

**HESS CORPORATION
UPDATE REPORT**

Site Address: Hess Station #32518
2880 Atlantic Avenue
Brooklyn, NY

Regulatory Agency: NYSDEC – Region 2
Regulatory Contact: Sarah Carlson
Spill #: 98-30002
Consultant: EnviroTrac Ltd.
Project Manager: Ed Russo

Hess Contact: Donald Bull

Report Date: August 2010

Spill Incident Cause: Impacted soils encountered during an underground storage tank (UST) upgrade project in August 1998. Removed thirty (30) 550-gallon gasoline, three (3) 4,000-gallon gasoline, one (1) 2,000-gallon gasoline, one (1) 4,000-gallon diesel, two (2) 2,000-gallon gasoline, two (2) 550-gallon waste water UST's and associated remote fills, product piping, and dispensers. During this project 1,006 tons of impacted soils were removed off site for disposal.

Current Site Status: Active Hess station

Monitoring Period: April 2010 – June 2010

Work Performed: April 13, 2010 – Installed two (2) air sparge wells (AS-4 and AS-5)

April 23, May 19 and June 9, 2010 – Conducted short term remediation events (STRE's) utilizing wells MW-1, MW-4, MW-6, AS-1, AS-4, and AS-5

June 15, 2010 – Gauged and sampled seven (7) monitoring wells

Groundwater Monitoring:

Wells Gauged:	MW- 1 through MW-7
Wells Containing LPH:	None
Groundwater Depth:	30.36 feet – 33.21 feet
Groundwater Flow:	South-southwesterly
Wells Sampled:	MW- 1 through MW-7
Maximum Benzene Concentration:	Non-detect (all wells)
Maximum MTBE Concentration:	Non-detect (all wells)

Potential Sensitive Receptors: Local businesses and residential properties with basements.

Current Plans/Proposals: EnviroTrac to continue with a quarterly sampling schedule with the next event scheduled for September 2010. An Update Report summarizing these activities will be submitted to NYSDEC in November 2010. Hess to conduct short term remediation events (STREs) on select wells.

List of Attachments:

Tables:	Table 1 – Summary of Well Gauging and Groundwater Analytical Data
	Table 2 – Summary of STRE Air Analytical Data
	Table 3 – Summary of Soil Data for VOCs and SVOCs in Air Sparge Wells

HESS CORPORATION
UPDATE REPORT (continued)

Site Address: Hess Station #32518 2880 Atlantic Avenue Brooklyn, NY	Regulatory Agency: NYSDEC – Region 2 Regulatory Contact: Sarah Carlson Spill #: 98-30002 Consultant: EnviroTrac Ltd. Project Manager: Ed Russo
Hess Contact: Donald Bull	

Figures: Figure 1 – Aerial Photograph
 Figure 2 – Water-Table Elevation on June 15, 2010, and
 Total BTEX/MTBE Concentrations Map
 Figure 3 – Radius of Influence for Monitoring wells 1, 4 and 6
 Figure 4 – Hydrograph of MW-1
 Figure 5 – Hydrograph of MW-2
 Figure 6 – Hydrograph of MW-4
 Figure 7 – Hydrograph of MW-5
 Figure 8 – Hydrograph of MW-6

Attachments: Geologic Logs and Well Construction Details

Table 1
Summary of Well Gauging and Groundwater Analytical Data
Hess Station # 32518
2880 Atlantic Avenue
Brooklyn, NY

