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Remedial Action Plan
Optimization of Groundwater Remediation

Applied Environmental Services Superfund Site
One Shore Road
Glenwood Landing, New York

May 17, 2004

PREPARED FOR:

The Glenwood Landing Performing Parties Group
Technical Committee

PREPARED BY:

Handex Group, Inc.

Jed A. Myers, Ph.D.
Project Manager

11 Berkshire Boulevard, Bethel, CT 06801 • (203) 798-6100 • Fax: (203) 798-6240

1.0 Introduction

Handex has developed this remedial action plan (RAP) to accelerate the cleanup of the groundwater beneath the lower paved area of the site adjacent to the Hempstead Harbor bulkhead. This plan provides detailed specifications for modifications to the existing system.

A groundwater investigation conducted in May and June 2001 by Handex revealed Benzene, Toluene, Ethylbenzene and Xylene (BTEX) concentrations in groundwater above the site cleanup objectives. In order to achieve site cleanup objectives, Handex recommends shutting down portions of the air-sparge system in areas that have reached cleanup objectives and expanding the existing air-sparge system to increase the volume of air injected in areas that have not achieved objectives. It appears from the results of the investigation that the existing system has reduced concentrations of BTEX in close vicinity to current air-sparge wells, therefore, a denser array of wells will result in a more complete treatment across the impacted area. To capture potential vapors generated as a result of the additional sparge wells, horizontal soil vapor extraction SVE wells will be added to the system. In total eleven air-sparge wells and two soil vapor extraction wells will be installed. Figure 1 illustrates the location of the proposed air-sparge wells and Figure 2 illustrates the proposed soil vapor extraction wells.

2.0 Shut Down of Air-Sparge and Soil Vapor Extraction Wells (Berm Area)

The system in the upper berm area has been effective in achieving the cleanup goals for the site. This is documented in the Confirmatory Soil Sampling and Groundwater Investigation and Remedial System Evaluation report submitted to the New York State Department of Environmental Conservation (NYSDEC) dated November 30, 2001. As part of that evaluation soil sampling was performed, at 5-foot intervals to the water table, at 14 locations (B-1 through B-12, B-22 and B-23) within the upper berm area. As shown in Table 1 and Figure 3 (Appendix A), no constituents of concern were measured above NYSDEC TAGM 4046 soil cleanup objectives at any of the 14 locations.

The system wells in the upper berm area will be shut down so that the compressed air and vacuum generated by the system can be redirected to areas of the site that require additional remediation. The air-sparge wells that will be shut down will include, A-32 to A-35, A-40 to A-45, A-50 to A-55, and A-60 to A-65. The soil vapor extraction wells that will be shut down will include V-31, V-40 to V-42, V-50 to V-52, V-60, V-61, V-70 to V-73.

3.0 Air Sparge Installation

Air-sparge wells will be constructed of 2-inch diameter PVC pipe with a two-foot section of 0.010 slot screen at the bottom. Well depths will be decided in the field based on geology. The bottom of the well screen will be installed above the layer of silt/silty-sand, which underlies the medium and fine sand layer in the upper saturated zone. The average depth of this silt/silty-sand layer is approximately 15 to 18 feet below grade. No. 1 well gravel will be used to fill the annulus around the screen to a minimum of two feet above the well screen. A 2-foot thick bentonite seal will be installed above the well gravel and the remaining annular space will be filled with a cement-bentonite grout to approximately 3 feet below land surface.

Each air-sparge well will be connected individually to a central manifold using 1-inch diameter PVC pipe. At the manifold, airflow and pressure for each well can be adjusted individually. The air for the new header will be supplied by intercepting the existing buried piping which now supplies air to the air sparge-wells on the berm area. A valve box will be installed where the connection is made so that the airflow can be switched back to the berm area if required in the future.

4.0 Soil Vapor Extraction Installation

Each soil vapor extraction well will consist of a 4-inch diameter PVC pipe with 0.020 slot screen. The screen will be connected to the existing system with solid 4-inch diameter PVC pipe. The well will be placed horizontally in a trench with minimum excavation limits of 18-inches width and 36-inches deep. The asphalt will be saw cut a minimum of

24 inches wide. The bottom of the trench must be above the normal high groundwater fluctuation. If groundwater is encountered in the excavation, the depth will be adjusted accordingly. Once the trench has been excavated, the base will be compacted and six inches of ½ inch diameter, or smaller, pea gravel will be installed. The horizontal well will be laid on top of the pea gravel and the trench backfilled with additional pea gravel until it extends six-inches above the screen. The piping will be sloped back to the well screen so that water will not accumulate in any portion of the piping. A filter fabric material will then be laid on top of the pea gravel to avoid fines from entering the screen. Pea gravel and filter fabric is not required over solid pipe sections of the trench. In order to avoid short-circuiting of the air along the trench, 2-foot thick cement-bentonite grout will be placed vertically in the trench separating the screened section and solid sections of the piping. Backfilling and restoration will be completed as described later in this document.

The connection of the newly installed horizontal well to the existing system will be made so that the vacuum comes from the piping in the upper berm area as shown in Figure 2. A gate valve will be installed in a valve box so that the airflow to each well can be adjusted while still having the option of operating the existing vapor extraction points should that be necessary in the future.

