

V.F.R.

REMEDIAL INVESTIGATION AT THE TIDEWATER SITE PAWTUCKET, RHODE ISLAND

VOLUME 3
APPENDICES F, G and PLATES

Prepared For:

BLACKSTONE VALLEY ELECTRIC
c/o EUA Service Corporation
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Prepared By:

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Atlantic Project No. 2061-03-05

ATLANTIC

December 30, 1996

APPENDIX F

BORING LOGS

TB-1

Atlantic Environmental Services, Inc.

Ground Elevation: 34.28'

X Coordinate: 360376.33

Water Table Elevation: N/A

Y Coordinate: 284885.76

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/12/96

Blank Casing:
type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/12/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:
type: Cement Bentonite Grout fm: 0.00' to: 22.00'

Certified By:

type: fm: to:
type: fm: to:
type: fm: to:

Remarks:

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
-2	10 22 28 28	50	0 ppm		Topsoil	None	None	[Lithology Column]	1	[Well Construction Column]
					Tan well graded fine Sand to large rounded Cobbles (Sampled 0-2)	None	None		2	
-4	22 40 35 28	75	0 ppm			None	None		3	
-6	12 19 25 25	100	0 ppm	30	Brown Silty topsoil Tan medium Sand with sub-rounded stone	None	None		4	
						None	None		5	
0-8	7 30 50 51	50	0 ppm		Tan well-graded fine Sand to Cobbles, becoming moist	None	None		6	
						None	None		7	
3-10	12 12 10 16	100	0 ppm		Tan/brown fine Sand/Silt, slightly moist	None	None		8	
						None	None		9	
10-12	14 12 15 14	100	0 ppm		Same, some iron staining	None	None		10	
						None	None		11	
12-14	8 13 10 12	100	0 ppm		Same, trace angular stone	None	None		12	
						None	None		13	
-16	11 11 8 9	100	0 ppm	20	Tan/brown fine Sand/Silt	None	None		14	
						None	None		15	
-18	14 9 12 5	100	0 ppm		Tan, brown, and dark brown stratified fine Sand/Silt, moist/saturated at tip (Sampled 16-18)	None	None		16	
						None	None		17	
-20	14 13 14 60	100	0 ppm		Same Brown/tan medium Sand	None	None		18	
						None	None		19	

TB-1

Atlantic Environmental Services, Inc.

Ground Elevation: 34.28' X Coordinate: 360376.33

Water Table Elevation: N/A Y Coordinate: 284885.76

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/12/96

Blank Casing:
type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/12/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: size: dia: fm: to:




Drilling Method: Hollow Stem Auger

Annular Fill:
type: Cement Bentonite Grout fm: 0.00' to: 22.00'

Certified By:

type: fm: to:
type: fm: to:
type: fm: to:

Remarks:

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
1-22	55 50 40	50	0 ppm		Brown Fine Sand/Silt Medium Sand and fractured gray rock	None	None		21	
						None	None		22	
									23	
									24	
				10					25	
									26	
									27	
									28	
									29	
									30	
									31	
									32	
									33	
									34	
				0					35	
									36	
									37	
									38	
									39	

TB-2

Atlantic Environmental Services, Inc.

Ground Elevation: 37.89' X Coordinate: 360335.20

Water Table Elevation: N/A Y Coordinate: 285090.17

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/17/96

Blank Casing:
type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/17/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:
type: Cement Bentonite Grout fm: 0.00' to: 20.00'

Certified By:

type: fm: to:
type: fm: to:
type: fm: to:

Remarks:

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	7	100	0 ppm		Topsoil	None	None			
	20				Orange and tan medium Sand to Gravel and Cobbles (well-graded)				1	
	20				(Sampled 0-2)				2	
2-4	15	100	0 ppm			None	None		3	
	14								4	
	30								5	
	32								6	
4-6	30	100	0 ppm			None	None		7	
	35								8	
	40								9	
	46								10	
6-8	5	50	0 ppm		Tan/brown fine Sand to Gravel and Cobbles (well-graded)	None	None		11	
	6								12	
	8								13	
	18								14	
8-10	75	10	0 ppm	30		None	None		15	
	4								16	
									17	
10-12	21	50	0 ppm		Brown/tan medium Sand to Cobbles (well-graded)	None	None		18	
	50								19	
	55								20	
	50								21	
12-14	20	50	0 ppm		Same with pink/brown Silt (Sampled 12-14)	None	None		22	
	38								23	
	50								24	
14-16	20	75	0 ppm		Tan/brown fine Sand/Silt, stratified some orange streaking	None	None		25	
	24								26	
	24								27	
	25								28	
15-18	14	100	0 ppm		Brown/tan/green fine Sand/Silt, moist	None	None		29	
	11								30	
	12								31	
	25								32	
18-20	17	100	0 ppm	20	Tan and brown fine Sand, some orange streaking, stratified, moist at tip	None	None		33	
	18								34	
	18								35	
	18								36	

TB-3

Atlantic Environmental Services, Inc.

Ground Elevation: 42.06' X Coordinate: 360032.82

Water Table Elevation: N/A Y Coordinate: 285160.92

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/17/96

Blank Casing:
type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/17/96

Screens:
type: size: dia: fm: to:

Drilling Contractor: B.L. Myers Bros., Inc.

Annular Fill:
type: Cement Bentonite Grout fm: 0.00' to: 20.00'
type: fm: to:
type: fm: to:
type: fm: to:

Drilling Method: Hollow Stem Auger

Certified By:

Remarks:

Sample No.	Blow Count (ft)	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	9 33 35 45	100	0 ppm		Topsoil Brown/orange medium Sand to gravel and rocks (Sampled 0-2)	None	None		1	
2-4	30 60 75 J	50	0 ppm	40	Tan/orange fine Sand to large Cobbles and rock (well-graded)	None	None		2 3	
4-6	75 50 Z	50	0 ppm		Brown topsoil with roots, trace rocks	None	None		4 5	
6-8	12 25 25 28	100	0 ppm		Brown/tan/pink fine Sand	None	None		6 7	
3-10	16 38 36 28	75	0 ppm		Brown Silty topsoil with roots Tan/pink fine Sand with some iron streaking	None	None		8 9	
10-12	35 56 50 J	25	0 ppm			None	None		10 11	
12-14	15 36 34 52	100	0 ppm	30	Orange fine to coarse Sand with Cobbles and Rocks	None	None		12 13	
14-16	99 R/J	0	0 ppm			None	None		14 15	
16-18	15 18 25 45	100	0 ppm		Tan/pink fine Sand, some iron staining	None	None		16 17	
8-20	22 35 28 28	100	0 ppm		Tan/brown fine Sand (Sampled 18-20)	None	None		18 19	

TB-4

Atlantic Environmental Services, Inc.

Ground Elevation: 18.08'

X Coordinate: 360502.25

Water Table Elevation: N/A

Y Coordinate: 285193.94

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/15/96

Blank Casing:
type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/15/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:
type: Cement Bentonite Grout fm: 0.00' to: 26.00'
type: fm: to:
type: fm: to:
type: fm: to:

Certified By:

Remarks:

Sample No.	Blow Count (6')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
-2	3 16 25 50	75	18 ppm		Brown fine Sand with ash and rock fill (Sampled 0-2)	None	None		1	
-4	12 14 20 11	100	0 ppm		Black and tan/orange fine Sand to cobbles	None	None		2	
-6	15 11 6 4	100	2 ppm		Tan/orange fine Sand with ash and clinkers Black ash and clinker fill	Slight	None		4	
-8	4 5 5 4	100	0 ppm		Black ash, very light density similar to medium sand	None	None		6	
-10	7 12 12 14	50	0 ppm	10-	Black ash, gray silt, brick, cinder, and clinker fill	None	None		8	
-12	12 12 12 14	50	0 ppm			Slight	None		10	
-14	7 4 4 5	25	0 ppm			None	None		12	
-16	9 22 22 14	10	0 ppm		Fire brick and rock fill	None	None		14	
-18	7 7 9 9	75	0 ppm		Black/brown ash, clinker, brick, cobbles, and medium Sand, moist Gray ash and clinker, moist/saturated	Slight	None		16	
-20	10 11 15 14	100	0 ppm	0-	Same. saturated	None	None		18	

TB-4

Atlantic Environmental Services, Inc.

Ground Elevation: 18.08' X Coordinate: 360502.25

Water Table Elevation: N/A Y Coordinate: 285193.94

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/15/96

Blank Casing:

type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/15/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:







type: Cement Bentonite Grout fm: 0.00' to: 26.00'

Certified By:

type: fm: to:

Remarks:

type: fm: to:

Sample No.	Blow Count (6')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-22	15 22 28 35	50	3 ppm		Fine to coarse Sand, ash, brick, and cobbles. Lens of black staining with Naphthalene odor (Sampled 22-24)	Slight	Stain		21	
2-24	14 22 10 46	50	3 ppm			Slight	Mod. Sheen		22	
									23	
4-26	32 54 45 48	50	0 ppm		Gray Silt to medium Sand some coarse Sand and Gravel	Slight	None		24	
									25	
									26	
									27	
				-10-					28	
									29	
									30	
									31	
									32	
									33	
									34	
									35	
									36	
									37	
									38	
				-20-					39	

TB-5

Atlantic Environmental Services, Inc.

Ground Elevation: 20.44'

X Coordinate: 360583.84

Water Table Elevation: N/A

Y Coordinate: 285043.94

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/15/96

Blank Casing:
type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/15/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:
type: Cement Bentonite Grout fm: 0.00' to: 26.00'

Certified By:

type: fm: to:
type: fm: to:
type: fm: to:

Remarks:

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
1-2	28 44 30 25	100	0 ppm	20	Brown ash, brick, pebbles, Sand, some organics (Sampled 0-2) Tan/gray fine Sand/Silt, some iron staining and rocks	None	None		1	
1-4	35 22 45 50	50	30 ppm		Black stained ash and wood chips (purifier waste) Strong Naphth. odor	Strong	None		2	
1-6	20 40 55 50 J	100	50 ppm		Black stained ash and Sand with roots, brick, rocks. Strong Naphth. odor (Sampled 4-6)	Strong	None		4	
6-8	18 36 18 55	100	20 ppm 40 ppm 8 ppm		Tan/brown f. Sand/Silt, Mod. Naphth. odor Same with black staining	Mod.	Stain		5	
8-10	20 34 10 05	25	4 ppm 20 ppm		Same, no odor Gray, medium Sand with Cobbles, no odor Tan/brown fine Sand/Silt, no odor	Mod. None None	Stain		6	
10-12	18 38 45 62	25	10 ppm	10	Same	Mod.	None		7	
12-14	18 15 12 12	100	10 ppm 0 ppm		Tan/brown fine Sand/Silt and coarse Sand with bricks and Cobbles. Black ash	Mod. None	None		12	
1-16	18 15 18 14	100	10 ppm 0 ppm		Brown/black f. Sand/Silt, trace Cobbles Black ash, brick, and clinker	Slight None	None		13	
13-18	16 16 15 12	25	0 ppm		Black ash/clinker, brick, fine Sand/Silt, rocks, becoming moist	None	None		14	
13-20	4 4 3 4	100	0 ppm		Same, saturated with water	None	None		15	
									16	
									17	
									18	
									19	

TB-5

Atlantic Environmental Services, Inc.

Ground Elevation: 20.44'

X Coordinate: 360583.84

Water Table Elevation: N/A

Y Coordinate: 285043.94

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: MAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/15/96

Blank Casing:

type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/15/96

Drilling Contractor: B.L. McFay Bros., Inc.

Screens:

type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:

type: Cement Bentonite Grout fm: 0.00' to: 26.00'

Certified By:

type: fm: to:

Remarks:

type: fm: to:

Sample No.	Blow Count (σ')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
20-22	3 4 4	100	0 ppm 5 ppm	0	Black ash (low density). clinker, brick Gray Silt with leaves	None	None	[Cross-hatched pattern]	21	[Redacted]
22-24	6 4 4 11	100	0 ppm		Black ash	Strong None	Sil.Sheen None		22	
									23	
24-26	7 4 4 9	100	20 ppm 5 ppm 40 ppm 10 ppm		Gray Silt, benthic/naphth. odor Black ash and clinker	Mod. None Mod.	Sil.Sheen Sil.Sheen		24	
									25	
					Gray/black Silt (Sampled 25-26) Gray fine to coarse Sand with Silt	Slight	None		26	
									27	
									28	
									29	
				-10					30	
								31		
								32		
								33		
								34		
								35		
								36		
								37		
								38		
								39		

MW-1/TB-6

Atlantic Environmental Services, Inc.

Ground Elevation: 17.11'

X Coordinate: 360613.90

Water Table Elevation: 2.09'

Y Coordinate: 285144.97

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: MAD 1983

Project Name: Tidewater

Top of PVC Elevation: 19.87'

Location: Pawtucket, RI

Conductor Casing:
type:

dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/15/96

Blank Casing:
type: PVC

dia: 2.00in fm: -2.1' to: 13.00'

Date Completed: 07/15/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: Slotted

size: 0.010in dia: 2.00in fm: 13.00' to: 23.00'

Drilling Method: Hollow Stem Auger

Annular Fill:

type: Concrete

fm: 0.00' to: 2.00'

type: Cement Bentonite Grout

fm: 2.00' to: 9.00'

type: Bentonite

fm: 9.00' to: 11.00'

type: Sand Filter

fm: 11.00' to: 24.00'

Certified By: P. Georgetti

Remarks:

Sample No.	Blow Count (6')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	4 22 8 5	75	0 ppm 20 ppm		Topsoil (Sampled 0-2) Hardened tar and black ash Black ash and clinker, trace roots (Fill)	None Strong None	None		1	
2-4	5 6 7 9	50	0 ppm 0 ppm		Brown fine Sand/Silt Wood chips, some red/pink shale, trace roots, and black ash (Fill)	Slight	None		2	
4-6	7 4 5 5	25	12 ppm		Black ash, wood chips, and Cobbles (Fill)	Slight	None		4	
6-8	6 5 4 4	50	10 ppm	10	Black ash, some woodchips, and brown/orange Silt, trace clinker (Fill)	Slight	None		6	
8-10	5 4 5 7	0							8	
10-12	4 5 10 12	25	5 ppm		Black ash with wood chips and clinker, brick in tip (Fill)	Slight	None		10	
12-14	6 4 7 8	25	5 ppm		Black ash, clinker, white and purple hardened powder (Fill)	Slight	None		12	
14-16	11 6 6 20	25	1 ppm			None	Stain		14	
6-18	14 12 14 12	100	60 ppm	0	Tan, green, and purple stained ash (Fill); saturated with water; some free product tar	Strong	F.P.Tar		16	
8-20	30 17 8 9	50	70 ppm		Soupy fill, black ash, brick, cobbles, free tar	Strong	F.P.Tar		18	

MW-1/TB-6

Atlantic Environmental Services, Inc.

Ground Elevation: 17.11'

X Coordinate: 360613.90

Water Table Elevation: 2.09'

Y Coordinate: 285144.97

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: 19.87'

Location: Pawtucket, RI

Conductor Casing:
type:

dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/15/96

Blank Casing:
type: PVC

dia: 2.00in fm: -2.1' to: 13.00'

Date Completed: 07/15/96

Drilling Contractor: E.L. Murphy Bros., Inc.

Screens:
type: Slotted

size: 0.010in dia: 2.00in fm: 13.00' to: 23.00'

Drilling Method: Hollow Stem Auger


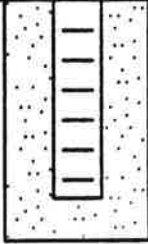

Annular Fill:

type: Concrete
type: Cement Bentonite Grout
type: Bentonite
type: Sand Filter

fm: 0.00' to: 2.00'
fm: 2.00' to: 9.00'
fm: 9.00' to: 11.00'
fm: 11.00' to: 24.00'

Certified By: P. Georgetti

Remarks:

Sample No.	Blow Count (6")	Recovery %	PIV	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
18-22	8 12 25 24	25	80 ppm		Same as 18-20 (Sampled 20-22)	Strong	P. Tar		21	
18-24	30 27 24 30	75	20 ppm 5 ppm		Gray and brown Silt to coarse Sand black staining and sheen Gray Silt to coarse Sand, trace rock, visually cleaner, confining material, possibly natural	Mod. None	Sheen None		22 23 24	
				-10-					25 26 27 28 29 30 31 32 33 34 35 36 37 38 39	

MW-2/TB-7

Atlantic Environmental Services, Inc.

Ground Elevation: 41.84'

X Coordinate: 360085.58

Water Table Elevation: see remarks

Y Coordinate: 285478.77

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A, see remarks

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/19/96

Blank Casing:

type: PVC dia: 2.00in fm: 0.0' to: 25.00'

Date Completed: 07/19/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: Slotted size: 0.010in dia: 2.00in fm: 25.00' to: 35.00'

Drilling Method: Hollow Stem Auger

Certified By: P. Georgetti

Annular Fill:

type: Concrete fm: 0.00' to: 4.00'

type: Cement Bentonite Grout fm: 4.00' to: 22.00'

type: Bentonite fm: 22.00' to: 24.00'

type: Sand Filter fm: 24.00' to: 37.00'

Remarks: Abandoned on August 14, 1996 due to no water. Casing removed 0-5 feet; casing grouted from 35-2 feet; concrete 2-1 feet; and topsoil 0-1 foot.

Sample No.	Blow Count (6')	Recovery %	PH	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	6 10 30 40	100		40	Topsoil (Sampled 0-2) Tan and brown fine Sand with cobbles and rock	None	None		1	
2-4	12 20 14 10	100				None	None		2	
4-6	7 11 14 14	100			Brown/Tan, fine Sand to Cobble, well-graded Tan medium to coarse Sand	None	None	4		
6-8	11 18 14 20	75			Tan/orange medium Sand to Cobble, well-graded Tan fine to medium Sand, some coarse Sand	None	None	6		
8-10	32 30 23 16	50			Blue/gray shale Tan medium Sand to Cobbles, well graded	None	None	8		
10-12	11 20 37 17	75			Tan medium to coarse Sand	None	None	10		
12-14	20 20 19 19	100		30	Tan, brown and orange fine Sand to large Cobbles, damp	None	None		12	
14-16	11 11 9 22	75				Tan/brown fine to medium Sand with large Cobbles and rock, damp	None		None	
16-18	18 16 20 26	100			Tan medium Sand Tan/brown fine Sand, some rock	None	None	16		
18-20	22 24 24 34	100			Tan fine Sand, stratified Tan fine Sand, some iron streaking	None	None	17		

MW-2/TB-7

Atlantic Environmental Services, Inc.