Well ID	Date	Gauge Pt. Elevation (feet)	Depth to Water (fbg)	Product Depth (fbg)	Product Thickness (feet)	Water Level Elevation (feet)	Benzene (ug/L)	Toluene (ug/L)	Ethylbenzene (ug/L)	Xylenes (ug/L)	BTEX (ug/L)	MTBE (ug/L)
MW-1	03/23/99 ^a	39.26	33.00			6.26	14	1,200	650	7,700	9,564	14
	03/13/00 ^b	39.26	33.60			5.66	2.4	3,300	2,300	16,000	21,602.4	6.2
	03/7/05 ^c	39.26	33.00			6.26	<1	55	544	2,372	2,971	20
	09/21/09	39.26	33.34			5.92	<1.5	25.3	939	3,030	3,994.3	ND
	12/29/09	39.26	33.34			5.92	<1.5	27.3	953	4,330	5,310.3	ND
	03/31/10	39.26	32.71			6.55	ND	6.2	249	966	1,221.2	ND
	06/15/10	39.26	33.04			6.22	ND	18.0	438	2,500	2,956.0	ND
MW-2	03/23/99 ^{ac}	38.30	30.03			8.27	ND	ND	ND	ND	ND	800
	07/26/99 ^b	38.30	32.25			6.05	ND	ND	29	56	85	240
	09/21/09	38.30	32.31			5.99	ND	ND	ND	ND	ND	ND
	12/29/09	38.30	32.35			5.95	ND	ND	ND	ND	ND	ND
	03/31/10	38.30	31.72			6.58	ND	ND	ND	ND	ND	ND
	06/15/10	38.30	32.03			6.27	ND	ND	ND	ND	ND	ND
MW-3	03/23/99 ^a	36.69	30.35			6.34	ND	ND	ND	ND	ND	2.3
	03/13/00 ^b	36.69	30.95			5.74	ND	1.2	1.7	12	14.9	3.4
	11/20/01 ^c	36.69	32.65			4.04	1	<1	<1	<2	1	5.1
	09/21/09	36.69	30.67			6.02	ND	ND	ND	ND	ND	ND
	12/29/09	36.69	30.63			6.06	ND	ND	ND	ND	ND	ND
	03/31/10	36.69	30.05			6.64	ND	ND	ND	ND	ND	ND
	06/15/10	36.69	30.36			6.33	ND	ND	ND	ND	ND	ND
MW-4	03/23/99 ^{ab}	38.69	32.40			6.29	9	8.5	690	6,100	6,807.5	33
	07/15/02 ^c	38.69	33.58			5.11	<5	11	1,400	3,020	4,431	160
	09/21/09	38.69	32.70			5.99	ND	ND	139	11.8	151	ND
	12/29/09	38.69	32.73			5.96	<1.5	ND	1,070	4,190	5,260	ND
	03/31/10	38.69	32.12			6.57	ND	ND	135	131	266	ND
	06/15/10	38.69	32.81			5.88	ND	ND	ND	ND	ND	ND
MW-5	02/23/00 ^{ab}	39.37	33.80			5.57	26	22	780	3,600	4,428	17
	11/26/02 ^c	39.37	34.01			5.36	22	18	250	821	1,111	83
	09/21/09	39.37	33.54			5.83	ND	ND	ND	ND	ND	ND
	12/29/09	39.37	33.51			5.86	ND	ND	12.3	18.9	31.2	ND
	03/31/10	39.37	32.90			6.47	ND	0.57 J	182	266	448.57 J	ND
	06/15/10	39.37	33.21			6.16	ND	0.40 J	173	96.4	269.80 J	ND
MW-6	02/23/00 ^a	38.95	33.21			5.74	7.9	68	780	2,300	3,155.9	140
	07/24/00 ^c	38.95	32.16			6.79	21	150	1,200	5,400	6,771	180
	01/24/04 ^b	38.95	NM			NM	<20	79	2,700	10,200	12,979	<20
	09/21/09	38.95	32.90			6.05	ND	ND	ND	ND	ND	ND
	12/29/09	38.95	32.97			5.98	ND	3.0	120	286	409.0	ND
	03/31/10	38.95	32.34			6.61	ND	20.7	1,280	2,320	3,620.7	ND
	06/15/10	38.95	32.62			6.33	ND	ND	ND	ND	ND	ND
MW-7	08/30/00 ^{ab}	38.99	33.29			5.70	1	1	9.1	6.4	17.5	<1
	07/15/02 ^c	38.99	34.12			4.87	<1	<1	<1	<2	<MDL	1.3
	09/21/09	38.99	33.23			5.76	ND	ND	ND	ND	ND	ND
	12/29/09	38.99	31.22			7.77	ND	ND	ND	ND	ND	ND
	03/31/10	38.99	32.60			6.39	ND	ND	ND	ND	ND	ND
	06/15/10	38.99	32.93			6.06	ND	ND	ND	ND	ND	ND

Notes:

^a Initial Sample/Gauging

^b Total BTEX Historical High

^c MTBE Historical High

J = Estimated Value

MDL = Method Detection Limit

ND = Not Detected

NS = Not Sampled

NM = Not Measured

Table 2
Summary of STRE Air Analytical Data
Hess Station #32518
2880 Atlantic Avenue
Brooklyn, New York

Extraction Well	Extraction Well	Date	Event Hours	Highest PID Reading (ppm)	Benzene (ppmv)	Toluene (ppmv)	Ethylbenzene (ppmv)	Xylenes (ppmv)	MTBE (ppmv)
MW-1	AS-4	04/23/10	1.5	304	NS	NS	NS	NS	NS
		05/19/10	3	11.7	ND	0.12	ND	ND	ND
		06/09/10	1.5	188	ND	ND	8.0	29.0	ND
MW-4	AS-5	04/23/10	2	348	ND	ND	1.7	2.4	ND
		06/09/10	1.5	196	ND	ND	0.60	0.90	ND
MW-6	AS-1	04/23/10	1.5	272	ND	ND	13.6	22.8	ND
		05/19/10	3	197	ND	ND	10.2	18.0	ND
		06/09/10	1.5	247	ND	ND	9.8	15.0	ND

Notes:

ND - Not detected

ppmv - parts per million by volume

NS - Not sampled

Table 3
Summary of Soil Data for VOCs and SVOCs in Air Sparge Wells
Hess Station #32518
2880 Atlantic Avenue
Brooklyn, NY

Compound	AS-4 (25-30')	AS-4 (35-40')	AS-4 (40-45')	AS-5 (30-35')	AS-5 (40-45')	NYSDEC Recommended Soil Cleanup Objectives
Benzene	ND	ND	ND	ND	ND	60
n-Butylbenzene	ND	ND	1,450	ND	9,470	10,000
sec-Butylbenzene	ND	ND	488 J	ND	4,590 J	10,000
tert-Butylbenzene	ND	ND	ND	ND	ND	10,000
Ethylbenzene	ND	ND	884	ND	3,690	5,500
Isopropylbenzene	ND	ND	435 J	ND	7,810	2,300
p-Isopropyltoluene	ND	ND	356 J	ND	1,720 J	10,000
MTBE	ND	ND	ND	ND	ND	120
Naphthalene	ND	ND	3,140	ND	5,200 J	13,000
n-Propylbenzene	ND	ND	2,030	ND	39,800	3,700
Toluene	ND	ND	ND	ND	ND	1,500
1,2,4-Trimethylbenzene	ND	ND	18,900	ND	146,000	10,000
1,3,5-Trimethylbenzene	ND	ND	5,560	ND	51,300	3,300
m,p-Xylene	ND	ND	4,580	ND	7,510	1,200
o-Xylene	ND	ND	1,060	ND	2,290	1,200
Total Xylene	ND	ND	5,650	ND	9,790	1,200
Acenaphthene	ND	ND	ND	ND	14.7 J	50,000
Anthracene	ND	ND	ND	ND	ND	50,000
Benzo(a)anthracene	ND	ND	ND	13.1 J	24.3 J	224
Benzo(a)pyrene	ND	ND	ND	ND	26.6 J	61
Benzo(b)fluoranthene	ND	ND	ND	ND	11.7 J	1,100
Benzo(g,h,i)perylene	ND	ND	ND	ND	17.6 J	50,000
Benzo(k)fluoranthene	ND	ND	ND	ND	22.3 J	1,100
Chrysene	ND	ND	ND	14.3 J	33.5 J	400
Dibenzo(a,h)anthracene	ND	ND	ND	ND	ND	14
Fluoranthene	ND	ND	ND	18.8 J	46.6	50,000
Fluorene	ND	ND	ND	ND	26.7 J	50,000
Indeno(1,2,3-cd)pyrene	ND	ND	ND	ND	13.3 J	3,200
Naphthalene	ND	ND	1,590	ND	372	13,000
Phenanthrene	ND	ND	22.3 J	15.8 J	59.1	50,000
Pyrene	ND	ND	ND	18.0 J	49.4	50,000

