TABLE 1.1

SUMMARY OF TASKS FROM SCOPE OF WORK
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Task 1	-	Project Planning
Task 2	-	Community Relations
Task 3	-	Field Investigation
Task 4	-	Sample Analysis/Data Validation
Task 5	-	Data Evaluation
Task 6	-	Assessment of Risks
Task 7	-	Treatability Study/Pilot Testing
Task 8	-	Remedial Alternatives Screening
Task 9	-	Remedial Alternatives Evaluation
Task 10	-	RI/FS Reports

Source: RI/FS Work Plan
Dames and Moore
December 8, 1989

TABLE 2.1

CHARACTERIZATION OF LAGOON MATERIAL - C.A. RICH 1985
FORMER LAGOON SITE
TOWN OF HAMPTONBURGH, NEW YORK

Lagoon	*Depth (ft)*	*Description*
1	0 - 5	Brown, dry silty and gravel
	5.5 - 9.1	Sludge materials and black-stained sand and gravel, Organic Vapour Analysis at 6' >1000 ppm
2	0 - 6	Brown, clayey silt and sand with shale fragments
	6 - 7	brown silt and clay with shale fragments, stron odor, OVA = 250 to 350 ppm
3	0 - 4	Brown-to-dark sand and silt with shale fragments and some clay
	4 - 6	Grey clay with shale fragments, very strong odor, variable saturation; OVA = 120 ppm
	8 - 9	Grey clayey silt with shale fragments
	9 - 10	Brown clayey silt and sand, greasy appearance with strong odor; OVA = 200 to 300 ppm
	10 - 12	Gravels with dark grey clay and sludge; OVA >1000
4	0 - 8	Brown, dry silty sand and gravel; increasing moisture with depth; at 6' horizon, OVA = 80 ppm
	6 - 8	Moist, fine brown-to-grey sand with clay and silt, also gravel-sized waste particles.
	8 - 10	Grey/brown med-coarse sand and gravel with trace clay, strong odor present; OVA = 40 ppm
	10 - 12	Same as above, but saturated conditions
	12 - 15	Grey fill material; predominantly clay with large rock fragments of angular shale; OVA = 900 ppm
5	0 - 4	Brown, fine sand and gravel, very dry
	4 - 6	Moist, fine sand and gravel, some clay in matrix
	6 - 8	Black tar-colored fill with large black stained pebbles and rock fragments, moderately moist, strong odor; OVA = 60 ppm
	8 - 10	Black to dark grey "sticky" sludge, intense odor; OVA = 200 ppm
	10 - 14	Grey-green sticky sludge
	14 - 14.5	Highly saturated sand and gravel with differential staining, natural grey coloring in finer-grained materials; sands and gravels tend to be darkerl strong odor, as above
6		Material not characterized.

TABLE 3.1

CHRONOLOGY OF EVENTS
FORMER LAGOON SITE
TOWN OF HAMPTONBURGH, NEW YORK

Date		*Event*	*Description*
1952	October	Site purchased by Nepera Chemical Company, Inc.	Nepera Chemical is affiliated with the Pyridium Corporation.
1953	January	Permit to discharge wastes obtained Two (2) lagoons constructed	
1953 - 1967		Wastewater disposed at the Site in accordance with Permit	According to the report issued by Leggette, Brashears and Graham wastewater disposal averaged approximately 7,000 gallons a week.
1956		Construction of two (2) additional lagoons	
1963		Construction of two (2) final lagoons	
1967		Initial Investigation by Leggette, Brashears and Graham	Test wells T-1, T-2, and T-3 were constructed during the investigation and a report was issued to summarize the findings.
1968		Three (3) lagoons backfilled	Three (3) lagoons dried up upon discontinuance of disposal activities and fill materials were then placed into each as they
1970's		Sporadic unauthorized dumping of domestic refuse	
1974		Remaining three (3) lagoons backfilled	
1980's		Several Investigations by the USEPA	
1983		Hydrogeological Investigation by Groundwater Technology	Monitoring wells MW-1, MW-2, MW-3, MW-4, MW-5, MW-6, MW-7 and piezometers PZ-1, PZ-2 and PZ-3 were constructed during Site investigations.
1985		Site Investigation by C.A. Rich	Wells SW-1, SW-2, SW-3, SW-4, SW-5, SW-6, SW-7, SW-8, SW-9, SW-10, DW-1 and DW-2 were constructed during investigations. Groundwater, surface water, soil and sediment samples were taken of the lagoons and surrounding area.
1986	March	Summary Report of Field Investigation Program completed by C.A. Rich	
1988	March	NYSDEC Stipulations Agreement	
1989	July	NYSDEC Comments received by Dames & Moore on RI/FS Draft Work Plan	
	December	Re-submission to RI/FS Work Plan to NYSDEC	
1990		Conditional approval of RI/FS Work Plan from NYSDEC	Nepera Inc. receives and accepts the conditions on the RI/FS Work Plan
1991	January	Submission of Data Management Plan, Health and Safety Plan, Site Operations Plan (SOP) and Quality Assurance Project Plan (QAPP) to NYSDEC by CRA	
	March	Submission of revised SOP and QAPP	
	March	Finalization of RI/FS Work Plan by Dames & Moore	
	April - Dec	RI Field Investigations	
1992	July	Submittal of RI Report	

TABLE 3.1

CHRONOLOGY OF EVENTS
FORMER LAGOON SITE
TOWN OF HAMPTONBURGH, NEW YORK

Date		*Event*	*Description*
1993	April	NYSDEC Comments on RI Report	NYSDEC requests additional field investigations and revisions to the RI.
	June	CRA Response to NYSDEC Comments on RI Report	
	July	NYSDEC reply to CRA response to comments	
	July	Submittal of Phase II RI Work Plan (Phase II WP)	Phase II WP submitted to address the additional field activities and revisions requested.
1994	June - Nov	Submittals/comments exchanged with NYSDEC	Multiple comments and responses were received and submitted on the Phase II WP and the RI Report.
	November	Submittal of Draft FS Report	FS report to be developed/submitted in three (3) phases.
1995	February	Re-submittal of Phase II RI WP	
	March	Meeting	
	March	NYSDEC Record of Understanding Letter	Letter regarding Phase II WP.
	April	NYSDEC Approval of Phase II WP	
	May - August	Phase II Field Investigations	Conversion of DW-1 and DW-2 to piezometers DW-1-95 and DW-2-95. Installation of -95 series monitoring wells. Groundwater, surface water, sediment and test pit soil samples taken from Site and surrounding area.
	May	NYSDEC request for submittal of Phase I FS Report	
	June	Submittal of Phase I FS Report	Initial screening of potentially available technologies.
	July	NYSDEC Letter outlining reasons for rejection of Phase I FS Report	
	July	Nepera/WLC Request that Phase I FS be reviewed by the NYSDEC	
	August	NYSDEC Comments on the Phase I FS Report	
	August	Response to NYSDEC Comments on the Phase I FS Report	
	August	Submittal of RI Report	
	September	Supplemental Response to NYSDEC Comments on the Phase I FS Report	
	October	NYSDEC Comments on the RI Report	
	October	Submittal of the Phase II FS Report	Selected media-specific response actions, technologies and process option retained were developed into complete alternatives.
	November	Response to NYSDEC Comments on the RI	
	December	NYSDEC Comments on the FS Report	NYSDEC requests a postponement in order to resolve certain key issues associated with the FS process.
1996	Jan - June	Ongoing Discussion with NYSDEC Re Issues and Treatability Study	NYSDEC, USEPA, and Nepera/WLC determine that a Treatability Study in support of soil vapor extraction (SVE) and biodegredation would be appropriate prior to the finalization of the FS Report.
	March	NYSDEC Approval of RI report	
	July	Submittal of SVE/Bioremediation Treatability Study Work Plan	
	August	NYSDEC Comments on the Treatability Study	
	September	Submittal of Final Treatability Study WP	
	November	NYSDEC Modifications Letter on Treatability Study WP	
	November	Field Activities for Treatability Study	
	December	NYSDEC Development of Interim Groundwater Monitoring Program	
1997	Jan - Sept	Treatability Study Submissions	Numerous interim submission to NYSDEC/USEPA
	February	First Semi-annual Interim Groundwater Monitoring Event	
	September	Submittal of Treatability Study Report	
	October	Submittal of FS Report	
1998	March	Meeting with USEPA	Meeting with John LaPadula to discuss RI/FS Issues
	May	Consent Decree filed in US District Court	Maybrook & Harriman Environmental Trust established to remediate the Maybrook Site.
	July	USEPA Position Letter	From John LaPadula regarding RI/FS Issues
	August	Response to USEPA Position Letter	
	December	Submittal of Additional Investigation Work Plan	Submitted to satisfy requests of USEPA Position Letter
	December	NYSDEC Comments on Additional Investigation WP	
1999	January	USEPA Comments on Additional Investigations WP	
	February	Response to NYSDEC/USEPA Comments on Additional	

TABLE 3.1

CHRONOLOGY OF EVENTS
FORMER LAGOON SITE
TOWN OF HAMPTONBURGH, NEW YORK

Date		*Event*	*Description*
		Investigations WP	
	April	NYSDEC/USEPA Request and Comments	Request for separate OU-1 and OU-2 Work Plans
	April	Submittal of Revised OU-1 WP	
	May	NYSDEC/USEPA Comments of OU-1 WP	
	July	Submittal of Revised OU-1 WP	
	August	Submittal of Revised OU-2 WP	
	August	NYSDEC/USEPA Approval of OU-1 WP	
	September	Submittal of Revised OU-2 WP	
	November	Submittal of Supplemental Investigation (SI) Report for OU-1	
	November	Submittal of FS for OU-1	
	November	NYSDEC/USEPA Comments on Revised OU-2 WP	
2000	February	NYSDEC/USEPA Comments on SI Report and FS Report - OU-1	
	February	Meeting with NYSDEC	
	March	Letter of Understanding Submitted to NYSDEC/USEPA	Based on events from February 2000 Meeting.
	March	Response to NYSDEC/USEPA Comments on SI Report and FS Report - OU-1	
	June	NYSDEC/USEPA Comments on Letter of Understanding	
	October	Submittal of Revised SI Report for OU-1	
	December	Meeting with NYSDEC/USEPA	
	December	Action Items and Schedule Letter Submitted to NYSDEC/USEPA	
2001	January	Submittal of revised RAGs Part D Tables series 1 to 4	
	February	Submittal of revised OU-2 WP	
	March	Submittal of revised RAGs Part D Tables series 5 to 8	
		Submittal of revised RAGs Part D Tables series 9 to 10 and other assorted tables	
		Submittal of Proposed Cleanup Goals for Inorganics	
	May	NYSDEC/USEPA Approval of OU-2 WP	
	June - July	Field Activities for OU-2 WP	Installation of -01 series wells and conversions of four -91 series wells from open corehole bedrock wells to screened interval wells. The installation of additional groundwater monitoring wells was requested by the U.S. EPA and the NYSDEC during a meeting on February 17, 2000 to further investigate the groundwater contaminant plume in the overburden and bedrock at the Site. Additional Round of Groundwater Sampling conducted including Natural Attenuation Sampling.
	July	NYSDEC / USEPA Comment on March 2001 submittal regarding cleanup goals for inorganics.	

