



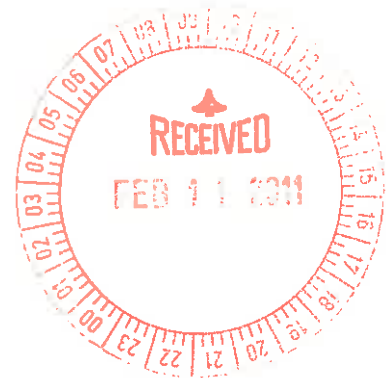
**CONESTOGA-ROVERS
& ASSOCIATES**

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February 8, 2011

Reference No. 073982

Mr. Jeremy Vink
Senior Planner
Township of Woolwich
24 Church Street West
Elmira, Ontario
N3B 2Z6



Dear Mr. Vink:

Re: Environmental Site Assessment
Kuntz Topsoil

On December 1, 2010, the Township of Woolwich provided notice to Kuntz Topsoil Sand and Gravel and IBI Group that Council had approved in principle the Zone Change Application for aggregate extraction on the property at 125 Peel Street. The approval was subject to nine conditions. In compliance with Condition 9 of the approval, Conestoga-Rovers & Associates, on behalf of Kuntz Topsoil, has performed an Environmental Site Assessment on the former disposal cell that was identified to be present in the northeast corner of the property. The work that was performed included discussions with the property owner, the excavation of test pits into and around the former disposal cell, observations and measurement of encountered conditions, and the collection of soil samples for chemical analysis from beneath the fill material encountered in the former disposal cell.

The following provides a summary of the assessment completed.

SITE HISTORY

Through discussions with the former property owner, Mr. Merlin Weber, it was determined that:

- Mr. Weber purchased the property in 1967 and has farmed the land since that time.
- The pit excavated in the northeast corner of the site was originally used to provide sand and gravel for local road construction projects. The pit was limited to the northeast corner of the property.
- The pit was sloped from the roadway downward to the south to accommodate the horses and carts that removed the sand and gravel from the pit.



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- The open excavation eventually turned into a farm pit into which farm debris (such as fence posts) was placed.
- Residents from the area took advantage of the pit's accessibility to dispose of their wastes.
- Although the pit was posted with "No Dumping" signs, the local residents continued to dispose of their wastes.
- In or about 1990, Mr. Weber finished leveling the former pit by accepting the debris from a house demolition in Winterborne. Mr. Weber replaced the topsoil over the pit and has farmed this area as part of the overall property ever since.
- Mr. Weber noted that the debris in the pit had been burned a number of times over the years to reduce the volume of wood and brush that accumulated.

TEST PIT PROGRAM

On January 6, 2011, Kuntz Topsoil provided a backhoe and five test pits were excavated in the northeast corner of the property at 125 Peel Street. The test pits were excavated to delineate the areal and vertical limits of the former disposal cell and to determine the composition of the fill material. The test pits were performed in compliance with the methods specified in the CRA letters of December 22, 2010 and January 5, 2011 and as discussed with Township staff.

The test pits were actually excavated as trenches which provided the ability to better delineate the limits and depth of the waste material and exposed a considerable portion of the fill material thus enhancing the determination of the types of fill that had been placed in the former cell. The initial locations of the test pits were based off the aerial photograph (circa 1985) that shows a disturbed area in the northeast corner of the property (See Figure 1). Based upon the observations made, the following details of the former disposal cell have been verified:

- The disposal cell is limited to the northeast corner of the property.
- The approximate limits of the cell are:
 - Eastern limit is about 5 meters from the eastern property line
 - Southern limit is on the order of 40 meters from the edge of the existing gravel road (Peel Street)
 - Western limit is on the order of 15 meters from the eastern property line
 - Northern limit slopes to the edge of gravel defining Peel Street
- The northern portion of the cell (closest to Peel Street) was the ramp into the pit and has been backfilled with stones and cobble (10 to 20 cm. in size).



