0000003

EPA Region 5 Records Ctr.
235048

The Lockformer Company

Additional Assessment of TCE Release

Lockformer Facility
Lisle, Illinois

STS Consultants Ltd.
Consulting Engineers

February 14, 1997

Mr. James Heitt
The Lockformer Company
711 Ogden Avenue
Lisle, IL 60532

RE: Additional Assessment of TCE Release, Lockformer Facility, Lisle, Illinois – STS Project No. 26249-XB

Dear Mr. Heitt:

STS has completed the additional tasks regarding the TCE release described in our proposal No. 5470-P, dated November 5, 1996. The tasks included on-site well development, groundwater sampling and analysis and the attached summary report of the current information regarding the site conditions. A sampling and testing program was authorized separately to assess the adjacent west lot.

Our recommendations for further determination of the site conditions are included in the attached report. If you have any questions or concerns regarding this information, please do not hesitate to contact us.

Respectfully,

STS CONSULTANTS, LTD.

Cynthia Bonczkiewicz
Project Engineer

Richard G. Berggreen
Principal Geologist

Attachment

cc: Daniel Biederman, Hinshaw & Culbertson

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STS Consultants Ltd.
Consulting Engineers

1415 Lake Cook Road
Deerfield, Illinois 60015
847 267 8010 Fax 847 267 8040

ADDITIONAL ASSESSMENT OF TCE RELEASE LOCKFORMER FACILITY LISLE, ILLINOIS

The Lockformer Company
711 Ogden Avenue
Lisle, Illinois 60532

26249-XB

February 14, 1997

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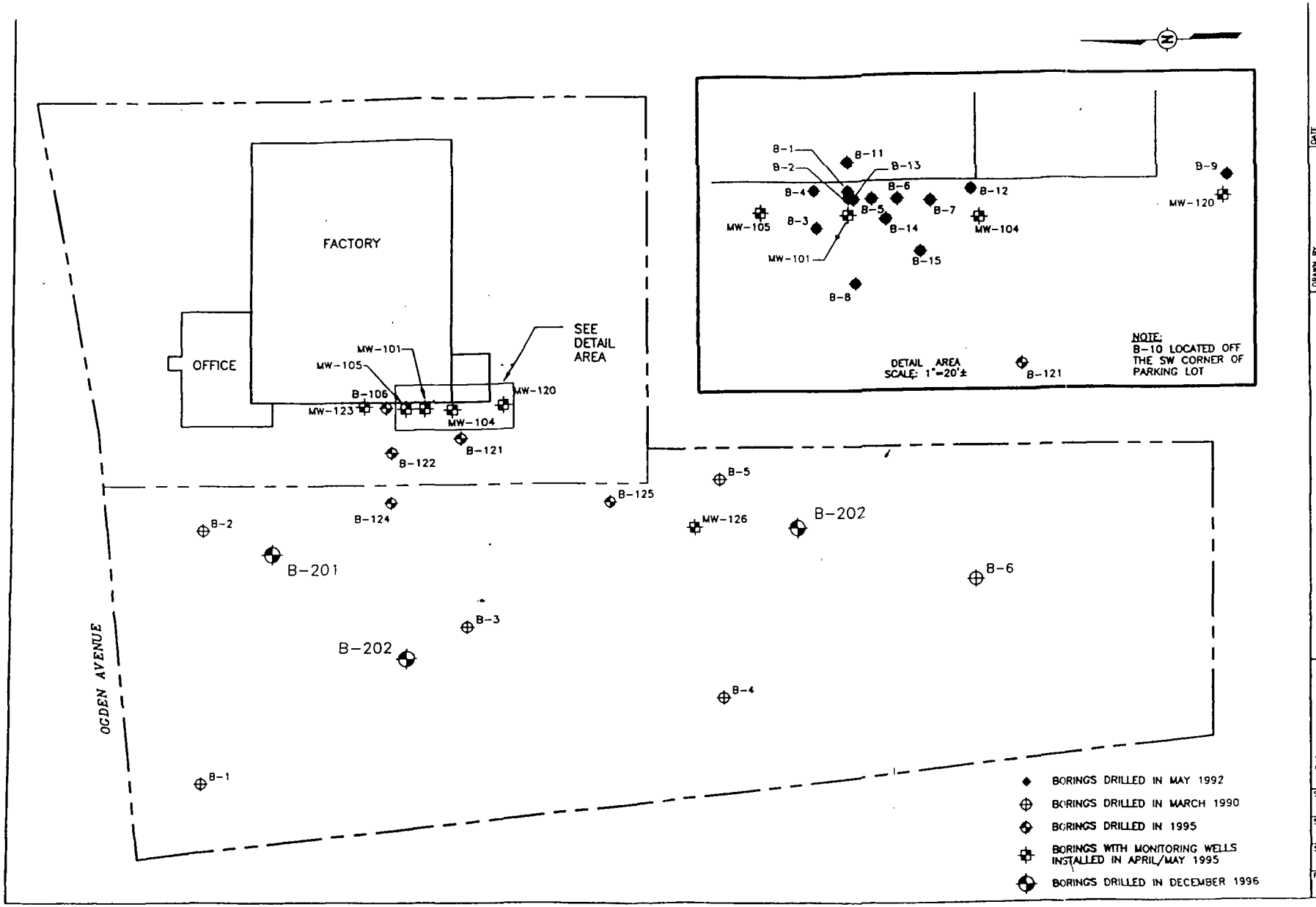
ADDITIONAL ASSESSMENT OF TCE RELEASE
LOCKFORMER FACILITY
LISLE, ILLINOIS

1.0 BACKGROUND

STS Consultants, Ltd. (STS) has conducted several exploration/analysis programs at the Lockformer facility since 1990. The purpose of this report is to present information from the most recent investigation, to summarize the previous data, and recommend any future investigations with the objective of developing a strategy for obtaining clean closure of a TCE (Trichloroethylene) release identified at the site. Figure 1 shows the borings and monitoring wells performed to date.

During a geotechnical investigation in 1990, no indications of significant contamination were noted in shallow borings (B-1 through B-6) on the adjacent west parcel. In 1992, borings (B-1 through B-15) at the west side of the facility indicated contamination near the TCE fill pipe and beneath the western edge of the main building. Based on this information, borings B-121, B-122, B-124, B-125 were performed, and groundwater monitoring wells (MW-101, MW-104, MW-105, MW-120, MW-125) were installed in 1995.

STS sampled the monitoring wells in November 1996. This report includes a summary of the previous findings and the results of the recent groundwater analysis. Further exploration was conducted on the adjacent west lot in December 1996 for soil characterization parameters. In conjunction with this recent exploration, six samples were analyzed for solvents, including TCE. The recent results (received January 1997), are included in this summary report.



SOIL BORING LOCATION DIAGRAM
LOCKFORMER REMEDIAL INVESTIGATION
711 OGDEN AVENUE
CHICAGO, ILLINOIS

DRAWN BY KKB	DATE 1-10-97	
CHECKED BY CB	DATE 1-10-97	
APPROVED BY RGB	DATE 1-10-97	
CADFILE X:\PROJECTS\26249\xb\g1xb2 02/05/1997 12:06		

STS Consultants Ltd
Consulting Engineers

STS PROJECT NO. 26249-XB
STS PROJECT FILE G1XB2
SCALE 1"=100'±
FIGURE NO. 1

2.0 SUMMARY OF FINDINGS

Soil Conditions

Soil boring logs from the 1990, 1995, and 1996 explorations are attached as Appendix A. The soils generally consist of 3 to 8 feet of silty clay fill and/or topsoil, underlain by silty clay soils to 18 to 32 feet below ground surface. The geotechnical report from 1990 describes the fill on the adjacent west lot. Seams and pockets of silt and sand were prevalent in the natural silty clay strata. STS understands that the fill on the adjacent west lot was imported from the grading done for Ogden Avenue improvements prior to 1990. Beneath the silty clay is a thick sequence of gravelly sand which generally extends to the top of bedrock, although some silt and clay may be present at the top of rock.

Bedrock was encountered approximately 40 feet below ground surface as indicated in water well logs for the residential development northwest of the Lockformer facility. On site and on the adjacent lot to the west, bedrock was encountered at a deeper depth, approximately 80 feet. Bedrock in the site vicinity consists of the Silurian age Niagarum dolomite and represents a regional water supply aquifer.

The analytical results from testing of selected soil samples are summarized in Table 1. The results indicated shallow TCE contamination in borings B-13, B-14, and B-15 near the fill pipe on the west side of the Lockformer main building and deep (below 30 foot depth) TCE contamination south and west of the building. At one of the boring locations on the west lot (boring MW-125), mid-depth TCE contamination was noted from 15 to 27 feet below ground surface. Contamination is defined as soils with over the IEPA threshold of 60 ppb TCE (IEPA cleanup objective guidelines for the migration to groundwater). Other solvent parameters were noted in some of the soil samples analyzed, however the concentrations of these

Table 1
Results of Soil Sample Analysis
1990 to 1996

			Concentration in ppb				
Boring No.	Depth (ft)	Soil Type	1,1 DCE	cis DCE	trans DCE	TCE	PCE
B-1	0 - 4.5	CL Fill	ND	ND	ND	ND	ND
B-2	0 - 2.5	CL Fill	ND	ND	ND	ND	ND
B-3	0 - 12.5	CL Fill	ND	ND	ND	ND	ND
B-4	0 - 17	CL Fill	ND	ND	ND	ND	ND
B-5	0 - 12	CL Fill	ND	ND	ND	ND	ND
B-6	0 - 13	CL Fill	ND	ND	ND	ND	ND
B-13	1 - 2	CL Fill	27	–	–	680,000	20,000
	2 - 3	CL Fill	5	–	–	310,000	9,000
	3 - 4	CL Fill	ND	–	–	110,000	2,500
B-14	1 - 2	CL Fill	ND	–	–	120,000	1,700
B-15	3 - 4	CL Fill	ND	–	–	21,000	880
MW-120	4 - 4.5	CL Fill	ND	ND	ND	11.1	ND
	7.5 - 9.5	CL	ND	12.2	0.3	24.1	ND
	20 - 22	SP	3	ND	ND	ND	ND
	35 - 37	SP	ND	ND	ND	>301	ND
	40 - 42	SP	ND	ND	ND	3.5	ND
	45 - 47	SP	1.1	ND	ND	ND	ND
	55.5 - 57.7T	SP	ND	ND	ND	2.3	ND
	55.5 - 57.5B	SP	5.8	ND	ND	ND	ND
	47 - 49 Lab	SP	ND	ND	ND	ND	ND
MW-121	17.5 - 19.5	–	ND	ND	ND	2.4	ND
	45 - 47	–	1.6	ND	ND	25	ND
	50 - 52	–	1.9	ND	ND	2.2	ND
	55 - 57	–	2	ND	ND	2.4	ND
MW-122	2.5 - 4.5	CL	12	2.9	ND	ND	ND
	10 - 12T	CL	1.7	91	ND	4	ND
	10 - 12B	CL	1.3	8.8	1.2	2.4	ND
	15 - 17	CL	2.2	ND	ND	1.9	1
	20 - 22	CL	2	ND	ND	1.8	ND
	25 - 27	CL	1.3	ND	ND	ND	ND
	30 - 32	CL	1	ND	ND	4,000	5.2
	32.5 - 34.5	SP	1	ND	ND	6,500	10
	30-32 Lab	CL	ND	ND	ND	ND	ND
	32.5 - 34.5 Lab	SP	ND	ND	ND	910	ND

Table 1 (Cont.)
Results of Soil Sample Analysis
1990 to 1996

			Concentration in ppb				
Boring No.	Depth (ft)	Soil Type	1,1 DCE	cis DCE	trans DCE	TCE	PCE
MW-123	5.0 - 7.0	CL	16	20	ND	ND	ND
	7.5 - 9.5	CL	1.8	ND	ND	ND	ND
	15 - 17	CL	1.9	ND	ND	ND	ND
MW - 124	5.0 - 7.0	CL	1.4	ND	ND	1.9	ND
	7.5 - 9.5	CL	ND	6.1	ND	10	ND
	10.0 - 12.0	CL	ND	ND	ND	14	ND
	12.5 - 14.5	CL	ND	ND	ND	1.5	ND
MW - 125	10.0 - 12.0	CL	ND	8.4	ND	110	ND
	15 - 17	SP	1.7	3.7	ND	52	ND
	17.5 - 19.5	SP	2.8	6.5	ND	100	1.2
	20 - 22	SP	1.6	4.8	ND	59	ND
	25 - 27	SP	2.5	7.6	ND	58	1
MW - 126	12.5 - 14.5	CL	1.6	ND	ND	ND	ND
	17.5 - 19.5	CL	ND	ND	ND	28	ND
	20 - 22	SP	ND	ND	ND	11	ND
	25 - 27	SP	ND	ND	ND	13	ND
	35 - 37	SP	ND	ND	ND	5.8	ND
	50 - 52	SP	1	ND	ND	5.8	1.1
	65 - 67	SP	ND	ND	ND	ND	ND
	70 - 72	SP	ND	ND	ND	ND	1.4
	75 - 77	SP	ND	ND	ND	ND	1.7
	75 - 77 Lab	SP	ND	ND	ND	ND	ND
B-201	2.5 - 4.5	Fill	ND	ND	ND	ND	ND
	10 - 12	CL	ND	ND	ND	ND	ND
B-202	15 - 17	CL	ND	ND	ND	ND	ND
	37 - 39	SP	ND	ND	ND	ND	ND
B-203	10 - 12	CL	ND	ND	ND	ND	ND
	25 - 27	SP	ND	ND	ND	ND	ND
TACO Tier 1 Cleanup Objectives, Migration to Groundwater (Industrial and Residential)							
			1,1 DCE	cis DCE	trans DCE	TCE	PCE
			60 ppb	400 ppb	700 ppb	60 ppb	60 ppb

parameters (1,1 DCE, cis DCE, trans DCE, PCE) were found to be below IEPA Tier 1 clean up objectives for the migration to groundwater criteria for soils. Individual laboratory results are of soil analyses are shown on Figure 2. The zone which exhibited soil TCE contamination above IEPA Tier 1 concentration levels are shown in bold on Figure 2.

