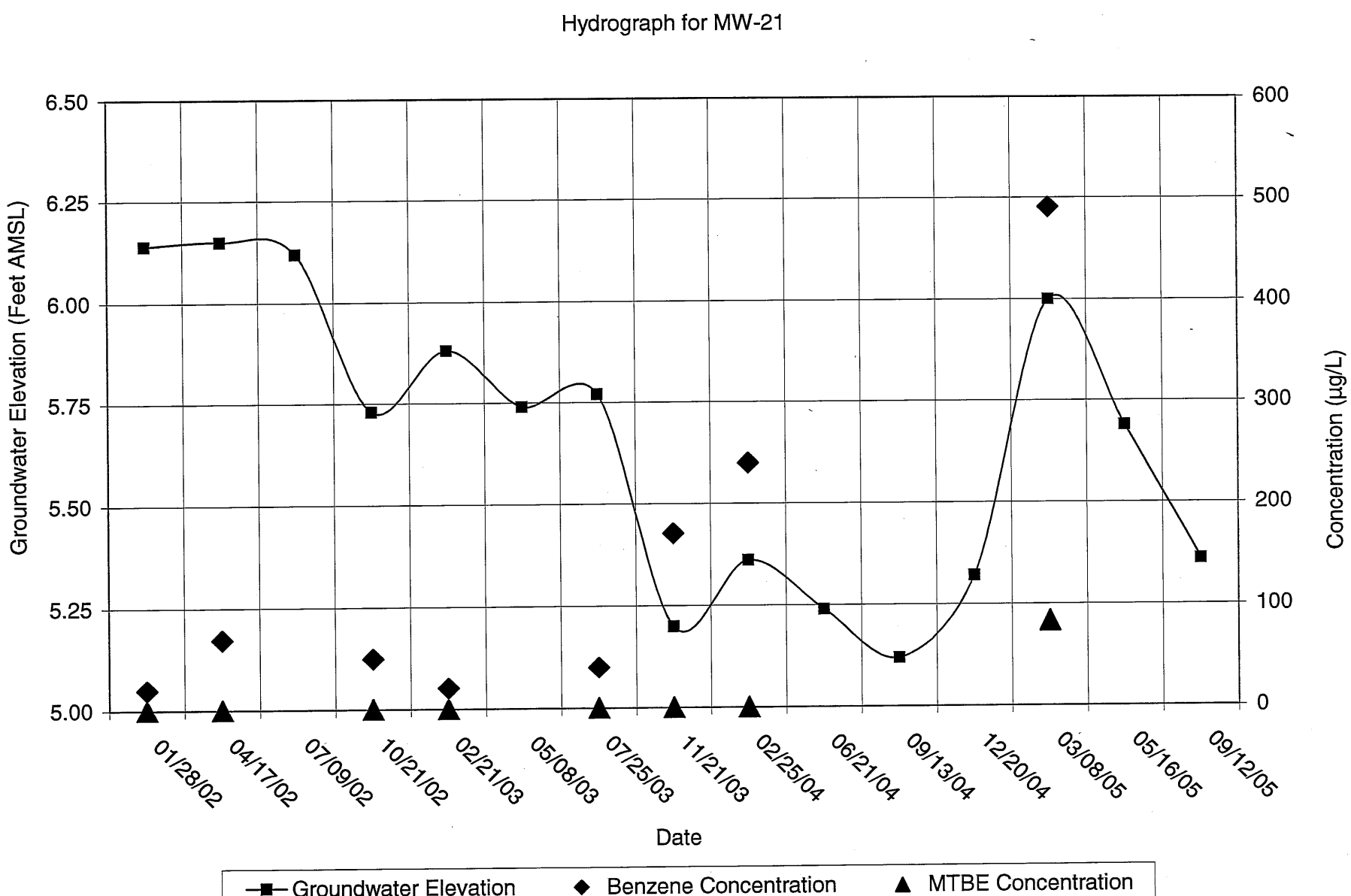

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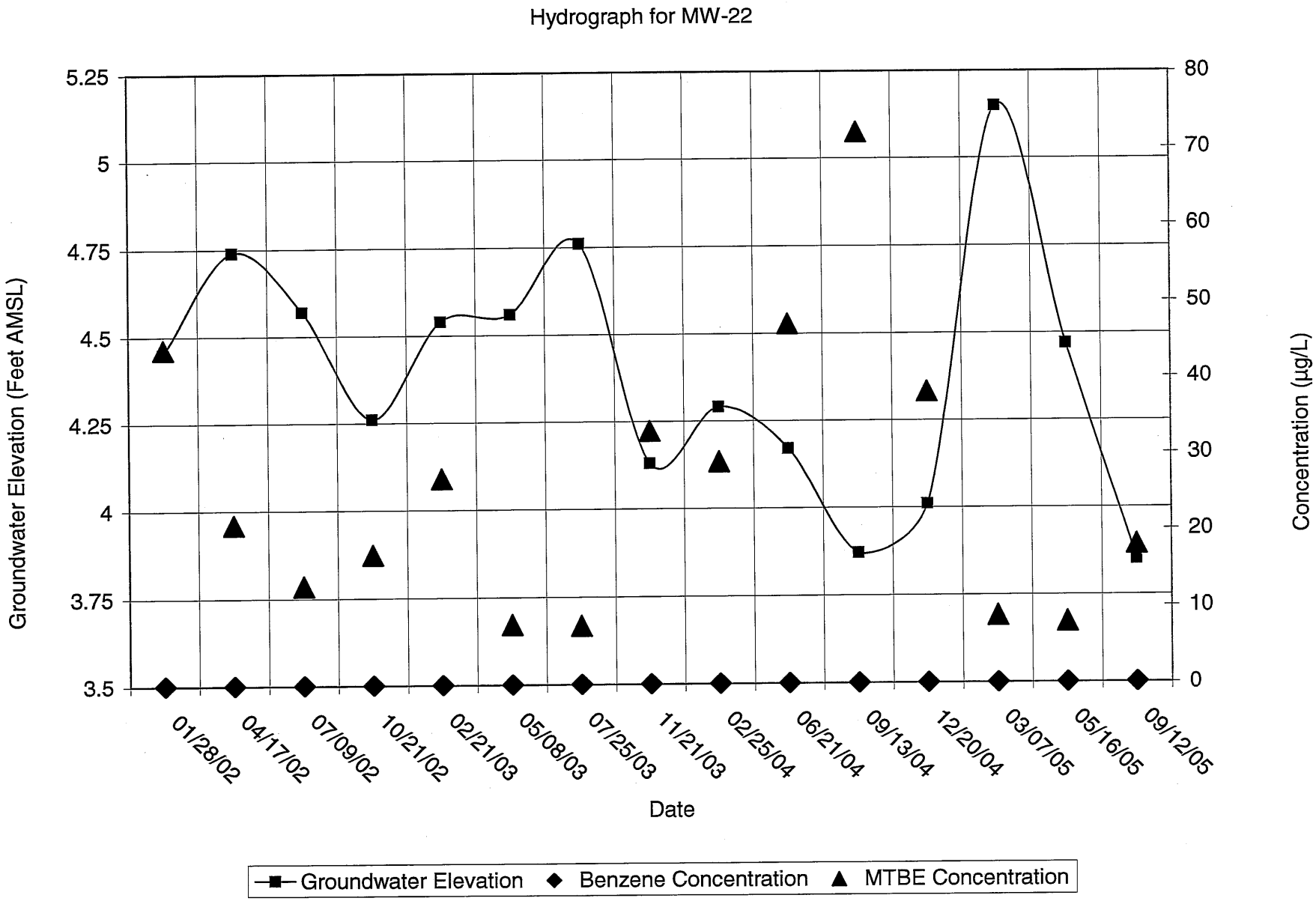

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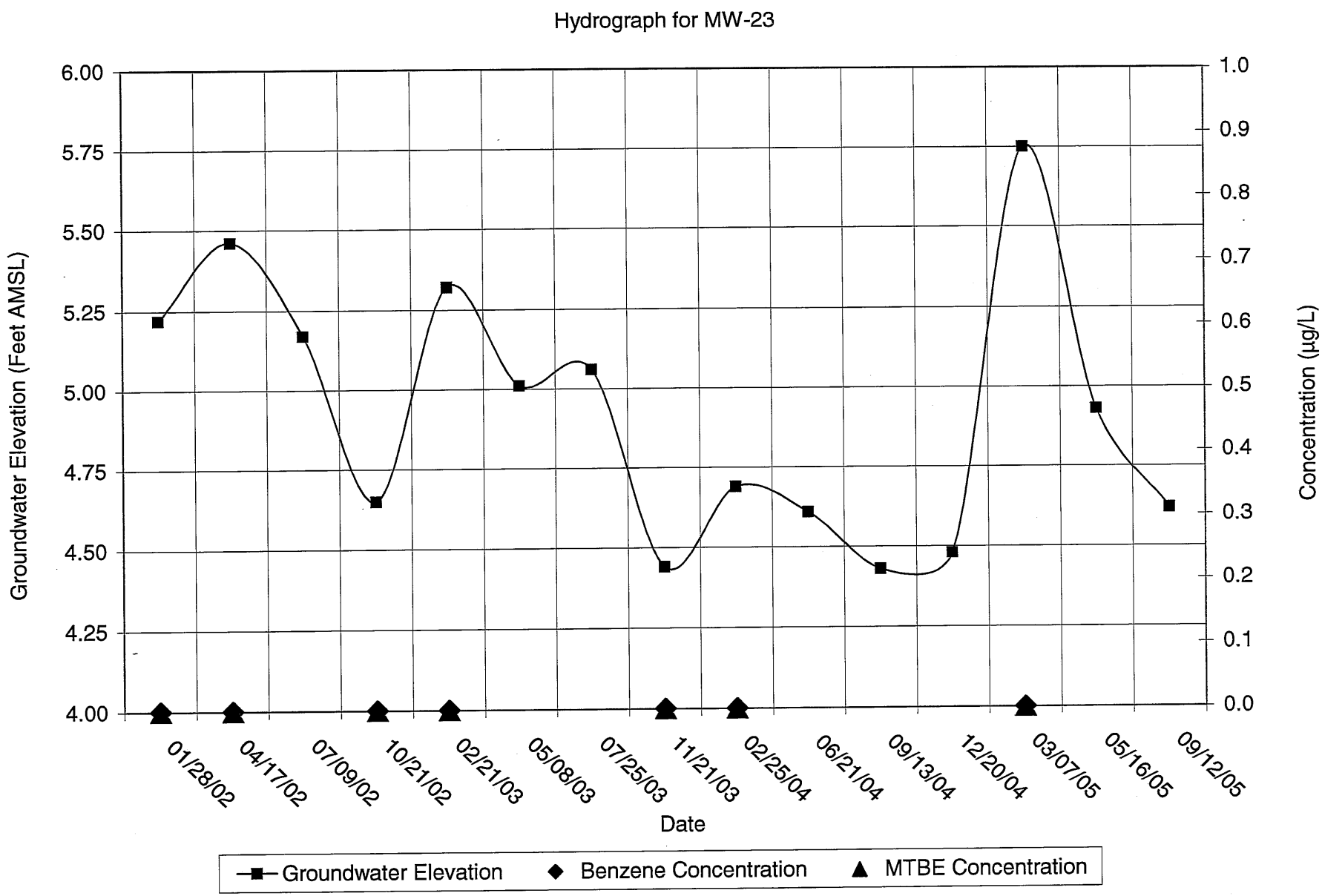

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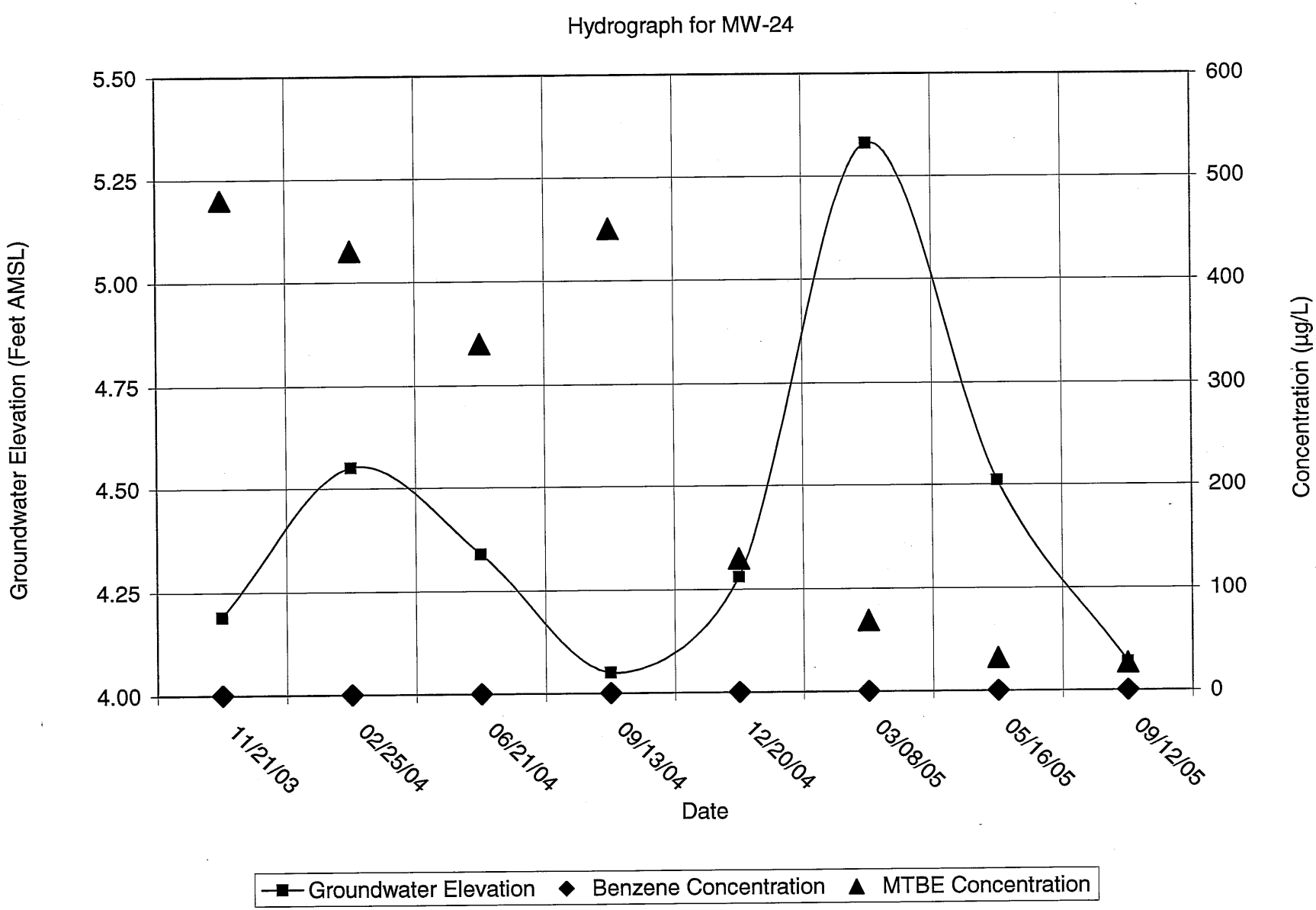

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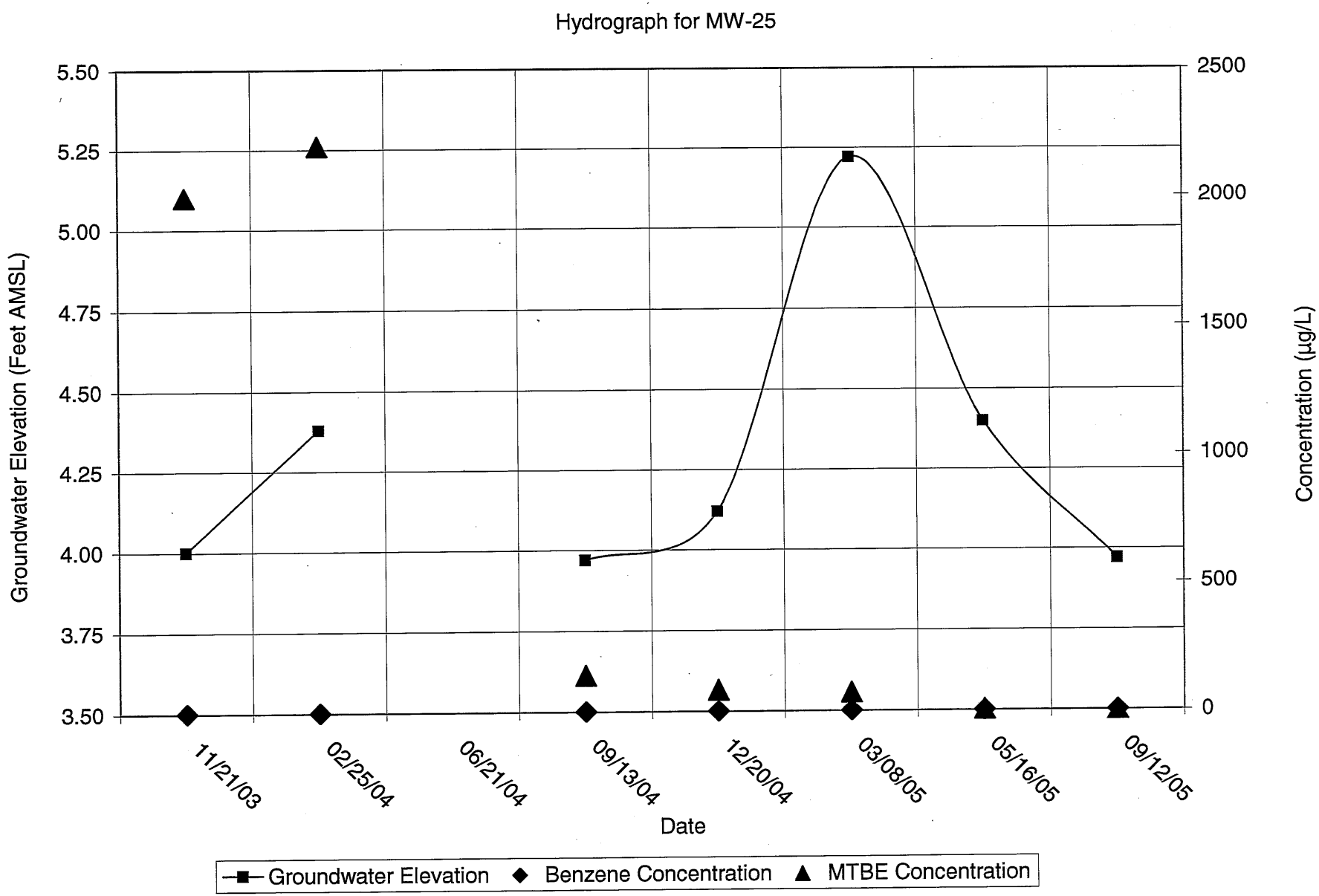

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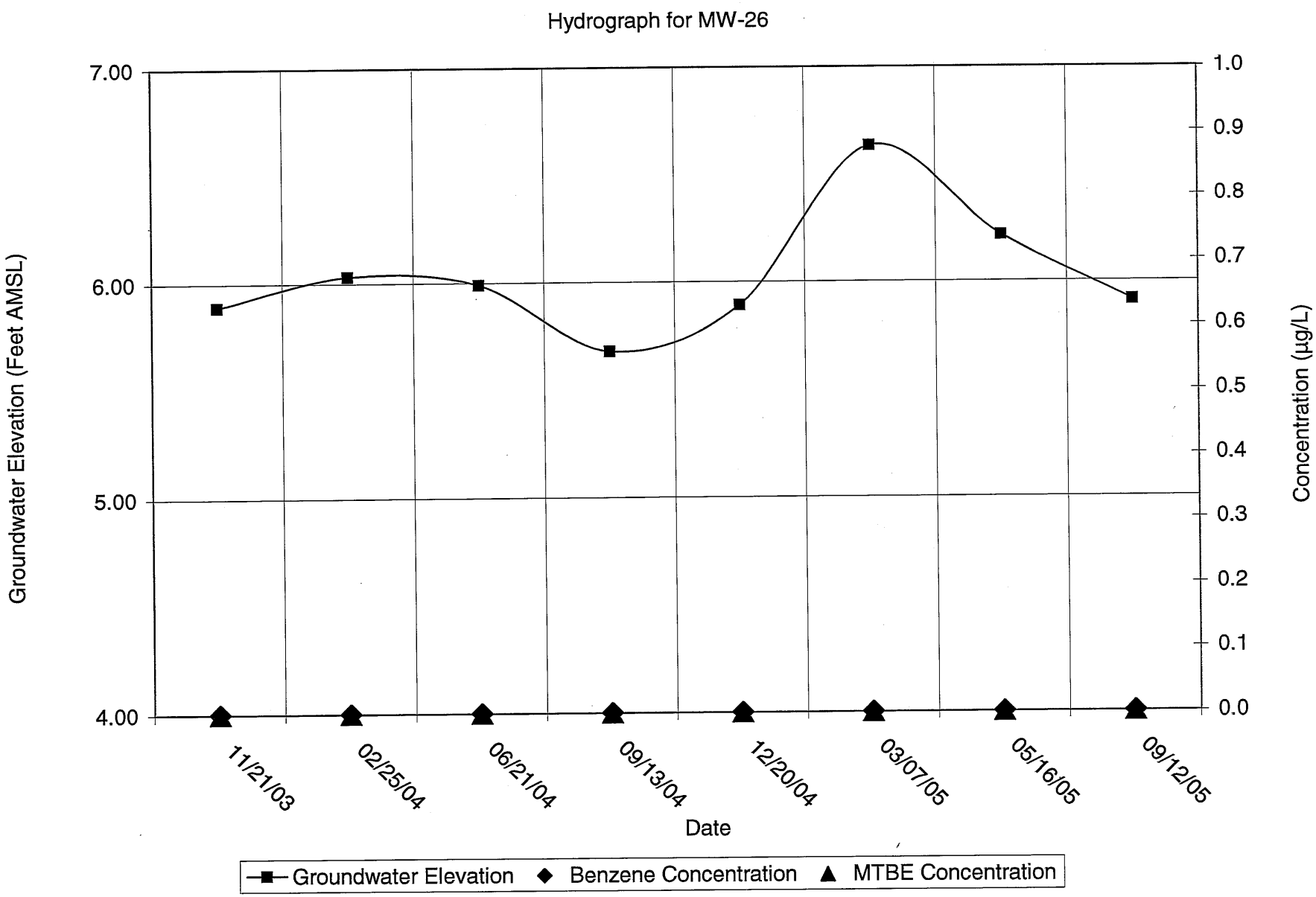

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MONITORING WELL PURGING AND SAMPLING PROCEDURES
SAN DIEGO COUNTY

Fast recovering well: A well is considered to be fast recovering if recovery to 80 percent or more of its static condition occurs within 2 hours when using the high-flow purging method.

