# **MARTIN MARIETTA CORPORATION**

INTERIM REMEDIAL MEASURES WORK PLAN FOR AREA OF CONCERN #7

MARTIN MARIETTA CORPORATION FARRELL ROAD PLANT GEDDES, NEW YORK

May 3, 1994

ERM-NORTHEAST, INC. 5788 Widewaters Parkway Dewitt, New York 13214

# TABLE OF CONTENTS

	1.0	INT	RODUCTION	1-1
		1.1	PURPOSE AND ORGANIZATION OF THE IRM WORK PLAN	1-2
		1.2	SITE BACKGROUND	1-2
		1.3	PREVIOUS INVESTIGATIONS/REPORTS	1-5
	20	BAC	KGROUND OF AOC #7	2-1
		2.1	DESCRIPTION	2-1
,		2.2	HISTORY	2-1
		2.3	GEOLOGY	2-2
1		2.4	PREVIOUS REMEDIAL INVESTIGATIONS	2-2
1		2.5	CONTAMINANT CHARACTERIZATION	2-3
,		2.6	NATURE AND EXTENT OF FREE-PRODUCT  2.6.1 Delineation of Free-Product Extent  2.6.2 Free-Product Characterization	2-5 2-5 2-7
•	3.0	DES	CRIPTION OF IRM ACTIVITIES	3-1
		3.1	AOC SITE PREPARATION	<i>3-1</i>
•		3.2	IDENTIFY TREATMENT TECHNOLOGY 3.2.1 Remediation Technology 3.2.2 Remediation Objectives	3-1 3-2 3-2
•		3.3	REMEDIATION EQUIPMENT 3.3.1 System Specifications 3.3.2 Equipment List 3.3.3 Design Considerations	3-3 3-4 3-5 3-6
•		3.4	WASTE HANDLING 3.4.1 Characterization 3.4.1.1 Recovered Product 3.4.1.2 Personal Protective Equipment 3.4.1.3 Decontamination Water	3-9 3-9 3-10 3-10
•			3.4.2 Storage, Transport and Disposal 3.4.2.1 Recovered Product 3.4.2.2 Personal Protective Equipment 3.4.2.3 Decontamination Water	3-10 3-10 3-11 3-11

-		<i>3.5</i>	FIELD IMPLEMENTATION	3-12
			3.5.1 Field Mobilization	3-12
			3.5.2 Field Installation	3-12
-			3.5.3 System Startup Testing	3-13
			3.5.4 System O&M	3-14
			3.5.4.1 Pump Operation	3-14
			3.5.4.2 Storage Drum Operation	3-15
			3.5.4.3 Recovery Well/Pipe Lines	<i>3-15</i>
_			3.5.4.4 Record Keeping	3-15
			3.5.5 Post-IRM Monitoring	3-16
-		3.6	AOC SITE RESTORATION	3-16
		3.7	SCHEDULE OF IRM ACTIVITIES	<i>3-16</i>
-		3.8	IRM PROGRESS REPORTS	3-16
-	4.0	ENG	SINEERING CONTINGENCY PLAN	4-1
	5 <b>.0</b>	HEA	LTH AND SAFETY PLAN	5-1
•		5.1	INTRODUCTION	5-1
-		5.2	OTHER HEALTH AND SAFETY CONSIDERATIONS	5-1
	REF	ERENC	CES	
-	FIG	URES		
-	1-1	Site I	Location Map, Farrell Road Plant; Geddes, New York	1-4
	2-1		ation of Soil Borings in Area #7 during RI/FS Investigation	2-6
	<i>3-1</i>	Appr	roximate Location of Remedial Equipment	<i>3-8</i>
•	3-2	Sche	dule of IRM Activities	3-17
-	TAB	LES		
	2-1	Anal	lytical Data for Soil from Previous Investigations	2-4
-	5-1		th and Safety Guidelines - Product Recovery System	5-2
	APP.	ENDIC	CES	
-	4	C=:III	hustan Astina Product Pagovan Sustam Manufacturar's Literatura	
	A B	-	buster® Active Product Recovery System-Manufacturer's Literature ro Products PetroTrap™ Passive Product Recovery System-Manufacturer's	
_	В		rature	
	PLA	TEC		
_	ı LA	ILO		
-	1	Site	Plan and Areas of Concern	
	2	Site	•	

#### 1.0 INTRODUCTION

Martin Marietta Corporation (MMC), is a corporation doing business in the State of New York which previously owned a property known as Farrell Road Plant 2 (FRP-2) and leased an adjacent property known as Farrell Road Plant 1 (FRP-1), on Farrell Road in the Town of Geddes, New York. Portions of these properties comprise the "GE Farrell Road Site" and are referred to as "FRP" or the "site". The site is located northeast of Routes 690 and 90, south of the Seneca River and approximately one mile to the west of Onondaga Lake. The site (FRP-1 and FRP-2) consists of approximately 156 acres of which approximately 81 acres have been classified as a Class One wetland by the New York State Department of Environmental Conservation (NYSDEC).

Previous environmental investigations conducted at the site have determined that soil and ground water have been affected by past activities at FRP. As a result, the FRP site was listed by NYSDEC on the Registry of Inactive Hazardous Waste Disposal Sites (Site No. 734055).

In April 1993, MMC purchased the FRP-2 portion of the site from General Electric Company (GE). In December 1993, MMC transferred title for that portion of the site to Syroco, Inc., an unrelated corporation. MMC has entered into an Order on Consent (the "Order") with NYSDEC (Index #A7-0308-93-10), dated 21 March 1994, to conduct Interim Remedial Measures (IRMs) at FRP-2, on its own behalf as prior owner and as successor in interest to GE.

MMC has also entered into an Order on Consent with NYSDEC (Index #A7-0307-93-10), dated 15 December 1993, for the performance of a Remedial Investigation and Feasibility Study (RI/FS) at the site.

The goal of the IRM Order is to develop and implement three IRMs at FRP-2 in three Areas of Concern (AOCs). This IRM Work Plan will describe the remedial objectives of the IRM program for AOC #7 (as identified in Attachment C to the Order), and the methods and procedures to be implemented to achieve the remedial objectives.

## 1.1 PURPOSE AND ORGANIZATION OF THE IRM WORK PLAN

Martin Marietta's consultant, ERM-Northeast, Inc. (ERM), has prepared this IRM Work Plan (Work Plan) in accordance with the details outlined in Section II of the Order. This Work Plan focuses on the methods and procedures to be implemented in performing the IRM, including background information related to the AOC (Section 2.0), a description of IRM activities (Section 3.0), a detailed Engineering Contingency Plan (Section 4.0), and a Health and Safety Plan (Section 5.0).

This IRM Work Plan will describe the IRM program for the removal of free-phase petroleum hydrocarbons (referred to as "free-product" or "product") from the ground water adjacent to the former location of UST T-51 located on the east side of Building No. 2. This area has been designated as AOC #7 and its location is indicated on the Site Plan and Areas of Concern included as Plate 1.

Since this IRM consists of non-intrusive technology and deals with product recovery, Work Plan sections regarding excavation and, sampling and analysis are not included in this Work Plan.

#### 1.2 SITE BACKGROUND

The site is located northeast of the intersections of Routes 690 and 90, south of the Seneca River and approximately one mile to the west of

