ABC PAVING

Contract Drilling and Testing

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Contract Drilling and Testing

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ENVIRONMENTAL INVESTIGATION
ABC Paving Yard
4397 Seneca Street
West Seneca, New York

Prepared for

ABCS
2544 Clinton Street
Buffalo, New York

Project No. D-787

June, 1996

TABLE OF CONTENTS

ENVIRONMENTAL INVESTIGATION
ABC PAVING YARD
4397 SENECA STREET
WEST SENECA, NEW YORK

1.0 INTRODUCTION

SJB Services Inc. was requested and authorized by Mr. Joseph Laraiso of ABCS, to complete an Environmental Investigation on a parcel of land located at 4397 Seneca Street, Town of West Seneca, County of Erie, New York. The site is currently utilized as the office, maintenance shop, and storage yard for ABC Paving Inc..

Based on information presented to SJB Services Inc. prior to performing this investigation, the site has previously been utilized as a depository for waste byproducts from coal gas manufacturing. Several test pit trenches have been completed by others at the site in an attempt to define the limits of the waste materials.

2.0 OBJECTIVES AND SCOPE

The objective of this investigation is to address the environmental concerns defined by National Fuel Gas Distribution Corporation (National Fuel Gas) and ABCS in the previously completed test pit trenches at the site. This project was completed in accordance with our proposal dated January 31, 1996 and authorized by Mr. Joseph Laraiso, representing ABCS. This environmental investigation included the following tasks:

1. Initial site meeting with representative of National Fuel Gas Distribution Corporation (National Fuel Gas) to discuss scope of work and test boring location selection.

2. Planning of a subsurface exploration and analytical test program.

3. On site inspection of the drilling of eight (8) test borings, and subsequent installation of four (4) groundwater monitoring wells,

4. Measure organic vapor concentrations and collection of representative soil samples during the subsurface exploration phase of the project.

5. Development of installed wells and collection of four (4) groundwater samples.

6. Engage the services of a New York State Department of Health (NYSDOH) certified analytical testing laboratory to analyze soil and groundwater samples collected from the site; and,

7. Evaluate the data collected, and prepare this report.

3.0 SUBSURFACE EXPLORATION

3.1 GENERAL

SJB Services Inc. advanced eight (8) test borings including installation of four (4) monitoring wells at the site (Refer to Drawing No. 1 in Appendix A). The test borings and well installations were completed on May 8 th and 9 th, 1996.

The test borings were advanced to evaluate the general subsurface conditions at the site and the presence of potential contamination in the waste fills, native soils and ground water beneath the site. The test borings and monitoring wells were located in the field by representatives from SJB Services Inc. and National Fuel Gas Company based on (1) surface topography at the site and (2) previous test pit trenches excavated at the site. One (1) monitoring well location (MW-1) was assumed to be 'upgradient" of the subject site, and three locations (MW-2, MW-3 and MW-4) were assumed to be 'downgradient' of the subject site.

In addition, four (4) test borings (B-A, B-B, B-C, and B-D) were advanced for the purpose of characterizing the fills present on site, and for obtaining a representative composite sample for analytical testing.

3.2 PROCEDURES

SJB Services Inc. used both a trailer-mounted Central Mine Equipment CME-45C and a track mounted all terrain vehicle (ATV) CME-75 rotary drill rigs to advance the test borings. The test borings were advanced using 4-1/4 inch inside diameter (I.D.) hollow stem augers equipped with a center plug to prevent soil from entering the augers during drilling. Disturbed soil samples from the boring locations were recovered by driving a 24-inch long by 2-inch outside diameter (O.D.) split-spoon sampler into the soil below the bottom of the augers utilizing a 140-pound hammer freely falling 30-inches, in accordance with ASTM D-1586. The number of blows required to drive the split spoon sampler for the second and third six-inch intervals is the Standard Penetration Test (SPT) N-value and this value is recorded on the appropriate space on the boring log. Representative soils samples were stored in 8-ounce glass jars with screw-on lids denoting boring number, sample number, sample interval and blow counts. Split spoon soil sampling was done continuously from existing ground surface to the bottom of the test boring.

An SJB Services Inc. Geologist monitored the subsurface explorations in the field and prepared boring logs based on visual observations of the recovered soil samples. The soil samples were generally described using ASTM D-2488 for identification of soils. Features such

as relative density or consistency (obtained from the SPT), color, grain size, moisture, etc. were recorded on the boring logs. Boring logs are presented in Appendix "B" of this report.

Groundwater monitoring wells were installed at four (4) of the test boring locations (MW-1, MW-2, MW-3 and MW-4) upon completion of drilling and sampling. The wells consist of two-inch (2") I.D. schedule 40 polyvinyl chloride (PVC) threaded riser pipe with machine slotted (0.010-inch slot size) screens and were constructed within the hollow stem augers at the completion of drilling. The annular space between the borehole wall and the well screen was backfilled with Morie "0" filter sand. Bentonite chips were used to construct the well seal above the filter sand, and cement/bentonite grout was placed above the seal. A four-inch (4") lockable galvanized protective casing was installed with a two-foot by two-foot square (2' X 2') surface pad at grade. Monitoring well completion reports are included in Appendix "C" of this report.

All down hole equipment such as augers, drill rods, and split spoon samplers were steam cleaned/ pressure washed prior to arrival on site. Additionally, all equipment was steam cleaned/ pressure washed between test borings and prior to leaving the site. All decontamination water and drill cuttings were collected in 55-gallon drums and stored on-site.

3.3 SUBSURFACE CONDITIONS

SJB Services Inc. evaluated and interpreted the subsurface conditions at the subject site based on the eight (8) widely spaced test borings completed during this study. Variation from the inferred soil characterization and ground water observations should be expected. The

subsurface logs should be referred to for a specific description of the subsurface conditions at each boring location. The following description of the subsurface condition is general in nature.

Test Borings B-A, B-B, B-C, B-D and MW-1 encountered miscellaneous fill materials consisting of silts, slag, lime and concrete to depths of approximately 9-feet to 11-feet below grade. Natural soils, consisting of clayey silts and fine to coarse sands, were encountered underlying the fills. Auger refusal on Shale bedrock was encountered at 15-feet below grade in boring location MW-1.

Test Borings MW-2. MW-3 and MW-4 encountered indigenous silts overlying interbedded alluvial sands and gravel soils. Refusal on Shale bedrock was encountered at depths ranging from 8-feet to 10-feet below grade.

4.0 FIELD TESTING AND RESULTS

In conjunction with the field exploration program, field measurements were taken by SJB Services Inc. to evaluate the presence and/or organic vapor concentrations in the air. Test procedures and results for the field measurements are discussed below.

Organic vapor monitoring was done during the test boring program and compared to background measurements to indicate potentially hazardous substances below the ground surface. Organic vapor measurements were taken at the top of hollow stem augers with the augers set at various depths during drilling, on soil samples as they were removed from the split-spoon sampler and in the sample jar headspace after the soil samples were placed in the sample jar.

Organic vapor measurements were obtained using a photoionization detector (PID). The PID used to measure total organic vapors was an Hnu Model PI 101 manufactured by Hnu Systems, Inc., with a 10.2 eV ultraviolet light source. The PID was calibrated with factory standard reference gas daily prior to use.

Ambient background organic vapor measurements were taken upwind of each borehole location prior to drilling to establish site conditions. The range of these "background" readings during the monitoring period (June 8th and 9th, 1996) were 0.0 to 2.0 parts per million (ppm). The PID readings obtained during the drilling and sampling ranged from "background" to slightly above "background" (2 ppm) in test boring MW-1. The PID readings obtained are a quantitative measurement utilized for general reference and are affected by sample moisture and temperature. PID measurements taken on the recovered soil samples are presented on the subsurface boring logs enclosed in Appendix B.

5.0 ANALYTICAL TESTING AND RESULTS

5.1 Soil Sampling

Representative fill/soil samples were collected from test borings B-A, B-B, B-C and B-D during the subsurface exploration program. Two (2) site soils composite samples (designated S-1 and S-2) were produced from the recovered split spoon samples. Sample **S-1** (outside fence) was composed of the recovered samples of borings B-A and **B-B**, and Sample **S-2** (inside fence) was composed of the recovered samples from borings **B-C** and B-D. The soil sample was composited in a precleaned stainless steel mixing bowl from the entire depth of the test boring.

The composite samples then were placed into individual precleaned 125 ml. glass jars supplied by the analytical laboratory. SJB Services notes that the composite samples were "split" with Mr. Christopher Cej of National Fuel Gas for independent analytical testing. The soil samples were then placed in an ice cooler at approximately 4-degrees C for shipment to Columbia Analytical Services (CAS) in Amherst, New York. CAS is a New York State Department of Health (NYSDOH) certified analytical testing laboratory. The soil samples collected from test borings were analyzed for pH, total Cyanide, and Total Petroleum Hydrocarbons (TPH - test method 310-13).

Analytical test results on the composite soil samples S-1 and S-2 indicated high pH (alkaline) and elevated concentrations of cyanide and petroleum hydrocarbons. The results are summarized in Table 1 of this report.

TABLE 1
ANALYTICAL TEST RESULT SUMMARY
COMPOSITE FILL/SOIL SAMPLES

SAMPLE ID	pH (s.u.)	TOTAL CYANIDE (PPM)	N-DODECANE (PPB)	FUEL OIL #2 (DIESEL) (PPB)	GASOLINE (PPB)	KEROSENE (PPB)
S-1	12.1	286	10,000	N.D.	N.D.	N.D.
S-2	12.0	678	N.D.	330,000	N.D.	N.D.

NOTE : N.D. - Not detected in sample at practical limits

The current New York State Department of Environmental Conservation action levels for total Cyanide in soils range from 250 PPM to approximately 800 PPM. Cleanup objective levels are site specific based on soils composition, pH, and form of Cyanide present at the site.

5.2 Groundwater Sampling

The monitoring wells installed by SJB Services Inc. were developed and purged prior to sampling. Development and purging was completed on May 8th, 9th, and 10th 1996. A Polyvinyl Chloride (PVC) bailer was used to develop, purge and sample the wells. The bailer was decontaminated between locations using an Alconox wash, followed by a steam cleaning/ pressure wash rinse. Monitoring well development and sampling field data sheets are included in Appendix 'D' of this report.

Ground water samples were obtained by carefully lowering a bailer equipped with a bottom filling check valve into the well, and allowing it to fill. The bailer was slowly withdrawn, and the contents emptied into appropriate precleaned sample containers provided by the analytical laboratory. Where required, the groundwater samples were preserved with the materials provided by the analytical laboratory. The samples were then placed in an ice cooler at approximately 4-degrees C and delivered to Columbia Analytical Services for testing. The samples were tested for the Target Compound List (TCL) of Metals, Volatile and Semi-volatile Organics, Pesticides and Polychlorinated Biphenyls (PCB's).

The levels of the compounds detected were compared to the New York State Department of Environmental Conservation (NYSDEC) Class AA Fresh Surface Water Quality Standards dated September 1, 1991. Several Metals, Volatile and Semi-Volatile compounds were detected at elevated concentrations. The following tables briefly summarize the reported data.

ANALYTICAL TEST RESULTS MONITORING WELL MW - 1		
ANALYTE	LEVEL DETECTED (PPB)	NYSDEC STANDARD (PPB)
Aluminum	14,300	100
Chromium	25.5	11
Cyanide	145	100
Iron	41,600	300
Manganese	2,090	300
Acetone	39	N.S.
Bis (2-Ethylhexyl) Phthalate	7.2	50
PESTICIDES	None Detected in Sample	
PCB's	None Detected in Sample	

ANALYTICAL TEST RESULTS MONITORING WELL MW-2		
ANAYLTE	LEVEL DETECTED (PPB)	NYSDEC STANDARD (PPB)
Aluminum	64,800	100
Chromium	108	11
Cyanide	92.5	100
Cobalt	62.9	5
Iron	125,000	300
Magnesium	56,500	35,000
Manganese	1,290	300
Selenium	23.3	10
Sodium	25,900	20,000
Vanadium	99.6	14
Zinc	343	300
VOLATILES	NONE DETECTED IN SAMPLE	
SEMI-VOLATILES	NONE DETECTED IN SAMPLE	
PESTICIDES	NONE DETECTED IN SAMPLE	
PCB'S	NONE DETECTED IN SAMPLE	

ANALYTICAL TEST RESULTS MONITORING WELL MW-3		
ANALYTE	LEVEL DETECTED (PPB)	NYSDEC STANDARDS (PPB)
Aluminum	8,200	100
Chromium	13.8	11
Cyanide	22.9	100
Iron	11,900	300
Sodium	32,600	20,000
Acetone	79	N.S.
2-Butanone (MEK)	18	N.S.
Bis(2-Ethylhexyl) Phthalate	28	50
PESTICIDES	NONE DETECTED IN SAMPLE	
PCB'S	NONE DETECTED IN SAMPLE	

NOTE : N.S. indicates no published standard

ANALYTICAL TEST RESULTS MONITORING WELL MW-4		
ANALYTE	LEVEL DETECTED (PPB)	NYSDEC STANDARDS (PPB)
Aluminum	108,000	100
Arsenic	54	50
Chromium	181	11
Cobalt	91	5
Cyanide	None Detected	100
Iron	205,000	300
Magnesium	1,790	300
Sodium	103,000	20,000
Vanadium	159	14
Zinc	544	300
VOLATILES	NONE DETECTED IN SAMPLE	
SEMI-VOLATILES	NONE DETECTED IN SAMPLE	
PESTICIDES	NONE DETECTED IN SAMPLE	
PCB'S	NONE DETECTED IN SAMPLE	

5.3 Ground water levels and flow direction

Upon completion of installation of the four (4) monitoring wells at the site, SJB Services established surface and top of riser elevations at the well locations. Standard leveling procedures with a David White optical level/transit were used to determine elevations. The benchmark utilized was the rim of a sanitary manhole designated Manhole #9 on the site survey provided to SJB Services. This benchmark has an established elevation of 644.3'. The elevations are summarized in the following table.

TABLE 2

MONITORING WELL ELEVATION DATA

MONITORING WELL	GROUND SURFACE ELEVATION	TOP OF RISER ELEVATION	GROUNDWATER ELEVATION (MAY 8,9 1996)
MW - 1	649.9	652.5	644.3
MW - 2	637.7	640.3	632.4
MW - 3	638.0	640.4	631.8
MW - 4	639.3	641.8	636.6

Based on the limited groundwater elevation data obtained, it appears that groundwater flow is in a due south direction towards Cazenovia Creek.