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- The original pit is therefore estimated to be on the order of 10 meters by 30 meters in size. Figure 2 provides the locations of the test pits and the estimated extent of the fill material. The figure uses the circa 1985 aerial photograph as the base.
- The maximum depth of fill material encountered in the test pits was 3.2 meters below the existing ground surface at Test Pit 4.
- The fill materials encountered primarily consisted of inert materials such as brick, concrete, and stone rubble set in a soil matrix. Some pieces of metal, plastic, gypsum, and the occasional piece of glass were also encountered. Consistent with the information provided by Mr. Weber, there was little wood. No putrescible material was encountered.
- There were no odours noted with the exception of a slight oily aroma from the fill material from Test Pit 3 (only noticeable when very close to the material).
- As part of the assessment, a photoionization detector unit was used to scan the air quality for organic vapors immediately adjacent to the excavated materials (within 1 cm.) of Test Pits 3 and 4. All readings were non-detect signifying that there were no organic vapors emitting from the fill materials.
- Groundwater was not encountered in any of the test pits.

At the conclusion of each test pit, photographs were taken to document the conditions and materials encountered. Copies of some of the photographs are provided in Attachment 1. Copies of the stratigraphic log for each test pit are provided in Attachment 2. The material from each test pit was placed back into the test pit in the reverse order from which it was excavated so that the material is back in the same strata from which it came.

As part of the assessment, samples of the native soil were collected from beneath the fill material at two of the test pits (Test Pit 3 and Test Pit 4). Each sample was placed into laboratory-cleaned glass jars and delivered to ALS Laboratory Group in Waterloo for analysis. Each sample was analyzed for the following sets of compounds:

- Volatile organic compounds
- Semi-volatile organic compounds
- Metals
- Hydrocarbons
- Polychlorinated Biphenyls (PCBs)



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LABORATORY RESULTS

The laboratory results from the native soil samples collected from beneath the former disposal cell identified the following:

- No volatile organic compounds were detected
- No semi-volatile organic compounds were detected
- No hydrocarbons were detected
- No PCBs were detected
- The only metals detected were those commonly found in native soils in this area and all were at low concentrations, consistent with expected concentrations for uncontaminated conditions. (All concentrations were below MOE Full Depth Background Site Condition Standards for both agriculture and residential property classifications).

SITE CONDITION CONCLUSIONS

The investigation of the former disposal cell on the property has determined that the material placed on the Site is inert material. No putrescible or hazardous materials were encountered. The placement of the material is limited to the extreme northeasterly corner of the property hugging the eastern and northern property boundaries. All of the waste material is above the groundwater table. The fill material gives no indication of posing a threat to human health or the environment.

Testing performed of the excavated fill material showed no organic vapor presence. Testing of the native soils immediately beneath the disposal cell showed no impact as a result of the fill material.

Based upon the observations made and the tests performed, the fill material placed in this former gravel extraction pit is inert and poses no threat to human health or the environment. It is further concluded that no additional investigation is necessary or warranted.

RECOMMENDATIONS

Based upon the conclusions formulated by this Site Assessment, it is recommended that the fill material within this former disposal cell be left in place. The location of the former disposal cell is such that it resides within the perimeter buffer zone area of the proposed aggregate extraction operation and will not be encountered by site operations.



**CONESTOGA-ROVERS
& ASSOCIATES**

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Should you have any questions regarding this Site Assessment or wish to discuss the results, please do not hesitate to call me.