Slow recovering well: A well is considered to be slow recovering if recovery to 80 percent of its static water level takes longer than 2 hours when using the high-flow purging and sampling method.

Purging and Sampling Methods: The following method is currently approved by SAM.

High-flow Purging and Sampling: Purging using a pumping rate greater than 1 liter per minute (lpm) or 0.26 gallon per minute (gpm) (Barcelona and Puls, 1996). Traditionally, the high-flow purging method has been widely used. This method typically involves the removal of up to 3 borehole volumes prior to sampling. Samples are most often collected with a bailer or other device after completion of purging. This methodology provides a composite of the contaminant concentration within the well and will likely not be suitable for low yield wells.

1. High-flow Purging and Sampling Method

This method is widely used and involves the removal of water from the well at a rate in excess of 1 lpm (0.26 gpm) by a variety of methods, including pumps, bailers, etc. The following steps are necessary to collect representative samples. Well purging to "dryness" should be avoided.

a. Measure for NAPL

LNAPL and DNAPL may be present in groundwater monitoring wells. If NAPL exists, the well sampling procedure described in this section will typically not apply. Special considerations may be necessary and should be discussed with the SAM project manager on a case-by-case basis.

b. Measure Water Level

The groundwater level in the monitoring well should be measured to an accuracy of 0.01 foot prior to purging and sampling activities.

c. Placement of Pump

The pump should be placed in the lower one-third of the well screen.

d. Calculation of Borehole Volume

f. Parameter Stability

It is assumed that parameter stability is achieved when the difference between successive measurements is less than 10 percent. Generally, measurements are made after one borehole volume is removed and then at one-half borehole volume intervals. Commonly, the measurement of temperature, specific conductance, and pH are used exclusively, but it has been found these parameters are less sensitive to field conditions. It is recommended that dissolved oxygen, turbidity, specific conductance, and temperature be monitored.

g. Purge Well

The well must be purged with a device that does not compromise the sample by cross-contamination, aeration, or other negative effects

(1) Fast Recovering Wells

DEH considers the following two options acceptable methods for properly purging fast recovering wells:

(a) Option I
i. Remove 3 borehole volumes of water.
ii. Allow the well to recover to 80% of its static condition prior to collecting the sample.

(b) Option II
i. Remove 1 borehole volume of water.
ii. Conduct field water-quality measurements (dissolved oxygen, turbidity, specific conductance, and temperature).
iii. Remove an additional ½ borehole volume of water. Conduct field water quality measurements again. If the first and second measurements vary by less than 10%, purging is considered adequate. Proceed to step (v.) below.
iv. Repeat step (iii) until the measurements vary by less than 10% or until 3 borehole volumes of water have been removed.
v. Allow the well to recover to 80% of its static condition before collecting the sample.

(2) Slow Recovering Wells

(a) Remove 1 borehole volume of water.

(b) The well should be allowed to recover for 2 hours after purging has stopped. Then the well should be sampled as soon after 2 hours as possible. Note that if the well recovers to greater than 80% in less than 2 hours, it is a fast recovering well. If so, follow the steps in Option I or II above.

h. Collect Samples

After the monitoring well has been properly purged, the guidelines below for groundwater sample collection should be followed.

(1) In the case of a fast recovering well, samples should be collected when the well has recovered to 80%. In the case of a slow recovering well, samples should be collected as soon as possible after 2 hours have elapsed.

(2) Collect groundwater samples from wells with sampling equipment.

Sampling equipment must be compatible with the contaminant being analyzed

(3) Sampling equipment should be decontaminated before use.

(4) Samples requiring organic analyses should not be filtered.

(5) Samples should be transferred from the sampling device to a container in a manner that minimizes aeration.

(6) Samples should be collected in approved sample containers appropriate for the type of analysis to be performed.

(7) Samples should not be transferred from one sample container to another.

(8) Headspace in sample containers should be avoided.

(9) EPA SW-846 sample preservation and holding times for specific analyses should be followed.

Appropriate sample chain-of-custody procedures must be followed.

SECOR

MONITORING WELL GAUGING LOG

Site Name & Facility No: **ARCO 1919** Date: 9/12/05

Project Number: 08BP.U1919.05 / 4142 Field Representative(s): WW, DIC, SG RP

Checked by: TK

Well No.	Previous QTR DTW	Gauging Time	Depth to Floating Product	Depth to Water (ft)	Floating Product Thickness	Total Casing Depth (ft)	Casing Elevation[1]	Groundwater Elevation[1]	Corrected Groundwater Elevation[1*]	Comments
MW-6	10.28	1023		10.69		15.63	15.96	5.37		
MW-10	10.94	1017		10.16		16.40	16.59	6.43		
MW-11	7.74	1012		8.05		16.47	13.40	5.35		
MW-13	7.35	0929		7.53		17.25	12.79	5.26		
MW-14	6.08	0920		9.26		17.60	14.62	5.36		
MW-15	6.16	0938		6.50		17.18	11.30	4.80		
MW-16	8.17	0950		8.52		16.18	13.08	4.56		
MW-17	9.48	1016		9.76		21.90	15.00	5.24		
MW-18	8.98	0916		9.30		19.85	13.74	4.44		
MW-19A	8.42	1231		8.79		19.70	13.39	4.60		
MW-19B	11.03	1025		11.18		14.34	16.67	5.45[9]		
MW-20	7.86	1020 ~~1000~~		8.27 ~~8.16~~		18.83	13.26	4.99		

Notes:
1 = feet above mean sea level unless noted otherwise
* = elevation adjusted by adding (.75 x product thickness) to measured water elevation
- = not measured due to the presence of liquid-phase hydrocarbons

Sheen = discontinuous, non-measurable thickness of LPH
Trace = continuous, non-measurable thickness of LPH
ND = Not detected
NM = Not measured

SECOR

MONITORING WELL GAUGING LOG

Site Name & Facility No: **ARCO 1919** Date: 9/12/05

Project Number: 08BP.U1919.05 / 4142 Field Representative(s): WW, DK, JG, RP

Checked by: TK

Well No.	Previous QTR DTW	Gauging Time	Depth to Floating Product	Depth to Water (ft)	Floating Product Thickness	Total Casing Depth (ft)	Casing Elevation[1]	Groundwater Elevation[1]	Corrected Groundwater Elevation[1*]	Comments
MW-21	7.83	1000		8.16		11.78	13.52	5.36		
MW-22	5.31	1212	—	5.93	—	18.10	9.78	3.85		
MW-23	7.49	0908		7.80		20.30	12.42	4.62		
MW-24	4.32	0926		4.76		16.73	8.83	4.07		
MW-25	2.81	0915		3.24		17.35	7.21	3.97		
MW-26	23.61	0933		23.91		34.65	29.82	5.91		

Notes:
1 = feet above mean sea level unless noted otherwise
* = elevation adjusted by adding (.75 x product thickness) to measured water elevation
- = not measured due to the presence of liquid-phase hydrocarbons

Sheen = discontinuous, non-measurable thickness of LPH
Trace = continuous, non-measurable thickness of LPH
ND = Not detected
NM = Not measured

SECOR

RNA PARAMETER FIELD SHEET

Site Name & Facility No: Arco 1919

Date: 9/12/2005

Project Number: 08BP.01919.06.0427

Field Representative(s): RP, (illegible)

Checked by:

Well No.	Gauging Time	Depth to Water (ft.)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Specific Conductivity (~~S/m~~) mS/cm	pH	Temperature (°C)	Comments
MW-14 pre	0955	~~9.37~~ 9.26	0.65	-42.0	3.221	7.78	22.32	
MW-14 post	0908 9/13/05	12.51	2.92	28.1	2.478	7.70	22.80	
MW-15 pre	0947	6.50 ~~6.45~~	0.27	-277.5	4.391	8.69	25.03	
MW-15 post	1100	16.89	0.78	-118.3	4.783	8.71	25.23	Not enough H_2O to put probes 5ft ~~below~~
MW-17 pre	1018	8.76	0.29	-94.0	2.254	7.93	23.25	
MW-17 post	0939	15.79	0.32	-14.7	6.781	7.21	22.85	
MW-18 pre	0939	9.30 ~~9.42~~	0.23	-16.4	4.157	7.76	23.97	
MW-18 post	1052	13.51	0.40	-248.9	4.687	9.11	23.16	
MW-19B pre	1025	11.18	0.24	-268.5	2400	8.84	24.06	
MW-19B post	1134	11.71	0.86	-117.8	2.344	8.64	24.3	
MW-24 pre	0926	4.76	~~0.~~ 0.43	-106.7	5.260	7.66	27.23	
MW-24 post	1230	5.66	0.34	-196.6	9.520	8.66	24.9	

Notes:
NM = Not measured
mg/L = milligrams per liter
mV = millivolts
S/m = Siemens per meter
°C = degrees celsius

SECOR

MONITORING WELL GAUGING LOG

Site Name & Facility No: Arco 1919 Date: 9/12/2005

Project Number: 08BP.01919.06.0427 Field Representative(s):

Checked by:

Well No.	Gauging Time	Depth to Water (ft.)	Dissolved Oxygen (mg/L)	Oxidation Reduction Potential (mV)	Specific Conductivity ~~(S/m)~~ mS/cm	pH	Temperature (°C)	Comments
MW-25 pre	0915	3.24	0.27	-98.3	4.465	7.76	26.09	
MW-25 post	1222	3.28	0.70	-87.8	5.570	7.58	24.66	
MW-26 pre	0933	23.91	7.03	2.6	2.395	7.95	21.20	
MW-26 post	1117	25.26	6.99	34.9	2.828	8.34	21.21	

Notes:
NM = Not measured
mg/L = milligrams per liter
mV = millivolts
ORP = oxidation-reduction potential
S/m = Siemens per meter
°C = degrees celsius

HORIBA U-22 CALIBRATION FORM
ARCO Facility #1919
660 Via de la Valle, Solana Beach, CA

DATE/TIME: ~~7/1~~ 9/15/05 CALIBRATED BY: Wolong

~~HORIBA U-22~~ ID #: 157-556 DO METER ID #: 152-55 Pentai

Office	~~Horiba U-22~~ 157-556					Office DO Meter
	DO (mg/L)	ORP (mV)	S Cond (S/m)	pH	Temp (°C)	DO mg/L
Standard	0	100		7.00		0
Instrument Reading	0.0	99		7.00		0.0
Difference	0	-1		0		0
Calibration Successful?	Y	Y		Y		Y

Pre-Sampling	157-556 ~~Horiba U-22~~		Office DO Meter		Less than 0.5mg/L
	DO ~~Temp~~ °C	Temp ~~DO~~ (mg/L)	Temp (°C)	DO (mg/L)	
Standard	0	100		0	0
Instrument Reading	0.2	101		0.1	0.1
Difference	0.2	+1		0.1	0.1
Calibration Successful?	Y	Y		Y	Y

Post-Sampling	Horiba U-22		Office DO Meter		Less than 0.5mg/L
	DO ~~Temp~~ °C	Temp ~~DO~~ (mg/L)	Temp (°C)	DO (mg/L)	
Standard	0			0	0
Instrument Reading	0.1			0.1	0.1
Difference	0.1			0.1	0.1
Calibration Successful?	Y			Y	Y

SECOR INTERNATIONAL INCORPORATED	WELL PURGING / SAMPLING LOG		Well No: MW- 6
	Project Name: ARCO 1919		Date:
	Project Number: 08BP.U1919.05 / 4142		Sample Time: NS
	SECOR Rep:	Checked by:	Sample No: MW- 6

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID. Solinist #

Purging Equipment / Method: ___ Vac Truck ___ Bailer ___ Submersible Pump ___ Other

pH Temp/Conductivity Meter Type / ID.

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer ____ Other: ____

Decontamination Method: ___ Steam / High Pressure Wash ___ 3 Stage (Alconox, Tap & DI rinse) ___ Other

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 (10) 12

Casing Diameter (in): 2 (4)

Depth to Water (DTW_1) (ft):

Total Well Depth (DTB) (ft): 15.63 | Water Column:

Floating Product: | Thickness (in):

Borehole Volume (gal): | 1.5 Borehole Volumes (gal):

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging					
		NO SAMPLE 3205				

Maximum Drawdown (DTW_2) (ft) =

H_2O Removal Rate (GPM) =

____ Fast Recharging Well

____ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes:

RECOVERY CALCULATIONS

$$\%\ of\ Recovery = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\%\ of\ Recovery = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_$$

$$= \_\_\ \%$$

80% Recharge =

SECOR INTERNATIONAL INCORPORATED	WELL PURGING / SAMPLING LOG		Well No: MW- 10
	Project Name: ARCO 1919		Date:
	Project Number: 08BP.U1919.05 / 4142		Sample Time: NS
	SECOR Rep:	Checked by:	Sample No: MW- 10

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist #

Purging Equipment / Method: ___ Vac Truck ___ Bailer ___ Submersible Pump ___ Other

pH Temp/Conductivity Meter Type / ID:

Sampling Method: ___ Teflon Bailer ___ Disposable Bailer ___ Other ___

Decontamination Method: ___ Steam / High Pressure Wash ___ 3 Stage (Alconox, Tap & DI rinse) ___ Other

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 (10) 12

Casing Diameter (in): 2 (4)

Depth to Water (DTW_1) (ft):

Total Well Depth (DTB) (ft): 16.40

Water Column:

Floating Product:

Thickness (in):

Borehole Volume (gal):

1.5 Borehole Volumes (gal):

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging					
		NO SAMPLE 32'05				

Maximum Drawdown (DTW_2) (ft) =

H_2O Removal Rate (GPM) =

___ Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_\_$$

$$= \_\_\_\_\%$$

80% Recharge = _____

SECOR INTERNATIONAL INCORPORATED	WELL PURGING / SAMPLING LOG		Well No: MW- 11
	Project Name: ARCO 1919		Date:
	Project Number: 08BP.U1919.05 / 4142		Sample Time: NS
	SECOR Rep:	Checked by:	Sample No: MW- 11

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist #

Purging Equipment / Method: ___ Vac Truck ___ Bailer ___ Submersible Pump ___ Other

pH Temp/Conductivity Meter Type / ID:

Sampling Method: ___ Teflon Bailer ___ Disposable Bailer ___ Other

Decontamination Method: ___ Steam / High Pressure Wash ___ 3 Stage (Alconox, Tap & DI rinse) ___ Other

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 (10) 12

Casing Diameter (in): 2 (4)

Depth to Water (DTW_1) (ft):

Total Well Depth (DTB) (ft): 16.47

Water Column:

Floating Product:

Thickness (in):

Borehole Volume (gal):

1.5 Borehole Volumes (gal):

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging					
		NO	SAMPLE 3Q	05		

Maximum Drawdown (DTW_2) (ft) =

H_2O Removal Rate (GPM) =

___ Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_\_$$

$$= \_\_\_\_\%$$

80% Recharge = _____

SECOR INTERNATIONAL INCORPORATED	WELL PURGING / SAMPLING LOG		Well No MW- 13
	Project Name: ARCO 1919		Date:
	Project Number: 08BP.U1919.05 / 4142		Sample Time: N5
	SECOR Rep:	Checked by:	Sample No MW- 13

PURGING & SAMPLING EQUIPMENT / METHOD	WELL SPECIFICATIONS & MEASUREMENTS	
Water Level Meter Type & ID: Solinist #	Borehole Diameter (in): 8 (0) 12	
Purging Equipment / Method: ___ Vac Truck ___ Bailer ___ Submersible Pump ___ Other	Casing Diameter (in): 2 (4)	
pH Temp/Conductivity Meter Type / ID:	Depth to Water (DTW_1) (ft):	
Sampling Method: ____ Teflon Bailer ____ Disposable Bailer ____ Other:	Total Well Depth (DTB) (ft): 17.25	Water Column:
Decontamination Method: ___ Steam / High Pressure Wash ___ 3 Stage (Alconox, Tap & DI rinse) ___ Other	Floating Product:	Thickness (in):
	Borehole Volume (gal):	1.5 Borehole Volumes (gal):

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging					
		NO SAMPLE 32'05				

Maximum Drawdown (DTW_2) (ft) =

H_2O Removal Rate (GPM) =

____ Fast Recharging Well

____ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_$$

$$= \_\_\_\_\_ \%$$

80% Recharge = _____

SECOR

INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Project Name:	ARCO 1919
Project Number:	08BP.U1919.05 / 4142
SECOR Rep:	W Wong
Checked by:	
Well No:	MW- 14
Date:	9/13/05
Sample Time:	1100
Sample No:	MW- 14

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist # 3A

Purging Equipment / Method: ___ Vac Truck ___ Submersible Pump X Bailer ___ Other

pH Temp/Conductivity Meter Type / ID: 1

Sampling Method: ___ Teflon Bailer X Disposable Bailer ___ Other

Decontamination Method: ___ Steam / High Pressure Wash X 3 Stage (Alconox, Tap & DI rinse) ___ Other

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 (10) 12

Casing Diameter (in): 2 (4)

Depth to Water (DTW_1) (ft): 9.25 @ 0859, 9/13/05

Total Well Depth (DTB) (ft): 17.60

Water Column: 8.35

Floating Product: —

Thickness (in): —

Borehole Volume (gal): 12.53

1.5 Borehole Volumes (gal): 18.80

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
0904	Started Purging					
0907	12.23	13	7.26	22.9	1237	yellow/tan, silty, roots, odorless
0908	12.51	19	7.23	22.7	1274	"
1100	9.25	Sample				

Maximum Drawdown (DTW_2) (ft) = 12.51

H_2O Removal Rate (GPM) = 4.75

X Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled: 1100

Depth to Water at time of sampling (DTW_3): 9.25

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(9.25) - (9.25)}{(9.25) - (12.51)} = \frac{0}{3.26} = 100\%$$

80% Recharge = 9.90

SECOR

INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Project Name:	ARCO 1919	Well No	MW- 15
Project Number:	08BP.U1919.05 / 4142	Date:	9/13/05
SECOR Rep: RP/WW	Checked by: TK	Sample Time:	1235
		Sample No	MW- 15

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist # 8

Purging Equipment / Method: ___ Vac Truck ___ Submersible Pump X Bailer ___ Other

pH Temp/Conductivity Meter Type / ID: 1

Sampling Method: ___ Teflon Bailer X Disposable Bailer ___ Other:

Decontamination Method: ___ Steam / High Pressure Wash X 3 Stage (Alconox, Tap & DI rinse) ___ Other:

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 (10) 12

Casing Diameter (in): 2 (4)

Depth to Water (DTW_1) (ft): 6.58 @ 0959, 9/13/05

Total Well Depth (DTB) (ft): 17.18

Water Column: 10.6

Floating Product: —

Thickness (in): —

Borehole Volume (gal): 15.9

1.5 Borehole Volumes (gal): 23.85

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
1001	Started Purging					
1013	dry	~~16~~ 12	7.20	23.6	3280	black, strong odor, silty
1035	dry	~~29~~ 16	7.22	23.8	3310	
1235	9.16	sample				

Maximum Drawdown (DTW_2) (ft) = dry / 17.18

H_2O Removal Rate (GPM) = 0.47

___ Fast Recharging Well

X Slow Recharging Well

SAMPLING INFORMATION

Time Sampled: 1235

Depth to Water at time of sampling (DTW_3): 9.16

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes: H. Slow

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(6.58) - (9.16)}{(6.58) - (17.18)} \quad \frac{-2.58}{-10.6}$$

$$= 76\ \%$$

80% Recharge = 8.70

SECOR INTERNATIONAL INCORPORATED	WELL PURGING / SAMPLING LOG		Well No MW- 16
	Project Name: ARCO 1919		Date:
	Project Number: 08BP.U1919.05 / 4142		Sample Time: NS
	SECOR Rep:	Checked by:	Sample No: MW- 16

PURGING & SAMPLING EQUIPMENT / METHOD	WELL SPECIFICATIONS & MEASUREMENTS	
Water Level Meter Type & ID: Solinist #	Borehole Diameter (in): 8 (10) 12	
Purging Equipment / Method: ___Vac Truck ___Bailer ___Submersible Pump ___Other	Casing Diameter (in): 2 (4)	
pH Temp/Conductivity Meter Type / ID:	Depth to Water (DTW_1) (ft):	
Sampling Method: ____Teflon Bailer ____Disposable Bailer ____Other:	Total Well Depth (DTB) (ft). 16.18	Water Column:
Decontamination Method: ___Steam / High Pressure Wash ___3 Stage (Alconox, Tap & DI rinse) ___Other	Floating Product:	Thickness (in):
	Borehole Volume (gal):	1.5 Borehole Volumes (gal):

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging					
		NO SAMPLE 30'05				

Maximum Drawdown (DTW_2) (ft) =

H_2O Removal Rate (GPM) =

____Fast Recharging Well

____Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes:

RECOVERY CALCULATIONS

$$\%\ of\ Recovery = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\%\ of\ Recovery = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_\_$$

$$= \_\_\_\ \%$$

80% Recharge = ____

SECOR

INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Project Name:	ARCO 1919
Project Number:	08BP.U1919.05 / 4142
SECOR Rep:	PALERMO
Checked by:	WH
Well No.	MW- 17
Date:	13 SEPT 2005
Sample Time:	1122
Sample No:	MW- 17

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist # 5

Purging Equipment / Method: ___ Vac Truck ✓ Bailer ___ Submersible Pump ___ Other

pH Temp/Conductivity Meter Type / ID:

Sampling Method: ___ Teflon Bailer ✓ Disposable Bailer ___ Other:

Decontamination Method: ___ Steam / High Pressure Wash ✓ 3 Stage (Alconox, Tap & DI rinse) ___ Other:

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 (10) 12

Casing Diameter (in): 2 (4)

Depth to Water (DTW_1) (ft): 9.86 @ 0856

Total Well Depth (DTB) (ft): 21.90

Water Column: 12.04

Floating Product: —

Thickness (in): —

Borehole Volume (gal): 18.06

1.5 Borehole Volumes (gal): 27.09

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
0905	Started Purging					
0910	19.54	18.5	7.08	23.3	1817	odor / cloudy / gray
0922	21.82	27.5	7.11	23.6	1852	" " / "
1122	10.38	SAMPLE				

Maximum Drawdown (DTW_2) (ft) = 21.82

H_2O Removal Rate (GPM) = 1.59 gpm / 1.62

X Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled: 1122

Depth to Water at time of sampling (DTW_3): 10.38

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(9.86) - (10.38)}{(9.86) - (21.82)} = \frac{-.52}{-11.96} = 86\ \%$$

80% Recharge = 12.25

SECOR INTERNATIONAL INCORPORATED	WELL PURGING / SAMPLING LOG		Well No: MW- 18
	Project Name: ARCO 1919		Date: 8/9/12/05
	Project Number: 08BP.U1919.05 / 4142		Sample Time: 1056
	SECOR Rep: RP/KJW	Checked by: KJW	Sample No: MW- 18

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist # 8

Purging Equipment / Method: ___ Vac Truck ___ Submersible Pump X Bailer ___ Other

pH Temp/Conductivity Meter Type / ID: 6

Sampling Method: ___ Teflon Bailer X Disposable Bailer ___ Other:

Decontamination Method: ___ Steam / High Pressure Wash X 3 Stage (Alconox, Tap & Di rinse) ___ Other

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 (10) 12

Casing Diameter (in): 2 (4)

Depth to Water (DTW_1) (ft): 9.43@1044, 8/12/05

Total Well Depth (DTB) (ft): 19.85

Water Column: 10.42

Floating Product: ___

Thickness (in): ___

Borehole Volume (gal): 15.65

1.5 Borehole Volumes (gal): 23.45

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (µ mhos)	Water Description (odor, turbidity, color)
1045	Started Purging					
1049	13.10	16	7.33	22.8	4740	Odor / cloudy / dark
1052	13.51	23.5	7.36	22.6	4754	" / " / "
1056	9.66	Sample	—	—	—	" / " / "

Maximum Drawdown (DTW_2) (ft) = 13.51

H_2O Removal Rate (GPM) = 3.36

✓ Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled: 1056

Depth to Water at time of sampling (DTW_3): 9.66

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(9.43) - (9.66)}{(9.43) - (13.51)}$$

-.23

~~WW 2.36~~

94.08

~~WW 2%~~

94

80% Recharge = 10.25

SECOR

INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Project Name:	ARCO 1919
Project Number:	08BP.U1919.05 / 4142
SECOR Rep:	JG DK
Checked by:	WW
Well No:	MW- 19A
Date:	9-12-05
Sample Time	1244
Sample No:	MW- 19A

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist # 15

Purging Equipment / Method: ___ Vac Truck ___ Bailer X Submersible Pump ___ Other

pH Temp/Conductivity Meter Type / ID: 1A

Sampling Method: ___ Teflon Bailer X Disposable Bailer ___ Other:

Decontamination Method: ___ Steam / High Pressure Wash X 3 Stage (Alconox, Tap & DI rinse) ___ Other

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 (10) 12

Casing Diameter (in): 2 (4)

Depth to Water (DTW_1) (ft): ~~5.93~~ 8.79

Total Well Depth (DTB) (ft): 19.70

Water Column: ~~13.77~~ 10.91

Floating Product:

Thickness (in):

Borehole Volume (gal): ~~20.6~~ 16.36

1.5 Borehole Volumes (gal): ~~30.98~~ 24.54

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
1233	Started Purging					
1238	10.40	16.5	7.25	23.7	1344	Clear, odorless
1242	10.42	25	7.21	23.4	1347	" "
1244	9.00	Sample				

Maximum Drawdown (DTW_2) (ft) = 10.42

H_2O Removal Rate (GPM) = 2.77

X Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled: 1244

Depth to Water at time of sampling (DTW_3): 9.00

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(8.79) - (9.00)}{(8.79) - (10.42)} = \frac{0.21}{1.63} = 87\%$$

80% Recharge = 9.11

SECOR

INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Project Name:	ARCO 1919
Project Number:	08BP.U1919.05 / 4142
SECOR Rep:	J. Corscia
Checked by:	WW
Well No.	MW- 19B
Date:	9-12-05
Sample Time:	1136
Sample No:	MW- 19B

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist # 14

Purging Equipment / Method: ___ Vac Truck ___ Submersible Pump X Bailer ___ Other

pH Temp/Conductivity Meter Type / ID: 1A

Sampling Method: ___ Teflon Bailer X Disposable Bailer ___ Other:

Decontamination Method: ___ Steam / High Pressure Wash X 3 Stage (Alconox, Tap & DI rinse) ___ Other:

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 (10) 12

Casing Diameter (in): 2 (4)

Depth to Water (DTW_1) (ft): 11.18

Total Well Depth (DTB) (ft): 14.34

Water Column: 3.16

Floating Product:

Thickness (in):

Borehole Volume (gal): 4.74

1.5 Borehole Volumes (gal): 7.11

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
1053	Started Purging					
1102	Dry	5	7.65	26.20	1352	black, med odor
1110	Dry	7.5	7.56	26.20	1344	" "
1136	11.51	Sample				

Maximum Drawdown (DTW_2) (ft) = 14.34

H_2O Removal Rate (GPM) = ~~0.39~~ DW 0.44

X Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled: 1136

Depth to Water at time of sampling (DTW_3): 11.51

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(11.18) - (11.51)}{(11.18) - (14.34)} = \frac{0.33}{-3.16} = 89\%$$

80% Recharge = 11.81

SECOR INTERNATIONAL INCORPORATED	WELL PURGING / SAMPLING LOG		Well No: MW- 20
	Project Name: ARCO 1919		Date:
	Project Number: 08BP.U1919.05 / 4142		Sample Time: N5
	SECOR Rep:	Checked by:	Sample No: MW- 20

PURGING & SAMPLING EQUIPMENT / METHOD	WELL SPECIFICATIONS & MEASUREMENTS	
Water Level Meter Type & ID: Solinist #	Borehole Diameter (in): 8 (10) 12	
Purging Equipment / Method: ___ Vac Truck ___ Bailer ___ Submersible Pump ___ Other	Casing Diameter (in): 2 (4)	
pH Temp/Conductivity Meter Type / ID:	Depth to Water (DTW_1) (ft):	
Sampling Method: ___ Teflon Bailer ___ Disposable Bailer ___ Other ___	Total Well Depth (DTB) (ft): 18.83	Water Column:
	Floating Product:	Thickness (in):
Decontamination Method: ___ Steam / High Pressure Wash ___ 3 Stage (Alconox, Tap & DI rinse) ___ Other	Borehole Volume (gal):	1.5 Borehole Volumes (gal):

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging					
		NO	SAMPLE 3J'05			

Maximum Drawdown (DTW_2) (ft) =	___ Fast Recharging Well
H_2O Removal Rate (GPM) =	___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:	Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or (NONE)	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_\_$$

$$= \_\_\_\_\_ \%$$

80% Recharge = _____

SECOR INTERNATIONAL INCORPORATED	WELL PURGING / SAMPLING LOG		Well No: MW- 21
	Project Name: ARCO 1919		Date:
	Project Number: 08BP.U1919.05 / 4142		Sample Time: NS
	SECOR Rep:	Checked by:	Sample No: MW- 21

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist #

Purging Equipment / Method: ___ Vac Truck ___ Bailer ___ Submersible Pump ___ Other

pH Temp/Conductivity Meter Type / ID:

Sampling Method: ____ Teflon Bailer ____ Disposable Bailer ____ Other ____

Decontamination Method: ___ Steam / High Pressure Wash ___ 3 Stage (Alconox, Tap & DI rinse) ___ Other

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 (10) 12

Casing Diameter (in): 2 (4)

Depth to Water (DTW_1) (ft):

Total Well Depth (DTB) (ft): 11.78

Water Column:

Floating Product:

Thickness (in):

Borehole Volume (gal):

1.5 Borehole Volumes (gal):

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging					
		NO SAMPLE 3Q'05				

Maximum Drawdown (DTW_2) (ft) =

H_2O Removal Rate (GPM) =

____ Fast Recharging Well

____ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_$$

$$= \_\_\_\_\%$$

80% Recharge = _____

SECOR

INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Well No:	MW- 22
Project Name:	ARCO 1919
Date:	9-12-05
Project Number:	08BP.U1919.05 / 4142
Sample Time:	1219
SECOR Rep:	JG, DK
Checked by:	(W)
Sample No	MW- 22

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist # 14

Purging Equipment / Method: ___ Vac Truck ___ Bailer X Submersible Pump ___ Other

pH Temp/Conductivity Meter Type / ID: 1A

Sampling Method: ___ Teflon Bailer X Disposable Bailer ___ Other:

Decontamination Method: ___ Steam / High Pressure Wash X 3 Stage (Alconox, Tap & DI rinse) ___ Other:

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): (8) 10 12

Casing Diameter (in): (2) 4

Depth to Water (DTW_1) (ft): 5.93

Total Well Depth (DTB) (ft): 18.10

Water Column: 12.17

Floating Product:

Thickness (in):

Borehole Volume (gal): 9.37

1.5 Borehole Volumes (gal): 14.05

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
1214	Started Purging					
1216	7.78	9.5	7.19	23.7	1420	black, med. sulfur odor
1217	8.85	14.5	7.22	23.4	1423	" "
1219	6.31	Sample				

Maximum Drawdown (DTW_2) (ft) = 8.85

H_2O Removal Rate (GPM) = 4.83

X Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled: 1219

Depth to Water at time of sampling (DTW_3): 6.31

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(5.93) - (6.31)}{(5.93) - (8.85)} = \frac{0.38}{2.92} = 86\%$$

~~3.92~~

80% Recharge = 6.51

SECOR INTERNATIONAL INCORPORATED	WELL PURGING / SAMPLING LOG		Well No: MW- 23
	Project Name: ARCO 1919		Date:
	Project Number: 08BP.U1919.05 / 4142		Sample Time: NS
	SECOR Rep:	Checked by:	Sample No MW- 23

PURGING & SAMPLING EQUIPMENT / METHOD	WELL SPECIFICATIONS & MEASUREMENTS	
Water Level Meter Type & ID: Solinist #	Borehole Diameter (in): (8) 10 12	
Purging Equipment / Method: ___ Vac Truck ___ Bailer ___ Submersible Pump ___ Other	Casing Diameter (in): (2) 4	
pH Temp/Conductivity Meter Type / ID:	Depth to Water (DTW_1) (ft):	
Sampling Method: ___ Teflon Bailer ___ Disposable Bailer ___ Other:	Total Well Depth (DTB) (ft): 20.30	Water Column:
	Floating Product:	Thickness (in):
Decontamination Method: ___ Steam / High Pressure Wash ___ 3 Stage (Alconox, Tap & DI rinse) ___ Other	Borehole Volume (gal):	1.5 Borehole Volumes (gal):

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
	Started Purging					
		NO SAMPLE 3Q'OS				

Maximum Drawdown (DTW_2) (ft) =

H_2O Removal Rate (GPM) =

___ Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled:

Depth to Water at time of sampling (DTW_3):

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	(HCL & ICE or NONE)	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 ($DTB-DTW_1$)
2	10	1.14 ($DTB-DTW_1$)
4	10	1.50 ($DTB-DTW_1$)
4	12	1.95 ($DTB-DTW_1$)
6	10	2.11 ($DTB-DTW_1$)

Notes.

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(\quad)-(\quad)}{(\quad)-(\quad)} = \_\_$$

$$= \_\_\_\_\%$$

80% Recharge = _____

SECOR

INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Project Name:	ARCO 1919	Well No	MW- 24
Project Number:	08BP.U1919.05 / 4142	Date	09/12/05
SECOR Rep: PALERMO	Checked by: WW	Sample Time	1241
		Sample No:	MW- 24

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist # 5

Purging Equipment / Method: ___ Vac Truck ___ Bailer ___ Submersible Pump ___ Other

pH Temp/Conductivity Meter Type / ID.

Sampling Method: ___ Teflon Bailer ___ Disposable Bailer ___ Other:

Decontamination Method: ___ Steam / High Pressure Wash ___ 3 Stage (Alconox, Tap & DI rinse) ___ Other.

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): (8) 10 12

Casing Diameter (in): (2) 4

Depth to Water (DTW_1) (ft): 4.74 @ 1207, 9/12/05

Total Well Depth (DTB) (ft): 16.73

Water Column: 11.99

Floating Product: —

Thickness (in):

Borehole Volume (gal): 9.27

1.5 Borehole Volumes (gal): 13.85

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond (µ mhos)	Water Description (odor, turbidity, color)
1214	Started Purging					
1220	6.46	9.5	~~8.47~~ 7.26	25.2	847	[illegible] / cloudy / [illegible]
1224	7.10	14	7.31	25.2	850	" " "
1223	1241	sample				" / clear / [illegible]

Maximum Drawdown (DTW_2) (ft) = 2.10

H_2O Removal Rate (GPM) = 1.4

___ Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled: 1241

Depth to Water at time of sampling (DTW_3): 5.23

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(4.74) - (5.23)}{(4.74) - (7.10)} = 0.49 = 2.36 = 80\%$$

80% Recharge = 5.23

SECOR

INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Well No:	MW- 25
Project Name:	ARCO 1919
Date:	9/12/05
Project Number:	08BP.U1919.05 / 4142
Sample Time:	1237
SECOR Rep:	[illegible]
Checked by:	TK
Sample No:	MW- 25

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist # 8

Purging Equipment / Method: ___ Vac Truck ___ Submersible Pump ___ Bailer ___ Other

pH Temp/Conductivity Meter Type / ID: 6

Sampling Method: ___ Teflon Bailer ___ Disposable Bailer ___ Other:

Decontamination Method: ___ Steam / High Pressure Wash ___ 3 Stage (Alconox, Tap & DI rinse) ___ Other

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): 8 10 12

Casing Diameter (in): 2 4

Depth to Water (DTW_1) (ft): 3.21 @ 1210, 9/12/05

Total Well Depth (DTB) (ft): 17.35

Water Column: 14.14

Floating Product: ——

Thickness (in): ——

Borehole Volume (gal): 10.89

1.5 Borehole Volumes (gal): 16.34

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
1213	Started Purging					
1218	3.31	11	7.27	24.6	6010	brown, silty, odorless
1222	3.28	16.5	7.24	24.7	5940	
~~1227~~	~~3.28~~	sample				
1237	3.23					

Maximum Drawdown (DTW_2) (ft) = 3.31

H_2O Removal Rate (GPM) = 1.83

x Fast Recharging Well

Slow Recharging Well

SAMPLING INFORMATION

Time Sampled: 1237

Depth to Water at time of sampling (DTW_3): 3.23

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
6 x 40ml VOAs	N	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes:

RECOVERY CALCULATIONS

$$\%\ of\ Recovery = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\%\ of\ Recovery = 1 - \frac{(3.21) - (3.23)}{(3.21) - (3.31)} \quad \frac{.02}{.10} = 80\%$$

80% Recharge = 3.23

SECOR

INTERNATIONAL INCORPORATED

WELL PURGING / SAMPLING LOG

Well No	MW- 26
Project Name:	ARCO 1919
Date:	9/12/05
Project Number:	08BP.U1919.05 / 4142
Sample Time:	1122
SECOR Rep: D KRAUTER	Checked by: WL
Sample No.	MW- 26

PURGING & SAMPLING EQUIPMENT / METHOD

Water Level Meter Type & ID: Solinist # 15

Purging Equipment / Method: ___ Vac Truck ___ Submersible Pump X Bailer ___ Other

pH Temp/Conductivity Meter Type / ID: NA

Sampling Method: ___ Teflon Bailer X Disposable Bailer ___ Other:

Decontamination Method: ___ Steam / High Pressure Wash X 3 Stage (Alconox, Tap & DI rinse) ___ Other

WELL SPECIFICATIONS & MEASUREMENTS

Borehole Diameter (in): (8) 10 12

Casing Diameter (in): (2) 4

Depth to Water (DTW_1) (ft): 23.91

Total Well Depth (DTB) (ft): 34.65

Water Column: 10.74

Floating Product:

Thickness (in):

Borehole Volume (gal): 8.26

1.5 Borehole Volumes (gal): 12.40

PURGING INFORMATION

Time	DTW (ft)	Water Volume Purged (gal)	pH	Temp (°C)	Elect. Cond. (μ mhos)	Water Description (odor, turbidity, color)
1100	Started Purging					
1106	28.42	8.5	7.56	24.0	1756	TAN, CLOUDY NO ODOR
1110	28.35	12.5	7.56	23.9	1754	" "
1122	24.91	Sample				
	24.81					

Maximum Drawdown (DTW_2) (ft) = 28.42

H_2O Removal Rate (GPM) = 1.2

X Fast Recharging Well

___ Slow Recharging Well

SAMPLING INFORMATION

Time Sampled: 1122

Depth to Water at time of sampling (DTW_3): 24.81

Container Types & Volumes	Filtered (Y/N)	Sample Preservatives	Analytical Parameters
(6) x 40ml VOAs	(N)	HCL & ICE or NONE	GRO, BTEX, MTBE, (8015M, 8260B)
			DIPE, TAME, ETBE, TBA, Ethanol (8260B)

BOREHOLE VOLUME CALCULATIONS

The calculation of one borehole volume is based on the formula in the SAM Manual.

Diameter (in)	Borehole Diameter (in)	Calculated Borehole Volume (gal)
2	8	.77 (DTB-DTW_1)
2	10	1.14 (DTB-DTW_1)
4	10	1.50 (DTB-DTW_1)
4	12	1.95 (DTB-DTW_1)
6	10	2.11 (DTB-DTW_1)

Notes:

RECOVERY CALCULATIONS

$$\% \text{ of Recovery} = 1 - \frac{(DTW_1) - (DTW_3)}{(DTW_1) - (DTW_2)} \times 100$$

$$\% \text{ of Recovery} = 1 - \frac{(23.91) - (24.81)}{(23.91) - (28.42)} = \frac{0.9}{-4.51} = 80\%$$

80% Recharge = 24.81

SEVERN TRENT STL

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921
www.stl-inc.com

September 26, 2005

STL LOT NUMBER: **E5I120244**
PO/CONTRACT: GEM-6-21909

BRAD EISENBERG
SECOR International Inc
2655 Camino Del Rio North
Suite 302
San Diego, CA 92108-1633

Dear BRAD EISENBERG,

This report contains the analytical results for the nine samples received under chain of custody by STL Los Angeles on September 12, 2005. These samples are associated with your ARCO #1919 project.

STL Los Angeles certifies that the test results provided in this report meet all the requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA/E87652.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature(s) of the coolers received for this project can be found on the Project Receipt Checklist.

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains **000060** pages.

CASE NARRATIVE

Historical control limits for the LCS are used to define the estimate of uncertainty for a method.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

If you have any questions, please feel free to call me at 714.258.8610.

Sincerely,

Sabina Sudoko
Project Manager
CC: Project File

LOT NUMBER E5I120244

Nonconformance 05-13935

Affected Samples:
E5I120244 (1): TB-1919-20050912

Affected Methods:
SW8260B, SW8015B

Details:
The lab supplied trip blank had five vials out of six that had headspace greater than 6mm.

Swart, Terry

From: tswart@stl-inc.com
Sent: Tuesday, September 13, 2005 3:05 PM
To: beisenberg@secor.com; bauchard@secor.com; adouglas@secor.com; abooth@secor.com
Subject: Information for E5I120244

Sample Confirmation for E5I120...

* *

Lot ID: E5I120244
Project Number: 08BP.01919.07/0427
Project Name/Site: ARCO #1919

Acknowlegement of samples received for ARCO #1919.
Note: 5 of 6 vials for TB-1919 have headspace (bubble > 6 mm diameter.)
Please check the sample confirmation sheet.
Thank you.

This message and any files transmitted with it are confidential and intended solely for the use of the addressee. If you have received this message in error please notify the sender and destroy your copies of the message and any attached files.

[00217300]
Version: 2.1.10

ARCO SITE#1919

ESI120244

Chain of Custody Record

Project Name: ARCO 1919 Groundwater Monitoring
BP BU/AR Region/Enfos Segment: Retail
State or Lead Regulatory Agency: County of San Diego, DEH
Requested Due Date (mm/dd/yy): Standard TAT

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name:	STL Los Angeles	BP/AR Facility No.:	1919	Consultant/Contractor:	SECOR International, Inc.
Address:	1721 Grand Ave.	BP/AR Facility Address:	660 Via de la Valle, Solana Beach, CA	Address:	2655 Camino Del Rio North, Suite 302
	Santa Ana, CA 92705-4808	Site Lat/Long:			San Diego, CA 92108
Lab PM:	Sabina Sudeko	California Global ID No.:	T0607301584	Consultant/Contractor Project No.:	08BP.01919.07/0427
Tele/Fax:	714.258.8610	Enfos Project No.:	G0BQ4-0001	Consultant/Contractor PM:	Brad Eisenberg
BP/AR PM Contact:	Roy Thun	Provision or RCOP:	Provision	Tele/Fax:	619.296.6195/6199
Address:	4 Centerpointe Dr.	Phase/WBS:	Monitoring (04)	Report Type & QC Level:	Normal
	La Palma, CA 90623	Sub Phase/Task:	Analytical	E-mail EDD To:	beisenberg@secor.com
Tele/Fax:	661.287.3855/222-2349	Cost Element:	Subcontracted Cost	Invoice to:	Atlantic Richfield Co.

Lab Bottle Order No:

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Air	Laboratory No.	No. of Containers	Preservative: Unpreserved	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: HCl	Preservative: Methanol	Preservative: NaOH/Zn Acetate	Requested Analysis: EPA 8015M GRO C6-C12	Requested Analysis: EPA 8260B BTEX, Oxys, MTBE, EtOH	Requested Analysis: 310.1 Total Alkalinity	Requested Analysis: 6010B Ferrous Iron	Requested Analysis: 6010B Total Iron	Requested Analysis: 350.3 Ammonia as Nitrogen	Requested Analysis: 376.2 Sulfide	Requested Analysis: RSK-175 MOD Methane	Requested Analysis: 300 Sulfate, Nitrate	Requested Analysis: Ferric Iron	Sample Point Lat/Long and Comments
1	TB-1919-200509 12	0930	9/12/05		X							6													HOLD
2	EB-1919-200509 12	1323	9/12/05		X							6													HOLD
~~3~~	~~MW-14~~				~~X~~			~~14~~	~~2~~	~~1~~	~~1~~	~~9~~		~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	
~~4~~	~~MW-15~~				~~X~~			~~14~~	~~2~~	~~1~~	~~1~~	~~9~~		~~1~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	
~~5~~	~~MW-17~~				~~X~~			~~28~~	~~4~~	~~2~~	~~2~~	~~18~~		~~2~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	~~X~~	
6	MW-18	1056	9/12/05		X			14	2	1	1	9		1	X	X	X	X	X	X	X	X	X	X	
7	MW-19A	1244			X			6				6			X	X									
8	MW-19B	1136			X			14	2	1	1	9		1	X	X	X	X	X	X	X	X	X	X	
9	MW-22	1219			X			6				6			X	X									
10	MW-24	1241			X			14	2	1	1	9		1	X	X	X	X	X	X	X	X	X	X	

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: Wilson Wang						
Sampler's Company: Secor		9/12	1603		9/12	1605
Shipment Date:		9/12	1944			
Shipment Method:						
Shipment Tracking No:					9/12	17:4

Special Instructions: Oxy's = TBA, DIPE, TAME, ETBE

Some analytes have a 24 hour turnaround time

Custody Seals In Place Yes____ No____ Temp Blank Yes____ No____ Cooler Temperature on Receipt ____ °F/C Trip Blank Yes____ No____

Distribution: White Copy - Laboratory / Yellow Copy - BP/Atlantic Richfield Co. / Pink Copy - Consultant/Contractor

BP COC Rev. 4 10/1/04

Temp = 6.4 +CF.4 = 6.0

5

ES1120244

ESI120244

Page 2 of 2

Chain of Custody Record

Project Name: ARCO 1919 Groundwater Monitoring
BP BU/AR Region/Enfos Segment: Retail
State or Lead Regulatory Agency: County of San Diego, DEH
Requested Due Date (mm/dd/yy): Standard TAT

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name:	STL Los Angeles	BP/AR Facility No.:	1919	Consultant/Contractor:	SECOR International, Inc.
Address:	1721 Grand Ave.	BP/AR Facility Address:	660 Via de la Valle, Solana Beach, CA	Address:	2655 Camino Del Rio North, Suite 302
	Santa Ana, CA 92705-4808	Site Lat/Long:			San Diego, CA 92108
Lab PM:	Sabina Sudoko	California Global ID No.:	T0607301584	Consultant/Contractor Project No.:	08BP.01919.07/0427
Tele/Fax:	714.258.8610	Enfos Project No.:	G0BQ4-0001	Consultant/Contractor PM:	Brad Eisenberg
BP/AR PM Contact:	Roy Thun	Provision or RCOP:	Provision	Tele/Fax:	619.296.6195/6199
Address:	4 Centerpointe Dr.	Phase/WBS:	Monitoring (04)	Report Type & QC Level:	Normal
	La Palma, CA 90623	Sub Phase/Task:	Analytical	E-mail EDD To:	beisenberg@secor.com
Tele/Fax:	661.287.3855/222-2349	Cost Element:	Subcontracted Cost	Invoice to:	Atlantic Richfield Co.

