UPDATE REPORT AND REMEDIAL ACTION PLAN

HESS STATION # 32517
FORMER MERIT "INWOOD"
W. 207TH & 9TH AVENUE
NEW YORK, NEW YORK

NYSDEC # 95-04685 & 97-06124

July 2001

Prepared For:

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1. INTRODUCTION

Amerada Hess Corporation (Hess) retained EnviroTrac Ltd. (ET) to prepare this Remedial Action Plan (RAP) for Hess Station # 32517 located at 401 West 207th Street and 9th Avenue, New York, New York (the Site). This RAP is being submitted to the New York State Department of Conversation (NYSDEC) to address spill numbers 95-04685 and 97-06124 and includes a Soil-Vapor Extraction (SVE) and AS Sparging (AS) system designed to remediate impacted soil and ground water at the Site. This RAP includes the following:

- Installation of remediation wells;
- Collection of ground-water samples for laboratory analysis;
- SVE/AS pilot testing; and
- SVE/AS system design.

2. SITE DESCRIPTION

2.1. Background

The Site is an active retail gasoline station selling diesel fuel, regular, plus and premium grades of unleaded gasoline. The Site structures include a storage building, kiosk, canopy, car wash and dispenser islands. In March 1996, the Site underwent a major renovation including the removal of two (2) 2,000-gallon, four (4) 4,000-gallon, one (1) 275-gallon and 37 550-gallon steel underground storage tanks (USTs). Currently present at the Site are four (4) 4,000-gallon double-walled fiberglass USTs, one (1) 550-gallon double walled fiberglass UST, and one (1) 550-gallon double walled fiberglass gated steel wastewater UST. Former and current site features are shown in Figure 1.

EMS Environmental, Inc. (EMS) was retained to document and observe UST closure activities. Post excavation samples were collected which revealed benzene, toluene, ethylbenzene, total xylenes (BTEX) and other petroleum compounds above NYSDEC Guidance Values. Further information can be found in the report entitled "Underground Storage Tank Closure Report", dated December 10, 1998, submitted to the NYSDEC on December 22, 1998.

In July 1996, EMS completed site assessment activities that included the installation of four

(4) monitoring wells (MW-1 through MW-4), a well inventory search and a sensitive receptor survey. In addition, soil and ground-water samples were collected and analytical results indicated BTEX and other petroleum compounds above NYSDEC Groundwater Quality Standards in MW-1, MW-2 and MW-4 for soil and ground water. Further information can be found in the report entitled "Site Assessment Report", dated December 14, 1998, submitted to the NYSDEC on December 22, 1998.

In May 1999, ET conducted subsurface investigation activities that included the installation of three (3) monitoring wells (MW-5, MW-6 and MW-7), a well inventory search, a sensitive receptor survey and a SVE field pilot test. In addition, soil and ground-water samples were collected to further determine the extent of petroleum hydrocarbons within the subsurface. Laboratory analysis of soil samples collected during the installation of monitoring wells revealed BTEX and other petroleum compounds above NYSDEC Guidance Values in MW-5, MW-6 and MW-7. Laboratory analysis of ground-water samples collected from all monitoring wells revealed BTEX/MTBE concentrations above NYSDEC Standards in wells MW-1, MW-2, MW-4, MW-5, MW-6 and MW-7. Field pilot testing results indicated that SVE technology would be an effective method in remediating petroleum hydrocarbons in the unsaturated zone and abate potential vapor migration concerns. For more information refer to the report entitled "Subsurface Investigation", dated December 1999 and submitted to the NYSDEC.

2.2. Site Location and Setting

The site is located on the northern corner of the intersection of West 207th Street and 9th Avenue New York, New York (Figure 1). The approximate latitude and longitude coordinates for the site are 40^0 51' 51" N by 73^0 55' 03" W, respectively.

Land use in the area surrounding the site is mixed commercial and industrial. Commercial properties are located to the south, west and east. An industrial train yard property is located to the north, abutting the site. A surrounding area map is included as Figure 2.

The local elevation is approximately 20 feet above mean sea level. Local relief is approximately 60 feet, dipping topographically to the east.

The nearest surface water body is the Harlem River located approximately 300-feet east of the site. The Harlem River empties into the East River located to the south.

2.3. Hydrogeology

Geology beneath the site consists primarily of unconsolidated material ranging in size from fine to coarse-grained sand, gravel, and cobbles. Underlying the unconsolidated materials is weathered bedrock encountered at depths ranging from approximately 15 to 23 feet below grade (ft. b.g.). The bedrock consists of Manhattan Schist that is comprised of dark-gray to black micaceous rock containing biotite, muscovite, quartz, and feldspar. Ground water is first encountered within the unconsolidated materials at a depth of approximately 15 ft. b.g. As shown in Figure 2, apparent ground-water flow is to the east to northeast at an estimated gradient of 0.025 ft/ft.

3. FIELD INVESTIGATION

3.1. Remediation Well Installation

From December 18 through 21, 2000, ET provided drilling oversight of six (6) remediation wells (AS-1, AS-2, AS-3, AS/SVE-1, AS/SVE-2, and AS/SVE-3)(Figure 1). Air Sparge wells (AS-1, 2 and 3) consist of 2-inch diameter PVC with 1 to 2 feet length of well screen. These wells were finished just above the weathered bedrock surface present at various depths throughout the Site. The AS/SVE wells (AS/SVE-1, 2, and 3) consist of an air sparge well and a 4-inch diameter PVC SVE well installed in the same borehole. The SVE well screen extends almost the entire unsaturated zone and in the case of AS/SVE-1 and AS/SVE-2 well screens were installed across the water table. This allows these wells to be used for the collection of ground-water samples. The construction details of the AS wells and the AS/SVE cluster wells are provided in the boring logs provided in Appendix A. The drilling was conducted by Summit Drilling using the hollow-stem auger method. Residual drill cuttings were contained in four (4) DOT approved 55-gallon steel drums and stored on the Site for proper disposal by Hess.

3.2. Ground-Water Sampling

On January 18, 2001, ET collected ground-water samples from all monitoring wells (MW-1 to

MW-7) and two (2) remediation wells (AS/SVE-1 & 2). Prior to ground-water sample collection, the newly installed wells were developed and all wells were gauged and checked for the presence of separate-phase product. Ground-water samples were transferred to laboratory supplied glass containers and shipped to Antech Ltd for BTEX/MTBE analysis via EPA Method 602.

3.3. Pilot Testing

On January 22, 2001, a short-term SVE/AS pilot test was conducted to determine if recoverable VOCs are present in the unsaturated zone and to evaluate AS/SVE technology as a remedial option. SVE test procedures consisted of individually extracting soil vapors from select wells (MW-1, 2, 4, 5, 6, 7, SVE-1, 2, and 3) utilizing a 2-horsepower vacuum blower. During testing, vacuum readings were measured at nearby wells. These measurements were used to estimate radii of influence (ROI) for each test well. Soil vapor discharge samples were collected in Tedlar sample bags, screened with a PID and analyzed for BTEX using a Photovac SnapShot portable gas chromatograph (PGC).

AS field test procedures were conducted in conjunction with SVE testing using a 2-hp air compressor connected to an individual AS well (AS-1, AS-2, AS-3, AS/SVE-1, AS/SVE-2 and AS/SVE-3 were tested). During the AS testing, pressure and flow rates were measured at the AS wells while positive pressure in adjacent wells were monitored. Pressure responses at nearby observation wells were used in determining the estimated ROI.

4. RESULTS

4.1. Ground-Water Sampling

All site wells were gauged and select wells were sampled for geochemical parameters (dissolved oxygen and temperature) and laboratory analysis on January 18, 2001. No separate-phase product was detected in any of the Site wells. Well gauging and geochemical data are summarized in Table 1.

Based on the laboratory analysis of ground-water samples collected on January 18, 2001, BTEX/MTBE compounds were detected above the NYSDEC Class GA Groundwater Standards at all wells with the exception of MW-3. The highest total BTEX was detected in AS/SVE-1 at a concentration of 87,800 ppb and the highest MTBE concentration detected

was 160,000 ppb at MW-6. Figure 2 presents a summary of total BTEX and MTBE concentrations. Ground-water analytical results are summarized in Table 2 and the laboratory report is provided in Appendix B.

4.2. Pilot Test Results

4.2.1. Soil-Vapor Extraction Testing

Test field data and PID/BTEX analysis are provided in Appendix C and results are summarized in Table 3. Portable GC and PID analysis of effluent air samples indicated significant concentrations of recoverable petroleum hydrocarbons at several wells tested. Total BTEX concentrations ranged from 7 (MW-7) to 1,582 ppm (MW-1). The ROIs for the extraction test wells were estimated using the graphical approach. Pressure readings collected during testing were plotted as functions of distance from the extraction well on a semi-logarithmic scale. As shown in graphs found in Appendix C, a straight line (best fit) is drawn through the plotted points and extended to intercept the x-axis where the vacuum equals 0.1"H2O. Values less than 0.1"H2O were not included in estimating the ROIs. Based on these graphs, ROIs ranged from 20 ft. to 45 ft. at vacuums of 28 to 46"H2O, respectively. The relatively wide range in vacuums and ROIs is most likely related to the heterogeneous soils, including backfilled areas and USTs installed in gravel.

4.2.2. Air Sparge Testing

A summary of AS test results are provided in Table 4 and field data are presented in Appendix C. ROIs for AS testing were estimated using the same graphical approach as SVE. As shown in Table 4, operating pressures required to force air out through the AS well screens ranged from 3 to 14 psi. This wide range is most likely due to the varying depths that the wells are screened (installed at the top of the irregular weathered bedrock surface). Estimated ROIs ranged from 25 to 35 ft. (Appendix C).

5. REMEDIATION SYSTEM DESIGN

Pilot test results indicate that Soil-Vapor Extraction and Air Sparging would be an effective remedial technology onsite for impacted soil and ground water overlying bedrock. Test results indicate vacuums and pressures needed to provide sufficient ROIs or remedial

coverage varies widely due to heterogeneous soils and the presence of bedrock. In addition, well gauging and ground-water sampling data indicate that a significant "smear zone" exists. Therefore, the following remedial design uses conservative ROIs for SVE and AS of 15 ft. and 20 ft., respectively. Close spacing of AS wells are necessary to effectively remediate source areas, including petroleum hydrocarbons adsorbed in the smear zone. Sufficient SVE coverage is important to ensure that vapors produced by AS are captured, thus preventing the potential for the migration of vapors into adjacent basements and underground utilities.

To establish an effective SVE and AS remedial coverage area all existing monitoring wells and remediation wells will be incorporated into the system design along with five (5) additional wells that will need to be installed (AS-4, AS/SVE-4, AS/SVE-5, MW-8 and MW-9). Well locations and estimated SVE and AS remedial coverage are shown in Figure 3. A total of 13 SVE wells and 9 AS wells will be utilized in the remediation system.

All remediation wells will be individually piped within subsurface trenches back to a fenced system equipment area where manifolding and controls will be located. The system manifold will be designed to allow the system to operate under numerous combinations/scenarios that will result in an effective system. System equipment such as the regenerative blower and sparge compressor will be housed in prefabricated shed enclosures. Electrical service for the remediation system will consist of three phase 100-amp service with an electric meter and panel.

6. SYSTEM STARTUP, OPERATION & MAINTENANCE (O&M)

Once the SVE/AS system is installed and operable, a 30-day test period will be conducted to demonstrate that the system is operating as designed. The first day of startup will include baseline dissolved oxygen (DO) measurements and recording vacuum and pressure readings to demonstrate remedial coverage. The system will be monitored weekly over the 30-day test period. Monitoring will include standard O&M of the system, gauging of wells for water levels, collecting DO readings at wells, and analyzing system air effluent for BTEX compounds via a PID and portable GC (gas chromatograph). Results of this startup testing will determine if off-gas controls are needed.

Following the 30-day test period O&M visits will be performed monthly. Routine O&M visits will include well gauging, DO measurements, air effluent samples with a PID/PGC, and routine maintenance of equipment.

7. REPORTING

AS/SVE system installation, startup results, and performance data will be summarized in a report. Subsequent reporting of routine ground-water monitoring/sampling and monthly system performance data will be summarized in quarterly update reports.

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Dan Ruffini
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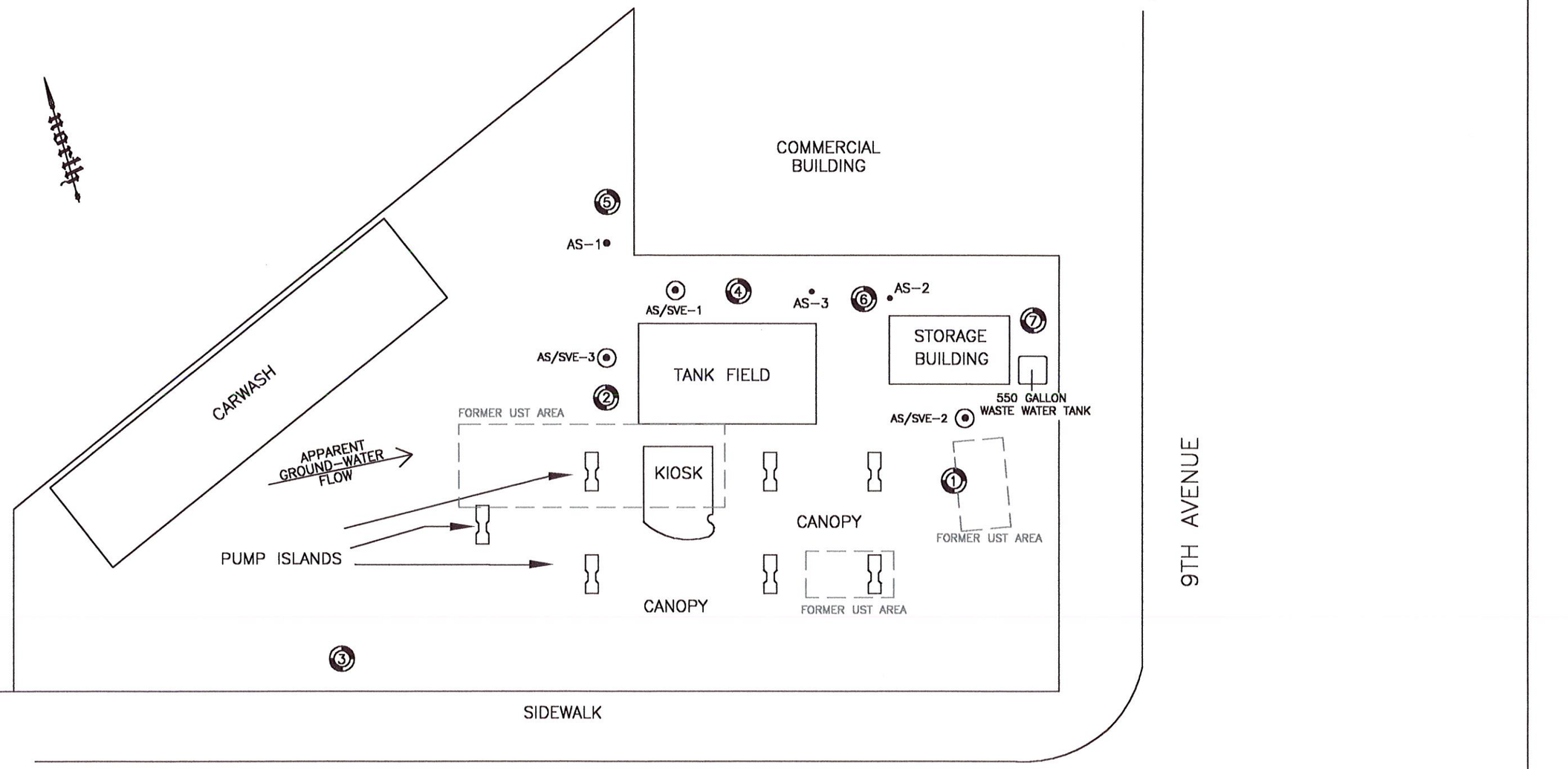
Program Manager