TABLE 3.1

CHRONOLOGY OF EVENTS
FORMER LAGOON SITE
TOWN OF HAMPTONBURGH, NEW YORK

Date		*Event*	*Description*
2001	September	Submittal of supplemental information pertaining to pesticides	
	Oct - Nov	Miscellaneous correspondence from USEPA addressing a number of issues.	
2002	January	Submittal of Trust Response regarding comments of USEPA from October to November	
	March	Meeting with USEPA and NYSDEC	Trust agrees to perform additional inorganic characterization of the lagoons, mercury speciation, and background sampling.
	May	Submittal of Soil Sampling Workplan and Quality Assurance Project Plan for OU-1	
	June	Second Round of Natural Attenuation Sampling	Selected wells sampled as outlined in the OU-2 WP.
	July - Dec	Additional Submittals and Clarification of Soil Sampling Workplan and Quality Assurance Project Plan	
2003	February	USEPA Approval of Soil Sampling Workplan	
	May	Additional Soil Sampling	Samples taken from lagoons and offsite (background) for inorganics, pesticides and Mercury.
	May	USEPA Sediment Sampling of Beaverdam Brook	26 samples are collected by the USEPA
	November	Submittal of Natural Attenuation Study for OU-2	
		Submittal of Soil Sampling results from May	
		Submittal of Sediment Data to Trust by USEPA	
2004	January	Meeting with USEPA/NYSDEC	Agreement to complete SI Report for OU-1 and OU-2 (combined).
		Preliminary USEPA Comments regarding Natural Attenuation Study for OU-2	
	February	Submittal of Cultural Resource Survey	
		Submittal of Wetland Delineation Study	
	March	Submittal of Evaluation of Mercury Speciation Results	
	June	USEPA Approval and Comments on Mercury Speciation Results	
		Submittal of Potential Treatment Alternatives Whitepaper	
		Re-submittal of Natural Attenuation Study	
	September	USEPA Comments on Natural Attenuation Study and Potential Treatment Alternatives	

TABLE 3.2

TECHNICAL MEMORANDA SUBMITTED TO NYSDEC
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Technical Memorandum No. 1	-	Site Survey and Base Maps
Technical Memorandum No. 2	-	Test Pit and Source Testing Investigations
Technical Memorandum No. 2, Addendum 1	-	Test Pit and Source Testing Investigations
Technical Memorandum No. 3	-	Magnetometer Survey
Technical Memorandum No. 4	-	Hydrogeologic Investigation
Technical Memorandum No. 5	-	Surface Water and Sediment Sampling Investigation
Technical Memorandum No. 6	-	Data Validation Report/Data Base
Technical Memorandum No. 6, Addendum 1	-	Data Validation Report/Data Base
Technical Memorandum No. 7	-	Downhole Geophysical Survey
Technical Memorandum No. 8	-	Preliminary Ecological Assessment
Technical Memorandum No. 9	-	Surface Infiltration Investigation
Technical Memorandum	-	January 11, 1995 Monitoring Well Reconnaissance

TABLE 3.3

SUMMARY OF TEST PIT SOIL/SLUDGE AND DRUM SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample I.D.	*Location*	*Depth (ft BGS)*	*Analysis*
Phase I Test Pits			
S-3698-062691-WW-TP1	TP-41	1	(1)
S-3698-062891-DA-TP2	TP-28	3.5	(1)
S-3698-070191-WW-TP3	TP-29	5	(1)
	TP-20	7	(1)
S-3698-070291-WW-TP4	TP-26	6	(1)
	TP-22	7	(1)
S-3698-070391-WW-TP5	TP-23	7	(1)
	TP-24	5	(1)
S-3698-070891-WW-TP6	TP-15	3	(1)
S-3698-070891-WW-TP7	TP-12	3	(1)
		8	(1)
S-3698-070991-WW-TP8	TP-11A	1 - 3	(1)
S-3698-071091-WW-TP9	TP-6	4 - 6	(1)
S-3698-071191-WW-TP10	TP-4	5 - 6	(1)
S-3698-071291-WW-TP11	TP-2	5 - 7	(1)
S-3698-071291-WW-TP12	TP-2	5 - 7	(1)
Phase II Test Pits			
S-3698-120491-EF-TP13	TP-46	2 - 8	(1)
S-3698-120491-EF-TP13MS	TP-46	2 - 8	(1)
S-3698-120491-EF-TP13MSD	TP-46	2 - 8	(1)
S-3698-120491-EF-TP14	TP-46(Duplicate)	2 - 8	(1)
S-3698-120591-EF-D01	D001	NA	(1)
S-3698-120591-EF-D01MS	D001	NA	(1)
S-3698-120591-EF-D01MSD	D001	NA	(1)
S-3698-120591-EF-D04	D001(Duplicate)	NA	(1)
S-3698-120591-EF-D02	D002	NA	(1)
S-3698-120591-EF-D03	D003	NA	(1)
S-3698-120591-WW-05	Rinsate	NA	(1)

Notes:

(1) - TCL VOC, SVOC, Pesticides/PCB, TAL Metals, Cyanide, Total Petroleum Hydrocarbons, Site-specific parameters.

NA - Not applicable.

TABLE 3.4

SUMMARY OF BOREHOLE SUBSURFACE SOIL SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Total Depth (ft. BGS)*	*Chemical Sample Interval (ft. BGS)*	*Sample Number*	*Date Sample Number*
BH-1-91	16.5	0 - 2	S-062591-EH-30	6/25/91
		4 - 6	S-062591-EH-31	6/25/91
		8 - 10	S-062591-EH-32	6/25/91
BH-3-91	5.3	0 - 2	S-062791-EH-43	6/27/91
BH-4-91	10.0	0 - 2	S-062591-EH-33	6/25/91
		4 - 6	S-062591-EH-34	6/25/91
BH-5-91	20.0	0 - 2	S-062591-EH-36	6/25/91
		4 - 6	S-062591-EH-37	6/25/91
		8 - 10	S-062591-EH-38	6/25/91
MW-1D-91	8.0*	0 - 2	S-062591-RF-01	6/25/91
		4 - 8	S-062591-RF-02	6/25/91
MW-2D-91	19.0*	0 - 2	S-062691-EH-39	6/26/91
			S-062691-EH-40 Dup. of 39	6/26/91
		4 - 6	S-062691-EH-41	6/26/91
		12 - 14	S-062691-EH-42	6/26/91
MW-4D-91	15.0*	0 - 2	S-062691-RF-03	6/26/91
		4 - 6	S-062691-RF-04	6/26/91
		8 - 10	S-062691-RF-05	6/26/91
		8 - 10	S-062691-RF-05 Matrix Spike	6/26/91
		8 - 10	S-062691-RF-05 Matrix Spike Dup.	6/26/91
MW-1U-91	22.0*	0 - 2	S-062891-RF-06	6/28/91
		8 - 10	S-062891-RF-07	6/28/91
		8 - 10	S-062891-RF-08 Dup. of 07	6/28/91

Note:

* Designates borehole was completed as a monitoring well and total depth is depth to bedrock.

TABLE 3.5

RI MONITORING WELL COMPLETION DETAILS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Ground Elevation (ft. AMSL)*	*Top of Casing Elevation (ft. AMSL)*	*Total Depth (ft. BGS)*	*Monitoring Interval (ft. BGS)*	*Yielding Formation*	*Date Completed*
MW-1D-91	378.0	380.54	32	13.0 - 32.0	Shale	6/30/91
MW-2D-91	377.2	379.53	52	24.0 - 52.0	Shale	6/30/91
MW-3D-91	372.8	375.31	53	28.0 - 53.0	Shale	6/30/91
MW-4D-91	372.9	375.21	26	20.8 - 26.0	Shale	6/30/91
MW-1U-91	373.8	375.90	22	8.0 - 13.0*	Sand	6/28/91
MW-5U-95	360.2	363.31	19.6	7.5 - 17.5†	Sand	5/24/95
MW-7U-95	364.2	366.76	13.9	8.6 - 13.6*	Sand	5/4/95
MW-8U-95	357.33 (1)	361.04	10.2	5.2 - 10.2*	Sand and Silt	5/24/95
MW-5D-95	360.0	364.00	97	36 - 97	Shale	6/6/95
MW-6D-95	348.5	351.73	72	62 - 72	Shale	5/23/95
DW-1-95	367.4	370.04	155	115 - 120	Shale	5/23/95
DW-2-95	366.1	368.65	178	100 - 105	Shale	5/18/95

Note:

(1) - Ground elevation at MW-8U-95 was estimated by measuring the above ground protective casing and subtracting this value from the Top of Casing Elevation.

* - Designates 5-foot, 2-inch ID stainless steel screen interval.

† Designates 10-foot, 2-inch ID stainless steel screen interval.

TABLE 3.6

SUMMARY OF RI WELL DEVELOPMENT
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Date Conducted (mm/dd/yy)*	*Water Level (ft. BTOR)*	*Well Volume (gallon)*	*Volume Removed (gallon)*	*Conductivity (umhos/cm)*	*pH*	*Temperature (°C)*	*Clarity / Color*	*Turbidity (NTU)*	*Odor*	*Development Method*
MW-lU-91	6/30/91	14.54	0.1	14 B.D.	400	4.75	14.5	Silty	-	-	Bailer
MW-1D-91	6/29/91	16.79	11.2	120	500	5.10	17.4	Silty	-	-	Bailer
				133	500	5.26	13.5	Silty	-	-	
				146	500	4.80	13.8	Silty	-	-	
				159	600	5.15	13.8	Silty	-	-	
				172	600	5.15	13.8	Silty	-	-	
MW-2D-91	6/30/91	13.52	26.0	80 B.D.	2400	6.45	15.6	Silty	-	-	Bailer
				85 B.D.	2600	6.78	14.5	Silty	-	-	
				90 B.D.	2600	6.75	14.6	Silty	-	-	
				115 B.D.	2800	6.68	13.9	Silty	-	-	
MW-3D-91	7/1/91	26.58	18.9	120 B.D.	200	6.63	13.0	Silty	-	-	Bailer
				180 B.D.	200	6.65	13.1	Silty	-	-	
				240 B.D.	200	6.62	13.0	Silty	-	-	
MW-4D-91	6/29/91	17.50	5.9	25 B.D.	200	5.05	13.8	Silty	-	-	Bailer
				32 B.D.	200	5.07	13.8	Silty	-	-	
				36 B.D.	300	5.07	12.4	Silty	-	-	
				38 B.D.	300	5.07	12.7	Silty	-	-	
				42 B.D.	300	5.01	12.0	Silty	-	-	

