

PHASE I RCRA FACILITY INVESTIGATION REPORT

AL Tech Specialty Steel Corporation Dunkirk, New York

VOLUME 2 of 6
Appendices A through L
October 22, 1998



ENVIRONMENTAL STRATEGIES CORPORATION PITTSBURGH, PENNSYLVANIA



ENVIRONMENTAL STRATEGIES CORPORATION

Four Penn Center West • Suite 315 • Pittsburgh, Pennsylvania 15276 • (412) 787-5100 • Fax (412) 787-8065

RECEIVED

OCT 23 1998

NYSDEC - REG. 9 FOIL __REL__UNREL

DRAFT PHASE I RCRA FACILITY INVESTIGATION

AL TECH SPECIALITY STEEL CORPORATION DUNKIRK, NEW YORK

APPENDICES A THROUGH L

prepared for

AL Tech Specialty Steel Corporation

OCTOBER 22, 1998

ENVIRONMENTAL STRATEGIES CORPORATION PITTSBURGH, PENNSYLVANIA

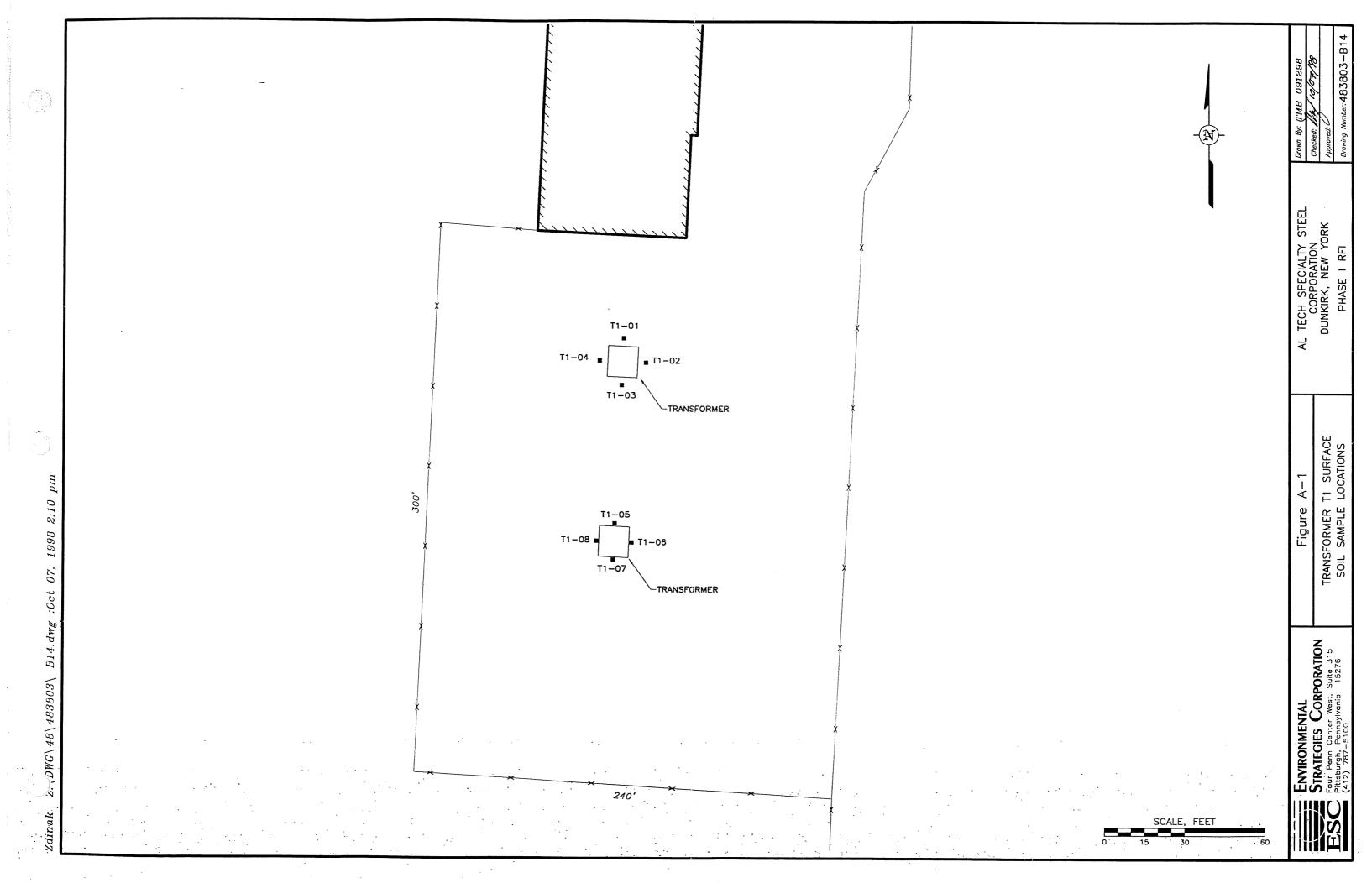
().

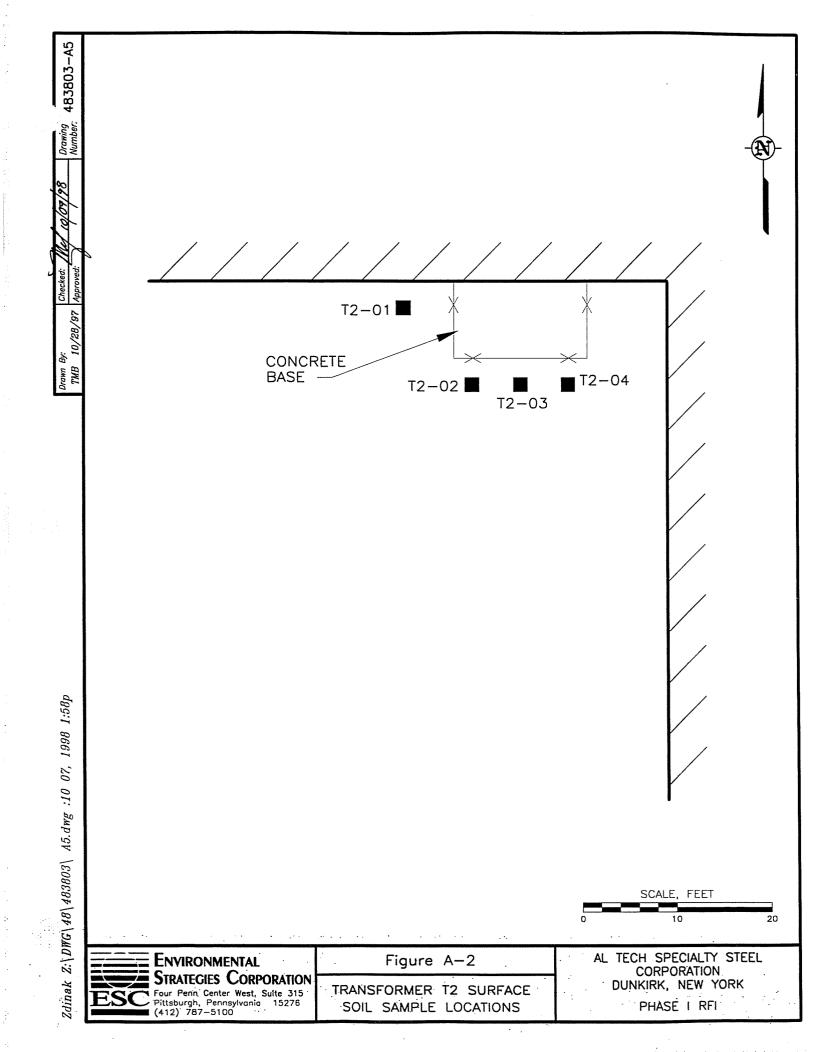
Appendix A

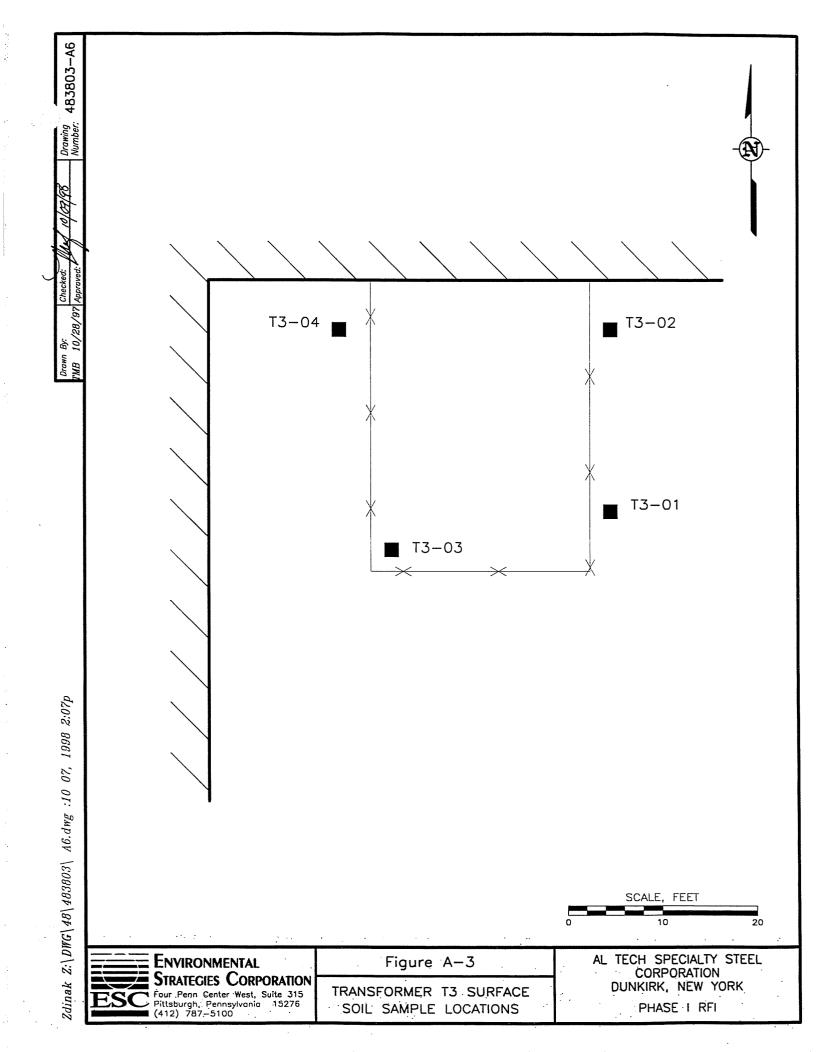
Appendix A – Transformer Area Soil Sample Location Maps and Wipe-Test Data

Sample Location Maps and Wipe-Test Data

Soil Sample Location Maps







Wipe-Test Data

CLIENT: Sterling Environmental Services
SAMPLE ID: HAP TSI #15 12:55pm
COLLECTION METHOD:

COLLECTION DATE(S): 06/10/97

SAMPLE TYPE: Wipe

AES CLIENT ID: STER AES SAMPLE ID: 728H-3

PROJECT ID: 728H

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
PCB-1016	ND	μg/wipe	100,000	DOH 312-3
PCB-1221	ND	μg/wipe	100,000	DOH 312-3
PCB-1232	ND	μg/wipe	100,000	DOH 312-3
PCB-1242	ND	μg/wipe	100,000	DOH 312-3
PCB-1248	ND	μg/wipe	100,000	DOH 312-3
PCB-1254	740,000D	μg/wipe	100,000	DOH 312-3
PCB-1260	ND	μg/wipe	100,000	DOH 312-3

CLIENT: Sterling Environmental Services SAMPLE ID: LAP Circuit Break 12:45pm COLLECTION METHOD: COLLECTION DATE(S): 06/10/97 SAMPLE TYPE: Wipe

AES CLIENT ID: STER AES SAMPLE ID: 728H-2

PROJECT ID: 728H

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	
PCB-1016	ND	µg/wipe	2.00	DOH 312-3
PCB-1221	ND	μg/wipe	2.00	DOH 312-3
PCB-1232	ND	μg/wipe	2.00	DOH 312-3
PCB-1242	ND	μg/wipe	2.00	DOH 312-3
PCB-1248	ND	μg/wipe	2.00	DOH 312-3
PCB-1254	19 D	μg/wipe	2.00	рон 312-3
PCB-1260	ND	μg/wipe	2.00	DOH 312-3

CLIENT: Sterling Environmental Services
SAMPLE ID: BRP #4750216 12:30pm
COLLECTION METHOD:

COLLECTION DATE(S): 06/10/97

SAMPLE TYPE: Wipe

AES CLIENT ID: STER

AES SAMPLE ID: 728H-1

PROJECT ID: 728H

Analytical Parameters	Analytical Results	Units	Practical Quantifiable Limit	Method
PCB-1016 /	ND	μg/wipe	1,000	DOH 312-3
PCB-1221	ND	μg/wipe	1,000	DOH 312-3
PCB-1232	ND	μg/wipe	1,000	рон 312-3
PCB-1242	ND	μg/wipe	1,000	DOH 312-3
PCB-1248	ND	μg/wipe	1,000	DOH. 312-3
PCB-1254	3,100 D	μg/wipe	1,000	DOH 312-3
PCB-1260	ND	μg/wipe	1,000	DOH 312-3

Advanced Environmental Services, Inc. Sample Traceability Report

	/st	1						***************************************							
	Analyst	June June)										
	Analysis Date	4/16/2	1/20/07	1/2/1/2	6/22/2										
-	Analytical Methodology	A.11 211- 2	100 016		8										
	Analyst				4										
	Prep Date	, , ,	£8/31/9		1	-									
	Prep Method		toH 312-3			•									
	Run #		+		+										
FFM	Group #														
cation	Sample	Collection	6/01/3		(and the second s	•	 	
Project Identification	Sample #	•	728H - 1	- 2	4-3										

Please note: Areas marked by a dash indicate that no sample preparation isrequired under the applied methodology.

ENVIRONMENTAL SERVICES, INC. 2186 LIBERTY DRIVE NIAGARA FALLS, NEW YORK 14304

CHAIN OF CUSTODY RECURD.

ロベワス	PROJECT I.D. #:	DE: FFM	PARAMETERS/REMARKS	
	PROJEC	- 30B CODE:	PARAN	PCB
	NOI	SHOW	W.O.	
	SIFICAT	, giste	16/1	
	CLAS	•	40 M	
	CONTAINER CLASSIFICATION	Q ₃	OS IN	
	oo	THIS.	ONLY ON THE	
		1	7	×
	1		SAMPLE TYPE	96
	Wines			Wipe
i :	3		SHOO SHO	
	- PCB	<i>y</i>	8	
	1		ATION	1216
	ck	2 grand	SAMPLE IDENTIFICATION	475
	AI tech	4	PLE IDE	p #
i	A	rure:	SAM	8R
	/ME:	SAMPLER'S SIGNATURE:	ME.	110Ay 12:30 BRP #4750216
	CTNA	ER'S (TIME	1 12
	PROJECT NAME:	SAMPL	DATE	110/2
٠.	. ••••	(U	۵	9

LAP Circuit Break

HAP-TST #15

12:55

TOTAL NUMBER OF CONTAINERS NOTE: Please indicate required analysis, and whom we may contact with questions, if you have not yet done so through your customer service representative. RECEIVED BY: RECEIVED BY: RECEIVED BY: DATE 1. RELINQUISHED BY: 3. REÉINQUISHED BY: 2. RELINQUISHED



July 7, 1997

Mr. Michael Guziec Al Tech Specialty Steel Corporation P.O. Box 152 Dunkirk, NY 14048-0152

Dear Michael:

This report is for laboratory analysis of the PCB wipe samples taken June 10, 1997. Please note that sample BRP #4750216 was a nonstandard wipe. The surface wiped was not flat so a template could not be used. The area wiped was only an approximation and therefore correlation to 100 sq cm would not be accurate. The other two samples were standard 100 sq cm wipes.

Very truly yours,

STERLING ENVIRONMENTAL SERVICES, INC.

Wayne K. Cameron, CHMM

Enclosures

STERLING ENVIRONMENTAL SERVICES

ANALYSIS FOR PCB CONTENT

SAMPLE DATE: JUNE 10, 1997

Prepared By:

ATHANGED MC.

"A Company Dedicated to Honesty, Quality and Service"

QA/QC VERIFICATION FOR PROJECT ID 728H

the following report, as well as the supporting data, have been carefully reviewed for accuracy, adherance to the cited methods, and completeness. All data contained in this report was generated in accordance with the AES Laboratory Quality Assurance/Quality Control Program.

Organic Chemistry

Quality Control

Project Manager

All 'Total' results on soil matrices are calculated on a dry weight basis, unless otherwise noted. Analyses noted as 'Performed in the laboratory' require immediate testing and should be performed in the field.

The following are standard abbreviations:

BQL - Below Quantifiable Limits

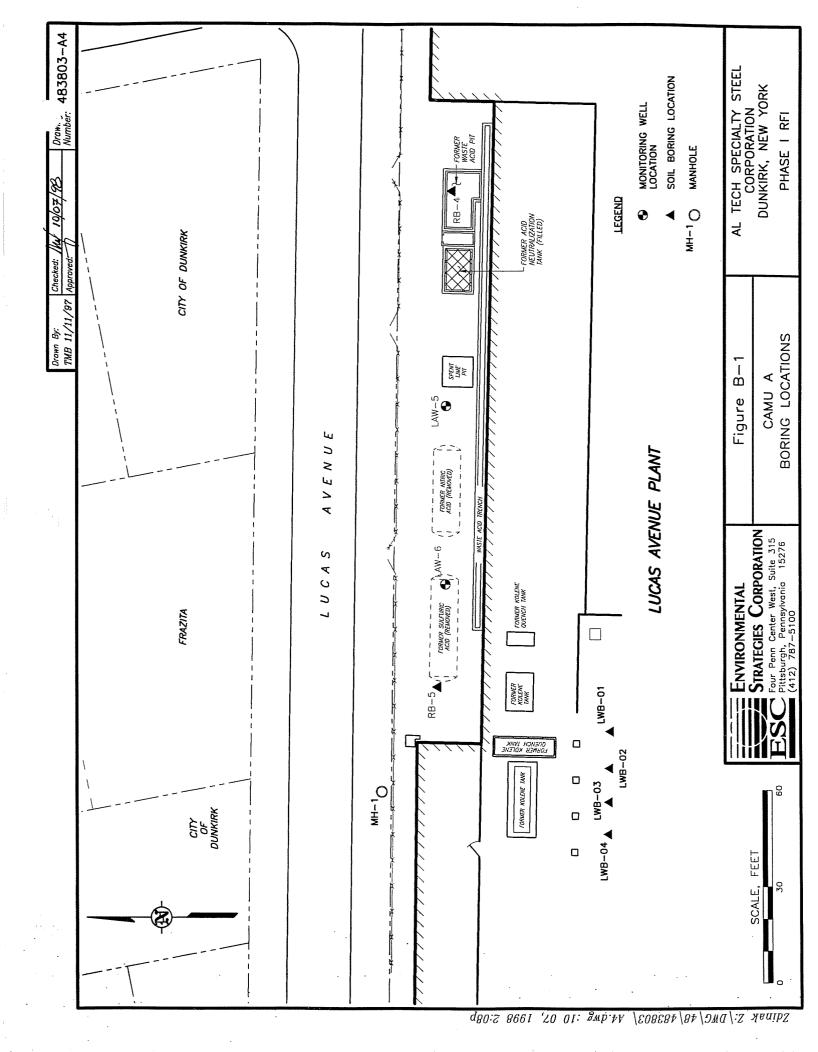
ND - None Detected

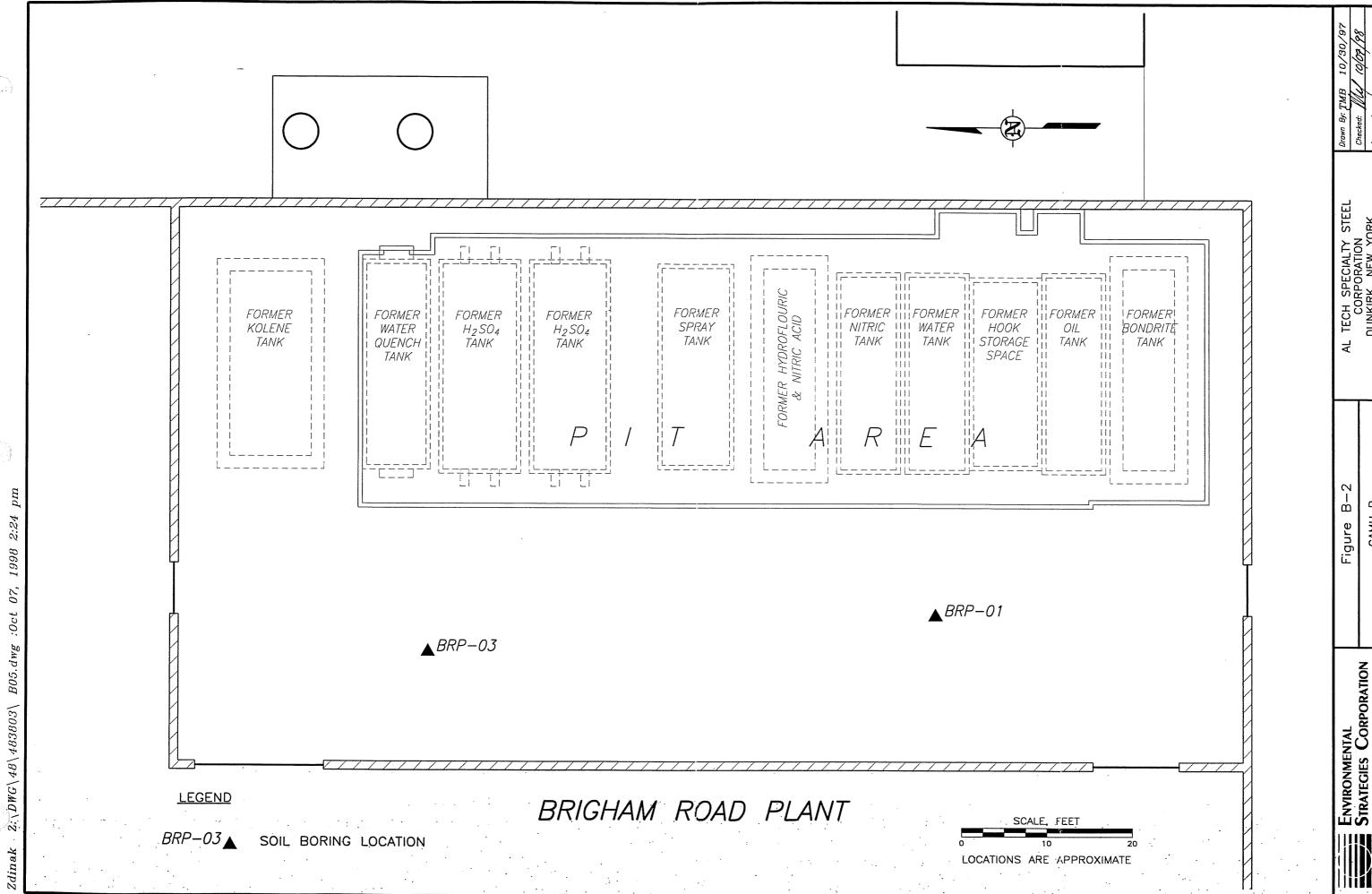
NG - No Growth of Colonies

NR - Not Requested

D - Indicates a dilution was required

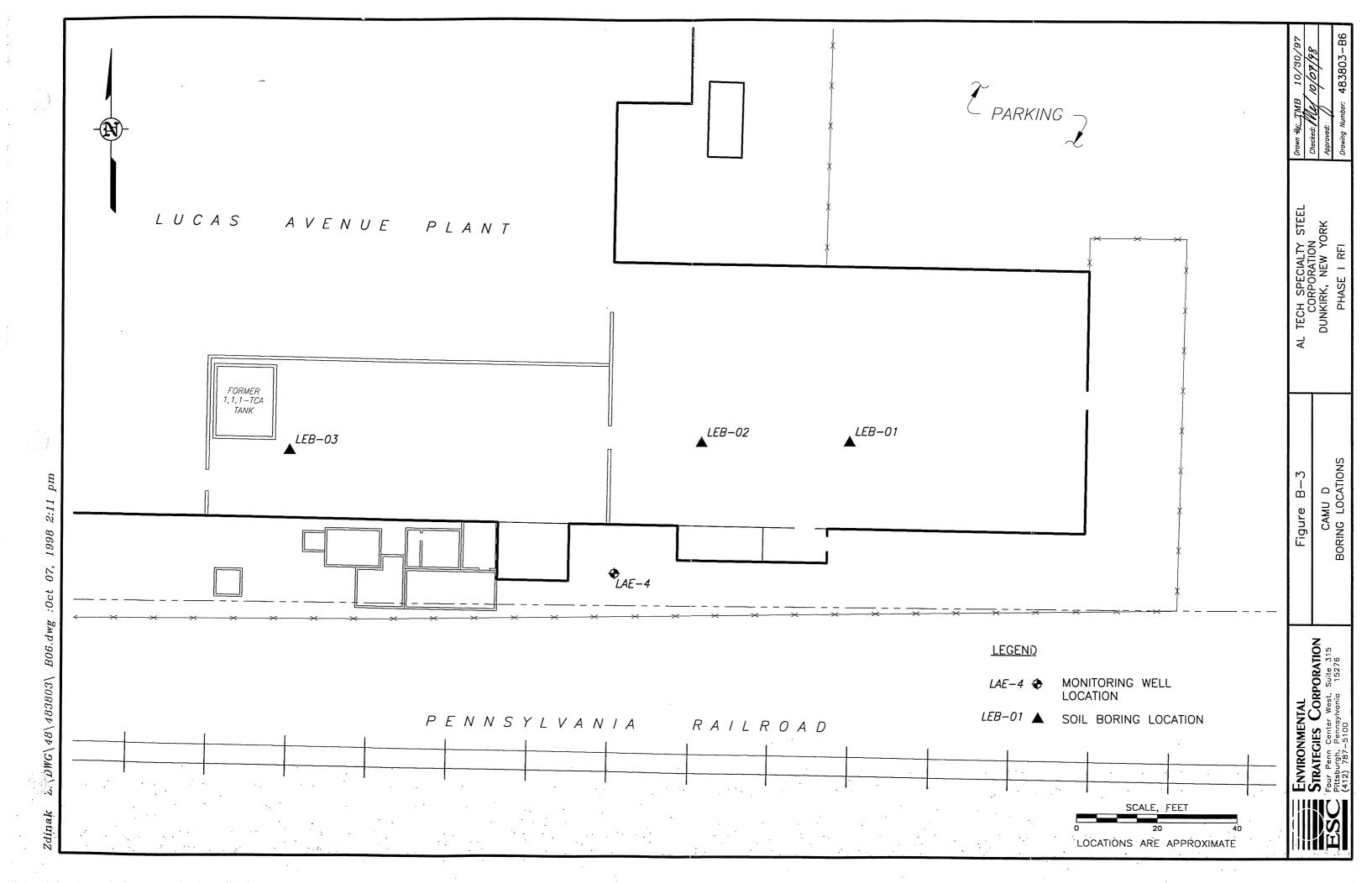
Appendix B - CAMU Boring and Soil Sample Location Maps





L TECH SPECIALTY STEEL CORPORATION DUNKIRK, NEW YORK PHASE I RFI

CAMU B BORING LOCATIONS



Appendix C - Project Status Reports

Project Status Report No. 1

PHASE I RCRA FACILITY INVESTIGATION PROJECT STATUS REPORT NO. 1

AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Project Status Report No. 1 Reporting Period - October 1996 AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Project Work Completed During the Reporting Period (October 1996)

Environmental Strategies Corporation (ESC) and the drilling and excavating subcontractors, Earth Dimensions, Inc. and Geiben Brothers, mobilized to the facility on Monday, October 21, 1996.

Between the period of October 21 and October 31, 1996, the following field activities were implemented and completed in accordance with the New York State Department of Environmental Conservation (NYSDEC)-approved Phase I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan (except as noted under Work Scope Changes, below):

- drilling, soil sampling, and installation of 17 monitoring wells (RFI-1 through RFI-17)
- drilling and soil sampling of 7 outdoor soil borings (RB-1 through RB-7)
- drilling and soil sampling of indoor soil borings at the Brigham Road Plant (BRB-series) and Lucas Avenue Plant east and west (LAE- and LAW-series)
- excavation, soil sampling, and backfilling of 11 test pits (TP-1 through TP-11)
- surface soil sampling at
 - monitoring well locations
 - soil boring locations
 - ground surface locations
 - outdoor transformer area locations
 - background locations
- surface water and sediment sampling in the unnamed tributary to Crooked Brook
- documentation of conditions along Crooked Brook, including identification of various outfalls/discharges to the stream, from Howard Avenue to Sixth Street

Development of the newly installed monitoring wells began on Tuesday, October 29, 1996, but had not been completed by October 31, 1996.

Summary of Findings and Laboratory Data

The findings of the investigation are currently limited to field observations.

In general, the subsurface stratigraphy is generally comprised of five zones:

- miscellaneous fill
- medium-stiff brown silt and clay
- very stiff gray clay and silt
- weathered shale bedrock
- competent shale bedrock

The bedrock surface appears to be undulate; depths to the weather bedrock varied across the site from approximately 10 to 18 feet below ground surface.

As anticipated, wet to saturated conditions were limited to the interface of the weathered shale bedrock and overlying gray clay; in several locations, including RFI-6, little to no water was observed during soil boring activities or installation of monitoring wells. Also as anticipated, water levels in the new wells rose following installation to within approximately 5 feet of the ground surface.

Field measurements of water from several of the newly installed wells (RFI-7, RFI-17, and RFI-13) and one existing well (MW-3), located immediately downgradient of the Bar Finishing & Storage (BFS) Area Pickle House, and the former BRP Pickle House, indicate pH values of approximately 7 standard units.

Well development observations suggest that, due to the fine nature of the subsurface materials and despite the use of both a slotted screen size of 0.01-inch machine slot and of fine sand pack, it is unlikely that the turbidity in these wells will decrease sufficiently (to below 50 nephelometric units) and it is anticipated that both total and dissolved groundwater aliquots will be collected during implementation of the groundwater sampling events.

Laboratory data is not yet available.

Summary of Work Scope Changes

During a site walk with representatives of NYSDEC (Scott M. Menrath and Denise Radtke), on Tuesday and Wednesday, October 22 and 23, 1996, the locations of the following environmental media sampling locations were altered from those identified in the approved Work Plan, as follows:

monitoring wells

- RFI-4 was moved to a location approximately 140 feet east of that shown in Figure 7 of the Work Plan, to account for potential groundwater flow to the north and east from SWMUs 13B and 14B, Crucible Disposal Area and Waste Disposal facility; the original location based no an assumption that all site groundwater flow to the northwest
- RFI-5 was moved to a location approximately 140 feet east of that shown in Figure 7, to account for potential groundwater flow to the north of the former east Lucas Avenue Plant (LAP) pickling area and 1,1,1-trichloroethane degreaser tank
- RFI-7 was moved to a location east of shown in Figure 7, to address potential groundwater flow to the north from the BFS Pickle House, CAMU C; due to the location of underground process lines running east-west immediately north of the fence surrounding the Pickle House yard area, ESC subsequently moved the well to within the fenced area, at the approximate mid-point of the Pickle House building
- RFI-10 was moved to a location northwest of that shown in Figure 7, due to the continued use of the unit intended for evaluation, SWMU 11, Shark Pit Residual Material Loading Area and the potential for the well to be destroyed or damaged; the new location is on the southeast corner of the facility's wastewater treatment plant building
- RFI-17 was moved to a location approximately 30 feet north of that shown in Figure 7 and to within the fence surrounding the Pickle House yard, due to the presence of an underground high-pressure natural gas line and process lines in the area originally proposed

indoor borings

- former LAP west pickling area borings were moved; due to overhead constraints and the presence of materials potentially containing residuals at the ground surface, the four soil borings to be completed in this area (LWB-1 through LWB-4) were relocated approximately 15 feet south of those originally planned
- one of the three borings in the former LAP east pickling area (LEB-3) was relocated approximately 80 feet east of that originally planned to a location immediately proximate to the former 1,1,1-trichloroethane degreaser tank to evaluate potential impact from this unit
- three locations were selected in the former BRP pickling area; along a north-south trending line, parallel to and approximately 20 feet east of the open pit area (BRB-1 through BRB-3); these locations had not previously been identified

surface water and sediment locations

 the downstream location originally proposed (S-3 in Figure 7), was relocated approximately 120 feet downstream to an area of deposition to ensure collection of stream sediments

- the mid-stream location originally proposed (S-2 in Figure 7), was relocated to former Location
 S-3
- the upstream location originally proposed (S-1 in Figure 7), was relocated to former Location S-2, due to the absence of sedimentation in the original location, difficult accessibility, and presence of construction debris from the road overpass

Due to the extreme difficulty in collection of the sediment samples from the unnamed tributary, samples of sediment were not collected for grain-size analysis. Evaluation of the grain-size will, therefore, be limited to the field classification of the materials.

Also during the site walk, the condition of the indoor transformers T4, T5, and T6, were evaluated. The floor of T4, appeared to be without staining although fine soil was present. The floor of T5 was stained in several locations, although the concrete was intact and in good condition. The floor of T6 was also intact and in good condition; a limited amount of sorbent material and a small stain were observed on the floor adjacent to the unit. AL Tech and NYSDEC agreed that the floors in all these areas should be cleaned. Subsequently, wipe tests will be performed in T5 and T6 for polychlorinated biphenyls analysis.

Summary of Contacts with the Public and Public Agencies

Pursuant to a request by NYSDEC, ESC prepared a revised Community Relations Plan (Appendix D to the Work Plan) for AL Tech. A Fact Sheet was distribution to property owners or residence immediately proximate to the AL Tech facility which summarized the work to be performed. In addition, AL Tech also prepared a notice for publication in the local newspaper, *The Observer*. The Fact Sheets were mailed to those persons identified in the plan on Wednesday, October 16, 1996; the notice appeared in *The Observer* on Friday, October 18, and Monday, October 21, 1996.

Identified Problems/Solutions

There were no problems identified during the reporting period.

Personnel Changes

There were no changes in project personnel during the reporting period. ESC project personnel include:

- Martha Fleming, Project Manager
- Greg Frisch, Field Team Leader/Geologist
- Patrick Peterson, Health and Safety Officer/Geologist
- Glen Rieger, Engineer
- Blayne Diacont, Geologist
- Marie DeGraef, Geologist

The AL Tech project manager is Dennis L. Zurakowski, P.E.

The laboratory analytical subcontractor is Antech, Ltd., of Export, Pennsylvania; the data validator is Heartland Environmental Services, Inc., of St. Peters, Missouri. Geotechnical testing is to be performed by Geotechnics, Inc., of East Pittsburgh, Pennsylvania.

Project Work to be Completed During the Subsequent Reporting Period (November 1996)

The following activities are scheduled for completion or implementation during the next reporting period:

- completion of well painting, labeling, and repairs to existing site wells (week of November 4, 1996)
- completion of well development (November 4 to 6, 1996)
- implementation of the first groundwater sampling event (November 18 to 22, 1996)
- site survey (November 18 to 22, 1996)

Project Status Report No. 2



ENVIRONMENTAL STRATEGIES CORPORATION

Four Penn Center West • Suite 315 • Pittsburgh, Pennsylvania 15276 • (412) 787-5100 • FAX (412) 787-8065

PHASE I RCRA FACILITY INVESTIGATION PROJECT STATUS REPORT NO. 2

AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Project Status Report No. 2 Reporting Period - November 1996 AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Project Work Completed During the Reporting Period (November 1996)

The drilling and excavating subcontractors, Earth Dimensions, Inc. and Geiben Brothers, demobilized from the facility on Friday, November 1, 1996.

Between the period of November 1 and November 22, 1996, the following field activities were implemented and completed in accordance with the New York State Department of Environmental Conservation (NYSDEC)-approved Phase I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Work Plan (except as noted under Work Scope Changes, below):

- completion of well painting, labeling, and repair of surface casing (for existing wells) by November 6
- development of the newly installed monitoring wells which began Tuesday, October 19 and was completed on Wednesday, December 6
- collection of groundwater samples from all existing facility wells (excluding MW-2 which could not be located and Wells WP-1 through WP-3 and WP-6 through WP-8 [see Summary of Work Scope Changes]) was completed during the period of November 18 to November 21
- surveying of the locations and elevations of all Phase I RFI soil borings, monitoring wells, test pits, and background locations (excluding the indoor BRB-, LAE-, and LAW-series borings) was completed during the period of November 18 to 21

Summary of Findings and Laboratory Data

During the groundwater sampling event, the following observations were made:

- the purge water contained relatively few fines and the turbidities were generally below 50 nephelometric units; consequently, for most locations, sample aliquots were collected for total but not dissolved metals analysis
- the samples collected from Wells MW-3, LAW-5, and LAW-6 were discolored;
 water from Wells MW-3 and MW-5 were pale yellow and the water from LAW-6 was brown (see Identified Problems/Solutions)

Summary of Work Scope Changes

Brigham Road Plant Pickle House

During advancement of the southern-most boring completed in the idled BRP Pickle House (BRB-1) the following subsurface conditions were encountered:

- fill was present from the ground surface to an approximate depth of 6 feet
- a concrete foundation was present from approximately 6 to 11 feet below ground surface (ft-bgs)
- dark gray clayey silt was present from approximately 11 to 13 ft-bgs
- dark gray silty clay was present from approximately 13 to 16 ft-bgs
- shale bedrock was encountered at approximately 16 ft-bgs

Subsurface samples were collected for laboratory analysis at depths of $\,2$ to $\,4$ ft-bgs and $\,15$ to $\,17$ ft-bgs.

The concrete foundation was also encountered at a depth of 5 ft-bgs at the location of the northern-most boring to be advanced in this area (BRB-3), despite off-setting the boring to the west in order to avoid the foundation.

Based on the apparent lateral extent and significant thickness of the foundation, and because samples had been successfully retrieved from BRB-1, NYSDEC permitted AL Tech to not complete BRB-3 to the bedrock surface and to omit the third proposed boring to be completed midway between BRB-1 and BRB-3, at this time.

Willowbrook Pond Monitoring Wells

The Phase I RFI Work Plan did not identify specific existing wells, located in the vicinity of Willowbrook Pond, for inclusion in the groundwater sampling and analytical program. The work plan did indicate that only two of the eight wells would be sampled and selection would be largely contingent upon their structural integrity. All of these wells (WP-1 through WP-8) appeared to be of good structural integrity based on the well evaluation completed by ESC. Consequently, ESC personnel, on behalf of AL Tech, requested that NYSDEC identify those wells which were to be sampled; the agency selected Wells WP-4 and WP-5.

Former Surface Impoundment Wells

Many of the site wells were purged dry despite the use of low-flow submersible pumps. Recovery for most of these locations was sufficient to allow for sample collection (in its entirety) shortly after purging was completed. However, Well WT-2, which was purged on Tuesday, November 19, 1996, had only recovered to an approximate maximum height of 0.6 feet by Thursday, November 21, when sample collection for the site was completed.

NYSDEC agreed that it would be permissible to wait an additional period of time to allow for sufficient recovery of the well for collection of the full sample parameter list. Samples from this location were subsequently collected on Monday, November 25, 1996.

AL Tech previously committed to the collection and analysis of groundwater samples from the WT-series wells proximate to the closed surface impoundment (SWMU 17) on an annual basis. During implementation of the first round of groundwater sampling and analysis, completed in November, ESC collected samples from these wells (WT-1A, WT-1B, WT-2, WT-3, and WT-4) and a newly installed well (RFI-9) (located proximate to this unit) for analysis of both the Phase I RFI parameter list and the annual parameter list. The additional (annual) parameter list includes:

- target compound list pesticides
- total organic carbon
- total suspended solids
- carbon oxygen demand

Because metals are of particular interest in this area and despite turbidities of less than 50 NTUs at most locations, ESC collected both total and dissolved metals aliquots for each of these wells. The same analytical program will be performed for the second groundwater sampling event (scheduled for February 1997). The samples were collected by ESC before this action was discussed with NYSDEC personnel.

Summary of Contacts with the Public and Public Agencies

ESC had no contact with the public or public agencies other than the NYSDEC during the reporting period.

Identified Problems/Solutions

Refer to Summary of Work Scope Changes regarding the former BRP Pickle House borings (BRB-series).

Due to the observance of discolored water in Wells MW-3, LAW-5, and LAW-6, ESC requested expedited reporting of the hexavalent chromium data for all site wells and select wet chemistry parameters for these three wells of interest. The preliminary hexavalent chromium data for all site groundwater samples is presented in Attachment 1. As shown in the attachment, hexavalent chromium was only detected in the wells of interest. The information compiled to date for MW-3, LAW-5, and LAW-6 are presented in Tables 1 and 2. As shown in Table 1, hexavalent chromium was detected in the samples from Wells MW-3, LAW-5, and LAW-6 at concentrations of 7,540 ug/l, 5,240 ug/l, and 36,100 ug/l. The preliminary metals data is

Table 1

Preliminary Miscellancous Groundwater Analytical Data Wells LAW-5, LAW-6, MW-3, RFI-7, and RFI-17 Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Hexa Chro		5240 36100
Am	< 0.10 1.8 2.0	
Sulfate (mg/l)	660 1477 359	2300
Nitratc as N (mg/l)	83 61 2.4	30
Chloride (mg/l)	250 220 410	300
Fluoridc (mg/l)	0.63 0.56 0.57	0.19
Specific Conductance (umhos/cm)	3250 4130 2440	3160
pH (s.u.) (a)	7.27 7.03 7.26	6.98 8.98
Well Location	BFS Pickle House	LAP West Pickle House
	MW-3 RFI-7	LAW-5 LAW-6

a/ s.u. = standard units
umhos/cm = microhoms per centimeter
mg/l = milligrams per liter
ug/l = micrograms per liter

MEFVPB1202

Preliminary Metals Groundwater Data for Wells LAW-5, LAW-6, MW-3, RF1-7, and RF1-17 Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

				Well Locations	cations			011-170	17
	7 - WA 1	TVM	-AW-6		MW-3		RFI-7	Total	Dissolved
Parameter	Total Dissolved	Total	Dissolved	Total	Dissolved	10121	The state of the s		
				,	11 001	11001	Ϋ́	380	100 U
1	10 U	550	180	2500	100 00	119	AN	0.0	Ω9
Aluminum	. 5	Ω9	0.0	∩ °		1.0	AN	10	201
Antimony		170	170	10	1 C	43	Y N	81	74
Aisenic	NA NA	20	. 21	43	C 3	. 0	ΑN	3	ED.
Bervllium	AN 6	2 Ū	2.0	† II	5 U	5 U	NA	SU	5.0
Cadmium	S U NA	&	7,000	18000	180000	420000	NA	130000	150000
Calcium	240000 NA	13000	13000	6400	6200	19	Ϋ́	10 U	0.01
Chromium (total)	4100 NA	42000	42000	7540	Y Z	10 U	NA NA	10 U	Y S
Hexavalent Chromium		36100	NA 22	10 OI	10 U	11	ΝΑ	10 U	0.01
Cobalt	15 NA	97	011	25	11	39	Y :	87 .	97
. Copper		1000	130	5300	30 U	390	AN :	1100	3
Iron		1 1 1	1.0	4	10	10	Y ;	0000	47000
Lead	D. D. L.	00052	00092	48000	51000	130000	Š;	40000	220
Magnesium		10	10 U	240	73	2300	ζź	27	٠.
Manganese	120	? 1	ı	l	ı	1 9	Υ	410	360.
Mercury		2900	0009	400	410	1300	ζ Z	40 U	40 U.
Molybdenum	400 AX	59	25	40 U	40 U	00036	Y Z	20000	24000
Ziger Ziger		14000	14000	3700	3200	111	, V	10	10
Potassium		29 414	, r. 129)		5 T 01	NA	10 U	10 U
Selenium .	AN 10 U	21	15	10 U	0.00	290000	AN AN	86000	00006
Silver		2300000	2200000	400000	4 11	4 U	NA	4 U	4 U
Thalling		9 9 9 1	S 66	7.2	20 U	U 05	VA	20 U	⊃ °°
Vanadium	S0 U NA	210	15	20 0	8	23	NA	11	o
Zinc	16 NA	74	2				ŧ		
		-1	1			٠.			

MEFPreLAWGW

49

Table 2 (continued)

Wells LAW-5, LAW-6, MW-3, RFI-7, and RFI-17 Preliminary Metals Groundwater Data for AL Tech Specialty Steel Corporation Phase I RCRA Facility Investigation Dunkirk, New York Facility

U.S. EPA Maximum Contaminant Level (d)	ſ	9	ı	2000	4	8	1 11 11 11 11 11 11 11 11 11 11 11 11 1	100	(ı	l ·		I		1		2	ı	100	i	50		ı	ι '	7	1	ı	
NYSDEC Ambient Water Quality Standards and Guidance Values (c)	I	E	25	1000	en .	10	;	50	ı	1	200	300	30	C7	!	300	2	I	ı	ı	10	01	20	ı	4	1	300	1 1 1 1 1 1
New York State Water Quality Standards for Class GA Waters (b)	1	t	25	1000		10		.50	. 50	1	200	007	300 (1)	ı	1	(J) 00E	2	1	1	1		01	50	20000	ı	1	300	200
NYSDEC TAGM 3028 Groundwater Action Levels (a)	(e) 1	(F)	2.5	1000				05	20		1 00	007>	300 (t)	15	35000	300 (f)	, 69	140	002		•	10	50	< 20000	4	0050	200	<300
Parameter	· · · · · · · · · · · · · · · · · · ·	Auminum	Antimony	Arsenic	Darium	Berymum	Cadmidiii	Calcium	Chromium (total)	Hexavalent Chromium	Cobalt	Copper	Iron	Lead	Magnesium	Managaga	Mangancac	Meleting	Molyodenam	Nickel	Potassium	Selenium	Silver	Sodium	Tt-11::-	l namum	Vanadium	Zinc

a/ New York State Department of Environmental Conservation, November 30, 1992, "Contained - In Criteria for Environmental Media," Technical Administrative Guidance Memorandum (TAGM) 3028.

Lovel (d)

MEF\PreLAWGW

1000

法法院的安徽并不是不可以推出国家的

3000

c/ New York State Department of Environmental Conservation, October 1991, "Draft Cleanup Policy and Guidelines." b/ New York Codes, Rules, and Regulations (NYCRR), Title 6, Chapter X. Parts 700 - 705.

d/ U.S. Environmental Protection Agency Final Maximum Contaminant Levels (MCLs) for drinking water. The values are current.

e/ "-" materies not established.

f/ The sum total of iron and manganese concentrations shall not be greater than 500 ug/l.

Attachment 1



ACTO TESTING LADS, INC.

3916 Broadway Buffalo, NY 14227-1104 Tel (716) 684-3300 Fax (716) 884-3303

Technical Report #8B-10738E Project Name: Al Tech-Dunkirk Project #483803

Mr. Ed Forrai ANTECH LTD One Triangle Drive Export, PA 15632

SUBJECT:

Analyses of thirty-six (36) water camples received on November 19, 20, 21 and 22, 1996.

RESULTS:

See Pages Two and Three.

EXPERIMENTAL:

The analyses were determined according to "Standard Methods for the Examination of Water and Wastewater," 18th Edition.

ACTS TESTING LABS, INC.

Charles E. Hartke

Manager, Chemistry Laboratory

ACTS TESTING LABS, INC.

Lisa M. Clerici, Supervisor

Wet Chemistry Laboratory

ACTS TESTING LABS, INC.

Elizaboth R. Hausler, Supervisor Gas Chromatography Laboratory

cme



Hexavalent Chromium	ACTS #6B-10738E	ACTS #6B-10739E	ACTS #6B-10740E
	ALT-GW-RFI03-1196	ALT-GW-RFI02-1196	ALT-GW-B1-1196
	< 0.01	< 0.01	< 0.01
Hexavalent Chromium	ACTS #6B-10741E	ACTS #6B-10742E	ACTS #6B-10743E
	ALT-GW-RFI116-1196	ALT-GW-RFI01-1198	ALT-GW-RFI11-1196
	< 0.01	< 0.01	< 0.01
Hexavalent Chromium	ACTS #6B-10744E	ACTS #6B-10823E	ACTS #6B-10824E
	ALT-GW-EB01-1118	ALT-GW-WT1A-1198	ALT-GW-WT1B-1196
	< 0.01	< 0.01	< 0.01
Hexavalent Chromium	ACTS #8B-10825E	ACT8 #6B-10826E	ACTS #8B-10827E
	ALT-GW-RFI04-1196	ALT-GW-WT3-1196	ALT-GW-WT4-1196
	< 0.01	< 0.01	< 0.01 (< 0.01)*
Hexavalent Chromium	ACTS #6B-10828E	ACTS #6B-10829E	ACTS #8B-10830E
	ALT-GW-WT4-1196D	ALT-GW-RF109-1196	ALT-GW-RFI06-1196
	< 0.01	< 0.01	< 0.01
Hexavalent Chromium	ACTS #8B-10831E	ACTS #6B-10870E	ACTS #6B-10871E
	ALT-GW-RFI10-1196	ALT-GW-MW1-1196	ALT-GW-MW3-1196
	< 0.01	< 0.01 (< 0.01)*	7.54
Hexavalent Chromium	ACTS #6B-10872E	ACTS #6B-10873E	ACTS #6B-10874E
	ALT-GW-RF105-1196	ALT-GW-RFI08-1196	ALT-GW-RFI07-1198
	< 0.01	< 0.01	< 0.01
Hexavalent Chromium	ACTS #6B-10875E	ACTS #6B-10876E	ACTS #6B-10677E
	ALT-GW-RFI17-1196	ALT-GW-RFI13-1196	ALT-GW-RFI13-1196D
	< 0.01	< 0.01	< 0.01
Hexavalent Chromlum	ACTS #6B-10878E	ACTS #6B-10679E	ACTS #68-10880E
	ALT-GW-RFI13-1198MS	ALT-GW-LAE4-1106	ALT-GW-RFI14-1196
	< 0.01	< 0.01	< 0.01
Hexavalent Chromium	ACTS #6B-10881E ALT-GW-RFI15-1196 A	ACTS #6B-10882E LT-GW-RFI15-11960	ACTS #6B-10883E ALT-GW-RFI15 1196MS
	~ U.V I	< 0.01	< 0.01

Results are reported as milligrams per liter (mg/L). *=Duplicate results



ACTS #6B-10884E

ALT-GW-EB02-1196 < 0.01 ACTS #8B-10884E ALT-GW-WP4-1186

ACT6 #6B-10965E ALT-GW-WP5-1196 < 0.01

< 0.01

ACTS #6B-10966E

ALT-GW-LAW5-1196 5.24 (5.24)* ACTS #6B-10987E ALT-GW-LAW6-1196

ACTS #88-10968E ALT-GW-RFI12-1196

36.1 < 0.01

Hexavalent Chromium

Hexavalent Chromium

Results are reported as milligrams per liter (mg/L).

presented in Table 2. AL Tech is currently developing a plan to address conditions both proximate the BFS Pickle House (MW-3) and the LAP West Pickle House (LAW-5 and LAW-6).

During the construction of Well RFI-12, the augers became lodged. The drilling subcontractor rotated the augers in order to release them. As a consequence, the well screen was damaged. The damage was confirmed by the high level of siltation observed during the well development and purging. Despite this damage, groundwater sample aliquots were successfully collected. Based on the resultant laboratory analytical data and the amount of siltation which occurs in the future, it may be necessary to install a replacement for this well.

Several of the new well pads require additional measures to ensure future well integrity. This is the result of weather conditions at the time of installation (less than 40 degrees Fahrenheit). Such additional work will be completed in the spring of 1997, as appropriate.

Personnel Changes

There were no changes in project personnel during the reporting period.

Project Work to be Completed During the Subsequent Reporting Period (December 1996)

The following activities are scheduled for completion or implementation during the next reporting period:

- receipt of the site survey data
- receipt of initial soil analytical packages
- submittal of these analytical packages to the data validator
- ongoing evaluation of groundwater conditions
- preliminary analysis of site physical data

Appendix D - Soil Boring and Monitoring Well Construction Diagrams

g :09 14, 1998 5:15p		
1998		
14,		
30: ž		
K:, SPROJ \ DUNKIRK \ GEO \ LOGS \ Rb-01.dwg :		
\S507		
CEO\		
TRK\		
DUNK		
.SPROJ\		
K: 1-	٠	
Zdinak		

ENVEROMENTAL STRATEGIES CORPORATION For Per Per Center West, Sale 315 Prize Per Center West, Sale 315 Prize Per Center West, 1527-5100 Date (\$\frac{1}{2}\$: 10/31/96 Total Depth: 9.00' Contractor: Earth Dimensions Colling Method: Hollow Stem Augers Delling Method: Hollow Stem Augers Logged By: Grag Prizeth Permit Date (\$\frac{1}{2}\$): 10/31/96 Permit Date (\$\f	ENVIDONMENTAL STRATE	CIES CORPORATION	Project No.: 483803	Site ID: RI	B-01
Size Location: Inside Howard Avenue Wills	Four Penn Center West, Suite 315	oies com on mon	Project Name: AL TECH - DUNKIRK, N	EW YORK	
Contractor Barth Dimensions Comp. Depth: NA Drilling Method: Bollow Stem Augers Corad. Surf. El. 695.65' Lagged By. Greg Prisch Permit Date: / / Remarks: Sereens: Stype: size: dis: 0.001 fm: 0.0' Sereens: Stype: size: dis: fm: to: fm: to: fm: to: fm: dis: fm: to: fm: fm: dis: fm: fm: fm: fm: fm: fm: fm: fm: fm: fm	(412) 787-5100		Site Location: Inside Howard Avenue	Mills	
Drilling Method: Hollow Stem Augers Grad. Surf. El: 656.657 Hank Casing: type: dia: 0.00in fm 0.00" to: 100	Date(s): 10/31/96 - 10/31/96	Total Depth: 9.00'	Top-Well Casing: NA	Datum: Me	ean Sea Level
Drilling Method: Hollow Stem Augers Crnd. Surf. El. 635.83' Ellank Casing: type: dia: 0.00in fm: 0.0' to:	Contractor: Earth Dimensions	Comp. Depth: NA		lia: 0 00in	fm: 0.00' to: 0.00'
Remarks: Screens: type: size: dia: lm: to: fm: to: fm: to: fm: fm: fm: fm: fm: fm: fm: fm: fm: fm	Drilling Method: Hollow Stem Augers	Grnd. Surf. El.: 635.63'			111. 0.00
type: size: dia: fm: to: fm: to: fype: size: dia: fm: to: fm: fm: fm: fm: fm: fm: fm: fm: fm: fm	Logged By: Greg Frisch	Permit Date: / /	type:	lia: 0.00in	fm: 0.0' to:
The second secon	Remarks:		type: size: d		
10 - 15 - 15 - 15 - 15 - 15 - 15 - 15 -	Depth (feet) Blow Count Recovery (%) Sample No. Graphic Log USCS Code	Ма	sterial Description		Well Construction
10- 15- 20-	16 30 F G	RAVEL, with sand and metal fr roller bit through concrete fr	ragments, dark gray, damp, fill; om 2 to 5 feet.	The Second Lebison Man	
15-	7 14 18 18 7 50 58-R8-01-0709 9 9 9		ents, medium to dark brown, moist.		
30-				** .	
Page 1 of 1			•	•	

		Fnv	IRONMEN	ITAI	STRA	TEGIES CORPORATION	Project No.: 483803		Site ID: F	RB-02	
		Four I	Penn Center urgh, Pennsy	West /Ivania	, Suite 1527	315 5	Project Name: AL TECH -	dunkirk, ne	W YORK		
<u> </u>		(412)	787-5100				Site Location: Howard Aven	ue Mills Sto	rage Area	•	
Date(s): 10/3	1/96 -	10/31/96			Total Depth: 18.00'	Top-Well Casing: NA		Datum: N	lean Sea Leve	l
Contra	ctor: I	Carth D	imensions			Comp. Depth: NA	Conductor Casing:	dia	: 0.00in	fm: 0.00'	t 0 00°
Drillin	g Meth	od: Ho l	low Stem Au	igers		Grnd. Surf. El.: 635,06'	type: Blank Casing:	uia	0.0011	1111. U.UU	to: 0.00'
Logged	l By: G	reg Fr	isch			Permit Date: / /	type:	dia	: 0.00in	fm: 0.0'	to:
Remar	·ks:						Screens: type: size: type: size:	dia dia		fm: fm:	to: to:
Depth (feet)	Blow Count	Recovery (%)	Sample No.	Graphic Log	USCS Code	М	aterial Description			Well Co	nstruction
0 — 5 — 5 — 10 — 15 — 15 — 15 — 15 — 15	8 7 10 10 3 3 5 5 4 4 11 7 8 2 4 8 8 10 3 6 6 10 10 3 7 8 12 2 9 2 5 2 3 2 12 8 3 5 7 5 7 5	60 100 80 100 80 100 80 70	S8-R8-02-0002		C ML CL S	CONCRETE, with gravel base. SILTY CLAY, brown with gray m CLAYEY SILT, brown to dark brown SILTY CLAY, dark gray, plastic,	own, low plasticity, moist. damp.				
25 -						James and Grant Control of Contro					

ENVIRONMENTAL STRATEGIES CORPORATION

Site ID: RB-04

5:19p
1998
14,
g :09 14,
Rb-5.dw
\slash
GEO\
SPROJ\DUNKIRK\GEO\LOGS\
SPROJ\
×
Zdinak

		Env	IRONMEN	NTAL	Strat	EGIES CORPORATION	Project No.: 4836	803	Site ID: 1	RB-05	
\ ES		Four I	enn Center urgh, Penns	r West, ylvania	Suite 3 15276	115	Project Name: Al	L TECH - DUNKIRK,	NEW YORK		
		(412)	787-5100				Site Location: Lu	ıcas Avenue Plant -	CAMU A	-	
Date(s): 10/2	8/96 -	10/28/96			Total Depth: 11.00'	Top-Well Casing	: NA	Datum: N	dean Sea Leve	1
Contra	ctor: E	arth D	imensions			Comp. Depth: NA	Conductor Casin type:		dia: 0.00in	fm: 0.00'	to: 0.00'
Drillin	g Meth	od: Hol	low Stem A	uger		Grnd. Surf. El.: 632.46 '	Blank Casing:		214. 0.0011	1111. 0.00	10. 0.00
Logged	Ву: Р	at Pete	erson			Permit Date: / /	type:		dia: 0.00in	fm: 0.0'	to:
Remar	ks:						Screens: type: type:		dia: dia:	fm: fm:	to: to:
Depth (feet)	Blow Count	Recovery (%)	Sample No.	Graphic Log	USCS Code	Ма	terial Description			Well Co	nstruction
0-					F/CL	GRAVEL, change to gravelly clay	at 0.5', fill.			**************************************	
5						CLAY, yellowish brown, some iror increase in silt at 4 feet with	n staining and mo	otttling, plastic, ma vel.	ist;		
					GM	SILT, trace round gravel, light ol GRAVELLY SILT, and gravel, dark SHALE, weathered, gray, damp.		dry to moist.			
10-						STALE, Weathered, gray, damp.					
-											
15-											
-											
-											
-											
20-											
25 –											
_											
30-										·	
					.		*				
- 7		<u> </u>	<u> </u>				·		•	<u> </u>	ge 1 of 1

1998 5:20p
:09 14, 1998
Rb-6.dwg
\S507\
K\ GEO
LISPROJ / DUNKIRK GEO / LOGS
K: , SPROJ
Zdinak

		Env	IRONMEN	ITAL	STRAT	EGIES CORPORATION	Project No.: 483803		Site ID:	RB-06	
F S		Four I	Penn Center urgh, Pennsy 787-5100	West	. Suite 3	315	Project Name: AL TECH - DUNK	IRK, NEW	YORK		
	<u> </u>	(412)	787-5100				Site Location: Northeast of Bar	Finishin	& Store	age	***************************************
ate(s	s): 10/2	9/96 -	- 10/29/96			Total Depth: 10.00'	Top-Well Casing: NA		Datum: I	dean Sea Leve	<u> </u>
Contr	actor: E	Carth I)imensions			Comp. Depth: NA	Conductor Casing: type:	dia:	0.00in	fm: 0.00'	to: 0.00 '
rillin	g Meth	od: Ho	llow Stem Au	iger		Grnd. Surf. El.: 635.36'	Blank Casing:				
ogge	d By: P	at Pet	erson			Permit Date: / /	type:	dia:	0.00in	fm: 0.0'	to:
Rema	rks:						Screens: type: size: type: size:	dia: dia:		fm: fm:	to: to:
Depth (feet)	Blow Count	Recovery (%)	Sample No.	Graphic Log	USCS Code	Ма	terial Description			Well Co	nstruction
0-	5 19 24 25	10	S8-RB-06-0002		F7CL	SILTY CLAY, and gravel and coa	fragments, brown, moist, fill.	***************************************			
5- 5- - - - 10-	168 188 244 26 8 100 114 18 4 5 9 11 8 12 14 14	10 0 80 100	S8-R8-06-0406 S8-R8-06-0608			SILTY CLAY, brown, medium plas SHALE, weathered, gray, wet.	ticity, moist, native.				
15 -											
20 -	and the same of th										
25-											
30-					-				• .		***
:								. •			•
			<u> </u>	<u>L'</u>	لبا	·			• • •	1	ge 1 of f

Project Name: AL TECH - DUNKIRK, NEW YORK

Site ID: RB-07

		Env	IDONMEN	TAI	STDA	TEGIES CORPORATION	Project No.: 483803	Site ID: N	(₩ -01
ES		Four F	Penn Center urgh, Pennsy	West	Suite	315	Project Name: AL TECH - DUNKIRK, NE	YORK	
		(412)	787-5100				Site Location: Brigham Road Plant — C	AMU B	
Date(s): 08/2	9/89 -	- 08/29/89			Total Depth: 23.00'	Top-Well Casing: 629.38'	Datum: M	ean Sea Level
Contra	actor: N	lorthna	gle			Comp. Depth: 12.62'	Conductor Casing: type: NAO–Not Applicable; dia	: 0.00in	fm: 0.00' to: 0.00'
Drillin	g Meth	od: H o l	low Stem Au	ger		Grnd. Surf. El.: 629.38 '	Blank Casing:	. 0.00111	III. 0.00 (0. 0.00
Logged	i Ву: В	ryant				Permit Date: / /		2.00in	fm: 0.0' to: 7.62'
Remai	ks:						Screens: type: Slotted size: 0.010in dia type: size: dia	: 2.00in :	fm: 7.62' to: 12.62' fm: to:
Depth (feet)	Blow Count	Recovery (%)	Sample No.	Graphic Log	USCS Code	Ma	sterial Description		Well Construction
0-					F/SC	SILTY CLAY, trace gravel and cla			MP. EL. 629.38
5-					F/MH	SILT, some sand, trace gravel o	and clay, brown, moist.		
10-					F	SAND, little silt and gravel, brow	vn to grayish brown, moist.		
15 — - -					ML	SILT, trace gravel, gray, till. SHALE, weathered.			
20 - - - -					S	SHALE, bedrock.# WATER 5.22'			
25 - 30 -				To the state of th					gr _{s.} Aggregi
						•			

		ENVI	RONMEN	TAL	STRA	ATEGI	ES CORPOR	RATION						
ES	<u>SC</u>	Pittsbu (412) 7	enn Center Irgh, Pennsy 187-5100	ylvania	15276	6			Project Name: AL TECH - DUNKIRK, NEW YORK					
Date(s			08/29/89				Total Depth: 12.00	,	Site Location: BFS- CAMU C					
		orthgal					Comp. Depth: 11.4		Top-Well Casing: 635.17' Datum: Mean				el	
			ow Stem Au	ıger			Grnd. Surf. El.: 63		Conductor Casing: type: na		dia: 0.00in	fm: 0.00'	to: 0.00'	
	d By: B			-0			Permit Date: /		Blank Casing:					
2065								/	type: pvc		dia: 2.00in	fm: 0.0'	to: 6.43'	
Remai	rks:								Screens: type: Slotted type:	size: 0.010in size:	dia: 2.00in dia:	fm: 6.43' fm:	to: 11.43' to:	
Depth (feet)	Blow Count	Recovery (%)	Sample No.	Graphic Log	USCS Code			Mate	erial Description				onstruction	
-		0	Auger		F/ML ML		EY SILI, brown, EY SILT, trace s ÆLLY CLAY, som E, weathered, gi R		nents, brown with	gray mottling,	moist.		EL 635.17	
5 - - -	14 38 32 50	90	Auger		ML	2.80		10y- 11						
10-	99 R/6	10			S									
15-														
20-														
25-														
	1									•				
30-								·			· · · ·	· · · iss.	- 120 m	
•	1							•		•	•		• • • • • • •	
	<u>.</u>	1				1.						. p _a ,	ge 1 of 1	

	==	Env	IRON!	MEN	TAL	STRA	TEGIES CORPORATION	Project No.: 4838 6	03	Site ID:	WT-1A			
) Eis		Four Pittsb	Penn Co urgh, Po	enter ennsyl	West Ivania	, Suite 1527	315 6	Project Name: AL TECH - DUNKIRK, NEW YORK						
٥د		(412)	787-510	0 (Site Location: Nea	ar Aboveground Ta	ink				
ate(s)): 10/2	1/85 -	- 10/21/	/85			Total Depth: 15.00'	Top-Well Casing: 635.62' Datum: Mean Sea Level						
ontra	etor: I	Earth I)imensio	ns			Comp. Depth: 15.00'	Conductor Casing type: na	3:	dia: 0.00in	fm: 0.00'	i 0 00°		
rillin	g Meth	od: Ho	llow Ste	m Aug	ger		Grnd. Surf. El.: 633.70'	Blank Casing:		dia. U.UUIII	fm: 0.00'	to: 0.00'		
ogged	l By:						Permit Date: / /	type: pvc		dia: 2.00in	fm: 1.0'	to: 5.00'		
emar	ks:							Screens: type: Slotted type:	size: 0.010in size:	dia: 2.00in dia:	fm: 5.00' fm:	to: 15.00' to:		
Depth (leet)	Blow Count	Recovery (%)	Sample No.		Graphic Log	USCS Code	М	aterial Description				nstruction 635.62		
0-	-2 4 4 5	100		_		F/CL	CLAYEY SILT, some cinders and		· 一					
-							CLAYEY SILT, some sand and s	LAYEY SILT, some sand and shale gravel, olive brown, moist.						
5-	23 5 6	100				CL/ML								
	10	100												
	35 26 18 25	100					SHALE, weathered, gray, moist.							
0-		100					SHALE, bedrock.							
-						S S								
1				•										
15-														
1														
20 –														
]														
-				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,										
25 –														
.														
30 -									·					
· `:	•			• •	•			•		٠.				
		1	:			. 1		• •		*	1			

ENVIRONMENTAL STRATEGIES CORPORATION
Four Penn Center West, Suite 315
Pittsburgh, Pennsylvania 15276
(412) 787-5100 Project No.: 483803 Site ID: WT-1B Project Name: AL TECH - DUNKIRK, NEW YORK Site Location: Date(s): Total Depth: 15.00' Top-Well Casing: 634.60' Datum: Mean Sea Level Contractor: Comp. Depth: 13.79' Conductor Casing: dia: 0.00in fm: 0.00' to: 0.00' type: Drilling Method: Hollow Stem Augers Grnd. Surf. El.: 633.36' Blank Casing: Permit Date: / / dia: 0.00in Logged By: type: fm: 0.0' to: Remarks: Screens: type: dia: fm: size: to: type: size: dia: fm: to: 8 Depth (feet) Graphic Log Well Construction % 9°. Blow Count Code Recovery (Material Description Sample nscs 0 5 10 15 20 25 30

Zainak n Serkus/ponaika/geo/lugs/ nt-io.ang :us 14, 1890 0:40p

Site ID: WT-03

ENVIRONMENTAL STRATEGIES CORPORATION
Four Penn Center West, Suite 315
Pittsburgh, Pennsylvania 15276 Project No.: 483803 Site ID: WT-04 Project Name: AL TECH - DUNKIRK, NEW YORK (412) 787-5100 Site Location: Date(s): 10/15/81 - 10/15/81 Total Depth: 18.00' Top-Well Casing: 630.18' Datum: Mean Sea Level Contractor: Ehmke Well Drillers Comp. Depth: 16.41' Conductor Casing: dia: 0.00in type: na fm: 0.00' to: 0.00' Drilling Method: Hollow Stem Augers Grnd. Surf. El.: 629.93' Blank Casing: Logged By: Permit Date: type: PVC dia: 4.00in fm: 0.0' to: 10.00' Remarks: Screens: type: Slotted size: 0.060in dia: 4.00in fm: 10.00' to: 18.00' size: dia: type: fm: to: 8 Graphic Log Well Construction Depth (feet) Count Sample No. Code Recovery Material Description USCS MP. EL. 630.18 0 CL 5 10 S 15 20 25 30 Page 1 of 1

amak K:

		Env	IDONMEN	ITAI	STDA	TEGIES CORPORATION	Project No.: 483803 Site ID: RFI-01				
		Four	Penn Center urgh, Pennsy	West	, Suite	315	Project Name: AL TECH - DUNKIRK, NEW YORK				
	<u></u>	(412)	787-5100				Site Location: Near main office				
Date(s	s): 10/2	1/96 -	- 10/21/96			Total Depth: 13.50'	Top-Well Casing: 640.72' Datum: Mo	ean Sea Level			
Contr	actor: E	arth I	Dimensions			Comp. Depth: 13.32'	Conductor Casing: type: NAO-Not Applicable; dia: 0.00in	fm: 0.00' to: 0.00'			
Drillin	ng Meth	od: Ho	llow Stem Au	ger		Grnd. Surf. El.: 640.88 '	Blank Casing:	tin. 0.00 to: 0.00			
Logge	d By: P	TP				Permit Date: 10/21/96	type: PVC dia: 2.00in	fm: 0.0' to: 8.32'			
Rema	rks: Flu	sh-mo	ount well con	structi	on.		Screens: type: Slotted size: 0.010in dia: 2.00in type: size: dia:	fm: 8.32' to: 13.32' fm: to:			
Depth (feet)	Blow Count	Recovery (%)	Sample No.	Graphic Log	USCS Code	Ма	terial Description	Well Construction MP. EL. 640.72			
0— 5— 10—	2 4 4 4 10 4 12 8 2 5 9 1 4 7 112 22 4 8 236 5 7 8 26 1 8 4 2 7	75 10 100 100 100 100 50	SB-RF1-001-0406		CH/F CL ML	CLAY, some silt, olive brown, plants of the state of the	pedding, yellow mottling along bedding planes, tive. y plastic, moist.				
25 -	99 R/S				S	SHALE					
	1										

						_	Project No.: 483803	Site ID: I	RF1_02		
Ė		Four	Penn Center	West	. Suite	ATEGIES CORPORATION	Project Name: AL TECH - DUNKIRK, NEW YORK Site Location: Former Acid Lagoon near Main Office				
ES	C	Pittsb	urgh, Penns 787-5100	ylvania	15276	5					
Date(s)): 10/2	2/96	- 10/22/96			Total Depth: 12.50'	Top-Well Casing: 638.54'		lean Sea Level	· · · · · · · · · · · · · · · · · · ·	
			Dimensions			Comp. Depth: 12.30'	Conductor Casing:		20,0	···	
Orilling	Meth	od: Ho	llow Stem At	uger		Grnd. Surf. El.: 638.73'	type: NAO-Not Applicable;	dia: 0.00in	fm: 0.00'	to: 0.00'	
		reg Fr				Permit Date: / /	Blank Casing: type: PVC	dia: 2.00in	fm: 0.0'	to: 7.30'	
Remar							Screens: type: Slotted size: 0.010in type: size:	dia: 2.00in dia:	fm: 7.30' fm:	to: 12.30'	
Depth (feet)	Blow Count	Recovery (%)	Sample No.	Graphic Log	3S Code	Ма	aterial Description		Well Cons		
Dep	Blo	Rec	San	Gra	nscs				MP. EL.	638.54	
5-	5 117 7 7 4 3 7 7 12 6 16 20 6 16 40 50 50 60 12 14 5 5 5 28	100 90 100 100	S8-RF1-002-0002 S8-RF1-002-0610 S8-RF1-002-1-12		CL	GRAVELLY CLAY, some silt, shale	moist, alive brown, some shale fragn e and limestone fragments, bluish g e to dark gray below 10 feet.				
25 –											
30-		1				1	•				
30 -								• • • • • • • • • • • • • • • • • • • •			