Notes:

Samples collected on April 13, 2010

Concentration units = ug/Kg (micrograms per kilogram)

Laboratory analysis via EPA Methods 8260 STARS & 8270 STARS

ND = Not Detected

J = Estimated Value

AERIAL PHOTOGRAPH

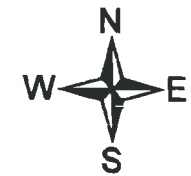


Figure 1
Aerial Photograph

Hess Station 32518
2880 Atlantic Avenue
Brooklyn, NY

Digital Imagery taken in
2002-2004

0 30 60 120 180 240
Feet



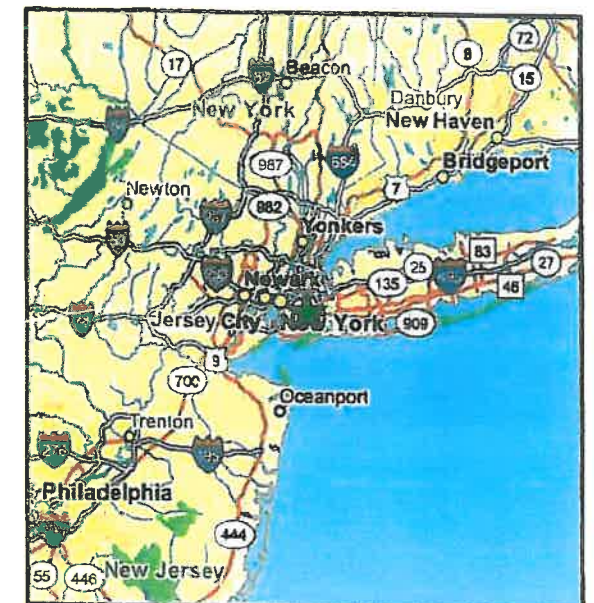
EnviroTrac

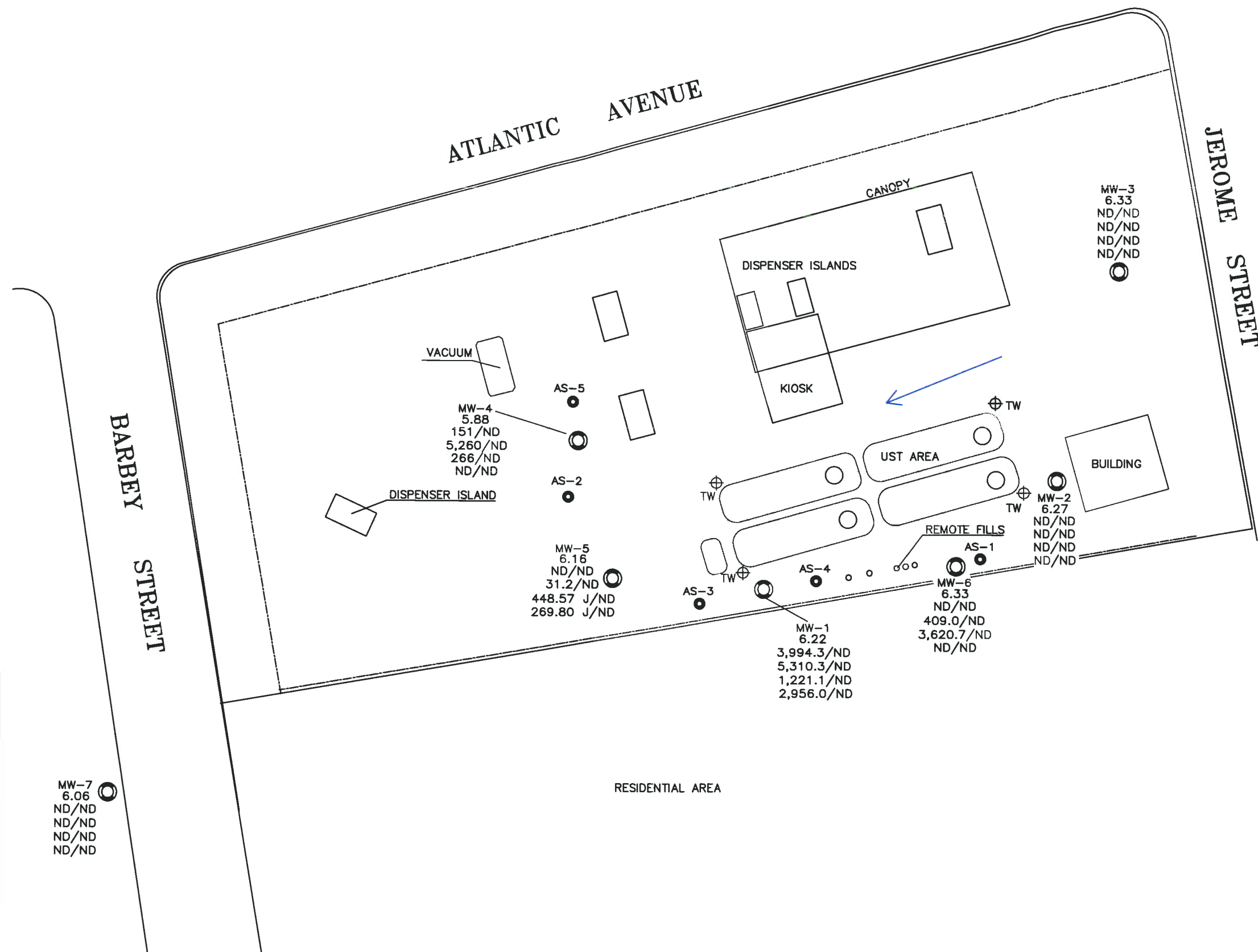
Environmental Services

5 Old Dock Road

Yaphank, NY 11980

P: 631-924-3001 F: 631-924-5001





LEGEND:

- MONITORING WELL
- ⊕ TANK FIELD WELL
- AIR SPARGE WELL
- ND = NOT DETECTED
- MDL = METHOD DETECTION LIMIT
- J = ESTIMATED VALUE
- ← INFERRED GROUND WATER FLOW DIRECTION

SAMPLE WELL:

- MW-1 = MONITORING WELL ID
- 6.22 = WATER-TABLE ELEVATION
- 3,994/ND = SEPTEMBER 21, 2009
- 5,310/ND = DECEMBER 29, 2009
- 1,221/ND = MARCH 31, 2010
- 2,956.0/ND = JUNE 15, 2010

TOTAL BTEX/MTBE CONCENTRATIONS IN ug/L

Base map taken from DELTA map dated 12/28/07

EnviroTrac
ENVIRONMENTAL SERVICES

5 OLD DOCK ROAD, YAPHANK, NEW YORK 11980
PHONE: (631)924-3001 FAX: (631)924-5001

REVISION DATE:
JULY 20, 2010

SCALE:
1" = 30 FEET

REVISED BY: TB



HESS STATION # 32518
2880 ATLANTIC AVENUE
BROOKLYN, NEW YORK

WATER-TABLE ELEVATION ON JUNE 15, 2010
AND TOTAL BTEX/MTBE CONCENTRATIONS MAP

FIGURE #

2

FIGURE 3
Hydrograph of MW-1
Hess Station #32518
2880 Atlantic Avenue
Brooklyn, NY

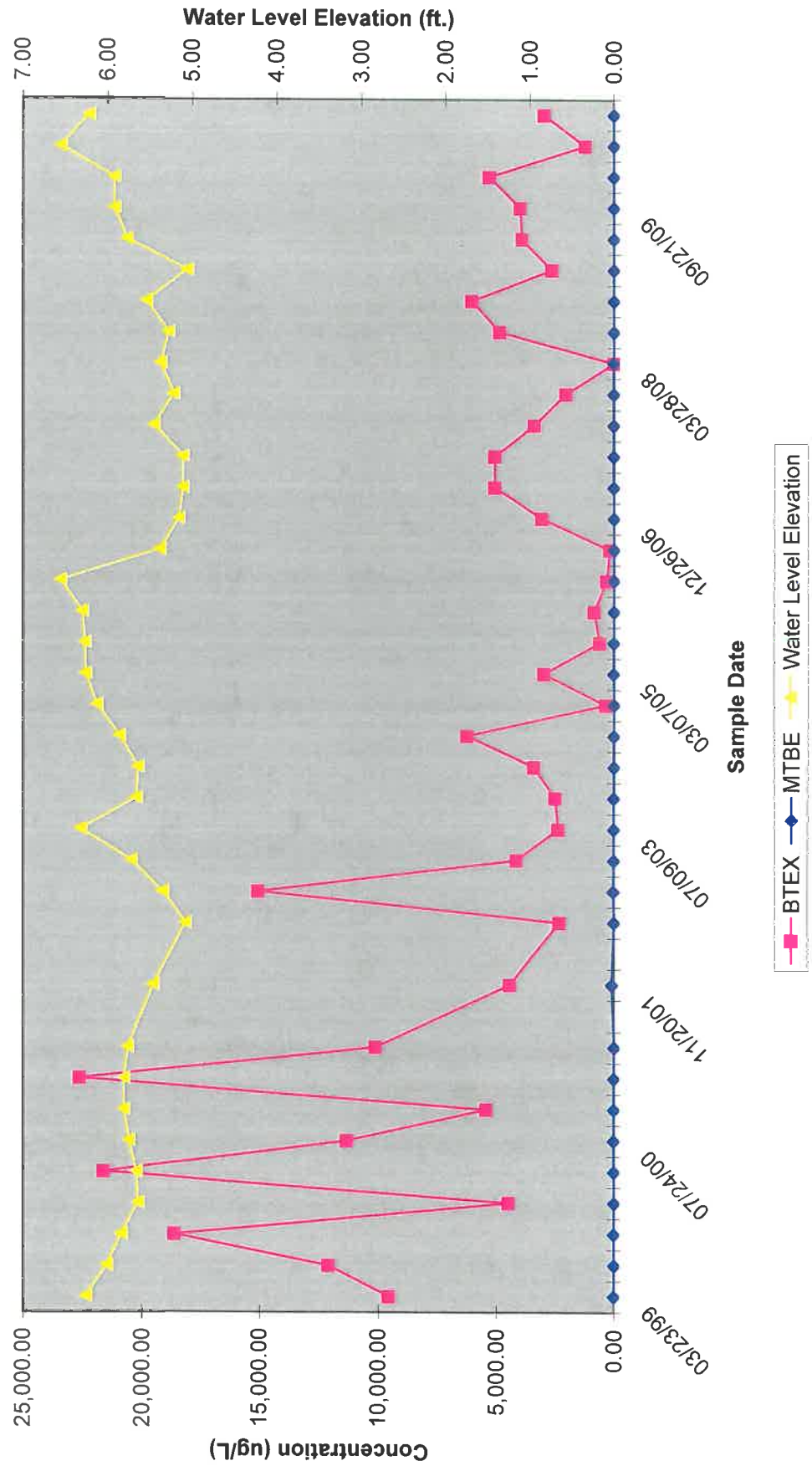


FIGURE 4
Hydrograph of MW-2
Hess Station #32518
2880 Atlantic Avenue
Brooklyn, NY