Ground Elevation: 41.84'

X Coordinate: 360085.58

Water Table Elevation: see remarks

Y Coordinate: 285478.77

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A, see remarks

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/19/96

Blank Casing:
type: PVC dia: 2.00in fm: 0.0' to: 25.00'

Date Completed: 07/19/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: Slotted size: 0.010in dia: 2.00in fm: 25.00' to: 35.00'

Drilling Method: Hollow Stem Auger

Annular Fill:
type: Concrete fm: 0.00' to: 4.00'
type: Cement Bentonite Grout fm: 4.00' to: 22.00'
type: Bentonite fm: 22.00' to: 24.00'
type: Sand Filter fm: 24.00' to: 37.00'

Certified By: P. Georgelli

Remarks:

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
22-24	14 26 26 32	100		20	Tan fine Sand with streaking	None	None		21	
22-24	14 22 20 30	100		20	Tan/brown fine Sand/Silt Orange/Tan fine Sand	None	None		22	
24-26	18 18 15 32	100			Tan/pink fine Sand/Silt, stratified	None	None		23	
24-26	18 18 15 32	100			Tan/pink fine Sand/Silt, stratified	None	None		24	
26-28	14 24 22 30	100			Orange/tan and brown/tan fine Sand	None	None		25	
26-28	14 24 22 30	100			Orange/tan and brown/tan fine Sand	None	None		26	
28-30	17 28 20 50	100			Tan/pink fine Sand/Silt Brown/Tan fine Sand, trace rock and Cobbles, moist. Shale in tip (Sampled 28-30)	None	None		27	
28-30	17 28 20 50	100			Tan/pink fine Sand/Silt Brown/Tan fine Sand, trace rock and Cobbles, moist. Shale in tip (Sampled 28-30)	None	None		28	
30-32	75 5	100			Weathered Bedrock; blue/gray shale	None	None		29	
30-32	75 5	100			Weathered Bedrock; blue/gray shale	None	None		30	
32-35		0		10	Augered to 35 feet				31	
32-35		0		10	Augered to 35 feet				32	
35-37	29 57 10 30	25			Tan/pink fine Sand with gray/blue shale	None	None		33	
35-37	29 57 10 30	25			Tan/pink fine Sand with gray/blue shale	None	None		34	
									35	
									36	
									37	
									38	
									39	

MW-6/TB-8

Atlantic Environmental Services, Inc.

Ground Elevation: 10.96'

X Coordinate: 360609.23

Water Table Elevation: 2.11'

Y Coordinate: 285502.14

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: 13.65'

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/16/96

Blank Casing:

type: PVC dia: 2.00in fm: -2.1' to: 5.50'

Date Completed: 07/16/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: Slotted size: 0.010in dia: 2.00in fm: 5.50' to: 15.50'

Drilling Method: Hollow Stem Auger

Certified By: P. Georgetti

Annular Fill:

type: Concrete fm: 0.00' to: 2.00'

type: Bentonite fm: 2.00' to: 4.00'

type: Sand Filter fm: 4.00' to: 15.50'

type: Cement Bentonite Grout fm: 15.50' to: 20.00'

Remarks: TB-8 was grouted to the surface, MW-6 was installed to a depth of 15.5 feet as shown, adjacent to TB-8.

Sample No.	Blow Count (6')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	8 13 32 34	50	ppm	10-	Topsoil	None	None		0-1	
2-4	7 11 11 8	75			Brick, ash, coal, fine to coarse Sand, clinker, and cobbles; Fill (Sampled 0-2)	None	None		1-2	
4-6	10 8 7 5	50				None	None		2-4	
6-8	5 5 7 8	75				None	None		4-6	
8-10	9 8 7 7	100			Same, becoming moist	None	None		6-8	
10-12	7 5 5 5	25		0-	Same, water saturated, slight petroleum odor	Slight	None		8-10	
12-14	6 4 3 4	50			Fine gray Sand to Silt with black staining. Petroleum odor (Sampled 12-14)	Mod.	None		10-12	
14-16	5 4 7 8	50			Medium to coarse Sand, Cobbles, black ash, clinkers, and brick	Slight	None		12-14	
16-18	7 10 14 11	75			Gray fine to medium Sand C. Sand to Gravel(rounded), some wood fibres (natural) Gray fine to medium Sand with Gravel, some brown/orange streaking and wood fibers Gray medium Sand to gravel (rounded)	Slight	None		14-16	
18-20	15 16 11 16	50			Black/gray medium Sand with black ash Gray fine to medium Sand with layers of brown/orange, wood fibers, roots, and trace gravel (rounded), slight benthic odor	None Slight	None		16-18	

TB-9

Atlantic Environmental Services, Inc.

Ground Elevation: 8.57' X Coordinate: 360531.57

Water Table Elevation: N/A Y Coordinate: 285963.19

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/16/96

Blank Casing:
type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/16/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:
type: Cement Bentonite Grout fm: 0.00' to: 24.00'

Certified By:

type: fm: to:
type: fm: to:
type: fm: to:

Remarks:

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	7 25	25			Topsoil, concrete, and brick	None	None		0-1	
	50 4"				Brick, ash, clinker, cinders, rock, and medium to coarse Sand fill (Sampled 0-2)	Slight	None		1-2	
2-4	8 48	50							2-3	
	45 50 5"								3-4	
4-6	50	0							4-5	
	50 2"								5-6	
6-8	10 18	100			(Sampled 6-8)	None	None		6-7	
	12 11								7-8	
8-10	8	100		0-	Tan fine to medium Sand with trace cobbles and shale, saturated	None	None		8-9	
	10 15 20								9-10	
10-12	58	50			Tan fine to coarse Sand with Cobbles, soupy Gray/black Silt	None	None		10-11	
	35 11 18					Slight			11-12	
12-14	12	50			Tan/orange coarse Sand to cobbles	None	None		12-13	
	12 8 32				Gray/black Coarse Sand to Large Cobbles, trace shale				13-14	
14-16	8	50				Slight	None		14-15	
	17 25 25								15-16	
16-23		0			Void to 23' (concrete conduit)				16-17	
									17-18	
									18-19	
				-10-					19-	

TB-9

Atlantic Environmental Services, Inc.

Ground Elevation: 8.57' X Coordinate: 360531.57
 Water Table Elevation: N/A Y Coordinate: 285963.19

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: NAD 1983

Object Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
 type: dia: 0.00m fm: 0.00' to: 0.00'

Date Started: 07/16/96

Blank Casing:
 type: dia: 0.00m fm: 0.0' to:

Date Completed: 07/16/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
 type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:
 type: Cement Bentonite Grout fm: 0.00' to: 24.00'

Certified By:

type: fm: to:
 type: fm: to:
 type: fm: to:

Remarks:

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
3-24		0		-20	(Sampled 23-24) Black soupy sediment Benthic and petroleum odor	Slight	Sheen		21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39	

TB-10

Atlantic Environmental Services, Inc.

Ground Elevation: 10.29' X Coordinate: 360452.06

Water Table Elevation: N/A Y Coordinate: 285701.19

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Object Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/16/96

Blank Casing:
type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/16/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:
type: Cement Bentonite Grout fm: 0.00' to: 20.00'

Verified By:

type: fm: to:
type: fm: to:
type: fm: to:

Remarks:

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	20 38 35 50 2'	75		10-	Brown/black fine Sand with cobbles, coke, rocks, clinker, and ash; Fill (Sampled 0-2)	None	None		1	
2-4	38 24 10 8	50				None	None		2	
4-6	7 3 3	50				None	None		3	
6-8	4 4 5	50				None	None		4	
8-10	2 3 6 4	50			Tan fine to medium Sand with Gravel, round rocks and clinker, saturated	None	None		5	
10-12	9 6 7 11	50		0-	Orange and gray fine to coarse Sand and Gravel with clinker and brick Gray fine to medium Sand with black staining, some lenses of coarse Sand to Gravel (Sampled 11-12)	None	Stain		6	
12-14	6 6 6 9	100			Gray fine Sand/Silt with black streaking Gray coarse Sand to Gravel Gray/brown fine to medium Sand, trace Gravel and organics, moist	None	None		7	
14-16	11 11 10 14	50			Brick, clinker, gray fine to coarse Sand Brown/tan fine to medium Sand with brick, clinker, and wood fibers	None	None		8	
16-18	5 6 8 15	100			Gray coarse Sand to Gravel, trace brick Gray fine to medium Sand with layers of Silt/fine Sand; trace wood, slight benthic odor	None	None		9	
18-20	8 20 25 28	75			Gray Sand to Gravel with some iron staining, trace cobble	Slight	None		10	
						None	None		11	
						None	None		12	
						None	None		13	
						None	None		14	
						None	None		15	
						None	None		16	
						None	None		17	
						None	None		18	
						None	None		19	

TB-11

Atlantic Environmental Services, Inc.

Ground Elevation: 10.75'

X Coordinate: 360245.61

Water Table Elevation: N/A

Y Coordinate: 286069.92

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00m fm: 0.00' to: 0.00'

Date Started: 07/10/96

Blank Casing:

type: dia: 0.00m fm: 0.0' to:

Date Completed: 07/10/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:

type: Cement Bentonite Grout fm: 0.00' to: 19.00'

Certified By:

type:

type:

type:

Remarks:

Sample No.	Blow Count (σ')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	12 37 75 70	85	0 ppm	10-	Brown fine to coarse Sand and Gravel, with black ash, brick fragments and clinker (Sampled 0-2)	None	None		1-	
2-4	48 50 45 45	75	0 ppm			None	None		2-	
4-6	50 40 60 12	75	0 ppm		Brown/black fine Sand, some Silt and Gravel, coal and ash, damp	None	None		3-	
6-8	12 10 10 10	50	0 ppm		White, black, and rust coal ash	None	None		4-	
8-10	10 10 7 11	50	40 ppm		Brown medium to coarse Sand and Gravel with a coal tar sheen		Sheen		5-	
10-12	18 15 20 15	75	300 ppm	0-	Black tar saturated fine to medium Sand, some Silt and trace Gravel, wet (Sampled 10-12)		Tar Sat.		6-	
12-14	11 20 45 50 2'	75	25 ppm		Gray very fine Sand and Silt with pieces of fractured bedrock		None		7-	
14-16	27 45 35 55	25	5 ppm		Gray weathered Bedrock, Silt and Clay around fractured pieces	Tar	None		8-	
16-18	24 75 5'	25	1 ppm		Dark gray/black Silt and Clay with fractured rock, wet	Tar	None		9-	
7-19	50 3'	15			Same	None	None		10-	

MW-3/TB-12

Atlantic Environmental Services, Inc.

Ground Elevation: 8.53'

X Coordinate: 360499.69

Water Table Elevation: 2.14'

Y Coordinate: 286132.01

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: 11.52'

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 08/14/96

Blank Casing:

type: PVC dia: 2.00in fm: -2.1' to: 4.00'

Date Completed: 08/14/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: Slotted size: 0.010in dia: 2.00in fm: 4.00' to: 14.00'

Drilling Method: Hollow Stem Auger

Certified By: P. Georgetti

Annular Fill:

type: Concrete fm: 0.00' to: 2.00'

type: Bentonite fm: 2.00' to: 3.00'

type: Sand Filter fm: 3.00' to: 14.00'

type: Cement Bentonite Grout fm: 14.00' to: 36.00'

Remarks: Boring TB-12 was grouted to the surface, MW-3 was installed to a depth of 14 feet as shown, adjacent to TB-12.

Sample No.	Blow Count (6')	Recovery %	POD	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	3 6 9 10	100	0 ppm		Black ash, trace concrete, brick, cobbles, with some fine to medium Sand and roots; Fill (Sampled 0-2)	None	None		1	
2-4	50 2"	25	0 ppm		Black ash, some coal fragments	None	None		2	
4-6	8 6 5 5	75	0 ppm		Black ash and gray/green fine Sand and Silt, trace Cobbles and shale tan, brown, and orange fine to medium Sand, with large rock and Silt (Sampled 6-8)	None	None		4	
6-8	6 3 3 4	100	60 ppm		Black fine to medium Sand, moist/saturated; slight fuel odor	Slight	None		6	
8-10	6 3 4 3	25	50 ppm	0	Gray fine Sand to Gravel; fuel odor; water saturated	Mod.fuel	None		8	
10-12	6 8 10 14	50	10 ppm		Gray/tan fine to coarse Sand, some black staining, trace Gravel, fuel odor; saturated	Mod.fuel	None		10	
12-14	10 27 21 17	100	40 ppm		Same, trace brick and cobbles Fine Sand and Silt with small to medium Cobbles, black stained, fuel odor; large quartz rock in tip, saturated	Mod.fuel	Sil.sheen		12	
14-16	14 16 17 12	100	50 ppm		Gray/black medium Sand trace Pebbles, fuel odor, saturated	Mod.fuel	Stain		14	
6-18	17 13 16 14	50	30 ppm			Mod.fuel	Stain		16	
8-20	32 30 22 18	75	15 ppm	-10		Sil.fuel	None		18	

MW-3/TB-12

Atlantic Environmental Services, Inc.

Ground Elevation: 8.53'

X Coordinate: 360499.69

Water Table Elevation: 2.14'

Y Coordinate: 286132.01

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: 11.52'

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 08/14/96

Blank Casing:
type: PVC dia: 2.00in fm: -2.1' to: 4.00'

Date Completed: 08/14/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: Slotted size: 0.010in dia: 2.00in fm: 4.00' to: 14.00'

Drilling Method: Hollow Stem Auger

Certified By: P. Georgetti

Annular Fill:
type: Concrete fm: 0.00' to: 2.00'
type: Bentonite fm: 2.00' to: 3.00'
type: Sand Filter fm: 3.00' to: 14.00'
type: Cement Bentonite Grout fm: 14.00' to: 36.00'

Remarks:

Sample No.	Blow Count (6')	Recovery %	PTD	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction	
20-22	7 15 20 20	75	5 ppm		Gray/black coarse Sand to large Cobbles, well-graded, saturated	Slight	None		21		
22-24	5 5 12 30	50	5 ppm			Slight	None		22		
24-26	22 65 99 1"	25	3 ppm			Slight	None		24		
26-28	17 20 32 32	100	3 ppm			Slight	None		26		
			0 ppm			Tan fine to med. Sand, with some Silt lenses; very slight fuel/benthic odor	V.Sil.				27
28-30	10 8 28 30	100	10 ppm	-20		Tan fine Sand, moist	Slight		None		28
30-32	11 7 11 15	25	0 ppm		None		None	30			
32-34	6 4 3 5	0						32			
34-36	5 12 22 28	50	0 ppm		Gray, brown, and orange fine to coarse Sand, trace cobbles		None	None	34		
								35			
								36			
								37			
								38			
				-30				39			

MW-4/TB-13

Atlantic Environmental Services, Inc.

Ground Elevation: 7.87'

X Coordinate: 360367.46

Water Table Elevation: 0.70'

Y Coordinate: 286339.37

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: 10.70'

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/11/96

Blank Casing:
type: PVC dia: 2.00in fm: -2.1' to: 5.00'

Date Completed: 07/11/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: Slotted size: 0.010in dia: 2.00in fm: 5.00' to: 15.00'

Drilling Method: Hollow Stem Auger

Certified By:

Annular Fill:
type: Concrete fm: 0.00' to: 2.00'
type: Bentonite fm: 2.00' to: 4.00'
type: Sand Filter fm: 4.00' to: 15.00'
type: Cement Bentonite Grout fm: 15.00' to: 39.00'

Remarks: Boring B-13 was grouted to the surface, MW-4 was installed to a depth of 15 feet as shown, adjacent to B-13.

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	11 14 14 50 3"	80	0 ppm		Black ash, clinker, coke (Fill) (Sampled 0-2)	None	None		1	
2-4	75 3"	5	0 ppm		Brown Silty Sand, some clinker	None	None		2	
4-6	32 50 25 50 4"	50	0 ppm 100 ppm 50 ppm		Tar contaminated clinker, some brown Silty Sand Brown Silty Sand, some clinker	None Slight None	None Sheen None		4 5	
6-8	8 10 18 24	50	3 ppm 25 ppm		Fine black Sand with brick, clinker, and stone; water table interface	None Mod.	None Stain		6 7	
8-10	50 57 15 18	50	75 ppm	0	Fine Sand, clinker, and rock; dark fluorescent green hue, fuel odor, no sheen	Mod.	None		8 9	
10-12	22 8 15 20	50	125 ppm		(Sampled 10-12)	Mod.	None		10 11	
12-14	14 9 3 3	50	150 ppm		Tar saturated, black-stained fine Sand to Silt; trace organics (fibrous)	Tar	Sheen/Tar Tar		12 13	
14-16	4 3 3 3	50	150 ppm		(Sampled 14-16) Same becoming more Silty with depth	Mod.	Sheen		14 15	
16-18	4 8 16 40	100	150 ppm		Same Silt, becoming more plastic and less contaminated with depth	Strong	Sheen/Tar		16 17	
18-20	6 8 22 55	5		-10					18 19	

MW-4/TB-13

Atlantic Environmental Services, Inc.

Ground Elevation: 7.87'

X Coordinate: 360367.46

Water Table Elevation: 0.70'

Y Coordinate: 286339.37

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: 10.70'

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/11/96

Blank Casing:

type: PVC dia: 2.00in fm: -2.1' to: 5.00'

Date Completed: 07/11/96

Screens:

type: Slotted size: 0.010in/dia: 2.00in fm: 5.00' to: 15.00'

Drilling Contractor: B.L. Myers Bros., Inc.

Annular Fill:

type: Concrete fm: 0.00' to: 2.00'

type: Bentonite fm: 2.00' to: 4.00'

type: Sand Filter fm: 4.00' to: 15.00'

type: Cement Bentonite Grout fm: 15.00' to: 39.00'

Certified By:

Remarks:

Sample No.	Blow Count (6')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
22-24	32 75 4"	50	30 ppm		Tar saturated; loose well-graded Gravel, fine Sand to rounded pebbles and angular rock	Mod.	Tar Sol.		21-22	
24-26	52 99 4"	50	25 ppm		Brown fine Sand with some tar streaks and staining	Slight	Sheen		23-24	
26-28	8 8 6 6	100	60 ppm		Tan/brown fine Sand, soft, soupy, saturated with coal tar	Slight	Tar Sol.		25-26	
28-30	4 5 8 12	100	10 ppm	-20	Tan/brown fine Sand	Slight	SIL Sheen		27-28	
30-32	7 6 4 4	75	700 ppm 10 ppm		Lens of medium sand saturated with tar Brown/tan fine Silty Sand	Slight Heavy Slight	SIL Sheen Hvy. Sheen		29-30	
32-34	6 4 4 5	100	500 ppm		Brown fine to medium Sand saturated with coal tar	Heavy	Hvy. Sheen		31-32	
34-36	5 5 7 7	100	20 ppm		Tan/brown fine Sand, some black Sand and streaks	Slight	None		33-34	
36-38	7 9 9 14	0							35-36	
38-40	28 50 1"	100		-30	Gray weathered rock; possibly bedrock.	None	None		37-38	

MW-5/TB-14

Atlantic Environmental Services, Inc.