LEGEND:

- MONITORING WELL
- AS/SVE CLUSTER WELL
- AIR SPARGE WELL
- = FORMER UST AREA

AS = AIR SPARGE
SVE = SOIL VAPOR EXTRACTION

0 15 FT. 30

FIGURE # 1

REVISION DATE: JUNE 5, 2001

SCALE: 1" = 30 FEET

REVISED BY: TB

HESS STATION # 32517
401 W. 207th ST. & 9th AVE
NEW YORK, NEW YORK

SITE PLAN

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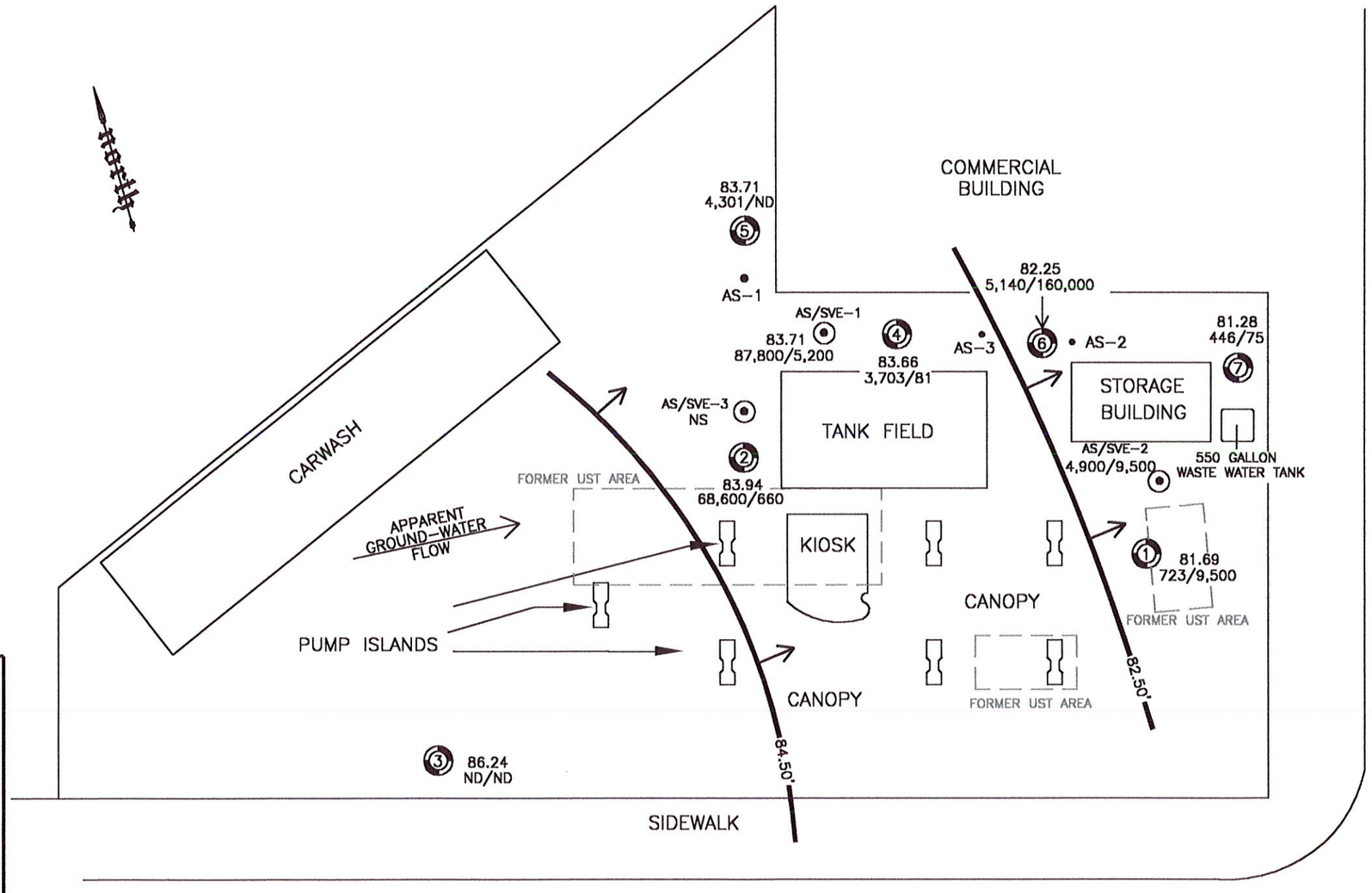

LEGEND:

- MONITORING WELL
- AS/SVE CLUSTER WELL
- AIR SPARGE WELL
- = FORMER UST AREA

AS = AIR SPARGE
SVE = SOIL VAPOR EXTRACTION
NS = NOT SAMPLED
ND = NOT DETECTED
CONTOUR INTERVAL = 2.00 FEET

SAMPLE WELL:

(3) = WELL ID

86.24 = WATER-TABLE ELEVATION
ND/ND = BTEX/MTBE ON 1/18/01
RESULTS IN PPB

0 15 FT. 30

FIGURE # 2

REVISION DATE: JUNE 5, 2001

SCALE: 1" = 30 FEET

REVISED BY: TB

HESS STATION # 32517
401 W. 207th ST. & 9th AVE
NEW YORK, NEW YORK

WATER-TABLE ELEVATION ON JANUARY 22, 2001 AND TOTAL BTEX/MTBE CONCENTRATIONS MAP

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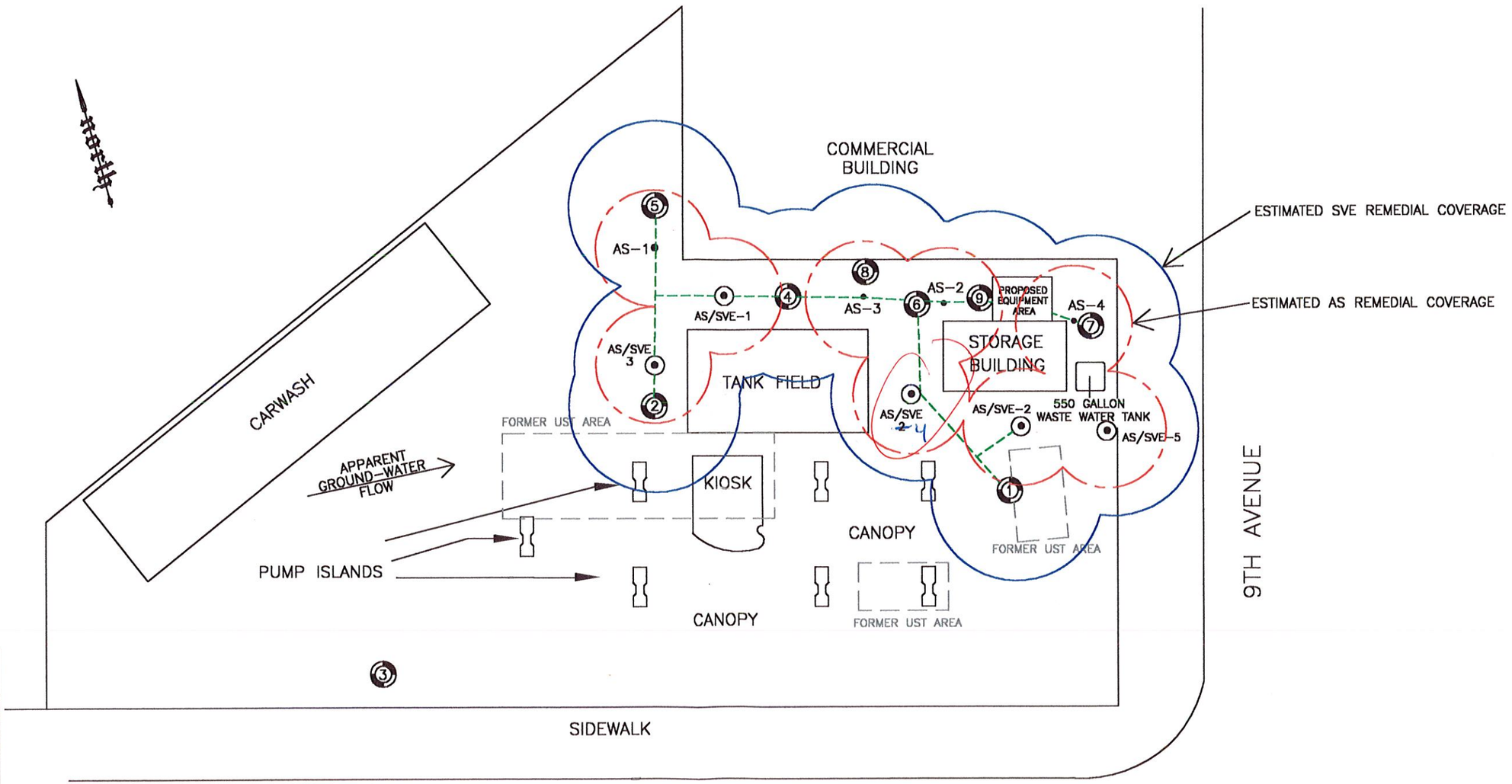

LEGEND:

- MONITORING WELL
- AS/SVE CLUSTER WELL
- AIR SPARGE WELL
- = FORMER UST AREA
- = SYSTEM LINES

AS – R O I = 15 FEET
SVE – R O I = 20 FEET

AS = AIR SPARGE
SVE = SOIL VAPOR EXTRACTION
R O I = RADIUS OF INFLUENCE

NOTES: EXISTING MONITORING WELLS 1, 2, 4, 5, 6, & 7 ARE TO BE CONVETERED TO SVE WELLS
WELLS AS-4, AS/SVE-4, AS/SVE-5, MONITORING WELLS 8 AND 9 ARE PROPOSED

0 15 FT. 30

FIGURE # 3

REVISION DATE: JUNE 4, 2001

SCALE: 1" = 30 FEET

REVISED BY: TB

HESS STATION # 32517
401 W. 207th ST. & 9th AVE
NEW YORK, NEW YORK

PROPOSED SVE/AS SYSTEM LAYOUT AND REMEDIAL COVERAGE

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TABLE 1
Well Gauging and Geochemical Data

Hess Station # 32517
401 West 207th Street
New York, New York

Well #	Gauge Pt. Elevation (ft.)	Date	Depth to Water (ft.)	Depth to Product (ft.)	Product Thickness (ft.)	Water Level Elevation (ft.)	Dissolved Oxygen (ppm)	Temperature (C)
MW-1	97.25	5/2/97	9.86	-	0.00	87.39	-	-
		11/18/97	10.06	-	0.00	87.19	-	-
		2/2/98	10.48	-	0.00	86.77	-	-
		5/19/98	9.82	-	0.00	87.43	-	-
		9/28/98	11.25	-	0.00	86.00	-	-
		11/16/98	11.67	-	0.00	85.58	-	-
		2/18/99	11.06	-	0.00	86.19	-	-
		5/11/99	11.10	-	0.00	86.15	-	-
	93.29	5/20/99	10.06	-	0.00	83.23		
	97.25	8/18/99	11.30	-	0.00	85.95	-	-
		11/17/99	11.38	-	0.00	85.87	-	-
		2/1/00	11.85	-	0.00	85.40	-	-
		5/24/00	10.81	-	0.00	86.44	-	-
		8/31/00	10.78	-	0.00	86.47	-	-
		11/28/00	11.65	-	0.00	85.60	-	-
	93.29	1/18/01	11.68	-	0.00	81.61	7.59	16.0
		1/22/01	11.60	-	0.00	81.69	0.07	16.9
MW-2	99.14	5/2/97	10.03	-	0.00	89.72	-	-
		11/18/97	10.68	10.61	0.07	88.52	-	-
		2/2/98	10.87	10.83	0.04	88.30	-	-
		5/19/98	10.12	10.10	0.02	89.04	-	-
		9/28/98	11.32	11.29	0.03	87.84	-	-
		11/16/98	11.89	11.70	0.19	87.40	-	-
		2/18/99	11.20	-	0.00	87.94	-	-
		5/11/99	11.10	10.95	0.15	88.16	-	-
	95.27	5/20/99	10.02	10.00	0.02	85.25		
	99.14	8/18/99	11.40	-	0.00	87.74	-	-
		11/17/99	11.08	11.06	0.02	88.08	-	-
		2/1/00	11.20	-	0.00	87.94	-	-
		5/24/00	10.68	-	0.00	88.46	-	-
		8/31/00	10.80	10.78	0.02	88.36	-	-
		11/28/00	11.30	-	0.00	87.84	-	-
	95.27	1/18/01	11.46	-	0.00	83.81	5.37	14.1
		1/22/01	11.33	-	0.00	83.94	0.88	16.3
MW-3	100.52	5/2/97	11.12	-	0.00	89.10	-	-
		11/18/97	11.78	-	0.00	88.74	-	-
		2/2/98	11.98	-	0.00	88.54	-	-
		5/19/98	11.21	-	0.00	89.31	-	-
		9/28/98	12.55	-	0.00	87.97	-	-
		11/16/98	12.83	-	0.00	87.69	-	-
		2/18/99	12.25	-	0.00	88.27	-	-
		5/11/99	11.97	-	0.00	88.55	-	-
	96.72	5/20/99	10.99	-	0.00	84.80	-	-
	100.52	8/18/99	12.45	-	0.00	88.07	-	-
		11/17/99	12.01	-	0.00	88.51	-	-
		2/1/00	12.18	-	0.00	88.34	-	-
		5/24/00	11.62	-	0.00	88.90	-	-
		8/31/00	11.74	-	0.00	88.78	-	-
		11/28/00	12.30	-	0.00	88.22	-	-
	96.72	1/18/01	12.37	-	0.00	84.35	3.87	15.8
		1/22/01	10.48	-	0.00	86.24	1.08	15.3