5.0 Backfill and Restoration

Native fill, if suitable, will be utilized to backfill trenches unless otherwise noted in sections of this RAP. The backfilled trench will be compacted using a sliding plate compactor in 1-foot lifts. The upper 4-inches of the trench will be backfilled with recycled concrete aggregate (RCA) and compacted. Final restoration of the asphalt will be conducted no sooner than one week after backfilling is completed to allow for additional settling. Asphalt will consist of two inches of asphalt and hot tar edges. Unpaved areas will consist of restoring the area to original conditions.

6.0 Waste Management Plan

All excavated soil that is not reused as backfill will be staged on plastic sheeting and covered with plastic. Once all excavation activities are completed, a composite sample will be collected from the stockpiled soil and analyzed to determine proper waste characterization.

Soil will be spread on site if all parameters are within limits for hazardous waste determination and reuse guidelines as outlined in the NYSDEC STARS Memo for petroleum impacted soil. If concentrations in the soil exceed limits, the soil will be transported off site for proper disposal.

Wastewater generated from equipment decontamination procedures will be treated through the existing water treatment system.

7.0 System Startup

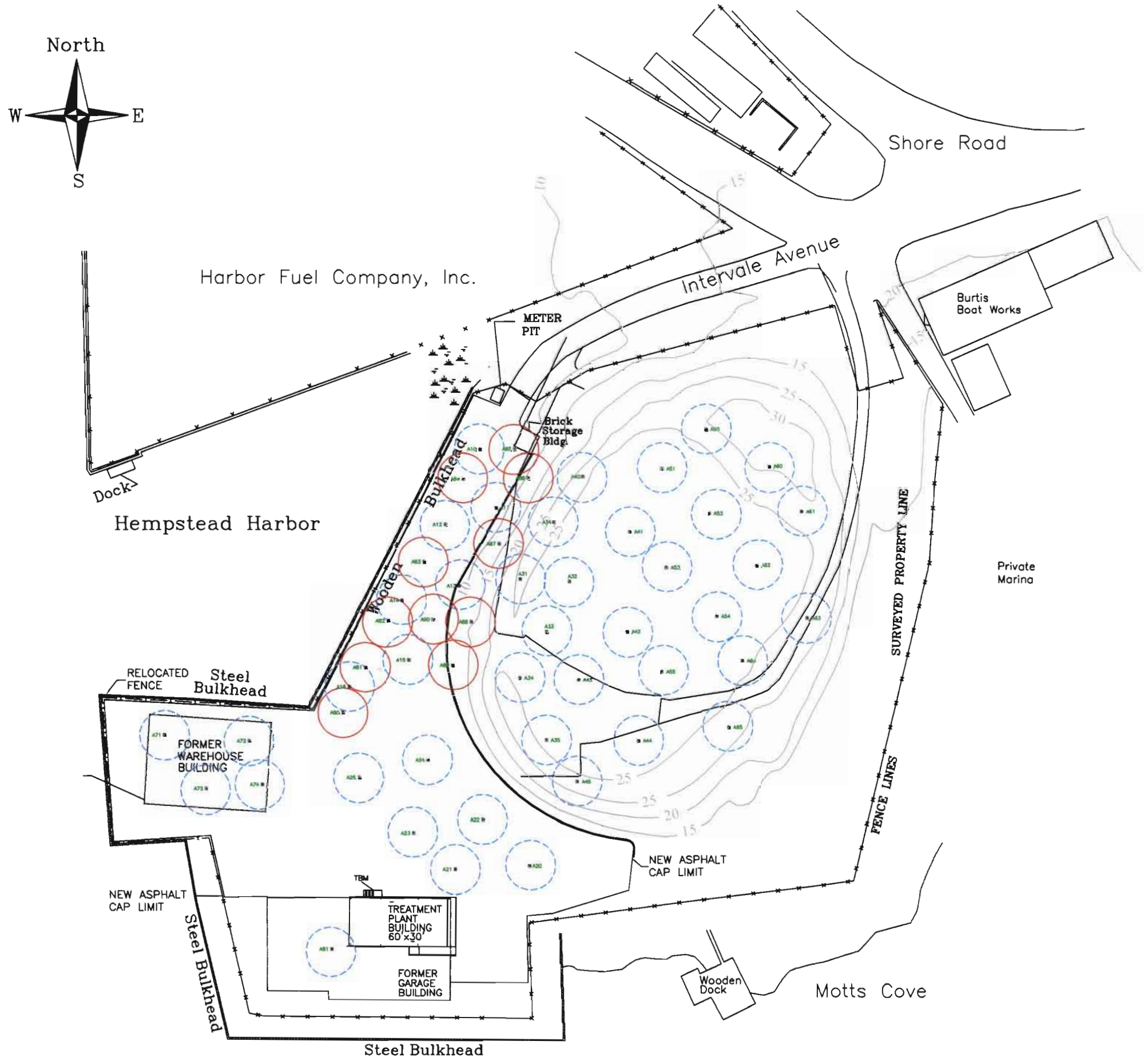
Once system installation is completed, the soil vapor extraction system will be started. The airflow, vacuum, and organic vapor concentration of the new horizontal well will be monitored upon startup and once every thirty minutes for two hours. After the two hours, the air sparge system will be started. Monitoring from the soil vapor extraction well will continue for another four hours. Airflow and pressure will be monitored from each of the individual air sparge wells. After four hours of operation, one air sample from the new SVE well and one from each of the horizontal SVE wells in the vicinity of the new sparge wells will be collected and analyzed by a laboratory for BTEX, Methylene Chloride and Total Petroleum Hydrocarbons (TPH). These samples will be used as a baseline to evaluate system performance over time.