Site ID: RFI-03

		Env	TRONMEN	ITAI	STRA	TEGIES CORPORATION	Project No.: 483803 Site ID: RFI-04					
ES		Four	Penn Center urgh, Pennsy	West	, Suite	315	Project Name: AL TECH - DUNKIRK, NEW YORK					
<u> E</u> 2	<u></u>		787-5100		,		Site Location: South of Howard Av	venue Parking I	ot			
Date(s): 10/2	9/96 -	- 10/29/96			Total Depth: 25.00'	Top-Well Casing: 640.48'	Datum: N	lean Sea Level			
Contra	actor: E	Carth I	Dimensions			Comp. Depth: 24.88 '	Conductor Casing:					
Drillin	g Meth	od: H o	llow Stem Au	ger		Grnd. Surf. El.: 638.21'	type: NAO-Not Applicable;	dia: 0.00in	fm: 0.00' to: 0.00'			
Logge	d By: P	at Pet	erson			Permit Date: / /	Blank Casing: type: pvc	dia: 2.00in	fm: -2.7' to: 14.88'			
Remar	·ks:						Screens: type: Slotted size: 0.010in type: size:	dia: 2.00in dia:	fm: 14.88' to: 24.88' fm: to:			
Depth (feet)	Blow Count	Recovery (%)	Sample No.	Graphic Log	USCS Code	Ма	terial Description		Well Construction MP. EL. 640.48			
0	13 26 8 4	100	SB-R-1-004-0002		он/сс	TOPSOIL, cloyey silt, brown, mois	st, grovel with fines from 0.5 to 2	feet.				
-	18 22 7 9	100	SB-R71-004-0204		SP							
5-	9 12 23 26	100			ML							
-	9 14 18 26 55 99 R/5	100 5										
10-	15 30 17 25	100			CL	GRAVELLY CLAY, some silt, gray,	plastic, very stiff, moist,					
15-	4 8 8 12 8 7 9 15	100				some rounded gravel with dep	th.					
-	15 22 24 25 26	100			GC	RAVELLY CLAY, some fine sand and silt, gray, moist.						
-	12 20 34 40	100			GC	GRAVELLY SILT, with rounded gro	ıvel, dark gray, hard, dry to moist					
20 –	19 25 52 65	100	SB-RF1-004-2022									
	12 20 43 57	100										
-	57 51 R/2	10			S	CHAIF weathers	-ht -d					
25 –	·	-			٥	SHALE, weathered, gray, wet, sli	grit duor.		<u>(21 [2]</u>			
-												
-												
30-							The second secon	·				
]											
	ļ		· ·	1 .	1 1							

Project Name: AL TECH - DUNKIRK, NEW YORK

Site ID: RFI-06

Project Name: AL TECH - DUNKIRK, NEW YORK

ENVIRONMENTAL STRATEGIES CORPORATION

Site ID: RFI-07

18 5:24p
, 1998
14,
<i>60:</i>
Rfi-09.dwg
\ GEO\ TOGS\
CEO
DUNKIRK
K: \SPROJ
Zdinak 1

		INV	TRONMEN	IATL	STRA	TEGIES CORPORATION	Troject No.: 40000	Sitt ib.					
ES		Four Pittsb	Penn Center urgh, Pennsy	West	, Suite	315	Project Name: AL TECH - DUNKIRK, NEW YORK						
	<u></u>	(412)	787-5100				Site Location: North of Wastewat	er Treatment Pla	ant				
Date(s): 10/2	9/96	- 10/29/96			Total Depth: 11.05'	Top-Well Casing: 632.22'	Datum: 1	lean Sea Level				
Contr	actor: F	arth I	Dimensions			Comp. Depth: 11.03'	Conductor Casing: type: NAO-Not Applicable;	dia: 0.00in	f 0 00'				
Drillin	g Meth	od: H o	llow Stem Au	ıger		Grnd. Surf. El.: 630.14'	Blank Casing:	dia. v.vviii	fm: 0.00'	to: 0.00'			
Logge	d By: P	at Pet	erson			Permit Date: / /	type: PVC	dia: 2.00in	fm: 0.0'	to: 6.03'			
Remai	ks:						Screens: type: Slotted size: 0.010in type: size:	dia: 2.00in dia:	fm: 6.03' fm:	to: 11.03' to:			
Depth (feet)	Blow Count	Recovery (%)	Sample No.	Graphic Log	USCS Code	W.	aterial Description			struction . 632.22			
0-	7 9 12 14	95	SB-R-1-009-0002		OL CL	TOPSOIL, clay, with gravel and CLAY, fine gravel, dark brown, i	iron filings, fill medium plasticity, moist, fill.						
-	14 8 12 16	100	SB-RF1-009-0204		CL	CLAY, light olive brown, medium							
5-	48 7 6 13 15	100	SB-RF1-009-0406		CL		<u> </u>	<i>##</i>					
-	8 21 11	100	st.										
-	46 25 40 25	100	SB-RF1-009-0610		SP	GRAVELLY SAND, medium to fine	e sand, brown, moist.						
1 N	40				GM	GRAVELLY SILT, some round gro							
10-	51 R/3	10			S	SHALE, weathered, light gray, d	ry.						
-													
-													
15-													
-													
-	<u> </u> 												
20 -													
		İ											
25 -													

						e de la companya de							
30-													
: .								. •					
• •.	<u>l</u>	<u> · </u>	1	1	<u>.</u>				Р́ал	e 1 of 1			

Site ID: RFI-09

		Env	IRONMEN	TAL S	STRAT	TEGIES CORPORATION	Project No.: 483803 Site ID: R	FI-11				
(ES		Four Pittsb	Penn Center urgh, Pennsy	West, Ivania	Suite 3 15276	315	Project Name: AL TECH - DUNKIRK, NEW YORK					
٥٠		(412)	787-5100				Site Location: West of Wastewater Treatment Plan					
ate(s): 10/24	/96 -	- 10/24/96			Total Depth: 17.00'	Top-Well Casing: 632.65' Datum: Mo	ean Sea Level				
ontra	actor: E	arth I	imensions			Comp. Depth: 16.94'	Conductor Casing: type: nao dia: 0.00in	fm: 0.00' to: 0.00'				
rillin,	g Meth	od: Ho	low Stem Au	ger		Grnd. Surf. El.: 630.64 '	Blank Casing:	III. 0.00 to. 0.00				
ogged	d By: Gi	eg Fr	isch			Permit Date: / /	type: pvc dia: 2.00in	fm: -2.0' to: 8.94'				
lemar	rks:						Screens: type: Slotted size: 0.010in dia: 2.00in type: size: dia:	fm: 8.94' to: 16.94' fm:				
(eet)	unt	у (%)	No.	Log	Code	16		Well Construction				
Depth (feet)	Blow Count	Recovery	Sample No.	Graphic Log	USCS Co	ма	terial Description	MP. EL. 632.65				
0-	4 5 5 9	60	SB-R/1-011-0002		F/CH	SILTY CLAY, with gravel and coa	frogments, dark brown, moist, fill.					
-	4 6 7 9	40	SB-R9-011-0204									
5-	8 8 8 17 6	90 70	SB-RF1-011-0405 SB-RF1-001-0608	y, low to medium plasticity, moist. , brown, gray mottling, medium plasticity, dry.								
	20 30 34		SB-RFI-001-0610		GC GC	-						
10-	24 38 40 35	80	SB-RF1-001-0010	1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	GC	GRAVELLY CLAY, some silt, medi fine rounded gravel, trace sh	an to dark brown, non-plastic, ale fragments, moist					
	25 60 52 48 30	80	S8-RFI-011-1214		S	SHALE, weathered, damp to wet						
-	30 60 63 51 R/4											
15-	18 38 99 R/S				S	SHALE, gray to dark gray, bedra	ock, wet.					
- - 20 –												
-												
25 -	-											
•	1											
30-	4			1.								
	1						and the second s					
	.]			<u> </u>				Page 1 of 1				

Page .1 of. 1

		FNV	IDONMEN	TAI	STDAT	EGIES CORPORATION	Project No.: 483803				
	Z	Four I	Penn Center urgh, Pennsy	West,	Suite 3	15	Project Name: AL TECH - DUNK	IRK, NEW Y	ORK .		
<u>E2</u>		(412)	787-5100		132.		Site Location: West of Willowbro	ok Pond			
Date(s)): 10/20	3/96 -	- 10/23/96			Total Depth: 14.50'	Top-Well Casing: 633.11	Level			
Contra	ctor: E	arth D	imensions			Comp. Depth: 14.07'	Conductor Casing: type: nao	dia: 0. 0	00in fm: 0.	00' to: 0.00	n'
Drilling	g Meth	od: H o l	low Stem Au	ger		Grnd. Surf. El.: 630.90'	Blank Casing:	uiu. U.u	THI. U.		
Logged	Ву: С	reg Fr	isch			Permit Date: / /	type: pvc	dia: 2.0	00in fm: -	2.0' to: 7.07	7'
Remar	ks:						Screens: type: Slotted size: 0.010in type: size:	dia: 2.0 dia:	00in fm: 7. fm:	07' to: 14.0 to:)7'
Depth (feet)	Blow Count	Recovery (%)	Sample No.	Graphic Log	USCS Code	Ма	iterial Description			ell Construction	1
10-	2 10 6 10 16 6 26 25 9 26 58 68 29 97 99 R/3 29 60 69 71 59 R/5	70 70 40 100 50 26	SB-RF1-014-1214		CL (CLAY, some silt, brown, gray mo	, friable, weathered shale fragmands		y, fill.		
15	99 R/2				S	SHALE, bedrock, gray.				(****	
				-						Page 1 of 1	

Project No.: 483803

Site ID: RFI-15

Page 1 of 1

Site ID: RFI-16 Project No.: 483803 **ENVIRONMENTAL STRATEGIES CORPORATION** Four Penn Center West, Suite 315 Pittsburgh, Pennsylvania 15276 (412) 787-5100 Project Name: AL TECH - DUNKIRK, NEW YORK Site Location: Northwest of Special Metals, Inc. Bldg. Date(s): 10/22/96 - 10/22/96 Total Depth: 15.50' Datum: Mean Sea Level Top-Well Casing: 641.13' Contractor: Earth Dimensions Comp. Depth: 14.90' Conductor Casing: dia: 0.00in fm: 0.00' type: nao to: 0.00' Grnd. Surf. El.: 638.77' Drilling Method: Hollow Stem Auger Blank Casing: Permit Date: dia: 2.00in fm: 0.0' Logged By: Pat Peterson type: pvc to: 4.90' Remarks: Screens: type: Slotted size: 0.010in dia: 2.00in fm: 4.90' to: 14.90' type: size: dia: fm: 8 Well Construction Depth (feet) Count Code S. 8 Recovery Graphic 1 Material Description MP. EL. 641.13 Blow (USCS 0 24 8 6 3 40 GRAVEL, railroad ballast. CLAY, dark gray, some gravel, fill. 8 20 29 40 CLAYEY SILT, some sand and gravel, olive brown, low plasticity, brown, 85 red/organge mottling, fill 21 38 47 71 SB-RFI-016-0406 100 5 ML SILT, trace clay, olive brown, plastic, moist. 22 58 80 15 ML SILT, grayish brown, fine to medium gravel, non-plastic, 100 yellow/red mottling, moist. 37 60 46 49 CRAVELLY CLAY, some silt, dark gray, some round gravel, low plasticity, moist. 100 10 12 24 39 36 100 50 S SHALE, weathered, gray, wet. SB-RFI-016-1415 40 15 20 25 30

Page 1 of 1

Page 1 of 1

Appendix E – Test Pit Logs

		10	01		2 -	- 9	96		P	roje	ect	No			L	-18	36	30	3	/	1	1) K	IRY	<u> </u>				C) ₂ /L	.EL	Re		g: _	0	
rol./E	متسد							_								or: _							(<u>_</u>	zib	en			E	quip	ome	ent:	Fo			CKH SSC
0)t			1_		L		1							1	p		1		1				L	L		2	20	1	1		1		l	1	
0			:	:			:	:	•••	:				:		:	<u>.</u>	:	• • •	:	. : .	:	Fil	١.۶	nd	D:	br	.;≲.	<u>:</u>	<u>:</u>	. <u>:</u> .	:			<u>:</u>	
	+		: :	:		: :		4	•••	: :	:	•••	١.	• :	•••	:	·[·	:	•••	 :	• : •	:			-	: :	: :	·	:	:	• :	· · · :		: :	: :	
)	4	• • •	-	:			<u>.</u> :			<u>:</u>		*****	1	• :	•••	:	:			: :	÷		-1-6-5-			<u> </u>	:	:	<u>:</u>	:		• • • • •	•••	: : :	: :	
5	.	• • •	:		• • •				•••	:		• • •				:::	1		•••		:::	• • •	Βr	0 ا	·Λ	C.	ay	:				• • • • •		: · · · ·	:	
			:::				::				:					:									: :	: :	: <i>'</i>		:		.:.	:		:	<u>:</u>	
	4		:	:	• • •	: : :	. :			:	:			:		<u>:</u>			· • •	<u>:</u>	. :		•••	: :	: :	<u>:</u>	<u>:</u>	• • • • •	: :					: :	<u></u>	<u>.</u>
	-		: :	• :	حدد	: :	ٺ		-	<u>:</u>	: ÷	مسعست		:		:				<u>:</u>	:	-	•	: :	<u>: </u>	<u>:</u>	<u>:</u>		:	:	- :	:		: :	: :	:
	+		: :	· :	• • •	: : :			· •		•••	• • •	.[· . :		: :	. .	• •	 :	:	• :		- 1					jith Lin	 ک		:	:		:	:	:
10	0+	• • •	:	•••	• •	:	<u>:</u>		<u></u>	<u>:</u>	- :		- <u>l</u> .	·- <u>:</u>		<u>:</u> -	上			:	<u>:</u>			:		````	:	. i :	:	:	·• :	•••		: · · ·	: :	:
	1	• • •	:	•••	• • •			• • •		:	•••	• • •	:	• • •	•••	:	:	••	•	: *	00	c.K	:	:	:	:			:::				:	:		
				· · · :					: : :			•••					::													.:	.:		: :	: :	: :	<u>:</u>
	_			:		:	:		:	. :				:		:			: :	. <u>:</u>			: :	: :	:		: :			: :	.:	• • •	: :	: :	: ::	
OTES:																																				
(Inc	lud			SC:		<u>_</u>	-14		w	·i+	h		St) r	Υ.	و		J le	وط	-i` ≤	>	(bı	·ic	< 5	Fra	gr	nev	2+0	·	ŗ	ne	ta	1	<u> </u>	<u>j e c</u>
(Inc.	- -	3	/	sci		S	ب اء ص	r 00,	d d	<u>, i</u> +	<u>th</u>	S	Sc On) r	<u>.</u>	د (00	e S	b(ris rr	> \a	<u>+</u>	er	-	<u> </u>	0		<u>od</u>	70)		<u>~0</u>) 5	sta	jec ini
(Inc	- -	3	/	esc		S	11; 20 19	γ γ γ γ	<u></u> д с s+	it), B	10 10	<u>ح</u> د ز ز	50 0 m	> r		e (((((,)le	br Fre	ris m	> \a	(+!	er E	, de	r e ba	10	· +	od	0 F N 0	C	ı od	101	<u>~</u> ;) \$	Sta	-
(Inc.	- -	3	,	esc		S	11; 20 19	γ γ γ γ	<u></u> д с s+	it), B	10 10	<u>ح</u> د ز ز	50 0 m	> r		e ((((,)le	br Fre	ris m	> \a	(+!	er E	, de	r e ba	10	· +	<u>od</u>	0 F N 0	C	ı od	101	<u>~</u> ;) \$	Sta	-
3'		8	(SCA		SLY	1900	h:	w d st	B B C C C C C C C C C C C C C C C C C C	10	50 100 100 100 100 100 100 100 100 100 1	50 0 0 0 0 0	C (e)	n.	e ()	(O S	ار ان کا ان کا ان کا ان کا	br francisco	ris mee) a	(+1 0!	br er F So	, de	r e ba	10	· +	od	0 F N 0	C	ı od	101	<u>~</u> ;) \$	Sta	-
(Inc. 0:		8 10	/			SLY	19 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	h.	w. d	B (C)	10	S()	Scom		n C	e lay	() () () () () () () () () ()		Free No.	ris mee) a	(+1 0!	bir er So	de m	2 	10	.ha	od	no S	C	5	10(m	cr	1	Sta	-
(Inc. 0 : 3' 8'		3 8 10	/ / / /ate	er	Le	S L Y L F	114 2000	h h	w d 5+ +	B C S	in in	si a	Sconnon	C C	Ia Li	e ()		yle yle yle yle yle yle yle yle	brown o	rise Who	000	() +H	So of	de m	2 }	is	.ha	le	no sta	(o)) 	<u>س</u>	car Car	V	Sta	-

nte:	10-	27		16		P	roje	ct N	lo.: _		Ц	18	38	<u>30</u>	3	\perp	li						C	2/LE	L Re	eadin	g:	OK	
eol./Eñ	ā.)_	6	E.	_		Ε	quip	. Sı	ıbcor	ntrac	tor:		(<u>5</u> e	ibo	ns							Ε	quipr	nent:	Fo	19		ckho
ırface											or:					las		Ge	ن ۱۱	en								6	550
nioce	LICY					_	40.6																						
O .	.1	ı				L	1		_1						1		1	_1	1		1	1	1		<u>. </u>	<u>. </u>			
		:				: : :	:		.:	:		:	Fi	IJ.	an	i	Рe	bir i <u>s</u>	: : :	: :	: :	<u>:</u>	: :	: :					:
				_	<u>-</u> د ا	: •	:		:].		:		<u> </u>	:	:		: :	: :	: :	<u>:</u>	: :	: :	: :	:			
		-				:	:	₫	:	.:.		:			<u>:</u>	:	:	: :::::	: :	: :	: : .	<u>:</u>	: :	: :	: :	: :			
ນ ວ]```	: -				:	:	•	:	:		:			:	:	:	:	: :	: :	: :	: :	: :	: :	: :	: :			
30110C]	:	:									:		:	: :	:	:	:	:	:	:	<u>:</u>	: :	: :	: :	: :			
]	:				:		}				:		().). (0)	، دب	÷	Ġ.	άŊ.	:	:	:	:	:	: :	: :	:		
פוססוס	1	:	:		:	:	:		:		``}`	:			:	:	:		: <i>'</i>	:	:	:	:	<u>:</u>	:	:	: : :		
	1	: '	:		:	:	:	.]	:	:		:	•••	:		:	:	:	:	:	:	:	:	:	:	:	:		
Below	1	:	:	:	: • • •	:	:	• • •	:	:	``}`	:	•••	:	:	:::	:	:	:	:	:	:					:		
	1	:		····	 :	:	:	1		····	<i>::</i>	:		G	, fa	Y:	۲ì	×.	:	:	:	:	:	:		:	:	:	
0 g	1			:	:	:	:	:	:	:	:	•••		R	.oc	Ċ.	:	:	:		:	:	:	:	:	:	:	:	
	1	:	:···	: :	: :	:	::-			• • • •	••••	:	•••	: · · ·	:	: :	• • • •	:::	:	:		:	:	:	:	:	:	:	: :
	1	:	: · · ·	: :	: :	:	· : · · ·	• :	• • • •	• • • •	••••		• • •	: •	:::	:	:::	:	:		:	:		:	:	:	:	:	
	-	:···	: :	: :	: :	:	• : • •	• : •	•••••	•••	••••	:	•••	:	• • • •	• • • •	• • • •		:	:	:	:	:	:	:	:	:	:	
		:	:	:	:	:	· <u>:</u> · ·	• : •	•• :	•••••	••••	· · · :	• • •	: · ·	• • • • •	• : • •	:		:	:	:	:	:	• • • • • •	:	:	:	:	: :
15	١	· : .	:	:	:	:	. :	.:.	: .	: .	:	:	• • •	:	.:	. :	. :	:	. :	. :	•	. :	• • •			• • • •	• • • •	• • • •	• • • • •
10TES: (Incl 	ude ——	des	7)a 1	- K				ـــــ	<u> </u>		 5i	1+		w	:44	\ Y	nu	ch		1el	<u>) (i</u>	<u>5</u>	(P	4 i C	K	\$10	a q n	nent
			L	<u>ა დ</u>	<u>3d</u>	9	<u>:ec</u>	<u>es</u>	> ,	<u>r</u>	ne-	ta 2	7	<u>0</u>	<u>bje</u>	<u>(+</u> :	<u>s</u>)	, c	zbu e	<u>nd</u>	ar to	100	1	ng	<u>u 10</u>		<u> 4</u>	900	oles.
	****	***************************************	(30	<u> </u>	<u>(_(</u>	96	<u>b le</u>		,	<u>U</u>	op.	<u> </u>	1 =		10) 	<u></u>	<u>C</u>		<u>. u</u>	7710	Ņ						•
31	-9'	,	l	_ia	ht		101	<u></u> ت	<u>ه</u>	`	C,	la	1		く	(66		0 F		de	br	·S	, _	\sqrt{c}) (do	٢,		
				70																									
~	!	,																											
4-	- 10			_ <u>i </u>	ht	-	<u>()</u>	(0.5	4		10	¥																	
	7 /		-	To.			5		(,	<u>~~</u>	0e 7	C Y	$\frac{}{}$		· (<u>о</u> С	K											-	
10				10:	۲				<u> </u>	111	μ <u>. </u>						, -												
10				***************************************																								<u> </u>	
Stol																•					_					yes.			o
Stol	lic W														<u> </u>	P0	<u>ء</u>	- °C			_								0
Stat Sam	nple	I.Dis	ii	<u>5,5</u>	} `	T P	02								<u></u>	90	<u>ء</u>	<u>- c</u>	30	<u>> 4</u>)	SB	<u>-</u> -	PC				0
Stat San Coll		I.Ds	 leth	<u>55</u> od:	·	T P G	02 ab	· -	00							90	<u> </u>	- C	280 20	olle Shipi	ctio	n Ti	SB me:		PC				0

1./Eng: <u>GER</u>	Equip. Subcontractor: Geiben		Equipment: Ford Backh 655C
face Elev.:	Equipment Operator: Nicholas G	seiten	6350
0 4 4 4 4	10	20	
	Fill av	nd Delaris	
<u> </u>			
5			
	Brown	Clav	
10-			
10			
	Rock	:Gray: Cla	Ÿ.
NES: (Include description o	soil and rock materials encountered)		
0-5' Da	rk brown silt with about that objects, wood), r	undant deb no Stainin	oris (brick flagment
5'-11' B	own Clay, free of d	ebris, no	odor, no
11'-14' G	eray Clay, free of debris	, no odor	- , no Stainin
14'	op of Competent F	30€	

RAZ C:\Z_DRV 3\193011\A14 :MAR29,1996 3:55

No.: 04	Project Name: ALTECH - DUNKIRK	PID Reading:
Date: 10-27-96	Project No.: 483803 / 11	O ₂ /LEL Reading: _O K
Geol. /Eng.: GER	Equip. Subcontractor: Geiben	_ Equipment: Ford Rockho
Surface Elev.:	Equipment Operator: Nicholas Geiber	655C
Surface Liev	Equipment operator.	
	A Fill and debi	15
		Ö
8] : : : :		
Surface	/ / Cemented Conglos	nerate
		<u> </u>
Ground		
Below	Fill	
Feet of		
	Brown Clay	
[5]		
()		
NOTES:	soil and rock materials encountered)	
2 '		
0-4' Dark	Silt with abundant debris	phywood, brice,
$\alpha \gamma \alpha \lambda$	lar rock fragments), root math	ret , no oact
H'-6' Conal	lomerate material - "cemented sol	lid", dark gray
and and	block, Stone and metal flagme	nts, no odor
¥	·	
6'-11, Dalk	silt with abundant debris (brice	4, angular lock
Tragr	ments), no odor	
D 11'-15' Brow	on Clay, no debris, no stain	ing no odic :
11'-15' Brow		
	o water observed Photogra	ph/s Taken? yes no
Natic Water Level: 1\\ ≥		phys ruxen. yes
	-TP04-0002, SB-TP04-1112	
Collection Method:	Chi	n Time:
N Chain of Custody:	775 Shipment Tracking	No.:

		4-9																	<u> </u>
eol./Er	ig.;;(GER				ontractor.									_	Equipr	nent: 🗎		Backno
" Takner	Elev.: _			Equ	iipment (Operator:	<u>N</u>	ich	0/0	<u> </u>	<u> </u>		€ Y~	`	_			(p	550
0.7000	2.0			-,-		•													
0		1		11_				4		L			1				1		<u> </u>
	1:	: ::	: ,					<u>.</u>	.				:	7			: : . : . : . : : : : : : : : : .	:	
	1					:	:	1	1	F	:11:0	rd	pe	bris	٠ :	:			•
	1 :		فت									:	0		: (<u></u>	<u>:</u> :	:	: : : :
ဗ္	1 ::		**************************************	**********			:					:	:		:	:		:	
Surface	1		••••••	: :			:	.				:	:	: ::	:	:		:	
3 5	 	•••••••••••••••••••••••••••••••••••••••	• • • • • • • • • • • • • • • • • • • •		•••••••••••••••••••••••••••••••••••••••		•••••	.	. Q		МĆ	· · · · · · · · · · · · · · · · · · ·	la.	:	:::	• • • • • • •		:	: : :
o Cu	-		•••••••		•••••••••••••••••••••••••••••••••••••••		••••	·]···	: <i>ţ</i> -	: អន		· · · · · · · · · · · · · · · · · · ·	: :		••••	:	: :	:	
Ground		.,		••••••	• • • • • • • • • • • • • • • • • • • •		•••••	.	:	:	: : .	••••••	· : · · ·	:···:	••••	••••••		••••••	
					turatak managaran		••••		 O	.	-	<u> </u>		i. 41.	ا ک	: مانه			nts:
Веюм	↓	<u> </u>	:				:	厂型	<u>: 6</u>	100	<u>5 √ :</u>	<u>. !a`</u>	J. J	in in	لبنا	NOTICE.	11 / 40	3 121 G	m:-
Jeet 10	,					:a::			<u>:</u>	<u>:</u>	: : .	••••••		<u></u>			•	•••••••	
in the second	↓		: : : :		:	Ro	cK.		: :	:							·		
]:		:		: . :	:	:		: :	: :	: ::	:						· ;	
	:	: :	:	: :			:		<u>:</u>	:	: ::	:	: ::		. .				
	7						:	:	:	:	: : .		:	: :	: .	::		.	
	1:						:		:	:	: :	:	:	: :					
, ,	- •	•		• • • • • •	• • • • • • •	• • • • • • • •	•••••	• • • • •	••••										
15	-1:																		
		escript	ion of	soil	and ro	ck mat	erials	enco	ount	erec	1)								
(Incl	lude d) W (<u></u>	170	cks		me	tallic
(Incl			lael	ike	mo	i 194x	a l	ل ,	lar	K	bio	00	^ ;	<u> </u>	, † ; ;	(K	<u> </u>	me	tallic
(Inci	Jude d			ike	mo		a l	ل ,	lar	K	bio	00 00	^ , Jor	<u></u>	170	ſĶŝ	> ,	me	tallic
(Incl	Jude d	5	lael	ike	γ~0 . , h	i 194x	a l	ل ,	lar	K	bio	00 00	^ , Jo (<u>k</u>	1170	(KS	<u>``</u>	me	tallic
(Incl	lude d 3'	S 0	lools Voor	ike ths	mo., n	nteri o st	al ain	, d	lar	, K	hora no	00	700				· .	me	tallic
(Incl	Jude d	S 0	lools Voor	ike ths	γ~0 . , h	nteri o st	a l	, d	lar	, K	bio	00	700					me	tallic
(Incl	3 ' ි ි '	S 0	laal bjro coo	n (mo., n lay	o st	al air	, d	SI	K ,	no no	00	700				·	me	tallic
(Incl	3 ' ි ි '	S 0	laal bjro coo	n (mo., n lay	nteri o st	al air	, d	SI	K ,	no no	00	700					me	tallic
0- 3/2 B/2	3 ' ි ි '	S 0	laal bjro coo	n (mo., n lay	o st	al air	, d	SI	K ,	no no	00	700				· .	me	tallic
(Incl	3 ' ි ි '	S 0	laal bjro coo	n (mo., n lay	o st	al air	, d	SI	K ,	no no	00	700				· .	me	tallic
8'-	8' 9'	S O	Slaal Slaw	ike c (s	lay Clay	wheri ost	al air	, d	SI	K ,	no no	F	6 G)	ner	HS				
(Incl	S'	ter Lei	Sland Sland	1 5 0 (lay Con	with peter	al air th	, d	SI	K na'	bie	Fre	es g y	ner ograpi	HS	Taker	n? ye	25	no
(Incl	S'	ter Lei	Sland Sland	1 5 0 (lay Con	with peter	al air th	, d	SI	K na'	bie	Fre	es g y	ner ograpi	HS	Taker	n? ye	98	no
Sto	S' G' ttic Wa	ter Lei	Slack Slack Slack Spc	ike a c if	lay Clay Con	with peter	al air th	, d	SI	K na'	bie	FILE	o C	ner ograpi	HS h/s	Taker	n? ye	es	

10. 10.34-96 Project No. 483803/II OphEl Reading OK at Engine Subcontractor Genery Fally and delects Fall	No.:	,		TECH - DUNK	IRK	1 10 Nooding.	<u> </u>
Fill and delection Fill a	te: <u>10-9^L</u>	1-96					
Fill and delection Fill a	ol./Eng.: G	<u> </u>				Equipment: Ford	Backho
Fill and debries Fill and debries Brown clay with Same shale flagments (Include description of soil and rock materials encountered) 0-4' Slaglike material with brick, wood rock fragments, root matter, dark staining, no odor 4'-B' Brown rlay mixed with Shale fragments, no staining no odor been excavated or distribled in the past 5' Tip of competent rock otic Water Level: No water observed sample 1.0s.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Ime:			Equipment Operator: _	Nicholas Ge	liben_		625C
Fill and debries Fill and debries Brown clay with Same shale flagments (Include description of soil and rock materials encountered) 0-4' Slaglike material with brick, wood rock fragments, root matter, dark staining, no odor 4'-B' Brown rlay mixed with Shale fragments, no staining no odor been excavated or distribled in the past 5' Tip of competent rock otic Water Level: No water observed sample 1.0s.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Ime:							
Bigowa clay with Some Shale flagments (Include description of soil and rock materials encountered) O-4' Slaglike material With brick, wood, rock froaments, root matter, dark staining, no odor 4'-8' Brown clay mixed with Shale fragments, no staining in safer appenish to have been excavated or distribled in the past B' Typ of competent rock otic Water Level: No water observed Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:	o ! 	! ! ! !	! ! ! ! ! !	! (! ! ! ! !		- 	
Bigowa clay with Some Shale flagments (Include description of soil and rock materials encountered) O-4' Slaglike material With brick, wood, rock froaments, root matter, dark staining, no odor 4'-8' Brown clay mixed with Shale fragments, no staining in safer appenish to have been excavated or distribled in the past B' Typ of competent rock otic Water Level: No water observed Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:	ļ <u>.</u>		· · · · · · · · · · · · · · · · · · ·				
Same Shale flagments Same Shale flagments (Include description of soil and rock materials encountered) 0-4' Slaglike material With brick, wood, rock fragments, root matter, dark staining, no odor 4'-B' Brown riay mixed with Shale framents, no staining no other appears to have been excepted or distribled in the past B' Tip of competent rock atic Water Level: No water observed Sample IDS: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Erab Collection fime:	ļ <u>.</u>			1	nd druns	·	
Ito Same Shale flagments To Rock Shale flagments (Include description of soil and rock materials encountered) D-4' Slaglike material with brick, wood, rock frogments, root matter, dark staining, no odor 1-8' Brown flag mixed with Shale fragments, no staining is after appear to have been excepted or distribled in the past 8' Top of competent rock atic Water Level: No water observed photograph/s Taken? yes no V Sample LDs.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:	 				.4X		
Some shale flagments 10 ROCK Some shale flagments (Include description of soil and rock materials encountered) D-4' Slaglike material with brick, wood, rock fragments, root matter, dark staining, no odor 1'-B' Brown riay mixed with shale fragments, no staining to star appears in have been excavated or distribed in the past B' Top of competent rock atic Water Level: No water observed sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:	ļ	: : : : : : : : : : : : : : : : : : :	 			-::.: :	
Some Shale flagments 10 ROCK PROCK Procuper of soil and rock materials encountered) 1-4' Slaglike material with brick, wood, rock fragments, root matter, dark staining, no odor 1-8' Brown rlay mixed with Shale fragments, No Staining no odor been excapated or distribed in the past 8' Top of competent rock atic Water Level: No water observed Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:	5			0			
15 15 16 18: 18: 18: 18: 18: 18: 18:	-						
of the staining of soil and rock materials encountered) 15. 15. 16. 16. 16. 16. 16. 16.	-	:		Some	Shale High	gments	
TES: Include description of soil and rock materials encountered) D-4' Slaglike material with brick, wood, rock frogments, root matter, dark staining, no odor 1'-B' Brown rlay mixed with shale from each s, no staining no odor appeals to have been excavated or distribled in the past B' Top of competent rock atic Water Level: No water observed Photograph/s Taken? yes no V Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Erab Collection Time:		•					
of the staining of soil and rock materials encountered) 15. 15. 16. 16. 16. 16. 16. 16.	-						
otts: Clinclude description of soil and rock materials encountered) D-4' Slaglike material With brick, wood, rock frogments, root matter, dark staining, no odor I'-B' Brown rioy mixed with Shale Garments, no staining no odor appears to have been excavated or distribled in the past B' Top of competent rock atic Water Level: No water observed Photograph/s Taken? yes no V Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:	10-		: : : : : : K:O	<u> </u>			
otts: O-4' Slaglike material With brick, wood, rock Stagments, root matter, dark staining, no odor I'-B' Brown rlay mixed with shale fragments, no staining no odor appeals to have been excavated or distribled in the past B' Top of competent rock atic Water Level: No water observed Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Method: Grab O-4' Slaglike materials encountered) Photograph/s Taken? yes no V Collection Method: Grab Collection Time:	<u> </u>	· · · · · · · · · · · · · · · · · · ·					
ottes: (Include description of soil and rock materials encountered) D-4' Slaglike material With brick, wood, rock Steaments, root matter, dark staining, no odor 1'-B' Brown rlay mixed with Shale fragments, no staining no odor appears to have been excavated or distribled in the past B' Top of competent rock atic Water Level: No water observed Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:		<u> </u>			· · · · · · · · · · · · · · · · · · ·		• • • • • • • • • • • • • • • • • • • •
ottes: (Include description of soil and rock materials encountered) D-4' Slaglike material With brick, wood, rock Stagments, root matter, dark staining, no odor H'B' Brown rlay mixed with shale fragments, no staining no odor appears to have been excavated or distribed in the past B' Top of competent rock atic Water Level: No water observed Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Method: Grab Collection Method: Grab	ļ <u>i</u>	<u> </u>			:::		• • • • • • • • • • • • • • • • • • • •
O-4' Slaglike material with brick, wood, rock Sragments, root matter, dark staining, no odor 4'-B' Brown rlay mixed with Shale fragments, no staining no odor appears to have been excavated or distribed in the past B' Top of competent rock atic Water Level: No water observed Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:	OTES:	cription of	soil and rock mater	rials encountered)	iiii	iiii	.ii
Stagments, root matter, dark staining, no odor 1-B' Brown ricy mixed with Shale fragments, no staining no odor appears to have been excavated or distribled in the past B' Top of competent rock atic Water Level: No water observed Photograph/s Taken? yes no V Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:					1 100 d	rock	
been excavated or distingled in the past B' Top of competent rock atic Water Level: No water observed Photograph/s Taken? yes no V Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:	<u> </u>	Staglik	e material	matter, dar	K Stainin	g, no o	dor
been excavated or distingled in the past B' Top of competent rock atic Water Level: No water observed Photograph/s Taken? yes no V Sample 1.Ds.: SS-TPO6-0002, SB-TPO6-0304, SB-TPO6-070 Collection Method: Grab Collection Time:	1'-8'	B1000	n clay my	Ation box:	Shale fra	oments,	
8' Top of competent rock atic Water Level: No water observed Photograph/s Taken? yes no V Sample 1.Ds.: SS-TP06-0002, SB-TP06-0304, SB-TP06-070 Collection Method: Grab Collection Time:			· ·	1		-to hove)
atic Water Level: No water observed Sample I.Ds.: SS-TP06-0002, SB-TP06-0304, SB-TP06-070 Collection Method: Grab Collection Time:		been	excavated	or disturbe	<u>4 10 4</u>	ne past	
atic Water Level: No water observed Sample I.Ds.: SS-TP06-0002, SB-TP06-0304, SB-TP06-070 Collection Method: Grab Collection Time:	ਲ ′	Top	of compete	nt rock			
Sample 1.Ds.: <u>SS-TP06-0002</u> , <u>SB-TP06-0304</u> , <u>SB-TP06-070</u> Collection Method: <u>Grab</u> Collection Time:							
Sample 1.Ds.: <u>SS-TP06-0002</u> , <u>SB-TP06-0304</u> , <u>SB-TP06-070</u> Collection Method: <u>Grab</u> Collection Time:					-		
Sample 1.Ds.: <u>SS-TP06-0002</u> , <u>SB-TP06-0304</u> , <u>SB-TP06-070</u> Collection Method: <u>Grab</u> Collection Time:							
Sample 1.Ds.: <u>SS-TP06-0002</u> , <u>SB-TP06-0304</u> , <u>SB-TP06-070</u> Collection Method: <u>Grab</u> Collection Time:	atic Wate	r Level: N	o water obse	rued.	Photograph/s	Taken? yes	_ no <u> </u>
Collection Method: 6 ca Collection Time:	Sample I De	. SS-	-TP06-000	2, 5B-TP06	0-0304	SB-TPO	6-0708
Shipment/			*				•
	Collection N	netnod:			Shipment/	- Pr	

3:55 JAR WGY 193011\A14 :MAR29,1996 3:55

Mo:_	07	Project Name: ALTECH - DUNKICK PID R	eading:	0
Date:	0-24-96	Project No.: 483803 / 11 02/LE	EL Reading: _	OK
	GER	Equip. Subcontractor: Geiben Equipi		Backhoe
Surface E		Equipment Operator: Nicholas Geiben	(655C
0 †	: : : :	Fill and Debris	: : :	
-	2			
Surface		Brown Clay with dark Staining		
InS pun		Biown Ctay		
Feet Below Ground		Brown Clay with Snale Fragments		
eet Bel		Rock		
•	1			
	<u></u>			
NOTES: (Inclu		of soil and rock materials encountered) < Blown Silt With rubble (91055, re	OCK Fla	aments
	brio	ck, concrete) no staining, no od	0.7	
3 5 5 5 5 5 5 5 5 5		on clay with dork Staining, r	10 0d0	. (
		on Clay, no staining, no odor		
A		wn clay with shale fragments		
VC\193011\A14	· · · ·	of competent Rock		
	tic Water Level:_	No water observed Photograph/s Take	n? yes	no_ <u>_Y</u> _0809
	ection Method: _		*.	

Na: 08	Project Name: ALTECH - DUNKIRK PID Reading:
Date: 10-23-96	Project No.: 483803 / 11 O_2 /LEL Reading: OK
Geol. (Eng.) GER	Equip. Subcontractor: Geiben Equipment: Ford Bockhor
	Equipment Operator: Nicholas Geiben 655C
Surface Elev.:	Equipment Operator.
0 +	
	Fill and debris
go de la companya de	
Surface (7	Gray Clay with brown
ρ	clay lenses
Ground	Shale Fragments
Below	State 1.143
Be Be	Rock
10	
1 : : : :	
[5]	
10	
NOTES: (Include description of	soil and rock materials encountered)
0-3' Dark 1	orown silt with debris (rock fragments, objects, root matter, rubber hose,
)	staining, no odor
n	.) '
3'-7' Gray	clay with some brown clay lenses, no staining
7'-8' Shale	Fragments, no staining, no odor
3' Top	of competent Rock
B' Top	O1 CO111PC 1011
5	A serial and a serial s
atic Water Level: 📉	water observed Photograph/s Taken? yes no
Sample I.Ds.: <u>SS-</u> T	TPOB-0002, SB-TPOB-0304, SB-TPOB-0708
Sample I.Ds.: SS-T	
Chain of Custody:	7749 Shipment/ Tracking No.:

				-9			_		Pro	ojec	:t	No	.:		L	18		_	0	- 1	_	11	***************************************	***************************************					,/LE				_	
I./Eng	Ð.	(<u> </u>	EF					Eq	uip.	5	Sub	cor	itra	icto	r: _		G	e i	<u>be</u>	<u>n</u>							E	quipn	nent:	. <u>F</u>			ick
face	Ele	/.: _							Εq	uipı	ne	ent	Ор	erc	ator	:		<u> </u>	lic	ho	la s	>	Ge	ibi	en							6	,5:	2C
0 -	 	_ <u>_</u>	!		<u>. </u>			:	<u> </u>	<u> </u>	<u>-</u>		 :	ŀ		<u></u>	<u>:</u>	\dashv					<u></u>	. (L	L :	<u></u>	!	:	!	:
-		• • •	••				<u>.</u>		يند	• • •	:	••		.[.	• • •			•••	• • • •	·;·	<u>.</u>	!!!.	an	d	: De	þŗ.i	<u>ج.</u> :			: :	:	:	• • • • •	· : · · · ·
-		• :	• • !	: :	:	:		:	:		:	-	:	1	• • •	: :	::	••				<u> </u>	<u></u>	:	<u>:/</u>		:	•	: :	:	:	:::	• : • •	:
-		• : •	••	: :	:	:	• • •	:	•	• • •	:	• •	: :	-1	• • •	: :	• : •	•••	• • • :			• • • •	: :		: :.,		įΨ		·		: :	.; a	• • • • • • • • • • • • • • • • • • • •	
-	 ··		••	: :	•			:		•••	:	• •	: :	-	• • •	: :	• :	[• • •	٠	10	بب <u>:</u>	 :	÷. !!	``\\		:\	`¥	: 194 :	?./.\ :		٠٠٠ إ	• : • •	•
5.	 · ·		••	: :	:		• • •	:	•	•••	:	••	 :			•	•	•••	•••				:		:					:		:	:	
-	 ' '	:	• • •	• • • • • • • • • • • • • • • • • • •	:	:	• • •	:	:	• • •	:	••	: · ·	·:	• • •	:	::		• • •	:	:	 :	:	:	:	:	:		<u>:</u>	:	:	:::	:::	:
•	 ''	:	• • •		:	:		:	:	•	:		:	1	: · ·	:	:]:		· W	je	:41	ier	ed	:5	ha	<u>le</u>	•	•	:	:	:	:	:
ID:			. 	:	:	:		:	:		:		:	:	. Q		: :					:	:	:	:	:			:	:			::::	: : :
10:									:				:			701	7. T.				:		:	:								::		
10					:						:		:			:	:			:	:		:	:	:	:	:	: :	<u>:</u>	:	: :	. :	.:	.i
].	:		: :	.:.	:	• • •	:	:		:		: :	. :		:	:	:		: :	: :	: :	:	:	<u>:</u>	: :	: :	: :	: :	: :	:	.i	.:	
	┨.	:		: :		:	• • •		:		:		: :	:		: :	.:.	:	: 	: :	: :	:	:	: :	<u>:</u>	: :	<u>:</u>	: :	: :	: :	:	.: .:	.:	
	╛.	:		: :	.:.	:		. : .	:		: :		: :	.		: :	.:.	:	: :	: :	: :	: :	. :	: :	: :	: :	: :	: :	: :	: :				
	٦.	• • •			•	:		:	:		.:		: :	:			.:.			: :	<u>:</u>	:	<u>:</u>	:	: :	<u>:</u>		. i			
15].	:	•••	:	.i.	:	••	• • •																										
IS ITES: (Inclu							<u>'</u>	_	<i>];</i>	Ke	<u> </u>	r	n	2 - 1	ter	ic	x \			W	iΨ)	<u> </u>	C);;	<u>- 1:</u>	Ke	0	20	X	S	ta	m	100	
TES: Inclu				С		de	<u>'</u>	_	<i>];</i>	Ke	<u> </u>	r	n	2 - 1	ter	ic	x \			W	iΨ)	<u> </u>	<u> </u>	ii): W	-1; (M	Ke nic	0	or th	K	S	ta ye	101 K	109] ,
TES: Inclu	2 ′		les	C r	in.	de >	<u>r</u>	<u>-</u>	1; ok	Ke	<u> </u>	<u>r</u>	n	2 - {	Her De	i c	x 1 No	ed		W	14)	n er		W	141	nic	d Tair	th	<u>15</u>	la	ye	<u> </u>		
TES: Inclu	7	,	les	C r B	in in	de > س	Υ (O	> 6	1; do	Ke T	<u>-</u>	r	n	2 - F	ter Se	10 50 h	x 1	e d	- -{e	W	,Ψ 1α 1	er +		W dar	141 .K	<u>si</u>	` -	th sir	15	1a	ye	χ 0 (odi	
TES: (Inclu	7	,		С r В	10 (0	de	r '''\	ne	li C	Ke T lav	2	<u> </u>	n c	na - f	Hen De it	rc n	x I	e d	re n	W	,Ψ 1α 1	er +		W dar	141 .K	<u>si</u>	tair	th sir	15	1a	ye	χ 0 (odi	
TES: Inclu	7	,		C r B	10 (0	de	r '''\	ne	li C	Ke T lan	2	<u> </u>	n c	na - f	Hen De it	rc n	x I	e d	re n	W	,Ψ 1α 1	er +		W dar	141 .K	<u>si</u>	tair	th sir	15	1a	ye	χ 0 (odi	
TES: (Inclu	7	,		С r В	10 (0	de	r '''\	ne	li C	Ke T lan	2	<u> </u>	n c	na -f	Hen De it	rc n	x I	e d	re n	W	,Ψ 1α 1	er +		W dar	141 .K	<u>si</u>	tair	th sir	15	1a	ye	χ 0 (odi	
TES: (Inclu	7	,		С r В	10 (0	de	r '''\	ne	li C	Ke T lan	2	<u> </u>	n c	na -f	Hen De it	rc n	x I	e d	re n	W	,Ψ 1α 1	er +		W dar	141 .K	<u>si</u>	tair	th sir	15	1a	ye	χ 0 (odi	
7 - 8	7) /		С В	in in inc	de v	Y 44	ne st	C C	Ke	\frac{1}{1}	```	n c	n - f	Her je	ic rc h	x 1	e d	re n	W	,Ψ 1α 1	er +		w dar	(H)	S-	hair	th Dir	00	\ <u>a</u>	no no d	000	od!	
TES: (Included) - 2	7 E	Wa	ıteı	C r	in.	de a a a	r Vn H	rc	li C	Ke S Ilan	· ·	100	n (har	Herritalianie	rc h	x 1 	ed - 5	n	W W	i'Y	t S-	Catai	w dar	·K	S-	ph/	th nir	15 00	\ <u>a</u>	yes yes	000		

No.: 10	Project Name: ALTECH - DUNKIR	K PID Reading:
Date: 10-23-96	Project No.: 483803 / 11	0 ₂ /LEL Reading: OK
Geol./Eng.) GER	Equip. Subcontractor: Geiben	Equipment: Ford Back
Surface Elev.:	Equipment Operator: Nicholas Geibe	
° 	_!-!-!-!-!-!-!-!-!-!-!	
	Fill:	
<u> </u>		
6 : : : : :		
Surface	Biown Clay	
Ground		
Below	Brown: Clay: Wi	ith shale Fragments
	Řock :	
10 - 01 est		
ļ		
15]		
NOTES:	•	
(Include description of	soil and rock materials encountered)	
0-1' Silt 1	with Steel fragments and r	oot matter, no odor
no s	taining	
1'-8' Brown	Clay, no staining,	no odor
	J	
	clay with shale frogmen	ts, no staining.
<u> </u>	000 (
9' Top 05	F Competent Rock	
		. /
itatic Water Level: 8	<u>ft-bgs</u>	hotograph/s Taken? yes 🗸 no
Sample I.Ds.: SS-	TP10-0002 , SB-TP10-	0809
Collection Method:		ollection Time:
Chain of Custody:	7749 St	hipment/ racking No.:

RAZ C:\Z_DRV 3\193011\A14 :MAR29,1996 3:55P

late: 10-23-96	Project No.: 483803 / 11 O2/LEL Reading: OK
eol./Eng.: GER	Equip. Subcontractor: Geiben Equipment: Ford Eackh
Surface Elev.:	Equipment Operator: Nicholos Geiben 655C
0 +	
ļ	
b	
5	
5 =	
}	
j 10-	Gray Clay with dairk Stalking
·	Gravi Clavi With Shale Fragments:
]::::::::::::::::::::::::::::::::::::::	: : : : : : : : : : : : : : : : : : :
₁₅]	
0-9' Cina	er-like material, dark oil-like staining, brick, bles, slag, no odor
9'-11' Gr	y clay with dork staining, no odor
11'-12' Ga	y clay mixed shale fragments
10.	of competent rock
itatic Water Level:_	Photograph/s Taken? yes noV
	Photograph/s Taken? yes no -TP11-0002, SB-TP11-1011, SB-TP11-1112
	-TP11-0002, SB-TF11-1011, SB-TP11-1112

Appendix F – Groundwater Purge and Sample Forms

Round 1

193011\A11 :WAR29,1996 4:05PM

	•	٦.
	OCGAN.	7
	:	_
	;	2
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
1	i	ĺ
	-	5
		0

Water Level: 2.7 C Purge Volume: 33.97 Well Purged With: 50 Well purged: () Unitaine Started: 1130	(gallons) Shmersible p til Dry (X) Until		dica ted to			
Well Purged With:SC	obmersible p			abino		Ì
Well purged: () Un	til Dry (X) Until			ubia.		
Well purged: () Uni	til Dry (X) Until			-1-114		\downarrow
Time Started: 1130			Vere Removed			
		Time Completed:	<u>300</u>			
• _ .						
ield Parameters		77				
Well Volume Purge				Well Volu	ıme Calculation	
pH 6.65	7.19 7.19	7.14 7.19			Multiply by	16
Conductivity 1690	810 803	799 795		3 inch	Water Column x.	36
Temperature 13.0	14.6 14.2	14.3 14.0		4 inch 6 inch	Water Column x.6 Water Column x1	- 1
Turbidity 10	10 10	10 10				
'						
Sampling Sampling I.D.:			Sample Descripti	on: Venu (lear	no sheen, sligh	H S
Collection Method:	submersible	e pomp w	dedicale	ed tubino	, ,	odi
		Time Completed:				
ume sionen		****** OOM DIG (CU				ι

Chain of Custody: _____

GROUNDWATER PURGE AND SAMPLE LOG Well No.: LAE-4 Project Name: AL Tech - Dunkirk RFI Date: 11/20 /96 Project Number: 483803 Project Team: M. Fleming / B. Diacont / G. Frisch/ Sterling Env. Organic Vapors at Well Head: ______ Ppm Breathing Zone: _______ ppm Remarks on Well Integrity: Purging Well Diameter: _____ (inches) Well Depth: 19.87 (feet below TOC) Water Level: 4.80 (feet below TOC) Water Column: 15.67 (feet) Purge Volume: 1:23 (gallons) Well Purged With: Submersible pump w/ dedicated tubing Well purged: () Until Dry (X) Until 3 Well Volumes Were Removed Time Storted: 1230 Time Completed: 1330 Field Parameters Purge 2.4 4.8 7.3 Well Volume Well Volume Calculation PH 7.20 7.06 7.01 7.15 Well Diameter Multiply by 2 inch Water Column x.16 Conductivity 930 910 920 837 Water Column x.36 3 inch 4 inch Water Column x.65 Temperature 10.7 14.2 13.6 Water Column x1.4 6 inch Sampling Sampling I.D.: ____ Sample Description: __ Collection Method: <u>SUBMERSIBLE PUMP</u> of dedicasted tubino Time Started: _____ Time Completed: ___ Sample Parameters: See chain-of-custode Shipment/Tracking No.: NA

Remarks on W	ell Integrity.								
rging Well Diameter	2	(inches)	We	ll Depth:	18.55	(feet below TOC)		
Water Level: .						n: 9,21			
Purge Volume							,		
Well Purged I	With: _50	bmers	ible p	ump w	l dec	dica ted	tubing		
Well purged:	() Un	til Dry	(X) Until	<u> 3</u> Well V	olumes W	ere Removed			
Time Started:	08	10		Time Comp	leted:	0845			
	t								
eld Paran	Des	1 -	2 N	11 5					
Well Volume		1,5		4.5				ume Calculation	_
•		6,87	•	<u>6.80</u>			Well Diameter 2 inch	Multiply by Water Column x.	16
Conductivity			<u> 3030 </u>				3 inch 4 inch	Water Column x. Water Column x.	36
Temperature	9,9	<u> 13.2</u>	13,7	14.8			6 inch	Water Column x1	
Turbidity	_10_	_10_	10	10					
4.									
ompling Sampling 10	1.				c	iamole Descri	otion: Slight vel	low fint; no not	icak
					- 2 W	dedical	led tubing	<u> </u>	
Time Started							$\overline{}$		
nine Startet	<i>J.</i>			mne Com	<i>Diete</i> 0				
ample Po	ramete	rs:							
See c	chain-	-of-cu	slode	,					
× 0	Hache	y Mo	ster S	male	100				
5ee 0 4 ai	chain- Hache	of-ce & Ma	ster D	imple	_ <u>_</u> 09				

RAZ C:\Z_DRV/

193011\A11 :MAR29,1996 4:05PM

Well No .: MW-1 Project Name: AL Tecl	h - Dunkin	-KRFI
Date: 11/20 /96 Project Number: 48380		
Project Team: M. Fleming / B. Diacont/G. F		dipo Fra
	<u>-</u>	' \ \
	Zone:	_ ppm
Remarks on Well Integrity:		
Purging 22.2		
Well Diameter: (inches) Well Depth:		
Water Level: 5,27 (feet below TOC) Water Column: 17,0	[]_ (feet)	
Purge Volume: _8.17 (gallons)	1 tabia	-
Well Purged With: <u>Submersible pump w/ dedicated</u>		
Well purged: () Until Dry (X) Until 3 Well Volumes Were Remove	ed .	
Time Started: 1505 Time Completed: 1545		
Field Parameters		
Well Volume Purge 3 6.5	Wall Make	no Colombia
ph 1.85 7.96 8.32 8.41		me Calculation Multiply by
Conductivity 530 975 1106 1092	2 inch 3 inch	Water Column x.16 Water Column x.36
Temperature 46.5 49.6 51.1 49.9	4 inch 6 inch	Water Column x.65 Water Column x1.41
Turbidity 138 111 50 39		
Sampling		
	riplion:	
collection Method: <u>Submersible</u> pump of dedica	Wed tubing	
Time Started: Time Completed:	\mathcal{O}	
Sample Parameters:		
See chain-of-custody + attached Master Sample Log		
& attached Master Shimple Log		
	ng No.: NIA	

RAZ C:\Z_DRN 193011\A11 :MAR29,1996 4:05PM

GROUNDWATER PURGE AND S	AMPLE LOG
Well No.: UT - 1A Project Name: AL Tech	- Dunkirk RFI
Date:	3
Project Team: M. Fleming / B. Diacont / G. Fr.	isch/Sterling Env
	one: ppm
Remarks on Well Integrity:	
Purging	
Well Diameter: (inches) Well Depth: 16,94	(feet below TOC)
Water Level: 3:63 (feet below TOC) Water Column: 13:31	(feet)
Purge Volume: 10.39 (gollons)	
Well Purged With: <u>Submersible pump w/ dedicated in the pump w/ dedicat</u>	tubing
Well purged: () Until Dry (χ) Until $\stackrel{\frown}{3}$ Well Volumes Were Removed	
Time Started: 0800 Time Completed: 0820	
Field Parameters	
Well Volume Purge 2.0 4.25 6.5	Well Volume Calculation
рН 6.17 6.71 6.50 6.42	Well Diameter Multiply by 2 inch Water Column
Conductivity 1 <u>186 1135 1148 1140</u>	3 inch Water Column 4 inch Water Column
Temperature 53.6 53.4 53.2 53.8	6 inch Water Column
Turbidity 60 24 34 29	
Sampling	
Sampling I.D.: Sample Descript	tion:
collection Method: <u>SUBMERSIBLE PUMP</u> w dedical	led tubing
Time Started: Time Completed:	
Sample Parameters:	
See chain-of-custody * attached Master Sample Log	
4 attached Master Sample Log	·

Date:	M.F.	196 Temin	/ g_ / B NA	Project Nui B <u>Dia</u> ppm	mber:	48380 G.Fv Breathing Z	n - Dun 13 nisch/5 one: NA	terlina	
Purging Well Diameter: Water Level: _ Purge Volume:	2 3,67 5.45	(inches, (feet belo (gallons)	ow TOC)	ļ	Well Depth Water Cold		,	C)	
Well purged: Time Started: Field Param Well Volume pH Conductivity Temperature Turbidity	() Unit 092 neters Pre Purge 5.89	25 25 5.40 891 50.1	(X) Until . - - - - - - - - - - - - - - - - - - -	3 Well Time Con 5.44 938	Volumes	Were Removed O 940		Water Water Water	
Sampling Sampling I.D. Collection Me				: pum	puf	Sample Descrip	otion:	7	
Time Started	ramete			Time Co.	mpleted: _				

RAZ C:\Z_DRV

Well No.: WT-2 Project Name: AL T	
Date: 1// 19 / 96 Project Number: 48	
Project Team: M. Fleming / B. Diacont/G	. Frisch/Sterling Env.
	rathing Zone: NA ppm
Remarks on Well Integrity:	
Purging	
Well Diameter: (inches) Well Depth:	(feet below TOC)
Water Level: 3,14 (feet below TOC) Water Column:	3.72 (feet)
Purge Volume: 17.00 (gallons)	
Well Purged With: <u>Submersible pump w/ dedica</u>	nted tubing
Well purged: (X) Until Dry () Until Well Volumes Were R	Pemoved
Time Started: 1020 Time Completed:	15
Field Parameters	
Pre (
Well Volume Purge 6	Well Volume Calculation
•	Well Diameter Multiply by 2 inch Water Column x.16
Conductivity <u>450</u> 4800	3 inch Water Column x.36 4 inch Water Column x.65
Temperature 11.3 13.2	6 inch Water Column x1.41
sight readings do not seem to be accurate	
Sampling	
	e Description:
Collection Method: <u>Submersible fump</u> wedge	dicasted tubing
Time Started: Time Completed:	
Sample Parameters:	
See chain-of-custody 4 attached Master Sample Log	
- Januarica Judia antique Log	
	. 1636
Chain of Custody:Shipment/	Tracking No.: NIA

RAZ C:\Z_DRV 193011\A11 :MAR29,1996 4:05PM

Well No.: WT-3 Project Name: AL Tech Date: 11/19/96 Project Number: 48380 Project Team: M.Fleming / B. Diacont / G. Fr Organic Vapors at Well Head: NA ppm Breathing 2	23
Remarks on Well Integrity: Purging Well Diameter: (inches) Well Depth:	(feet)
Well purged: (X) Until Dry () Until Well Volumes Were Removed Time Started: IOU5 Time Completed: 1125 Field Parameters Well Volume Pre purge 9.8 14	Well Volume Calculation Well Diameter Multiply by 2 inch Water Column x.16 3 inch Water Column x.36 4 inch Water Column x.65 6 inch Water Column x1.41
Sampling Sampling I.D.: Sample Descrip Collection Method:SUMMENSIBLE FUMP of dedicate	
Sample Parameters: See chain-of-custody A attached Master Sample Log Chain of Custody: Shipment/Tracking	

RAZ C:\Z_DRN 193011\A11 :MAR29,1996 4:05PM

Well No.: WT-Y Project Name: AL Tec	h - Dunki	rk RFI
Date:		
Project Teom: M. Fleming / B. Diacont / G. F		din Fnu
	·	′
	Zone:	<i>ppm</i>
Remarks on Well Integrity:		
Purging		
Well Diameter: 4 (inches) Well Depth: 16,33	(feet below TOC)	
Water Level: 1.02 (feet below TOC) Water Column: 15	_	
Purge Volume: 29.85 (gallons)		
Well Purged With: <u>submersible pump w/ dedicated</u>	d tubing	
Well purged: (X) Until Dry () Until Well Volumes Were Remove		
Time Started: 14/0 Time Completed: 15/0		
Field Parameters		
Well Volume Purge 10 20	Well Volu	me Calculation
PH 5,29 5.49 5.46	Well Diameter	Multiply by
Conductivity 1410 1382 1370	2 inch 3 inch	Water Column x.16 Water Column x.36
Temperature 51.8 51.5 52.3	4 inch 6 inch	Water Column x.65 Water Column x1.41
Turbidity 2 7 13		
Sampling		
Sampling I.D.: Sample Des	cription:	
collection Method: <u>Submersible fump</u> w dedice	axed tubing	
Time Started: Time Completed:	\circ	
•		
Sample Parameters:		
See chain-of-custody * attached Master Sample Log		
+ attached Master Sample Log		
Chain of Custody:Shipment/Track	ing No.: NA	

RAZ C:\Z_DRV 193011\A11 :MAR29,1996 4:05PM

GROUNDWATER PU	RGE AND SAMPLE LOG
Well No.: WP-4 Project No.	me: AL Tech - Dunkirk RFI
Date: 1// 21 /96 Project No	
, ,	cont/G. Frisch/Sterling Env.
Organic Vapors at Well Head: NA ppm	Breathing Zone: ppm
Remarks on Well Integrity:	Breathing Zone ppm
nemarks on her megriy.	
Purging	
Well Diameter: (inches)	Well Depth: 19.9 6 (feet below TOC)
Water Level: 9.78 (feet below TOC)	Water Column: 10 118 (feet)
Purge Volume: 4.89 (gallons)	
Well Purged With: <u>Submersible pump</u>	w/ dedicated tubing
Well purged: () Until Dry (X) Until <u>3</u> Well	Volumes Were Removed
Time Storted: 0805	mpleted: 0875
Field Parameters	
Pre 2 U 5	
Well Volume Purge	Well Diameter Multiply by
conductivity 945 1030 1042 1048	2 inch Water Column x.1
Temperature 52.3 54.1 54.4 54.2	4 inch Water Column of
. 0: 11	6 inch Water Column x1.
Turbidity 36 21 19 12	
Sampling	
Sampling I.D.:	Sample Description:
Collection Method: SUMMErsible fun	up of dedicated tobing
Time Started: Time Co	ompleted:
Sample Parameters:	
See chain-of-custody	
See chain-of-custody + attached Master Sample	Log
	
	Shipment/Tracking No.:NH
Chain of Custody.	Shipment/Tracking No.:/V 7

	803
Purging Well Diameter:	Well Volume Calculation Well Diameter Multiply by 2 inch Water Column x.16 3 inch Water Column x.36
Collection Method: SUPMENSIBLE PUMP W dedi Time Started: Time Completed: Sample Parameters: See chain-of-custody 4 attached Master Sample Log	

RAZ C:\Z_DRY\ 193011\A11 :MAR29,1996 4:05PM

Project Team: Organic Vapors Remarks on W	M.F.	lemin	9 / E NA	3, Dia _ ppm	cont	Breathing 2		rling Env	
urging Well Diameter: Water Level: Purge Volume Well Purged N	9.90	_ (feet belo (gallons)	w TOC)		Water Colu	13.32 mn: 3.42 dica ted	,		
	() Unti	I Dry	(X) Until	_3_ Well	Volumes V	Vere Removed			
Conductivity Temperature	Pre Purge 7.30 603	7.21 696 15.7	7.17 707	7,25			Well Diameter	Multiply by Water Column Water Column Water Column Water Column Water Column	x.16 x.36 x.65
Sampling Sampling 1.D Collection Ma	:	SUbme	rsible					iv odor; no sho	on',
Time Started Sample Pa		rs:			•		-		

RAZ C:\Z_DRM 193011\A11 :MAR29,1996 4:05PM

	'ell Integrity:							
urging	2					,, ,, ,		
Well Diameter.				•			_ (feet below TOC)	
Water Level: .			ow TOC)	н	ater Colo	ımn: <u>5.73</u>	(feet)	
. Purge Volume					,	11 4.1	4.1.10	-
Well Purged I				_		edica ted		
Well purged:			/ \			Were Removed	<u>-</u>	
Time Started:	. 11:4	0		Time Comp	oleted:	12:00		
ield Paran	neters		•					
	Pre	į	2	3				
Well Volume	Purge 8, 20	9 1					Well Volu Well Diameter	me Calculation Multiply by
•	•	1860					2 inch	Water Column x.1
Conductivity Temperature							3 inch 4 inch	Water Column x.6
•			<u>56.4</u>	305			6 inch	Water Column ×1.4
Turbidity	260	<u>470 </u>	321	<u> </u>				
Sampling								
Sampling 1.D						•	iplion:	
Collection M	lethod:	subme	exsible	· pum	puf	dedica	ved tubing	
Time Started	d:			Time Con	npleted: _			
Sample Po			١/ ،					
See c	chain- Hached	of-cu	slode	1				·
	Hacho	y Mo	ster St	mole.	LOG			

RAZ C:\Z_DRV 193011\A11 :MAR29,1996 4:05PM

Shipment/Tracking No.: 111A

RAZ C.\Z_DRV (193011\A11 :MAR29,1996 4:05PM

Chain of Custody:

Project Team: M.Fleming / B. Diacont/	G. Frisch	′	/
Organic Vapors at Well Head:	Breathing Zone:	/A	ppm
Purging	17 16		
	27.15 (feet be	,	
Water Level: 10,65 (gallons) Water Column.	: _22.19 (feet)		
Well Purged With: _Submersible pump w/ dedi	inted tribia	² c	·
Well purged: () Until Dry (X) Until Well Volumes Were		7	
Time Started: () 800 Time Completed:			
Field Parameters			
Well Volume Purge 3.45 7.0 8.5 10.5		Wall Volum	ne Calculation
pH 7.24 7.29 7.27 7.22 7.25	Well		Multiply by
Conductivity 828 814 833 819 829		inch inch	Water Column x.16 Water Column x.36
Temperature 10.4 12.9 12.7 12.8		inch inch	Water Column x.65 Water Column x1.41
Turbidity OFFSCALE 748 224 6 10			
Sampling	4.1	o adaic	s class: Wa day
Sampling I.D.: San Collection Method:SUMMENSIBLE FUMP W d			; clear; no she
•	earcusta 10	villa_	
Time Started: Time Completed:			
Sample Parameters:			
See chain-of-custody			
- + attached Master Sample Log			
	* * * * * * * *	••	en e

RAZ C:\Z_DRV\ 193011\A11 :MAR29,1996 4:05PM

Well No.: RFI-5 Project Name: AL Tech - Dunkirk RFI Date: 11/20/96 Project Number: 483803
Project Team: M. Fleming / B. Diacont / G. Frisch/ Sterling Env.
Organic Vapors at Well Head: NA ppm Breathing Zone: NA ppm
Remarks on Well Integrity:
Purging
Well Diameter: 2 (inches) Well Depth: 17.03 (feet below TOC)
Water Level: 5.92 (feet below TOC) Water Column: 11.11 (feet)
Purge Volume: 5.33 (gallons)
Well Purged With: <u>Submersible pump w/ dedicated tubing</u>
Well purged: () Until Dry (χ) Until3 Well Volumes Were Removed
Time Started:
Field Parameters
Well Volume Purge 2 4 5.5
Well Volume Calculation Well Diameter Multiply by
Conductivity 720 651 643 669 2 inch Water Column x.16
541 57 U 57.3 57.8 4 inch Water Column x.65
Turbidity 20 14 45 8
Sampling
Sampling I.D.: Sample Description:
Collection Method: <u>SUMMENSIBLE FUMP of dedicasted tubing</u>
Time Started: Time Completed:
Sample Parameters:
See chain-of-custody
+ attached Master Sample Log
Control of the Contro

RAZ C:\Z_DRV\ 193011\A11 :MAR29,1996 4:05PM

Well No.: RFI-b Project Name: AL Tech Date: 11/19/96 Project Number: 483803	
Project Team: M. Fleming / B. Diacont / G. Fri:	sch/Sterling Env.
	e:
Remarks on Well Integrity:	
Purging	
Well Diameter: (inches) Well Depth: <u>13.53</u> (feet below TOC)
Water Level: 6.06 (feet below TOC) Water Column: 7.47	
Purge Volume: 3,59 (gallons)	
Well Purged With: <u>submersible pump w/ dedicated to</u>	shing
Well purged: () Until Dry (χ) Until 3 Well Volumes Were Removed	J
Time Started: 1530 Time Completed: 1600	
Field Parameters	
Well Volume Purge 1:2 2.4 3.6	Well Volume Calculation
pH 7.34 7.30 7.40 7.30	Well Diameter Multiply by
Conductivity [[90	2 inch Water Column x.16 3 inch Water Column x.36
Temperature 11.4 12.1 13.3 13.3	4 inch Water Column x.65 6 inch Water Column x1.41
Turbidity <u>63</u> 15 10 20	
Sampling	
Sampling I.D.: Sample Description	
Collection Method: <u>SUBMERSIBLE Pump</u> uf dedicable	a 1001119
Time Started: Time Completed:	number of the state of the stat
Sample Parameters:	
See chain-of-custody	
A attached Master Sample Log	• •
	K/A

RAZ C:\Z_DRV \193011\A11 :MAR29,1996 4:05PM

Well No.: RFI-7 Project Name: AL Tech - Dunks Date: 11/20 96 Project Number: 483803 Project Team: M.Fleming B. Diacont G. Frisch Ste Organic Vapors at Well Head: NA ppm Breathing Zone: NA Remarks on Well Integrity:	erling Env.
Purging Well Diameter: 2 (inches) Well Depth: 11.65 (feet below TOC) Water Level: 4.11 (feet below TOC) Water Column: 7.48 (feet) Purge Volume: 3.59 (gallons) Well Purged With: Submersible pump w/ dedicated tubing	· .
Well purged: () Until Dry (V) Until 3 Well Volumes Were Removed Time Started: 0850 Time Completed: 0930	
Field Parameters Well Volume Purge 12 24 36 Well Volume Purge 13 24 36 Well Volume pH 6.63 6.61 6.61 6.67 Well Diameter Conductivity 4040 3940 4210 4220 2 inch 3 inch 4 inch 6 inch Turbidity $10 10 10 10 10$	Multiply by Water Column x.16 Water Column x.36 Water Column x.65 Water Column x1.41
Sampling Sampling 1.D.: Sample Description: Collection Method: SUPPREYSIBLE PUMP of dedicated tubing Time Started: Time Completed:	
Sample Parameters: <u>See chain-of-custody</u> 4 attached Master Sample Log	
Chain of Custody: Shipment/Tracking No.: N/A	

RAZ C:\Z_DRV\ 193011\A11 :MAR29,1996 4:05PM

Well No.: PFI-08 Project Name: AL Tech - Dunkirk RFI Date: 11/20/96 Project Number: 483803
Project Team: M.Fleming / B. Diacont / G. Frisch Sterling Env. Organic Vapors at Well Head: NA ppm Breathing Zone: NA ppm Remarks on Well Integrity:
Purging Well Diameter:
Well purged: (X) Until Dry () Until Well Volumes Were Removed Time Started:
Field Parameters Well Volume Purge 1.5 3 Well Volume Calculation pH 5.38 5.43 5.43 5.43 Conductivity 135 757 762 2 inch Water Column x.16 Temperature 46.1 49.0 50.6 6 inch Water Column x1.41 Turbidity 14 22 22
Sampling Sampling I.D.: Sample Description: Collection Method:SUMMEYSIBLE FUMP w dedicasted tubing Time Started: Time Completed:
Sample Parameters:

RAZ C.\Z_DRV . 193011\A11 :MAR29,1996 4:05PM

Date:/	M.F.	196 Flemin	9 / E NA	Project Numb 3. Di'a c ppm	or: <u>483</u> ont G. Breat	3803 Frisca	 h/5te	rk RFI Ving Env.
Purging Well Diameter Water Level: Purge Volumer Well Purged	2.68 e: 5.01	(feet bel (gallons)	ow TOC)	Wo	II Depth: <u>13.1</u> Iter Column: <u>10</u>).43 (fee	t)	
Well purged:	() Uni	til Dry	(X) Until	3 Well V	olumes Were Ren leted: 144	noved)	
Field Parar Well Volume pH Conductivity Temperature Turbidity	Pre Purge 1,20 1030 10,2	7,09 1030	4,00 6,95 1050 13,8 10	6,94 1030				Multiply by Water Column x.16 Water Column x.36 Water Column x.65 Water Column x1.41
Sampling Sampling I.I. Collection II. Time Starte	lethod:	s Ubme	exsible	E PUMP Time Com	oul deal		No odoi	noshlin
Sample Pa	chain- Hache	4	usvodi 15ter St	ample 1				

RAZ C.\Z_DRV 193011\A11 :MAR29,1996 4:05PM

Well No.: RFI-10 Project Name: AL Tech - Dunkirk RA Date: 11/19/96 Project Number: 483803 Project Team: M.Fleming / B. Diacont / G. Frisch Sterling to Sterling to Sterling to Sterling to Sterling Tone: NA ppm Remarks on Well Integrity:	
Purging Well Diameter: (inches) Well Depth: 15,40 (feet below TOC) Water Level: 2,66 (feet below TOC) Water Column: 12,74 (feet) Purge Volume: (gallons) Well Purged With: Submersible pump w/ dedicated tubing	
Well purged: () Until Dry (χ) Until 3 Well Volumes Were Removed Time Started: 1600 Time Completed: 1635	
Conductivity 1732 1726 1518 1440 3 inch Water Co	
Sampling Sampling I.D.:	
Chain of Custody: Shipment/Tracking No.: N_A	

RAZ C:\Z_DRV\ (193011\A11 :MAR29,1996 4:05PM

Well No.: $AFI-1$ Date: $11/18/96$ Project Team: $M.Flemine$ Organic Vapors at Well Head:	Project Number:	483803	ch/Ster	ling Env.
Purging Well Diameter: 3,69 (feet below)		epth: <u>17,98</u> (fe Column: <u>14,29</u>	•	
Purge Volume: \(\bullet \) (gallons) Well Purged With: \(\submers\) Until Dry Time Started: \(\bullet \) 55 5	(X) Until _3 Well Volum	es Were Removed	bi'ng	•
Field Parameters	<u>4.0</u> <u>7.5</u>			Multiply by Water Column x.16 Water Column x.36 Water Column x.65 Water Column x1.41
Sampling Sampling I.D.: Collection Method:SUBME Time Started:	rsible fump u		. / / .	· · · · · · · · · · · · · · · · · · ·
Sample Parameters: <u>See chain-of-cu</u> 4 attached Mar	ster Sample Log	9		
Chain of Custody:		.Shipment/Tracking No.	NIA	

RAZ C:\Z_DRM 193011\A11 :MAR29,1996 4:05PM

Well No.: RFI-12 Project Name: AL Tech - Dur Date: 11/21/96 Project Number: 483803	
Project Team: M. Fleming / B. Diacont / G. Frisch &	Sterling Env.
Organic Vapors at Well Head:	ррт
Remarks on Well Integrity:	
Purging	
Well Diameter: 2 (inches) Well Depth: 13.71 (feet below To	oc)
Water Level: 7.91 (feet below TOC) Water Column: 5.8 (feet)	
. Purge Volume: 278 (gallons)	
Well Purged With: <u>submersible pump w/ dedicated tubing</u>	
Well purged: () Until Dry (χ) Until 3 Well Volumes Were Removed	
Time Started: 0850 Time Completed: 0930	
Field Parameters	
Well Volume Purge 10 2.0 3.0	
PH 7.20 7.03 6.92 6.40 Well Diam	Volume Calculation Leter Multiply by
Conductivity 582 682 2 inch	
Temperature 45.7 52.3 53.4 52.7 6 inch	Water Column x.65
Turbidity 36 28 31 33	
Sampling	
Sampling I.D.: Sample Description:	
collection Method: <u>Submersible pump</u> of dedicated tubin	1a
Time Started: Time Completed:	
Sample Parameters:	
See chain-of-custody	
Sample Parameters: <u>See chain-of-custody</u> <u>4 attached Master Sample Log</u>	
1670	à.
Chain of Custody: Shipment/Tracking No.: N	7

RAZ C:\Z_DRV .193011\A11 :MAR29,1996 4:05PM

Well No.: LFI-13 Project Name: ALTech Date: 11/20/96 Project Number: 483803 Project Team: M.Fleming / B. Diacont / G. Fris Organic Vapors at Well Head: NA ppm Breathing Zone Remarks on Well Integrity:	sch/Ster	rling Env.
Purging Well Diameter: 2 (inches) Well Depth: 17.23 (inches) Water Level: 6.95 (feet below TOC) Water Column: 16.28 Purge Volume: 4.93 (gallons) Well Purged With: 50bmersible pump w/ dedicated to	(feet)	
Well purged: () Until Dry (X) Until 3 Well Volumes Were Removed Time Started: 1045 Time Completed: 1125		
Field Parameters Well Volume Purge 2 4 5 pH 5.33 5.52 5.62 5.70 Conductivity 988 1060 1140 1085	Well Diameter 2 inch 3 inch	Multiply by Water Column x.16 Water Column x.36
Temperature 46.1 50.5 51.2 51.8	4 inch 6 inch	Water Column x.65 Water Column x1.4
Sampling Sampling I.D.: Sample Description Collection Method: SUbmersible fump w dedicate		
Time Started: Time Completed:		
Sample Parameters: <u>See chain-of-custody</u> ** a Hached Master Sample Log		
Chain of Custody: Shipment/Tracking N	RIA	

RAZ C:\Z_DRV\ ,193011\A11 :MAR29,1996 4:05PM

Date:/_	// J.(M.F. at Well He) 96 lemino od:	, 9 / E NA	Project Num B. Di`ac _ ppm	ber:	48380 G.Fr Breathing Z		ding Env.
Purging Well Diameter: Water Level: _ Purge Volume. Well Purged N	4,33 5, <u>73</u>	_ (feet belo	ow TOC)	W	ater Colu	: 16,27 : 11.94 edicated	,	
	() Unt	il Dry	(X) Until	<u>3</u> Well \	/olumes	Were Removed		
Field Param Well Volume pH Conductivity Temperature Turbidity	Pre Purge 8:17 583 45.9	2 8,38 636 50.1 876	4 8.43 597 51.8 71000	6 8.39 586 52.1 >1000				Multiply by Water Column x.16 Water Column x.36 Water Column x.65 Water Column x1.41
Sampling Sampling I.D. Collection Me Time Started	ethod:	<u>subme</u>	exsible	e form	•	Sample Descri		
Sample Po	chain-	ers: -of-cu d Ma	ster Si	i ample	Log			
	dv					ipment/Trackini	111 1 2	

RAZ C:\Z_DRV\ 193011\A11 :MAR29,1996 4:05PM

Well No.: RFI - 15 Project Name: AL Te Date: 11/20/96 Project Number: 483	3803
Project Team: M. Fleming / B. Diacont/G	. Frisch/Sterling Env.
	thing Zone: ppm
Remarks on Well Integrity:	·
Purging	
	(feet below TOC)
Water Level: 11,56 (feet below TOC) Water Column: 1	(feet)
. Purge Volume: 3.50 (gallons)	
Well Purged With: <u>Submersible pump w/ dedica</u>	ted tubing
Well purged: () Until Dry () Until 3 Well Volumes Were Rei	
Time Started: 1415 Time Completed: 150	<u>0</u>
Field Parameters	
Well Volume Purge 1.2 2.4 3.6	Well Volume Calculation
PH 7.22 7.15 7.16 7.12	Well Diameter Multiply by 2 inch Water Column x.16
Conductivity 883 1150 1220 1180	3 inch Water Column x.36 4 inch Water Column x.65
Temperature 12.7 15.2 16.8 18.6	6 inch Water Column x1.41
Turbidity 999 999 999 952	
Sampling	
	Description:
Collection Method: <u>SUBMERSIBLE PUMP</u> wed	icalled tubing
Time Started: Time Completed:	
Sample Parameters	
Sample Parameters:	
See chain-of-custody 4 attached Master Sample Log	
4 allached Masier Sample Log	
Chain of Custody: Shipment/Ti	racking No.: N/A

RAZ C:\Z_DRV\ ___193011\A11 :MAR29,1996 4:05PM

	Project Team: M. Fleming B. Diacont G. Fris	
	·	,
	Organic Vapors at Well Head:	:: \/ \/ \/ \/ \ ррт
	Remarks on Well Integrity:	· · · · · · · · · · · · · · · · · · ·
<u>P</u> (urging	
	Well Diameter: 2 (inches) Well Depth: 17,50	feet below TOC)
	Water Level: 6,85 (feet below TOC) Water Column: 10,65	(feet)
	Purge Volume: _5. L (gallons)	
	Well Purged With: <u>Submersible pump w/ dedicated to</u>	birg
	Well purged: () Until Dry ($\dot{\chi}$) Until $oxed{3}$ Well Volumes Were Removed	
	Time Started: 1435 Time Completed: 1455	
	· · · · · · · · · · · · · · · · · · ·	
F	ield Parameters	
	Well Volume Purge	Well Volume Calculation
	pn <u>v.v.</u> <u>v.v.</u> <u>v.v.</u>	Well Diameter Multiply by 2 inch Water Column x.
	Conductivity 765 752 810 815	3 inch Water Column x. 4 inch Water Column x.
	Temperature 49.6 52.7 53.6 53.9	6 inch Water Column x1
	Turbidity > 1000 442 177 42	
S	Sampling	
	Sampling I.D.: Sample Description	n:
	Collection Method: <u>Submersible fump</u> wedicale	d tubing
-	Time Started: Time Completed:	
_	Sample Dage-store	
	Sample Parameters:	
	See chain-of-custody	
	4 arrached praster somple Log	
-		

Dale:/	// 20 M.F. s at Well He	196 Flemin	9 / E NA	Project Num B. Dia _ ppm	cont	48380 G . F . Breathing .		rling Env.
Purging Well Diameter Water Level: Purge Volume Well Purged I Well purged:	7.60 :: _3 <u>,0</u> With: _50	_ (feet bek (gallons))bmers	ible p	н <i>Отр и</i>	later Colui	nn: 6,0 dica ted	tubing	
Time Started: Field Paran Well Volume pH Conductivity Temperature Turbidity	Pre Purge 1.26 2790 12.1	j	2		oleted:			me Calculation Multiply by Water Column x.16 Water Column x.36 Water Column x.65 Water Column x1.4
Time Started	ethod:aramete	subme	rsible —	: fum,	_		iption:	

RAZ C:\Z_DRV \193011\A11 :MAR29,1996 4:05PM

Round 2

Well No.: B-1 Date: 3/24/97			unkirk	RFI
Project Team: B. Diacont/G.	Frisch /5	terling Er	1 V .	
Organic Vapors at Well Head:NA	•	~ Breathing Zone.		ppm
Remarks on Well Integrity:				
urging				:
Well Diameter: (inches)		h: 20,12 (f	-	
Water Level: 3.34 (feet below TOC)	Water Co.	lumn: 16,78	(feel)	
Purge Volume: _34,2 (gallons)				
Well Purged With: SUDM ersible			tubing	
Well purged: () Until Dry (X) Unit				
Time Started: 1435	Time Completed:	1515		
ield Parameters				
Well Volume Purge 11.4 12.9	34.2		M-11 - M-1	0.15.1.1
PH 6.25 6.59 6.63			Well Diameter	me Calculation Multiply by
Conductivity <u>685</u> <u>592</u> <u>581</u>	587	<u> </u>	2 inch 3 inch	Water Column x.16 Water Column x.36
Temperature <u>1, 9°C</u> <u>7, 6</u> <u>7,5</u>	7.5	<u> </u>	4 inch 6 inch	Water Column x.65 Water Column x1.4
Turbidity <10 <10 <10	<10			
Sampling				
Sampling I.D.:		Sample Description		
Collection Method: SUBMERSIBLE	pump w	dedicated	tubing	
Time Started:	Time Completed: _	•		
Sample Parameters:				
See chain- of-custody				
& attached waster sar				
	rip sc ssg			
• • •				
		•		

RAZ C., DWG (15-193011),A11-06-09, 1997-4:03p

Well No.: 8-1 Date: 3/27/97	_		RFI
Project Team: B. Diacont/G.	Frisch / Sterling	y Env.	
Organic Vapors at Well Head: NA	1 ~	ng Zone: NA	ррт
Remarks on Well Integrity:			
urging			
Well Diameter: (inches)	Well Depth:	(feet below TOC)	
Water Level: (feet below TOC)	Water Column:	(feet)	
Purge Volume: (gallons)			
Well Purged With: SUDM ersible	pump w/ dedica	ted tubing	
Well purged: () Until Dry (X) Unt			
Time Started: 1350	Time Completed: 1920	<u> </u>	
ield Parameters			
Well Volume Pre 114 228	3 4.2		
pH 7.41 7.32 7.37		Well Volu Well Diameter	ume Calculation Multiply by
Conductivity 570 554 572		2 inch 3 inch	Water Column x.16 Water Column x.36
Temperature 9,8 9,0 8:6		4 inch 6 inch	Water Column x.65 Water Column x1.4
Turbidity <10 <10 <10		-	
		•	
Sampling Sampling I.D.:	Sample De	scription:	
Collection Method: Submersible			
Time Started:	Time Completed:	J	
	·		
Sample Parameters:			
See chain- of-custody			
4 attached waster sar	npie Lug		
		1 //14	
		king No.: MA	

RAZ C., DuG. 13, 193011; ALL : 06-09, 1997-4:03p

Project Team: B. Diacont/G. Frisch / Sterling Env.	
Organic Vapors at Well Head: NA ppm Breathing Zone: NA ppm	
Remarks on Well Integrity:	
Purging	
Well Diameter:	
Water Level: <u>2.05</u> (feet below TOC) Water Column: <u>14.36</u> (feet)	
Purge Volume: 6,90 (gallons)	
Well Purged With: SUBMERSIBLE pump w/ dedicated tubing	
Well purged: () Until Dry (χ) Until 3 Well Volumes Were Removed	
Time Started:	
Field Parameters	
Well Volume Purge 2.5 5.0 7.2 Well Volume Calculation	
pH 7.29 7.21 7.39 7.17 Well Diameter Multiply by	
Conductivity 634 632 644 642 3 inch Water Column x.3	6
Temperature 9.0 9.3 10.2 10.3 4 inch Water Column x.6 6 inch Water Column x1.	
Turbidity 326 172 367 >1000	
Samalia a	
Sampling Sampling I.D.: Sample Description:	
collection Method: Submersible pump widedicated tubing	
Time Started:	
mile stated.	
Sample Parameters:	
See chain- of-custody	
+ attached waster sample Log	
	•.

Well No.: LAW-5 Date: 3/26/97	Project Number: 483803		RFI
Project Team: 3, Diacontage. Organic Vapors at Well Head: NA Remarks on Well Integrity:	— ppm Breathing Zoo		ррт
•	Well Depth: 18,55 Water Column: 9,0		<u>.</u>
Well Purged With: SUDMETSIBLE Well purged: () Until Dry (X) Until Time Started: 5 5	il 3 Well Volumes Were Removed	J	
Field Parameters Well Volume Purge 1.45 2.90 pH 7.32 7.22 7.27 Conductivity 2780 2270 2370 Temperature 8.4°C 8.7 8.7 Turbidity 10 10 10	7.14 2330	Well Diameter	Water Column x.65
Sampling Sampling 1.D.: Collection Method: SUMMERSINE Time Started:	·	J	•
Sample Parameters: See chain-of-custody 4 attached Master San	npre Log		
Chain of Custody:	Shipment/Tracking N	io. NIA	

Well No.: LAW-6 Project Name: AL Tech - DUNKINK Date: 3/26/97 Project Number: 483803 Project Team: B. Diacont/G. Frisch/Sterling Env.	RFI
Organic Vapors at Well Head: NA ppm Breathing Zone: NA	ррт
Remarks on Well Integrity:	
Purging	
Well Diameter: 2 (inches) Well Depth: 17.88 (feet below TOC)	
Water Level: 6.05 (feet below TOC) Water Column: 4.83 (feet)	
Purge Volume: 5: 68 (gallons)	
Well Purged With: Submersible pump widdicated tubing	
Well purged: () Until Dry (χ) Until 3 Well Volumes Were Removed	
Time Started: 1515 Time Completed: 1550	
Field Parameters	
Well Volume Purge 1.9 3.8 5.7	
Well volu	me Calculation Multiply by
2 inch	Water Column x.16 Water Column x.36
	Water Column x.65 Water Column x1.41
Turbidity 10 24 10 10	
Sampling	
Sampling I.D.: Sample Description:	
Summer Clale plans and aldicated tilling	
collection Method: Submersible pump widedicated tubing	
Collection Method: SUMMERSIBLE PUMP WI CUCICATED TUBING Time Started: Time Completed:	
Time Started: Time Completed:	
Time Started: Time Completed:	
Time Started: Time Completed:	
See chain- of-custody	
See chain- of-custody	

Well No.: MW-1 Date: 3/25/97	Project Name: AL Project Number:		unkirk	RFI
Project Team: B, Diacont/G	. Frisch /St	erling En	V.	
Organic Vapors at Well Head: NA	I	√ Breathing Zone:		ppm
Remarks on Well Integrity:				
		71		
Purging				
	Well Depth.	12.62 (fe	et below TOC)	
Water Level: 6.10 (feet below TOC)	Water Colu	mn: 6.52 (feet)	
Purge Volume: 3.13 (gallons)				
Well Purged With: SUDM ersible			tubing	
Well purged: () Until Dry (;) Un	til <u>3</u> Well Volumes V	Vere Removed		
Time Started: 1435	Time Completed:	1455	_	
Field Parameters				
Well Volume Purge 11 23	7 2 7			
_				ume Calculation
PH <u>9.35</u> 8.79 <u>8.5</u> 9		<u>W</u>	ell Diameter 2 inch	Multiply by Water Column x.16
Conductivity <u>255</u> 528 <u>603</u>	-		3 inch 4 inch	Water Column x.36 Water Column x.65
Temperature 7.5 8.4 8.5			6 inch	Water Column x1.41
Turbidity <u>174 >1000 145</u>	<u> </u>			
Sampling				
Sampling I.D.:		Sample Description:	W	
Collection Method: SUBMERSIBLE	pump wi	dedicated	tubing	
Time Started:	Time Completed:		J	
Sample Parameters:				
See chain- of-custody				
& attached Master Sar	nple Log		·	
	~			
		er e ge		en grande en
•	•		*	

RVZ CLDBG 13 193011 ATT 06 09, 1997 4:03p

Well No.: MW - 3 Date: 3/26/97 Project Team: B, Diacont/G.	•	13	RFI
Project Team:	ppm Breathin	g Zone: NA	ррт
Purging Well Diameter: (inches) Water Level: 59 (feet below TOC) Purge Volume: 3.72 (gallons) Well Purged With: _SUDM &rsible	Well Depth: 11.33 Water Column: 7.5	74 (feet)	
Well purged: () Until Dry (X) Unt			
Field Parameters Well Volume Purge 1.3 2.6 pH 1.35 1.30 7.24 Conductivity 1690 1430 2360 Temperature 7.6 7.7 9.5 Turbidity 453 219 100	7.08 2670 9.3	Well Diameter	Multiply by Water Column x.16 Water Column x.36 Water Column x.65 Water Column x1.41
Sampling Sampling 1.D.: Collection Method: Submersible Time Started: Sample Parameters: See Chain- of - Custody	, ,	J	
4 attached waster sar	npre Log	ing No. NIA	

Well No.: UT - 1A Project Date: 3/26/97 Project		RFI
Project Team: <u>B, Diacont</u> G. Fr	isch / Sterling Env.	
Organic Vapors at Well Head: NA pp	m Breathing Zone: NA	ррт
- ,		
Puraina		
Purging Well Diameter: (inches)	11 92	
	Well Depth: 10,92 (feet below TOC)	
Water Level: 5.07 (feet below TOC)	Water Column: 11,85 (feet)	
Purge Volume: 5,69 (gallons)		
Well Purged With: SUDM ersible pur	np w/ dedicated tubing	
Well purged: () Until Dry (X) Until <u>3</u>	Well Volumes Were Removed	
Time Started: 6740	Completed: 0825	
Field Parameters Well Volume Purge 2 4 6 pH 8.58 8.33 7.88 7 Conductivity 760 781 812 80 Temperature 5.5 6.4 6.6 6 Turbidity 130 410 410	Well Diameter	Multiply by Water Column x.16 Water Column x.36 Water Column x.65 Water Column x1.41
Sampling		
Sampling I.D.:	Sample Description:	
Collection Method: Submersible pu	np w/ warated tubing	
Time Started: Tim	e Completed:	
Sample Parameters: See chain-of-custody + attached waster sample	log	

Well No.: WT [-B] Date: 3/26/97			RFI
Project Team: B, Diacon+/G	Frisch / Sterling E	ηV.	
Organic Vapors at Well Head: NA	· ~		ppm
Remarks on Well Integrity:			
Purging			-
Well Diameter: (inches)	Well Depth: 15.03	(feet below TOC)	
Water Level: 3.65 (feet below TOC)	Water Column: 1138	_ (feet)	
Purge Volume: _5,46 (gallons)			
Well Purged With: SUBMETSIBLE	` ^	tubing	
Well purged: () Until Dry () Uni			
Time Started: 0800	Time Completed: U830		
Field Parameters			
Well Volume Purge 1.8 3.6	5,4		
pH 7.61 7.24 7.10	-		ume Calculation Multiply by
Conductivity 657 672 721			Water Column x.16 Water Column x.36
	7.0	4 inch 6 inch	Water Column x.65 Water Column x1.41
Turbidity 144 710 >10	364		
Sampling			
Sampling I.D.:	·	on:	
Collection Method: SUBMERSIBLE	pump wy dedicated	1 tubing	
Time Storted:	Time Completed:	-	
Sample Parameters:			
See chain- of-custody			
+ attached waster sar		•	
-7 WILLELIA WARRICK ORL	riple wy		
· ·			
Chain of Custody:	Shipment/Tracking N	o N (A	

RVZ (C., DNG 15-7-93011-A11-06-09, 1997-4:03p

Well No.: <u>WT-2</u> Date: 3/25/97	Project Name:A	_	unkirk	RFI
Project Team: B, Diacont/G	. Frisch /s	terling En	V.	
Organic Vapors at Well Head: NA	,	√ Breathing Zone:		ppm
Remarks on Well Integrity:	AMA 0			
Purging				·
Well Diameter: (inches)	Well Dept	h: 11.86 (fe	et below TOC)	
Water Level: 2.96 (feet below TOC)	Water Co.	lumn: 8,9	(feet)	
Purge Volume: 17.36 (gallons)				
Well Purged With: SUDMersible	pump w/c	Udicated	tubing	
Well purged: ($ ot\!$	ntil Well Volumes	Were Removed		
Time Started: 0810	Time Completed: _	0830		
Field Parameters				
Pre Well Volume Purge		**************************************	Well Volu	me Calculation
pH [2.0]				Multiply by
Conductivity 3040		<u></u>	2 inch 3 inch	Water Column x.16 Water Column x.36
Temperature 6.2°C		_	4 inch 6 inch	Water Column x.65 Water Column x1.41
TurbidityLO				
Sampling				
Sampling I.D.:		Sample Description.	slight sl	reen visible
Collection Method: SUBMERSIBLE	pump w	dedicated	tubing	
Time Started:	Time Completed: _		-	
Sample Parameters:				
·				
See chain- of-custody				•
4 attached Master Sa	raple wy			

Shipment/Tracking No.: NIA

Well No.: WT-3 Project Name: AL Tech Date: 3/26/97 Project Number: 48380		RFI
Project Team: B. Diacont/G. Frisch / Sterling	Env.	
Organic Vapors at Well Head: NA ppm Breathing		0.00
•	, 2011e. <u>141</u> .	<i>ppm</i>
Remarks on Well Integrity:		
Puraina		·
Purging Well Diameter: (inches) Well Depth:	(1, 1, 1, 1, 7, 7, 1)	
Water Level: 3.40 (feet below TOC) Water Column: 13,9		
and the second s	· (feet)	
Purge Volume: 27.26 (gallons)		
Well Purged With: SUBMERSIBLE PUMP WI dedicate	ed Tubing	
Well purged: (X) Until Dry () Until Well Volumes Were Remove	ed	
Time Started: 1025 Time Completed: 100		
Field Parameters		
Well Volume Purge 9.25	Well Volu	ıme Calculation
pH 6.95 6.93		Multiply by Water Column x.16
Conductivity 1460 1440	3 inch	Water Column x.36
Temperature <u> </u>	4 inch 6 inch	Water Column x.65 Water Column x1.41
Turbidity 219 710		
	•	
Sampling		
Sampling I.D.: Sample Desc. Collection Method: SUBMERSIBLE PUMP W CICICA:	cription:	
Collection Method: DUDING STREE POPPLY WI WATER	Ha lowing	
Time Started: Time Completed:	The second secon	
Sample Parameters:		
See chain- of-custody		
<i></i>		
+ attached waster sample Log		

Well No.: UT-4 Project Name: AL Te Date: 3/26/97 Project Number: 483		RFI
Project Team: B. Diacont/G. Frisch / Sterli	ing Env.	
	~ eathing Zone: NB	ppm
Remarks on Well Integrity:		
Purging		
. 1	.41 (feet below TOC)	
Water Level: 2.05 (feet below TOC) Water Column: _		
Purge Volume:Z8 (gallons)		
Well Purged With: SUBMERSIBLE pump widdie	cated tubing	
Well purged: (✝) Until Dry () Until Well Volumes Were R	9	
Time Started: 0930 Time Completed: 100		
Field Parameters		
Well Volume Purge 93 18.6		me Calculation
PH 7.66 7.65 7.67		Multiply by Water Column x.16
Conductivity 1200 1280 1260	3 inch	Water Column x.36 Water Column x.65
Temperature $\frac{q_i q}{q_i} = \frac{q_i \delta}{q_i \delta} = \frac{10.2}{10.2}$	6 inch	Water Column x1.41
Turbidity $\frac{\langle l \hat{U} \rangle}{\langle l \hat{U} \rangle} = \frac{\langle l \hat{U} \rangle}{\langle l \hat$	and the second s	
Sampling		
	e Description:	
Collection Method: Submersible pump wided	icated tubing	Annual Control of the
Time Started: Time Completed:		
Sample Parameters:		
See chain- of-custody		
J		
& attached waster sample log		
	Tracking No. NA	

RXZ C.; DiG : 19.3011\AIT : 06 09, 1997 4:03p

Well No.: WP-1 Date: 3/25/97	Project Name: AL Tech Project Number: 4838		RFI
Project Team: B, Diacont/G.	Frisch / Sterling	y Env.	
Organic Vapors at Well Head: NA	' ~	7 ng Zone: <u>NA</u>	ppm
Remarks on Well Integrity:			
Purging			
Well Diameter: (inches)		(feet below TOC)	
Water Level:	Water Column: 10 ı	[] (feet)	
Purge Volume: 4.50 (gallons)			
Well Purged With: SUMMersible	pump w/ dedica	ted tubing	
Well purged: () Until Dry (X) Unt		ved	
Time Started: 1106	Time Completed: 1130		
Field Parameters			
Pre 17 211	5.0		
_			ume Calculation
pH <u>6.92 (p.70 (p.80</u> Conductivity <u>963 857 808</u>		Well Diameter 2 inch	Multiply by Water Column x.1
7 17 07		3 inch 4 inch	Water Column x.3 Water Column x.6
	<u>6.1</u>	. 6 inch	Water Column x1.4
Turbidity 2 < 10 < 10	~~~		
Sampling			
Sampling I.D.:	-	scription:	
Collection Method: SUBMERSIBLE	pump widedica	ated tubing	A Visitoria
Time Started:	Time Completed:		
Sample Parameters:			
•			
See chain- of-custody	100		
4 attached waster sar	npie Log		

Well No.: WP-2 Date: 3/25/97 Project Team: B, Diacont/G.	Project Number: 483803		RFI
Organic Vapors at Well Head: NA	3 · · ·	ne: NA	ррт
Purging Well Diameter: 2 (inches) Water Level: 9.97 (feet below TOC) Purge Volume: 4.89 (gallons) Well Purged With: SUDM CISINIC Well purged: () Until Dry (X) Until Time Started: 1205	pump w ddicata il 3 Well Volumes Were Removed	(feet)	
Field Parameters Well Volume Purge 1.6 3.2 pH 7.01 6.92 6.93 Conductivity 1200 920 900 Temperature 6.7° 8.6 8.3 Turbidity >10 119 >10	909	Well Diameter 2 inch 3 inch	Water Column x.16 Water Column x.36 Water Column x.65 Water Column x1.41
Sampling Sampling 1.D.: Collection Method: SUMMER Sible Time Started:		J	
See chain-of-custody 4 attached waster san	nple Log		
	· · · · · · · · · · · · · · · · · · ·		

Well No.: WP-3 Date: 3/25/97	Project Number: 483803		
Project Team: B, DiGCON+/G. Organic Vapors at Well Head: NA Remarks on Well Integrity:	ppm		
Purging Well Diameter:	Water Column: 8.57 PUMP W DIDICATE 3 Well Volumes Were Removed Time Completed: 1140	(feet)	
Well Volume Purge 1.4 2.3 pH 7.14 7.08 7.17 Conductivity 1000 803 740 Temperature 1.9° 8.7 9.0 Turbidity 179 >10 >10	7.16	Well Volume Calculation Well Diameter Multiply b 2 inch Water Column 3 inch Water Column 4 inch Water Column 6 inch Water Column	x.16 x.36 x.65
Sampling Sampling 1.D.: Collection Method: SUMMERSIBLE Time Started:	•	J	
See chain-of-custody & attached waster sam	ipre Log		

Chain of Custody: Shipment/Tracking No.: N\\

Well No.: WP-4 Date: 3/25/97 Project Team: B, Diacon+/G. Organic Vapors at Well Head: NA	Project Number: 483803 Frisch / Sterling E	νν.	
Remarks on Well Integrity:			
Purging Well Diameter: (inches)	Well Depth: 20:19	(fact balan, IOC)	
	Water Column: 10,04		
Purge Volume: 4.82 (gallons)			
Well Purged With: SUPM ersible	pump w/ dedicated	tubing	
Well purged: () Until Dry (X) Until	_		
Time Started: <u>0850</u>	Time Completed: <u>0 9 1 0</u>		
Field Parameters			
Well Volume Purge 17 3.4	5.0	Well Volu	me Calculation
рн 8.52 7.80 7.47	7.39	Well Diameter	Multiply by
Conductivity 17.8 831 874	887	3 inch	Water Column x.16 Water Column x.36
Temperature 7,2 7,9 8,2	8.3	4 inch 6 inch	Water Column x.65 Water Column x1.41
Turbidity <u>\$ 10 </u>	1		
Sampling			
Sampling I.D.:	•	on:	
Collection Method: SUBMERSIBLE	pump widedicated	d tubing	
Time Started:	Time Completed:	***************************************	
Sample Parameters:			
See chain- of-custody			
& attached waster san	1010 /00		
- Carroy Con Minu ici VIVII	y		
	•		
		•	
Chain of Custody:	Shipment/Tracking N	N11A	+

Well No.: WP-5 Date: 3/ 25/97	Project Name: AL Tech Project Number: 483803	-Dunkirk	RFI
Project Team: B. Diacon+/G.	. Frisch / Sterling	Env.	
Organic Vapors at Well Head: NA	· ~		ppm
Remarks on Well Integrity:			
Purging 0			·
Well Diameter: (inches)	Well Depth: 17, 88	(feet below TOC)	
Water Level: 11,34 (feet below TOC)	Water Column: 6.54	(feet)	
Purge Volume: 3.14 (gallons)			
Well Purged With: SUDMersible	pump w/ dedicated	1 tubing	
Well purged: () Until Dry (X) Uni		_	
Time Started: 1340	Time Completed: 1400		
	,		
Field Parameters			
Well Volume Purge 1:1 2:2	<u> 3</u> ,3	Well Volu	ume Calculation
PH 7.09 7.06 7.16	7.20	***************************************	Multiply by
Conductivity 710 659 565	538	2 inch 3 inch	Water Column x.16 Water Column x.36
Temperature 7.3 7.7 8.1		4 inch 6 inch	
Turbidity 933 617 990		o men	Water Column X1.4
turbing 100 000 1000			
Sampling			
Sampling I.D.:		ption:	
Collection Method: SUBMERSIBLE	pump widedicat	ed tubing	
Time Started:	Time Completed:	-	
Carrala D			
Sample Parameters:			
See chain- of-custody			
+ attached waster sar	nple Log		
	-		
		•	

Chain of Custody:	Shipment/Tracking	No. NIH	and the second s

Well No.: RFI-1 Project Name: AL Tech - Date: 3/24/97 Project Number: 483803	Dunkirk	RFI
Project Team: B. Diacont/G. Frisch / Sterling E	'nν.	
Organic Vapors at Well Head: NA ppm Breathing Zon		ppm
Remarks on Well Integrity:		
Ourging		
Well Diameter:	(feet below TOC)	
Water Level: 10.45 (feet below TOC) Water Column: 2.87	_ (feet)	
Purge Volume: 1.35 (gallons)		
Well Purged With: SUBMERSIBLE PUMP WI dedicated	tubing	
Well purged: () Until Dry (χ) Until $\underline{3}$ Well Volumes Were Removed		
Time Started: 1540 Time Completed: 1555	MARTIN CONTRACTOR AND	
Tield Parameters		
Pre 647 400 125		
Well Volume Purge 0.45 0.85		me Calculation Multiply by
Conductivity 404 447 478 499	***************************************	Water Column x.16
Temperature 7.5°C 7.8 7.7 7.5	4 inch 6 inch	
Turbidity 999 999 999	o men	water Column X1.4
Sampling		
·	on:	
collection Method: SUBMERSIBLE PUMP WI aldicated	J	
Time Started: Time Completed:		
Sample Parameters:		
See chain- of-custody		
+ attached waster sample Log		
· · · · · · · · · · · · · · · · · · ·		

RAZ C. DRG. 15 193011 ATT 06 09, 1997 4:03

Well Diameter: 2 (inches) Well Depth: 12.1/ (feet below TOC) Water Level: 7.00 (feet below TOC) Water Column: 5.1/ (feet) Purge Volume: 2.46 (gallons) Well Purged With: SUDMETSINE PUMP WI DIAMETED TUDING Well purged: () Until Dry (X) Until 3 Well Volumes Were Removed Time Started: 1635 Time Completed: 1655 Field Parameters Well Volume Purge 0.82 1.64 2.46 Well Volume Calculation pH 6.77 6.80 6.84 Well Diameter Multiply by Conductivity 1740 1180 1170 1000 2 inch Water Column x. 5.7 6.2 6.4 Inch Water Column x. 4 inch Water Column x.		Project Name: AL Tech - Project Number: 483803	Dunkirk	RFI
Organic Vapors at Well Head: NA ppm Breathing Zone: NA ppm Remarks on Well Integrity: Purging Well Diameter: 2 (inches) Well Depth: 12.// (feet below TOC) Water Column: 5.// (feet) Purge Volume: 2.46. (gallons) Well Purged With: SUDM ESTINE PUMP (A) SIGNATURE Removed Time Started: 1635 Time Completed: 1655 Field Parameters Well Volume Purge U.82 1.64 2.46 Well Volume Calculation ph 6.77 6.80 6.84 Well Diameter Multiply by Conductivity 1740 1/180 1/170 1/100 2 inch Water Column x. Temperature 5.7 6.2 6.4 6.16 4.10 4.10 4.10 4.10 4.10 4.10 4.10 4.10	Project Team: B. Diacont/G	Frisch / Sterling E	ηV.	
Purging Well Diameter: 2 (inches) Well Depth: 12.11 (feet below TOC) Water Level: 7.00 (feet below TOC) Water Column: 5.11 (feet) Purge Volume: 2.46 (gollons) Well Purged With: SUDM ELSI DIE PUMP W DID COMPLETE TUDING Well purged: () Until Dry (X) Until 3 Well Volumes Were Removed Time Started: 1635 Time Completed: 1655 Field Parameters Well Volume Purge 0.82 1.64 2.46 Well Diameter Multiply by Conductivity 1740 1480 1170 1000 2 inch Water Column x. 3 inch Water Column x. 3 inch Water Column x. 4 inch Water Column x. 7 temperature 5.7 6.2 6.4 6.6 6 inch Water Column x. 6 inch Water Column x. 7 Turbidity 999 999 1222 Sampling Sampling Sampling Sampling 1.D.: Sample Description: Collection Method: SUDMERSI NIE PUMP W CUDICATED TUBING Collection Method: SUDMERSI NIE PUMP W CUDICATED TUBING Collection Method: SUDMERSI NIE PUMP W CUDICATED TUBING Water Column x. 1 Turbidity Tubing	. •	· ~		ppm
Well Diameter: 2 (inches) Water Column: 5.// (feet below TOC) Water Level: 7.00 (feet below TOC) Water Column: 5.// (feet) Purge Volume: 2.46 (gallons) Well Purged With: SUDM PISINIP PUMP WI AID CATE TUDING Well purged: () Until Dry (X) Until 3 Well Volumes Were Removed Time Started: 1635 Time Completed: 1655 Field Parameters Well Volume Purge 0.82 1.64 2.46 Well Volume Calculation PH 6.77 6.77 6.80 6.84 Well Diameter Multiply by Conductivity 1740 1180 1170 1000 3 inch Water Column x. Temperature 5.7 6.2 6.4 6.6 Water Column x.1 Turbidity 999 999 999 122 Sampling Sampling Sampling Sampling I.D.: Sample Description: Collection Method: SUDMERSINE PUMP WI AID CALL TUDING Water Column Water Column x.1 Collection Method: SUDMERSINE PUMP WI AID CALL TUDING Water Column X.1 Remarks on Well Integrity:				
Water Level: 7.00 (seet below TOC) Water Column: 5.11 (seet) Water Column: 5.11 (seet) Purge Volume: 2.46 (gallons) Well Purged With: SUBMERSIBLE PUMP W Addicated tubing Well purged: () Until Dry (X) Until 3 Well Volumes Were Removed Time Started: 1635 Time Completed: 1655 Field Parameters Well Volume Purge 0.82 1.64 2.46 Well Volume Calculation ph 6.77 6.80 6.84 Well Diameter Multiply by Conductivity 1740 1480 1170 1000 2 inch Water Column x. Temperature 5.7 6.2 6.4 6.6 Water Column x. Turbidity 999 999 999 122 Sampling Sampling Sampling 1.D.: Sample Description: Collection Method: SUBMERSIBLE PUMP W Addicated tubing				
Purge Volume: 2.46. (gallons) Well Purged With: Submersible pump waldicated tubing Well purged: () Until Dry (X) Until 3 Well Volumes Were Removed Time Started: 1635 Time Completed: 1655 Field Parameters Well Volume Purge 0.82 1.64 2.46 Well Diameter Multiply by Conductivity 1740 1480 1170 1000 2 inch Water Column x. Temperature 5.17 6.2 6.4 6.6 6 inch Water Column x. Turbidity 999 999 122 Sampling Sampling I.D.: Sample Description: Collection Method: SUbmersible pump water addicated tubing	Well Diameter: (inches)	Well Depth: 12.1/	(feet below TOC)	
Well Purged With: SUBMINISIBLE PUMP WI didicated tubing Well purged: () Until Dry (X) Until 3 Well Volumes Were Removed Time Started: 1635 Time Completed: 1655 Field Parameters Well Volume Purge 0.82 1.64 2.46 ph 6.77 6.80 6.84 Conductivity 1740 1480 1170 1000 2 inch Water Column x. Temperature 5.77 6.2 6.4 6.6 inch Water Column x. Turbidity 999 999 122 Sampling Sampling Sampling Sampling 1.D.: Sample Description: Collection Method: SUBMERSIBLE PUMP WI Addicated tubing	Water Level: 7,00 (feet below TOC)	Water Column: 5.11	_ (feet)	
Well purged: () Until Dry (X) Until 3 Well Volumes Were Removed Time Started: 1635 Field Parameters Well Volume Purge U.82 1.64 2.46 Well Diameter Multiply by Conductivity 1740 1480 1170 1000 2 inch Water Column x. Temperature 5.7 6.2 6.4 6.6 6 inch Water Column x. Turbidity 999 999 122 Sampling Sampling Sampling I.D.: Sample Description: Collection Method: SUBMERSIBLE PUMP W Addicated Tubing	Purge Volume: 2.46_ (gallons)			
Field Parameters Well Volume Purge 0.82 1.64 2.46 Well Volume Calculation pH 6.77 6.77 6.80 6.84 Well Diameter Multiply by Conductivity 1740 1480 1170 1000 2 inch Water Column x. Temperature 5.7 6.2 6.4 6.6 6 inch Water Column x. Turbidity 999 999 122 Sampling Sampling Sampling Sampling 1.D.: Sample Description: Collection Method: SUMMERSIBLE PUMP WI Addicated tubing		' ' '	tubing	
Field Parameters Well Volume Purge U.82 1.64 2.46 Well Volume Calculation pH 6.77 6.80 6.84 Well Diameter Multiply by Conductivity 1740 1480 1170 1000 2 inch Water Column x. Temperature 5.7 6.2 6.4 6.6 4 inch Water Column x. Turbidity 999 999 122 Sampling Sampling Sampling I.D.: Sample Description: Collection Method: SUMMERSINER PUMP WI Addicated tubing		, , .		
Well Volume Purge 0.82 1.64 2.46 pH 6.77 6.70 6.80 6.84 Well Diameter Multiply by Conductivity 1740 1480 1170 1000 2 inch Water Column x. Temperature 5.7 6.2 6.4 6.6 6 inch Water Column x.1 Turbidity 999 999 122 Sampling Sampling Sampling 1.D.: Sample Description: Collection Method: SUBMERSIBLE PUMP W Addicated tubing	Time Started: 1635	Time Completed: 165 5		
PH 6.77 6.77 6.80 6.84 Conductivity 1740 1480 1170 1000 Temperature 5.7 6.2 6.4 6.6 4 inch Water Column x. 6 inch Water Column x. 6 inch Water Column x. 7 Turbidity 999 999 122 Sampling Sampling Sampling I.D.: Collection Method: SUBMERSIBLE PUMP W AUDICATE Tubing	Field Parameters			
PH 6.77 6.77 6.80 6.84 Conductivity 1740 1480 1170 1000 2 inch Water Column x. 3 inch Water Column x. 4 inch Water Column x. 6 inch Water Column x. 7 Temperature 5.7 6.2 6.4 6.6 Sampling Sampling Sampling Sampling 1.D.: Sample Description: Collection Method: SUMMERSIBLE PUMP WI AUDICATED TUBING	Well Volume Purge 0.82 1.64	2.46		0 1 1 1
Conductivity 140 140 110 100 3 inch Water Column x. Temperature 5.7 6.2 6.4 6.6 6 inch Water Column x. Turbidity 999 999 122 Sampling Sampling 1.D.: Collection Method: SUBMERSIBLE PUMP W Addicated tubing	рН 6.77 6.77 6.80	6.84		
Temperature 5.7 6.2 6.4 6.6 4 inch Water Column x.1 Turbidity 999 999 122 Sampling Sampling 1.D.: Sample Description: Collection Method: SUBMERSIBLE PUMP W Addicated tubing	Conductivity 1740 1480 1171	0 _100_0		Water Column x.1 Water Column x.3
Sampling Sampling 1.D.: Sample Description: Collection Method: SUBMERSIBLE PUMP WI ALDICATED TUBING	Temperature 5:7 6.2 6.4	6.6		Water Column x.6 Water Column x1.
Sample Description: Collection Method: SUBMERSIBLE PUMP W aldicated tubing	Turbidity 999 999 999	122		
collection Method: <u>Submersible</u> pump widedicated tubing	Sampling			
	· -	,		
Time Started: Time Completed:	Collection Method: SUDMERSIDLE	pump widedicated	d tubing	
	Time Started:	Time Completed:		
	See chain- of-custody			
See chain- of-custody	<i></i>	nple Log		
See chain- of-custody + attached Master Sample Log				
See chain-of-custody 4 attached Master Sample Log				
\mathcal{J}				
\mathcal{J}				

Well No.: <u>RFI-3</u> Date: 3/24/97	_ Project Name: AL _ Project Number:			
Project Team: B, Diacon+/(3. Frisch / Ste	erling En	<i>V</i>	
Organic Vapors at Well Head: NA	ppm	∼ Breathing Zone:	NA	ppm
Remarks on Well Integrity:			w.	
Purging				·
Well Diameter: (inches)	Well Depth:	•	•	
Water Level: 3,52 (feet below TO	C) Water Colu	mn: <u>6,33</u> (feet)	
Purge Volume: 3.2 (gallons)				
Well Purged With: SUDMersible	: pump w/di	edicated	tubing	
Well purged: () Until Dry (🖔)	Until $\underline{3}$ Well Volumes W	Vere Removed		
Time Started: 1720	Time Completed:	1745	_	
Field Parameters				
Well Volume Purge 2	. 3			
pH 7.13 7.11 7.			Well Volu Tell Diameter	ume Calculation Multiply by
Conductivity (080 1090 10			2 inch	Water Column x.
Temperature 5.6°C 6.1 7.		<u> </u>	3 inch 4 inch	Water Column x.C Water Column x.C
(0 (0)			6 inch	Water Column x1
Turbidity <u>(</u> <u>[U]</u>	<u> </u>			
Sampling				
Sampling I.D.:		Sample Description:		
Collection Method: SUDMERSIBL	e pump will	aldicated	tubing	
Time Started:	Time Completed:			
Cample Devendence				
Sample Parameters:				
See chain- of-custod				
4 attached waster so	imple log			
		•.		•
• • • •			•	

	Well No.: 4 F I - 3 Date: 3 27 97	Project Name: ALTEC Project Number: 4838	n - Dunkirk 803	RFI
	Project Team: B, Diacont/G.	Frisch / Sterlin	g Env.	
	Organic Vapors at Well Head: NA	,	~	ppm
	Remarks on Well Integrity:			
E	Purging			·
	Well Diameter: (inches)	Well Depth: 9. 9	35 (feet below TOC)	
	Water Level: 3.52 (feet below TOC)	Water Column: 6	3 <u>3</u> (feet)	
	Purge Volume: <u>3, 2</u> (gallons)			
	Well Purged With: SUDMersible			
	Well purged: () Until Dry (X) Until		oved	
	Time Started: 1435	Time Completed: 1450		
F	ïeld Parameters			
	Well Volume Purge	3		
	PH 7.46 7.42 7.41	7.42	Well Diameter	ume Calculation Multiply by
	Conductivity 1080 1090 1070	1076	2 inch 3 inch	Water Column : Water Column :
	Temperature 11.2 11.7	11.5	4 inch 6 inch	Water Column
	Turbidity 102 76 416	< 10	_	
c		• *		
_	Sampling Sampling I.D.:	Sample D	escription:	
	Collection Method: SUBMERSIBLE		•	
	Time Started:	Time Completed:	J	700 Maria (1900 Maria (190
		into completes.		
	Sample Parameters:			
	See chain- of-custody			
_	& attached waster san	rpre Log		
_				
-				•
-	· · · · · · · · · · · · · · · · · · ·		•	
		•		

Well No.: RFI-4 Date: 3/25/97		Tech - Dunkirk 83803	RFI
Project Team: B, Diacont/G.	Frisch / Ster	ling Env.	
Organic Vapors at Well Head: NA	ppm	Breathing Zone: NA	ррт
Remarks on Well Integrity:			
Purging			
Well Diameter:2 (inches)	Well Depth:	27.15 (feet below TOC)	
Water Level: 5.30 (feet below TOC)	Water Column	: 21.85 (feet)	
Purge Volume: _10 .49 (gallons)			
Well Purged With: SUDM ersible	pump w/ dec	dicated tubing	
Well purged: () Until Dry (X) Until	` _ '	<i>-</i>	
Time Started: 1455	Time Completed:	5 15	
Field Description			
Field Parameters	10 -		
Well Volume Purge 3.5 7.0	- 30	well voit	ıme Calculation
pH 7.4 7.44 7.40		2 : 1	Multiply by
Conductivity 910 915 909	906	3 inch	Water Column x.16 Water Column x.36
Temperature 7.0°C 10.1 10.4	10.2	4 inch 6 inch	Water Column x.65 Water Column x1.41
Turbidity 999 999 771	488		
Complian	· .	·	
Sampling Sampling I.D.:	San	nple Description:	
Collection Method: SUBMERSIBLE		•	
Time Started:	Time Completed:	J	
mic Stortes.	Time Completed.	According to the second	
Sample Parameters:			
See chain- of-custody			
& attached waster san	role Loa		
	J		
		N 1 (10	

Well No.: <u>RFI-5</u> Date: 3/27/97	Project Name: Project Numbe		UNEIFE	K1 L
Project Team: B, Diac	ont/G. Frisch	/sterling En	V .	
Organic Vapors at Well Head: _		V Breathing Zone:		<i>ppm</i>
Remarks on Well Integrity:				
Purging				
Well Diameter: (inc		Depth: 17.25 (fe	et below TOC)	
Water Level: <u>6-54</u> (feet	below TOC) Wate	er Column: 10.71 (feet)	
Purge Volume: _5, 14_ (gallor	15)			
Well Purged With: SUMME	issible pump u	ul dedicated	tubing	
Well purged: () Until Dry		•		
Time Started: <u>0745</u>	Time Complet	ed: 0815	_	
Field Parameters				
Pre Well Volume Purge 1,7	3.4 5.1			
				me Calculation Multiply by
Conductivity 466 462				Water Column x Water Column x
Temperature 9.700 9.5			4 inch 6 inch	Water Column x Water Column x
Turbidity \(\frac{1}{2}\left(\frac{1}2\left(\frac{1}2\l			3 111011	
Sampling Sampling I.D.:		Compate Decree		
Collection Method: SUMME	ersible pumn	Sample Description:		
Time Started:	•	ted:	J	Additional and the state of the
	time comple		-	
Sample Parameters:				
See chain- of-ci				
+ attached wast	er sample Log			

Well No.: RFT-6 Date: 3/86/97				RFI
Project Team: B, Diacont/G	Frisch / St	erling E	ηV.	
Organic Vapors at Well Head:NA	•	~	ne: NA	ppm
Remarks on Well Integrity:				
Duraina				
Purging Well Diameter: 2 (inches)		12 52		
Water Level: 6,89 (feet below TOC)	Well Depth. Water Colu	$\frac{13.53}{11.0}$	•	
water Level: 0.01 (feet below 10C) Purge Volume: 3.19 (gallons)	Water Colu	mn: <u>(), () 4</u>	_ (feet)	
•	numar and d	ndirrided	tulaina	
Well Purged With: SUDM ersible	· _		TUBING	
Well purged: () Until Dry $(\dot{\chi})$ Until 2Λ				
Time Started: 1430	Time Completed:	1445		
Field Parameters				
Pre Well Volume Purge 1.1 2,2	3.2			
pH 7.84 7.64 7.50			***************************************	ime Calculation
Conductivity 950 909 920			2 inch	Multiply by Water Column x.16
				Water Column x.36 Water Column x.65
Temperature 6.2°C 6.1 6.5			6 inch	Water Column x1.41
Turbidity 363 710 4	_6			
<u>Sampling</u>		·		
Sampling I.D.:	c	Cample Description		
Collection Method: SUMMERSIBLE				
Time Started:	•		J	
Time Startes.	Time Completed:			
Sample Parameters:				
See chain- of-custody				
+ attached waster san	nole Lou			
3.0.11	y			
	The last discovery and the second			
			. ((()	

Well No.: 0FI-7	•			RFI	
Date: 3/26/97					
Project Team: B, Diacon+/G.		\sim			
Organic Vapors at Well Head:NA	ppm	Breathing Zon	e: <u>NA</u>	<i>ppm</i>	
Remarks on Well Integrity:					
Purging	A			·	
Well Diameter: (inches)	Well Depth:	11.65	(feet below TOC)		
Water Level: 4.75 (feet below TOC)	Water Colu	mn: 6.9	(feet)		
Purge Volume: $3.31_$ (gallons)					
Well Purged With: SUDM ersible	pump w/d	edicated	tubing	· · · · · · · · · · · · · · · · · · ·	
Well purged: () Until Dry (X) Until	3 Well Volumes	Vere Removed	J		
Time Started: 1305	Time Completed:	1330			
Field Parameters					
Well Volume Purge 1.1 2.2	33				
pH 7.61 8.22 7.53				me Calculation	
Conductivity 1520 873 805			2 inch	Multiply b Water Column	x.16
				Water Column Water Column	
Temperature 6.6° 7.4 8.3			6 inch	Water Column	×1.41
Turbidity 8 999 366	47	-			
Sampling					
Sampling I.D.:		Sample Descriptio			
Collection Method: SUBMERSIBLE	pump w	dedicated	1 tubing		
Time Started:	Time Completed:		J		
Sample Parameters:					
See chain- of-custody					
J	100				
& attached Master San	iple luy			•	
	•				
· · · · · · · · · · · · · · · · · · ·	THE PROPERTY AND ADDRESS OF THE PARTY OF THE	•			
Chain of Custody'	Shin	ment /Trackina N	MA		٠

NZ C. DRG 5 8 93011 ATT 06 09, 1997 4:0.

Well No.: RFJ-8 Pr Date: 3/27/97 Pr Project Team: B, Diacon+/G. F	roject Number: 4 83 8 0 3		RFI
Organic Vapors at Well Head: NA	. ~		ppm
Remarks on Well Integrity:			
Purging			
Well Diameter: (inches)	Well Depth: 10.65 (feet below TOC)	
Water Level: 2,95 (feet below TOC)	Water Column: 7.7	(feet)	
Purge Volume: <u>3,71)</u> (gallons)			
Well Purged With: SUPMersible pu	smp widedicated	tubing	
Well purged: () Until Dry () Until	-	9	
Time Started:	Time Completed: 0845	and a second	
Field Darameters			
Field Parameters	7 1		
Well Volume Purge 1.2 2.4 3			me Calculation
pH 7.61 7.64 7.44			Multiply by Water Column x.16
Conductivity <u>585</u> <u>573</u> <u>627</u> (3 inch	Water Column x.36 Water Column x.65
Temperature 7.1°C 6.6 7.4	8.0	6 inch	Water Column x1.41
Turbidity <u>20 > 10 > 10 </u>	<u> </u>		
Sampling			
Sampling I.D.:	Sample Description	n:	
Collection Method: SUBMERSIBLE F	sump wy dedicated	tubing	
Time Started:	Time Completed:	J	
Sample Parameters:			
See chain- of-custody			
& attached Master Samp	re Log		
,			•
	and a consideration of the state of the stat		
Chain of Custody:	Shipment/Tracking No	NIA W	

93011 ATT 06 09, 1997 4:03p

Well No.: RFI-09 Date: 3/26/97	Project Name: Al	-Tech -Dunkirk 483803	RFI
Project Team: B. Diacont/G.			
Organic Vapors at Well Head: NA	•	Breathing Zone: NA	ppm
Remarks on Well Integrity:		-	
Purging			
Well Diameter: (inches)	Well Depth	: <u>13, 11</u> (feet below TOC)	
Water Level: 4,3 (feet below TOC)	Water Colu	ımn: 8,81 (feet)	
Purge Volume: 4.23 (gallons)			
Well Purged With: SUDMersible	pump w/d	edicated tubing	
Well purged: () Until Dry (戊) Unti	il <u>3</u> Well Volumes I	Were Removed	
Time Started:	Time Completed:	1115	
Field Parameters			
Well Volume Purge 1.5 3.0	45		
pH 1.91 7.53 7.35			olume Calculation
•			Multiply by Water Column x.16
Conductivity 191 787 803			Water Column x.36 Water Column x.65
Temperature 5.4 5.8 6.3		6 inch	Water Column x1.41
Turbidity < 10 301 155	27		
Sampling			
Sampling I.D.:		Sample Description:	
Collection Method: SUBMERSIBLE	pump wi	dedicated tubing	
Time Started:	•		
Sample Parameters:			
See chain- of-custody			
& attached waster san	rpre Log		

	months and the second s		
Chain of Custody:	Shipr	ment/Tracking No. NA	

Well No.: RFI-10 Project Name: AL Tech	-Dunkirk	RFT
Date: 3/ 25/97 Project Number: 483803)	
Project Team: B. Diacont/G. Frisch / Sterling		
Organic Vapors at Well Head: NA ppm Breathing 2		
Remarks on Well Integrity:	zone: <u>131</u> 7	ррт
	44.00	
Purging	(1)	
Well Diameter:2 (inches) Well Depth:15, 6 1	(feet below TOC)	
Water Level: 3,59 (feet below TOC) Water Column: 12.03		
Purge Volume: 5,77 (gallons)		
Well Purged With: Submersible pump wyddicated	e tubing	
Well purged: () Until Dry (χ) Until 3 Well Volumes Were Removed	3	
Time Started: 1600 Time Completed: 1645		
Field Parameters		
Pre 2 // /		
		ume Calculation
pH 7.34 7.29 7.18 7.20 Conductivity 1370 1380 1390 1410		Multiply by Water Column x.16
Conductivity 1370 1381 1390 1410	3 inch 4 inch	Water Column x.36 Water Column x.65
Temperature 1, 0 0,1 0,4 \lambda,5		
	6 inch	Water Column x1.41
Turbidity < 10 < 10 < 10	6 inch	Water Column x1.41
	6 inch	Water Column x1.41
Turbidity 10	tion:	
Turbidity < 10 < 10 < 10 < 10 < 10 < 10 < 10 < 1	tion:	
Turbidity 10	tion:ed tubing	
Sampling Sampling I.D.: Sample Descrip Collection Method: _SUMMERSIBLE PUMP W ALDICATE Time Started: Time Completed:	tion:ed tubing	
Sampling Sampling 1.D.: Sample Descrip Collection Method: SUBMERSIBLE PUMP W Addicate Time Started: Time Completed: Sample Parameters:	tion:ed tubing	
Sampling Sampling Sampling I.D.: Collection Method: Submersible pump w audicate Time Started: Sample Descrip Time Completed: See chain- of - Custady	tion:ed tubing	
Sampling Sampling 1.D.: Sample Descrip Collection Method: SUBMERSIBLE PUMP W Addicate Time Started: Time Completed: Sample Parameters:	tion:ed tubing	
Sampling Sampling Sampling I.D.: Collection Method: Submersible pump w audicate Time Started: Sample Descrip Time Completed: See chain- of - custady	tion:ed tubing	
Sampling Sampling Sampling I.D.: Collection Method: Submersible pump w audicate Time Started: Sample Descrip Time Completed: See chain- of - custady	tion:ed tubing	

Chain of Custody: Shipment/Tracking No. W. [A.

Well No.: <u>LFI-11</u> Date: <u>3/25/97</u>		-Tech -Dunkirk 183803	RFI
Project Team: B, Diacont/G	. Frisch /St	erling Env.	
Organic Vapors at Well Head: NA		√ Breathing Zone: NA	ppm
Remarks on Well Integrity:			• •
		·	
<u>Purging</u>			
Well Diameter: (inches)	Well Depth.	: 18.95 (feet below TOC)	
Water Level: 5,18 (feet below TOC)	Water Colu	rmn: 13,77 (feet)	
Purge Volume: 6,6 (gallons)			
Well Purged With: SUDMersible	pump w/d	edicated tubing	
Well purged: () Until Dry $(\dot{\lambda})$ Un	, ,		
Time Started: 1620	Time Completed:	1700	
			•
Field Parameters			
Well Volume Pre 2.2 4.4		Well vol	ume Calculation
PH 7.59 7.58 7.35	7.39		Multiply by
Conductivity 986 970 970	938		Water Column x.16 Water Column x.36
Temperature 7.4°C 7.7 [0.1]	10.0	4 inch 6 inch	Water Column x.65 Water Column x1.41
Turbidity 550 70 929	10		
Sampling			
Sampling 1.D.:		Sample Description:	
Collection Method: <u>SUBMERSIBLE</u>	porrip wi	Managea worng	
Time Storted:	Time Completed:		
Sample Parameters:			
See chain- of-custody			
& attached Master Sai			
- CATTACKER MANUTER DATE	ripite cog		•

Chain of Custody: Shipment/Tracking No.: N. (A)

	3/27/97 B. Discounted C			<i>a.</i> /	
Organic Va _l	m:B, Digcon+/G ors at Well Head:NA Well Integrity:	'	~	Λγ. _{e:} <u>NA</u>	ppm
Purging					
Well Diame	ter: (inches)	Well Depth.	13,94	feet below TOC)	
Water Leve	el: 8,70 (feet below TOC)) Water Colu	mn: 5.24	(feet)	
_	me: J .52_ (gallons)				
Well Purge	d With: Submersible	pump w/d	edicated	tubing	
	d: (X) Until Dry () U		_		
Time Start	ed: 0935	Time Completed:	0995	****	
Field Pare	ameters				
Well Volum	Pre <u>0.8</u> // /	<u> </u>		Matt. Mat.	one Coloviation
Į.	н 7.88 7.78 7.7	<u>'</u> 0			ıme Calculation Multiply by
Conductivi	y 424 434 42	26	***************************************	2 inch 3 inch	Water Column Water Column
Temperatu	re 9,1 10,2 11.	2		4 inch 6 inch	Water Column Water Column
Turbidi	y < 10 < 10 < 10	<u>)</u>			
Sampling					
Sampling	I.D.:		Sample Description	n:	
Collection	Method: <u>Submersible</u>	? pump w/	dedicated	tubing	
Time Star	ted:	Time Completed:			
Sample f	Parameters:				
•	rain- of-custode	1			
	iched waster sa	1			
		<u>y</u>			•
***************************************		-			

		•			•		83803		
	Project Team: Organic Vapors			_		•	rling E		
	Organic Vapors Remarks on W						Ž	e: <u>NA</u>	ppm
-		·			···· u				
<u>Pu</u>	rging Well Diameter	2					17 211		
	Well Diameter. Water Level:	_					17.34		
	Water Level: . Purge Volume		•	ow TOC)		Water Colui	nn: <u>9.71</u>	_ (feet)	
				ible	n M M	uldi	dirated	tubing	
	Well purged:							10011.9	
	Time Started:								
	Time Startea.	- , 		····	Time Coi	прієсеа:		· ·····	
Fie	eld Param								
	Well Volume	Pre Purge	1.7	3.4	_5_			Well Volu	ume Calculation
	ρН	7.57	7,39	7.35	7.35	******	***************************************	Well Diameter	Multiply by
	Conductivity	1010	1070	1040	1120		***************************************	2 inch 3 inch	Water Column >
	Temperature	8,0	9.3	8.7	8.8			4 inch 6 inch	Water Column > Water Column x
	Turbidity	<10	>1000	126	21				
Sa	ımpling								
	Sampling I.D.			ماداد	(O) 11.			n:	
					pump	2 W) (Udicated	l Tubing	
	Time Started	•		The state of the s	Time Co	mpleted:		MONTH AND	
Sc	ample Pa	rametei	rs:						
_5	ee cha	Lin- of	F-CUS-	todu					
	f attac)	iple l	Oq			
		-				J			
				*					

Well No.: RFI 14 Date: 3/25/97				RFI
Project Team: B, Digcon+/G.	Frisch / St	erling E	ηV.	
Organic Vapors at Well Head: NA	•	~	ne: NA	ррт
Remarks on Well Integrity:			*	
Purging		A CONTRACTOR AND A CONT		
Well Diameter:2 (inches)	Well Depth:	16,28	(feet below TOC)	
Water Level: 4,67 (feet below TOC)	Water Colu	mn: 11,61	_ (feet)	
Purge Volume: 5,57 (gallons)				
Well Purged With: SUDMersible	pump w/d	edicated	tubing	
Well purged: () Until Dry (X) Unti	1 <u>3</u> Well Volumes V	Vere Removed	•	
Time Started: 1345	Time Completed:	1420	***************************************	
Field Parameters				
Well Volume Purge 1.35 2.70	li ÁE			
				ime Calculation
PH 7.41 1.40 7.39			•	Multiply by Water Column x.16
Conductivity 814 816 813			3 inch	Water Column x.36 Water Column x.65
Temperature 6.6°C 6.4 7.4		4044	6 inch	Water Column x1.41
Turbidity 999 564 602	544			
Sampling				
Sampling I.D.:		Sample Descriptio	n:	
Collection Method: SUBMERSIBLE				
Time Started:	Time Completed:		J	
	•			
Sample Parameters:				
See chain- of-custody				
4 attached waster san	pre Log			
	· .			·
	Annual William (SAMAMA) foldown server second			
			1.00	

Well No.: RFI-15 Date: 3/25/97)un kirk	RFI
Project Team: B, Diacont/G.	Frisch /S	sterling Er	1 V.	
Organic Vapors at Well Head: NA		~ Breathing Zone		ppm
Remarks on Well Integrity:		VALUE		
urging				·
Well Diometer: (inches)	Well De	oth: 18.86 (1	feet below TOC)	
	Water C	Column: 7,71	(feet)	
Purge Volume: 3,70 (gallons)				
Well Purged With: SUDMersible	pump w/	dedicated	tubing	
Well purged: () Until Dry (🗡 Unt	til <u>3</u> Well Volume	s Were Removed		
Time Started: 0945	Time Completed:	1005		
ield Parameters				
Well Volume Purge 1.3 2.6	4.0			
pH 1.23 7.30 7.26				me Calculation Multiply by
	706		2 inch	Water Column x.16
Temperature 7.1 8.0 8.4			3 inch 4 inch	Water Column x.36 Water Column x.65
Turbidity 780 >1000 463	_		6 inch	Water Column x1.4
Turbidity 1000 cos	<u> </u>		•	
Sampling				
Sampling I.D.:		Sample Description		
Collection Method: <u>SUBMERSIBLE</u>	pump w	1 aldicated	tubing	
Time Started:	Time Completed.		-	
Sample Parameters:				
Sample Parameters:				
See chain-of-custody	1			
•	1			
See chain-of-custody	1			
See chain-of-custody	1			

93014 A11 06 09, 1997 4.03p

Date: 3/25/97	Project Number:		RFI
Project Team: B. Diacon+/G		~	
Organic Vapors at Well Head: NA	ррт	Breathing Zone: NA	ppm
Remarks on Well Integrity:			
Purging			·
Well Diameter: (inches)	Well Death:	17.26 (feet below TOC)	
Water Level: 7.53 (feet below TOC)		mn: <u>9.73</u> (feet)	
Purge Volume: 4.67 (gallons)	noter cora	min (rect)	
Well Purged With: SUMMERSIBLE	nume all d	adirated tabina	
Well purged: () Until Dry (χ) Un.		9	
Time Started:			
Time Statea. 1133	rime Completed:		
Field Parameters			
Well Volume Purge 1.6 3.2	4.8		0.4.4.
pH 7.31 7.10 7.05			ume Calculation Multiply by
Conductivity 863 831 842		2 inch	Water Column x.16 Water Column x.36
Temperature 5.6 6.9 6.8		4 inch	Water Column x.65
Turbidity 461 567 625		6 inch	Water Column x1.41
Turbidity 101 701 077		ACTIVATE OR STANDARD AND ACTIVATION OF THE ACTIV	
Sampling			
Sampling I.D.:		Sample Description:	
Collection Method: SUBMERSIBLE	pump w/	dedicated tubing	
Time Storted:	Time Completed:	J	
Sample Parameters:			
See chain- of-custody			
4 attached waster sar	nple Log		
	<i></i>		
		· · · · · · · · · · · · · · · · · · ·	

Well No.: RFI+7 Date: 3/26/97	Project Number: 483803		RFI
Project Team: B, DIQCON+/G.	Frisch / Sterling &	ηV.	
Organic Vapors at Well Head:NA			ppm
Remarks on Well Integrity:			
Purging			
Well Diameter: (inches)	Well Depth: 13.69	(feet below TOC)	
Water Level: 7.84 (feet below TOC)	Water Column: 5,85	(feet)	
Purge Volume: 2,81_ (gallons)	•	, ,	
Well Purged With: SUDMERSIBLE	pump uldedicated	tubina	
Well purged: () Until Dry (💢 Unti		J	
Time Started: 1310			
Time Statea.	Time Completed:		
Field Parameters			
Well Volume Purge 1.95	2,85		
pH 7.65 7.47 7.37			ume Calculation Multiply by
Conductivity 2230 1860 1820		2 inch	Water Column x.16
·			Water Column x.36 Water Column x.65
Temperature 5,5°C 8,6 8,6		6 inch	Water Column x1.41
Turbidity 202 710 710	<u> 20</u>		
Sampling			
Sampling I.D.:	Sample Deposit	ion:	
Collection Method: SUBMERSIBLE			
	•	J	
Time Started:	Time Completed:		
Sample Parameters:			
See chain- of-custody			
& attached waster san	2010 /00		
-7 WILLOW WALLE DULL	riple wy		
	·		

Appendix G – Project Correspondence



ENVIRONMENTAL STRATEGIES CORPORATION

Four Penn Center West • Suite 315 • Pittsburgh, Pennsylvania 15276 • (412) 787-5100 • Fax (412) 787-8065

February 14, 1997

Scott M. Menrath, P.E. Environmental Engineer II New York State Department of Environmental Conservation 50 Wolf Road Albany, New York

Re:

Groundwater Analytical Parameters, Second Round - Phase I RCRA Facility Investigation

EPA I.D. No. NYD030215529

AL Tech Specialty Steel Corporation, Dunkirk, New York Facility

Dear Mr. Menrath:

Attached are the preliminary analytical results for groundwater samples collected from monitoring wells at the AL Tech Specialty Steel Corporation (AL Tech) facility in Dunkirk, New York. The samples were collected during the first groundwater sampling round performed during the Phase I Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI). These data are provided only for the purpose of determining the appropriate analytical program for the second sampling round, scheduled for the week of February 24, 1997. Please note that data have not been validated and the metals results are incomplete.

AL Tech has specifically reviewed the Target Compound List (TCL) volatile organic compound (VOC), TCL semi-volatile organic compound (SVOC), and TCL polychlorinated biphenyl (PCB) data. The results of these analyses are presented in Table 1. Table 2 presents the total concentrations reported for VOC and SVOC tentatively identified compounds (TICs). Based on this review, AL Tech believes that, in general, analysis for these compounds is not warranted for groundwater samples collected from site wells during the second sampling round. Specific exceptions are provided below.

During the second groundwater sampling round, AL Tech will collect sample aliquots from each of the site wells consistent with the Phase I RFI Work Plan for analysis of the following parameters or parameter groups:

- Target Analyte List (TAL) metals and molybdenum
- hexavalent chromium
- free and total cyanide
- miscellaneous parameters (excluding phenolics, as discussed below)

Volatile Organic Compounds

TCL VOCs were detected in samples collected from five monitoring wells during the first groundwater sampling round:

2

	Detected	Reported Concentrations
Well I.D.	<u>Parameters</u>	(µg/l) (a)
RFI-12	acetone	19
RFI-16	trichloroethene	480
	cis-1,2-dichloroethene	130
LAE-4	1,1-dichloroethene	13
	trichloroethene	6,900
	vinyl chloride	97
	trans-1,2-dichloroethene	27
WT - 2	acetone	250
	vinyl chloride	18
	cis-1,2-dichloroethene	51
WP-4	trichloroethene	190
	cis-1,2-dichloroethene	130

a/ "µg/l" = micrograms per liter.

The detection limits for these samples and samples from the other site wells were not elevated. VOC TICs were only detected in samples collected from wells RFI-8, LAE-4, and WT-2.

Acetone was detected in the samples collected from RFI-12 and WT-2. This compound is a common laboratory contaminant and is not known to be associated with facility operations. Therefore, AL Tech will not collect a sample aliquot from RFI-12 for TCL VOC analysis during the second groundwater sampling round.