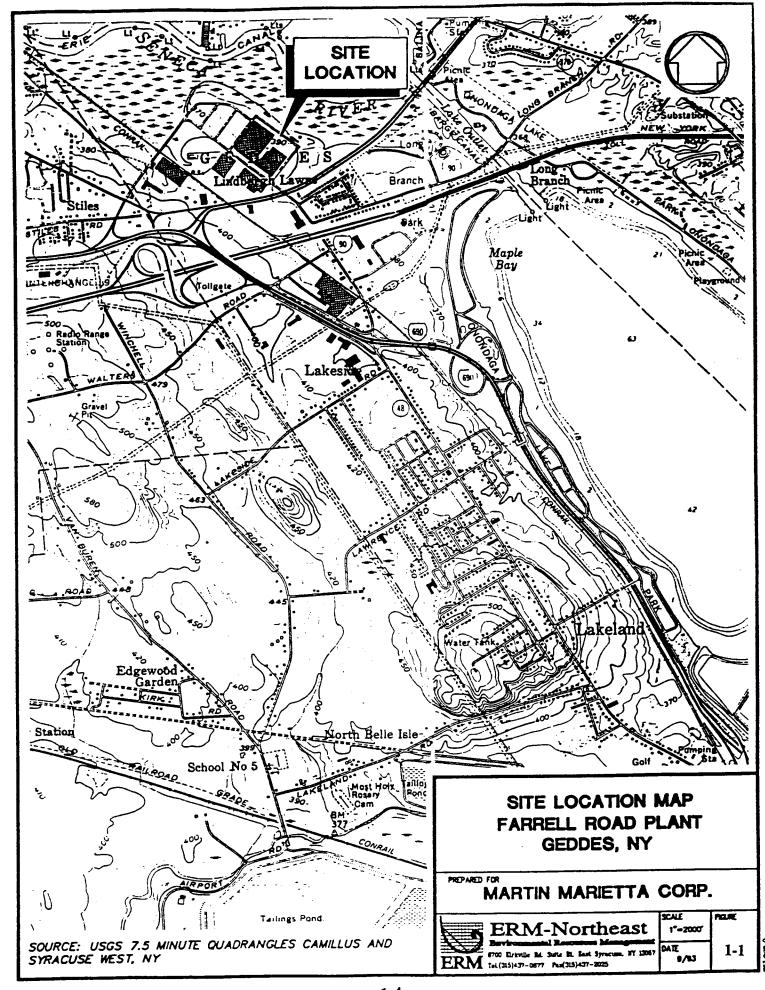
Onondaga Lake as indicated on Figure 1-1. The property was developed in the early 1960s by General Electric Aerospace (GEA) as a manufacturing center, and was used as a design, manufacturing and assembly center for radar and sonar equipment. By December 1992, GEA had moved all operations from FRP to other locations. GEA sold FRP-2 to MMC in April 1993. Ownership of FRP-2 was transferred by MMC to Syroco, Inc. in December 1993. In February 1994, MMC assigned its lease for the FRP-1 property to Syroco, Inc.

The 156-acre site includes four buildings: Building No. 1 was used as a design center; Building No. 2 was used as a manufacturing and assembly plant; the Test Building was used to test radar products; and the Maintenance Garage was used to service and house plant vehicles.

Building No. 1 contains approximately 175,000 square feet of floor space and Building No. 2 contains approximately 300,000 square feet of floor space; the buildings are connected by a ground level walkway. The Maintenance Garage contains approximately 6,500 square feet of floor space and is located at the northwest corner of the site. The Test Building contains approximately 9,000 square feet of floor space and is located at the northeast corner of the site. The location of these buildings is depicted on the Site Map included as Plate 2.

The four buildings are enclosed by a perimeter fence which is bordered by large paved parking areas on the east and west. The site is bordered on the south by Farrell Road, on the north and west by the Seneca River and on the east by John Glenn Boulevard.

The site is located within the Ontario Lowland geological province of New York State. The lowlands are characterized by large areas of low relief



interrupted by streamlined hills called drumlins. Surficial geology at the site is composed of modern and glacial-aged lake sediments (Muller and Cadwell, 1986) underlain by Silurian (greater than 400 million years old) shales and evaporates (Rickard and Fisher, 1970).

A shallow unconfined aquifer was mapped in the area by Kantrowitz (1970) and Winkley (1989). The shallow aquifer is composed of glacial sand and gravels and has been reported to produce usable quantities of water. Shallow ground water is between two feet and seven feet beneath the ground surface, and flows to the north. Bedrock beneath the site is likely to produce low-yielding wells with salty water (Kantrowitz, 1970).

# 1.3 PREVIOUS INVESTIGATIONS/REPORTS

ERM conducted a preliminary hydrogeologic investigation in June 1991. The investigation was designed to determine site-wide ground water flow direction, to estimate the extent of petroleum residuals near an underground storage tank (UST) T-51 east of Building No. 2, and to determine the potential effects of a septic leach field near the maintenance garage. Results indicated that ground water generally flows in a north/northwest direction across the site; and ground water adjacent to UST T-51 has been affected by petroleum residuals and volatile organic compounds (VOCs).

As a follow-up investigation, ERM conducted a Phase II Hydrogeologic Investigation in November 1991. The purpose of the investigation was to estimate the extent of petroleum residuals and VOCs in the soil and ground water near UST T-51. The investigation determined that petroleum residuals were limited to the area proximal to UST T-51, and anomalous VOCs (predominantly freon) were present in ground water east of Building No. 2. ERM recommended further ground water investigation.

Concurrent with the ground water investigations at the site, ERM conducted a Phase I Environmental Site Assessment of FRP. The site assessment included a review of all available site records with environmental implications, examination of site manufacturing processes, storage and disposal procedures and interviews with current and past employees.

Based on the Phase I reports, ERM identified 16 areas of FRP that needed further investigations. Three of the areas requiring investigation are AOCs addressed in the IRM Order including:

- AOC #5 removed USTs and drywell on the west side of Building
   No. 2;
- AOC #7 removed UST T-51 on the east side of Building No. 2; and
- AOC #16 removed gasoline UST near the Maintenance Garage.

Results of previous investigations are presented in the following documents prepared by ERM unless otherwise noted:

- 1) Preliminary Hydrogeologic Investigation of the GE Aerospace Farrell Road Plant. 27 June 1991;
- 2) A Letter Report Regarding: Investigation of Trichloromethane Sources Farrell Road Plant. 23 September 1991;
- 3) Phase II Hydrogeologic Investigation of GE Aerospace, Farrell Road Plant. 15 November 1991;

- 4) A Letter Report Regarding: Summary of Gasoline Underground
  Storage Tank and Soil Removal. 18 June 1992; prepared by Blasland
  & Bouck Engineers, P.C.;
- 5) Phase I Environmental Assessment of GE Farrell Road Plant Two (FRP-2), Syracuse, New York. 31 December 1992 (Amended 2 July 1992);
- 6) Phase I Environmental Assessment of GE Farrell Road Plant One (FRP-1), Town of Geddes, New York. 31 December 1991 (Amended 10 July 1992);
- 7) 1992 Environmental Investigation, GE Farrell Road Plant Two (FRP-2), Syracuse, New York. 10 July 1992;
- 8) 1992 Environmental Investigation, GE Farrell Road Plant One (FRP-1), Syracuse, New York. 16 July 1992;
- 9) A Letter Report Regarding: PCB Sampling at Farrell Road Plant Two. 15 September 1992;
- 10) Debris Pile Excavation, GE Farrell Road Plant Two; Addendum to the 1992 Environmental Investigation. 29 July 1992;
- 11) A Letter Report Regarding: Soil Remediation at Farrell Road Plant Two. 15 September 1992;
- 12) Garage Area Investigation, GE Farrell Road Plant Two, Addendum to the 1992 Environmental Investigation. (issued in draft form 17 September 1992; reissued 14 October 1992);

- 13) A Letter Report Regarding: Ground Water Sampling North of the Farrell Road Plant. 23 October 1992;
- 14) A Letter Report Regarding: Farrell Road Plant; Storm and Sanitary Sewer Survey . 15 June 1993;
- 15) Soil Vapor Extraction Pilot Test Results. August 1993;
- 16) A Letter Report Regarding: MMC Farrell Road Site; 10 Soil Borings at Proposed Loading Dock. 2 September 1993;
- 17) Soil Remediation Design Report; Soil Vapor Extraction Pilot Study Former Solvent Storage Tank Area (Area 5). October 1993.
- 18) Remedial Investigation/Feasibility Study Work Plan; Farrell Road Plant. January 1994;
- 19) Accelerated RI/FS Tasks; Farrell Road Plant Field Summary Data Report. March 1994.

### 2.0 BACKGROUND OF AOC #7

This section of the Work Plan discusses the history, geology, previous remedial investigations, contaminant characterization, and nature and extent of free-product specific to AOC #7.

#### 2.1 DESCRIPTION

AOC #7 is located on the east side of Building No. 2 within the FRP-2 portion of the site and contains free-phase petroleum hydrocarbons (presumed to be #2 fuel oil) floating on the ground water.

#### 2.2 HISTORY

A 10,000-gallon UST (referred to as "T-51" or the "tank") was formerly located along the east side of Building No. 2. Petroleum residuals were detected in the ground water near the tank prior to ERM's 1991 investigations. A Ground Penetrating Radar (GPR) survey identified the exact location of the tank and associated piping. The GPR survey also located utilities adjacent to the tank that needed to be considered in planning the tank removal. On 14 February 1992, ERM-EnviroClean removed UST T-51. The soil beneath and adjacent to the tank was sampled and analyzed for total petroleum hydrocarbons (TPH) and fuel oil components during removal operations. The results indicated that the soil beneath the tank is relatively unaffected.