8.0 Monitoring

The routine monitoring for the site will be modified to include readings from the new air sparge and soil vapor extraction wells and will continue on a monthly basis. Groundwater monitoring will continue on a quarterly basis.

9.0 Schedule

A time line schedule is attached which illustrates the implementation of this RAP. Major tasks are shown including but not limited to RAP review and approval, well installation, trenching and piping, manifold construction, site restoration, and startup.



LEGEND

SURFACE ELEVATION

EXISTING AIR SPARGE WELL LOCATIONS

PROPOSED AIR SPARGE WELL LOCATIONS

0 80 160 240 320

SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D.
1.				

PROJECT:

PERFORMING PARTIES GROUP
APPLIED ENVIRONMENTAL SERVICES SUPERFUND SITE
GLENWOOD LANDING,NEW YORK

SHEET TITLE:

FIGURE 1 - PROPOSED AIR SPARGE WELL LOCATIONS

DRAWN BY: F. DeVITA	SCALE:	PROJECT NUMBER:
REVISED BY: A. FORNARO	1" = 80'	612499.001
CHECKED BY:	FILE NAME:	
DATE: DECEMBER 18, 2001	S:/ DRAFTING/CLIENTS/MOBIL/12400/12499-GW.DWG	

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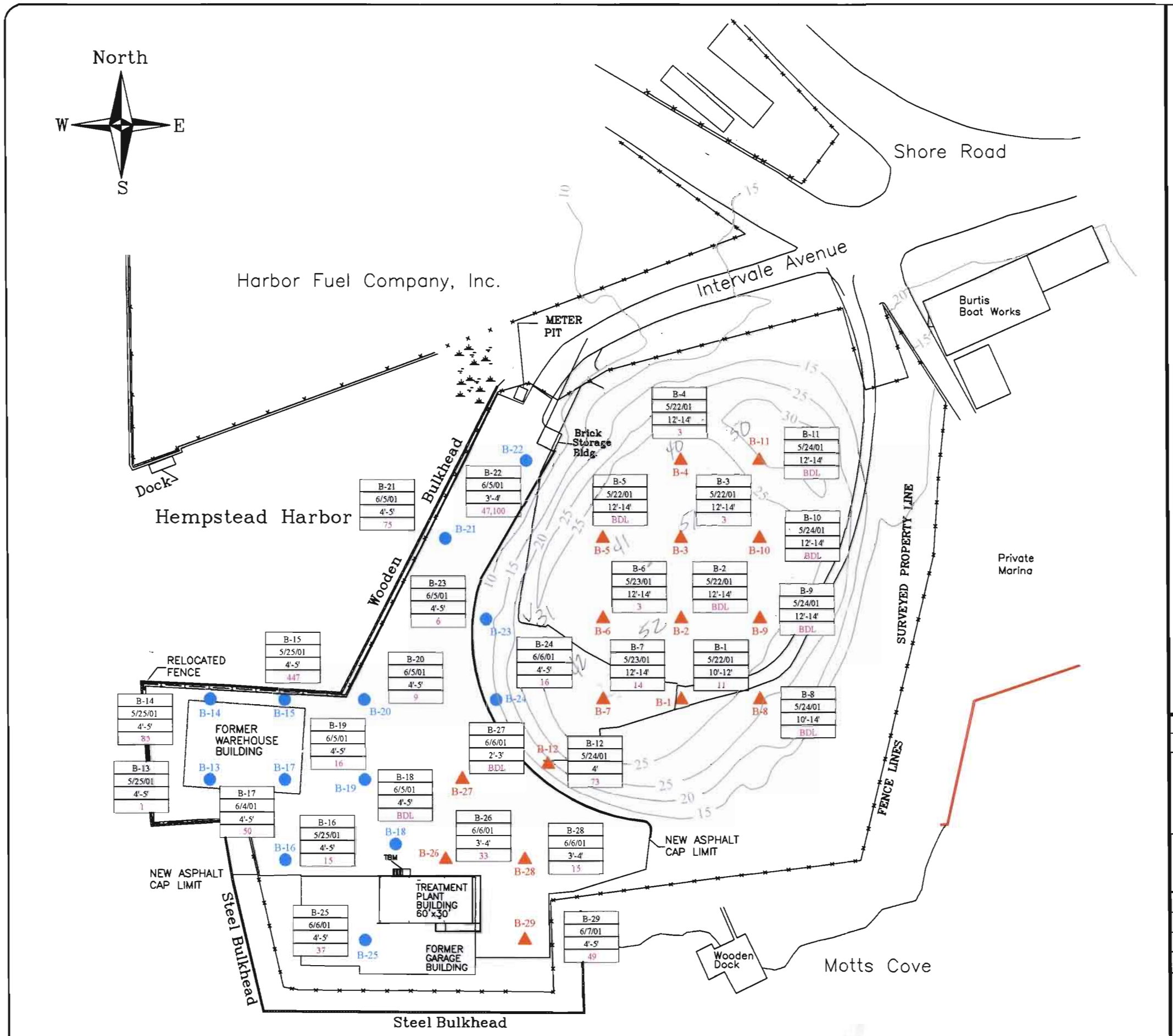
HANDEX OF NEW YORK
61C CAROLYN BOULEVARD
FARMINGDALE, NEW YORK
Phone: 631/ 752-7878
Fax: 631/752-7890