Groundwater Conditions

Groundwater was encountered in the soil borings at varying depths, indicating a shallow, 12 to 15 feet deep, perched water table (B-2, B-5, B-6) and a deeper long term water table. The deeper groundwater was noted from 30 to more than 50 feet below ground surface at the time of the borings. In addition to the borings on-site, groundwater monitoring wells were installed during the 1995 exploration program. The installation details are included on well logs presented in Appendix B.

Wells MW-101 and MW-123 are situated to collect shallow groundwater from the silty clay strata. Wells MW-104 and MW-105 are screened in the deeper sand and gravelly sand layers; however, no groundwater was present in these wells at the time the wells were sampled. Wells MW-120 and MW-126 are screened in the silt and limestone gravel strata below the sand layers, but above the top of bedrock. The wells were developed, monitored and sampled in November 1996. At that time, the shallow groundwater was approximately 12 feet below the surface and the deeper groundwater table was 30 to 52 feet below ground surface.

The analytical results from the 1996 testing of groundwater samples are summarized in Table 2 and included in Appendix C. Allowable levels of selected parameters, as defined by the IEPA are also included in Table 2. The results indicate that elevated concentrations of several solvents were found in the shallow (20 feet) and deep (50 feet) groundwater, west and south of the Lockformer building. In two wells on the Lockformer property (MW-120 and MW-

Table 2
Lockformer Monitoring Well Results
November 1996

	Concentration in ppb				
	MW-123 ~~MW-101~~	MW-120	MW-101 ~~MW-123~~	MW-126	IEPA Class II Groundwater
Distance from Fill Pipe (Ft. - Dir.)	1.5 ft. S	98 ft. S	56.5 ft. N	325 ft. S	--
Depth of Well (Ft.)	22.7	55.8	15	77.7	--
Relative Elevation of Water (11/20/96) ft.	88.1	67.4	88.4	44.7	--
Vinylchloride	--	--	73	--	2
1,1 DCE	--	--	530	--	7
Methylchloride	--	--	63	--	5
Trans 1,2 DCE	--	3.5	490	--	100
1,1 Dichloroethane	--	41	300	--	700
Chloroform	--	--	7	--	0.02
1,1 Trichloroethane	--	--	4,800	--	200
Benzene	--	--	4.6	--	5
Trichloroethylene TCE	2.4	59	68,000	1.3	5
Toluene	--	--	8.1	--	1,000
1,1,2 Trichloroethane	--	--	57	--	
cis 1,2 DCE	2.2	79	38,000	--	70
PCE	--	--	9.5	--	5

123), the concentrations were above allowable levels for IEPA Class I or Class II groundwater. The groundwater from MW-126 on the adjacent west lot was below the IEPA Class I standard for TCE and related parameters. Groundwater elevations as of November 1996 are also shown on Table 2.

West Lot

On the basis of the data available from this investigation and previous sampling and analyses, STS performed preliminary Tier 2 calculations evaluating the status of the property directly west of the Lockformer west parking lot in relation to IEPA cleanup requirements. Using test results summarized in Table 3, IEPA cleanup parameters were calculated for TCE, the only parameter known to be in exceedance of Tier 1 levels on the west lot. Two alternative methods were used in the Tier 2 calculations. The USEPA SSL equations and the ASTM RBCA equations. Based on the Table 3 parameters, a Tier 2 cleanup requirement of 608 ppb was estimated using the EPA SSL equations. A requirement of 105 ppb was estimated using RBCA equations. Additionally, recent laboratory testing showed no detections of TCE at three locations on the west lot. The results are included in Appendix C.

Since the maximum known soil contamination in the west lot is 110 ppb at 10 to 12 foot depth at boring B-125 location, the estimated Tier 2 levels are not known to be exceeded. If the Table 3 parameters and calculations are accepted by the IEPA, no cleanup would be required on the west lot, provided the B-125 contaminant levels are considered representative.

Table 3
Physical Soil Parameters for IEPA Tier 2 Calculations

Boring No.	Depth (ft.)	Soil Type	Organic Content (%)	Specific Gravity	Dry Density (lb/ft.^{3})	Natural Water Content (%)
B-201	2.5 - 4.5	Fill	0.7	2.72	–	19.2
	10 - 12	CL	2.9	2.63	–	16
B-202	15 - 17	CL	1.6	2.70	114.7	19.5
	37 - 39	SP	4.2	2.77	–	4.3
B-203	1 - 3	Fill	8.3	2.63	109.8	14.4
	15 - 17	CL	5.5	–	97.4	25.7
	25 - 27	SP	2.3	2.78	–	3.9

3.0 RECOMMENDATIONS

It is our understanding that Lockformer desires to obtain site closure from the IEPA for the TCE release. Further, we understand that the site has been entered into the state's voluntary cleanup program (Illinois Pre-Notice Site Cleanup Program). Based on the data which has been developed through the previously completed investigations, it is our opinion that the Lockformer facility will require some remediation of soil and groundwater prior to obtaining a No Further Remediation letter for the site. As part of the closure program, we anticipate the IEPA will require a Remedial Action Plan and submittal of proposed clean up objectives for this site in the form of a Remediation Objectives Report. Some delineation of the extent of contamination is recommended prior to submittal of the Site Investigation Report which is also required for approval in the IEPA Site Remediation Program.

In order to further delineate the limits of the contamination, STS recommends the use of passive soil gas probes as a cost effective method to delineate the contamination south and southwest of the identified plume. Approximately 40 probes can be installed, retrieved and analyzed for approximately $8,000, including a letter report of the results. Soil gas probes are gas absorption canisters which are manually placed near the ground surface without the need drill rig mobilization. A map showing the relative concentrations of the target compounds in the probe area would be prepared based on the results.

Following the delineation of the apparent extent of contamination from the soil gas probe survey, STS suggests additional characterization of groundwater contamination at the site prior to the Site Investigation Report and the Remedial Action Plan completion. Of the six monitoring wells currently on site, two were dry, two collected deep (<50 ft) groundwater south of the building and two collected shallow groundwater adjacent to the Lockformer building. Two or three shallow wells and two additional deep wells are likely to be proposed. Analysis of two or three soil samples from each of these borings/wells would

serve as calibration data for the soil gas data points. The cost of this exploration and sampling is anticipated to be in the range of $10,000 for drilling and well installation, and an estimated $15,000 of analytical costs.

The preliminary estimate of Tier 2 corrective action objectives for the adjacent west lot suggests that a No Further Remediation letter (perhaps with use restrictions) may be available from the IEPA without cleanup. A submittal of a Remediation Objectives Report to the IEPA would be required to request a No Further Remediation letter for the west lot.

The IEPA Site Investigation Report, Remediation Objectives Report and Remedial Action Plan for the Lockformer property could be prepared after completion of the exploration/analysis tasks detailed above. These reports would include a summary of the results, expected remedial action and extent of soil treatment/removal, and proposed Tier 2 clean up objectives, including the appropriate Tier 2 calculations and objective determination forms. Since some of the corrective action parameters have been determined already, the estimated cost for an initial IEPA submittal of the three reports required is $6,000 to $10,000. This does not include follow up action required by the IEPA prior to approval, which cannot be estimated at this time. A Remedial Action Completion Report is also not included in this estimate, but would be required for the Lockformer property prior to issuance of a No Further Remediation letter by the IEPA.

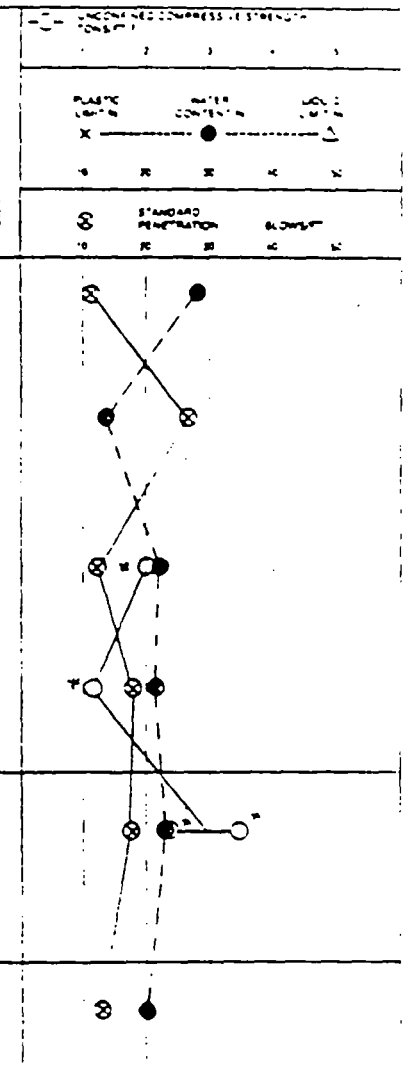
STS Consultants Ltd

OWNER	LOG OF BORING NUMBER
The Lockformer Company	B-6
PROJECT NAME	ARCHITECT-ENGINEER
Lockformer	

SITE LOCATION

711 Ogden Avenue, Lisle, Illinois

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT LBS/FT³
						SURFACE ELEVATION 72.1	
		1	SS			Silty clay fill, trace gravel, sand, roots, topsoil and asphalt - brown, black, gray and rust brown - medium to stiff (CL-CH-Fill)	
2.5			PA				
		2	SS				
5			PA				
		3	SS				
7.5			PA				
		4	SS				
10			PA				
		5	SS			Clayey fill, little silt and topsoil, trace gravel, sand and roots - brown and medium gray - very stiff (CL-CH-Fill)	
12.5							
			PA				
		6	SS			Sandy silt, trace clay, gravel and shale - brown - medium dense - saturated (ML)	
15							



END OF BORING

Borehole grouted upon completion

*Calibrated Penetrometer

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

WL	WS OR WD	BORING STARTED	STS OFFICE
6' WS		3/12/90	Northbrook-01
WL BCR	ACR	BORING COMPLETED	DRAWN BY / SHEET NO OF
		3/12/90	MG / 1 1
WL	RIG	FOREMAN	APP'D BY / STS JOB NO
[illegible]	[illegible]	[illegible]	[illegible]

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-101

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

SURFACE ELEVATION 100 ± *

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL
		1	SS			Fill: Silty clay, little sand, trace gravel, brown
			HS			
		2	SS			Note: Partly organic, with topsoil at surface and at 6.5 ft
5.0			HS			
		3	SS			
			HS			
		4	SS			Silty clay, trace gravel and sand - brown and gray
10.0			HS			
		5	SS			
			HS			
		6	SS			
15.0			HS			
		7	SS			
			HS			
		8	SS			
20.0			HS			Silty clay - gray
21.5		9	SS			

End of Boring
Set well MW-101
Safety Hammer used for Standard Penetration Tests

* Elevation relative to rim of fire hydrant = 100 at west side of building

The stratification lines represent the approximate boundary lines between soil types in-situ; the transition may be gradual.

WL	BORING STARTED 4/21/95	STS OFFICE	Chicago Area-01
WL	BORING COMPLETED 4/21/95	ENTERED BY [illegible]	SHEET NO 1 OF 1
WL	RIG/FOREMAN DP-9/Guennier	APP'D BY CB	STS JOB NO 26249-XB

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-104

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue; Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

SURFACE ELEVATION 99.4 +

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO IONIZATION DETECTOR READING (PPM)
		1	SS			Fill. Silty clay - brown	
			HS			Note: 6" topsoil and 6" sand at surface sandpocket noted at 5.25 ft	
		2	SS				
5.0			HS				
		3	SS				<1
		4	SS			Silty clay, little sand, trace gravel - brown and gray	18
10.0		5	SS			Silt and sand seams noted	40
		6	SS				65
		7					
15.0			HS				
			HS				
		9	ST*			Silty clay - gray	
20.0			HS				
		10	ST*				
			HS				
25.0		11	HS				<1
			HS				
30.0		12	SS			Gravelly sand, trace limestone fragments and cobbles	
			HS			Note: Bedrock at 44.5 ft	
35.0		13	SS				3
			HS				
40.0							

continued

The stratification lines represent the approximate boundary lines between soil types in-situ, the transition may be gradual.

STS JOB NO 26249-XB SHEET NO 1 OF 2

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-104

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue: Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO IONIZATION DETECTOR READING (PPM)
						SURFACE ELEVATION 99.4 *	
						Continued from previous page	
40.0							
		14	SS			Gravelly sand, trace limestone fragments and cobbles	
		15	SS			Note: Bedrock at 44.5 ft	15
44.5		16	SS				4
						End of Boring Set well MW-104 Safety Hammer used for Standard Penetration Tests ST# = 3 in. Shelby Tube used * Elevation relative to rim of fire hydrant = 100 at west side of building	

The stratification lines represent the approximate boundary lines between soil types in-situ; the transition may be gradual.

WL	BORING STARTED 4/25/95	STS OFFICE Chicago Area-01	
WL	BORING COMPLETED 4/25/95	ENTERED BY [illegible]	SHEET NO 2 OF 2
WL	RIG FOREMAN DR-9 Guenhier	APP'D BY [illegible]	STS JOB NO 26249-[illegible]

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-105

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue; Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

SURFACE ELEVATION 100.0 *

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO IONIZATION DETECTOR READING (PPM)
		1	SS			Fill: Silty clay, little sand - brown	[illegible]
		2	SS				490
5.0		3	SS			Fill: Silty clay - brown	210
		[illegible]	SS			Fill: Clayey topsoil, trace wood - dark brown	[illegible]
		4	SS			Silty clay, trace sand - brown Note: Sand and silt seams noted	350
10.0		5	SS				410
		6	SS				580
15.0		7	SS				600
		8	SS			Silty clay, little to trace sand - gray	130
20.0		9	SS				80
		10	SS				
25.0		11	SS				
			HS				
30.0		12	SS			Fine to medium sand, trace to little gravel Note: with layers of silty clay and sandy clay	40
		13	SS				20
35.0		14	SS				110
37.0						Bedrock	[illegible]

End of Boring
Set well MW-105
Safety Hammer Used for Standard Penetration Tests

* Elevation relative to rim of fire hydrant = 100 at west side of building

The stratification lines represent the approximate boundary lines between soil types in-situ; the transition may be gradual.