TABLE 3.6

SUMMARY OF RI WELL DEVELOPMENT
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Date Conducted (mm/dd/yy)*	*Water Level (ft. BTOR)*	*Well Volume (gallon)*	*Volume Removed (gallon)*	*Conductivity (umhos/cm)*	*pH*	*Temperature (°C)*	*Clarity / Color*	*Turbidity (NTU)*	*Odor*	*Development Method*
MW-5D-95	5/31/1995	11.5	41	41	446	8.18	20.2	none	47.7	none	pumping
				82	540	8.41	18.5	none	170.6	none	
				123	704	8.16	18.1	light gray	527	none	
				164	883	7.59	17.5	light gray	264	sulfur	
				205	872	7.34	18.6	light gray	213	none	
MW-5U-95	5/31/1995	6.36	2.1	2.1	279	7.79	16.7	clear	157	none	Bailer
				4.2	324	7.82	15.1	light brown	223	none	
				6.3	280	8.01	14.7	clearing	743	none	
				8.4	259	8.04	14.6	clearing	700	none	
MW-6D-95	5/31/1995	6.28	66	66 P.D.	2730	8.02	16.7	light gray	210	none	pumping
MW-8U-95	5/31/1995	6.5	1.256	1.256	4.60	7.76	18.2	light brown	>>200	none	Bailer
				2.512	4.67	7.77	15.9	light brown	>>200	none	
				3.768	4.54	7.48	15.2	light brown	>>200	none	
				5.024	4.53	7.53	17.1	light brown	>>200	none	
DW-1-95	6/7/1995	18	17	17 B.D.	4.69	12.62	21.3	clear	40.9	slight	Bailer

Note:
1. DW-2-95 was developed and purged on June 7, 1995, see Table E.1, Appendix E.
2. MW-7U-95 appeared to be dry at the time of development.
3. B.D. - Bailed Dry
4. P.D - Pumped Dry
5. ft.BTOR - feet below top of riser point

TABLE 3.7

GROUNDWATER SAMPLING PROGRAM - 1991 AND 1995 MONITORING NETWORK
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Identication	*Aquifer*	*Sampling (1)*	*Rationale*
1991 Monitoring Well Network			
SW-1	Overburden	WL	dry
SW-2	Overburden	WL,CS	downgradient, nest with DW-2
SW-3	Overburden	WL,CS	downgradient, nest with MW-1D-91
SW-4	Overburden	WL,CS	nest with MW-2D-91
SW-6	Overburden	WL,CS	downgradient
SW-7	Overburden	WL	dry
SW-8	Overburden	WL,CS	downgradient of railbed
SW-9	Overburden	WL,CS	downgradient, nest with DW-1
SW-10	Overburden	WL,CS	downgradient
DW-1	Bedrock	WL,CS	bedrock, nest with SW-9
DW-2	Bedrock	WL,CS	bedrock, nest with SW-2
MW-1	Overburden	WL	dry, poor integrity
MW-2	Overburden	WL	poor integrity
MW-3	Overburden	WL	poor integrity
MW-4	Overburden	WL	poor integrity
MW-5	Overburden	--	destroyed, replaced by MW-1U-91
MW-6	Overburden	WL	dry, poor integrity
MW-7	Overburden	WL	poor integrity
PZ-1	Overburden	WL	dry, piezometer
PZ-2	Overburden	WL	piezometer
PZ-3	Overburden	WL	piezometer
T-1	Overburden	--	rusted, poor integrity
T-2	Bedrock	--	could not locate
T-3	Bedrock	--	rusted, poor integrity
MW-1U-91	Overburden	WL, CS	downgradient
MW-1D-91	Bedrock	WL, CS	bedrock, nest with SW-3
MW-2D-91	Bedrock	WL, CS	bedrock, nest with SW-4
MW-3D-91	Bedrock	WL, CS	bedrock
MW-4D-91	Bedrock	WL, CS	bedrock, nest with SW-7
Town Supply Wells #1, 3	Bedrock	CS	municipal supply wells

TABLE 3.7

GROUNDWATER SAMPLING PROGRAM - 1991 AND 1995 MONITORING NETWORK
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Identication	*Aquifer*	*Sampling (1)*	*Rationale*
1995 Revised Monitoring Well Network			
SW-1	Overburden	WL, CS	may be dry
SW-2	Overburden	WL, CS	nest with DW-2
SW-3	Overburden	WL, CS	nest with MW-1D-91
SW-4	Overburden	WL, CS	nest with MW-2D-91
SW-6	Overburden	WL, CS	side gradient of lagoons
SW-7	Overburden	WL, CS	nest with MW-4D-91
SW-8	Overburden	WL, CS	downgradient
SW-9	Overburden	WL, CS	nest with DW-1
SW-10	Overburden	WL, CS	down/sidegradient
DW-1	Bedrock	WL, CS	nest with SW-9, reconstructed in 1995
DW-2	Bedrock	WL, CS	nest with SW-2, reconstructed in 1995
MW-1	Overburden	WL, CS	may be dry
MW-2	Overburden	WL	upgradient of SW-2, T-1, MW-7U
MW-3	Overburden	WL, CS	not sampled in 1991
MW-4	Overburden	WL	center of Site, poor integrity
MW-6	Overburden	WL, CS	may be dry
MW-7	Overburden	WL, CS	downgradient
PZ-1	Overburden	WL	may be dry, riser broken
PZ-2	Overburden	WL	center of site
PZ-3	Overburden	WL	upgradient of SW-8
T-1	Overburden	WL, CS	downgradient
T-2	Bedrock	WL, CS	downgradient
T-3	Bedrock	WL	downgradient of SW-3, T-2
MW-1U-91	Overburden	WL	center of defined plume
MW-1D-91	Bedrock	WL, CS	nest with SW-3
MW-2D-91	Bedrock	WL, CS	nest with SW-4
MW-3D-91	Bedrock	WL, CS	downgradient
MW-4D-91	Bedrock	WL, CS	nest with SW-7

TABLE 3.7

GROUNDWATER SAMPLING PROGRAM - 1991 AND 1995 MONITORING NETWORK
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Identication	*Aquifer*	*Sampling (1)*	*Rationale*
MW-5U-95	Overburden	WL, CS	new monitoring well
MW-5D-95	Bedrock	WL, CS	new monitoring well
MW-6D-95	Bedrock	WL, CS	new monitoring well
MW-7U-95	Overburden	WL, CS	new monitoring well
MW-8U-95	Overburden	WL, CS	new monitoring well
Town Supply Wells #1, 2, 3	Bedrock	CS	municipal supply wells

Notes:

1. WL - water level
   CS - sample collected for the analysis of the following parameters:
   1991 - TCL VOCs, SVOCs, Pesticides/PCBs, TAL metals (total), cyanide, total petroleum hydrocarbons and site-specific parameters
   1995 - TCL VOCs, SVOCs, TAL metals (total and dissolved), cyanide, chloride and site-specific parameters

TABLE 3.8

SUMMARY OF 1991 AND 1995 GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well ID	*Sample ID*	*Date*	*Description*	*Temperature (°C)*	*pH*	*Conductivity (µmho/cm)*	*Turbidity (NTu)*	*Analyses*
1991 Groundwater Sampling								
SW-10	GW-3698-082391-WW-01	8/23/1991	slightly cloudy	14.6	7.01	400	>200	See Note 1
SW-3	GW-3698-082391-WW-02	8/23/1991	slightly cloudy	16.2	6.47	200	>200	See Note 1
SW-4	GW-3698-082391-WW-03	8/23/1991	cloudy	17.3	7.84	700	121.2	See Note 1
SW-9	GW-3698-082391-WW-04	8/23/1991	clear	16.8	5.80	300	49.6	See Note 1
SW-2	GW-3698-082391-WW-05	8/23/1991	cloudy	16.7	8.29	600	41.0	See Note 1
DW-1	GW-3698-082391-WW-06	8/23/1991	clear	15.0	7.46	600	49.7	See Note 1
MW-1U-91	GW-3698-082691-WW-08	8/26/1991	slightly cloudy	19.2	7.18	400	>200	See Note 1
DW-2	GW-3698-082691-WW-10MS/MSD	8/26/1991	clear	16.2	8.46	700	23.3	See Note 1
MW-4D-91	GW-3698-082691-WW-11	8/26/1991	slightly cloudy	15.0	7.21	100	183.8	See Note 1
MW-2D-91	GW-3698-082691-WW-12	8/26/1991	slightly cloudy	16.2	9.29	1100	117.7	See Note 1
MW-2D-91	GW-3698-082691-WW-13	8/26/1991	duplicate of GW-3698-082691-WW-12	16.2	9.29	1100	117.7	See Note 1
MW-3D-91	GW-3698-082791-WW-14	8/27/1991	slightly cloudy	13.5	8.15	100	92.7	See Note 1
MW-1D-91	GW-3698-082791-WW-15	8/27/1991	clear	15.3	6.97	300	66.5	See Note 1
MW-1D-91	GW-3698-082791-WW-16	8/27/1991	duplicate of GW-3698-082791-WW-15	15.3	6.97	300	66.5	See Note 1
Town of Maybrook Well #1	GW-3698-101691-WW-19	10/16/1991	clear	12.8	7.14	300	NA	See Note 1
Town of Maybrook Well #3	GW-3698-101691-WW-20	10/16/1991	clear	12.2	7.47	300	NA	See Note 1
1995 Groundwater Sampling								
MW-1	GW-3698-060795-MTL-016	6/7/1995	Brown, silty	15.00	8.66	110	250	See Note 2
MW-3	GW-3698-060795-EFF-018	6/7/1995	Brown, turbid	17.60	8.49	150	649	See Note 2
MW-6	*Insufficient volume*	–	–	–	–	–	–	–
MW-7	GW-3698-060595-MTL-005	6/5/1995	Tan, turbid	16.60	7.71	200	830	See Note 2
SW-1	*Insufficient volume*	–	–	–	–	–	–	–
SW-2	GW-3698-060695-CN-010	6/6/1995		10.80	7.68	796	404	See Note 2
SW-3	GW-3698-060595-MTL-001	6/5/1995	Clear	16.00	6.79	343	55	See Note 2
SW-4	GW-3698-060695-MTL-014	6/6/1995	Dark green, cloudy, very turbid	17.00	8.80	304	4040	See Note 2
SW-6	GW-3698-060795-EFF-021	6/7/1995		11.70	6.73	97	394	See Note 2
SW-7	GW-3698-060695-CN-006	6/6/1995		11.50	7.72	217	31.6	See Note 2
SW-8	GW-3698-060595-MTL-002	6/5/1995	Slightly turbid	18.60	6.85	510	110	See Note 2
SW-9	GW-3698-060695-MTL-007	6/6/1995	Clear	13.60	6.05	90	15	See Note 2
SW-10	GW-3698-060895-EFF-023	6/8/1995	Clear	11.20	7.24	37.6	30.2	See Note 2
DW-1	GW-3698-060995-EFF-026 MS/MSD	6/9/1995	Clear	12.70	12.47	2210	6.21	See Note 2
DW-2	GW-3698-060995-EFF-028	6/9/1995	Clear	16.00	12.15	663	18.9	See Note 2