LEGEND

- B-14 — GEOPROBE BORING - SOIL AND GROUNDWATER SAMPLES AND DESIGNATION
- B-4 — GEOPROBE BORING - SOIL SAMPLES AND DESIGNATION
- 15 — SURFACE ELEVATION

B-4	SOIL SAMPLE DESIGNATION
5/22/01	SOIL SAMPLE DATE
12'-14'	SOIL SAMPLE DEPTH (ft.)
3	TOTAL VOC's IN SOIL (ug/kg)

BDL - BELOW DETECTION LIMIT

0 80 160 240 320

SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D.
1.				

PROJECT:

PERFORMING PARTIES GROUP
APPLIED ENVIRONMENTAL SERVICES SUPERFUND SITE
GLENWOOD LANDING,NEW YORK

FIGURE 3:

SOIL ANALYTICAL RESULTS

DRAWN BY: F. DeVITA	SCALE: 1" = 80'	PROJECT NUMBER: 612499.001
REVISED BY: F. DEVITA		
CHECKED BY: A. FORNARO	FILE NAME: S:/ DRAFTING/CLIENTS/PPG/12499-2.DWG	
DATE: AUGUST 6, 2001		

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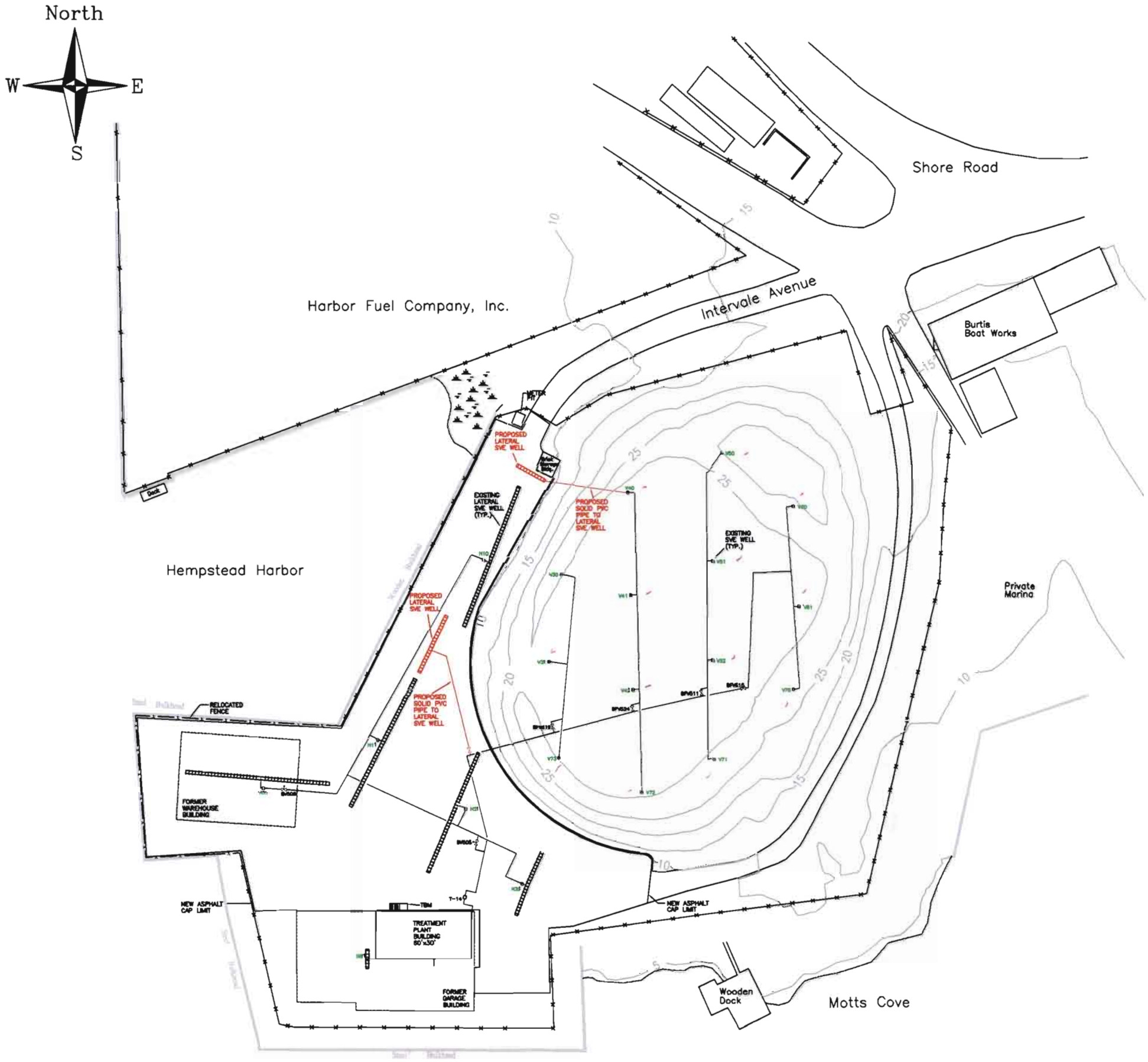
HANDEX OF NEW YORK
61C CAROLYN BOULEVARD
FARMINGDALE, NEW YORK
Phone: 631/ 752-7878
Fax: 631/752-7890