6.0 CONCLUSIONS

Based on the data collected from the test borings, monitoring well installation and limited groundwater sampling program at the site, it appears that the groundwater beneath the subject site and due south of the site has been slightly impacted by the presence of the onsite fills. Elevated levels of Cyanide were detected in Monitoring Wells MW-1, MW-2 and MW-3, however, these levels are below the NYSDEC Standards for remediation. Also, elevated concentrations of other metals were noted in the groundwater samples. Sampling and analysis of the wells will be required in the future to determine if contaminant levels are increasing or decreasing.

Additionally, we note that Monitoring Well MW-3 is immediately south of the sanitary sewer traversing the site in a east to west direction. The granular pipe bedding in the sewer trench may be diverting some of the groundwater flow (and potentially any contamination) off the subject site. Additional investigations may be required to determine extent, if any, of offsite migration in this manner.

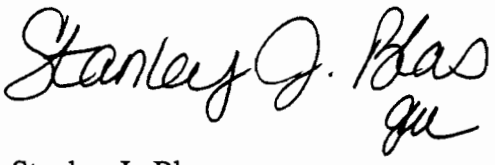
We trust that this report presented herein satisfies your current requirements. Should you have any questions or comments, please do not hesitate to contact our office. We have appreciated the opportunity to work with you on this project.

Respectfully submitted,

SJB SERVICES INC.

Frank R. Minnolera Jr.

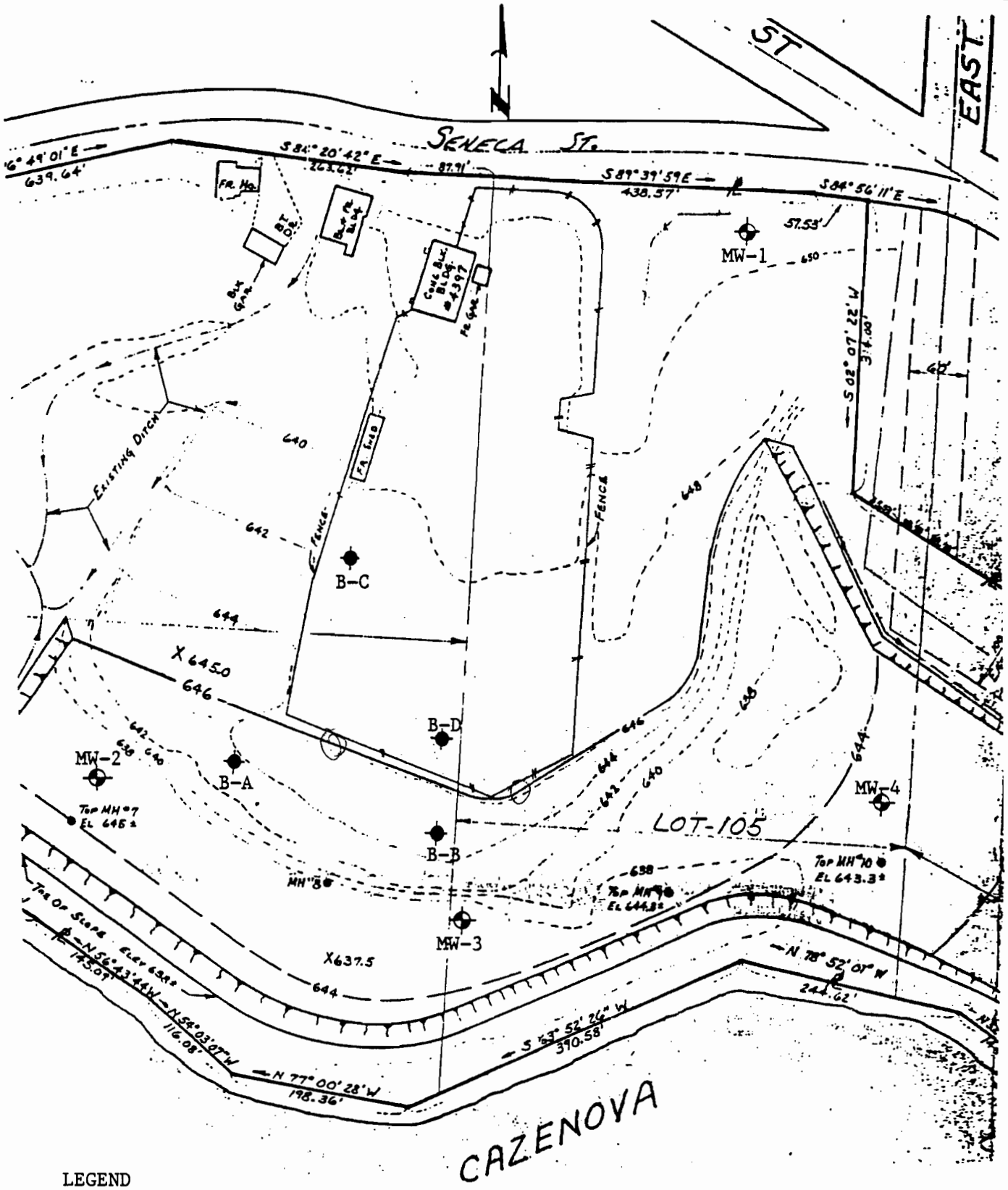
Staff Geologist



Stanley J. Blas

President

APPENDIX A



LEGEND

Test boring used to obtain soils samples for analytical testing.

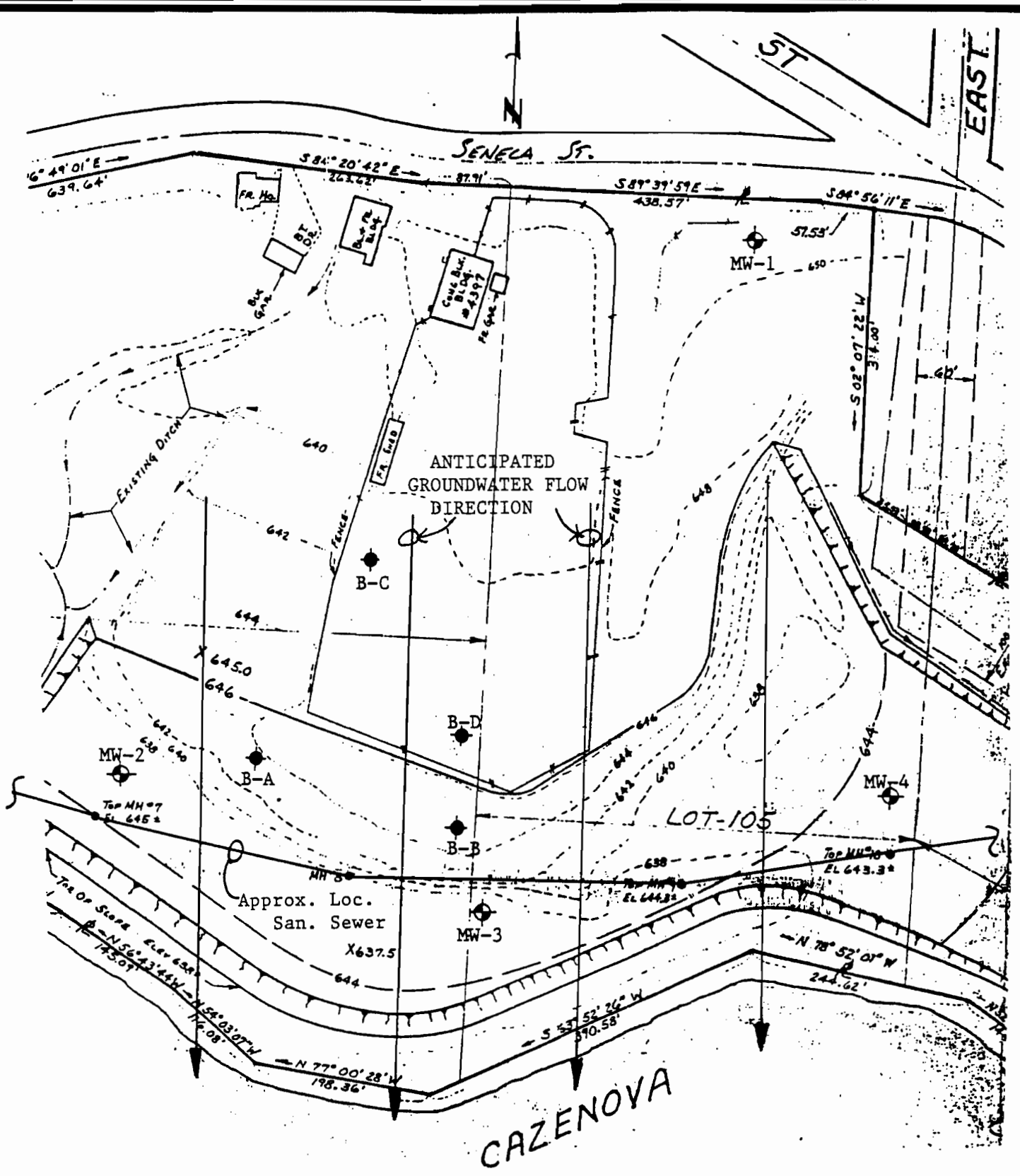
Test boring with monitoring well installed.

SJB Services, Inc.

SUBSURFACE INVESTIGATION PLAN

Test Boring and Monitoring Well Installations
ABC Yard, 4397 Seneca Street, West Seneca N.Y.

DR. BY: ---	SCALE: Reduced	PROJ. NO.: D-787
CK'D BY: FRM	DATE: 6/96	DRWG NO.: 1



MONITORING WELL	GROUND SURFACE ELEVATION	TOP OF RISER ELEVATION	GROUNDWATER ELEVATION (MAY 8,9 1996)
MW - 1	649.9	652.5	644.3
MW - 2	637.7	640.3	632.4
MW - 3	638.0	640.4	631.8
MW - 4	639.3	641.8	636.6

SJB Services, Inc.

SUBSURFACE INVESTIGATION PLAN

Anticipated Groundwater Flow Direction
ABC Yard, 4397 Seneca St., West Seneca

DR. BY: ----	SCALE: Reduced	PROJ. NO.: D-787
CK'D BY: FRM	DATE: 6/96	DRWG NO.: 2

APPENDIX B

DATE:
STARTED 5/2/96
FINISHED 5/2/96

SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. **MW-1**
SURF. ELEV 649.9

G.W. DEPTH See Notes

PROJECT: ABC Yard
PROJ. NO.: D-787

LOCATION: 4397 Seneca Street

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID (ppm)	SOIL OR ROCK CLASSIFICATION	NOTES
	1	2	5				White and Brn. SILT and Lime (moist, FILL)	PID Reading Obtained Utilizing an Hnu Model PI-101, Photoionization Detector and are Expressed in Parts-Per-Million (PPM)
		5	6		10	BKG		
	2	2	2				White LIME (moist, FILL)	
		2	2		4	BKG		
5	3	2	4				Black, Brn. and White SILT, tr. sand, tr. lime, tr. wood (moist, FILL)	
		5	6		9	BKG		
	4	21	12				Brn. and Black SLAG, tr. lime (wet, FILL)	BKG=0-1 PPM
		9	6		21	1-2		
	5	3	3				Brn. and Black Clayey SILT, little f-c Sand (moist, FILL)	
10		5	5		8	BKG		
	6	2	3					
		4	4		7	BKG		
	7	4	12				Gray-Black Weathered SHALE Rock (moist)	
		50/0.3				BKG		
15								
							Boring Complete at 15.0'	Free Standing Water Recorded at 5.5' at Boring Completion
20								2" PVC Groundwater Monitoring Well Installed at Boring Completion
								Refer to Installation Log for Details
25								
30								
35								
40								

N = NO. BLOWS TO DRIVE 2" SPOON 12" WITH A 140 LB. PIN WT. FALLING 30" PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: A. Koske

DRILL RIG TYPE : 75 Nodwell

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
STARTED 5/3/96
FINISHED 5/3/96

SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. **MW-2**
SURF. ELEV 637.7

G.W. DEPTH See Notes

PROJECT: ABC Yard
PROJ. NO.: D-787
LOCATION: 4397 Seneca Street

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID (ppm)	SOIL OR ROCK CLASSIFICATION	NOTES
	1	woh/1.0					Brn. SILT, tr.-little fine SAND, tr. roots (moist, loose, ML)	PID Reading Obtained Utilizing an Hnu Model PI-101, Photoionization Detector and are Expressed in Parts-Per-Million (PPM)
		1	2		1	BKG		
	2	1	2				Becomes orange-brn, contains numerous f-c	
		1	2		3	BKG	Sand Seams (moist-wet)	
5	3	1	1					
		3	7		4	BKG		
	4	5	3					
		2	50/0.4			BKG	Gray SHALE Rock (moist)	BKG=0-1 PPM
10							Boring Complete at 8.0'	No Free Standing Water Encountered at Boring Completion
15								2" PVC Groundwater Monitoring Well Installed at Boring Completion
20								Refer to Installation Log for Details
25								woh=weight of hammer and rods
30								
35								
40								

N = NO. BLOWS TO DRIVE 2" SPOON 12" WITH A 140 LB. PIN WT. FALLING 30" PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: A. Koske

DRILL RIG TYPE : 75 Nodwell

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
STARTED 5/3/96
FINISHED 5/3/96

SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. **MW-3**
SURF. ELEV 638.0

G.W. DEPTH See Notes

PROJECT: ABC Yard
LOCATION: 4397 Seneca Street
PROJ. NO.: D-787

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID (ppm)	SOIL OR ROCK CLASSIFICATION	NOTES
	1	woh	1				Brn. SILT, tr. sand, tr. clay (moist; loose, ML)	PID Reading Obtained Utilizing an Hnu Model PI-101, Photoionization Detector and are Expressed in Parts-Per-Million (PPM)
		3	2		4	BKG		
	2	2	3				Contains little f-c Sand	
		4	6		8	BKG		
5	3	2	10				Brn. f-c GRAVEL and f-c Sand, little Silt (wet, firm, GW-GM)	
		10	12		20	BKG		
	4	40	50/0.4		REF		Gray SHALE Rock (moist)	BKG=0-1 PPM
10							Boring Complete at 8.0'	No Free Standing Water Encountered at Boring Completion
15								2" PVC Groundwater Monitoring Well Installed at Boring Completion
								Refer to Installation Log for Details
20								woh=weight of hammer and rods
25								
30								
35								
40								

N = NO. BLOWS TO DRIVE 2" SPOON 12" WITH A 140 LB. PIN WT. FALLING 30" PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: A. Koske
DRILL RIG TYPE : 75 Nodwell