WL 27.0 ft	BORING STARTED 4/24/95	STS OFFICE Chicago Area-[illegible]	
WL	BORING COMPLETED 4/25/95	ENTERED BY [illegible]	SHEET NO 1 OF 1
WL	RIG/FOREMAN [illegible]	APP'D BY [illegible]	STS JOB NO 26249-[illegible]

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-106

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO IONIZATION DETECTOR READING (PPM)
						SURFACE ELEVATION	
		1	SS			Fill: Silty clay, little gravel, trace sand - brown	<1
		2	SS				<1
5.0		3	SS				50
		4	SS			Silty clay, little sand, trace gravel - brown and gray	100
10.0		5	SS				60
		6	SS			Silty clay, trace gravel and sand - brownish gray	400
15.0						Note: with sand seam at 13.0 ft	300
		7	SS			Silty clay, trace gravel, sand and shale - gray	
		8	SS				30
20.0		9	SS				20
		10	SS				18
25.0		11	SS				30
		12	SS				2
30.0		13	SS				40
32.0						End of Boring	

The stratification lines represent the approximate boundary lines between soil types in-situ; the transition may be gradual.

WL	BORING STARTED 4/24/95	STS OFFICE	Chicago Area-II
WL	BORING COMPLETED 4/25/95	ENTERED BY [illegible]	SHEET NO 1 OF 1
WL	RIG/FOREMAN DR-9/Guerrier	APP'D BY [illegible]	STS JOB NO 25249-[illegible]

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-120

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

SURFACE ELEVATION: 97.4

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO IONIZATION DETECTOR READING (PPM)
		1	SS			Fill: Silty clay - dark brown Note: Partly topsoil	<1
		2	SS				<1
5.0		3	SS			Silty clay, trace roots - dark brown Note: Gray sand and silt seams	<1
		4	SS				<1
10.0		5	SS			Silty clay, trace gravel and sand - brown and gray	<1
		6	SS				<1
15.0		7	SS				<1
			HS			Silty clay, trace gravel and sand - gray	
20.0		8	SS				<1
			HS				
25.0		9	SS				
			HS				
30.0		10	SS			Gravelly sand, partly silty clay and limestone fragments Note: Offset due to possible void at 30-45 ft	
			HS				
35.0		11	SS				
			HS				
40.0							

continued

The stratification lines represent the approximate boundary lines between soil types in-situ. The transition may be gradual.

STS JOB NO 25249-YB SHEET NO 1 OF 2

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-120

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

SURFACE ELEVATION 97.4

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO-IONIZATION DETECTOR READING (PPM)
						Continued from previous page	
40.0		12	SS			Gravelly sand, partly silty clay and limestone fragments	<1
			HS			Note: Offset due to possible void at 30-45 ft	
45.0		13	SS			Silt, trace to little clay and sand, trace limestone fragments - gray	<1
		14	SS			Note: With seams of sandy gravel	
50.0		15	SS				
			HS				
55.0		17	SS				<1
		18	SS				
57.5						End of Boring Set well MW-120 Safety Hammer used for Standard Penetration Tests * Elevation relative to rim of fire hydrant * 100 at west side of building	

The stratification lines represent the approximate boundary lines between soil types in-situ; the transition may be gradual.

WL 22.0 ft WS	BORING STARTED 4/27/95	STS OFFICE Chicago Area-01	
WL	BORING COMPLETED 4/28/95	ENTERED BY KKB	SHEET NO 2 OF 2
WL	RIG FOREMAN DR-9/Guenther	APP'D BY DB	STS JOB NO 26249-YB

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-122

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue; Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO IONIZATION DETECTOR HEADING (PPM)
						SURFACE ELEVATION	
			HS			Fill: Silty clay, trace gravel and topsoil - brown and black	
		1	SS			Note: Asphalt and gravel layer at surface	5
5.0			HS				
		2	SS				<1
			HS			Silty clay, trace to little sand - brown to brownish gray	
		3	SS			Note: Silt seams and sand pockets noted	<1
10.0			HS				
		4	SS				<1
			HS				
		5	SS				<1
15.0			HS				
		6	SS			Silty clay, trace gravel and sand - gray	<1
			HS				
20.0		7	SS				<1
			HS				
25.0		8	SS				<1
			HS				
30.0		9	SS				<1
			HS			Gravelly fine to coarse sand, trace limestone fragments	15
34.5		10	SS				
						End of Boring Borehole grouted upon completion	

The stratification lines represent the approximate boundary lines between soil types in-situ; the transition may be gradual.

WL	BORING STARTED 5/2/95	STS OFFICE	Chicago Area-01
WL	BORING COMPLETED 5/2/95	ENTERED BY KKB	SHEET NO 1 OF 1
WL	RIG/FOREMAN DR-35 Pilyard	APP'D BY DB	STS JOB NO 26249-XB

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-123

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue; Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO-IONIZATION DETECTOR READING (PPM)
						SURFACE ELEVATION 100.9 *	
			HS			Fill: Silty clay, trace silt seams - brown Note: 2 in. gravel at surface	
5.0		1	SS				<1
			HS				
		2	SS			Silty clay, little sand, trace gravel - brown to brownish gray	<1
10.0			HS				
15.0		3	SS				<1
17.0						End of Boring Set well MW-123 Safety Hammer used for Standard Penetration Tests * Elevation relative to rim of fire hydrant = 100 at west side of building	

The stratification lines represent the approximate boundary lines between soil types in-situ; the transition may be gradual

WL 15.0 ft	BORING STARTED 5/2/95	STS OFFICE Chicago Area-01	
WL	BORING COMPLETED 5/2/95	ENTERED BY KKB	SHEET NO 1 OF 1
WL	RIG/FOREMAN DR-35 Polycarp	APP'D BY CB	STS JOB NO 26249-XB

4.0 SCHEDULE

Please let us know if The Lockformer Company would like to proceed as recommended above. STS is available to begin a delineation program and related Site Investigation Report and Remediation Objectives Report within 3 weeks of your authorization. We would request a meeting with you to discuss the results of the delineation program and a proposed workplan before a Remedial Action Plan is formulated for the IEPA.

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APPENDIX A

Soil Boring Logs

STS Consultants Ltd

OWNER: The Lockformer Company

LOG OF BORING NUMBER: B-1

PROJECT NAME: Lockformer

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Lisle, Illinois

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT (LBS/FT³)	UNCONFINED COMPRESSIVE STRENGTH (TSF) / PLASTIC LIMIT / WATER CONTENT / LIQUID LIMIT / STANDARD PENETRATION BLOWS/FT
					SURFACE ELEVATION 92.0		
		1	SS		Silty clay fill, little gravel and sand, trace shale, roots, asphalt, brick and topsoil - brown and dark brown - very stiff (CL-Fill) 4 ppm		16
2.5			PA				
		2	SS				13
5			PA		Silty fine to coarse crushed limestone gravel fill, trace clay - brown and light gray - very dense - moist (GM-Fill) Driller's Note: Concrete in tip		
		3	SS				55
7.5			PA				
		4	SS		Silty clay, trace gravel, sand and shale - brown - hard (CL)		20
10							
					END OF BORING Borehole grouted upon completion		*Calibrated Penetrometer

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

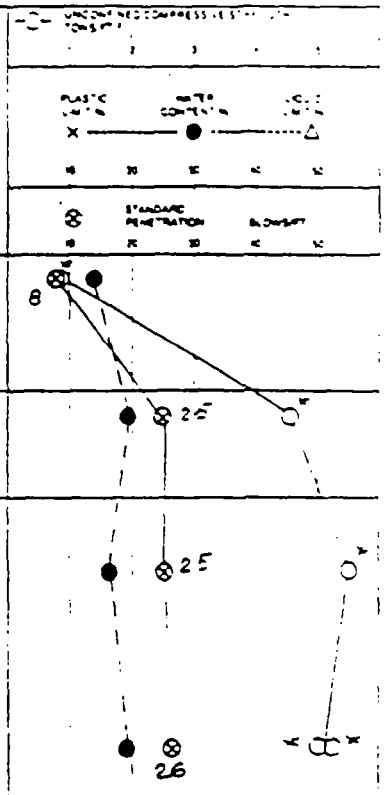
WL Dry WS	WS OR WD	BORING STARTED 3/12/90	STS OFFICE Northbrook-01	
WL BCR	ACR	BORING COMPLETED 3/12/90	DRAWN BY MG	SHEET NO 1 OF 1
WL	RIG Bomb	FOREMAN Dumas	APP'D BY WFS/mt	STS JOB NO 25243-YH

STS Consultants Ltd

OWNER	LOG OF BORING NUMBER
The Lockformer Company	B-2
PROJECT NAME	ARCHITECT-ENGINEER
Lockformer	

SITE LOCATION
711 Ogden Avenue, Lisle, Illinois

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT LBS/FT³
						SURFACE ELEVATION 99.4	
		1	SS			Silty clay fill, little topsoil, trace gravel, sand and roots - brown and dark brown - medium (CL-Fill)	
2.5			PA				
		2	SS			Silty clay, little sand, trace gravel and shale - brown and gray - hard (CL) Note: Sample 2 - very fine sand pocket	
5			PA				
		3	SS			Silty clay, trace gravel, sand and shale - brown and gray - hard (CL) Note: Sample 4 - irregular silt seams	
7.5			PA				
		4					
10							



END OF BORING

Borehole grouted upon completion

*Calibrated Penetrometer

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU. THE TRANSITION MAY BE GRADUAL.

WL	WS OR WD	BORING STARTED	STS OFFICE
2'6" WS		3/12/90	Northbrook-01
WL BCR	ACR	BORING COMPLETED 3/12/90	DRAWN BY MG SHEET NO 1 OF 1
WL Dry AB		B.G. Bomb	FOREMAN [illegible] APP'D BY [illegible] STS JOB NO [illegible]

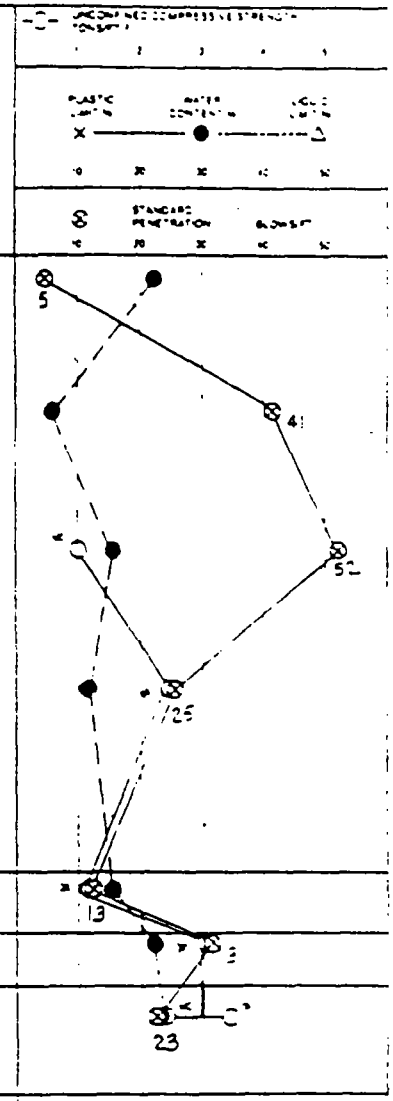
STS Consultants Ltd

OWNER	LOG OF BORING NUMBER
The Lockformer Company	B-3
PROJECT NAME	ARCHITECT-ENGINEER
Lockformer	

SITE LOCATION
711 Ogden Avenue, Lisle, Illinois

SURFACE ELEVATION 93.1

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT LBS/FT³
		1	SS			Silty clay fill, trace gravel, sand, shale, roots and asphalt - brown, black, dark brown and dark gray - medium to very stiff (CL-CH-Fill)	
2.5			PA			Note: Sample 3 partly organic; Driller's observation: concrete obstruction at depths 9'11" to 11'5'	
		2	SS				
5			PA				
		3	SS				
7.5			PA				
		4	SS			15 ppm	
10			PA				
12.5		5	SS			Silty topsoil fill, little gravel and sand, trace clay and roots - black and light brown (OL-Fill)	
		5A	SS			Clayey topsoil, little silt, trace sand and roots - dark brown (OL-OH)	
15		6	SS			Silty clay, trace gravel, sand and roots - brown and gray - very stiff (CL-CH)	
15.5						END OF BORING	
						Borehole grouted upon completion	



*Calibrated Penetrometer

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU. THE TRANSITION MAY BE GRADUAL

WL	WS OR WD	BORING STARTED	STS OFFICE
Dry		3/12/90	Northbrook-01

WL	BCR	ACR	BORING COMPLETED	DRAWN BY	SHEET NO	OF
			3/12/90	MG	1	1

WL	RIG	FOREMAN	APP'D BY	STS JOB NO
	Bomb	Dumas	WPS/mt	25[illegible]