Ground Elevation: 29.37'

X Coordinate: 359657.17

Water Table Elevation:

Y Coordinate: 286405.42

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: 32.00'

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/09/96

Blank Casing:

type: PVC dia: 2.00in fm: -2.1' to: 5.50'

Date Completed: 07/09/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: Slotted size: 0.010in dia: 2.00in fm: 5.50' to: 15.50'

Drilling Method: Hollow Stem Auger

Annular Fill:

type: Concrete fm: 0.00' to: 2.00'

type: Bentonite fm: 2.00' to: 4.00'

type: Sand Filter fm: 4.00' to: 15.50'

type: Cement Bentonite Grout fm: 15.50' to: 25.00'

Remarks: Boring TB-14 was grouted to the surface, MW-5 was installed to a depth of 15.5 feet as shown, adjacent to TB-14.

Sample No.	Blow Count (6')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
-2	6	60	ppm		Topsoil	None	None		0	
	6				Gray fine Sand and Silt, some Clay, fine layering varves				1	
	14				Same, perched water	None	None		2	
-4	12	70			(Sampled 0-2)				3	
	11								4	
	17								5	
	15								6	
-6	12	85			Orange fine Sand, some dark orange/black Silt; 0.2' manganese rich layer at bottom	None	None		7	
	15				Light brown fine Sand, some Silt, moist				8	
	15								9	
	17								10	
-8	NR	85			Same, wet	None	None		11	
	NR				Dark gray Silt and Clay, wet				12	
	NR				(Sampled 4-6)				13	
	NR								14	
8-10	6	100		20	Gray v. fine Sand and Silt, some Clay, layering, slight red/pink coloring throughout; wet	None	None		15	
	4								16	
	4								17	
	8								18	
10-12	4	90			Gray Silt, some Clay, wet	None	None		19	
	3								20	
	3								21	
	3								22	
12-14	3	90			Same, some light red/brown Silt layers	None	None		23	
	3								24	
	3								25	
14-16	4	95			Gray very fine Sand and Silt, wet	None	None		26	
	6								27	
	6								28	
	7								29	
17-18	11	90			Orange very fine Sand and Silt	None	None		30	
	12				Brown/pink medium Sand, some Gravel, trace Silt, wet				31	
	14								32	
	14								33	
19-20	8	50		10	Red brown fine to medium Sand, some Gravel, wet	None	None		34	
	12								35	
	15								36	
	20								37	

MW-5/TB-14

Atlantic Environmental Services, Inc.

Ground Elevation: 29.37'

X Coordinate: 359657.17

Water Table Elevation:

Y Coordinate: 286405.42

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: 32.00'

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/09/96

Blank Casing:

type: PVC dia: 2.00in fm: -2.1' to: 5.50'

Date Completed: 07/09/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: Slotted size: 0.010in dia: 2.00in fm: 5.50' to: 15.50'

Drilling Method: Hollow Stem Auger

Certified By: P. Georgetti

Remarks:

Annular Fill:

type: Concrete fm: 0.00' to: 2.00'

type: Bentonite fm: 2.00' to: 4.00'

type: Sand Filter fm: 4.00' to: 15.50'

type: Cement Bentonite Grout fm: 15.50' to: 25.00'

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-22	22 22 32 30	50		0	Light brown Sand, Silt and Gravel, (fill), wet	None	None		21- 22- 23- 24- 25- 26- 27- 28- 29- 30- 31- 32- 33- 34- 35- 36- 37- 38- 39-	
				-10-						

TB-15

Atlantic Environmental Services, Inc.

Ground Elevation: 19.80' X Coordinate: 359802.60
 Water Table Elevation: N/A Y Coordinate: 286484.41

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
 type: dia: 0.00m fm: 0.00' to: 0.00'

Date Started: 07/09/96

Blank Casing:
 type: dia: 0.00m fm: 0.0' to:

Date Completed: 07/09/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
 type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:
 type: Cement Bentonite Grout fm: 0.00' to: 20.00'

Certified By:

type: fm: to:
 type: fm: to:
 type: fm: to:

Remarks:

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
1-2	10 57 75 5"	60	ppm		Dark gray ash and clinker with trace roots and red brick (Sampled 0-2)	None	None		1	
1-4	18 42 42 46	50	ppm		Dark Brown/black ash, clinker, concrete, moist (Sampled 4-6)	None	None		2 3 4	
1-6	18 42 42 46	80	ppm		Light brown fine Sand with some Silt	None	None		5	
1-8	15 15 15 20	50	0 ppm		Orange fine to medium Sand, some Gravel	None	None		6 7	
1-10	15 18 20 25	40	0 ppm		Brown fine Sand and Silt, tight, wet	None	None		8 9	
1-10-12	32 32 27 70	100	0 ppm	10-		None	None		10 11	
1-12-14	75 5"	0							12 13	
1-14-16	16 27 50 29	50	0 ppm		Brown medium to coarse Sand and Gravel, trace Silt, wet		None		14 15	
1-13-18	20 16 29 18	20			Brown fine Sand and Gravel, some Silt, wet	None	None		16 17	
1-13-20	37 40 18 15	50			Brown medium to coarse Sand and Gravel, some Silt, wet		None		18 19	
				0-						

TB-16

Atlantic Environmental Services, Inc.

Ground Elevation: 7.36'

X Coordinate: 359920.67

Water Table Elevation: N/A

Y Coordinate: 286690.60

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/10/96

Blank Casing:

type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/10/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:

type: Cement Bentonite Grout fm: 0.00' to: 20.00'

Certified By:

type: fm: to:

Remarks:

type: fm: to:

Sample No.	Blow Count (cf')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	8 20 50 26	75	0 ppm		Dark black coal dust, ash, trace clinker, and roots	None	None		1	
					Brown Sand and Silt, some Gravel, moist (Sampled 0-2)	None	None		2	
2-4	5 4 7 8	25	0 ppm		Black ash/wood, slight tar/Naphth. odor	Slight	None		3	
									4	
4-6	5 5 6 6	35	0 ppm		Dark brown coarse Sand, trace clinker and coal, slight Naphtha. odor, wet	Slight	None		5	
					Light gray Silt and Sand, trace wood, ash, and coal				6	
6-8	15 10 12 38	50	0 ppm	0	Gray Silt with white crystalline powder material, some wood and ash, wet	None	None		7	
									8	
8-10	18 75 5"	50	0 ppm		Black ash and coal fragments, slight burnt odor	Slight	None		9	
									10	
10-12	20 15 23 11	50	0 ppm		Dark gray/black medium Sand and coal, trace Gravel, wet, slight burnt odor	Slight	None		11	
					(Sampled 10-12)				12	
12-14	10 15 22 35	75	0 ppm			Slight	None		13	
									14	
14-16	12 20 20 30	25	0 ppm		Brown coarse Sand and Silt, trace Gravel, wet	None	None	15		
								16		
16-18	10 12 16 50 3"	20	0 ppm	-10		None	None	17		
								18		
18-20	26 50 4"	15	0 ppm		Brown coarse Sand and Gravel, little Silt, wet	None	None	19		

TB-17

Atlantic Environmental Services, Inc.

Ground Elevation: 8.16' X Coordinate: 360064.14

Water Table Elevation: N/A Y Coordinate: 286543.24

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/10/96

Blank Casing:

type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/10/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:

type: Cement Bentonite Grout fm: 0.00' to: 20.00'

Certified By:

type: fm: to:

Remarks:

type: fm: to:

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	6 20 75 J	60	0 ppm		Brown fine to medium Sand some Silt, trace roots, and coal Black coal ash, some coarse Sand, tight Gray/Brown fine Sand and Silt, some Gravel (Sampled 0-2)	None None	None		1	
2-4	8 15 17 12	50	0 ppm		Orange/Brown fine to medium Sand and Silt, some Gravel	None	None		2	
4-6	12 12 14 14	70	0 ppm			None	None		4	
6-8	14 18 24 24	75	0 ppm		Becoming wet	None	None		6	
8-10	20 12 12 10	10	0 ppm	0-	Gray fine Sand and Silt with clinker, slight burnt odor	Slight	None		8	
10-12	8 10 10 6	75	0 ppm		Black organic Silt, loose Gray medium to coarse Sand and Gravel, some Silt and Root hairs, wet, pieces of gray Silt and Clay throughout (not layers)	None	None		10	
12-14	7 7 12 22	75	0 ppm		Fine Sand, Silt, and Gravel with coal; loose; slight burnt odor	Slight	None		12	
14-16	20 22 20 18	60	0 ppm		Dark gray medium to coarse Sand, trace Silt and small tar globules, faint tar odor	Slight	Tar		14	
16-18	10 12 12 12	5	0 ppm						16	
18-20	20 12 18 18	50	0 ppm	-10-	Dark gray med. Sand, some Gravel and Silt; slight coal tar odor; no tar globules Black Silt, some Gravel, slight coal tar odor (Sampled 18-20)	Slight	None		18	
								19		

TB-18

Atlantic Environmental Services, Inc.

Ground Elevation: 32.64'

X Coordinate: 360535.83

Water Table Elevation: N/A

Y Coordinate: 284999.98

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/18/96

Blank Casing:

type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/18/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:

type: Cement Bentonite Grout fm: 0.00' to: 34.00'

Certified By:

type:

type:

type:

Remarks:

Sample No.	Blow Count (6')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
0-2	10 22 50 5"	75	0 ppm		Topsoil	None	None		1	
2-4	8 22 30 50 2"	0		30	Dark brown to black fine Sand, some brick, coal, and clinker (Fill); slight Naphth odor (Sampled 0-2) Blue/Black wood chips and very fine Sand and Silt in cuttings; Strong purifier odor	Slight Strong	None		2 3	
4-6	17 9 9 12	60	8 ppm		Black stained wood chips, sulphur/purifier odor, hardened tar at tip (20 ppm PID)	Mod.	None		4 5	
6-8	6 10 8 9	50	40 ppm 40 ppm		Black ash, clinker and woodchips; strong tar odor Black stained woodchips tar/purifier odor	Strong Mod.	None		6 7	
8-10	4 8 17 17	75	30 ppm 60 ppm 70 ppm		Black ash, clinker, and wood chips with medium to coarse Sand; purifier/tar odor Brown woodchips and weathered tar coated fine Sand, strong tar odor Weathered tar coated fine Sand and Gravel (Sampled 8-10)	Mod. Strong Strong	None		8 9 10	
10-12	15 17 50 50 5"	75	40 ppm 20 ppm		Black stained wood chips, fine Sand and trace rocks, cobbles, ash, and clinker Black ash, some hardened tar, woodchips, clinker, lens of orange medium Sand to Gravel	Strong Mod.	None		10 11	
12-14	8 25 15 21	100	60 ppm 5 ppm	20	Brown/black stained woodchips, some fine Sand and Cobbles; strong purifier/tar odor Black ash and weathered tar; slight tar odor	Strong Slight	None		12 13	
14-16	2 4 5 14	50	50 ppm 50 ppm 50 ppm		Brown/black woodchips and fine to med. Sand Gray ash, bricks, hardened tar, f. to med. Sand Orange Sand, ash, clinker, and wood debris Tan/brown fine Sand/Silt, mod. purifier odor	Strong Mod.	None		14 15	
16-18	28 32 26 14	75	3 ppm		Brown/black fine to medium Sand/ash with woodfibers, Cobbles, brick, and clinker; slight purifier/tar odor	Slight	None		16 17	
18-20	11 11 18 24	100	3 ppm		Black ash, gray ash, tan fine to medium Sand, brick, clinker, shale, wood; slight purifier/tar odor	Slight	None		18 19	

TB-18

Atlantic Environmental Services, Inc.

Ground Elevation: 32.64'

X Coordinate: 360535.83

Water Table Elevation: N/A

Y Coordinate: 284999.98

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/18/96

Blank Casing:

type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/18/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:

type: Cement Bentonite Grout fm: 0.00' to: 34.00'

Certified By:

type: fm: to:

Remarks:

type: fm: to:

Sample No.	Blow Count (6')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
20-22	17 50 5	50	3 ppm			Slight	None		21	
22-24	18 34 9 5	100	6 ppm 2 ppm	10	Gray ash and Silt with wood, moist Black medium to coarse Sand, Cobbles, ash, and Clinker Black ash	None	None		22 23	
24-26	7 5 7 8	100	0 ppm		Orange/Brown ash and clinker	None	None		24 25	
26-28	7 9 8 7	100	0 ppm		Black medium Sand, some Gravel and ash, trace clinker; slight tar odor Orange and Brown ash and clinker	Slight None	None		26 27	
28-30	12 8 7 5	75	0 ppm		Orange ash, clinker, fire brick and concrete Black medium Sand and ash		None		28 29	
30-32	6 19 26 25	90	0 ppm		Orange/red brick, some ash Black medium Sand Brown fine to medium Sand and Gravel with brick fragments and glass	None	None		30 31	
32-34	14 18 24 18	90	0 ppm	0	Gray/brown very fine Sand and Silt, wet	None	None		32 33 34	
									35 36 37 38 39	

TB-19

Atlantic Environmental Services, Inc.

Ground Elevation: 33.02' X Coordinate: 360499.33

Water Table Elevation: N/A Y Coordinate: 284918.09

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: N/A

Location: Pawtucket, RI

Conductor Casing:
type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 07/18/96

Blank Casing:
type: dia: 0.00in fm: 0.0' to:

Date Completed: 07/18/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:
type: size: dia: fm: to:

Drilling Method: Hollow Stem Auger

Annular Fill:
type: Cement Bentonite Grout fm: 0.00' to: 8.00'

Certified By:

type: fm: to:
type: fm: to:
type: fm: to:

Remarks:

Sample No.	Blow Count (b')	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
-2	8 25 55 55	75	0 ppm		Topsoil	None	None		1	
-4	25 55 75	50	0 ppm	30	Pink/brown fine to coarse Sand, hardened (Sampled 0-2) Tan fine Sand to Cobbles and rocks, well-graded (Sampled 4-6)	None	None		2	
-6	17 35 52 40	100	0 ppm		Brown silty topsoil Medium Sand to large rock, some rounded and angular stone and shale, well-graded Tan/brown fine Sand and Silt, stratified	None	None		3	
-8	12 20 23 30	100	0 ppm		Brown/tan/pink fine Sand/Silt, stratified, some iron staining	None	None		4	
									5	
									6	
									7	
									8	
									9	
									10	
									11	
									12	
				20					13	
									14	
									15	
									16	
									17	
									18	
									19	

MW-7/TB-20

Atlantic Environmental Services, Inc.

Ground Elevation: 29.24'

X Coordinate: 359651.14

Water Table Elevation: 10.34'

Y Coordinate: 286416.37

Project Number: 2061-03-05

Datum: V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: 32.10'

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 08/14/96

Blank Casing:

type: PVC dia: 2.00in fm: -2.1' to: 14.50'

Date Completed: 08/14/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: Slotted size: 0.010in dia: 2.00in fm: 14.50' to: 24.50'

Drilling Method: Hollow Stem Auger

Annular Fill:

type: Concrete fm: 0.00' to: 2.00'

Certified By: P. Georgetti

type: Cement Bentonite Grout fm: 2.00' to: 11.00'

Remarks:

type: Bentonite fm: 11.00' to: 13.00'

type: Sand Filter fm: 13.00' to: 25.00'

Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
					Augered to 15 feet					
17-19	5 13 27 21	50	0 ppm		Tan/brown, and orange fine to med. Sand, some large cobbles (native), dry	None	None		15-16	
17-19	17 18 17 15	75	0 ppm		Tan/brown fine to coarse Sand, trace Cobbles	None	None		17-18	
19-21	90 39 40	75	0 ppm	10-	Orange/tan Silt with large cobbles and weathered bedrock/till, saturated, roots	None	None		19	

MW-7/TB-20

Atlantic Environmental Services, Inc.

Ground Elevation: 29.24'

X Coordinate: 359651.14

Water Table Elevation: 10.34'

Y Coordinate: 286416.37

Project Number: 2061-03-05

V: NGVD 1929 (MSL) H: NAD 1983

Project Name: Tidewater

Top of PVC Elevation: 32.10'

Location: Pawtucket, RI

Conductor Casing:

type: dia: 0.00in fm: 0.00' to: 0.00'

Date Started: 08/14/96

Blank Casing:

type: PVC dia: 2.00in fm: -2.1' to: 14.50'

Date Completed: 08/14/96

Drilling Contractor: B.L. Myers Bros., Inc.