Similar compounds were detected in samples collected from RFI-16 and WP-4. Therefore, AL Tech proposes to collect groundwater samples from these locations for analysis of TCL VOCs during the second groundwater sampling round. The direction of groundwater flow in the southwestern portion of the facility (in which these wells are located) is generally to the southwest. Consequently, during the second sampling round, AL Tech will collect groundwater sample aliquots for TCL VOC and VOC TIC analysis from Wells RFI-15, WP-1, WP-2, WP-3, and WP-5 (only RFI-15 was included in the first sampling round).

Consistent with historic data, TCL VOCs were detected in the groundwater sample collected from LAE-4 during the first groundwater sampling round. Groundwater flow in this area is believed to be to the north-northeast. Consequently, AL Tech will collect groundwater sample aliquots from LAE-4 and RFI-5 (north of LAE-4) during the second sampling round for analysis of TCL VOCs and VOC TICs.

TCL VOCs were detected in the groundwater sample collected from Well WT-2, immediately northeast of the closed surface impoundment. These constituents were not detected in any of the other wells located proximate to this solid waste management unit (SWMU) (WT-1A, WT-1B, WT-3, WT-4, and RFI-9). However, AL Tech will collect sample aliquots from all of these wells during the second groundwater sampling round for analysis of TCL VOCs and VOC TICs.

Semi-Volatile Organic Compounds

Only two TCL SVOCs were detected in samples collected from the site monitoring wells during the first groundwater sampling round: bis-2(ethylhexyl)phthalate (DEHP) and phenol. Similar to TCL VOCs, the detection limits reported for TCL SVOCs were not elevated for any of the groundwater samples collected during this sampling round. SVOC TICs were reported at low concentrations (less than 1,000 µg/l) in all site groundwater samples, excluding Wells RFI-9, RFI-11, and WT-1A in which no TICs were detected.

DEHP was detected in groundwater samples collected from Wells RFI-1, RFI-4, and RFI-9. DEHP is a common field and laboratory contaminant and is not associated with any known facility operations. Therefore, AL Tech will not collect groundwater sample aliquots from these or wells during the second sampling round for analysis of these compounds.

Phenol was detected in the groundwater sample collected from Well WT-2. Similar to the program for TCL VOCs, AL Tech will collect groundwater samples from this well and Wells WT-1A, WT-1B, WT-3, WT-4, and RFI-9 for analysis of TCL SVOCs and SVOC TICs during the second sampling round.

Analysis for TCL SVOCs in the groundwater sample collected from Well RFI-6 was incomplete, due to laboratory error. Consequently, a sample aliquot will be collected from this location during the second groundwater sampling round for analysis of the SVOC constituents.

Pesticides/Polychlorinated Biphenyls

Analysis for TCL Pesticides was performed consistent with the annual sampling program for the closed surface impoundment and was outside the scope of the Phase I RFI. Sample aliquots for pesticide analysis were only collected from the wells addressed in the annual sampling program (WT-1A, WT-1B, WT-2, WT-3, and WT-4) and RFI-9, which is downgradient from the former impoundment. No TCL Pesticides were detected in these groundwater samples. Based on these factors, AL Tech will not collect samples from these monitoring wells during the second groundwater sampling round for analysis of TCL Pesticides.¹

TCL PCBs were not detected in any of the groundwater samples collected from the site wells during the first sampling round. The detection limit reported for all samples, and for all Aroclors was 1 microgram per liter (μ g/l). Consequently, AL Tech will not collect sample aliquots from the site wells for analysis of TCL PCBs during the second groundwater sampling round.

Phenolics

Phenolics were not detected in groundwater samples collected from any of the site wells, excluding WT-2. The detection limit reported for each of the samples was 0.005 milligrams per liter (mg/l); the concentration reported for the sample collected from WT-2 was 0.054 mg/l. Similar to the program

¹ Similarly, analysis for total organic carbon, chemical oxygen demand, and total suspended solids (which were not addressed in the Phase I RFI Work Plan but are part of the annual monitoring program for the closed surface impoundment) will not be performed for any groundwater samples collected from site wells during the second sampling round.

proposed above for TCL VOCs and SVOCs, AL Tech will collect sample aliquots from WT-1A, WT-1B, WT-2, WT-3, WT-4, and RFI-9 for analysis of phenolics during the second groundwater sampling round.

Closing

It is our understanding that these proposed modifications are acceptable to NYSDEC. If they are not acceptable, please contact me at 412/787-5100 at your earliest convenience.

Sincerely yours,

Martha E. Fleming, P.G.

Project Director

Enclosure

MEF:plc

cc: J. Black (ESC)

D. Flynn (Phillips, Lytle, Hitchcock, Blaine & Huber)

M. Guziec (AL Tech)

D. Zurakowski (AL Tech)

483803\SMM0214

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

ALT-GW-RFI07-1196 96-5567 RFI-7 11/20%
ALTGW-RF106-1196 96-5567 RFT-6 11/19/96
ALT-GW-RFI03-1196 ALT-GW-RFI04-1196 ALT-GW-RFI05-1196 96-5507 96-5528 96-5558 RFI-3 RFI-4 RFI-5 11/18/96 11/19/96
ALT-GW-RF04-1196 96-5528 RF1-4 11/19/96
ALT-GW-RF101-1196 ALT-GW-RF102-1196 96-5507 96-5507 RF1-1 RF1-2 11/18/96 11/18/96
ALT-GW-RF101-1196 96-5507 RF1-1 11/18/96
ESC Sample ID: Autoch Project No.: Sample Location: Sample Dute:

Page 1 of 25

Target Compound List Volatile Organic Compounds (11991)

ESC Sample ID:	ALT-GW-RF101-1196	ALT-GW-RF101-1196 ALI-GW-KF102-1196	COLL COLLAND - LAN	SCALE OF SERVICE AND A SERVICE	295-30	2935-96	96-5567
Antech Project No.:	96-5507	965507 PPT2	96-5507 RFI-3	90-3326 RFI-4	RFT-5	RPT-6	RFI-7
Sample Location: Sample Date:	11/18/96	11/15/96	11/18/96	11/19/96	11/20/96	11/19/96	11/20/96
•							
Parameters							
Target Compound List Volatile Organic Compounds (µg/l)							
	1101	1011	10 U	10 U	10 U	10 U	10 U
1,1,1 — Trichloroethane	71 01	1101	10 U	10 U	10 U	10 U	10 U
1,1,2,2 — lettracilor ochane	201		10 01	10 U	10 U	10 U	10 U
1,1,2—Inchiorcemans	1101	0 0 T	10 U	10 U	10 U	10 U	10 01
1. Distriction	100	10 U	10 U	10 U	10 U	0.01	001
1.1 - Didilorosibate	0 01 10 U	10 U	10 U	10 U	10 U	10 U	10 U
1.2 - Dichloropropane	10 U	10 U	10 U	10 U	10 U	D 01	001
2 - Butanone	10 U	10 U	10 U	10 U	10 U	100	001
	0.01	10 U	10 U	10 U	10 U	10 U	0.01
4 - Mathyl - 2 - nentanone	0.01	10 U	10 U	10 U	10 U	10 U	0 01
A contract A	0.01	10 U	10 U	10 U	10 U	10 0	0.01
Controlle	11 01	10 U	10 U	10 U	10 U	10 U	001
Denzene di Alexandhan	1101	10 U	10 U	10 U	10 U	10 U	10 0
promodicing omenical	1101	100	10 U	10 U	10 U	10 U	10 0
Dromotoriii	1101	100	10 U	10 U	10 U	10 U	10 0
Division divided	0.01	10 U	10 U	10 U	10 U	10 U	001
Carbon casa acc	0.01	10 U	10 U	10 U	10 U	10 U	0 0 0
Chlombenzene	10 U	10 U	10 U	10 U	10 U	10 0	100
Chlomdibromethane	10 U	10 U	10 U	10 U	10 0	0.01	
Chlomethune	10 U	10 U	10 U	10 U	10 0	0.01	
Chlomform	10 01	10 U	10 U	10 U	10 U	0.01	
Chlomethane	10 U	10 U	10 U	10 U	10 0	001	100
Ethylbenzene	10 U	10 U	10 T	D 01	0.01	2001	1101
Methylene chloride	10 U	10 U	10 U	10 0	0.01		101
Styrene	10 U	10 U	10 U	001	0 01		10 U
Tetrachloroethene	10 U	10 U	10 U	001	0.01	1101	10 U
Toluene	10 U	10 U	0.01	0.01	0.01	101	10 U
Trichloroethene	10 U	10 U	D 01	10 0	001	1101	D 01
Vinyl chloride	10 U	10 U	10 U	10 0	000	201	101
Xylenes (Total)	10 U	10 U	0.01		10.0	501	10 U
as-1,2-Dichlorochene	10 U	10 U	10 0	701	200	5 2 1	10 U
as-1,3-Dichloropropene	10 U	10 U	100	001	10.0	101	10 U
trans-1,2-Dichloroethene	10 U	10 U	10 0	007	101	1101	10 U
trans-1,3-Dichloropropene	10 U	10 U	7 01	0.00			

i:\Jocus\483803\DUNGW1

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 2 of 25

							i
ESC Sample ID: Antech Project No.: Sample Location: Sample Date:	ALT-GW-RF108-1196 96-5567 RF1-8 11/20/96	ALT-GW-RF109-1196 96-5528 RF1-9 11/19/96	ALT-GW-RF110-1196 96-5567 RF1-10 11/19/96	ALT-GW-RF111-1196 ALT-GW-RF112-1196 96-5528 96-5586 RF1-11 11/18/96 11/21/96	ALT-GW-RE112-1196 96-5386 RFI-12 11/21/96	ALT-GW-RF113-1196 96-5567 RFT-13 11/20/96	ALT-GW-RFI13-119GD 96-5567 RFI-13 11/20/96
Parameteir							
Target Compound List Volatile Organic Compounds (µg/l)							
and the control of th	10 11	10 U	10 U	10 U	10 U	10 U	na
1,1,1 - Incholoculais	201	1101	10 11	10 U	10 U	10 U	na
1,1,2,2—Tetrachiorochane	10.0	100	10 U	10 U	10 U	10 U	ทล
1,1,2 - Inchioroctnane	201	1101	0.01	10 U	10 U	10 U	pu
1.1 - Dichloroeinane		10 01	10 U	10 U	10 U	10 U	บช
1,1 — Ordinor Octuber	201	1101	10 0	10 U	10 U	10 U	na
1,2—Dichloroethane	110	100	10 U	10 U	10 U	10 U	и
1,2—Diction opinic	201	101	10 U	10 U	10 U	10 U	na
2-Butanone	201	101	10 U	10 U	10 U	10 U	ии
2 - Andrandia	201	101	10 U	10 U	10 U	10 U	па
4 - Manyi - 2 - pentanone	201	101	10 U	10 U	19	10 U	na
Acetone	201	101	0.01	10 U	10 U	10 U	na
Benzeno	201	1101	10 U	10 U	10 U	10 U	นน
Bromodicaloromentie	101	1001	10 U	10 U	10 U	10 U	ពង
bromotorin		10 01	10 U	10 U	10 U	10 U	กล
Dromomand	0 01	100	10 U	10 U	10 U	10 U	นน
Carbon usanue	201	10 0	10 U	10 U	10 U	10 U	na
Chlomberters	0.01	10 U	10 U	10 U	10 U	10 0	na
Chlomdibonomerhans	1101	10 0	10 U	10 U	10 U	10 U	na
Cillomathan	0.01	10 U	10 U	10 U	10 U	10 0	na
Chlomform	10 01	10 U	10 U	10 U	10 U	10 0	uu :
Chlomethane	10 U	10 U	10 U	10 U	10 U	0.01	na
Ethylbenzene	10 U	10 U	10 U	10 01	100	0.01	C
Methylene chloride	10 U	10 U	10 U	10 U	0 01	0.01	: ::
Styrene	10 U	10 U	10 U	10 0	0 0 0	1101	: :
Tetrachloroethene	10 U	10 U	10 U	10 U	0 01	0 9	
Toluene	10 U	10 U	10 U	10 U	0.01		
Trichloroethene	Ω01.	10 U	10 U	10 U	10 0		5 T
Vinyl chloride	10 U	10 U	10 U	10 U	10 0	000	5
Xvienes (Total)	10 U	10 U	10 U	10 U	10 0	0 07	e :
cis-1.2-Dichlorochene	10 U	10 U	10 U	10 U	10 01	0.01	: ·
cis-1.3-Dichloropropene	10 U	10 U	10 U	10 U	100	0.01	
trans-1,2-Dichloroethene	10 U	10 U	10 U	10 U	10.0	001	
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 0	0.01		!

i:Vocus\483803\DUNGW1

Table 1 (continued)

Preliminary Groundwater Analytical Data Phaso I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

							Page 3 of 25
ESC Sample ID: Antech Project No.: Sample Location: Sample Date:	ALT-GW-RF114-1196 96-5567 RFI-14 11/20/96	ALT-GW-RFI15-1196 96-5567 RFI-15 11/20/96	ALT-GW-RFI15-119GD ALT-GW-RFI16-1196 96-5567 RFI-15 RFI-16 11/20/96 11/18/96	ALT-GW-RF116-1196 96-5507 RF1-16 11/18/96	ALT-GW-RF117-1196 96-5567 RF1-17 11/20/96	ALT-GW-B1-1196 96-5507 B-1 11/18/96	ALT-GW-MW1-1196 96-5586 MW-1 11/20/96
Parameters							
Target Compound List Volatile Organic Compounds (µg/l)							
	11.01	101	10 U	10 U	10 U	10 U	10 U
1,1,1 - Iricalor cetrand	1101	10 U	10 U	10 U	10 U	10 U	10 U
1,1,4,4 - Lettraduoroannie	1101		10 U	10 U	10 U	10 U	10 U
1.1.7. Inchioroeinane	1101	0.01	10 U	10 U	10 U	10 U	10 0
1.1 -Dichloroethere	D 01	10.0	10 U	10 U	10 U	10 U	100
1.1 - Didio General	0.01	10 U	10 U	10 U	10 U	10 U	10.0
1.2—Dichlorongune	U 01	10 U	10 U	10 U	10 U	10 U	0.01
T.T. Distriction of the second	1101	10 U	10 U	10 U	10 U	10 U	0.01
amount 7	101	10 U	10 U	10 U	10 U	10 U	10 0
A Makelione	1101	10 U	10 U	10 U	10 U	10 U	0.01
4-manyi-z-pontanone	D 01	10 U	10 U	10 U	10 U	10 U	0 01
Henrens	10 O	10 U	10 U	10 U	10 U	10 0	
Bromodichloromethane	10 U	10 U	10 U	10 U	10 U	10 0	
Bromoform	10 01	10 U	10 U	10 U	10 U	10 U	
Bromomethane	10 U	10 U	10 U	10 U	10 0	0.01	
Carbon disulfide	10 U	10 U	10 U	10 U	10 0	0.01	
Carbon tetrachloride	10 U	10 U	10 U	10 U	10 0	10.0	1101
Chlombenzene	10 U	10 U	10 U	10 U	10 0	0.01	
Chlorodibromomethane	10 U	10 U	10 U	10 U	10 0	10 0	
Chlomethane	10 U	10 U	10 U	10 U	10 0	0.01	
Chlomform	10 U	10 U	10 U	10 U	0.01	0.01	
Chloromethane	10 U	10 U	10 U	10 0	10 0	100	1101
Ethylbenzene	10 U	10 U	10 U	10 01	0 01	0 01	1101
Methylene chloride	10 U	10 U	10 U	10 0	001	200	11.01
Sivrene	10 0	10 U	10 U	10 0	001	200	1101
Tetrachloroethene	10 U	10 U	10 U	0.01		100	1101
Toluene	10 U	10 U	10 U	10.0	0.01	201	1101
Trichloroethene	10 U	10 U	D 01	480	0.01	0.01	1101
Vinyl chloride	10 U	10 U	10 U	0.01	0.01	101	10 O
Xylenes (Total)	10 U	10 U	10 U	0.01	0 00	201	101 1101
cis-1,2-Dichlorochene	10 U	10 U	100	130	000	101	0.01
as-1,3-Dichloropropene	10 U	10 U	0.01	0.01	001	101	10 0
trans-1,2-Dichloroethene	10 U	10 U	10 0	0 2	201	1101	10 U
trans-1,3-Dichloropropene	10 U	10 U	10 U	10 0	0 01		

i:\laus\483803\DUNGW1

Table 1 (continued)

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 4 of 25

ESC Sample ID: Antech Project No.: Sample Location:	ALT-GW-MW3-1196 96-5567 MW-3	ALT-GW-LAE4-1196 96-5567 LAE-4	ALT-GW-LAW5-1196 96-5586 LAW-5	ALT-GW-LAW6-1196 96-5586 LAW-6 11/21/86	ALT-GW-WTIA-1196 96-5528 WT-1A 11/1996	ALT-GW-WT1B-1196 96-5528 WT-1B 11/1996	ALT-GW-WT2-1196 96-5653 WT-2 11/25/96
Sample Date:	11/20/96	11/20/96	11/21/20		A STATE OF THE STA		
Parameters							
Target Compound List							
Volatile Organic Compounds (µg/l)							1101
	10.11	10 U	10 U	10 U	10 U	10 0	
	9 21	1011	10 U	10 U	10 U	0 01	
1,1,2,2—letrachiorognane	1101	0.01	10 U	10 U	10 U	10 0	000
1,1,2 – Inchloroethane	201	1101	10 U	10 U	10 U	10 0	000
1,1-Dichloroethane	201) •	10 U	10 U	10 U	10 U	0 :
1,1 - Dichloroethene	0.01	1101	10 U	10 U	10 U	10 U	0 01
1,2-Dichloroethane		1101	10 U	10 U	10 U	10 0	0 01
1,2-Dichloropropane	001	1101	101	10 U	10 U	10 U	10 01
2-Butanone	0 01	001	1101	10 U	10 U	10 U	10 U
2-Heranone	10 0	0 0		1011	10 U	10 U	10 U
4-Mahyl-2-pentanone	10 U	0.01	001	27	10 U	10 U	250 D
Acetone	10 U	10.0		1101	101	10 U	10 U
Benzene	10 U	10 U	001	201	1101	10 U	10 U
Bromodichloromethane	10 U	10 U	0.01	7 O I	1101	10 U	10 U
Bromoform	10 U	10 U	10 0	0.01	1101	10 U	10 U
Bromomethane	10 U	10 U	10 U		1101	10 U	10 U
Carbon disulide:	10 U	10 U	D O		17 01	10 01	10 U
Carbon tetrachloride	10 U	10 U	0.01	000	11.01	0.01	10 U
Chlorobenzene	10 U	10 U	0.01	0.01	11 01	10 U	10 U
Chlorodibromomethane	10 U	10 U	100		10 01	10 U	10 U
Chloroethane	10 U	10 U	0.01		D 01	10 U	10 U
Chloroform	10 U	100	001	1101	10 U	10 U	10 U
Chloromethane	10 U	100	001	0.01	10 U	10 U	10 U
Ethylbenzene	10 U	0.01	001	1101	10 U	10 U	10 U
Methylene chloride	10 U	001	100	0.01	10 U	10 U	10 U
Styrene	10 U	0.01	201	10.01	10 U	10 U	10 U
Tetrachloroethene	10 U	001	0.01	0.01	10 U	10 U	10 U
Toluene	10 U	10.0	100	0.01	10 U	10 U	10 U
Trichloroethene	10 U	9000	110	0.01	10 U	10 U	15
Vinyl chloride	10 0	16	110	11 01	10 U	10 U	10 U
Xylenes (Total)	10 U	10 0		0.01	10 U	10 U	S1
cis-1,2-Dichlorocthene	10 0	0 001	110	101	10 U	10 U	10 U
cas-1,3-Dichloropropene	10 U	10 0	500	D 01	10 U	10 U	10 U
trans-1,2-Dichloroethene	10 U	17		1101	10 U	10 U	10 U
trans-1,3-Dichloropropene	10 U	10 0	0 0	,			

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility Page 5 of 25

ESC Sample ID: Antech Project No.: Sample Location:	ALT-GW-WT3-1196 96-5528 WT-3 11/1998	ALT-GW-WT4-1196 96-5528 WT-4 11/1996	ALT-GW-WT4-1196D 96-5528 WT-4 11/19/96	ALT-GW-WF4-1196 96-5586 WP-4 11/21/96	ALT-GW-WP5-1196 96-5586 WP-5 11/21/96
Sample Date:	COLONIA TO THE COLONIA THE COLONIA TO THE COLONIA T		ANALYSIS OF THE PROPERTY OF TH		
Parameters					
Target Compound List Volatile Organic Compounds (##/l)					
				•	11 (1
1.1.1 - Trichloroethane	10 U	10 U	10 U	10 0	0 0 0
1.1.2. Terrachloroethane	10 U	10 U	10 U	10 0	0 0
1.1.2—Trichlorcethane	10 U	10 U	10 U	100	00:
1Dichloroethane	10 U	10 U	10 U	10 0	001
1 - Dichloroethene	10 U	10 U	10 U	10 U	000
1.2-Dichloroethane	10 U	10 U	10 U	10.0	0.01
1 2—Dichloropropage	10 U	10 U	10 U	10 0	0.01
2—Butanone	10 U	10 U	10 U	10 0	0.01
	10 U	10 U	10 U	10 U	10.0
4 Maked 2 nentanone	1001	10 U	10 U	10 U	10 0
4 - Marini - 4 - Positionionio	101	10 U	10 U	10 U	10 0
Acetone	0.01	10 U	10 U	10 U	10 U
Described by the state of the s	100	10 U	10 U	10 U	10 U
Premodicinal dinemark	0.01	10 U	10 U	10 U	10 U
Bromotoriii	1101	10 U	10 U	10 U	10 U
Bromomanano) OI	10 U	10 U	10 U	10 U
Caroon dismine	1101	10 U	10 U	10 U	10 0
Carbon tetradatoriue	0.01	10 U	10 U	10 U	10 U
Chichocalization	U 01	10 U	10 U	10 U	10 U
Chlomether	10 01	10 U	10 U	10 U	0.01
Chlomform	10 U	10 U	10 U	10 U	0.01
Chlommethane	10 U	10 U	10 U	10 0	001
Ethylbenzene	10 U	10 U	10 U	0 01	901
Methylene chloride	10 U	10 U	10 U	10.0	
Space	10 U	10 U	10 U	10 0	0.5
Terrachloronthene	10 U	10 U	10 U	10 0	000
Toluene	10 U	10 U	10 U	0.01	0.01
Trichloroethene	10 U	10 U	10 U	190	0.01
Vind Alorde	10 U	10 U	10 U	0.01	
Vulence (Total)	10 U	10 U	10 U	10 U	0 01
April 2 Dichloroghene	10 U	10 U	10 U	130	0 01
	10 U	10 U	10 U	10 U	10 0
range 1 2 Dichlorothene	10 U	10 U	10 U	10 U	10 0
trans - 1.3 - Dichloropropene	10 U	10 U	10 U	10 U	0.01

i:\lous\483803\DUNGW1

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 6 of 25

ESC Sample ID: Antech Project No.: Sample Location:	96 – 5507 RFI – 1	ALT-GW-RF102-1196 96-5507 RF1-2	ALT-GW-RF103-1196 96-5507 RFI-3	96 – 5528 RFI – 4	ALT-GW-RF105-1196 96-5567 RF1-5	96-5567 RFI-6	ALT-GW-RF107-1196 %-5567 RF1-7
Sample Date:	11/18/96	11/18/96	11/18/96	11/19/96	11/20/96	11/19/96	11/20/96
Parameters							
Target Compound List Semi—Volatile Organic Compounds (µg/l)							
1,2,4 - Trichlorobenzene	11 U	10 U	10 U	II U	11 U	-	II U
1,2-Dichlorobenzene 1,3-Dichlorobenzene	11 U 11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U 11 U	11 U 11 U	11 T 11 U
1,4-Dichlorobenzene	11 U	10 U	10 U	11 U	11 U	-	11 U
2,4,5-Trichlorophenol	28 U	26 U	26 U	28 U	26 U	27 U	27 U
2,4,6—Trichkorophenol	11 U	10 U	10 U	11 U 11 U	11 U 11 U	11 U 11 U	11 U 11 U
2,4-Dichlorophenol 2,4-Dimethylphenol	11 U 11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U	11 U	11 U
2,4—Dinitrophesol	28 U	26 U	26 U	28 U	26 U	27 U	27 U
2,4-Dinitrotoluene	11 U	10 U	10 U	11 U	11 U	-	11 U
2,6-Dinitrotoluene	11 U	10 U	10 U	11 U	11 U	11 U	11 U
2-Chloronaphthalene	11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U 11 U	11 U - U	11 U 11 U
2-Chlorophenol 2-Methylnaphthalene	11 U 11 U	10 U	10 U	11 U	11 U	11 U	11 U
2-Nitroaniline	28 U	26 U	26 U	28 U	26 U	27 U	27 U
2-Nitrophenol	11 U	10 U	10 U	11 U	11 U	11 U	11 U
3,3'-Dichlorobenzidine	II U	10 U	10 U	11 U 28 U	11 U 26 U	11 U 27 U	11 U 27 U
3-Nitroaniline	28 U	26 U 26 U	26 U 26 U	28 U	26 U	27 U	27 U
4,6-Dinitro-o-cresol 4-Bromophenyl phenyl ether	28 U 11 U	10 U	10 U	11 U	11 U	11 U	11 U
4—Chlorophenyl phenyl ether	11 U	10 U	10 U	11 U	11 U	11 U	11 U
4-Nitroaniline	28 U	26 U	26 U	28 U	26 U	27 U	27 U
4-Nitrophenol	28 U	26 U	26 U 10 U	28 U 11 U	26 U 11 U	-	27 U 11 U
Acenaphthene Acenaphthylene	11 U 11 U	10 U	10 U	11 U	11 U	11 U	11 U
Anthracene	11 U	10 U	10 U	11 U	11 U	11 U	មេប
Benzo(a)anthracene	11 U	10 U	10 U	11 U	11 U	11 U	11 U
Вепло(в)рутеле	11 U	10 U	10 U	11 U	11 U	II U	11 U
Benzo(b)fluoranthene	11 U	10 U	10 U	11 U	11 U 11 U	11 U 11 U	11 U 11 U
Benzo(ghi)peryiene Benzo(k)fluoranthene	11 U 11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U	11 U	11 U
Bis(2-chloro-1-methylethyl)ether	11 U	10 U	10 U	11 U	11 U	11 U	ររ ប
Bis(2-chloroethoxy)methane	11 U	10 U	10 U	II U	11 U	II U	II U
Bis(2-chloroethyl)ether	11 U	10 U	10 U	II U	11 U	11 U 26 U	11 U 27 U
Bis(2-ethylbexyl)phthalate	27 11 U	10 U 10 U	10 U 10 U	14 11 U	26 U 11 U	25 U	11 U
Butyi benzyi phthalate Carbazole	11 U	10 U	10 U	11 U	11 U	11 U	11 U
Chrysene	11 U	10 U	10 U	11 U	11 U	11 U	11 U
Di-n-buryl phthalate	ii U	10 U	10 U	11 U	11 U	II U	II U
Di-n-octyl phthalate	11 U	10 U	10 U	11 U	11 U 11 U	11 U 11 U	11 U 11 U
Dibenz(a,b)anthracene	11 U 11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U	11 U	11 U
Dibenzofuran Diethyl phthalate	11 U	10 U	10 U	II U	ii U	11 U	11 U
Dimethyl phthalate	11 U	10 U	10 U	11 U	11 U	11 U	11 U
Fluoranthene	II U	10 U	10 U	11 U	11 U	11 U 11 U	11 U 11 U
Fluorene	11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U 11 U	11 U	11 U
Hexachlorobenzene Hexachlorobutadiene	11 U 11 U	10 U	10 U	11 U	11 U	11 U	II U
Hexachlorocyclopentadiene	11 U	10 U	10 U	ti U	11 U	11 U	11 U
Hexachloroethane	11 U	io n	10 U	11 U	. 11 U	11 U	11 U 11 U
Indeno(1,2,3-cd)pyrene	11 U	10 U	10 U	11 U	11 U	11 U	11 U
Isophorone N-nitroso-di-n-propylamine	11 U 11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U	-	11 U
N-mitroso-di-n-propyamine N-mitrosodiphenylamine	11 U	10 U	10 U	11 U	11 U	11 U	II U
Naphthalene	11 U	10 U	10 U	II U	11 U	11 U	11 U
Nitrobenzene	11 U	10 U	10 U	11 U	11 U	11 U	11 U 28 U
Pentachlorophenol	28 U	26 U	26 U 10 U	28 U 11 U	26 U 11 U	U	28 U
Phenanthrene Phenol	11 U 11 U	10 U	10 U	11 U	11 U	-	11 U
Pyrene	11 U	10 U	10 U	11 U	11 U	-	11 U
a-Cresol	11 U	10 U	10 U	11 U	11 U	II U	11 U
p-Chloro-m-cresol	11 U	10 U	10 U	II U	11 U	-	11 U 11 U
p-Chloros niline	11 U	10 U	10 U	11 U 11 U	11 U 11 U	11 U	11 U
p-Cresol	11 U	10 U	10 U	11 0	11 0	11 0	

i:\lotus\483803\DUNGWi

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 7 of 25

ESC Sample ID: Antech Project No.: Sample Location:	ALT-GW-RF108-1196 96-5567 RFI-8	ALT-GW-RF109-1196 96-5528 RF1-9	ALT-GW-RFI10-1196 96-5567 RFI-10	ALT-GW-RFII1-1196 96-5528 RFI-11	ALT-GW-RFI12-1196 96-5586 RFI-12	ALT-GW-RFI13-1196 96-5567 RFI-13	ALT-GW-RFI13-1196D 96-5567 RFI-13
Sample Date:	11/20/96	11/19/96	11/19/96	11/18/96	11/21/96	11/20/96	11/20/96
Parameters							
Target Compound List Semi-Volatile Organic Compounds (µg	л)						
1,2,4-Trichlorobenzene	11 U	13 U	10 U	10 U	11 U	10 U	na ,
1,2-Dichlorobenzene 1,3-Dichlorobenzene	11 U 11 U	13 U 13 U	10 U 10 U	10 U 10 U	11 U 11 U	10 U 10 U	na na
1,4-Dichlorobenzene	11 U	13 U	10 U	10 U	II U	10 U	ma .
2,4,5-Trichlorophenol	26 U	31 U	25 U	25 U	28 U	25 U	pa.
2,4,6-Trichlorophenol	11 U	13 U	10 U	10 U	11 U	10 U	DA.
2,4-Dichlorophenol	11 U	13 U	10 U	10 U	II U	10 U	EA
2,4-Dimethylphenol 2,4-Dimitrophenol	11 U 26 U	13 U 31 U	10 U 25 U	10 U 25 U	11 U 28 U	10 U 25 U	DA DA
2.4-Dinitrophenot	11 U	13 U	10 U	10 U	11 U	10 U	ma ma
2,6-Dinitrotoluene	11 U	13 U	10 U	10 U	11 U	10 U	DA.
2Chiorona phthalene	ii U	13 U	10 U	10 U	11 U	10 U	na .
2-Chlorophenol	11 U	13 U	10 U	10 U	11 U	10 U	na .
2-Methylnaphthalene	11 U	13 U	10 U	10 U	11 U	10 U	D.A.
2-Nitroeniline 2-Nitrophenol	26 U 11 U	31 U 13 U	25 U 10 U	25 U 10 U	28 U 11 U	25 U 10 U	ma ma
3.3'—Dichlorobenzidine	11 U	13 U	10 U	10 U	11 U	10 U	DA.
3-Nitrosniline	26 U	31 U	25 U	25 U	28 U	25 U	E4
4,6-Dinitro-o-cresol	26 U	31 U	25 U	25 U	28 U	25 U	234
4-Bromophenyl phenyl ether	11 U	13 U	10 U	10 U	n u	10 U	D2
4-Chlorophenyl phenyl ether	11 U	13 U	10 U	10 U	11 U 28 U	10 U 25 U	D4
4-Nitronniline 4-Nitrophenol	26 U 26 U	31 U 31 U	25 U 25 U	25 U 25 U	28 U	25 U	na na
Acenaphthene	11 U	13 U	10 U	10 U	11 U	10 U	na.
Acenaphthylene	11 U	13 U	10 U	10 U	11 U	10 U	CLS.
Anthracene	11 U	13 U	10 U	10 U	11 U	10 U	ma.
Benzo(a)anthracene	11 U	13 U	10 U	10 U	11 U	10 U	D#
Вепло(в)рутеле	11 U 11 U	13 U 13 U	10 U 10 U	10 U 10 U	11 U 11 U	10 U 10 U	DA DA
Benzo(b)fluoranthene Benzo(ghi)perylene	11 U	13 U	10 U	10 U	11 U	10 U	DA DA
Benzo(k)fisoranthene	11 U	13 U	10 U	10 U	11 U	10 U	na
Bis(2-chloro-1-methylethyl)ether	11 U	13 U	10 U	10 U	11 U	10 U	rua.
Bis(2-chloroethoxy)methane	11 U	13 U	10 U	10 U	11 U	10 U	na.
Bis(2-chloroethyl)ether	11 U	13 U	10 U	10 U	11 U 28 U	10 U 10 U	na
Bis(2-ethylhexyl)phthalate	26 U 11 U	.56 13 U	10 U 10 U	10 U 10 U	28 U	10 U	ER Dk
Butyi benzyi phthalate Carbazole	11 U	13 U	10 U	10 U	11 U	10 U	EA.
Chrysene	11 U	13 U	10 U	10 U	11 U	10 U	na .
Di-n-butyl phthalate	11 U	13 U	10 U	10 A	11 U	10 U	54
Di-n-octyl phthalate	II U	13 U	10 U	10 U	11 U	10 U	DA
Dibenz(a,h)anthracene	11 U 11 U	13 U 13 U	10 U 10 U	10 U 10 U	11 U 11 U	10 U 10 U	DA DA
Dibenzofuran Diethyl phthalate	11 U	13 U 13 U	10 U	10 U	11 U	10 U	DA DA
Dimethyl phthalate	11 U	13 U	10 U	10 U	11 U	10 U	ma
Fluoranthene	11 U	13 U	10 U	10 U	11 U	10 U	ma.
Fluorene	11 U	13 U	10 U	10 U	11 U	10 U	54
Hexachlorobenzene	11 U	13 U	10 U	10 U	11 U	10 U 10 U	DA DA
Hexachlorobutadiene Hexachlorocyclopentadiene	11 U 11 U	13 U 13 U	10 U 10 U	10 U 10 U	11 U 11 U	10 U	DA DA
Hexachioroethane	. 11 U	13 U .	10 U	10 U	11 U	10 U	ES.
Indeno(1,2,3-ed)pyrene	11 U	13 U	10 U	10 U	11 U	10 U	DA
Isophorone	11 U	13 U	10 U	10 U	11 U	10 U	D.S.
N-nitroso-di-n-propylamine	11 U	13 U	10 U	10 U	11 U	10 U	04
N-nitrosodiphenylamine	11 U	13 U	10 U	10 U	11 U	10 U 10 U	na na
Naphthalene Nitrobenzene	11 U 11 U	13 U 13 U	10 U 10 U	10 U 10 U	11 U 11 U	10 U	DA .
Pentachiorophenol	26 U	31 U	25 U	25 U	28 U	25 U	Dat .
Phenanthrene	11 U	13 U	10 U	10 U	11 U	10 U	DA .
Phenol	11 U	13 U	10 U	10 U	11 U	10 U	na na
Ругеве	11 U	13 U	10 U	10 U	II U	10 U	D.S.
oCresol	11 U	13 U	10 U	10 U	11 U	10 U 10 U	na na
p-Chloro-m-cresol p-Chlorosniline	11 U 11 U	13 U 13 U	10 U 10 U	10 U 10 U	11 U 11 U	10 U	DA DA
p-Chlorosinine p-Cresol	11 U	13 U	10 U	10 U	11 U	10 U	SA SA
y-4000	0	150					

i:\lonus\483803\DUNGW1

Preliminary Groundwater Analytical Data Plane I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 8 of 25

Secret 1959/96 1979/	ESC Sample ID: Antech Project No.: Sample Location:	ALT-GW-RFI14-1196 96-5567 RFI-14	96 5567 RFI15	ALT-GW-RFI15-1196D 96-5567 RFI-15	96-5507 RFI-16	ALT-GW-RFI17-1196 96-5567 RFI-17	ALT-GW-B1-1196 96-5507 B-1	ALT-GW-MW1-1196 96-5586 MW-1
Trags Composed List Fees V-biolist Cognetic Composed Light 10	Sample Date:	11/20/96	11/20/96	11/20/96	11/18/96	11/20/96	11/18/96	11/20/96
Section Sect	Parameters							
10		1)						
1. Delicherichement 10								
1								
2.4 - Trickhoppedomia								
A.4—Technospherod 11 U 10 U 10 U 11 U 11 U 11 U 11 U 11							28 U	*** **
2.4 - Descriptional 10 U 10 U 10 U 10 U 11 U 11 U 11 U 11								
A. P. Discriptophose S. U								
A. F. Disconsistent of the control o								
24-Distribution								
2—Charcopaledates								
2-Chetophopeand 1 U 10 U				10 U				
2 - Nirophane 24 U 25 U 26 U 26 U 28 U								
### 10								
10 10 10 10 10 10 10 10								
3-Nicroscaline								
4.5-Dimpro-port plong teler							28 U	
6-Bromophery plengt either				26 U				
The standard content								
Ambraces 11 U 10 U 10 U 11 U							11 U	11 U
Anthreese					10 U	11 U		
Demoty partnersee								
Demonty Dystems								
Beams(piper) personant 10								
Paces Pace								
Big2-chloro-theographethalase							11 U	
Big2-chorecthapyinethare				10 U				
Big2-enderschepyleiber 11 U								
Duy Decey plantate								
Solid Soli								
Chysens								
Di-n-buryl phthalate					10 U	11 U		
Dhem(s,h) substraces								
Detention Dete								
Detail phthalate								
Dimetry plantate								
Flooranbene							H U	
Flowerse								
Hexachlorobundiene								
Heschloroptogenerations								
Hexchlore thane								
Indexeo(1,2,3-cd)pyree								
Inspherone			10 U					
N-airrose-dip-berylamine	Isophorone							
N-airrosocipherajarame								
Nirobenzace								
Pentachiorophenol 25 U 25 U 25 U 26 U 26 U 28 U 28 U 28 U 28 U 29 U 29 U 29 U 29								
Phenanthreps							28 U	
Phenol								
Pyrace 11 U 10 U 10 U 11 U 11 U 11 U 11 U 11	Phenol							
o-Cresol 11 U 10 U 10 U 11 U 11 U 11 U 11 U 11								
p-Chioro-m-creasi 11 U 10 U 10 U 11 U 11 U 11 U 11 U 11								11 U
p-carotemate							ii U	11 U
					10 U	11 U	11 U	11 U

i:\locus\483803\DUNGWI

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Teck Specialty Steel Corporation Dunkirk, New York Facility

Page 9 of 25

ESC Sample ID: Antech Project No.: Sample Location:	ALT-GW-MW3-1196 96-5567 MW-3	ALT-GW-LAE4-1196 %-5567 LAE-4	96-5586 LAW-5	ALT-GW-LAW6-1196 96-5586 LAW-6	ALT-GW-WTIA-1196 96-5528 WT-1A	ALT-GW-WTIB-1196 96-5528 WT-1B 11/19/96	ALT-GW-WT2-1196 96-5653 WT-2 11/25/96
Sample Date:	11/20/96	11/20/96	11/21/96	11/21/96	11/19/96	11/13/30	11/25/96
Parameters							
Target Compound List Semi-Volatile Organic Compounds (ug.	л)						
1,2,4-Trichlorobenzene	II U	11 U	11 U	11 U 11 U	10 U	10 U 10 U	10 U _ 10 U
1,2-Dichlorobenzene 1,3-Dichlorobenzene	11 U 11 U	11 U 11 U	11 U 11 U	11 U	10 U	10 U	10 U
1,4-Dichlorobenzene	11 U	11 U	11 U	11 U	10 U	10 U	10 U
2,4,5-Trichlorophenol	27 U	27 U	28 U	28 U	25 U	25 U	25 U
2,4,6-Trichlorophenol	11 U	11 U	11 U	11 U	10 U 10 U	10 U	10 U 10 U
2,4-Dichlorophenol	11 U 11 U	11 U 11 U	11 U 11 U	11 U 11 U	10 U	10 U	10 U
2.4-Dimethylphenol	11 U 27 U	11 U 27 U	28 U	28 U	25 U	25 U	25 U
2,4-Dinitrophenol 2,4-Dinitrotoluene	11 U	11 U	11 U	11 U	10 U	10 U	10 U
2,6-Dinitrotoluene	11 U	11 U	11 U	11 U	10 U	10 U	10 U
2-Chloronaphthalene	il U	11 U	11 U	11 U	10 U	10 U	10 U
2-Chlorophesol	11 U	11 U	11 U	11 U 11 U	10 U 10 U	10 U 10 U	10 U 10 U
2-Methyinaphthalene	11 U 27 U	11 U 27 U	11 U 28 U	11 U 28 U	25 U	25 U	25 U
2-Nitroeniline 2-Nitrophenol	27 U	11 U	11 U	11 U	10 U	(O U	10 U
3.3'-Dichlorobenzidine	11 U	11 U	11 U	11 U	10 U	10 U	10 U
3-Nitroaniline	27 U	27 U	28 U	28 U	25 U	25 U	25 U
4,6-Dinitro-o-cresol	27 U	27 U	28 U	28 U	25 U	25 U	25 U 10 U
4-Bromophenyl phenyl ether	11 U	II U	11 U	11 U 11 U	10 U 10 U	10 U 10 U	10 U
4-Chlorophenyl phenyl ether	11 U 27 U	11 U 27 U	11 U 28 U	28 U	25 U	25 U	25 U
4-Nitroaniline 4-Nitrophenol	27 U	27 U	28 U	28 U	25 U	25 U	25 U
Accusphibene	11 U	11 U	11 U	11 U	10 U	10 U	10 U
Acenaphthylene	11 U	11 U	II U	11 U	10 U	10 U	10 U 10 U
Anthracene	11 U	II U	11 U 11 U	11 U 11 U	10 U 10 U	10 U	10 U
Benzo(a)anthracene	11 U	11 U 11 U	11 U	11 U	10 U	10 U	10 U
Benzo(a)pyrene	11 U 11 U	11 U	11 U	11 U	10 U	10 U	10 U
Benzo(b)fluoranthene Benzo(ghi)perylene	11 U	11 U	11 U	11 U	10 U	10 U	10 U
Benzo(k)fluoranthene	11 U	11 U	11 U	11 U	10 U	10 U	10 U
Bis(2-chloro-1-methylethyl)ether	11 U	11 U	11 U	11 U	10 U	10 U 10 U	10 U 10 U
Bis(2-chloroethoxy)methane	11 U	11 U	11 U 11 U	11 U 11 U	10 U 10 U	10 U	10 U
Bis(2-chloroethyl)ether	11 U 11 U	11 U	11 U	11 U	10 U	10 U	10 U
Bis(2—ethylhexyl)phthalate Butyl benzyl phthalate	11 U	11 U	11 U	II U	10 U	10 U	10 U
Carbazole	11 U	II U	11 U	11 U	10 U	10 U	10 U
Chrysene	11 U	11 U	11 U	11 U	10 U	10 U 10 U	10 U 10 U
Di-a-buryi phthalate	11 U	11 U	11 U 11 U	11 U 11 U	10 U 10 U	10 U	10 U
Di-n-octyl phthalate	11 U 11 U	11 U 11 U	11 U	11 U	10 U	10 U	10 U
Dibenz(a,h)authracene Dibenzofuran	11 U	11 U	11 U	11 U	10 U	10 U	10 U
Diethyl phthalate	11 U	11 U	11 U	11 U	10 U	10 U	10 U
Dimethyl phthalate	11 U	11 U	11 U	11 U	10 U 10 U	10 U 10 U	10 U 10 U
Finoranthene	11 U	11 U	ii U	11 U 11 U	10 U	10 U	10 U
Fluorene	11 U 11 U	11 U 11 U	11 U 11 U	11 U	10 U	10 U	10 U
Hexachlorobenzene Hexachlorobutadiene	11 U	11 U	11 U	11 U	10 U	10 U	10 U
Hexachlorocyclopentadiene	เบ	11 U	11 U	11 U	10 U	10 U	10 U
Hexachloroethane	II U	11 U	U III.	11 U	10 U	10 U 10 U	10 U
Indeno(1,2,3-cd)pyrene	11 U	11 U	11 U	11 U	10 U 10 U	10 U	10 U
Isophorone	11 U 11 U	11 U 11 U	11 U 11 U	11 U 11 U	10 U	10 U	10 U
N-nitroso-di-n-propylamine	11 U	11 U	11 U	11 U	10 U	10 U	10 U
N-nitrosodiphenylamine Naphthalene	11 U	11 U	11 U	11 U	10 U	10 U	10 U
Nitrobenzene	11 U	II U	11 U	11 U	10 U	10 U	10 U 25 U
Pentachlorophenol	27 U	27 U	28 U	28 U	25 U	25 U 10 U	25 U 10 U
Phenanthrene	II U	11 U	11 U	11 U 11 U	10 U 10 U	10 U	17
Phenol	11 U 11 U	11 U 11 U	11 U 11 U	11 U	10 U	10 U	10 U
Pyrene o-Cresol	ii U	11 U	11 U	11 U	10 U	10 U	10 U
p-Chloro-m-cresol	11 U	11 U	ii U	11 U	10 U	10 U	10 U
p-Chloroaniline	11 U	11 U	11 U	11 U	10 U	10 U	10 U 10 U
pCresol	II U	11 U	11 U	11 U	10 U	10 U	10 0

i:\lotus\483803\DUNGW1

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 10 of 25

ESC Sample ID: Antech Project No.: Sample Location:	ALT-GW-WT3-1196 96-5528 WT-3	ALT-GW-WT4-1196 96-5528 WT-4	ALT-GW-WT4-1196D 96-5528 WT-4	ALT-GW-WP4-1196 96-5586 WP-4	ALT-GW-WP5-1196 96-5586 WP-5
Sample Date:	11/19/96	11/19/96	11/19/96	11/21/96	11/21/96
Parameters					
ratameters					
Target Compound List					
Semi-Volatile Organic Compounds (µg	(Λ)				
1,2,4-Trichlorobenzene	11 U	10 U	10 U	11 U	11 U
1,2-Dichlorobenzene	11 U	10 U	10 U	11 U	11 U
1,3-Dichlorobenzene	II U	10 U	10 U	11 U	11 U
1,4-Dichlorobenzene	11 U 28 U	10 U 25 U	10 U 25 U	11 U 28 U	11 U 28 U
2,4,5-Trichlorophenol 2,4,6-Trichlorophenol	28 U	10 U	10 U	11 U	11 U
2.4—Dichlorophenol	11 U	10 U	10 U	11 U	11 U
2.4-Dimethylphenol	11 U	10 U	10 U	11 U	II U
2,4-Dinitrophenol	28 U	25 U	25 U	28 U	28 U
2,4-Dinitrotoluene	11 U	10 U	10 U 10 U	11 U 11 U	11 U 11 U
2,6-Dinitrotoluene	11 U 11 U	10 U	10 U	11 U	11 U
2Chloronaphthalene 2Chlorophenol	11 U	10 U	10 U	11 U	II U
2-Methylnaphthalene	11 U	10 U	10 U	II U	11 U
2-Nitrosniline	28 U	25 U	25 U	28 U	28 U
2-Nitrophenol	11 U	10 U	10 U	11 U	11 U 11 U
3.3 - Dichlorobenzidine	11 U	10 U	10 U 25 U	11 U 28 U	11 U 28 U
3-Nitroaniline 4.6-Dinitro-o-cresol	28 U 28 U	25 U 25 U	25 U	28 U	28 U
4-Bromophenyl phenyl ether	11 U	10 U	10 U	11 U	11 U
4-Chlorophenyl phenyl ether	11 U	10 U	10 U	11 U	11 U
4-Nitroaniline	28 U	25 U	25 U	28 U	28 U
4Nitrophenol	28 U	25 U 10 U	25 U 10 U	28 U 11 U	28 U 11 U
Acensphthene Acensphthylene	11 U 11 U	10 U	10 U	11 U	11 U
Anthracene	11 U	10 U	10 U	11 U	11 U
Benzo(a)anthracene	11 U	10 U	10 U	11 U	11 U
Вепло(в)рутеле	11 U	10 U	10 U	11 U	11 U
Benzo(b)fluoranthene	11 U	10 U	10 U 10 U	11 U 11 U	11 U 11 U
Benzo(ghi)perylene Benzo(k)fluoranthene	11 U 11 U	10 U 10 U	10 U	11 U	11 U
Bis(2-chloro-1-methylethyl)ether	11 U	10 U	10 U	11 U	11 U
Bis(2-chloroethoxy)methane	11 U	10 U	10 U	11 U	11 U
Bis(2-chloroethyl)ether	11 U	10 U	10 U	11 U 11 U	11 U 11 U
Bis(2-ethylbexyl)phthalate	11 U 11 U	10 U 10 U	10 U 10 U	11 U	11 U
Buryi benzyi phthalate Carbazole	H U	10 U	10 U	11 U	11 U
Chrysene	11 U	10 U	10 U	II U	11 U
Di-n-butyl phthalate	11 U	10 U	10 U	11 U	II U
Di-n-octyl phthalate	11 U	10 U	10 U	11 U 11 U	11 U 11 U
Dibenz(a,h)anthracene	11 U 11 U	10 U 10 U	10 U 10 U	11 U	11 U
Dibenzofuran Diethyi phthalate	11 U	10 U	10 U	ii U	11 U
Dimethyl phthalate	11 U	10 U	10 U	11 U	11 U
Fluoranthene	11 U	10 U	10 U	11 U	H U
Fluorene	ii U	10 U	10 U 10 U	11 U 11 U	11 U 11 U
Hexachlorobenzene	11 U 11 U	10 U 10 U	10 U	11 U	11 U
Hexachlorobutadiene Hexachlorocyclopentadiene	11 U	10 U	10 U	11 U	11 U
Hexachloroethane	11 U	10 U	. 10 U	11 U	11 U
Indeno(1,2,3-cd)pyrene	11 U	10 U	10 U	II U	11 U
Isophorone	II U	10 U	10 U	11 U 11 U	11 U 11 U
N-nitroso-di-n-propylamine	11 U 11 U	10 U 10 U	10 U 10 U	11 U	11 U
N-nitrosodiphenylamine Naphthalene	11 U	10 U	10 U	11 U	11 U
Nitrobenzene	11 U	10 U	10 U	II U	11 U
Pentschlorophenol	28 U	25 U	25 U	28 U	28 U
Phenanthrene	11 U	10 U	10 U	11 U	11 U 11 U
Phenol	11 U 11 U	10 U 10 U	10 U 10 U	11 U 11 U	11 U
Pyrene o Cresol	11 U	10 U	10 U	11 U	11 U
p-Chloro-m-cresol	11 U	10 U	10 U	II U	11 U
p-Chlorosniline	11 U	10 U	10 U	11 U	11 U
p-Cresol	II U	10 U	ro n	11 U	11 U

i:\lones\483803\DUNGWI

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

ALT-GW-RIT07-1196 96-5567 RIT-7 11/20/96
ALT-GW-RF106-1196 96-5567 RF1-6 11/19/96
ALT-GW-RF105-1196 96-5567 RF1-5 11/20/96
ALT-GW-RFI03-1196 ALT-GW-RFI04-1196 A 96-5507 96-5528 RFI-3 RFI-4 11/18/96 11/19/96
ALT-GW-RFI03-1196 96-5507 RFI-3 11/18596
ALT-GW-RF101-1196 ALT-GW-RF102-1196 96-5507 RF1-1 RF1-2 11/18/96 11/18/96
ALT-GW-RF101-1196 96-5507 RF1-1 11/18/96
ESC Sample ID: Antech Project No.: Sample Location: Sample Date:

Page 11 of 25

Parameters	Target Compound List	Charles (Day)
	T.	

Pesticides/PCBs (µg/l)							
		c s	e u	па	na	na	ยน
4.4°-DDD	เมล	III		e f	80	па	เกล
4.4DDE	เกล	uu	ខ្ល	=		811	na
4.4"-DDT	na	เมล	ยน	e u		c c	E
Aldrin	па	na	na	เกล	NIII		80
Dieldrin	na	บน	ពព	นน	eu	# F	
Endon: Sea I / Alaha)	ůu.		นน	นน	па	118	
Endosuman I (Applie)		na	na	na	na	na	E :
Endosulian M. (Deta)	: :	c	na	па	na	na	511
Endosulfan Sulfate	: c		eu	na	na	nn	ยน
Endrin	: :		na	na	uu	na	uu !
Endrin Aldenyde			gu	na	na	na	na
Endrin Ketone			: 6	na	па	นน	ឌព
Heptachlor	na	WII !	: :	u	па	na	กล
Hept achlor Epoxide	นน	na		: 0	na	na	na
Methocychlor	uu	na	E	: :	i d	บน	ยน
Toraphene	กล	เกล	มล	E :	: 6	ยน	ยน
alpha-BHC	บห	na	ពង	e :	: :	80	na
alpha—Chlordane	па	na	ពង	na	S (e u	uu
beta - BHC	na	na	ពព	eu :	5 C	: : : :	па
delta-BHC	na	na	na	# !	: :	eu	na
gamma - BHC (Lindane)	па	กล	บบ	eu :	: c	80	na
grimna-Chlordane	na	na	na	uu I	5		
			101	1.0 U	1.0 U	1.0 U	1.0 U
Arodor-1016	0.0.1	0.00	1101	101	1.0 U	1.0 U	1.0 U
Arodor-1221	1.0 U	1.0 U	0.0.1	101	1.0 U	1.0 U	1.0 U
Arodor-1232	1.0 U	1.0 U	0 :	201	1101	1.0 U	1.0 U
Arodor-1242	1.0 U	1.0 U	D 0.1	0 0:1	1101	1.0 U	1.0 U
Arodor-1248	1.0 U	1.0 U	0.0.1	1.00	1101	1.0 U	1.0 U
Arodor-1254	1.0 U	1.0 U	0.0.	5 5 5	D 0:1	1.0 U	1.0 U
Arodor-1260	1.0 U	1.0 U	0.00	1.01	1.0 U	1.0 U	1.0 U
Polychlorinmed Biphenyls	1.0 U	1.0 U	0 0.1	2			

i:Votus\483803\DUNGW1

Table 1 (continued)

Preliminary Groundwator Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 12 of 25	ALT-GW-RE13-1194D 96-5567 RFI-13 11/20/96	
	ALT-GW-RE113-1196 96-5567 RFI-13 11/20/96	
	ALT-GW-RF11-1196 ALT-GW-RF112-1196 96-5528 96-5586 RF1-11 RF1-12 11/18/96 11/21/96	
	ALT-GW-RF111-1196 96-5328 RFT-11 11/18/96	
	ALT-GW-RF110-1196 96-5567 RF1-10 11/19/96	
	ALT-GW-RF109-1196 96-5528 RFT-9 11/19/96	
	ALT-GW-RF108-1196 96-5567 RFI-8 11/20/96	
	ESC Sample ID: Antech Project No.: Sample Location: Sample Date:	Parameters
	•	

Target Compound List

4.4-DDD na 0.10 U na	Fenicides/FCBs (µg/l)							
March Marc	44'-000	S E	0.10 U	eu	นน	na	นน	นห
10 10 10 10 10 10 10 10	and it	: :	0.10 17	na	na	na	na	นน
10 10 10 10 10 10 10 10	4.4 -DDE		0.10.11	n C	eu	na	na	na
10 10 10 10 10 10 10 10	4,4*-DDT	T	2013		80	В	na	па
10 10 10 10 10 10 10 10	Aldrin	na	0 0000		: :	c :	na	па
10	Dieldrin	na	0.10 0	na	u :	: :	66	uu
10 10 10 10 10 10 10 10	Endosulfan I (Alpha)	ยน	0.10 U	រាភ	пa	z :		. E
10	Endosulfan II (Beta)	na	0.10 U	มล	nn n	eu	un :	
10 10 10 10 10 10 10 10	Endosulfan Sulfate	uu	0.050 U	บช	นน	æ	e c	¥ ;
No.	Endrin	80	0.10 U	na	ពព	na	นล	S
December	Endin Aldahida	e u	0.10 U	па	na	na	na	EL .
10 10 10 10 10 10 10 10		: : :	0.10 U	ยน	บช	เน	เกล	na
1,	Endrin Actone		110500	80	na	na	นข	na
1,00	Heptachior	uu	110300		eu	na	ยน	uu
1,0 U	· Heprachlor Epoxide	na	0.050.0	***	: c	c	na	na
10 U	Methorychlor	na	0.50 U	пa	ull		: 0	æ
In a 0.050 U	Togophene	па	1.0 U	ยน	บข	eu	1	:
Name	Oldha BHC	eu	0.050 U	หน	вu	ยน	na	
Jane) na	-lake Ohlowhan	G C	0.10 U	uu	вu	na	na	HI.
Atmos na	omproud with	: :	0.050 13	na na	па	na	มล	eu T
Ina Oxfood Ina Ina<	Octa-Bro		0.050 11	e u	eu	na	เกล	na
na n	delta-BHC	22	30000	: :	G	ยน	na	na
10 U	gamma-BHC (Lindane)	na	0.050 0	200	=	! !	č	C L
1,0 U	gamma-Chlordane	ทล	0.10 U	นน	eu T	r i		
1.0				1101	1101	1.0 U	1.0 U	นน
150 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1	Arodor-1016	1.0 U	0.0.1	0 1	100	1011	1.0 U	กล
1,0 U	Arodor-1221	1.0 U	1.0 U	1.0 0	700	2	1101	e e
1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Arodor-1742	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0 :	
15.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	767 - 1000 17	1101	11011	1.0 U	1.0 U	1.0 U	1.0 U	na
15.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1	747000L		1101	101	1.0 U	1.0 U	1.0 U	กล
1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	Arodor-1248	0.07		201	101	1.0 U	1.0 U	na
1.0 U 1.0 U 1.0 U 1.0 U	. Arbdor-1254	1.0 U	0.00		1101	0.01	1.0 U	เกล
1.0 U na 1.0 U	Arodor-1260	0.0.1	1.0 0	0 ;	1101	1101	101	na
	Polychloringed Biphenyls	1.0 U	na	1.0 U	1.0 0	0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0)	

i:\lotus\483803\DUNGW1

Table 1 (continued)

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 13 of 25	AJ.TGW-MW1-1196 96-5386 MW-1 11/20/96
	ALT-GW-B1-1196 96-5507 B-1 11/18/96
	ALT-GW-RF117-1196 96-5567 RFT-17 11/20/96
	ALT-GW-RF116-1196 96-5507 RFT-16 11/18/96
	ALT-GW-RFI15-1199D ALT-GW-RFI16-1196 A 96-5567 96-5507 RFI-15 RT-16 11/20/96 11/18/96
	ALT-GW-RF115-1196 96-5567 RF1-15 11/20/96
	ALT-GW-RF114-1196 96-5567 RF1-14 11/20/96
	ESC Sample ID: Antech Project No.: Sample Location: Sample Date:

-
•
- **
8
a
c
e 5
Α.

Target Compound List Pesticides/PCBs (µg/l)

Perticides/PCBs (µg/1)							
		í	ď	æu	na	นน	ยน
4,4'-DDD	กล	HI		c c	en	na	na
44"-DDF	na	na	ពិធ	TI T	: 1	e e	uu
100	en	na	หน	na	na		a a
1771-4,4		c	en	na	na	NI N	
Aldrin	na	u.	: 1		na	па	ยน
Dieldrin	na	มน	nn.	: :	e u	na	na
Erdosulfan I (Alpha)	uu	นน	na		i c	เม	na
Endosulfan II (Beta)	na	na	e C	WII .		uu	na
Endosulfan Sulfate	រាន	na	uu	E !		៥ជ	na
Endrin	na	uu	na	en :		eu	па
Endrin Aldehyde	រាព	na	นน	E .		uu	นล
Endrin Ketone	เกล	uu	uu	E :	c	па	na
Herrachlor	na	na	ยน	eu :	: £	uu	na
Hectachlor Epoxide	ពព	na	na	# I		Пя	na
Methorophor	na	na	ยน	e :	: :	Bu	na
Townhene	na	ВП	na	na	e :	: ::	па
alphanaHC	นน	пп	na	uu u	= 1		na
alpha—Chlordane	na	ยน	na	พน	z (:: c	เม
DHR-#H	na	ยน	na	ยูน	811		na
Hu-mHU	па	មព	เกล	uu	114	: 6	na
Tella - Direction	c t	u	na	na	eu.		: 1
gamma-BHC(Lindane)	BII :		na	na	ทล	เมล	pu
gamma Chlordane	nn	***					
	•	110	1101	1.0 U	1.0 U	1.0 U	1.0 U
Arodor-1016	1.0 0	0 0 7	110	1.0 U	1.0 U	1.0 U	1.0 0
Arodor-1221	1.0 U	1.0 U	0 00	1101	1.0.1	1.0 U	1.0 U
Arodor-1232	1.0 U	1.0 U	1.0 U	0 :	1011	1.0 U	1.0 U
Arodor=1242	1.0 U	1.0 U	1.0 U	0.0.1	500	1.0 U	1.0 U
Arodor-1248	1.0 U	1.0 U	1.0 U	0 0.1	5 5	0.01	1.0 U
Arodor-1254	1.0 U	1.0 U	0.0.1	0.1	1101	1.0 U	1.0 U
Arodor-1260	1.0 U	1.0 U	1.0 U		1011	1.0 U	1.0 U
Polychlorinated Biphenyls	1.0 U	1.0 U	1.0 U	0.0.1			

i:\Jocus\483803\DUNGW1

Table 1 (continued)

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Alice 17,000 17	ESC Sample ID:	ALT-GW-MW3-1196	ALT-GW-LAE4-1196	ALT-GW-LAW5-1196 96-5586	ALT-GW-LAW6-1196 96-5586	ALT-GW-WI1A-1196 96-5528	ALT-GW-WT1B-1196 96-5528	ALT-GW-WT2-1196 96-5653
Parameters Parameters Parameters Parameters	Antech Froed No.: Sample Location: Sample Date:	MW-3 11/20/96	LAE-4 11/20/96	LAW-5 11/21/96	LAW-6 11/21/96	WT-1A 11/19/96	WT1B 11/19/96	WT-2 11/25/96
	Parameters							
	Target Compound List							
No.	regiodes/r.us (µg1)					;		11010
(Apin)	4,4"-DDD	uu	บน	กล	na	0.10 U	0.10 U	0.10 0
No.	4,4'-DDE	вп	na	na	na	0.10 0	0.10	0.10 U
(Aben)	4,4'-DDT	па	na	na	บช	0.10 0	50.00	0.050 U
(Author) nn <	Aldrin	บช	na	na	uu	0.050.0	1010	0.10 U
(Aphi) na	Dieldrin	na	นน	na	na	0.10 0	0.00	0.10 U
(idea) an	Endosulfan I (Alpha)	na	na	นน	na	0.000	11010	010 O
ulfate na na na na 0.10 U 0	Endosulfan II (Beta)	na	na	na	eu	2010	11 050 0	0.050 U
No.	Endosulfan Sulfate	иa	uu	ยน	na	0.000	11010	0.10 U
yde ha	Endrin	na	na	นข	eu !	1010	11010	0.10 U
Color Colo	Endrin Aldehyde	na	na	กล	e c	0.10.0	0.10 U	0.10 U
December	Endrin Ketone	na	na	na :	E	11 050 0	0.050 U	0.050 U
poode na	Heptachlor	na	na	na	: c	U 050.0	0.050 U	0.050 U
10	Heptachlor Epoxide	na	eu :	e :		0.50 U	0.50 U	0.50 U
davie na na na 0.050 U 0.050 U davie na na na 0.10 U 0.050 U 0.050 U na na na na na 0.050 U 0.055 U C(Lindune) na na na 0.050 U 0.055 U na na na na 0.050 U 0.055 U na na na na na 0.050 U 0.055 U na na na na na 0.050 U 0.055 U c 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 2 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 2 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 2 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 3<	Methorychlor	na	8 T	÷ ;		1.0 U	1.0 U	1.0 U
dane na na na 0.10 U 0.10 U na na na 0.05 U 0.050 U 0.050 U na na na na 0.050 U 0.050 U 0.050 U C(Lindane) na na na 0.050 U 0.050 U 0.050 U na na na na 0.050 U 0.050 U 0.050 U ordane na na na 0.050 U 0.050 U 0.050 U ordane na na na 0.050 U 0.050 U 0.050 U ordane na na 0.050 U 0.050 U 0.050 U 0.050 U to U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U to U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U to U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U to U 1.0 U 1.0 U 1.0 U 1.0 U 1	Tomphene	นน		E (0.050 U	0.050 U	0.050 U
dane na na na 0.050 U 0.050 U na na na na 0.050 U 0.050 U na na na na 0.050 U 0.050 U C(Lindane) na na na 0.050 U 0.050 U na na na na 0.050 U 0.050 U ordane na na na 0.050 U 0.050 U ordane 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U 1 1.0 U <	alpha-BHC	ะน		12 E		0.10 U	0.10 U	0.10 U
C(Lindane) na na na 0.050 U 0.050 U <td>alpha - Chlordane</td> <td>ยน</td> <td></td> <td>: c</td> <td></td> <td>0.050 U</td> <td>0.050 U</td> <td>0.050 U</td>	alpha - Chlordane	ยน		: c		0.050 U	0.050 U	0.050 U
C(Lindane) an	beta-BHC	eu -	# :	: c	e u	0.050 U	0.050 U	0.050 U
na na na 0.10 U 0.10 U 0.10 U 0.10 U 0.10 U 0.10 U 1.00 U	delta-BHC		2 6	:	па	0.050 U	0.050 U	0.050 U
1,0 U	gamma—BHC (Lindane)	n n	เม	ยน	บน	0.10 U	0.10 U	0.10 U
100 100 100 100 100 100 100 100 100 100	L			•	1101	101	1.0 U	1.0 U
1,00 1,00 1,00 1,00 1,00 1,00 1,00 1,00	Arodor-1016	1.0 U	1.0 U	1.0 U	0.0.1	20:1	11.0.11	1.0 U
1,0 U	Arodor-1221	1.0 U	1.0 U	0.0.1	0.0.1	0.01	1101	1.0 U
1,0 U	Arodor-1232	1.0 U	1.0 U	1.0 U	0.07	201	101	1.0 C
1,0 U	Arodor-1242	1.0 U	1.0 U	0.0.1	1.00	1101	1.0 U	1.0 U
1,0 U	Arpdor-1248	1.0 U	1.0 U	U.O.T.	0.07	1101	1.0 U	1.0 U
1,0 U 1,0 U 1,0 U 1,0 U Ina na na	. Arodor-1254	1.0 U	0.1	00:	0 11	1.0 U	1.0 U	1.0 U
	Arodor-1260 Polychloringed Biphenyls	1.0 U	1.0 U	1.0 U	1.0 U	na	ាង	ยน
	i:\lous\483803\DUNGW1							
1:Victors/462803DQNGW1								

Table 1 (continued)

Preliminary Groundwater Analytical Data

	Page 15 of 25	ALT-GW-WP5-1196 96-5586 WP-5 11/21/96
		ALT-GW-WP4-1196 96-5586 WP-4 11/21/96
vestigation orporation acility		ALT-GW-WT4-1196D 96-5528 WT-4 11/19/96
Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility		ALT-GW-WT4-1196 96-5528 WT-4 11/1996
		ALT-GW-WT3-1196 96-5528 WT-3 11/1996
		Sample ID: roject No.: e Location:

Parameters Parameters Turget Compound List Featicleast Cost (pg) 0.10 U 0.10 U <th <="" colspan="5" th=""><th>### Compound List Compound List Compound List Control Color Color Color </th><th>Appa) 0.10 U 0.</th><th>Sample Location: Sample Date:</th><th>11/19/96</th><th>11/19/96</th><th>11/19/96</th><th>11/21/96</th><th>11/21/96</th></th>	<th>### Compound List Compound List Compound List Control Color Color Color </th> <th>Appa) 0.10 U 0.</th> <th>Sample Location: Sample Date:</th> <th>11/19/96</th> <th>11/19/96</th> <th>11/19/96</th> <th>11/21/96</th> <th>11/21/96</th>					### Compound List Compound List Compound List Control Color Color Color	Appa) 0.10 U 0.	Sample Location: Sample Date:	11/19/96	11/19/96	11/19/96	11/21/96	11/21/96
adoa/PCDs (ug/l) adoa/PCDs (ug/l) billo	Alpha 0.10 U	Alpha 0,10 U	Parameters		•								
0.10 U 0.10 U 0.10 U mm 0.10 U 0.10 U 0.10 U 0.10 U 0.10 U mm 0.10 U 0.10 U 0.10 U 0.10 U 0.10 U mm 0.10 U 0.10	0.10 U	0.10 U 0	Target Compound List Pesticidos/PCBs (µg/l)										
Apha) 0,10 U	Apple 0.10 U	Aphn) Ap		0.10.11	0.10 U	0.10 U	na	uu					
Old U Old U Old U Old U Old U Old U	Alpha	Alpha 0.10 U 0.00 U 0	4,4 = DDD 44. = DDE	0,10 U	0.10 U	0.10 U	นน	na					
Alpha) 40,000 0,0	Aphn) 0.000 U 0.005 U 0.010 U	Apha) 4050 U 6050 U 6010 U 6020 U	1,4 -100E	11010	0.10 U	0.10 U	eu	пa					
Alpha) 0.10 U 0.10 U nn Alpha) 0.10 U 0.10 U nn (Pera) 0.10 U 0.10 U nn (Pera) 0.10 U 0.10 U nn Alfac 0.10 U 0.10 U nn Ade 0.20 U 0.20 U 0.20 U </td <td>Alpha) 0.10 U 0.</td> <td>Apps) 0.10 U 0.10 U 0.10 U nn Apps) 0.10 U 0.10 U 0.10 U</td> <td>4,4 - DD 1</td> <td>11 050 0</td> <td>0.050 U</td> <td>0.050 U</td> <td>na</td> <td>80</td>	Alpha) 0.10 U 0.	Apps) 0.10 U 0.10 U 0.10 U nn Apps) 0.10 U 0.10 U 0.10 U	4,4 - DD 1	11 050 0	0.050 U	0.050 U	na	80					
Aphnh 0.10 U 0.10 U nn (Beta) 0.10 U 0.10 U nn (Beta) 0.10 U 0.10 U nn (Beta) 0.00 U 0.00 U 0.00 U nn (Accidente) 0.10 U 0.10 U nn nn (Accidente) 0.00 U 0.00 U 0.00 U 0.00 U nn Anne. 0.00 U 0.00 U 0.00 U 0.00 U nn nn Anne. 0.00 U 0.00 U 0.00 U 0.00 U nn Anne. 0.00 U 0.00 U 0.00 U nn nn Anne. 0.00 U 0.00 U 0.00 U nn nn Anne. 0.00 U 0.00 U 0.00 U nn nn Anne. 0.00 U	Appha) 0.10 U 0.10 U nn (Beta) 0.10 U 0.10 U nn (Beta) 0.10 U 0.10 U nn (Beta) 0.10 U 0.10 U nn (Ac) 0.10 U 0.10 U nn (Ac) 0.10 U 0.10 U nn (Ac) 0.02 U 0.02 U 0.03 U nn (Ac) 0.02 U 0.02 U 0.02 U nn (Ac) 0.02 U 0.02 U 0.02 U nn (Ac) 0.02 U 0.02 U 0.02 U nn (Ac) 0.02 U 0.02 U nn nn (Ac) 0.02 U 0.02 U <td>Alpha) 0.10 U 0.10 U<</td> <td>Multin Paris</td> <td>0.01</td> <td>0.10 U</td> <td>0.10 U</td> <td>นน</td> <td>eu</td>	Alpha) 0.10 U 0.10 U<	Multin Paris	0.01	0.10 U	0.10 U	นน	eu					
Column C	Control Cont	Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron Carron	Distainin	0.10 U	0.10 U	0.10 U	บล	ยน					
			Endosument (Capina)	0.00	0.10 U	0.10 U	вu	uu					
According 0.10 U	According 0.10 U	A	Ellusaumin in (Dein)	0.05017	0.050 U	0.050 U	nn	RU					
Ade 0.10 U 0.10 U nn e 0.10 U 0.10 U nn e 0.10 U 0.10 U nn 0.050 U 0.050 U 0.050 U nn 0.050 U 0.050 U 0.050 U nn 1.0 U 1.0 U 1.0 U nn 0.050 U 0.050 U 0.050 U nn 0.10 U 0.10 U 0.00 U nn 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U	Color Colo	O.10 U	Endosummi Summic	11010	0.10 U	0.10 U	na	นน					
0.10 U	O.10 U	0.10 U 0.050	County Aldebude	0.10 U	0.10 U	0.10 U	na	นน					
coxide 0.050 U 0.050 U na coxide 0.050 U 0.050 U na 0.50 U 0.050 U 0.050 U na 1.0 U 1.0 U 1.0 U na 0.10 U 0.10 U 0.10 U na 0.050 U 0.050 U 0.050 U na 0.050 U 0.050 U 0.050 U na rdane 0.050 U 0.050 U 0.050 U na rdane 0.10 U 0.050 U 0.050 U 0.050 U na rdane 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U 1.0 U <	coxide 0.050 U 0.050 U nn 0.50 U 0.050 U 0.050 U nn 0.50 U 0.050 U 0.050 U nn 1.0 U 1.0 U 1.0 U nn 0.050 U 0.050 U 0.050 U nn 0.10 U 0.050 U 0.050 U 0.050 U nn rdane 0.10 U 0.050 U 0.050 U nn rdane 0.10 U 0.050 U 0.050 U nn rdane 0.10 U 0.050 U 0.050 U nn rdane 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U	coxide 0.050 U 0.050 U <th< td=""><td>Endrin Ketone</td><td>0.10 U</td><td>0.10 U</td><td>0.10 U</td><td>na</td><td>вu</td></th<>	Endrin Ketone	0.10 U	0.10 U	0.10 U	na	вu					
coxide 0.050 U 0.050 U nn 0.50 U 0.50 U 0.50 U nn 1.0 U 1.0 U 1.0 U nn 0.050 U 0.050 U 0.050 U nn rdane 0.050 U 0.050 U 0.050 U nn rdane 0.10 U 0.00 U 0.00 U nn rdane 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U rdane 1.0 U 1.0 U 1.0 U 1.0 U rdane <	1,0 U	coxide 0,050 U 0,050 U nn 0,50 U 0,50 U 0,50 U nn 1,0 U 1,0 U 1,0 U nn 0,050 U 0,050 U 0,050 U nn ndane 0,050 U 0,050 U 0,050 U nn ndane 0,050 U 0,050 U 0,050 U nn ndane 0,10 U 0,10 U 0,10 U nn ndane 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U	Here achlor	0.050 U	0.050 U	0.050 U	นน	เมล					
0.50 U 0.50 U 0.50 U na 1.0 U 1.0 U 1.0 U 0.50 U na 1.0 U 0.50 U 0.50 U na 0.050 U 0.050 U 0.10 U 0.10 U 0.10 U na 0.050 U 0.050 U 0.050 U na 0.10 U 0.00 U 1.0	0.50 U 0.50 U 0.50 U na 1.0 U 1.0 U 0.050 U na 0.050 U 0.055 U 0.055 U na 0.050 U 0.050 U 1.0 U	0.50 U 0.50 U na	Hereachlor Frontide	0.050 U	0.050 U	0.050 U	uu	na					
1.0 U	10 U	10 U	Methorschlor	0.50 U	0.50 U	0.50 U	na	na					
0.050 U 0.050 U	0.050 U 0.050 U	0.050 U 0.050 U	Townhene	1.0 U	1.0 U	1.0 U	na	นน					
No. O.10 U O	No. O.10 U O.10 U	Name	alriba - BHC	0.050 U	0.050 U	0.050 U	กล	นน					
(Lindane) 0.050 U 0.050 U na 0.050 U na 0.050 U na 0.050 U na 0.050 U 1.0 U 1.	(Lindane) 0.050 U 0.050 U na 0.050 U 1.0	(Lindane) 0.050 U 0.050 U na 0.050 U na 0.050 U 1.0 U	alpha-Chloriane	0.10 U	0.10 U	0.10 U	eu	nn n					
(Lindane) 0.050 U 0.050 U na 0.050 U 0.050 U 1.0 U 1.	(Lindane) 0.050 U 0.050 U na 0.050 U 0.050 U 1.0 U 1.	(Lindane) 0.050 U 0.050 U nn ndane 0.050 U 0.050 U nn ndane 0.10 U 0.10 U nn 1,0 U 1,0 U 1,0 U 1,0 U 1,0 U <	Late and	0.050 U	0.050 U	0.050 U	na	กล					
(Lindane) 0,050 U 0,050 U nn nadane	(Lindane) 0,050 U 0,050 U na nardane	(Clindane) 0,050 U 0,050 U na nardane 0,010 U 0,010 U 0,010 U na nardane 0,010 U 0,010 U 0,010 U na	delta = BHC	0.050 U	0.050 U	0.050 U	eu	na					
dance 0.10 U 0.10 U na lance 1.00 U 1.00 U na lance 1.00 U	0.10 U 0.10 U 0.10 U na 1.0 U	0.10 U 0.	mman BHC (Lindane)	0.050 U	0.050 U	0.050 U	uu	ยน					
1.0 U	1,0 U	1,0 U	gamma-Chlordane	0.10 U	0.10 U	0.10 U	เม	บบ					
1.0 U	1,0 U	1,0 U	7	101	1.0 U	1.0 U	1.0 U	1.0 U					
1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0 1.0	1.0 U	1.0 U	Arodor-1016	1101	101	1.0 U	1.0 U	1.0 U					
150 150 150 150 150 150 150 150 150 150	10 U	10 U	Arodor-1221	20.5	1011	11011	1.0 U	1.0 U					
1,0 U	10 U	10 U	Arodor-1232	0.0.1		1101	1.0 U	1.0 U					
10 0 1 0 1 0 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 0 1 1 1 0 1 1 1 0 1 1 1 0 1	10 U	10 U	Arodor-1242	1.0 U	0 0.1) i c	1101	1.0 U					
1,0 U I,0 U	10 U	10 U	Arodor-1248	1.0 U	1.0 U	0.00	1101	U 0.1					
1,0 U an an an an	1,0 U na na na 1,0 U	10 U uu u	Arodor-1254	0.01	O 0:1	0.01	0.01	1.0 U					
na na na ira	ווא ווא ווא	יים אין	Arodor-1260	1.0 U	0 0:1	0 17	1101	1.0 U					
		i:\\cus\483803\DU\\GW1	Polychlorinmed Biphenyls	na	na	E .	2						

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 16 of 25

ALT-GW-RFI07-1196 96-5567 RFI-7 11/20/96		196 196 1.8 108 220 0.56 61 0.005 U 4130 1300 1300 1300
ALT-GW-RF106-1196 96-5567 RFT-6 11/19996		na 192 1.9 1.9 na 42 0.34 0.1 U 0.005 U 1180 310 na 7.44
ALT-GW-RFI05-1196 96-5567 RFI-5 11/20/96		na 160 0.1 U na 14 0.31 2.5 0.005 U 716 120 na 7.43
ALT-GW-RFI04-1196 96-5528 RFI-4 11/19/96		na 202 0.31 na 18 0.18 0.005 U 841 110 na 7.31
ALT-GW-RH03-1196 96-5507 RH-3 11/18/96		na 200 0.34 na 120 1.9 0.1 U 0.005 U 1410 230 na 7.44
ALT-GW-RF101-1196 ALT-GW-RF102-1196 96-5507 84-1 RF1-1 11/18/96 11/18/96		па 170 0.36 па 8.8 0.26 0.10 0.005 U 1060 230 па 7.05
ALT-GW-RH01-1196 96-5507 RFT-1 11/18/96		na 76 0.1 U na 25 0.31 0.51 0.005 U 720 71 na
ESC Sample ID: Autoch Project No.: Sample Location: Sample Date:	Parameters Miscellaneous Parameters	Taal Organic Carbon (mg/l) Alkalinity (Total) (mg/l bicarbonate) Ammonin (mg/l) Chemical Oxygen Demand (mg/l) Chloride (mg/l) Fluoride (mg/l) Nirrate (mg/l) Specific Conductance @ 25eC (umhos/cm) Sulfate (mg/l) Taal Suspended Solids (mg/l) Total Suspended Solids (mg/l) pH (standard units)

i:\lotus\483803\DUNGW1

Table 1 (continued)

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 17 of 25

ESC Sample ID: Antech Project No.: Sample Location: Sample Date:	AI.TGW-RF108-1196 96-5567 RF1-8 11/20/96	ALT-GW-RF109-1196 96-5528 RF1-9 11/19/96	ALT-GW-RFI10-1196 96-5567 RFI-10 11/19/96	ALT-GW-RF111-1190 96-5528 RF1-11 11/18/96	ALT-GW-RF111-1196 ALT-GW-RF112-1196 96-5528 96-5556 RF1-11 RF1-12 11/18/96 11/21/96	AI.TGW-RFI13-1196 96-5567 RFI-13 11/20/96	ALT-GW-RF113-119GD 96-5567 RF1-13 11/20/96
Parameters							
Miscellancous Parameters							
,		·	e c	811	ยน	na	บช
Total Organic Carbon (mg/l)	uu .	1.0	136	000	180	217	238
Alkalinity (Total) (mg/l bicarbonate)	160	49.0	120	200	51.0	0.35	0.4
Ammonia (mg/l)	0.1	0.1 0	0.1.0	67:0		ç	20
Chemical Oregon Demand (mod)	na	5.0	na	ពង	eu	un :	
	47	14	250	39	12	29	6
Chlonde (mg/l)	7	77.0	0.20	0.46	0.49	0.29	0.31
Fluoride (mg/l)	0.32	0.111	1.2	0.1 U	0.67	1.2	1.3
Nitrate (mg/l)	1.3	113000	11 500 0	0.005 U	0.005 U	0.005 U	ยน
Phenolics (mg/l)	0.000	0.0000	0.505.0	096	764	1160	1170
Specific Conductance @ 25øC (umhos/cm)	919	166	871	00	160	170	180
Sulfate (mg/l)	120	120	mc1	:	2	eu u	ยน
Cotal Suspended Solids (mg/l)	na	10	na	e :			66 9
Table of the second seconds	7.32	7.01	7.27	7.28	8.03	1.1.1	

i:\lous\483803\DUNGW1

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 18 of 25

AI.TGW-MW1-1196 96-5586 MW-1 11/20/96	na 216 0.63 na 57 0.11 0,1 U 0.005 U 1340 350 na 7.51	
ALT-GW-B1-11% 96-5507 B-1 11/18/96	na 110 0.73 na 6.1 0.26 0.1 U 0.005 U 808 120 na 7.26	
ALT-GW-RE117-1196 96-5567 RFI-17 11/20/96	na 1111 2 na 410 0.57 2.4 0.005 U 2440 360 na 7.26	
ALT-GW-RH116-1196 96-5507 RFI-16 11/18/96	na 220 0.1 U na 35 0.25 0.1 U 0.005 U 130 na 7.16	
ALT-GW-RH15-1196D ALT-GW-RH16-1196 96-5567 96-5507 RH7-15 RH7-16 11/20/96 11/18/96	na 128 0.39 na 110 0.31 0.1 U 0.005 U 1140 260 na 7.3	
ALT-GW-RH115-1196 96-5567 RH7-15 11/20/96	na 169 0.47 na 100 0.29 0.1 U 0.005 U 1180 240 na 7.27	
ALT-GW-RF114-1196 96-5567 RF1-14 11/20/96	na 1620 0.84 na 39 0.59 0.11 0.005 U 689 60 na	
ESC Sample ID: Antech Project No.: Sample Location: Sample Date:	Miscellaneous Parameters Total Organic Carbon (mg/l) Alkalinity (Total) (mg/l bicarbonate) Antmonia (mg/l) Chemical Oxygen Demand (mg/l) Chloride (mg/l) Fluoride (mg/l) Nitrate (mg/l) Specific Conductance @ 25øC (umhos/cm) Sulfate (mg/l) Fatal Suspended Solids (mg/l) Fig. Standard units) i:Votus/483803/DUNGW1	

Table 1 (continued)

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 19 of 25

ALT-GW-WT1B-1196 ALT-GW-WT2-1196 96-5523 96-553 WT-1B WT-2 11/19796 11/25/96		2.3 1.5 12.3 1020 0.59 2.9 5 U 46 2.80 0.23 0.33 0.10 0.054 150 6.054 170 8.8 300 129 7.1 12.41
ALT-GW-WT1A-1196 96-5528 WT-1A 11/1996		9.5 256 0.1 U 23 120 0.74 0.038 0.005 U 1400 113 7.05
ALT-GW-LAW6-1196 96-5586 1.AW-6 11/21/96		na 3360 2.5 2.5 na 140 6.3 30 0.005 U 9700 1100 na 8.98
ALT-GW-LAW5-1196 96-5586 LAW-5 11/21/96		na 233 1.2 na 300 0.19 1.4 0.005 U 3160 2300 na 6.98
ALT-GW-LAE4-1196 96-5567 LAE-4 11/20/96		na 176 0.79 na 18 0.31 0.10 0.005 U 892 110 na
ALT-GW-MW3-1196 96-5567 MW-3 11/2096		na 192 0.1 U na 250 0.63 83 0.005 U 3250 660 na
ESC Sample ID: Antech Froject No.: Sample Location: Sample Date:	Farameters Miscellancous Parameters	Total Organic Carbon (mg/l) Alkalinity (Total) (mg/l bicarbonate) Ammonia (mg/l) Chemical Oxygen Demand (mg/l) Chloride (mg/l) Fluoride (mg/l) Fluoride (mg/l) Nitrate (mg/l) Specific Conductance @ 25¢C (umhos/cm) Sulfate (mg/l) Total Suspended Solids (mg/l) pH (standard units)

i:\laus\483803\DUNGW1

Table 1 (continued)

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 20 of 25

ALT-GW-WP5-1196 96-5586 WP-5 11/21/96	
ALTGW-WP4-1196 96-5586 WP-4 11/21/96	
ALT-GW-WT4-1196D 96-5538 WT-4 11/19/96	
ALT-GW-WT4-1196 96-5528 WT-4 11/19/96	
ALT-GW-WT3-1196 96-5528 WT-3 11/19/96	
ESC Sample DD: Antech Project No.: Sample Location: Sample Date:	1

Parameters

Miscellancous Parameters					
	1.7	80,60	3.9	uu	ยน
I Gai Organic Caroon (Inga)		250	249	237	145
Alkalinity (Total) (mg/l brearbonate)	G-1	1.7	1.7	2.2	1.4
Ammonm (mg/l)	. v	115	6.8	uu	na
Chemical Oxygen Demand (mg/1)	*·C	20, 20	62	84	21
Chloride (mg/l)	07	100	0.74	0.31	0.36
Fluonde (mg/l)	0,1	11:0	0.1 U	0.1 U	0.14
Nitrate (mg/l)	0.1.0	2 100	0.005 U	0.005 U	0.005 U
Phenolics (mg/l)	1440	1430	1460	1220	673
Speane Conducance (# 220C (unitos/cir.)	2005	300	300	150	61
Summe (mg/l)	45	11	11	บน	na
ical Suspended Solids (mg1) pH (standard units)	6.82	7.1	7.11	7.3	7.16

i:\i\aus\483803\DUNGW1

Preliminary Groundwater Amlytical Data Phane I RCRA Pacility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

ALT-GW-RF107-1196 96-5567 0.000 U 0.0000 U 0.00 ALT-GW-RF103-1196 ALT-GW-RF104-1196 ALT-GW-RF105-1196 ALT-GW-RF106-1196
96-5507
96-5507
RFI-3
RFI-4
RFI-5
RFI-5
RFI-6
11/18/96
11/18/96 1 8 1 8 1 8 1 0.28
iii
0.0016 U
iiii
0.0018 U
iiii
0.25
iiii
0.0035
iiii
0.0033 0,00064

0,00006 U

0,0002 U

150

150

0,001 U

0,0047 U

0,001 U

0,0047 U na 0.94 nn 0.016 U na 0.0019 ALT-GW-RF101-1196 ALT-GW-RF102-1196 96-5507 96-5507 RF1-1 RF1-2 11/18/96 0.0016 U 0.0016 U 0.00016 U 0.00016 U 0.00016 U 0.00016 U 0.00010 U 0.00010 U 0.0010 ESC Sample ID: Antech Project No.: Sample Location: Sample Date: Target Analyte List Inorgames (mg/l)

Parameters

Page 21 of 25

Antimony (Total)	0.0029	0 0000		400	na	na	
Arzenic (Disnolwed)	211	nu ·	en 0000	11 2000	1	ı	0.0010 U
Arsenic (Total)	0.0023	0.0025	0.0019	2 22000	uu	na	na
Barium (Dinsolved)	BII	nn	1111	0.25	1	1	0.043
Barium (Total)	0.1	0.014 U	10000	1	W	uu	uu
Berylkum (Dissolved)	nu	ar.	uu uu	\$2000	ı	1	0.0000
Berylfum (Total)	0.0012	0.0006	0,000,0	COOL	ecc	au	ru
Cadmium (Dissolved)	uu	na	na	1111	[1	0,0050 U
Cadmin (Total)	0,0048	0.0022 U	0.0022 U	0,0093		att	na
Caldum (Dissolved)	uu	nn	on .	E 2	<u> </u>	i	420
Caldium (Total)	8	130	150	201	ec	na	nu
Chromium (Dissolved)	BU	na	acc	B C C	! !	ı	0.019
Chromium (Total)	0.016		0,0078 U	0.02	13 100	0.01 U	0.01 U
Heravalent Chromium (Total)	0.01 U	0.01 U	0.01	o ron	0 100	na	utt
Cohalt (Dissolved)	na		na	au co	1	1	0.011
Cohele (Dotal)	0.0056 U		0.0056 U	0.018	1 ;	e r	nu
Coount (Town)	80		na	เก	act.	1	0.039
Copper (Dissolved)			0.0047 U	0.027	ı	۱	
Copper (10th)			uu	na	na	na	01.0
Iron (Dissolved)	nu -		₩	0.68	ı	1	600
Iron (Total)	5.1		au.	na	na	nn	1101000
Lead (Dirached)	na		0.0075	0.0017	1	ı	0.0000
Lead (Total)	0,0052		1	na	BII	uu	au .
Magnezium (Dissolved)	na		: C	05	1	i	90
Magnesum (Total)	29		2° :	9 60	BU	na	uu
Manganese (Dissolved)	BELL			9500	t	1	2.3
Manganese (Total)	0.11		0.54	1000	900	138	ma
Mercury (Dissolved)	BII	nu nu	eu e	11 00000	0.0002 U	0.0002 U	0.0002 U
Mercury (Total)	0,0002 U	0.0002 U	0.0002 U	0.0000	# T T T T T T T T T T T T T T T T T T T	au	na
Molybdenum (Dissolved)	BU	រាធ	80 .	2000	! 1	3	1.3
Molydenim (Total)	0.023	U 10.0	1.3	0,023		NU	nn
Nickel (Dissolved)	nu	na	uu	WI C		ı	0.075
Nickel (Total)	0.019	0.01 U	0.01 U	0.03	1	en	nu
Determine (Dissolved)	en	пп	na	un ,		1	25
Potential (Carolecu)	77	5.4	3.3	2.3	1 ;	80	nu
Companie (Total)	BU	BUI	มน	na	ac.	<u> </u>	U 00000
Scientiff (Chaotecu)	0.0027 U	0.0027 U	0.0027 U	0.0027 U	1 1		BII
silver (Name)	800	Bu	na	act	nu	<u> </u>	O.010 U
Silver (Total)	0.0083 U	0.0083 U	0,0083 U	0.016		90	nu
Sodium (Dieselved)	uu	. au	na	e t	1	1	290
Sodium (Total)	28	15	95	11	i c	nu	au
The Himm (Newsday)	na	na	E	118		1	0.0040 U
The llim (OM)	0.0054	0.0023 U	0.0023 U	0.0023 U	1 1	Ħ	na
Managine (Completed)	811	nn	nn	eu :	•	ı	0.050 U
Vanadim (Total)	0.0054 U	0.0054 U	0.0054 U	670:0	1 2		nu
Zing (Disselved)	BU	na	nn	HILL CO.	<u> </u>	1	0.023
Zing (Total)	0,033	0.029	0.036	0.017			
()				11 \$000	0.005 U	U \$000	0.005 U
Counide (Free)	0.005 U	0.005 U	0.0005	0.0000	0.005 U	0.005 U	0.005 U
Cyanide (Total)	0.005 U	0.005 U	0 0000				
THE TAIL IN A CORPORATION OF THE PARTY OF TH							
i:Votus/483803/DUNUW1							

Preliminary Groundwater Analytical Data Phase I RCRA Pacility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

25
5
52
Ü
DC.
ď

ESC Sample ID:	ALT-GW-RF108-1196	ALT-OW-RF1091196 96-5528	ALT-GW-RF110-1196 96-5567	ALT-GW-RFIII-1196 ALT-GW-RFII2-1196 96-5528 96-5586	.T-GW-RF112-1196 96-5586	ALT-GW-RFI13-1196 96-5567	ALT-GW-RF113-1196D 96-5567
Ancen Project 190.: Sample Location: Sample Date:	RF1-8 11/20/96	RF1-9 11/19/96	RFI-10 11/19/96	RFI-11 11/18/96	RFI-12 11/21/96	RFI-13 11/20/96	11/20/96
Parameters		٠.					
Target Analyte List Inorgancs (mg/l)							
	Ħ	0.058 U	an	0.21	na	BU	B11
Aluminum (Ford)	! !	0.28	š	0.45	0.058 U	1 8	1 10
Antimony (Dissolved)	13.0	0.0016 U	nu	0.0016	0.0023	•	1
Antimony (Total)	1 5	0.0016 U	- 2	0.0018 U	1112	uu	nn
Arrenic (Dissolve d)	E 1	0.0018 U	1	0.0018 U	0,0018 U	1 1	: 5
Barium (Dissolved)	118	0,038	na	0.32	na 0.057	E 1	<u>!</u> !
Barium (Total)	1	0.047	: <u>E</u>	0.005	uu	uu	ma
Berylfum (Dissolved)	E 1	9000	ļl	0.021	0.0006 U	ı	1 1
Berylaum (100a) Ordmium (Dissolved)	nn	0.0028	uu	0.011	III 6000 0	E 1	
O-dmium (Total)	1	0.018	ı	0.016	0.0022 0	. 5	au
Onlaum (Dissolved)	nn	140	na	55 E	83	į i	1
Oaldum (Total)	i	140	ı <u>ş</u>	0.028	eu.	uti	na
Chromium (Dissolved)	au i	0.041	ļl	0.042	0.0078 U	•	1 6
Chromium (Total)	0.01 U	0.01 U	U 100	U 10.0	0.01 U	0.01 U	0.010
Cobalt (Dissolved)	EL.	0.0066	ma	0.029	na 0.0056.11	= 1	! !
Cobalt (Total)	ı	0.036	. ;	 J. V.	na	118	BEL
Copper (Dissolved)	8	0,017	= 1	0.089	0.0047 U	ſ	I
Copper (Total)	1 8	0.053	เน	0.11	INB	na na	en I
Iron (Lassoured)	! !	0.078	1	0.85	0.27	1 5	
Lead (Dissolved)	ni.	0.0036	na	0.0058	na 0.0017 11		į (
Lead (Total)	ı	0.0049	. ;	/7000	ati	utt	nn
Magnezium (Dissolved)	813	38 %	E 1	48	38	1	ı
Magnesium (Total)	· §	0.85	att	0.81	EU.	na	uu I
Manganese (Lissoive a)	1	0.81	ŧ	5.4	0.18	ı <u>ş</u>	
Mercury (Dissolved)	RII	0,0002 U	na	0.0002 U	na 0.0007 t3	0.0002 U	0.0002 U
Mercury (Total)	0,0002 U	0.0002 U	0,0002	0.0002 0	an	au	utt
Molybdenum (Dissolved)	uu	0.42	Į	0.046	0.095	t	1
Molybdenum (Total)	. 8	0.022	86	0.051	E	eu -	eu -
Nickel (Form)	ŧ	0.067	i	021	0.00		na
Potastium (Dissolved)	118	£;1	na	7,0 16	51	1	i
Potarsium (Total)	1 6	0.0027 U	na	0,0027 U	ucı	uu	ua
Scientiff (Dissolved)	Į 1	0,0031	•	0,0027 U	0.0027 U	۱ ;	ı ş
Silver (Diggolved)	gu	0.0083 U	na	0.023	nn 0.0084.11	I 1	<u> </u>
Silver (Total)	1	0.041	1 ;	9700	S CONTROL	uu	nu
Sodium (Dissolved)	uu.	9 6	E '	8 28	29	1	ı
Sodium (Total)	. 5	0,0023 U	uu	0.0023 U	en:	uu	811
The liver (Total)		0.0023 U	ŧ	0.0023 U	0.0023 U	t g	011
Vanadaum (Dissolved)	uu	6600'0	nu	0,036	na 0.0054 U	ŀ	1
Vanadum (Total)	1	0.055	1 1	0.091	Bu	113	na
Zinc (Dissolved) Zinc (Total)	eu ı	0.022	<u> </u>	0.042	0.32	1	ı
		1	11 500 0	0.005 U	0.005 U	0.005 U	0.005 U
Cynide (Free)	0.003	0.14	0.005 U	6000	0.11	0.005	0.009
Cyallice (100m)							

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

Page 23 of 25

ESC Sample 1D:	ALT-GW-RF114-1196	ALT-GW-RF115-1196 96-5567	ALT-GW-RFI15-11961) ALT-GW-RFI16-1196 96-5567	ALT-GW-RF116-1196 96-5507	ALT-GW-RF117-1196 96-5567	ALT-GW-B1-1196 96-5507	ALT-GW-MW1-1196 96-5586 MW-1
Anteen Project No.: Sample Location: Sample Date:	RFI-14 11/20/96	RPI-15 11/20/96	RF1-15 11/20/96	RFI-16 11/18/96	RFI-17 11/20/96	B-1 11/18/96	11/20/96
Parameters							
Target Analyte List							
()				u.	0.10 U	na	811
Aluminum (Dissolved)			1 1	0.058 U	0.38	0.058 U	0.28
Aluminum (Total)		1	i	na	0.0060 U	0.0018	0.0016 U
Antimony (Total)	t	ı	1	0.0016 U	0.0000	au	att
Arenic (Dissolved)	1	1	: 1	na 0.0018 U	0.0010 U	0.0018 U	0.0018 U
Arsenic (Total)	ŀ		. 1	u	0.074	o u	180
Barium (Dissolved)	1 1	: 1	t	0.034	0.081	0.24	110000
Barum (10ml) Recolling (Dissolved)	ı	ı	ı	na N	0.0030	0.000.0	U 9000.0
Beryling (Com)	į		1	0.0006 U	0.0030	80	na
Ordmium (Dissolved)	1	1	i	na 0.0022 U	0.0050 U	0.0022 U	0.0022 U
Cadmium (Total)		1	1 1	0.22000	150	na	nu .
Calcium (Dissolved)	1	٠.		110	130	82	£ ::
Calcium (Total)	, ,	1	1	au	0.010 U	na 11 8500 0	U 8/2000
Chromium (Dissolved)	ı	1	1	0.0078 U	0.010 U	0.00 0.01 U	0.01
Heavelent Chromium (Total)	0.01 U	0.01 U	0.01 U	0.001 U	0.000		en
Cobalt (Dissolved)	ı	1	; ;	nu 0.0056 U	0.010 U	0.0056 U	0.0056 U
Cobalt (Total)	ι	1 !	: 1	en en	0.016	E	88
Copper (Dissolved)	i I		1	0.0047 U	0.028	0.0047 U	U.M.44 U.
Copper (Folial)	1 1	ı	ı	811	0.066	na 0.26	1 23
Iron (Total)	1	1	***	7 6	U 0100.0	nu.	па
Lead (Dissolved)	ı		1 1	0.0033	0.0010 U	0,0029	0.0021
Lend (Total)	1 1	1 1	1	ш	47	E 9	3.5
Magnesium (Dissolved)	. 1	ı	1	36	ę .	40	e e
Magnesum (1021) Manemese (Dissolved)	ı		ı	na 100	0.22	0.031	0.26
Manganese (Total)	ı		1 00000	170	0,00020 U	ett	nn
Mercury (Dissolved)	0.00020 U	0.00020 U	0.00000 U 20000	0.0002 U	0.0002 U	0.0002 U	0.0002 U
Mercury (Total)	0.2000.0	7 *************************************		uu	0.36	uu o	900
Molybdenum (Dissolved)			ı	0.71	0.41	0 100	nu
Mickel (Dissolved)	3		ı	na 0.0111	0.040 U	0.01 U	0.01 U
Nickel (Total)	1	ı	. ,	au u	24	uu	na C
Pota staum (Dissolve d)	ı ·		s	2.4	20	2.3	9.5
Potassium (Total)	1 1	ŧ	ı	an.	0.0010 U	na 0.0027 U	0.0027 U
Selenim (Carlott)	ī	1	i	0.0027	0.000	BII	nu
Silver (Dissolved)	ı	ı	; ;	0.0083 U	U 010.0	0.0083 U	0,0083 U
Silver (Total)	ı	1 1	ı	uu	8	nu	en cen
Sodium (Dissolved)	1 1	. 1	ı	27	98	24	267
Sodium (Total)	ı	t	ı	na 	0.0040 U	0.0023 U	0.0023 U
The line (John)	ı	ı	I	0.0023	11 050 0	H	Bu
Vanadum (Dissolved)	ı	ı	1 !	nn 0.0054 U	0.050 U	0,0054 U	0.0054 U
Vanadium (Total)	ı	1	1 1	eu.	0.0080	eu	nu Yeso
Zinc (Dimolved)	1 1	1 1	1	0.0048	0.011	0.019	4700
Zinc (10th)			11 300 0	0.005 11	U \$000	0.005 U	U \$000
Cyanide (Free)	0,005 U	0.005 U	0.000	0.005 U	0.029	0.005 U	0.009
Cyanide (Total)	1700	1					

Groundwater Amilytical Data

Preliminary Groundwaler Almiyuchi Data	Phase I RCRA Facility investigation	AL Tech Specialty Steel Corporation	Dunkirk, New York Facility	

Page 24 of 25

	ALT-GW-MW3-1196 96-5567 MW-3 11/20/96	W3-1196 ALT-OW-LAE4-1196 67 96-5567 3 LAE-4 96 11/20/96	ALT-GW-LAW5-1196 96-5586 LAW-5 11/21/96	ALT-GW-LAW6-1196 96-5586 LAW-6 11/21/96	ALT-GW-WT1A-1196 96-5528 WT-1A 11/19/96	ALT-GW-WTIB-1196 96-5528 WT-1B 11/19/96	MTCWW12-1190 96-5633 WT2 11/25/96
0.056 U 0.656 U 0.0016 U 0.001	•						
0.00							
0.006 U 0.00014 U 0.0016 U 0.00016 U	0.10 U	118	an	0.18	0.19	0.19	0.8
March Marc	2.5	0.10 U	0.06 U	0.55	0.41	0.0016 U	0.0022
Control	0.0060 U	HI	111	0,0000 0	0.0016 U	U 01000	U 7100.0
COOPTION	0.0000	0.0000	nu nu	0.17	0.0018 U	0.0018 U	0,0018 U
March Marc	0.0000	0.0010 U	0.0018 U	0.17	0.0067	0.0018 U	0.0018 U
0.0014 0.0020 U 0.012 0.0044 0.0021 0.0020 U 0.0048 0.00044 0.0022	0,023	pu	na	0.021	0.11	0.083	0.17
CONTROL CONTROL CONTROL	0.043	0.029	0.014	0.020 U	0.12	0.0044	0.0071
0.0022 U 0.00000 0.0011 0.0002 U 0.0022 U 0.00000 0.0011 0.0002 U 13 130 130 150 280 42 0.023 0.002 48 42 0.023 0.002 524 34,1 0.033 0.001 0.011 6005 0.023 0.033 0.001 0.011 m 0.0005 0.011 0.033 0.013 0.013 m 0.0005 0.011 0.033 0.013 0.013 m 0.0007 0.11 0.033 0.013 0.013 m 0.0007 0.13 0.033 0.033 0.013 m 0.0000 0.0000 0.0000 0.0000 0.0000 m 0.0000 0.0000 0.0000 0.0000 0.0000 m 0.0000 0.0000 0.0000 0.0000 0.0000 m 0.0000 0.0000 0.0000 0.0000 0.0		1118	uu .	0.0020 0	O DOM	0.0033	0.007
0.00020 0.00070 0.00070 0.00020 13 130 150 150 280 42 0.022 0.022 43 341 0.023 0.0021 524 361 0.023 0.0011 60056 0.0223 0.0011 0.011 60056 0.0223 0.0325 0.023 60057 0.023 0.032 0.011 60057 0.011 0.033 0.034 60057 0.013 0.033 0.034 60057 0.011 0.033 0.034 60057 0.0010 0.033 0.034 60057 0.0010 0.0023 0.0034 60057 0.0010 0.0023 0.0034 60057 0.0010 0.0023 0.0034 60057 0.0010 0.0023 0.0034 60057 0.0010 0.0023 0.0034 60057 0.0000 0.0003 0.0034 60057	0,0040	09001	0.0021	0.0020	1100	0.0062	0.012
0.0022 U		na a	£ .	0.0050	0,000	0.0022 U	0.014
200 13 150	0.0050 U 0.	0050 U	0.0022 U	03080	0.0000	150	230
4.8 4.7 0.025 0.0023 4.8 4.2 0.023 0.0023 4.8 4.2 0.023 0.0021 5.24 36.41 0.022 0.0021 0.0025 0.0023 0.0021 0.0026 0.0011 0.0023 0.0026 0.0011 0.0023 0.0036 0.0023 0.0023 0.0037 0.0020 0.0023 0.0038 0.0023 0.0039 0.0023 0.0039 0.0023 0.0023 0.0039 0.0023 0.0023 0.0039 0.0023 0.0023 0.0039 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0023 0.0023 0.0039 0.0023 0.0023 0.0023 0.0023 0.0023 0.0039 0.0039 0.0023 0.0023 0.0023 0.0023 0.0039 0.0039 0.0023 0.0023 0.0023 0.0023 0.0039 0.0039 0.0023 0.0023 0.0023 0.0023 0.0039 0.0039 0.0023 0.0023 0.0023 0.0023 0.0039 0.0039 0.0039 0.0023 0.0023 0.0023 0.0039 0.0039 0.0039 0.0023 0.0023 0.0023 0.0039 0.0039 0.0039 0.0023 0.0023 0.0023 0.0039 0.0039 0.0039 0.0023 0.0023 0.0023 0.0039 0.0039 0.0039 0.0039 0.0033 0.0023 0.0033 0.0039 0.0039 0.0039 0.0039 0.0033 0		E	E 66	13	S 5-	150	220
4.8 4.8 4.2 0.023 0.0078 U 5.24 3.6.1 0.011 U 5.24 0.025 0.0021 0.0025 0.0032 0.0013 0.0026 0.037 0.0013 0.0037 0.0037 0.0013 0.011 0.037 0.0013 0.011 0.037 0.0013 0.011 0.037 0.0013 0.018 0.011 0.037 0.0013 0.018 0.0010 U 0.0025 0.00033 0.0023 0.0025 0.0038 0.0038 0.0027 U 0.0027		240	780	či ć	0.026	0.022	0.03
5.45 5.46 0.0023 0.0024 0.0024 0.0025 0.0025 0.0025 0.0035 0.0037 0.0037 0.0037 0.0037 0.0037 0.0037 0.0033 0.0034 0.0031 0.0004 0.00025 0.00034 0.00020		na :	e ,	1 5	0.023	0.0078 U	0.036
m 0.023 0.0362 0.021 m 0.026 0.035 0.015 m 0.11 0.035 0.013 n 0.11 0.037 0.013 n 0.13 0.03 0.04 n 0.13 0.03 0.04 n 0.0010 0.0035 0.023 n 0.0010 0.00023 0.023 n 0.0010 0.00023 0.0023 n 0.0010 0.00023 0.0023 n 0.0010 0.00023 0.0023 n 0.0010 0.00020 0.00023 n 0.0010 0.00020 0.00023 n 0.00020 0.000020 0.000020 n 0.00020		£.1	8,4,5	7. 7.	0.01 U	0.01 U	0.01 U
0,00056 U 0,0026 0,0035 0,0015 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,0034 0,00034 0,00033		0 10	**************************************	0.023	0.032	0.021	0.025
mm 0.11 0.037 0.034 mm 0.11 0.037 0.034 mm 0.13 0.08 0.06 mm 0.13 0.00035 0.00035 mm 0.00010 U 0.00032 0.00033 mm 0.0010 U 2.2 0.00033 mm 0.0010 U 2.2 0.338 mm 0.0010 U 0.0002 U 0.000		e :	0.0056.11	0.026	0.035	0.015	0.028
0.00047 U 0.11 0.03 0.013 0.013 0.013 0.013 0.013 0.013 0.013 0.013 0.013 0.013 0.013 0.013 0.013 0.013 0.013 0.0013 0.00022 U 0.00023 0.00023 0.00023 0.00023 0.00023 0.00023 0.00023 0.00023 0.00023 0.00023 0.00023 0.00023 0.00023 U 0.0	5		911	0.11	0.037	0.034	0.05
0.18 0.018 0.05 1.0 0.08 0.05 1.0 0.0035 1.0 0.0035 1.0 0.0035 1.0 0.0035 1.0 0.0035 1.0 0.0035 1.0 0.0035 1.0 0.0031 1.0 0.0031 1.0 0.0032 1.0 0.0032 1.0 0.0032 1.0 0.0032 1.0 0.0032 1.0 0.0032 1.0 0.0032 1.0 0.0032 1.0 0.0032 1.0 0.0032 1.0 0.0032 1.0 0.0032 1.0 0.0033 1.0 0.0033 1.0 0.0034 1.0 0.0035	0.011	•	0.0047 U	0.11	0.03	0.013	0.052
0.18 0.0018 0.0035 0.003 0.010 0.010 0.022 0.037 0.030 0.032 0.032 0.032 0.032 0.032 0.032 0.032 0.032 0.033 0.	-		uu	0.13	80.0	9.0	1081
0,00026 0,00023 0,00023 0,00023 0,00023 0,00023 0,00023 0,00023 0,00023 0,00023 0,00023 0,00023 0,00023 0,00023 0,0003 0,0010 0,010		10	0.18	1.0	2.8	0.035	0.094
0.0026 0.0026 0.0026 0.0010 22 0.38 0.13 0.0010 22 0.37 0.13 0.0002 U 0.002 0.002 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 0.003 U 0.002 0.003 0.003 U 0.002 0.003 0.003 U 0.002 U 0.002 U 0.003 U 0.002 U 0.003 U 0.004 U 0.003 U 0.003 U 0.004 U 0.003 U 0.003 U	D	=	na	0.0000	0.0023	0.0023	0.094
911 75 43 42 11 0.010 U 2.2 0.38 0.13 0.000 2.2 0.38 0.13 0.000 2.2 0.38 0.13 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.000 0.007 0.007 0.002 0.003 0.003 0.003 0.007 0.007 0.005 0.006 0.003 0.003 0.003 0.007 0.007 0.005 0.006 0.003 0.004 0.003 0.003 0.004 0.004 0.004 0.004 0.004 0.004 <td></td> <td>10 C</td> <td>0,0026</td> <td>76</td> <td>42</td> <td>42</td> <td>0.32</td>		10 C	0,0026	76	42	42	0.32
0.13 0.14 0.15 0.15 0.15 0.15 0.17 0.000 0.0000 0.00002 U 0.000002 U 0.00002		n :	Ē	2, 2,	43	42	0.32
0.13 0.10 0.10 0.0002 U 0.0002	œ (9 1	Z E	0.010 U	2.2	0.38	0.02
0.00020 U 0.00020 U 0.00002 U 0.0002 U	0,073	0.17	0.13	0.010	2.2	0.37	0.013
0,0002 U 0,0	0.24	***	BC	0,00020 U	0.0002 U	0.0002 U	0.0002
nm 6.0 0.332 0.0358 0.32 0.034 0.039 nm 0.052 0.066 0.03 nm 0.052 0.058 0.01 nm 14 18 3 45 14 1.6 2.7 nm 0.022 0.0027 U 0.0027 U nm 0.022 0.0011 0.0027 U nm 0.022 0.0011 0.0027 U nm 0.022 0.0011 79 nm 0.0209 0.0022 0.0011 nm 0.0209 0.0023 U 0.0023 U nm 0.0209 0.0023 U 0.0023 U nm 0.023 0.0024 U 0.0024 U nm 0.012 0.024 0.0024 U nm 0.024 0.005 0.0054 U nm 0.024 0.0054 U 0.0054 U 0.004 0.005 0.006 0.006 0.004 0.005 0.006 0		0.0002 U	0,0002 U	0.0002 U	0.0002 U	0.0002 U	0.0002
0.32		na	na	6.0	0.32	0.030	0.28
mm 0.0592 0.0000 0.001 mm 0.059 0.058 0.01 4.5 1.4 1.8 2.7 4.5 0.029 0.0027 0.0027 0.0027 m 0.029 0.027 0.0011 0.0027 0.0011 m 0.021 0.0029 0.0011 0.0011 0.0011 m 2200 110 78 78 440.00 0.0034 0.0023 U 0.0023 U 0.0023 U m 0.0039 0.0023 U 0.0023 U 0.0023 U n 0.0034 0.0034 0.0024 U n 0.0034 0.0034 0.0044 0.0041 0.042 0.004 0.004 0.0041 0.044 0.044 0.005 U 0.005 U		0.40	0.32	5.9	0.34	0.039	0.13
0.0775 0.0775 0.02	0,040 U	118	84	0.052	0.000	0.01	0.12
4,5 1,1 1,6 1,6 1,6 1,7 1,7 1,7 1,6 1,6 1,6 1,7 1,7 1,7 1,7 1,7 1,7 1,7 1,7 1,7 1,7		0.14	0.075	2000	81	3	15
m 0.022 U 0.0027 U 0.	3.2	m *	# W	. =	977	2.7	15
0,00027 U 0,0229 0,00027 U	3.7	9	? =	0.029	0.0027 U	0.0027 U	0.0039
0.0013 0.0011 0.		11 010	0.0027 U	0.029	0.0027 U	0.0027 U	0.0066
0,00083 U 0,0021 0,0009 0,00083 U 0,0009 0,0009 0,00083 U 0,0009 0,0009 0,0009 0,0009 0,0009 0,0009 0,0009 0,0009 U	0.0000	2 110		0.015	0.022	0.011	0.026
10		U 010.	0.0083 U	0.021	0000	0.0083 U	3500
110,00 2300 100 70 70 70 70 70 70		na	qu	2200	011	6	30
m 0,0000 0,0023 U		120	410.00	2300	100	8/	11 50000
0,0039 0,010 0,0023 U 0,0023 U 0,0023 U 0,0023 U 0,0023 U 0,0024 U 0,0024 U 0,0034 U 0,003 U	n	acc	uu	0.0000	0.0023 U	0,0023 0	0.000
m 0.22 0.030 0.022 0.0054 U 0.024 0.0054 U 0.0055 U 0.0055 U 0.0055 U 0.0055 U 0.0055 U 0.0055 U		040 U	0.0039	0.010	0.0023 U	0.0023	0.035
0.0054 U 0.21 0.024 0.055 U		เกล	113	0.22	0,036	0.0054 11	0.038
na 0.015 0.111 0.005 0.004 0.004 0.005 U	0.050 U	0.050 U	0.0054 U	021	6770	0.054	0.014
0,0041 0,042 0,000	0.0080	na	EL	0.015	0.11	0.046	0.018
0.005 U 0.16 0.005 U 0.005 U 0.005 U 0.005 U 0.005 U	0.026	0.016	0,0041	0.042	DO'O		
0.005 U 0.005 U 0.005 U			11 3000	0.16	0.005 U	0.005 U	n r
	0.005 U	0.057	0.014	0.14	0.005 U	0.005 U	0,005 U

Preliminary Groundwater Analytical Data Phase I RCRA Facility Investigation AL Tech Specialty Steel Corporation Dunkirk, New York Facility

ALT-GW-WP5-1196 96-5586 WP-5 11/21/96			110	71:0	0.0019	na	0.0022	au	0.063	na	0.0014	F000	nu nu	16	nn	0.0078 U	0.01 U	na	0.011	0012	na	3.1	nu	0.0023	8	1-7 1-3	0.3200 U	na	0.0002 U	na	0.031	na 11 100	0.01	1.8	nu	0.0027 U	na	0.0083 U	20 20	07 81	0.0023 U	BII	0,0054 U	800	0.0088	0.005 U	0.005
ALT-GW-WP4-1196 A 96-5586 WP-4 11/21/96			an o	0.14	na 0.002	au	0.0018 U	gut	0.03	uu :	0.003	III 900 0		140	na	0.028	0.01 U	DO	0,03	na 2004	1.700	0.44	gt.	0.0036	na :	44	1700		0.0002 U	tta	0.48	an c	6100	E	uu	0.0027 U	na	0,0083 U	110	7.6	0.0023	E	0.013	en en	0.044	0.13	0.014
ALT-GW-WT4-1196D 96-5528 WT-4 11/19/96			0.11	0.19	0,0016 U	0.0010	0.0018 U	0.044	0.052	0.0029	0.0042	0.0053	0.012	\$ 25	0.016	0.03	U 10.0	0.021	0.032	0.019	0.04	0.70	0.0026	0.0033	31	31	0.55	0.000	0.0002 U	0.13	0.13	0,023	0,046	C 8	0.0027 U	0.0029	0.0083 U	0.025	170	170	0.0023 U	0.017	0.036	0.11	0.12	0.005 U	0.005 U
ALT-CW-WT4-1196 96-5528 WT-4 11/19/96			960'0	0.11	0.002	0,0023	0.0018 U	0.049	0.045	0.0032	0.0029	0,0065	0.0048	007	2000	2700	0.01 U	0.024	0.021	0.029	0.017	6.0	0.00	0.0017 U	33	32	0.58	0.57	0.0002 U	0.12	0.14	0.026	0.02	6'9	0.0	0.0027 U	0.01	0.0083 U	170	170	0,0023 0	0.0023	0.016	0.13	0.11	0.005 U	0.005 U
ALT-GW-WT3-1196 96-5528 WT-3 11/19/96			0.21	0.52	0.0016 U	0.0016 U	0.0018 0	0.028	0.024	0.0051	0.0047	0.012	0.011	05 .	140	2000	0.00	0.035	0.034	0.043	0.034	- ;	2,4	0.0028	46	45	0.55	0.53	0.0002 U	2.4	77	0,049	0.047	9.1	8.8	0,0029	0.23	0,018	130	061	0,0023 U	0.0023 U	0.037	0.18	0.15	U \$000	O 20070
ESC Sample ID: Autech Project No.: Sample Location: Sample Location	Parameters	Target Analyte List Inorganics (mg/l)	Aluminum (Dissolved)	Aluminum (Total)	Antimony (Dissolved)	Antimony (Total)	Arsenic (Dissolved)	Arenic (10th)	Banum (Cisciwas)	Berylium (Dissolved)	Beryllium (Total)	Cadmium (Dissolved)	Cadmium (Total)	Caldum (Dissolved)	Caldium (Total)	Chromium (Dissolved)	Chromium (Total)	Cobalt (Dissolved)	Cobalt (Total)	Copper (Dissolved)	Copper (Total)	Iron (Dissolved)	Iron (Total)	Lead (Dissolved)	Magnetium (Dissolved)	Magnesium (Total)	Manganese (Dissolved)	Manganese (Total)	Mercury (Dissolved)	Mercury (10th)	Molddenim (Tom)	Nickel (Dissolved)	Nickel (Total)	Potaszium (Dissolved)	Pota szum (Total)	Selemum (Dissolved)	Scientiff (10ml)	Silver (Cont)	Sodium (Dissolved)	Sodium (Total)	Thallium (Dissolved)	Thallium (Total)	Vanadum (Dissolved)	Vanagum (1001)	Zinc (Total)	(200)	Cyanide (Total)

Appendix H - Geotechnical Testing Report





LABORATORY TEST REPORT

April 16,1997

Project No.97073-01

Ms. Martha Fleming
Environmental Strategies Corporation
4 Penn Center West
Suite 315
Pittsburgh,PA 15276

RE: Soils Testing - Al Tech Dunkirk 483803

Transmitted herein are the results of the soils testing performed for Environmental Strategies Corporation verified on the Project Verification Form, submitted April 2, 1997. The testing was performed in accordance with the ASTM methods listed on the enclosed data sheets. The remaining sample materials for this project will be retained for a minimum of 90 days as directed by the Geotechnics' Quality Program.

Disclaimer

The test results are believed to be representative of the samples submitted but are indicative only of the specimens which were evaluated. Geotechnics has no direct knowledge of the origin of the samples, implies no position with regard to the disposition of the test results, i.e., pass/fail, and makes no claims as to the suitability of the material for its intended use.

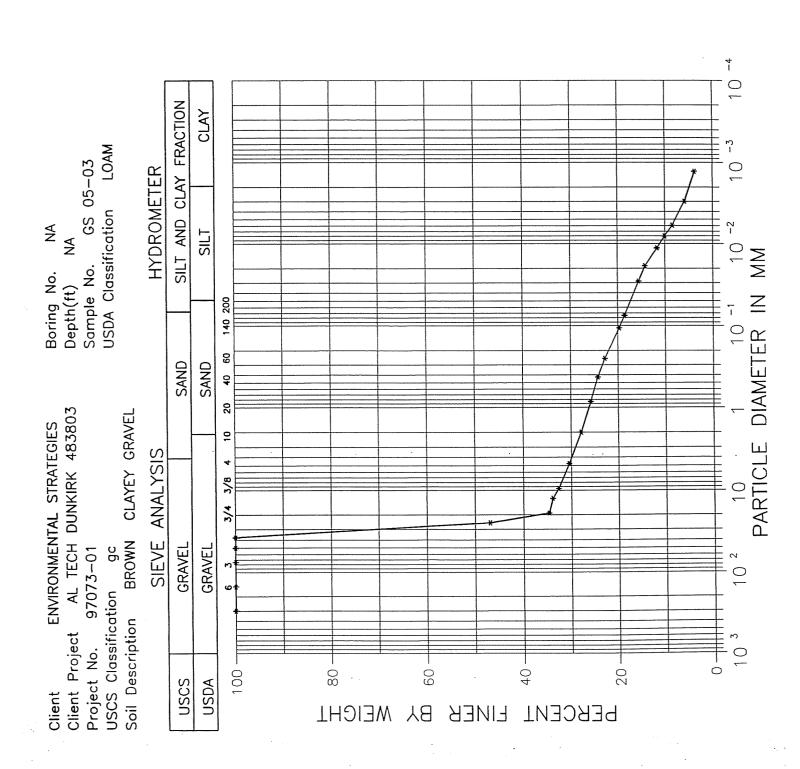
The test data and all associated project information provided shall be held in strict confidence and disclosed to other parties only with authorization of the Client and Geotechnics. The test data submitted herein is considered integral with this report and is not to be reproduced except in whole and only with the authorization of the Client and Geotechnics.

We are pleased to provide these testing services. Should you have any questions or if we may be of further assistance, please do not hesitate to contact our office.

Respectively submitted.

David R. Backstrom Laboratory Director







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES

Tested By Checked By BF Date

04-03-97

Client Project

AL TECH DUNKIRK 483803 97073-01 Tm Date

4-14-97

Project No.

NA

Boring No. Depth(ft.)

NA NA

Sample No.

GS 05-03

Soil Description

BROWN CLAYEY GRAVEL

Wt. of Total Sample(dry) (2)

424.0 gm.

Wt of Grand Total (1) 1221.78

Wt. of + #200 Sample

197.0 gm.

Wt. of -#200 Sample

227.0 gm.

J Factor 0.3470 (Percent finer than 3/4")

Sieve	Sieve Opening (mm)	Wt. of Soil Retained (gm.)		Percent Retained	Accumulate Percent Retained	Percent Finer	Final Percent Finer (3)
12"	300.0	0.00		0.00	0.00	100.00	100.0
6"	150.0	0.00		0.00	0.00	100.00	100.0
3"	75.0	0.00		0.00	0.00	100.00	100.0
2"	50.0	0.00		0.00	0.00	100.00	100.0
1 1/2"	37.5	0.00	+ 3/4"	0.00	0.00	100.00	100.0
1"	25.0	648.30	SIEVE	53.06	53.06	46.94	46.9
3/4"	19.0	149.50	ANALYSIS	12.24	65.30	34.70	_ 34.7
1/2"	12.5	10.10	- 3/4"	2.38	2.38	97.62	33.9
3/8"	9.5	14.78	SIEVE	3.49	5.87	94.13	32.7
#4	4.75	27.08	ANALYSIS	6.39	12.26	87.74	30.4
#10	2.00	31.18		7.35	19.61	80.39	27.9
#20	0.85	25.43		6.00	25.61	74.39	25.8
#40	0.425	18.41		4.34	29.95	70.05	24.3
#60	0.250	18.70		4.41	34.36	65.64	22.8
#140	0.106	37.71		8.89	43.25	56.75	19.7
#200	0.075	13.62		3.21	46.47	53.53	18.6
Pan	**	226.97		53.53	100.00		_

Water Content		
Tare No.	1024	TOTAL WET WGHT3/4 SIEVE
Wgt. Tare + WS.	528.30	429
Wgt. Tare + DS.	522.80	
Wgt. Tare	98.82	TOTAL DRY WGHT3/4 SIEVE
Wgt. Of Water	5.50	424
Wgt. Of DS.	423.98	
	4.0	
% Water	1.3	

Note: 1) The +3/4" sieve analysis is based on the grand total dry weight of material.

2) The -3/4" sieve analysis is based on the total dry weight of the split portion of sample.

3) The final percent finer combines the two analysis.



Temperature C

Specific Gravity

HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803 97073-01 NA NA GS 05-03	Tested By Checked By	TM	Date Date	04-03-97 4-14-97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers. Wt. Dry Soil	1624 146.31 gm. 101.49 gm. 5.00 gm. 39.82 gm.	K Factor Composite Co a Factor % Finer Than			0.01311 6.73 0.99 18.58

Elapsed Time (min.)	R Measu		R Corrected	N (%)	D (mm)	N' (%)
0 2 5 15 31 60 250 1440	n.a. 40.5	n.a. 40.5 37.5 32.0 28.5 25.0 19.5 15.0	n.a. 33.8 30.8 25.3 21.8 18.3 12.8 8.3	n.a. 84.0 76.5 62.8 54.1 45.4 31.8 20.6	n.a. 0.0288 0.0187 0.0113 0.0080 0.0059 0.0030 0.0013	n.a. 15.6 14.2 11.7 10.1 8.4 5.9 3.8

22.1 Measured

2.70 Assumed



Client ENVIRONMENTAL STRATEGIES
Client Project AL TECH DUNKIRK 483803
Project No. 97073-01
Boring No. NA
Depth(ft.) NA

Sample No. GS 05-03

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0288 0.0187 0.0113 0.0080 0.0059 0.0030 0.0013	100.0 100.0 100.0 100.0 46.9 34.7 33.9 32.7 30.4 27.9 25.8 24.3 22.8 19.7 18.6 15.6 14.2 11.7 10.1 8.4 5.9 3.8			
SIEVE OPENING (mm)	PERCENT FINER	PERCENT OF EACH COMPO	ONENT	CORRECTED PERCENT -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	72.10	0.00
2.00	27.90	SAND	10.58	37.93
0.05	17.31	SILT	12.41	44.49
		SILI	12.41	44.43

USDA CLASSIFICATION

0.002

LOAM

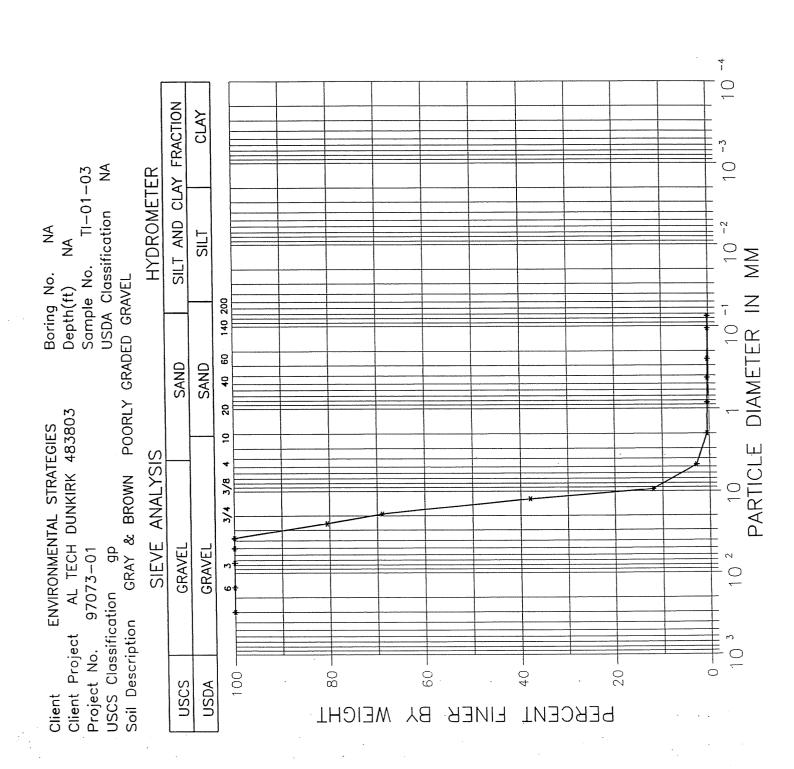
4.90

CLAY

4.90

17.58







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES

BS TM Date Date

04-02-97 4-10-97

Client Project Project No.

AL TECH DUNKIRK 483803 Checked By 97073-01

Boring No.

NA NA

Depth(ft.) Sample No.

TI-01-03

Soil Description

GRAY & BROWN POORLY GRADED GRAVEL

Wt. of Total Sample(dry) (2)

1117.8 gm.

Wt of Grand Total (1) 1966.81

Wt. of +#200 Sample

1115.1 gm.

J Factor

Wt. of -#200 Sample

2.7 gm.

Tested By

0.6894 (Percent finer than 3/4")

Sieve	Sieve Opening (mm)	Wt. of Soil Retained (gm.)		Percent Retained	Accumulate Percent Retained	Percent Finer	Final Percent Finer (3)
						400.00	100.0
12"	300.0	0.00		0.00	0.00	100.00	100.0
6"	150.0	0.00		0.00	0.00	100.00	100.0
3"	75.0	0.00		0.00	0.00	100.00	100.0
2"	50.0	0.00		0.00	0.00	100.00	100.0
1 1/2"	37.5	0.00	+ 3/4"	0.00	0.00	100.00	100.0
1"	25.0	383.10	SIEVE	19.48	19.48	80.52	80.5
3/4"	19.0	227.80	ANALYSIS	11.58	31.06	68.94	_ 68.9
1/2"	12.5	502.30	- 3/4"	44.94	44.94	55.06	38.0
3/8"	9.5	420.30	SIEVE	37.60	82.53	17.47	12.0
#4	4.75	150.17	ANALYSIS	13.43	95.97	4.03	2.8
#10	2.00	36.84		3.30	99.26	0.74	0.5
#20	0.85	2.02		0.18	99.45	0.55	0.4
#40	0.425	1.21		0.11	99.55	0.45	0.3
#60	0.250	0.95		0.08	99.64	0.36	0.2
#140	0.106	1.04		0.09	99.73	0.27	0.2
#200	0.075	0.27		0.02	99.76	0.24	0.2
Pan	-	2.73		0.24	100.00	-	-

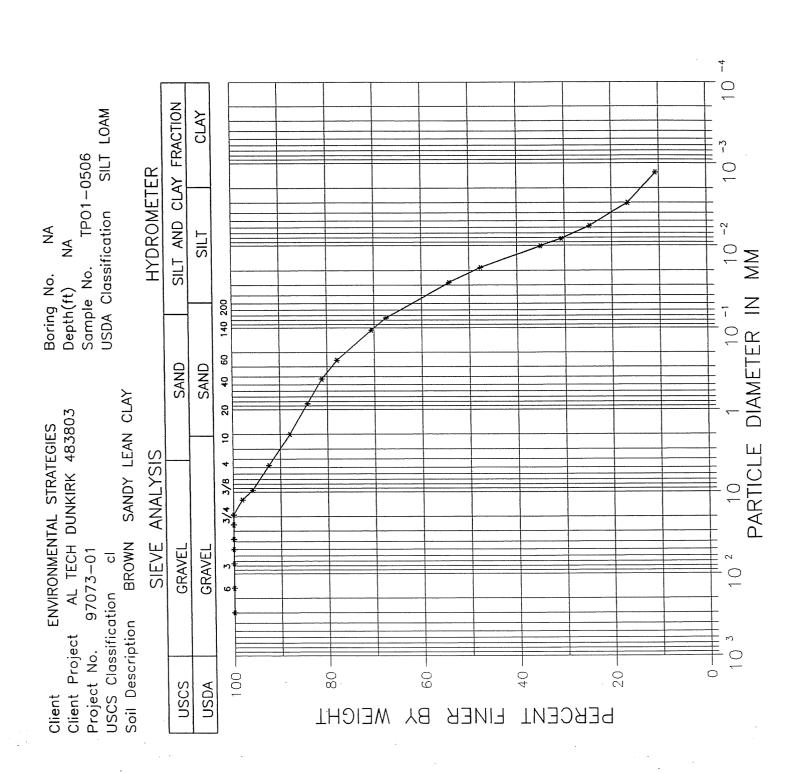
Water Content Tare No. Wgt. Tare + WS. Wgt. Tare + DS.	4062 1227.00 1223.60	TOTAL WET WGHT3/4 SIEVE 1360
Wgt. Tare Wgt. Of Water	105.77 3.40	TOTAL DRY WGHT3/4 SIEVE 1356
Wgt. Of DS.	1117.83	
% Water	0.3	

Note: 1) The +3/4" sieve analysis is based on the grand total dry weight of material.

²⁾ The -3/4" sieve analysis is based on the total dry weight of the split portion of sample.

³⁾ The final percent finer combines the two analysis.







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES

Tested By

BS Date 04-02-97

Client Project

AL TECH DUNKIRK 483803 97073-01

Checked By

TM Date

4-10-97

Project No.

NA

Boring No. Depth(ft.)

NA

TPO1-0506

Sample No. Soil Description

BROWN SANDY LEAN CLAY

Wt. of Total Sample(dry)

871.95 gm.

283.63 gm. 588.32 gm.

Wt. of +#200 Sample Wt. of -#200 Sample

Sieve	Sieve Opening	Wt. of Soil Retained	Percent Retained	Accumulated Percent	Percent Finer
	(mm)	(gm.)		Retained	
12"	300.00	0.00	0.0	0.0	100.0
6"	150.00	0.00	0.0	0.0	100.0
3"	75.00	0.00	0.0	0.0	100.0
2"	50.00	0.00	0.0	0.0	100.0
1 1/2"	37.50	0.00	0.0	0.0	100.0
1"	25.00	0.00	0.0	0.0	100.0
3/4"	19.00	0.00	0.0	0.0	100.0
1/2"	12.50	16.39	1.9	1.9	98.1
3/8"	9.50	19.43	2.2	4.1	95.9
#4	4.75	30.26	3.5	7.6	92.4
#10	2.00	38.73	4.4	12.0	88.0
#20	0.85	33.05	3.8	15.8	84.2
#40	0.425	27.01	3.1	18.9	81.1
#60	0.250	28.01	3.2	22.1	77.9
#140	0.106	63.70	7.3	29.4	70.6
#200	0.075	27.05	3.1	32.5	67.5
Pan	-	588.32	67.5	100.0	-

Water Content Tare No. Wgt. Tare + WS. Wgt. Tare + DS.	1919 1118.50 975.00
Wgt. Tare Wgt. Of Water Wgt. Of DS.	103.05 143.50 871.95
% Water	16.5



HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803 97073-01 NA NA TPO1-0506	Tested By Checked By	TO TM	Date Date	04-02-97 4-10-47
Soil Sample Weight					
Container No.	1300				
Wt. Contain.		K Factor			0.01311
& Dry Soil	151.43 gm.	Composite Cor	rection		6.73
Wt. Contain.	101.15 gm.	a Factor			0.99
Wt. Dispers.	5.00 gm.				
Wt. Dry Soil	45.28 gm.	% Finer Than I	No. 200		67.47
Temperature C Specific Gravity	22.1 2.70 Assumed				

Elapsed	.,	R		R	N (9/)	D (=====)	N'
 Time (min.)	Me	asur	ea	Corrected	(%)	(mm) 	(%)
0	n.a	a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	40.	5	43.5	36.8	80.4	0.0281	54.2
5			39.0	32.3	70.6	0.0185	47.6
19			30.5	23.8	52.0	0.0101	35.1
30			27.5	20.8	45.4	0.0082	30.6
64			23.5	16.8	36.7	0.0058	24.7
250			18.0	11.3	24.6	0.0030	16.6
1440			14.0	7.3	15.9	0.0013	10.7



Client Client Project Project No. Boring No. ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

97073-01 NA

Depth(ft.)
Sample No.

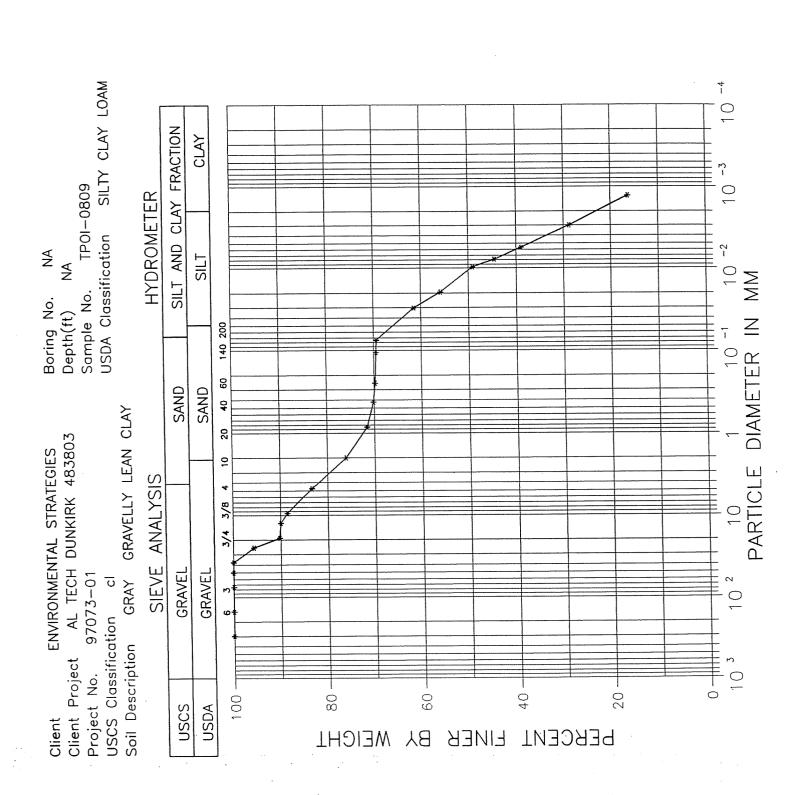
NA TPO1-0506

,	• . • • • • • • • • • • • • • • • •			
DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0281 0.0185 0.0101 0.0082 0.0058 0.0030 0.0013	100.0 100.0 100.0 100.0 100.0 100.0 98.1 95.9 92.4 88.0 84.2 81.1 77.9 70.6 67.5 54.2 47.6 35.1 30.6 24.7 16.6 10.7			
SIEVE OPENING (mm)	PERCENT FINER		ENT OF OMPONENT	CORRECTED PERCENT OF -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	12.02	0.00
2.00	87.98			
0.05	62.02	SAND	25.96	29.51
0.002	13.75	SILT	48.26 13.75	54.86 15.63
		CLAT	13.75	13.00

USDA CLASSIFICATION

SILT LOAM







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES Tested By

BS TM

Date Date

04-02-97 4-10-97

Client Project Project No.

AL TECH DUNKIRK 483803 Checked By 97073-01

Boring No.

NA

Depth(ft.)

NA

Sample No.

TPOI-0809

Soil Description

GRAY GRAVELLY LEAN CLAY

Wt. of Total Sample(dry) (2)

1235.6 gm.

2263.76

0.9024

Wt. of +#200 Sample

285.4 gm.

Wt of Grand Total (1)

Wt. of -#200 Sample

950.2 gm.

(Percent finer than 3/4")

J Factor

Sieve	Sieve	Wt. of Soil		Percent	Accumulate	Percent	Final
	Opening	Retained		Retained	Percent	Finer	Percent
	(mm)	(gm.)			Retained		Finer (3)
12"	300.0	0.00		0.00	0.00	100.00	100.0
6"	150.0	0.00		0.00	0.00	100.00	100.0
3"	75.0	0.00		0.00	0.00	100.00	100.0
2"	50.0	0.00		0.00	0.00	100.00	100.0
1 1/2"	37.5	0.00	+ 3/4"	0.00	0.00	100.00	100.0
1"	25.0	97.26	SIEVE	4.30	4.30	95.70	95.7
3/4"	19.0	123.67	ANALYSIS	5.46	9.76	90.24	90.2
1/2"	12.5	4.04	- 3/4"	0.33	0.33	99.67	89.9
3/8"	9.5	18.84	SIEVE	1.52	1.85	98.15	88.6
#4	4.75	72.01	ANALYSIS	5.83	7.68	92.32	83.3
#10	2.00	99.17		8.03	15.71	84.29	76.1
#20	0.85	61.67		4.99	20.70	79.30	71.6
#40	0.425	19.36		1.57	22.26	77.74	70.1
#60	0.250	5.49		0.44	22.71	77.29	69.7
#140	0.106	3.64		0.29	23.00	77.00	69.5
#200	0.075	1.14		0.09	23.10	76.90	69.4
Pan	-	950.23		76.90	100.00	-	-

Water Content		
Tare No.	865	TOTAL WET WGHT3/4 SIEVE
Wgt. Tare + WS.	1423.40	2179
Wgt. Tare + DS.	1341.10	
Wgt. Tare	105.51	TOTAL DRY WGHT3/4 SIEVE
Wgt. Of Water	82.30	2043
Wgt. Of DS.	1235.59	
% Water	6.7	

Note: 1) The +3/4" sieve analysis is based on the grand total dry weight of material.

²⁾ The -3/4" sieve analysis is based on the total dry weight of the split portion of sample.

³⁾ The final percent finer combines the two analysis.



HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803 97073-01 NA NA TPOI-0809	Tested By Checked By	TO TM	Date Date	04-02-97 4-10-97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers. Wt. Dry Soil	1317 142.22 gm. 106.75 gm. 5.00 gm. 30.47 gm.	K Factor Composite Corr a Factor % Finer Than N			0.01311 6.73 0.99 69.40

Temperature C	
Specific Gravity	

22.1 Measured2.70 Assumed

Elapsed Time (min.)	R Measu		R Corrected	N (%)	D (mm)	N' (%)
0 2 5	n.a. 34.0	n.a. 34.0 31.5	n.a. 27.3 24.8	n.a. 88.6 80.5	n.a. 0.0304 0.0196	n.a. 61.5 55.9
21		28.5	21.8	70.7	0.0098	49.1
33		26.5	19.8	64.2	0.0079	44.6
67		24.0	17.3	56.1	0.0056	38.9
250		19.5	12.8	41.5	0.0030	28.8
1440		14.0	7.3	23.6	0.0013	16.4



Client ENVIRONMENTAL STRATEGIES
Client Project AL TECH DUNKIRK 483803
Project No. 97073-01
Boring No. NA

Boring No. NA
Depth(ft.) NA

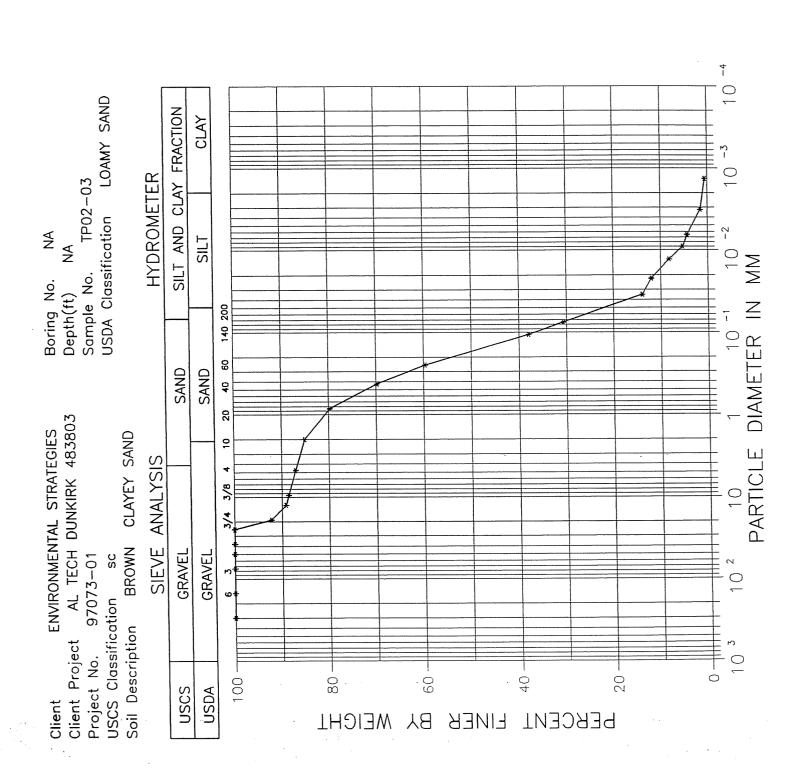
Sample No. TPOI-0809

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0304 0.0196 0.0098 0.0079 0.0056 0.0030 0.0013	100.0 100.0 100.0 100.0 95.7 90.2 89.9 88.6 83.3 76.1 71.6 70.1 69.7 69.5 69.4 61.5 55.9 49.1 44.6 38.9 28.8 16.4			
SIEVE OPENING (mm)	PERCENT FINER	PERCENT OF EACH COMPO		CORRECTED PERCENT -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	23.93	0.00
2.00	76.07	SAND	10.21	13.42
0.05	65.86	SILT	43.03	56.57
0.002	22.82	CLAY	22.82	30.01

USDA CLASSIFICATION

SILTY CLAY LOAM







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES

Tested By

BF Date 04-03-97

Client Project

AL TECH DUNKIRK 483803

Checked By

TM Date

4-10-97

Project No. Boring No.

NA

Depth(ft.)

NA

TP02-03

97073-01

Sample No. Soil Description

BROWN CLAYEY SAND

Wt. of Total Sample(dry)

473.30 gm.

Wt. of +#200 Sample

328.19 gm.

Wt. of -#200 Sample

Mater Contant

145.11 gm.

Sieve	Sieve Opening (mm)	Wt. of Soil Retained (gm.)	Percent Retained	Accumulated Percent Retained	Percent Finer
	(11111)	(9111.)		1.101011100	
12"	300.00	0.00	0.0	0.0	100.0
6"	150.00	0.00	0.0	0.0	100.0
3"	75.00	0.00	0.0	0.0	100.0
2"	50.00	0.00	0.0	0.0	100.0
1 1/2"	37.50	0.00	0.0	0.0	100.0
1"	25.00	0.00	0.0	0.0	100.0
3/4"	19.00	36.76	7.8	7.8	92.2
1/2"	12.50	14.41	3.0	10.8	89.2
3/8"	9.50	2.99	0.6	11.4	88.6
#4	4.75	7.10	1.5	12.9	87.1
#10	2.00	9.33	2.0	14.9	85.1
#20	0.85	25.62	5.4	20.3	79.7
#40	0.425	46.93	9.9	30.2	69.8
#60	0.250	47.78	10.1	40.3	59.7
#140	0.106	102.48	21.7	62.0	38.0
#200	0.075	34.79	7.4	69.3	30.7
Pan	-	145.11	30.7	100.0	•

water Content	
Tare No.	1139
Wgt. Tare + WS.	672.10
Wgt. Tare + DS.	577.90
Wgt. Tare	104.60
Wgt. Of Water	94.20
Wgt. Of DS.	473.30
% Water	19.9



HYDROMETER ANALYSIS

n.a.

45.5

39.3

26.7

17.4

14.2

4.8

1.7

n.a.

0.0347

0.0221

0.0129

0.0090

0.0065

0.0032

0.0013

n.a.

14.0

12.0

8.2

5.3

4.4 1.5

0.5

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803 97073-01 NA NA TP02-03	Tested By Checked E		Date 04-03-97 Date 4-10-97
Soil Sample Weight				
Container No.	1341	K.F.		0.04044
Wt. Contain.	404.00	K Factor		0.01311
& Dry Soil	121.88 gm.	•	e Correction	6.73
Wt. Contain.	101.06 gm.	a Factor		0.99
Wt. Dispers.	5.00 gm.	٠,		00.00
Wt. Dry Soil	15.82 gm.	% Finer I	han No. 200	30.66
Temperature C	22.1			
Specific Gravity	2.70			
	Assumed			
Elapsed	R R	N	D	N'
Time (min.)	Measured Correc		(mm)	(%)

n.a.

7.3

6.3

4.3

2.8

2.3

0.8

0.3

0

2

5

15

31

60

250

1440

n.a.

14.5

n.a.

14.0

13.0

11.0

9.5

9.0

7.5

7.0



Client Client Project Project No. ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

Project No.
Boring No.
Depth(ft.)

97073-01 NA NA

Sample No.

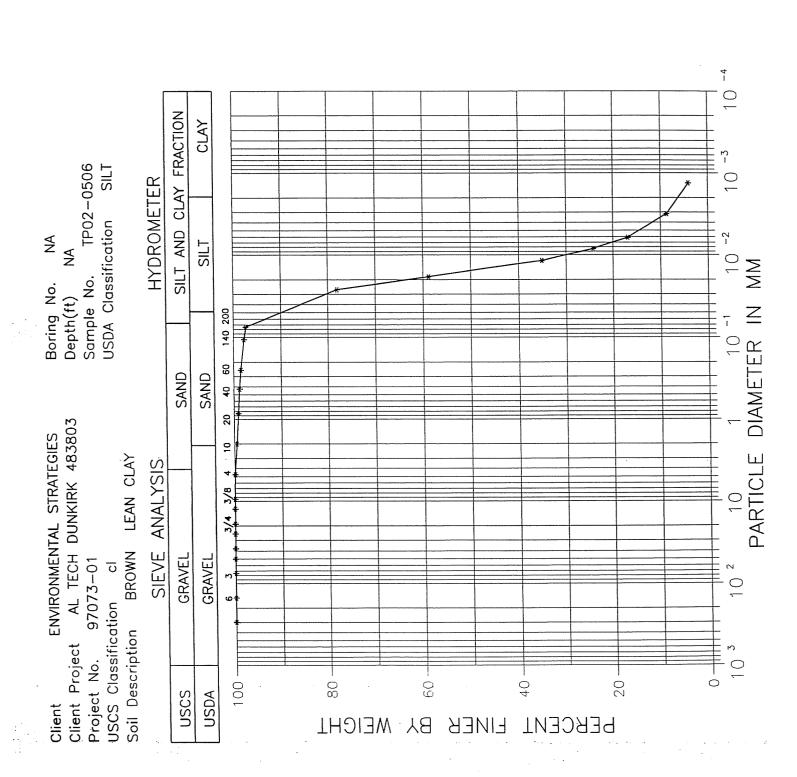
TP02-03

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0347 0.0221 0.0129 0.0090 0.0065 0.0032 0.0013	100.0 100.0 100.0 100.0 100.0 92.2 89.2 89.2 88.6 87.1 85.1 79.7 69.8 59.7 38.0 30.7 14.0 12.0 8.2 5.3 4.4 1.5 0.5			
SIEVE OPENING (mm)	PERCENT FINER		CENT OF OMPONENT	CORRECTED PERCENT OF -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	14.91	0.00
2.00	85.09	SAND	63.21	74.29
0.05	21.87	SILT	20.91	24.58
0.002	0.96	CLAY	0.96	1.13

USDA CLASSIFICATION

LOAMY SAND







WASH SIEVE ANALYSIS

Client

Client Project Project No.

Boring No. Depth(ft.)

Sample No.

Soil Description

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

Tested By Checked By

BF TW Date Date 04-03-97 4-10-97

NA

NA

TP02-0506

97073-01

BROWN LEAN CLAY

Wt. of Total Sample(dry) Wt. of +#200 Sample

Wt. of -#200 Sample

543.13 gm.

14.03 gm.

529.10 gm.

Sieve	Sieve	Wt. of Soil	Percent Retained	Accumulated Percent	Percent Finer
	Opening (mm)	Retained (gm.)	netaineu	Retained	1 11161
12"	300.00	0.00	0.0	0.0	100.0
6"	150.00	0.00	0.0	0.0	100.0
3"	75.00	0.00	0.0	0.0	100.0
2"	50.00	0.00	0.0	0.0	100.0
1 1/2"	37.50	0.00	0.0	0.0	100.0
1"	25.00	0.00	0.0	0.0	100.0
3/4"	19.00	0.00	0.0	0.0	100.0
1/2"	12.50	0.00	0.0	0.0	100.0
3/8"	9.50	0.00	0.0	0.0	100.0
#4	4.75	0.42	0.1	0.1	99.9
#10	2.00	2.51	0.5	0.5	99.5
#20	0.85	2.05	0.4	0.9	99.1
#40	0.425	1.55	0.3	1.2	98.8
#60	0.250	1.73	0.3	1.5	98.5
#140	0.106	3.85	0.7	2.2	97.8
#200	0.075	1.92	0.4	2.6	97.4
Pan	<u></u>	529.10	97.4	100.0	-

Water Content	
Tare No.	1137
Wgt. Tare + WS.	722.10
Wgt. Tare + DS.	647.80
Wgt. Tare	104.67
Wgt. Of Water	74.30
Wgt. Of DS.	543.13
% Water	13.7



16.9

8.7

4.1

HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL STRATE AL TECH DUNKIRK 48 97073-01 NA NA TP02-0506		ested By Checked By	TO TM	Date Date	04-03-97 4-10-97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers	889 163.80 gn 105.92 gn 5.00 gr	n. C	K Factor Composite Cale Factor	orrection		0.01311 6.73 0.99
Wt. Dispers. Wt. Dry Soil Temperature C Specific Gravity	5.00 gr 52.88 gr 22.1 2.70 Assumed		% Finer Thar	n No. 200		97.42
Elapsed Time (min.)	R Measured C	R Corrected	N (%)	D (mm)		N' (%)
0 · 2 5 15 32	n.a. n.a. 49.0 49.5 39.0 26.0 20.0	n.a. 42.8 32.3 19.3 13.3	n.a. 80.1 60.4 36.1 24.8	n.a. 0.0265 0.0185 0.0117 0.0084		n.a. 78.0 58.9 35.2 24.2

16.0

11.5

9.0

63

250

1440

9.3

4.8

2.3

17.4

8.9

4.3

0.0061

0.0031

0.0013



Client Client Project Project No. Boring No. ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

97073-01

NA NA

Depth(ft.)
Sample No.

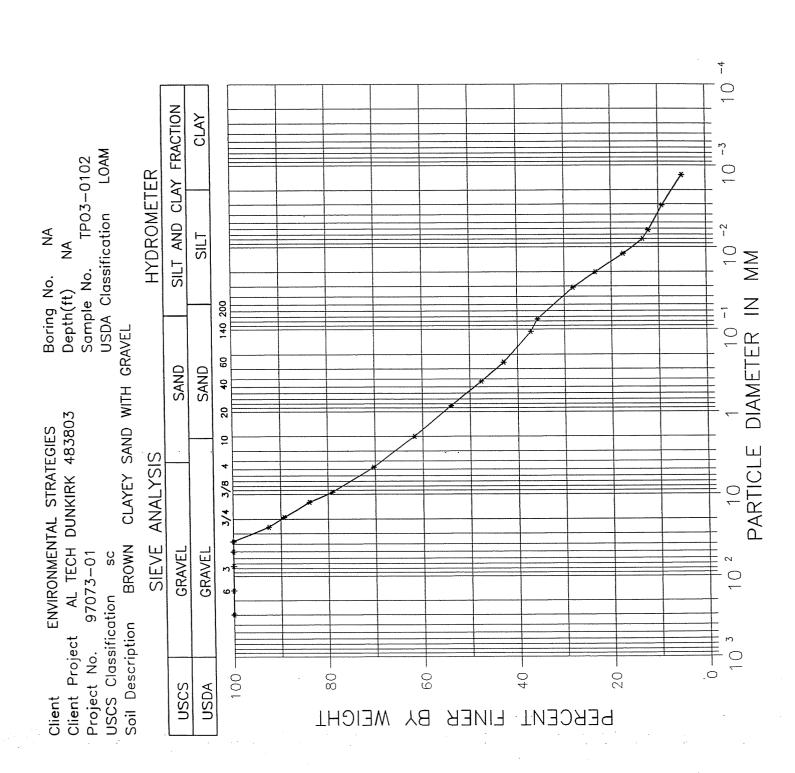
TP02-0506

6 140.	11 02 0000			
DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0265 0.0185 0.0117 0.0084	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.9 99.5 99.1 98.8 98.5 97.8 97.4 78.0 58.9 35.2 24.2			
0.0061 0.0031 0.0013	16.9 8.7 4.1			
SIEVE OPENING (mm)	PERCENT FINER		ENT OF MPONENT	CORRECTED PERCENT OF -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	0.54	0.00
2.00	99.46	SAND	9.61	9.66
0.05	89.85	SILT	83.54	84.00
0.002	6.30	CLAY	6.30	6.34

USDA CLASSIFICATION

. SILT







WASH SIEVE ANALYSIS

Client

Tested By ENVIRONMENTAL STRATEGIES

GU TW Date Date

Wt of Grand Total (1)

04-02-97 4-10-97

Client Project Project No.

AL TECH DUNKIRK 483803 Checked By 97073-01

Boring No.

NA

Depth(ft.)

NA

Sample No.

TPO3-0102

Soil Description

BROWN CLAYEY SAND WITH GRAVEL

Wt. of Total Sample(dry) (2)

1041.2 gm.

Wt. of +#200 Sample

624.7 gm.

2525.94

Wt. of -#200 Sample

J Factor

0.8928

416.4 gm.

(Percent finer than 3/4")

Sieve	Sieve Opening (mm)	Wt. of Soil Retained (gm.)		Percent Retained	Accumulate Percent Retained	Percent Finer	Final Percent Finer (3)
				0.00	0.00	400.00	100.0
12"	300.0	0.00		0.00	0.00	100.00	100.0
6"	150.0	0.00		0.00	0.00	100.00	100.0
3"	75.0	0.00		0.00	0.00	100.00	100.0
2"	50.0	0.00		0.00	0.00	100.00	100.0
1 1/2"	37.5	0.00	+ 3/4"	0.00	0.00	100.00	100.0
1"	25.0	188.30	SIEVE	7.45	7.45	92.55	92.5
3/4"	19.0	82.53	ANALYSIS	3.27	10.72	89.28	_ 89.3
1/2"	12.5	62.76	- 3/4"	6.03	6.03	93.97	83.9
3/8"	9.5	56.40	SIEVE	5.42	11.45	88.55	79.1
#4	4.75	102.01	ANALYSIS	9.80	21.24	78.76	70.3
#10	2.00	100.34		9.64	30.88	69.12	61.7
#20	0.85	90.25		8.67	39.55	60.45	54.0
#40	0.425	74.91		7.19	46.74	53.26	47.5
#60	0.250	54.42		5.23	51.97	48.03	42.9
#140	0.106	66.85		6.42	58.39	41.61	37.1
#200	0.075	16.79		1.61	60.00	40.00	35.7
Pan		416.42		40.00	100.00	_	-

Water Content Tare No. Wgt. Tare + WS.	1065 1259.00	TOTAL WET WGHT3/4 SIEVE 2499
Wgt. Tare + DS.	1146.40	
Wgt. Tare	105.25	TOTAL DRY WGHT3/4 SIEVE
Wgt. Of Water	112.60	2255
Wgt. Of DS.	1041.15	e e
% Water	10.8	

Note: 1) The +3/4" sieve analysis is based on the grand total dry weight of material.

2) The -3/4" sieve analysis is based on the total dry weight of the split portion of sample.

3) The final percent finer combines the two analysis.



HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803 97073-01 NA NA TPO3-0102	Tested By TO Checked By	Date 1 Date	04-02-97 4-10-97
Soil Sample Weight Container No.	1303			
Wt. Contain.		K Factor		0.01311
& Dry Soil	138.92 gm.	Composite Correction	n	6.73
Wt. Contain.	104.04 gm.	a Factor		0.99
Wt. Dispers.	5.00 gm.			
Wt. Dry Soil	29.88 gm.	% Finer Than No. 20	00	35.71

Temperature C Specific Gravity

22.1 Measured 2.70 Assumed

Elapsed Time (min.)	R Measu		R Corrected	N (%)	D (mm)	N' (%)
0 2 5 15 36 60	n.a. 30.5	n.a. 30.5 26.5 21.5 18.0 17.0	n.a. 23.8 19.8 14.8 11.3 10.3	n.a. 78.8 65.5 48.9 37.4 34.0	n.a. 0.0312 0.0203 0.0121 0.0080 0.0062	n.a. 28.1 23.4 17.5 13.3 12.2
250 1440		14.5 11.0	7.8 4.3	25.8 14.2	0.0031 0.0013	9.2 5.1



Client Project AL TECH DUNKIRK 483803
Project No. 97073-01

Boring No. NA
Depth(ft.) NA

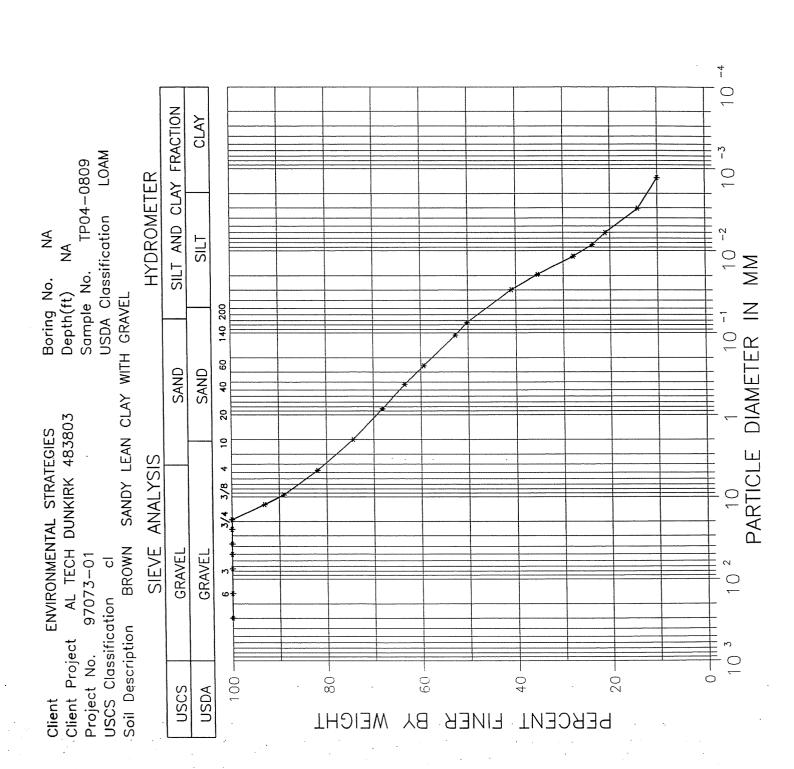
Sample No. TPO3-0102

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0312 0.0203 0.0121 0.0080 0.0062 0.0031 0.0013	100.0 100.0 100.0 100.0 92.5 89.3 83.9 79.1 70.3 61.7 54.0 47.5 42.9 37.1 35.7 28.1 23.4 17.5 13.3 12.2 9.2			
SIEVE OPENING (mm)	PERCENT FINER	PERCENT OF EACH COMF		CORRECTED PERCENT -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	38.29	0.00
2.00	61.71	SAND	29.50	47.81
0.05	32.21	SILT	25.12	40.71
0.002	7.08	CLAY	7.08	11.48

USDA CLASSIFICATION

LOAM







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES

Tested By

BF Date

04-03-97

Client Project

AL TECH DUNKIRK 483803 97073-01

Checked By

TM

4-10-97

Project No.

NA

Date

Boring No.

Depth(ft.)

NA

Sample No.

TP04-0809

Soil Description

Water Content

BROWN SANDY LEAN CLAY WITH GRAVEL

Wt. of Total Sample(dry)

517.63 gm.

Wt. of +#200 Sample Wt. of -#200 Sample

257.88 gm. 259.75 gm.

Sieve	Sieve Wt. of Soil Opening Retained		Percent Retained	Accumulated Percent	Percent Finer	
	(mm)	(gm.)		Retained		
12"	300.00	0.00	0.0	0.0	100.0	
6"	150.00	0.00	0.0	0.0	100.0	
3"	75.00	0.00	0.0	0.0	100.0	
2"	50.00	0.00	0.0	0.0	100.0	
1 1/2"	37.50	0.00	0.0	0.0	100.0	
1"	25.00	0.00	0.0	0.0	100.0	
3/4"	19.00	0.00	0.0	0.0	100.0	
1/2"	12.50	35.55	6.9	6.9	93.1	
3/8"	9.50	21.13	4.1	10.9	89.1	
#4	4.75	36.96	7.1	18.1	81.9	
#10	2.00	39.28	7.6	25.7	74.3	
#20	0.85	32.20	6.2	31.9	68.1	
#40	0.425	24.26	4.7	36.6	63.4	
#60	0.250	21.02	4.1	40.6	59.4	
#140	0.106	34.68	6.7	47.3	52.7	
#200	0.075	12.80	2.5	49.8	50.2	
Pan	-	259.75	50.2	100.0		

Tare No. 1343 Wgt. Tare + WS. 699.70 Wgt. Tare + DS. 619.70 Wgt. Tare 102.07 Wgt. Of Water 80.00 Wgt. Of DS. 517.63 15.5 % Water



23.8

21.0

14.1

10.0

HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.				Tested By Checked By		Date 04-03-97 Date 4-10-97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers. Wt. Dry Soil			4 gm.	K Factor Composite a Factor % Finer Th	Correction an No. 200	0.01311 6.73 0.99 50.18
Temperature C Specific Gravity		22. 2.7 Assume	0			
Elapsed Time (min.)	R Measu		R Corrected	N (%)	D (mm)	N' (%)
0 2 5 15	n.a. 34.5	n.a. 36.5 32.5 27.0	n.a. 29.8 25.8 20.3	n.a. 81.6 70.6 55.6	n.a. 0.0298 0.0194 0.0117	n.a. 40.9 35.4 27.9

17.3

15.3

10.3

7.3

47.3

41.9

28.2

19.9

0.0084

0.0060

0.0030

0.0013

24.0

22.0

17.0

14.0

30

60

250

1440



Client Client Project Project No. Boring No. ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

97073-01

NA NA

Depth(ft.)
Sample No.

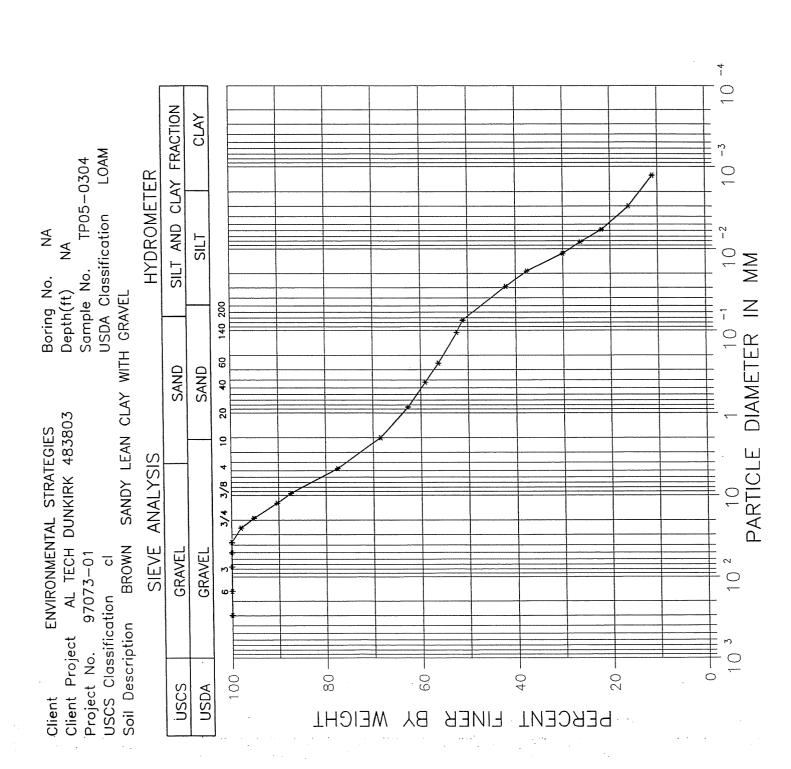
TP04-0809

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0298 0.0194 0.0117 0.0084 0.0060 0.0030 0.0013	100.0 100.0 100.0 100.0 100.0 100.0 93.1 89.1 81.9 74.3 68.1 63.4 59.4 52.7 50.2 40.9 35.4 27.9 23.8 21.0 14.1 10.0			
SIEVE OPENING (mm)	PERCENT FINER		ENT OF OMPONENT	CORRECTED PERCENT OF -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	25.68	0.00
2.00	74.32	SAND	28.19	37.93
0.05	46.13	SILT	34.03	45.78
0.002	12.10	CLAY	12.10	16.28

USDA CLASSIFICATION

LOAM







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES Tested By

GU TM Date Date 04-02-97 4-10-97

Client Project

AL TECH DUNKIRK 483803 Checked By 97073-01

Project No. Boring No.

NA

Depth(ft.)

NA NA

Sample No.

TP05-0304

Soil Description

BROWN SANDY LEAN CLAY WITH GRAVEL

Wt. of Total Sample(dry) (2)

872.8 gm.

Wt of Grand Total (1) 1960.90

Wt. of +#200 Sample

405.4 gm.

J Factor

0.9532

Wt. of -#200 Sample

467.4 gm.

(Percent finer than 3/4")

Sieve	Sieve Opening (mm)	Wt. of Soil Retained (gm.)		Percent Retained	Accumulate Percent Retained	Percent Finer	Final Percent Finer (3)
12"	300.0	0.00		0.00	0.00	100.00	100.0
6"	150.0	0.00		0.00	0.00	100.00	100.0
3"	75.0	0.00		0.00	0.00	100.00	100.0
2"	50.0	0.00		0.00	0.00	100.00	100.0
1 1/2"	37.5	0.00	+ 3/4"	0.00	0.00	100.00	100.0
1"	25.0	38.47	SIEVE	1.96	1.96	98.04	98.0
3/4"	19.0	53.31	ANALYSIS	2.72	4.68	95.32	_ 95.3
1/2"	12.5	45.60	- 3/4"	5.22	5.22	94.78	90.3
3/8"	9.5	26.97	SIEVE	3.09	8.31	91.69	87.4
#4	4.75	90.52	ANALYSIS	10.37	18.69	81.31	77.5
#10	2.00	82.99		9.51	28.19	71.81	68.4
#20	0.85	52.87		6.06	34.25	65.75	62.7
#40	0.425	33.36		3.82	38.07	61.93	59.0
#60	0.250	25.52		2.92	41.00	59.00	56.2
#140	0.106	35.69		4.09	45.09	54.91	52.3
#200	0.075	11.86		1.36	46.45	53.55	51.0
Pan Pan	-	467.42		53.55	100.00	-	-

Water Content		
Tare No.	1315	TOTAL WET WGHT3/4 SIEVE
Wgt. Tare + WS.	1072.60	2067
Wgt. Tare + DS.	980.20	
Wgt. Tare	107.40	TOTAL DRY WGHT3/4 SIEVE
Wgt. Of Water	92.40	1869
Wgt. Of DS.	872.80	•
% Water	10.6	,

Note: 1) The +3/4" sieve analysis is based on the grand total dry weight of material.

2) The -3/4" sieve analysis is based on the total dry weight of the split portion of sample.

3) The final percent finer combines the two analysis.



04-02-97

Date

C:\WINGZ\QA\JWASHHYD.WKZ

Client

HYDROMETER ANALYSIS

Client Project Project No. Boring No. Depth(ft.) Sample No.	AL TECH DUNKIRK 483803 97073-01 NA NA TP05-0304	Checked By TM	Date	4-10-47
Soil Sample Weight				
Container No.	1314			
Wt. Contain.		K Factor		0.01311
& Dry Soil	145.40 gm.	Composite Correction		6.73
Wt. Contain.	100.41 gm.	a Factor		0.99
Wt. Dispers.	5.00 gm.			
Wt. Dry Soil	39.99 gm.	% Finer Than No. 200		51.05

ENVIRONMENTAL STRATEGIES Tested By TO

Temperature C	22.1	Measured
Specific Gravity	2.70	Assumed

Elapsed Time (min.)	R Measu		R Corrected	N (%)	D (mm)	N' (%)
0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2 -	 39.5	40.0	33.3	82.4	0.0289	42.0
5		36.5	29.8	73.7	0.0188	37.6
15		30.5	23.8	58.9	0.0114	30.0
30		27.5	20.8	51.4	0.0082	26.3
63		24.0	17.3	42.8	0.0058	21.8
250		19.5	12.8	31.6	0.0030	16.1
1440		15.5	8.8	21.7	0.0013	11.1



Client

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

Client Project Project No.

97073-01

Boring No. Depth(ft.)

NA NA

Sample No.

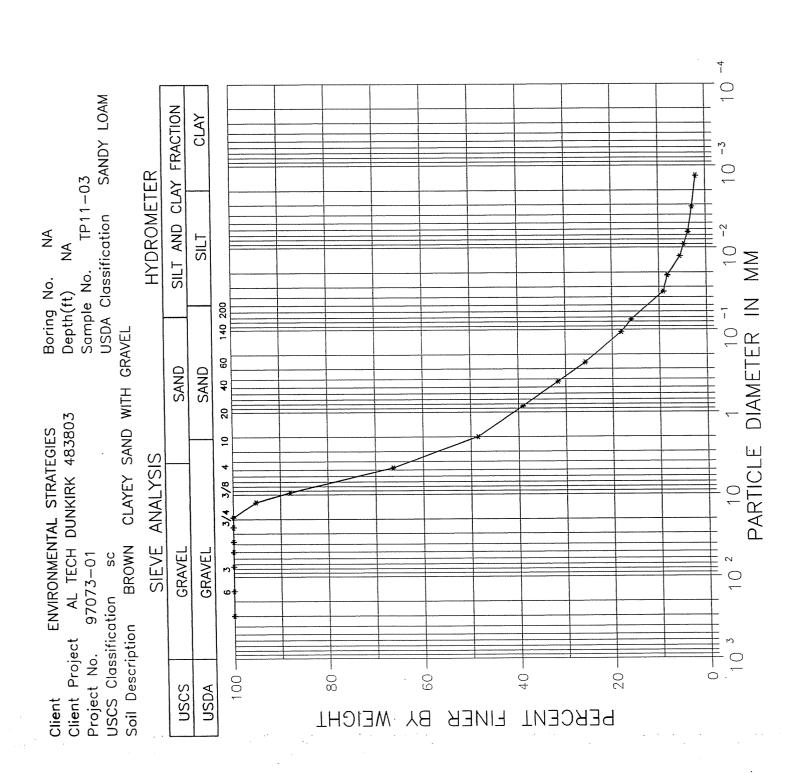
TP05-0304

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0289 0.0188 0.0114 0.0082 0.0058 0.0030 0.0013	100.0 100.0 100.0 100.0 98.0 95.3 90.3 87.4 77.5 68.4 62.7 59.0 56.2 52.3 51.0 42.0 37.6 30.0 26.3 21.8 16.1 11.1			
SIEVE OPENING (mm)	PERCENT FINER	PERCENT OF EACH COMP		CORRECTED PERCENT -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	31.56	0.00
2.00	68.44	SAND	21.23	31.01
0.05	47.22	SILT	33.49	48.92
0.002	13.73	CLAY	13.73	20.06

USDA CLASSIFICATION

LOAM







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803 Tested By Checked By BS

Date

04-03-97

Client Project Project No.

97073-01

Date

Boring No.

NA

TM

4-10-97

Depth(ft.)

NA

Sample No.

TP11-03

Soil Description

BROWN CLAYEY SAND WITH GRAVEL

Wt. of Total Sample(dry)

700.47 gm.

588.62 gm. 111.85 gm.

Wt. of +#200 Sample Wt. of -#200 Sample

Sieve	Sieve Wt. of Soil Opening Retained		Percent Retained	Retained Percent		
	(mm)	(gm.)		Retained		
12"	300.00	0.00	0.0	0.0	100.0	
6"	150.00	0.00	0.0	0.0	100.0	
3"	75.00	0.00	0.0	0.0	100.0	
2"	50.00	0.00	0.0	0.0	100.0	
1 1/2"	37.50	0.00	0.0	0.0	100.0	
1"	25.00	0.00	0.0	0.0	100.0	
3/4"	19.00	0.00	0.0	0.0	100.0	
1/2"	12.50	33.92	4.8	4.8	95.2	
3/8"	9.50	50.43	7.2	12.0	88.0	
#4	4.75	151.54	21.6	33.7	66.3	
#10	2.00	124.92	17.8	51.5	48.5	
#20	0.85	66.02	9.4	60.9	39.1	
#40	0.425	52.64	7.5	68.4	31.6	
#60	0.250	39.97	5.7	74.2	25.8	
#140	0.106	54.35	7.8	81.9	18.1	
#200	0.075	14.83	2.1	84.0	16.0	
Pan	-	111.85	16.0	100.0	-	
		•				
Water Conte	nt					

1623
848.90
803.10
102.63
45.80
700.47
6.5



HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803 97073-01 NA NA TP11-03	Tested By Checked By	TO TM	Date Date	04-03-97 <i>4-10-</i> 97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers. Wt. Dry Soil	1084 125.52 gm. 102.60 gm. 5.00 gm. 17.92 gm.	K Factor Composite Co a Factor % Finer Than			0.01311 6.73 0.99 15.97
Temperature C Specific Gravity	22.1 2.70 Assumed				
Elapsed Time	R R Measured Correct	N ed (%)	D (mm)		N' (%)

 Elapsed Time (min.)	R Measur	ed	R Corrected	N (%)	D (mm)	N' (%)
0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	17.0	17.0	10.3	56.8	0.0341	9.1
5	17.0	16.0	9.3	51.2	0.0217	8.2
15		13.0	6.3	34.7	0.0127	5.5
30		12.0	5.3	29.1	0.0091	4.7
60		11.0	4.3	23.6	0.0064	3.8
250		10.0	3.3	18.1	0.0032	2.9
1440		9.0	2.3	12.6	0.0013	2.0



Client Client Project Project No. ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

Project No. Boring No. Depth(ft.) 97073-01 NA NA

Sample No.

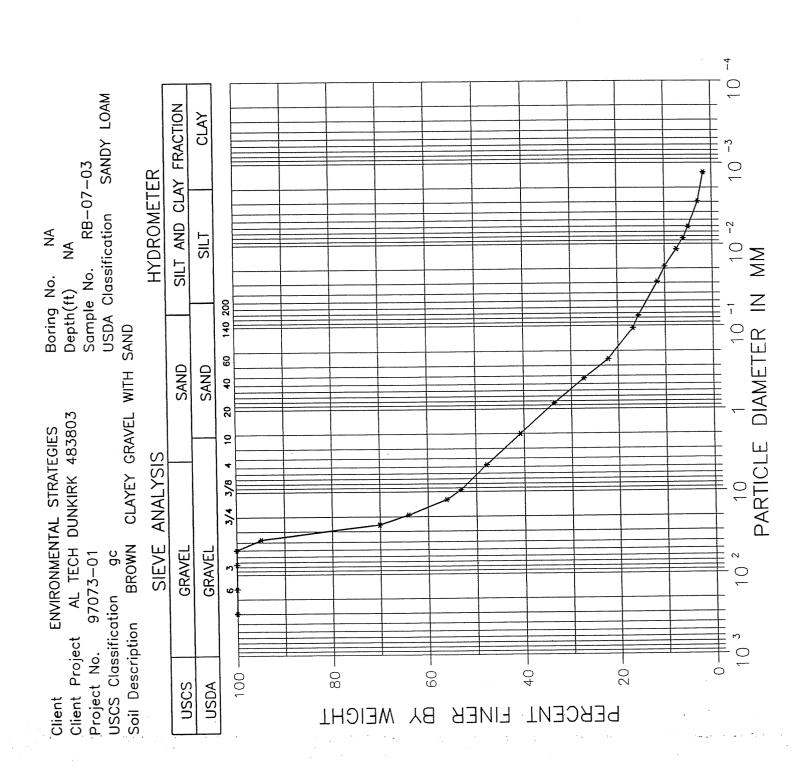
TP11-03

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0341 0.0217 0.0127 0.0127 0.0091 0.0064 0.0032 0.0013	100.0 100.0 100.0 100.0 100.0 100.0 95.2 88.0 66.3 48.5 39.1 31.6 25.8 18.1 16.0 9.1 8.2 5.5 4.7 3.8 2.9 2.0			
SIEVE OPENING (mm)	PERCENT FINER		CENT OF OMPONENT	CORRECTED PERCENT OF -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	51.51	0.00
2.00	48.49	SAND	36.07	74.39
0.05	12.42	SILT	10.00	20.62
0.002	2.42	CLAY	2.42	4.99
			A	

USDA CLASSIFICATION

SANDY LOAM







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES

Tested By Checked By Date

04-03-97

Client Project

AL TECH DUNKIRK 483803

BF TM

Date

Wt of Grand Total (1)

4-14-97

Project No.

97073-01

Boring No. Depth(ft.)

NA NA

Sample No.

RB-07-03

Soil Description

BROWN CLAYEY GRAVEL WITH SAND

Wt. of Total Sample(dry) (2)

1030.0 gm.

1607.82

Wt. of +#200 Sample

778.4 gm.

Wt. of -#200 Sample

251.6 gm.

J Factor

0.6406

(Percent finer than 3/4")

Sieve	Sieve	Wt. of Soil		Percent	Accumulate	Percent	Final
	Opening	Retained		Retained	Percent	Finer	Percent
	(mm)	(gm.)			Retained		Finer (3)
12"	300.0	0.00		0.00	0.00	100.00	100.0
6"	150.0	0.00		0.00	0.00	100.00	100.0
3"	75.0	0.00		0.00	0.00	100.00	100.0
2"	50.0	0.00		0.00	0.00	100.00	100.0
1 1/2"	37.5	82.39	+ 3/4"	5.12	5.12	94.88	94.9
1"	25.0	398.40	SIEVE	24.78	29.90	70.10	70.1
_3/4"	19.0	96.99	ANALYSIS	6.03	35.94	64.06	_ 64.1
1/2"	12.5	127.33	- 3/4"	12.36	12.36	87.64	56.1
3/8"	9.5	48.12	SIEVE	4.67	17.03	82.97	53.2
#4	4.75	86.00	ANALYSIS	8.35	25.38	74.62	47.8
#10	2.00	113.12		10.98	36.36	63.64	40.8
#20	0.85	115.70		11.23	47.60	52.40	33.6
#40	0.425	100.79		9.79	57.38	42.62	27.3
#60	0.250	83.92		8.15	65.53	34.47	22.1
#140	0.106	84.44		8.20	73.73	26.27	16.8
#200	0.075	18.98		1.84	75.57	24.43	15.7
Pan	-	251.64		24.43	100.00	-	-

Tare No.	680	TOTAL WET WGHT3/4 SIEVE
Wgt. Tare + WS.	1199.60	1095
Wgt. Tare + DS.	1134.80	
Wgt. Tare	104.76	TOTAL DRY WGHT3/4 SIEVE
Wgt. Of Water	64.80	1030
Wgt. Of DS.	1030.04	

% Water

Water Content

6.3

Note: 1) The +3/4" sieve analysis is based on the grand total dry weight of material.

2) The -3/4" sieve analysis is based on the total dry weight of the split portion of sample.

3) The final percent finer combines the two analysis.



HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803 97073-01 NA NA RB-07-03	Tested By Checked By	TO TM	Date Date	04-03-97 4-14-97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers. Wt. Dry Soil	1644 152.33 gm. 103.52 gm. 5.00 gm. 43.81 gm.	K Factor Composite Co a Factor % Finer Than			0.01311 6.73 0.99 15.65

Tempera	ture C
Specific	Gravity

22.1 Measured 2.70 Assumed

Elapsed Time (min.)	R Measu	_	R Corrected	N (%)	D (mm)	N' (%)
0 2 5 15 30 60 270 1440	n.a. 40.0	n.a. 39.5 35.0 28.0 24.0 21.0 15.0 11.5	n.a. 32.8 28.3 21.3 17.3 14.3 8.3 4.8	n.a. 74.1 63.9 48.1 39.0 32.3 18.7 10.8	n.a. 0.0291 0.0191 0.0116 0.0084 0.0061 0.0030 0.0013	n.a. 11.6 10.0 7.5 6.1 5.0 2.9 1.7



5.71

2.33

C:\WINGZ\QA\JWASHHYD.WKZ

ENVIRONMENTAL STRATEGIES Client AL TECH DUNKIRK 483803 Client Project 97073-01

Project No.

Boring No. NA Depth(ft.) NA

Sample No. RB-07-03

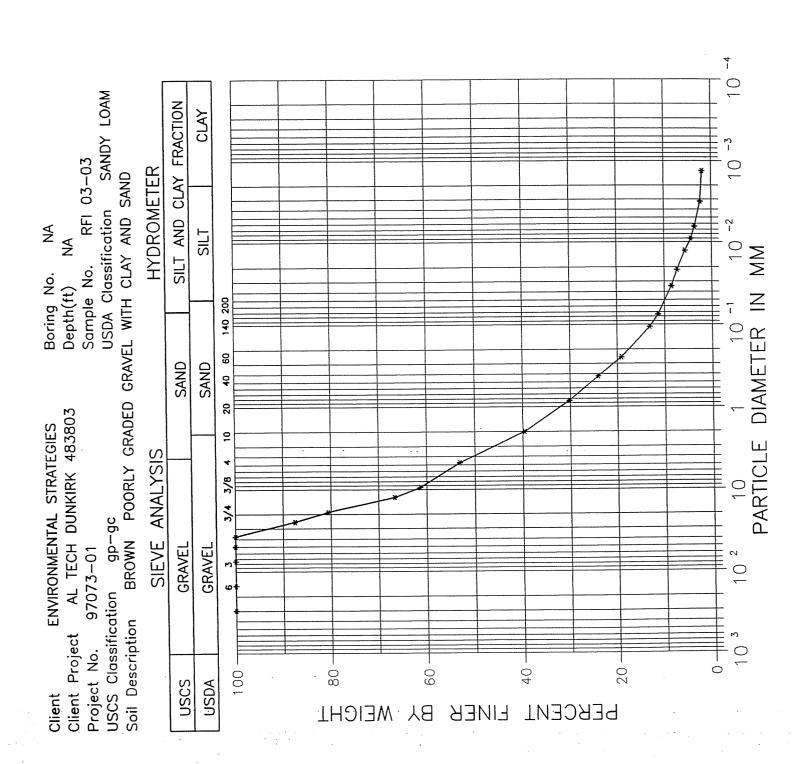
DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0291 0.0191 0.0116 0.0084 0.0061 0.0030 0.0013	100.0 100.0 100.0 94.9 70.1 64.1 56.1 53.2 47.8 40.8 33.6 27.3 22.1 16.8 15.7 11.6 10.0 7.5 6.1 5.0 2.9			
SIEVE OPENING (mm)	PERCENT FINER	PERCENT OF EACH COMP		CORRECTED PERCENT -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	59.23	0.00
2.00	40.77		26.85	65.87
0.05	13.92	SAND		
0.002	2.33	SILT	11.59	28.42
		CLAY	2 22	E 71

USDA CLASSIFICATION

SANDY LOAM

CLAY







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES

Tested By

BF

Date

04-03-97

Client Project

AL TECH DUNKIRK 483803 97073-01 Checked By

TM Date

4-14-97

Project No. Boring No.

NA

Depth(ft.)

NA NA

Sample No.

RFI 03-03

Soil Description

BROWN POORLY GRADED GRAVEL WITH CLAY AND SAND

Wt. of Total Sample(dry) (2)

990.2 gm.

Wt of Grand Total (1)

1567.71

Wt. of + #200 Sample

850.7 gm.

J Factor

0.8060

Wt. of -#200 Sample

139.5 gm.

(Percent finer than 3/4")

Sieve	Sieve Opening (mm)	Wt. of Soil Retained (gm.)		Percent Retained	Accumulate Percent Retained	Percent Finer	Final Percent Finer (3)
12"	300.0	0.00		0.00	0.00	100.00	100.0
6"	150.0	0.00		0.00	0.00	100.00	100.0
3"	75.0	0.00		0.00	0.00	100.00	100.0
2"	50.0	0.00		0.00	0.00	100.00	100.0
1 1/2"	37.5	0.00	+ 3/4"	0.00	0.00	100.00	100.0
1"	25.0	194.94	SIEVE	12.43	12.43	87.57	87.6
3/4"	19.0	109.13	ANALYSIS	6.96	19.40	80.60	80.6
1/2"	12.5	171.01	- 3/4"	17.27	17.27	82.73	66.7
3/8"	9.5	65.70	SIEVE	6.63	23.90	76.10	61.3
#4	4.75	100.80	ANALYSIS	10.18	34.08	65.92	53.1
#10	2.00	166.15		16.78	50.86	49.14	39.6
#20	0.85	115.86		11.70	62.56	37.44	30.2
#40	0.425	75.30		7.60	70.17	29.83	24.0
#60	0.250	60.51		6.11	76.28	23.72	19.1
#140	0.106	73.59		7.43	83.71	16.29	13.1
#200	0.075	21.81		2.20	85.91	14.09	11.4
Pan	-	139.51		14.09	100.00	-	-

Water Content		
Tare No.	1003	TOTAL WET WGHT3/4 SIEVE
Wgt. Tare + WS.	1218.10	1420
Wgt. Tare + DS.	1095.30	
Wgt. Tare	105.06	TOTAL DRY WGHT3/4 SIEVE
Wgt. Of Water	122.80	1264
Wgt. Of DS.	990.24	
	40.4	
% Water	12.4	

Note: 1) The +3/4" sieve analysis is based on the grand total dry weight of material.

²⁾ The -3/4" sieve analysis is based on the total dry weight of the split portion of sample.

³⁾ The final percent finer combines the two analysis.



Temperature C Specific Gravity

HYDROMETER ANALYSIS

Client	ENVIRONMENTAL STRATEGIES	lested By	10	Date	04-03-97
Client Project	AL TECH DUNKIRK 483803	Checked By	TM	Date	4-14-97
Project No.	97073-01				
Boring No.	NA				•
Depth(ft.)	NA				
Sample No.	RFI 03-03				
Soil Sample Weight					
Container No.	1679				
Wt. Contain.		K Factor			0.01311
& Dry Soil	121.07 gm.	Composite Corr	ection		6.73
Wt. Contain.	102.48 gm.	a Factor			0.99
Wt. Dispers.	5.00 gm.				
Wt. Dry Soil	13.59 gm.	% Finer Than N	lo. 200		11.36

Elapsed Time (min.)	R Measu		R Corrected	N (%)	D (mm)	N' (%)
0 2 5 15 30 60 250	n.a. 16.5	n.a. 17.0 15.5 13.5 12.0 11.0 9.5	n.a. 10.3 8.8 6.8 5.3 4.3 2.8 2.3	n.a. 74.8 63.9 49.3 38.4 31.1 20.2 16.6	n.a. 0.0341 0.0217 0.0127 0.0091 0.0064 0.0032 0.0013	n.a. 8.5 7.3 5.6 4.4 3.5 2.3 1.9

22.1 Measured2.70 Assumed



Client Project

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

Project No.

97073-01

Boring No. Depth(ft.)

NA NA

Sample No.

RFI 03-03

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0341 0.0217 0.00217 0.0091 0.0064	100.0 100.0 100.0 100.0 87.6 80.6 66.7 61.3 53.1 39.6 30.2 24.0 19.1 13.1 11.4 8.5 7.3 5.6 4.4 3.5			
0.0032 0.0013	2.3 1.9			
SIEVE OPENING (mm)	PERCENT FINER	PERCENT OF EACH COMP		CORRECTED PERCENT -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	60.39	0.00
2.00	39.61	SAND	29.72	75.04
0.05	9.89			19.73
0.002	2.07	SILT CLAY	7.81 2.07	5.24

USDA CLASSIFICATION

SANDY LOAM

C:\WINGZ\QA\SHELBY.WKZ

SHELBY TUBE UNIT WEIGHT

eotechnics

Client

Client Project Project No.

ENVIRONMENTAL STRATEGIES Tested By JCM 4-4-97 AL TECH DUNKIRK 483803

Checked By TM 4-15-97

97073-01

NA

Tube Recovery

NA

Boring No. Depth Pushed Shelby Tube No.

6.0-7.4 RFI 05-0674

				SOIL PRO	OFILE AND SAMPLING	
	DEPTH ()	ELEV ()	SECTION No.	SOIL PROFILE	SOIL DESCRIPTION AND REMARKS	TEST PERFORMED
						<u>-</u>
5.40						
5.90						
	E					
6.40			\rightarrow			GRAINSIZE _
6.90			3 =		BROWN SILT	HYDROMETER_
,			2 =	()		PERMEABILITY WC.
7.40			1		CON ELEVATION CAN NOT BE ACCURA	TELV DECINE

NOTE: WHEN FULL RECOVERY IS NOT ACHIEVED, SOIL ELEVATION CAN NOT BE ACCURATELY DEFINE

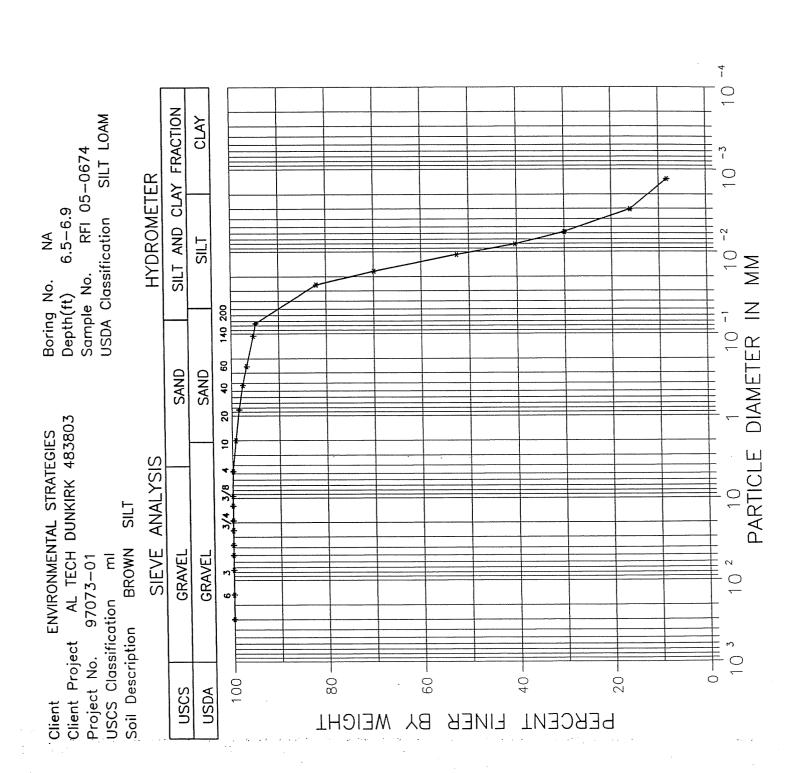
INDICATE EACH CUT OF THE TUBE WITH AN ARROW INDICATE DIVIDING LINE BETWEEN SOIL TYPES BY A SOLID LINE

INDICATE WAX BY CROSS-HATCHING

INDICATE SOIL TYPES BY STANDARD SYMBOLS

MOISTURE CONTENT Section Number Tare Number Wt. Tare & WS(gm.) Wt. Tare & DS(gm.) Wt. Tare(gm.) Moisture Content(%)	1 1871 244.79 204.52 39.67 24.4	2	3 1706 736.10 604.70 83.20 25.2	4	5
UNIT WEIGHT Wt. Tube & WS.(gms.) Wt. Of Tube(gms.) Wt. Of WS.(gms.) Length 1 (in.) Length 2 (in.) Length 3 (in.) Top Diameter (in.) Middle Diameter (in.) Bottom Diameter (in.) Sample Volume (cc) Moisture Content(%) Unit Wet Wt.(gms/cc) Unit Dry Wt.(pcf.) Unit Dry Wt.(gms/cc)		1104.20 288.15 816.05 4.985 4.990 4.001 2.869 2.884 2.878 496.29 24.43 1.64 102.6 82.5 1.32			







WASH SIEVE ANALYSIS

Client

Client Project

Project No. Boring No.

Depth(ft.)
Sample No.

Soil Description

ENVIRONMENTAL STRATEGIES

97073-01

RFI 05-0674

NA 6.5-6.9

AL TECH DUNKIRK 483803

Tested By Checked By JCM TM Date Date 04-04-97 4-14-97

BROWN SILT

Wt. of Total Sample(dry)

Wt. of +#200 Sample Wt. of -#200 Sample

521.50 gm.

26.94 gm.

494.56 gm.

Sieve Sieve Opening		Wt. of Soil Retained	Percent Retained	Accumulated Percent	Percent Finer
	(mm)	(gm.)		Retained	
12"	300.00	0.00	0.0	0.0	100.0
6"	150.00	0.00	0.0	0.0	100.0
3"	75.00	0.00	0.0	0.0	100.0
2"	50.00	0.00	0.0	0.0	100.0
1 1/2"	37.50	0.00	0.0	0.0	100.0
1"	25.00	0.00	0.0	0.0	100.0
3/4"	19.00	0.00	0.0	0.0	100.0
1/2"	12.50	0.00	0.0	0.0	100.0
3/8"	9.50	0.00	0.0	0.0	100.0
#4	4.75	0.54	0.1	0.1	99.9
#10	2.00	3.50	0.7	0.8	99.2
#20	0.85	3.97	0.8	1.5	98.5
#40	0.425	4.19	0.8	2.3	97.7
#60	0.250	4.51	0.9	3.2	96.8
#140	0.106	7.61	1.5	4.7	95.3
#200	0.075	2.62	0.5	5.2	94.8
Pan	-	494.56	94.8	100.0	-

Water Content	
Tare No.	1706
Wgt. Tare + WS.	736.10
Wgt. Tare + DS.	604.70
Wgt. Tare	83.20
Wgt. Of Water	131.40
Wgt. Of DS.	521.50
3	
% Water	25.2



0.0172

0.0108

0.0081

0.0058

0.0031

0.0013

73.7

55.4

42.6

31.6

17.0

8.7

69.9

52.5

40.4

30.0

16.1

8.3

HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.		DUNKIRK 4 1	TRATEGIES 183803	Tested By Checked By		04-04-97 Y-14-97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers.		109: 164.18 105.08	8 gm. 8 gm.	K Factor Composite (a Factor	Correction	0.01311 6.73 0.99
Wt. Dry Soil	5.00 gm. 54.10 gm.		•	% Finer Tha	ın No. 200	94.83
Temperature C Specific Gravity		22. 2.7 Assume	0			
Elapsed Time (min.)	R Measu		R Corrected	N i (%)	D (mm)	N' (%)
0 2	n.a. 54.0	n.a. 54.0	n.a. 47.3	n.a. 86.5	n.a. 0.0253	n.a. 82.0

40.3

30.3

23.3

17.3

9.3

4.8

47.0

37.0

30.0

24.0

16.0

11.5

5

15

30

64

250

1440



9.24

78.51

12.26

9.16

77.90

12.16

Client Client Project Project No. Boring No. Depth(ft.)

Sample No.

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

97073-01 NA 6.5-6.9

RFI 05-0674

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0253 0.0172 0.0108 0.0081 0.0058 0.0031	100.0 100.0 100.0 100.0 100.0 100.0 100.0 100.0 99.9 99.2 98.5 97.7 96.8 95.3 94.8 82.0 69.9 52.5 40.4 30.0 16.1			
0.0013	8.3			
SIEVE OPENING (mm)	PERCENT FINER		ENT OF MPONENT	CORRECTED PERCENT OF -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	0.77	0.00
2.00	99.23	CAND	0.77	0.24

90.06

12.16

USDA CLASSIFICATION

0.05

0.002

SILT LOAM

SAND

SILT

CLAY

C:\WINGZ\QA\PERM7.WKZ

PERMEABILITY TEST

ectechnics

Client Project

Project No.

ENVIRONMENTAL STRATEGIES

AL TECH DUNKIRK 483803

97073-01

Boring No. Depth(ft.)

NA 6.9-7.2

Sample No.

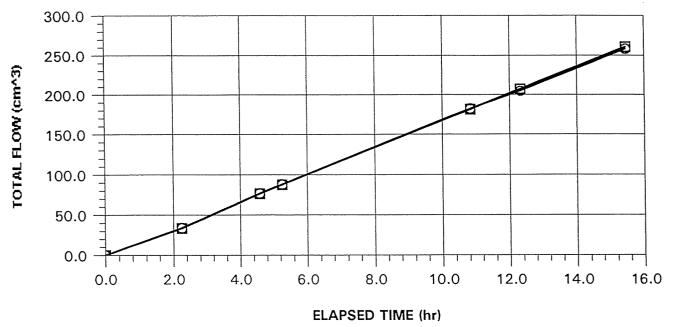
RFI 05-0674

AVERAGE PERMEABILITY = AVERAGE PERMEABILITY =

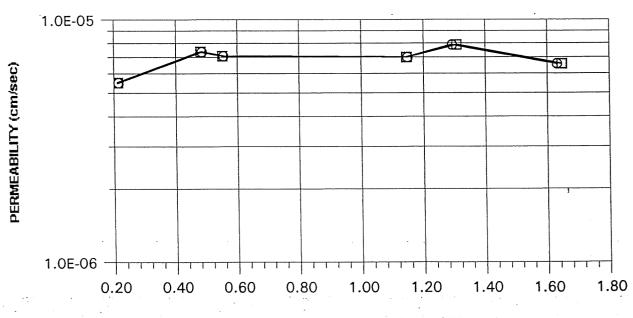
7.1E-06 7.1E-08 cm/sec @ 20°C

m/sec @ 20°C

TOTAL FLOW vs. ELAPSED TIME



PORE VOLUMES EXCHANGED vs. PERMEABILITY



PERMEABILITY TEST





Client Project

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

97073-01

Project No. Boring No.

NA

Depth(ft.)

6.9-7.2

Sample No.

RFI 05-0674

Checked By

Tested By

JCM Date

04-04-97 *4-10-97*

Specific Gravity
Sample Condition

2.70 ASSUMED UNDISTURBED

Visual Description BROWN SILT

MOISTURE CONTENT	BEFORE TEST	AFTER TEST
Tare Number Wt. Tare & WS(gm.) Wt. Tare & DS(gm.) Wt. Water(gm.) Wt. Tare(gm.) Wt. DS(gm.) Moisture Content(%)	1871 244.79 204.52 40.27 39.67 164.85 24.4	1131A 495.40 407.80 87.60 84.63 323.17 27.1
UNIT WEIGHT		
Wt. Tube & WS.(gms.) Wt. Of Tube(gms.) Wt. Of WS.(gms.) Length 1 (in.) Length 2 (in.) Length 3 (in.) Top Diameter (in.) Middle Diameter (in.) Bottom Diameter (in.) Average Length (in) Average Area (in^2) Sample Volume(cc.) Unit Wet Wt.(gms/cc) Unit Wet Wt.(pcf.)	1104.20 288.15 816.05 3.985 3.990 4.001 2.869 2.884 2.878 3.99 6.50 425.27 1.92 119.7 96.2	NA NA 833.6 4.091 4.019 3.995 2.750 2.797 2.792 4.04 6.07 401.25 2.08 129.6 102.0
Unit Dry Wt.(pcf.) Unit Dry Wt.(gms/cc) Void Ratio,e Porosity, n Pore Volume(cm^3)	1.54 0.75 0.43 182.4	1.63 0.65 0.39 158.4

C:\WINGZ\QA\PERM7.WKZ

PERMEABILITY TEST

eotechnics

Client

ENVIRONMENTAL STRATEGIES

Tested By

JCM

Date

Date

04-04-97

Client Project

AL TECH DUNKIRK 483803

Checked By

TM

4-10-97

Project No.

97073-01

Boring No.

NA

Depth(ft.)

6.9-7.2

Sample No.

RFI 05-0674

Visual Description BROWN SILT

Pressure Heads (Constant)		Final Sample Dimensions	•
Top Cap (psi)	27.5	Sample Length (cm.), L	10.25
Bottom Cap (psi)	30.0	Sample Diameter (cm.)	7.06
Cell (psi)	35.0	Sample Area (cm.^2), A	39.15
Total Pressure Head (cm)	175.8	Inflow Burette Area, (cm.^2), a-in	4.93
		Outflow Burette Area, (cm.^2), a-out	4.66
		B Parameter	100%

AVERAGE PERMEABILITY = 7.1E-06 cm/sec @ 20°C AVERAGE PERMEABILITY = 7.1E-08 m/sec @ 20°C

DATE	T	IME	ELAPSED TIME (t)	TOTAL INFLOW	TOTAL OUTFLOW	TOTAL HEAD (h)	FLOW 0 FLOV 1 STO	N	INCREMENTAL PERMEABILITY @ 20°C
mon-dy-yr	hr	min	hr	cm^3	cm^3	cm		°C_	cm/sec
**									
04-04-97	14	35	0.0	0.0	0.0	200.4	0	21.0	NA
04-04-97	16	50	2.2	33.9	33.6	186.3	1	21.0	5.5E-06
04-07-97	15	30	2.2	33.9	33.6	188.0	0	20.5	NA
04-07-97	17	50	4.6	76.9	76.3	170.1	0	20.5	7.4E-06
04-07-97	18	30	5.2	88.0	87.5	165.4	1	21.0	7.1E-06
04-08-97	8	5	5.2	88.0	87.5	197.0	0	19.5	NA
04-08-97	13	40	10.8	182.0	181.4	157.8	0	19.5	7.0E-06
04-08-97	15	9	12.3	204.8	207.0	147.7	1	19.5	7.9E-06
04-08-97	15	12	12.3	204.8	207.0	200.9	0	19.5	NA
04-08-97	18	20	15.5	258.4	260.9	178.5	1	20.0	6.6E-06

C:\WINGZ\QA\SHELBY.WKZ

SHELBY TUBE UNIT WEIGHT

ENVIRONMENTAL STRATEGIES Tested By JCM 4-4-97

Checked By TM 4-15-9

Client Project Project No.

Client

AL TECH DUNKIRK 483803 97073-01 Boring No.

NA

Depth Pushed Shelby Tube No. 2-4 RFI 10-0406 Tube Recovery

NA

eotechnics

				SOIL PRO	OFILE AND SAMPLING	
	DEPTH ()	ELEV ()	SECTION No.	SOIL PROFILE	SOIL DESCRIPTION AND REMARKS	TEST PERFORMED
						· <u>-</u>
2.00						
2.50						
3.00			3 _			PERMEABILITY
3.50			2 =		BROWN CLAYEY SAND	GRAINSIZE HYDROMETER NO TEST
4.00	_			1////		NO IEST _

NOTE: WHEN FULL RECOVERY IS NOT ACHIEVED, SOIL ELEVATION CAN NOT BE ACCURATELY DEFINE

INDICATE EACH CUT OF THE TUBE WITH AN ARROW

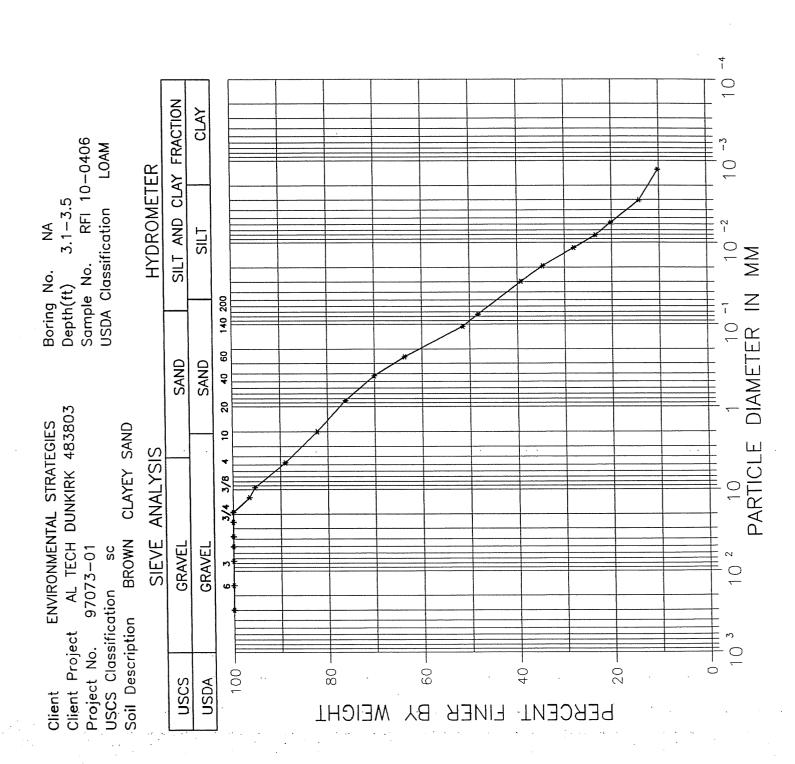
INDICATE DIVIDING LINE BETWEEN SOIL TYPES BY A SOLID LINE

INDICATE WAX BY CROSS-HATCHING

INDICATE SOIL TYPES BY STANDARD SYMBOLS

MOISTURE CONTENT Section Number Tare Number Wt. Tare & WS(gm.) Wt. Tare & DS(gm.) Wt. Tare(gm.) Moisture Content(%)	1 1307 297.30 277.56 102.79 11.3	731 633.60 576.90 85.08 11.5	3	4	5
UNIT WEIGHT Wt. Tube & WS.(gms.) Wt. Of Tube(gms.) Wt. Of WS.(gms.) Length 1 (in.) Length 2 (in.) Length 3 (in.) Top Diameter (in.) Middle Diameter (in.) Bottom Diameter (in.) Sample Volume (cc) Moisture Content(%) Unit Wet Wt.(gms/cc) Unit Wet Wt.(pcf.) Unit Dry Wt.(gms/cc)			1110.40 289.82 820.58 4.076 4.064 4.049 2.865 2.881 2.865 430.83 11.53 1.90 118.9 106.6 1.71		







WASH SIEVE ANALYSIS

Client

Client Project

Project No. Boring No.

Depth(ft.)

Sample No. Soil Description

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

Tested By Checked By JCM TM Date Date 04-04-97 4-14-97

97073-01

NA

3.1-3.5

RFI 10-0406

DDOW

BROWN CLAYEY SAND

Wt. of Total Sample(dry)
Wt. of +#200 Sample

Wt. of -#200 Sample

491.82 gm.

254.68 gm.

237.14 gm.

Sieve	Sieve Opening	Wt. of Soil Retained	Percent Retained	Accumulated Percent	Percent Finer
	(mm)	(gm.)		Retained	
	000 00	0.00	0.0	0.0	100.0
12"	300.00	0.00	0.0	0.0	
6"	150.00	0.00	0.0	0.0	100.0
3"	75.00	0.00	0.0	0.0	100.0
2"	50.00	0.00	0.0	0.0	100.0
1 1/2"	37.50	0.00	0.0	0.0	100.0
1"	25.00	0.00	0.0	0.0	100.0
3/4"	19.00	0.00	0.0	0.0	100.0
1/2"	12.50	17.02	3.5	3.5	96.5
3/8"	9.50	5.72	1.2	4.6	95.4
#4	4.75	31.52	6.4	11.0	89.0
#10	2.00	33.49	6.8	17.8	82.2
#20	0.85	29.42	6.0	23.8	76.2
#40	0.425	30.12	6.1	29.9	70.1
#60	0.250	31.49	6.4	36.4	63.6
#140	0.106	59.94	12.2	48.5	51.5
#200	0.075	15.96	3.2	51.8	48.2
Pan	•	237.14	48.2	100.0	-

Water Content

 Tare No.
 731

 Wgt. Tare + WS.
 633.60

 Wgt. Tare + DS.
 576.90

 Wgt. Tare
 85.08

 Wgt. Of Water
 56.70

 Wgt. Of DS.
 491.82

% Water

11.5



20.1

14.2

10.2

HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.		DUNKIRK 4 I	RATEGIES 83803	Tested By Checked By	TO Date Tm Date	04-04-97 4-14-97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers. Wt. Dry Soil		841 133.94 92.73 5.00 36.21	lgm. 3gm.)gm.	K Factor Composite a Factor % Finer Th	Correction an No. 200	0.01311 6.73 0.99 48.22
Temperature C Specific Gravity		22.7 2.70 Assumed)			
Elapsed Time (min.)	R Measur	ed	R Corrected	N I (%)	D (mm)	N' (%)
0 2 5 15 32	n.a. 35.5	n.a. 36.5 33.0 28.0 24.5	n.a. 29.8 26.3 21.3 17.8	n.a. 81.4 71.8 58.2 48.6	n.a. 0.0298 0.0193 0.0116 0.0081	n.a. 39.2 34.6 28.0 23.4

15.3

10.8

7.8

22.0

17.5

14.5

67

250

1440

41.8

29.5

21.3

0.0057

0.0030

0.0013



Client Client Project Project No. Boring No. Depth(ft.)

Sample No.

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

97073-01 NA

3.1-3.5

RFI 10-0406

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0298 0.0193 0.0116 0.0081 0.0057 0.0030 0.0013	100.0 100.0 100.0 100.0 100.0 100.0 96.5 95.4 89.0 82.2 76.2 70.1 63.6 51.5 48.2 39.2 34.6 28.0 23.4 20.1 14.2 10.2			
SIEVE OPENING (mm)	PERCENT FINER		ENT OF OMPONENT	CORRECTED PERCENT OF -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	17.84	0.00
2.00	82.16	SAND	37.88	46.10
0.05	44.28	SILT	32.01	38.96
0.002	12.27	CLAY	12.27	14.94

USDA CLASSIFICATION

LOAM

C:\WINGZ\QA\PERM7.WKZ

PERMEABILITY TEST

eotechnics

Client

Client Project Project No. ENVIRONMENTAL STRATEGIES

AL TECH DUNKIRK 483803

97073-01

Boring No.

Depth(ft.)