Lab Bottle Order No:

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Air	Laboratory No.	No. of Containers	Preservative: Unpreserved	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: HCl	Preservative: Methanol	Preservative: NaOH/Zn Acetate	Requested Analysis: EPA 8015M GRO C6-C12	EPA 8260B BTEX, Oxys, MTBE, EtOH	310.1 Total Alkalinity	6010B Ferrous Iron	6010B Total Iron	350.3 Ammonia as Nitrogen	376.2 Sulfide	RSK-175 MOD Methane	300 Sulfate, Nitrate	Ferric Iron	Sample Point Lat/Long and Comments
1	MW-25	1237	9/12/05		X			14	2	1	1	9		1	X	X	X	X	X	X	X	X	X	X	
2	MW-26	1122	"		X			14	2	1	1	9		1	X	X	X	X	X	X	X	X	X	X	
3																									
4																									
5																									
6																									
7																									
8																									
9																									
10																									

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: Allison Woods						
Sampler's Company: SECOR	[signature]	9/12	1605	[signature]	9/12/05	1605
Shipment Date:		9/12/05	5:45pm			
Shipment Method:						
Shipment Tracking No:				[signature]	9-12-05	17:41

Special Instructions: Oxy's = TBA, DIPE, TAME, ETBE

Some analytes have a 24 hour turnaround time

Custody Seals In Place Yes____ No____ Temp Blank Yes____ No____ Cooler Temperature on Receipt ____ °F/C Trip Blank Yes____ No____

Distribution: White Copy - Laboratory / Yellow Copy - BP/Atlantic Richfield Co. / Pink Copy - Consultant/Contractor

BP COC Rev. 4 10/1/04

Temp = 6.4 + cf - .4 = 6.0

ARCO SITE#1919

6

ESI120244

STL LOS ANGELES - PROJECT RECEIPT CHECKLIST Date: 9-12-05

LIMS Lot #: ESI120244 Quote #: 102428

Client Name: Secor Project: Arco 1919

Received by: MG Date/Time Received: 9-12-05/17:45

Delivered by : ☐ Client ☒ STL ☐ DHL ☐ Fed Ex ☐ UPS ☐ Other

****

	Initial / Date
Custody Seal Status Cooler: ☐Intact ☐Broken ☒None	MG 9-12-05
Custody Seal Status Samples: ☐Intact ☐Broken ☒None	
Custody Seal #(s): ☒No Seal #	
Sampler Signature on COC ☒ Yes ☐No ☐N/A	
IR Gun # A Correction Factor -.4 °C IR passed daily verification ☒ Yes ☐No	
Temperature - BLANK 6.4 °C +/- .4 CF = 6.0 °C	
Temperature -- COOLER (___ °C ___ °C ___ °C ___ °C) = ___ avg °C +/- ___ CF = ___ °C	
Samples outside temperature criteria but received within 6 hours of final sampling ☐ Yes ☒N/A	
Sample Container(s): ☒ STL-LA ☐ Client	
One COC/Multiple coolers: ☐ Yes- # coolers ___ All within temp criteria ☐ Yes ☐No ☒N/A	
One or more coolers with an anomaly: ☒ Yes -- (fill out PRC for each) ☐N/A	
Samples: ☒Intact ☐Broken ☐Other	
pH measured: ☒ Yes ☐ Anomaly (if checked, notify lab and file NCM) ☐ N/A	
Anomalies: ☐No ☒Yes -- complete CUR and Create NCM NCM #	
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☐ Yes ☒ N/A	
Labeled by: SM Labeling checked	

****

Turn Around Time: ☐RUSH-24HR ☐RUSH-48HR ☐RUSH-72HR ☒NORMAL

Short-Hold Notification: ☐ pH ☒Wet Chem ☐Metals (Filter/Pres) ☐Encore ☐ >1/2 HT expired

Outside Analysis(es) (Test/Lab/Date Sent Out) :

NA

MG 9-12-05

********** LEAVE NO BLANK SPACES ; USE N/A **********

Headspace Anomaly ☐N/A MG 9-12-05

Lab ID	Container(s) #	Headspace	Lab ID	Container(s) #	Headspace
001	1-5	☒ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm

LIMS Lot # ESI120244

PROJECT RECEIPT CHECKLIST Cont'd

Fraction	1	2	3	4	5	6	7	8	9					
VOAH/ *	6	6	9	6	9	6	9	9	9					
LPB			1		1		1	1	1					
500PBn			1		1		1	1	1					
250PB			1		1		1	1	1					
250PBznna			1		1		1	1	1					
250AGBS			1		1		1	1	1					
250AGB			1		1		1	1	1					

* VOA with headspace/bubbles < 6mm

H: HCL, S: H2SO4, N: HNO3, V: VOA, SL, Sleeve, E: Encore, PB: Poly Bottle, CGB: Clear Glass Bottle, AGJ: Amber Glass Jar, T: Terracore AGB: Amber Glass Bottle, n/f/l:HNO3-Lab filtered, n/f:HNO3-Field filtered, znna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

Condition Upon Receipt Anomaly Form

☐N/A MG 9-12-05

- **COOLERS**
  - ☐ Not Received (received COC only)
  - ☐ Leaking
  - ☐ Other:
- **TEMPERATURE (SPECS 4 ± 2°C)**
  - ☐ Cooler Temp(s)
  - ☐ Temperature Blank(s)
- **CONTAINERS**
  - ☐ Leaking
  - ☐ Broken
  - ☐ Extra
  - ☐ Without Labels
  - ☐ Other:
  - ☒ Voa Vials with Bubbles > 6mm
- **SAMPLES**
  - ☐ Samples NOT RECEIVED but listed on COC
  - ☐ Samples received but NOT LISTED on COC
  - ☐ Logged based on Label Information
  - ☐ Logged based on info from other samples on COC
  - ☐ Logged according to Work Plan
  - ☐ Logged on HOLD UNTIL FURTHER NOTICE
- **CUSTODY SEALS (COOLER(S)**
  - ☐ None
  - ☐ Not Intact
  - ☐ Other
- **CONTAINER(S)**
  - ☐ None
  - ☐ Not Intact
  - ☐ Other
- **CHAIN OF CUSTODY (COC)**
  - ☐ Not relinquished by Client; No date/time relinquished
  - ☐ Incomplete information provided
  - ☐ Other ☐ COC not received – notify PM
- **LABELS**
  - ☐ Not the same ID/info as in COC
  - ☐ Incomplete Information
  - ☐ Markings/Info illegible
  - ☐ Torn
- ☐ Will be noted on COC--Client to send samples with new COC
- ☐ Mislabeled as to tests, preservatives, etc.
- ☐ Holding time expired – list sample ID and test
- ☐ Improper container used
- ☐ Not preserved/Improper preservative used
- ☐ Improper pH _____ Lab to preserve sample and document
- ☐ Insufficient quantities for analysis ☐ Other

Comments:

Received VOA vials with headspace >6mm for Sample #1, containers 1-5.

☐ Corrective Action Implemented:

☐ Client Informed: verbally on _____ By: _____ ☐ In writing on _____ By: _____

☐ Sample(s) on hold until: _____ ☐ Sample(s) processed "as is."

Logged by/Date: MG 9-12-05 PM Review/Date: [illegible] 9-13-05

SECOR International Inc

Client Sample ID: MW-18

GC/MS Volatiles

Lot-Sample #...: E5I120244-003 Work Order #...: HKD701AA Matrix.....: W
Date Sampled...: 09/12/05 10:56 Date Received..: 09/12/05 17:45 MS Run #.....: 5262167
Prep Date.....: 09/17/05 Analysis Date..: 09/17/05
Prep Batch #...: 5262240 Analysis Time..: 12:20
Dilution Factor: 50
Analyst ID.....: 000038 Instrument ID..: MSN
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diisopropyl Ether (DIPE)	ND	100	ug/L
Benzene	ND	25	ug/L
Ethanol	ND IO	25000	ug/L
Ethylbenzene	ND	25	ug/L
tert-Butyl alcohol	**3000**	**1200**	**ug/L**
Toluene	ND	25	ug/L
o-Xylene	ND	50	ug/L
Xylenes (total)	ND	50	ug/L
m-Xylene & p-Xylene	ND	50	ug/L
Methyl tert-butyl ether (MTBE)	**4300**	**50**	**ug/L**
Ethyl-t-Butyl Ether (ETBE)	ND	100	ug/L
Tert-amyl methyl ether (TAME)	ND	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	96	(75 - 120)
1,2-Dichloroethane-d4	96	(65 - 130)
Toluene-d8	99	(80 - 130)

NOTE(S):

IO Contract limits originate from BP-GCLN Technical Requirements

SECOR International Inc

Client Sample ID: MW-18

GC Volatiles

Lot-Sample #...:	ES1120244-003	Work Order #...:	HKD701AF	Matrix.....:	W
Date Sampled...:	09/12/05 10:56	Date Received..:	09/12/05 17:45	MS Run #.....:	
Prep Date.....:	09/21/05	Analysis Date..:	09/21/05		
Prep Batch #...:	5265321	Analysis Time..:	15:50		
Dilution Factor:	1				
Analyst ID.....:	101605	Instrument ID..:	GC3		
		Method.....:	RSK SOP-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	0.40	0.0010	mg/L

SECOR International Inc

Client Sample ID: MW-18

GC Volatiles

Lot-Sample #...:	E5I120244-003	Work Order #...:	HKD701AC	Matrix.....:	W
Date Sampled...:	09/12/05 10:56	Date Received..:	09/12/05 17:45	MS Run #.....:	5259296
Prep Date.....:	09/15/05	Analysis Date..:	09/15/05		
Prep Batch #...:	5259453	Analysis Time..:	10:12		
Dilution Factor:	1				
Analyst ID.....:	001464	Instrument ID..:	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
GRO (C6 - C12)	740	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	82	(70 - 130)

SECOR International Inc

Client Sample ID: MW-18

TOTAL Metals

Lot-Sample #...: E5I120244-003 **Matrix.....:** W
Date Sampled...: 09/12/05 10:56 Date Received..: 09/12/05 17:45

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 5258228						
Iron	**29400**	**100**	**ug/L**	**SW846 6010B**	**09/15-09/16/05**	**HKD701AH**
		Dilution Factor: 1		Analysis Time..: 11:03	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 5258135		

SECOR International Inc

Client Sample ID: MW-18

General Chemistry

Lot-Sample #...: E5I120244-003 Work Order #...: HKD70 Matrix.....: W
Date Sampled...: 09/12/05 10:56 Date Received..: 09/12/05 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	**702000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/13/05**	**5256077**
		Dilution Factor: 1		Analysis Time..: 07:58	Analyst ID.....: 000022	
		Instrument ID..: W04		MS Run #.....:		
Carbonate Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256076
		Dilution Factor: 1		Analysis Time..: 07:58	Analyst ID.....: 000022	
		Instrument ID..: W04		MS Run #.....:		
Ferric Iron	**29400**	**100**	**ug/L**	**SM18 3500-FE D**	**09/15-09/16/05**	**5265606**
		Dilution Factor: 1		Analysis Time..: 11:03	Analyst ID.....: 000144	
		Instrument ID..: NO INST		MS Run #.....: 5265374		
Ferrous Iron	ND	200	ug/L	SM18 3500-FE D	09/12/05	5256309
		Dilution Factor: 1		Analysis Time..: 19:07ST	Analyst ID ....: 0000644	
		Instrument ID..: W17		MS Run #.....: 5256213		
Hydroxide Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256075
		Dilution Factor: 1		Analysis Time..: 07:58	Analyst ID.....: 0000223	
		Instrument ID..: W04		MS Run #.....:		
Nitrate as N	ND	100	ug/L	MCAWW 300.0A	09/13/05	5256072
		Dilution Factor: 1		Analysis Time..: 09:21	Analyst ID.....: 000022	
		Instrument ID..: W01		MS Run #.....: 5257207		
Nitrogen, as Ammonia	**714**	**100**	**ug/L**	**MCAWW 350.3**	**09/19-09/20/05**	**5256381**
		Dilution Factor: 1		Analysis Time..: 07:00	Analyst ID.....: 0000227	
		Instrument ID..: W13		MS Run #.....: 5257206		
Sulfate	**440000**	**20000**	**ug/L**	**MCAWW 300.0A**	**09/13/05**	**5256073**
		Dilution Factor: 20		Analysis Time..: 10:49	Analyst ID.....: 0000226	
		Instrument ID..: W01		MS Run #.....: 5257208		
Total Alkalinity	**702000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/13/05**	**5256074**
		Dilution Factor: 1		Analysis Time..: 07:58	Analyst ID.....: 0000228	
		Instrument ID..: W04		MS Run #.....:		
Total Sulfide	**1530**	**400**	**ug/L**	**MCAWW 376.2**	**09/15/05**	**5258405**
		Dilution Factor: 4		Analysis Time..: 11:42	Analyst ID. ....: 999995	
		Instrument ID..: W17		MS Run #.....: 5259124		

SECOR International Inc

Client Sample ID: MW-19A

GC/MS Volatiles

Lot-Sample #...:	E51120244-004	**Work Order #...:**	HKD711AA	**Matrix.....:**	W
Date Sampled...:	09/12/05 12:44	**Date Received..:**	09/12/05 17:45	**MS Run #.....:**	5262167
Prep Date.....:	09/17/05	**Analysis Date..:**	09/17/05		
Prep Batch #...:	5262240	**Analysis Time..:**	13:28		
Dilution Factor:	1				
Analyst ID.....:	000038	**Instrument ID..:**	MSN		
		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diisopropyl Ether (DIPE)	ND	2.0	ug/L
Benzene	ND	0.50	ug/L
Ethanol	ND IO	500	ug/L
Ethylbenzene	ND	0.50	ug/L
tert-Butyl alcohol	ND	25	ug/L
Toluene	ND	0.50	ug/L
o-Xylene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	ug/L
Tert-amyl methyl ether (TAME)	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	94	(75 - 120)
1,2-Dichloroethane-d4	91	(65 - 130)
Toluene-d8	94	(80 - 130)

NOTE(S):

IO Contract limits originate from HP-GCLN Technical Requirements

SECOR International Inc

Client Sample ID: MW-19A

GC Volatiles

Lot-Sample #...:	E5I120244-004	Work Order #...:	HKD711AC	Matrix.....:	W
Date Sampled...:	09/12/05 12:44	Date Received..:	09/12/05 17:45	MS Run #.....:	5259296
Prep Date.....:	09/15/05	Analysis Date..:	09/15/05		
Prep Batch #...:	5259453	Analysis Time..:	10:39		
Dilution Factor:	1				
Analyst ID.....:	001464	Instrument ID..:	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
GRO (C6 - C12)	ND	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	82	(70 - 130)

SECOR International Inc

Client Sample ID: MW-19B

GC/MS Volatiles

Lot-Sample #...:	E5I120244-005	Work Order #...:	HKD721AA	Matrix.....:	W
Date Sampled...:	09/12/05 11:36	Date Received..:	09/12/05 17:45	MS Run #.....:	5262167
Prep Date.....:	09/17/05	Analysis Date..:	09/17/05		
Prep Batch #...:	5262240	Analysis Time..:	15:38		
Dilution Factor:	16.67				
Analyst ID.....:	000038	Instrument ID..:	MSN		
		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diisopropyl Ether (DIPE)	ND	33	ug/L
Benzene	**40**	**8.3**	**ug/L**
Ethanol	ND 10	8300	ug/L
Ethylbenzene	**1000**	**8.3**	**ug/L**
tert-Butyl alcohol	ND	420	ug/L
Toluene	**190**	**8.3**	**ug/L**
o-Xylene	**250**	**17**	**ug/L**
Xylenes (total)	**640**	**17**	**ug/L**
m-Xylene & p-Xylene	**390**	**17**	**ug/L**
Methyl tert-butyl ether (MTBE)	ND	17	ug/L
Ethyl-t-Butyl Ether (ETBE)	ND	33	ug/L
Tert-amyl methyl ether (TAME)	ND	33	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	95	(75 - 120)
1,2-Dichloroethane-d4	99	(65 - 130)
Toluene-d8	95	(80 - 130)

NOTE(S):

IO Contract limits originate from BP-GCLN Technical Requirements

SECOR International Inc

Client Sample ID: MW-19B

GC Volatiles

Lot-Sample #...:	E5I120244-005	Work Order #...:	HKD721AF	Matrix.....:	W
Date Sampled...:	09/12/05 11:36	Date Received..:	09/12/05 17:45	MS Run #.....:	
Prep Date.....:	09/21/05	Analysis Date..:	09/21/05		
Prep Batch #...:	5265321	Analysis Time..:	16:06		
Dilution Factor:	1				
Analyst ID.....:	101605	Instrument ID..:	GC3		
		Method.....:	RSK SOP-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	0.69	0.0010	mg/L

SECOR International Inc

Client Sample ID: MW-19B

GC Volatiles

Lot-Sample #...:	E5I120244-005	Work Order #...:	BKD721AC	Matrix.....:	W
Date Sampled...:	09/12/05 11:36	Date Received..:	09/12/05 17:45	MS Run #.....:	5259304
Prep Date.....:	09/16/05	Analysis Date..:	09/16/05		
Prep Batch #...:	5259467	Analysis Time..:	11:10		
Dilution Factor:	5				
Analyst ID.....:	001464	Instrument ID..:	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
GRO (C6 - C12)	4700	500	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	99	(70 - 130)

SECOR International Inc

Client Sample ID: MW-19B

TOTAL Metals

Lot-Sample #...: E5I120244-005 **Matrix.....:** W
Date Sampled...: 09/12/05 11:36 **Date Received..:** 09/12/05 17:45

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 5258228						
Iron	**5830**	**100**	**ug/L**	**SW846 6010B**	**09/15-09/16/05**	**HKD721AH**
		Dilution Factor: 1		Analysis Time..: 11:11	Analyst ID..... 021088	
		Instrument ID..: M01		MS Run #... ...: 5258135		

SECOR International Inc

Client Sample ID: MW-19B

General Chemistry

Lot-Sample #...: E51120244-005 **Work Order #...:** HKD72 **Matrix.....:** W
Date Sampled...: 09/12/05 11:36 **Date Received..:** 09/12/05 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	**716000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/13/05**	**5256077**
		Dilution Factor: 1		Analysis Time..: 08:14	Analyst ID.....: 0000224	
		Instrument ID..: W04		MS Run #.....:		
Carbonate Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256076
		Dilution Factor: 1		Analysis Time..: 08:14	Analyst ID.....: 000022	
		Instrument ID..: W04		MS Run #.....:		
Ferric Iron	**5570**	**100**	**ug/L**	**SM18 3500-FE D**	**09/15-09/16/05**	**5265606**
		Dilution Factor: 1		Analysis Time..: 11:11	Analyst ID.....: 000144	
		Instrument ID..: NO INST		MS Run #.....: 5265374		
Ferrous Iron	**258**	**200**	**ug/L**	**SM18 3500-FE D**	**09/12/05**	**5256309**
		Dilution Factor: 1		Analysis Time..: 19:08ST	Analyst ID.....: 0000644	
		Instrument ID..: W17		MS Run #.....: 5256213		
Hydroxide Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256075
		Dilution Factor: 1		Analysis Time..: 08:14	Analyst ID.....: 0000223	
		Instrument ID..: W04		MS Run #.....:		
Nitrate as N	**111**	**100**	**ug/L**	**MCAWW 300.0A**	**09/13/05**	**5256072**
		Dilution Factor: 1		Analysis Time..: 09:39	Analyst ID.....: 000022	
		Instrument ID..: W01		MS Run #.....: 5257207		
Nitrogen, as Ammonia	**644**	**100**	**ug/L**	**MCAWW 350.3**	**09/19-09/20/05**	**5256381**
		Dilution Factor: 1		Analysis Time..: 07:00	Analyst ID.....: 0000227	
		Instrument ID..: W13		MS Run #.....: 5257206		
Sulfate	**181000**	**5000**	**ug/L**	**MCAWW 300.0A**	**09/13/05**	**5256073**
		Dilution Factor: 5		Analysis Time..: 11:06	Analyst ID.....: 0000226	
		Instrument ID..: W01		MS Run #.....: 5257208		
Total Alkalinity	**716000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/13/05**	**5256074**
		Dilution Factor: 1		Analysis Time..: 08:14	Analyst ID.....: 0000228	
		Instrument ID..: W04		MS Run #.....:		
Total Sulfide	**114**	**100**	**ug/L**	**MCAWW 376.2**	**09/15/05**	**5258405**
		Dilution Factor: 1		Analysis Time..: 11:43	Analyst ID.....: 999995	
		Instrument ID..: W17		MS Run #.....: 5259124		

SECOR International Inc

Client Sample ID: MW-22

GC/MS Volatiles

Lot-Sample #...: E5I120244-006	Work Order #...: HKD731AA	Matrix.....: W
Date Sampled...: 09/12/05 12:19	Date Received..: 09/12/05 17:45	MS Run #.....: 5262167
Prep Date.....: 09/17/05	Analysis Date..: 09/17/05	
Prep Batch #...: 5262240	Analysis Time..: 13:50	
Dilution Factor: 1		
Analyst ID.....: 000038	Instrument ID..: MSN	
	Method.....: SW846 8260B	

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diisopropyl Ether (DIPE)	**2.1**	**2.0**	**ug/L**
Benzene	ND	0.50	ug/L
Ethanol	ND IO	500	ug/L
Ethylbenzene	ND	0.50	ug/L
tert-Butyl alcohol	**860**	**25**	**ug/L**
Toluene	ND	0.50	ug/L
o-Xylene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether (MTBE)	**18**	**1.0**	**ug/L**
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	ug/L
Tert-amyl methyl ether (TAME)	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	94	(75 - 120)
1,2-Dichloroethane-d4	78	(65 - 130)
Toluene-d8	99	(80 - 130)