TABLE 1
Well Gauging and Geochemical Data

Hess Station # 32517
401 West 207th Street
New York, New York

Well #	Gauge Pt. Elevation (ft.)	Date	Depth to Water (ft.)	Depth to Product (ft.)	Product Thickness (ft.)	Water Level Elevation (ft.)	Dissolved Oxygen (ppm)	Temperature (C)
MW-4	97.25	5/2/97	10.29	-	0.00	88.46	-	-
		11/18/97	10.45	-	0.00	86.80	-	-
		2/2/98	10.75	-	0.00	86.50	-	-
		5/19/98	10.35	-	0.00	86.90	-	-
		9/28/98	11.45	-	0.00	85.80	-	-
		11/16/98	11.76	-	0.00	85.49	-	-
		2/18/99	10.99	-	0.00	86.26	-	-
		5/11/99	10.97	-	0.00	86.28	-	-
	94.86	5/20/99	10.06	-	0.00	84.80	-	-
	97.25	8/18/99	11.50	-	0.00	85.75	-	-
		11/17/99	10.98	-	0.00	86.27	-	-
		2/1/00	11.18	-	0.00	86.07	-	-
		5/24/00	10.59	-	0.00	86.66	-	-
		8/31/00	10.72	-	0.00	86.53	-	-
		11/28/00	11.30	-	0.00	85.95	-	-
	94.86	1/18/01	11.27	-	0.00	83.59	6.72	14.3
		1/22/01	11.20	-	0.00	83.66	0.37	16.8
MW-5	95.87	5/20/99	11.11	-	0.00	84.76	-	-
		8/18/99	11.70	-	0.00	84.17	-	-
		11/17/99	12.11	-	0.00	83.76	-	-
		2/1/00	12.11	-	0.00	83.76	-	-
		5/24/00	11.64	-	0.00	84.23	-	-
		8/31/00	11.94	-	0.00	83.93	-	-
		11/28/00	12.20	-	0.00	83.67	-	-
		1/18/01	12.26	-	0.00	83.61	6.35	14.5
		1/22/01	12.16	-	0.00	83.71	1.68	16.5
MW-6	94.03	5/20/99	10.36	-	0.00	83.67	-	-
		8/18/99	11.20	-	0.00	82.83	-	-
		11/17/99	11.54	-	0.00	82.49	-	-
		2/1/00	11.33	-	0.00	82.70	-	-
		5/24/00	11.14	-	0.00	82.89	-	-
		8/31/00	11.21	-	0.00	82.82	-	-
		11/28/00	11.70	-	0.00	82.33	-	-
		1/18/01	11.85	-	0.00	82.18	5.82	14.0
		1/22/01	11.78	-	0.00	82.25	0.42	16.7
MW-7	92.69	5/20/99	10.04	-	0.00	82.65	-	-
		8/18/99	12.35	-	0.00	80.34		
		11/17/99	11.33	-	0.00	81.36	-	-
		2/1/00	11.68	-	0.00	81.01	-	-
		5/24/00	10.67	-	0.00	82.02	-	-
		8/31/00	10.87	-	0.00	81.82	-	-
		11/28/00	11.40	-	0.00	81.29	-	-
		1/18/01	11.50	-	0.00	81.19	3.95	15.9
		1/22/01	11.41	-	0.00	81.28	0.83	17.0
AS/SVE-1	NM	1/18/01	11.46	-	0.00	NM	5.38	14.4
		1/22/01	11.32	-	0.00	NM	1.70	16.4
AS/SVE-2	NM	1/18/01	11.88	-	0.00	NM	7.68	14.3
		1/22/01	11.90	-	0.00	NM	0.42	15.7
AS/SVE-3	NM	1/18/01	D	-	0.00	D	D	D
		1/22/01	11.40	-	0.00	NM	1.08	16.3
AS-1	NM	1/22/01	12.05	-	0.00	NM	2.03	15.9
AS-2	NM	1/22/01	12.18	-	0.00	NM	0.44	16.5
AS-3	NM	1/22/01	10.50	-	0.00	NM	NM	NM

Note:
1. D = Dry
2. NM = Not Measured

TABLE 2
Summary of Analytical Results for Ground Water

Hess Station # 32517
401 West 207th Street
New York, New York

Well #	Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	MTBE
MW-1	5/2/97	2,160	5,700	1,140	4,930	13,390	53,300
	11/17/97	2,920	179	259	600	3,958	65,200
	2/2/98	3,090	74	170	482	3,816	42,200
	5/19/98	2,970	804	323	1,208	5,305	19,300
	9/28/98	1,700	4,990	947	5,900	13,537	6,120
	11/16/98	2,350	341	170	658	3,519	6,130
	2/18/99	475	88.1	219	793	1,575	1,460
	5/11/99	970	960	320	1,200	3,450	2,900
	5/20/99	220	450	39	400	1,109	730
	8/18/99	1,600	910	230	1,200	3,940	4,000
	11/17/99	1,600	200	78	190	2,068	6,800
	2/1/00	2,600	48	82	150	2,880	5,400
	5/24/00	1,500	110	41	200	1,851	3,700
	8/31/00	1,200	580	160	1,000	2,940	1,000
	11/28/00	690	240	190	970	2,090	490
	1/18/01	440	ND	83	200	723	390
MW-2	5/2/97	18,900	48,300	2,490	14,600	84,290	2,960
	11/17/97	NSP	NSP	NSP	NSP	NSP	NSP
	2/2/98	NSP	NSP	NSP	NSP	NSP	NSP
	5/19/98	NSP	NSP	NSP	NSP	NSP	NSP
	9/28/98	NSP	NSP	NSP	NSP	NSP	NSP
	11/16/98	NSP	NSP	NSP	NSP	NSP	NSP
	2/18/99	17,000	118,000	14,300	175,000	324,300	530
	5/11/99	NSP	NSP	NSP	NSP	NSP	NSP
	5/20/99	NSP	NSP	NSP	NSP	NSP	NSP
	8/18/99	19,000	61,000	3,200	32,000	115,200	690
	11/17/99	NSP	NSP	NSP	NSP	NSP	NSP
	2/1/00	14,000	47,000	2,300	23,000	86,300	550
	5/24/00	9,500	29,000	1,600	25,000	65,100	330
	8/31/00	NSP	NSP	NSP	NSP	NSP	NSP
	11/28/00	19,000	50,000	2,000	23,000	94,000	250
	1/18/01	14,000	34,000	1,600	19,000	68,600	660
MW-3	5/2/97	ND	ND	ND	ND	ND	3.68
	11/17/97	0.524	ND	ND	ND	0.524	41.30
	2/2/98	ND	ND	0.737	1.14	1.877	2.36
	5/19/98	ND	ND	ND	ND	ND	ND
	9/28/98	2.44	35.6	7.07	56.4	101.51	13.4
	11/16/98	ND	ND	ND	ND	ND	ND
	2/18/99	ND	ND	ND	ND	ND	1.16
	5/11/99	ND	ND	ND	ND	ND	1.3
	5/20/99	ND	ND	ND	ND	ND	1.1
	8/18/99	ND	ND	ND	ND	ND	ND
	11/17/99	ND	ND	ND	ND	ND	1.3
	2/1/00	ND	ND	ND	7.5	7.5	ND
	5/24/00	0.5	4.7	ND	4.5	9.7	ND
	8/31/00	ND	1.8	1.4	9.1	12.3	ND
	11/28/00	ND	ND	ND	ND	ND	ND
	1/18/01	ND	ND	ND	ND	ND	ND
NYSDEC GW	Standards	0.7	5	5	5	NA	10

TABLE 2
Summary of Analytical Results for Ground Water

Hess Station # 32517
401 West 207th Street
New York, New York

Well #	Date	Benzene	Toluene	Ethylbenzene	Xylenes	BTEX	MTBE
MW-4	5/2/97	4,290	26,800	4,270	25,000	60,360	2,050
	11/17/97	191	12,200	250	14,800	27,441	289
	2/2/98	946	7,910	1,560	15,700	26,116	5,140
	5/19/98	975	11,600	2,250	18,130	32,955	1,640
	9/28/98	884	2,040	1,290	13,300	17,514	2,190
	11/16/98	125	359	131	1,144	1,759	177
	2/18/99	463	1,060	1,270	9,560	12,353	739
	5/11/99	600	1,100	970	7,300	9,970	560
	5/20/99	700	1,800	1,100	12,000	15,600	900
	8/18/99	860	2,900	1,300	9,900	14,960	930
	11/17/99	440	1,200	900	8,300	10,840	360
	2/1/00	280	510	480	4,400	5,670	500
	5/24/00	320	640	840	5,100	6,900	160
	8/31/00	320	1,300	1,200	9,600	12,420	110
	11/28/00	410	220	1,200	5,900	7,730	77
	1/18/01	290	53	660	2,700	3,703	81
MW-5	5/11/99	5,100	<1,000	<1,000	3,000	8,100	680,000
	5/20/99	1,800	19,000	2,700	25,000	48,500	ND
	8/18/99	5,700	170	420	1,900	8,190	570,000
	11/17/99	1,200	1,500	2,500	13,000	18,200	130
	2/1/00	840	250	1,800	6,600	9,490	ND
	5/24/00	720	510	1,400	4,600	7,230	ND
	8/31/00	1,200	230	2,200	5,000	8,630	14
	11/28/00	820	130	1,700	5,200	7,850	ND
	1/18/01	560	41	1,200	2,500	4,301	ND
MW-6	5/11/99	66	2.7	5.2	7.7	81.6	2,100
	5/20/99	4,100	500	ND	2,200	6,800	800,000
	8/18/99	740	22	39	79	880	1,300
	11/17/99	5,700	280	<100	1,900	7,880	540,000
	2/1/00	5,600	100	280	990	6,970	420,000
	5/24/00	4,300	340	480	1,600	6,720	250,000
	8/31/00	6,700	1,000	1,400	6,200	15,300	240,000
	11/28/00	3,100	120	<100	1,100	4,320	7,200
	1/18/01	4,700	ND	90	350	5,140	160,000
MW-7	5/20/99	38	1.3	11	8.2	58.5	1,900
	8/18/99	1,100	1,600.0	680	11,000.0	14,380.0	ND
	11/17/99	190	<10	<10	25.0	215.0	750
	2/1/00	920	10.0	11	41.0	982.0	370
	5/24/00	710	<10	<10	36.0	746.0	170
	8/31/00	340	ND	ND	6.8	346.8	100
	11/28/00	200	7.0	2.7	7.8	217.5	50
	1/18/01	420	5.3	6.0	15	446	75
AS/SVE-1	5/20/99	WNI	WNI	WNI	WNI	WNI	WNI
	1/18/01	6,200	34,000	7,600	40,000	87,800	5,200
AS/SVE-2	5/20/99	WNI	WNI	WNI	WNI	WNI	WNI
	1/18/01	3,500	260	160	980	4,900	9,500
AS/SVE-3	5/20/99	WNI	WNI	WNI	WNI	WNI	WNI
	1/18/01	D	D	D	D	D	D
NYSDEC GW Standards		0.7	5	5	5	NA	10

Note:
1. Concentrations in ppb unless otherwise noted.
2. Shaded box indicates concentration levels at/or above the NYSDEC GW Standards.
3. WNI = Well Not Installed at the time of the sampling event.
4. NSP = Not Sampled due to Product
5. ND = Not Detected
6. NA = Not Applicable
7. D = Dry

TABLE 3
Summary of Soil Vapor Extraction Pilot Test Data

Hess Station # 32517
West 207th Street
New York, New York

SVE Well	Total BTEX (ppm)	PID (ppm)	Vacuum ("H2O)	Flow (cfm)	Estimated ROI
MW-1	1,582	171.8	58	20	30
MW-2	25.09	16.9	28	139	20
MW-4	NS	NS	46	90	20
MW-5	582	638	50	70	NA
MW-6	37.05	87.3	46	90	30
MW-7	7.13	5.6	46	90	45
SVE-1	397	109.8	58	15	35
SVE-2	7.97	14	60	5	NA
SVE-3	45.98	30.9	60	0	NA

Note:
1. Equipment: 2-hp regenerative vacuum blower
2. Total BTEX via portable GC analysis
3. NA = Not Applicable
4. NS = Not Sampled
5. ROI = Radius of Influence

TABLE 4
Summary of Air Sparge Pilot Test Data

Hess Station # 32517
West 207th Street
New York, New York

AS Well	Running Pressure (psi)	Flow (cfm)	Estimated ROI
AS-1	12	22	35
AS/SVE-1	11	19	25
AS-2	6	16	NA
AS/SVE-2	9	14	NA
AS-3	14	17	NA
AS/SVE-3	3	30	35

Note:
1. Equipment: 2-hp rotary vane air compressor
2. NA = Not Applicable
3. ROI = Radius of Influence

APPENDIX A
BORING LOGS/WELL CONSTRUCTION DETAILS

EnviroTrac Ltd.

80 B Air Park Drive, Ronkonkoma, NY 11779

Log of Well: AS-1

Client: Amerada Hess		Depth to Water (ft. from measuring pt.)	Site Elevation Datum
Site Name: Hess Inwood Facility	Address: 401 W. 207th Street	Date: 1/22/01 / DTW: 12.05	Ground Elevation: Not Measured
Drilling Company: Summit Drilling	Method: 6 5/8" Hollow Stem Augers		Measuring Point Elevation: Not Measured
Date Started: 12/18/00	Date Completed: 12/18/00		
Completion Depth: 21 feet	*ENVIROTRAC* Geologist: Mike Rose		

MONITORING WELL CONSTRUCTION (NTS)	DEPTH (ft below grade)	SAMPLES Recovery (ft.)	SAMPLES Blow per 6 in.	SAMPLES OVM (ppm)	SOIL DESCRIPTION
AS-1	0				0-5 Dark brown medium **SAND** with trace gravel and fines.
	2				
	4	NM	NM	NM	5-7 Brown **CLAY** mixed with gravel and fines.
	6				7-9 Brown fine to medium **SAND** with trace clay, gravel and cobbles.
	8				9-11
	10	NM	NM	NM	Dark brown medium to fine **SAND** with some gravel.
	12				11-13 Brown coarse **SAND** and gravel.
	14				13-15 Brown medium to coarse **SAND** with gravel and cobbles.
	16	NM	NM	NM	15-20 **COBBLES**
	18				
	20	NM	NM	NM	
	22				Weatherd bedrock at 21'

Legend:
- Cement
- Bentonite seal
- Gravel pack (Morie #2)
- Screen
- End Cap

Well Construction Details
Bottom of Well: 21'
Screen Zone: 21'-19'
Screen material: #10 slot, 2", schedule 40 PVC
Casing material: 2" schedule 40 PVC
Bentonite Seal: 17'-15'
Gravel Pack: Morie #2
Cement Surface: 2'-Grade

DTW - Depth to Water NM - Not Measured NS - Not Sampled NTS - Not to Scale

EnviroTrac Ltd.

80 B Air Park Drive, Ronkonkoma, NY 11779

Log of Well: AS-2

Client: Amerada Hess		Depth to Water (ft. from measuring pt.)	Site Elevation Datum
Site Name: Hess Inwood Facility	Address: 401 W. 207th Street	Date: 1/22/01 / DTW: 12.18	Ground Elevation: Not Measured
Drilling Company: Summit Drilling	Method: 6 5/8" Hollow Stem Augers		Measuring Point Elevation: Not Measured
Date Started: 12/19/00	Date Completed: 12/19/00		
Completion Depth: 15.5 feet	*ENVIROTRAC* Geologist: Mike Rose		

MONITORING WELL CONSTRUCTION (NTS)	DEPTH (ft below grade)	SAMPLES: Recovery (ft.)	SAMPLES: Blow per 6 in.	SAMPLES: OVM (ppm)	SOIL DESCRIPTION
AS-2	0				0-5 Dark brown medium **SAND** with trace gravel and fines.
	2				
	4				
	6	NM	NM	0	5-10 Brown-gray medium **SAND** with some fines, gravel and cobbles.
	8				
	10	NM	NM	0	10-15 Brown-gray medium to fine **SAND** with some clay and cobbles.
	12				
	14				
	16	NS	NS	NS	Weathered bedrock at 15'

Legend:
- Cement
- Bentonite seal
- Gravel pack (Morie #2)
- Screen
- End Cap

Well Construction Details
Bottom of Well: 15.5'
Screen Zone: 15.5'-14.5'
Screen material: #10 slot, 2", schedule 40 PVC
Casing material: 2" schedule 40 PVC
Bentonite Seal: 13.5'-11'
Gravel Pack: Morie #2
Cement Surface: 2'-Grade

DTW - Depth to Water NM - Not Measured NS - Not Sampled NTS - Not to Scale

EnviroTrac Ltd.