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
STARTED 5/3/96
FINISHED 5/3/96

SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. **MW-4**
SURF. ELEV 639.3

G.W. DEPTH See Notes

PROJECT: ABC Yard LOCATION: 4397 Seneca Street
PROJ. NO.: D-787

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID (ppm)	SOIL OR ROCK CLASSIFICATION	NOTES
	1	woh/1.0					Brn. SILT, tr. sand, tr. roots, tr. clay (moist, loose, ML)	PID Reading Obtained Utilizing an Hnu Model PI-101, Photoionization Detector and are Expressed in Parts-Per-Million (PPM)
		2	2		2	BKG		
	2	1	2					
		3	2		5	BKG	Brn. f-c SAND, tr-little Silt, tr. gravel (wet, loose, SW)	
5	3	woh	1					
		2	1		3	BKG		
	4	2	4					
		20	50/0.1		24	BKG		BKG=0-1 PPM
							Gray SHALE Rock (moist)	woh=weight of hammer and rods
10								
							Boring Complete with Auger Refusal at 10.0'	No Free Standing Water Encountered at Boring Completion
15								2" PVC Groundwater Monitoring Well Installed at Boring Completion
20								Refer to Installation Log for Details
25								
30								
35								
40								

N = NO. BLOWS TO DRIVE 2" SPOON 12" WITH A 140 LB. PIN WT. FALLING 30" PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: A. Koske

DRILL RIG TYPE : 75 Nodwell

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
STARTED 5/3/96
FINISHED 5/3/96

SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B–A
SURF. ELEV N/A

G.W. DEPTH See Notes

PROJECT: ABC Yard
LOCATION: 4397 Seneca Street
PROJ. NO.: D–787

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID (ppm)	SOIL OR ROCK CLASSIFICATION	NOTES
	1	9	8				Black SILT, little f–c Sand, tr. brick, tr. slag	PID Reading Obtained Utilizing an Hnu Model PI–101, Photoionization Detector and are Expressed in Parts–Per–Million (PPM)
		5	7		13	BKG	(moist, FILL)	
	2	8	7				Black SLAG and Cinders (moist, FILL)	
		13	10		20	BKG		
5	3	14	12					
		9	11		21	BKG		
	4	11	6					
		6	5		12	BKG		BKG=0–1 PPM
	5	2	2					
		1	2		3	BKG	Black–Brn. Clayey SILT, little f–c Sand, tr. slag	
10	6	1	2				(moist, FILL)	
		1	2		3	BKG	Olive–Brn. and Gray Clayey SILT, tr. roots (moist, soft, ML)	
15							Boring Complete at 12.0'	No Free Standing Water Encountered at Boring Completion
20								
25								
30								
35								
40								

N = NO. BLOWS TO DRIVE 2" SPOON 12" WITH A 140 LB. PIN WT. FALLING 30" PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: A. Koske
DRILL RIG TYPE : 75 Nodwell

METHOD OF INVESTIGATION ASTM D–1586 USING HOLLOW STEM AUGERS

DATE:
STARTED 5/3/96
FINISHED 5/3/96

SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-B
SURF. ELEV N/A

G.W. DEPTH See Notes

PROJECT: ABC Yard
LOCATION: 4397 Seneca Street
PROJ. NO.: D-787

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID (ppm)	SOIL OR ROCK CLASSIFICATION	NOTES
	1	5	6				Brn. f-c SAND, little-some Silt, tr. slag (moist, FILL)	PID Reading Obtained Utilizing an Hnu Model PI-101, Photoionization Detector and are Expressed in Parts-Per-Million (PPM)
		21	19		27	BKG		
	2	10	8					
		50/0.4			REF	BKG		
	3	23	50/0.4		REF	BKG		
5							Gray CONCRETE Fragments (moist, FILL)	BKG=0-1 PPM
	4	1	1				White LIME (wet, FILL)	
		1	4		2	BKG		Poor Recovery Sample #2
10	5	4	4				Brn. f-c SAND, little Silt, tr. gravel (wet, loose, SW)	Auger Through Concrete to 8.0'
		3	2		7	BKG		
	6	2	7				(firm)	Topsoil Encountered at 9.5'
		8	10		15	BKG		
15							Boring Complete at 14.0'	No Free Standing Water Encountered at Boring Completion
20								
25								
30								
35								
40								

N = NO. BLOWS TO DRIVE 2" SPOON 12" WITH A 140 LB. PIN WT. FALLING 30" PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: A. Koske
DRILL RIG TYPE : 75 Nodwell

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
STARTED 5/3/96
FINISHED 5/3/96

SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-C
SURF. ELEV N/A
G.W. DEPTH See Notes

PROJECT: ABC Yard
PROJ. NO.: D-787
LOCATION: 4397 Seneca Street

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID (ppm)	SOIL OR ROCK CLASSIFICATION	NOTES
	1	8	5				Brn.-Black SILT and Cinders, tr. slag (moist, FILL)	PID Reading Obtained Utilizing an Hnu Model PI-101, Photoionization Detector and are Expressed in Parts-Per-Million (PPM)
		2	3		7	BKG		
	2	2	3				Contains tr. wood fragments	
		7	4		10	BKG		
5	3	2	2					
		2	1		4	BKG	White LIME (moist, FILL)	
	4	1	1					BKG=0-1 PPM
		1	1		4	BKG		
	5	woh/1.0					Contains occasional Slag Seams	woh=weight of hammer and rods
10		1	2		1	BKG		
	6	1	4					
		5	3		9	BKG		
	7	4	5				Olive-Brn. Clayey SILT, tr. sand (moist, ML)	
		5	7		10	BKG		
15	8	5	7				Brn. f-c SAND, little f-c Gravel, tr.-little Silt (wet, firm, SW)	
		9	5		16	BKG		
							Boring Complete at 16.0'	Borehole Grouted to Grade at Completion
20								
25								
30								
35								
40								

N = NO. BLOWS TO DRIVE 2" SPOON 12" WITH A 140 LB. PIN WT. FALLING 30" PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: R. Steiner

DRILL RIG TYPE : CME 45C

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

DATE:
STARTED 5/3/96
FINISHED 5/3/96

SHEET 1 OF 1

SJB SERVICES, INC.
SUBSURFACE LOG

HOLE NO. B-D
SURF. ELEV N/A
G.W. DEPTH See Notes

PROJECT: ABC Yard
PROJ. NO.: D-787
LOCATION: 4397 Seneca Street

DEPTH FT.	SMPL NO.	BLOWS ON SAMPLER 0/6	6/12	12/18	N	PID (ppm)	SOIL OR ROCK CLASSIFICATION	NOTES
	1	8	3				Brn. and White SILT, little f-c Sand, tr. slag	PID Reading Obtained
		5	7		8	BKG	tr. lime (moist, FILL)	Utilizing an Hnu Model
	2	21	30				Black SLAG and Cinders, tr. lime (moist, FILL)	PI-101, Photoionization
		30	50		60	BKG		Detector and are
5	3	27	26					Expressed in Parts-Per-
		27	18		53	BKG		Million (PPM)
	4	13	7					
		6	12		13	BKG		BKG=0-1 PPM
	5	2	1				(wet)	
10		2	3		3	BKG		Poor Recovery Sample #4
	6	2	1					
		1	2		2	BKG		
	7	1	woh/1.5				Brn. Clayey SILT, tr. sand (moist, ML)	woh=weight of hammer
					woh	BKG		and rods
15	8	woh	1					
		2	2		3	BKG	Brn.-Gray f-c SAND, tr. silt (wet)	
							Boring Complete at 16.0'	Borehole Grouted to Grade
20								at Completion
25								
30								
35								
40								

N = NO. BLOWS TO DRIVE 2" SPOON 12" WITH A 140 LB. PIN WT. FALLING 30" PER BLOW

CLASSIFICATION: VISUAL BY GEOLOGIST

DRILLER: R. Steiner

DRILL RIG TYPE : CME-45C

METHOD OF INVESTIGATION ASTM D-1586 USING HOLLOW STEM AUGERS

APPENDIX C

MONITORING WELL COMPLETION RECORD

SB SERVICES, INC. Contract Drilling and Testing

Well Number: MW - 1

Project: ABC Yard

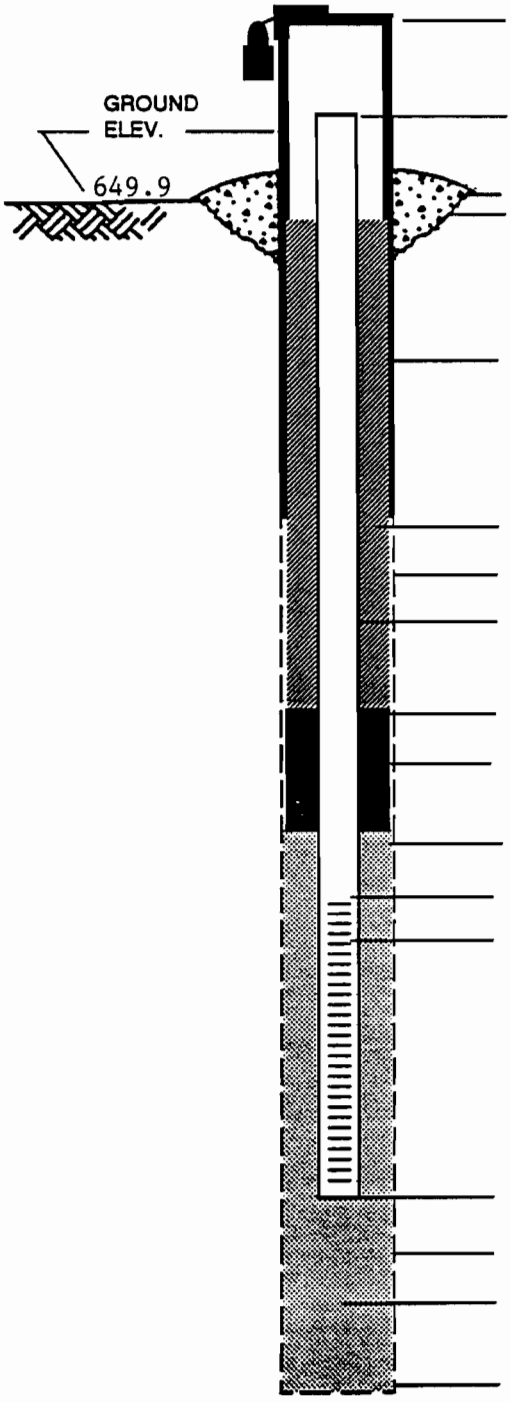
Project Number: D-787

Driller: A. Koske

Drilling Method: ASTM D1586 using HSA

Geologist: F. Minnolera

Installation Date(s): 5/2/96



Elevations/Top of Surface Casing: _____

Stick-Up/Top of Surface Casing: _____

Elevation/Top of Riser Pipe: 652.5

Stick-Up/Top of Riser Pipe: _____

Type of Surface Seal: Concrete Pad

I.D. of Surface Casing: 4"

Type of Surface Casing: Lockable Galavanized

Type of Backfill: Cement/Bentonite Grout

Borehole Diameter: ± 8"

I.D. of Riser Pipe: 2"

Type of Riser Pipe: PVC - Flush Joint Threaded

Depth of Seal: 4.0'

Type of Seal: Bentonite Chips

Depth of Sand Pack: 7.0'

Depth Top of Screen: 9.9'

Type of Screen: PVC - Flush Joint Threaded

Slot Size x Length: .010 x 5.0'

I.D. of Screen: 2"

Type of Sand Pack: Morie 0 Filter Sand

Depth Bottom of Screen: 14.9'

Depth Bottom of Sand Pack: 15.0'

Type of Backfill Below Observation Well: Morie 0 Filter Sand

Elevation/Depth of Hole: 15.0'

MONITORING WELL COMPLETION RECORD

SJB SERVICES, INC. Contract Drilling and Testing

Well Number: MW - 2

Project: ABC Yard

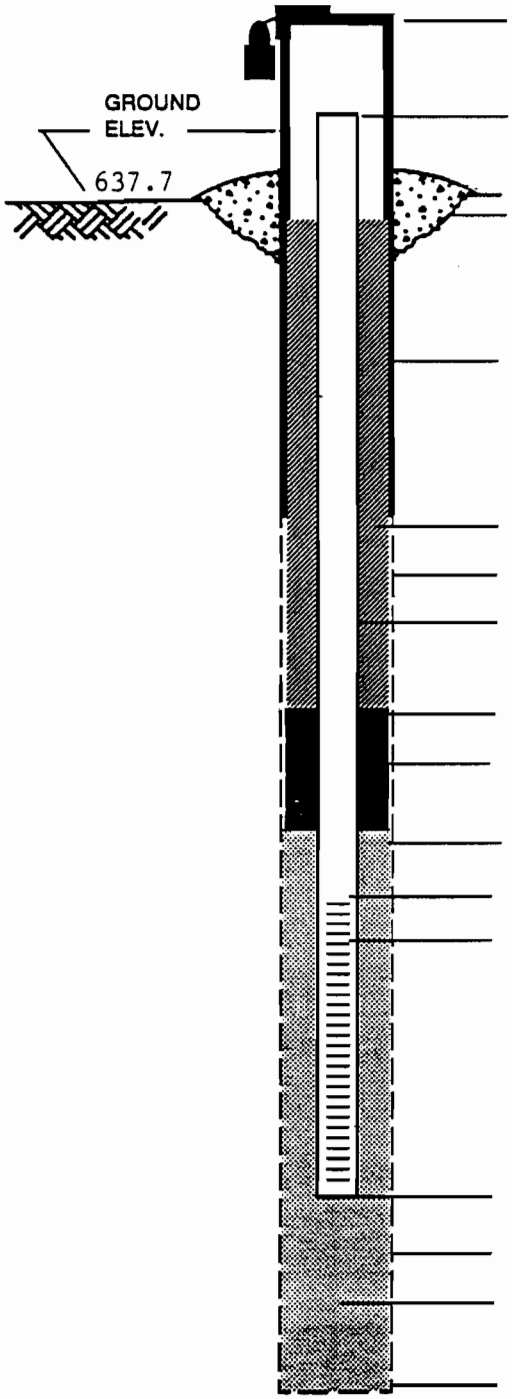
Project Number: D-787

Driller: A. Koske

Drilling Method: ASTM D1586 using HSA

Geologist: F. Minnolera

Installation Date(s): 5/3/96



Elevations/Top of Surface Casing: _____

Stick-Up/Top of Surface Casing: _____

Elevation/Top of Riser Pipe: 640.3

Stick-Up/Top of Riser Pipe: _____

Type of Surface Seal: Concrete Pad

I.D. of Surface Casing: 4"