TABLE 3.8

SUMMARY OF 1991 AND 1995 GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well ID	*Sample ID*	*Date*	*Description*	*Temperature (°C)*	*pH*	*Conductivity (µmho/cm)*	*Turbidity (NTu)*	*Analyses*
1995 Groundwater Sampling								
MW-1U-91	*Insufficient volume*	–	–	–	–	–	–	–
MW-1D-91	GW-3698-060595-EFF-003	6/5/1995	Clear	16.70	6.54	118	4.75	See Note 2
MW-2D-91	GW-3698-060695-EFF-012	6/6/1995	Light silt	16.80	8.74	297	43.8	See Note 2
MW-2D-91	GW-3698-060895-EFF-013	6/6/1995	duplicate of GW-3698-060895-EFF-012	16.80	8.74	297	43.8	See Note 2
MW-3D-91	GW-3698-060695-EFF-008	6/6/1995	Clear	13.60	9.56	225	6.24	See Note 2
MW-3D-91	GW-3698-060895-EFF-009	6/6/1995	duplicate of GW-3698-060895-EFF-008	13.60	9.56	225	6.24	See Note 2
MW-4D-91	GW-3698-060595-CN-004	6/5/1995		12.00	7.21	222	16.8	See Note 2
T-1	GW-3698-060695-CN-015 MS/MSD	6/6/1995		10.10	7.87	170	54.3	See Note 2
T-2	GW-3698-060695-CN-011	6/6/1995		11.38	8.48	794	104	See Note 2
MW-5U-95	GW-3698-060795-CN-019	6/7/1995		10.83	7.92	256	973	See Note 2
MW-5D-95	GW-3698-060895-EFF-022	6/8/1995	Clear	13.00	7.53	897	40.2	See Note 2
MW-6D-95	GW-3698-060895-EFF-024	6/8/1995	Clear	14.30	12.18	1335	12.8	See Note 2
MW-6D-95	GW-3698-060895-EFF-025	6/8/1995	duplicate of GW-3698-060895-EFF-024	14.30	12.18	1335	12.8	See Note 2
MW-7U-95	*Insufficient volume*	–	–	–	–	–	–	–
MW-8U-95	GW-3698-060795-CN-017	6/7/1995		13.10	7.65	268	203	See Note 2
Maybrook Supply Wells #1,2,3	GW-3698-062895-DJM-039 MS/MSD	6/28/1995	–	–	–	–	–	See Note 2
Maybrook Supply Wells #1,2,3	GW-3698-062895-DJM-040	6/28/1995	duplicate of GW-3698-062895-DJM-039	–	–	–	–	See Note 2

Notes:

1. TCL VOCs, SVOCs, Pesticides/PCBs, TAL Metals (total), Cyanide, Total Petroleum Hydrocarbons, Site-specific parameters.
2. TCL VOCs, SVOCs, TAL Metals (total and dissolved), Cyanide, Chloride, Site-specific parameters.

TABLE 3.9

GROUNDWATER ELEVATIONS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well ID	Ground Surface Elevation (ft. AMSL)	Reference Elevation (ft. AMSL)	Water Elevations (ft. AMSL)						
			CRA 6/3/2002	CRA 7/12/2001	CRA 8/14/1995	CRA 7/24/1995	CRA 6/20/1995	CRA 6/1/1995	CRA 1/12/1995
SW-1	370	--	--	Dry	Dry	Dry	--	--	--
SW-2	366.1	368.23	361.83	359.69	358.31	358.54	359.78	360.37	361.99
SW-3	377.4	380.30	369.64	365.05	362.54	Dry	365.04	366.60	370.00
SW-4	377.3	379.58	373.08	368.96	367.10	367.28	368.92	369.84	373.60
SW-6	381	--	--	Dry	Dry	Dry	--	--	--
SW-7	372.7	375.55	361.02	358.89	Dry	Dry	--	359.83	361.17
SW-8	372.2	374.64	363.91	360.04	358.78	359.16	360.44	361.07	364.02
SW-9	366.5	369.20	361.26	358.52	357.80	357.93	358.52	358.94	361.18
SW-10	373.2	375.46	366.04	DRY	361.92	362.40	363.33	--	366.84
DW-1	367	367.79	--	--	--	--	--	--	354.17
DW-2	365.9	367.06	--	--	--	--	--	--	361.88
MW-1	364.5	366.62	355.60	351.90	350.93	350.75	--	352.84	355.74
MW-2	367.3	372.35	363.92	361.59	360.05	360.38	361.47	362.38	364.02
MW-3	377.6	378.77	371.85	368.65	366.51	366.89	368.59	369.45	372.65
MW-4	377.3	382.25	372.57	367.85	365.86	367.17	368.61	369.37	372.95
MW-5	--	--	--	--	--	--	--	--	--
MW-6	368.96	369.89	362.74	Dry	Dry	Dry	--	Dry	363.31
MW-7	367.9	372.41	363.16	359.87	358.15	358.47	359.99	360.61	363.69
PZ-1	372.8	373.68	--	--	Dry	Dry	--	362.20	364.73
PZ-2	375.9	377.08	--	--	368.66	368.67	--	369.80	373.32
PZ-3	371.4	373.06	--	--	360.33	360.66	--	363.61	366.52
MW-1U-91	373.8	375.90	368.03	365.75	363.88	364.27	365.67	366.27	368.70
MW-1D-91	378.0	380.54	369.74	364.98	362.44	361.86	--	366.60	370.10
MW-2D-91	377.2	379.53	370.29	366.68	364.63	364.88	366.77	367.73	371.15
MW-3D-91	372.8	375.31	351.16	349.54	347.64	347.76	349.63	349.93	351.81
MW-4D-91	372.9	375.21	360.91	358.75	356.83	357.03	--	359.71	361.11
MW-5D-95	360.0	364.00	353.87	352.00	354.65	354.76	354.08	--	--
MW-5U-95	360.2	363.31	358.39	356.23	355.07	355.12	356.52	--	--
MW-6D-95	348.5	351.73	345.82	349.64	342.45	342.51	343.65	344.37	--
MW7U-95	364.2	366.76	355.67	Dry	Dry	Dry	352.04	352.34	--
MW-8U-95	357.3	361.04	355.86	355.32	354.12	354.20	355.46	--	--
DW-1-95	367.4	370.04	351.63	347.09	345.69	345.94	347.44	352.80	--
DW-2-95	366.1	368.65	358.05	343.37	354.95	354.89	355.92	356.21	--
T-1	--	367.2	--	--	359.53	359.53	--	--	--
T-2	--	367.0	353.88	351.98	351.16	351.28	--	--	--
T-3	--	350.1	346.13	346.16	345.06	--	--	--	--
MW-9U-01	357.60	359.7	347.99	346.94	--	--	--	--	--
MW-9D-01	357.30	359.48	349.64	348.18	--	--	--	--	--
MW-10U-01	346.20	359.60	351.69	348.26	--	--	--	--	--
MW-10D-01	357.60	359.71	351.18	348.73	--	--	--	--	--
MW-11U-01	370.00	348.59	344.39	343.48	--	--	--	--	--
MW-11D-01	346.50	348.66	344.07	343.36	--	--	--	--	--
MW-12D-01	382.80	385.04	366.34	364.74	--	--	--	--	--
MW-13D-01	385.10	387.22	365.17	360.86	--	--	--	--	--

Notes:

1. Wells DW-1 and DW-2 were recompleted in May 1995 with a well screen, resurveyed in May 1995 with a well screen, resurveyed and renamed as DW-1-95 and DW-2-95.
2. MW-2 and MW-7 were resurveyed in 1995, indicating a reference elevation of 372.33 indicating a reference elevation of 372.33 and 372.55 ft. AMSL, respectively. The 1995 water elevations are based on these latter reference elevations.
3. The ground surface elevation for SW-1 and MW-6 wells were estimated from the site contour plan and measured stickups for each above ground casing.
4. The ground surface elevation for MW-8U-95 was estimated by measuring the above ground protective casing and subtracting this value from the Reference Elevation (Top of Casing).
5. Reference elevations are based on CRA's survey reference datum. C.A. Rich's datum differs from CRA's.

TABLE 3.9

GROUNDWATER ELEVATIONS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well ID	Ground Surface Elevation (ft. AMSL)	Reference Elevation (ft. AMSL)	Water Elevations (ft. AMSL) CRA 6/17/1993	CRA 6/10/1993	CRA 6/2/1993	CRA 5/25/1993	CRA 5/21/1993	CRA 5/12/1993	CRA 8/22/1991
SW-1	370	--	--	--	--	--	--	--	--
SW-2	366.1	368.23	359.96	360.33	360.71	361.10	361.28	361.77	357.93
SW-3	377.4	380.30	366.01	365.97	366.84	367.33	368.04	369.34	367.01
SW-4	377.3	379.58	369.61	370.16	370.72	371.45	372.04	373.41	370.56
SW-6	381	--	--	--	--	--	360.57	--	--
SW-7	372.7	375.55	358.89	359.31	359.59	359.93	360.10	360.57	--
SW-8	372.2	374.64	360.44	359.80	361.26	361.92	362.32	363.46	358.94
SW-9	366.5	369.20	--	--	--	--	359.39	360.68	358.3
SW-10	373.2	375.46	--	--	--	--	--	--	362.04
DW-1	367	367.79	350.87	351.31	351.75	352.37	352.35	353.70	--
DW-2	365.9	367.06	359.33	359.74	360.14	360.54	360.76	361.46	358.43
MW-1	364.5	366.62	351.76	352.09	352.56	354.05	354.24	356.23	--
MW-2	367.3	372.35	362.13	362.55	362.91	363.31	363.58	364.04	--
MW-3	377.6	378.77	369.25	369.77	370.32	371.07	372.23	372.74	--
MW-4	377.3	382.25	369.55	370.01	370.53	370.99	371.47	372.72	--
MW-5	--	--	--	--	--	--	--	--	--
MW-6	368.96	369.89	362.61	362.61	362.63	362.59	362.62	362.72	--
MW-7	367.9	372.41	360.03	360.55	361.04	361.66	361.92	363.35	--
PZ-1	372.8	373.68	361.68	361.98	362.36	362.85	363.10	363.94	--
PZ-2	375.9	377.08	369.95	369.48	370.84	371.45	372.08	373.30	--
PZ-3	371.4	373.06	363.04	363.50	364.05	364.70	365.07	365.99	--
MW-1U-91	373.8	375.90	366.05	366.44	366.83	367.26	367.49	368.42	365.96
MW-1D-91	378.0	380.54	365.45	366.28	367.15	367.99	368.01	369.46	366.93
MW-2D-91	377.2	379.53	367.00	367.67	368.19	369.04	369.49	371.01	367.1
MW-3D-91	372.8	375.31	349.29	349.68	350.08	350.40	350.66	351.52	348.91
MW-4D-91	372.9	375.21	358.75	359.17	359.47	359.81	359.99	360.48	362.78
MW-5D-95	360.0	364.00	--	--	--	--	--	--	--
MW-5U-95	360.2	363.31	--	--	--	--	--	--	--
MW-6D-95	348.5	351.73	--	--	--	--	--	--	--
MW7U-95	364.2	366.76	--	--	--	--	--	--	--
MW-8U-95	357.3	361.04	--	--	--	--	--	--	--
DW-1-95	367.4	370.04	--	--	--	--	--	--	--
DW-2-95	366.1	368.65	--	--	--	--	--	--	--
T-1	--	367.2	--	--	--	--	--	--	--
T-2	--	367.0	--	--	--	--	--	--	--
T-3	--	350.1	--	--	--	--	--	--	--
MW-9U-01	357.60	359.7	--	--	--	--	--	--	--
MW-9D-01	357.30	359.48	--	--	--	--	--	--	--
MW-10U-01	346.20	359.60	--	--	--	--	--	--	--
MW-10D-01	357.60	359.71	--	--	--	--	--	--	--
MW-11U-01	370.00	348.59	--	--	--	--	--	--	--
MW-11D-01	346.50	348.66	--	--	--	--	--	--	--
MW-12D-01	382.80	385.04	--	--	--	--	--	--	--
MW-13D-01	385.10	387.22	--	--	--	--	--	--	--

Notes:

1. Wells DW-1 and DW-2 were recompleted in May 1995 with a well screen, resurveyed in May 1995 with a well screen, resurveyed and renamed as DW-1-95 and DW-2-95.
2. MW-2 and MW-7 were resurveyed in 1995, indicating a reference elevation of 372.33 indicating a reference elevation of 372.33 and 372.55 ft. AMSL, respectively. The 1995 water elevations are based on these latter reference elevations.
3. The ground surface elevation for SW-1 and MW-6 wells were estimated from the site contour plan and measured stickups for each above ground casing.
4. The ground surface elevation for MW-8U-95 was estimated by measuring the above ground protective casing and subtracting this value from the Reference Elevation (Top of Casing).
5. Reference elevations are based on CRA's survey reference datum. C.A. Rich's datum differs from CRA's.