80 B Air Park Drive, Ronkonkoma, NY 11779

Log of Well: AS-3

Client: Amerada Hess		Depth to Water (ft. from measuring pt.)	Site Elevation Datum
Site Name: Hess Inwood Facility	Address: 401 W. 207th Street	Date: 1/22/01 / DTW: 10.50	Ground Elevation: Not Measured
Drilling Company: Summit Drilling	Method: 6 5/8" Hollow Stem Augers		Measuring Point Elevation: Not Measured
Date Started: 12/19/00	Date Completed: 12/19/00		
Completion Depth: 17 feet	*ENVIROTRAC* Geologist: Mike Rose		

MONITORING WELL CONSTRUCTION (NTS)	DEPTH (ft below grade)	SAMPLES Recovery (ft.)	SAMPLES Blow per 6 in.	SAMPLES OVM (ppm)	SOIL DESCRIPTION
AS-3	0				0-5 Dark brown medium **SAND** with trace gravel and fines.
	2				
	4	NM	NM	2.5	5-10 Brown-gray medium **SAND** with some fines, gravel and cobbles.
	6				
	8				
	10	NM	NM	400	10-15 Brown-gray medium to fine **SAND** with some clay and cobbles.
	12				
	14	NM	NM	30	15-17 **COBBLES**
	16				
	18				Weathered bedrock at 17'

Legend:
- Cement
- Bentonite seal
- Gravel pack (Morie #2)
- Screen
- End Cap

Well Construction Details
Bottom of Well: 17'
Screen Zone: 17'-15'
Screen material: #10 slot, 2", schedule 40 PVC
Casing material: 2" schedule 40 PVC
Bentonite Seal: 14'-11.5'
Gravel Pack: Morie #2
Cement Surface: 2'-Grade

DTW - Depth to Water NM - Not Measured NS - Not Sampled NTS - Not to Scale

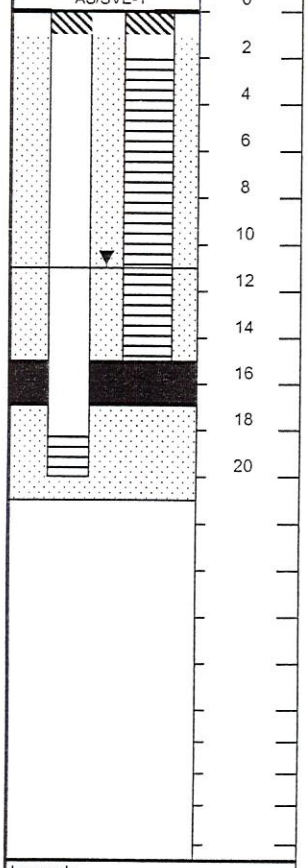
EnviroTrac Ltd.

80 B Air Park Drive, Ronkonkoma, NY 11779

Log of Well: AS/SVE 1

Client: Amerada Hess		Depth to Water (ft. from measuring pt.)		Site Elevation Datum
Site Name: Hess Inwood Facility	Address: 401 W. 207th Street	Date	DTW	Ground Elevation Not Measured
Drilling Company: Summit Drilling	Method: 6 5/8" Hollow Stem Augers	1/22/01	11.32	
Date Started: 12/20/00	Date Completed: 12/20/00			Measuring Point Elevation Not Measured
Completion Depth: 20 feet	*ENVIROTRAC* Geologist: Mike Rose			

MONITORING WELL CONSTRUCTION (NTS)	DEPTH (ft below grade)	SAMPLES Recovery (ft.)	SAMPLES Blow per 6 in.	SAMPLES OVM (ppm)	SOIL DESCRIPTION
AS/SVE-1	0				0-5 Dark brown medium **SAND** with trace gravel and fines.
	2				
	4	NS	NS	NS	5-7 Brown **CLAY** mixed with gravel and fines.
	6				7-9 Brown fine to medium **SAND** with trace clay, gravel and cobbles.
	8				9-11
	10	NM	NM	83	Dark brown medium to fine **SAND** with some gravel.
	12				11-13 Brown coarse **SAND** and gravel.
	14				13-15 Brown medium to coarse **SAND** with gravel and cobbles.
	16	NM	NM	270	15-20 **COBBLES**
	18				
	20				Weatherd bedrock at 20'



Legend:
- Cement
- Bentonite seal
- Gravel pack (Morie #2)
- Screen
- End Cap

Well Construction Details
Bottom of Well: 20' / 15'
Screen Zone: 20'-18' / 15'-2'
Screen material: #10 slot, 2" / #20 slot, 4" schedule 40 PVC
Casing material: 2" / 4" schedule 40 PVC
Bentonite Seal: 17'-15.5'
Gravel Pack: Morie #2
Cement Surface: 2'-Grade

DTW - Depth to Water NM - Not Measured NS - Not Sampled NTS - Not to Scale

EnviroTrac Ltd.

80 B Air Park Drive, Ronkonkoma, NY 11779

Log of Well: AS/SVE 2

Client: Amerada Hess		Depth to Water (ft. from measuring pt.)	Site Elevation Datum
Site Name: Hess Inwood Facility	Address: 401 W. 207th Street	Date: 1/22/01 / DTW: 11.90	Ground Elevation: Not Measured
Drilling Company: Summit Drilling	Method: 6 5/8" Hollow Stem Augers		Measuring Point Elevation: Not Measured
Date Started: 12/20/00	Date Completed: 12/20/00		
Completion Depth: 23 feet	*ENVIROTRAC* Geologist: Mike Rose		

MONITORING WELL CONSTRUCTION (NTS)	DEPTH (ft below grade)	SAMPLES Recovery (ft.)	SAMPLES Blow per 6 in.	SAMPLES OVM (ppm)	SOIL DESCRIPTION
AS/SVE-2	0				0-5 Dark brown medium **SAND** with trace gravel and fines.
	2				
	4	NM	NM	54	5-10 Dark brown medium to coarse **SAND** and gravel.
	6				
	8				
	10	NM	NM	55.7	10-15 Brown-gray medium to coarse **SAND** and cobbles.
	12				
	14				
	16	NM	NM	76	15-20 Brown-gray medium to fine **SAND** and cobbles.
	18				
	20	NM	NM	47	20-23 **COBBLES**
	22				
	24				Weatherd bedrock at 23'

Legend:
- Cement
- Bentonite seal
- Gravel pack (Morie #2)
- Screen
- End Cap

Well Construction Details
Bottom of Well: 23' / 15'
Screen Zone: 23'-21' / 15'-2'
Screen material: #10 slot, 2" / #20 slot, 4" schedule 40 PVC
Casing material: 2" / 4" schedule 40 PVC
Bentonite Seal: 20'-16'
Gravel Pack: Morie #2
Cement Surface: 2'-Grade

DTW - Depth to Water NM - Not Measured NS - Not Sampled NTS - Not to Scale

EnviroTrac Ltd.

80 B Air Park Drive, Ronkonkoma, NY 11779

Log of Well: AS/SVE 3

Client: Amerada Hess		Depth to Water (ft. from measuring pt.)		Site Elevation Datum
Site Name: Hess Inwood Facility	Address: 401 W. 207th Street	Date: 1/22/01	DTW: 11.40	Ground Elevation: Not Measured
Drilling Company: Summit Drilling	Method: 6 5/8" Hollow Stem Augers			Measuring Point Elevation: Not Measured
Date Started: 12/20/00	Date Completed: 12/21/00			
Completion Depth: 17 feet	*ENVIROTRAC* Geologist: Mike Rose			

MONITORING WELL CONSTRUCTION (NTS)	DEPTH (ft below grade)	SAMPLES Recovery (ft.)	SAMPLES Blow per 6 in.	SAMPLES OVM (ppm)	SOIL DESCRIPTION
AS/SVE-3	0				0-5 Dark brown medium **SAND** with trace gravel and fines.
	2				
	4				
	6	NM	NM	4.2	5-7 Brown **CLAY** mixed with gravel and fines.
	8				7-9 Brown fine to medium **SAND** with trace clay, gravel and cobbles.
	10	NM	NM	9.4	9-11 Dark brown medium to fine **SAND** with some gravel.
	12				11-13 Brown coarse **SAND** and gravel.
	14				13-15 Brown medium to coarse **SAND** with gravel and cobbles.
	16	NM	NM	450	15-17 **COBBLES**
	18				Weatherd bedrock at 17'

Legend:
- Cement
- Bentonite seal
- Gravel pack (Morie #2)
- Screen
- End Cap

Well Construction Details
Bottom of Well: 17' / 11'
Screen Zone: 17'-16' / 11'-2'
Screen material: #10 slot, 2" / #20 slot, 4" schedule 40 PVC
Casing material: 2" / 4" schedule 40 PVC
Bentonite Seal: 15'-12'
Gravel Pack: Morie #2
Cement Surface: 2'-Grade

DTW - Depth to Water NM - Not Measured NS - Not Sampled NTS - Not to Scale

APPENDIX B

LABORATORY REPORT FOR GROUND WATER (1/18/01)

Antech Ltd.

One Triangle Lane • Export, Pennsylvania 15632 • Phone: (724) 733-1161 • Fax: (724) 327-7793

January 25, 2001

Mr. Jeff Bohlen
EnviroTrac
80-B Air Park Drive
Ronkonkoma, NY 11779

Groundwater Characterization; Purchase Order No. Contract #4691
Groundwater; Station #32517; Hess; Inwood, NY
Antech Ltd. Project No. 01-0289

Dear Mr. Bohlen:

Enclosed are analytical results for samples submitted by EnviroTrac. Samples were received and logged in for analysis on January 19, 2001.

Appropriate U.S. Environmental Protection Agency methods were used and are indicated accordingly on the data tables. Appropriate quality assurance/quality control analyses were performed in accordance with Antech Ltd.'s Statement of Qualifications. If you have any questions, please call me.

Sincerely,

Carin A. Ferris

Carin A. Ferris
Project Coordinator

CAF:lmy

Enclosures

ANTECH LTD.
CASE NARRATIVE

I. PROJECT LOGIN INFORMATION:

A: PROJECT NUMBERS:

ANTECH LTD.: 01-0289
CLIENT: Purchase Order Number: Contract #4691

B: SAMPLE IDENTIFICATIONS:

Antech ID	Client ID	Antech ID	Client ID
0101-1609	MW-1	0101-1610	MW-2
0101-1611	MW-3	0101-1612	MW-4
0101-1613	MW-5	0101-1614	MW-6
0101-1615	MW-7	0101-1616	SVE-1
0101-1617	SVE-2		

C: SHIPPING/RECEIVING COMMENTS:

None

II. PREPARATION/ANALYSIS COMMENTS:

A: ORGANICS:

1. VOLATILES:
None

III. GENERAL COMMENTS:

Trailing zeroes and decimal places appearing on the data should not be interpreted as precision of the analytical procedure, but rather as a result of reporting format.

Table 1
General Data Table
EnviroTrac
Antech Ltd. Project No. 01-0289
Groundwater Characterization; Groundwater; Station #32517
Purchase Order No. Contract #4691; Hess; Inwood, NY

Parameter	CAS[1] Number	Analyst	Analysis Date	Units	Sample Identification 0101-1609 MW-1 (1/18/01) Result	Detection
Volatile Organic Analysis: (602)[2]						
Benzene	71-43-2	JLP	01/23/2001	µg/l	440	5.0
Toluene	108-88-3	JLP	01/23/2001	µg/l	BDL	10
Ethylbenzene	100-41-4	JLP	01/23/2001	µg/l	83	10
Xylenes (Total)	1330-20-7	JLP	01/23/2001	µg/l	200	10
Methyl-Tertiary-Butyl-Ether	1634-04-4	JLP	01/23/2001	µg/l	390	10

(1) CAS = Chemical Abstracts Services.
(2) U.S. Environmental Protection Agency, 1982, Test Methods, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, J. E. Longbottom and J. J. Lichtenberg, eds., EPA-600/4-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Table 2
General Data Table
EnviroTrac
Antech Ltd. Project No. 01-0289
Groundwater Characterization; Groundwater; Station #32517
Purchase Order No. Contract #4691; Hess; Inwood, NY

Parameter	CAS[1] Number	Analyst	Analysis Date	Units	Sample Identification 0101-1610 MW-2 (1/18/01) Result	Detection
Volatile Organic Analysis: (602)[2]						
Benzene	71-43-2	JLP	01/23/2001	µg/l	14000	50
Toluene	108-88-3	JLP	01/23/2001	µg/l	34000	100
Ethylbenzene	100-41-4	JLP	01/23/2001	µg/l	1600	100
Xylenes (Total)	1330-20-7	JLP	01/23/2001	µg/l	19000	100
Methyl-Tertiary-Butyl-Ether	1634-04-4	JLP	01/23/2001	µg/l	660	100

[1] CAS = Chemical Abstracts Services.
[2] U.S. Environmental Protection Agency, 1982, Test Methods, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, J. E. Longbottom and J. J. Lichtenberg, eds., EPA-600/4-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Table 3
General Data Table
EnviroTrac
Antech Ltd. Project No. 01-0289
Groundwater Characterization; Groundwater; Station #32517
Purchase Order No. Contract #4691; Hess; Inwood, NY

Parameter	CAS[1] Number	Analyst	Analysis Date	Units	Sample Identification 0101-1611 MW-3 (1/18/01) Result	Detection
Volatile Organic Analysis: (602)[2]						
Benzene	71-43-2	JLP	01/23/2001	µg/l	BDL	0.50
Toluene	108-88-3	JLP	01/23/2001	µg/l	BDL	1.0
Ethylbenzene	100-41-4	JLP	01/23/2001	µg/l	BDL	1.0
Xylenes (Total)	1330-20-7	JLP	01/23/2001	µg/l	BDL	1.0
Methyl-Tertiary-Butyl-Ether	1634-04-4	JLP	01/23/2001	µg/l	BDL	1.0

[1] CAS = Chemical Abstracts Services.
[2] U.S. Environmental Protection Agency, 1982, Test Methods, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, J. E. Longbottom and J. J. Lichtenberg, eds., EPA-600/4-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Table 4
General Data Table
EnviroTrac
Antech Ltd. Project No. 01-0289
Groundwater Characterization; Groundwater; Station #32517
Purchase Order No. Contract #4691; Hess; Inwood, NY

Parameter	CAS[1] Number	Analyst	Analysis Date	Units	Sample Identification 0101-1612 MW-4 (1/18/01) Result	Detection
Volatile Organic Analysis: (602)[2]						
Benzene	71-43-2	JLP	01/23/2001	µg/l	290	5.0
Toluene	108-88-3	JLP	01/23/2001	µg/l	53	10
Ethylbenzene	100-41-4	JLP	01/23/2001	µg/l	660	10
Xylenes (Total)	1330-20-7	JLP	01/23/2001	µg/l	2700	10
Methyl-Tertiary-Butyl-Ether	1634-04-4	JLP	01/23/2001	µg/l	81	10

(1) CAS = Chemical Abstracts Services.
(2) U.S. Environmental Protection Agency, 1982, Test Methods, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, J. E. Longbottom and J. J. Lichtenberg, eds., EPA-600/4-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Table 5
General Data Table
EnviroTrac
Antech Ltd. Project No. 01-0289
Groundwater Characterization; Groundwater; Station #32517
Purchase Order No. Contract #4691; Hess; Inwood, NY

Parameter	CAS[1] Number	Analyst	Analysis Date	Units	Sample Identification 0101-1613 MW-5 (1/18/01) Result	Detection
Volatile Organic Analysis: (602)[2]						
Benzene	71-43-2	JLP	01/23/2001	µg/l	560	5.0
Toluene	108-88-3	JLP	01/23/2001	µg/l	41	10
Ethylbenzene	100-41-4	JLP	01/23/2001	µg/l	1200	10
Xylenes (Total)	1330-20-7	JLP	01/23/2001	µg/l	2500	10
Methyl-Tertiary-Butyl-Ether	1634-04-4	JLP	01/23/2001	µg/l	BDL	10

[1] CAS = Chemical Abstracts Services.
[2] U.S. Environmental Protection Agency, 1982, Test Methods, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, J. E. Longbottom and J. J. Lichtenberg, eds., EPA-600/4-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Table 6
General Data Table
EnviroTrac
Antech Ltd. Project No. 01-0289
Groundwater Characterization; Groundwater; Station #32517
Purchase Order No. Contract #4691; Hess; Inwood, NY