Screens:

type: Slotted size: 0.010in dia: 2.00in fm: 14.50' to: 24.50'

Drilling Method: Hollow Stem Auger

Annular Fill:

type: Concrete fm: 0.00' to: 2.00'

type: Cement Bentonite Grout fm: 2.00' to: 11.00'

type: Bentonite fm: 11.00' to: 13.00'

type: Sand Filter fm: 13.00' to: 25.00'

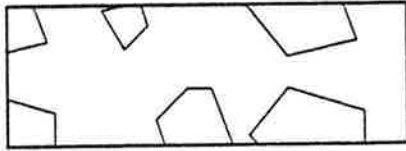
Verified By: P. Georgetti

Remarks:

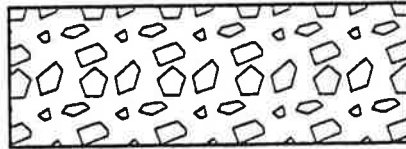
Sample No.	Blow Count (6")	Recovery %	PID	Elevation (ft)	Material Description	Odor	Visual	Lithology	Depth (ft)	Well Construction
21-23	41 32 46 50 52	50	0 ppm		Gray fine Sand, Silt, shale, and Cobbles, moist to saturated, very tight (weathered bedrock/till)	None	None		21 22	
23-25	35 30 24 64	75	0 ppm		Gray/tan Silt and gray shale with medium to coarse Sand; very tight (weathered bedrock/till)	None	None		23 24 25	
				0					26 27 28 29 30 31 32 33 34 35 36 37 38 39	
				-10						

APPENDIX G

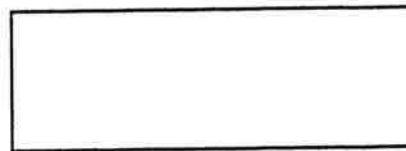
TEST PIT LOGS



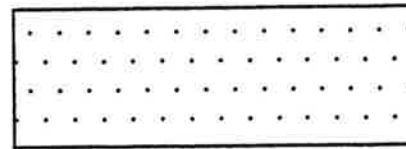
FILL MATERIAL



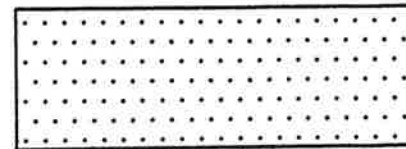
NATIVE MATERIAL



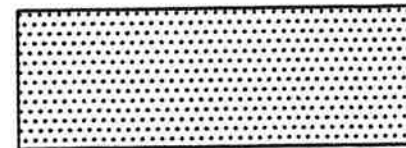
NO IMPACTS NOTED



SLIGHT IMPACTS NOTED



MODERATE IMPACTS NOTED



HIGH IMPACTS NOTED

ATLANTIC ENVIRONMENTAL SERVICES, INC.
TEST PIT LOG SOIL/IMPACT DESCRIPTIONS
TIDEWATER FORMER MGP SITE PAWTUCKET, RHODE ISLAND

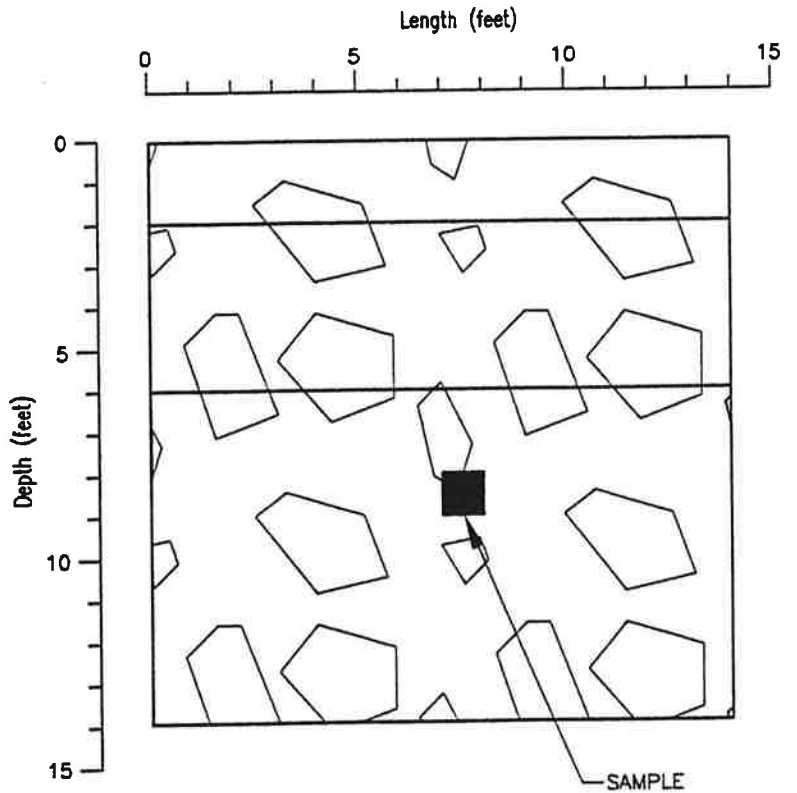
TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02
 TEST PIT NUMBER: TP-1
 GENERAL LOCATION AND/OR PURPOSE: ASSESS CHARACTERISTICS & VERTICAL EXTENT OF LANDFILL
 DATE: JULY 11, 1996
 TIME OPENED: 4:20 PM TIME CLOSED: 5:00 PM

LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 OBSERVER: DEAN GUSTAFSON
 ASSISTANT: -
 OTHERS: -
 OPERATOR: BOB PRENTISS
 EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

- 0-2' BLACK COAL ASH/CINDERS.
NO DISTINCT ODORS
- 2-6' YELLOW BROWN SAND AND
GRAVEL WITH MINOR AMOUNTS
OF BRICK RUBBLE
- 6-14' BLACK ASH/CINDERS (COKE
PRODUCT?) MIXED WITH MINOR
AMOUNTS OF BRICK RUBBLE.
NO ODOR OR SHEEN



VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: _____ 14 FT.
 TOTAL LENGTH: _____ 14 FT.

DEPTH TO WATER: NOT ENCOUNTERED FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TTP-1 (8-9')

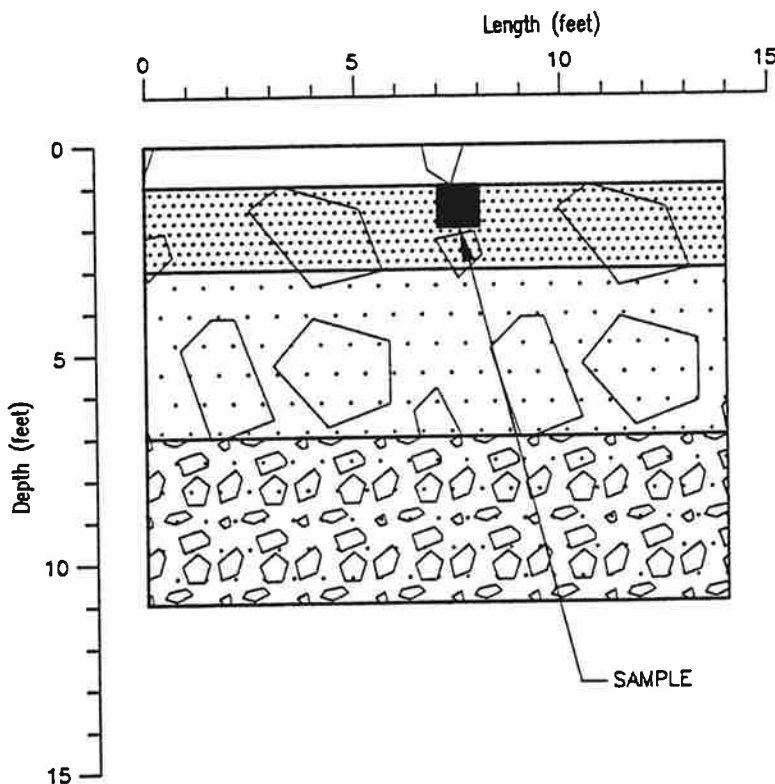
TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02
 TEST PIT NUMBER: TP-2
 GENERAL LOCATION AND/OR PURPOSE: ASSESS LANDFILL IMPACT TO RIVER
 DATE JULY 11, 1996
 TIME OPENED: 3:20 PM TIME CLOSED: 4:15 PM

LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 OBSERVER: DEAN GUSTAFSON
 ASSISTANT: -
 OTHERS: -
 OPERATOR: BOB PRENTISS
 EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

- 0-1' BLACK COAL ASH/CINDERS, BRICK RUBBLE
- 1-3' BLACK COAL TAR BLOBS (STICKY, VERY VISCOUS, NEARLY SOLID) MIXED WITH COAL ASH/CINDERS, RUBBLE. STRONG (WEATHERED?) COAL TAR ODOR
- 3-7' BLACK-DARK BROWN WOOD CHIPS MIXED WITH COAL ASH/CINDERS
- 7-11' GRAY TO LIGHT YELLOW FINE-MEDIUM SAND, SLIGHT COAL TAR ODOR (NATIVE SOIL)



VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 11 (REFUSAL) FT.
 TOTAL LENGTH: 14 FT.

DEPTH TO WATER: NOT ENCOUNTERED FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TTP-2 (1-2')

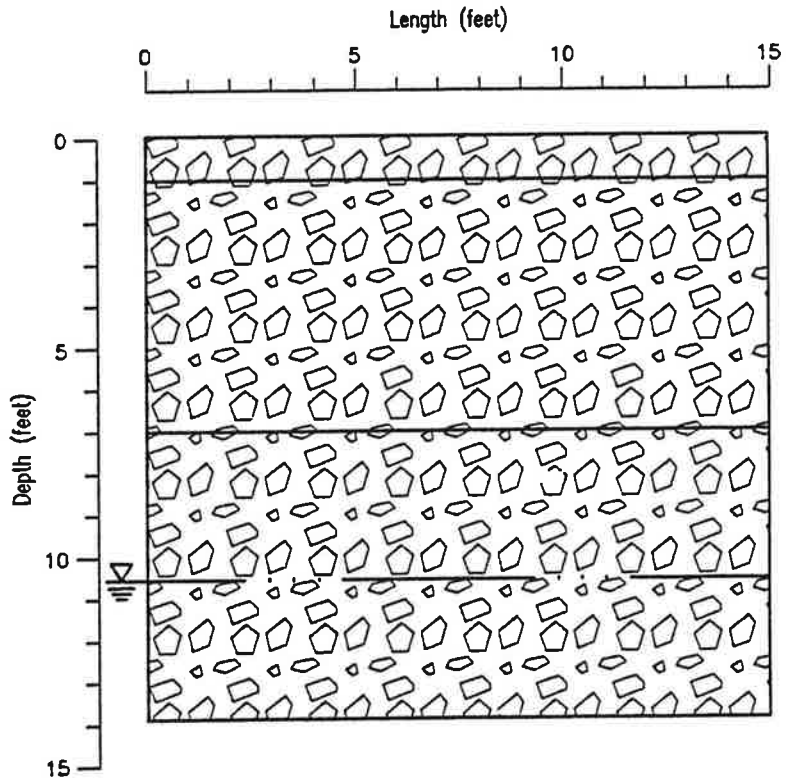
TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-3 OBSERVER: -
 GENERAL LOCATION AND/OR PURPOSE: ASSESS POTENTIAL IMPACTS ASSISTANT: -
OF NO. 3 OIL TANK OTHERS: -
 DATE: JULY 11, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 11:50 AM TIME CLOSED: 12:40 PM EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

- 0-1' FINE GRAVEL
- 1-7' OLIVE YELLOW SAND AND GRAVEL. NO EVIDENCE OF IMPACT.
- 7-14' OLIVE VERY FINE-FINE SAND. NO IMPACT (EXCEPT SMALL AREA OF BLACK STAINED SOIL, APPROX. 4" THICK BY 1' WIDE AT 8')

NOTE: NO VISUAL OR OLFACTORY IMPACTS NOTED ON WATER SURFACE



VIDEO DOCUMENTED: YES NO
 PHOTOGRAPHED: YES NO
 TOTAL DEPTH: 14 FT.
 TOTAL LENGTH: 15 FT.

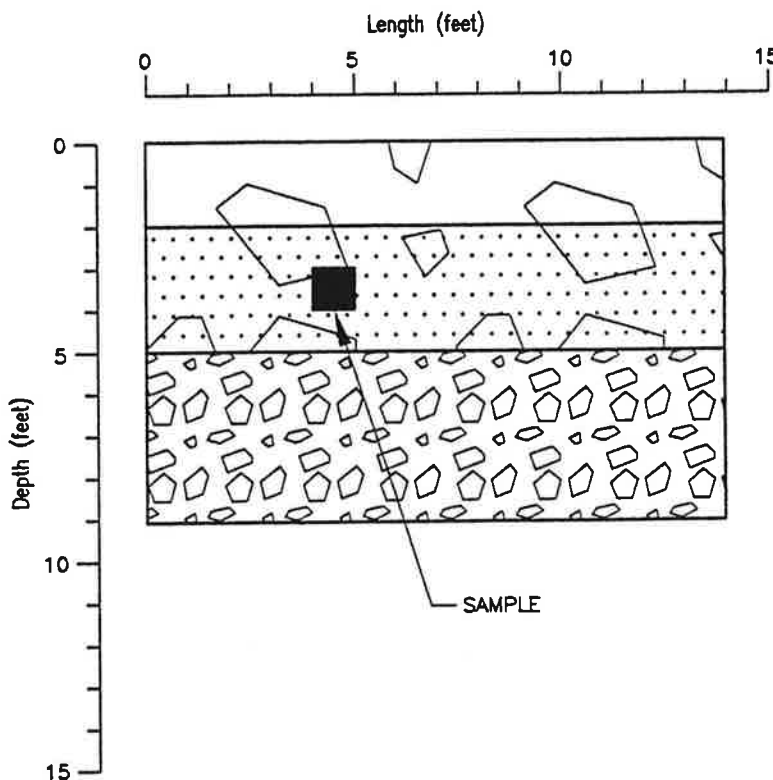
DEPTH TO WATER: 10.5 FT.
 NAPL SEEPAGE: YES NO
 SAMPLE ID: NONE

TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-3A OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: ASSESS BURIED OIL ASSISTANT: -
SLUDGES OTHERS: -
 DATE: JULY 11, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 12:45 PM TIME CLOSED: 1:20 PM EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

- 0-2' BROWN SAND AND GRAVEL,
BRICKS, CONCRETE RUBBLE,
COAL ASH/CINDERS
- 2-5' BLACK OILY IMPACTED SAND
AND GRAVEL, RUBBLE.
ISOLATED, SCATTERED BLOBS
OF TARRY WASTE (VERY
VISCIOUS, PARTIALLY SOLIDIFIED,
PETROLEUM ODOR)
- 5-9' REDDISH GRAY FINE-MEDIUM SAND.
NO APPARENT IMPACTS.



VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 9 FT.
 TOTAL LENGTH: 14 FT.

DEPTH TO WATER: NOT ENCOUNTERED FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TTP-3A (3-4')

TEST PIT DESCRIPTION SHEET

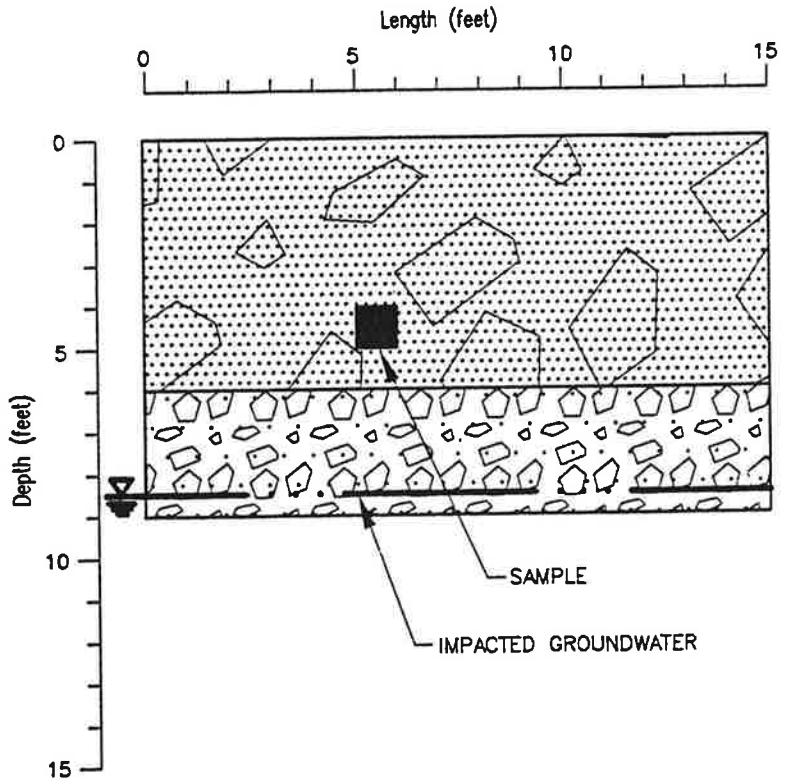
PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-4 OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: ASSESS IMPACTS FROM ASSISTANT: -
NO. 1 AND NO. 2 OIL TANKS OTHERS: -
 DATE JULY 11, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 9:40 AM TIME CLOSED: 10:40 AM EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

0-6' BLACK STAINED-SATURATED APPARENTLY WITH NO. 6 FUEL OIL COAL ASH/CINDERS, SAND AND GRAVEL, BRICK, STONE, RUBBLE. DISTINCT FUEL OIL ODOR. SOME AREAS SATURATED WITH NO. 6 FUEL OIL, VERY VISCIOUS. NO COAL TAR ODOR.

6-8.5' ORANGE YELLOW MEDIUM-COARSE SAND AND GRAVEL SLIGHT FUEL ODOR. NO GROSS STAINING. SOME INTERMITTENT STAINS.

NOTE: DARK VISCIOUS BLOBS OF FUEL OIL OBSERVED, DISTINCT FUEL OIL ODOR NOTED ON WATER SURFACE



VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 9 FT.
 TOTAL LENGTH: 15 FT.

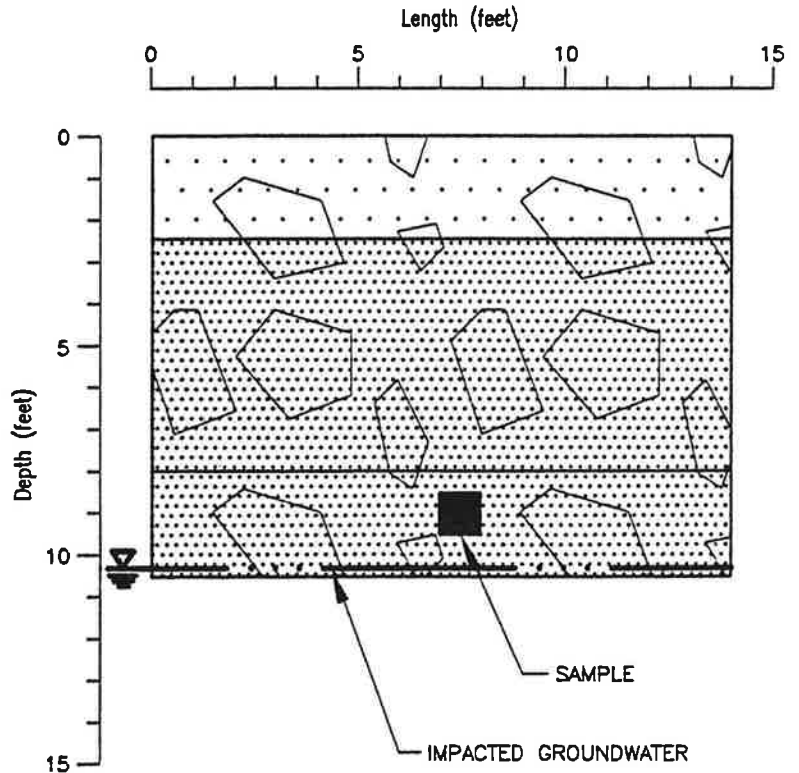
DEPTH TO WATER: 8.5 FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TTP-4 (4-5')

TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-5 OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: ASSESS DOWNGRADIENT ASSISTANT: -
IMPACTS FROM OIL TANKS OTHERS: -
 DATE: JULY 11, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 10:45 AM TIME CLOSED: 11:45 AM EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

- 0-2.5' BLACK COAL ASH/CINDERS WITH LOTS OF BRICK, SLATE, CONCRETE RUBBLE. SLIGHT COAL TAR ODOR.
 - 2.5-8' BLACK STAINED/SHEEN COAL ASH/CINDERS WITH BRICK RUBBLE. STRONG COAL TAR ODOR.
 - 8-10.5' BLACK STAINED-HEAVY SHEEN COAL ASH/CINDERS. OILY SCUM LAYER/BLOBS ON WATER SURFACE.
- NOTE: LIGHT SHEEN ON SOIL AND GROUNDWATER SURFACE



VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 10.5 FT.
 TOTAL LENGTH: 14 FT.