STS Consultants Ltd

OWNER: The Lockformer Company

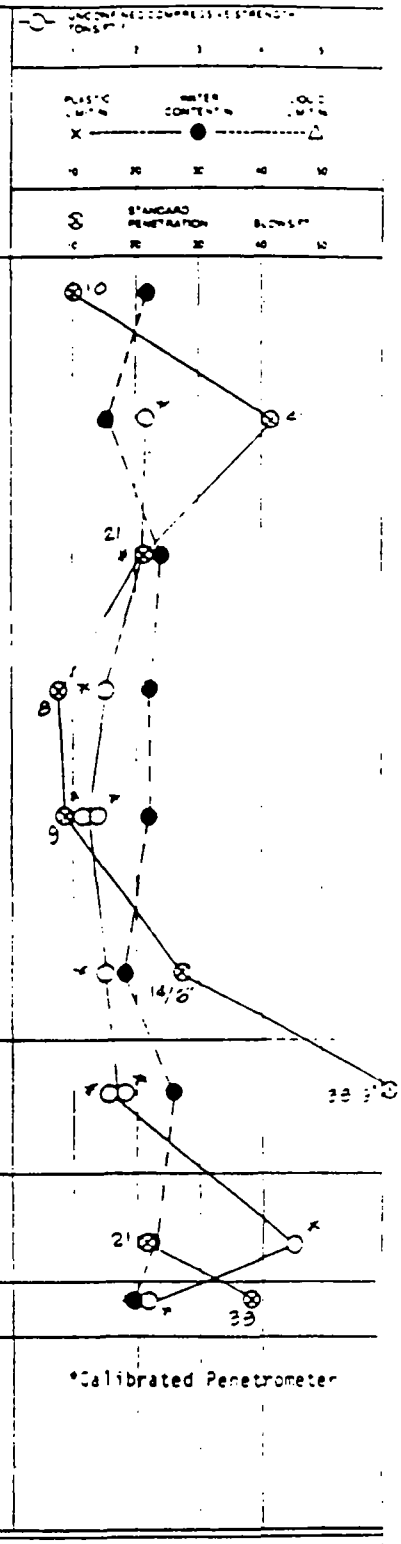
LOG OF BORING NUMBER: B-1

PROJECT NAME: Lockformer

ARCHITECT-ENGINEER

SITE LOCATION: 711 Ogden Avenue, Lisle, Illinois

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT (LBS/FT³)
						SURFACE ELEVATION 84.6	
		1	SS			Silty clay fill, little gravel, sand and topsoil, trace shale, roots and asphalt - brown, black and gray - stiff to very stiff (CL-CH-Fill)	
2.5			PA				
		2	SS				
5			PA				
		3	SS			5 ppm	
7.5			PA				
		4	SS			4 ppm	
10			PA				
		5	SS			5 ppm	
12.5			PA				
		6	SS				
			PA				
15						Clayey topsoil fill, little silt, trace gravel, sand and roots - black and slightly light gray (OL-OH-Fill) Driller's observation: Concrete at depths of 14'6" to 15'	
		7	SS				
			PA				
17.5						Silty clay, trace gravel, sand and shale - dark gray to slightly dark brown - hard (CL-CH)	
		8	SS				
20		8A	SS			Silty clay, trace sand and roots - brown - very stiff (CL)	
						END OF BORING	
						Borehole grouted upon completion	



*Calibrated Penetrometer

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU THE TRANSITION MAY BE GRADUAL

WL Dry	WS OR WD	BORING STARTED 3/12/90		STS OFFICE Northbrook-01	
WL	BCR / ACR	BORING COMPLETED 3/12/90		DRAWN BY MG	SHEET NO 1 OF 1
WL		RIG	FOREMAN	APP'D BY	STS JOB NO

STS Consultants Ltd

OWNER: The Lockformer Company

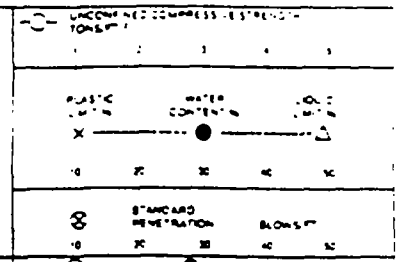
LOG OF BORING NUMBER: B-5

PROJECT NAME: Lockformer

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Lisle, Illinois

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT (LB/FT³)
						SURFACE ELEVATION 85.8	
		1	SS			Silty clay fill, little topsoil, trace gravel, sand and roots - slightly light brown and black - stiff (CL-CH-Fill)	
2.5			PA				
		2	SS				
		2A	SS			Silty fine to coarse sand fill, little clay, trace gravel - dark brown and dark gray - medium dense - wet to saturated (SM-Fill)	
5			PA				
		3	SS				
7.5			PA			Sandy clay fill, little silt and topsoil, trace gravel and roots - black and gray - stiff (CL-CH-Fill)	
		4	SS				
10			PA				
		5	SS				
12.5			PA			Silty clay, trace gravel, sand and shale - brown and gray - very stiff (CL-CH)	
		6	SS				
15						END OF BORING Borehole grouted upon completion	



*Calibrated Penetrometer

THE STRATIFICATION LINES REPRESENT THE APPROXIMATE BOUNDARY LINES BETWEEN SOIL TYPES IN-SITU. THE TRANSITION MAY BE GRADUAL.

WL 3'6" WS	WS OR WD	BORING STARTED 3/12/90	STS OFFICE Northbrook-01
WL	BCR ACR	BORING COMPLETED 3/12/90	DRAWN BY MG / SHEET NO 1 OF 1
WL 9' AB	RIG Bomb	FOREMAN Dumas	APP'D BY / STS JOB NO 26249-IM

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-124

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue; Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO IONIZATION DETECTOR READING (PPM)
						SURFACE ELEVATION	
		1	SS			Fill. Topsoil Note Partly brown silty clay.	
		2	SS			Silty clay, little to trace sand - brown Note With sand seams at 6 ft., 8 ft. and 8.5 ft	
5.0		3	SS				<1
		4	SS				
10.0		5	SS				<1
		6	SS			Silty clay, trace gravel and sand - gray.	<1
14.5						End of Boring Borehole grouted upon completion Safety Hammer used for Standard Penetration Tests	

The stratification lines represent the approximate boundary lines between soil types in-situ; the transition may be gradual.

WL	BORING STARTED 5/3/95	STS OFFICE Chicago Area-01	
WL	BORING COMPLETED 5/3/95	ENTERED BY KKB	SHEET NO 1 OF 1
WL	RIG/FOREMAN DR-35 Guennier	APP'D BY DB	STS JOB NO 25249-YB

STS Consultants Ltd.

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-125

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Lisle, Illinois

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO-IONIZATION DETECTOR READING (PPM)	UNCONFINED COMPRESSIVE STRENGTH TONS/FT² (2 3 4 5)	PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10 20 30 40 50)	STANDARD PENETRATION BLOWS/FT (20 30 40 50)
						SURFACE ELEVATION				
		1	SS			Fill: Topsoil - brown and black				
						Note: Partly silty clay				
		2	SS							
5.0										
		3	SS			Silty clay - brown				
						Note: with sand seams				
		4	SS				<1			
10.0										
		5	SS				<1			
						Gravelly sand, trace limestone fragments				
		6	SS				<1			
15.0										
		7	SS				3			
							4			
		8	SS							
20.0										
		9	SS				2			
			HS							
25.0										
		10	SS				2			
27.0										
						End of Boring Borehole grouted upon completion Safety hammer used for Standard Penetration Tests			

The stratification lines represent the approximate boundary lines between soil types; in-situ, the transition may be gradual.

WL	BORING STARTED 5/3/95	STS OFFICE Chicago Area-CI	
WL	BORING COMPLETED 5/3/95	ENTERED BY KKB	SHEET NO 1 OF 1
WL	RIG FOREMAN CR-35/Guenther	APPROVED BY CB	STS JOB NO 26249-18

STS Consultants Ltd

CLIENT: The Lockformer Company

BORING NUMBER: B-126

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Lisle, Illinois

UNCONFINED COMPRESSIVE STRENGTH (TONS/FT²): 1 2 3 4 5

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD HEADSPACE (PPM)	PLASTIC LIMIT % / WATER CONTENT % / LIQUID LIMIT % (10 20 30 40 50)	STANDARD PENETRATION BLOWS/FT (10 20 30 40 50)
						SURFACE ELEVATION 96.7			
						No samples			
5.0			HS						
10.0									
		1	SS			Silty clay - brown	<1		
15.0						Note: Silt seams and sand pockets			
		2	SS				<1		
		3	SS			Gravelly fine to coarse sand, trace limestone fragments	<1		
20.0									
		4	SS						
			HS						
25.0		5	SS				<1		
			HS						
30.0		6	SS				<1		
			HS						
35.0		7	SS				<1		
			HS						
40.0		8	SS						
45.0			HS						
50.0									

continued

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-126

PROJECT NAME: Lockformer Status Report

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Lisle, Illinois

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO IONIZATION DETECTOR READING (PPM)	UNCONFINED COMPRESSIVE STRENGTH (TSF)	PLASTIC LIMIT %	WATER CONTENT %	LIQUID LIMIT %	STANDARD PENETRATION BLOWS/FT
						SURFACE ELEVATION 96.7						
						Continued from previous page						
50.0		9	SS			Fine to medium sand, trace gravel, * saturated Silt seam noted at 55.5 ft	<1					
55.0			HS									
60.0			SS									
			RB									
65.0		10	SS				1.0					
			RB			Weathered limestone						
70.0		11	SS				<1					
			RB									
75.0		12	SS				<1					
			RB									
80.0			RB			No sampling - Bedrock noted						
80.5						End of Boring Set well MW-126 Safety hammer used for Standard Penetration Tests * Elevation relative to rim of fire hydrant at 100 at west side of building						

The stratification lines represent the approximate boundary lines between soil types; however, the transition may be gradual.

WL 50.0 ft	BORING STARTED 5-4-88	STS OFFICE Chicago Area-Oil	
WL	BORING COMPLETED 5-5-88	ENTERED BY	SHEET NO 2 OF 2
WL	RIG FOREMAN CR-35 Guarnieri	APP'D BY	STS JOB NO 22249-AB

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-201

PROJECT NAME: Lockformer

ARCHITECT/ENGINEER:

SITE LOCATION: 711 Ogden Avenue; Chicago, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT²: 1 2 3 4 5

FLAT LIMIT %: WATER CONTENT %: LIQUID LIMIT %: 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT: 10 20 30 40 50

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	FIELD PHOTO IONIZATION DETECTOR READING (PPM)	STANDARD PENETRATION BLOWS/FT
						SURFACE ELEVATION		
			PA			Fill: Silty clay, little to trace topsoil, trace cinders - dark gray and brown		
		1	ST				<1	
		2	SS			Note: Partly clayey sand. Sample 1	<1	16
5.0			PA					
		3	ST			Silty clay, trace gravel and sand - brown and gray - hard to very stiff	<1	
			PA					
		4	ST				<1	
10.0			PA					
		5	SS				<1	23
			PA					
		6	ST				<1	
15.0						End of Boring Borehole grouted upon completion		

• Calibrated Penetrometer

The stratification lines represent the approximate boundary lines between soil types in-situ; the transition may be gradual.

Dry	BORING STARTED 12 20 96	STS OFFICE	Chicago Area-01
Dry AB	BORING COMPLETED 12 20 96	ENTERED BY KKB	SHEET NO 1 OF 1
	RIG FOREMAN B-57 Bill	APP'D BY CB	STS JOB NO 26249-XB

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-202

PROJECT NAME: Lockformer

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Chicago, Illinois

UNCONFINED COMPRESSIVE STRENGTH TONS/FT² 1 2 3 4 5

PLASTIC LIMIT % — WATER CONTENT % — LIQUID LIMIT % 10 20 30 40 50

STANDARD PENETRATION BLOWS/FT 10 20 30 40 50

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL / SURFACE ELEVATION	UNIT DRY WT LBS/FT³	FIELD PHOTO IONIZATION DETECTOR READING (PPM)
			PA			Fill: Silty clay, trace topsoil - brown and dark gray		
		1	ST					<1
			PA					
5.0		2	ST			Silty topsoil, little sand - black		<1
			PA			Silty clay, trace gravel and sand - brown and gray - hard		
10.0		4	ST					<1
			PA					
15.0		5	ST				115	<1
			PA					
20.0		6	ST					<1
			PA					
25.0		7	ST					<1
			PA			Silty clay, little sand, trace gravel - gray. Note: with seam of silty sand at 27 ft		
30.0		8	SS					<1
			PA			Silty fine to coarse sand, little gravel - brown - dense - moist		
35.0		9	SS					<1
		10	SS					2
39.0						End of Boring. Borehole grouted upon completion		

• Calibrated Penetrometer

The stratification lines represent the approximate boundary lines between soil types in-situ; the transition may be gradual.