LEGEND

SURFACE ELEVATION

0 70 140 210 280

SCALE IN FEET

NO.	BY	DATE	REVISION	APP'D.
1.				

PROJECT:

PERFORMING PARTIES GROUP
APPLIED ENVIRONMENTAL SERVICES SUPERFUND SITE
GLENWOOD LANDING,NEW YORK

FIGURE 2 - PROPOSED SOIL VAPOR EXTRACTION
LATERAL WELL LOCATION

DRAWN BY: F. DeVITA	SCALE:	PROJECT NUMBER:
REVISED BY: F. DeVITA	1" = 70'	612499.001
CHECKED BY: A. FORNARO	FILE NAME:	
DATE: FEBRUARY 16, 2002	S:/ DRAFTING/CLIENTS/PPG/12499/PROPOSED SVE.DWG	

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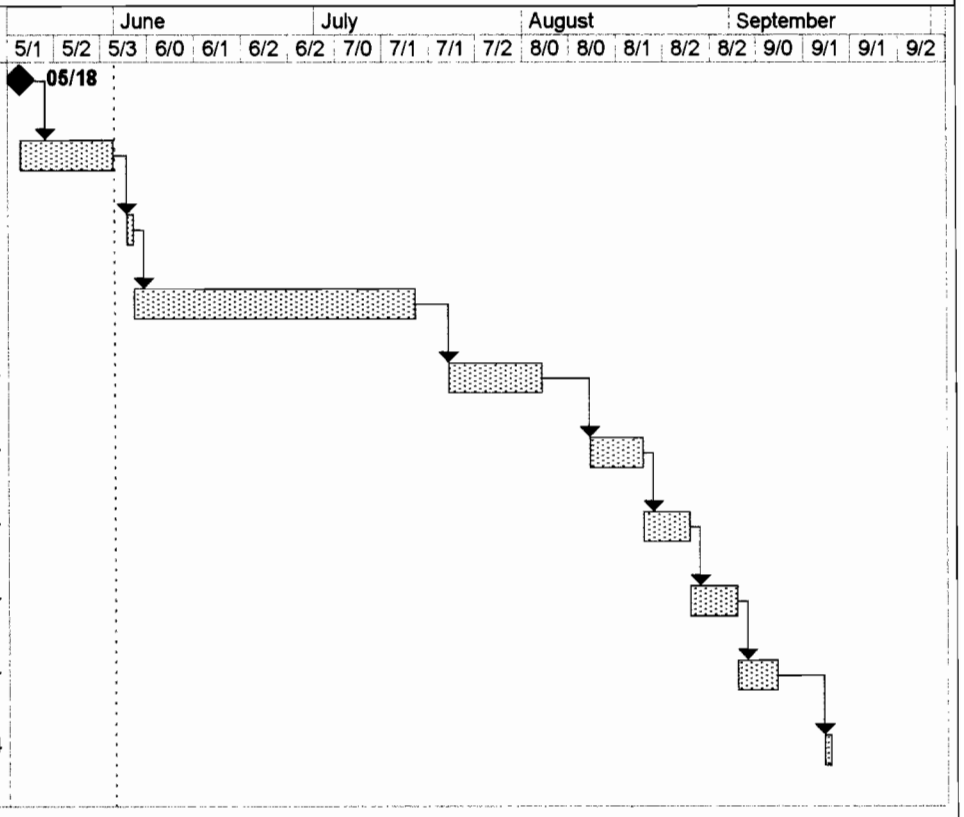
61C CAROLYN BOULEVARD
FARMINGDALE, NEW YORK
Phone: 631/ 752-7878
Fax: 631/752-7890

Applied Environmental Services Superfund Site
Proposed Construction Schedule
System Upgrade

ID	Task Name	Duration	Start	Finish
1	RAP Submittal to PPG	0 days	Tue 05/18/04	Tue 05/18/04
2	PPG Review and Approval	10 days	Tue 05/18/04	Mon 05/31/04
3	Submit RAP to NYSDEC	1 day	Thu 06/03/04	Thu 06/03/04
4	NYSDEC Review & Approval	30 days	Fri 06/04/04	Thu 07/15/04
5	Preconstruction Activities	10 days	Wed 07/21/04	Tue 08/03/04
6	Installation of Sparge Wells	6 days	Wed 08/11/04	Wed 08/18/04
7	Installation of Vent Well	5 days	Thu 08/19/04	Wed 08/25/04
8	Trenching and Piping Activities	5 days	Thu 08/26/04	Wed 09/01/04
9	Construction of Manifolds	4 days	Thu 09/02/04	Tue 09/07/04
10	Startup	1 day	Wed 09/15/04	Wed 09/15/04