Yours truly,

CONESTOGA-ROVERS & ASSOCIATES

James Kay

JKK/cb/2

Encl. Attachments, Tables, Figures

cc: Ray Kuntz
Mark Schumacher
David Sisco

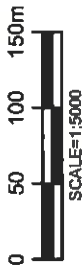


figure 1
SITE INVESTIGATION PLAN
KUNTZ TOPSOIL
125 Peel Street, Woolwich, Ontario



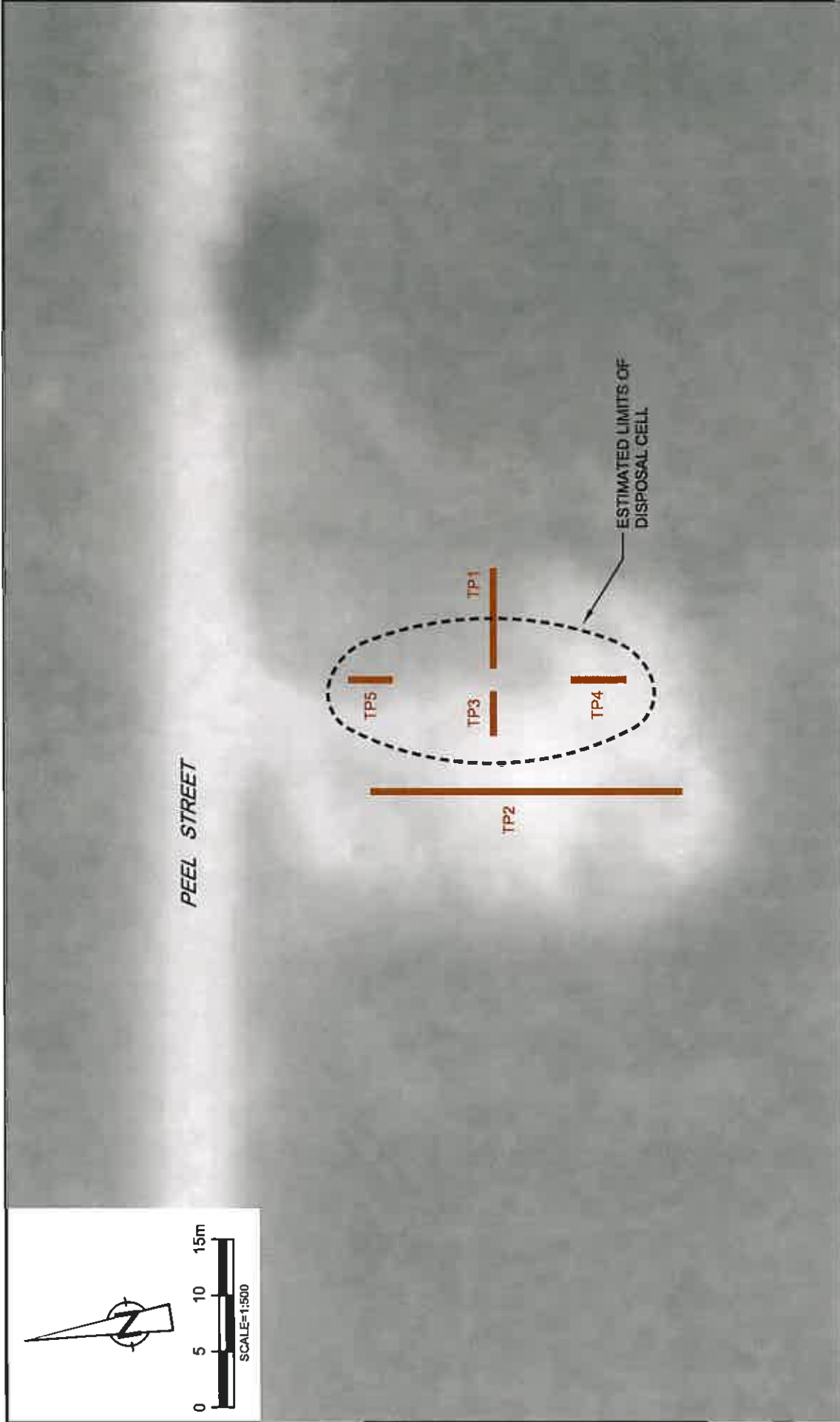


figure 2