DEPTH TO WATER: 10.3 FT.
 NAPL SEEPAGE: YES NO _____
 SAMPLE ID: TTP-5 (8.5-9.5')

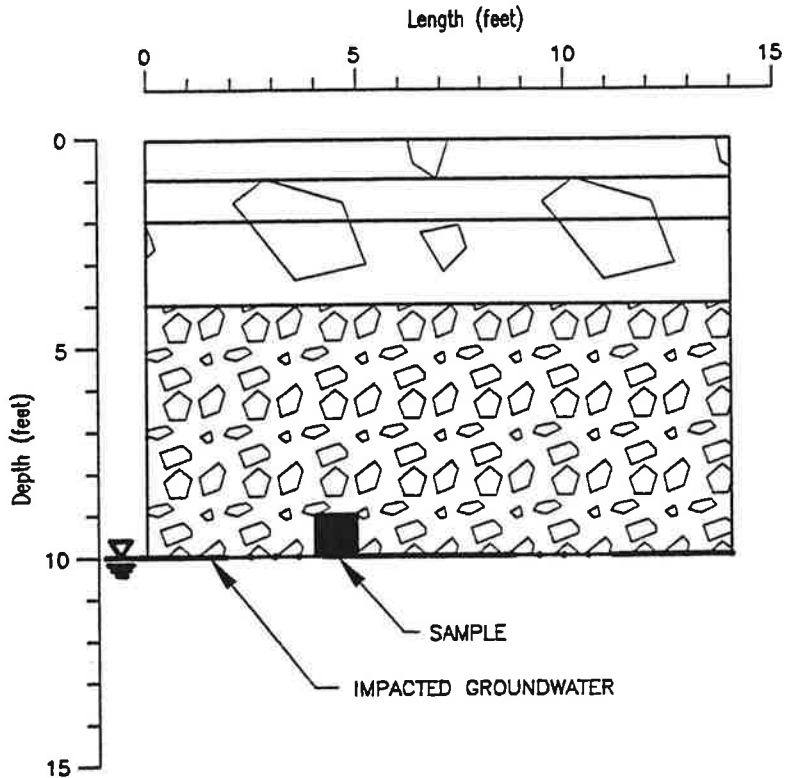
TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-6 OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: ASSESS POTENTIAL ASSISTANT: -
OIL IMPACTS TO RIVER OTHERS: -
 DATE JULY 11, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 8:50 AM TIME CLOSED: 9:30 AM EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

- 0-1' BLACK COAL ASH/CINDERS WITH SAND AND GRAVEL, STONE, BRICK RUBBLE.
- 1-2' ORANGE YELLOW SAND AND GRAVEL, STONE, BRICK RUBBLE
- 2-4' BLACK COAL ASH/CINDERS WITH SAND AND GRAVEL, STONE, BRICK RUBBLE
- 4-10' YELLOW-OLIVE SAND AND GRAVEL SLIGHT STAINING AND FAINT FUEL ODOR AT GROUNDWATER INTERFACE

NOTE: LIGHT OILY SHEEN NOTED ON GROUNDWATER SURFACE



VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 10 FT.
 TOTAL LENGTH: 14 FT.

DEPTH TO WATER: 10± FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TTP-6 (9-10')

TEST PIT DESCRIPTION SHEET

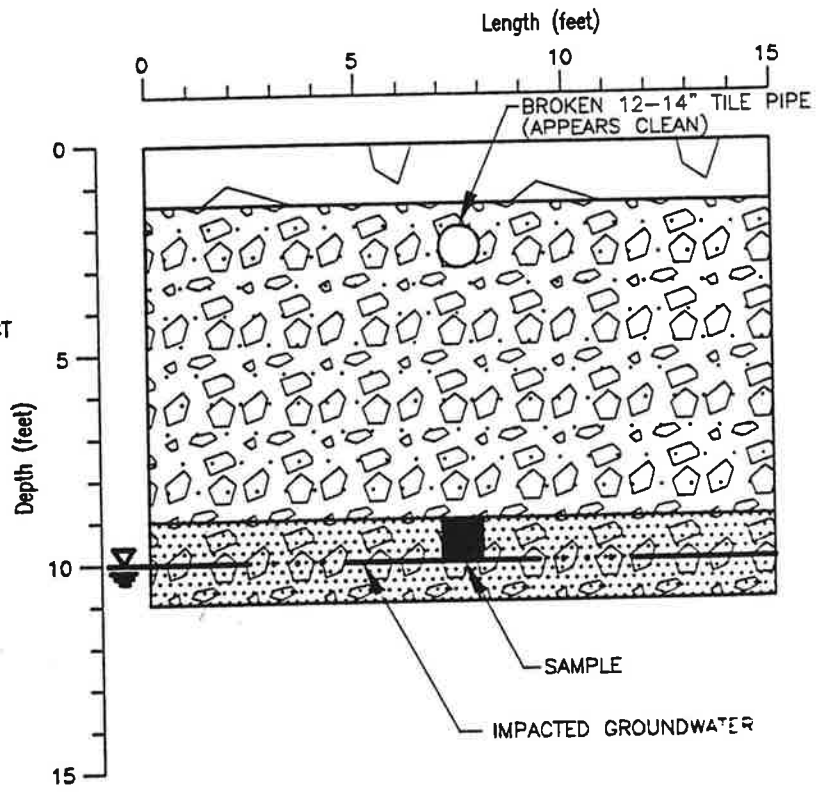
PROJECT NUMBER: 2061-03-02
 TEST PIT NUMBER: TP-7
 GENERAL LOCATION AND/OR PURPOSE: ASSESS POTENTIAL
FUEL OIL IMPACTS TO RIVER
 DATE: JULY 11, 1996
 TIME OPENED: 7:45 AM TIME CLOSED: 8:40 AM

LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 OBSERVER: DEAN GUSTAFSON
 ASSISTANT: -
 OTHERS: -
 OPERATOR: BOB PRENTISS
 EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

- 0-1.5' BLACK COAL ASH/CINDERS WITH SAND AND GRAVEL. NO ODORS.
- 1.5-9' ORANGE YELLOW MEDIUM-COARSE SAND, SOME GRAVEL AND TRACE SILT (NATIVE) FUEL OIL ODOR BECOMES MORE DISTINCT WITH DEPTH.
- 9-11' BLACK STAINED/SATURATED WITH FUEL OIL NATIVE SOIL. VERY STRONG FUEL OIL ODOR. PICKED UP SATURATED SOIL WITH BUCKET AT 11'. HOLE SLUMPS BACK UP TO 9' EACH TIME. CANNOT EXCAVATE ANY DEEPER.

NOTE: DARK BROWN OIL BLOBS FLOATING ON GROUNDWATER

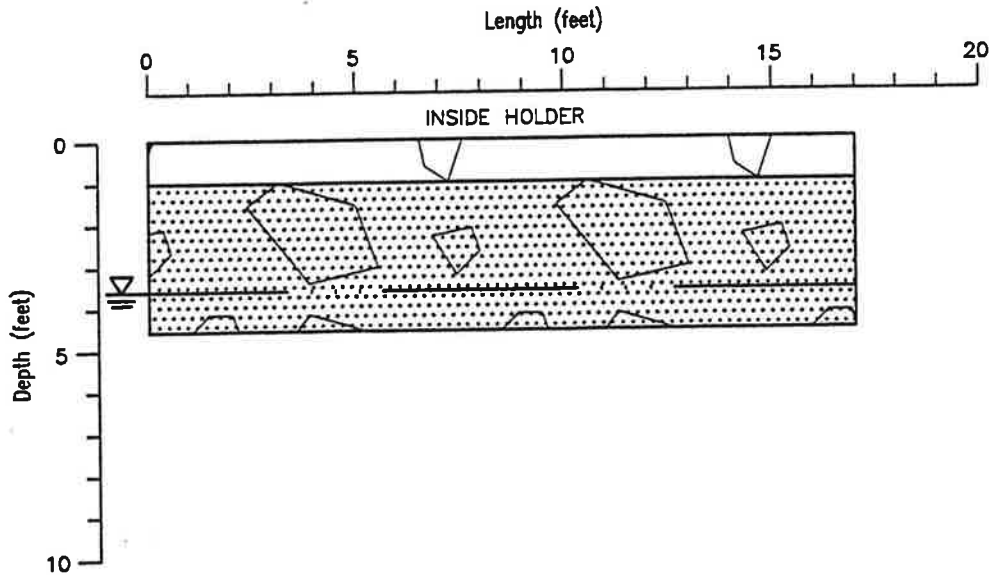


VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 11 FT.
 TOTAL LENGTH: 15 FT.

DEPTH TO WATER: 10± FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TTP-7 (9-10')

TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-8/TP-8A OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: RELIEF HOLDER #4 ASSISTANT: -
 CENTER/NORTHWEST SIDE OTHERS: -
 DATE JULY 10, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 7:40 AM TIME CLOSED: 10:00 AM EQUIPMENT: CAT 416B BACKHOE



SOIL DESCRIPTION

- 0-1' BROWN MEDIUM-COARSE SAND, BRICK RUBBLE, STONE, CONCRETE, STEEL (2-3" DIA.) PIPING.
- 1-4.5' BLACK STAINED SOIL, RUBBLE, WOOD, PIPING. STRONG COAL TAR/NAPHTHA ODOR.

VIDEO DOCUMENTED: YES NO
 PHOTOGRAPHED: YES NO
 TOTAL DEPTH: 4.5 FT.
 TOTAL LENGTH: 17/8 FT.

DEPTH TO WATER: 3.6 FT.
 NAPL SEEPAGE: YES NO
 SAMPLE ID: NONE

TEST PIT DESCRIPTION SHEET

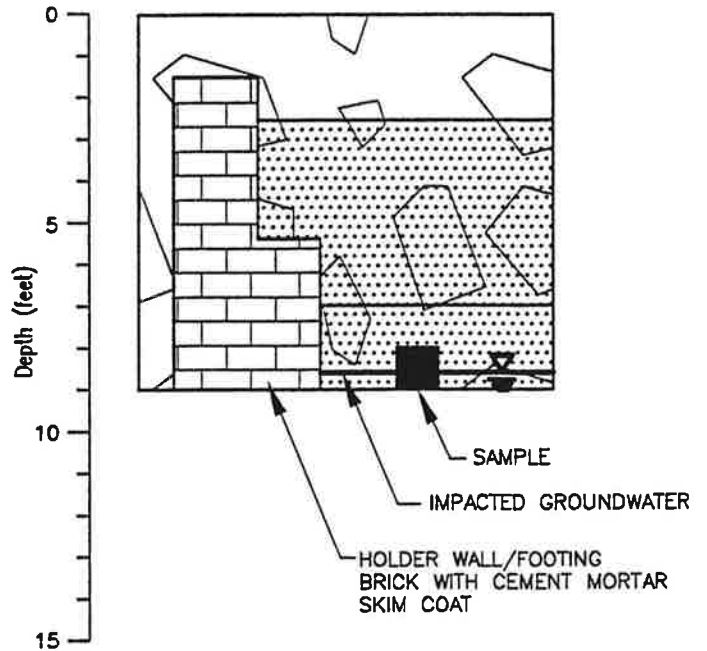
PROJECT NUMBER: 2061-03-02
 TEST PIT NUMBER: TP-8B
 GENERAL LOCATION AND/OR PURPOSE: NORTHEAST OUTSIDE WALL
OF RELIEF HOLDER #4
 DATE: JULY 10, 1996
 TIME OPENED: 8:55 AM TIME CLOSED: 9:43 AM

LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 OBSERVER: DEAN GUSTAFSON
 ASSISTANT: -
 OTHERS: -
 OPERATOR: BOB PRENTISS
 EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

- 0-2.5' SOIL, RUBBLE, COAL ASH/CINDERS, BRICK. RELATIVELY CLEAN.
- 2.5-7' HEAVILY IMPACTED BLACK STAINED SOIL, BRICK RUBBLE. STRONG TAR ODOR.
- 7-9' SATURATED SOIL, HEAVY SHEEN. VERY STRONG TAR ODOR. GROUNDWATER SEEPING INTO EXCAVATION AT 8.5'. CANNOT GO DEEPER.

NOTE: TARRY SHEEN AND STAINING ON GROUNDWATER SURFACE.



VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 8.5 FT.
 TOTAL LENGTH: 10 FT.

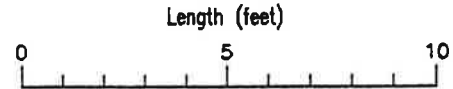
DEPTH TO WATER: 8.5± FT.
 NAPL SEEPAGE: YES NO _____
 SAMPLE ID: TTP-8B (8-9')

TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-9 OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: NAPHTHA SCRUBBER ASSISTANT: -
 ADJACENT TO RETAINING WALL (NORTHEAST END) OTHERS: -
 DATE: JULY 9, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 4:30 PM TIME CLOSED: 5:35 PM EQUIPMENT: CAT 416B BACKHOE

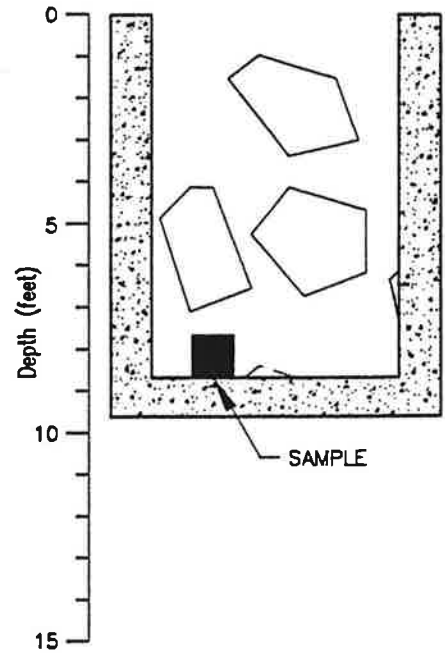
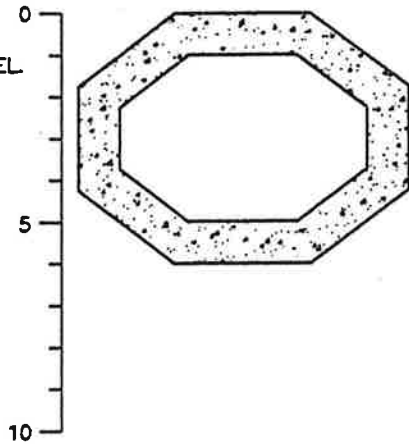
PLAN

ELEVATION



SOIL DESCRIPTION

0-9' BROWN SAND AND GRAVEL.
 GENERALLY CLEAN.



VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 9 FT.
 TOTAL LENGTH: AS SHOWN FT.

DEPTH TO WATER: NOT ENCOUNTERED FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TTP-9 (8-9')

TEST PIT DESCRIPTION SHEET

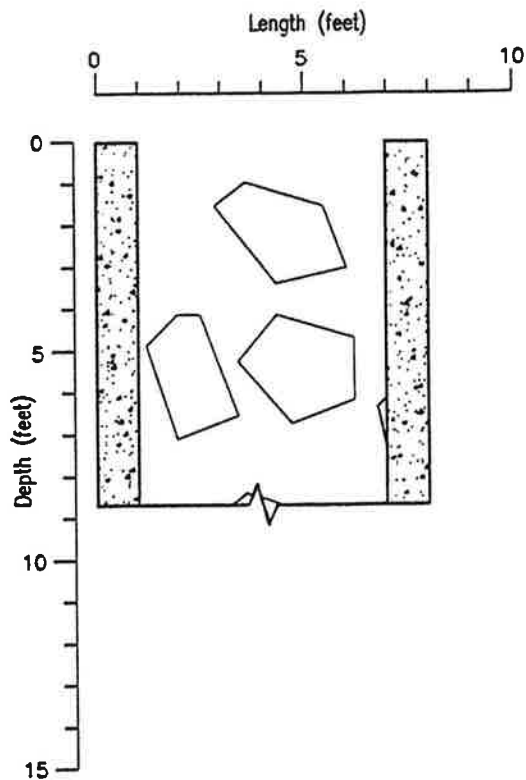
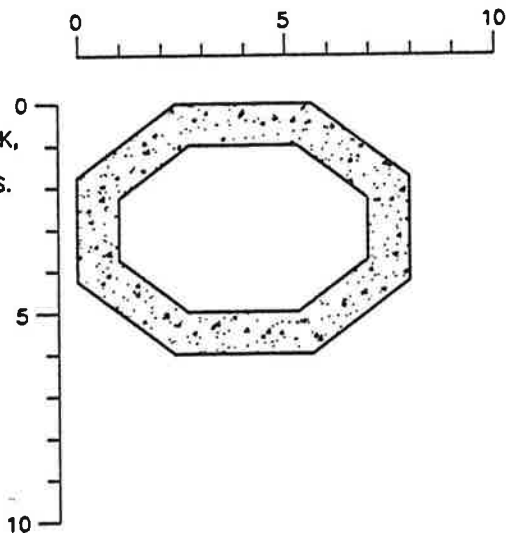
PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-9A OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: SCREEN SCRUBBER ASSISTANT: -
 STRUCTURE: _____ OTHERS: -
 DATE: JULY 9, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 5:40 PM TIME CLOSED: 6:15 PM EQUIPMENT: CAT 416B BACKHOE

PLAN

ELEVATION

SOIL DESCRIPTION

0-9' SAND AND GRAVEL, BRICK,
 COAL CINDERS, COAL
 FRAGMENTS. NO ODORS.



VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 9 FT.
 TOTAL LENGTH: AS SHOWN FT.

DEPTH TO WATER: NOT ENCOUNTERED FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: NONE COLLECTED

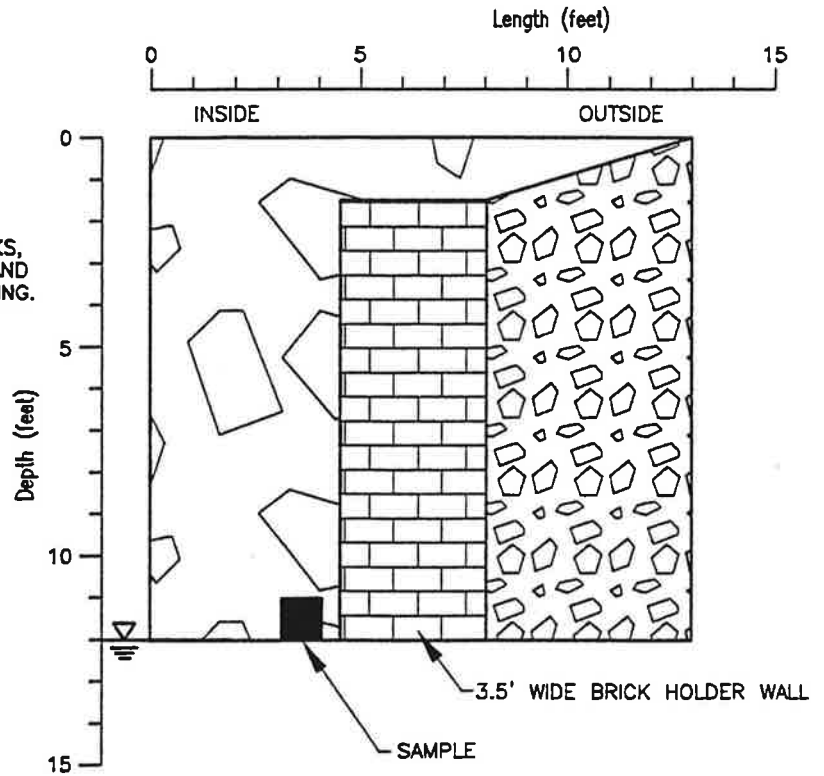
TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-10 OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: GAS HOLDER #5 ASSISTANT: -
 SOUTHWEST SIDE OTHERS: -
 DATE JULY 9, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 12:40 PM TIME CLOSED: 4:20 PM EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

(INSIDE HOLDER)
 0-12' SLIGHTLY DISCOLORED BRICKS,
 CONCRETE FRAGMENTS, SAND
 AND GRAVEL, METAL FRAMING.