TABLE 3.9

GROUNDWATER ELEVATIONS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well ID	Ground Surface Elevation (ft. AMSL)	Reference Elevation (ft. AMSL)	Water Elevations (ft. AMSL)						
			CRA 8/23/1991	CRA 10/14/1991	CRA 10/18/1991	C.A. Rich 8/28/1985	C.A. Rich 9/12/1985	C.A. Rich 10/2/1985	C.A. Rich 12/11/1985
SW-1	370	--	--	--	--	Dry	Dry	Dry	Dry
SW-2	366.1	368.23	358.13	358.93	359.09	360.09	357.26	359.35	362.93
SW-3	377.4	380.30	--	368.26	368.56	365.45	365.81	369.48	371.60
SW-4	377.3	379.58	370.23	371.37	371.26	369.64	--	372.30	375.22
SW-6	381	--	--	--	--	Dry	367.85	372.89	374.66
SW-7	372.7	375.55	--	358.19	--	--	358.72	359.22	362.02
SW-8	372.2	374.64	358.9	360.25	--	360.31	359.45	360.68	365.15
SW-9	366.5	369.20	358.3	358.60	--	360.14	360.01	359.88	362.63
SW-10	373.2	375.46	361.99	362.57	362.70	363.70	363.39	363.60	367.08
DW-1	367	367.79	--	349.60	--	--	349.51	350.30	354.03
DW-2	365.9	367.06	--	357.97	358.15	--	356.05	358.17	362.46
MW-1	364.5	366.62	--	351.96	--	--	--	353.65	357.92
MW-2	367.3	372.35	--	361.47	362.14	--	--	362.26	364.22
MW-3	377.6	378.77	--	369.83	370.05	--	--	371.03	374.59
MW-4	377.3	382.25	--	370.12	370.39	--	--	370.57	374.42
MW-5	--	--	--	--	--	--	--	369.98	370.16
MW-6	368.96	369.89	--	362.65	--	--	--	363.98	363.73
MW-7	367.9	372.41	--	359.48	--	--	--	363.16	364.75
PZ-1	372.8	373.68	--	Dry	--	--	--	363.22	365.18
PZ-2	375.9	377.08	--	370.74	--	--	--	365.06	367.40
PZ-3	371.4	373.06	--	364.26	--	--	--	372.15	376.35
MW-1U-91	373.8	375.90	--	367.19	367.04	--	--	--	--
MW-1D-91	378.0	380.54	366.29	368.30	368.59	--	--	--	--
MW-2D-91	377.2	379.53	--	368.10	368.33	--	--	--	--
MW-3D-91	372.8	375.31	347.79	349.11	349.21	--	--	--	--
MW-4D-91	372.9	375.21	--	363.78	364.01	--	--	--	--
MW-5D-95	360.0	364.00	--	--	_	--	--	--	--
MW-5U-95	360.2	363.31	--	--	_	--	--	--	--
MW-6D-95	348.5	351.73	--	--	_	--	--	--	--
MW7U-95	364.2	366.76	--	--	_	--	--	--	--
MW-8U-95	357.3	361.04	--	--	_	--	--	--	--
DW-1-95	367.4	370.04	--	--	_	--	--	--	--
DW-2-95	366.1	368.65	--	--	_	--	--	--	--
T-1	--	367.2	--	--	--	--	--	--	--
T-2	--	367.0	--	--	--	--	--	--	354.18
T-3	--	350.1	--	--	--	--	--	--	346.34
MW-9U-01	357.60	359.7	--	--	--	--	--	--	--
MW-9D-01	357.30	359.48	--	--	--	--	--	--	--
MW-10U-01	346.20	359.60	--	--	--	--	--	--	--
MW-10D-01	357.60	359.71	--	--	--	--	--	--	--
MW-11U-01	370.00	348.59	--	--	--	--	--	--	--
MW-11D-01	346.50	348.66	--	--	--	--	--	--	--
MW-12D-01	382.80	385.04	--	--	--	--	--	--	--
MW-13D-01	385.10	387.22	--	--	--	--	--	--	--

Notes:

1. Wells DW-1 and DW-2 were recompleted in May 1995 with a well screen, resurveyed in May 1995 with a well screen, resurveyed and renamed as DW-1-95 and DW-2-95.
2. MW-2 and MW-7 were resurveyed in 1995, indicating a reference elevation of 372.33 indicating a reference elevation of 372.33 and 372.55 ft. AMSL, respectively. The 1995 water elevations are based on these latter reference elevations.
3. The ground surface elevation for SW-1 and MW-6 wells were estimated from the site contour plan and measured stickups for each above ground casing.
4. The ground surface elevation for MW-8U-95 was estimated by measuring the above ground protective casing and subtracting this value from the Reference Elevation (Top of Casing).
5. Reference elevations are based on CRA's survey reference datum. C.A. Rich's datum differs from CRA's.

TABLE 3.10

SUMMARY OF SURFACE WATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location	*Sample I.D.*	*Date (mm/dd/yy)*	*Time*	*Description*	*Flow*	*Temperature (°C)*	*pH*	*Conductivity (µmho/cm)*	*Turbidity*	*Analysis*
1991 Surface Water Sampling										
6	SW-3698-081391-EF-06	8/13/1991	1500	Clear	Low	24.3	8.01	300	3.5	See Note 1
7	SW-3698-081391-EF-07	8/13/1991	1155	Clear	Low	23.8	7.12	300	2.63	See Note 1
3	SW-3698-081491-EF-03	8/14/1991	1000	Clear	Low	20.7	7.20	300	6.62	See Note 1
4	SW-3698-081491-EF-04	8/14/1991	900	Clear	Low	19.4	7.20	300	3.1	See Note 1
7	SW-3698-082091-EF-09	8/20/1991	1050	Clear	High	19.3	6.70	200	18.2	See Note 1
6	SW-3698-082091-EF-10	8/20/1991	1130	Clear	High	19.8	6.88	200	15.75	See Note 1
4	SW-3698-082091-EF-11	8/20/1991	1400	Clear	High	19.4	6.47	200	23.9	See Note 1
4	SW-3698-082091-EF-12	8/20/1991	1400	Duplicate of SW-3698-082091-EF-11	High	19.4	6.47	200	23.9	See Note 1
3	SW-3698-082091-EF-13	8/20/1991	1530	Clear	High	19.9	6.64	200	23.4	See Note 1
3	SW-3698-082091-EF-13MS	8/20/1991	1530	Clear	High	19.9	6.64	200	23.4	See Note 1
3	SW-3698-082091-EF-13MSD	8/20/1991	1530	Clear	High	19.9	6.64	200	23.4	See Note 1
3	SW-3698-082091-EF-14	8/20/1991	1530	Duplicate of SW-3698-082091-EF-13	High	19.9	6.64	200	23.4	See Note 1
4	SW-3698-082191-EF-11	8/21/1991	1100	Resample (sample jar broke at lab)	High	19.5	6.50	200	23.6	See Note 1
--	SW-3698-082191-EF-16	8/21/1991	930	Rinse of sediment equipment	N/A	N/A	N/A	N/A	N/A	See Note 1
1995 Surface Water Sampling										
SWII-2	SW-3698-060595-DJM-013	6/5/1995	1022		Low	19.1	6.99	169	--	See Note 2
SWII-4	SW-3698-060595-DJM-012	6/5/1995	930		Low	17.6	7.55	370	--	See Note 2
SWII-7	SW-3698-060595-DJM-011	6/5/1995	845		Low	19.7	7.79	374	--	See Note 2
SWII-9	SW-3698-060595-CN-017	6/5/1995	1105		Low	20.2	7.70	402	--	See Note 2
SWII-9	SW-3698-060595-DJM-018	6/5/1995	1105	Duplicate of SW-3698-060595-CN-017	Low	20.2	7.70	402	--	See Note 2
SWW-2	SW-3698-061495-DJM-033	6/14/1995	1135		Medium	17.5	7.54	316	--	See Note 2
SWII-4	SW-3698-061495-EFF-030	6/14/1995	1027		Medium	17.2	7.89	335	--	See Note 2
SWII-4	SW-3698-061495-DJM-031	6/14/1995	1035	Duplicate of SW-3698-061495-EFF-030	Medium	17.2	7.89	335	--	See Note 2
SWII-7	SW-3698-061495-DJM-029MS/MSD	6/14/1995	944		Medium	18.4	7.72	338	--	See Note 2
SWII-9	SW-3698-061495-DJM-032	6/14/1995	1210		Medium	18.0	7.53	333	--	See Note 2
SWII-2	SW-3698-061995-DJM-036	6/19/1995	1415		High	23.5	7.82	330	--	See Note 2
SWII-4	SW-3698-061995-DJM-035	6/19/1995	1400		High	23.9	7.67	334	--	See Note 2
SWII-7	SW-3698-061995-DJM-034	6/19/1995	1340		High	25.3	7.96	334	--	See Note 2
SWII-9	SW-3698-061995-DJM-037	6/19/1995	1430		High	25.7	7.77	338	--	See Note 2
SWII-9	SW-3698-061995-DJM-038	6/19/1995	1440	Duplicate of SW-3698-061995-DJM-037	High	25.7	7.77	338	--	See Note 2

Notes:

1. TCL, VOCs, SVOCs, Pesticides/PCBs, TAL Metals, Cyanide, Total Petroleum Hydrocarbons, Site-specific parameters.
2. TCL, VOCs, SVOCs, Pesticides/PCBs, TAL Metals, Cyanide, Hardness, Site-specific parameters.
3. N/A - Not applicable.