 TEST PIT LOCATIONS
 KUNTZ TOPSOIL
 125 Peel Street, Woolwich, Ontario



ATTACHMENT 1

PHOTOGRAPHS



TEST PIT #1
KUNTZ TOPSOIL
125 Peel Street, Woolwich, Ontario





TEST PIT #2
KUNTZ TOPSOIL
125 Peel Street, Woolwich, Ontario





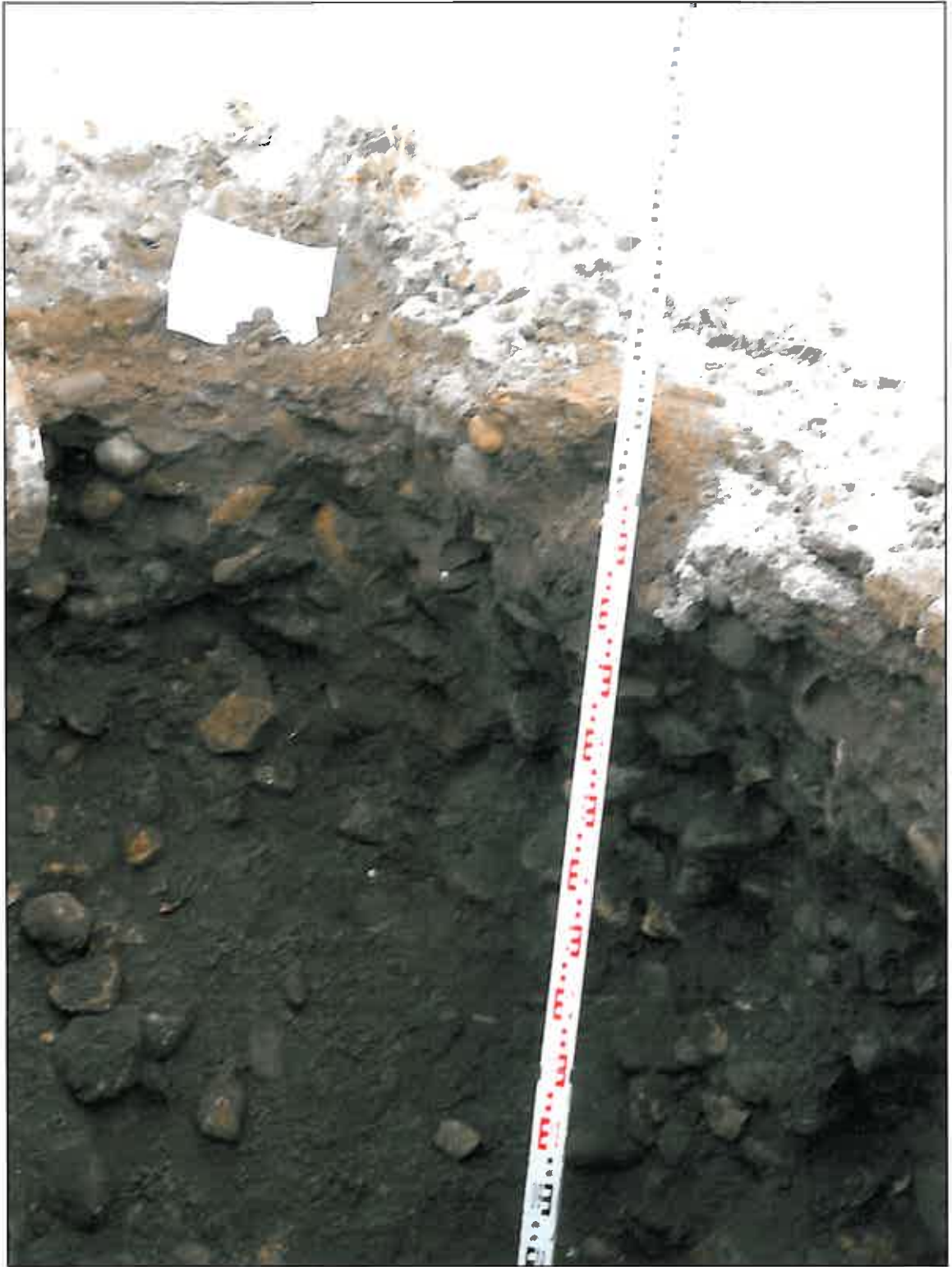
TEST PIT #3
KUNTZ TOPSOIL
125 Peel Street, Woolwich, Ontario