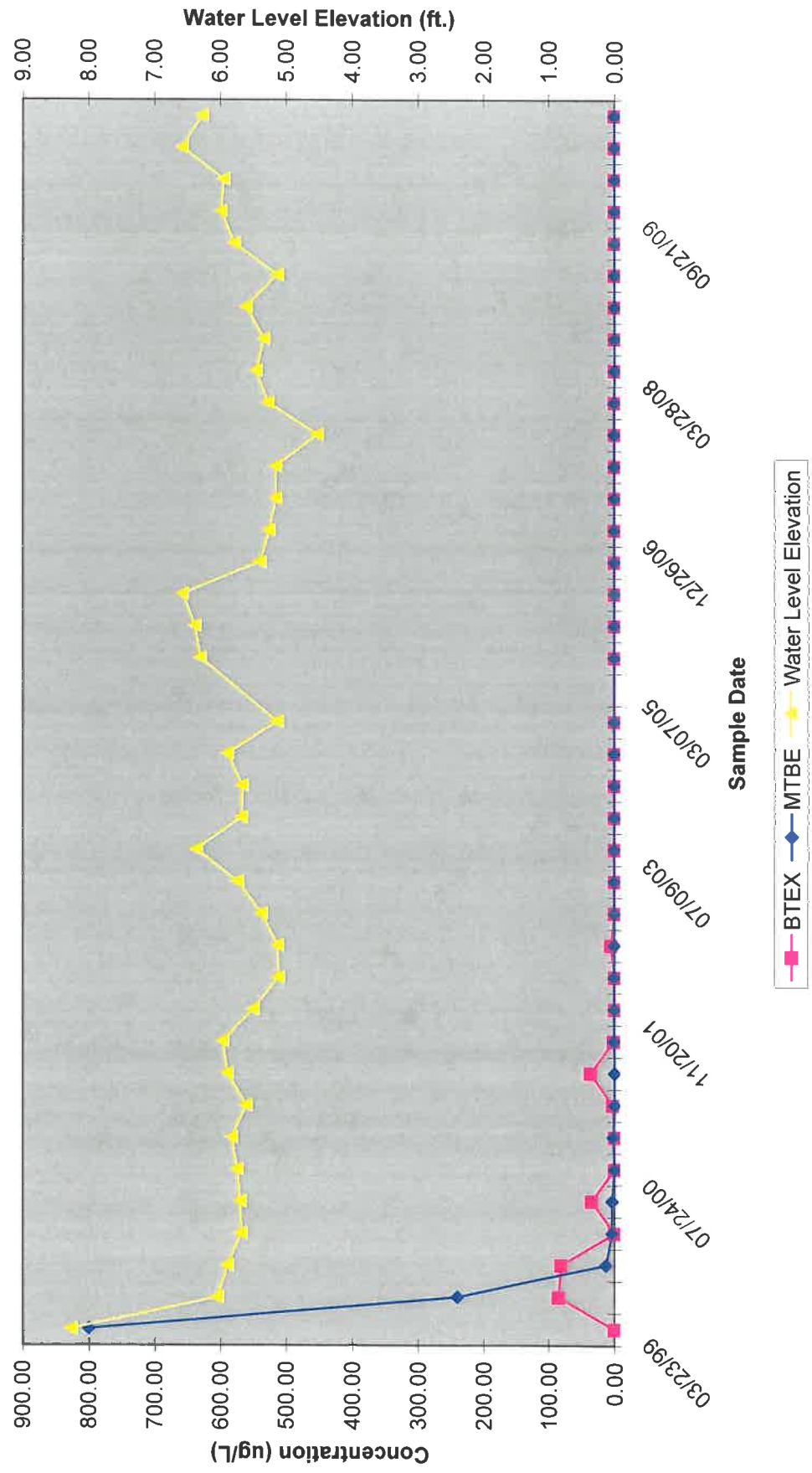


FIGURE 5
Hydrograph of MW-4
Hess Station #32518
2880 Atlantic Avenue
Brooklyn, NY