The highest concentration of TPH (5560 ppm) was detected in one sample from the downgradient side of the tank. This location is immediately adjacent to the electrical substation and, therefore, was not accessible for excavation.

Monitoring wells around the tank were sampled as part of the 1992 investigation. Analytical data revealed high concentrations of petroleum residuals in MW-11 (upgradient) and MW-2 (downgradient). Also, free-phase petroleum product was detected in MW-2. Farther downgradient, monitoring well MW-10 contained low concentrations of petroleum residuals. These results indicate that ground water in and immediately downgradient of the T-51 area contain concentrations of petroleum-related compounds that are in need of remediation.

### 2.3 GEOLOGY

The soil at AOC #7 is composed of brown silt and fine sand. It overlies a dense red clay and silt glacial till. The silt and fine sand were probably deposits in a glacial lacustrine/beach environment and the underlying till was deposited in an ice proximal location. The silt and sand is approximately 18 feet thick. The top of the underlying till is located at approximately 18 feet below grade and has an undetermined thickness. The red clay till forms a lower ground water flow boundary for the unconfined shallow ground water.

Ground water is located at eight to ten feet below ground surface and flows to the north/northwest. The saturated thickness varies between six to eight feet thick. In-situ hydraulic conductivity tests have estimated permeabilities in MW-2 to be 4.9 X 10<sup>-4</sup> centimeters per second.

# 2.4 PREVIOUS REMEDIAL INVESTIGATIONS

ERM conducted a preliminary hydrogeologic investigation in June 1991 and a Phase II Hydrogeologic Investigation in November 1991, to estimate the extent of petroleum residuals in the soil and ground water near UST T-51. Based on the findings of the hydrogeologic investigations, UST T-51

was removed in February 1992.

The previous hydrogeologic investigations in AOC #7 revealed the presence of petroleum hydrocarbon contamination in the ground water in the vicinity of the former 10,000-gallon fuel oil tank. Soil samples obtained from beneath and adjacent to the tank and analyzed for TPH and fuel components indicated that the soil was relatively unaffected. However, background information indicates that freon residuals may have been released to the ground in this area. Significant amounts of freon (trichlorofluoromethane) have not been detected in the soil. Freon and other VOCs have been detected in ground water samples collected from AOC #7 and other areas at the site. VOCs in ground water will not be addressed by this IRM.

In addition, a review of existing conditions at MW-2 was conducted in November 1993. Information was gathered including: depth to ground water, free-product thickness and well construction details. This information was useful in determining the type of product recovery system to be installed.

### 25 CONTAMINANT CHARACTERIZATION

The petroleum-related compounds found in the soil during previous investigations at AOC #7 include: total petroleum hydrocarbons (TPH) and polynuclear aromatic hydrocarbons (PAH). The PAHs detected included naphthalene, acenaphthene, fluorene, phenanthrene and 2-methynaphthalene. Analytical data for the soil samples collected during previous investigations is included in Table 2-1.

TABLE 2-1
MARTIN MARIETTA CORPORATION
FARRELL ROAD PLANT
IRM WORK PLAN FOR AOC #7
ANALYTICAL DATA FOR SOIL
FROM PREVIOUS INVESTIGATIONS

				TDV2.54 A
ANALYTE	TK51-1	TK51-2	TK51-3	TK51-4
TPH (ppm)	5560	97	29	18
PAH (ppb)				
Naphthalene	1100			
Acenaphthene	400			
Fluorene	430			
Phenanthrene	930			
2-Methynaphthalene	3300			820

#### NOTES:

--- Compound not detected in this sample, but detected in another.

TPH Total Petroleum Hydrocarbons

PAH Polynuclear Aromatic Hydrocarbons

Soil samples TK51-1 through TK51-4 were taken from excavation walls during UST T-51 removal.

In addition, up to 0.5-feet of free product has been detected in MW-2 and a light sheen has been detected in MW-11. Based on our knowledge of previous usage of UST T-51 and the liquid characteristics of the product, it is assumed that #2 fuel oil is the free-product encountered in AOC #7.

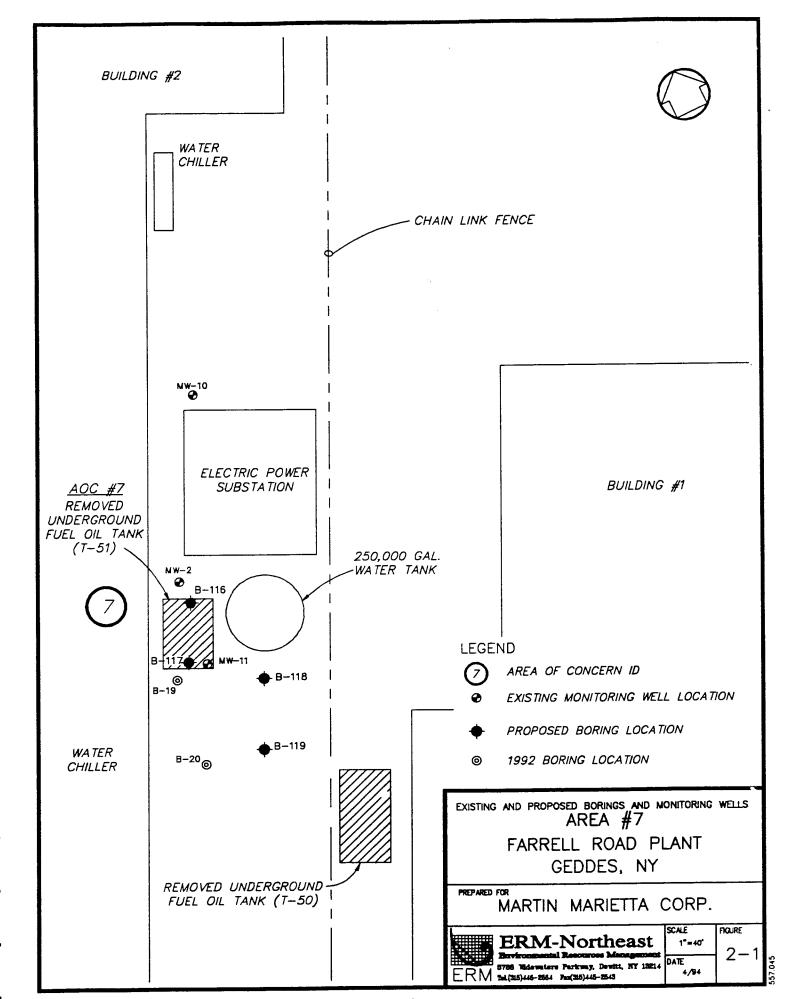
In accordance with the RI/FS Work Plan dated January 1994, four soil borings will be drilled in the former UST T-51 area. Tentative soil boring locations (B-116, B-117, B-118 and B-119) are presented on Figure 2-1. Borings will be drilled to the red clay layer and sampled continuously. Samples will be obtained from the three to five feet depth interval and the eight to ten feet depth interval or two feet above the top of the water table, whichever is deeper. The two samples from each boring that are collected for laboratory analysis will be analyzed for target compound list (TCL) VOCs in accordance with NYSDEC requirements. The borings will be backfilled with auger cuttings.

### 2.6 NATURE AND EXTENT OF FREE-PRODUCT

# 2.6.1 Delineation of Free-Product Extent

A total of three monitoring wells (MW-2, MW-10, MW-11) have been installed in the location of the removed UST T-51 that are capable of monitoring for the presence of free-product. These monitoring wells are constructed with their screened intervals straddling the water table.

The wells have been monitored for the presence and thickness of free-product. Product has been encountered in MW-2 at a thickness of approximately six inches and a light sheen has been encountered in MW-11. Since MW-10 and temporary piezometer installations located within Building No. 2 have not indicated the presence of free-product during



previous investigations, it is anticipated that the product is localized near the UST T-51 area.

## 2.6.2 Free-Product Characterization

The free-product at AOC #7 consists of a dark fluid with a very low viscosity. Since it has been documented that the removed UST T-51 was utilized for storage of #2 fuel oil, it is anticipated that the product to be recovered in this area is comprised mostly of "weathered" #2 fuel oil.

#### 3.0 DESCRIPTION OF IRM ACTIVITIES

This section of the Work Plan provides a description of the IRM activities including: AOC site preparation, identification of the selected treatment technology, remediation equipment and design considerations, waste handling procedures (characterization, storage, transport and disposal), field implementation components and AOC site restoration. In addition, a schedule for the implementation of IRM activities is presented.