Parameter	CAS[1] Number	Analyst	Analysis Date	Units	Sample Identification 0101-1614 MW-6 (1/18/01) Result	Detection
Volatile Organic Analysis: (602)[2]						
Benzene	71-43-2	JLP	01/23/2001	µg/l	4700	25
Toluene	108-88-3	JLP	01/23/2001	µg/l	BDL	50
Ethylbenzene	100-41-4	JLP	01/23/2001	µg/l	90	50
Xylenes (Total)	1330-20-7	JLP	01/23/2001	µg/l	350	50
Methyl-Tertiary-Butyl-Ether	1634-04-4	JLP	01/23/2001	µg/l	160000	50

(1) CAS = Chemical Abstracts Services.
(2) U.S. Environmental Protection Agency, 1982, Test Methods, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, J. E. Longbottom and J. J. Lichtenberg, eds., EPA-600/4-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Table 7
General Data Table
EnviroTrac
Antech Ltd. Project No. 01-0289
Groundwater Characterization; Groundwater; Station #32517
Purchase Order No. Contract #4691; Hess; Inwood, NY

Parameter	CAS[1] Number	Analyst	Analysis Date	Units	Sample Identification 0101-1615 MW-7 (1/18/01) Result	Detection
Volatile Organic Analysis: (602)[2]						
Benzene	71-43-2	JLP	01/24/2001	µg/l	420	0.50
Toluene	108-88-3	JLP	01/23/2001	µg/l	5.3	1.0
Ethylbenzene	100-41-4	JLP	01/23/2001	µg/l	6.0	1.0
Xylenes (Total)	1330-20-7	JLP	01/23/2001	µg/l	15	1.0
Methyl-Tertiary-Butyl-Ether	1634-04-4	JLP	01/23/2001	µg/l	75	1.0

(1) CAS = Chemical Abstracts Services.
(2) U.S. Environmental Protection Agency, 1982, Test Methods, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, J. E. Longbottom and J. J. Lichtenberg, eds., EPA-600/4-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Table 8
General Data Table
EnviroTrac
Antech Ltd. Project No. 01-0289
Groundwater Characterization; Groundwater; Station #32517
Purchase Order No. Contract #4691; Hess; Inwood, NY

Parameter	CAS[1] Number	Analyst	Analysis Date	Units	Sample Identification 0101-1616 SVE-1 (1/18/01) Result	Detection
Volatile Organic Analysis: (602)[2]						
Benzene	71-43-2	JLP	01/24/2001	µg/l	6200	500
Toluene	108-88-3	JLP	01/24/2001	µg/l	34000	1000
Ethylbenzene	100-41-4	JLP	01/24/2001	µg/l	7600	1000
Xylenes (Total)	1330-20-7	JLP	01/24/2001	µg/l	40000	1000
Methyl-Tertiary-Butyl-Ether	1634-04-4	JLP	01/24/2001	µg/l	5200	1000

[1] CAS = Chemical Abstracts Services.
[2] U.S. Environmental Protection Agency, 1982, Test Methods, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, J. E. Longbottom and J. J. Lichtenberg, eds., EPA-600/4-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Table 9
General Data Table
EnviroTrac
Antech Ltd. Project No. 01-0289
Groundwater Characterization; Groundwater; Station #32517
Purchase Order No. Contract #4691; Hess; Inwood, NY

Parameter	CAS(1) Number	Analyst	Analysis Date	Units	Sample Identification 0101-1617 SVE-2 (1/18/01) Result	Detection
Volatile Organic Analysis: (602)(2)						
Benzene	71-43-2	JLP	01/23/2001	µg/l	3500	50
Toluene	108-88-3	JLP	01/23/2001	µg/l	260	100
Ethylbenzene	100-41-4	JLP	01/23/2001	µg/l	160	100
Xylenes (Total)	1330-20-7	JLP	01/23/2001	µg/l	980	100
Methyl-Tertiary-Butyl-Ether	1634-04-4	JLP	01/23/2001	µg/l	9500	100

(1) CAS = Chemical Abstracts Services.
(2) U.S. Environmental Protection Agency, 1982, Test Methods, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, J. E. Longbottom and J. J. Lichtenberg, eds., EPA-600/4-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

Table 10
General Data Table
EnviroTrac
Antech Ltd. Project No. 01-0289
Groundwater Characterization; Groundwater; Station #32517
Purchase Order No. Contract #4691; Hess; Inwood, NY

Parameter	CAS[1] Number	Analyst	Analysis Date	Units	Sample Identification 0101-1618 Method Blank (1/19/01) Result	Detection
Volatile Organic Analysis: (602)[2]						
Benzene	71-43-2	JLP	01/23/2001	µg/l	BDL	0.50
Toluene	108-88-3	JLP	01/23/2001	µg/l	BDL	1.0
Ethylbenzene	100-41-4	JLP	01/23/2001	µg/l	BDL	1.0
Xylenes (Total)	1330-20-7	JLP	01/23/2001	µg/l	BDL	1.0
Methyl-Tertiary-Butyl-Ether	1634-04-4	JLP	01/23/2001	µg/l	BDL	1.0

[1] CAS = Chemical Abstracts Services.
[2] U.S. Environmental Protection Agency, 1982, Test Methods, Methods for Organic Chemical Analysis of Municipal and Industrial Wastewater, J. E. Longbottom and J. J. Lichtenberg, eds., EPA-600/4-82-057, Environmental Monitoring and Support Laboratory, Cincinnati, Ohio.

01-0289

EnviroTrac Ltd.

80-B Air Park Drive
Ronkonkoma, NY 11779
(631) 471-1500 Fax (631) 471-6363
Contact: Jeff Bohlen

CHAIN OF CUSTODY

Bill To: Amerada Hess
~~551 West Lancaster Ave~~ Woodbridge
~~Haverford, PA 19041~~ NJ

Hess Inwood
401 W. 207th Street
New York, NY

Lab ID	Date Sampled	Time Sampled	Sampler Initial	Matrix	No. of Cont.	Presrv.	EnviroTrac Sample ID	Analyses Required	Turnaround Requested
01-1609	1/18/01	7.30	DG	GW	3	HCl	MW-1	BTEX/MTBE	Standard
1610	1/18/01	7.40	DG	GW	3	HCl	MW-2	BTEX/MTBE	Standard
1611	1/18/01	7.50	DG	GW	3	HCl	MW-3	BTEX/MTBE	Standard
1612	1/18/01	8.00	DG	GW	3	HCl	MW-4	BTEX/MTBE	Standard
1613	1/18/01	8.10	DG	GW	3	HCl	MW-5	BTEX/MTBE	Standard
1614	1/18/01	8.20	DG	GW	3	HCl	MW-6	BTEX/MTBE	Standard
1615	1/18/01	8.30	DG	GW	3	HCl	MW-7	BTEX/MTBE	Standard
1616	1/18/01	8.40	DG	GW	3	HCl	SVE-1	BTEX/MTBE	Standard
1617	1/18/01	8.50	DG	GW	3	HCl	SVE-2	BTEX/MTBE	Standard
				~~GW~~	~~3~~	~~HCl~~	~~SVE-3~~	~~BTEX/MTBE~~	~~Standard~~

Relinquished by: Bobby Dodge	Time/Date: 4.00 1/18/00	Received By: FedX Time/Date
Relinquished by: FedX Time/Date:		Received By: Time/Date 1023 1-19-01

Comments:
GW = Ground Water

APPENDIX C

SVE/AS PILOT TEST DATA AND PGC ANALYTICAL REPORTS

Summary of Soil Vapor Extraction Pilot Test Data
HESS Service Station

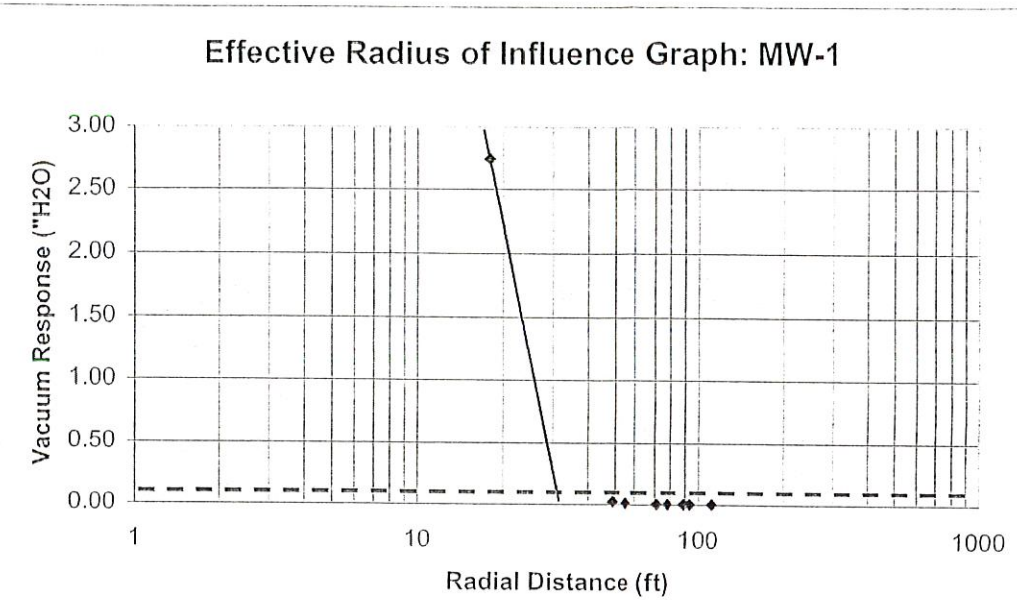
West 207th Street
Inwood, New York

Test Date:	1/22/01
Extraction Well:	MW-1
Test Duration (hours):	0.33
System Vacuum ("H2O):	58
Vapor Discharge rate (cfm):	20
Effective Radius of Influence (ft):	30

Vapor Discharge Sampling Data		Conc. (ppmV)
PID Analysis	Total VOCs	171.8
GC Analysis	Benzene	273
	Toluene	654
	Ethylbenzene	111
	Xylenes	544

Vacuum Influence Data

Well ID	Distance (ft)	Vac.("H2O)
MW-2	89	0.00
MW-4	71	0.00
MW-5	112	0.00
MW-6	55	0.01
MW-7	49	0.02
SVE-1	78	0.00
SVE-2	18	2.74
SVE-3	93	0.00



Summary of Soil Vapor Extraction Pilot Test Data
HESS Service Station

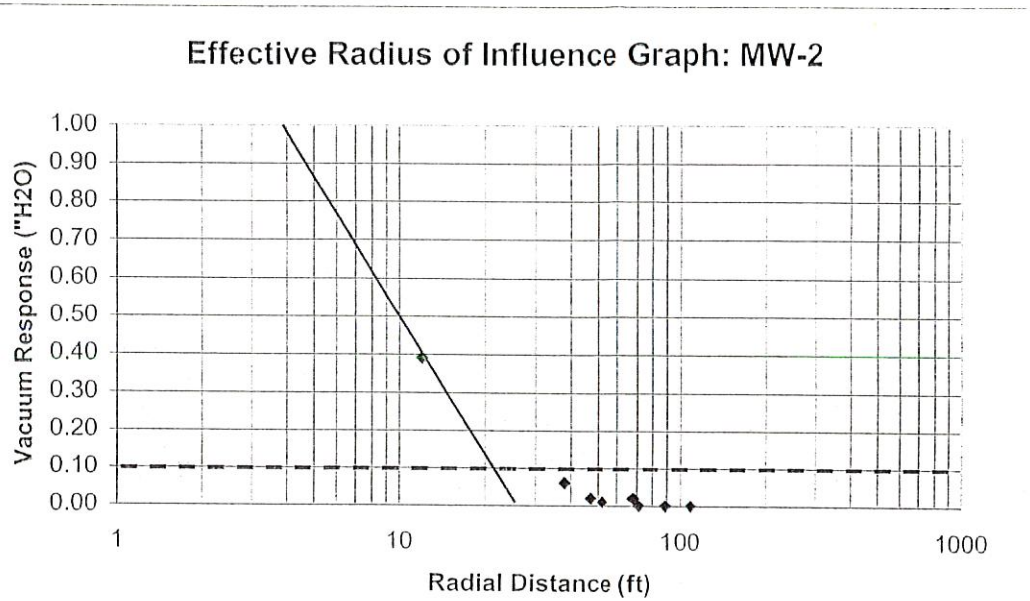
West 207th Street
Inwood, New York

Test Date:	1/22/01
Extraction Well:	MW-2
Test Duration (hours):	0.33
System Vacuum ("H2O):	28
Vapor Discharge rate (cfm):	139
Effective Radius of Influence (ft):	20

Vapor Discharge Sampling Data		Conc. (ppmV)
PID Analysis	Total VOCs	16.9
GC Analysis	Benzene	1.15
	Toluene	10.8
	Ethylbenzene	1.35
	Xylenes	11.79

Vacuum Influence Data

Well ID	Distance (ft)	Vac.("H2O)
MW-1	89	0.00
MW-4	47	0.02
MW-5	52	0.01
MW-6	68	0.02
MW-7	109	0.00
SVE-1	38	0.06
SVE-2	71	0.00
SVE-3	12	0.39



Summary of Soil Vapor Extraction Pilot Test Data
HESS Service Station

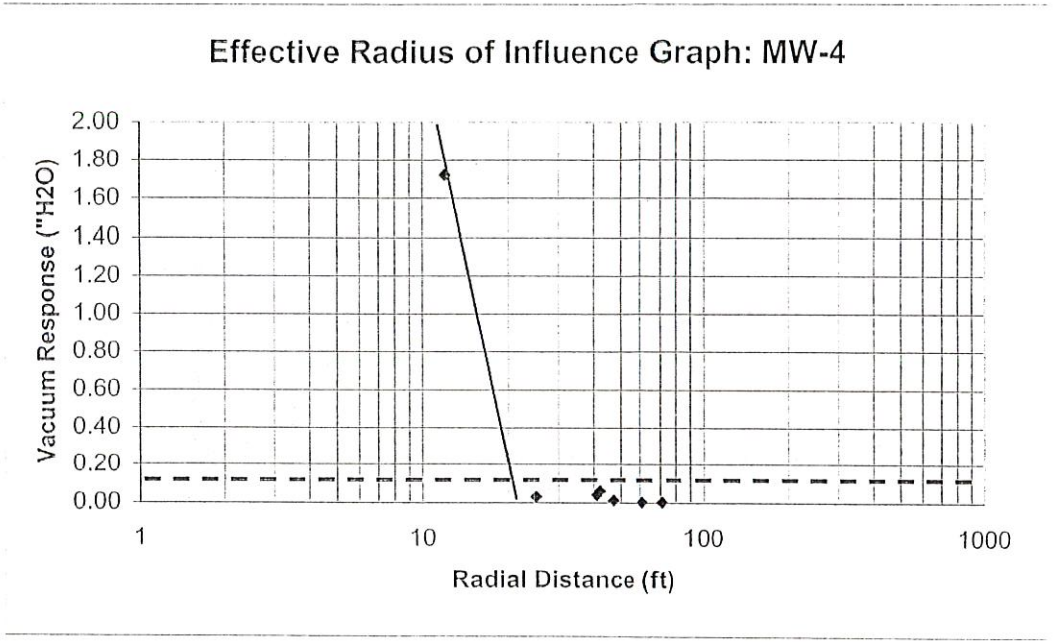
West 207th Street
Inwood, New York

Test Date:	1/22/01
Extraction Well:	MW-4
Test Duration (hours):	0.33
System Vacuum ("H2O):	46
Vapor Discharge rate (cfm):	90
Effective Radius of Influence (ft):	20