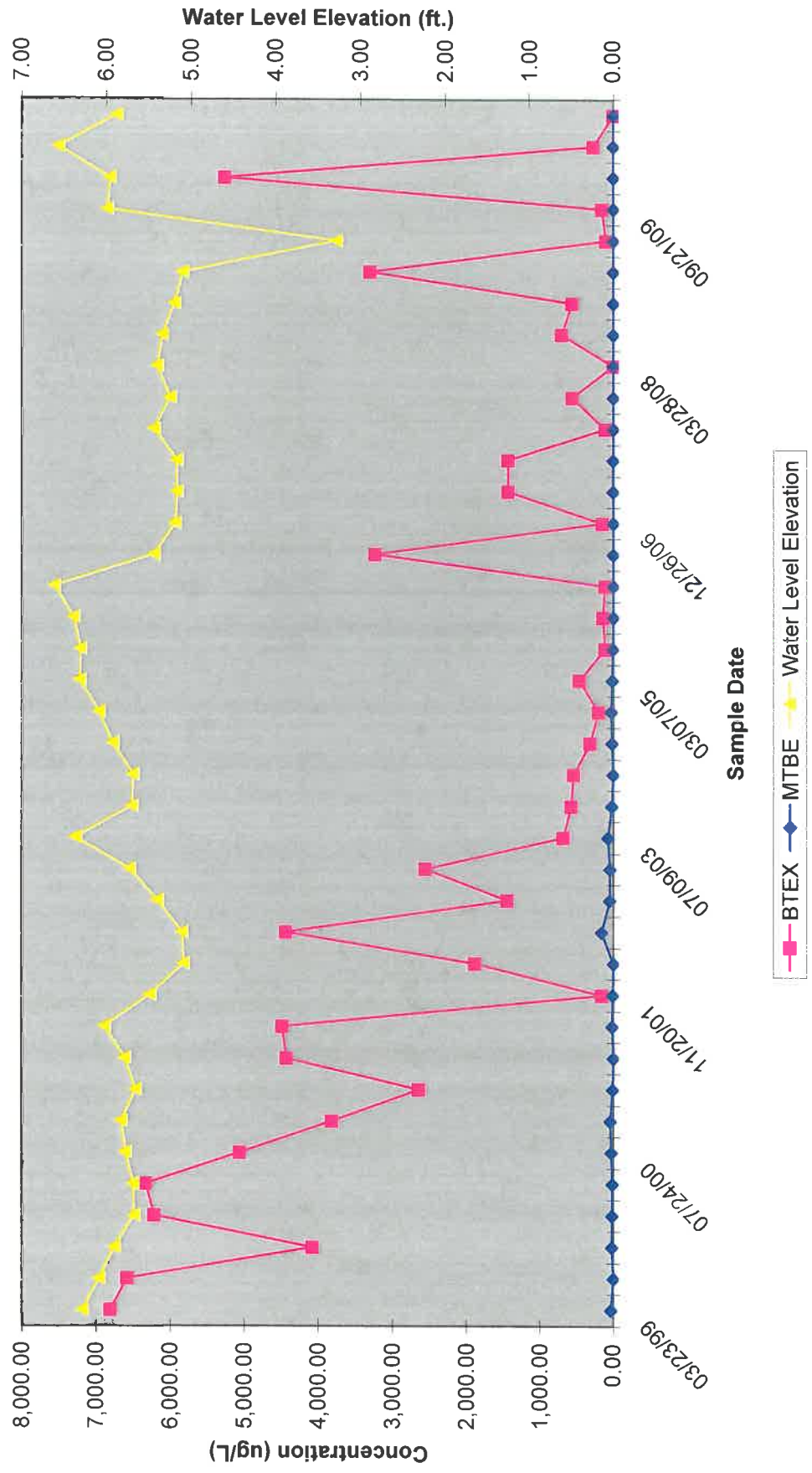


FIGURE 6
Hydrograph of MW-5
Hess Station #32518
2880 Atlantic Avenue
Brooklyn, NY