NOTE(S):

IO Contract limits originate from BP-GCLN Technical Requirements

SECOR International Inc

Client Sample ID: MW-22

GC Volatiles

Lot-Sample #...:	ES1120244-006	Work Order #...:	HKD731AC	Matrix.....:	W
Date Sampled...:	09/12/05 12:19	Date Received..:	09/12/05 17:45	MS Run #.....:	5259296
Prep Date.....:	09/15/05	Analysis Date..:	09/15/05		
Prep Batch #...:	5259453	Analysis Time..:	11:33		
Dilution Factor:	1				
Analyst ID.....:	001464	Instrument ID..:	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
GRO (C6 - C12)	ND	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	73	(70 - 130)

SECOR International Inc

Client Sample ID: MW-24

GC/MS Volatiles

Lot-Sample #...:	E5I120244-007	Work Order #...:	HKD741AA	Matrix.....:	W
Date Sampled...:	09/12/05 12:41	Date Received..:	09/12/05 17:45	MS Run #.....:	5260040
Prep Date.....:	09/16/05	Analysis Date..:	09/16/05		
Prep Batch #...:	5260077	Analysis Time..:	17:35		
Dilution Factor:	1				
Analyst ID.....:	000038	Instrument ID..:	MSN		
		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diisopropyl Ether (DIPE)	ND	2.0	ug/L
Benzene	ND	0.50	ug/L
Ethanol	ND IO	500	ug/L
Ethylbenzene	ND	0.50	ug/L
tert-Butyl alcohol	**120**	**25**	**ug/L**
Toluene	ND	0.50	ug/L
o-Xylene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether (MTBE)	**27**	**1.0**	**ug/L**
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	ug/L
Tert-amyl methyl ether (TAME)	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	94	(75 - 120)
1,2-Dichloroethane-d4	91	(65 - 130)
Toluene-d8	99	(80 - 130)

NOTE(S):

IO Contract limits originate from BP-GCLN Technical Requirements

SECOR International Inc

Client Sample ID: MW-24

GC Volatiles

Lot-Sample #...:	E5I120244-007	Work Order #...:	HKD741AF	Matrix.....:	W
Date Sampled...:	09/12/05 12:41	Date Received..:	09/12/05 17:45	MS Run #.....:	
Prep Date.....:	09/21/05	Analysis Date..:	09/21/05		
Prep Batch #...:	5265321	Analysis Time..:	16:26		
Dilution Factor:	1				
Analyst ID.....:	101605	Instrument ID..:	GC3		
		Method.....:	RSK SOP-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	0.34	0.0010	mg/L

SECOR International Inc

Client Sample ID: MW-24

GC Volatiles

Lot-Sample #...:	E51120244-007	Work Order #...:	HKD741AC	Matrix.....:	W
Date Sampled...:	09/12/05 12:41	Date Received..:	09/12/05 17:45	MS Run #.....:	5259296
Prep Date.....:	09/15/05	Analysis Date..:	09/15/05		
Prep Batch #...:	5259453	Analysis Time..:	12:00		
Dilution Factor:	1				
Analyst ID.....:	001464	Instrument ID..:	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
GRO (C6 - C12)	ND	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	74	(70 - 130)

SECOR International Inc

Client Sample ID: MW-24

TOTAL Metals

Lot-Sample #...: ES1120244-007 **Matrix.....:** W
Date Sampled...: 09/12/05 12:41 **Date Received..:** 09/12/05 17:45

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 5258228						
Iron	**18300**	**100**	**ug/L**	**SW846 6010B**	**09/15-09/16/05**	**HKD741AH**
		Dilution Factor: 1		Analysis Time..: 11:18	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 5258135		

SECOR International Inc

Client Sample ID: MW-24

General Chemistry

Lot-Sample #...: E5I120244-007 **Work Order #...:** HKD74 **Matrix.....:** W
Date Sampled...: 09/12/05 12:41 **Date Received..:** 09/12/05 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	**699000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/13/05**	**5256077**
		Dilution Factor: 1		Analysis Time..: 08:30	Analyst ID. ...: 0000224	
		Instrument ID..: W04		MS Run #.....:		
Carbonate Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256076
		Dilution Factor: 1		Analysis Time..: 08:30	Analyst ID.....: 000022	
		Instrument ID..: W04		MS Run #.....:		
Ferric Iron	**18300**	**100**	**ug/L**	**SM18 3500-FE D**	**09/15-09/16/05**	**5265606**
		Dilution Factor: 1		Analysis Time..: 11:18	Analyst ID.....: 000144	
		Instrument ID..: NO INST		MS Run #.....: 5265374		
Ferrous Iron	ND	200	ug/L	SM18 3500-FE D	09/12/05	5256309
		Dilution Factor: 1		Analysis Time..: 13:06ST	Analyst ID.....: 0000644	
		Instrument ID..: W17		MS Run #.....: 5256213		
Hydroxide Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256075
		Dilution Factor: 1		Analysis Time..: 08:30	Analyst ID.....: 0000223	
		Instrument ID..: W04		MS Run #.....:		
Nitrate as N	ND	100	ug/L	MCAWW 300.0A	09/13/05	5256072
		Dilution Factor: 1		Analysis Time..: 09:56	Analyst ID.....: 000022	
		Instrument ID..: W01		MS Run #.....: 5257207		
Nitrogen, as Ammonia	**1970**	**100**	**ug/L**	**MCAWW 350.3**	**09/19-09/20/05**	**5256381**
		Dilution Factor: 1		Analysis Time..: 07:00	Analyst ID ....: 0000227	
		Instrument ID..: W13		MS Run #.....: 5257206		
Sulfate	**692000**	**50000**	**ug/L**	**MCAWW 300.0A**	**09/13/05**	**5256073**
		Dilution Factor: 50		Analysis Time..: 11:24	Analyst ID.....: 0000226	
		Instrument ID..: W01		MS Run #.....: 5257208		
Total Alkalinity	**699000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/13/05**	**5256074**
		Dilution Factor: 1		Analysis Time..: 08:30	Analyst ID.....: 0000228	
		Instrument ID..: W04		MS Run #.....:		
Total Sulfide	**154**	**100**	**ug/L**	**MCAWW 376.2**	**09/15/05**	**5258405**
		Dilution Factor: 1		Analysis Time..: 11:44	Analyst ID.....: 999995	
		Instrument ID..: W17		MS Run #.....: 5259124		

SECOR International Inc

Client Sample ID: MW-25

GC/MS Volatiles

Lot-Sample #...:	ES1120244-008	Work Order #...:	HKD751AA	Matrix.....:	W
Date Sampled...:	09/12/05 12:37	Date Received..:	09/12/05 17:45	MS Run #.....:	5260040
Prep Date.....:	09/16/05	Analysis Date..:	09/16/05		
Prep Batch #...:	5260077	Analysis Time..:	17:56		
Dilution Factor:	1				
Analyst ID.....:	000038	Instrument ID..:	MSN		
		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diisopropyl Ether (DIPE)	ND	2.0	ug/L
Benzene	ND	0.50	ug/L
Ethanol	ND IO	500	ug/L
Ethylbenzene	ND	0.50	ug/L
tert-Butyl alcohol	**210**	**25**	**ug/L**
Toluene	ND	0.50	ug/L
o-Xylene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether (MTBE)	**1.9**	**1.0**	**ug/L**
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	ug/L
Tert-amyl methyl ether (TAME)	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	93	(75 - 120)
1,2-Dichloroethane-d4	82	(65 - 130)
Toluene-d8	97	(80 - 130)

NOTE(S):

IO Contract limits originate from BP-GCLN Technical Requirements

SECOR International Inc

Client Sample ID: MW-25

GC Volatiles

Lot-Sample #...:	ESI120244-008	Work Order #...:	HKD751AF	Matrix.....:	W
Date Sampled...:	09/12/05 12:37	Date Received..:	09/12/05 17:45	MS Run #.....:	
Prep Date.....:	09/21/05	Analysis Date..:	09/21/05		
Prep Batch #...:	5265321	Analysis Time..:	16:42		
Dilution Factor:	1				
Analyst ID.....:	101605	Instrument ID..:	GC3		
		Method.....:	RSK SOP-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	0.33	0.0010	mg/L

SECOR International Inc

Client Sample ID: MW-25

GC Volatiles

Lot-Sample #...:	E5I120244-008	Work Order #...:	HKD751AC	Matrix.....:	W
Date Sampled...:	09/12/05 12:37	Date Received..:	09/12/05 17:45	MS Run #.....:	5259296
Prep Date.....:	09/15/05	Analysis Date..:	09/15/05		
Prep Batch #...:	5259453	Analysis Time..:	12:26		
Dilution Factor:	1				
Analyst ID.....:	001464	Instrument ID..:	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
GRO (C6 - C12)	ND	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	74	(70 - 130)

SECOR International Inc

Client Sample ID: MW-25

TOTAL Metals

Lot-Sample #...: E5I120244-008 **Matrix.....:** W
Date Sampled...: 09/12/05 12:37 **Date Received..:** 09/12/05 17:45

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 5258228						
Iron	**40800**	**100**	**ug/L**	**SW846 6010B**	**09/15-09/16/05**	**HKD751AH**
		Dilution Factor: 1		Analysis Time..: 11:58	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 5258135		

SECOR International Inc

Client Sample ID: MW-25

General Chemistry

Lot-Sample #...: ES1120244-008 Work Order #...: HKD75 Matrix.....: W
Date Sampled...: 09/12/05 12:37 Date Received..: 09/12/05 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	**685000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/13/05**	**5256077**
		Dilution Factor: 1		Analysis Time..: 08:45	Analyst ID.....: 0000224	
		Instrument ID..: W04		MS Run #.....:		
Carbonate Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256076
		Dilution Factor: 1		Analysis Time..: 08:45	Analyst ID.....: 000022	
		Instrument ID..: W04		MS Run #.....:		
Ferric Iron	**38000**	**100**	**ug/L**	**SM18 3500-FE D**	**09/15-09/16/05**	**5265606**
		Dilution Factor: 1		Analysis Time..: 11:58	Analyst ID..... 000144	
		Instrument ID..: NO INST		MS Run #.....: 5265374		
Ferrous Iron	**2860**	**200**	**ug/L**	**SM18 3500-FE D**	**09/12/05**	**5256309**
		Dilution Factor: 1		Analysis Time..: 19:16ST	Analyst ID.....: 0000644	
		Instrument ID..: W17		MS Run #.....: 5256213		
Hydroxide Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256075
		Dilution Factor: 1		Analysis Time..: 08:45	Analyst ID.....: 0000223	
		Instrument ID..: W04		MS Run #.....:		
Nitrate as N	ND	100	ug/L	MCAWW 300.0A	09/13/05	5256072
		Dilution Factor: 1		Analysis Time..: 10:24	Analyst ID.....: 000022	
		Instrument ID..: W01		MS Run #.....: 5257207		
Nitrogen, as Ammonia	**5190**	**100**	**ug/L**	**MCAWW 350.3**	**09/19-09/20/05**	**5256381**
		Dilution Factor: 1		Analysis Time..: 07:00	Analyst ID.....: 0000227	
		Instrument ID..: W13		MS Run #.....: 5257206		
Sulfate	**509000**	**20000**	**ug/L**	**MCAWW 300.0A**	**09/13/05**	**5256073**
		Dilution Factor: 20		Analysis Time..: 14:19	Analyst ID ....: 0000226	
		Instrument ID..: W01		MS Run #.....: 5257208		
Total Alkalinity	**685000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/13/05**	**5256074**
		Dilution Factor: 1		Analysis Time..: 08:45	Analyst ID ....: 0000228	
		Instrument ID..: W04		MS Run #.....:		
Total Sulfide	**158**	**100**	**ug/L**	**MCAWW 376.2**	**09/15/05**	**5258405**
		Dilution Factor: 1		Analysis Time..: 11:45	Analyst ID.....: 999995	
		Instrument ID..: W17		MS Run #.....: 5259124		

SECOR International Inc

Client Sample ID: MW-26

GC/MS Volatiles

Lot-Sample #...:	E51120244-009	Work Order #...:	HKD761AA	Matrix.....:	W
Date Sampled...:	09/12/05 11:22	Date Received..:	09/12/05 17:45	MS Run #.....:	5260040
Prep Date.....:	09/16/05	Analysis Date..:	09/16/05		
Prep Batch #...:	5260077	Analysis Time..:	18:18		
Dilution Factor:	1				
Analyst ID.....:	000038	Instrument ID..:	MSN		
		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diisopropyl Ether (DIPE)	ND	2.0	ug/L
Benzene	ND	0.50	ug/L
Ethanol	ND IO	500	ug/L
Ethylbenzene	ND	0.50	ug/L
tert-Butyl alcohol	ND	25	ug/L
Toluene	ND	0.50	ug/L
o-Xylene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	ug/L
Tert-amyl methyl ether (TAME)	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	97	(75 - 120)
1,2-Dichloroethane-d4	101	(65 - 130)
Toluene-d8	105	(80 - 130)

NOTE(S):

IO Contract limits originate from BP-GCLN Technical Requirements

SECOR International Inc

Client Sample ID: MW-26

GC Volatiles

Lot-Sample #...:	E5I120244-009	Work Order #...:	HKD761AF	Matrix.....:	W
Date Sampled...:	09/12/05 11:22	Date Received..:	09/12/05 17:45	MS Run #.....:	
Prep Date.....:	09/21/05	Analysis Date..:	09/21/05		
Prep Batch #...:	5265321	Analysis Time..:	17:07		
Dilution Factor:	1				
Analyst ID.....:	101605	Instrument ID..:	GC3		
		Method.....:	RSK SOP-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	0.0024	0.0010	mg/L

SECOR International Inc

Client Sample ID: MW-26

GC Volatiles

Lot-Sample #...:	E5I120244-009	Work Order #...:	HKD761AC	Matrix.....:	W
Date Sampled...:	09/12/05 11:22	Date Received..:	09/12/05 17:45	MS Run #.....:	5259296
Prep Date.....:	09/15/05	Analysis Date..:	09/15/05		
Prep Batch #...:	5259453	Analysis Time..:	13:46		
Dilution Factor:	1				
Analyst ID.....:	001464	Instrument ID..:	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
GRO (C6 - C12)	ND	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	78	(70 - 130)

SECOR International Inc

Client Sample ID: MW-26

TOTAL Metals

Lot-Sample #...: E5I120244-009 **Matrix.....:** W
Date Sampled...: 09/12/05 11:22 **Date Received..:** 09/12/05 17:45

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 5258228						
Iron	**17200**	**100**	**ug/L**	**SW846 6010B**	**09/15-09/16/05**	**HKD761AH**
		Dilution Factor: 1		Analysis Time...: 12:06	Analyst ID.... : 021088	
		Instrument ID..: M01		MS Run #.. .....: 5258135		

SECOR International Inc

Client Sample ID: MW-26

General Chemistry

Lot-Sample #...: E5I120244-009 **Work Order #...:** HKD76 **Matrix.....:** W
Date Sampled...: 09/12/05 11:22 **Date Received..:** 09/12/05 17:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	**417000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/13/05**	**5256077**
		Dilution Factor: 1		Analysis Time..: 08:58	Analyst ID.....: 0000224	
		Instrument ID..: W04		MS Run #.....:		
Carbonate Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256076
		Dilution Factor: 1		Analysis Time..: 08:58	Analyst ID.....: 000022	
		Instrument ID..: W04		MS Run #.....:		
Ferric Iron	**17200**	**100**	**ug/L**	**SM18 3500-FE D**	**09/15-09/16/05**	**5265606**
		Dilution Factor: 1		Analysis Time..: 12:06	Analyst ID.....: 000144	
		Instrument ID..: NO INST		MS Run #.....: 5265174		
Ferrous Iron	ND	200	ug/L	SM18 3500-FE D	09/12/05	5256309
		Dilution Factor: 1		Analysis Time..: 19:11ST	Analyst ID.....: 0000644	
		Instrument ID..: W17		MS Run #.....: 5256213		
Hydroxide Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256075
		Dilution Factor: 1		Analysis Time..: 08:58	Analyst ID.....: 0000223	
		Instrument ID..: W04		MS Run #.....:		
Nitrate as N	**17500**	**500**	**ug/L**	**MCAWW 300.0A**	**09/13/05**	**5256072**
		Dilution Factor: 5		Analysis Time..: 14:02	Analyst ID.....: 000022	
		Instrument ID..: W01		MS Run #.....: 5257207		
Nitrogen, as Ammonia	ND	100	ug/L	MCAWW 350.3	09/19-09/20/05	5256381
		Dilution Factor: 1		Analysis Time..: 07:00	Analyst ID.....: 0000227	
		Instrument ID..: W13		MS Run #.....: 5257206		
Sulfate	**500000**	**20000**	**ug/L**	**MCAWW 300.0A**	**09/13/05**	**5256073**
		Dilution Factor: 20		Analysis Time..: 11:59	Analyst ID.....: 0000226	
		Instrument ID..: W01		MS Run #.....: 5257208		
Total Alkalinity	**417000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/13/05**	**5256074**
		Dilution Factor: 1		Analysis Time..: 08:58	Analyst ID.....: 0000228	
		Instrument ID..: W04		MS Run #.....:		
Total Sulfide	**159**	**100**	**ug/L**	**MCAWW 376.2**	**09/15/05**	**5258405**
		Dilution Factor: 1		Analysis Time..: 11:46	Analyst ID.....: 999995	
		Instrument ID..: W17		MS Run #.....: 5259124		

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: ES1120244 **Work Order #...:** HKTA81AA **Matrix.....:** WATER
MB Lot-Sample #: ES1170000-077

Prep Date.....: 09/16/05 **Analysis Time..:** 09:39
Analysis Date..: 09/16/05 **Prep Batch #...:** 5260077 **Instrument ID..:** MSN
Dilution Factor: 1

Analyst ID.....: 000038

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	0.50	ug/L	SW846 8260B
Ethanol	ND IO	500	ug/L	SW846 8260B
Ethylbenzene	ND	0.50	ug/L	SW846 8260B
tert-Butyl alcohol	ND	25	ug/L	SW846 8260B
Toluene	ND	0.50	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L	SW846 8260B
Diisopropyl Ether (DIPE)	ND	2.0	ug/L	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	2.0	ug/L	SW846 8260B
Tert-amyl methyl ether (T	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	93	(75 - 120)
1,2-Dichloroethane-d4	88	(65 - 130)
Toluene-d8	98	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

IO Contract limits originate from BP-GCLN Technical Requirements

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E5I120244 **Work Order #...:** HKV7K1AA **Matrix.....:** WATER
MB Lot-Sample #: E5I190000-240

Prep Date.....: 09/17/05 **Analysis Time..:** 10:35
Analysis Date..: 09/17/05 **Prep Batch #...:** 5262240 **Instrument ID..:** MSN
Dilution Factor: 1

Analyst ID.....: 000038

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	0.50	ug/L	SW846 8260B
Ethanol	ND IO	500	ug/L	SW846 8260B
Ethylbenzene	ND	0.50	ug/L	SW846 8260B
tert-Butyl alcohol	ND	25	ug/L	SW846 8260B
Toluene	ND	0.50	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L	SW846 8260B
Diisopropyl Ether (DIPE)	ND	2.0	ug/L	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	2.0	ug/L	SW846 8260B
Tert-amyl methyl ether (T	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	92	(75 - 120)
1,2-Dichloroethane-d4	102	(65 - 130)
Toluene-d8	96	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

IO Contract limits originate from BP-GCLN Technical Requirements

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: ESI120244
MB Lot-Sample #: MSI220000-321

Work Order #...: HK5231AA
Prep Date.....: 09/21/05
Prep Batch #...: 5265321
Analyst ID.....: 101605

Matrix.....: WATER
Analysis Time..: 11:02
Instrument ID..: GC3

Analysis Date..: 09/21/05
Dilution Factor: 1

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.0010	mg/L	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: E51120244
MB Lot-Sample #: E5T160000-453

Analysis Date..: 09/15/05
Dilution Factor: 1

Work Order #...: HKQ5T1AA

Prep Date.....: 09/15/05
Prep Batch #...: 5259453

Analyst ID.....: 001464

Matrix.....: WATER

Analysis Time..: 00:52
Instrument ID..: G15

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
GRO (C6 - C12)	ND	100	ug/L	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	79	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: E5I120244 **Work Order #...:** HKQ801AA **Matrix.....:** WATER
MB Lot-Sample #: E5I160000-467

Prep Date.....: 09/16/05 **Analysis Time..:** 05:23
Analysis Date..: 09/16/05 **Prep Batch #...:** 5259467 **Instrument ID..:** G15
Dilution Factor: 1

Analyst ID.....: 001464

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
GRO (C6 - C12)	ND	100	ug/L	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	79	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: ESI120244 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: ESI150000-228 **Prep Batch #...:** 5258228						
Iron	ND	100	ug/L	SW846 6010B	09/15-09/16/05	HKLDR1AA
		Dilution Factor: 1				
		Analysis Time..: 10:50		Analyst ID.....: 021088	Instrument ID..: M01	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: E5I120244 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity		Work Order #: HKGF61AA		MB Lot-Sample #:	E5I130000-077	
	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256077
		Dilution Factor: 1				
		Analysis Time..: 07:43		Analyst ID.....: 000022	Instrument ID..: W04	
Carbonate Alkalinity		Work Order #: HKGF41AA		MB Lot-Sample #:	E5I130000-076	
	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256076
		Dilution Factor: 1				
		Analysis Time..: 07:43		Analyst ID.....: 000022	Instrument ID..: W04	
Ferric Iron		Work Order #: HK7PF1AA		MB Lot-Sample #:	E5I220000-606	
	ND	100	ug/L	SM18 3500-FE D	09/15-09/16/05	5265606
		Dilution Factor: 1				
		Analysis Time..: 10:50		Analyst ID.....: 000144	Instrument ID..: N0	
Ferrous Iron		Work Order #: HKE941AA		MB Lot-Sample #:	E5I130000-309	
	ND	200	ug/L	SM18 3500-FE D	09/12/05	5256309
		Dilution Factor: 1				
		Analysis Time..: 19:06		Analyst ID.....: 000064	Instrument ID..: W17	
Hydroxide Alkalinity		Work Order #: HKGF21AA		MB Lot-Sample #:	E5I130000-075	
	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256075
		Dilution Factor: 1				
		Analysis Time..: 07:43		Analyst ID.....: 000022	Instrument ID..: W04	
Nitrate as N		Work Order #: HKHVP1AA		MB Lot-Sample #:	E5I130000-072	
	ND	100	ug/L	MCAWW 300.0A	09/13/05	5256072
		Dilution Factor: 1				
		Analysis Time..: 09:04		Analyst ID.....: 000022	Instrument ID..: W01	
Nitrogen, as Ammonia		Work Order #: HKHVK1AA		MB Lot-Sample #:	E5I130000-381	
	ND	100	ug/L	MCAWW 350.3	09/19-09/20/05	5256381
		Dilution Factor: 1				
		Analysis Time..: 07:00		Analyst ID.....: 000022	Instrument ID..: W13	
Sulfate		Work Order #: HKHVQ1AA		MB Lot-Sample #:	E5I130000-073	
	ND	1000	ug/L	MCAWW 300.0A	09/13/05	5256073
		Dilution Factor: 1				
		Analysis Time..: 09:04		Analyst ID.....: 000022	Instrument ID..: W01	
Total Alkalinity		Work Order #: HKEDK1AA		MB Lot-Sample #:	E5I130000-074	
	ND	4000	ug/L	MCAWW 310.1	09/13/05	5256074
		Dilution Factor: 1				
		Analysis Time..: 07:43		Analyst ID.....: 000022	Instrument ID..: W04	