Vapor Discharge Sampling Data		Conc. (ppmV)
PID Analysis	Total VOCs	NS
GC Analysis	Benzene	NS
	Toluene	NS
	Ethylbenzene	NS
	Xylenes	NS

Vacuum Influence Data

Well ID	Distance (ft)	Vac.("H2O)
MW-1	71	0.00
MW-2	47	0.01
MW-5	41	0.04
MW-6	25	0.03
MW-7	71	0.00
SVE-1	12	1.72
SVE-2	61	0.00
SVE-3	42	0.06



Summary of Soil Vapor Extraction Pilot Test Data
HESS Service Station

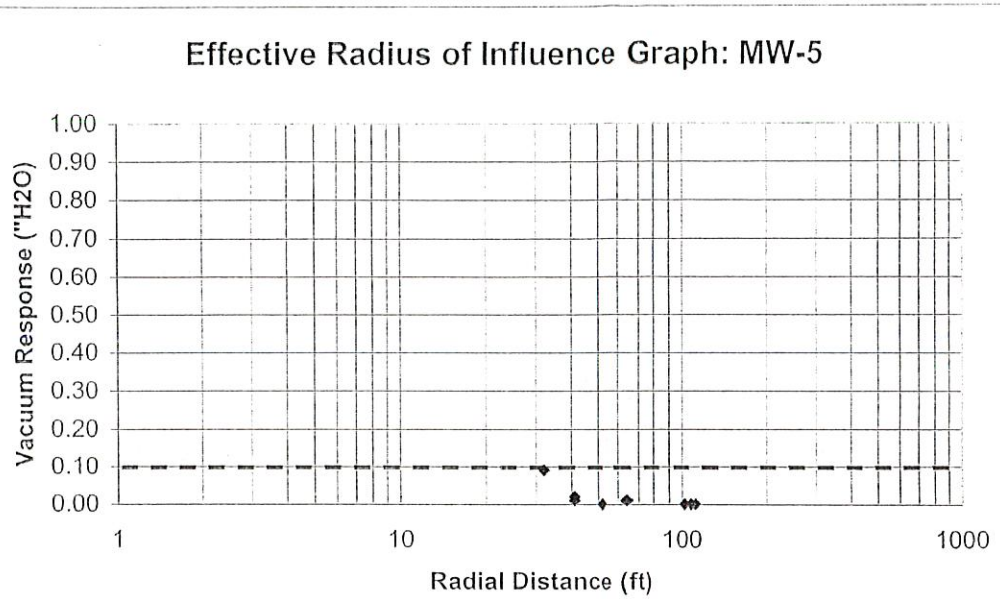
West 207th Street
Inwood, New York

Test Date:	1/22/01
Extraction Well:	MW-5
Test Duration (hours):	0.33
System Vacuum ("H2O):	50
Vapor Discharge rate (cfm):	70
Effective Radius of Influence (ft):	NA

Vapor Discharge Sampling Data		Conc. (ppmV)
PID Analysis	Total VOCs	638
GC Analysis	Benzene	0
	Toluene	241
	Ethylbenzene	91.1
	Xylenes	250

Vacuum Influence Data

Well ID	Distance (ft)	Vac.("H2O)
MW-1	112	0.00
MW-2	52	0.00
MW-4	41	0.02
MW-6	64	0.01
MW-7	108	0.00
SVE-1	32	0.09
SVE-2	102	0.00
SVE-3	41	0.01



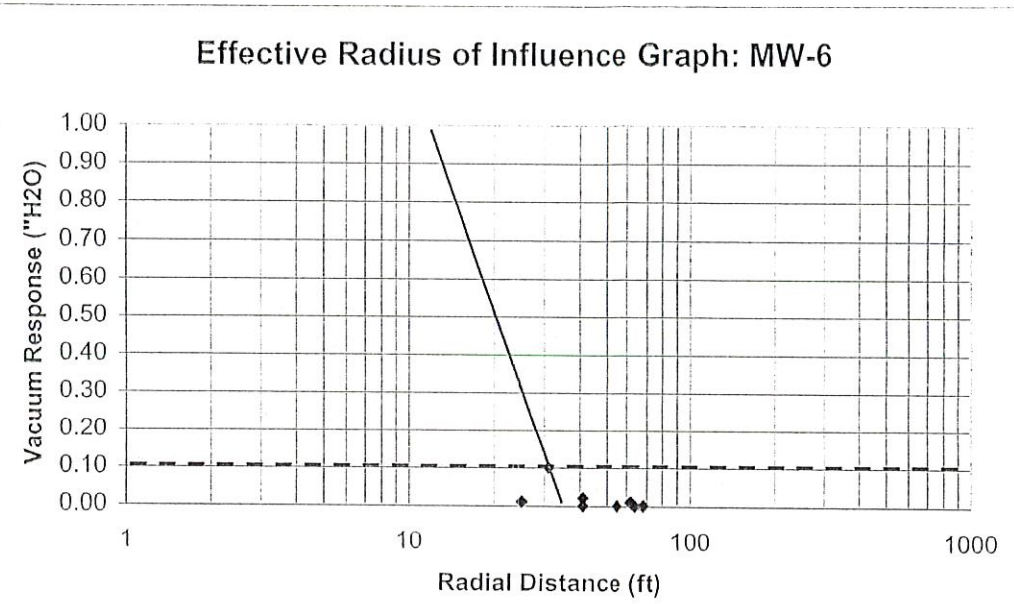
Summary of Soil Vapor Extraction Pilot Test Data
HESS Service Station
West 207th Street
Inwood, New York

Test Date:	1/22/01
Extraction Well:	MW-6
Test Duration (hours):	0.33
System Vacuum ("H2O):	46
Vapor Discharge rate (cfm):	90
Effective Radius of Influence (ft):	30

Vapor Discharge Sampling Data		Conc. (ppmV)
PID Analysis	Total VOCs	87.3
GC Analysis	Benzene	0
	Toluene	7.63
	Ethylbenzene	0
	Xylenes	29.42

Vacuum Influence Data

Well ID	Distance (ft)	Vac.("H2O)
MW-1	55	0.00
MW-2	68	0.00
MW-4	25	0.01
MW-5	64	0.00
MW-7	41	0.02
SVE-1	31	0.10
SVE-2	41	0.00
SVE-3	62	0.01



Summary of Soil Vapor Extraction Pilot Test Data
HESS Service Station

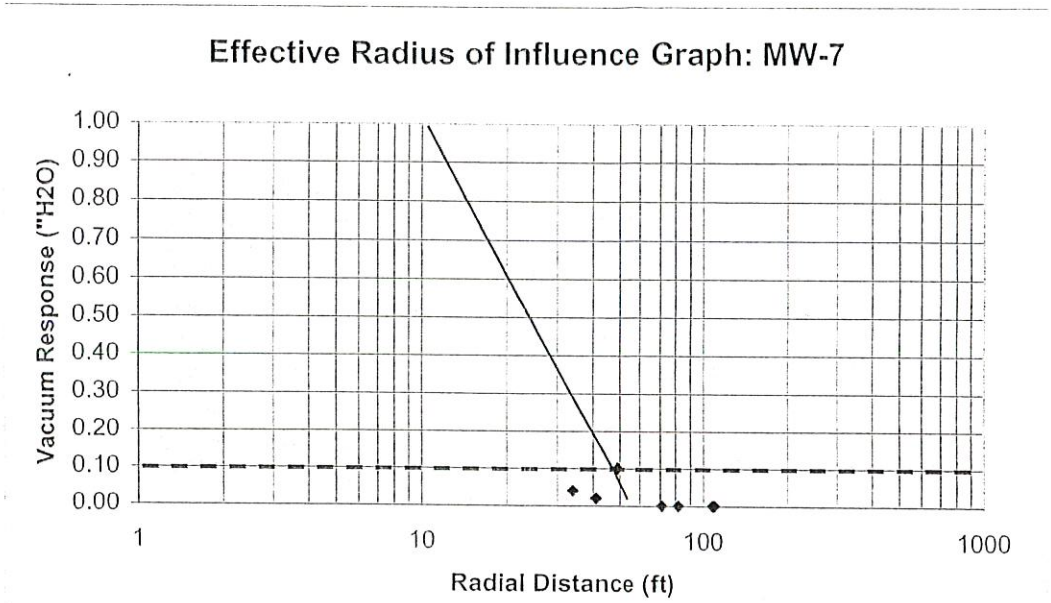
West 207th Street
Inwood, New York

Test Date:	1/22/01
Extraction Well:	MW-7
Test Duration (hours):	0.33
System Vacuum ("H2O):	46
Vapor Discharge rate (cfm):	90
Effective Radius of Influence (ft):	45

Vapor Discharge Sampling Data		Conc. (ppmV)
PID Analysis	Total VOCs	5.6
GC Analysis	Benzene	0
	Toluene	1.67
	Ethylbenzene	0
	Xylenes	5.46

Vacuum Influence Data

Well ID	Distance (ft)	Vac.("H2O)
MW-1	49	0.10
MW-2	109	0.00
MW-4	71	0.00
MW-5	108	0.00
MW-6	41	0.02
SVE-1	82	0.00
SVE-2	34	0.04
SVE-3	110	0.00



Summary of Soil Vapor Extraction Pilot Test Data
HESS Service Station

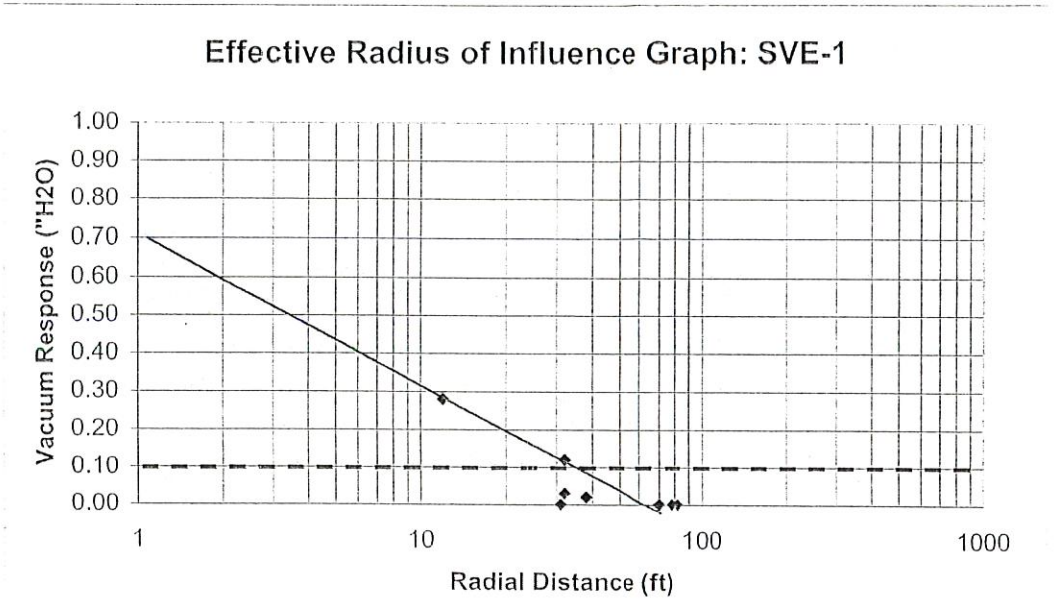
West 207th Street
Inwood, New York

Test Date:	1/22/01
Extraction Well:	SVE-1
Test Duration (hours):	0.33
System Vacuum ("H2O):	58
Vapor Discharge rate (cfm):	15
Effective Radius of Influence (ft):	35

Vapor Discharge Sampling Data		Conc. (ppmV)
PID Analysis	Total VOCs	109.8
GC Analysis	Benzene	2.87
	Toluene	86.0
	Ethylbenzene	32.3
	Xylenes	275.4

Vacuum Influence Data

Well ID	Distance (ft)	Vac.("H2O)
MW-1	78	0.00
MW-2	38	0.02
MW-4	12	0.28
MW-5	32	0.03
MW-6	31	0.00
MW-7	82	0.00
SVE-2	70	0.00
SVE-3	32	0.12



Summary of Soil Vapor Extraction Pilot Test Data
HESS Service Station

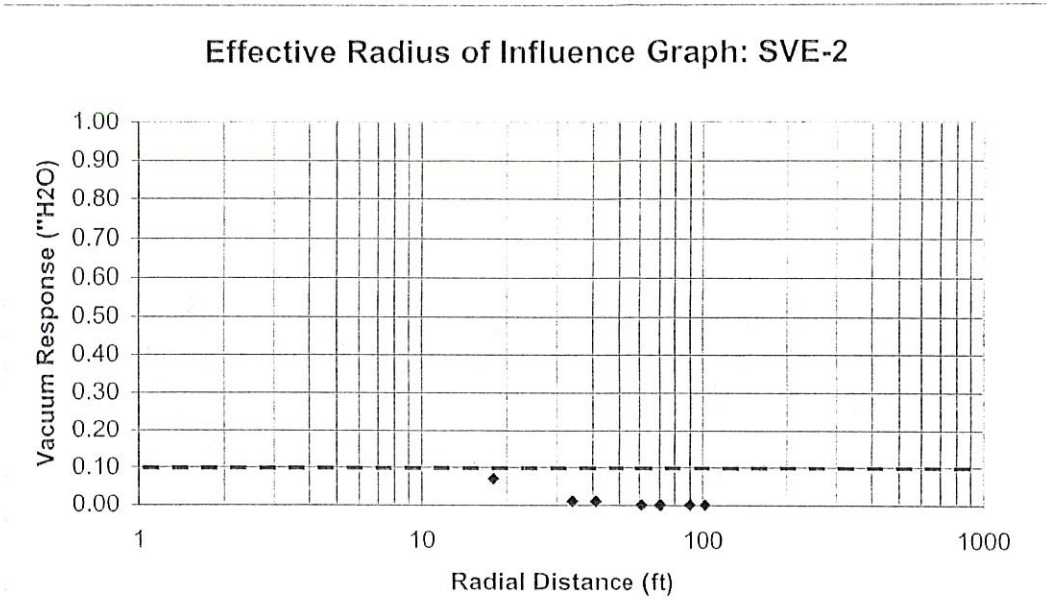
West 207th Street
Inwood, New York

Test Date:	1/22/01
Extraction Well:	SVE-2
Test Duration (hours):	0.33
System Vacuum ("H2O):	60
Vapor Discharge rate (cfm):	5
Effective Radius of Influence (ft):	NA

Vapor Discharge Sampling Data		Conc. (ppmV)
PID Analysis	Total VOCs	14
GC Analysis	Benzene	2.58
	Toluene	1.37
	Ethylbenzene	0.721
	Xylenes	3.30

Vacuum Influence Data

Well ID	Distance (ft)	Vac.("H2O)
MW-1	18	0.07
MW-2	71	0.00
MW-4	61	0.00
MW-5	102	0.00
MW-6	41	0.01
MW-7	34	0.01
SVE-1	70	0.00
SVE-3	90	0.00