WL: Dry	BORING STARTED: 12/21/95	STS OFFICE: Chicago Area-01	
WL: Dry AB	BORING COMPLETED: 12/21/95	ENTERED BY: [illegible]	SHEET NO: 1 OF 1
WL:	RIG FOREMAN: B-57/Bill	APP'D BY: DB	STS JOB NO: 26249-YB

STS Consultants Ltd

CLIENT: The Lockformer Company

LOG OF BORING NUMBER: B-203

PROJECT NAME: Lockformer

ARCHITECT-ENGINEER:

SITE LOCATION: 711 Ogden Avenue, Chicago, Illinois

DEPTH (FT)	ELEVATION (FT)	SAMPLE NO	SAMPLE TYPE	SAMPLE DISTANCE	RECOVERY	DESCRIPTION OF MATERIAL	UNIT DRY WT (PCF)	FIELD PHOTO IONIZATION DETECTOR READING (PPM)	UNCONFINED COMPRESSIVE STRENGTH (TSF)	PLASTIC LIMIT %	WATER CONTENT %	LIQUID LIMIT %	STANDARD PENETRATION BLOWS/FT
						SURFACE ELEVATION							
			PA			Fill: Silty clay, little topsoil, trace gravel and sand - dark gray and brown	110	<1					
		1	ST										
			PA			Fill: Silty clay, little sand - brown and gray							
5.0		2	ST					<1					
			PA										
10.0													
		3	ST			Clayey topsoil, trace roots - black							
			PA										
15.0													
		4	ST			Silty clay, trace gravel and sand - brown		<1					
			PA										
20.0						Fine to coarse sand, little to trace silt, little gravel - brown, moist							
		5	SS					<1					49
			PA										
25.0													
		6	SS										
27.0													
						End of Boring Borehole grouted upon completion							

* Calibrated Penetrometer

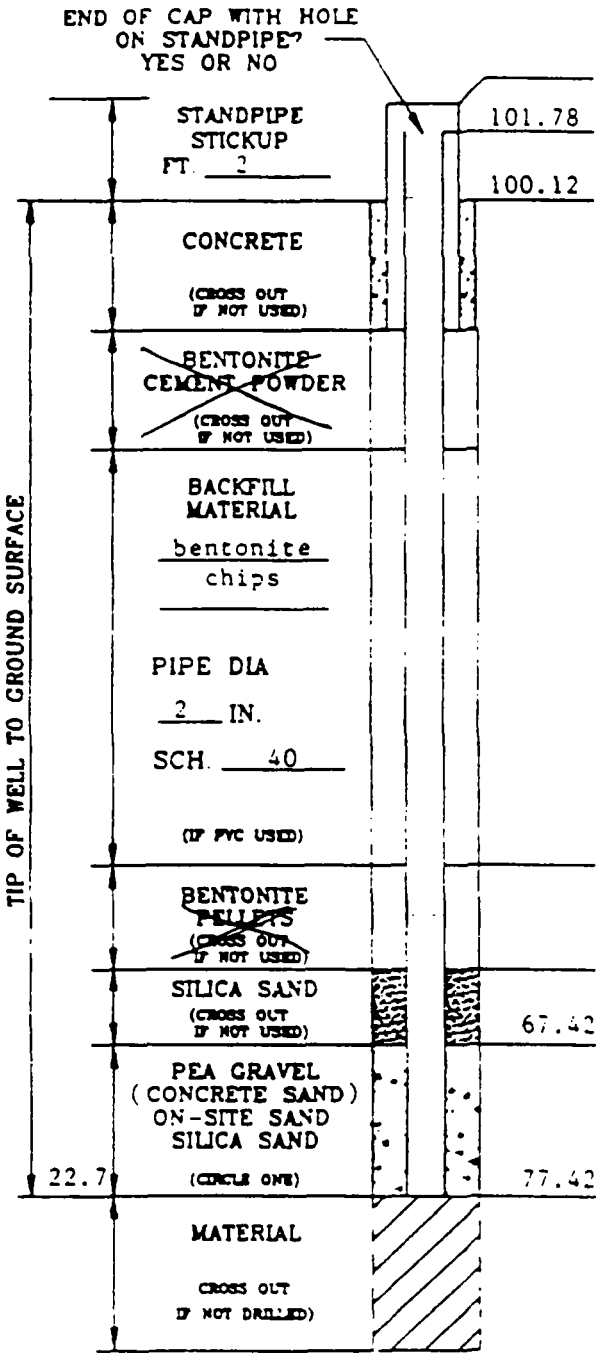
The stratification lines represent the approximate boundary lines between soil types; in situ, the transition may be gradual.

WL	Dry	BORING STARTED 12/20/96	STS OFFICE Chicago Area-01
WL	Dry AB	BORING COMPLETED 12/20/96	ENTERED BY KYB / SHEET NO 1 OF 1
WL		RIG FOREMAN B-57 Bill	APPROVED BY CE / STS JOB NO 26249-XB

APPENDIX B

Installation Details

STS FIELD WELL INSTALLATION DIAGRAM



FLUSH MOUNT: YES ☐ NO ☒

1) TYPE OF CASING
(PVC,) GALVANIZED, (STAINLESS,) OTHER Lower 10' riser = stainless steel
MULTIPLE CASING: SIZE _____ LENGTH _____
SIZE _____ LENGTH _____

2) TYPE OF CASING JOINTS
BELLED, COUPLINGS, (THREADED) OTHER _____

3) TYPE OF WELL SCREEN
PVC, GALVANIZED, (STAINLESS) OTHER _____

4) SCREEN SLOT SIZE 0.010

5) SCREEN LENGTH 10 ft.

6) INSTALLED PROTECTOR PIPE W/LOCK? (YES) OR NO

7) DRILLING METHOD HS

DRILLING FLUID No

BOREHOLE DIAMETER 8"

8) BACKFILL MATERIAL INSTALLATION FROM
(SURFACE,) TREMIE

9) HOW WAS WELL DEVELOPED?
(BAILING,) PUMPING, SURGING, COMPRESSED AIR

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER 21 gal

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR, (TURBID,) OPAQUE

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, (TURBID,) OPAQUE

13) DID THE WATER HAVE AN ODOR? YES OR (NO)

14) WATER LEVEL SUMMARY

1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
_____ FT. OR DRY

2) OTHER MEASUREMENTS:

DATE 11/19/96 , 12 FT. FROM T. ST. PIPE
DATE _____ , [illegible] FT. FROM T. ST. PIPE
DATE _____ , _____ FT. FROM T. ST. PIPE
DATE _____ , _____ FT. FROM T. ST. PIPE

* Elevation relative to rim of fire hydrant, west side of building. = 100

WELL NO. MW-101 DATE INSTALLED 4/21/96 DRILL RIG DR9

DRILLER Guerrier DRILL CREW Pappas

JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

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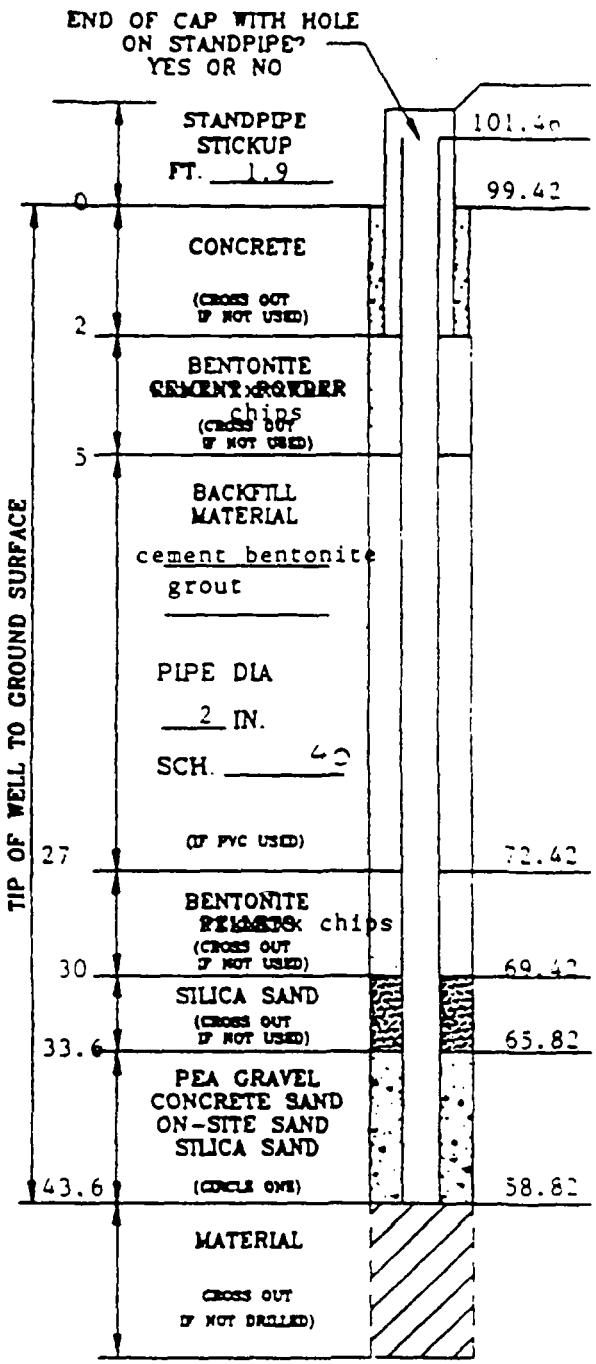
STS FIELD WELL INSTALLATION DIAGRAM



FLUSH MOUNT: YES ☐ NO ☒

1) TYPE OF CASING
(PVC,)GALVANIZED(STAINLESS,)OTHER Lower 10 ft riser = stainless steel
MULTIPLE CASING: SIZE _____ LENGTH _____
SIZE _____ LENGTH _____

2) TYPE OF CASING JOINTS
BELLED, COUPLINGS, (THREADED,) OTHER _____

3) TYPE OF WELL SCREEN
PVC, GALVANIZED, (STAINLESS) OTHER _____

4) SCREEN SLOT SIZE 0.010

5) SCREEN LENGTH 10 ft.

6) INSTALLED PROTECTOR PIPE W/LOCK?(YES)OR NO

7) DRILLING METHOD HS
DRILLING FLUID --
BOREHOLE DIAMETER 8"

8) BACKFILL MATERIAL INSTALLATION FROM SURFACE: TREMIE

9) HOW WAS WELL DEVELOPED?
(BAILING,) PUMPING, SURGING, COMPRESSED AIR

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER N/A

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR, TURBID, OPAQUE N/A

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, TURBID, OPAQUE N/A

13) DID THE WATER HAVE AN ODOR? YES OR NO N/A

14) WATER LEVEL SUMMARY
1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
_____ FT. OR DRY

2) OTHER MEASUREMENTS:
DATE 11/18/96 , dry FT. FROM T. ST. PIPE
DATE 11/19/96 , dry FT. FROM T. ST. PIPE
DATE _____ , _____ FT. FROM T. ST. PIPE
DATE _____ , _____ FT. FROM T. ST. PIPE

* Elevation relative to fire hydrant west side of building, rim = 100

WELL NO. MW-104 DATE INSTALLED 4/26/95 DRILL RIG DR9

DRILLER Guerrier DRILL CREW Pappas, Mottlow

JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

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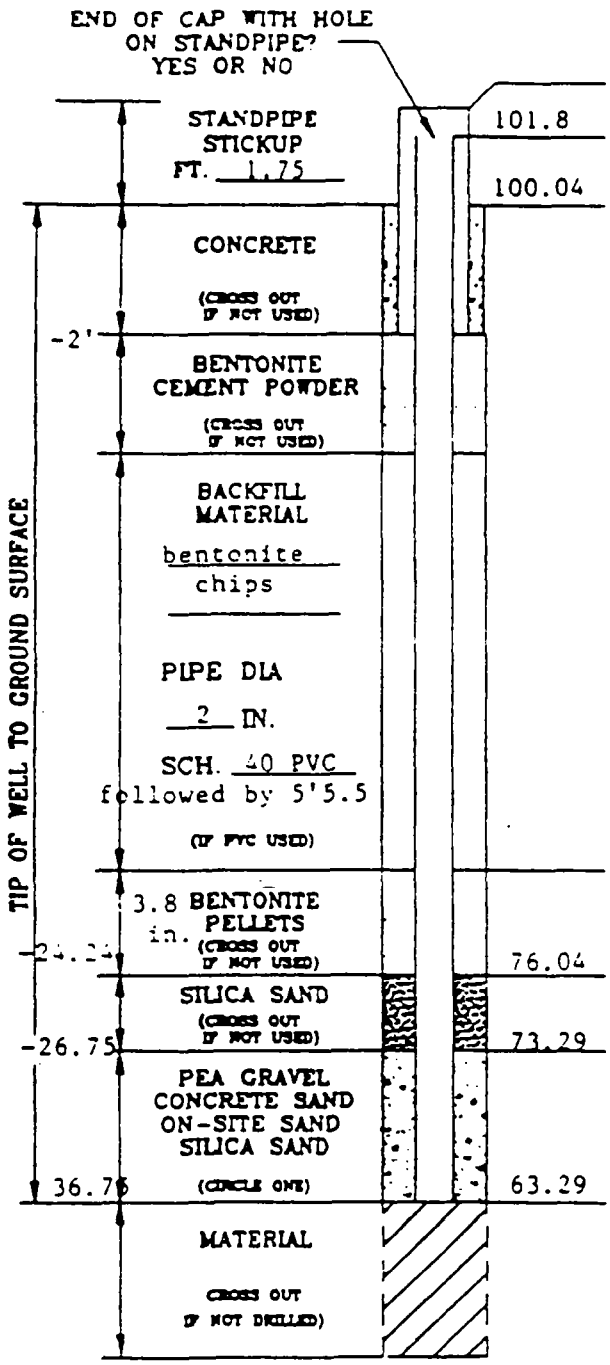
STS FIELD WELL INSTALLATION DIAGRAM



FLUSH MOUNT: YES ☐ NO ☒

1) TYPE OF CASING
(PVC,) GALVANIZED, (STAINLESS,) OTHER _____
MULTIPLE CASING: SIZE _____ LENGTH _____
SIZE _____ LENGTH _____

2) TYPE OF CASING JOINTS
BELLED, COUPLINGS, (THREADED) OTHER _____

3) TYPE OF WELL SCREEN
PVC, GALVANIZED (STAINLESS) OTHER _____

4) SCREEN SLOT SIZE 0.010

5) SCREEN LENGTH 10 ft

6) INSTALLED PROTECTOR PIPE W/LOCK? (YES) OR NO

7) DRILLING METHOD HS Auger
DRILLING FLUID None
BOREHOLE DIAMETER 8 1/4"

8) BACKFILL MATERIAL INSTALLATION FROM
(SURFACE; TREMIE

9) HOW WAS WELL DEVELOPED?
(BAILING, PUMPING, SURGING, COMPRESSED AIR

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER only 9" water not developed

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR, (TURBID,) OPAQUE

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, TURBID, OPAQUE N/A

13) DID THE WATER HAVE AN ODOR? YES OR (NO)

14) WATER LEVEL SUMMARY
1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
_____ FT. OR (DRY)
2) OTHER MEASUREMENTS:
DATE _____ . _____ FT. FROM T. ST. PIPE
DATE _____ . _____ FT. FROM T. ST. PIPE
DATE _____ . _____ FT. FROM T. ST. PIPE
DATE _____ . _____ FT. FROM T. ST. PIPE