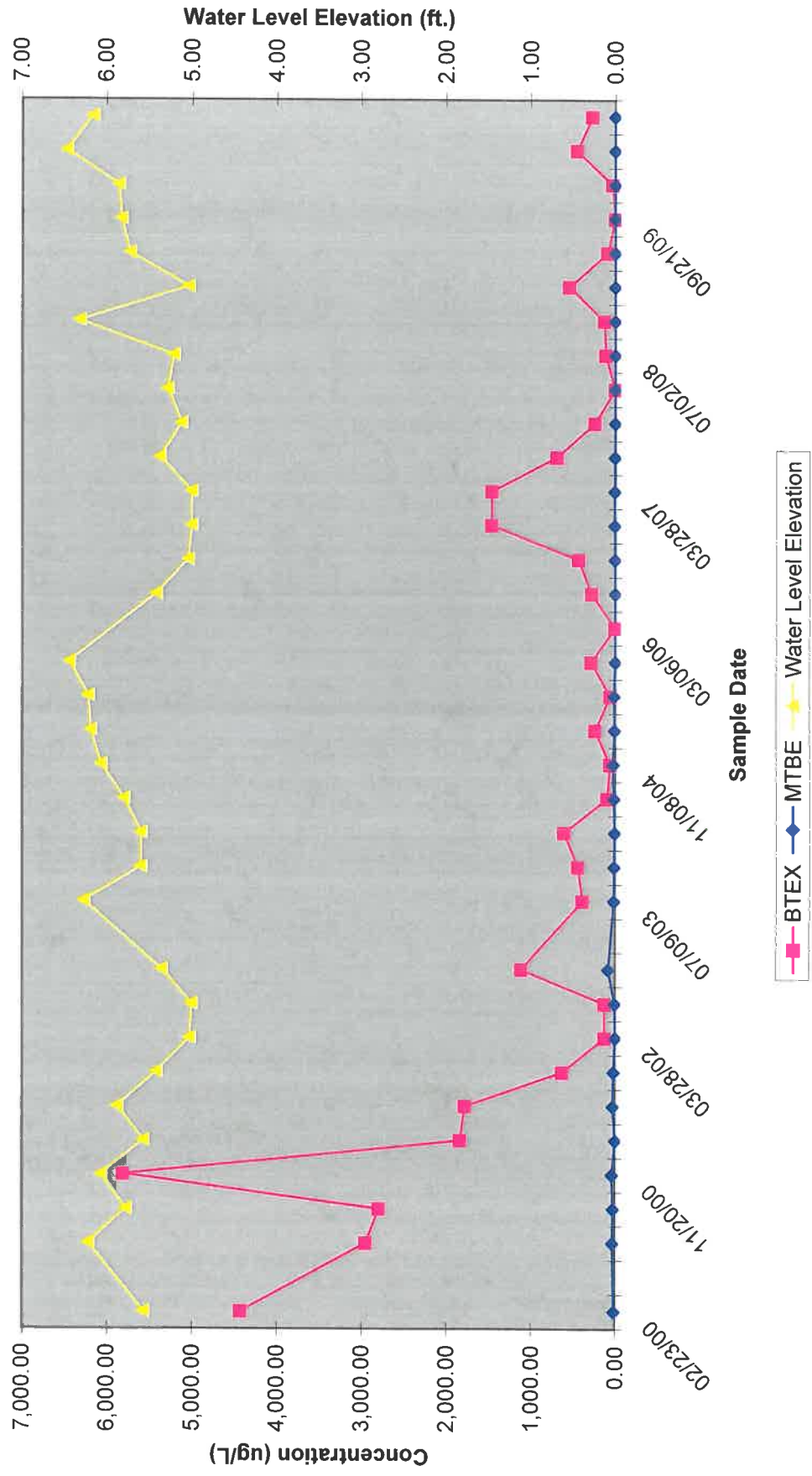
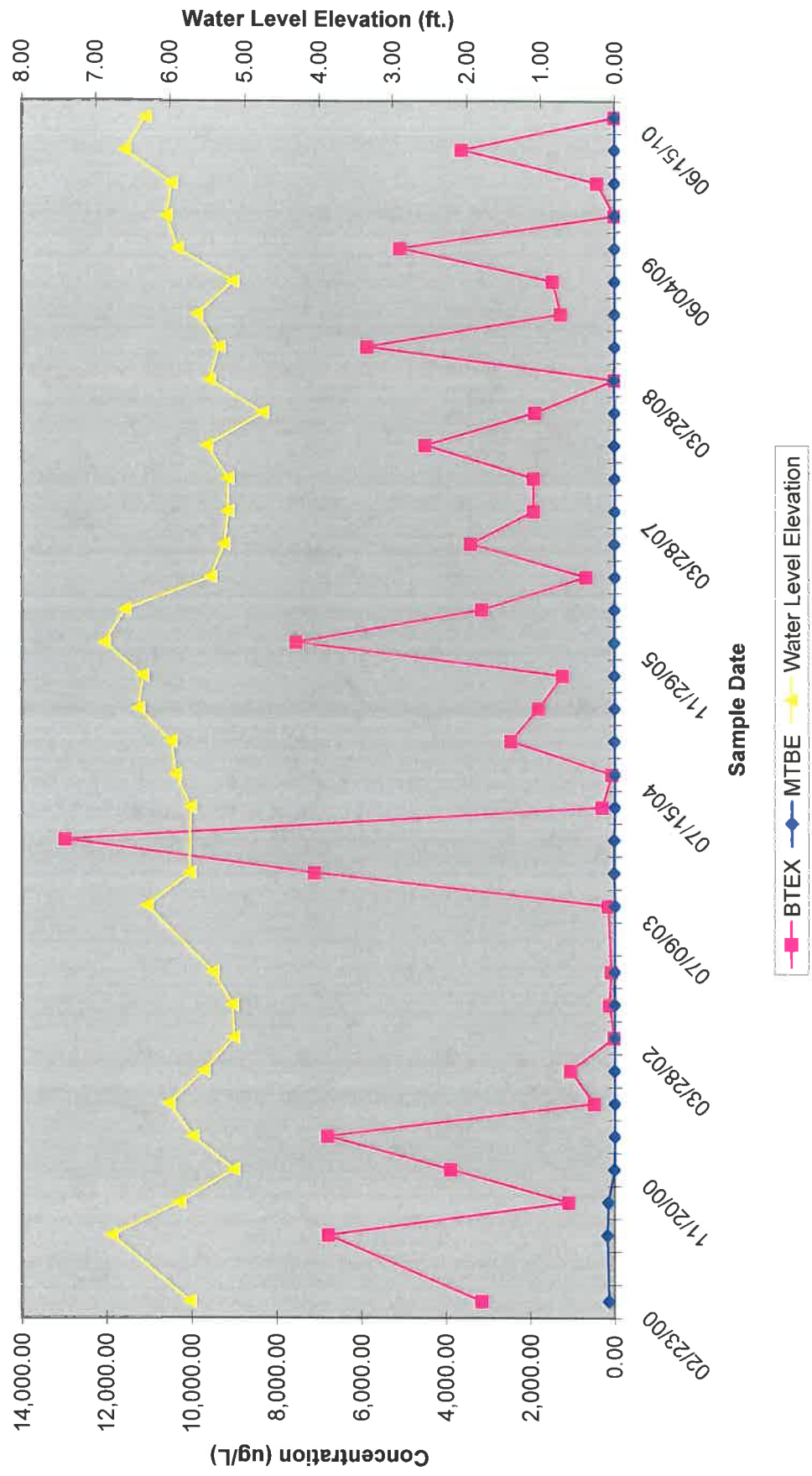


FIGURE 7
Hydrograph of MW-6
Hess Station #32518
2880 Atlantic Avenue
Brooklyn, NY



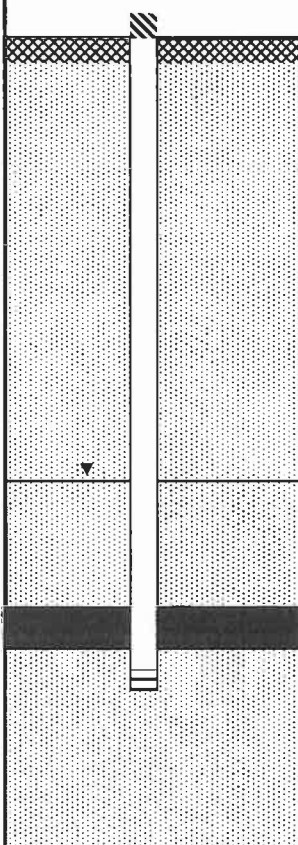
Geologic Log and Well Construction Details

Log of Air Sparge Well 4 (AS-4)

EnviroTrac Ltd.