#### 3.1 AOC SITE PREPARATION

The following site preparation activities will be performed to prepare for implementation of the IRM in AOC #7:

- coordinate with FRP-2 owner regarding access to utilities, including electric;
- coordinate with FRP-2 owner regarding the location of a drum staging area for decontamination water and recovered product; and
- obtain necessary state and local permits and/or develop documentation to demonstrate substantive compliance with technical requirements.

#### 3.2 IDENTIFY TREATMENT TECHNOLOGY

This section of the Work Plan summarizes the selected remediation technology, and states the remediation objectives.

### 3.2.1 Remediation Technology

Based on the results of previous investigations and a review of current conditions in the Area of Concern, an "active" product recovery system has been selected to recover free-phase petroleum hydrocarbons from ground water at AOC #7.

Active product recovery systems operate relatively maintenance free to recover and pump product to storage containers on a continuous basis by automatically adjusting to fluctuations in ground water table levels.

Product recovery systems have proven to be effective in recovering a variety of petroleum-based liquids from ground water. The product recovery system will consist of the following major components:

- product probe;
- control panel;
- automatic level seek system; and
- storage drums.

# 3.2.2 Remediation Objectives

The remediation objectives for the IRM for AOC #7 are to:

- recover product from the ground water until no product remains in MW-2 or until product thickness is consistently less than 0.5 inches;
- reduce further contamination of ground water; and
- minimize movement of petroleum hydrocarbons into ground water.

In order to meet these objectives, it is anticipated that the product recovery system will operate for a period of six to eight months following system installation and startup. Periodic system monitoring will be performed to optimize system performance. MMC will notify NYSDEC if it is determined that the results of system performance monitoring warrant a change in system operations.

### 3.3 REMEDIATION EQUIPMENT

The selected remediation equipment to be installed to implement the IRM at AOC #7 is a Spillbuster® Junior active product recovery system.

The Spillbuster® Junior is an electronically controlled free-product recovery system that can recover fluid products floating on the water table. The Spillbuster® Junior is designed to operate as a product only system in a two-inch diameter or larger well.

The Spillbuster® Junior system is based upon patented state of the art sensors in a probe that sense the interface between water and product. A product pump is located in the probe that pumps continuously when the product intake is immersed in product.

Due to the highly accurate water/product interface sensing system, the system offers water free recovery down to a product level of 0.5-inch above the interface. In addition, "Super Skim" operation provides accurate recovery down to 0.1-inch above the interface. The water/product interface location is detected by HYDRO SENSE™ sensors. The sensors are made of polymer composite bands that sense variations in low frequency signal transmission upon contacting water.

System operation is completely automatic. If the water table height changes, the probe will continue to pump product as long as the probe inlet is immersed in product. The pump will be shut off if the water level rises to the product inlet or if the top of the product layer drops below the product inlet.

The Spillbuster® Junior system is comprised of two major components: a control box, and a probe unit. The control box houses manual and automatic controls, logic circuits, and power supplies. The probe assembly is comprised of the HYDRO SENSE™ water/product interface sensors, and an electric product pump. In addition to these two components a product tank overflow shutoff sensor and fitting will be installed.

The product pump contained in the probe can pump up to 500 gallons per day in well depths of 100 feet or more. If replacement becomes necessary the procedure is simple and quick, requiring no tools.

The system will be installed with an Automatic Level Seek (ALS) system. The ALS is a compact motor driven reel that automatically raises and lowers the probe to track the water table. The ALS system is attached to the top of the well and is housed in an explosion-proof enclosure. The ALS system is capable of tracking the water/product interface over a range greater than ten feet up and down in the well.

The Spillbuster® Junior system will be operated from a 115 VAC power source.

# 3.3.1 System Specifications

The following information summarizes the specifications for the product recovery system to be installed at AOC #7.

Power Requirements: The control box requires a 115 VAC connection (with ground) and 20 amp service.

Circuit Protection: The system is provided with a 15 amp main breaker on the system power switch and a 7 amp slow-blow fuse for the product pump.

Environmental Operating Limits: The minimum ambient temperature for the system to operate is -30 degrees Fahrenheit and the maximum ambient temperature for the system to operate is 150 degrees Fahrenheit.

Probe/Product Pump Specifications: The probe dimensions are 1-34 inch diameter by 24-inches long and the probe weight is 2½ pounds. The product pump can deliver a maximum capacity of 0.3 GPM at 100 feet of pumping head. The probe/product pump cable length will be determined in the field.

Well Requirements: The well diameter must be two-inch minimum for product recovery only system. The well depth for the product only pumping system shall be a minimum of two feet of water below the product level.

Product Viscosity - Standard Product Pump:

The product viscosity shall be less than 10 centipoise at 70 degrees Fahrenheit.

# 3.3.2 Equipment List

The following equipment will be provided as part of the product recovery system:

NEMA 4 weatherproof control panel;

Product tank level sensor with signal cable; Product pump/probe with probe cabling and pull rope; Product discharge line; Probe power cable extension; Product tank discharge bung; Well head cam cleat and bracket; and Automatic Level Seek (ALS) system. Design Considerations 3.3.3 The product recovery system described above will be installed in existing monitoring well (MW-2). MW-2 is a four-inch diameter well with .010 slot well screen from nine feet to nineteen feet below grade. In designing a product recovery system it is important to consider several factors including: depth to ground water; depth of water below product and above well bottom; thickness of product; anticipated quantity of product; 557.045\IRM7WP ERM-NORTHEAST, INC. 3-6

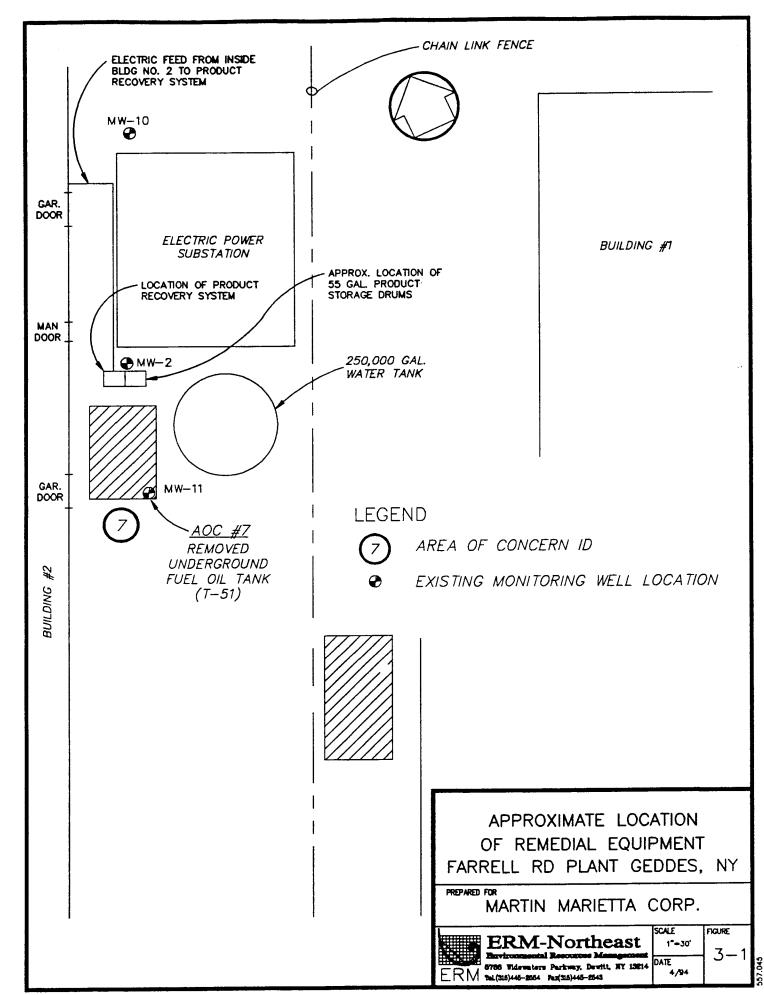
- variation in seasonal ground water levels; and
- product characteristics (viscosity).

This information was evaluated in selecting the type of product recovery system which would be most effective at AOC #7. It is anticipated that the product recovery system selected will be effective in recovering product without the need for dual ground water pumping. Dual ground water pumping is a technique often used in product recovery applications to create a gradient in the recovery well so that product will flow to the location of pumping.

Although product baildown tests have not been conducted to determine product recharge characteristics, it is anticipated that product-only pumping is feasible for AOC #7. If it is found during the implementation of the IRM, that a dual ground water pumping system may be required, Martin Marietta will provide NYSDEC with appropriate data to support a modification to the system operations.