2.8-3.1

NA

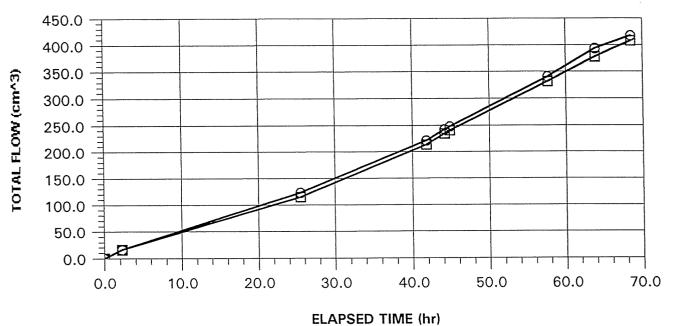
Sample No. RFI-10-0406

AVERAGE PERMEABILITY = AVERAGE PERMEABILITY =

2.9E-06 2.9E-08 cm/sec @ 20°C m/sec @ 20°C

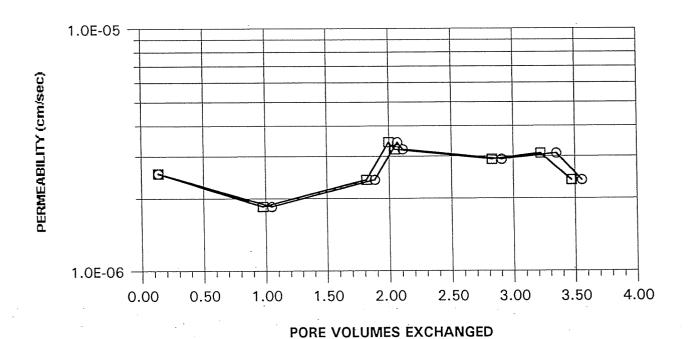
_

TOTAL FLOW vs. ELAPSED TIME



PORE VOLUMES EXCHANGED vs. PERMEABILITY

⊖ INFLOW **⊟** OUTFLOW



PERMEABILITY TEST





Client Client Project **ENVIRONMENTAL STRATEGIES** AL TECH DUNKIRK 483803

Tested By Checked By JCM TM Date

Date

04-04-97 4-11-97

Project No.

Sample No.

97073-01

Boring No. Depth(ft.)

NA

2.8-3.1

RFI-10-0406

Specific Gravity Sample Condition

2.70 ASSUMED UNDISTURBED

Visual Description BROWN CLAY

MOISTURE CONTENT	BEFORE TEST	AFTER TEST
Tare Number Wt. Tare & WS(gm.) Wt. Tare & DS(gm.) Wt. Water(gm.) Wt. Tare(gm.) Wt. DS(gm.) Moisture Content(%)	731 633.60 576.90 56.70 85.08 491.82 11.5	Z10 568.40 502.80 65.60 85.92 416.88 15.7
UNIT WEIGHT		
Wt. Tube & WS.(gms.) Wt. Of Tube(gms.) Wt. Of WS.(gms.) Length 1 (in.) Length 2 (in.) Length 3 (in.) Top Diameter (in.) Middle Diameter (in.) Bottom Diameter (in.) Average Length (in) Average Area (in^2) Sample Volume(cc.) Unit Wet Wt.(gms/cc) Unit Wet Wt.(pcf.)	1110.40 289.82 820.58 4.076 4.064 4.049 2.865 2.881 2.865 4.06 6.47 430.83 1.90 118.9 106.6	NA NA 851.5 3.919 4.034 3.979 2.656 2.786 2.836 3.98 5.98 389.75 2.18 136.3 117.8
Unit Dry Wt.(pcf.) Unit Dry Wt.(gms/cc) Void Ratio,e Porosity, n Pore Volume(cm^3)	106.6 1.71 0.58 0.37 158.3	1.7.8 1.89 0.43 0.30 117.3

C:\WINGZ\QA\PERM7.WKZ

PERMEABILITY TEST

eotechnics

Client

ENVIRONMENTAL STRATEGIES

Tested By JCM Checked By TM

Date Date 04-04-97 4-11-97

Client Project Project No.

AL TECH DUNKIRK 483803

97073-01

Boring No.

NA

Depth(ft.)

2.8-3.1

Sample No.

RFI-10-0406

Visual Description BROWN CLAY

Pressure	Heads	(Constant)
----------	-------	-----------	---

27.5 Top Cap (psi) 30.0 Bottom Cap (psi) 35.0 Cell (psi) Total Pressure Head (cm) 175.8

Final Sample Dimensions

10.10 Sample Length (cm.), L Sample Diameter (cm.) 7.01 Sample Area (cm. ^2), A 38.58 Inflow Burette Area, (cm.^2), a-in 4.80

Outflow Burette Area, (cm.^2), a-out B Parameter

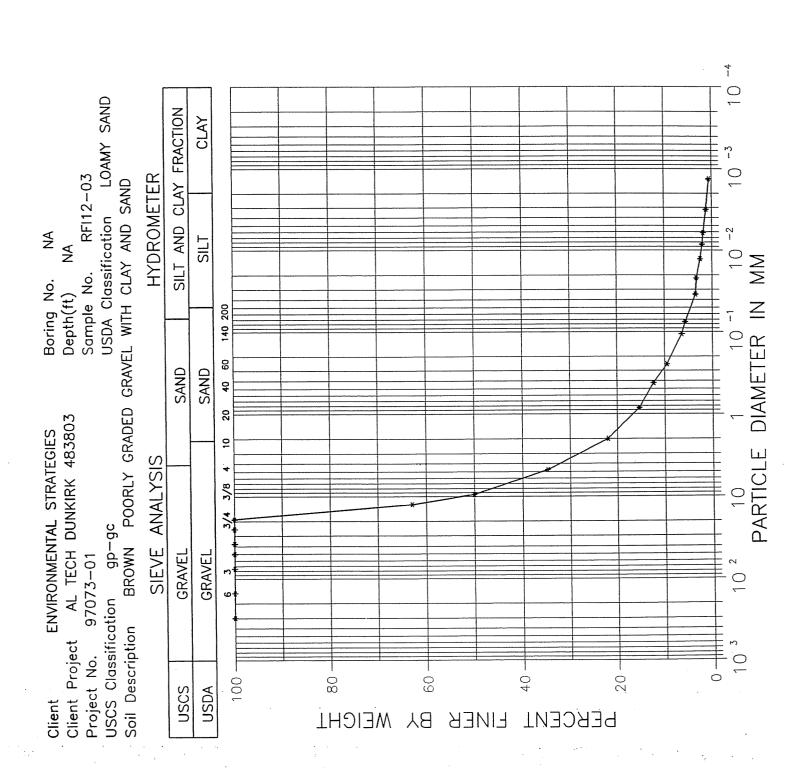
4.76 100%

2.9E-06

cm/sec @ 20°C AVERAGE PERMEABILITY = 2.9E-08 m/sec @ 20°C AVERAGE PERMEABILITY =

DATE	Т	IME	ELAPSED TIME (t)	TOTAL INFLOW	TOTAL OUTFLOW	TOTAL HEAD (h)	FLOW 0 FLOV 1 STOR		INCREMENTAL PERMEABILITY @ 20°C
mon-dy-yr	hr	min	hr	cm^3	<u>cm^3</u>	cm		°C	cm/sec
04-04-97	14	35	0.0	0.0	0.0	200.8	0	21.0	NA
04-04-97	16	50	2.2	16.0	15.8	194.2	0	21.0	2.5E-06
04-05-97	16	5	25.5	123.0	114.7	151.1	1	20.5	1.9E-06
04-05-97	16	10	25.5	123.0	114.7	201.7	0	20.5	NA
04-06-97	8	30	41.8	221.0	213.0	160.7	1	20.5	2.4E-06
04-07-97	15	30	41.8	221.0	213.0	194.8	0	20.5	NA
04-07-97	17	50	44.2	242.3	234.1	186.0	0	20.5	3.4E-06
04-07-97	18	30	44.8	247.6	239.9	183.7	1	21.0	3.2E-06
04-07-97	18	35	44.8	247.6	239.9	202.3	0	21.0	NA
04-08-97	7	25	57.7	340.8	331.4	163.7	1	19.5	2.9E-06
04-08-97	. 7	30	57.7	340.8	331.4	201.0	0	19.5	NA
04-08-97	13	40	63.8	393.0	377.7	180.5	0	19.5	3.1E-06
04-08-97	18	20	68.5	416.9	407.1	169.3	1	20.0	2.4E-06







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES

Tested By

Date

04-03-97

Client Project

AL TECH DUNKIRK 483803

Checked By

Tm Date

4-10-97

Project No.

97073-01 NA

Boring No. Depth(ft.)

NA

Sample No.

RFI12-03

Soil Description

BROWN POORLY GRADED GRAVEL WITH CLAY AND SAND

Wt. of Total Sample(dry)

476.80 gm.

Wt. of +#200 Sample

Wt. of -#200 Sample

449.69 gm. 27.11 gm.

Sieve	Sieve Opening (mm)	Wt. of Soil Retained (gm.)	Percent Retained	Accumulated Percent Retained	Percent Finer
					100
12"	300.00	0.00	0.0	0.0	100.0
6"	150.00	0.00	0.0	0.0	100.0
3"	75.00	0.00	0.0	0.0	100.0
2"	50.00	0.00	0.0	0.0	100.0
1 1/2"	37.50	0.00	0.0	0.0	100.0
1"	25.00	0.00	0.0	0.0	100.0
3/4"	19.00	0.00	0.0	0.0	100.0
1/2"	12.50	176.82	37.1	37.1	62.9
3/8"	9.50	61.29	12.9	49.9 65.3	50.1 34.7
#4	4.75	73.06	15.3	78.0	
#10 #20	2.00	60.80	12.8 6.6	76.0 84.6	22.0 15.4
#20	0.85	31.63	3.0	87.6	12.4
#40	0.425	14.25 13.69	2.9	90.5	9.5
#60 #140	0.250 0.106	14.74	3.1	93.6	6.4
#140 #200	0.106	3.41	0.7	94.3	5.7
#200 Pan	0.075	27.11	5.7	100.0	5.7
raii	-	27.11	5.7	100.0	
Water Content					
Tare No.		1134			
Wgt. Tare + WS		612.00			
Wgt. Tare + DS.		582.20			
Wgt. Tare		105.40			
Wgt. Of Water Wgt. Of DS.		29.80 476.80			
% Water		6.2	·		



n.a.

3.5

3.3

2.4

2.0

1.8

1.2

0.5

HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL ST AL TECH DUNKIR 97073-01 NA NA RFI12-03		Tested By Checked By	TO TM	Date Date	04-03-97 4-10-97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers. Wt. Dry Soil	100.7 5.0	64 04 gm. 75 gm. 00 gm. 29 gm.	K Factor Composite (a Factor % Finer Tha			0.01311 6.73 0.99 5.69
Temperature C Specific Gravity	22 2. Assum	70				
Elapsed Time	R Measured	R Corrected	N (%)	D (mm)		N' (%)

n.a.

8.3

7.8

5.8

4.8

4.3

2.8

1.3

n.a.

61.6

57.9

43.0

35.6

31.8

20.7

9.5

n.a. 0.0345

0.0219

0.0128

0.0085

0.0061

0.0032

0.0013

(min.)

0

2

5

15

34

66

250

1440

n.a.

15.5

n.a.

15.0

14.5

12.5

11.5

11.0

9.5

8.0



Client Client Project Project No. Boring No. Depth(ft.)

Sample No.

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

97073-01

NA NA

RFI12-03

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0345 0.0219 0.0128 0.0085 0.0061 0.0032 0.0013	100.0 100.0 100.0 100.0 100.0 100.0 62.9 50.1 34.7 22.0 15.4 12.4 9.5 6.4 5.7 3.5 3.3 2.4 2.0 1.8 1.2			
SIEVE OPENING (mm)	PERCENT FINER		ENT OF MPONENT	CORRECTED PERCENT OF -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	78.01	0.00
2.00	21.99	SAND	17.44	79.32
0.05	4.55	SILT	3.71	16.89

USDA CLASSIFICATION

0.002

LOAMY SAND

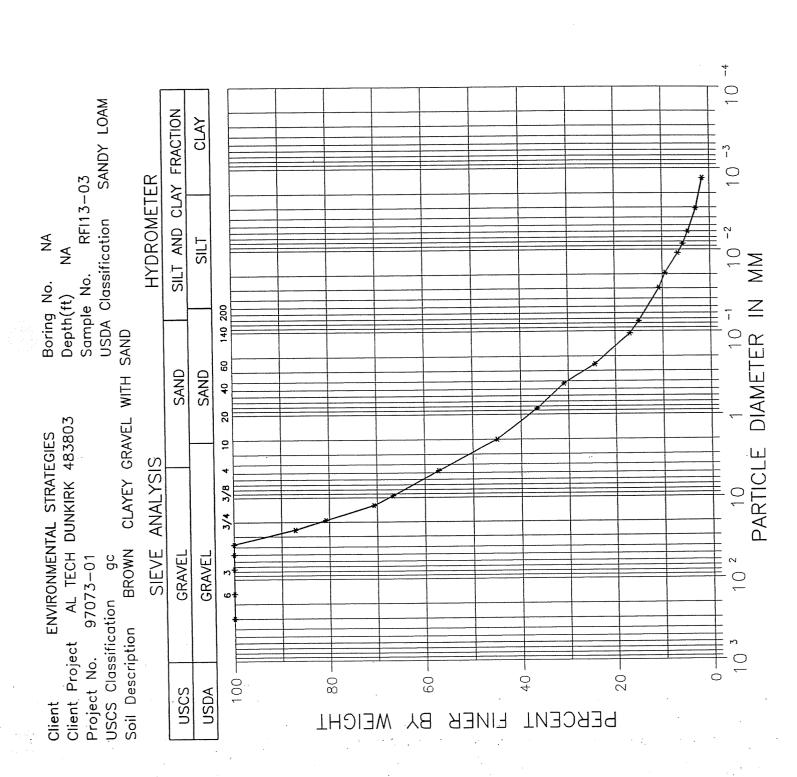
CLAY

0.83

3.79

0.83







C:\WINGZ\QA\JWASHHYD.WKZ

WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES

GU TM Date Date

04-02-97 4-10-97

Client Project Project No.

AL TECH DUNKIRK 483803 Checked By

97073-01

Boring No.

NA

Depth(ft.) Sample No. NA RFI13-03

Soil Description

BROWN CLAYEY GRAVEL WITH SAND

Tested By

Wt. of Total Sample(dry) (2)

657.6 gm.

Wt of Grand Total (1)

814.77

Wt. of +#200 Sample

535.1 gm.

0.8077

Wt. of -#200 Sample

122.6 gm.

J Factor (Percent finer than 3/4")

Sieve	Sieve	Wt. of Soil		Percent	Accumulate	Percent	Final
	Opening	Retained		Retained	Percent	Finer	Percent
	(mm)	(gm.)			Retained		Finer (3)
12"	300.0	0.00		0.00	0.00	100.00	100.0
6"	150.0	0.00		0.00	0.00	100.00	100.0
3"	75.0	0.00		0.00	0.00	100.00	100.0
2"	50.0	0.00		0.00	0.00	100.00	100.0
1 1/2"	37.5	0.00	+ 3/4"	0.00	0.00	100.00	100.0
1"	25.0	104.68	SIEVE	12.85	12.85	87.15	87.2
3/4"	19.0	52.02	ANALYSIS	6.38	19.23	80.77	_ 80.8
1/2"	12.5	82.14	- 3/4"	12.49	12.49	87.51	70.7
3/8"	9.5	32.79	SIEVE	4.99	17.48	82.52	66.7
#4	4.75	77.64	ANALYSIS	11.81	29.28	70.72	57.1
#10	2.00	99.00		15.05	44.34	55.66	45.0
#20	0.85	68.47		10.41	54.75	45.25	36.5
#40	0.425	46.06		7.00	61.75	38.25	30.9
#60	0.250	53.15		8.08	69.83	30.17	24.4
#140	0.106	60.41		9.19	79.02	20.98	16.9
#200	0.075	15.41		2.34	81.36	18.64	15.1
Pan	-	122.57		18.64	100.00		_

Water Content		
Tare No.	1655	TOTAL WET WGHT3/4 SIEVE
Wgt. Tare + WS.	805.80	708
Wgt. Tare + DS.	755.80	
Wgt. Tare	98.16	TOTAL DRY WGHT3/4 SIEVE
Wgt. Of Water	50.00	658
Wgt. Of DS.	657.64	
		• •
% Water	7.6	
		·

Note: 1) The +3/4" sieve analysis is based on the grand total dry weight of material.

2) The -3/4" sieve analysis is based on the total dry weight of the split portion of sample.

3) The final percent finer combines the two analysis.



C:\WINGZ\QA\JWASHHYD.WKZ

HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803 97073-01 NA NA RFI13-03	Tested By Checked By	TO TM	Date Date	04-02-97 4-10-97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers. Wt. Dry Soil	1640 148.90 gm. 101.30 gm. 5.00 gm. 42.60 gm.	K Factor Composite Corre a Factor % Finer Than No			0.01311 6.73 0.99 15.05

Temperature C Specific Gravity 22.1 Measured 2.70 Assumed

Elapsed Time (min.)	R Measu	_	R Corrected	N (%)	D (mm)	N' (%)
•			2.0	n 2	n.a.	n.a.
0	n.a.	n.a.	n.a.	n.a.	0.0295	10.8
2	35.5	37.5	30.8	71.5		
5		33.5	26.8	62.2	0.0193	9.4
17		26.0	19.3	44.8	0.0110	6.7
30		23.0	16.3	37.8	0.0085	5.7
62		20.0	13.3	30.8	0.0060	4.6
250		15.0	8.3	19.2	0.0031	2.9
1440		11.0	4.3	9.9	0.0013	1.5



C:\WINGZ\QA\JWASHHYD.WKZ

Client ENVIRONMENTAL STRATEGIES
Client Project AL TECH DUNKIRK 483803

Project No. 97073-01

Boring No. NA
Depth(ft.) NA

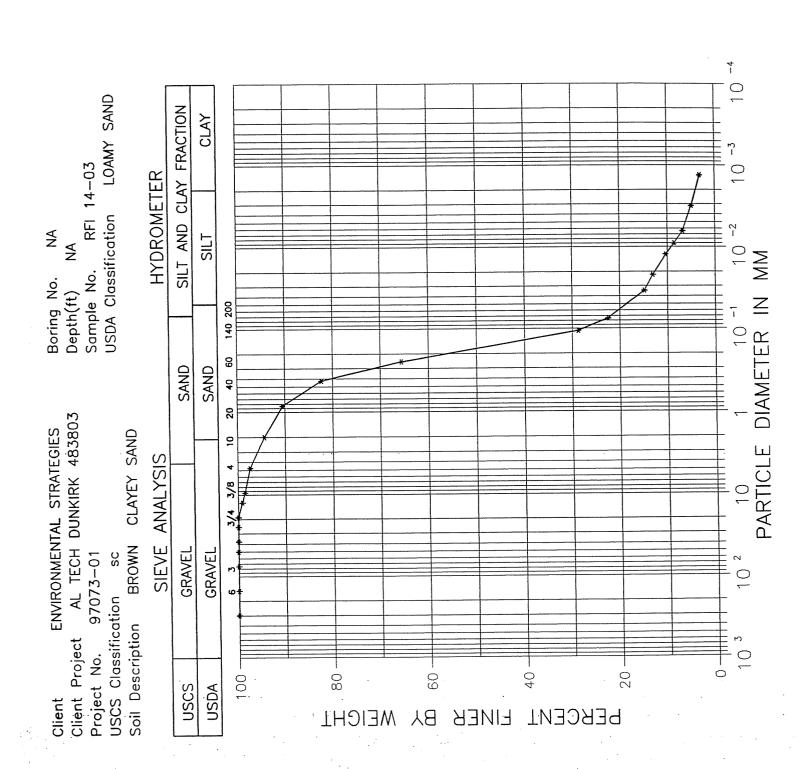
Sample No. RFI13-03

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0295 0.0193 0.0110 0.0085 0.0060 0.0031 0.0013	100.0 100.0 100.0 100.0 87.2 80.8 70.7 66.7 57.1 45.0 36.5 30.9 24.4 16.9 15.1 10.8 9.4 6.7 5.7 4.6 2.9 1.5			
SIEVE OPENING (mm)	PERCENT FINER	PERCENT OF EACH COMP		CORRECTED PERCENT -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	55.04	0.00
2.00	44.96	SAND	31.77	70.67
0.05	13.19	SILT	11.00	24.48
0.002	2.18	CLAY	2.18	4.86

USDA CLASSIFICATION

SANDY LOAM







WASH SIEVE ANALYSIS

Client

ENVIRONMENTAL STRATEGIES

Tested By

22.5

BF Date 04-03-97

Client Project

AL TECH DUNKIRK 483803

Checked By

Date Tm

100.0

4-14-97

Project No.

97073-01 NA

Boring No. Depth(ft.)

Pan

NA

RFI 14-03 Sample No.

Soil Description

BROWN CLAYEY SAND

Wt. of Total Sample(dry)

424.28 gm.

Wt. of +#200 Sample

328.96 gm. 95.32 gm.

Wt. of -#200 Sample

Sieve	Sieve Opening (mm)	Wt. of Soil Retained (gm.)	Percent Retained	Accumulated Percent Retained	Percent Finer
12"	300.00	0.00	0.0	0.0	100.0
6"	150.00	0.00	0.0	0.0	100.0
3"	75.00	0.00	0.0	0.0	100.0
2"	50.00	0.00	0.0	0.0	100.0
1 1/2"	37.50	0.00	0.0	0.0	100.0
1"	25.00	0.00	0.0	0.0	100.0
3/4"	19.00	0.00	0.0	0.0	100.0
1/2"	12.50	3.68	0.9	0.9	99.1
3/8"	9.50	2.47	0.6	1.4	98.6
#4	4.75	4.75	1.1	2.6	97.4
#10	2.00	12.97	3.1	5.6	94.4
#20	0.85	16.47	3.9	9.5	90.5
#40	0.425	34.49	8.1	17.6	82.4
#60	0.250	71.16	16.8	34.4	65.6
#140	0.106	156.26	36.8	71.2	28.8
#200	0.075	26.71	6.3	77.5	22.5

95.32

Water Content		
Tare No.	1656	
Wgt. Tare + WS.	606.00	
Wgt. Tare + DS.	527.70	
Wgt. Tare	103.42	
Wgt. Of Water	78.30	
Wgt. Of DS.	424.28	
% Water	18.5	



8.6

6.8

5.0

3.2

0.0091

0.0065

0.0032

0.0013

HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.		DUNKIRK 4 1	TRATEGIES 183803	Tested By Checked By	TO TM	Date Date	04-03-97 4 <i>-</i> 14-97
Soil Sample Weight Container No. Wt. Contain. & Dry Soil Wt. Contain. Wt. Dispers. Wt. Dry Soil		5.00		K Factor Composite a Factor % Finer Tha	0.01311 6.73 0.99 22.47		
Temperature C Specific Gravity		22. 2.70 Assume	0				
Elapsed Time (min.)	R Measur	ed	R Corrected	N I (%)	D (mm)		N' (%)
0 2 5 16	n.a. 14.5	n.a. 15.0 14.0 12.5	n.a. 8.3 7.3 5.8	n.a. 66.1 58.1 46.1	n.a. 0.0345 0.0219 0.0124		n.a. 14.9 13.1 10.4

4.8

3.8

2.8

1.8

38.1

30.1

22.2

14.2

11.5

10.5

9.5

8.5

30

60

250

1440



Client Client Project Project No.

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

Boring No. Depth(ft.)

97073-01 NA NA

Sample No.

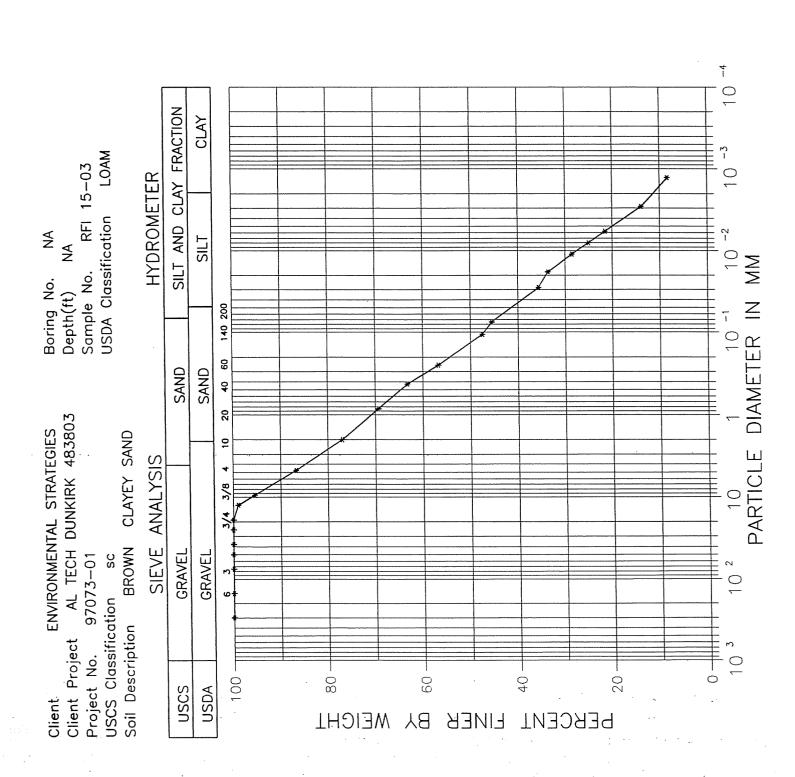
RFI 14-03

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.1060 0.0750 0.0345 0.0219 0.0124 0.0091 0.0065 0.0032 0.0013	100.0 100.0 100.0 100.0 100.0 100.0 99.1 98.6 97.4 94.4 90.5 82.4 65.6 28.8 22.5 14.9 13.1 10.4 8.6 6.8 5.0 3.2			
SIEVE OPENING (mm)	PERCENT FINER		ENT OF MPONENT	CORRECTED PERCENT OF -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	5.63	0.00
2.00	94.37	SAND	75.88	80.41
0.05	18.49	SILT	14.47	15.34
0.002	4.02	CLAY	4.02	4.26
•				

USDA CLASSIFICATION

LOAMY SAND







04-03-97

4-14-97

WASH SIEVE ANALYSIS

Client

Client Project

Project No.

Boring No. Depth(ft.)

Sample No.

Soil Description

RFI 15-03 **BROWN CLAYEY SAND**

ENVIRONMENTAL STRATEGIES

AL TECH DUNKIRK 483803

97073-01

NA

NA

646.67 gm.

352.26 gm. 294.41 gm.

Tested By

Checked By

BF

Date

Date

Wt. of Total Sample(dry) Wt. of +#200 Sample Wt. of -#200 Sample

Sieve	Sieve Opening (mm)	Wt. of Soil Retained (gm.)	Percent Retained	Accumulated Percent Retained	Percent Finer
	(111117)	(3)			
12"	300.00	0.00	0.0	0.0	100.0
6"	150.00	0.00	0.0	0.0	100.0
3"	75.00	0.00	0.0	0.0	100.0
2"	50.00	0.00	0.0	0.0	100.0
1 1/2"	37.50	0.00	0.0	0.0	100.0
1"	25.00	0.00	0.0	0.0	100.0
3/4"	19.00	0.00	0.0	0.0	100.0
1/2"	12.50	6.90	1.1	1.1	98.9
3/8"	9.50	22.07	3.4	4.5	95.5
#4	4.75	56.46	8.7	13.2	86.8
#10	2.00	63.64	9.8	23.1	76.9
#20	0.85	49.14	7.6	30.7	69.3
#40	0.425	39.58	6.1	36.8	63.2
#60	0.250	41.90	6.5	43.3	56.7
#140	0.106	59.69	9.2	52.5	47.5
#200	0.075	12.88	2.0	54.5	45.5
Pan	-	294.41	45.5	100.0	-

Water Content 1622 Tare No. Wgt. Tare + WS. 887.90 Wgt. Tare + DS. 748.70 102.03 Wgt. Tare 139.20 Wgt. Of Water 646.67 Wgt. Of DS. 21.5 % Water



HYDROMETER ANALYSIS

Client Client Project Project No. Boring No. Depth(ft.) Sample No.	ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803 97073-01 NA NA RFI 15-03	Tested By Checked By	TO TM	Date Date	04-03-97 4-14-97
Soil Sample Weight					
Container No.	684				
Wt. Contain.		K Factor			0.01311
& Dry Soil	154.14 gm.	Composite Cor	rection		6.73
Wt. Contain.	104.53 gm.	a Factor			0.99
Wt. Dispers.	5.00 gm.				
Wt. Dry Soil	44.61 gm.	% Finer Than I	No. 200		45.53
Temperature C	22.1				
Specific Gravity	2.70				
•	Assumed				
				<u> </u>	

Elapsed Time (min.)	R Measu		R Corrected	N (%)	D (mm)	N' (%)
0	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	41.5	42.0	35.3	78.3	0.0284	35.6
5	,	40.0	33.3	73.8	0.0183	33.6
15		35.0	28.3	62.7	0.0110	28.6
30		31.5	24.8	55.0	0.0080	25.0
60		28.0	21.3	47.2	0.0058	21.5
267		20.5	13.8	30.6	0.0029	13.9
1440		15.0	83	19 /	0.0013	Ω /



Client Client Project Project No.

ENVIRONMENTAL STRATEGIES AL TECH DUNKIRK 483803

Boring No.

97073-01 NA

Depth(ft.) Sample No.

NA RFI 15-03

DIAMETER (mm)	PERCENT FINER			
300.00 150.00 75.000 50.000 37.500 25.000 19.000 12.500 9.5000 4.7500 2.0000 0.8500 0.4250 0.2500 0.1060 0.0750 0.0284 0.0183 0.0110 0.0080 0.0058 0.0029 0.0013	100.0 100.0 100.0 100.0 100.0 100.0 98.9 95.5 86.8 76.9 69.3 63.2 56.7 47.5 45.5 35.6 33.6 28.6 25.0 21.5 13.9 8.4			
SIEVE OPENING (mm)	PERCENT FINER		ENT OF OMPONENT	CORRECTED PERCENT OF -2.0 mm MATERIAL FOR USDA DETERMINATION
100.00	100.00	GRAVEL	23.05	0.00
2.00	76.95			0.00
0.05	41.39	SAND	35.56	46.21
0.002	11.40	SILT	30.00	38.98
		CLAY	11.40	14.81

USDA CLASSIFICATION

LOAM

 $Appendix\ I-Velocity\ Calculations\ and\ In\ Situ\ Hydraulic\ Conductivity\ Test\ Data$



Subject GROUND WATER .	FLOW VELOSITY - ALTREAM - DUNKIRK
By Date10/8/95	Checked By 15 4 Date 10/17/98

LIEDUND WATER FLOW VICE	ALTH AT THE ACT	ARRE TALLY	
11/96 ESTIMATED VELOCITY			
Vs=Ki/ne			
	K == 9+0 => com	nuctiv ly (3.5)	2+ f = /3k}
	A IS HORIZONTIL LUDRA		
	Ne is the Pords	s/ty (2)	
, , ,		,	
" 5=	3509 F/J,	7/.12	
	12 6 /		
15.	3 4,		
3/97 ETTIMATED JECOCITY			
Vi=Ke/Ao			
3	V5= 3.509 F+/10	5583/.12	
	Vs= .17 f+/2.		
FOR THE SOUTHWESTERN T	brtion of sittle		
11.70			
11/96			
11/96 Vs = Ki/Ne	11 - 3 509 f+/d	. , ,5,10	1 17
	Vs=3.509 f+/d	27 .0517	. , , ,
	V=15 f/		
	Vs= 1.5 ft/d	7 Y	
3/97			
3/97 Vs= Kalne			
3	Vs= 3.509 f+/da	· · · · · · · · · · · · · · · · · · ·	2
	Vs= 1.5 F+10ac		

V\DWC\ 1996\A3



Subject HYDEAULI	C GRADIENTS	- ALTECH DUNKIRK	
A JSC ME	10/7/98	Charled Du	Cate

Proj. Name ALTECH - DUNKIRK Proj. No. 483803 - M Sheet No. 1 of 2

YDEAULIC GRADIENTS AT				
· NORTHWESTERN				
· SOUTHERN				
· Southwestern				
12421ENTS WCZZ CALCU	ATED ALONG FO	ow Direction 148	`ow√, where	90INT 1
STHE LUCATION WHER	THE FLOW ARR	وس الاستارة والمارورة المارورة المارورة المارورة المارورة المارورة المارورة المارورة المارورة المارورة المارور	A POTENTION	ETRIC
INE AND POINT Z IS	THE LECKTON	white To The	ARROW (AST	CRUSSES
DOTENTIONETRIC LIA	É.			
ORTHOUSTEEN 1/96	3/977	NORTHERN	/9 é	3/07
GW FLEY	GWELEY.		έω ε εξυ.	GW DLEY
BNT 1 634	633	POINT 1	633	632
POINT 2 629	628 5'	POINT 2	<u>630</u>	627
sh: 5'	5′	J	3'	5′
Dl: 1267	973'	4.7	7;840°	6001
RADIENT: ,00395	.00514	GRADIENT	:.00357	EERCO.
(ah /al)		$(\Delta h/\Delta l)$		
OUTHERN 11/96	3/97	500TH.WESTER	N 1/96	3/9 r y
GW ELEV	GW ELEV.		GW ELEV.	GW ELEV
POINT 1 633	632	POINT 1	629	628
DINT 2 631	630	POINT Z	616	415
Δh: 2'	2′	Δ.	h: i3	13'
ΔJ: 373'	507′	Δ	l: 253'	Z53 [′]
7RADIENT: .00536	.00394	(TRADIENT	: .0514	.0514
(al/al)				

DWC\ 1996\A3



_	Subject HYDRAULIC GRADIENTS-	ALTECH - DUNKIRK
	By ISC Dole 10/7/98	Checked By Date
	4	

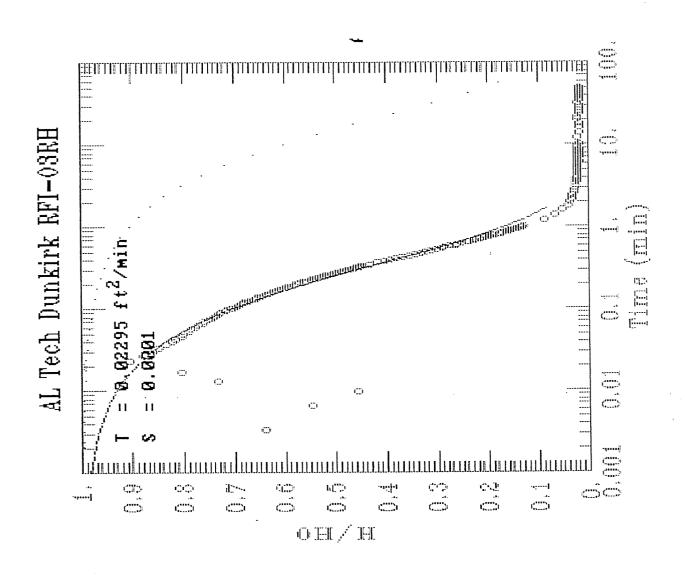
11/96								_ (1 PLA	4D1€	-NT	- ,	۔ ج	χJ,	ORT	400	ν,	Nor	THE	UEST	ريع	ALC	5 20) Ŀ⊤.	50.0	N.		
F	سر	J	D(R	ec.	10 N	یر	- :																					
							Α	NE	GØ	PADI	EN	T.A.	٠ ـ ر	00	129	Ì												
2 /00	Λ																•			i								
3/97		cu. cu						. · 44 î.	3.5.6	¥I	. F.O	R_	Noc	-1.11	=KA	/ ر	V 29 (C.	: H	<i>₩</i>	V.Y	/t.W	Q	100	ľA.	£ω	·		
	.1	-00	:1	K	<u>. </u>																							
							A٧	5	60	AΩ ii	- ہر	7 .	() () ⁽	ZI													
												*******			: : : א נייי													
																									,.,,,,,			
	•																											
																, . , .												ļ
!															!													
		: :																										
																						. ,						
	:	: : :																										
																												 ! !
			:									,														,		: :
			:									, , ,	.,	,														
										,										•••••								•
																						: :						
										* * * * * * * * * * * * * * * * * * * *														:				
			<u></u>																				:				: : : :	
		ļ		ļ																	:				<u></u>		: : :	
		<u>.</u>		<u>.</u>								:		:			:										:	
	· !:	<u>.</u>	:	!		:	: 			: : :	-		: :::::::::				: : :		٠				<u>.</u>					
											: : : :		ļ				ļ	ļ			ļ			<u></u>				
	ļ	<u></u>	<u>.</u>		ļ	ļ	: : : :	· · · · · · · · · · · · · · · · · · ·		l.a.a							ļ							ļ	<u> </u>			
				<u>.</u>	,		:	: : : :			 !-			,		: : :								ļ				
·						!:				<u>.</u>	-	ļ	ļ <u>.</u>	ļ		: ! - : : :		ļ				ļ		<u>.</u>			ļ	

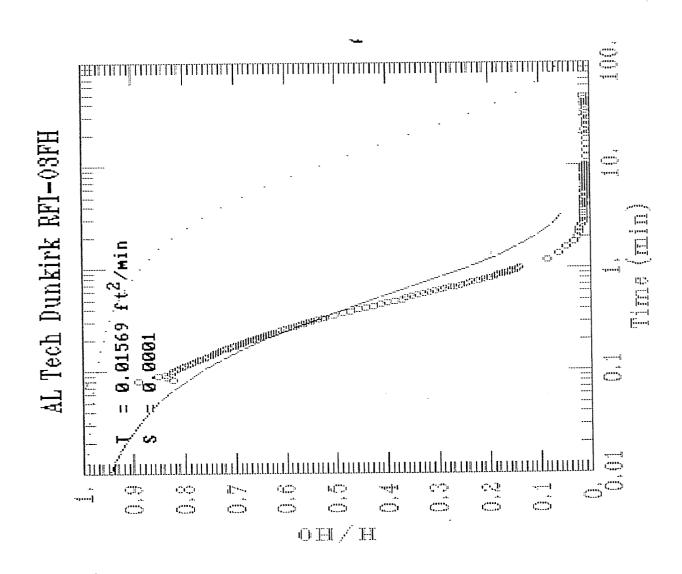
In Situ Hydraulic Conductivity Test Results
Phase I RFI
AL Tech Specialty Steel Corporation
Dunkirk, New York Facility

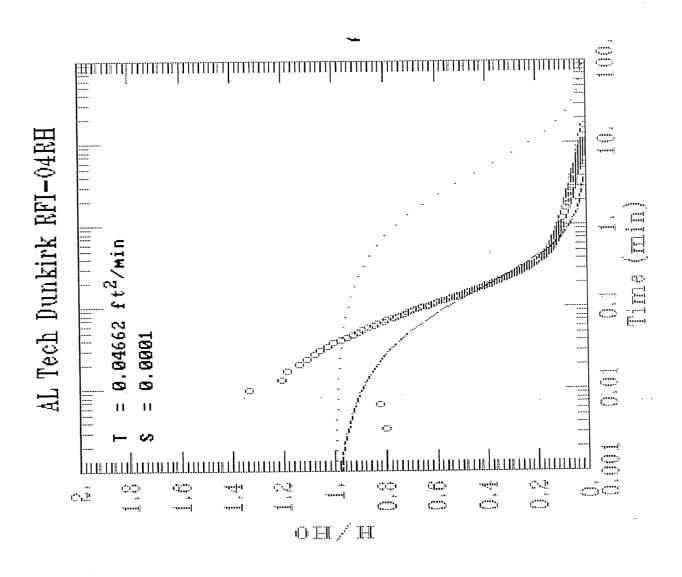
		Water Column	Saturated Thickness	Initial Drawdown	Screen Length	Casing Radius	Effective Radius	Transmissivity		Hydraulic Conductivity (K)	Conductivity (K)
Well No.	Test (a)	(tr) (b)	(ft)	(ft)	(tf)	(ft)	(ft)	(ft2/min)	Storativity	(ft/day)	(ft/year)
RFI-03	RH	6.31	4.0	1.98	δ.	0.08333	0.875	2.30E-02	1E-04	8.262	3015.63
	H	6.31	4.0	1.60	5	0.08333	0.875	1.57E-02	1E-04	5.648	2061.67
RFI-04	RH	22.0	0.9	1.48	10	0.08333	0.875	4.66E-02	1E-04	11.189	4083.91
	HЫ	22.0	6.0	1.55	10	0.08333	0.875	3.44E-02	1E-04	8.261	3015.19
RFI-05	RH	11.17	2.5	1.55	8	0.08333	0.875	4.48E-04	1E-04	0.258	94.21
	E	11.17	2.5	1.80	8	0.08333	0.875	3.63E-03	1E-04	2.090	762.96
RF1-06	RH	6.84	2.0	1.36	7	0.08333	0.875	9.99E-03	1E-04	7.192	2625.11
	FH	6.84	2.0	1.50	7	0.08333	0.875	1.01E-04	1E-04	0.072	26.44
RFI-10	KH.	12.24	1.5	1.41	8	0.08333	0.875	5.53E-04	1E-04	0.531	193.84
	HH	12.24	1.5	1.81	∞	0.08333	0.875	9.06E-04	1E-04	0.869	317.36
RFI-14	RH	11.13	2.0	1.71	7	0.08333	0.875	7.50E-05	1E-04	0.054	19.71
	H	11.13	2.0	1.77	7	0.08333	0.875	6.28E-03	1E-04	4.518	1649.07
RFI-17	RH	5.91	3.5	1.30	5	0.08333	0.875	1.17E-04	1E-04	0.048	17.49
	FH	5.91	3.5	1.48	5	0.08333	0.875	3.24E-04	1E-04	0.133	48.58

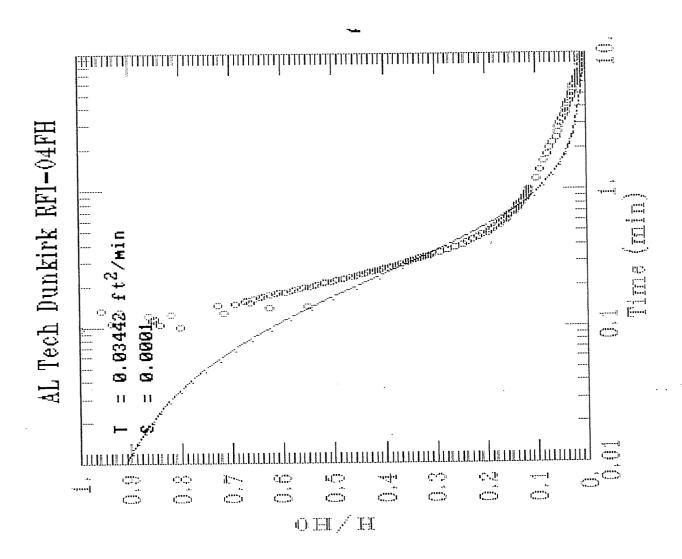
a/ RH = rising-head test; FH = falling-head test. b/ ft = feet; ft2/min = square-feet per minute; ft/min = feet per minute; ft/day = feet per day.

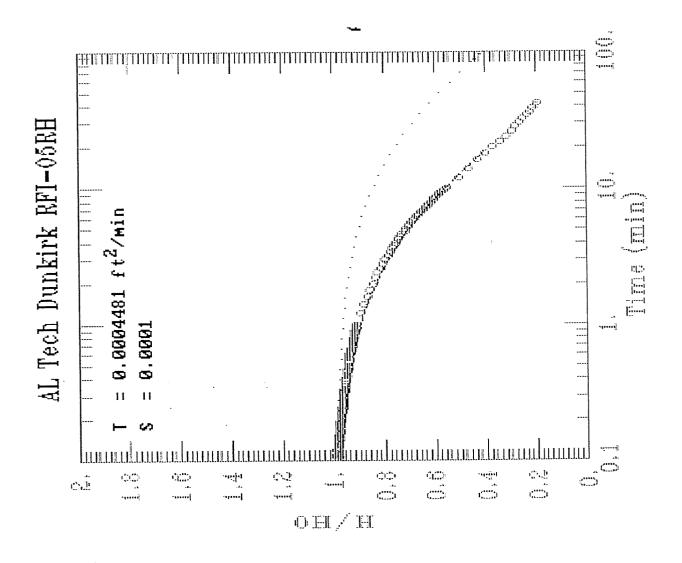
Average K

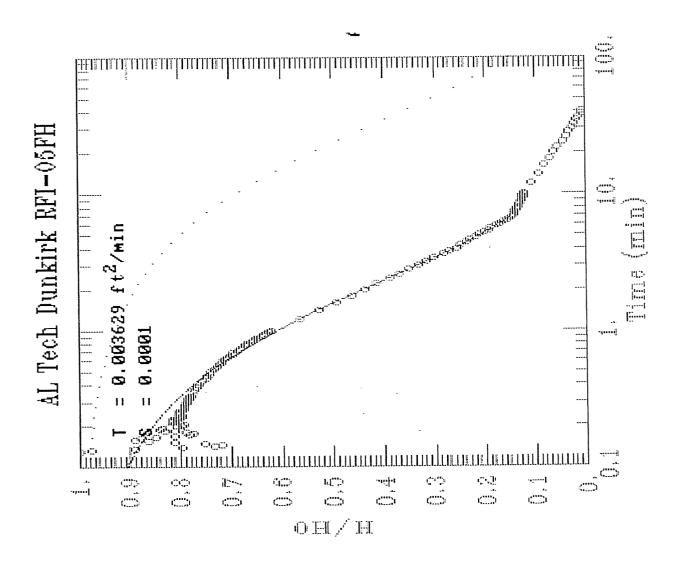


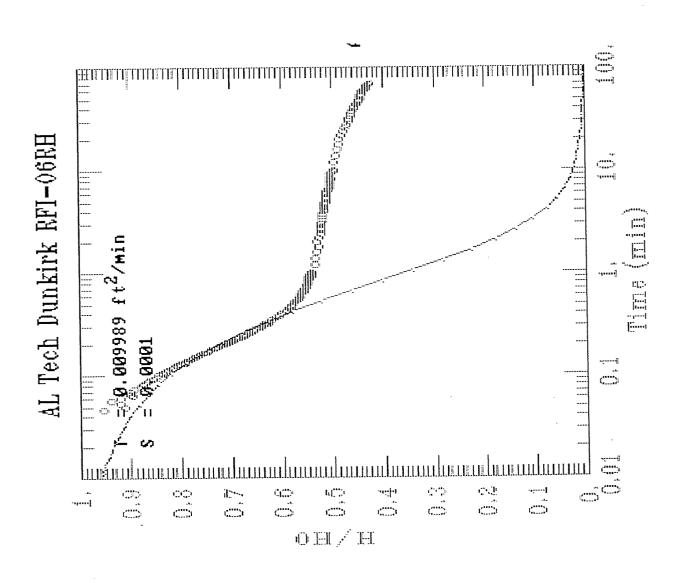


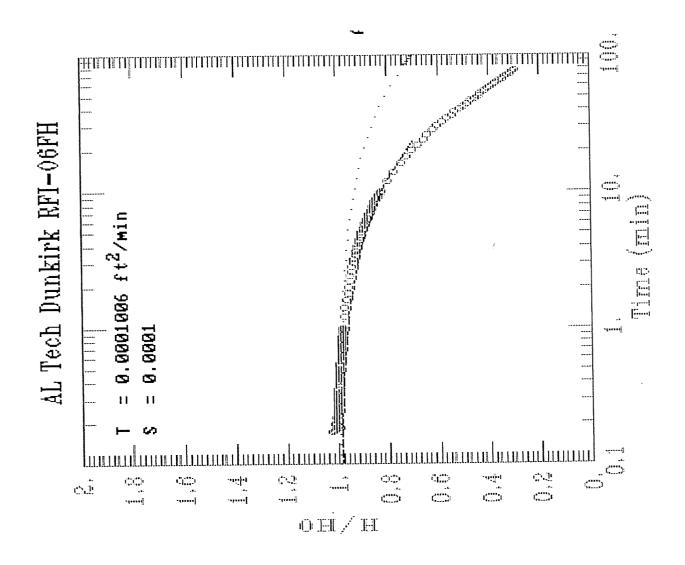


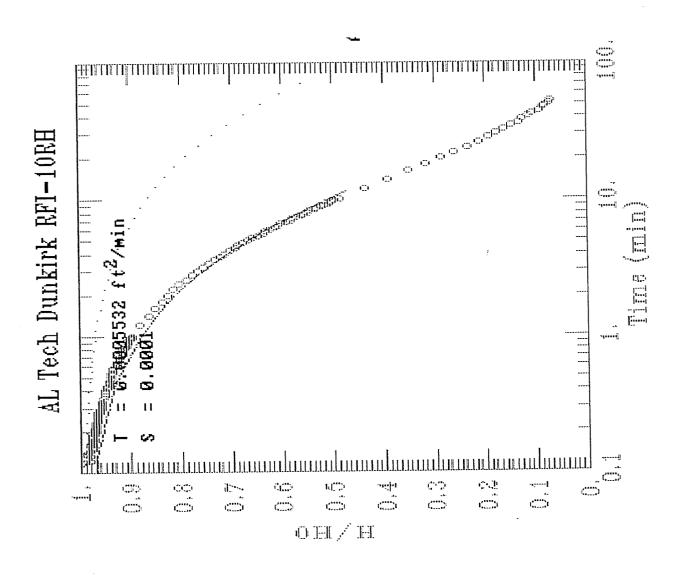


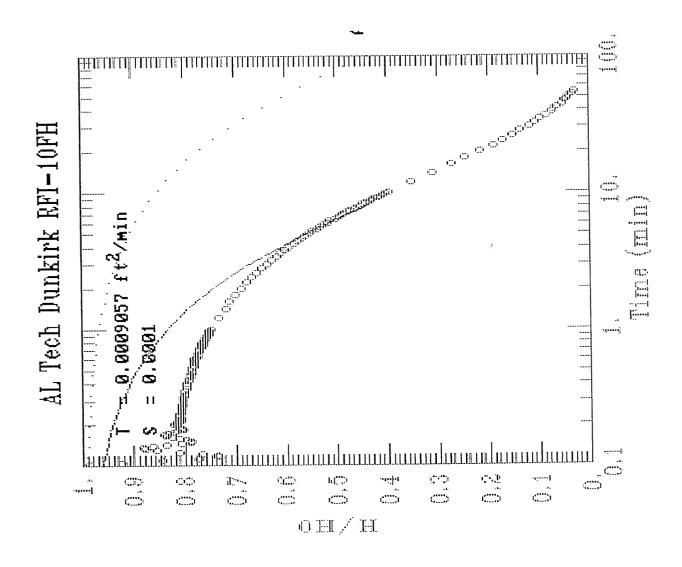


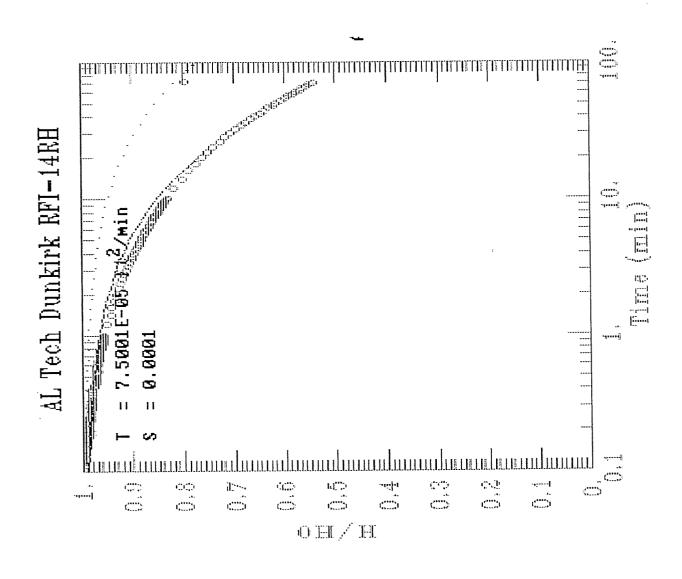


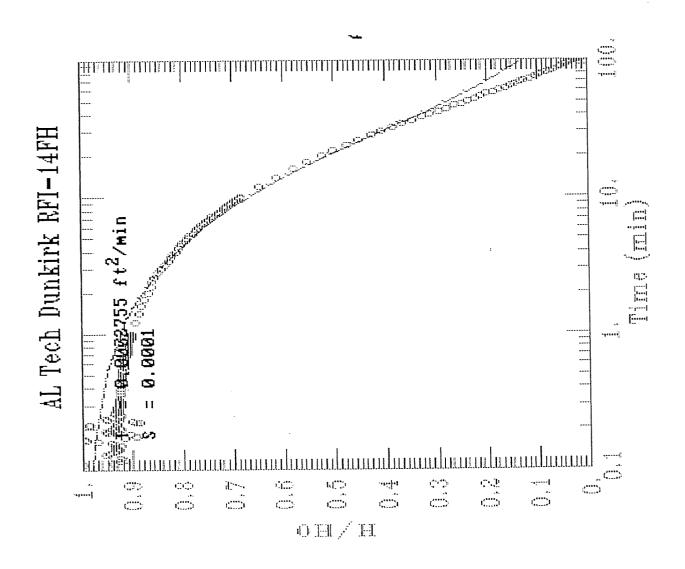


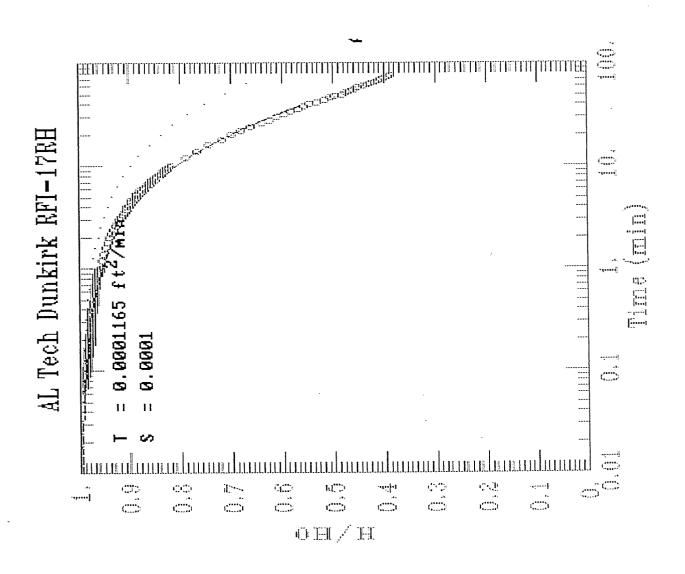


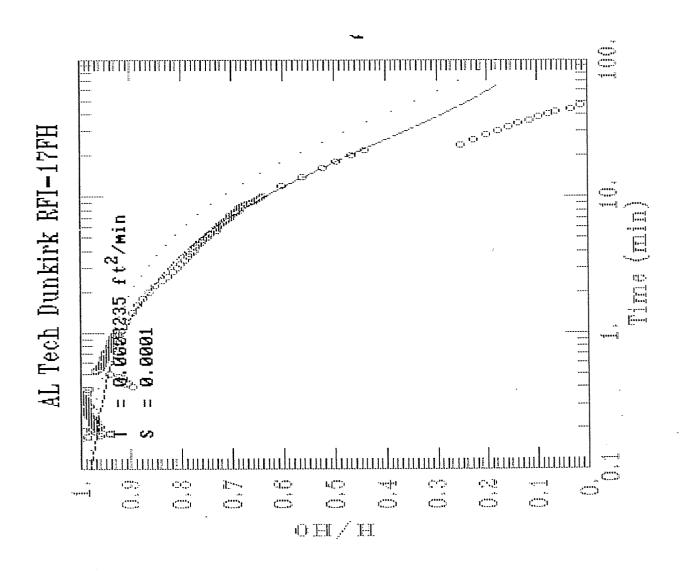




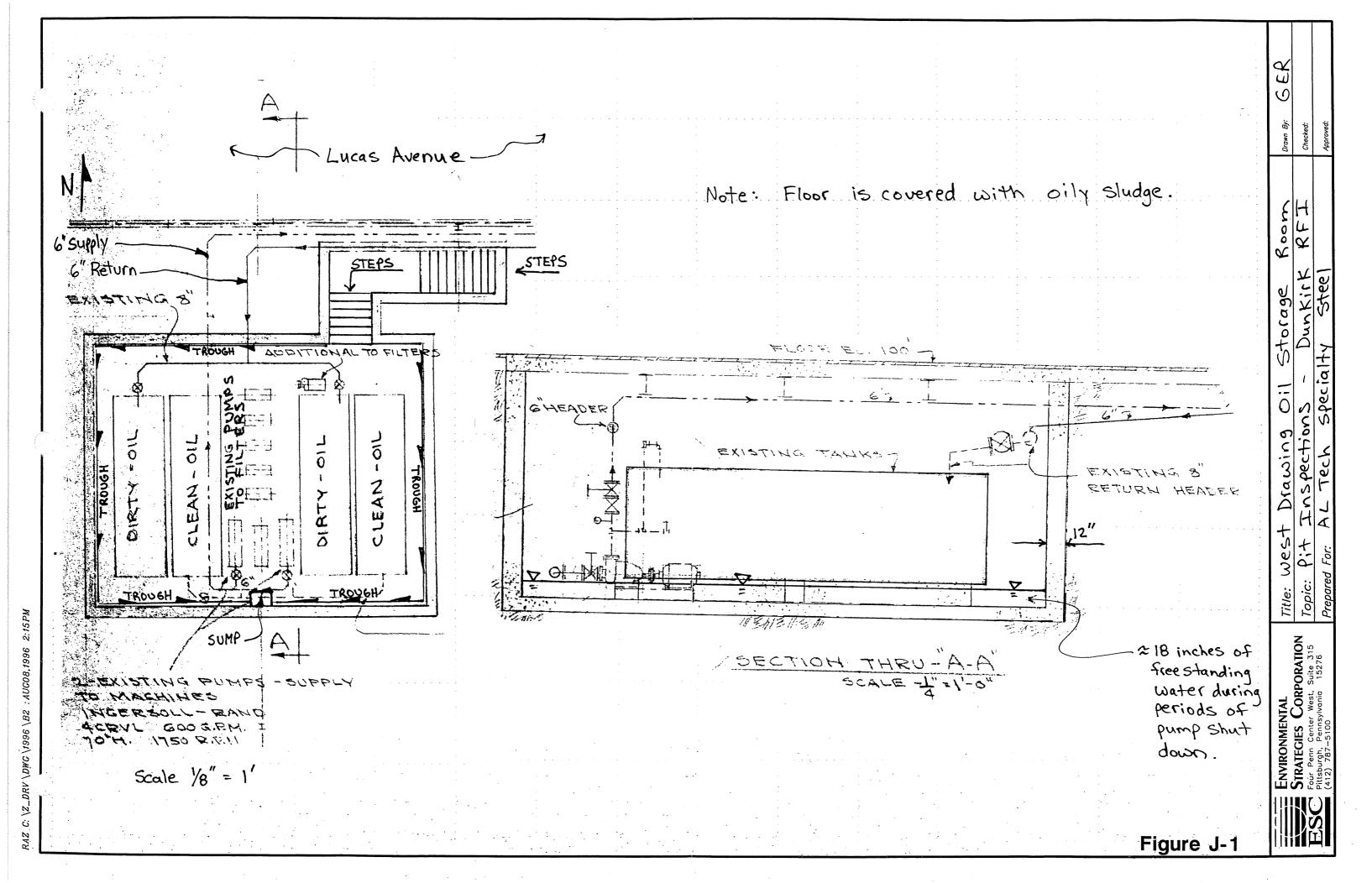


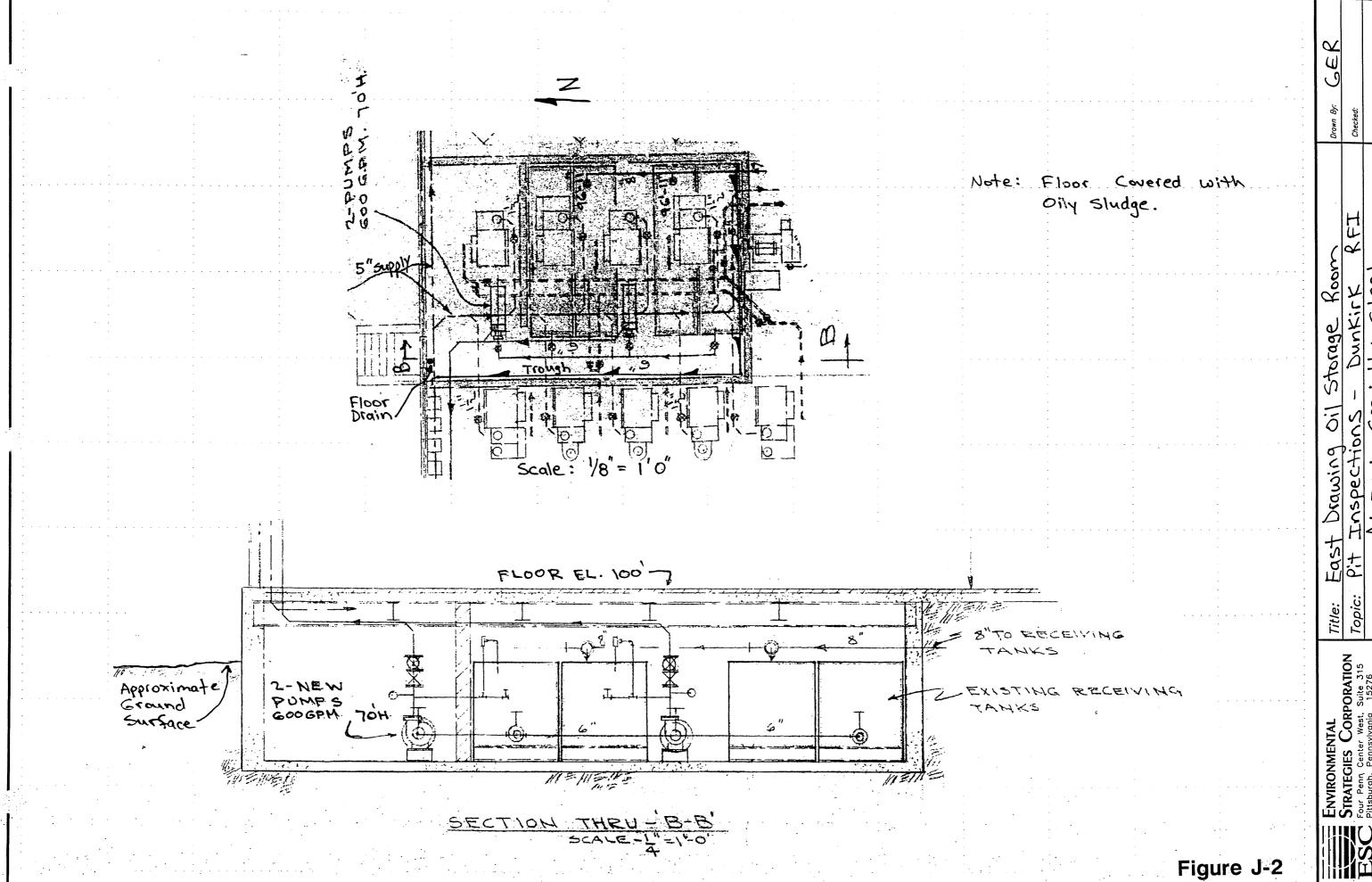


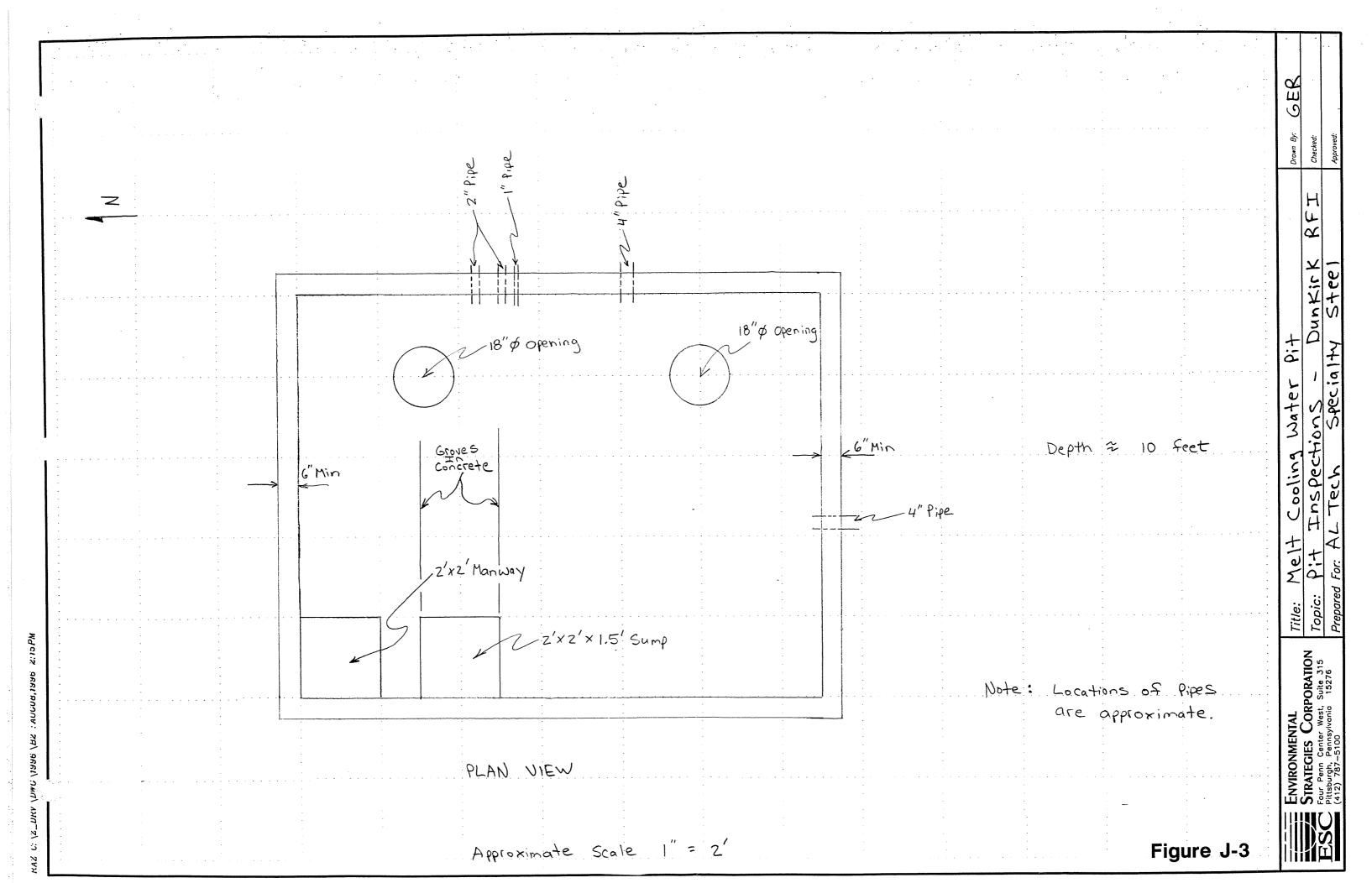


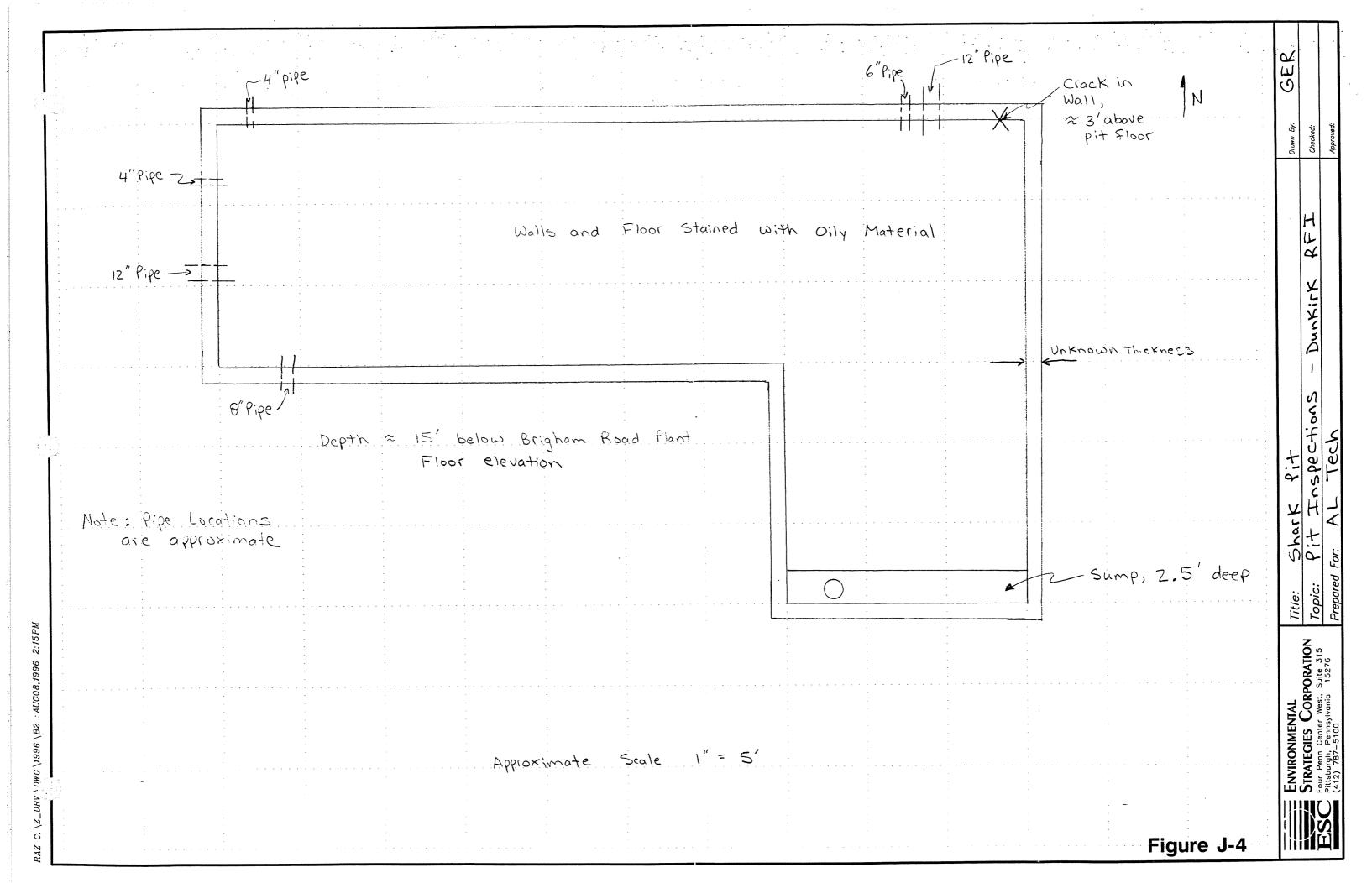


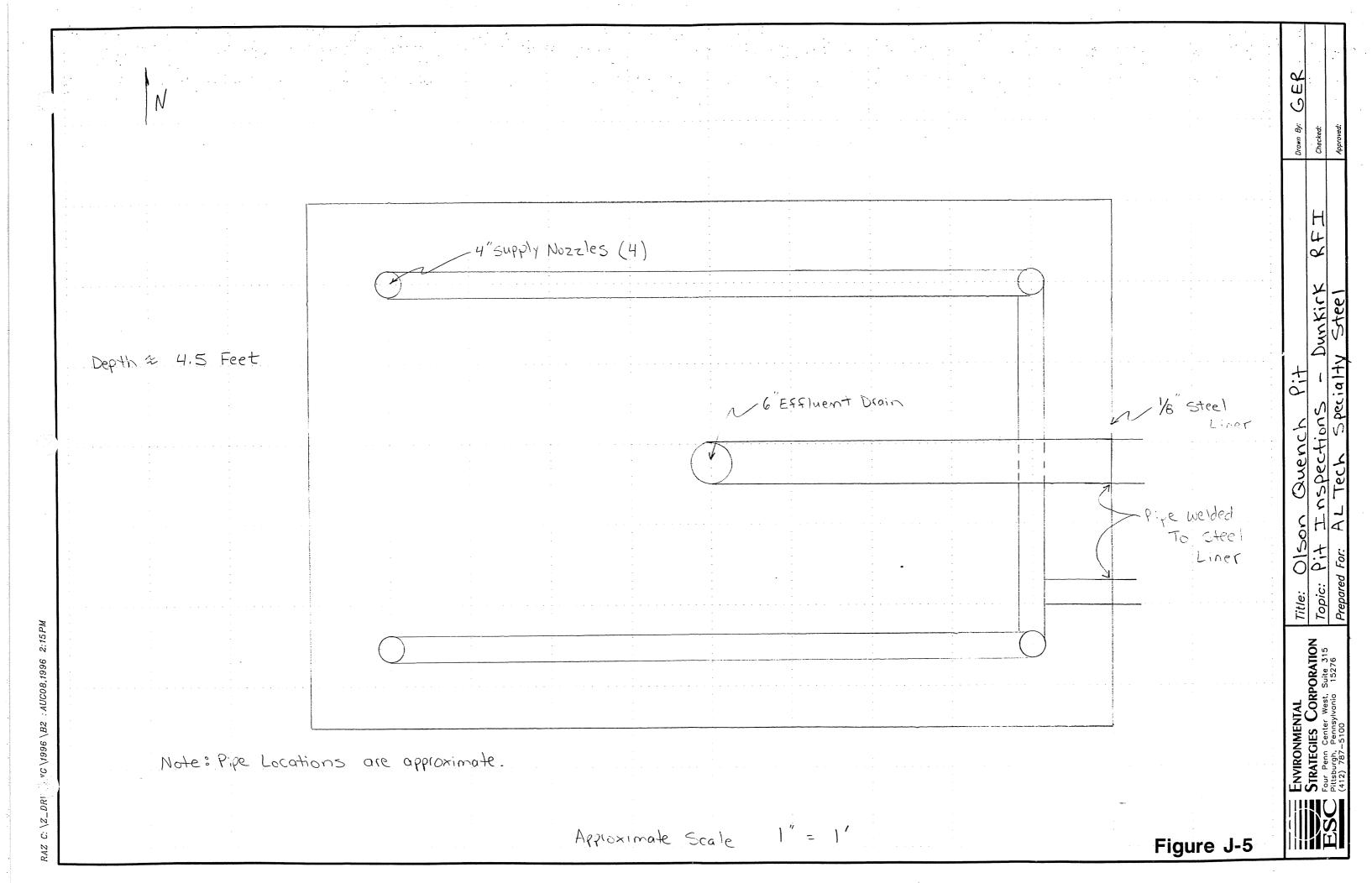
Appendix J - Process Pit Plan Maps and Photographs