TEST PIT #4
KUNTZ TOPSOIL
125 Peel Street, Woolwich, Ontario





TEST PIT #5
KUNTZ TOPSOIL
125 Peel Street, Woolwich, Ontario



ATTACHMENT 2

TEST PIT LOGS

TEST PIT STRATIGRAPHY LOG

Project Name: Kuntz Topsoil Peel St		Contractor: Kuntz Topsoil	Test Pit Designation: Test Pit 3
Project Number: 73982		Date/Time Started: January 6, 2011 10:20 AM	
Client: Kuntz Topsoil		Date/Time Completed: 11:00 AM	
Location: 125 Peel Street - Winterbourne		CRA Supervisor: Jim Kay	
Soil Symbol, Primary Component, Secondary Components, Relative Density/Consistency, Grain Size/Plasticity, Gradation/Structure, Colour, Moisture Content, Supplementary Descriptors		Sample No.	Sample Interval
Depth (m/ft)			
From	To	PID	Geologic Profile
0.0	0.2		
0.2	0.7		
0.7	2.3		0.0 ppm
2.3	3.3	S-1 collected at 3.3 m depth for chemical analysis	
Slight Oil-like Odour noted in Refuse Material			
No Groundwater Encountered			
Test Pit Location Coordinates:			
Start Location (15, 23)			
End Location (11, 23)			

Notes:

CRA

TEST PIT STRATIGRAPHY LOG

Project Name: Kuntz Topsoil Peel St		Contractor: Kuntz Topsoil	Test Pit Designation: Test Pit 5
Project Number: 73982		Date/Time Started: January 6, 2011 11:30 AM	
Client: Kuntz Topsoil		Date/Time Completed: 11:55 AM	
Location: 125 Peel Street - Winterbourne		CRA Supervisor: Jim Kay	
Soil Symbol, Primary Component, Secondary Components, Relative Density/Consistency, Grain Size/Plasticity, Gradation/Structure, Colour, Moisture Content, Supplementary Descriptors		Sample No.	Sample Interval
Depth (m/ft)			Geologic Profile
From	At	To	Location:
0.0		1.6	<p>Dark Brown Rounded Cobbles (10 - 20 cm) and Sand with 2 Large Boulders</p> <p>Tan Sand & Gravel</p> <p>No Odours noted</p> <p>No Groundwater Encountered</p> <p>Test Pit Location Coordinates: Start Location (10, 10) End Location (10, 14)</p>
1.6		2.3	

Notes:



ATTACHMENT 3

ANALYTICAL RESULTS

Project	73982
Report To	JENNIFER BALKWILL, CONESTOGA ROVERS & ASSOCIATES
ALS File No.	L967783
Date Received	06-Jan-11 12:10
Date	14-Jan-11

RESULTS OF ANALYSIS

Sample ID	S-1	S-2
Date Sampled	06-JAN-11	06-JAN-11
Time Sampled	00:00	00:00
ALS Sample ID	L967783-1	L967783-2
Matrix	Soil	Soil

Physical Tests

% Moisture	3.58	3.85
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Metals

Antimony (Sb)	<1.0	<1.0
Arsenic (As)	2.0	1.6
Barium (Ba)	8.6	5.6
Beryllium (Be)	<0.50	<0.50
Boron (B)	<5.0	<5.0
Boron (B), Hot Water Ext.	0.13	0.12
Cadmium (Cd)	<0.50	<0.50
Chromium (Cr)	5.0	4.4
Cobalt (Co)	2.0	1.7
Copper (Cu)	8.8	7.5
Lead (Pb)	5.0	4.8
Mercury (Hg)	<0.050	<0.050
Molybdenum (Mo)	<1.0	<1.0
Nickel (Ni)	3.6	2.9
Selenium (Se)	<1.0	<1.0
Silver (Ag)	<0.20	<0.20
Thallium (Tl)	<0.50	<0.50
Uranium (U)	<1.0	<1.0
Vanadium (V)	6.4	5.2
Zinc (Zn)	30.5	22.8