(Continued on next page)

METHOD BLANK REPORT

General Chemistry

Client Lot #...: E5I120244 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Sulfide		Work Order #: HKN8Q1AA		MB Lot-Sample #:	E5I150000-405	
	ND	100	ug/L	MCAWW 376.2	09/15/05	5258405
		Dilution Factor: 1				
		Analysis Time...: 11:41		Analyst ID.....: 999995	Instrument ID..: W17	

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E5I120244 Work Order #...: HKTA81AC Matrix.....: WATER
LCS Lot-Sample#: E5I170000-077
Prep Date.....: 09/16/05 Analysis Date..: 09/16/05
Prep Batch #...: 5260077 Analysis Time..: 09:14
Dilution Factor: 1 Instrument ID..: MSN
Analyst ID.....: 000038

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	10.0	**10.6**	ug/L	**106**	SW846 8260B
tert-Butyl alcohol	50.0	**45.1**	ug/L	**90**	SW846 8260B
Ethanol	2000	**1960** IO	ug/L	**98**	SW846 8260B
Tert-amyl methyl ether (T	10.0	**11.0**	ug/L	**110**	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	10.0	**10.6**	ug/L	**106**	SW846 8260B
Ethylbenzene	10.0	**10.8**	ug/L	**108**	SW846 8260B
Diisopropyl Ether (DIPE)	10.0	**10.7**	ug/L	**107**	SW846 8260B
Methyl tert-butyl ether (MTBE)	10.0	**10.3**	ug/L	**103**	SW846 8260B
Toluene	10.0	**10.2**	ug/L	**102**	SW846 8260B
m-Xylene & p-Xylene	20.0	**20.2**	ug/L	**101**	SW846 8260B
o-Xylene	10.0	**9.96**	ug/L	**100**	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	98	(75 - 120)
1,2-Dichloroethane-d4	94	(65 - 130)
Toluene-d8	98	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

IO Contract limits originate from BP-GCLN Technical Requirements

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E5I120244 Work Order #...: HKV7K1AC Matrix.....: WATER
LCS Lot-Sample#: E5I190000-240
Prep Date.....: 09/17/05 Analysis Date..: 09/17/05
Prep Batch #...: 5262240 Analysis Time..: 10:13
Dilution Factor: 1 Instrument ID..: MSN
Analyst ID.....: 000038

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	10.0	9.90	ug/L	99	SW846 8260B
tert-Butyl alcohol	50.0	33.5	ug/L	67	SW846 8260B
Ethanol	2000	1670 IO	ug/L	83	SW846 8260B
Tert-amyl methyl ether (T	10.0	10.4	ug/L	104	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	10.0	10.3	ug/L	103	SW846 8260B
Ethylbenzene	10.0	9.64	ug/L	96	SW846 8260B
Diisopropyl Ether (DIPE)	10.0	10.2	ug/L	102	SW846 8260B
Methyl tert-butyl ether (MTBE)	10.0	9.99	ug/L	100	SW846 8260B
Toluene	10.0	9.31	ug/L	93	SW846 8260B
m-Xylene & p-Xylene	20.0	19.2	ug/L	96	SW846 8260B
o-Xylene	10.0	9.31	ug/L	93	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	93	(75 - 120)
1,2-Dichloroethane-d4	103	(65 - 130)
Toluene-d8	94	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

IO Contract limits originate from BP-GCLN Technical Requirements

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: E5I120244 Work Order #...: HK5231AC-LCS Matrix.....: WATER
LCS Lot-Sample#: MSI220000-321 HK5231AD-LCSD
Prep Date.....: 09/21/05 Analysis Date..: 09/21/05
Prep Batch #...: 5265321 Analysis Time..: 09:46
Dilution Factor: 1 Instrument ID..: GC3
Analyst ID.....: 101605

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Methane	0.327	0.352	mg/L	108		RSK SOP-175
	0.327	0.367	mg/L	112	4.1	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: ESI120244 Work Order #...: HKQ5T1AC Matrix.....: WATER
LCS Lot-Sample#: ESI160000-453
Prep Date.....: 09/15/05 Analysis Date..: 09/15/05
Prep Batch #...: 5259453 Analysis Time..: 00:25
Dilution Factor: 1 Instrument ID..: G15
Analyst ID.....: 001464

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
GRO (C6 - C12)	1000	**924 LW**	ug/L	92	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	114	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: E5I120244 Work Order #...: HKQ801AC Matrix.....: WATER
LCS Lot-Sample#: E5I160000-467
Prep Date.....: 09/16/05 Analysis Date..: 09/16/05
Prep Batch #...: 5259467 Analysis Time..: 04:56
Dilution Factor: 1 Instrument ID..: G15
Analyst ID.....: 001464

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
GRO (C6 - C12)	**1000**	**926 LW**	**ug/L**	**93**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	116	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E5I120244 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: E5I150000-228 **Prep Batch #...:** 5258228							
Iron	1000	1030	ug/L	103	SW846 6010B	09/15-09/16/05	HKLDR1AC
			Dilution Factor: 1		Analysis Time..: 10:56	Analyst ID.....: 021088	
			Instrument ID..: M01				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: E5I120244 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Alkalinity		WO#:HKEDK1AC-LCS/HKEDK1AD-LCSD				LCS Lot-Sample#: E5I130000-074		
	800000	812000	ug/L	101		MCAWW 310.1	09/13/05	5256074
	800000	805000	ug/L	101	0.80	MCAWW 310.1	09/13/05	5256074

Dilution Factor: 1 Analysis Time..: 07:19 Analyst ID.....: 000022

Instrument ID..: W04

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E5I120244 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ferrous Iron			Work Order #:	HKE941AC	LCS Lot-Sample#:	E5I130000-309	
	2000	1990	ug/L	100	SM18 3500-FE D	09/12/05	5256309
			Dilution Factor: 1		Analysis Time..: 19:05	Analyst ID.....: 000064	
			Instrument ID..: W17				
Nitrate as N			Work Order #:	HKHVP1AC	LCS Lot-Sample#:	E5I130000-072	
	5000	5070	ug/L	101	MCAWW 300.0A	09/13/05	5256072
			Dilution Factor: 1		Analysis Time..: 08:39	Analyst ID.....: 000022	
			Instrument ID..: W01				
Nitrogen, as Ammonia			Work Order #:	HKHVK1AC	LCS Lot-Sample#:	E5I130000-381	
	5000	5300	ug/L	106	MCAWW 350.3	09/19-09/20/05	5256381
			Dilution Factor: 1		Analysis Time..: 07:00	Analyst ID.....: 000022	
			Instrument ID..: W13				
Sulfate			Work Order #:	HKHVQ1AC	LCS Lot-Sample#:	E5I130000-073	
	25000	25400	ug/L	102	MCAWW 300.0A	09/13/05	5256073
			Dilution Factor: 1		Analysis Time..: 08:39	Analyst ID.....: 000022	
			Instrument ID..: W01				
Total Sulfide			Work Order #:	HKN8Q1AC	LCS Lot-Sample#:	E5I150000-405	
	500	519	ug/L	104	MCAWW 376.2	09/15/05	5258405
			Dilution Factor: 1		Analysis Time..: 11:40	Analyst ID.....: 999995	
			Instrument ID..: W17				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: ES1120244 Work Order #...: HKD7Q1AC-MS Matrix.....: WATER
MS Lot-Sample #: ES1120243-004 HKD7Q1AD-MSD
Date Sampled...: 09/12/05 12:20 Date Received..: 09/12/05 17:45 MS Run #.....: 5260040
Prep Date.....: 09/16/05 Analysis Date..: 09/16/05
Prep Batch #...: 5260077 Analysis Time..: 12:07
Dilution Factor: 1 Analyst ID.....: 000038 Instrument ID..: MSN

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	ND	10.0	10.6	ug/L	106		SW846 8260B
	ND	10.0	11.1	ug/L	111	4.1	SW846 8260B
tert-Butyl alcohol	ND	50.0	74.3	ug/L	149		SW846 8260B
	ND	50.0	91.2	ug/L	182 LM	20	SW846 8260B
Ethanol	ND	2000	1930	ug/L	97 IO		SW846 8260B
	ND	2000	1800	ug/L	90 IO	7.1	SW846 8260B
Tert-amyl methyl ether (T	ND	10.0	10.6	ug/L	106		SW846 8260B
	ND	10.0	11.2	ug/L	112	5.8	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	10.0	10.4	ug/L	104		SW846 8260B
	ND	10.0	11.0	ug/L	110	5.5	SW846 8260B
Ethylbenzene	ND	10.0	11.0	ug/L	110		SW846 8260B
	ND	10.0	10.8	ug/L	108	1.8	SW846 8260B
Diisopropyl Ether (DIPE)	ND	10.0	10.8	ug/L	108		SW846 8260B
	ND	10.0	11.4	ug/L	114	4.8	SW846 8260B
Methyl tert-butyl ether (MTBE)	ND	10.0	10.3	ug/L	103		SW846 8260B
	ND	10.0	11.1	ug/L	111	7.3	SW846 8260B
Toluene	ND	10.0	10.3	ug/L	103		SW846 8260B
	ND	10.0	10.4	ug/L	104	0.57	SW846 8260B
m-Xylene & p-Xylene	ND	20.0	21.0	ug/L	105		SW846 8260B
	ND	20.0	20.8	ug/L	104	1.2	SW846 8260B
o-Xylene	ND	10.0	10.4	ug/L	104		SW846 8260B
	ND	10.0	9.77	ug/L	98	6.6	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	100	(75 - 120)
	101	(75 - 120)
1,2-Dichloroethane-d4	93	(65 - 130)
	98	(65 - 130)
Toluene-d8	100	(80 - 130)
	98	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Spiked analyte recovery is outside stated control limits.

LM MS and/or MSD above acceptance limits. See Blank Spike (LCS).

IO Contract limits originate from BP-GCEN Technical Requirements

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #....: E5I120244 Work Order #....: HKKGE1AD-MS Matrix.....: WATER
MS Lot-Sample #: E5I140403-001 HKKGE1AE-MSD
Date Sampled....: 09/12/05 17:53 Date Received..: 09/14/05 11:30 MS Run #.....: 5262167
Prep Date.....: 09/17/05 Analysis Date..: 09/17/05
Prep Batch #....: 5262240 Analysis Time..: 14:55
Dilution Factor: 250 Analyst ID.....: 000038 Instrument ID..: MSN

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	19000	2500	22000	ug/L	136 LM		SW846 8260B
	19000	2500	21900	ug/L	133 LM	0.36	SW846 8260B
tert-Butyl alcohol	ND	12500	17700	ug/L	97		SW846 8260B
	ND	12500	18700	ug/L	105	5.4	SW846 8260B
Ethanol	ND	500000	387000	ug/L	77 IO		SW846 8260B
	ND	500000	393000	ug/L	79 IO	1.4	SW846 8260B
Tert-amyl methyl ether (T	ND	2500	2680	ug/L	107		SW846 8260B
	ND	2500	2660	ug/L	107	0.71	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	2500	2630	ug/L	105		SW846 8260B
	ND	2500	2600	ug/L	104	1.3	SW846 8260B
Ethylbenzene	3000	2500	5450	ug/L	96		SW846 8260B
	3000	2500	5790	ug/L	110	6.1	SW846 8260B
Diisopropyl Ether (DIPE)	ND	2500	2650	ug/L	106		SW846 8260B
	ND	2500	2680	ug/L	107	1.0	SW846 8260B
Methyl tert-butyl ether (MTBE)	560	2500	3280	ug/L	109		SW846 8260B
	560	2500	3130	ug/L	103	4.8	SW846 8260B
Toluene	11000	2500	13900	ug/L	98		SW846 8260B
	11000	2500	14600	ug/L	126 LM	4.9	SW846 8260B
m-Xylene & p-Xylene	7300	5000	12200	ug/L	98		SW846 8260B
	7300	5000	12800	ug/L	111	5.4	SW846 8260B
o-Xylene	3100	2500	5490	ug/L	97		SW846 8260B
	3100	2500	5620	ug/L	103	2.5	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	96	(75 - 120)
	100	(75 - 120)
1,2-Dichloroethane-d4	87	(65 - 130)
	86	(65 - 130)
Toluene-d8	95	(80 - 130)
	100	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Spiked analyte recovery is outside stated control limits.

LM MS and/or MSD above acceptance limits. See Blank Spike (LCS).

IO Contract limits originate from BP-GCLN Technical Requirements

MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: ESI120244 **Work Order #...:** HKHV81AC-MS **Matrix.....:** WATER
MS Lot-Sample #: ESI140218-003 HKHV81AH-MSD
Date Sampled...: 09/13/05 10:51 **Date Received..:** 09/13/05 18:45 **MS Run #.....:** 5259296
Prep Date.....: 09/15/05 **Analysis Date..:** 09/15/05
Prep Batch #...: 5259453 **Analysis Time..:** 14:40
Dilution Factor: 1 **Analyst ID.....:** 001464 **Instrument ID..:** G15

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
GRO (C6 - C12)	**ND**	**1000**	**883**	**ug/L**	**88 LW**		**SW846 8015B**
	ND	**1000**	**875**	**ug/L**	**88 LW**	**0.83**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	116	(70 - 130)
	112	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: E5I120244 **Work Order #...:** HKD7C1AF-MS **Matrix.....:** WATER
MS Lot-Sample #: E5I120242-007 HKD7C1AG-MSD
Date Sampled...: 09/09/05 09:39 **Date Received..:** 09/12/05 17:45 **MS Run #.....:** 5259304
Prep Date.....: 09/16/05 **Analysis Date..:** 09/16/05
Prep Batch #...: 5259467 **Analysis Time..:** 09:50
Dilution Factor: 25 **Analyst ID.....:** 001464 **Instrument ID..:** G15

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
GRO (C6 - C12)	**20000**	**25000**	**45200**	**ug/L**	**102 LW**		**SW846 8015B**
	20000	**25000**	**45100**	**ug/L**	**101 LW**	**0.24**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	116	(70 - 130)
	116	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E5I120244 **Matrix.....:** WATER
Date Sampled...: 09/13/05 11:22 **Date Received..:** 09/13/05 18:45

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: E5J130384-005 **Prep Batch #...:** 5258228									
Iron									
	4740	1000	7140	ug/L	239		SW846 6010B	09/15-09/16/05	HKGKG1AX
			Qualifiers: GB,BB						
	4740	1000	7820	ug/L	307	9.1	SW846 6010B	09/15-09/16/05	HKGKG1A0
			Qualifiers: GB,BB						
			Dilution Factor: 1						
			Analysis Time..: 12:43		Instrument ID..: M01			Analyst ID.....: 021088	
			MS Run #.....: 5258135						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

GB Matrix spike recovery not within control

BB Sample > 4X spike concentration

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: ES1120244 **Matrix.....:** W
Date Sampled...: 09/12/05 11:22 **Date Received..:** 09/12/05 17:45

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ferrous Iron			WO#: HKD761AR-MS/HKD761AT-MSD				MS Lot-Sample #: ES1120244-009		
	ND	2000	1980	ug/L	99		SM18 3500-FE	09/12/05	5256309
	ND	2000	1990	ug/L	100	0.50	SM18 3500-FE	09/12/05	5256309
			Dilution Factor: 1						
			Analysis Time..: 19:12		Instrument ID..: W17			Analyst ID.....: 000064	
			MS Run #.....: 5256213						
Nitrate as N			WO#: HKD701AR-MS/HKD701AT-MSD				MS Lot-Sample #: ES1120244-003		
	ND	12500	12000	ug/L	96		MCAWW 300.0A	09/13/05	5256072
	ND	12500	11800	ug/L	94	1.6	MCAWW 300.0A	09/13/05	5256072
			Dilution Factor: 5						
			Analysis Time..: 12:51		Instrument ID..: W01			Analyst ID.....: 000022	
			MS Run #.....: 5257207						
Sulfate			WO#: HKD701AU-MS/HKD701AV-MSD				MS Lot-Sample #: ES1120244-003		
	440000	312000	792000	ug/L	113		MCAWW 300.0A	09/13/05	5256073
	440000	312000	695000	ug/L	82	13	MCAWW 300.0A	09/13/05	5256073
			Dilution Factor: 25						
			Analysis Time..: 13:26		Instrument ID..: W01			Analyst ID.....: 000022	
			MS Run #.....: 5257208						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E5I120244 **Matrix.....:** WATER
Date Sampled...: 09/13/05 11:22 **Date Received..:** 09/13/05 18:45

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Nitrogen, as Ammonia			WO#: HKGKG1A8-MS/HKGKG1A9-MSD				MS Lot-Sample #: E5I130384-005		
	361	5000	5550	ug/L	108		MCAWW 350.3	09/19-09/20/05	5256381
	361	5000	5300	ug/L	103	4.6	MCAWW 350.3	09/19-09/20/05	5256381
			Dilution Factor: 1						
			Analysis Time..: 07:00		Instrument ID..: W13			Analyst ID.....: 000022	
			MS Run #.....: 5257206						
Total Sulfide			WO#: HKGKG1A2-MS/HKGKG1A3-MSD				MS Lot-Sample #: E5I130384-005		
	ND	500	226 GB	ug/L	40		MCAWW 376.2	09/15/05	5258405
	ND	500	214 GB	ug/L	37	5.7	MCAWW 376.2	09/15/05	5258405
			Dilution Factor: 1						
			Analysis Time..: 11:50		Instrument ID..: W17			Analyst ID.....: 999995	
			MS Run #.....: 5259124						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

GB Matrix spike recovery not within control

SEVERN TRENT STL

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705

Tel: 714 258 8610 Fax: 714 258 0921
www.stl-inc.com

September 27, 2005

STL LOT NUMBER: **E5I130384**
PO/CONTRACT: GEM-6-21909

BRAD EISENBERG
SECOR International Inc
2655 Camino Del Rio North
Suite 302
San Diego, CA 92108-1633

Dear BRAD EISENBERG,

This report contains the analytical results for the five samples received under chain of custody by STL Los Angeles on September 13, 2005. These samples are associated with your ARCO #1919 project.

STL Los Angeles certifies that the test results provided in this report meet all the requirements for parameters for which accreditation is required or available. Any exceptions to NELAP requirements are noted in the case narrative. The case narrative is an integral part of the report. NELAP Certification Number for STL Los Angeles is 01118CA/E87652.

Any matrix related anomaly is footnoted within the report. A cooler receipt temperature between 2-6 degrees Celsius is within EPA acceptance criteria. The temperature(s) of the coolers received for this project can be found on the Project Receipt Checklist.

This report shall not be reproduced except in full, without the written approval of the laboratory.

This report contains 000039 pages.

CASE NARRATIVE

Historical control limits for the LCS are used to define the estimate of uncertainty for a method.

All applicable quality control procedures met method-specified acceptance criteria except as noted on the following page.

If you have any questions, please feel free to call me at 714.258.8610.

Sincerely,

Sabina Sudoko
Project Manager
CC: Project File

LOT NUMBER E5I130384

Nonconformance 05-13947

Affected Samples:
E5I130384 (4): MW-15

Affected Methods:
SW6010B

Details:
Sample container had a pH of 4 for the metals analysis. The lab preserved the sample and documented.

Nonconformance 05-14053

Affected Samples:
E5I130384 (5): MW-17

Affected Methods:
RSK 175 – CH4

Details:
The RPD criterion was exceeded for analyte Methane. The poor duplicate precision may be attributable to sample heterogeneity. The original sample had more solid particles than the duplicate samples.

The sample vials were reanalyzed and confirmed. The RPD was above 30%.

Swart, Terry

From: tswart@stl-inc.com
Sent: Thursday, September 15, 2005 9:30 AM
To: beisenberg@secor.com; bauchard@secor.com; adouglas@secor.com; abooth@secor.com
Subject: Information for E5I130384

Sample Confirmation for E5I130...

* *

Lot ID: E5I130384
Project Number: 08BP.01919.07/0427
Project Name/Site: ARCO #1919

Acknowledgement of samples received for ARCO #1919.
Note: For sample MW-15, the metals container was at pH 4; lab to preserve and document.
Please check the sample confirmation sheet.
Thank you.

This message and any files transmitted with it are confidential and intended solely for the use of the addressee. If you have received this message in error please notify the sender and destroy your copies of the message and any attached files.

[00217758]
Version: 2.1.10

ARCO SITE #1919

ESI130384

Page 1 of 1

Chain of Custody Record

Project Name: ARCO 1919 Groundwater Monitoring
BP BU/AR Region/Enfos Segment: Retail
State or Lead Regulatory Agency: County of San Diego, DEH
Requested Due Date (mm/dd/yy): Standard TAT

On-site Time:	Temp:
Off-site Time:	Temp:
Sky Conditions:	
Meteorological Events:	
Wind Speed:	Direction:

Lab Name:	STL Los Angeles	BP/AR Facility No.:	1919	Consultant/Contractor:	SECOR International, Inc.
Address:	1721 Grand Ave.	BP/AR Facility Address:	660 Via de la Valle, Solana Beach, CA	Address:	2055 Camino Del Rio North, Suite 302
	Santa Ana, CA 92705-4808	Site Lat/Long:			San Diego, CA 92108
Lab PM:	Sabina Sudoko	California Global ID No.:	T0607301584	Consultant/Contractor Project No.:	08BP.01919.07.0427
Tele/Fax:	714.258.8610	Enfos Project No.:	G0BQ4-0001	Consultant/Contractor PM:	Brad Eisenberg
BP/AR PM Contact:	Roy Thun	Provision or RCOP:	Provision	Tele/Fax:	619.296.6195/6199
Address:	4 Centerpointe Dr.	Phase/WBS:	Monitoring (04)	Report Type & QC Level:	Normal
	La Palma, CA 90623	Sub Phase/Task:	Analytical	E-mail EDD To:	beisenberg@secor.com
Tele/Fax:	651.287.3855/222-2349	Cost Element:	Subcontracted Cost	Invoice to:	Atlantic Richfield Co.