* Elevation relative to fire hydrant west side of building = 100

WELL NO. MW-105 DATE INSTALLED 4/25/95 DRILL RIG DR9

DRILLER Guerrier DRILL CREW John

JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

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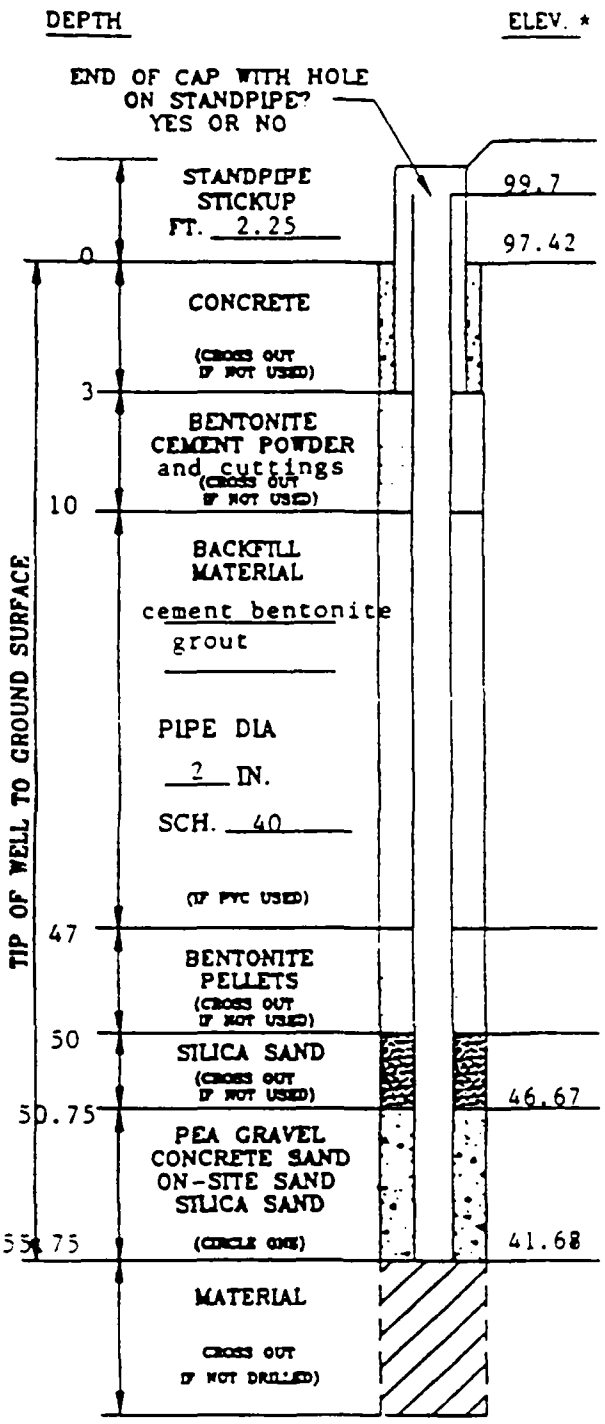
STS FIELD WELL INSTALLATION DIAGRAM



FLUSH MOUNT: YES ☐ NO ☒

1) TYPE OF CASING (PVC.) GALVANIZED.(STAINLESS) OTHER Lower 15" riser = stainless steel
MULTIPLE CASING: SIZE _____ LENGTH _____
SIZE _____ LENGTH _____

2) TYPE OF CASING JOINTS
BELLED. COUPLINGS.(THREADED.)OTHER _____

3) TYPE OF WELL SCREEN
PVC. GALVANIZED. (STAINLESS.) OTHER _____

4) SCREEN SLOT SIZE 0.010

5) SCREEN LENGTH 5 ft

6) INSTALLED PROTECTOR PIPE W/LOCK?(YES) OR NO

7) DRILLING METHOD HS

DRILLING FLUID No

BOREHOLE DIAMETER 8"

8) BACKFILL MATERIAL INSTALLATION FROM
(SURFACE) TREMIE

9) HOW WAS WELL DEVELOPED?
(BAILING) PUMPING. SURGING. COMPRESSED AIR

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL. 10 GAL. 15 GAL. OTHER 30 gal

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR.(TURBID.) OPAQUE

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR. TURBID.(OPAQUE)

13) DID THE WATER HAVE AN ODOR? YES OR(NO)

14) WATER LEVEL SUMMARY

1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
40 FT. OR DRY

2) OTHER MEASUREMENTS:

DATE 11/19/96 , 30 FT. FROM T. ST. PIPE
DATE _____ , elev 70 FT. FROM T. ST. PIPE
DATE _____ , _____ FT. FROM T. ST. PIPE
DATE _____ , _____ FT. FROM T. ST. PIPE

* Elevation relative to rim of fire hydrant west side of building. = 100

WELL NO. MW-120 DATE INSTALLED 4/26/95 DRILL RIG _____

DRILLER Guerrier DRILL CREW Pappas

JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

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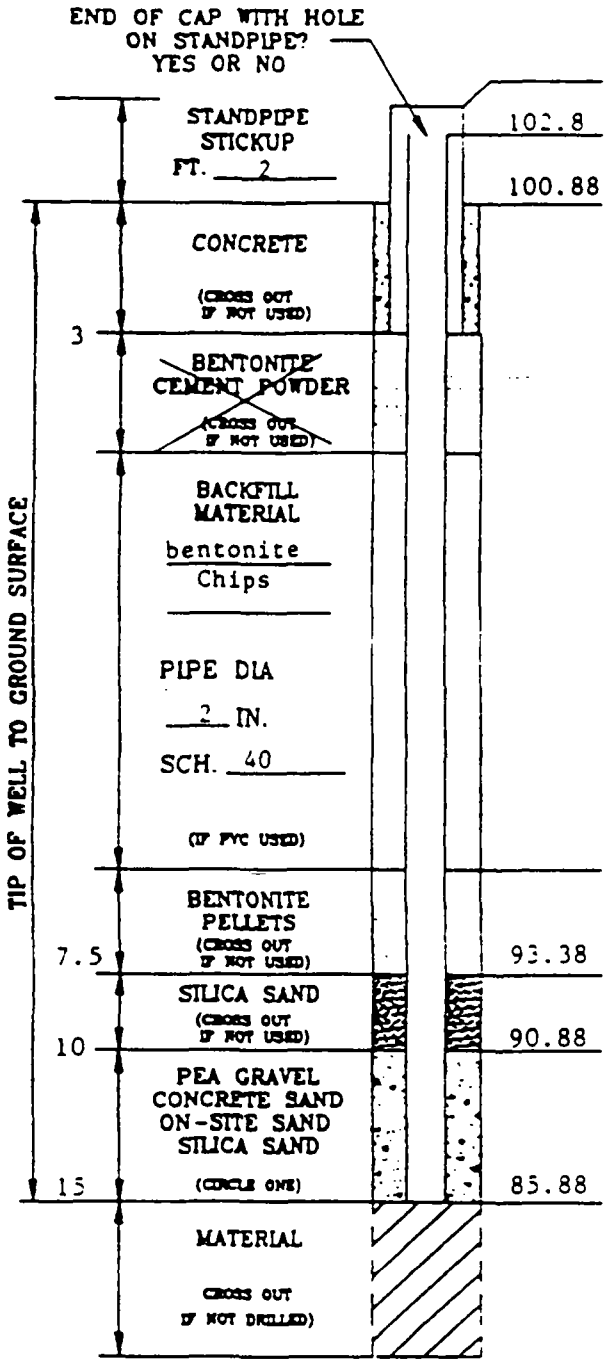
STS FIELD WELL INSTALLATION DIAGRAM



FLUSH MOUNT: YES ☐ NO ☒

1) TYPE OF CASING
(PVC,) GALVANIZED, (STAINLESS) OTHER Lower 5 ft of ris stainless steel
MULTIPLE CASING: SIZE _____ LENGTH _____
SIZE _____ LENGTH _____

2) TYPE OF CASING JOINTS
BELLED, COUPLINGS, (THREADED) OTHER _____

3) TYPE OF WELL SCREEN
PVC, GALVANIZED (STAINLESS,) OTHER _____

4) SCREEN SLOT SIZE 0.010

5) SCREEN LENGTH 5 ft.

6) INSTALLED PROTECTOR PIPE W/LOCK? (YES) OR NO

7) DRILLING METHOD HS

DRILLING FLUID N/A

BOREHOLE DIAMETER 8"

8) BACKFILL MATERIAL INSTALLATION FROM
(SURFACE;) TREMIE

9) HOW WAS WELL DEVELOPED?
(BAILING,) PUMPING, SURGING, COMPRESSED AIR

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER 23 gal

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR, (TURBID,) OPAQUE muddy

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, (TURBID) (OPAQUE)

13) DID THE WATER HAVE AN ODOR? YES OR (NO)

14) WATER LEVEL SUMMARY

1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
_____ FT. OR DRY

2) OTHER MEASUREMENTS:

DATE 11/19/96 , 12'6" FT. FROM T. ST. PIPE
DATE _____ , elev 90 FT. FROM T. ST. PIPE
DATE _____ , _____ FT. FROM T. ST. PIPE
DATE _____ , _____ FT. FROM T. ST. PIPE

* Elevation relative to rim of fire hydrant west side of building = 100

WELL NO. MW-123 DATE INSTALLED 5/2/95 DRILL RIG DR35

DRILLER Polycarp DRILL CREW Mottlow/Powley

JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

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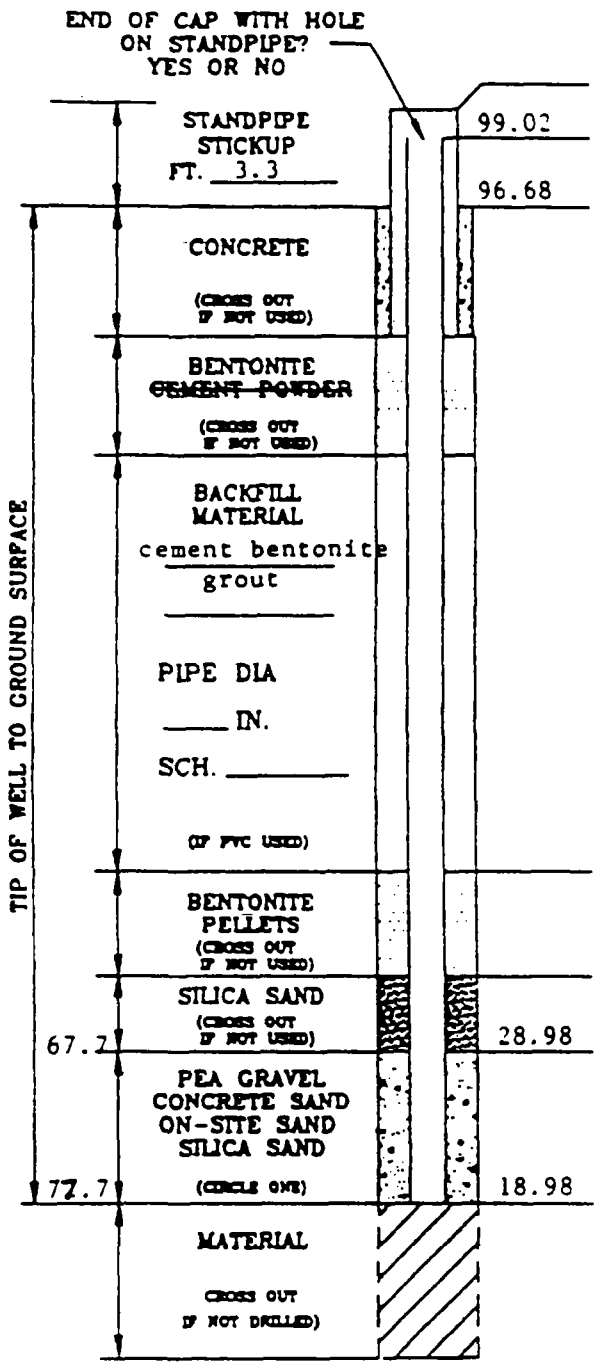
STS FIELD WELL INSTALLATION DIAGRAM



FLUSH MOUNT: YES ☐ NO ☒

1) TYPE OF CASING
(PVC) GALVANIZED,(STAINLESS,)OTHER Lower 55' riser stainless steel
MULTIPLE CASING: SIZE _____ LENGTH _____
SIZE _____ LENGTH _____

2) TYPE OF CASING JOINTS
BELLED, COUPLINGS, (THREADED,) OTHER _____

3) TYPE OF WELL SCREEN
PVC, GALVANIZED, (STAINLESS) OTHER _____

4) SCREEN SLOT SIZE 0.010

5) SCREEN LENGTH 10 ft

6) INSTALLED PROTECTOR PIPE W/LOCK?(YES)OR NO

7) DRILLING METHOD HS
DRILLING FLUID N/A
BOREHOLE DIAMETER 8"

8) BACKFILL MATERIAL INSTALLATION FROM SURFACE: TREMIE

9) HOW WAS WELL DEVELOPED?
(BAILING,)PUMPING, SURGING, COMPRESSED AIR

10) APPROXIMATE WATER VOLUME REMOVED OR ADDED?
5 GAL, 10 GAL, 15 GAL, OTHER 40 gal

11) WATER CLARITY BEFORE DEVELOPMENT
CLEAR,(TURBID,) OPAQUE

12) WATER CLARITY AFTER DEVELOPMENT
CLEAR, TURBID,(OPAQUE)

13) DID THE WATER HAVE AN ODOR? YES OR(NO)

14) WATER LEVEL SUMMARY
1) DEPTH FROM T. STANDPIPE AFTER DEVELOPMENT?
_____ FT. OR DRY
2) OTHER MEASUREMENTS:
DATE 11/19/96 , 52 FT. FROM T. ST. PIPE
DATE _____ , 61.97 FT. FROM T. ST. PIPE
DATE _____ , _____ FT. FROM T. ST. PIPE
DATE _____ , _____ FT. FROM T. ST. PIPE