Speciated Metals

Chromium, Hexavalent	<0.20	<0.20
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Volatile Organic Compounds

Acetone	<0.50	<0.50
Benzene	<0.020	<0.020
Bromodichloromethane	<0.050	<0.050
Bromoform	<0.050	<0.050
Bromomethane	<0.050	<0.050
Carbon tetrachloride	<0.050	<0.050
Chlorobenzene	<0.050	<0.050
Dibromochloromethane	<0.050	<0.050
Chloroform	<0.050	<0.050
1,2-Dibromoethane	<0.050	<0.050
1,2-Dichlorobenzene	<0.050	<0.050
1,3-Dichlorobenzene	<0.050	<0.050
1,4-Dichlorobenzene	<0.050	<0.050
Dichlorodifluoromethane	<0.050	<0.050
1,1-Dichloroethane	<0.050	<0.050
1,2-Dichloroethane	<0.050	<0.050
1,1-Dichloroethylene	<0.050	<0.050

cis-1,2-Dichloroethylene	<0.050	<0.050
trans-1,2-Dichloroethylene	<0.050	<0.050
1,3-Dichloropropene (cis & trans)	<0.042	<0.042
Dichloromethane	<0.050	<0.050
1,2-Dichloropropane	<0.050	<0.050
cis-1,3-Dichloropropene	<0.030	<0.030
trans-1,3-Dichloropropene	<0.030	<0.030
Ethyl Benzene	<0.050	<0.050
n-Hexane	<0.050	<0.050
Methyl Ethyl Ketone	<0.50	<0.50
Methyl Isobutyl Ketone	<0.50	<0.50
MTBE	<0.050	<0.050
Styrene	<0.050	<0.050
1,1,1,2-Tetrachloroethane	<0.050	<0.050
1,1,2,2-Tetrachloroethane	<0.050	<0.050
Tetrachloroethylene	<0.050	<0.050
Toluene	<0.20	<0.20
1,1,1-Trichloroethane	<0.050	<0.050
1,1,2-Trichloroethane	<0.050	<0.050
Trichloroethylene	<0.050	<0.050
Trichlorofluoromethane	<0.050	<0.050
Vinyl chloride	<0.020	<0.020
o-Xylene	<0.020	<0.020
m+p-Xylenes	<0.030	<0.030
Xylenes (Total)	<0.050	<0.050
Surrogate: 4-Bromofluorobenzene	105	104
Surrogate: 1,2-Dichloroethane d4	92	96
Surrogate: Toluene-d8	107	96

Hydrocarbons

F1 (C6-C10)	<5.0	<5.0
F1-BTEX	<5.0	<5.0
F2 (C10-C16)	<10	<10
F3 (C16-C34)	<50	<50
F4 (C34-C50)	<50	<50
Total Hydrocarbons (C6-C50)	<50	<50

51

1320&(blank)&Chrom. to baseline at nC50 - -

Hydrocarbons

Surrogate: 2-Bromobenzotrifluoride	87	82
Surrogate: Octacosane	115	104

Semi-Volatile Organics

Acenaphthene	<0.10	<0.10
Acenaphthylene	<0.10	<0.10
Anthracene	<0.10	<0.10
Benzo(a)anthracene	<0.10	<0.10
Benzo(a)pyrene	<0.10	<0.10
Benzo(b)fluoranthene	<0.10	<0.10
Benzo(ghi)perylene	<0.10	<0.10
Benzo(k)fluoranthene	<0.10	<0.10
Biphenyl	<0.10	<0.10
4-Bromophenylphenyl ether	<0.10	<0.10
Butylbenzyl phthalate	<0.10	<0.10
Camphene	<0.10	<0.10
4-Chloro-3-methylphenol	<0.10	<0.10
4-Chloroaniline	<0.10	<0.10