The remediation equipment, including control panel, will be located and installed in MW-2. New York State Department of Transportation (NYSDOT) approved drums will be located adjacent to MW-2 to store recovered product. These drums will be placed in a totally enclosed pallet with secondary containment and a lock and key for outdoor storage. The remediation equipment and storage drums will be protected from damage by restricting unauthorized access in the area. The 115 VAC electrical service for the remediation equipment will be obtained from Building No.

2. The approximate location of the remediation equipment and appurtenances is indicated on Figure 3-1.



#### 3.4 WASTE HANDLING

This section of the Work Plan describes the waste handling procedures regarding characterization, storage, transport and disposal for recovered product, personal protective equipment (PPE) and decontamination water.

All sampling and analysis for waste characterization will be performed in accordance with NYSDOH standard quality assurance and quality control protocols. The following analytical methods will be conducted based on constituents which have been identified at the site and in the specific area of concern:

- Polychlorinated Biphenyls (PCBs) EPA Method 8080; and
- Spent solvents (F001 through F005) EPA Methods 8015, 8240 and 8270.

#### 3.4.1 Characterization

#### 3.4.1.1 Recovered Product

Product recovered from MW-2 will be characterized by obtaining one (1) composite sample for the initial 55-gallon drum of product recovered. The sample will be analyzed for pH, corrosivity, ignitability, reactivity, specific gravity, PCBs, and spent solvents (F001 through F005). Subsequent drums of recovered product will be characterized by obtaining one sample per drum and analyzing for specific gravity and ignitability. The analytical results will be evaluated and appropriate storage, transport and disposal completed.

### 3.4.1.2 Personal Protective Equipment

PPE including Tyvek® suits, disposable gloves, respirator cartridges and miscellaneous materials used in the installation, startup and operation and maintenance (O&M) activities will be labeled, staged in a secured area and properly disposed upon completion of field work.

#### 3.4.1.3 Decontamination Water

Water created through equipment and personnel decontamination procedures will be drummed and characterized by obtaining one (1) composite sample for the initial 55-gallon drum of water generated. The sample will be analyzed for pH, corrosivity, ignitability, reactivity, specific gravity, PCBs and spent solvents (F001 through F005). Subsequent drums of decontamination water will be characterized by obtaining one sample per drum and analyzing for specific gravity and ignitability. The analytical results will be evaluated and appropriate storage, transport and disposal completed.

### 3.4.2 Storage, Transport and Disposal

#### 3.4.2.1 Recovered Product

Once a 55-gallon drum is full of recovered product the following action will be taken:

- store product in 55-gallon drums subsequently moved to a dedicated holding area on-site;
- define the quantity of material;

- conduct material sampling and analysis;
- provide appropriate container labeling;
- determine appropriate treatment based on analytical results;
- transport and dispose of the material; and
- obtain and complete appropriate manifest forms.

The disposal method common for recovered product (#2 Fuel Oil) is incineration by fuel blending.

### 3.4.2.2 Personal Protective Equipment

Upon completion of work tasks, PPE will be double bagged and placed in a 55-gallon drum or a one cubic yard waste wrangler box. These drums or boxes will be labelled accordingly, stored in a dedicated area on-site and transported and disposed of at a landfill consistent with product disposal requirements.

#### 3.4.2.3 Decontamination Water

Decontamination water will be managed and action taken to:

- store water in a 55-gallon drum subsequently moved to a dedicated holding area on-site;
- define the quantity of material;
- conduct sampling and analysis;

- provide appropriate container labeling;
- determine treatment requirements based on analytical results;
- transport and dispose of material; and
- obtain and complete appropriate manifest forms.

#### 3.5 FIELD IMPLEMENTATION

Field implementation for this IRM includes: field mobilization, field installation, system startup testing, system O&M and post-IRM monitoring.

#### 3.5.1 Field Mobilization

Prior to field mobilization, all necessary state and local permits will be obtained and/or documentation to demonstrate substantive compliance with technical requirements will be developed. All site preparation activities will also be conducted during this time period. The product recovery equipment as described in Section 3.3 will be located within the area shown on Figure 3-1.

#### 3.5.2 Field Installation

The field installation activities will consist of a two-phased approach. Prior to installing the Spillbuster® product recovery system, a product baildown test will be conducted in MW-2 to verify that product remains in the area in quantities which necessitate the need for an active product recovery system.

The product baildown test will be conducted over a period of one week

using an Enviro Products PetroTrap™ passive product recovery system. This system contains a canister capable of collecting up to two liters of product prior to manual bailing. When the PetroTrap™ system is lowered into the well, the buoy assembly adjusts itself to position the filter within the layer of free product. While traveling along a stainless steel guide rod, the assembly maintains skimming action within a 24-inch fluctuation in the water table. Product only is absorbed by the hydrophobic filter and routed through the hose to the storage canister below. Recovered product is emptied manually using a drain valve at the bottom of the canister. Information on the PetroTrap™ system is included in Appendix B.

Upon completion of the product baildown test, and if evaluation of results indicates that sufficient product is available in MW-2, the Spillbuster® active product recovery system will be installed.

The product probe and sensors will be inserted into MW-2 and the ALS equipment will be installed on top of MW-2. The control panel will be installed in a weather-tight compartment.

An appropriate quantity of storage drums will be located adjacent to MW-2 for storage of recovered product. The storage drums will be located in a totally enclosed pallet with secondary containment.

# 3.5.3 System Startup Testing

Following the completion of field installation activities, a one-week system startup period will begin for the Spillbuster® product recovery system.

During system startup, monitoring of the system will be conducted on a daily basis to ensure that all mechanical equipment is functioning properly. During this period, all system components will be started and evaluated to ensure proper operation. A checklist to be used during startup testing and

O&M activities will be developed to document the following:

- equipment operation;
- condition of product hoses and connections;
- product level and thickness in MW-2; and
- product level in storage drums.

## 3.5.4 System O&M

Following completion of the startup testing, normal system O&M will be initiated. Schedules will be developed for inspection and maintenance of all equipment in accordance with manufacturer specifications. Initially, inspections will take place twice a week and after several weeks of operation, the inspections will probably occur once a week. An O&M document will be developed with the flexibility so that it can evolve as operational experience is gained and additional requirements become evident. O&M tasks will likely include (but not be limited to) the following:

# 3.5.4.1 Pump Operation

- Verify that the product recovery pump is functioning properly;
- Verify that the ALS unit is functioning properly;
- Verify that the control panel is functioning properly; and
- Inspect product hoses and connections.

### 3.5.4.2 Storage Drum Operation

- Record product levels in each storage drum. Compare with prior readings to determine recovery rate;
- Check tank alarm systems. If any alarm or control is not functioning properly, shut down pumping operations until repairs are made; and
- Arrange for removal of 55-gallon drums containing recovered product, as necessary.

# 3.5.4.3 Recovery Well/Pipe Lines

- Perform general pipe inspection;
- Record product level and thickness in MW-2; and
- Verify that valves are operating properly. Verify that no leaks are present; if leak is detected, shut down system for repair.

# 3.5.4.4 Record Keeping

- Update maintenance log, listing all tasks performed;
- Maintain product recovery log; and
- Note any discrepancy in system operation or equipment condition.

### 3.5.5 Post-IRM Monitoring

When periodic inspections indicate that no product remains in MW-2, or the product thickness is consistently below the level required to operate the product recovery system (less than 0.5-inches of product), the system will be temporarily shut-down. During this shut-down period, monitoring will be conducted in MW-2 for depth to ground water, depth to product and product thickness, if any. If, after continued monitoring, it is determined that additional product can be recovered, either an active or passive product recovery system will be installed and operated as necessary.

#### 3.6 AOC SITE RESTORATION

Upon satisfactorily completing the remedial objectives outlined in this Work Plan, restoration activities will be performed to:

- dismantle and clean the remediation equipment; and
- disconnect and remove all piping, equipment, controls and accessories from the site.

#### 3.7 SCHEDULE OF IRM ACTIVITIES

The proposed schedule of IRM activities for AOC #7 is presented in Figure 3-2.

#### 3.8 IRM PROGRESS REPORTS

IRM progress will be reported and submitted to NYSDEC on a monthly basis. The IRM progress report will be included with the monthly Consent Order progress report and include information on:

### AOC #7 IRM SCHEDULE MARTIN MARIETTA CORPORATION FARRELL ROAD PLANT

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Page 1
Times allotted for NYSDEC response is estimated.

SCHEDULE OF IRM ACTIVITIES **AOC #7** FARRELL ROAD PLANT PREPARED FOR MARTIN MARIETTA CORPORATION ERM-Northeast ME 4/94

- data generated including: quantity of product recovered, product level and thickness in MW-2, and changes in system operation or equipment condition; and
- additional data which may be collected during subsequent O&M activities.