Type of Surface Casing: Lockable Galavanized

Type of Backfill: Cement/Bentonite Grout

Borehole Diameter: ± 8"

I.D. of Riser Pipe: 2"

Type of Riser Pipe: PVC - Flush Joint Threaded

Depth of Seal: 1.0'

Type of Seal: Bentonite Chips

Depth of Sand Pack: 3.0'

Depth Top of Screen: 3.9'

Type of Screen: PVC - Flush Joint Threaded

Slot Size x Length: .010 x 4.0'

I.D. of Screen: 2"

Type of Sand Pack: Morie 0 Filter Sand

Depth Bottom of Screen: 7.9'

Depth Bottom of Sand Pack: 8.0'

Type of Backfill Below Observation Well: Morie 0 Filter Sand

Elevation/Depth of Hole: 8.0'

MONITORING WELL COMPLETION RECORD

SJB SERVICES, INC. Contract Drilling and Testing

Well Number: MW - 3

Project: ABC Yard

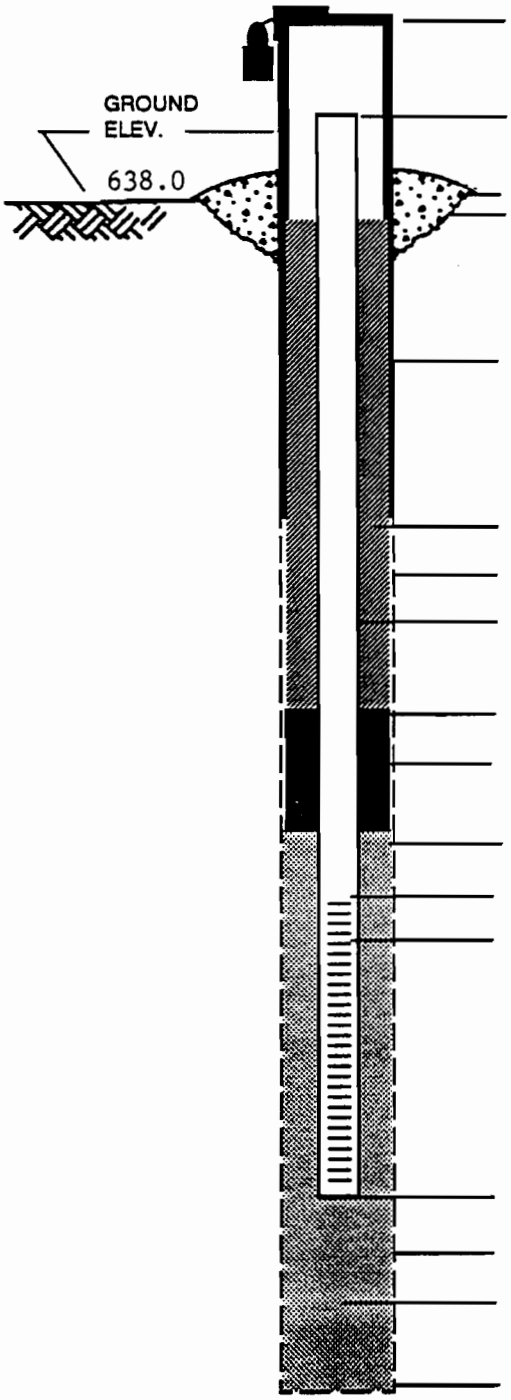
Project Number: D-787

Driller: A. Koske

Drilling Method: ASTM D1586 using HSA

Geologist: F. Minnolera

Installation Date(s): 5/3/96



Elevations/Top of Surface Casing: _____

Stick-Up/Top of Surface Casing: _____

Elevation/Top of Riser Pipe: 640.4

Stick-Up/Top of Riser Pipe: _____

Type of Surface Seal: Concrete Pad

I.D. of Surface Casing: 4"

Type of Surface Casing: Lockable Galavanized

Type of Backfill: Cement/Bentonite Grout

Borehole Diameter: ± 8"

I.D. of Riser Pipe: 2"

Type of Riser Pipe: PVC - Flush Joint Threaded

Depth of Seal: 1.0'

Type of Seal: Bentonite Chips

Depth of Sand Pack: 3.0'

Depth Top of Screen: 3.9'

Type of Screen: PVC - Flush Joint Threaded

Slot Size x Length: .010 x 4.0'

I.D. of Screen: 2"

Type of Sand Pack: Morie 0 Filter Sand

Depth Bottom of Screen: 7.9'

Depth Bottom of Sand Pack: 8.0'

Type of Backfill Below Observation Well: Morie 0 Filter Sand

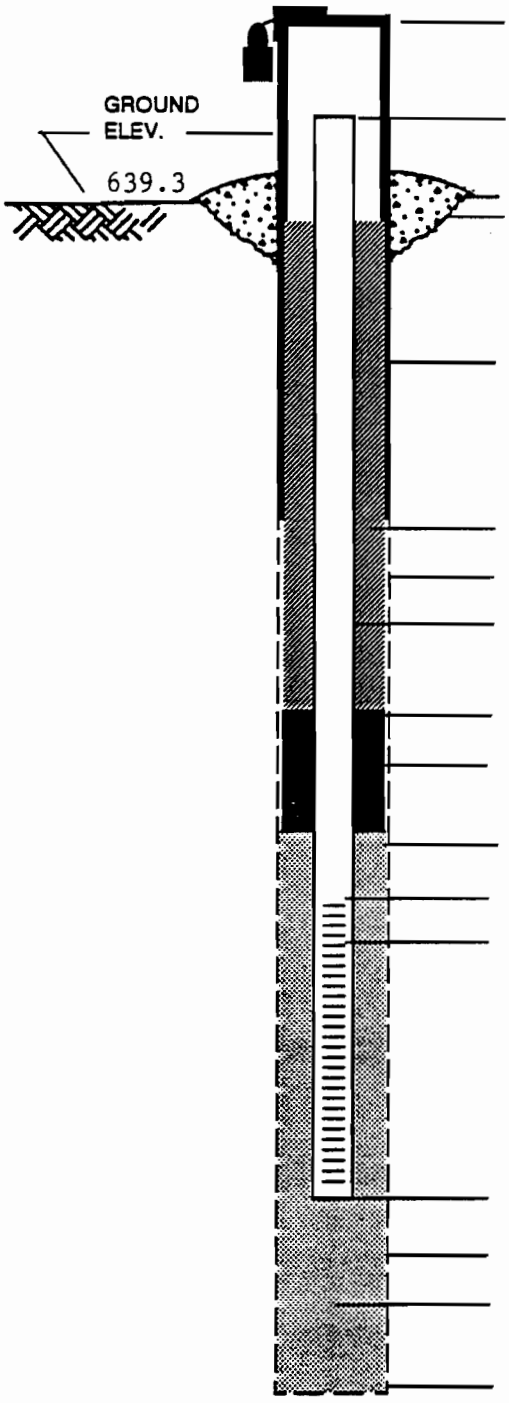
Elevation/Depth of Hole: 8.0'

MONITORING WELL COMPLETION RECORD

SERVICES, INC.
Contract Drilling and Testing

Well Number: MW - 4
Project: ABC Yard
Project Number: D-787
Driller: A. Koske

Drilling Method: ASTM D1586 using HSA
Geologist: F. Minnolera
Installation Date(s): 5/2/96



Elevations/Top of Surface Casing: _____
Stick-Up/Top of Surface Casing: _____
Elevation/Top of Riser Pipe: 641.8
Stick-Up/Top of Riser Pipe: _____
Type of Surface Seal: Concrete Pad
I.D. of Surface Casing: 4"
Type of Surface Casing: Lockable Galavanized
Type of Backfill: Cement/Bentonite Grout
Borehole Diameter: ± 8"
I.D. of Riser Pipe: 2"
Type of Riser Pipe: PVC - Flush Joint Threaded
Depth of Seal: 1.0'
Type of Seal: Bentonite Chips
Depth of Sand Pack: 3.0'
Depth Top of Screen: 5.0'
Type of Screen: PVC - Flush Joint Threaded
Slot Size x Length: .010 x 5.0'
I.D. of Screen: 2"
Type of Sand Pack: Morie 0 Filter Sand
Depth Bottom of Screen: 10.0'
Depth Bottom of Sand Pack: 10.0'
Type of Backfill Below Observation Well: Morie 0 Filter Sand
Elevation/Depth of Hole: 10.0'

APPENDIX D

SJB SERVICES, INC.

Contract Drilling and Testing

1951-1 Hamburg Turnpike
Buffalo, NY 14218
Phone: (716) 821-5911
Fax: (716) 821-0163

55 Oliver Street
Cohoes, New York 12047
Phone: (518) 238-1145
Fax: (518) 238-1249

P.O. Box 416 • 208 Le Fevre Road
Stockertown, PA 18083
Phone: (610) 746-2670
Fax: (610) 746-2669

TOLL FREE: 1-800-821-5911

WELL DEVELOPMENT SUMMARY PAGE

PROJECT: ABC Yard (Seneca Street)
PROJECT NUMBER: D-787 DATE: 5/8/96
WELL NUMBER: MW-1
PERSONNEL: F. Minnolera

FIELD MEASUREMENTS

(To Top of PVC Riser)

INITIAL WATER LEVEL (FT): 8.08 TIME: 1115
BOTTOM OF WELL (FT): 17.47
WATER COLUMN (FT): 9.41
DIAMETER OF RISER (IN): 2.0
CONVERSION FACTOR (GALS/FT): 0.17
SINGLE WELL VOLUME (GALS): 1.59
METHOD OF DEVELOPMENT: Bailer
DEVELOPMENT STARTED: 1120

DEVELOPMENT COMPLETED: 1255
FINAL WATER LEVEL (FT): 8.65 TIME: _____
TOTAL VOLUME PRODUCED (GALS): 20 Gallons

GROUND WATER MEASUREMENTS

DATE	TIME	COND	TEMP	Ph	COMMENTS
5/8/96	1230	1382	60.4	10.56	8 Gallons
	1238	1740	58.8	11.72	12 Gallons
	1247	1880	57.0	11.7	16 Gallons
	1255	1870	56.9	12.28	20 Gallons

SIGNATURES: _____

SJB SERVICES, INC.

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TOLL FREE: 1-800-821-5911

WELL DEVELOPMENT SUMMARY PAGE

PROJECT: ABC Yard (Seneca Street)
PROJECT NUMBER: D-787 DATE: 5/8/96
WELL NUMBER: MW-2
PERSONNEL: F. Minnolera

FIELD MEASUREMENTS
(To Top of PVC Riser)

INITIAL WATER LEVEL (FT): 7.94 TIME: 1445
BOTTOM OF WELL (FT): 10.44
WATER COLUMN (FT): 2.5
DIAMETER OF RISER (IN): 2.0
CONVERSION FACTOR (GALS/FT): 0.17
SINGLE WELL VOLUME (GALS): 0.43
METHOD OF DEVELOPMENT: Bailer
DEVELOPMENT STARTED: 1445

DEVELOPMENT COMPLETED: 1505
FINAL WATER LEVEL (FT): 7.97 TIME: _____
TOTAL VOLUME PRODUCED (GALS): 10 Gallons

GROUND WATER MEASUREMENTS

DATE	TIME	COND	TEMP	Ph	COMMENTS
5/8/96	1450	615	54.6	9.36	2.5 Gallons
	1455	604	52.8	8.73	5.0 Gallons
	1500	590	52.3	8.47	7.5 Gallons
	1505	588	50.8	8.34	10.0 Gallons

SIGNATURES: _____

SJB SERVICES, INC.

Contract Drilling and Testing

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TOLL FREE: 1-800-821-5911

WELL DEVELOPMENT SUMMARY PAGE

PROJECT: ABC Yard (Seneca Street)
PROJECT NUMBER: D-787 DATE: 5/8/96
WELL NUMBER: MW-3
PERSONNEL: F. Minnolera

FIELD MEASUREMENTS
(To top of PVC Riser)

INITIAL WATER LEVEL (FT): 8.64 TIME: 1420
BOTTOM OF WELL (FT): 10.36
WATER COLUMN (FT): 1.72
DIAMETER OF RISER (IN): 2.0
CONVERSION FACTOR (GALS/FT): 0.17
SINGLE WELL VOLUME (GALS): .29
METHOD OF DEVELOPMENT: Bailer
DEVELOPMENT STARTED: 1420

DEVELOPMENT COMPLETED: 1450
FINAL WATER LEVEL (FT): Dry TIME: _____
TOTAL VOLUME PRODUCED (GALS): 1 Gallon

GROUND WATER MEASUREMENTS

DATE	TIME	COND	TEMP	Ph	COMMENTS
5/8/96	1430	801	54.8	9.67	1 Gallon
					Dry After Three (3) Well Volumes
					(1 Gallon)

SIGNATURES: _____

SJB SERVICES, INC.

Contract Drilling and Testing

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WELL DEVELOPMENT SUMMARY PAGE

PROJECT: ABC Yard (Seneca Street)
PROJECT NUMBER: D-787 DATE: 5/8/96
WELL NUMBER: MW-4
PERSONNEL: F. Minnolera

FIELD MEASUREMENTS

INITIAL WATER LEVEL (FT): 5.21 TIME: 1310
BOTTOM OF WELL (FT): 12.36
WATER COLUMN (FT): 7.15
DIAMETER OF RISER (IN): 2.0
CONVERSION FACTOR (GALS/FT): 0.17
SINGLE WELL VOLUME (GALS): 1.21
METHOD OF DEVELOPMENT: Bailer
DEVELOPMENT STARTED: 1310

DEVELOPMENT COMPLETED: 1340
FINAL WATER LEVEL (FT): 5.25 TIME: 1340
TOTAL VOLUME PRODUCED (GALS): 24 Gallons

GROUND WATER MEASUREMENTS

DATE	TIME	COND	TEMP	Ph	COMMENTS
5/8/96	1330	986	56.9	11.26	1' Sediment in well - bail 12 Gals.
	1340	803	54.5	9.59	18 Gallons
	1350	830	54.9	9.55	24 Gallons

SIGNATURES: _____

GROUND WATER MONITORING WELL SAMPLING LOG

PROJECT: ABC YARD (Seneca Street)
PROJECT NUMBER: D-787
PERSONNEL: F. Minnolera
DATE: 5/9/96

WELL NO: MW-1 TIME: 0930
INITIAL WATER LEVEL(FT) 8.14
BOTTOM OF WELL(FT): 17.47
WATER COLUMN(FT): 9.33
RISER DIAMETER(IN): 2.0 CONVERSION FACTOR(GALS/FT): 0.17
WELL VOLUME(GALS): 1.58 Gal THREE WELL VOLUMES(GALS): 4.75
METHOD OF PURGING: Bailer

PURGED WATER FIELD PARAMETERS

VOLUME PURGED (GALS)	pH (SU)	CONDUCTIVITY (UMHOS/CM)	TEMP (°C)	COMMENTS
2 Gallons	8.89	1220	52.0	
5 Gallons	8.96	1040	48.3	
10 Gallons	10.85	1180	47.9	See Remarks

TOTAL GALLONS PURGED: 20.0 WATER LEVEL(FT): 8.56

SAMPLING FIELD PARAMETERS

SAMPLING WATER LEVEL(FT): 8.56 TIME: 1010
METHOD OF SAMPLING: Bailer

pH (SU)	CONDUCTIVITY (UMHOS/CM)	TEMP (°C)	COMMENTS
12.65	1390	47.7	

SAMPLING CONTAINERS

CONTAINER TYPE/SIZE	ANALYSIS REQUIRED	PRESERVATION

REMARKS 15 Gallons pH 11.77, Conductivity 1300, Temp. 49.2
20 Gallons pH 12.65, Conductivity 1390, Temp. 47.7

SAMPLERS: _____

SJB SERVICES, INC.