TABLE 3.11

SUMMARY OF SEDIMENT SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location	*Sample I.D.*	*Date (mm/dd/yy)*	*Time*	*Description*	*Analysis*
1991 Sediment Sampling					
1	SD-3698-081491-EF-01	8/14/1991	1600	Moist organic material	See Note 1
2	SD-3698-081491-EF-02	8/14/1991	1530	Swampy organic material	See Note 1
3	SD-3698-081491-EF-03	8/14/1991	1020	Grey clay	See Note 1
4	SD-3698-081491-EF-04	8/14/1991	930	Grey sand	See Note 1
5	SD-3698-081491-EF-05	8/14/1991	1230	Brown soil with organic material	See Note 1
6	SD-3698-081391-EF-06	8/13/1991	1540	Grey clay-like	See Note 1
7	SD-3698-081391-EF-07	8/13/1991	1230	Dark grey, some gravel	See Note 1
8	SD-3698-081491-EF-08	8/14/1991	1400	Brown soil with organic material	See Note 1
1	SD-3698-082191-EF-09MS/MSD	8/21/1991	800	Wet, rocky soil	See Note 1
1	SD-3698-082191-EF-10	8/21/1991	800	Duplicate of SD-3698-082191-EF-09	See Note 1
1995 Sediment Sampling					
SDII-2	S-3698-060595-DJM-014MS/MSD	6/5/1995	1034		See Note 2
SDII-2	S-3698-060595-DJM-016	6/5/1995	1036	Duplicate of S-3698-060595-DJM-014	See Note 2
SDII-12	SD-3698-071295-WW-17	7/__/95			See Note 2

Note:

1. TCL VOCs, SVOCs, Pesticides/PCBs, TAL Metals, Cyanide, Total Petroleum Hydrocarbons, Site-specific parameters.
2. TCL VOCs, SVOCs, Pesticides/PCBs, TAL Metals, Cyanide, TOC, Site-specific parameters.

TABLE 3.12

SUMMARY OF SURFACE SOIL SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Sample ID*	*Date (mm/dd/yy)*	*Description*	*Analysis*
SSII-1	SS-3698-060295-DJM-010	6/2/1995	Former Lagoon 1	see Note 1
SSII-2	SS-3698-060295-DJM-007	6/2/1995	Former Lagoon 2	see Note 1
SSII-3	SS-3698-060295-DJM-008	6/2/1995	Former Lagoon 3	see Note 1
SSII-4	SS-3698-060295-DJM-003	6/2/1995	Former Lagoon 4	see Note 1
SSII-5	SS-3698-060295-DJM-002MS/MSD	6/2/1995	Former Lagoon 5	see Note 1
SSII-6	SS-3698-060295-DJM-005	6/2/1995	Former Lagoon 6	see Note 1
SSII-6	SS-3698-060295-DJM-006	6/2/1995	duplicate of SS-3698-060295-DJM-005	see Note 1
SSII-7	SS-3698-060295-DJM-004	6/2/1995	Site access road, N of Lagoon 4	see Note 1
SSII-8	SS-3698-060295-DJM-001	6/2/1995	Site access road, N of SSII-7	see Note 1

Notes:

1. TCL VOCs, SVOCs, Pesticides/PCBs, TAL Metals, Cyanide, TOC, Site-specific parameters.

TABLE 3.13

WELL INVENTORY RECONNAISSANCE SUMMARY
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Inspection Date (m-dd-yy)*	*Casing Condition*	*Lock Condition*	*Depth to Bottom (ft BTOR)*	*Notes/Comments*
MW-1	1-10-95	2-inch stainless steel riser without protective casing.	Good	17.75	The well is in good condition.
MW-2	1-10-95	2-inch stainless steel riser without protective casing.	Good	16.13	The well is in good condition.
MW-3	1-10-95	2-inch stainless steel riser without protective casing.	Good	16.85	The well is in good condition.
MW-4	1-10-95	4-inch stainless steel riser without protective casing.	Good	17.08	The riser has one bullet hole and several dents caused by bullets. May require repairs or replacement if needed for future sampling.
MW-6	1-11-95	2-inch stainless steel riser without protective casing.	Good	17.26	The well appeared to have been run over then straightened out resulting in a crimp in the riser approximately 1 foot from the top. (The clearance of the riser at the crimp is 0.5-inch.) May require repairs or replacement if needed for future sampling. May be "dry" during sampling.
MW-7	1-10-95	2-inch stainless steel riser without protective casing.	Good	16.52	The well is in good condition.
SW-1	1-10-95	6-inch protective casing with 4-inch PVC inner casing with cap.	Rusting	18.12	Light rusting on protective casing. May be "dry" during sampling
SW-2	1-10-95	6-inch protective casing with 4-inch PVC inner casing without cap. The inner casing is cracked but still usable.	Rusting	19.50	Light rusting on protective casing. The well was plugged with a nest of hair and straw. This well will require re-development if needed for furture sampling

TABLE 3.13

WELL INVENTORY RECONNAISSANCE SUMMARY
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Inspection Date (m-dd-yy)*	*Casing Condition*	*Lock Condition*	*Depth to Bottom (ft BTOR)*	*Notes/Comments*
SW-3	1-10-95	6-inch protective casing with 4-inch PVC inner casing without cap. Bullet hole in casing. The inner casing is cracked but still usable.	Lock replaced	18.25	Bullet hole in the casing. May require repair or replacement if needed for future sampling.
SW-4	1-10-95	6-inch protective casing with 4-inch PVC inner casing without cap. Two bullet holes in casing. The inner casing is cracked but still usable.	Good	19.46	Bullet hole in the casing. May require repair or replacement if needed for future sampling.
SW-6	1-10-95	6-inch protective casing with 4-inch PVC inner casing with cap.	Lock replaced	17.75	Outer casing cap had a mouse nest with five mice. Inner casing cap difficult to remove.
SW-7	1-10-95	6-inch protective casing with 4-inch PVC inner casing with cap.	Good	18.42	The well is in good condition.
SW-8	1-10-95	6-inch protective casing with 4-inch PVC inner casing with cap.	Lock replaced	18.00	The well is in good condition. However, the sand pack is believed to have collapsed during the last sampling round.

TABLE 3.13

WELL INVENTORY RECONNAISSANCE SUMMARY
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Inspection Date (m-dd-yy)*	*Casing Condition*	*Lock Condition*	*Depth to Bottom (ft BTOR)*	*Notes/Comments*
SW-9	1-10-95	6-inch protective casing with 4-inch PVC inner casing with cap.	None Not secure	17.42	Tab needs to be welded on casing cap to make well lockable. New lock needs to be installed.
SW-10	1-10-95	6-inch protective casing with 4-inch PVC inner casing without cap.	Lock replaced	19.46	Well was plugged with leaves and sticks. CRA cleared nest with stainless steel bailer. This well will require re-development if needed for future sampling.
DW-1	1-10-95	12-inch steel riser without protective casing.	None Not secure	>100	New tab needs to be welded on riser to make well lockable.
DW-2	1-10-95	12-inch steel riser without protective casing.	Rusting	>100	New tab needs to be welded on riser to make well lockable.
MW-1D-91	1-10-95	6-inch protective steel casing with 4-inch stainless steel riser with cap. Protective bumper posts.	Good	35.08	The well is in good condition.
MW-1U-91	1-10-95	4-inch protective steel casing with 2-inch stainless steel riser with cap. Protective bumper posts.	Good	15.38	The well is in good condition.
MW-2D-91	1-10-95	6-inch protective steel casing with 4-inch stainless steel riser with cap. Protective bumper posts.	Good	53.61	The well is in good condition.

TABLE 3.13

WELL INVENTORY RECONNAISSANCE SUMMARY
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Inspection Date (m-dd-yy)*	*Casing Condition*	*Lock Condition*	*Depth to Bottom (ft BTOR)*	*Notes/Comments*
MW-3D-91	1-11-95	6-inch protective steel casing with 4-inch stainless steel riser with cap. Protective bumper posts.	Good	55.16	The well is in good condition.
MW-4D-91	1-10-95	6-inch protective steel casing with 4-inch stainless steel riser with cap. Protective bumper posts.	Good	26.33	The well is in good condition.
PZ-1	1-10-95	1-inch PVC riser without protective casing or locking cap. Cap cut and broken off 0.26 feet lower than survey. Cap replaced.	Cap only Not secure	11.72	The casing is cut and broken.
PZ-2	1-10-95	1-inch PVC riser without protective casing or locking cap.	Cap only Not secure	8.88	PZ-2 in good condition.
PZ-3	1-10-95	1-inch PVC riser without protective casing or locking cap.	Cap only Not secure	16.64	PZ-3 in good condition.
T-1	1-11-95	3-inch steel riser with threaded cap.	Cap only Not secure	10.56	Cap was rusted on tight. Riser was slightly rusty.
T-2	1-11-95	3-inch steel riser with threaded cap.	Cap only Not secure	16.33	Water level taken from the top of the union.
T-3	1-11-95	3-inch steel riser with threaded cap.	Cap only Not secure	18.92	Water level taken from the top of the union.

Note:

ft BTOR - feet below top of riser pipe

TABLE 3.14

SUMMARY OF IN SITU CALCULATED HYDRAULIC CONDUCTIVITIES
SINGLE-WELL RESPONSE TESTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Sandpack Interval (ft bgs)*	*Hydraulic Conductivity*			*Formation Tested*
		Falling Head Test (cm/sec)	*Rising Head Test (cm/sec)*	*Geometric Mean (cm/sec)*	
Shallow Aquifer - Northern Portion:					
MW-2	9-15	8.81E-03	7.85E-03	6.66E-03	Overburden
		3.32E-03	4.62E-03		
		9.86E-03	8.35E-03		
MW-3	11-15.7	4.93E-04	7.13E-04	5.93E-04	Overburden
SW-2	6.4-17.4	1.10E-03	8.70E-04	8.47E-04	
			6.32E-04		
SW-3	4.4-15.4	-	3.37E-03	3.37E-03	Overburden
SW-10	6.2-17.2	-	4.25E-03	8.19E-04	Overburden
			1.58E-04		
MW-5U-95	6-19.6	4.08E-04	4.64E-04	4.35E-04	Overburden
MW-8U-95	4-10.2	2.07E-04	2.42E-04	2.24E-04	Overburden
		Overall Geometric Mean		***9.85E-04***	
Shallow Aquifer - Southern Aquifer:					
MW-7	8.5-14	1.01E-03	1.91E-03	1.39E-03	Overburden
SW-8	4.6-15.6	-	5.23E-04	5.23E-04	Overburden
SW-9	3.7-14.7	-	2.21E-04	2.21E-04	Overburden
MW-1U-91	7-13.3	2.99E-03	4.09E-03	3.66E-03	Overburden
		3.85E-03	3.89E-03		
		3.82E-03	3.41E-03		
		Overall Geometric Mean		***8.75E-04***	

TABLE 3.14

SUMMARY OF IN SITU CALCULATED HYDRAULIC CONDUCTIVITIES
SINGLE-WELL RESPONSE TESTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Sandpack Interval (ft bgs)*	*Hydraulic Conductivity*			*Formation Tested*
		Falling Head Test (cm/sec)	*Rising Head Test (cm/sec)*	*Geometric Mean (cm/sec)*	
Shallow Aquifer - Former Lagoon Area:					
SW-4	6.2-17.2	-	1.07E-04	1.07E-04	Overburden
Bedrock Aquifer - Northern Portion:					
DW-2-95	96-106	-	5.22E-07	5.22E-07	Bedrock
MW-5D-95	36-97	1.98E-05	1.92E-05	1.95E-05	Bedrock
Bedrock Aquifer - Southern Portion:					
DW-1-95	112-123	-	2.87E-06	2.87E-06	Bedrock
MW-3D-91	28-50.7	1.65E-04	2.13E-04	1.87E-04	Bedrock
MW-4D-91	21-24.0	7.74E-03	7.92E-03	7.83E-03	Bedrock
MW-6D-95	63-72	3.58E-05	6.02E-05	4.64E-05	Bedrock
		Overall Geometric Mean		***1.18E-04***	
Bedrock Aquifer - Former Lagoon Area:					
MW-1D-91	13-32.5	3.11E-03	4.70E-03	3.82E-03	Bedrock
MW-2D-91	24-51.3	4.06E-05 4.94E-05	3.11E-05 8.58E-05	4.81E-05	Bedrock
		Overall Geometric Mean		***4.29E-04***	

Notes:
(1) - ft bgs - feet below ground surface
(2) - All single well response tests were conducted between June 14, 1995 and July 27, 1995 with the exception of MW-1U-91, conducted on May 12, 1993.
(3) - All single well response test were analyzed using the Bouwer and Rice (1976).
(4) - Sandpack interval is based on measured well depths obtained on January 10, 1995.