The IRM progress report will be prepared by and have the signature and seal of a professional engineer registered in the State of New York.

The Engineering Contingency Plan associated with this IRM has been developed in the event that the IRM program fails to operate in accordance with the remedial objectives outlined in this Work Plan. Engineering contingency elements which have been incorporated into the development of the IRM include:

- provisions to expand the product recovery system from a single well to a multi-well installation utilizing existing monitoring wells;
- provisions to expand the "product only recovery system" to a "dual ground water pump and product recovery system";
- provisions to develop new monitoring wells to install additional product recovery probes;
- provisions to shut down the product recovery equipment in the event of inclement weather conditions which may effect system operations;
- provisions to shut down the product recovery equipment in the event of seasonal fluctuations in ground water elevation, product level and product thickness;
- provide secondary containment for storage drums containing recovered product;
- provisions to change from an active product recovery system to a passive product recovery system; and

provide a supply of oil absorbent material to be stored with remedial equipment. ERM-NORTHEAST, INC. 557.045\IRM7WP 4-2

#### 5.0 HEALTH AND SAFETY PLAN

#### 5.1 INTRODUCTION

The existing Health and Safety Contingency Plan (HASCP) submitted with the RI/FS Work Plan, has been reviewed with respect to the activities required to implement the IRM proposed herein. The contents of the HASCP are applicable to the activities to be conducted as part of this IRM. The HASCP provided in the RI/FS Work Plan in addition to other Health and Safety considerations outlined in this document, will be adhered to during the implementation of the IRM.

The HASCP has been developed on the basis of the information obtained from previous reports and historical data. The intent of the HASCP is to designate appropriate health and safety procedures to be followed by site personnel during activities at the site. The HASCP has been designed for use as a working document to allow health and safety professionals the flexibility to achieve compliance and reduce health and safety risks.

#### 5.2 OTHER HEALTH AND SAFETY CONSIDERATIONS

Other health and safety items to be considered in conducting the IRM are included in this section. The procedures set forth in this section are designed to reduce the risk of exposure to chemical substances or other physical hazards which may be present in and around the product recovery system area. The procedures described herein were developed in accordance with the provisions of 29 CFR 1910.120 and in accordance with ERM's experience in similar remediation system installations and O&M monitoring. The recommended health and safety guidelines suggested within this document may be modified as further information is made available through on-site characterization.

Recommended health and safety guidelines specifically related to the installation and operation of the product recovery system are presented in Table 5-1.

TABLE 5-1
HEALTH AND SAFETY GUIDELINES
PRODUCT RECOVERY SYSTEM

HAZARD/DESCRIPTION	SAFETY PROCEDURES
Confined Space (flammability)	Install system outside without enclosure
Storage Drum Spills	Totally enclosed pallet with secondary containment and lock and key.
Product Pipeline Leak	Pressure Test Pipeline with Water
Eye Contact/Injury	Eye Wash Station
Electrical Connections	Provided by a Qualified Electrician
Product Sampling	Level D with Splash Protection
Unauthorized Access	Lockable control panel and warning signs

The following describes the levels of safety protection utilized in the Health and Safety Guidelines in Table 5-1.

#### Level D Protection

Level D protection is to be used by all personnel and visitors at all times for all IRM activities that do not pose a potential threat of exposure to toxic or hazardous substances. The list of required personal protective equipment includes:

- coveralls or long-sleeve shirts and long pants;
- hard hat;
- steel-toe, steel-shank work boots; and
- safety glasses.

Level D with splash protective equipment will be worn by maintenance technicians and visitors during system startup and O&M activities that present a risk of direct contact with hazardous or corrosive chemicals. These activities include, but are not limited to, maintenance or repair of the product recovery system and storage tanks. Level D protection with splash protective equipment includes:

- chemical resistant outer gloves and inner latex surgical gloves;
- face-shield;
- steel-toe, steel-shank work boots with rubber overboots;
- hard hat;
- level C protection readily available;
- optional equipment as required.

#### **REFERENCES**

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- USGS, 1984, Elemental Concentrations in Soils and Other Surficial Materials of the Conterminous United States: United States Geological Survey Professional Paper 1270, U.S. Government Printing Office, Washington, D.C.
- Winkley, S., 1989, The Hydrogeology of Onondaga County: Onondaga County Waste Quality Management Agency, Syracuse, NY, pp. 171.

APPENDIX A

SPILLBUSTER® ACTIVE PRODUCT RECOVERY SYSTEM-MANUFACTURER'S LITERATURE



Systems

Easier!

# Makin

is a state-of-the art electroncally controlled ground water recovery system designed to simplify the job of underground spill remediation.

The Technology

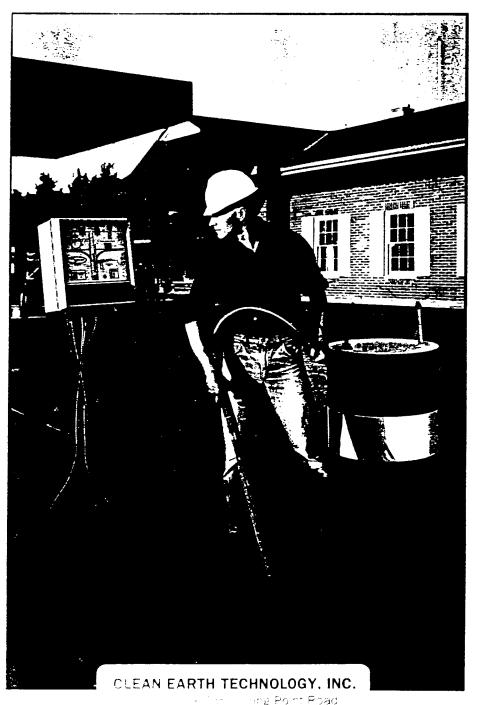
The HYDROSET™ sensor utilizes an 8" long product/water interface detector (not a conductivity sensor!) which can accurately detect the position of the interface anywhere along its length. This sends a signal back to the electronic measurement system which in turn controls a depression water flow control valve. With this technology the system can accurately hold the interface level just under the product intake and keep it there continuously within a fraction of an inch. The sensing unit s Teflon coated to minimize biological fouling.

#### Performance

The HYDROSET™ system will automatically and reliably compensate for natural changes in water fluctuations and continuously recover product. The system will not pump water into the product tank or product into the water filtration system. This is a common problem with float technology systems. Product skimming to .1 inches is possible.

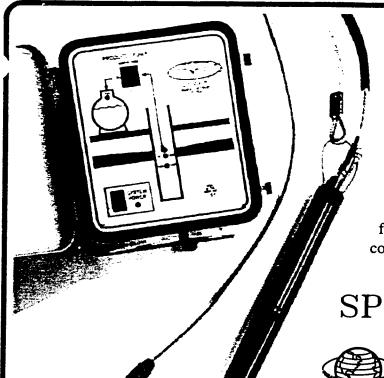
#### The System

- · An environmentally sealed electronic cabinet with user friendly control panel including electronic display of water level and product thick-
- · A light weight 3.5 pound probe with level sensing system and product pump. The probe is 1 3/4" in diameter and will fit a 2" monitoring well. No winch is required.
- · A calibrated flow meter which will measure depression water flow rates and totalizer gallonage.
- · A product tank probe with 2' and 1' from full indication and product pump shutdown when
- · A depression pump interface capable of controlling electronically powered pumps or pneumatic diaphragm pump via an electronic solenoid valve.
- · A flow control valve to accurately control water level. The system is compatible with stripping towers.



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The SpillBuster Junior is an economical electronically controlled product recovery system that can automatically recover product in 2" or larger wells. The Junior offers reliable and accurate sensing of the product/water interface to prevent water from being pumped into the product tank. When used with the Automatic Level Seek (A.L.S.) motorized reel unit the Junior can accurately track ground water fluctuations over a range greater than 10 feet with continuous product recovery.

The Junior system can also be utilized in multiple well sites with the addition of the Junior Multi-well Expansion Unit. With the Multi-well Expansion Unit up to 8 probe/pump units can be run from a single control box!

- FEATURES: 115 VAC or 12 VDC operation for permanent or portable installation.
  - Can pump product from depths of over 150 feet.
  - Automatic product tank over-ride shutoff.
  - Operates in 2" or larger well no water discharge permitting required.
  - Uses same proven technology as SpillBuster Senior Recovery System.
  - 500 gallons per day product pump capacity.