GROUND WATER MONITORING WELL SAMPLING LOG

PROJECT: ABC Yard (Seneca Street)
PROJECT NUMBER: D-787
PERSONNEL: F. Minnolera
DATE: 5/9/96

WELL NO: MW-2 TIME: 1020
INITIAL WATER LEVEL(FT) 8.03
BOTTOM OF WELL(FT): 10.44
WATER COLUMN(FT): 2.41
RISER DIAMETER(IN): 2.0
WELL VOLUME(GALS): 0.40 Gal
METHOD OF PURGING: Bailer
CONVERSION FACTOR(GALS/FT): 0.17
THREE WELL VOLUMES(GALS): 1.22

PURGED WATER FIELD PARAMETERS

VOLUME PURGED (GALS)	pH (SU)	CONDUCTIVITY (UMHOS/CM)	TEMP (°C)	COMMENTS
4 Gallons	10.45	618	46.8	
8 Gallons	10.46	577	46.4	

TOTAL GALLONS PURGED: 8 Gallons WATER LEVEL(FT): 8.07

SAMPLING FIELD PARAMETERS

SAMPLING WATER LEVEL(FT): 8.07 TIME: 1030
METHOD OF SAMPLING: Bailer

pH (SU)	CONDUCTIVITY (UMHOS/CM)	TEMP (°C)	COMMENTS
10.46	577	46.4	

SAMPLING CONTAINERS

CONTAINER TYPE/SIZE	ANALYSIS REQUIRED	PRESERVATION

REMARKS

SAMPLERS:

SJB SERVICES, INC.

GROUND WATER MONITORING WELL SAMPLING LOG

PROJECT: ABC Yard (Seneca Street)
PROJECT NUMBER: D-787
PERSONNEL: F. Minnolera
DATE: 5/9/96

WELL NO: MW-3 TIME: 1300
INITIAL WATER LEVEL(FT) 9.40
BOTTOM OF WELL(FT): 10.36
WATER COLUMN(FT): 0.94
RISER DIAMETER(IN): 2.0 CONVERSION FACTOR(GALS/FT): 0.17
WELL VOLUME(GALS): 0.15 THREE WELL VOLUMES(GALS): 0.45
METHOD OF PURGING: Bailer

PURGED WATER FIELD PARAMETERS

VOLUME PURGED (GALS)	pH (SU)	CONDUCTIVITY (UMHOS/CM)	TEMP (°C)	COMMENTS
1.0 Gallon				Dry at 1305
1.2 Gallons				Dry at 1400

TOTAL GALLONS PURGED: 1.2 WATER LEVEL(FT):

SAMPLING FIELD PARAMETERS

SAMPLING WATER LEVEL(FT): 9.42 TIME: 1400
METHOD OF SAMPLING: Bailer 5/10/96

pH (SU)	CONDUCTIVITY (UMHOS/CM)	TEMP (°C)	COMMENTS
			None obtained - used complete well volume for Sample

SAMPLING CONTAINERS

CONTAINER TYPE/SIZE	ANALYSIS REQUIRED	PRESERVATION

REMARKS

SAMPLERS:

GROUND WATER MONITORING WELL SAMPLING LOG

PROJECT: ABC Yard (Seneca Street)
PROJECT NUMBER: D-787
PERSONNEL: F. Minnolera
DATE: 5/9/96

WELL NO: MW-4
TIME: 1500
INITIAL WATER LEVEL(FT) 5.36
BOTTOM OF WELL(FT): 12.36
WATER COLUMN(FT): 7.0
RISER DIAMETER(IN): 2.0
CONVERSION FACTOR(GALS/FT): 0.17
WELL VOLUME(GALS): 1.19
THREE WELL VOLUMES(GALS): 3.5
METHOD OF PURGING: Bailer

PURGED WATER FIELD PARAMETERS

VOLUME PURGED (GALS)	pH (SU)	CONDUCTIVITY (UMHOS/CM)	TEMP (°C)	COMMENTS
4 Gallons	9.51	1240	53.5	
8 Gallons	9.44	845	51.2	
12 Gallons	9.07	834	51.6	

TOTAL GALLONS PURGED: 12.0
WATER LEVEL(FT): 5.59

SAMPLING FIELD PARAMETERS

SAMPLING WATER LEVEL(FT): 5.59
TIME: 1552
METHOD OF SAMPLING: Bailer

pH (SU)	CONDUCTIVITY (UMHOS/CM)	TEMP (°C)	COMMENTS
9.07	834	51.6	

SAMPLING CONTAINERS

CONTAINER TYPE/SIZE	ANALYSIS REQUIRED	PRESERVATION

REMARKS

SAMPLERS:

APPENDIX E

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

May 29, 1996

Mr. Frank Minnolera
SJB Services, Inc.
1951 Hamburg Turnpike
Box 5793-1
Buffalo, NY 14218

PROJECT:ABC YARD
Submission #:9605000181

Dear Mr. Minnolera

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at 634-0454.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Kathy Wager KB

Kathy Wager
Project Chemist

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal.

710 Exchange Street • Rochester, NY 14608 • Tele:(716)454-6810 • Fax:(716)454-6825
85 Trinity Place • Hackensack, NJ 07601 • Tele:(201)512-3292 • Fax:(201)512-3362
435 Lawrence Bell Drive • Amherst, NY 14421 • Tele:(716)634-0454 • Fax:(716)634-9019

Columbia Analytical Services inc.

Effective 10/30/95

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester: 10145
NY ID # in Hackensack: 10801
NY ID # in Massachusetts: M-NY032

NJ ID # in Rochester: 73331
NJ ID # in Hackensack: 02317

Columbia Analytical Services, Inc.

Reported: 05/29/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : S-1

Date Sampled : 05/07/96 **Order #:** 77435 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 05/07/96 **Submission #:** 9605000181

ANALYTE	PQL	RESULT	DRY WT. UNITS	DATE ANALYZED	ANALYTICAL DILUTION
TOTAL CYANIDE	1.00	286	UG/G	05/22/96	10.0
PH		12.1		05/08/96	NA
PERCENT SOLIDS	1.0	81.2	%	05/09/96	1.0

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 310.13 TPH
Reported: 05/29/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : S-1

Date Sampled : 05/07/96 **Order #:** 77435 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 05/07/96 **Submission #:** 9605000181 **Percent Solid:** 81.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/09/96			
DATE ANALYZED : 05/15/96			Dry Weight
ANALYTICAL DILUTION: 1.0			
AS N-DODECANE	2000	10000	UG/KG
FUEL OIL #2/DIESEL FUEL	2000	2500 U	UG/KG
GASOLINE	2000	2500 U	UG/KG
KEROSENE	2000	2500 U	UG/KG

Columbia Analytical Services, Inc.

Reported: 05/29/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : S-2

Date Sampled : 05/07/96 **Order #:** 77436 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 05/07/96 **Submission #:** 9605000181

ANALYTE	PQL	RESULT	DRY WT. UNITS	DATE ANALYZED	ANALYTICAL DILUTION
TOTAL CYANIDE	1.00	678	UG/G	05/22/96	30.0
PH		12.0		05/08/96	NA
PERCENT SOLIDS	1.0	71.2	%	05/09/96	1.0

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 310.13 TPH
Reported: 05/29/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : S-2

Date Sampled : 05/07/96 **Order #:** 77436 **Sample Matrix:** SOIL/SEDIMENT
Date Received: 05/07/96 **Submission #:** 9605000181 **Percent Solid:** 71.2

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/09/96			
DATE ANALYZED : 05/15/96			Dry Weight
ANALYTICAL DILUTION: 1.0			
AS N-DODECANE	2000	2800 U	UG/KG
FUEL OIL #2/DIESEL FUEL	2000	330000	UG/KG
GASOLINE	2000	2800 U	UG/KG
KEROSENE	2000	2800 U	UG/KG

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 310.13 TPH
Reported: 05/29/96

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 78540 **Sample Matrix:** SOIL/SEDIMENT
Date Received: **Submission #:** **Percent Solid:** 100.0

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/09/96			
DATE ANALYZED : 05/15/96			Dry Weight
ANALYTICAL DILUTION: 1.0			
AS N-DODECANE	2000	2000 U	UG/KG
FUEL OIL #2/DIESEL FUEL	2000	2000 U	UG/KG
GASOLINE	2000	2000 U	UG/KG
KEROSENE	2000	2000 U	UG/KG

GENERAL TESTING CORPORATION
Affiliated With CAS, Kelso, WA (see below for other offices)
710 Exchange Street, Rochester, New York 14608
(716) 454-3760 • FAX (716) 454-1245

CHAIN OF CUSTODY/LABORATORY ANALYSIS REQUEST FORM

(800) 695-7222

DATE 5/7/96 PAGE 1 OF 1

PROJECT NAME ABC YARD
PROJECT MANAGER/CONTACT F. MINNOLORA
COMPANY/ADDRESS SJB SERVICES INC.
TEL ( ) 821-5911 FAX ( )
SAMPLER'S SIGNATURE F.R.M.

SAMPLE I.D.	DATE	TIME	LAB I.D.	SAMPLE MATRIX	NUMBER OF CONTAINERS	GC/MS VOA's ☐ 8260 ☐ 624	GC/MS SVOA's ☐ 8270A ☐ 625	GC VOA's ☐ 8010/8020 ☐ 601/602	PESTICIDES/PCB's ☐ 8080 ☐ 608	STAR'S LIST 8021 VOA's ☐ TOTAL ☐ TCLP	STAR'S LIST 8270 SVOA's ☐ TOTAL ☐ TCLP	TCLP ☐ METALS ☐ VOA's ☐ SVOA's ☐ H/P	WASTE CHARACTERIZATION ☐ React ☐ Corros. ☐ Ignit.	METALS, TOTAL (LIST BELOW)	METALS, DISSOLVED (LIST BELOW)	pH	TPH by 3/0-B	TOTAL CYANIDES	DWPS
S-1 (OUTSIDE FENCE)	5/7/96	0930	77435	SOIL	2											/	/	/	/
S-2 (INSIDE FENCE)	5/7/96	0930	77436	SOIL	2											/	/	/	/
				TOTAL	4	CONTAINERS													

RELINQUISHED BY:
Signature F.R.M.
Printed Name Frank R. Minnolora Jr.
Firm SJB Services
Date/Time 5/7/96 0935

RECEIVED BY:
Signature K. Wagner
Printed Name K. Wagner
Firm CAS/GTC
Date/Time 5/7/96 0935

TURNAROUND REQUIREMENTS
___ 24 hr. ___ 48 hr. ___ 5 day
X Standard (10-15 working days)
___ Provide Verbal Preliminary Results
___ Provide FAX Preliminary Results
Requested Report Date ___

REPORT REQUIREMENTS
___ 1. Routine Report
___ 2. Routine Rep. w/CASE Narrative
___ 3. EPA Level III Validatable Package
___ 4. N.J. Reduced Deliverables Level IV
___ 5. NY ASP/CLP Deliverables
___ 6. Site specific QC.

INVOICE INFORMATION:
P.O.#: ___
Bill To: ___

SAMPLE RECEIPT:
Shipping Via: ___
Shipping #: ___
Temperature: ___
Submission No.: ___

RELINQUISHED BY:
Signature K. Wagner
Printed Name K. WAGNER
Firm CAS/GTC
Date/Time 5/8/96 10:30

RECEIVED BY:
Signature Jack Bissell
Printed Name J. Bissell
Firm CAS
Gardner/CAS.
Date/Time 5/8/96 1330

SPECIAL INSTRUCTIONS/COMMENTS:
METALS:
ORGANICS: ☐ TCL ☐ PPL ☐ AE Only ☐ BN Only ☐ Special List

85 TRINITY PLACE 201-488-5242
HACKENSACK, NJ 07601 FAX 201-488-6386
435 LAWRENCE BELL DR. 716-634-0454
AMHERST, NY 14221 FAX 716-634-9019

Columbia Analytical Services inc.

A FULL SERVICE ENVIRONMENTAL LABORATORY

June 3, 1996

Mr. Frank Minnolera
SJB Services, Inc.
1951 Hamburg Turnpike
Box 5793-1
Buffalo, NY 14218

PROJECT:ABC YARD
Submission #:9605000254

Dear Mr. Minnolera

Enclosed are the analytical results of the analyses requested. All data has been reviewed prior to report submission. Should you have any questions please contact me at 634-0454.

Thank you for letting us provide this service.

Sincerely,

COLUMBIA ANALYTICAL SERVICES

Kathy Wager/KB

Kathy Wager
Project Chemist

Enc.

This package has been reviewed by Columbia Analytical Services' QA Department/Laboratory Director prior to report submittal. Michael K. Pace

710 Exchange Street • Rochester, NY 14608 • Tele:(716)454-6810 • Fax:(716)454-6825
85 Trinity Place • Hackensack, NJ 07601 • Tele:(201)512-3292 • Fax:(201)512-3362
435 Lawrence Bell Drive • Amherst, NY 14421 • Tele:(716)634-0454 • Fax:(716)634-9019

Columbia Analytical Services inc.