Lab Bottle Order No:

Item No.	Sample Description	Time	Date	Matrix: Soil/Solid	Matrix: Water/Liquid	Matrix: Air	Laboratory No.	No. of Containers	Preservative: Unpreserved	Preservative: H_2SO_4	Preservative: HNO_3	Preservative: HCl	Preservative: Methanol	Preservative: NaOH/Zn Acetate	Requested Analysis: EPA 8015M GRO C6-C12	EPA 8260B BTEX, Oxys, MTBE, EtOH	G10.1 Total Alkalinity	6010B Ferrous Iron	6010B Total Iron	D50.3 Ammonia as Nitrogen	376.2 Sulfide	RSK-175 MOD Methane	300 Sulfate, Nitrate	Ferric Iron	Sample Point Lat/Long and Comments
1	TB-1919-2005 0913	0730	9/12/05		X			6				6													HOLD
2	EB-1919-2005 0913	1130	9/12/05		X			6				6													HOLD
3	MW-14	1100	9/12/05		X			14	2	1	1	9		1	X	X	X	X	X	X	X	X	X	X	
4	MW-15	1235	9/12/05		X			14	2	1	1	9		1	X	X	X	X	X	X	X	X	X	X	
5	MW-17	1122	9/12/05		X			28	4	2	2	18		2	X	X	X	X	X	X	X	X	X	X	
6	~~MW-18~~				X			14	2	1	1	9		1	X	X	X	X	X	X	X	X	X	X	
7	~~MW-19A~~				X			6				6			X	X									
8	~~MW-19B~~				X			14	2	1	1	9		1	X	X	X	X	X	X	X	X	X	X	
9	~~MW-22~~				X			6				6			X	X									
10	~~MW-24~~				X			14	2	1	1	9		1	X	X	X	X	X	X	X	X	X	X	

	Relinquished By / Affiliation	Date	Time	Accepted By / Affiliation	Date	Time
Sampler's Name: Wilson Wong		9/13/05	4:30 PM		9/13/05	4:30 PM
Sampler's Company: Secor		9/13/05	6:40 PM		9/13/05	6:40 PM
Shipment Date:						
Shipment Method:						
Shipment Tracking No:						

Special Instructions: Oxy's = TBA, DIPE, TAME, ETBE

Some analytes have a 24 hour turnaround time

Custody Seals In Place Yes____ No____ Temp Blank Yes X No____ Cooler Temperature on Receipt ____ °F/C Trip Blank Yes____ No____

Distribution: White Copy - Laboratory / Yellow Copy - BP/Atlantic Richfield Co. / Pink Copy - Consultant/Contractor

BP COC Rev. 4 10/1/04

Temp = 2.5 + CF -.4 = 2.1

5

ESI130384

STL LOS ANGELES - PROJECT RECEIPT CHECKLIST Date: 9-13-05

LIMS Lot #: ESI130384 Quote #: 62428

Client Name: Secor Project: Arco 1919

Received by: MC Date/Time Received: 9-13-05/18:45

Delivered by : ☐ Client ☒ STL ☐ DHL ☐ Fed Ex ☐ UPS ☐ Other

****

	Initial / Date
Custody Seal Status Cooler: ☐Intact ☐Broken ☒None	MC 9-13-05
Custody Seal Status Samples: ☐Intact ☐Broken ☒None	
Custody Seal #(s): ☒No Seal #	
Sampler Signature on COC ☒ Yes ☐No ☐N/A	
IR Gun # A Correction Factor -.4 °C IR passed daily verification ☒ Yes ☐No	
Temperature - BLANK 2.5 °C +/- .4 CF = 2.1 °C	
Temperature – COOLER (___°C ___°C ___°C ___°C) = ___ avg °C +/- ___ CF = ___ °C	
Samples outside temperature criteria but received within 6 hours of final sampling ☐ Yes ☒N/A	
Sample Container(s): ☒ STL-LA ☐ Client	
One COC/Multiple coolers: ☐ Yes- # coolers ___ All within temp criteria ☐ Yes ☐No ☒N/A	
One or more coolers with an anomaly: ☒ Yes – (fill out PRC for each) ☐N/A	
Samples: ☒Intact ☐Broken ☐Other	
pH measured: ☒ Yes ☒ Anomaly (if checked, notify lab and file NCM) ☐ N/A	
Anomalies: ☐No ☒Yes – complete CUR and Create NCM NCM #	
Complete shipment received in good condition with correct temperatures, containers, labels, volumes preservatives and within method specified holding times. ☐ Yes ☒ N/A	
Labeled by: SM Labeling checked	

****

Turn Around Time: ☐RUSH-24HR ☐RUSH-48HR ☐RUSH-72HR ☒NORMAL

Short-Hold Notification: ☐ pH ☒Wet Chem ☐Metals (Filter/Pres) ☐Encore ☐ >1/2 HT expired...

Outside Analysis(es) (Test/Lab/Date Sent Out) : NA

MC 9-13-05

********** LEAVE NO BLANK SPACES ; USE N/A **********

Headspace Anomaly ☒N/A MC 9-13-05

Lab ID	Container(s) #	Headspace	Lab ID	Container(s) #	Headspace
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm
		☐ > 6mm			☐ > 6mm

LIMS Lot # ESI130384

PROJECT RECEIPT CHECKLIST Cont'd

Fraction	1	2	3	4	~~5~~ 6	5								
VOAH/ *	6	6	9	9	~~18~~	18								
500PBn			1	1		2								
250PB2nna			1	1		2								
250 AGBS			1	1		2								
1PB			1	1		2								
250 AGB			1	1		2								

* VOA with headspace/bubbles < 6mm

H: HCL, S: H2SO4, N: HNO3, V: VOA, SL, Sleeve, E: Encore, PB: Poly Bottle, CGB: Clear Glass Bottle, AGJ: Amber Glass Jar, T: Terracore AGB: Amber Glass Bottle, n/f/l:HNO3-Lab filtered, n/f:HNO3-Field filtered, znna: Zinc Acetate/Sodium Hydroxide, Na2s2o3: sodium thiosulfate

Condition Upon Receipt Anomaly Form

☐N/A MB 9-13-05

- **COOLERS**
  - ☐ Not Received (received COC only)
  - ☐ Leaking
  - ☐ Other:
- **CUSTODY SEALS (COOLER(S)**
  - ☐ None
  - ☐ Not Intact
  - ☐ Other
- **CONTAINER(S)**
  - ☐ None
  - ☐ Not Intact
  - ☐ Other
- **TEMPERATURE (SPECS 4 ± 2°C)**
  - ☐ Cooler Temp(s)
  - ☐ Temperature Blank(s)
- **CHAIN OF CUSTODY (COC)**
  - ☐ Not relinquished by Client; No date/time relinquished
  - ☐ Incomplete information provided
  - ☐ Other ☐ COC not received – notify PM
- **CONTAINERS**
  - ☐ Leaking ☐ Voa Vials with Bubbles > 6mm
  - ☐ Broken
  - ☐ Extra
  - ☐ Without Labels
  - ☐ Other:
- **LABELS**
  - ☐ Not the same ID/info as in COC
  - ☐ Incomplete Information
  - ☐ Markings/Info Illegible
  - ☐ Torn
- **SAMPLES**
  - ☐ Samples NOT RECEIVED but listed on COC
  - ☐ Samples received but NOT LISTED on COC
  - ☐ Logged based on Label Information
  - ☐ Logged based on info from other samples on COC
  - ☐ Logged according to Work Plan
  - ☐ Logged on HOLD UNTIL FURTHER NOTICE
  - ☐ Will be noted on COC--Client to send samples with new COC
  - ☐ Mislabeled as to tests, preservatives, etc.
  - ☐ Holding time expired -- list sample ID and test
  - ☐ Improper container used
  - ☐ Not preserved/Improper preservative used
  - ☒ Improper pH 4 Lab to preserve sample and document
  - ☐ Insufficient quantities for analysis ☐ Other

Comments:

Improper pH for 500PBn for Sample # 4. Lab to preserve and document

☐ Corrective Action Implemented:

☐ Client Informed: verbally on _____ By: _____ ☐ In writing on _____ By: _____

☐ Sample(s) on hold until: _____ ☐ Sample(s) processed "as is."

Logged by/Date: MB 9-13-05

PM Review/Date: [signature] 9-15-05

SECOR International Inc

Client Sample ID: MW-14

GC/MS Volatiles

Lot-Sample #...: E5I130384-003 Work Order #...: HKGKC1AA Matrix.....: W
Date Sampled...: 09/13/05 11:00 Date Received..: 09/13/05 18:45 MS Run #.....: 5264215
Prep Date.....: 09/20/05 Analysis Date..: 09/20/05
Prep Batch #...: 5264291 Analysis Time..: 11:56
Dilution Factor: 1
Analyst ID.....: 000038 Instrument ID..: MSN
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diisopropyl Ether (DIPE)	ND	2.0	ug/L
Benzene	ND	0.50	ug/L
Ethanol	ND IO	500	ug/L
Ethylbenzene	ND	0.50	ug/L
tert-Butyl alcohol	ND	25	ug/L
Toluene	ND	0.50	ug/L
o-Xylene	ND	1.0	ug/L
Xylenes (total)	ND	1.0	ug/L
m-Xylene & p-Xylene	ND	1.0	ug/L
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L
Ethyl-t-Butyl Ether (ETBE)	ND	2.0	ug/L
Tert-amyl methyl ether (TAME)	ND	2.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	95	(75 - 120)
1,2-Dichloroethane-d4	96	(65 - 130)
Toluene-d8	92	(80 - 130)

NOTE(S):

IO Contract limits originate from BP-GCLN Technical Requirements

SECOR International Inc

Client Sample ID: MW-14

GC Volatiles

Lot-Sample #...: E5I130384-003 Work Order #...: HKGKC1AF Matrix.....: W
Date Sampled...: 09/13/05 11:00 Date Received..: 09/13/05 18:45 MS Run #.....: 5265218
Prep Date.....: 09/21/05 Analysis Date..: 09/21/05
Prep Batch #...: 5265324 Analysis Time..: 22:22
Dilution Factor: 1
Analyst ID.....: 101605 Instrument ID..: GC3
Method.....: RSK SOP-175

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	ND	0.0010	mg/L

SECOR International Inc

Client Sample ID: MW-14

GC Volatiles

Lot-Sample #...:	E5I130384-003	Work Order #...:	HKGKC1AC	Matrix.....:	W
Date Sampled...:	09/13/05 11:00	Date Received..:	09/13/05 18:45	MS Run #.....:	5259305
Prep Date.....:	09/16/05	Analysis Date..:	09/16/05		
Prep Batch #...:	5259469	Analysis Time..:	11:37		
Dilution Factor:	1				
Analyst ID.....:	001464	Instrument ID..:	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
GRO (C6 - C12)	ND	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	81	(70 - 130)

SECOR International Inc

Client Sample ID: MW-14

TOTAL Metals

Lot-Sample #...: ESI130384-003 **Matrix.....:** W
Date Sampled...: 09/13/05 11:00 **Date Received..:** 09/13/05 18:45

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 5258228						
Iron	**4160**	**100**	**ug/L**	**SW846 6010B**	**09/15-09/16/05**	**HKGKC1AH**
		Dilution Factor: 1		Analysis Time..: 12:13	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run # 5258135		

SECOR International Inc

Client Sample ID: MW-14

General Chemistry

Lot-Sample #...: ESI130384-003 **Work Order #...:** HKGKC **Matrix.....:** W
Date Sampled...: 09/13/05 11:00 **Date Received..:** 09/13/05 18:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/14/05	5257085
		Dilution Factor: 1		Analysis Time..: 09:09	Analyst ID.....: 000022	
		Instrument ID..: W04		MS Run #.....:		
Carbonate Alkalinity	**196000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/14/05**	**5257086**
		Dilution Factor: 1		Analysis Time..: 09:09	Analyst ID.....: 000022	
		Instrument ID..: W04		MS Run #.....:		
Ferric Iron	**4160**	**100**	**ug/L**	**SM18 3500-FE D**	**09/15-09/16/05**	**5265606**
		Dilution Factor: 1		Analysis Time..: 12:13	Analyst ID.....: 000144	
		Instrument ID..: NO INST		MS Run #.....: 5265574		
Ferrous Iron	ND	200	ug/L	SM18 3500-FE D	09/13/05	5257416
		Dilution Factor: 1		Analysis Time..: 16:38ST	Analyst ID.....: 0000644	
		Instrument ID..: W17		MS Run #.....: 5257348		
Hydroxide Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/14/05	5257084
		Dilution Factor: 1		Analysis Time..: 09:09	Analyst ID.....: 0000228	
		Instrument ID..: W04		MS Run #.....:		
Nitrate as N	**911**	**100**	**ug/L**	**MCAWW 300.0A**	**09/14/05**	**5257076**
		Dilution Factor: 1		Analysis Time..: 09:22	Analyst ID.....: 000022	
		Instrument ID..: W01		MS Run #.....: 5257055		
Nitrogen, as Ammonia	ND	100	ug/L	MCAWW 350.3	09/19-09/20/05	5256381
		Dilution Factor: 1		Analysis Time..: 07:00	Analyst ID.....: 0000225	
		Instrument ID..: W13		MS Run #.....: 5257206		
Sulfate	**263000**	**10000**	**ug/L**	**MCAWW 300.0A**	**09/14/05**	**5257078**
		Dilution Factor: 10		Analysis Time..: 10:32	Analyst ID.....: 0000226	
		Instrument ID..: W01		MS Run #.....: 5257056		
Total Alkalinity	**196000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/14/05**	**5257083**
		Dilution Factor: 1		Analysis Time..: 09:09	Analyst ID.....: 0000226	
		Instrument ID..: W04		MS Run #.....:		
Total Sulfide	ND	100	ug/L	MCAWW 376.2	09/15/05	5258405
		Dilution Factor: 1		Analysis Time..: 11:47	Analyst ID.....: 999995	
		Instrument ID..: W17		MS Run #.....: 5259124		

SECOR International Inc

Client Sample ID: MW-15

GC/MS Volatiles

Lot-Sample #...:	E51130384-004	Work Order #...:	HKGKE1AA	Matrix.....:	W
Date Sampled...:	09/13/05 12:35	Date Received..:	09/13/05 18:45	MS Run #.....:	5264215
Prep Date.....:	09/20/05	Analysis Date..:	09/20/05		
Prep Batch #...:	5264291	Analysis Time..:	14:52		
Dilution Factor:	200				
Analyst ID.....:	000038	Instrument ID..:	MSN		
		Method.....:	SW846 8260B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diisopropyl Ether (DIPE)	ND	400	ug/L
Benzene	**1700**	**100**	**ug/L**
Ethanol	ND IO	100000	ug/L
Ethylbenzene	**170**	**100**	**ug/L**
tert-Butyl alcohol	**63000**	**5000**	**ug/L**
Toluene	ND	100	ug/L
o-Xylene	ND	200	ug/L
Xylenes (total)	ND	200	ug/L
m-Xylene & p-Xylene	ND	200	ug/L
Methyl tert-butyl ether (MTBE)	**16000**	**200**	**ug/L**
Ethyl-t-Butyl Ether (ETBE)	ND	400	ug/L
Tert-amyl methyl ether (TAME)	ND	400	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	90	(75 - 120)
1,2-Dichloroethane-d4	86	(65 - 130)
Toluene-d8	94	(80 - 130)

NOTE(S):

IO Contract limits originate from BP-GCLN Technical Requirements

SECOR International Inc

Client Sample ID: MW-15

GC Volatiles

Lot-Sample #...:	E5I130384-004	Work Order #...:	HKGKE1AF	Matrix.....:	W
Date Sampled...:	09/13/05 12:35	Date Received..:	09/13/05 18:45	MS Run #.....:	5265218
Prep Date.....:	09/21/05	Analysis Date..:	09/21/05		
Prep Batch #...:	5265324	Analysis Time..:	22:38		
Dilution Factor:	1				
Analyst ID.....:	101605	Instrument ID..:	GC3		
		Method.....:	RSK SOP-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	3.5	0.0010	mg/L

SECOR International Inc

Client Sample ID: MW-15

GC Volatiles

Lot-Sample #...:	ESI130384-004	Work Order #...:	HKGKE1AC	Matrix.....:	W
Date Sampled...:	09/13/05 12:35	Date Received..:	09/13/05 18:45	MS Run #.....:	5259305
Prep Date.....:	09/16/05	Analysis Date..:	09/16/05		
Prep Batch #...:	5259469	Analysis Time..:	12:04		
Dilution Factor:	10				
Analyst ID.....:	001464	Instrument ID..:	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
GRO (C6 - C12)	9200	1000	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	111	(70 - 130)

SECOR International Inc

Client Sample ID: MW-15

TOTAL Metals

Lot-Sample #...: E5I130384-004 **Matrix.....:** W
Date Sampled...: 09/13/05 12:35 **Date Received..:** 09/13/05 18:45

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 5258228						
Iron	**8670**	**100**	**ug/L**	**SW846 6010B**	**09/15-09/16/05**	**HKGKE1AH**
		Dilution Factor: 1		Analysis Time..: 12:21	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 5258135		

SECOR International Inc

Client Sample ID: MW-15

General Chemistry

Lot-Sample #...: ESI130384-004 **Work Order #...:** HKGKE **Matrix.....:** W
Date Sampled...: 09/13/05 12:35 **Date Received..:** 09/13/05 18:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/14/05	5257085
		Dilution Factor: 1		Analysis Time..: 09:34	Analyst ID.....: 0000224	
		Instrument ID..: W04		MS Run #.....:		
Carbonate Alkalinity	**1410000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/14/05**	**5257086**
		Dilution Factor: 1		Analysis Time..: 09:34	Analyst ID.....: 000022	
		Instrument ID..: W04		MS Run #.....:		
Ferric Iron	**8670**	**100**	**ug/L**	**SM18 3500-FE D**	**09/15-09/16/05**	**5265606**
		Dilution Factor: 1		Analysis Time..: 12:21	Analyst ID.....: 000144	
		Instrument ID..: NO INST		MS Run #.....: 5265374		
Ferrous Iron	ND	200	ug/L	SM18 3500-FE D	09/13/05	5257416
		Dilution Factor: 1		Analysis Time..: 16:39ST	Analyst ID. ....: 0000644	
		Instrument ID..: W17		MS Run #.....: 5257348		
Hydroxide Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/14/05	5257084
		Dilution Factor: 1		Analysis Time..: 09:34	Analyst ID.....: 0000228	
		Instrument ID..: W04		MS Run #.....:		
Nitrate as N	ND	100	ug/L	MCAWW 300.0A	09/14/05	5257076
		Dilution Factor: 1		Analysis Time..: 09:40	Analyst ID.....: 000022	
		Instrument ID..: W01		MS Run #.....: 5257055		
Nitrogen, as Ammonia	**740**	**100**	**ug/L**	**MCAWW 350.3**	**09/19-09/20/05**	**5256381**
		Dilution Factor: 1		Analysis Time..: 07:00	Analyst ID.....: 0000225	
		Instrument ID..: W13		MS Run #.....: 5257206		
Sulfate	**641000**	**20000**	**ug/L**	**MCAWW 300.0A**	**09/14/05**	**5257078**
		Dilution Factor: 20		Analysis Time..: 10:50	Analyst ID.....: 0000226	
		Instrument ID..: W01		MS Run #.....: 5257056		
Total Alkalinity	**1410000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/14/05**	**5257083**
		Dilution Factor: 1		Analysis Time..: 09:34	Analyst ID.....: 0000226	
		Instrument ID..: W04		MS Run #.....:		
Total Sulfide	**5530**	**1000**	**ug/L**	**MCAWW 376.2**	**09/15/05**	**5258405**
		Dilution Factor: 10		Analysis Time..: 11:48	Analyst ID. ....: 999995	
		Instrument ID..: W17		MS Run #.....: 5259124		

SECOR International Inc

Client Sample ID: MW-17

GC/MS Volatiles

Lot-Sample #...: E51130384-005 Work Order #...: HKGKG1AA Matrix.....: W
Date Sampled...: 09/13/05 11:22 Date Received..: 09/13/05 18:45 MS Run #.....: 5264215
Prep Date.....: 09/20/05 Analysis Date..: 09/20/05
Prep Batch #...: 5264291 Analysis Time..: 12:41
Dilution Factor: 2.5
Analyst ID.....: 000038 Instrument ID..: MSN
Method.....: SW846 8260B

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Diisopropyl Ether (DIPE)	ND	5.0	ug/L
Benzene	130	1.2	ug/L
Ethanol	ND IO	1200	ug/L
Ethylbenzene	70	1.2	ug/L
tert-Butyl alcohol	360	62	ug/L
Toluene	3.1	1.2	ug/L
o-Xylene	ND	2.5	ug/L
Xylenes (total)	27	2.5	ug/L
m-Xylene & p-Xylene	25	2.5	ug/L
Methyl tert-butyl ether (MTBE)	150	2.5	ug/L
Ethyl-t-Butyl Ether (ETBE)	ND	5.0	ug/L
Tert-amyl methyl ether (TAME)	ND	5.0	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	103	(75 - 120)
1,2-Dichloroethane-d4	80	(65 - 130)
Toluene-d8	97	(80 - 130)

NOTE(S):

IO Contract limits originate from BP-GCLN Technical Requirements

SECOR International Inc

Client Sample ID: MW-17

GC Volatiles

Lot-Sample #...:	E5I130384-005	Work Order #...:	HKGKG1AP	Matrix.....:	W
Date Sampled...:	09/13/05 11:22	Date Received..:	09/13/05 18:45	MS Run #.....:	5265218
Prep Date.....:	09/21/05	Analysis Date..:	09/21/05		
Prep Batch #...:	5265324	Analysis Time..:	22:54		
Dilution Factor:	1				
Analyst ID.....:	101605	Instrument ID..:	GC3		
		Method.....:	RSK SOP-175		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
Methane	0.41	0.0010	mg/L

SECOR International Inc

Client Sample ID: MW-17

GC Volatiles

Lot-Sample #...:	E5I130384-005	Work Order #...:	HKGKG1AE	Matrix.....:	W
Date Sampled...:	09/13/05 11:22	Date Received..:	09/13/05 18:45	MS Run #.....:	5259305
Prep Date.....:	09/16/05	Analysis Date..:	09/16/05		
Prep Batch #...:	5259469	Analysis Time..:	12:30		
Dilution Factor:	1				
Analyst ID.....:	001464	Instrument ID..:	G15		
		Method.....:	SW846 8015B		

PARAMETER	RESULT	REPORTING LIMIT	UNITS
GRO (C6 - C12)	790	100	ug/L

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	95	(70 - 130)

SECOR International Inc

Client Sample ID: MW-17

TOTAL Metals

Lot-Sample #...: ESI130384-005 **Matrix.....:** W
Date Sampled...: 09/13/05 11:22 **Date Received..:** 09/13/05 18:45

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION ANALYSIS DATE	WORK ORDER #
Prep Batch #...: 5258228						
Iron	**4740**	**100**	**ug/L**	**SW846 6010B**	**09/15-09/16/05**	**HKGKG1AW**
		Dilution Factor: 1		Analysis Time..: 12:28	Analyst ID.....: 021088	
		Instrument ID..: M01		MS Run #.....: 5258135		