Project: Sparge&Vent Upgrade 2002
Date: Tue 06/01/04

Task
Split
Progress
Milestone
Summary
Project Summary
External Tasks
External Milestone
Deadline

APPENDIX A

Confirmatory Soil Sampling and Groundwater Sampling
and Remedial System Evaluation Report
November 30, 2001

Upper Berm Area
Soil Sampling Results

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TABLE 2

SUMMARY OF SOIL ANALYTICAL RESULTS
APPLIED ENVIRONMENTAL SERVICES SUPERFUND SITE
ONE SHORE ROAD
GLENWOOD LANDING, NEW YORK

Analyte	Soil Cleanup Objectives *	May 22, 2001										May 23, 2001			
		B-1 (10-12')	Q	B-2 (12-14')	Q	B-3 (12-14')	Q	B-4 (12-14')	Q	B-5 (12-14')	Q	B-6 (12-14')	Q	B-7 (12-14')	Q
Moisture	N/A	3.06		4.17		3.66		6.23		7.04		9.13		4.08	
Chloromethane	N/A	6	U	6	U	6	U	6	U	7	U	2	U	2	U
Vinyl Chloride	200	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Bromomethane	N/A	6	U	6	U	6	U	6	U	7	U	2	U	2	U
Chloroethane	1900	6	U	6	U	6	U	6	U	7	U	2	U	2	U
1,1-Dichloroethene	400	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Methylene Chloride	100	6	U	6	U	3	J B	3	J B	7	U	3	J B	2	U
trans-1,2-Dichloroethene	300	6	U	6	U	6	U	6	U	7	U	1	U	1	U
1,1-Dichloroethane	200	6	U	6	U	6	U	6	U	7	U	1	U	1	U
cis-1,2-Dichloroethene	N/A	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Chloroform	300	6	U	6	U	6	U	6	U	7	U	1	U	1	U
1,1,1-Trichloroethane	800	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Carbon Tetrachloride	600	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Benzene	60	6	U	6	U	6	U	6	U	7	U	1	U	1	U
1,2-Dichloroethane	100	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Trichloroethene	700	6	U	6	U	6	U	6	U	7	U	1	U	1	U
1,2-Dichloropropane	N/A	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Bromodichloromethane	N/A	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Toluene	1500	6	U	6	U	6	U	6	U	7	U	1	U	1	U
1,1,2-Trichloroethane	N/A	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Tetrachloroethene	1400	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Dibromochloromethane	N/A	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Chlorobenzene	1700	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Ethylbenzene	5500	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Styrene	N/A	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Bromoform	N/A	6	U	6	U	6	U	6	U	7	U	1	U	1	U
1,1,2,2-Tetrachloroethane	600	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Acetone	200	11	J	24	U	25	U	25	U	28	U	9	U	14	J
Carbon Disulfide	2700	6	U	6	U	6	U	6	U	7	U	1	U	1	U
2-Butanone	300	12	U	12	U	12	U	12	U	14	U	5	U	5	U
trans-1,3-Dichloropropene	N/A	6	U	6	U	6	U	6	U	7	U	1	U	1	U
cis-1,3-Dichloropropene	N/A	6	U	6	U	6	U	6	U	7	U	1	U	1	U
4-Methyl-2-Pentanone	1000	12	U	12	U	12	U	12	U	14	U	4	U	4	U
2-Hexanone	N/A	12	U	12	U	12	U	12	U	14	U	4	U	4	U
Xylene (total)	1200	6	U	6	U	6	U	6	U	7	U	1	U	1	U
Total VOC'S	N/A	11		BDL		3		3		BDL		3		14	

Notes:
All results reported in ug/kg (ppb).
All results were analyzed by EPA method 8260B
target compound list
N/A = not applicable
Q = laboratory and US EPA data qualifiers
U = compound was not detected
J = estimated value.
B = analyte was also detected in the blank.
* = NYSDEC Technical and Administrative Guidance Memorandum #4046 soil cleanup objectives

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
APPLIED ENVIRONMENTAL SERVICES SUPERFUND SITE
ONE SHORE ROAD
GLENWOOD LANDING, NEW YORK