Effective 10/30/95

CAS LIST OF QUALIFIERS

(The basis of this proposal are the EPA-CLP Qualifiers)

U - Indicates compound was analyzed for but was not detected. The sample quantitation limit must be corrected for dilution and for percent moisture.

J - Indicates an estimated value. For further explanation see case narrative / cover letter.

B - This flag is used when the analyte is found in the associated blank as well as in the sample.

E - This flag identifies compounds whose concentrations exceed the calibration range.

A - This flag indicates that a TIC is a suspected aldol-condensation product.

N - Spiked sample recovery not within control limits.
(Flag the entire batch - Inorganic analysis only)

* - Duplicate analysis not within control limits.
(Flag the entire batch - Inorganic analysis only)

- Also used to qualify Organics QC data outside limits.

D - Spike diluted out.

S - Reported value determined by Method of Standard Additions. (MSA)

X - As specified in the case narrative.

CAS Lab ID # for State Certifications

NY ID # in Rochester: 10145
NY ID # in Hackensack: 10801
NY ID # in Massachusetts: M-NY032

NJ ID # in Rochester: 73331
NJ ID # in Hackensack: 02317

CASE NARRATIVE

COMPANY: SJB Services, Inc.
ABC Yard
SUBMISSION #: 9605000254

SJB water samples were collected on 5/09/96 and received by CAS on 5/13/96 in good condition at a cooler temperature of 3.1 C.

INORGANIC ANALYSIS

Four water samples were analyzed for TAL metals using SW-846 methods 6010/7470 and for Total Cyanide using SW-846 method 9010.

No analytical or QC problems were encountered with these analyses.

VOLATILE ORGANICS

Four water samples were analyzed for the Target Compound (TCL) List of Volatiles by SW-846 method 8260.

All Tuning criteria for BFB were within limits.

The initial calibration criteria were met for all analytes.

All continuing calibration check (CCC) criteria were met.

All internal standard areas were within QC limits.

All surrogate standard recoveries were within acceptance limits.

The Laboratory Blank was free of contamination.

The required holding time of 14 days was met for all samples.

No analytical or QC problems were encountered.

SEMIVOLATILE ORGANICS

Four water samples were analyzed for TCL Semivolatile organics using SW-846 method 8270.

All Tuning criteria for DFTPP were met.

The initial and continuing calibration criteria were met for all analytes.

All surrogate standard recoveries were within QC limits except for Terpheny-d14 on samples MW-2 and MW-4. These analyses were repeated and the recoveries were confirmed. These surrogate recoveries were flagged with an "*".

All samples were extracted and analyzed within the specified holding times.

No other analytical or QC problems were encountered.

PESTICIDE/PCB ANALYSIS

Four water samples were analyzed for Target Compound List of Pesticides/PCBs by SW-846 method 8080.

All initial and continuing calibration criteria were met.

The surrogate standard recoveries for samples MW-2 and MW-4 were outside of QC limits and have been flagged with an "*". All other surrogate recoveries were within QC limits.

The Laboratory Blanks were free from contamination.

No other analytical or QC problems were encountered.

Columbia Analytical Services Inc

Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-1

Date Sampled : 05/09/96 Order #: 78476 Sample Matrix: WATER
Date Received: 05/13/96 Submission #: 9605000254

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	14.3	MG/L	05/20/96	1.0
ANTIMONY	0.0100	0.0100 U	MG/L	05/29/96	1.0
ARSENIC	0.0100	0.0100 U	MG/L	05/20/96	1.0
BARIUM	0.0200	0.124	MG/L	05/20/96	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	05/20/96	1.0
CADMIUM	0.00500	0.00500 U	MG/L	05/20/96	1.0
CALCIUM	0.500	366	MG/L	05/20/96	1.0
CHROMIUM	0.0100	0.0255	MG/L	05/20/96	1.0
COBALT	0.0500	0.0500 U	MG/L	05/20/96	1.0
COPPER	0.0200	0.0276	MG/L	05/20/96	1.0
IRON	0.100	41.6	MG/L	05/20/96	1.0
LEAD	0.00500	0.00777	MG/L	05/21/96	1.0
MAGNESIUM	0.500	19.1	MG/L	05/20/96	1.0
MANGANESE	0.0100	2.09	MG/L	05/20/96	1.0
MERCURY	0.000300	0.000300 U	MG/L	05/22/96	1.0
NICKEL	0.0400	0.0400 U	MG/L	05/20/96	1.0
POTASSIUM	1.00	38.8	MG/L	05/20/96	1.0
SELENIUM	0.00500	0.0116	MG/L	05/20/96	1.0
SILVER	0.0100	0.0100 U	MG/L	05/20/96	1.0
SODIUM	0.500	93.0	MG/L	05/20/96	1.0
THALLIUM	0.0100	0.0100 U	MG/L	05/20/96	1.0
VANADIUM	0.0500	0.0500 U	MG/L	05/20/96	1.0
ZINC	0.0100	0.0942	MG/L	05/20/96	1.0
WET CHEMISTRY					
TOTAL CYANIDE	0.0100	0.145	MG/L	05/22/96	1.0

Columbia Analytical Services Inc

VOLATILE ORGANICS
METHOD 8260 TCL
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-1

Date Sampled : 05/09/96 **Order #:** 78476 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8625

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 05/21/96			
ANALYTICAL DILUTION: 1.0			
ACETONE	10	39	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115)	102	%
TOLUENE-D8	(88 - 110)	99	%
DIBROMOFLUOROMETHANE	(86 - 118)	101	%

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8270 SEMIVOLATILES
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-1

Date Sampled : 05/09/96 **Order #:** 78476 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8607

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/28/96			
ANALYTICAL DILUTION: 1.1			
ACENAPHTHENE	5.0	5.3 U	UG/L
ACENAPHTHYLENE	5.0	5.3 U	UG/L
ANTHRACENE	5.0	5.3 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.3 U	UG/L
BENZO(A)PYRENE	5.0	5.3 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.3 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.3 U	UG/L
BENZO(K)FLUORANTHENE	5.0	5.3 U	UG/L
BENZYL ALCOHOL	5.0	5.3 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.3 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.3 U	UG/L
CARBAZOLE	5.0	5.3 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.3 U	UG/L
4-CHLOROANILINE	5.0	5.3 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.3 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.3 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.3 U	UG/L
2-CHLOROPHENOL	10	11 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.3 U	UG/L
CHRYSENE	5.0	5.3 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.3 U	UG/L
DIBENZOFURAN	5.0	5.3 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.3 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.3 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.3 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.3 U	UG/L
2,4-DICHLOROPHENOL	10	11 U	UG/L
DIETHYLPHTHALATE	5.0	5.3 U	UG/L
DIMETHYL PHTHALATE	5.0	5.3 U	UG/L
2,4-DIMETHYLPHENOL	10	11 U	UG/L
2,4-DINITROPHENOL	20	21 U	UG/L
2,4-DINITROTOLUENE	5.0	5.3 U	UG/L
2,6-DINITROTOLUENE	5.0	5.3 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	7.2	UG/L
FLUORANTHENE	5.0	5.3 U	UG/L
FLUORENE	5.0	5.3 U	UG/L
HEXACHLOROBENZENE	5.0	5.3 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.3 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.3 U	UG/L
HEXACHLOROETHANE	5.0	5.3 U	UG/L
ISOPHORONE	5.0	5.3 U	UG/L
2-METHYLNAPHTHALENE	10	11 U	UG/L

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8270 SEMIVOLATILES
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-1

Date Sampled : 05/09/96 **Order #:** 78476 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8607

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/28/96			
ANALYTICAL DILUTION: 1.1			
4,6-DINITRO-2-METHYLPHENOL	20	21 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	11 U	UG/L
2-METHYLPHENOL	10	11 U	UG/L
4-METHYLPHENOL	10	11 U	UG/L
NAPHTHALENE	5.0	5.3 U	UG/L
2-NITROANILINE	5.0	5.3 U	UG/L
3-NITROANILINE	5.0	5.3 U	UG/L
4-NITROANILINE	5.0	5.3 U	UG/L
NITROBENZENE	5.0	5.3 U	UG/L
2-NITROPHENOL	10	11 U	UG/L
4-NITROPHENOL	20	21 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.3 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.3 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.3 U	UG/L
PENTACHLOROPHENOL	20	21 U	UG/L
PHENANTHRENE	5.0	5.3 U	UG/L
PHENOL	10	11 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.3 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.3 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.3 U	UG/L
PYRENE	5.0	5.3 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.3 U	UG/L
2,4,6-TRICHLOROPHENOL	10	11 U	UG/L
2,4,5-TRICHLOROPHENOL	10	11 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141)	57	%
NITROBENZENE-d5	(35 - 114)	77	%
PHENOL-d6	(10 - 94)	71	%
2-FLUOROBIPHENYL	(43 - 116)	74	%
2-FLUOROPHENOL	(21 - 110)	64	%
2,4,6-TRIBROMOPHENOL	(10 - 123)	78	%

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8080
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-1

Date Sampled : 05/09/96 **Order #:** 78476 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8527

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/23/96			
ANALYTICAL DILUTION: 1.1			
ALDRIN	0.050	0.055 U	UG/L
ALPHA-BHC	0.050	0.055 U	UG/L
BETA-BHC	0.050	0.055 U	UG/L
DELTA-BHC	0.050	0.055 U	UG/L
GAMMA-BHC (LINDANE)	0.050	0.055 U	UG/L
ALPHA-CHLORDANE	0.050	0.055 U	UG/L
GAMMA-CHLORDANE	0.050	0.055 U	UG/L
4,4'-DDD	0.050	0.055 U	UG/L
4,4'-DDE	0.050	0.055 U	UG/L
4,4'-DDT	0.10	0.11 U	UG/L
DIELDRIN	0.050	0.055 U	UG/L
ALPHA-ENDOSULFAN	0.050	0.055 U	UG/L
BETA-ENDOSULFAN	0.10	0.11 U	UG/L
ENDOSULFAN SULFATE	0.10	0.11 U	UG/L
ENDRIN	0.050	0.055 U	UG/L
ENDRIN ALDEHYDE	0.10	0.11 U	UG/L
ENDRIN KETONE	0.10	0.11 U	UG/L
HEPTACHLOR	0.050	0.055 U	UG/L
HEPTACHLOR EPOXIDE	0.050	0.055 U	UG/L
METHOXYCHLOR	0.20	0.22 U	UG/L
PCB 1016	0.50	0.55 U	UG/L
PCB 1221	0.50	0.55 U	UG/L
PCB 1232	0.50	0.55 U	UG/L
PCB 1242	0.50	0.55 U	UG/L
PCB 1248	0.50	0.55 U	UG/L
PCB 1254	0.50	0.55 U	UG/L
PCB 1260	0.50	0.55 U	UG/L
TOXAPHENE	1.0	1.1 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
DIBUTYLCHLORENDATE (DBC)	(24 - 154)	66	%
TETRACHLORO-META-XYLENE (TCMX)	(60 - 150)	91	%

Columbia Analytical Services Inc

Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-2

Date Sampled : 05/09/96 Order #: 78477 Sample Matrix: WATER
Date Received: 05/13/96 Submission #: 9605000254

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	64.8	MG/L	05/20/96	1.0
ANTIMONY	0.0100	0.0100 U	MG/L	05/29/96	1.0
ARSENIC	0.0100	0.0343	MG/L	05/20/96	1.0
BARIUM	0.0200	0.242	MG/L	05/20/96	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	05/20/96	1.0
CADMIUM	0.00500	0.00500 U	MG/L	05/20/96	1.0
CALCIUM	0.500	177	MG/L	05/20/96	1.0
CHROMIUM	0.0100	0.108	MG/L	05/20/96	1.0
COBALT	0.0500	0.0629	MG/L	05/20/96	1.0
COPPER	0.0200	0.110	MG/L	05/20/96	1.0
IRON	0.100	125	MG/L	05/20/96	1.0
LEAD	0.00500	0.0307	MG/L	05/21/96	1.0
MAGNESIUM	0.500	56.5	MG/L	05/20/96	1.0
MANGANESE	0.0100	1.29	MG/L	05/20/96	1.0
MERCURY	0.000300	0.000300 U	MG/L	05/22/96	1.0
NICKEL	0.0400	0.176	MG/L	05/20/96	1.0
POTASSIUM	1.00	21.0	MG/L	05/20/96	1.0
SELENIUM	0.00500	0.0233	MG/L	05/20/96	1.0
SILVER	0.0100	0.0100 U	MG/L	05/20/96	1.0
SODIUM	0.500	25.9	MG/L	05/20/96	1.0
THALLIUM	0.0100	0.0100 U	MG/L	05/20/96	1.0
VANADIUM	0.0500	0.0996	MG/L	05/20/96	1.0
ZINC	0.0100	0.343	MG/L	05/20/96	1.0
WET CHEMISTRY					
TOTAL CYANIDE	0.0100	0.0925	MG/L	05/22/96	1.0

Columbia Analytical Services Inc

VOLATILE ORGANICS
METHOD 8260 TCL
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-2

Date Sampled : 05/09/96 **Order #:** 78477 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8625

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 05/21/96			
ANALYTICAL DILUTION: 1.0			
ACETONE	10	10 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115)	103	%
TOLUENE-D8	(88 - 110)	100	%
DIBROMOFLUOROMETHANE	(86 - 118)	101	%

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8270 SEMIVOLATILES
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-2

Date Sampled : 05/09/96 **Order #:** 78477 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8607

DATE EXTRACTED : 05/16/96
DATE ANALYZED : 05/28/96
ANALYTICAL DILUTION: 1.0

ANALYTE	PQL	RESULT	UNITS
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)PYRENE	5.0	5.0 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.0 U	UG/L
BENZO(K)FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.0 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8270 SEMIVOLATILES
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-2

Date Sampled : 05/09/96 **Order #:** 78477 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8607

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/28/96			
ANALYTICAL DILUTION: 1.0			
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141)	23 *	%
NITROBENZENE-d5	(35 - 114)	74	%
PHENOL-d6	(10 - 94)	70	%
2-FLUOROBIPHENYL	(43 - 116)	62	%
2-FLUOROPHENOL	(21 - 110)	62	%
2,4,6-TRIBROMOPHENOL	(10 - 123)	72	%

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8080
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-2

ate Sampled : 05/09/96 **Order #:** 78477 **Sample Matrix:** WATER
)ate Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8527