(OUTSIDE HOLDER)
 0-12' CLEAN SAND AND GRAVEL



NOTE: GROUNDWATER NOT ENCOUNTERED
 OUTSIDE HOLDER

VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 12 FT.
 TOTAL LENGTH: 13 FT.

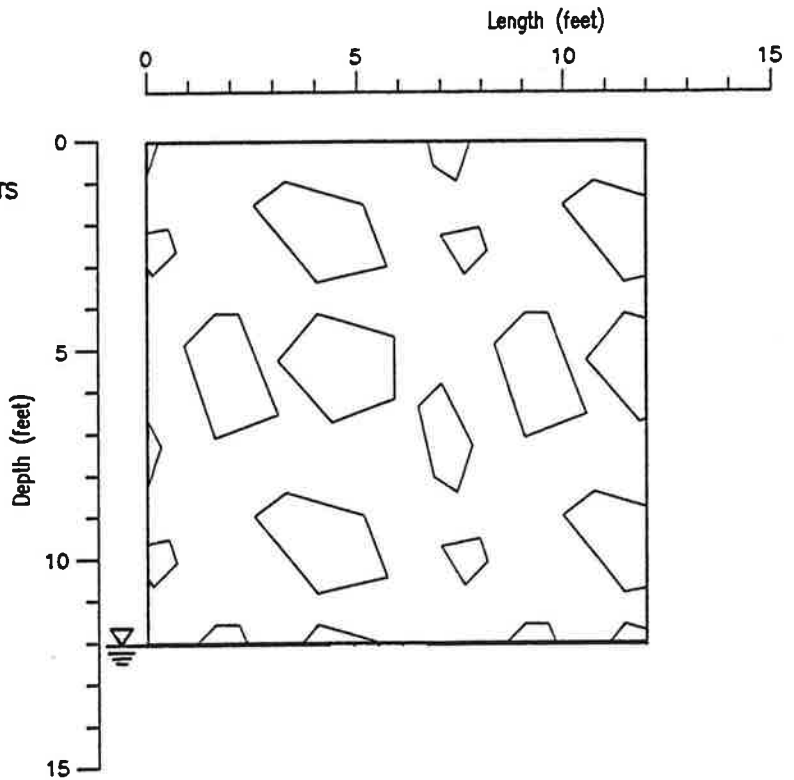
DEPTH TO WATER: 12± (INSIDE HOLDER) FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TTP-10 (11-12')

TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-10A OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: GAS HOLDER #5 ASSISTANT: -
NORTH SIDE OTHERS: -
 DATE: JULY 9, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 2:30 PM TIME CLOSED: 3:45 PM EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

0-12' LARGE CONCRETE FRAGMENTS,
 BRICK RUBBLE, MINOR AMOUNTS
 OF STEEL PIPING/FRAMING

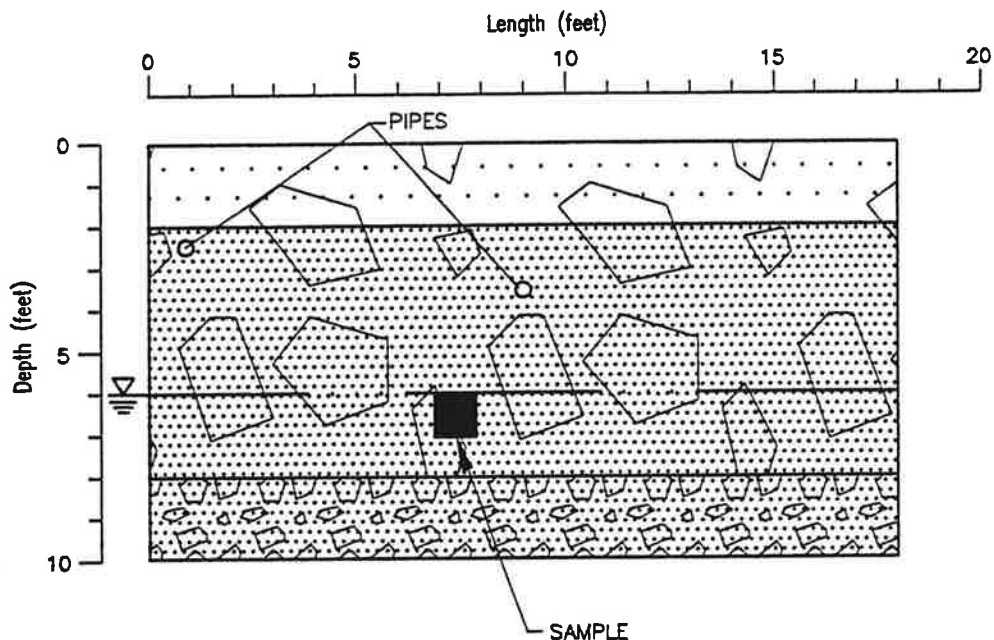


VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 12± FT.
 TOTAL LENGTH: 12± FT.

DEPTH TO WATER: 12 (ASSUMED) FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: NONE COLLECTED

TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-11 OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: TAR DEHYDRATION TANKS ASSISTANT: -
 DATE: JULY 10, 1996 OTHERS: -
 TIME OPENED: 10:25 AM TIME CLOSED: 11:35 AM OPERATOR: BOB PRENTISS
 EQUIPMENT: CAT 416B BACKHOE



SOIL DESCRIPTION

- 0-2' BROWN MEDIUM-COARSE SAND, CONCRETE/
BRICK RUBBLE. MINIMAL IMPACT.
- 2-8' BLACK STAINED/SATURATED SOIL/RUBBLE
WITH TAR. STRONG TAR ODOR. OILY SHEEN.
- 8-10±' DARK GRAY CLAYEY SILT. STRONG TAR ODOR.

NOTE: NO STRUCTURE EVIDENT. WIDESPREAD
 IMPACT

VIDEO DOCUMENTED: YES NO
 PHOTOGRAPHED: YES NO
 TOTAL DEPTH: 10± FT.
 TOTAL LENGTH: 18 FT.

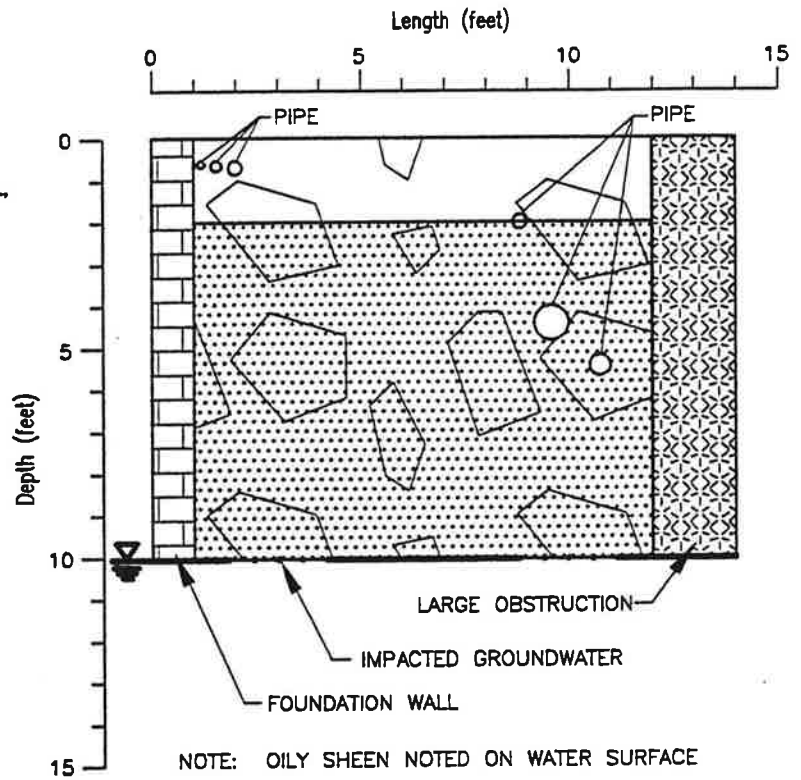
DEPTH TO WATER: 6 FT.
 NAPL SEEPAGE: YES NO
 SAMPLE ID: TTP11(6-7')

TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-11A OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: TAR DEHYDRATION TANKS ASSISTANT: -
 DATE: JULY 10, 1996 OTHERS: -
 TIME OPENED: 11:40 AM TIME CLOSED: 1:25 PM OPERATOR: BOB PRENTISS
 EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

0-2' BROWN MEDIUM-COARSE SAND AND GRAVEL, RUBBLE. MINIMAL IMPACT.
 2-10' BLACK TAR STAINED/SATURATED SAND AND GRAVEL. STRONG ODOR.

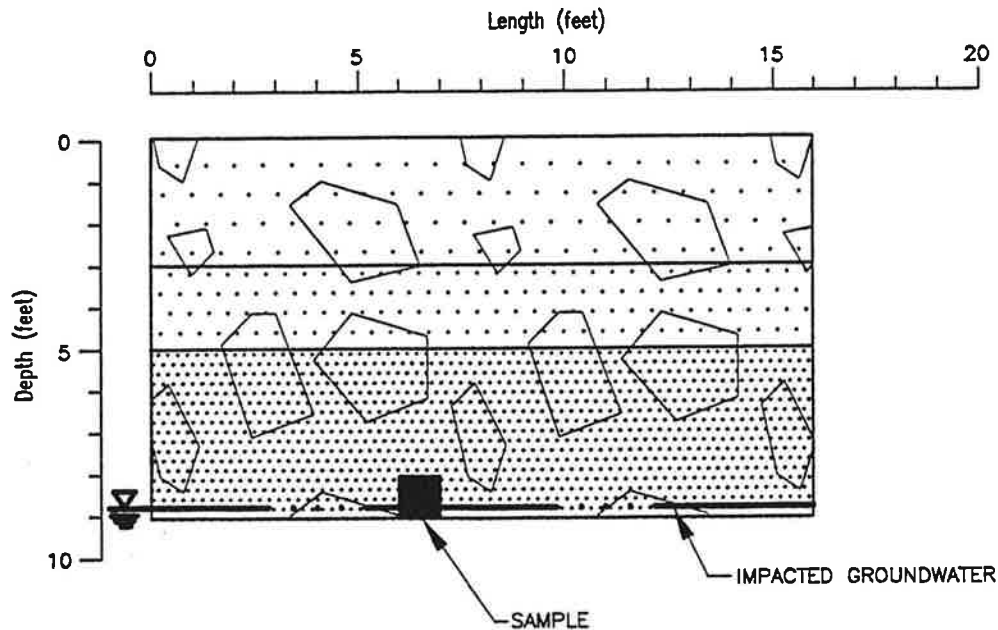


VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 10 FT.
 TOTAL LENGTH: 14 FT.

DEPTH TO WATER: 10± FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: NONE COLLECTED

TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-12 OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: DOWNGRAIENT OF ASSISTANT: -
SEPARATING TANKS OTHERS: -
 DATE: JULY 10, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 1:45 PM TIME CLOSED: 2:50 PM EQUIPMENT: CAT 416B BACKHOE



SOIL DESCRIPTION

- 0-3' DARK BROWN-BLACK COAL ASH/CINDERS, SOME BRICK, RUBBLE. DISTINCT TAR ODOR.
- 3-5' BLACK STAINED COAL ASH/CINDERS, BRICK, RUBBLE. STRONG TAR/NAPHTHA ODOR.
- 5-9' BLACK SATURATED COAL ASH/CINDER, BRICK, RUBBLE. VERY STRONG TAR ODOR.

VIDEO DOCUMENTED: YES NO
 PHOTOGRAPHED: YES NO
 TOTAL DEPTH: 9 FT.
 TOTAL LENGTH: 16 FT.

DEPTH TO WATER: 8.6 FT.
 NAPL SEEPAGE: YES NO
 SAMPLE ID: TTP-12 (8-9')

TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-13/TP-13A OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: TAR WELL ASSISTANT: -
 DATE: JULY 10, 1996 OTHERS: -
 TIME OPENED: 3:50 PM TIME CLOSED: 5:25 PM OPERATOR: BOB PRENTISS
 EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

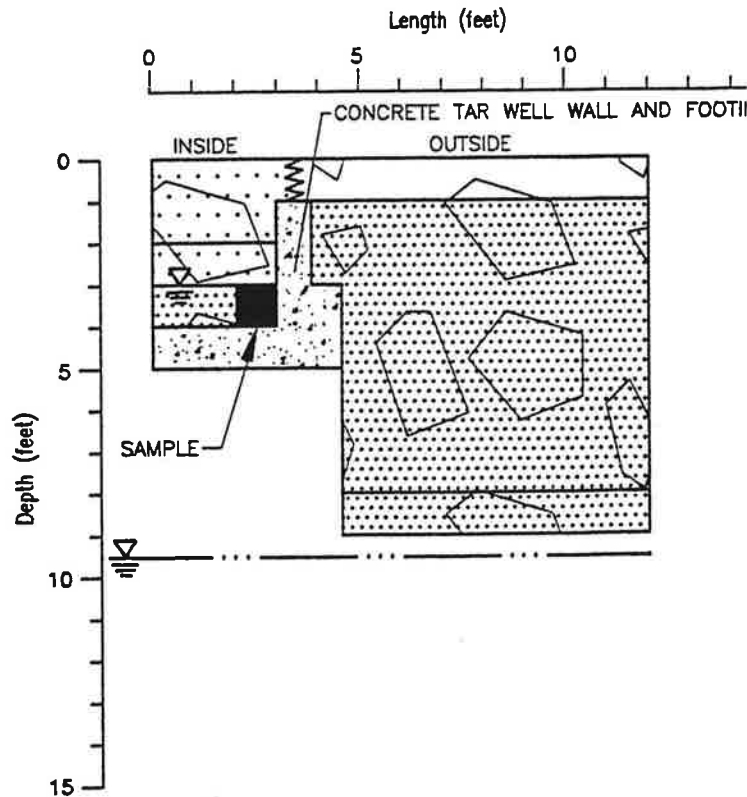
INSIDE

- 0-2' BLACK TAR STAINED SAND AND GRAVEL, BRICK-STONE RUBBLE. STRONG TAR ODOR.
- 2-4' TAR SATURATED RUBBLE/SOIL. LARGE, THICK TAR BLOBS. VERY STRONG TAR ODOR. MANY BRICKS AT 3.5-4' INTERVAL. POSSIBLE BOTTOM OF TAR WELL (END OF EXCAVATION).

NOTE: TARRY OILY SCUM LAYER ATOP GROUNDWATER SURFACE.

OUTSIDE

- 0-1' FILL
- 1-8' TAR SATURATED SOIL, RUBBLE. STRONG TAR ODOR.
- 8-9' HEAVILY SATURATED WITH TAR. POSSIBLE GROUNDWATER INFILTRATION.

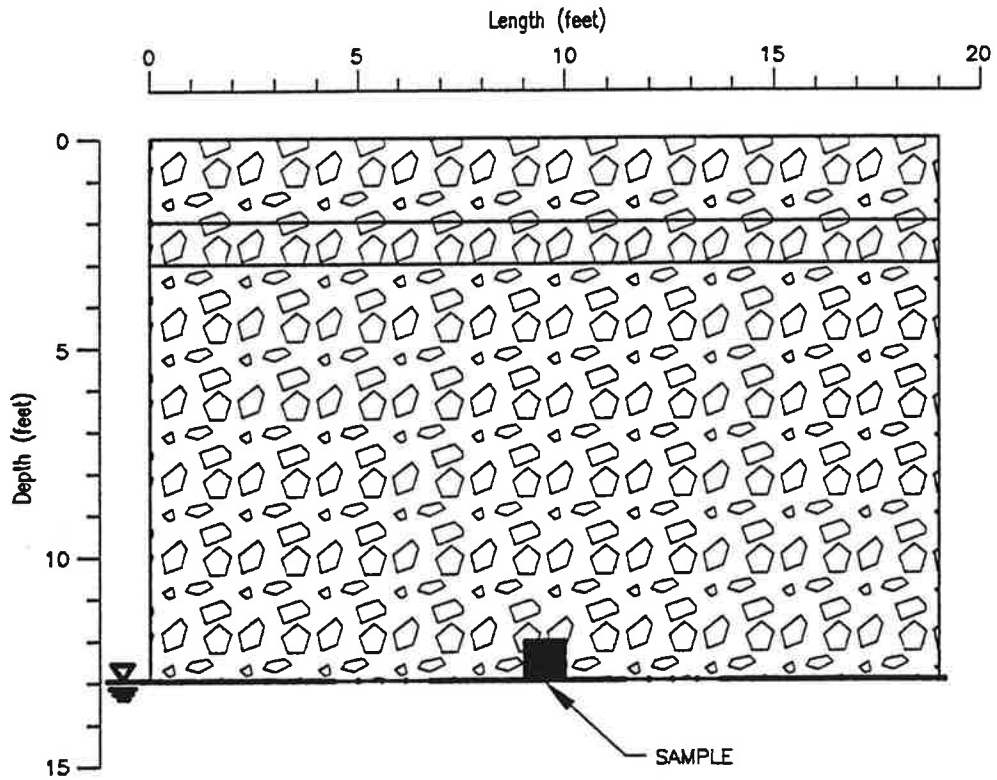


VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 4'9' FT.
 TOTAL LENGTH: 10'±/12' FT.

DEPTH TO WATER: 3±/10'(EST) FT.
 NAPL SEEPAGE: YES NO _____
 SAMPLE COLLECTED: YES NO _____
 SAMPLE ID: TTP-13 (3-4') INSIDE

TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-14 OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: FORMER OXIDE STORAGE ASSISTANT: -
 DATE: JULY 9, 1996 OTHERS: -
 TIME OPENED: 11:25 AM TIME CLOSED: 12:35 PM OPERATOR: BOB PRENTISS
 EQUIPMENT: CAT 416B BACKHOE



SOIL DESCRIPTION

0-2' GRAY MEDIUM SAND, TRACE SILT. DRY.

2-3' RUST STAINED MEDIUM-COARSE SAND.