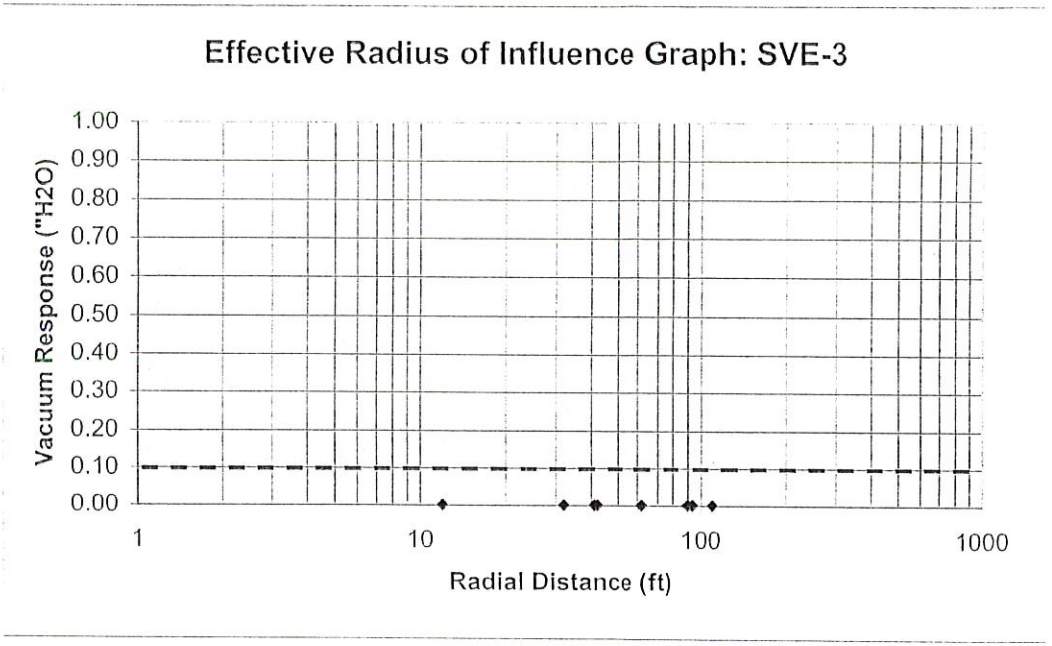
Summary of Soil Vapor Extraction Pilot Test Data
HESS Service Station
West 207th Street
Inwood, New York

Test Date:	1/22/01
Extraction Well:	SVE-3
Test Duration (hours):	0.33
System Vacuum ("H2O):	60
Vapor Discharge rate (cfm):	0
Effective Radius of Influence (ft):	NA

Vapor Discharge Sampling Data		Conc. (ppmV)
PID Analysis	Total VOCs	30.9
GC Analysis	Benzene	5.26
	Toluene	10.0
	Ethylbenzene	11.6
	Xylenes	19.12

Vacuum Influence Data

Well ID	Distance (ft)	Vac.("H2O)
MW-1	93	0.00
MW-2	12	0.00
MW-4	42	0.00
MW-5	41	0.00
MW-6	62	0.00
MW-7	110	0.00
SVE-1	32	0.00
SVE-2	90	0.00



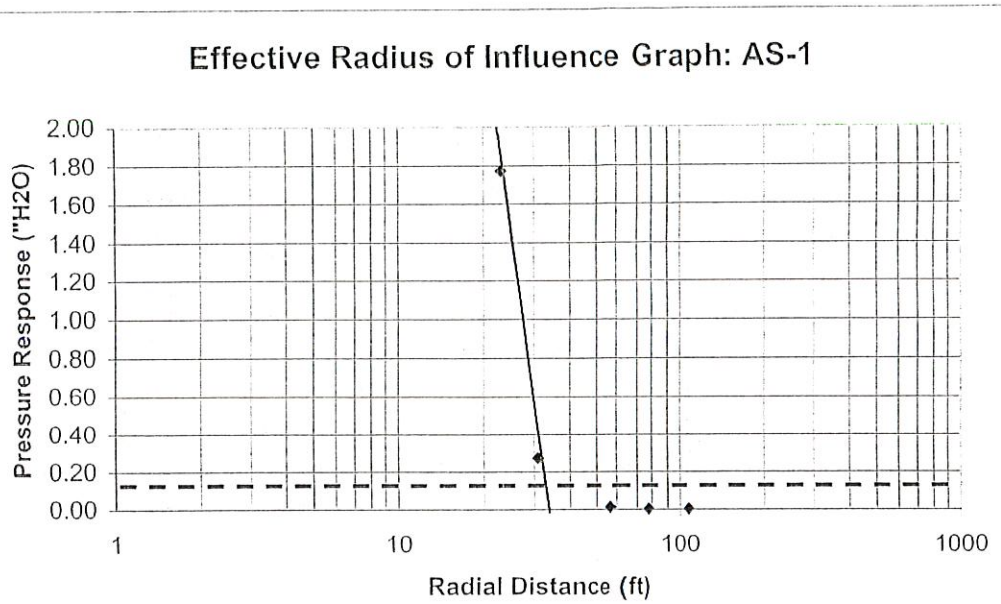
Summary of Air Sparge Pilot Test Data
HESS Service Station

West 207th Street
Inwood, New York

Test Date:	1/22/01
Air Sparge Well:	AS-1
Test Duration (hours):	0.33
System Pressure (Psi):	12
Air Flow rate (cfm):	22
Effective Radius of Influence (ft):	35

Pressure Influence Data

Well ID	Distance (ft)	Pressure("H2O)
AS-2	78	0.00
AS-3	57	0.01
AS/SVE-1	23	1.77
AS/SVE-2	108	0.00
AS/SVE-3	31	0.27



Summary of Air Sparge Pilot Test Data
HESS Service Station

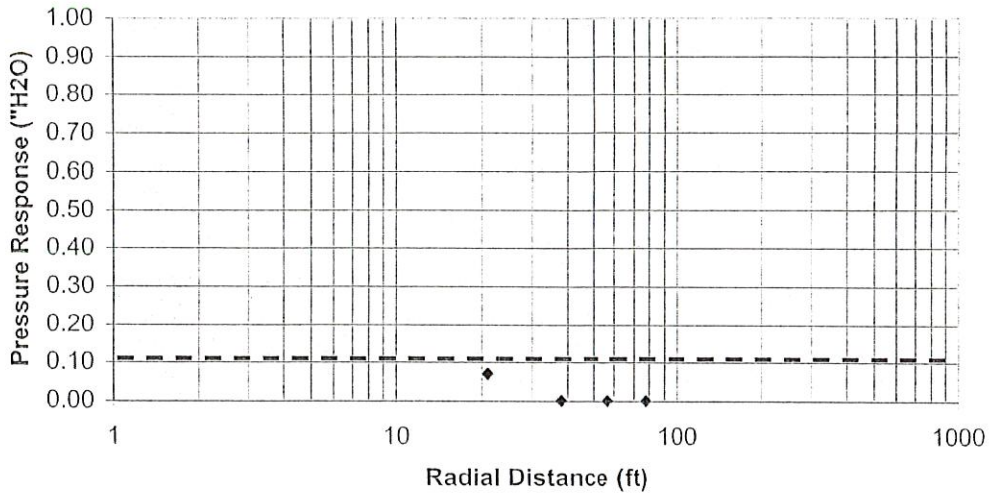
West 207th Street
Inwood, New York

Test Date:	1/22/01
Air Sparge Well:	AS-2
Test Duration (hours):	0.33
System Pressure (Psi):	6
Air Flow rate (cfm):	16
Effective Radius of Influence (ft):	NA

Pressure Influence Data

Well ID	Distance (ft)	Pressure("H2O)
AS-1	78	0.00
AS-3	21	0.07
AS/SVE-1	57	0.00
AS/SVE-2	38	0.00
AS/SVE-3	78	0.00

Effective Radius of Influence Graph: AS-2

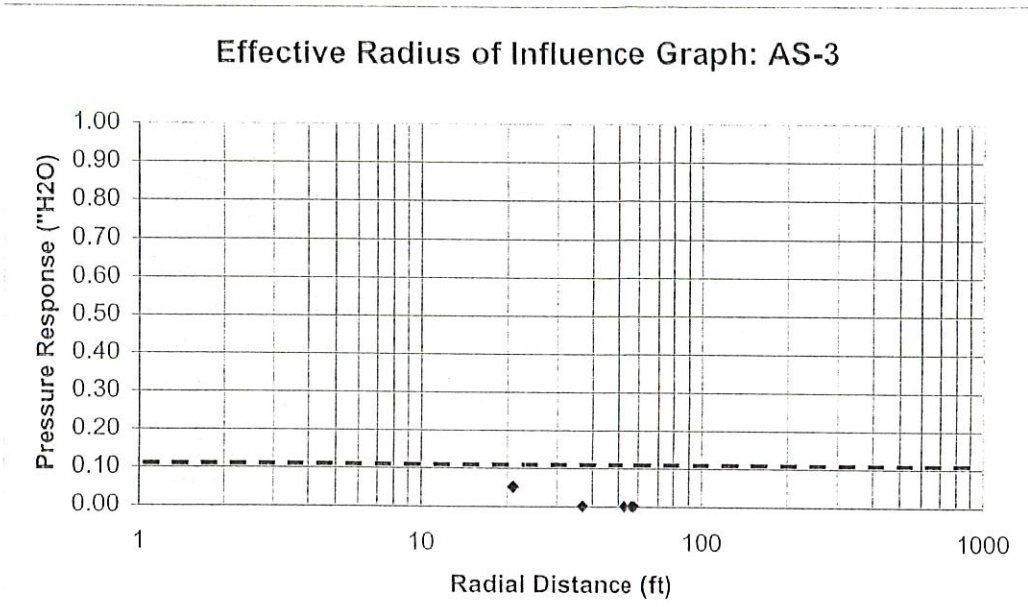


Summary of Air Sparge Pilot Test Data
HESS Service Station
West 207th Street
Inwood, New York

Test Date:	1/22/01
Air Sparge Well:	AS-3
Test Duration (hours):	0.33
System Pressure (Psi):	14
Air Flow rate (cfm):	17
Effective Radius of Influence (ft):	NA

Pressure Influence Data

Well ID	Distance (ft)	Pressure("H2O)
AS-1	57	0.00
AS-2	21	0.05
AS/SVE-1	37	0.00
AS/SVE-2	53	0.00
AS/SVE-3	58	0.00



Summary of Air Sparge Pilot Test Data
HESS Service Station

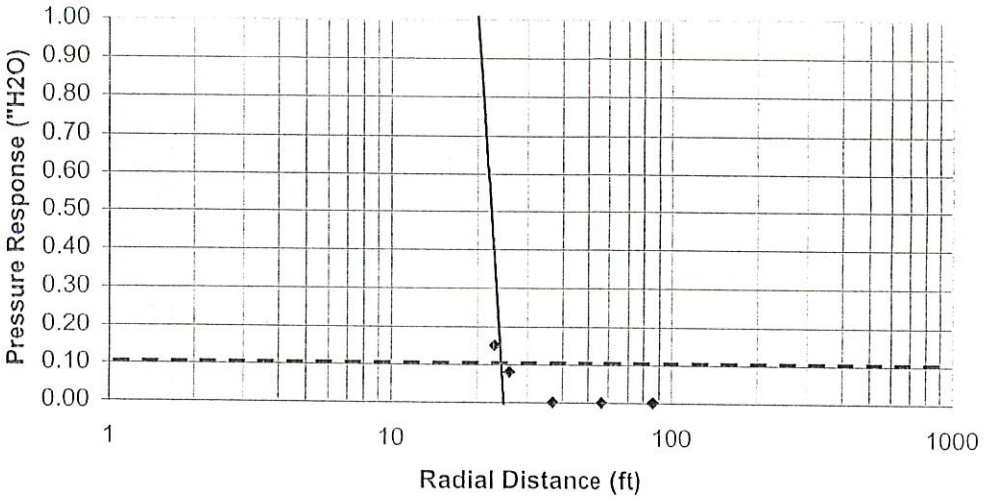
West 207th Street
Inwood, New York

Test Date:	1/22/01
Air Sparge Well:	AS/SVE-1
Test Duration (hours):	0.33
System Pressure (Psi):	11
Air Flow rate (cfm):	19
Effective Radius of Influence (ft):	25

Pressure Influence Data

Well ID	Distance (ft)	Pressure("H2O)
AS-1	23	0.15
AS-2	57	0.00
AS-3	37	0.00
AS/SVE-2	86	0.00
AS/SVE-3	26	0.08

Effective Radius of Influence Graph: AS/SVE-1



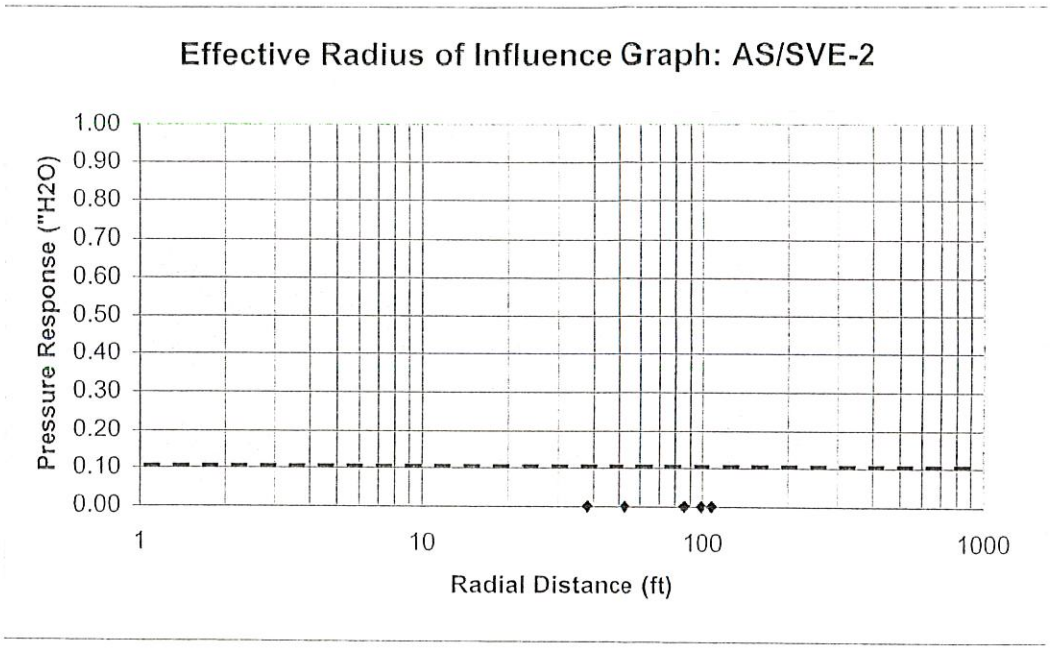
Summary of Air Sparge Pilot Test Data
HESS Service Station

West 207th Street
Inwood, New York

Test Date:	1/22/01
Air Sparge Well:	AS/SVE-2
Test Duration (hours):	0.33
System Pressure (Psi):	9
Air Flow rate (cfm):	14
Effective Radius of Influence (ft):	NA

Pressure Influence Data

Well ID	Distance (ft)	Pressure("H2O)
AS-1	108	0.00
AS-2	38	0.00
AS-3	53	0.00
AS/SVE-1	86	0.00
AS/SVE-3	99	0.00