Analyte	Soil	May 24, 2001										May 25, 2001							
	Cleanup Objectives *	B-8 (10-14')	Q	B-9 (12-14')	Q	B-10 (12-14')	Q	B-11 (12-14')	Q	B-12 (4')	Q	B-13 (4-5')	Q	B-14 (4-5')	Q	B-15 (4-5')	Q	B-16 (4-5')	Q
Moisture	N/A	6.78		4.49		4.20		3.10		9.71		6.87		5.39		11.2		6.57	
Chloromethane	N/A	2	U	3	U	3	U	2	U	110	U	2	U	2	U	2	U	2	U
Vinyl Chloride	200	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Bromomethane	N/A	2	U	3	U	3	U	2	U	110	U	2	U	2	U	2	U	2	U
Chloroethane	1900	2	U	3	U	3	U	2	U	110	U	2	U	2	U	2	U	2	U
1,1-Dichloroethene	400	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Methylene Chloride	100	2	U	3	U	3	U	2	U	110	U	2	U	2	U	2	U	2	U
trans-1,2-Dichloroethene	300	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
1,1-Dichloroethane	200	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
cis-1,2-Dichloroethene	N/A	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Chloroform	300	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
1,1,1-Trichloroethane	800	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Carbon Tetrachloride	600	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Benzene	60	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
1,2-Dichloroethane	100	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Trichloroethene	700	1	U	1	U	1	U	1	U	56	U	1	J	1	U	1	U	1	U
1,2-Dichloropropane	N/A	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Bromodichloromethane	N/A	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Toluene	1500	1	U	1	U	1	U	1	U	56	U	1	U	**62**		**290**		1	U
1,1,2-Trichloroethane	N/A	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Tetrachloroethene	1400	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Dibromochloromethane	N/A	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Chlorobenzene	1700	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Ethylbenzene	5500	1	U	1	U	1	U	1	U	**73**	J	1	U	1	U	**6**	J	1	U
Styrene	N/A	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Bromoform	N/A	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
1,1,2,2-Tetrachloroethane	600	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
Acetone	200	8	U	9	U	9	U	9	U	390	U	7	U	**12**	J	**93**		**15**	J
Carbon Disulfide	2700	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
2-Butanone	300	4	U	5	U	5	U	5	U	230	U	4	U	4	U	**16**		4	U
trans-1,3-Dichloropropene	N/A	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
cis-1,3-Dichloropropene	N/A	1	U	1	U	1	U	1	U	56	U	1	U	1	U	1	U	1	U
4-Methyl-2-Pentanone	1000	3	U	4	U	4	U	4	U	170	U	3	U	3	U	4	U	3	U
2-Hexanone	N/A	3	U	4	U	4	U	4	U	170	U	3	U	3	U	4	U	3	U
Xylene (total)	1200	1	U	1	U	1	U	1	U	56	U	1	U	**11**		**48**		1	U
Total VOC'S	N/A	BDL		BDL		BDL		BDL		73		1		85		447		15	

Notes:
All results reported in ug/kg (ppb).
All results were analyzed by EPA method 8260B
target compound list.
N/A = not applicable.
Q = laboratory and US EPA data qualifiers.
U = compound was not detected
J = estimated value
B = analyte was also detected in the blank
* = NYSDEC Technical and Administrative Guidance
Memorandum #4046 soil cleanup objectives

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
APPLIED ENVIRONMENTAL SERVICES SUPERFUND SITE
ONE SHORE ROAD
GLENWOOD LANDING, NEW YORK

Analyte	Soil	June 4, 2001		June 5, 2001											
	Cleanup Objectives *	B-17 (4-5')	Q	B-18 (4-5')	Q	B-19 (4-5')	Q	B-20 (4-5')	Q	B-21 (4-5')	Q	B-22 (3-4')	Q	B-23 (4-5')	Q
Moisture	N/A	6.51		5.19		4.84		7.32		8.79		10.7		6.52	
Chloromethane	N/A	2	U	2	U	2	U	2	U	2	U	110	U	2	U
Vinyl Chloride	200	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Bromomethane	N/A	2	U	2	U	2	U	2	U	2	U	110	U	2	U
Chloroethane	1900	2	U	2	U	2	U	2	U	2	U	110	U	2	U
1,1-Dichloroethene	400	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Methylene Chloride	100	2	U	2	U	2	U	2	U	2	U	110	U	2	U
trans-1,2-Dichloroethene	300	1	U	1	U	1	U	1	U	1	U	54	U	1	U
1,1-Dichloroethane	200	1	U	1	U	1	U	1	U	1	U	54	U	1	U
cis-1,2-Dichloroethene	N/A	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Chloroform	300	1	U	1	U	1	U	1	U	1	U	54	U	1	U
1,1,1-Trichloroethane	800	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Carbon Tetrachloride	600	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Benzene	60	1	U	1	U	1	U	1	U	8		54	U	1	U
1,2-Dichloroethane	100	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Trichloroethene	700	1	U	1	U	1	U	1	U	1	U	54	U	1	U
1,2-Dichloropropane	N/A	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Bromodichloromethane	N/A	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Toluene	1500	4	J	1	U	14		5	J	21		54	U	4	J
1,1,2-Trichloroethane	N/A	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Tetrachloroethene	1400	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Dibromochloromethane	N/A	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Chlorobenzene	1700	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Ethylbenzene	5500	1	U	1	U	1	U	1	U	3	J	4100		1	U
Styrene	N/A	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Bromoform	N/A	1	U	1	U	1	U	1	U	1	U	54	U	1	U
1,1,2,2-Tetrachloroethane	600	1	U	1	U	1	U	1	U	1	U	54	U	1	U
Acetone	200	19	J	7	U	8	U	8	U	12	J	370	U	8	U
Carbon Disulfide	2700	1	U	1	U	1	U	1	U	1	U	54	U	1	U
2-Butanone	300	4	U	4	U	4	U	4	U	4	U	210	U	4	U
trans-1,3-Dichloropropene	N/A	1	U	1	U	1	U	1	U	1	U	54	U	1	U
cis-1,3-Dichloropropene	N/A	1	U	1	U	1	U	1	U	1	U	54	U	1	U
4-Methyl-2-Pentanone	1000	3	U	3	U	3	U	3	U	3	U	160	U	3	U
2-Hexanone	N/A	3	U	3	U	3	U	3	U	3	U	160	U	3	U
Xylene (total)	1200	27		1	U	2	J	4	J	31		43000		2	J
Total VOC'S	N/A	50		BDL		16		9		75		47100		6	