5 Old Dock Road, Yaphank, NY 11980

Client: Hess Corporation		Depth to Water (ft. from measuring pt.)		Site Elevation Datum	
Site Name: Hess Station # 32518		Address: 2880 Atlantic Ave., Brooklyn, NY		Date 4/13/2010	DTW ~33.5
Drilling Company: AARCO Environmental Services.		Method: Hollow Stem Auger		Measuring Point Elevation	
Date Started: 4/13/2010		Date Completed: 4/13/2010		NM	
Completion Depth: 44'		ENVIROTRAC Scientist: Diane Webb		NM	

CONSTRUCTION (NTS)	DEPTH (ft. below grade)	SAMPLES			SOIL DESCRIPTION
		Reco- very (in.)	Blow per 6 in.	PID (ppm)	
	0	NM	Hand Dug	NM	<u>0-5'</u> Hand cleared through asphalt
	5	NM	NM	ND	<u>0-2'</u> gravel; 2-5' brown medium grained SAND with fill material; dry
	10	NM	NM	ND	<u>5-10'</u> Brown medium to coarse grained SAND ; dry
	15	NM	NM	ND	<u>10-15'</u> Brown medium to coarse grained SAND ; dry
	20	NM	NM	ND	<u>15-20'</u> Brown medium to coarse grained SAND ; dry
	25	NM	NM	ND	<u>20-25'</u> Brown medium to coarse grained SAND ; dry
	30	NM	NM	ND	<u>25-30'</u> Brown medium to coarse grained SAND ; dry
	35	NM	NM	ND	<u>30-35'</u> Brown medium to coarse grained SAND ; moist
	40	NM	NM	ND	<u>35-40'</u> Brown medium to coarse grained SAND ; moist
	45	NM	NM	177.0	<u>40-45'</u> Gray coarse grained SAND and gravel; wet
	50				
LEGEND:  Cement  Bentonite Seal  Gravel pack (morie #2)  Screen  End/Top Cap					
<u>Well Construction Details</u> Bottom of Well: 44' Screen Zone: 44-42' Screen material: # 20 slot, 2", schedule 40 PVC Casing material: Schedule 40 PVC Bentonite Seal: 41-39' Sand Pack: Morie #2 44'-41'					
		ND - Not Detected		NM - Not Monitored	
		DTW - Depth to Water			

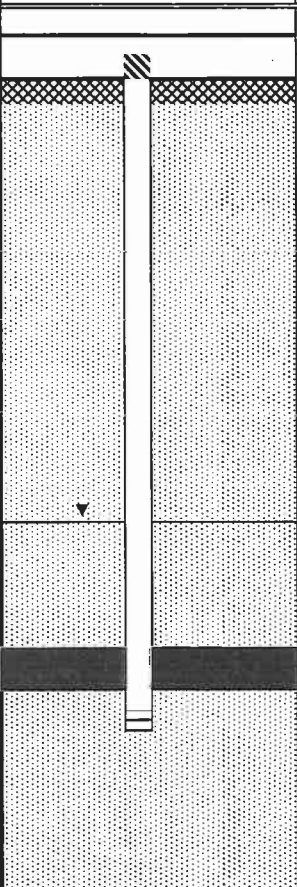
Geologic Log and Well Construction Details

Log of Air Sparge Well 5 (AS-5)

EnviroTrac Ltd.

5 Old Dock Road, Yaphank, NY 11980

Client: Hess Corporation		Depth to Water (ft. from measuring pt.)		Site Elevation Datum
Site Name: Hess Station # 32518	Address: 2880 Atlantic Ave., Brooklyn, NY	Date 4/13/2010	DTW ~33.5	NM
Drilling Company: AARCO Environmental Services.	Method: Hollow Stem Auger			
Date Started: 4/13/2010	Date Completed: 4/13/2010			Measuring Point Elevation
Completion Depth: 44'	ENVIROTRAC Scientist: Diane Webb			NM

CONSTRUCTION (NTS)	DEPTH (ft. below grade)	SAMPLES			SOIL DESCRIPTION
		Reco- very (in.)	Blow per 6 in.	PID (ppm)	
	0	NM	Hand Dug	NM	<u>0-5'</u> Hand cleared through asphalt Brown medium to coarse grained SAND with fill material; dry
	5	NM	NM	ND	<u>5-10'</u> Brown medium to coarse grained SAND ; dry
	10	NM	NM	ND	<u>10-15'</u> Brown medium to coarse grained SAND ; dry
	15	NM	NM	ND	<u>15-20'</u> Brown medium to coarse grained SAND ; dry
	20	NM	NM	ND	<u>20-25'</u> Brown medium to coarse grained SAND ; dry
	25	NM	NM	ND	<u>25-30'</u> Brown medium to coarse grained SAND ; dry
	30	NM	NM	ND	<u>30-35'</u> Brown medium to coarse grained SAND ; moist
	35	NM	NM	ND	<u>35-40'</u> Brown medium to coarse grained SAND ; moist
	40	NM	NM	200.0	<u>40-45'</u> Gray coarse grained SAND and gravel; wet
	45				
	50				
LEGEND:  Cement  Bentonite Seal  Gravel pack (morie #2)  Screen  End/Top Cap					
Well Construction Details Bottom of Well: 44' Screen Zone: 44-42' Screen material: # 20 slot, 2", schedule 40 PVC Casing material: Schedule 40 PVC Bentonite Seal: 41-39' Sand Pack: Morie #2 44'-41'					
		ND - Not Detected		NM - Not Monitored	
		DTW - Depth to Water			