TABLE 3.15

SUMMARY OF IN SITU CALCULATED HYDRAULIC CONDUCTIVITIES
SHORT DURATION PUMPING TESTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Transmissivity*		*Saturated*	*Hydraulic Conductivty*		*Formation Tested*
	(ft^2/day)	*(ft^2/s)*	*Thickness (ft)*	*(cm/s)*	*Geometric Mean (cm/s)*	
Bedrock Aquifer - Former Lagoon Area:						
MW-1D-91						
Drawdown	28.02	3.24E-04	17.00	5.82E-04	4.58E-04	Bedrock
Recovery	17.35	2.01E-04	17.00	3.60E-04		
MW-2D-91						
Drawdown	5.33	6.17E-05	34.61	5.43E-05	4.92E-05	Bedrock
Recovery	4.38	5.07E-05	34.61	4.46E-05		
Bedrock Aquifer - Southern Portion:						
MW-3D-91						
Drawdown	75.31	8.72E-04	27.47	9.67E-04	4.87E-04	Bedrock
Recovery	19.12	2.21E-04	27.47	2.46E-04		
MW-4D-91						
Drawdown	70.20	8.13E-04	9.43	2.63E-03	2.27E-03	Bedrock
Recovery	52.63	6.09E-04	9.43	1.97E-03		

Notes:

(1) - ft bgs - feet below ground surface

(2) - All pumping tests were conducted between June 14, 1995 and July 27, 1995

(3) - All pumping test data were analyzed using the Theis Method (1935).

(4) - Sandpack interval is based on measured well depths obtained on January 10, 1995.

TABLE 3.16

SUMMARY OF CALCULATED HYDRAULIC CONDUCTIVITIES
WATER INJECTION TESTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well I.D.	*Tested Interval*		*Hydraulic Conductivity*
	(ft bgs)	*(ft AMSL)*	*(cm/s)*
DW-1-95	100 - 105.5	267.4 - 261.9	3.98E-07
	105 - 110.5	262.4 - 256.9	4.78E-07
	110 - 115.5	257.4 - 251.9	1.00E-06
	115 - 120.5	252.4 - 246.9	1.00E-06
		Geometric Mean	6.60E-07

Notes:

ft bgs- feet below ground surface.
ft AMSL - feet above mean sea level.
Water injection tests were conducted on May 18 and May 19, 1995.

TABLE 3.17

REGIONAL WATER WELL INVENTORY
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well	*Location*	*Approx. Land Surface Elev. (ft)*	*Well Use**	*Diam. (in)*	*Total Depth (ft)*	*Aquifer Tapped*	*Reported Yield (gpm)*
1	Eager Road	390	A	6	19	Till	--
2	Eager Road	410	D	36	19	Till	--
3	Eager Road	420	A	60	22	Till	--
4	Neelytown Road	370	A, D	120	10	Gravel	--
5	Neelytown Road	405	D	36	12	Sand	--
6	Neelytown Road	410	D	36	11	Sand	--
7	Neelytown Road	410	A	6	89	Shale	--
8	Eager Road	355	D	36	7	Till	--
9	Route 4	380	D	1	33	Sand	--
10	Route 4	350	P	8	300	Shale	100
11	Route 4	350	P	8	300	Shale	50
12	Route 4	350	P	8	300	Shale	50
13	Neelytown Road	390	D	6	97	Shale	20
14	Otter Road	344	D	36	11	Sand	--
15	Otter Road	350	P	144	6	Sand & Gravel	--
16	Route 207	410	C	8	399	Shale	58
17	Route 207	410	D	6	89	Shale	--
18	Campbell Hall Junc.	370	D	6	50	Shale	5
19	Campbell Hall Junc.	370	D	6	100	Shale	25
20	Route 207	415	D	6	59	Shale	--
21	Route 207	370	D	6	35	Shale	--
22	Route 207	360	D	6	125	Shale	--
23	Route 207	485	D	6	110	Shale	--
24	Day Road	385	C	8	296	Shale	--
25	Otter Road	385	C	6	117	Shale	6
26	Otter Road	350	C	6	115	Shale	30
27	Route 207	365	P	6	158	Shale	12
28	Route 208	410	D	6	71	Shale	6
29	Station Road	362	D	6	89	Shale	--
30	Route 208	345	A, D	108	9	Till	--
31	Egberton Road	380	A, D	6	68	Shale	25
32	Egberton Road	410	D	6	108	Shale	25
33	Sarah Wells Road	420	A, D	6	60	Shale	--
34	Sarah Wells Road	397	A, D	6	78	Shale	7
35	Sarah Wells Road	395	A, D	6	146	Shale	630
36*	Route 4 & McBride St. (≈500' east)	348	U	6	40	NA	--
37*	Route 4 (≈100' north)	360	D	6	100	Shale	--
38*	Route 4 (≈90' north)	356	U	6	>100	Shale	--
39*	Route 4 (≈30' northeast)	364	U	48	50	NA	--
40*	Route 4 (≈150' north)	345	D	6	75	Shale	--
41*	Route 4 (≈25' north)	345	D	6	200	Shale	--
42*	Route 4 (≈200' north)	360	D	6	100	Shale	100

Notes:

D - Domestic
U - Unused
C - Commercial
A - Agricultural
P - Public Supply
NA - Not Available
(1) - Well inventory is based on C.A. Rich (Summary Report, March, 1986). Additional wells indicated by * were identified by CRA in June 1995.

TABLE 3.18

SUMMARY OF CURTAIN DRAIN INVESTIGATION SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Test Pit Location	*Sample I.D.*	*Date (mm/dd/yy)*	*Description*	*Analysis*
TP-49	S-3698-062995-EFF-041MS/MSD	6/29/1995	Taken immediately below pipe bedding 5' BGS	See Note 1
TP-51	S-3698-062995-EFF-043	6/29/1995	Taken immediately below pipe bedding 5' BGS	See Note 1
	S-3698-062995-EFF-044	6/29/1995	Duplicate of S-3698-062995-EFF-043	
TP-52	S-3698-062995-EFF-045	6/29/1995	3 point composite sample of silty material within gravel bedding	See Note 1

Notes:

1. TCL VOCs, SVOCs, Pesticides/PCBs, TAL Metals, Cyanide, TOC, Site-specific parameters.

TABLE 3.19

TREATABILITY TEST PIT SAMPLING SUMMARY
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample ID	*Pail ID*	*Approximate Sample Depth (ft bgs)*	*Lagoon*	*Test Pit*	*Sample Description*	*Field Evidence of Potential Contamination*	*OVA (1) (ppm)*	*HNu (ppm)*
S-3698-112196-RM-01	1	5 - 6	5	1	- black-stained sandy fill, unsaturated	yes	2	3
S-3698-112196-RM-02	2	4 - 6	5	2	- black-stained sandy fill, unsaturated	yes	-- (2)	2
S-3698-112196-RM-03	3	2 - 4	5	2	- sandy fill above RM-02, unsaturated	no	0	0
S-3698-112196-RM-04	4	3	6	3	- fill material closely associated with black, solidified material, unsaturated	no	0	0
S-3698-112196-RM-05	5	5 - 6	4	2	- black-stained sandy fill, saturated	yes	--	100
S-3698-112196-RM-06	6	3 - 4	4	2	- grey/black-stained sandy fill, unsaturated	yes	--	0
S-3698-112196-RM-07	7	3	4	2	- fill material closely associated with black-stained material	no	--	0
S-3698-112296-RM-08	8	2 - 4	4	1	- sandy fill, unsaturated	no	1	0
S-3698-112296-RM-09	9/10	4 - 6	4	1	- black-stained sandy fill, unsaturated	yes	8	2
S-3698-112296-RM-10	9/10	4 - 6	4	1	- duplicate of RM-09	yes	8	2
S-3698-112296-RM-11	11	8 - 12	3	1	- grey/green silty sand, some black stains, saturated	yes	1.5	0.5
S-3698-112296-RM-12	12	5 - 7	3	2	- black-stained sandy fill, saturated	yes	8	2
S-3698-112296-RM-13	13	3 - 5	3	2	- fill material closely associated with black-stained material, unsaturated	no	--	0
S-3698-112296-RM-14	14	3 - 5	3	2	- brown with some yellow/black, sandy fill, unsaturated	no	--	0
S-3698-112296-RM-15	15	5 - 10	3	3	- black-stained sandy fill, unsaturated	yes	100	11
S-3698-112296-RM-16	16	3 - 5	3	3	- fill material closely associated with black-stained material, unsaturated	no	--	0
S-3698-112296-RM-17	17	12	3	3	- black-stained sandy fill, saturated	yes	--	0
S-3698-112596-RM-18	18	9	1	1	- grey sandy fill above black-stained fill, unsaturated	yes	25	5
S-3698-112596-RM-19	19	12 - 14	1	1	- black-stained sandy fill, saturated	yes	50	4
S-3698-112596-RM-20	20	4	1	3	- silty sand fill associated with drum debris, unsaturated	no	0	0
S-3698-112596-RM-21	21/22	8 - 10	1	3	- black-stained sandy fill, unsaturated	yes	30	10
S-3698-112596-RM-22	21/22	8 - 10	1	3	- duplicate of RM-21	yes	30	10
S-3698-112596-RM-23	23	4 - 6	2	2	- black-stained sandy fill, unsaturated	yes	100	6
S-3698-112696-RM-24	24	4	2	1	- sandy fill, unsaturated	no	1	NM (3)
S-3698-112696-RM-25	25/26	4 - 5	2	1	- black-stained sandy fill, unsaturated	yes	10	NM
S-3698-112696-RM-26	25/26	4 - 5	2	1	- duplicate of RM-25	yes	10	NM

Notes:
(1) OVA measurements were conducted by U.S.EPA.
(2) -- U.S.EPA OVA measurement not obtained.
(3) NM - Not measured as HNu was not functioning due to rain during test pitting activities.