* Elevation relative to rim of fire hydrant west side of building = 100

WELL NO. MW-126 DATE INSTALLED 5/5/95 DRILL RIG DR35

DRILLER Guerrier DRILL CREW Mottlow, Pappas

JOB/CLIENT Lockformer STS PROJECT NO. 26249XB

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Client #:
Address:

Page:
Date:
Log #:

Sample Description:

Label:
Date Sampled:
Time Sampled:
Date Received:
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst

Volatile Organic Compounds continued

Respectfully submitted

Marino Fernandez
Laboratory Director

Client #: [illegible]
Address: [illegible] CONSULTANTS

[illegible]
[illegible]
Attn: Cynthia Bonczkiewicz

Page: Page [illegible]
Date: [illegible]
Log #: [illegible]

Sample Description:

[illegible]

Label: [illegible]
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Time Sampled: [illegible]
Date Received: [illegible]
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ethanol	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Chloromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Vinyl Chloride	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bromomethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Chloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Trichlorofluoromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Acrolein	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1-Dichloroethene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Acetone	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Iodomethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Carbon Disulfide	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Methylene Chloride	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Acrylonitrile	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Trans-1,2-dichloroethene	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1-Dichloroethane	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Vinyl Acetate	BDL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	BDL	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Chloroform	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1,1-Trichloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Carbon Tetrachloride	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Benzene	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,2-Dichloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Client #: [illegible]
Address: [illegible]

Page: [illegible]
Date: [illegible]
Log #: [illegible]

Sample Description:

[illegible]

Label: [illegible]
Date Sampled: [illegible]
Time Sampled: [illegible]
Date Received: [illegible]
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds	(continued						
Trichloroethene	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dibromomethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bromodichloromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Cis-1,3-Dichloropropene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4-Methyl-2-Pentanone	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Toluene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Trans-1,3-Dichloropropene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ethyl Methacrylate	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1,2-Trichloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
2-Hexanone	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Dibromochloromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Chlorobenzene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ethylbenzene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bromoform	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cis-1,4-Dichloro-2-Butene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1,2,2-Tetrachloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,2,3-Trichloropropane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Trans-1,4-Dichloro-2-Butene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MTBE	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1,2,2-Tetrachloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cis-1,2-Dichloroethene	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tetrachloroethene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,2-Dichloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Acetonitrile	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dilution Factor	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]

Client #:
Address:

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Date:
Log #:

Sample Description:

Project #[illegible] water sampler
Lockformer

Label: [illegible]
Date Sampled: [illegible]
Time Sampled: [illegible]
Date Received: [illegible]
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst

Volatile Organic Compounds continued

[illegible]

Respectfully submitted

Marina Fernandez
Laboratory Director

Client #: [illegible]
Address: [illegible]

[illegible]

Page: [illegible]
Date: [illegible]
Log #: [illegible]

Sample Description:

[illegible]

Label: [illegible]
Date Sampled: [illegible]
Time Sampled: [illegible]
Date Received: [illegible]
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ethane,	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Chloromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Vinyl Chloride	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Bromomethane	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Chloroethane	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Trichloro[illegible]	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Acrolein	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
1,1-Dichloro[illegible]	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Acetone	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Iodomethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Carbon Disulfide	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Methylene Chloride	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Acrylonitrile	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Trans-1,2-Dichloroethene	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
1,1-Dichloroethane	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Vinyl Acetate	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2-Butanone	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Chloroform	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
1,1,1-Trichloroethane	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Carbon Tetrachloride	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Benzene	[illegible]	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
1,2-Dichloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Client #:
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Log #:

Sample Description:

Project:
Location:

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Date Sampled:
Time Sampled:
Date Received:
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds	continued!						
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1,1-Dichloroethane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Dibromomethane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Bromochloromethane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Trans-1,2-Dichloroethene	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
4-Methyl-2-pentanone	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Trans-1,3-Dichloropropene	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Ethyl Methacrylate	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1,1,2-Trichloroethane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
2-Hexanone	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Dibromochloromethane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Chlorobenzene	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Ethylbenzene	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Bromoform	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Cis-1,4-dichloro-2-butene	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1,1,2-Trichloropropane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Trans-1,4-dichloro-2-butene	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
MTBE	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1,1,2,2-Tetrachloroethane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Cis-1,2-Dichloroethene	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Tetrachloroethene	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
1,2-Dibromoethane	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
Chlorobenzene	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]		[illegible]	[illegible]	[illegible]	[illegible]	

Client #:
Address:

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Log #:

Sample Description:

Label:
Date Sampled:
Time Sampled:
Date Received:
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds (continued)							

Marino Fernandez
Laboratory Director

Client #: [illegible]
Address: STS [illegible]

[illegible]
[illegible]
Attn: [illegible]

Page: [illegible]
Date: [illegible]
Log #: [illegible]

Sample Description:

[illegible]

Label: [illegible]
Date Sampled: [illegible]
Time Sampled: [illegible]
Date Received: [illegible]
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ethanol	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Chloromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Vinyl Chloride	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Bromomethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Chloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Trichlorofluoromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Acrolein	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1-Dichloroethene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
Acetone	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Iodomethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Carbon Disulfide	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Methylene Chloride	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Acrylonitrile	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Trans-1,2-Dichloroethene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
1,1-Dichloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Methyl Acetate	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	
2-Butanone	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Chloroform	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1,1-Trichloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Carbon Tetrachloride	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Benzene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,2-Dichloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]

Client #: [illegible]
Address: [illegible]

Page: [illegible]
Date: [illegible]
Log #:

Sample Description:

[illegible] Samples
Location:

Label: [illegible]
Date Sampled: [illegible]
Time Sampled: [illegible]
Date Received: [illegible]
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds (continued)							
[illegible]		ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,2-Dichloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dibromomethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bromodichloromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2-Chloroethyl vinyl ether	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cis-1,3-Dichloropropene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
4-Methyl-2-pentanone	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Toluene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Trans-1,3-Dichloropropene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ethyl Methacrylate	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1,2-Trichloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
2-Hexanone	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dibromochloromethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Chlorobenzene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Ethylbenzene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Total Xylenes	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Bromoform	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cis-1,4-Dichloro-2-butene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1,2,2-Tetrachloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,2,3-Trichloropropane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Trans-1,4-Dichloro-2-butene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
MTBE	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,1,1,2-Tetrachloroethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Cis-1,2-Dichloroethene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Tetrachloroethene	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
1,2-Dibromoethane	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Acetonitrile	BDL	ug/l	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
Dilution Factor	[illegible]		[illegible]		[illegible]	[illegible]	[illegible]

Client #:
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Sample Description:

Label:
Date Sampled:
Time Sampled:
Date Received:
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds continued							

Respectfully Submitted

Marino Fernandez
Laboratory Director

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Date: 01/02/97
Log #: L14168-1

Sample Description:

Lockformer
26249XB

Label: 202 S-5
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichlorofluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrolein	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acetone	BDL	mg/kg	5030/8240	0.040	01/02	01/02	SC
Iodomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Disulfide	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Methylene Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrylonitrile	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,2-dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Acetate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Butanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Tetrachloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Benzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Date: 01/02/97
Log #: 114168-1

Sample Description:

Lockformer
26249XB

Label: 202 S-5
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds	(continued)						
1,2-Dichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromodichloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Chloroethylvinyl Ether	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
4-Methyl-2-pentanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Toluene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethyl Methacrylate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Hexanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromochloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chlorobenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethylbenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Total Xylenes	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Styrene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromoform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2,3-Trichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,2-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Tetrachloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromoethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromo-3-Chloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dilution Factor	1.0		5030/8240		01/02	01/02	SC

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Date: 01/02/97
Log #: L14168-1

Sample Description:

Lockformer
26249XB

Label: 202 S-5
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst

Volatile Organic Compounds (continued)

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 9003763
SUB HRS# 86122,86109,E86048
SC CERT# 96031
TN CERT# 02965
ELPAT# 13811
VA CERT# 00395
MA CERT# M-FL449
ND CERT# R-148

HRS# E86040,86186
ADEM ID# 40850
NJ CERT# 444
CT CERT# PH-0122
CA CERT# 1-1268
AZ CERT# AZ0509
USACE CERT

Respectfully submitted,

Marino Fernandez
Laboratory Director

L14168-1

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Date: 01/02/97
Log #: L14168-2

Sample Description:

Lockformer
26249XB

Label: 203 S-3
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analy

Volatile Organic Compounds (continued)

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

IAP# 900376G	HRS# E86240,86356
SUB HRS# 86122,86109,E86049	ADEM ID# 40650
SC CERT# 96031	NC CERT# 444
TN CERT# 02985	CT CERT# PH-0122
ELPAT# 13601	CA CERT# I-1068
VA CERT# 00395	AZ CERT# AZ0529
MA CERT# M-FL449	USACE CERT
ND CERT# R-148	

Respectfully submitted,

Marino Fernandez
Laboratory Director

L14168-2

CHAIN OF CUSTODY RECORD

№ 29728

L-14163

RECORD NUMBER _____ THROUGH _____

Contact Person Cynthia Bonczkiewicz
Phone No. 417 267 5010 Office [illegible]
Project No. 26249XB PO No. _____
Project Name Lockheimer

Special Handling Request
- [x] Rush
- [ ] Verbal
- [ ] Other

Laboratory VOC
Contact Person [illegible]
Phone No. _____
Results Due 12/31/96

Sample I.D.	Date	Time	Grab	Composite	No. of Containers	Sample Type (Water, soil, air, sludge, etc.)	Preservation Y	Preservation N	Field Data PID/FID Ambient	Field Data PID/FID Sample	Field Data PH	Field Data Special Cond.	Analysis Request	Comments on Sample (Include Major Contaminants)
2C2	12/21		X		1	[illegible]							VOCs	
[illegible]3	12/21		X		1	[illegible]							VOCs	

Collected by: [illegible]	Date	Time	Delivery by	Date	Time
Received by: Cynthia [illegible]	Date [illegible]/96	Time	Relinquished by: Cynthia [illegible]	Date [illegible]/96	Time
Received by: Fred Wall	Date 12/24/96	Time 10:35	Relinquished by: Fred Wall	Date 12/24/96	Time 5:00
Received by: FEDEX	Date	Time	Relinquished by	Date	Time
Received for lab by	Date	Time	Relinquished by	Date	Time

Laboratory Comments Only: Seals Intact Upon Receipt? ☐ Yes ☐ No ☐ N/A

Final Disposition:

Comments (Weather Conditions, Precautions, Hazards):

Distribution: Original and Green - Laboratory Yellow As needed Pink Transporter Goldenrod STS Project File
Instructions to Laboratory: Forward completed original to STS with analytical results. Retain green copy

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Date: 01/02/97
Log #: L14059-1

Sample Description:

Soil sampels
Lockformer

Label: B-203, S-6
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analy.
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichlorofluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrolein	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acetone	BDL	mg/kg	5030/8240	0.040	01/02	01/02	SC
Iodomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Disulfide	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Methylene Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrylonitrile	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,2-dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Acetate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Butanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Tetrachloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Benzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 2 of 3
Date: 01/02/97
Log #: L14059-1

Sample Description:

Soil sampels
Lockformer

Label: B-203, S-6
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analys
Volatile Organic Compounds	(continued)						
1,2-Dichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromodichloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Chloroethylvinyl Ether	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
4-Methyl-2-pentanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Toluene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethyl Methacrylate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Hexanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromochloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chlorobenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethylbenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Total Xylenes	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Styrene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromoform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2,3-Trichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,2-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Tetrachloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromoethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromo-3-Chloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dilution Factor	1.0		5030/8240		01/02	01/02	SC
Percent Solids							
Percent Solid	95	%	SM2540B	0.10	12/23	12/23	MP

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 3 of 3
Date: 01/02/97
Log #: L14059-1

Sample Description:

Soil sampels
Lockformer

Label: B-203, S-6
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analys

Percent Solids (continued)

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

CAP# 9[illegible]
SUB-HRS# [illegible]
SC CERT# [illegible]
TN CERT# [illegible]
ELPAT# [illegible]
VA CERT# 00395
MA CERT# M-FL445
ND CERT# R-148

HRS# [illegible]
ADEM ID# 40651
NC CERT# 444
CT CERT# PH-0122
CA CERT# [illegible]
AZ CERT# AZ[illegible]
USACE CERT

Respectfully submitted,

Marino Fernandez
Laboratory Director

L14059-1

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Date: 01/02/97
Log #: L14059-2

Sample Description:

Soil sampels
Lockformer

Label: B-202, S-10
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichlorofluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrolein	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acetone	BDL	mg/kg	5030/8240	0.040	01/02	01/02	SC
Iodomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Disulfide	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Methylene Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrylonitrile	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,2-dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Acetate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Butanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Tetrachloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Benzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 2 of 3
Date: 01/02/97
Log #: L14059-2

Sample Description:

Soil sampels
Lockformer

Label: B-202, S-10
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analys
Volatile Organic Compounds	**(continued)**						
1,2-Dichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromodichloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Chloroethylvinyl Ether	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
4-Methyl-2-pentanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Toluene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethyl Methacrylate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Hexanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromochloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chlorobenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethylbenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Total Xylenes	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Styrene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromoform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2,3-Trichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,2-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Tetrachloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromoethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromo-3-Chloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dilution Factor	1.0		5030/8240		01/02	01/02	SC
Percent Solids							
Percent Solid	92	%	SM2540B	0.10	12/23	12/23	MPG

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 3 of 3
Date: 01/02/97
Log #: L14059-2

Sample Description:

Soil sampels
Lockformer

Label: B-202, S-10
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst

Percent Solids (continued)

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

CAP# 900376G
SUB HRS# 86122,86109,E86046
SC CERT# 96031
TN CERT# 02985
ELPAT# 13801
VA CERT# 00395
MA CERT# M-FL449
ND CERT# R-146