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/23/96			
ANALYTICAL DILUTION: 1.1			
LDRIN	0.050	0.055 U	UG/L
LPHA-BHC	0.050	0.055 U	UG/L
ETA-BHC	0.050	0.055 U	UG/L
ELTA-BHC	0.050	0.055 U	UG/L
AMMA-BHC (LINDANE)	0.050	0.055 U	UG/L
LPHA-CHLORDANE	0.050	0.055 U	UG/L
AMMA-CHLORDANE	0.050	0.055 U	UG/L
,4'-DDD	0.050	0.055 U	UG/L
,4'-DDE	0.050	0.055 U	UG/L
,4'-DDT	0.10	0.11 U	UG/L
IELDRIN	0.050	0.055 U	UG/L
LPHA-ENDOSULFAN	0.050	0.055 U	UG/L
ETA-ENDOSULFAN	0.10	0.11 U	UG/L
NDOSULFAN SULFATE	0.10	0.11 U	UG/L
NDRIN	0.050	0.055 U	UG/L
NDRIN ALDEHYDE	0.10	0.11 U	UG/L
NDRIN KETONE	0.10	0.11 U	UG/L
EPTACHLOR	0.050	0.055 U	UG/L
EPTACHLOR EPOXIDE	0.050	0.055 U	UG/L
ETHOXYCHLOR	0.20	0.22 U	UG/L
CB 1016	0.50	0.55 U	UG/L
CB 1221	0.50	0.55 U	UG/L
CB 1232	0.50	0.55 U	UG/L
CB 1242	0.50	0.55 U	UG/L
CB 1248	0.50	0.55 U	UG/L
CB 1254	0.50	0.55 U	UG/L
CB 1260	0.50	0.55 U	UG/L
OXAPHENE	1.0	1.1 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
IBUTYLCHLORENDATE (DBC)	(24 - 154)	16 *	%
ETRACHLORO-META-XYLENE (TCMX)	(60 - 150)	30 *	%

Columbia Analytical Services Inc

Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-3

Date Sampled : 05/10/96 Order #: 78478 Sample Matrix: WATER
Date Received: 05/13/96 Submission #: 9605000254

ANALYTE	PQL	RESULT	UNITS	DATE ANALYZED	ANALYTICAL DILUTION
METALS					
ALUMINUM	0.100	8.20	MG/L	05/20/96	1.0
ANTIMONY	0.0100	0.0100 U	MG/L	05/29/96	1.0
ARSENIC	0.0100	0.0100 U	MG/L	05/20/96	1.0
BARIUM	0.0200	0.149	MG/L	05/20/96	1.0
BERYLLIUM	0.00500	0.00500 U	MG/L	05/20/96	1.0
CADMIUM	0.00500	0.00500 U	MG/L	05/20/96	1.0
CALCIUM	0.500	132	MG/L	05/20/96	1.0
CHROMIUM	0.0100	0.0138	MG/L	05/20/96	1.0
COBALT	0.0500	0.0500 U	MG/L	05/20/96	1.0
COPPER	0.0200	0.0200 U	MG/L	05/20/96	1.0
IRON	0.100	11.9	MG/L	05/20/96	1.0
LEAD	0.00500	0.00500 U	MG/L	05/21/96	1.0
MAGNESIUM	0.500	23.4	MG/L	05/20/96	1.0
MANGANESE	0.0100	0.245	MG/L	05/20/96	1.0
MERCURY	0.000300	0.000300 U	MG/L	05/22/96	1.0
NICKEL	0.0400	0.0400 U	MG/L	05/20/96	1.0
POTASSIUM	1.00	29.6	MG/L	05/20/96	1.0
SELENIUM	0.00500	0.00893	MG/L	05/20/96	1.0
SILVER	0.0100	0.0100 U	MG/L	05/20/96	1.0
SODIUM	0.500	32.6	MG/L	05/20/96	1.0
THALLIUM	0.0100	0.0100 U	MG/L	05/20/96	1.0
VANADIUM	0.0500	0.0500 U	MG/L	05/20/96	1.0
ZINC	0.0100	0.0558	MG/L	05/20/96	1.0
WET CHEMISTRY					
TOTAL CYANIDE	0.0100	0.0229	MG/L	05/22/96	1.0

Columbia Analytical Services Inc

VOLATILE ORGANICS
METHOD 8260 TCL
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-3

Date Sampled : 05/10/96 **Order #:** 78478 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8625

DATE ANALYZED : 05/21/96
ANALYTICAL DILUTION: 1.0

ANALYTE	PQL	RESULT	UNITS
ACETONE	10	79	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	18	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115)	103	%
TOLUENE-D8	(88 - 110)	100	%
DIBROMOFLUOROMETHANE	(86 - 118)	100	%

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8270 SEMIVOLATILES
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-3

Date Sampled : 05/10/96 **Order #:** 78478 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8607

DATE EXTRACTED : 05/16/96
DATE ANALYZED : 05/28/96
ANALYTICAL DILUTION: 1.1

ug/l

ANALYTE	PQL	RESULT	UNITS
ACENAPHTHENE	5.0	5.7 U	UG/L
ACENAPHTHYLENE	5.0	5.7 U	UG/L
ANTHRACENE	5.0	5.7 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.7 U	UG/L
BENZO(A)PYRENE	5.0	5.7 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.7 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.7 U	UG/L
BENZO(K)FLUORANTHENE	5.0	5.7 U	UG/L
BENZYL ALCOHOL	5.0	5.7 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.7 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.7 U	UG/L
CARBAZOLE	5.0	5.7 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.7 U	UG/L
4-CHLOROANILINE	5.0	5.7 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.7 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.7 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.7 U	UG/L
2-CHLOROPHENOL	10	11 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.7 U	UG/L
CHRYSENE	5.0	5.7 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.7 U	UG/L
DIBENZOFURAN	5.0	5.7 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.7 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.7 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.7 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.7 U	UG/L
2,4-DICHLOROPHENOL	10	11 U	UG/L
DIETHYLPHTHALATE	5.0	5.7 U	UG/L
DIMETHYL PHTHALATE	5.0	5.7 U	UG/L
2,4-DIMETHYLPHENOL	10	11 U	UG/L
2,4-DINITROPHENOL	20	23 U	UG/L
2,4-DINITROTOLUENE	5.0	5.7 U	UG/L
2,6-DINITROTOLUENE	5.0	5.7 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5 28	UG/L
FLUORANTHENE	5.0	5.7 U	UG/L
FLUORENE	5.0	5.7 U	UG/L
HEXACHLOROBENZENE	5.0	5.7 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.7 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.7 U	UG/L
HEXACHLOROETHANE	5.0	5.7 U	UG/L
ISOPHORONE	5.0	5.7 U	UG/L
2-METHYLNAPHTHALENE	10	11 U	UG/L

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8270 SEMIVOLATILES
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-3

)ate Sampled : 05/10/96 **Order #:** 78478 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8607

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/28/96			
ANALYTICAL DILUTION: 1.1			
',6-DINITRO-2-METHYLPHENOL	20	23 U	UG/L
1-CHLORO-3-METHYLPHENOL	10	11 U	UG/L
2-METHYLPHENOL	10	11 U	UG/L
4-METHYLPHENOL	10	11 U	UG/L
NAPHTHALENE	5.0	5.7 U	UG/L
2-NITROANILINE	5.0	5.7 U	UG/L
3-NITROANILINE	5.0	5.7 U	UG/L
1-NITROANILINE	5.0	5.7 U	UG/L
NITROBENZENE	5.0	5.7 U	UG/L
2-NITROPHENOL	10	11 U	UG/L
1-NITROPHENOL	20	23 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.7 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.7 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.7 U	UG/L
PENTACHLOROPHENOL	20	23 U	UG/L
PHENANTHRENE	5.0	5.7 U	UG/L
PHENOL	10	11 U	UG/L
1-BROMOPHENYL-PHENYLETHER	5.0	5.7 U	UG/L
1-CHLOROPHENYL-PHENYLETHER	5.0	5.7 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.7 U	UG/L
PYRENE	5.0	5.7 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.7 U	UG/L
2,4,6-TRICHLOROPHENOL	10	11 U	UG/L
2,4,5-TRICHLOROPHENOL	10	11 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141)	44	%
NITROBENZENE-d5	(35 - 114)	76	%
PHENOL-d6	(10 - 94)	75	%
2-FLUOROBIPHENYL	(43 - 116)	76	%
2-FLUOROPHENOL	(21 - 110)	68	%
2,4,6-TRIBROMOPHENOL	(10 - 123)	84	%

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8080
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-3

Date Sampled : 05/10/96 **Order #:** 78478 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8527

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/23/96			
ANALYTICAL DILUTION: 1.3			
ALDRIN	0.050	0.065 U	UG/L
ALPHA-BHC	0.050	0.065 U	UG/L
BETA-BHC	0.050	0.065 U	UG/L
DELTA-BHC	0.050	0.065 U	UG/L
GAMMA-BHC (LINDANE)	0.050	0.065 U	UG/L
ALPHA-CHLORDANE	0.050	0.065 U	UG/L
GAMMA-CHLORDANE	0.050	0.065 U	UG/L
4,4'-DDD	0.050	0.065 U	UG/L
4,4'-DDE	0.050	0.065 U	UG/L
4,4'-DDT	0.10	0.13 U	UG/L
DIELDRIN	0.050	0.065 U	UG/L
ALPHA-ENDOSULFAN	0.050	0.065 U	UG/L
BETA-ENDOSULFAN	0.10	0.13 U	UG/L
ENDOSULFAN SULFATE	0.10	0.13 U	UG/L
ENDRIN	0.050	0.065 U	UG/L
ENDRIN ALDEHYDE	0.10	0.13 U	UG/L
ENDRIN KETONE	0.10	0.13 U	UG/L
HEPTACHLOR	0.050	0.065 U	UG/L
HEPTACHLOR EPOXIDE	0.050	0.065 U	UG/L
METHOXYCHLOR	0.20	0.26 U	UG/L
PCB 1016	0.50	0.65 U	UG/L
PCB 1221	0.50	0.65 U	UG/L
PCB 1232	0.50	0.65 U	UG/L
PCB 1242	0.50	0.65 U	UG/L
PCB 1248	0.50	0.65 U	UG/L
PCB 1254	0.50	0.65 U	UG/L
PCB 1260	0.50	0.65 U	UG/L
TOXAPHENE	1.0	1.3 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
DIBUTYLCHLORENDATE (DBC)	(24 - 154)	72	%
TETRACHLORO-META-XYLENE (TCMX)	(60 - 150)	92	%

Columbia Analytical Services Inc

Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-4

Date Sampled : 05/09/96 | Order #: 78479 | Sample Matrix: WATER
Date Received: 05/13/96 | Submission #: 9605000254

ANALYTE	PQL	gw std	RESULT		UNITS	DATE ANALYZED	ANALYTICAL DILUTION
		mg/L					
METALS							
ALUMINUM	0.100	NV	108		MG/L	05/20/96	1.0
ANTIMONY	0.0100	.003	0.0100	U	MG/L	05/29/96	1.0
ARSENIC	0.0100	.025	0.0541		MG/L	05/20/96	1.0
BARIUM	0.0200	1	0.291		MG/L	05/20/96	1.0
BERYLLIUM	0.00500	.003	0.00768		MG/L	05/20/96	1.0
CADMIUM	0.00500	.005	0.00500	U	MG/L	05/20/96	1.0
CALCIUM	0.500	NV	191		MG/L	05/20/96	1.0
CHROMIUM	0.0100	0.05	0.181		MG/L	05/20/96	1.0
COBALT	0.0500	NV	0.0918		MG/L	05/20/96	1.0
COPPER	0.0200	.2	0.153		MG/L	05/20/96	1.0
IRON	0.100	.3	205		MG/L	05/20/96	1.0
LEAD	0.00500	.025	0.0435		MG/L	05/21/96	2.0
MAGNESIUM	0.500	35	68.2		MG/L	05/20/96	1.0
MANGANESE	0.0100	.3	1.79		MG/L	05/20/96	1.0
MERCURY	0.000300	.0007	0.000300	U	MG/L	05/22/96	1.0
NICKEL	0.0400	.1	0.285		MG/L	05/20/96	1.0
POTASSIUM	1.00	NV	29.9		MG/L	05/20/96	1.0
SELENIUM	0.00500	.01	0.0338		MG/L	05/20/96	1.0
SILVER	0.0100	.05	0.0100	U	MG/L	05/20/96	1.0
SODIUM	0.500	20	103		MG/L	05/20/96	1.0
THALLIUM	0.0100	.0005	0.0100	U	MG/L	05/20/96	1.0
VANADIUM	0.0500	NV	0.159		MG/L	05/20/96	1.0
ZINC	0.0100	5	0.544		MG/L	05/20/96	1.0
WET CHEMISTRY							
TOTAL CYANIDE	0.0100	.2	0.0100	U	MG/L	05/22/96	1.0

Columbia Analytical Services Inc

VOLATILE ORGANICS
METHOD 8260 TCL
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-4

Date Sampled : 05/09/96 **Order #:** 78479 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8625

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 05/21/96			
ANALYTICAL DILUTION: 1.0			
ACETONE	10	10 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
1-BROMOFLUOROBENZENE	(86 - 115)	109	%
TOLUENE-D8	(88 - 110)	102	%
DIBROMOFLUOROMETHANE	(86 - 118)	102	%

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8270 SEMIVOLATILES
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-4

ate Sampled : 05/09/96 **Order #:** 78479 **Sample Matrix:** WATER
)ate Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8607

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/28/96			
ANALYTICAL DILUTION: 1.0			
'.CENAPHTHENE	5.0	5.2 U	UG/L
.CENAPHTHYLENE	5.0	5.2 U	UG/L
ANTHRACENE	5.0	5.2 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.2 U	UG/L
;ENZO(A)PYRENE	5.0	5.2 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.2 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.2 U	UG/L
;ENZO(K)FLUORANTHENE	5.0	5.2 U	UG/L
BENZYL ALCOHOL	5.0	5.2 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.2 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.2 U	UG/L
:ARBAZOLE	5.0	5.2 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.2 U	UG/L
4-CHLOROANILINE	5.0	5.2 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.2 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.2 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.2 U	UG/L
?-CHLOROPHENOL	10	10 U	UG/L
;,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.2 U	UG/L
CHRYSENE	5.0	5.2 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.2 U	UG/L
)IBENZOFURAN	5.0	5.2 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.2 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.2 U	UG/L
.,4-DICHLOROBENZENE	5.0	5.2 U	UG/L
,3'-DICHLOROBENZIDINE	5.0	5.2 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.2 U	UG/L
)IMETHYL PHTHALATE	5.0	5.2 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	21 U	UG/L
:,4-DINITROTOLUENE	5.0	5.2 U	UG/L
2,6-DINITROTOLUENE	5.0	5.2 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.2 U	UG/L
'LUORANTHENE	5.0	5.2 U	UG/L
'LUORENE	5.0	5.2 U	UG/L
HEXACHLOROBENZENE	5.0	5.2 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.2 U	UG/L
IEXACHLOROCYCLOPENTADIENE	5.0	5.2 U	UG/L
HEXACHLOROETHANE	5.0	5.2 U	UG/L
ISOPHORONE	5.0	5.2 U	UG/L
:-METHYLNAPHTHALENE	10	10 U	UG/L