3-13' GRAY TO OLIVE GRAY MEDIUM-COARSE SAND AND GRAVEL. SPOTTY IRON STAINING.

NOTE: NO STRUCTURES ENCOUNTERED.
 GROUNDWATER EXHIBITED STRONG NAPHTHA ODOR, NO SHEEN.

VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 13 FT.
 TOTAL LENGTH: 19 FT.

DEPTH TO WATER: 13± FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TP-14 (12-13')

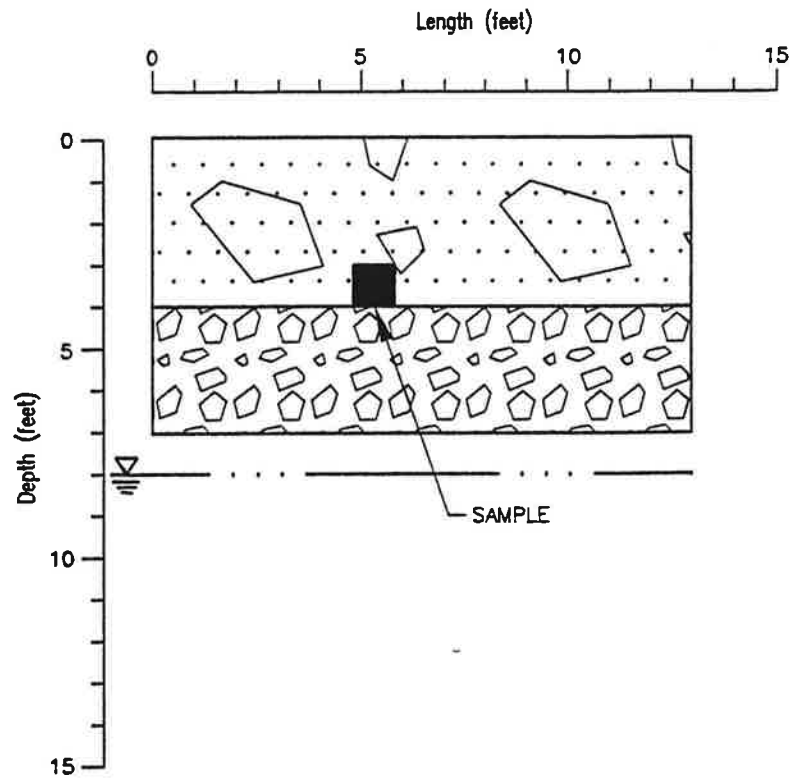
TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02
 TEST PIT NUMBER: TP-15
 GENERAL LOCATION AND/OR PURPOSE: DOWNGRADIENT MIGRATION-
ADJACENT TO RIVER
 DATE: JULY 10, 1996
 TIME OPENED: 3:05 PM TIME CLOSED: 3:40 PM

LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 OBSERVER: DEAN GUSTAFSON
 ASSISTANT: -
 OTHERS: -
 OPERATOR: BOB PRENTISS
 EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

- 0-4' BLACK SAND AND GRAVEL, BRICK, STONE, RUBBLE. SLIGHT-FAINT TAR ODOR.
- 4-7' LIGHT BROWN MEDIUM-COARSE SAND AND GRAVEL. VERY MOIST SOIL AT 7'±.



VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 7 FT.
 TOTAL LENGTH: 13 FT.

DEPTH TO WATER: 8± (ASSUMED) FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TTP-15 (3-4')

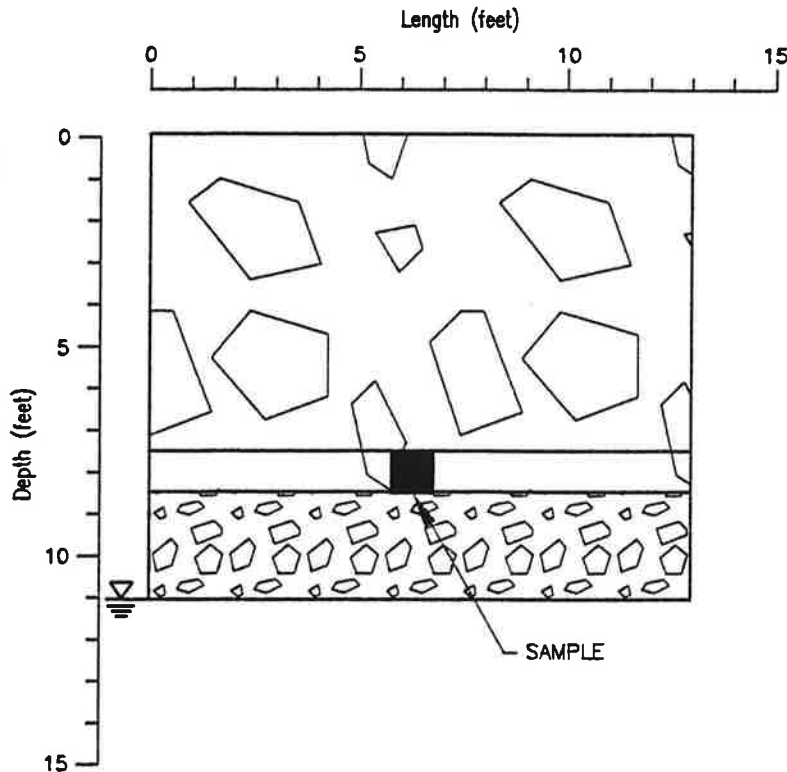
TEST PIT DESCRIPTION SHEET

PROJECT NUMBER: 2061-03-02 LOCAL "CALL BEFORE YOU DIG" CASE NO.: -
 TEST PIT NUMBER: TP-16 OBSERVER: DEAN GUSTAFSON
 GENERAL LOCATION AND/OR PURPOSE: NORTH END OF ASSISTANT: -
COKE STORAGE OTHERS: -
 DATE JULY 9, 1996 OPERATOR: BOB PRENTISS
 TIME OPENED: 9:50 AM TIME CLOSED: 11:15 AM EQUIPMENT: CAT 416B BACKHOE

SOIL DESCRIPTION

- 0-7.5' OLIVE BROWN MEDIUM-COARSE SAND AND GRAVEL, LITTLE SILT, DRY CONCRETE FRAGMENTS, STEEL BEAMS, PIPES, WIRE FENCING, CORRUGATED STEEL PANELS, ASPHALT FRAGMENTS, COBBLES.
- 7.5-8.5' BLACK STAINED MEDIUM-COARSE SAND, COAL FRAGMENTS/ASH (12-16" THICK, MOIST). NO ODORS. POSSIBLE COKE STORAGE REMNANTS.
- 8.5-11' ORANGE BROWN FINE-MEDIUM SAND. SLIGHT VARVE LAYERING (FINE SAND/VERY FINE SAND-SILT). GRAY MOTTLING. NATIVE SOIL

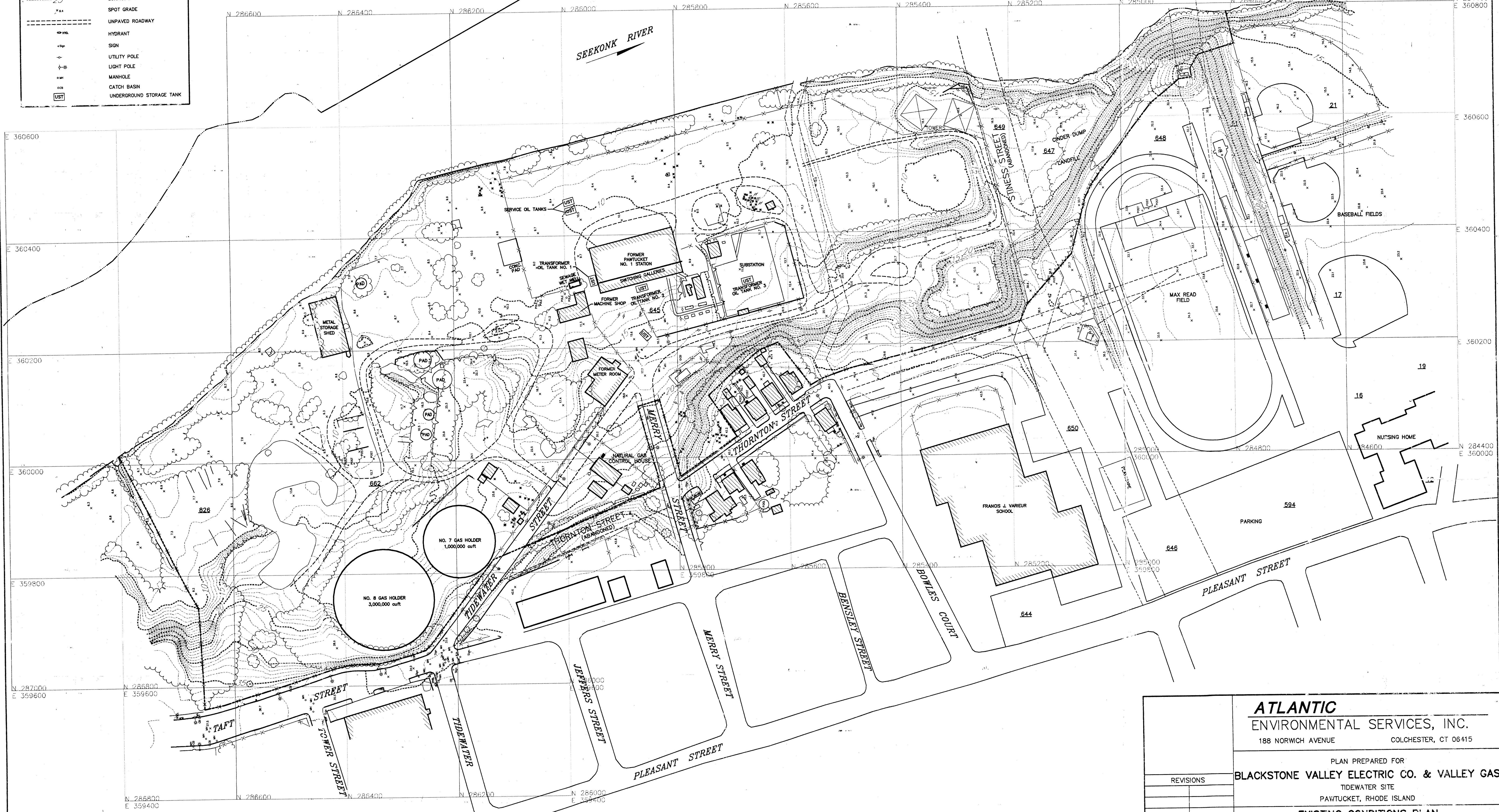
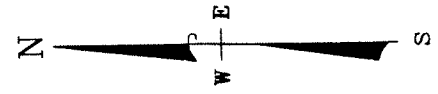
NOTE: NO VISUAL/OLFACTORY IMPACT TO GROUNDWATER



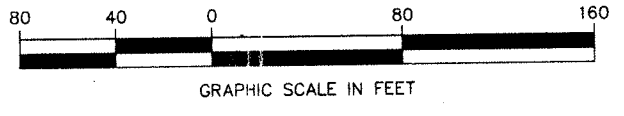
VIDEO DOCUMENTED: YES NO _____
 PHOTOGRAPHED: YES _____ NO
 TOTAL DEPTH: 11 FT.
 TOTAL LENGTH: 13 FT.

DEPTH TO WATER: 11± FT.
 NAPL SEEPAGE: YES _____ NO
 SAMPLE ID: TTP-16 (7-8')

LEGEND	
---	PROPERTY BOUNDARY
---	LOT DELINEATION
826	LOT IDENTIFICATION NUMBER
---	EASEMENT LINE
---	CHAIN LINK FENCE
---	VEGETATION/TREELINE
25	SURFICIAL CONTOUR
7.54	SPOT GRADE
---	UNPAVED ROADWAY
--- ---	HYDRANT
--- ---	SIGN
--- ---	UTILITY POLE
--- ---	LIGHT POLE
--- ---	MANHOLE
--- ---	CATCH BASIN
UST	UNDERGROUND STORAGE TANK

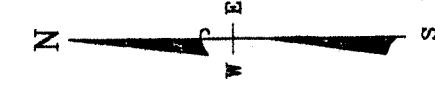


- NOTES:
1. THE TOPOGRAPHIC SURVEY IS BASED ON A CLASS "M" SURVEY PREPARED BY LOUIS FEDERICI AND ASSOCIATES, PROVIDENCE, RHODE ISLAND, SEPTEMBER 13, 1996
 2. VERTICAL DATUM IS BASED ON NGVD 1929 (MSL)
 3. HORIZONTAL DATUM IS BASED ON NAD 1983
 4. ATLANTIC SAMPLING LOCATIONS ARE BASED ON A CLASS "2" SURVEY PREPARED BY LOUIS FEDERICI AND ASSOCIATES, PROVIDENCE, RHODE ISLAND, SEPTEMBER 13, 1996

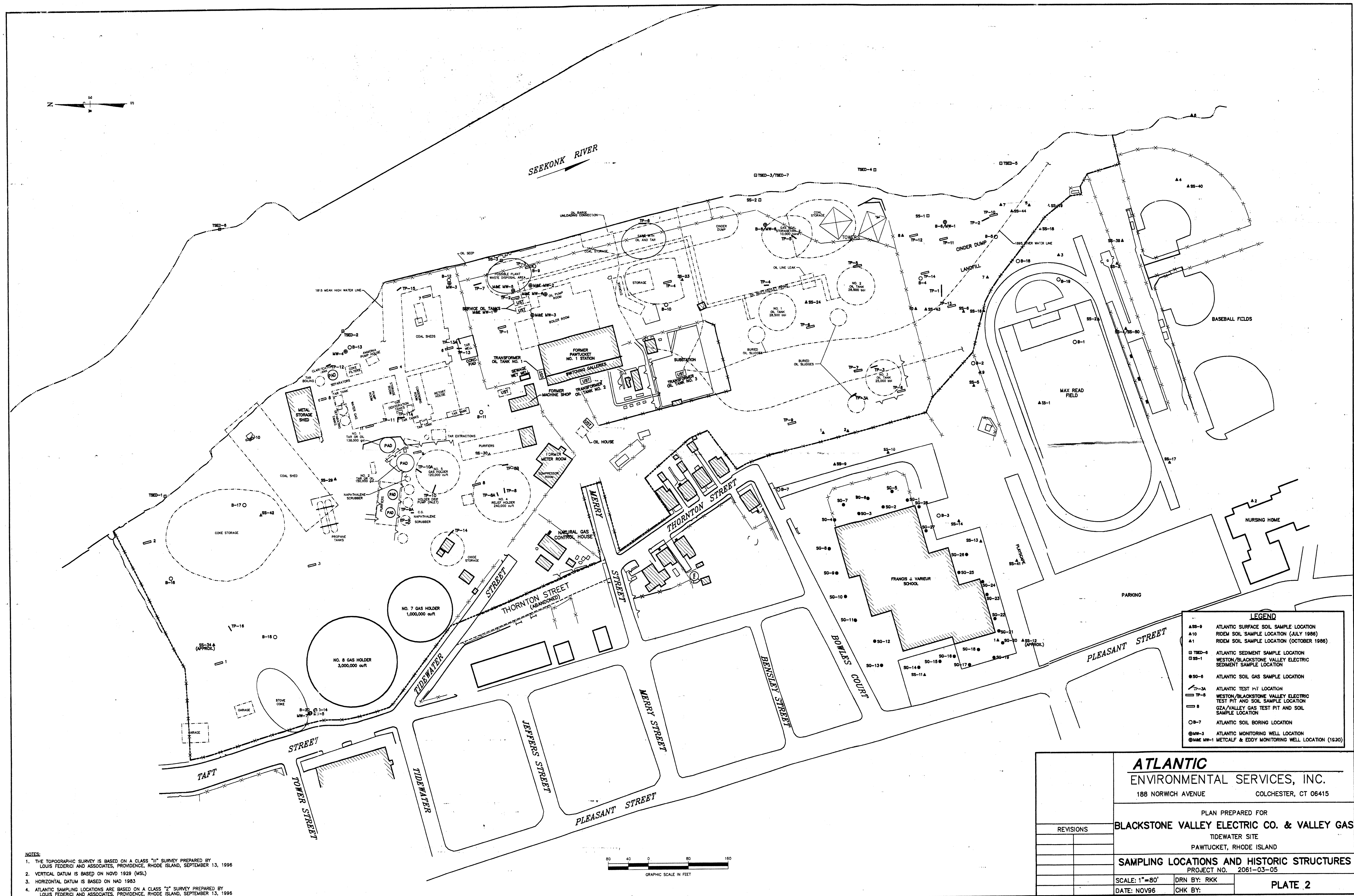


ATLANTIC ENVIRONMENTAL SERVICES, INC. 188 NORWICH AVENUE COLCHESTER, CT 06415			
		PLAN PREPARED FOR BLACKSTONE VALLEY ELECTRIC CO. & VALLEY GAS TIDEWATER SITE PAWTUCKET, RHODE ISLAND	
EXISTING CONDITIONS PLAN PROJECT NO. 2081-03-05			
REVISIONS _____ _____ _____	SCALE: 1"=80' DATE: NOV96	DRN BY: RKK CHK BY:	PLATE 1

DRAFT



SEEKONK RIVER



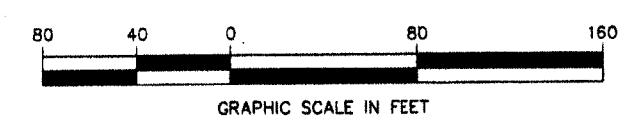
LEGEND

- ▲ SS-9 ATLANTIC SURFACE SOIL SAMPLE LOCATION
- ▲10 RIDEM SOIL SAMPLE LOCATION (JULY 1986)
- ▲1 RIDEM SOIL SAMPLE LOCATION (OCTOBER 1986)
- TSD-8 ATLANTIC SEDIMENT SAMPLE LOCATION
- SS-1 WESTON/BLACKSTONE VALLEY ELECTRIC SEDIMENT SAMPLE LOCATION
- SO-6 ATLANTIC SOIL GAS SAMPLE LOCATION
- TP-3A ATLANTIC TEST PIT LOCATION
- TP-3 WESTON/BLACKSTONE VALLEY ELECTRIC TEST PIT AND SOIL SAMPLE LOCATION
- ⊕ GZA/VALLEY GAS TEST PIT AND SOIL SAMPLE LOCATION
- B-7 ATLANTIC SOIL BORING LOCATION
- ⊙ MW-3 ATLANTIC MONITORING WELL LOCATION
- ⊙ MAE MW-1 METCALF & EDDY MONITORING WELL LOCATION (1620)