SECOR International Inc

Client Sample ID: MW-17

General Chemistry

Lot-Sample #...: E5I130384-005 **Work Order #...:** HKGKG **Matrix.....:** W
Date Sampled...: 09/13/05 11:22 **Date Received..:** 09/13/05 18:45

PARAMETER	RESULT	RL	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/14/05	5257085
		Dilution Factor: 1		Analysis Time..: 09:48	Analyst ID.....: 0000224	
		Instrument ID..: W04		MS Run #.....:		
Carbonate Alkalinity	**534000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/14/05**	**5257086**
		Dilution Factor: 1		Analysis Time..: 09:48	Analyst ID.....: 000022	
		Instrument ID..: W04		MS Run #.....		
Ferric Iron	**4070**	**100**	**ug/L**	**SM18 3500-FE D**	**09/15-09/16/05**	**5265606**
		Dilution Factor: 1		Analysis Time..: 12:28	Analyst ID.....: 000144	
		Instrument ID..: NO INST		MS Run #.....: 5265374		
Ferrous Iron	**678**	**200**	**ug/L**	**SM18 3500-FE D**	**09/13/05**	**5257416**
		Dilution Factor: 1		Analysis Time..: 16:40ST	Analyst ID.....: 0000644	
		Instrument ID..: W17		MS Run #.....: 5257348		
Hydroxide Alkalinity	ND	4000	ug/L	MCAWW 310.1	09/14/05	5257084
		Dilution Factor: 1		Analysis Time..: 09:48	Analyst ID.....: 0000228	
		Instrument ID..: W04		MS Run #.....:		
Nitrate as N	**1610**	**100**	**ug/L**	**MCAWW 300.0A**	**09/14/05**	**5257076**
		Dilution Factor: 1		Analysis Time..: 09:57	Analyst ID.....: 000022	
		Instrument ID..: W01		MS Run #.....: 5257055		
Nitrogen, as Ammonia	**361**	**100**	**ug/L**	**MCAWW 350.3**	**09/19-09/20/05**	**5256381**
		Dilution Factor: 1		Analysis Time..: 07:00	Analyst ID.....: 0000225	
		Instrument ID..: W13		MS Run #.....: 5257206		
Sulfate	**647000**	**20000**	**ug/L**	**MCAWW 300.0A**	**09/14/05**	**5257078**
		Dilution Factor: 20		Analysis Time..: 11:07	Analyst ID.....: 0000226	
		Instrument ID..: W01		MS Run #.....: 5257056		
Total Alkalinity	**534000**	**4000**	**ug/L**	**MCAWW 310.1**	**09/14/05**	**5257083**
		Dilution Factor: 1		Analysis Time..: 09:48	Analyst ID.....: 0000226	
		Instrument ID..: W04		MS Run #.....:		
Total Sulfide	ND	100	ug/L	MCAWW 376.2	09/15/05	5258405
		Dilution Factor: 1		Analysis Time..: 11:49	Analyst ID.....: 999995	
		Instrument ID..: W17		MS Run #.....: 5259124		

METHOD BLANK REPORT

GC/MS Volatiles

Client Lot #...: E5I130384 **Work Order #...:** HK2M51AA **Matrix.....:** WATER
MB Lot-Sample #: E5I210000-291

Prep Date.....: 09/20/05 **Analysis Time..:** 10:41
Analysis Date..: 09/20/05 **Prep Batch #...:** 5264291 **Instrument ID..:** MSN
Dilution Factor: 1

Analyst ID.....: 000038

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Benzene	ND	0.50	ug/L	SW846 8260B
Ethanol	ND IO	500	ug/L	SW846 8260B
Ethylbenzene	ND	0.50	ug/L	SW846 8260B
tert-Butyl alcohol	ND	25	ug/L	SW846 8260B
Toluene	ND	0.50	ug/L	SW846 8260B
o-Xylene	ND	1.0	ug/L	SW846 8260B
Xylenes (total)	ND	1.0	ug/L	SW846 8260B
m-Xylene & p-Xylene	ND	1.0	ug/L	SW846 8260B
Methyl tert-butyl ether (MTBE)	ND	1.0	ug/L	SW846 8260B
Diisopropyl Ether (DIPE)	ND	2.0	ug/L	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	2.0	ug/L	SW846 8260B
Tert-amyl methyl ether (T	ND	2.0	ug/L	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	94	(75 - 120)
1,2-Dichloroethane-d4	84	(65 - 130)
Toluene-d8	95	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

IO Contract limits originate from BP-GCLN Technical Requirements

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: ESI130384
MB Lot-Sample #: M5I220000-324

Work Order #...: HK55M1AA

Matrix.....: WATER

Prep Date.....: 09/21/05

Analysis Time..: 19:46

Analysis Date..: 09/21/05

Prep Batch #...: 5265324

Instrument ID..: GC3

Dilution Factor: 1

Analyst ID.....: 101605

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
Methane	ND	0.0010	mg/L	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

GC Volatiles

Client Lot #...: E51130384 **Work Order #...:** HKQ841AA **Matrix.....:** WATER
MB Lot-Sample #: E51160000-469

Prep Date.....: 09/16/05 **Analysis Time..:** 05:23
Analysis Date..: 09/16/05 **Prep Batch #...:** 5259469 **Instrument ID..:** G15
Dilution Factor: 1

Analyst ID.....: 001464

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD
GRO (C6 - C12)	ND	100	ug/L	SW846 8015B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	79	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

TOTAL Metals

Client Lot #...: ESI130384 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MB Lot-Sample #: ESI150000-228 **Prep Batch #...:** 5258228						
Iron	ND	100	ug/L	SW846 6010B	09/15-09/16/05	HK1DR1AA

Dilution Factor: 1

Analysis Time...: 10:50 Analyst ID.....: 021088 Instrument ID..: M01

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

METHOD BLANK REPORT

General Chemistry

Client Lot #...: E5I130384 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Bicarbonate Alkalinity		Work Order #: HKKEJ1AA		MB Lot-Sample #:	E5I140000-085	
	ND	4000	ug/L	MCAWW 310.1	09/14/05	5257085
		Dilution Factor: 1				
		Analysis Time..: 08:59		Analyst ID.....: 000022	Instrument ID..: W04	
Carbonate Alkalinity		Work Order #: HKKEP1AA		MB Lot-Sample #:	E5I140000-086	
	ND	4000	ug/L	MCAWW 310.1	09/14/05	5257086
		Dilution Factor: 1				
		Analysis Time..: 08:59		Analyst ID.....: 000022	Instrument ID..: W04	
Ferric Iron		Work Order #: HK7PF1AA		MB Lot-Sample #:	E5I220000-606	
	ND	100	ug/L	SM18 3500-FE D	09/15-09/16/05	5265606
		Dilution Factor: 1				
		Analysis Time..: 10:50		Analyst ID.....: 000144	Instrument ID..: N0	
Ferrous Iron		Work Order #: HKKER1AA		MB Lot-Sample #:	E5I140000-416	
	ND	200	ug/L	SM18 3500-FE D	09/13/05	5257416
		Dilution Factor: 1				
		Analysis Time..: 16:26		Analyst ID.....: 000064	Instrument ID..: W27	
Hydroxide Alkalinity		Work Order #: HKKEC1AA		MB Lot-Sample #:	E5I140000-084	
	ND	4000	ug/L	MCAWW 310.1	09/14/05	5257084
		Dilution Factor: 1				
		Analysis Time..: 08:59		Analyst ID.....: 000022	Instrument ID..: W04	
Nitrate as N		Work Order #: HKGPK1AA		MB Lot-Sample #:	E5I140000-076	
	ND	100	ug/L	MCAWW 300.0A	09/14/05	5257076
		Dilution Factor: 1				
		Analysis Time..: 09:05		Analyst ID.....: 000022	Instrument ID..: W01	
Nitrogen, as Ammonia		Work Order #: HKHVK1AA		MB Lot-Sample #:	E5I130000-381	
	ND	100	ug/L	MCAWW 350.3	09/19-09/20/05	5256381
		Dilution Factor: 1				
		Analysis Time..: 07:00		Analyst ID.....: 000022	Instrument ID..: W13	
Sulfate		Work Order #: HKGPL1AA		MB Lot-Sample #:	E5I140000-078	
	ND	1000	ug/L	MCAWW 300.0A	09/14/05	5257078
		Dilution Factor: 1				
		Analysis Time..: 09:05		Analyst ID.....: 000022	Instrument ID..: W01	
Total Alkalinity		Work Order #: HKGW41AA		MB Lot-Sample #:	E5I140000-083	
	ND	4000	ug/L	MCAWW 310.1	09/14/05	5257083
		Dilution Factor: 1				
		Analysis Time..: 08:59		Analyst ID.....: 000022	Instrument ID..: W04	

(Continued on next page)

METHOD BLANK REPORT

General Chemistry

Client Lot #...: ESI130384 **Matrix.....:** WATER

PARAMETER	RESULT	REPORTING LIMIT	UNITS	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Sulfide		Work Order #: HKN8Q1AA		MB Lot-Sample #: ES1150000-405		
	ND	100	ug/L	MCAWW 376.2	09/15/05	5258405

Dilution Factor: 1

Analysis Time...: 11:41 Analyst ID.....: 999995 Instrument ID..: W17

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: E5I130384 Work Order #...: HK2M51AC Matrix.....: WATER
LCS Lot-Sample#: E5I210000-291
Prep Date.....: 09/20/05 Analysis Date..: 09/20/05
Prep Batch #...: 5264291 Analysis Time..: 09:54
Dilution Factor: 1 Instrument ID..: MSN
Analyst ID.....: 000038

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
Benzene	10.0	10.3	ug/L	103	SW846 8260B
tert-Butyl alcohol	50.0	53.3	ug/L	107	SW846 8260B
Ethanol	2000	1740 IO	ug/L	87	SW846 8260B
Tert-amyl methyl ether (T	10.0	9.14	ug/L	91	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	10.0	9.68	ug/L	97	SW846 8260B
Ethylbenzene	10.0	10.0	ug/L	100	SW846 8260B
Diisopropyl Ether (DIPE)	10.0	10.3	ug/L	103	SW846 8260B
Methyl tert-butyl ether (MTBE)	10.0	10.1	ug/L	101	SW846 8260B
Toluene	10.0	9.83	ug/L	98	SW846 8260B
m-Xylene & p-Xylene	20.0	19.4	ug/L	97	SW846 8260B
o-Xylene	10.0	9.37	ug/L	94	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	99	(75 - 120)
1,2-Dichloroethane-d4	96	(65 - 130)
Toluene-d8	98	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

IO Contract limits originate from BP-GCLN Technical Requirements

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: E5I130384 Work Order #...: HK55M1AC-LCS Matrix.....: WATER
LCS Lot-Sample#: M5I220000-324 HK55M1AD-LCSD
Prep Date.....: 09/21/05 Analysis Date..: 09/21/05
Prep Batch #...: 5265324 Analysis Time..: 18:19
Dilution Factor: 1 Instrument ID..: GC3
Analyst ID.....: 101605

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	RPD	METHOD
Methane	0.327	0.355	mg/L	109		RSK SOP-175
	0.327	0.371	mg/L	113	4.3	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: E5I130384 Work Order #...: HKQ841AC Matrix.....: WATER
LCS Lot-Sample#: E5I160000-469
Prep Date.....: 09/16/05 Analysis Date..: 09/16/05
Prep Batch #...: 5259469 Analysis Time..: 04:56
Dilution Factor: 1 Instrument ID..: G15
Analyst ID.....: 001464

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCENT RECOVERY	METHOD
GRO (C6 - C12)	**1000**	**926 LW**	**ug/L**	**93**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	116	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

LABORATORY CONTROL SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: ESI130384 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
LCS Lot-Sample#: ESI150000-228 **Prep Batch #...:** 5258228							
Iron	1000	1030	ug/L	103	SW846 6010B	09/15-09/16/05	HKLDR1AC

Dilution Factor: 1 Analysis Time..: 10:56 Analyst ID.....: 021088

Instrument ID..: M01

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Lot-Sample #...: E5I130384 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Total Alkalinity		WO#:HKGW41AC-LCS/HKGW41AD-LCSD				LCS Lot-Sample#: E5I140000-083		
	800000	815000	ug/L	102		MCAWW 310.1	09/14/05	5257083
	800000	808000	ug/L	101	0.89	MCAWW 310.1	09/14/05	5257083

Dilution Factor: 1 Analysis Time..: 08:34 Analyst ID.....: 000022

Instrument ID..: W04

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

LABORATORY CONTROL SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E5I130384 **Matrix.....:** WATER

PARAMETER	SPIKE AMOUNT	MEASURED AMOUNT	UNITS	PERCNT RECVRY	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ferrous Iron			Work Order #: HKKER1AC LCS Lot-Sample#: E5I140000-416				
	2000	1990	ug/L	100	SM18 3500-FE D	09/13/05	5257416
			Dilution Factor: 1		Analysis Time..: 16:25	Analyst ID.....: 000064	
			Instrument ID..: W17				
Nitrate as N			Work Order #: HKGPK1AC LCS Lot-Sample#: E5I140000-076				
	5000	5040	ug/L	101	MCAWW 300.0A	09/14/05	5257076
			Dilution Factor: 1		Analysis Time..: 08:38	Analyst ID.....: 000022	
			Instrument ID..: W01				
Nitrogen, as Ammonia			Work Order #: HKHVK1AC LCS Lot-Sample#: E5I130000-381				
	5000	5300	ug/L	106	MCAWW 350.3	09/19-09/20/05	5256381
			Dilution Factor: 1		Analysis Time..: 07:00	Analyst ID.....: 000022	
			Instrument ID..: W13				
Sulfate			Work Order #: HKGPL1AC LCS Lot-Sample#: E5I140000-078				
	25000	25200	ug/L	101	MCAWW 300.0A	09/14/05	5257078
			Dilution Factor: 1		Analysis Time..: 08:38	Analyst ID.....: 000022	
			Instrument ID..: W01				
Total Sulfide			Work Order #: HKN8Q1AC LCS Lot-Sample#: E5I150000-405				
	500	519	ug/L	104	MCAWW 376.2	09/15/05	5258405
			Dilution Factor: 1		Analysis Time..: 11:40	Analyst ID.....: 999995	
			Instrument ID..: W17				

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

MATRIX SPIKE SAMPLE DATA REPORT

GC/MS Volatiles

Client Lot #...: ESI130384 Work Order #...: HKGKG1AC-MS Matrix.....: W
MS Lot-Sample #: ESI130384-005 HKGKG1AD-MSD
Date Sampled...: 09/13/05 11:22 Date Received..: 09/13/05 18:45 MS Run #.....: 5264215
Prep Date.....: 09/20/05 Analysis Date..: 09/20/05
Prep Batch #...: 5264291 Analysis Time..: 18:11
Dilution Factor: 2.5 Analyst ID.....: 000038 Instrument ID..: MSN

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
Benzene	130	25.0	97.3	ug/L	0.0 BB		SW846 8260B
	130	25.0	106	ug/L	0.0 BB	0.0	SW846 8260B
tert-Butyl alcohol	360	125	571	ug/L	168 LM		SW846 8260B
	360	125	530	ug/L	135	7.5	SW846 8260B
Ethanol	ND	5000	4530	ug/L	91 IO		SW846 8260B
	ND	5000	5070	ug/L	101 IO	11	SW846 8260B
Tert-amyl methyl ether (T	ND	25.0	24.8	ug/L	93		SW846 8260B
	ND	25.0	27.2	ug/L	102	9.4	SW846 8260B
Ethyl-t-Butyl Ether (ETBE	ND	25.0	23.4	ug/L	94		SW846 8260B
	ND	25.0	25.5	ug/L	102	8.6	SW846 8260B
Ethylbenzene	70	25.0	38.9	ug/L	0.0 LN		SW846 8260B
	70	25.0	44.6	ug/L	0.0 LN	0.0	SW846 8260B
Diisopropyl Ether (DIPE)	ND	25.0	25.3	ug/L	101		SW846 8260B
	ND	25.0	26.4	ug/L	106	4.5	SW846 8260B
Methyl tert-butyl ether (MTBE)	150	25.0	171	ug/L	86		SW846 8260B
	150	25.0	181	ug/L	125	5.4	SW846 8260B
Toluene	3.1	25.0	25.3	ug/L	89		SW846 8260B
	3.1	25.0	25.2	ug/L	89	0.31	SW846 8260B
m-Xylene & p-Xylene	25	50.0	52.7	ug/L	55 LN		SW846 8260B
	25	50.0	53.3	ug/L	56 LN	1.1	SW846 8260B
o-Xylene	ND	25.0	25.0	ug/L	91		SW846 8260B
	ND	25.0	24.1	ug/L	87	3.9	SW846 8260B

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
Bromofluorobenzene	101	(75 - 120)
	99	(75 - 120)
1,2-Dichloroethane-d4	86	(65 - 130)
	90	(65 - 130)
Toluene-d8	95	(80 - 130)
	96	(80 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

Spiked analyte recovery is outside stated control limits.

BB Sample > 4X spike concentration

IO Contract limits originate from BP-GCLN Technical Requirements

LN MS and/or MSD below acceptance limits. See Blank Spike (LCS).

LM MS and/or MSD above acceptance limits. See Blank Spike (LCS).

MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #...: ESI130384 **Work Order #...:** HKGKG1AF-MS **Matrix.....:** W
MS Lot-Sample #: ESI130384-005 HKGKG1AG-MSD
Date Sampled...: 09/13/05 11:22 **Date Received..:** 09/13/05 18:45 **MS Run #.....:** 5259305
Prep Date.....: 09/16/05 **Analysis Date..:** 09/16/05
Prep Batch #...: 5259469 **Analysis Time..:** 12:57
Dilution Factor: 1 **Analyst ID.....:** 001464 **Instrument ID..:** G15

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD
GRO (C6 - C12)	**790**	**1000**	**1770**	**ug/L**	**99 LW**		**SW846 8015B**
	790	**1000**	**1750**	**ug/L**	**96 LW**	**1.6**	**SW846 8015B**

SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS
a,a,a-Trifluorotoluene (TFT)	127	(70 - 130)
	127	(70 - 130)

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

LW Quantitated against gasoline.

MATRIX SPIKE SAMPLE DATA REPORT

TOTAL Metals

Client Lot #...: E5I130384 **Matrix.....:** W
Date Sampled...: 09/13/05 11:22 **Date Received..:** 09/13/05 18:45

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	WORK ORDER #
MS Lot-Sample #: E5I130384-005 **Prep Batch #...:** 5258228									
Iron									
	4740	1000	7140	ug/L	239		SW846 6010B	09/15-09/16/05	HKGKG1AX
			Qualifiers: GB,BB						
	4740	1000	7820	ug/L	307	9.1	SW846 6010B	09/15-09/16/05	HKGKG1A0
			Qualifiers: GB,BB						
			Dilution Factor: 1						
			Analysis Time..: 12:43		Instrument ID..: M01			Analyst ID.....: 021088	
			MS Run #.....: 5258135						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

GB Matrix spike recovery not within control

BB Sample > 4X spike concentration

MATRIX SPIKE SAMPLE DATA REPORT

General Chemistry

Client Lot #...: E5I130384 **Matrix.....:** W
Date Sampled...: 09/13/05 11:22 **Date Received..:** 09/13/05 18:45

PARAMETER	SAMPLE AMOUNT	SPIKE AMT	MEASRD AMOUNT	UNITS	PERCNT RECVRY	RPD	METHOD	PREPARATION-ANALYSIS DATE	PREP BATCH #
Ferrous Iron			WO#: HKGKG1AU-MS/HKGKG1AV-MSD				MS Lot-Sample #: E5I130384-005		
	678	2000	2630	ug/L	98		SM18 3500-FE	09/13/05	5257416
	678	2000	2640	ug/L	98	0.38	SM18 3500-FE	09/13/05	5257416
			Dilution Factor: 1						
			Analysis Time..: 16:41		Instrument ID..: W17			Analyst ID.....: 000064	
			MS Run #.....: 5257348						
Nitrate as N			WO#: HKGKG1AJ-MS/HKGKG1AK-MSD				MS Lot-Sample #: E5I130384-005		
	1610	125000	121000	ug/L	95		MCAWW 300.0A	09/14/05	5257076
	1610	125000	122000	ug/L	96	0.72	MCAWW 300.0A	09/14/05	5257076
			Dilution Factor: 50						
			Analysis Time..: 11:25		Instrument ID..: W01			Analyst ID.....: 000022	
			MS Run #.....: 5257055						
Nitrogen, as Ammonia			WO#: HKGKG1A8-MS/HKGKG1A9-MSD				MS Lot-Sample #: E5I130384-005		
	361	5000	5550	ug/L	108		MCAWW 350.3	09/19-09/20/05	5256381
	361	5000	5300	ug/L	103	4.6	MCAWW 350.3	09/19-09/20/05	5256381
			Dilution Factor: 1						
			Analysis Time..: 07:00		Instrument ID..: W13			Analyst ID.....: 000022	
			MS Run #.....: 5257206						
Sulfate			WO#: HKGKG1AM-MS/HKGKG1AN-MSD				MS Lot-Sample #: E5I130384-005		
	647000	625000	1340000	ug/L	111		MCAWW 300.0A	09/14/05	5257078
	647000	625000	1290000	ug/L	103	3.6	MCAWW 300.0A	09/14/05	5257078
			Dilution Factor: 50						
			Analysis Time..: 11:25		Instrument ID..: W01			Analyst ID.....: 000022	
			MS Run #.....: 5257056						
Total Sulfide			WO#: HKGKG1A2-MS/HKGKG1A3-MSD				MS Lot-Sample #: E5I130384-005		
	ND	500	226 GB	ug/L	40		MCAWW 376.2	09/15/05	5258405
	ND	500	214 GB	ug/L	37	5.7	MCAWW 376.2	09/15/05	5258405
			Dilution Factor: 1						
			Analysis Time..: 11:50		Instrument ID..: W17			Analyst ID.....: 999995	
			MS Run #.....: 5259124						

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

GB Matrix spike recovery not within control

SAMPLE DUPLICATE EVALUATION REPORT

GC Volatiles

Client Lot #...:	E5I130384	**Work Order #...:**	HKGKG1AP -SMP	**Matrix.....:**	W
SD Lot-Sample #:	E5I130384-005		HKGKG1CM -DUP		
Date Sampled...:	09/13/05 11:22	**Date Received..:**	09/13/05 18:45	**MS Run #.....:**	
Prep Date.....:	09/21/05	**Analysis Date..:**	09/21/05		
Prep Batch #...:	5265324	**Analysis Time..:**	23:10		
Dilution Factor:	1				
Analyst ID.....:	101605	**Instrument ID..:**	GC3		

PARAMETER	SAMPLE RESULT	DUPLICATE RESULT	UNITS	RPD	RPD LIMIT	METHOD
Methane	0.41	0.11 CI	mg/L	114	(0-30)	RSK SOP-175

NOTE(S):

Calculations are performed before rounding to avoid round-off errors in calculated results.

CI See narrative.