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8270 SEMIVOLATILES
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-4

Date Sampled : 05/09/96 **Order #:** 78479 **Sample Matrix:** WATER
Date Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8607

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/28/96			
ANALYTICAL DILUTION: 1.0			
4,6-DINITRO-2-METHYLPHENOL	20	21 U	UG/L
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.2 U	UG/L
2-NITROANILINE	5.0	5.2 U	UG/L
3-NITROANILINE	5.0	5.2 U	UG/L
4-NITROANILINE	5.0	5.2 U	UG/L
NITROBENZENE	5.0	5.2 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	21 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.2 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.2 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.2 U	UG/L
PENTACHLOROPHENOL	20	21 U	UG/L
PHENANTHRENE	5.0	5.2 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.2 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.2 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.2 U	UG/L
PYRENE	5.0	5.2 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.2 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141)	31 *	%
NITROBENZENE-d5	(35 - 114)	76	%
PHENOL-d6	(10 - 94)	72	%
2-FLUOROBIPHENYL	(43 - 116)	66	%
2-FLUOROPHENOL	(21 - 110)	64	%
2,4,6-TRIBROMOPHENOL	(10 - 123)	73	%

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8080
Reported: 06/03/96

SJB Services, Inc.
Project Reference: ABC YARD
Client Sample ID : MW-4

ate Sampled : 05/09/96 **Order #:** 78479 **Sample Matrix:** WATER
)ate Received: 05/13/96 **Submission #:** 9605000254 **Analytical Run:** 8527

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/23/96			
ANALYTICAL DILUTION: 1.1			
ALDRIN	0.050	0.055 U	UG/L
ALPHA-BHC	0.050	0.055 U	UG/L
BETA-BHC	0.050	0.055 U	UG/L
DELTA-BHC	0.050	0.055 U	UG/L
GAMMA-BHC (LINDANE)	0.050	0.055 U	UG/L
ALPHA-CHLORDANE	0.050	0.055 U	UG/L
GAMMA-CHLORDANE	0.050	0.055 U	UG/L
4,4'-DDD	0.050	0.055 U	UG/L
4,4'-DDE	0.050	0.055 U	UG/L
4,4'-DDT	0.10	0.11 U	UG/L
DIELDRIN	0.050	0.055 U	UG/L
ALPHA-ENDOSULFAN	0.050	0.055 U	UG/L
BETA-ENDOSULFAN	0.10	0.11 U	UG/L
ENDOSULFAN SULFATE	0.10	0.11 U	UG/L
ENDRIN	0.050	0.055 U	UG/L
ENDRIN ALDEHYDE	0.10	0.11 U	UG/L
ENDRIN KETONE	0.10	0.11 U	UG/L
HEPTACHLOR	0.050	0.055 U	UG/L
HEPTACHLOR EPOXIDE	0.050	0.055 U	UG/L
METHOXYCHLOR	0.20	0.22 U	UG/L
PCB 1016	0.50	0.55 U	UG/L
PCB 1221	0.50	0.55 U	UG/L
PCB 1232	0.50	0.55 U	UG/L
PCB 1242	0.50	0.55 U	UG/L
PCB 1248	0.50	0.55 U	UG/L
PCB 1254	0.50	0.55 U	UG/L
PCB 1260	0.50	0.55 U	UG/L
TOXAPHENE	1.0	1.1 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
DIBUTYLCHLORENDATE (DBC)	(24 - 154)	22 *	%
TETRACHLORO-META-XYLENE (TCMX)	(60 - 150)	37 *	%

Columbia Analytical Services Inc

VOLATILE ORGANICS
METHOD 8260 TCL
Reported: 06/03/96

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 80688 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run:** 8625

ANALYTE	PQL	RESULT	UNITS
DATE ANALYZED : 05/21/96			
ANALYTICAL DILUTION: 1.0			
ACETONE	10	10 U	UG/L
BENZENE	5.0	5.0 U	UG/L
BROMODICHLOROMETHANE	5.0	5.0 U	UG/L
BROMOFORM	5.0	5.0 U	UG/L
BROMOMETHANE	5.0	5.0 U	UG/L
2-BUTANONE (MEK)	10	10 U	UG/L
CARBON DISULFIDE	10	10 U	UG/L
CARBON TETRACHLORIDE	5.0	5.0 U	UG/L
CHLOROBENZENE	5.0	5.0 U	UG/L
CHLOROETHANE	5.0	5.0 U	UG/L
CHLOROFORM	5.0	5.0 U	UG/L
CHLOROMETHANE	5.0	5.0 U	UG/L
DIBROMOCHLOROMETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHANE	5.0	5.0 U	UG/L
1,2-DICHLOROETHANE	5.0	5.0 U	UG/L
1,1-DICHLOROETHENE	5.0	5.0 U	UG/L
CIS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
TRANS-1,2-DICHLOROETHENE	5.0	5.0 U	UG/L
1,2-DICHLOROPROPANE	5.0	5.0 U	UG/L
CIS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
TRANS-1,3-DICHLOROPROPENE	5.0	5.0 U	UG/L
ETHYLBENZENE	5.0	5.0 U	UG/L
2-HEXANONE	10	10 U	UG/L
METHYLENE CHLORIDE	5.0	5.0 U	UG/L
4-METHYL-2-PENTANONE (MIBK)	10	10 U	UG/L
STYRENE	5.0	5.0 U	UG/L
1,1,2,2-TETRACHLOROETHANE	5.0	5.0 U	UG/L
TETRACHLOROETHENE	5.0	5.0 U	UG/L
TOLUENE	5.0	5.0 U	UG/L
1,1,1-TRICHLOROETHANE	5.0	5.0 U	UG/L
1,1,2-TRICHLOROETHANE	5.0	5.0 U	UG/L
TRICHLOROETHENE	5.0	5.0 U	UG/L
VINYL CHLORIDE	5.0	5.0 U	UG/L
O-XYLENE	5.0	5.0 U	UG/L
M+P-XYLENE	5.0	5.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
4-BROMOFLUOROBENZENE	(86 - 115)	102	%
TOLUENE-D8	(88 - 110)	101	%
DIBROMOFLUOROMETHANE	(86 - 118)	99	%

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8270 SEMIVOLATILES
Reported: 06/03/96

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 80583 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run:** 8607

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/28/96			
ANALYTICAL DILUTION: 1.0			
ACENAPHTHENE	5.0	5.0 U	UG/L
ACENAPHTHYLENE	5.0	5.0 U	UG/L
ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)ANTHRACENE	5.0	5.0 U	UG/L
BENZO(A)PYRENE	5.0	5.0 U	UG/L
BENZO(B)FLUORANTHENE	5.0	5.0 U	UG/L
BENZO(G,H,I)PERYLENE	5.0	5.0 U	UG/L
BENZO(K)FLUORANTHENE	5.0	5.0 U	UG/L
BENZYL ALCOHOL	5.0	5.0 U	UG/L
BUTYL BENZYL PHTHALATE	5.0	5.0 U	UG/L
DI-N-BUTYLPHTHALATE	5.0	5.0 U	UG/L
CARBAZOLE	5.0	5.0 U	UG/L
INDENO(1,2,3-CD)PYRENE	5.0	5.0 U	UG/L
4-CHLOROANILINE	5.0	5.0 U	UG/L
BIS(-2-CHLOROETHOXY)METHANE	5.0	5.0 U	UG/L
BIS(2-CHLOROETHYL)ETHER	5.0	5.0 U	UG/L
2-CHLORONAPHTHALENE	5.0	5.0 U	UG/L
2-CHLOROPHENOL	10	10 U	UG/L
2,2'-OXYBIS(1-CHLOROPROPANE)	5.0	5.0 U	UG/L
CHRYSENE	5.0	5.0 U	UG/L
DIBENZO(A,H)ANTHRACENE	5.0	5.0 U	UG/L
DIBENZOFURAN	5.0	5.0 U	UG/L
1,3-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,2-DICHLOROBENZENE	5.0	5.0 U	UG/L
1,4-DICHLOROBENZENE	5.0	5.0 U	UG/L
3,3'-DICHLOROBENZIDINE	5.0	5.0 U	UG/L
2,4-DICHLOROPHENOL	10	10 U	UG/L
DIETHYLPHTHALATE	5.0	5.0 U	UG/L
DIMETHYL PHTHALATE	5.0	5.0 U	UG/L
2,4-DIMETHYLPHENOL	10	10 U	UG/L
2,4-DINITROPHENOL	20	20 U	UG/L
2,4-DINITROTOLUENE	5.0	5.0 U	UG/L
2,6-DINITROTOLUENE	5.0	5.0 U	UG/L
BIS(2-ETHYLHEXYL)PHTHALATE	5.0	5.0 U	UG/L
FLUORANTHENE	5.0	5.0 U	UG/L
FLUORENE	5.0	5.0 U	UG/L
HEXACHLOROBENZENE	5.0	5.0 U	UG/L
HEXACHLOROBUTADIENE	5.0	5.0 U	UG/L
HEXACHLOROCYCLOPENTADIENE	5.0	5.0 U	UG/L
HEXACHLOROETHANE	5.0	5.0 U	UG/L
ISOPHORONE	5.0	5.0 U	UG/L
2-METHYLNAPHTHALENE	10	10 U	UG/L
4,6-DINITRO-2-METHYLPHENOL	20	20 U	UG/L

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8270 SEMIVOLATILES
Reported: 06/03/96

Project Reference:
Client Sample ID : METHOD BLANK

)ate Sampled : **Order #:** 80583 **Sample Matrix:** WATER
)ate Received: **Submission #:** **Analytical Run:** 8607

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/28/96			
ANALYTICAL DILUTION: 1.0			
4-CHLORO-3-METHYLPHENOL	10	10 U	UG/L
2-METHYLPHENOL	10	10 U	UG/L
4-METHYLPHENOL	10	10 U	UG/L
NAPHTHALENE	5.0	5.0 U	UG/L
2-NITROANILINE	5.0	5.0 U	UG/L
3-NITROANILINE	5.0	5.0 U	UG/L
4-NITROANILINE	5.0	5.0 U	UG/L
NITROBENZENE	5.0	5.0 U	UG/L
2-NITROPHENOL	10	10 U	UG/L
4-NITROPHENOL	20	20 U	UG/L
N-NITROSODIMETHYLAMINE	5.0	5.0 U	UG/L
N-NITROSODIPHENYLAMINE	5.0	5.0 U	UG/L
DI-N-OCTYL PHTHALATE	5.0	5.0 U	UG/L
PENTACHLOROPHENOL	20	20 U	UG/L
PHENANTHRENE	5.0	5.0 U	UG/L
PHENOL	10	10 U	UG/L
4-BROMOPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
4-CHLOROPHENYL-PHENYLETHER	5.0	5.0 U	UG/L
N-NITROSO-DI-N-PROPYLAMINE	5.0	5.0 U	UG/L
PYRENE	5.0	5.0 U	UG/L
1,2,4-TRICHLOROBENZENE	5.0	5.0 U	UG/L
2,4,6-TRICHLOROPHENOL	10	10 U	UG/L
2,4,5-TRICHLOROPHENOL	10	10 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
TERPHENYL-d14	(33 - 141)	73	%
NITROBENZENE-d5	(35 - 114)	71	%
PHENOL-d6	(10 - 94)	67	%
2-FLUOROBIPHENYL	(43 - 116)	67	%
2-FLUOROPHENOL	(21 - 110)	59	%
2,4,6-TRIBROMOPHENOL	(10 - 123)	76	%

Columbia Analytical Services Inc

EXTRACTABLE ORGANICS
METHOD 8080
Reported: 06/03/96

Project Reference:
Client Sample ID : METHOD BLANK

Date Sampled : **Order #:** 80101 **Sample Matrix:** WATER
Date Received: **Submission #:** **Analytical Run:** 8527

ANALYTE	PQL	RESULT	UNITS
DATE EXTRACTED : 05/16/96			
DATE ANALYZED : 05/23/96			
ANALYTICAL DILUTION: 1.0			
ALDRIN	0.050	0.050 U	UG/L
ALPHA-BHC	0.050	0.050 U	UG/L
BETA-BHC	0.050	0.050 U	UG/L
DELTA-BHC	0.050	0.050 U	UG/L
GAMMA-BHC (LINDANE)	0.050	0.050 U	UG/L
ALPHA-CHLORDANE	0.050	0.050 U	UG/L
GAMMA-CHLORDANE	0.050	0.050 U	UG/L
4,4'-DDD	0.050	0.050 U	UG/L
4,4'-DDE	0.050	0.050 U	UG/L
4,4'-DDT	0.10	0.10 U	UG/L
DIELDRIN	0.050	0.050 U	UG/L
ALPHA-ENDOSULFAN	0.050	0.050 U	UG/L
BETA-ENDOSULFAN	0.10	0.10 U	UG/L
ENDOSULFAN SULFATE	0.10	0.10 U	UG/L
ENDRIN	0.050	0.050 U	UG/L
ENDRIN ALDEHYDE	0.10	0.10 U	UG/L
ENDRIN KETONE	0.10	0.10 U	UG/L
HEPTACHLOR	0.050	0.050 U	UG/L
HEPTACHLOR EPOXIDE	0.050	0.050 U	UG/L
METHOXYCHLOR	0.20	0.20 U	UG/L
PCB 1016	0.50	0.50 U	UG/L
PCB 1221	0.50	0.50 U	UG/L
PCB 1232	0.50	0.50 U	UG/L
PCB 1242	0.50	0.50 U	UG/L
PCB 1248	0.50	0.50 U	UG/L
PCB 1254	0.50	0.50 U	UG/L
PCB 1260	0.50	0.50 U	UG/L
TOXAPHENE	1.0	1.0 U	UG/L

SURROGATE RECOVERIES	QC LIMITS		
DIBUTYLCHLORENDATE (DBC)	(24 - 154)	100	%
TETRACHLORO-META-XYLENE (TCMX)	(60 - 150)	91	%