HRS# E86240,86356
ADEM ID# 40880
NC CERT# 444
CT CERT# PH-0122
CA CERT# I-1066
AZ CERT# AZ1529
USACE CERT

Respectfully submitted,

Marino Fernandez
Laboratory Director

L14059-2

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Date: 01/02/97
Log #: L14168-2

Sample Description:

Lockformer
26249XB

Label: 203 S-3
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichlorofluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrolein	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acetone	BDL	mg/kg	5030/8240	0.040	01/02	01/02	SC
Iodomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Disulfide	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Methylene Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrylonitrile	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,2-dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Acetate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Butanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Tetrachloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Benzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Date: 01/02/97
Log #: L14168-2

Sample Description:

Lockformer
26249XB

Label: 203 S-3
Date Sampled: 12/21/96
Time Sampled: 00:00
Date Received: 12/26/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analys
Volatile Organic Compounds	(continued)						
1,2-Dichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromodichloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Chloroethylvinyl Ether	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
4-Methyl-2-pentanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Toluene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethyl Methacrylate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Hexanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromochloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chlorobenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethylbenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Total Xylenes	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Styrene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromoform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2,3-Trichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,2-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Tetrachloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromoethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromo-3-Chloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dilution Factor	1.0		5030/8240		01/02	01/02	SC

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Date: 01/02/97
Log #: L14059-3

Sample Description:

Soil sampels
Lockformer

Label: B-201, S-2
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analy
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichlorofluoromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrolein	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acetone	BDL	mg/kg	5030/8240	0.040	01/02	01/02	SC
Iodomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Disulfide	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Methylene Chloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Acrylonitrile	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,2-dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Vinyl Acetate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Butanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chloroform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Carbon Tetrachloride	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Benzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Date: 01/02/97
Log #: L14059-3

Sample Description:

Soil sampels
Lockformer

Label: B-201, S-2
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds	(continued)						
1,2-Dichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromomethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromodichloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Chloroethylvinyl Ether	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
4-Methyl-2-pentanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Toluene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,3-Dichloropropene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethyl Methacrylate	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2-Trichloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
2-Hexanone	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dibromochloromethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Chlorobenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Ethylbenzene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Total Xylenes	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Styrene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Bromoform	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,2,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2,3-Trichloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Trans-1,4-dichloro-2-butene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,1,1,2-Tetrachloroethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Cis-1,2-Dichloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Tetrachloroethene	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromoethane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
1,2-Dibromo-3-Chloropropane	BDL	mg/kg	5030/8240	0.0050	01/02	01/02	SC
Dilution Factor	1.0		5030/8240		01/02	01/02	SC
Percent Solids							
Percent Solid	83	%	SM2540B	0.10	12/23	12/23	MPG

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 3 of 3
Date: 01/02/97
Log #: L14059-3

Sample Description:

Soil sampels
Lockformer

Label: B-201, S-2
Date Sampled: 12/20/96
Time Sampled: 10:30
Date Received: 12/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analys

Percent Solids (continued)

BDL = Below Detection Limits
* Compounds are Screened Only, with an estimated detection limit.
All analyses were performed using EPA, ASTM, USGS, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported in dry weight unless otherwise indicated by units.

QAP# 9003760
SUB HRS# 86122,86123,E86248
SC CERT# 96031
TN CERT# 02985
ELPAT# 13801
VA CERT# 00395
MA CERT# M-FL449
ND CERT# R-148

HRS# E86241 86356
ADEM ID# 40881
NC CERT# 444
CT CERT# PH-0122
IA CERT# 1-1068
AZ CERT# AZ0529
USACE CERT

Respectfully submitted,

Marino Fernandez
Laboratory Director

L14059-3

Client #: [illegible]
Address: [illegible]

[illegible]
[illegible]
Attn: [illegible]

Page: [illegible]
Date: [illegible]
Log #: [illegible]

Sample Description:

Project #[illegible] water samples
Lockformer

Label: MW-[illegible]
Date Sampled: 11/20/96
Time Sampled: 14:30
Date Received: 11/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analys

Volatile Organic Compounds (continued)

BDL = Below Detection Limit
* Compounds are Screened Only with an estimated detection limit.
All analyses were performed using EPA, ASTM [illegible] Standard Methods
All analyses were performed within EPA holding times unless otherwise noted
Analyses [illegible] unless otherwise indicated [illegible]

[illegible]

Respectfully submitted

Marino Fernandez
Laboratory Director

[illegible]

Client #: CHI-95-061106
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 1 of 3
Date: 11/29/96
Log #: L12901-1

Sample Description:

Project #26249XH water samples
Lockformer

Label: MW-101
Date Sampled: 11/20/96
Time Sampled: 14:15
Date Received: 11/21/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	ug/l	5030 8240	1.0	11/27	11/27	MS
Ethanol	BDL	ug/l	5030 8240	100	11/27	11/27	MS
Chloromethane	BDL	ug/l	5030 8240	1.0	11/27	11/27	MS
Vinyl Chloride	72	ug/l	5030 8240	1.0	11/27	11/27	MS
Bromomethane	BDL	ug/l	5030 8240	1.0	11/27	11/27	MS
Chloroethane	BDL	ug/l	5030 8240	1.0	11/27	11/27	MS
Trichlorofluoromethane	BDL	ug/l	5030 8240	1.0	11/27	11/27	MS
Acrolein	BDL	ug/l	5030 8240	5.0	11/27	11/27	MS
1,1-Dichloroethene	37	ug/l	5030 8240	1.0	11/27	11/27	MS
Acetone	BDL	ug/l	5030 8240	50	11/27	11/27	MS
Iodomethane	BDL	ug/l	5030 8240	1.0	11/27	11/27	MS
Carbon Disulfide	BDL	ug/l	5030 8240	50	11/27	11/27	MS
Methylene Chloride	63	ug/l	5030 8240	1.0	11/27	11/27	MS
Acrylonitrile	BDL	ug/l	5030 8240	1.0	11/27	11/27	MS
Trans-1,2-dichloroethene	490	ug/l	5030 8240	1.0	11/27	11/27	MS
1,1-Dichloroethane	300	ug/l	5030 8240	1.0	11/27	11/27	MS
Vinyl Acetate	BDL	ug/l	5030 8240	50	11/27	11/27	MS
2-Butanone	BDL	ug/l	5030 8240	50	11/27	11/27	MS
Chloroform	7.0	ug/l	5030 8240	1.0	11/27	11/27	MS
1,1,1-Trichloroethane	4900	ug/l	5030 8240	1.0	11/27	11/27	MS
Carbon Tetrachloride	BDL	ug/l	5030 8240	1.0	11/27	11/27	MS
Benzene	[illegible]	ug/l	5030 8240	1.0	11/27	11/27	MS
1,2-Dichloroethane	BDL	ug/l	5030 8240	1.0	11/27	11/27	MS

Client #: [illegible]
Address: [illegible]

[illegible] RD.
[illegible]
[illegible]

Page: [illegible]
Date: [illegible]
Log #: [illegible]

Sample Description:

Project #26149WH water samples
Lockformer

Label: MW-[illegible]
Date Sampled: 11/20/94
Time Sampled: 14:15
Date Received: 11/20/94
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analys
Volatile Organic Compounds	(continued)						
Trichloroethene	[illegible]	ug/L	5030 8240	1.0	11/27	11/[illegible]	[illegible]
1,2-Dichloropropane	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Dibromomethane	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Bromodichloromethane	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
2-Chloroethylvinyl Ether	BDL	ug/L	5030 8240	10	11/27	11/27	KS
Cis-1,3-Dichloropropene	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
4-Methyl-2-pentanone	BDL	ug/L	5030 8240	50	11/27	11/27	KS
Toluene	9.1	ug/L	5030 8240	1.0	11/27	11/27	KS
Trans-1,3-Dichloropropene	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Ethyl Methacrylate	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
1,1,2-Trichloroethane	57	ug/L	5030 8240	1.0	11/27	11/27	KS
2-Hexanone	BDL	ug/L	5030 8240	50	11/27	11/27	KS
Dibromochloromethane	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Chlorobenzene	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Ethylbenzene	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Total Xylenes	BDL	ug/L	5030 8240	3.0	11/27	11/27	KS
Styrene	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Bromoform	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Cis-1,4-dichloro-2-butene	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
1,1,2,2-Tetrachloroethane	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
1,2,3-Trichloropropane	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Trans-1,4-dichloro-2-butene	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
MTBE	BDL	ug/L	5030 8240	50	11/27	11/27	KS
1,1,1,2-Tetrachloroethane	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Cis-1,2-Dichloroethene	[illegible]	ug/L	5030 8240	1.0	11/27	11/27	KS
Tetrachloroethene	[illegible]	ug/L	5030 8240	1.0	11/27	11/27	KS
1,2-Dibromoethane	BDL	ug/L	5030 8240	1.0	11/27	11/27	KS
Acetonitrile	BDL	ug/L	5030 8240	10	11/27	11/27	KS
Dilution Factor	1.0		5030 8240		11/27	11/27	KS

Client #: [illegible]
Address: [illegible]

[illegible]

Page: [illegible]
Date: [illegible]
Log #: [illegible]

Sample Description:

Project #[illegible] water samples
Lockformer

Label: MW-[illegible]
Date Sampled: 11/20/96
Time Sampled: 14:15
Date Received: 11/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst

Volatile Organic Compounds (continued)

BDL = Below Detection Limit
* Compounds are Screened Only with an estimated detection limit.
All analyses were [illegible] the EPA [illegible] Standard Methods
All analyses were performed [illegible] their EPA holding times unless otherwise noted
Analyses [illegible] unless otherwise indicated by units

Respectfully submitted

Marino Fernandez
Laboratory Director

Client #: CHI-MS-241116
Address: STS CONSULTANTS

1415 Lake Cook Rd.
Deerfield, IL 60015
Attn: Cynthia Bonczkiewicz

Page: Page 1 of 3
Date: 11/29/96
Log #: L12901-4

Sample Description:

Project #26049XH Water samples
Lockformer

Label: MW-103
Date Sampled: 11/21/96
Time Sampled: 13:31
Date Received: 11/21/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds							
Dichlorodifluoromethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Ethanol	BDL	ug/l	5030/8240	1000	11/27	11/27	MS
Chloromethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Vinyl Chloride	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Bromomethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Chloroethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Trichlorofluoromethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Acrolein	BDL	ug/l	5030/8240	5.0	11/27	11/27	MS
1,1-Dichloroethene	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Acetone	BDL	ug/l	5030/8240	50	11/27	11/27	MS
Iodomethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Carbon Disulfide	BDL	ug/l	5030/8240	50	11/27	11/27	MS
Methylene Chloride	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Acrylonitrile	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Trans-1,2-dichloroethene	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
1,1-Dichloroethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Vinyl Acetate	BDL	ug/l	5030/8240	50	11/27	11/27	MS
2-Butanone	BDL	ug/l	5030/8240	50	11/27	11/27	MS
Chloroform	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
1,1,1-Trichloroethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Carbon Tetrachloride	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
Benzene	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS
1,2-Dichloroethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	MS

Client #: [illegible]
Address: [illegible]

1415 Lake Cook Rd.
[illegible]
Attn: [illegible] Ponczkiewicz

Page: Page [illegible]
Date: 11/[illegible]/96
Log #: [illegible]

Sample Description:

Project #[illegible] water samples
Lockformer

Label: MW-12[illegible]
Date Sampled: 11/20/96
Time Sampled: 13:30
Date Received: 11/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst

Volatile Organic Compounds (continued)

[illegible]
* Compounds are reported only with an estimated detection limit.
All analyses were performed using EPA, ASTM, NIOSH, or Standard Methods.
All analyses were performed within EPA holding times unless otherwise noted.
Analyses are reported on dry weight unless otherwise indicated by units.

[illegible]

Respectfully submitted,

Marino Fernandez
Laboratory Director

[illegible]

Client #: [illegible]
Address: STF CONSULTANTS

[illegible]
[illegible]
Attn: [illegible]

Page: [illegible]
Date: [illegible]
Log #: [illegible]

Sample Description:

Project [illegible] water samples
Lockformer

Label: MW-123
Date Sampled: 11/20/96
Time Sampled: 13:30
Date Received: 11/20/96
Collected By: Client

Parameter	Results	Units	Method	Reportable Detect Limit	Extr. Date	Analysis Date	Analyst
Volatile Organic Compounds	(continued)						
Trichloroethene	[illegible]	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
1,2-Dichloropropane	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Dibromomethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Bromodichloromethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
2-Chloroethylvinyl Ether	BDL	ug/l	5030/8240	10	11/27	11/27	[illegible]
Cis-1,3-Dichloropropene	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
4-Methyl-2-pentanone	BDL	ug/l	5030/8240	50	11/27	11/27	[illegible]
Toluene	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Trans-1,3-Dichloropropene	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Ethyl Methacrylate	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
1,1,2-Trichloroethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
2-Hexanone	BDL	ug/l	5030/8240	50	11/27	11/27	[illegible]
Dibromochloromethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Chlorobenzene	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Ethylbenzene	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Total Xylenes	BDL	ug/l	5030/8240	3.0	11/27	11/27	[illegible]
Styrene	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Bromoform	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Cis-1,4-dichloro-2-butene	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
1,1,2,2-Tetrachloroethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
1,2,3-Trichloropropane	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Trans-1,4-dichloro-2-butene	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
MTBE	BDL	ug/l	5030/8240	50	11/27	11/27	[illegible]
1,1,1,2-Tetrachloroethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Cis-1,2-Dichloroethene	[illegible]	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Tetrachloroethene	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
1,2-Dibromoethane	BDL	ug/l	5030/8240	1.0	11/27	11/27	[illegible]
Acetonitrile	BDL	ug/l	5030/8240	10	11/27	11/27	[illegible]
Dilution Factor	1.0		5030/8240		11/27	11/27	[illegible]