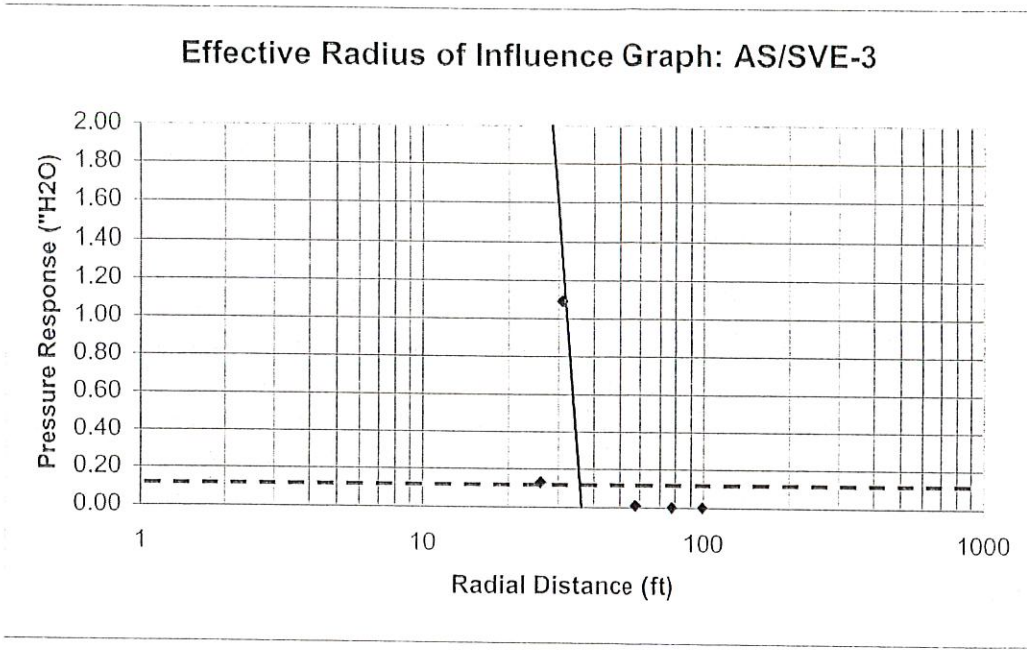
Summary of Air Sparge Pilot Test Data
HESS Service Station

West 207th Street
Inwood, New York

Test Date:	1/22/01
Air Sparge Well:	AS/SVE-3
Test Duration (hours):	0.33
System Pressure (Psi):	3
Air Flow rate (cfm):	30
Effective Radius of Influence (ft):	35

Pressure Influence Data

Well ID	Distance (ft)	Pressure("H2O)
AS-1	31	1.09
AS-2	78	0.00
AS-3	58	0.01
AS/SVE-1	26	0.13
AS/SVE-2	99	0.00



PW Start	RT	Stop	StartBL	RTLevel	StopBL	Area	BArea	S i A
01113.9	120.4	142.9	14.4887	33.0250	4.41125	365.526	275.310	.000000
01163.2	171.8	192.8	2.73333	26.7250	2.12083	237.349	72.0034	.000000
01246.9	257.9	262.9	.954937	3.65562	.988450	42.0143	15.6119	.000000
01262.9	278.1	301.9	.988450	7.19312	1.07000	141.919	40.1398	.000000
01342.0	355.7	376.0	.798850	2.35550	.543800	43.8806	22.8698	.000000
01398.7	406.0	415.3	.444400	.575700	.373750	7.99085	6.84518	.000000
01432.8	450.4	473.6	.249333	.835666	.277750	21.6953	10.7701	.000000
01494.4	502.4	512.0	.213125	.276250	.169458	4.02833	3.37948	.000000
01552.1	564.3	574.4	-.04096	.013928	-.11656	-.70390	-1.7590	.000000

Name	Conc (ppm)	
Benzene	27.3	273
Toluene	65.4	654
C8ARO	65.6	
Ethyl Benzen	11.1	111
M-Xylene	43.2	432
O-Xylene	11.2	112

Run #2
Dilution (10%)

MW-1 10% Dilution

CLIENT	[illegible]
SITE NAME	[illegible]
DATE COLLECTED	[illegible]
DATE ANALYZED	[illegible]
INITIALS	DW
SVE FLOW	20
SVE VAC	58
PID	171.8
AS FLOW	—
AS PRESSURE	—
	PASSED FAILED

PW	Start	RT	Stop	StartBL	RTLevel	StopBL	Area	BArea	SkimA
01	114.4	119.6	160.8	136.250	245.250	17.1417	3393.55	3563.80	.000000
01	160.8	170.2	242.1	17.1417	239.833	4.54312	2523.60	882.571	.000000
01	242.7	256.3	261.3	4.76750	39.0250	4.80456	444.660	89.6583	.000000
01	261.3	276.0	319.5	4.80456	83.8875	4.92000	1606.60	282.985	.000000
01	321.1	329.1	337.3	5.06500	5.50125	4.56243	83.6994	78.6240	.000000
01	337.3	352.3	390.0	4.56243	25.3300	3.23900	496.353	205.698	.000000
01	392.0	404.7	424.8	3.39800	5.13050	2.76542	128.113	101.285	.000000
01	424.8	447.2	479.2	2.76542	10.4675	2.68125	300.444	148.331	.000000
01	481.6	500.0	536.3	2.80166	5.05708	2.19000	186.636	136.605	.000000
01	540.0	557.7	584.0	2.32786	3.61643	2.07656	123.075	97.0440	.000000

Name	Conc (ppm)
Benzene	-43
Toluene	220
C8ARO	508
Ethyl Benzen	152
M-Xylene	220
O-Xylene	136

Run #1

MW-1

CLIENT	Arco
SITE NAME	Jamaica
DATE COLLECTED	3/2/01
DATE ANALYZED	3/20/01
INITIALS	DVO
SVE FLOW	20
SVE VAC	55
PID	
AS FLOW	—
AS PRESSURE	—
	PASSED - FAILED

PW Start	RT	Stop	StartBL	RTLevel	StopBL	Area	BArea	SkimA
01116.0	119.9	127.7	1.98500	2.53625	1.18100	22.7169	18.6794	.000000
01163.2	171.4	183.6	.752916	4.54916	.722083	41.4543	15.0942	.000000
01194.8	206.8	212.0	.632750	.824083	.676250	12.4544	11.3010	.000000
01249.1	257.9	262.4	.445187	.689562	.486113	8.04395	6.23972	.000000
01262.4	278.7	293.3	.486113	1.85750	.581062	33.7592	16.5412	.000000
01342.7	354.3	368.0	.359850	.785200	.430550	14.9044	10.0381	.000000
01436.0	449.6	460.8	.271000	.467958	.338875	9.59474	7.58277	.000000

Name	Conc (ppm)
Benzene	1.15
Toluene	10.8
C8ARO	13.1
Ethyl Benzen	1.35
M-Xylene	7.95
O-Xylene	3.84

No Dilution

MW-2

CLIENT	Hist
SITE NAME	Jones
DATE COLLECTED	1/22/01
DATE ANALYZED	1/22/01
INITIALS	DW
SVE FLOW	139
SVE VAC	28
PID	16.9
AS FLOW	—
AS PRESSURE	—
	PASSED FAILED

PW Start	RT	Stop	StartBL	RTLevel	StopBL	Area	BArea	SkimA
01143.2	146.0	150.8	-.29387	-.06375	-.43366	-2.0262	-2.7889	.000000
01163.6	171.8	182.4	-.36458	.273083	-.60308	-4.7427	-9.1283	.000000
01195.6	206.8	211.2	-.44866	-.03225	-.48166	-5.8518	-7.2876	.000000
01242.7	248.8	253.9	-.55543	-.43875	-.67087	-6.2088	-6.9082	.000000
01265.1	280.8	289.6	-.57256	-.23256	-.57412	-10.226	-14.104	.000000
01380.0	386.0	391.3	-1.0001	-.96675	-1.0727	-11.396	-11.815	.000000

Name	Conc (ppm)
Benzene	.000
Toluene	2.41
C8ARO	3.41
Ethyl Benzen	.911
M-Xylene	2.50
O-Xylene	.000

Run #2
Dilution (10%)

MW-5 10% dilution

CLIENT	[illegible]
SITE NAME	[illegible]
DATE COLLECTED	1/22/01
DATE ANALYZED	1/23/01
INITIALS	[illegible]
SVE FLOW	70
SVE VAC	50
PID	635
AS FLOW	—
AS PRESSURE	—
	PASSED FAILED

PW Start	RT	Stop	StartBL	RTLevel	StopBL	Area	BArea	SkimA
01116.0	120.1	161.2	126.312	161.500	18.5583	2514.74	3278.91	.000000
01161.2	171.4	243.2	18.5583	448.542	6.70125	4486.12	1036.48	.000000
01243.2	257.9	262.9	6.70125	65.3500	6.60228	774.641	131.705	.000000
01262.9	277.6	321.6	6.60228	199.219	6.30803	3560.66	379.132	.000000
01321.6	329.6	338.7	6.30803	10.1531	6.22511	165.177	107.367	.000000
01338.7	354.3	392.7	6.22511	60.8100	6.00843	1206.41	330.713	.000000
01392.7	407.3	426.4	6.00843	10.7200	5.88004	279.400	200.915	.000000
01426.4	448.8	482.4	5.88004	28.2917	5.69279	777.782	324.425	.000000
01482.4	502.4	540.0	5.69279	11.5875	5.51357	454.962	323.116	.000000
01540.0	560.5	584.0	5.51357	8.65393	5.50562	303.577	242.789	.000000

Name	Conc (ppm)
Benzene	-108
Toluene	220
C8ARO	660
Ethyl Benzen	220
M-Xylene	220
O-Xylene	220

Run #1

MW-5

CLIENT	Hess
SITE NAME	Inwood
DATE COLLECTED	1/22/01
DATE ANALYZED	1/23/01
INITIALS	DW
SVE FLOW	70
SVE VAC	50
PID	638
AS FLOW	—
AS PRESSURE	—
	PASSED FAILED

PW Start	RT	Stop	StartBL	RTLevel	StopBL	Area	BArea	SkimA
01116.3	119.9	138.4	8.98500	10.8775	4.58250	150.208	150.599	.000000
01164.4	171.4	184.4	3.09000	5.73333	2.22167	71.3329	53.2937	.000000
01195.6	204.0	214.8	2.03417	2.22000	1.72833	39.3961	36.2454	.000000
01246.9	277.1	296.0	.727000	3.70000	1.13500	102.047	45.7431	.000000
01342.0	355.0	372.0	.731700	1.35230	.707650	29.9430	21.6382	.000000
01433.6	449.6	459.2	.467625	.749458	.614291	16.4282	13.8846	.000000

Name	Conc (ppm)
Benzene	-.11 ND PH
Toluene	7.63
C8ARO	29.5
Ethyl Benzen	.000
M-Xylene	24.1
O-Xylene	5.41

No Dilution

MW 6

CLIENT	Hess
SITE NAME	Jamaica
DATE COLLECTED	11/22/01
DATE ANALYZED	11/23/01
INITIALS	DW
SVE FLOW	40
SVE VAC	46
PID	87.3
AS FLOW	—
AS PRESSURE	—
	PASSED FAILED

PW Start	RT	Stop	StartBL	RTLevel	StopBL	Area	BArea	SkimA
01164.8	170.2	178.8	.088750	.474416	.040666	3.34055	.910230	.000000
01194.0	207.2	215.6	.057833	.834749	.200417	10.0626	2.79771	.000000
01250.1	276.5	288.5	-.05987	.468187	.090874	6.60171	.596232	.000000
01344.7	354.3	362.7	-.00210	.146600	.034850	1.33140	.295841	.000000
01436.8	448.0	459.2	.010708	.126750	.044541	1.73550	.620641	.000000

Name	Conc (ppm)
Benzene	.000
Toluene	1.67
C8ARO	5.46
Ethyl Benzen	.000
M-Xylene	3.37
O-Xylene	2.09

No Dilution

MW-7

CLIENT	Hess	
SITE NAME	[illegible]	
DATE COLLECTED	1/22/14	
DATE ANALYZED	1/23/14	
INITIALS	[illegible]	
SVE FLOW	95	
SVE VAC	46	
PID	5.6	
AS FLOW	—	
AS PRESSURE	—	
	PASSED	FAILED

PW Start	RT	Stop	StartBL	RTLevel	StopBL	Area	BArea	SkimA
01115.5	120.1	139.5	11.7625	16.2562	5.95000	223.129	213.140	.000000
01162.4	171.0	194.4	4.31917	34.5083	3.24000	337.334	121.199	.000000
01196.4	200.4	223.2	3.34083	3.43917	2.03333	75.8484	72.1929	.000000
01244.8	257.9	262.4	1.24150	9.01437	1.73373	104.671	26.2812	.000000
01262.4	277.1	317.9	1.73373	30.8125	3.28500	613.149	139.353	.000000
01339.3	354.3	393.3	3.08800	10.5440	2.77800	275.784	158.577	.000000
01396.7	406.0	428.8	2.88600	3.24800	2.32750	90.0687	83.9373	.000000
01428.8	449.6	485.6	2.32750	6.05291	2.70583	222.762	143.114	.000000
01487.2	502.4	540.9	2.82208	3.56541	2.09964	152.486	132.394	.000000
01544.7	561.5	584.0	2.17571	2.86143	2.13906	98.5319	85.0010	.000000

Name	Conc (ppm)
Benzene	2.87
Toluene	86.0
C8ARO	307
Ethyl Benzen	32.3
M-Xylene	220
O-Xylene	55.4

No Dilution

SVE-1

CLIENT	Hart
SITE NAME	Jewett
DATE COLLECTED	12/2/01
DATE ANALYZED	12/3/01
INITIALS	DW
SVE FLOW	15
SVE VAC	75
PID	109.8
AS FLOW	—
AS PRESSURE	—
	PASSED FAILED

PW	Start	RT	Stop	StartBL	RTLevel	StopBL	Area	BArea	SkimA
01115.2	119.9	129.1	2.55125	4.21875	1.74375	38.9301	29.9218	.000000	
01166.0	171.4	178.8	.621583	.847750	.388250	8.16294	6.49659	.000000	
01194.0	206.4	213.2	.299750	.788500	.372250	10.7605	6.47360	.000000	
01251.2	257.9	264.0	.034687	.084625	.039687	.699965	.478479	.000000	
01265.1	278.7	284.3	.113125	.304250	.143812	4.03385	2.47516	.000000	
01347.3	353.7	361.3	-.05105	-.00345	-.06315	-.52290	-.80320	.000000	

Name	Conc (ppm)
Benzene	2.58
Toluene	1.37
C8ARO	4.03
Ethyl Benzen	.721
M-Xylene	1.56
O-Xylene	1.74

No Dilution

SVE-2

CLIENT	HCH
SITE NAME	Jewett
DATE COLLECTED	11/22/01
DATE ANALYZED	11/23/01
INITIALS	PW
SVE FLOW	5
SVE VAC	60
PID	14
AS FLOW	—
AS PRESSURE	—
	PASSED FAILED

PW Start	RT	Stop	StartBL	RTLevel	StopBL	Area	BArea	SkimA
01114.9	120.1	132.5	3.66625	7.14125	2.30000	70.9152	52.7019	.000000
01163.6	171.0	184.8	1.00650	4.37500	.767666	43.2576	18.8653	.000000
01194.8	206.4	213.6	.668333	1.02792	.561500	15.4866	11.6014	.000000
01245.9	257.9	265.1	.224375	2.85000	.403806	33.5490	6.05147	.000000
01265.1	277.1	294.4	.403806	2.58500	.677937	50.0852	15.9016	.000000
01344.0	355.0	371.3	.405600	.853000	.356250	16.1426	10.4373	.000000
01398.0	408.7	417.6	.262800	.429050	.267458	6.83945	5.21420	.000000
01432.8	450.4	468.0	.250542	.609875	.145625	14.5645	6.98573	.000000
01494.4	504.8	514.8	.210792	.247750	.173964	4.41192	3.93733	.000000

Name	Conc (ppm)
Benzene	5.26
Toluene	10.0
C8ARO	30.7
Ethyl Benzen	11.6
M-Xylene	14.9
O-Xylene	4.22

No Dilution

SVE-3

CLIENT	HCSI
SITE NAME	Imperial
DATE COLLECTED	1/22/01
DATE ANALYZED	1/23/01
INITIALS	DW
SVE FLOW	C
SVE VAC	60
PID	30.9
AS FLOW	—
AS PRESSURE	—
	PASSED FAILED