Accessories: Automatic Level Seek - motorized water table tracking.

- Range of greater than 10 feet.
- Compact, explosion proof housing.
- integrated well head clamp.
- 25 foot cable for 12 VDC operation.

Multi-well Expansion Unit - operate multiple wells from one control box.

- Up to 8 probes time-shared from one control box.
- Each well & probe can be up to 500 feet from control box & product tank.

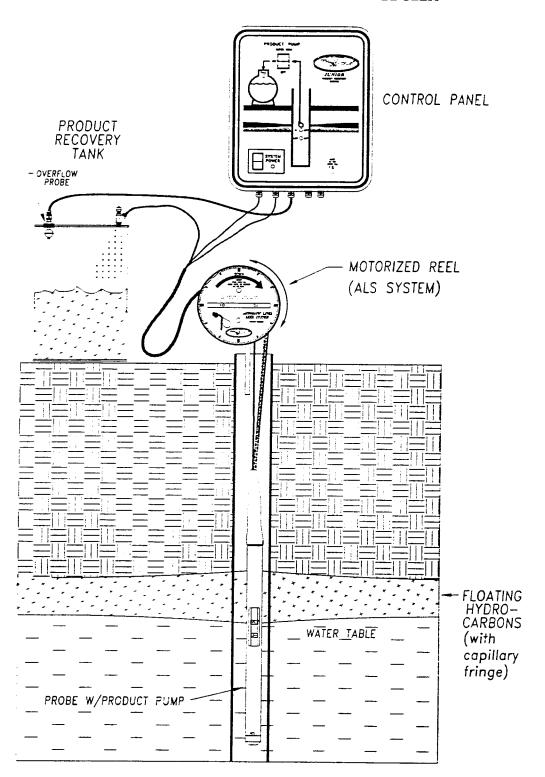
Immediate Response Box - portable rapid deployment system.

- Rugged plastic box housing a system ready to go!

CLEAN EARTH TECHNOLOGY, INC. RR 1 Box 735 Long Point Road North Ferrisburgh, Vermont 05473 (802)425-3710 FAX (802)425-2896

## SPILLBUSTER JUNIOR PRODUCT ONLY SYSTEM

SHOWN WITH AUTOMATIC LEVEL SEEK



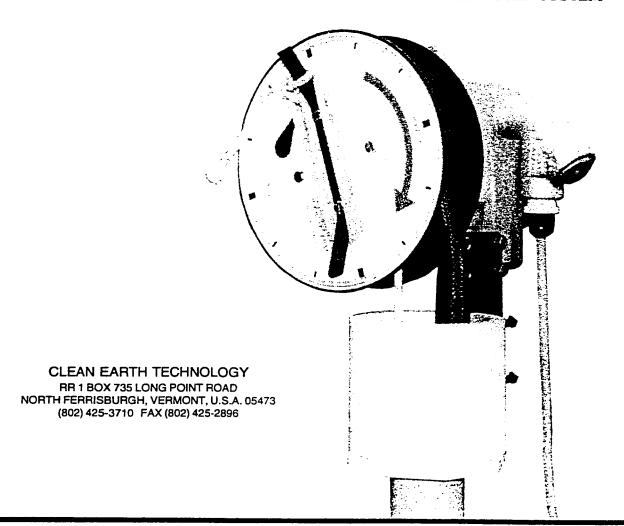
CLEAN EARTH TECHNOLOGY RR1 BOX 735 LONG POINT ROAD NORTH FERRISBURGH, VERMONT 05473 (802) 425-3710 FAX (802) 425-2896

# AUTOMATIC LEVEL SEEK SYSTEM

## A SPILLBUSTER RECOVERY SYSTEM ACCESSORY

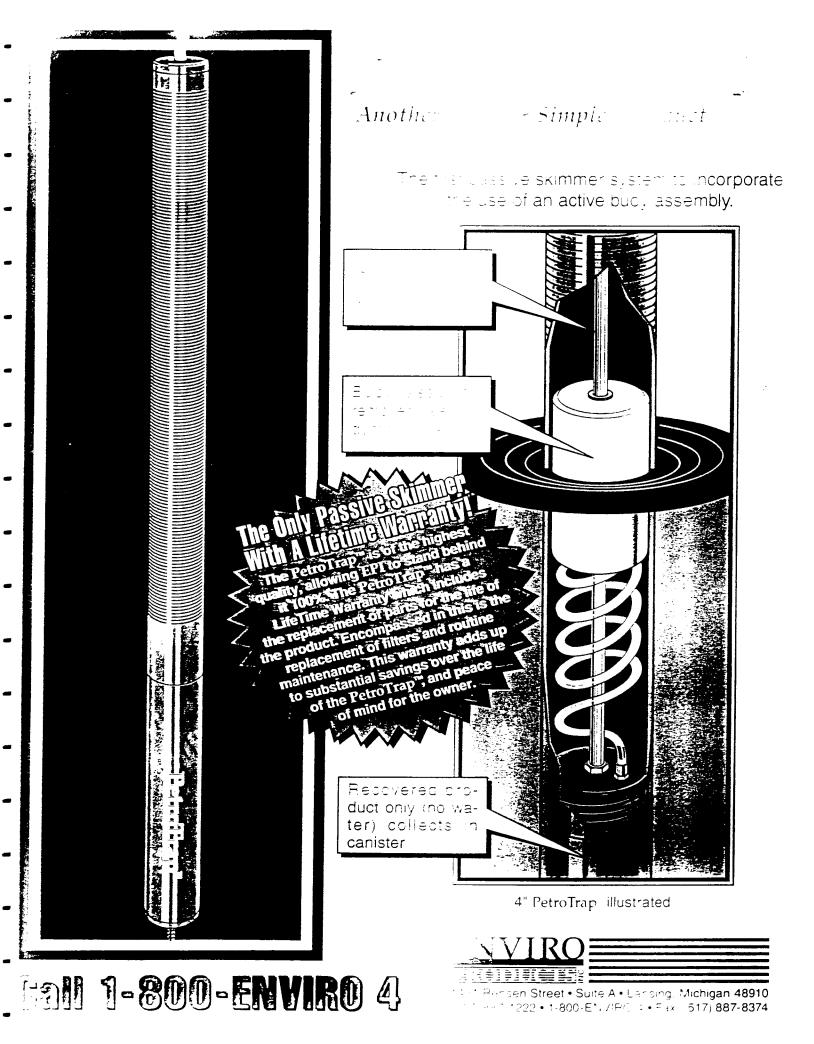
#### **FEATURES:**

- \* AUTO-TRACKING OF THE WATER TABLE IN A 2" OR LARGER WELL
- \* WILL TRACK WATER TABLE VARIATIONS OF 10 FEET OR MORE
- \* CONTINUOUS RECOVERY OF PRODUCT
- \* DESIGNED FOR USE IN EXPLOSIVE ATMOSPHERES
- \* COMPACT SIZE 12"W X 12"D X 10"H
- \* FOR PRODUCT ONLY RECOVERY (NOT FOR USE WITH WATER DEPRESSION)
- \* SIMPLE MODULAR INSTALLATION WITH SPILLBUSTER SYSTEM



APPENDIX B

ENVIRO PRODUCTS PETROTRAP™
PASSIVE PRODUCT RECOVERY SYSTEMMANUFACTURER'S LITERATURE

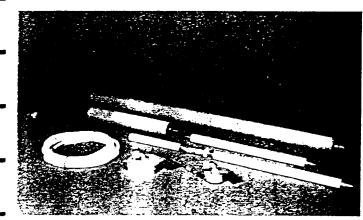


### Description:

PetroTrap — a system and on incorporates the use once buoy assembly. This cuby assembly a speep product to a sheen. The symmotic and a system is educing effective with water table or crustions as preat as 24 hones.

PetroTrap can be installed in minutes and is deal on sites where free product recovery must begin immediate. The system employs the use of a collection canister, eliminating the need to run electricity chair lines to the we

PetroTrap is divered into the we much the same way as a baser, then is suspended using the lanyard/vent tube (standard 25 length). The unit begins recovering product as soon as product is available. Periodically, the canister is emptied manually through the drain valve at the bottom of the canister.