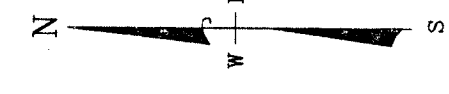
<p>ATLANTIC ENVIRONMENTAL SERVICES, INC. 188 NORMICH AVENUE COLCHESTER, CT 06415</p>		<p>PLAN PREPARED FOR</p>	
		<p>BLACKSTONE VALLEY ELECTRIC CO. & VALLEY GAS TIDEWATER SITE PAWTUCKET, RHODE ISLAND</p>	
<p>REVISIONS</p>		<p>SAMPLING LOCATIONS AND HISTORIC STRUCTURES PROJECT NO. 2061-03-05</p>	
SCALE: 1"=80'	DRN BY: RKK	<p>PLATE 2</p>	
DATE: NOV96	CHK BY:		

NOTES:

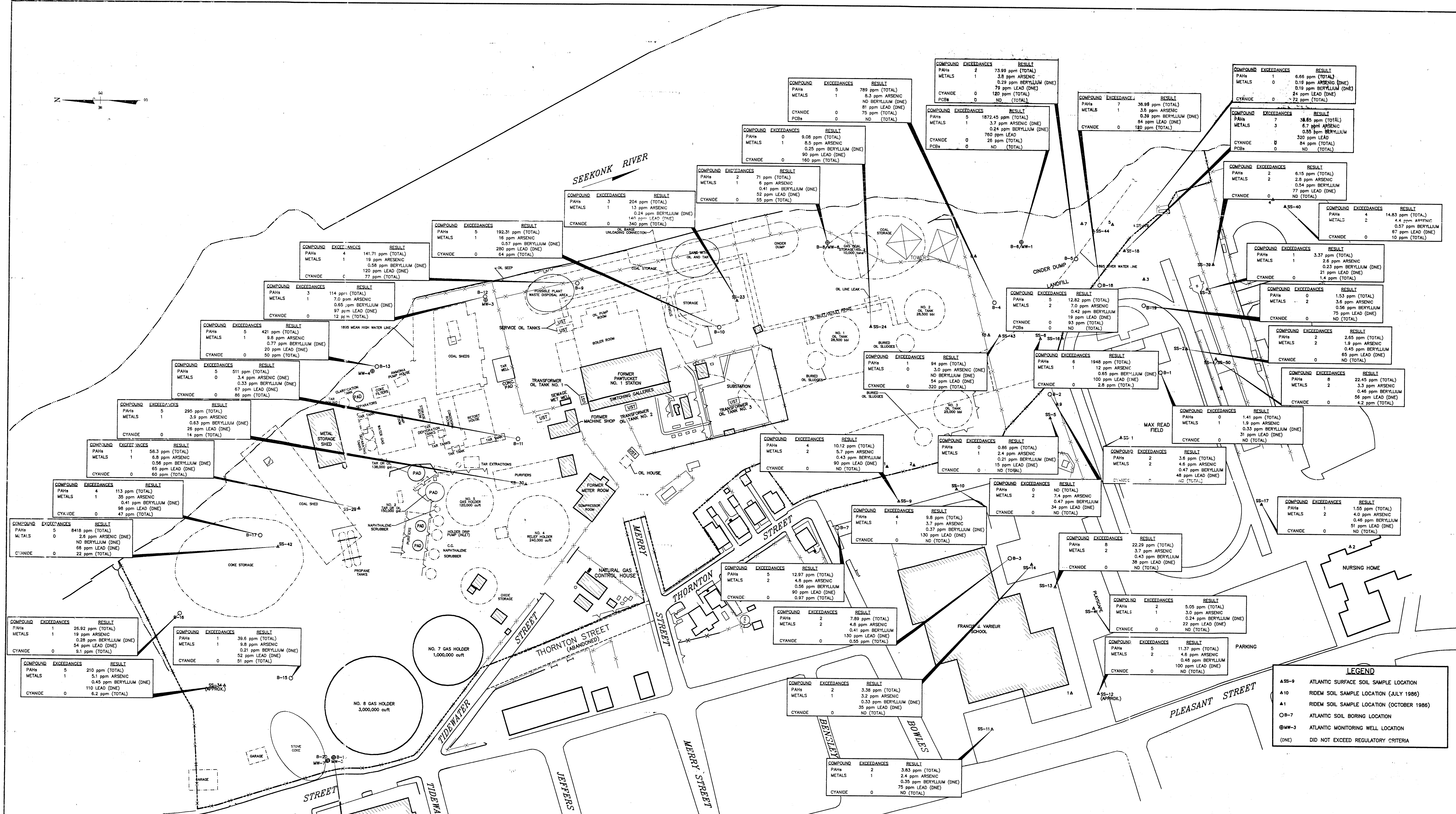
1. THE TOPOGRAPHIC SURVEY IS BASED ON A CLASS "M" SURVEY PREPARED BY LOUIS FEDERICI AND ASSOCIATES, PROVIDENCE, RHODE ISLAND, SEPTEMBER 13, 1996
2. VERTICAL DATUM IS BASED ON NGVD 1929 (MSL)
3. HORIZONTAL DATUM IS BASED ON NAD 1983
4. ATLANTIC SAMPLING LOCATIONS ARE BASED ON A CLASS "2" SURVEY PREPARED BY LOUIS FEDERICI AND ASSOCIATES, PROVIDENCE, RHODE ISLAND, SEPTEMBER 13, 1996



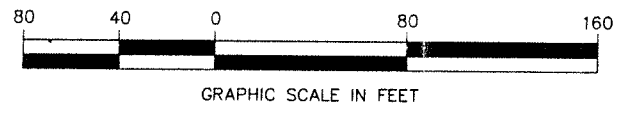
DRAFT



SEBKONK RIVER



- NOTES:
1. THE TOPOGRAPHIC SURVEY IS BASED ON A CLASS "III" SURVEY PREPARED BY LOUIS FEDERICI AND ASSOCIATES, PROVIDENCE, RHODE ISLAND, SEPTEMBER 13, 1996
 2. VERTICAL DATUM IS BASED ON NGVD 1929 (MSL)
 3. HORIZONTAL DATUM IS BASED ON NAD 1983
 4. ATLANTIC SAMPLING LOCATIONS ARE BASED ON A CLASS "2" SURVEY PREPARED BY LOUIS FEDERICI AND ASSOCIATES, PROVIDENCE, RHODE ISLAND, SEPTEMBER 13, 1996



LEGEND

ASS-9	ATLANTIC SURFACE SOIL SAMPLE LOCATION
A10	RIDEM SOIL SAMPLE LOCATION (JULY 1986)
A1	RIDEM SOIL SAMPLE LOCATION (OCTOBER 1986)
OB-7	ATLANTIC SOIL BORING LOCATION
BW-3	ATLANTIC MONITORING WELL LOCATION (DNE)
(DNE)	DID NOT EXCEED REGULATORY CRITERIA

ATLANTIC ENVIRONMENTAL SERVICES, INC.
188 NORWICH AVENUE COLCHESTER, CT 06415

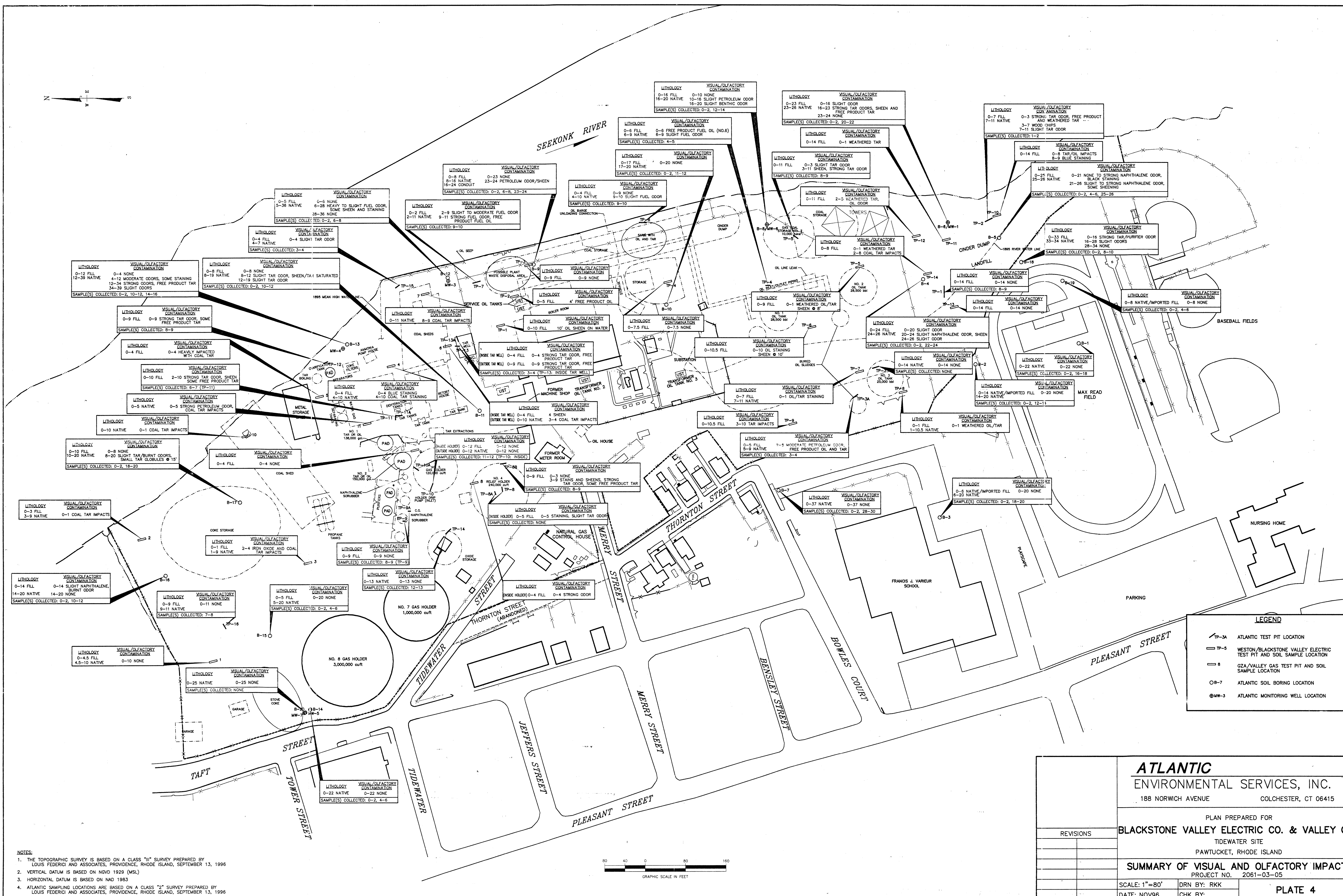
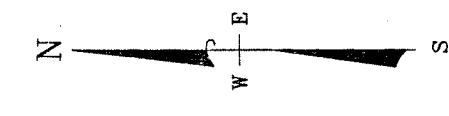
PLAN PREPARED FOR
BLACKSTONE VALLEY ELECTRIC CO. & VALLEY GAS
TIDEWATER SITE
PAWTUCKET, RHODE ISLAND

SURFACE SOIL ANALYTICAL RESULTS SUMMARY
PROJECT NO. 2061-03-05

REVISIONS	
SCALE: 1"=80'	DRN BY: RKK
DATE: NOV96	CHK BY:

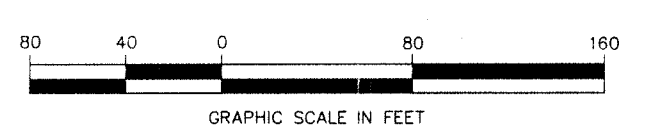
PLATE 3

DRAFT



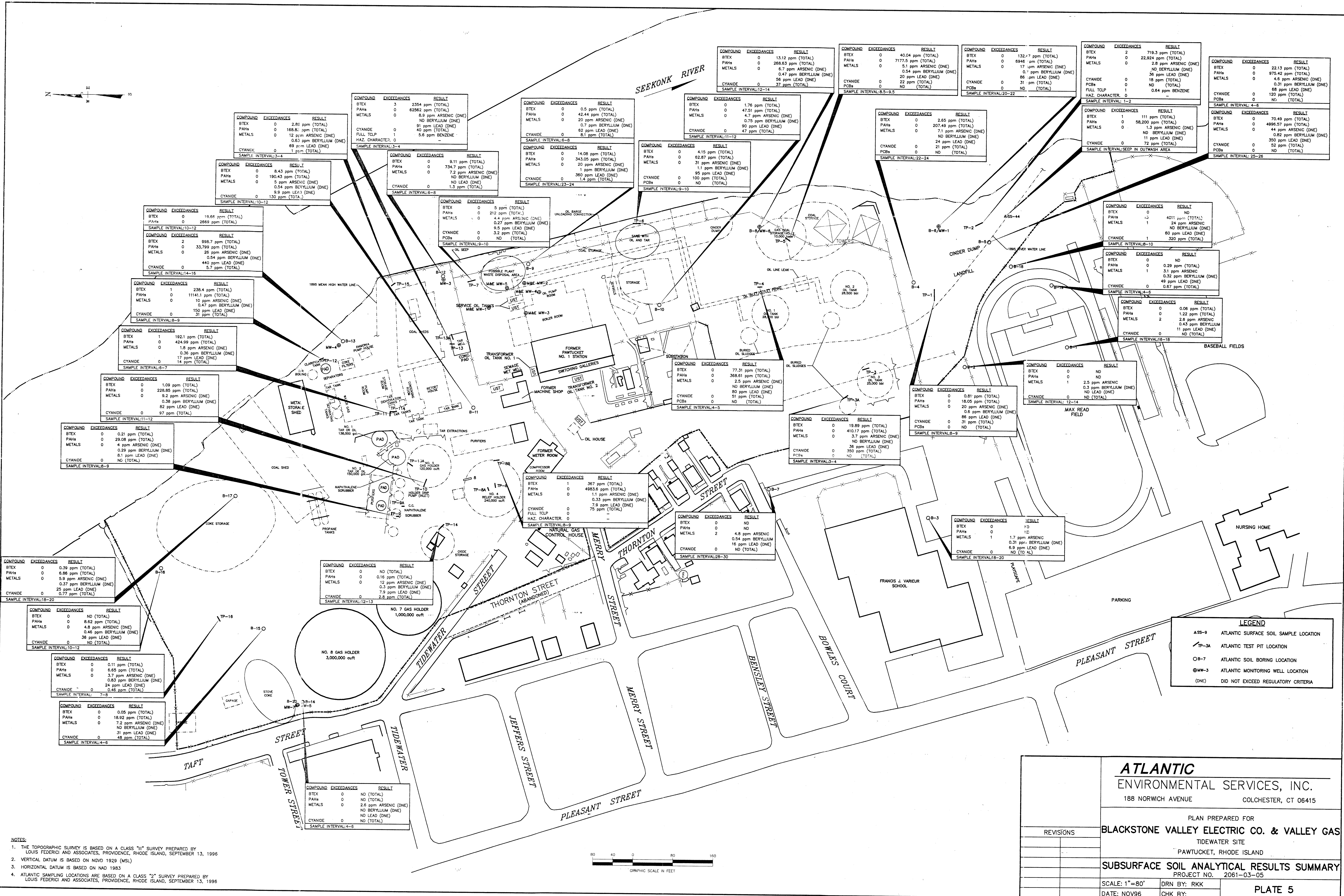
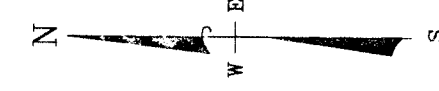
LEGEND	
TP-34	ATLANTIC TEST PIT LOCATION
TP-5	WESTON/BLACKSTONE VALLEY ELECTRIC TEST PIT AND SOIL SAMPLE LOCATION
8	GZA/VALLEY GAS TEST PIT AND SOIL SAMPLE LOCATION
OB-7	ATLANTIC SOIL BORING LOCATION
MW-3	ATLANTIC MONITORING WELL LOCATION

NOTES:
 1. THE TOPOGRAPHIC SURVEY IS BASED ON A CLASS "M" SURVEY PREPARED BY LOUIS FEDERICI AND ASSOCIATES, PROVIDENCE, RHODE ISLAND, SEPTEMBER 13, 1996
 2. VERTICAL DATUM IS BASED ON NGVD 1929 (MSL)
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 4. ATLANTIC SAMPLING LOCATIONS ARE BASED ON A CLASS "2" SURVEY PREPARED BY LOUIS FEDERICI AND ASSOCIATES, PROVIDENCE, RHODE ISLAND, SEPTEMBER 13, 1996



ATLANTIC ENVIRONMENTAL SERVICES, INC. 188 NORWICH AVENUE COLCHESTER, CT 06415		PLAN PREPARED FOR BLACKSTONE VALLEY ELECTRIC CO. & VALLEY GAS TIDEWATER SITE PAWTUCKET, RHODE ISLAND	
		SUMMARY OF VISUAL AND OLFACTORY IMPACTS PROJECT NO. 2061-03-05	
REVISIONS	SCALE: 1"=80'	DRN BY: RKK	PLATE 4
	DATE: NOV96	CHK BY:	

DRAFT

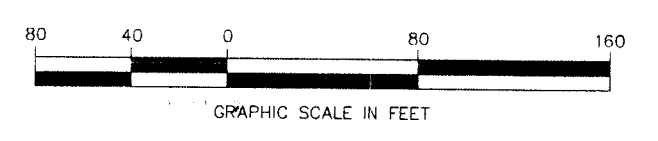


LEGEND

- AS-9 ATLANTIC SURFACE SOIL SAMPLE LOCATION
- TP-3A ATLANTIC TEST PIT LOCATION
- OB-7 ATLANTIC SOIL BORING LOCATION
- OW-3 ATLANTIC MONITORING WELL LOCATION
- (DNE) DID NOT EXCEED REGULATORY CRITERIA

NOTES:

1. THE TOPOGRAPHIC SURVEY IS BASED ON A CLASS "III" SURVEY PREPARED BY LOUIS FEDERICI AND ASSOCIATES, PROVIDENCE, RHODE ISLAND, SEPTEMBER 13, 1996
2. VERTICAL DATUM IS BASED ON NGVD 1928 (MSL)
3. HORIZONTAL DATUM IS BASED ON NAD 1983
4. ATLANTIC SAMPLING LOCATIONS ARE BASED ON A CLASS "2" SURVEY PREPARED BY LOUIS FEDERICI AND ASSOCIATES, PROVIDENCE, RHODE ISLAND, SEPTEMBER 13, 1996



ATLANTIC ENVIRONMENTAL SERVICES, INC.
 188 NORWICH AVENUE COLCHESTER, CT 06415

PLAN PREPARED FOR	
BLACKSTONE VALLEY ELECTRIC CO. & VALLEY GAS	
TIDEWATER SITE	
PAWTUCKET, RHODE ISLAND	
SUBSURFACE SOIL ANALYTICAL RESULTS SUMMARY	
PROJECT NO. 2061-03-05	
SCALE: 1"=80'	DRN BY: RKK
DATE: NOV96	CHK BY:

PLATE 5

DRAFT