Notes:
All results reported in ug/kg (ppb).
All results were analyzed by EPA method 8260B
target compound list.
N/A = not applicable.
Q = laboratory and US EPA data qualifiers
U = compound was not detected
J = estimated value
B = analyte was also detected in the blank
* = NYSDEC Technical and Administrative Guidance
Memorandum #4046 soil cleanup objectives

TABLE 2
SUMMARY OF SOIL ANALYTICAL RESULTS
APPLIED ENVIRONMENTAL SERVICES SUPERFUND SITE
ONE SHORE ROAD
GLENWOOD LANDING, NEW YORK

Analyte	Soil	June 6, 2001										June 7, 2001	
	Cleanup Objectives *	B-24 (4-5')	Q	B-25 (4-5')	Q	B-26 (3-4')	Q	B-27 (2-3')	Q	B-28 (3-4')	Q	B-29 (4-5')	Q
Moisture	N/A	9.32		8.02		10.1		8.52		10.8		12.4	
Chloromethane	N/A	2	U	2	U	2	U	110	U	2	U	2	U
Vinyl Chloride	200	1	U	1	U	1	U	53	U	1	U	1	U
Bromomethane	N/A	2	U	2	U	2	U	110	U	2	U	2	U
Chloroethane	1900	2	U	2	U	2	U	110	U	2	U	2	U
1,1-Dichloroethene	400	1	U	1	U	1	U	53	U	1	U	1	U
Methylene Chloride	100	2	U	2	U	2	U	110	U	2	U	2	U
trans-1,2-Dichloroethene	300	1	U	1	U	1	U	53	U	1	U	1	U
1,1-Dichloroethane	200	1	U	1	U	1	U	53	U	1	U	2	J
cis-1,2-Dichloroethene	N/A	1	U	1	U	1	U	53	U	1	U	1	U
Chloroform	300	1	U	1	U	1	U	53	U	1	U	1	U
1,1,1-Trichloroethane	800	1	U	1	U	1	U	53	U	1	U	1	U
Carbon Tetrachloride	600	1	U	1	U	1	U	53	U	1	U	1	U
Benzene	60	1	U	1	U	1	U	53	U	1	U	1	U
1,2-Dichloroethane	100	1	U	1	U	1	U	53	U	1	U	1	U
Trichloroethene	700	1	U	1	U	1	U	53	U	1	U	1	U
1,2-Dichloropropane	N/A	1	U	1	U	1	U	53	U	1	U	1	U
Bromodichloromethane	N/A	1	U	1	U	1	U	53	U	1	U	1	U
Toluene	1500	3	J	1	U	1	U	53	U	1	U	2	J
1,1,2-Trichloroethane	N/A	1	U	1	U	1	U	53	U	1	U	1	U
Tetrachloroethene	1400	1	U	1	U	1	U	53	U	1	U	1	U
Dibromochloromethane	N/A	1	U	1	U	1	U	53	U	1	U	1	U
Chlorobenzene	1700	1	U	1	U	1	U	53	U	1	U	1	U
Ethylbenzene	5500	1	U	1	U	1	U	53	U	1	U	1	U
Styrene	N/A	1	U	1	U	1	U	53	U	1	U	1	U
Bromoform	N/A	1	U	1	U	1	U	53	U	1	U	1	U
1,1,2,2-Tetrachloroethane	600	1	U	1	U	1	U	53	U	1	U	1	U
Acetone	200	12	J	37		31		370	U	13	J	45	
Carbon Disulfide	2700	1	U	1	U	1	U	53	U	1	U	1	U
2-Butanone	300	4	U	4	U	4	U	210	U	4	U	5	U
trans-1,3-Dichloropropene	N/A	1	U	1	U	1	U	53	U	1	U	1	U
cis-1,3-Dichloropropene	N/A	1	U	1	U	1	U	53	U	1	U	1	U
4-Methyl-2-Pentanone	1000	3	U	3	U	3	U	160	U	3	U	4	U
2-Hexanone	N/A	3	U	3	U	3	U	160	U	3	U	4	U
Xylene (total)	1200	1	J	1	U	1	J	53	U	2	J	1	U
Total VOC'S	N/A	16		37		33		BDL		15		49	

Notes
All results reported in ug/kg (ppb)
All results were analyzed by EPA method 8260B
target compound list
N/A = not applicable
Q = laboratory and US EPA data qualifiers
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