Standard I and 4 PetroTrap Statema

	4" Petro Irap	2 Petro Irap
Diameter	3.5"	1.75
Longth	21.0"	70.00#

Length	61.0"	76.88"
Weight	*8 Lbs.	6.25 Lbs.
Volume	2.0 Liters /.53 Gallons (Otner volumes Optional)	0.7 Liters /.20 Gallons Other Volumes Optional)
Min. Depth of Water Required	29.0"	39.0"

#### Features:

- No power source required
- Installation takes only minutes
- Effective with petroleum fuels
- Ideal monitoring device to indicate migrating plumes
- Available for 2" and 4" wells
- Lifetime warranty

#### **Materials of Construction:**

- Stainless steel
- Brass
- Polyethylene
- PVC

### **Standard System Includes:**

- PetroTrap<sup>™</sup> skimmer assembly (2" or 4" Model)
- 25' suspension hose
- Choice of 2", 4", or 6" locking well cap

### **Options:**

- Additional canister which will double the PetroTrap's<sup>™</sup> capacity
- Varying lengths of suspension hose



For wells where a high yield of free product is expected, consider using a SkimRite, EPI's active skimmer system.

## Enviro Products Means Service!







## Environmental Equipment and Supplies

431 Rensen Street, Suite A • Lansing, Michigan 48910 17) 887-1222 • 1-800-ENVIRO 4 • Fax: (517) 887-8374

## **EQUIPMENT DESCRIPTION**

## PetroTrap™ Standard System

The complete PetroTrap™ free product skimmer system includes the following:

- PetroTrap<sup>™</sup> Skimmer Assembly (2" or 4" Model)
- 25' (Standard Length) Suspension Hose
- Choice of 2", 4" or 6" Locking well cap

The PetroTrap<sup>TM</sup> free product skimming system incorporates the use of an active buoy assembly into a unit having a 1.75 inch diameter (2 inch model), or a 3.50 inch diameter (4 inch model). It is suspended in a well with a 2 inch or greater diameter using a specially designed locking well cap. The floating skimmer buoy removes free product to a sheen, and will accommodate water table fluctuations as great as 24 inches. The minimum water level required in the well is 29 inches for the 4 inch model and 39 inches for the 2 inch model. The reinforced polyethylene hose, used with the locking well cap to suspend the PetroTrap<sup>TM</sup>, vents the collection canister as product is recovered.

The PetroTrap<sup>™</sup> has a tested recovery rate of up to 5.0 LPH. Site recovery rates will vary depending on product conditions and thickness. The 2 inch PetroTrap<sup>™</sup> has a canister volume of 0.7 liters (0.20 Gallons), the 4 inch model has a volume of 2.0 liters (0.53 Gallons). Recovered product is emptied through a valve on the bottom of the canister.

## PetroTrap™ Options/Accessories

## **Optional Canisters**

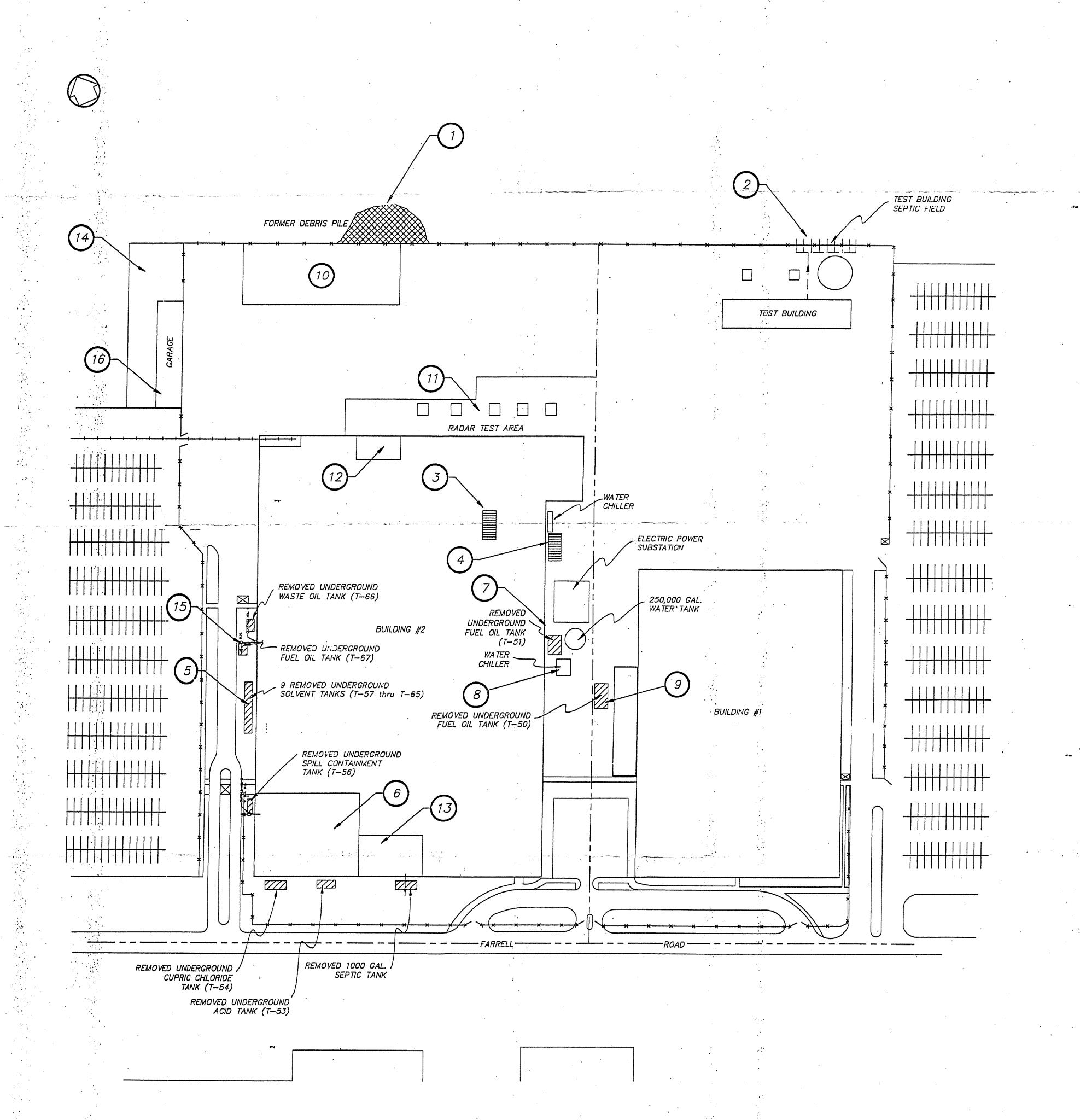
An optional Canister will increase the recovered product volume of both PetroTrap<sup>™</sup> models. The 2 inch PetroTrap<sup>™</sup> optional canister has a 0.7 liter (0.20 galions) capacity. The 4 inch optional canister has a capacity of 2.0 liters (0.53 gallons). Adding an optional canister doubles the volume capacity of the standard PetroTrap<sup>™</sup> allowing for less frequent site visits to remove recovered product. The minimum water depth increases by 30 inches on the 4 inch model and 34 inches on the 2 inch model when an optional canister is added.

### **Additional Suspension Hose**

Each PetroTrap<sup>™</sup> comes with 25 feet of suspension hose as a standard length. For those applications that require more than this, custom lengths are available in excess of 25 feet.

## Replacement Parts/Maintenance Kits

Enviro Products, Inc. also offers a full line of replacement parts and maintenance kits for the PetroTrap<sup>TM</sup> allowing future use in other recovery wells.

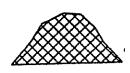


ماسيد بيرين

## AREAS OF CONCERN

FORMER DEBRIS PILE NORTH OF FRP-2 SEPTIC LEACH FIELD NORTH OF TEST BUILDING ABOVE GROUND SOLVENT TANKS IN FRP-2 REMOVED ABOVEGROUND SOLVENT TANKS AT EAST SIDE OF FRP-2 REMOVED USTS AND DRYWELL AT WEST SIDE OF FRP-2 PRINTED WIRE BOARD (PWB) ASSEMBLY AREA OF FREON RESIDUALS REMOVED UST T-50 TEMPORARY HAZARDOUS CHEMICAL STORAGE AREA RADAR TEST AREA PAINT BOOTH AREA CHEMICAL LABORATORY AND ASSOCIATED UNDERGROUND SEPTIC TANK SEPTIC AND STORM DRAINAGE HEADWALL WEST OF THE GARAGE USTS NEAR OLD METAL FINISHING ROOM FORMER GASOLINE UST NEAR THE GARAGE

# LEGEND



FORMER DEBRIS PILE LOCATION



UNDERGROUND STORAGE TANK LOCATION



ABOVEGROUND STORAGE TANK LOCATION

SITE PLAN AND AREAS OF CONCERN FARRELL ROAD PLANT GEDDES, NY

MARTIN MARIETTA CORP.