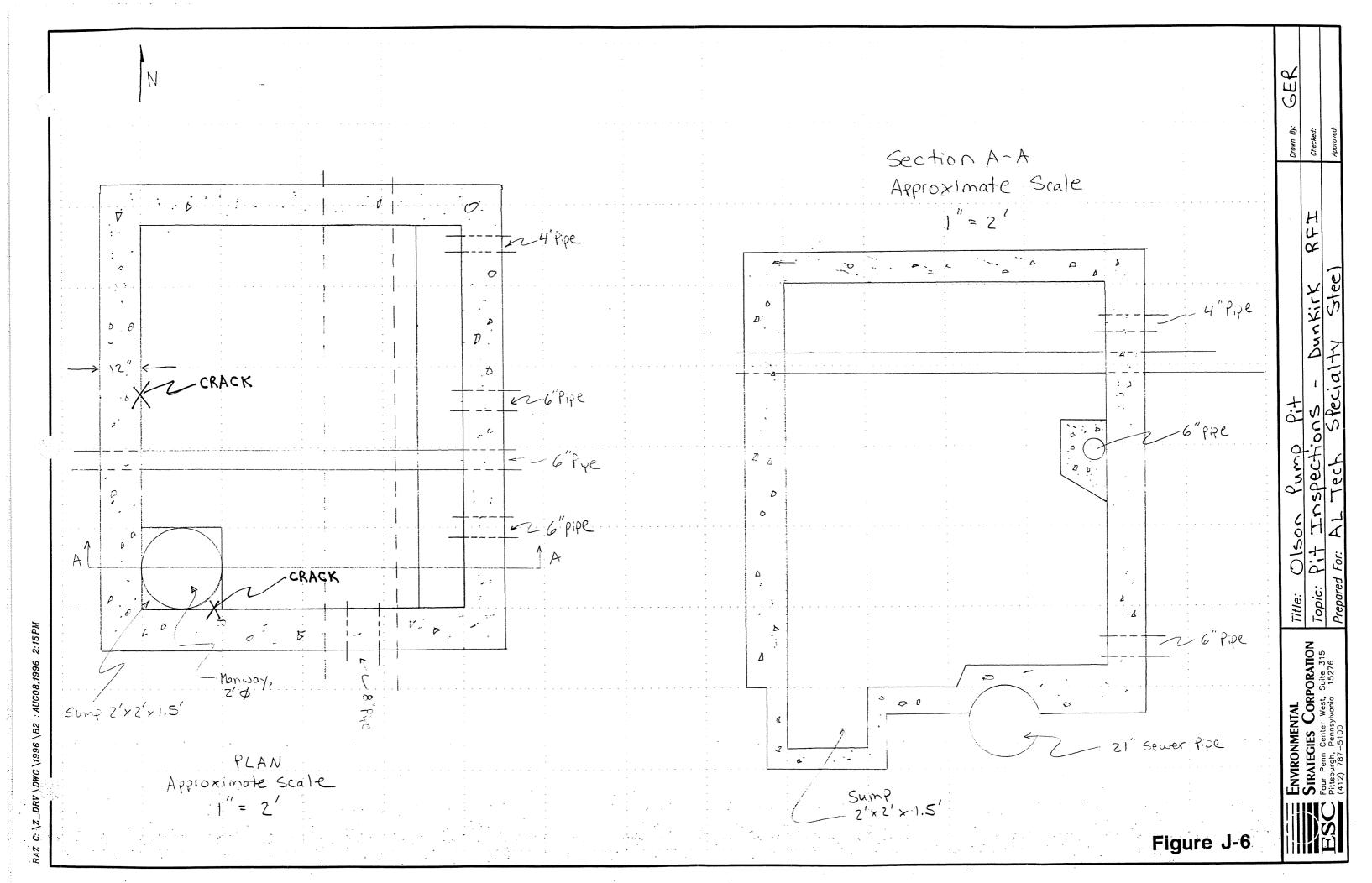












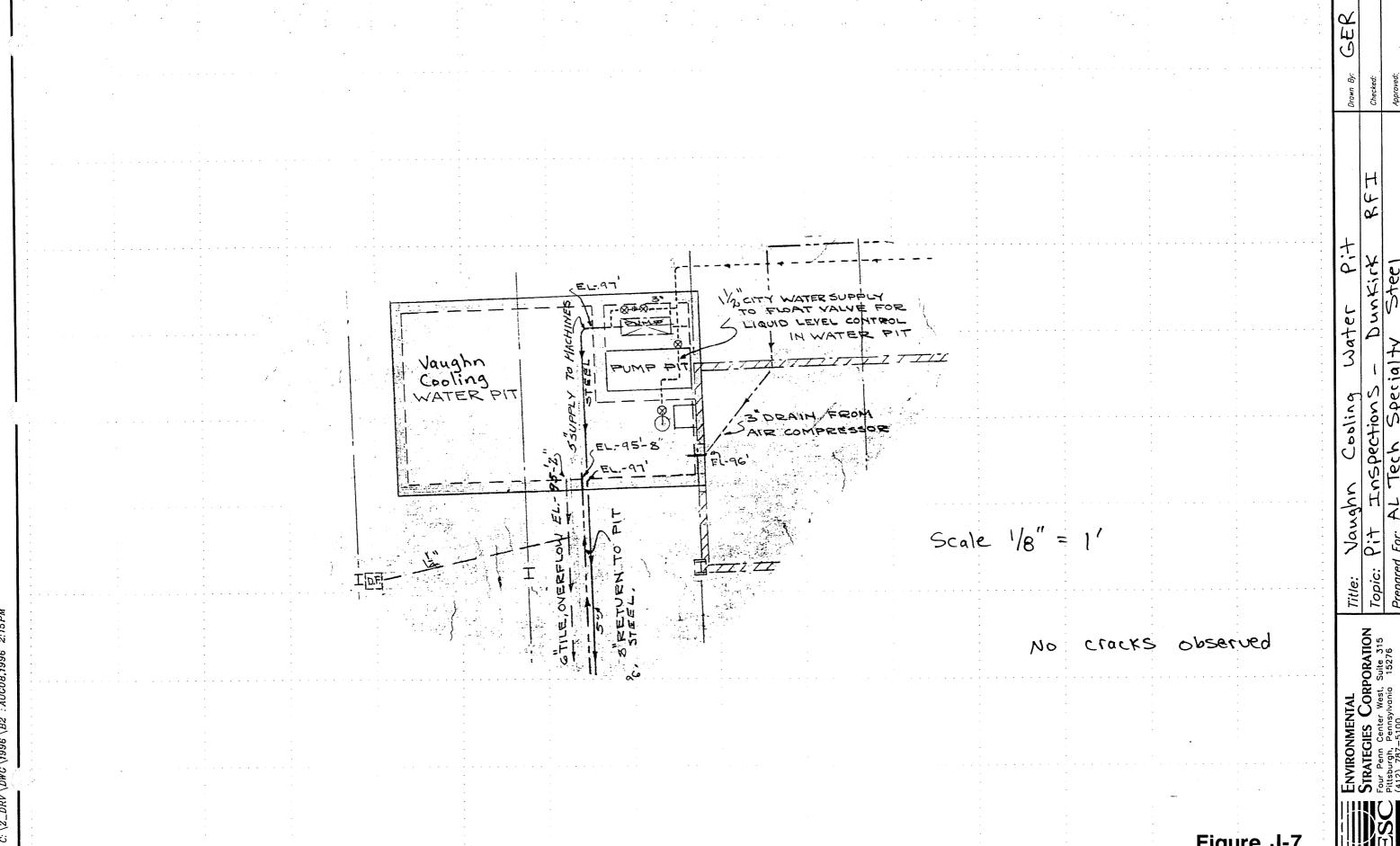
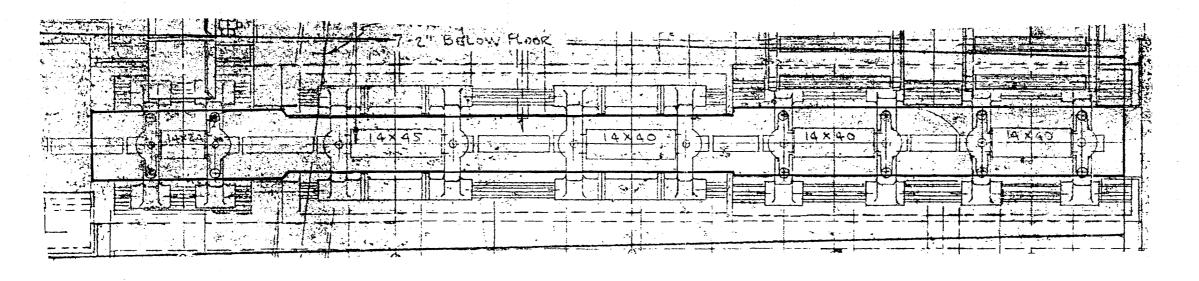
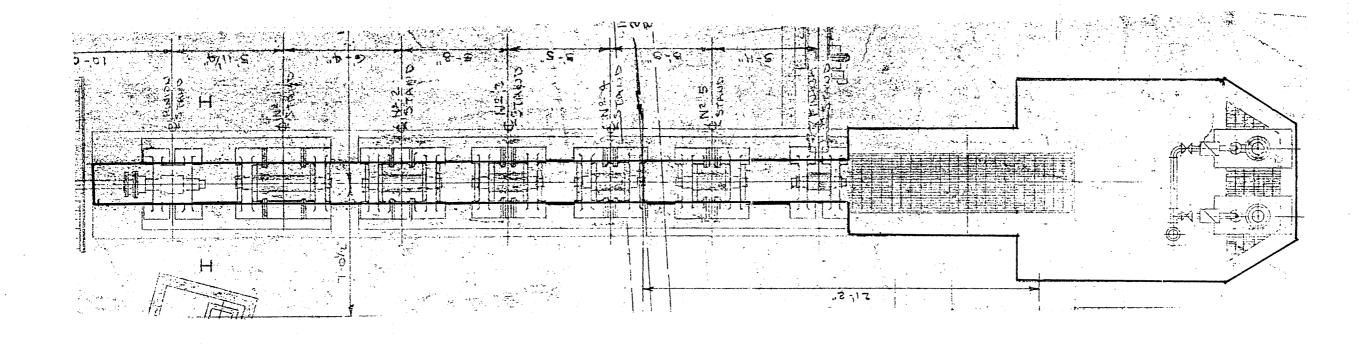


Figure J-7

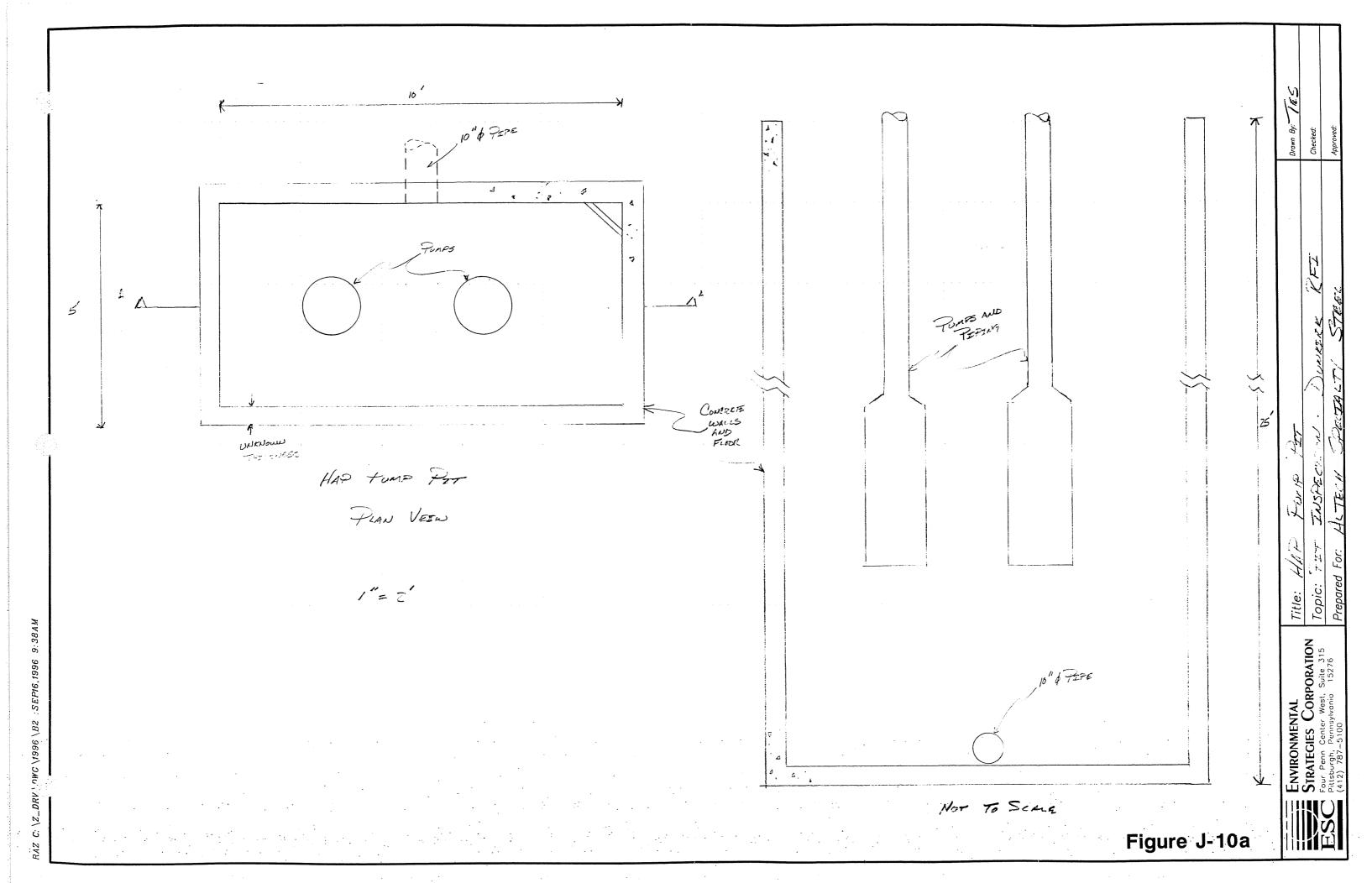


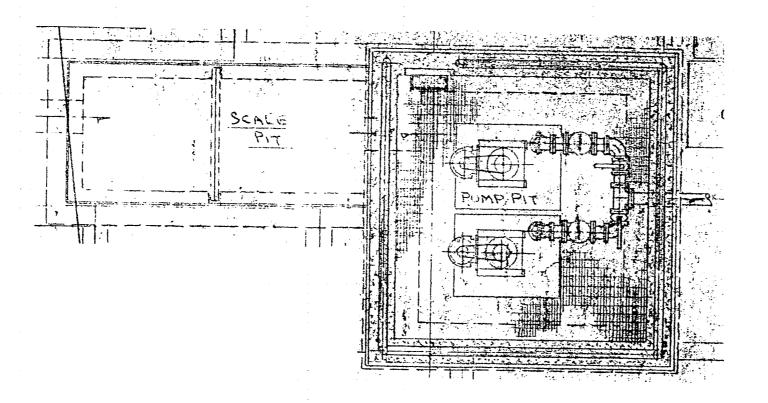
NOT TO SCALE





NOT TO SEALS





NOT TO SCALE

-Joint Separation 301 CLARIFIER W.L. 631.92 Clarifier Dimensions: TO HERE BY EQUIPMENT MFG 25' x 25' x 17' SLUDGE -POCKET SEE PLAN 27-H Plan weep 2-1 55 (G) 301/SAMPLE SINK Not To Scale - Sludge Thickener - 7 Figure J-11a

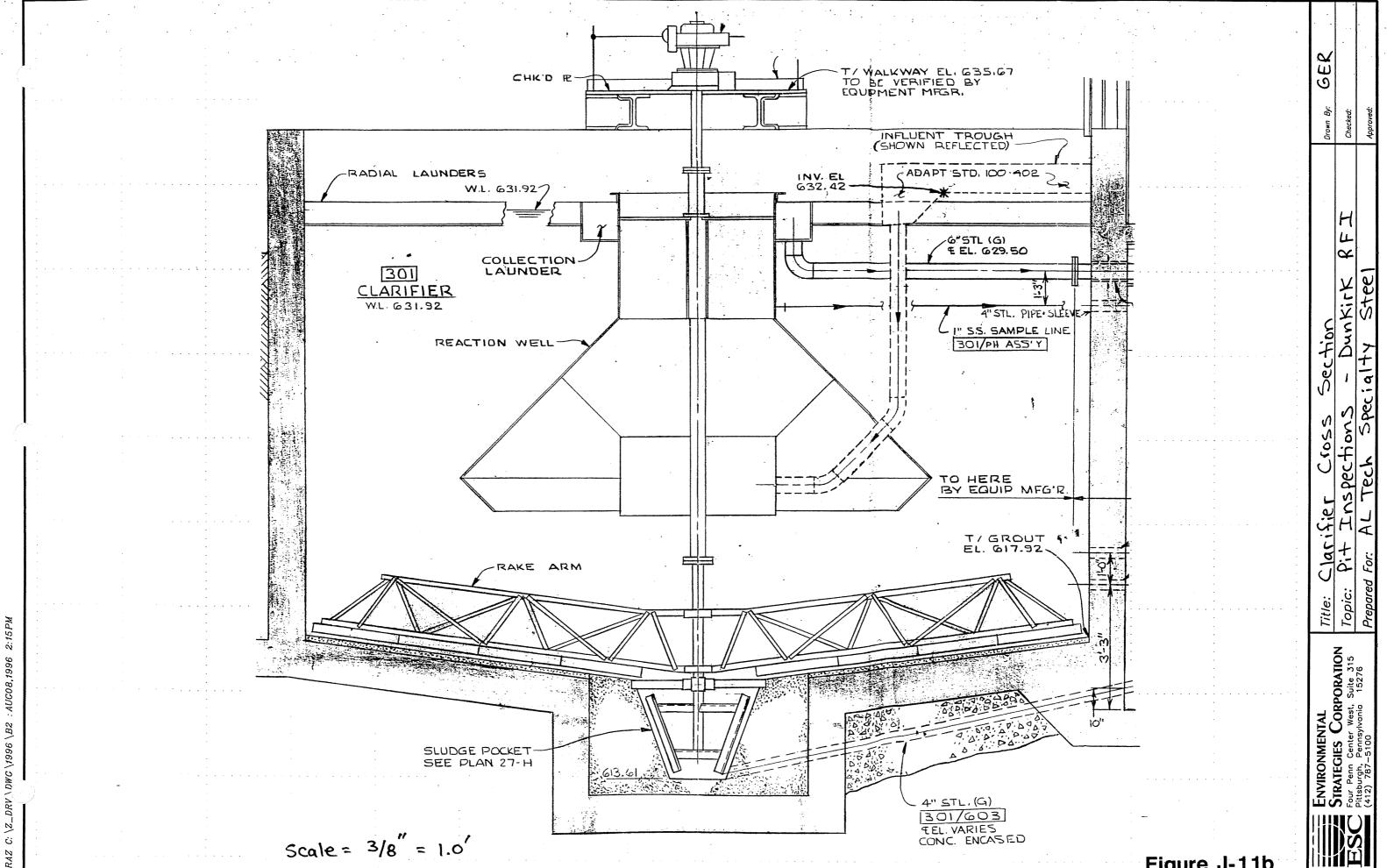
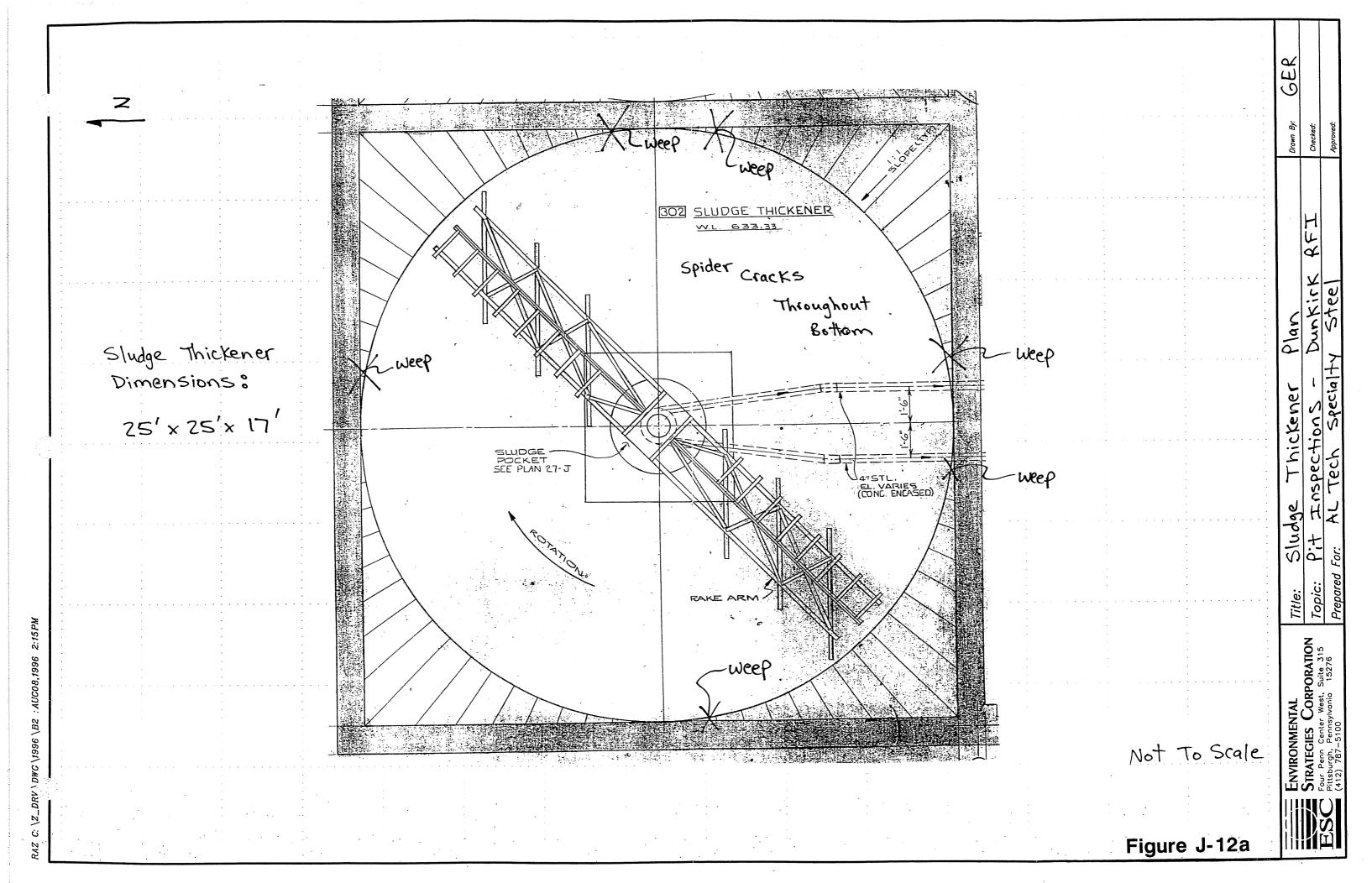
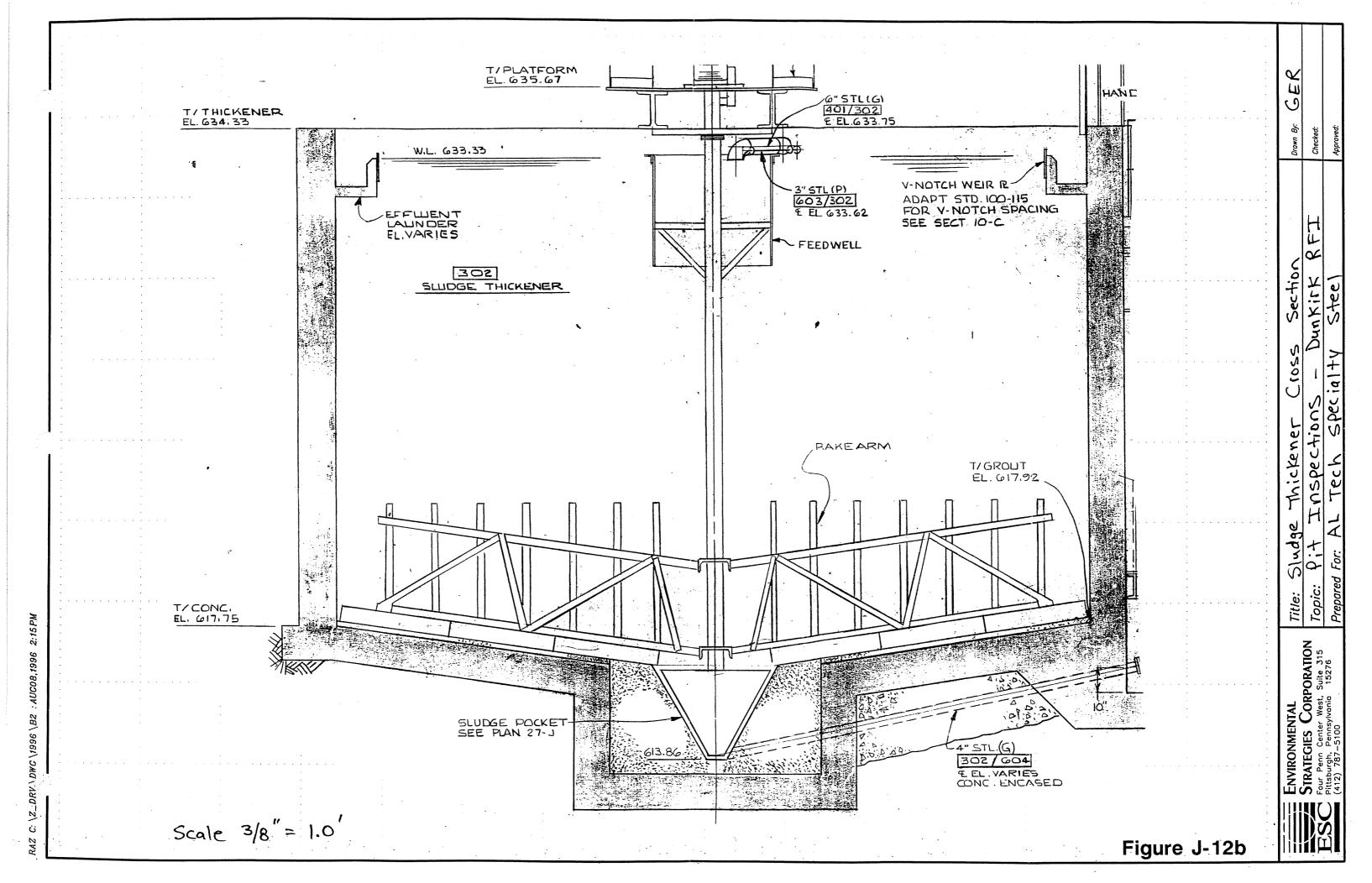


Figure J-11b





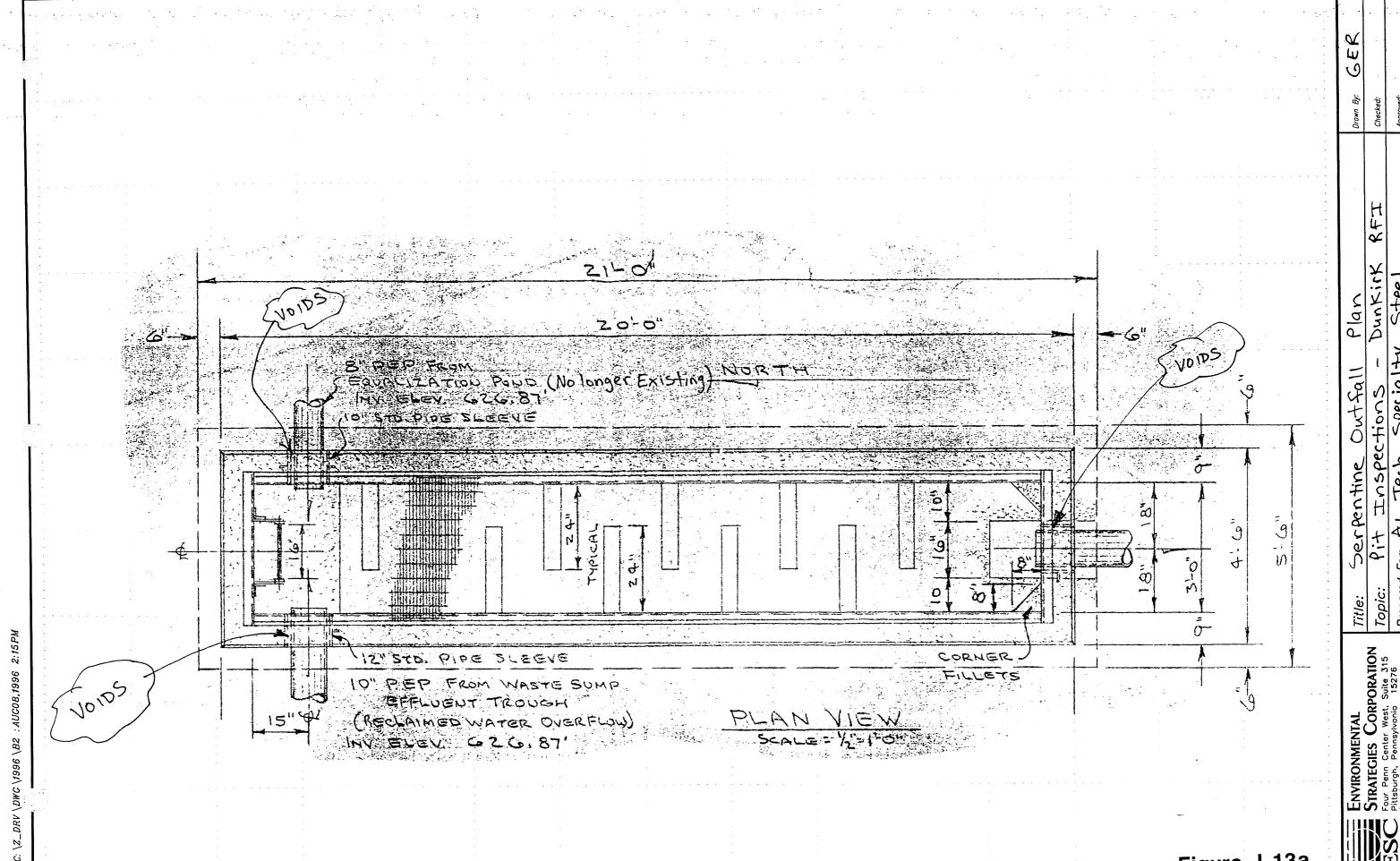


Figure J-13a

Specialty

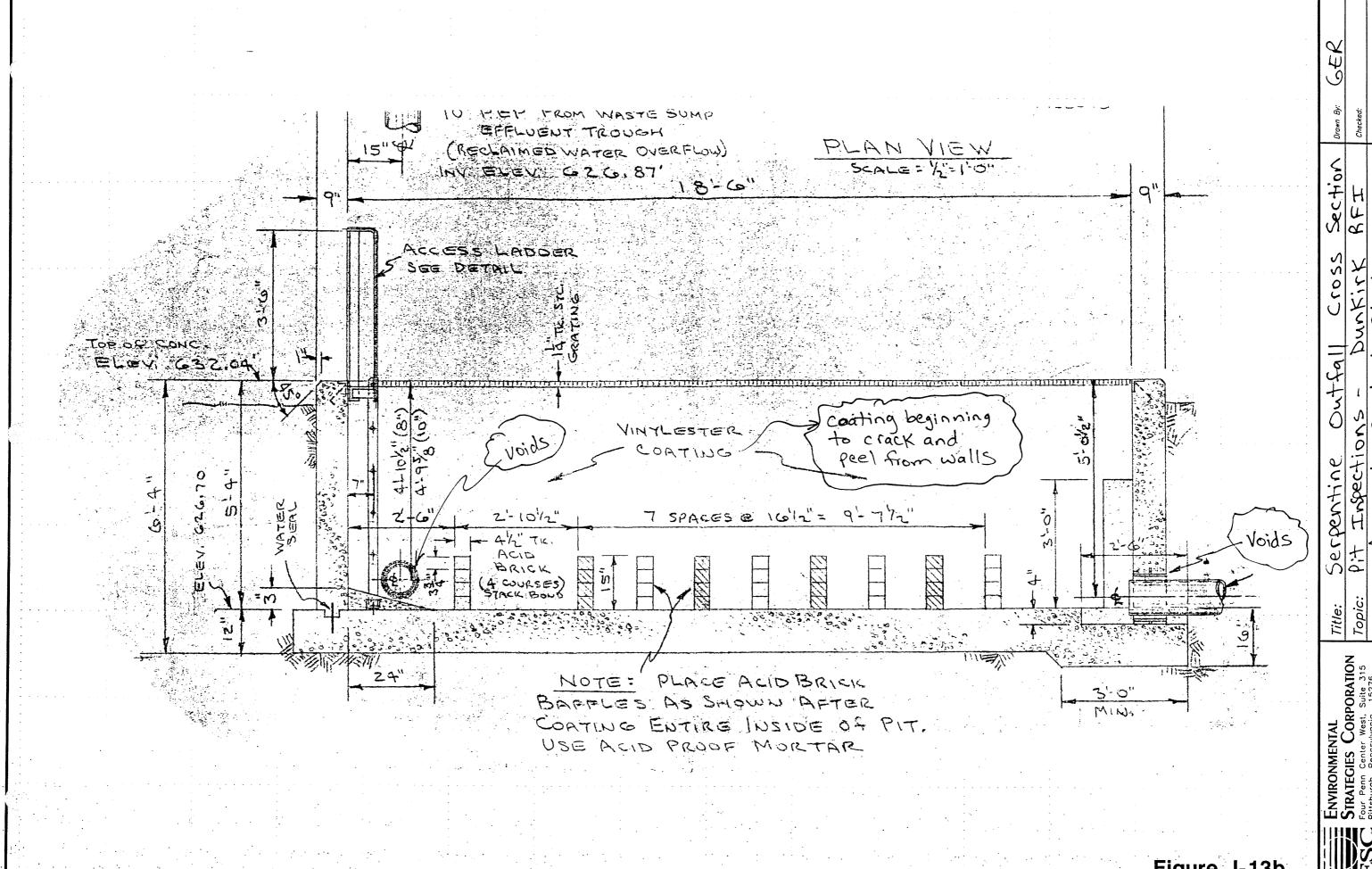
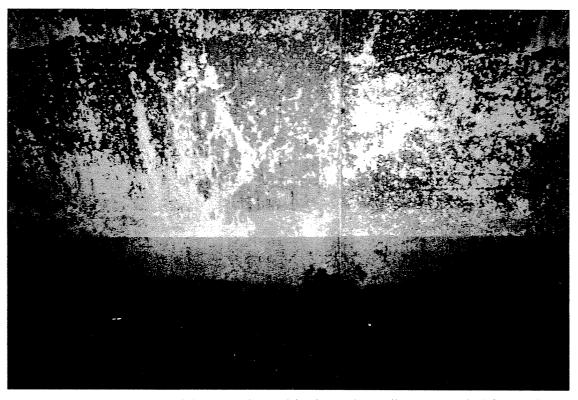


Figure J-13b



Photograph 1 - Oil and grease observed in the West Oil Drawing Storage Room (Pit No. 3).



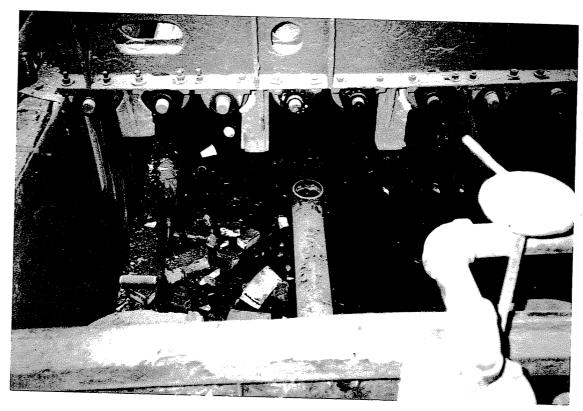
Photograph 2 - View of the sump located in the Melt Cooling Water Pit (Pit No. 6).



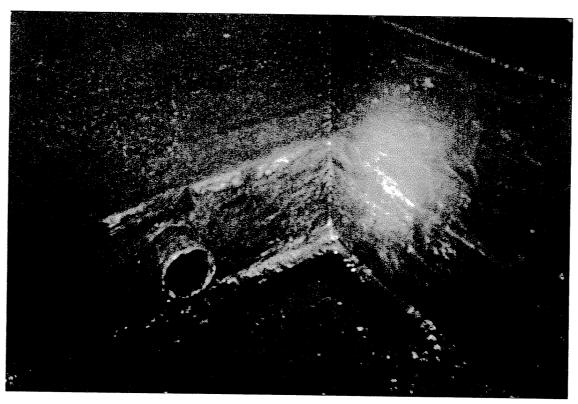
Photograph 3 - Walls and floor of the Shark Pit (Pit No. 8) coated with oil and grease. Also, groundwater infiltrating through several cracks.



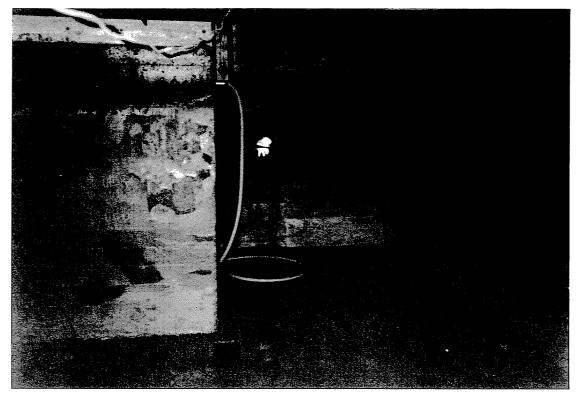
Photograph 4 - Oil and grease coated walls and floor of the Shark Pit (Pit No. 8).



Photograph 5 - Inside view of Olson Quench Pit (Pit No. 10).



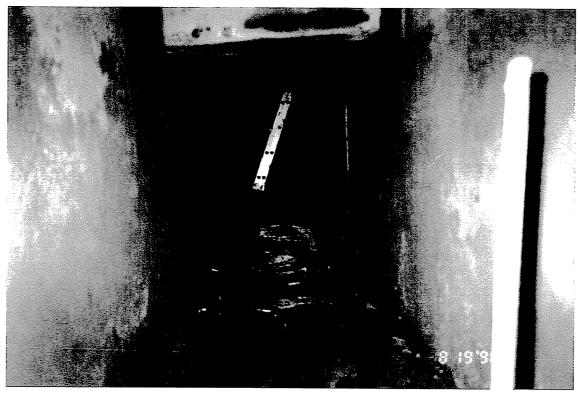
Photograph 6 - Groundwater infiltrating through several cracks located near the floor and wall interface of the Olson Pump Pit (Pit No. 11).



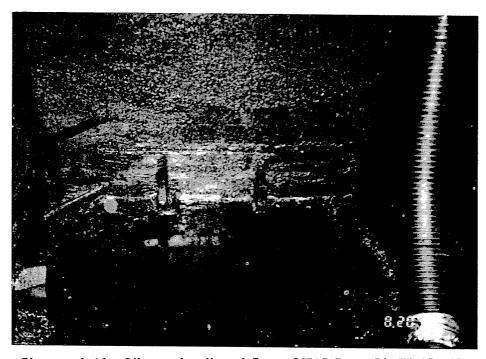
Photograph 7 - Slight peeling of tar-like coating of the wall in the Vaughn Cooling Water Pit (Pit No. 14).



Photograph 8 - Inside view of Shape-Mill Pit (Pit No. 16) with some residue on floor.



Photograph 9 - Inside view of Mini-Mill Pit (Pit No. 16) with some oil on floor.



Photograph 10 - Oil coated walls and floor of HAP Pump Pit (Pit No. 17).



Photograph 11 - Clarifier Pit (Pit No. 26) for facility's WWTP.



Photograph 12 – Liquid draining from between the clarifier walls and grout chamfered walls and grout chamfered corners (Pit No. 26)



Photograph 13 - View of the Serpentine Outfall (Pit No. 29) which discharges to the POTW sewer line.

Appendix K – WWTP Effluent Data

CLIENT: Sterling Environmental Services

SAMPLE ID: 05A Outfall

COLLECTION METHOD: Composite

COLLECTION DATE(S): 10/08/96 - 10/09/96

SAMPLE TYPE: Water

WTP

AES CLIENT ID: STER AES SAMPLE ID: 639R-1

PROJECT ID: 639R

			Practical	
Analytical	Analytical		Quantifiable	
Parameters	Results	Units	Limit	Method
Total Arsenic	ND *	mg/L	0.005	EPA 206.2
Total Barium	ND	mg/L	0.005	EPA 200.7
Total Cadmium	0.017	mg/L	0.005	EPA 200.7
Total Hexavalent Chromium	ND	mg/L	0.04	SW 846 7196
Total Copper	0.05	mg/L	0.01	EPA 200.7
Total Mercury	ND	mg/L	0.0004	EPA 245.1
Total Selenium	ND *	mg/L	0.005	EPA 270.2
Total Silver	0.019	mg/L	0.005	EPA 200.7
Total Cyanide, Manually Distilled	DN	mg/L	0.04	SM 412B/EPA 335.2
Total Recoverable Phenolics	0.008	mg/L	0.004	EPA 420.2

^{*} THESE ANALYSES WERE SUBCONTRACTED TO WASTE STREAM TECHNOLOGY, INC.

CLIENT: Sterling Environmental Services SAMPLE ID: 07A Outfall

COLLECTION METHOD: Composite COLLECTION DATE(S): 10/08/96 - 10/09/96

SAMPLE TYPE: Water



AES CLIENT ID: STER AES SAMPLE ID: 639R-2

PROJECT ID: 639R

	Practical			
Analytical Parameters	Analytical Results	Units	Quantifiable Limit	Method
PC8-1016	ND	μg/L	1.0	SW 846 8080
PCB-1221	ND	μg/L	1.0	SW 846 8080
PCB-1232	ND	μg/L	1.0	SW 846 8080
PCB-1242	ND	μg/L	1.0	SW 846 8080
PCB-1248	ND	μg/L	1.0	SW 846 8080
PCB-1254	ND	μg/L	1.0	SW 846 8080
PCB-1260	ND	μg/L	1.0	SW 846 8080

TABLE 1A

ANALYTICAL RESULTS

DECEMBER 1995

5A OUTFALL

WIP Total Arsenic (mg/L) 0.06 Total Barium (mg/L) ND Total Cadmium (mg/L) ND Total Chromium (mg/L) 0.03 0.11 Total Copper (mg/L) Total Lead (mg/L) ND ND Total Mercury (mg/L) Total Nickel (mg/L) 0.17 Total Selenium (mg/L) ND Total Silver (mg/L) ND Total Zinc (mg/L) ND Total Hexavalent Chromium (mg/L) ND Total Cyanide, Manually Distilled (mg/L) 0.02 0.002 Total Recoverable Phenolics (mg/L)

CLIENT: Sterling Environmental Services SAMPLE ID: 5A COLLECTION METHOD: COMPOSITE COLLECTION DATE(S): 11/10/94 - 11/11/94

SAMPLE TYPE: LIQUID

WTP

AES CLIENT ID: STER AES SAMPLE ID: 43LU-1

			Method	Practical	
Analytical Parameters	Analytical Results	Units	Detection Limits	Quantifiable Limit	Method
Total BOD (5 Day)	8.0	mg/L	2.0	8.0	EPA 405.1
Chemical Oxygen Demand	28	mg/L	1.00	4.00	Hach Appendix A
Total Suspended Solids	12	mg/L	1.0	4.0	EPA 160.2
Total Antimony	ND	mg/L	0.05	0.20	EPA 200.7
Total Arsenic	ND	mg/L	0.05	0.20	EPA 200.7
Total Barium	0.009*	mg/L	0.005	0.02	EPA 200.7
Total Boron	0.31	mg/L	0.02	0.08	EPA 200.7
Total Cadmium	ND	mg/L	0.005	0.02	EPA 200.7
Total Chromium	ND	mg/L	0.01	0.04	EPA 200.7
Total Cobalt	ND	mg/L	0.01	0.04	EPA 200.7
Total Copper	0.25	mg/L	0.01	0.04	EPA 200.7
Total Cyanide, Manually Distilled	ND	mg/L	0.010	0.040	SM 412B/EPA 335.3
Total Fluoride (Manually Distilled)	8.2	mg/L	0.10	0.40	EPA 340.2
Total Iron	0.05*	mg/L	0.05	0.20	EPA 200.7
Total Lead	ND	mg/L	0.05	0.20	EPA 200.7
Total Magnesium	15	mg/L	0.05	0.20	EPA 200.7
Total Manganese	0.09	mg/L	0.005	0.02	EPA 200.7
Total Mercury	ND	mg/L	0.0005	0.001	EPA 245.1
Total Nickel	0.03*	mg/L	0.02	0.08	EPA 200.7
PCB-1016	ND	μg/L	0.5	1.0	SW 846 8080
PCB-1221	ND	μg/L	0.5	1.0	SW 846 8080
PCB-1232	. ND	μg/L	0.5	1.0	SW 846 8080
PCB-1242	ND	μg/L	0.5	1.0	SW 846 8080
PCB-1248	ND	μg/L	0.5	1.0	SW 846 8080
PCB-1254	ND	μg/L	0.5	1.0 /	SW 846 8080
PCB-1260	ND	μg/L	0.5	1.0	SW 846 8080
Total Recoverable Phenolics	ND	mg/L	0.002	0.008	EPA 420.2
Total Phosphorus	ND	mg/L	0.1	0.4	EPA 365.4

^{*} Estimated result, above detection limit but not quantifiable.

CLIENT: Sterling Environmental Services

SAMPLE ID: 5A COLLECTION METHOD: COMPOSITE

COLLECTION DATE(S): 11/10/94 - 11/11/94

SAMPLE TYPE: LIQUID

FTW

AES CLIENT ID: STER AES SAMPLE ID: 43LU-1

Analytical Parameters	Analytical Results	Units	Method Detection Limits	Practical Quantifiable Limit	Method
Total Selenium	ND	mg/L	0.075	0.30	EPA 200.7
Total Silver	ND	mg/L	0.005	0.02	EPA 200.7
Total Strontium	0.46*	mg/L	0.20	1.0	SM 326A
Total Tin	ND	mg/L	10.0	40.0	EPA 282.1
Total Titanium	ND	mg/L	0.05	0.20	EPA 200.7
Total Zinc	ND	mg/L	0.02	0.08	EPA 200.7
Total Kjeldahl Nitrogen	6.5	mg/L	0.1	0.4	EPA 351.2
Ammonia	6.1	mg/L	0.05	0.25	EPA 350.1
Oil and Grease, Gravimetric	. 3.0	mg/L	1.0		SM 5520B
Total Dissolved Solids	9500	mg/L	1.0	4.0	EPA 160.1
TCH Scan	ND	μg/L	1.0	5.0	DOH 310-17
Surfactants (MBAS)	0.07*	mg/L	0.06	0.24	EPA 425.1

^{*} Estimated could be a few desired and the second a Estimated result, above detection limit but not quantifiable.

CLIENT: Sterling Environmental Services

SAMPLE ID: #7

COLLECTION METHOD: COMPOSITE

COLLECTION DATE(S): 11/10/94 - 11/11/94 SAMPLE TYPE: LIQUID

Willowbrook Pond

AES CLIENT ID: STER AES SAMPLE ID: 43LU-3

Analytical Parameters	Analytical Results	Units	Method Detection Limits	Practical Quantifiable Limit	Method
Total BOO (5 Day)	16	mg/L	2.0	8.0	EPA 405.1
Chemical Oxygen Demand	170	mg/L	1.00	4.00	Hach Appendix A
Total Suspended Solids	10	mg/L	1.0	4.0	EPA 160.2
Total Antimony	ND	mg/L	0.05	0.20	EPA 200.7
Total Arsenic	ND	mg/L	0.05	0.20	EPA 200.7
Total Barium	0.02	mg/L	0.005	0.02	EPA 200.7
Total Boron	0.24	mg/L	0.02	0.08	EPA 200.7
Total Cadmium	ND	mg/L	0.005	0.02	EPA 200.7
Total Chromium	0.08	mg/L	0.01	0.04	EPA 200.7
Total Cobalt	ND	mg/L	0.01	0.04	EPA 200.7
Total Copper	ND	mg/L	0.01	0.04	EPA 200.7
Total Cyanide, Manually Distilled	ND	mg/L	0.010	0.040	SM 412B/EPA 335.3
Total Fluoride (Manually Distilled)	0.34 *	mg/L	0.10	0.40	EPA 340.2
Total Iron	2.0	mg/L	0.05	0.20	EPA 200.7
Total Lead	ND	mg/L	0.05	0.20	EPA 200.7
Total Magnesium	11	mg/L	0.05	0.20	EPA 200.7
Total Manganese	0.42	mg/L	0.005	0.02	EPA 200.7
Total Mercury	ND	mg/L	0.0005	0.001	EPA 245.1
Total Nickel	0.41	mg/L	0.02	0.08	EPA 200.7
PCB-1016	ND	μg/L	0.5	1.0	SW 846 8080
PCB-1221	ND	μg/L	0.5	1.0	SW 846 8080
PCB-1232	ND	μg/L	0.5	1.0	SW 846 8080
PCB-1242	0.52 *	μg/L	0.5	1.0	SW 846 8080
PCB-1248	ND	μg/L	0.5	1.0	SW 846 8080
PCB-1254	ND	μg/L	0.5	1.0	SW 846 8080
PCB-1260	ND	μg/L	0.5	1.0	SW 846 8080
Total Recoverable Phenolics	0.004 *	mg/L	0.002	0.008	EPA 420.2
Total Phosphorus	ND	mg/L	0.1	0.4	EPA 365.4

Estimated result, above detection limit but not quantifiable.

CLIENT: Sterling Environmental Services SAMPLE ID: #7

COLLECTION METHOD: COMPOSITE
COLLECTION DATE(S): 11/10/94 - 11/11/94
SAMPLE TYPE: LIQUID

AES CLIENT ID: STER

AES SAMPLE ID: 43LU-3

Analytical Parameters	Analytical Results	Units	Method Detection Limits	Practical Quantifiable Limit	Method
Total Selenium	ND	mg/L	0.075	0.30	EPA 200.7
Total Silver	ND	mg/L	0.005	0.02	EPA 200.7
Total Strontium	ND	mg/L	0.20	1.0	SM 326A
Total Tin	ND	mg/L	10.0	40.0	EPA 282.1
Total Titanium	ND	mg/L	0.05	0.20	EPA 200.7
Total Zinc	ND	mg/L	0.02	0.08	EPA 200.7
Total Kjeldahl Nitrogen	1.8	mg/L	0.1	0.4	EPA 351.2
Ammonia	0.36	mg/L	0.05	0.25	EPA 350.1
Oil and Grease, Gravimetric	_ 4.0	mg/L	1.0		SM 5520B
Total Dissolved Solids	310	mg/L	1.0	4.0	EPA 160.1
CH Scan	ND	μg/L	1.0	5.0	DOH 310-17
Surfactants (MBAS)	ND	mg/L	0.06	0.24	EPA 425.1

========	======	======									=====	======
OUTFALL 5A	Zinc	Lead	Chromium	Nickle	Nitrate	Nitrite	NO3 Lb's/day	pН	Ammonia	Oil & Grea	e TSS	FLOW
		======		.=======				=====			=====	
@2-Mar-97					400		0.00					0
83-Mar-97					150		0.00					0
04-Mar-97					190		0.00					0
10-Mar-97					88		158.97	7.60			•	216600
11-Mar-97	ND	ND	0.03	0.76	120	4.00	90.95		2.40	ND	10	90880

	Zinc	Lead	Chromium	Nickel	Nitrate
ppm/Day	0.00	0.00	0.0 3	0. 76	188
Avg.Flow	61496	61496	61496	61496	61496
lbs/Day	0.00	0.00	0.02	9. 39	96

5 Day Avg. Flow = 61496

DOITHLE 38	(d.an)		
		=======	======
	OIL/GREEASE	рΗ	TEMP

12-Mar-97 ND 6.7 4

KEY TO ABBREVIATIONS

PQL - Below Quantifiable Levels

ND - None Detected

OUTFALL 5A	Zinc	Lead	Chromium	Nickle	Nitrate	Nitrite	NO3 Lb's/day	ρН	Ammonia	Oil &	Grease	TSS	FLCW
@2-Feb-97					170	**************************************	150.91	6.53	***************************************				106440
03-Feb-97					160		102.22						75600
04-Feb-97					160		191.15						143250
05-Feb-97					140		163.45						139990
06-Feb-97					180		195.71						130370
09-Feb-97 10-Feb-97	0.03	ND	0.02	0.17	ı	3.70			2.19		ND	5	

Zinc Lead Chromium Nickel Nitrate

5 Day Avg. Flow = 119330

pp∎/Day	0.03	0.00	0.02	0.17	162
Avg.Flow	119330	119330	119330	119330	119330
lbs/Day	0.03	0.00	0.02	0.17	161

CUTFALL 5B	(grab)		
			=======
	OIL/GREEASE	pН	TEMP
			=======
10-Feb-97	ND	6.8	7.7

OUTFALL 7	(grab)		
	OIL/GREASE	pН	TEMP
10-Feb-97	ND	6.6	4.5

KEY TO ABBREVIATIONS

BQL - Below Quantifiable Levels

ND - None Detected

=========	=====	======						=====			=====	
OUTFALL 5A	Zinc	Lead	Chromium	Nickle	Nitrate	Nitrite	NO3 Lb's/day	рН	Ammonia	Oil & Great	e TSS	FLOW
06-Jan-97					73	··················	63.93	8.00				105010
07-Jan-97					96		72.42				-	90450
08-Jan-97					84		63.18					90180
09-Jan-97					119		96.21					96940
13-Jan-97	ND	ND	0.02	1.60	130	1.10	80.82		3.22	ND	9.3	74540

	Zinc	Lead	Chromium	Nickel	Nitrate
		======			
pp∎/Day	0.00	0.00	0.02	1.60	100
Avg.Flow	91424	91424	91424	91424	91424
lbs/Day	0.00	0.00	0.02	1.22	77

5 Day Avg. Flow = 91424

OUTFALL 5B	(grab) 		
	OIL/GREEASE	pH	TEMP
14-Jan-97	ND	6.5	3.6
MITEGI: 7	(dexa)		

OUTT THEE	/A: ap,		
=======================================			=======
	OIL/GREAGE	pН	TEMP
=======================================			
14-Jan-97	ND	6.4	2.5

KEY TO ABBREVIATIONS

BGL - Below Quantifiable Levels

ND - None Detected

ANALYTICAL RESULTS

Docember 1996

			05A			05B	07A
			D,	DATE of SAMPLE	MPLE		
PARAMETER	12/02	12/03	12/04	12/06	12/09	12/10	12/10
Nitrate/Nitrite	145	115	95	105 ·	100	NR	NR
Nitrite	NR	NR	NR	NR	2.8	NR	NR
Ammonia	NR	NR	NR	NR	1.6	NR	NR
TSS	NR	NR	NR	NR	19	NR	NR
Total Chromium	NR	NR	NR	NR	0.02	NR	NR
Total Lead	NR	NR	NR	NR	ND	NR	NR
Total Nickel	NR	NR	NR	NR	1.3	NR	NR
Total Zinc	NR	NR	NR	NR	ND	NR	NR
Oil and Grease	NR	NR	NR	NR	ND	ND	ND

ND - Not Detected NR - Not Required

$Appendix \ L-Reportable \ Release \ History$

AL Tech Specialty Steel Corporation Reportable Release History

03/26/79 Sulfuric Acid

On 03/26/79 the LAP west pickling personnel were transferring sulfuric acid from the sulfuric acid CBS tank to the process tanks. The tanks was pressurized with air when a gasket failed allowing the release of ~860 gallons of 72% sulfuric acid to the ground, in the immediate area. The released material was contained on site and neutralized with lime. Impacted soil was removed and disposed of at the Chautauqua County Industrial Waste Landfill. The NYSDEC was notified.

04/03/80 Furnace Fuel Oil

On 04/10/80 at 10:30 am an oil release was discovered near the LAP tunnel. The oil was released from an underground fuel oil supply line that had lost its integrity. The cleanup and disposal of impacted soil and residual oil was done in a manner acceptable to the NYSDEC representatives that visited the site.

09/02/82 Caustic

On 09/02/82 the caustic quench discharge manhole at the LAP west Pickle House was overflowed with ~20 gallons of spent caustic quench water. The released material entered the storm sewer drainage ditch on the south side of the LAP west Pickle House, where it was contained. An outside contractor with a high pressure cleaning unit was hired to remove the obstruction from the manhole drain and clean the ditch and impacted soil. The local NYSDEC agent was notified and approved the cleanup effort.

04/18/83 Sulfuric Acid

On 04/12/83 at ~1:30 pm an AL Tech employee discovered that the virgin sulfuric acid CBS tank was being overtopped by a PVS Chemical supply tanker truck. The driver who was in the cab of the truck could not see the release from his point of view, was alarmed by the AL tech employee. Once aware of the release the drive stopped flow the CBS tank. Approximately 200 - 600 gallons of 72% sulfuric acid was released. An unknown quantity entered the storm sewer line leading to the ditch northeast of the WTP. This ditch was diked in order to contain the released material to AL Tech Property. The impacted soil, stormwater drainage line and ditch was flushed with large amounts of water while being neutralized with soda ash. The resulting rinse water was collected at the diked ditch and pumped to the WTP for processing. Flushing continued for 2 days until the pH of the rinsewater was between 7-8. The local DEC agent was on hand and approved of the cleanup efforts, as well as the disposal of neutralized soil at the County Landfill; after analytical result were received.

05/02/83 Furnace Fuel Oil

On 05/02/83 at ~9:30 am AL Tech Personnel discovered a leak in an underground fuel oil line to the north of the Shop Hospital. The local County Environmental Agent was notified, shortly afterward. The amount of oil released is not know, but cleanup and soil removal lasted several days.

08/28/84 Nitric Acid

On 08/28/98 at ~5:30 pm an AL Tech employee discovered the 3/4"sample port valve on the nitric acid CBS tank leaking nitric acid. The leak was properly repaired and the 150 gallons of 68% nitric acid was neutralized and cleaned up. A NYSDEC officer was present at the time of clean up and was satisfied with the cleanup efforts.

10/22/85 Nitric/HF Acid

On 10/22/85 it was found that the ~5,000 gallon nitric/hydrofluoric acid pickling tank inside the BRP Pickle House has sprung a leak. The leaking nitric/HF pickle liquor had corroded the floor beneath the leaking tank to the point that it created a hole. The nitric/HF pickle liquor was then released to an abandoned sewer line connected to the spent acid pit east of the BRP pickling facility. The released material was contained on AL Tech property. The exact amount of material released is not known.

01/14/86 Spent Pickle Liquor.

on 01/14/86 at ~10:30 am the manhole east of the old WTP equalization impoundment was discovered to be overflowing with spent pickle liquor. The cause of the release was a piece of debris lodged in the outflow pipe of the manhole. Approximately 100 gallons of spent pickle liquor reached the storm sewer and was finally contained to AL Tech property at the ditch west of the WTP. Neutralization of the impacted soil and water immediately took place. The neutralized waste water was then vacuumed up with a vac truck and transferred to the WTP for processing. The local DEC agent was notified, witnessed and approved the cleanup procedures.

02/28/86 Spent Pickle Liquor

On 02/26/86 at ~11:00 am a wet spot was discovered near the WTP. It was found to be a release of spent pickle liquor from the ruptured 6" polyethylene line transferring wastewater from the BRP Pickle House to the octapus. It was estimated that ~50 gallons of spent pickle liquor was released. Neutralization and cleanup was observed by the local DEC agent and approved.

08/10/87 Sulfuric Acid

On 03/10/87 at $\sim 1:30$ pm the manhole south east of the old WTP equalization surface impoundment was overflowing spent sulfuric pickle liquor. Approximately 10 gallons of material was released and ran down the ditch on the south side of the

road. The material never entered the storm sewer. The released material was neutralized with soda ash and removed for proper disposal, along with a small amount of impacted soils.

02/11/88 Sulfuric Acid

On 02/11/88 at ~8:00 am a City Technician discovered the spent acid pit outside the LAP west Pickle House overflowing to the City sanitary sewer system. Remediation of the release was to transfer the spent acid in the spent acid pit to the WTP. Next any acidic water in the manholes leading to the City sanitary sewer system was pumped to the spent acid pit. Once pumped down the manholes were neutralized with soda ash. Finally, the sewer line leading to the City sanitary sewer was plugged off. The local NYSDEC agent was notified and present for the cleanup source investigation and remediation.

This release to the City sanitary sewer system created an upset at the City POTW, which put the POTW out of compliance with its SPDES discharge permit.

03/06/91 Nitric Acid Release # 9012592

On 03/06/91 it was discovered that ~750 gallons of nitric pickle liquor had breached the BRP Pickle House containment. The NYSDEC was notified and present for the remediation of the site. A two part remediation plan was agreed to and carried out. Part 1 involved the excavation and removal of all impacted soil based on pH readings. Part 2 of the remediation was the decontamination of the Pickle House containment from the point of origin.

05/19/92: Release # 9202013: Sulfuric Acid

A blockage of the spent sulfuric polyethylene line leading from the BFS Pickle House to the WTP spent sulfuric pit, caused a coupling in the line to rupture just north of the octapus. The rupture released an undetermined amount of spent sulfuric pickle liquor (10-12% sulfuric acid). The released material migrated on the road west toward the WTP, and entered the stormwater drainage system. The release was contained to the small open ditch north of the WTP by AL Tech Haz-Mat Team personnel. The released material was neutralized and transferred to the WTP for treatment. Impacted soils were removed and properly disposed of.

11/06/92 Report; # 200-92; Diesel Fuel

On 11/06/92 at ~ 7:45 pm an outside commercial tractor trailer ruptured its fuel tank while backing into the LAP shipping docks. The released material was contained on the north side of Lucas Avenue. Residual fuel and impacted soils were removed and properly disposed of.

04/29/93 Nitrate Wastewater

On 04/29/93 the float switch on a commercial vac truck failed near the WTP releasing ~400 gallons of nitrate bearing wastewater. The released material entered the storm sewer behind the WTP where it was contained to AL Tech property and recovered. The recovered material was transferred back to the WTP for processing.

09/22/94 Caustic Sludge

On 09/22/94 at ~12:00 pm a commercial vac truck unloading caustic sludge from cleaning in the BFS Pickle House, overflowed the WTP "pad". The released caustic material entered the 5a outfall leading to the City sanitary sewer. The WTP effluent flow was immediately halted and the outfall was decontaminated using the vac truck.

01/25/95 Sulfuric Pickle Liquor Release # 9414230

On 01/25/95 at ~8:30 am it was discovered that a failed spent sulfuric line at the BFS Pickle House had released ~ 50 gallons of spent sulfuric pickle liquor. The released material entered the parking area north of the Tank Farm. The stormwater catch basin in the parking area caught some of the material and lead it to the ditch behind the WTP where the released material was contained. The impacted soil along with the stormwater drainage system were neutralized. Recovered wastewater was routed to the WTP for processing and solids were transferred to a lined 20 yard roll-off box, which was disposed of at Envotech Management Services, located in Bellville, MI.

01/02/96 Nitric/Hydrochloric Etch Bath

On 01/02/96 at ~3:00 am a fire was discovered in the Met Lab Etch Room. The fire damaged the etch bath resulting in the release of ~20 gallons of nitric/hydrochloric pickle liquor. The majority of the released material was captured by the floor drains, which lead to the WTP. The remainder of the released material was contained within the building, neutralized, recovered and transferred to the WTP for processing. The local NYSDEC agent was notified and onsite to approve the cleanup effort.

02/03/96 Spent Sulfuric; Release # 9514025

On 02/03/96 at ~8:30 am AL Tech personnel discovered a failed aboveground flange on the spent sulfuric line. The line had released ~100 gallons of spent sulfuric pickle liquor containing between 10-15% sulfuric acid. The released material was contained to the immediate area, neutralized and removed for disposal in a lined 20 yard roll-off box, which was shipped to Envotech Management Services, located in Bellville, MI. The local NYSDEC agent was notified and was present to approve and observe the cleanup activity.

04/22/96 Pickling Residue Contaminated Wastewater; Release # 9601068

On 04/22/96, at 11:30 am AL Tech Personnel were pumping hex chrome contaminated wastewater from the old BRP waste acid pit to the WTP, when an aboveground coupling on the transfer line failed. The line failure resulted in a release of ~50 gallons of hex chrome contaminated wastewater. The released material was contained to the immediate area and absorbed with sand. The impacted soil and sand was then transferred to a lined 20 yard roll-off box, that eventually was disposed of at Envotech Management Services, located in Bellville, MI. The local NYSDEC agent was notified and present for the cleanup activity.

07/14/96 Nitric Pickle Liquor; Release # 9603601

On 07/14/96 at ~11:30 am a commercial vac truck loaded with spent nitric/hydrofluoric pickle liquor lost vacuum near the WTP, prior to transferring the load to the WTP for processing. The loss of vacuum caused the seals to fail, resulting in a ~150 gallon release to the stormwater drainage system near the WTP. The released material was contained to the ditch behind the WTP and did not leave AL Tech property. The impacted soil and the stormwater drainage system was neutralized and thoroughly rinsed with a large amount of water. The rinse water was contained and transferred to the WTP for processing. The local NYSDEC agent was notified and present for the approval of cleanup activities.

07/09/96 Spent Sulfuric Pickle Liquor: Release # 9604581

On 07/09/96 at 5:45 pm AL Tech personnel discovered a flooding problem in the Met Lab Etch Room. The floor drains in the Etch Room at the time of the flooding were tied into the BFS Pickle House process tank overflows. The cause of the flooding was a downstream plug in the line leading to the WTP "octapus". The CLEANOX process bath overflow was reached; due to the blockage down stream in the line the sulfuric/hydrofluoric acid pickle liquor followed the line back to the Met Lab Etch Room floor drains. The result was a release of ~100 gallons of sulfuric/hydrofluoric acid pickle liquor to the floor of the Etch Room. The Release migrated under the door of the Etch Room and into a nearby stormwater receiver. The stormwater system conveyed the released material to the ditch behind the WTP, where it was contained to AL Tech property. A high pressure water blaster was hired to remove the blockage from the plugged spent acid line, the stormwater system was neutralized and thoroughly flushed with water. The rinse water was transferred to the WTP for processing, and any impacted soil was transferred to a lined 20 yard roll-off box for later disposal at Envotech Management Services, located in Bellville, MI. The local NYSDEC agent was notified and present to approve the cleanup activities.

08/20/96 Sulfuric/Hydrofluoric Spent Pickle Liquor; Release # 9606488

On 08/20/96 at 10:45 am AL Tech personnel discovered that a temporary spent sulfuric /hydrofluoric pickle liquor holding tank had been overtopped. The result was a release of ~50 gallons of spent sulfuric/hydrofluoric pickle liquor. The

released material was promptly contained and neutralized with soda ash. The impacted soils and absorbent material was transferred to a lined 20 yard roll-off box, which was later shipped to Envotech Management Services, located in Bellville, MI. The local NYSDEC agent was notified and present for the approval of the cleanup activities.

01/06/97 Spent Pickle Rinse Water; Release #9612027

On 01/06/97 at ~9:45 am AL Tech personnel discovered a ruptured underground spent rinsewater line conveying spent pickling rinsewater from the BFS Pickle House to the WTP "octapus". The rupture resulted in the release of ~500 gallons of spent acidic rinse water that was contained to a stormwater ditch northwest of the BFS Pickle House. The released material was neutralized and transferred to the WTP for processing. The impacted soil was removed from the ditch and transferred to a lined 20 yard roll-off box the would later be shipped to Envotech Management Services, located in Bellville, MI. The local NYSDEC agent was notified and present to approve the cleanup activities.

01/20/97 Spent Pickle Rinse Water; Release #9612483

On 01/20/97 at 11:00 am AL Tech personnel discovered a ruptured underground spent rinsewater line conveying spent pickling rinsewater from the BFS Pickle House to the WTP "octapus". The rupture resulted in the release of ~100 gallons of spent acidic rinse water to the immediate area, northwest of the BFS Pickle House. The released material and impacted soil was neutralized, and transferred to a lined 20 yard roll-off box the would later be shipped to Envotech Management Services, located in Bellville, MI. The local NYSDEC agent was notified and present to approve the cleanup activities

01/25/97 Spent Pickle Rinse Water; Release #9612714

On 01/25/97 at 9:30 pm AL Tech personnel discovered a ruptured underground spent rinsewater line conveying spent pickling rinsewater from the BFS Pickle House to the WTP "octapus". The rupture resulted in the release of ~1,200 gallons of spent acidic rinse water to the stormwater drainage system near the WTP. The release followed the stormwater drainage system to the northwest corner of AL Tech property, where it entered an open culvert on City property along Brigham Road. The released material was contained to this culvert, and not allowed to enter the City storm sewer system. The released material, along with impacted standing surface water and soil was neutralized with soda ash solution. The stormwater drainage system was thoroughly rinsed with water until the pH was 7, and all of the liquid waste and rinse water was transferred to the WTP for processing. Impacted soil was transferred to a lined 20 yard roll-off box the would later be shipped to Envotech Management Services, located in Bellville, MI. The local NYSDEC agent, as well as the regional representative, were notified and present to approve the cleanup activities

DO-CHILLE IECH DIO

03/14/97 Spent Sulfuric/Hydrofluoric Acid Pickle Liquor; Release # 9614502

On 03/14/97 at ~3:20 pm AL Tech personnel discovered the WTP Grit Chamber overflowing Pickle House effluent. The strainer on the Grit Chamber discharge was plugged by a tyvek suit, resulting in the rise in level to the point of overflow. The release involved ~1,500 gallons of spent sulfuric/hydrofluoric acid pickle liquor, which entered the stormwater drainage system, near the WTP. The Stormwater drainage system conveyed the released material to the ditch, located in the northwest corner of AL Tech property, where it was contained on site. The soil near the Grit Chamber and the stormwater drainage system was neutralized soda ash solution and thoroughly flushed with water. The rinse water and released material was transferred to the WTP for processing. Any impacted soil was transferred to a lined 20 yard roll-off box for later disposal at Envotech Management Services, located in Bellville, MI. The local NYSDEC agent was notified and present to approve the cleanup activities.