Bis(2-chloroethoxy)methane	<0.10	<0.10
Bis(2-chloroethyl)ether	<0.10	<0.10
Bis(2-chloroisopropyl)ether	<0.10	<0.10
1-Chloronaphthalene	<0.10	<0.10
2-Chloronaphthalene	<0.10	<0.10
2-Chlorophenol	<0.10	<0.10
4-Chlorophenyl phenyl ether	<0.10	<0.10
Chrysene	<0.10	<0.10
3&4-Methylphenol	<0.10	<0.10
Cresols (total)	<0.20	<0.20
Dibenzo(a,h)anthracene	<0.10	<0.10
Dibenzofuran	<0.10	<0.10
3,3'-Dichlorobenzidine	<0.10	<0.10
2,4-Dichlorophenol	<0.10	<0.10
2,6-Dichlorophenol	<0.10	<0.10
Diethylphthalate	<0.10	<0.10
Dimethylphthalate	<0.10	<0.10
2,4-Dimethylphenol	<0.10	<0.10
Di-n-butylphthalate	<0.10	<0.10
2,4-Dinitrophenol	<0.20	<0.20
2,4-Dinitrotoluene	<0.10	<0.10
2,6-Dinitrotoluene	<0.10	<0.10
Di-n-octylphthalate	<0.10	<0.10
Diphenyl Ether	<0.10	<0.10
Diphenylamine	<0.10	<0.10
Bis(2-ethylhexyl)phthalate	<0.10	<0.10
Fluoranthene	<0.10	<0.10
Fluorene	<0.10	<0.10
Hexachlorocyclopentadiene	<0.10	<0.10
Indeno(1,2,3-cd)pyrene	<0.10	<0.10
Indole	<0.10	<0.10
Isophorone	<0.10	<0.10
4,6-Dinitro-2-methylphenol	<1.0	<1.0
1-Methylnaphthalene	<0.10	<0.10
2-Methylnaphthalene	<0.10	<0.10
2-Methylphenol	<0.10	<0.10
Naphthalene	<0.10	<0.10
5-Nitroacenaphthene	<0.10	<0.10
Nitrobenzene	<0.10	<0.10
2-Nitrophenol	<0.20	<0.20
4-Nitrophenol	<0.20	<0.20
N-Nitroso-di-n-propylamine	<0.10	<0.10
Pentachlorophenol	<0.10	<0.10
Perylene	<0.10	<0.10
Phenanthrene	<0.10	<0.10
Phenol	<0.10	<0.10
Pyrene	<0.10	<0.10
2,3,4,5-Tetrachlorophenol	<0.10	<0.10
2,3,4,6-Tetrachlorophenol	<0.10	<0.10
2,3,5,6-Tetrachlorophenol	<0.10	<0.10
1,2,3-Trichlorobenzene	<0.10	<0.10
1,2,4-Trichlorobenzene	<0.10	<0.10
2,3,4-Trichlorophenol	<0.10	<0.10
2,3,5-Trichlorophenol	<0.10	<0.10
2,4,5-Trichlorophenol	<0.10	<0.10
2,4,6-Trichlorophenol	<0.10	<0.10
Surrogate: 2-Fluorobiphenyl	99	101
Surrogate: Nitrobenzene d5	97	101
Surrogate: Phenol d5	64	68

Surrogate: p-Terphenyl d14	116	115
Surrogate: 2,4,6-Tribromophenol	71	72
Polychlorinated Biphenyls		
Aroclor 1242	<0.010	<0.010
Aroclor 1248	<0.010	<0.010
Aroclor 1254	<0.010	<0.010
Aroclor 1260	<0.010	<0.010
Total PCBs	<0.020	<0.020
Surrogate: d14-Terphenyl	111	108