TABLE 3.20

GRAIN SIZE DISTRIBUTION DATA
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample	% Gravel			% Sand				% Silts/Clays
	Coarse	Fine	Total	Coarse	Medium	Fine	Total	Total
S-3698-112196-RM-01	0.0	25.1	25.1	14.4	34.7	18.8	67.9	6.6
S-3698-112196-RM-02	13.4	24.7	38.1	13.4	27.6	15.0	56.0	5.9
S-3698-112196-RM-03	13.0	29.8	42.8	19.7	23.5	9.7	52.9	4.7
S-3698-112196-RM-04	0.0	20.4	20.4	20.7	29.9	17.7	68.3	11.6
S-3698-112196-RM-05	0.0	30.6	30.6	26.9	32.3	7.7	66.9	2.8
S-3698-112196-RM-06	0.0	9.5	9.5	12.0	23.5	34.6	70.1	20.4
S-3698-112196-RM-07	0.0	54.3	54.3	13.0	19.8	8.3	41.1	4.7
S-3698-112296-RM-08	0.0	13.5	13.5	16.2	23.2	29.9	69.3	17.1
S-3698-112296-RM-09	0.0	21.0	21.0	18.8	26.3	21.7	66.8	12.0
S-3698-112296-RM-10	0.0	27.1	27.1	18.3	23.3	20.1	61.7	11.0
S-3698-112296-RM-11	0.0	23.7	23.7	10.7	26.5	22.2	59.4	16.6
S-3698-112296-RM-12	0.0	62.1	62.1	23.0	10.2	2.9	36.1	1.6
S-3698-112296-RM-13	0.0	28.5	28.5	23.5	29.2	11.0	63.7	7.9
S-3698-112296-RM-14	0.0	16.9	16.9	18.2	26.8	20.2	65.2	16.9
S-3698-112296-RM-15	0.0	19.3	19.3	16.5	23.9	22.8	63.2	17.2
S-3698-112296-RM-16	0.0	38.9	38.9	16.0	21.5	15.1	52.6	8.4
S-3698-112296-RM-17	0.0	43.0	43.0	12.7	19.4	14.3	46.4	10.3
S-3698-112596-RM-18	0.0	24.8	24.8	11.2	16.7	37.7	65.6	9.5
S-3698-112596-RM-19	0.0	35.7	35.7	17.3	36.8	8.0	62.1	2.1
S-3698-112596-RM-20	0.0	13.6	13.6	17.6	33.8	24.4	75.8	10.4
S-3698-112596-RM-21	0.0	13.4	13.4	14.6	41.9	24.1	80.6	5.8
S-3698-112596-RM-22	0.0	16.7	16.7	23.1	35.7	17.9	76.7	6.7
S-3698-112596-RM-23	0.0	27.9	27.9	16.4	29.1	26.1	71.6	0.4
S-3698-112696-RM-24	0.0	39.5	39.5	18.1	18.8	20.6	57.5	2.8
S-3698-112696-RM-25	0.0	40.9	40.9	14.7	20.4	21.1	56.2	3.0
S-3698-112696-RM-26	0.0	30.5	30.5	21.3	25.7	20.1	67.1	2.2

TABLE 3.21

SUMMARY OF GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	Date Installed or Converted	Sampling Date: LBG Jun-67	-- Sep-80	-- Oct-81	-- 1982	-- 1983	C.A. Rich Phase I R/I Dec-85	Phase II R/I Aug-91	Jun-95	Interim Groundwater Monitoring Program: Feb-97	Aug-97	Feb-98	May-98	Aug-98	Nov-98	Apr-99	Aug-99	Jul-01 NA	Nov-01	Mar-02	Jun-02 NA	Aug-02	Feb-03	Aug-03
Overburden Wells																								
MW-1	4/28/1983	-	-	-	-	?	(2)	-	(4)	(5)	dry	(5)	dry	dry	(7)	(6)	dry	(4)	dry	(6)	(4)	dry	(5)	(5)
MW-2	4/28/1983	-	-	-	-	?	-	-	-	-	-	-	-	-	-	-	-	(4)	-	-	-	-	-	-
MW-3	4/29/1983	-	-	-	-	?	(2)	-	(4)	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
MW-4	4/28/1983	-	-	-	-	?	(2)	-	-	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
MW-5	4/28/1983	-	-	-	-	?	(2)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-6	4/29/1983	-	-	-	-	?	dry	-	dry	-	-	-	-	-	-	-	-	dry	-	-	dry	-	-	-
MW-7	4/29/1983	-	-	-	-	?	(2)	-	(4)	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
MW-1U-91	6/28/1991	-	-	-	-	-	-	(3)	dry	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
MW-5U-95	5/24/1995	-	-	-	-	-	-	-	(4)	(5)	(5)	(5)	(6)	(5)	(7)	(6)	(5)	(4)	(5)	(5)	(4)	(5)	(5)	(5)
MW-7U-95	5/4/1995	-	-	-	-	-	-	-	dry	-	-	-	-	-	-	-	-	dry	-	-	dry	-	-	-
MW-8U-95	5/24/1995	-	-	-	-	-	-	-	(4)	-	-	-	(6)	(5)	(7)	(6)	(5)	(4)	(5)	(5)	(4)	(5)	(5)	(5)
MW-9U-01	6/14/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	(5)	(5)	(4)	(5)	(5)	(5)
MW-10U-01	6/13/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	(5)	(5)	-	(5)	(5)	(5)
MW-11U-01	6/25/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	(5)	(5)	-	(5)	(5)	(5)
SW-1	8/20/1985	-	-	-	-	-	dry	-	dry	-	-	-	-	-	-	-	-	dry	-	-	dry	-	-	-
SW-2	8/19/1985	-	-	-	-	-	(2)	(3)	(4)	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
SW-3	8/20/1985	-	-	-	-	-	(2)	(3)	(4)	-	-	-	-	-	-	-	-	(4)	-	-	-	-	-	-
SW-4	8/22/1985	-	-	-	-	-	(2)	(3)	(4)	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
SW-6	8/21/1985	-	-	-	-	-	(2)	NS (8)	(4)	-	-	-	-	-	-	-	-	dry	-	-	(4)	-	-	-
SW-7	8/21/1985	-	-	-	-	-	(2)	-	(4)	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
SW-8	8/21/1985	-	-	-	-	-	(2)	NS (9)	(4)	-	-	-	-	-	-	-	-	(4)	-	-	-	-	-	-
SW-9	8/22/1985	-	-	-	-	-	(2)	(3)	(4)	(5)	(5)	(5)	NS	(5)	(7)	(6)	(5)	(4)	(5)	NS	(4)	(5)	(5)	(5)
SW-10	8/23/1985	-	-	-	-	-	(2)	(3)	(4)	-	-	-	-	-	-	-	-	dry	-	-	(4)	-	-	-
Bedrock Wells																								
DW-1	8/27/1985	-	-	-	-	-	(2)	(3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW-1-95 C	5/23/95	-	-	-	-	-	-	-	(4)	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
DW-2	8/28/1985	-	-	-	-	-	(2)	(3)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
DW-2-95 C	5/18/1995	-	-	-	-	-	-	-	(4)	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
MW-1D-91	6/30/1991	-	-	-	-	-	-	(3)	(4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-1D-91 C	6/21/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
MW-2D-91	6/30/1991	-	-	-	-	-	-	(3)	(4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-2D-91 C	6/21/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
MW-3D-91	6/30/1991	-	-	-	-	-	-	(3)	(4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
MW-3D-91 C	6/21/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
MW-4D-91	6/30/1991	-	-	-	-	-	-	(3)	(4)	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
MW-5D-95	6/6/1995	-	-	-	-	-	-	-	(4)	(5)	(5)	(5)	(6)	(5)	(7)	(6)	(5)	-	-	-	-	-	-	-
MW-5D-95 C	6/26/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	(5)	(5)	(4)	(5)	(5)	(5)
MW-6D-95	5/23/1995	-	-	-	-	-	-	-	(4)	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-
MW-9D-01	6/14/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	(5)	(5)	(4)	(5)	(5)	(5)
MW-10D-01	6/13/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	(5)	(5)	-	(5)	(5)	(5)
MW-11D-01	6/25/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	(5)	(5)	-	(5)	(5)	(5)
MW-12D-01	6/26/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	(5)	(5)	-	(5)	(5)	(5)
MW-13D-01	6/7/2001	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	(4)	(5)	(5)	-	(5)	(5)	(5)
T-1	5/22/1967	(1)	-	(10)	?	?	(2)	-	(4)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
T-2	5/22/1967	(1)	-	dry	-	?	dry	-	(4)	(5)	(5)	(5)	NS	(5)	(7)	(6)	(5)	(4)	NS	NS	(4)	NS	(5)	(5)
T-3	5/23/1967	(1)	(10)	(10)	?	?	-	-	-	-	-	-	-	-	-	-	-	(4)	-	-	(4)	-	-	-

Notes:

(1) Chloride
(2) Selected VOCs/SVOCs (including chloropyridine, alpha-picoline and total pyridines)/TOC/Chloride/Sulphate/Calcium Carbonate/Metals
(3) TCL/TAL: VOC/SVOC/Pesticides/PCB/Metals/Cyanide/Total Petroleum Hydrocarbons/Site-Specific Parameters
(4) TCL/TAL: VOC/SVOC/Metals/Cyanide/Chloride/Site-Specific Parameters
(5) SSPL: BTEX/Pyridines
(6) BTEX: Benzene/Toluene/Ethylbenzene/Xylene
(7) Pyridines
(8) Well SW-6 was not sampled in August 1991 as the inner well cap seized and could not be opened with a pipe wrench.
(9) Well SW-8 was not sampled in August 1991 as the sandpack collapsed during well purging.
(10) Priority Pollutants
C Well conversions from open corehole to screened intervals.
NS Location not sampled.
NA July 2001 and June 2002 Sampling rounds were also used for the Natural Attenuation Study.
? Sample locations and parameters could not be determined.

TABLE 3.22

GROUNDWATER SAMPLE KEY
INTERIM GROUNDWATER MONITORING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well ID	*Sample ID*	*Sample Date*	*Analytical Parameters*
February 1997 Groundwater Sampling			
Overburden Wells			
MW-1	GW-3698-020497-EFF-002	2/4/97	(1, 2, 3, 4)
MW-5U-95	GW-3698-020497-EFF-005/006	2/4/97	(1, 2, 3, 4)
SW-9	GW-3698-020497-EFF-007	2/4/97	(1, 2, 3, 4)
Bedrock wells			
MW-5D-95	GW-3698-020497-EFF-004	2/4/97	(1, 2, 3, 4)
T-2	GW-3698-020497-EFF-001 MS/MSD	2/4/97	(1, 2, 3, 4)
August 1997 Groundwater Sampling			
Overburden Wells			
MW-5U-95	GW-3698-081497-KEC-005/006	8/14/97	(1, 2, 3)
SW-9	GW-3698-081497-KEC-001	8/14/97	(1, 2, 3)
Bedrock wells			
MW-5D-95	GW-3698-081497-KEC-004 MS/MSD	8/14/97	(1, 2, 3)
T-2	GW-3698-081497-KEC-002	8/14/97	(1, 2, 3)
February 1998 Groundwater Sampling			
Overburden Wells			
MW-1	GW-021398-3698-KEC-007	2/13/98	(1, 2, 3)
MW-5U-95	GW-021398-3698-KEC-002/003	2/13/98	(1, 2, 3)
SW-9	GW-021298-3698-KEC-001	2/12/98	(1, 2, 3)
Bedrock wells			
MW-5D-95	GW-021298-3698-KEC-005	2/12/98	(1, 2, 3)
T-2	GW-021398-3698-KEC-006	2/13/98	(1, 2, 3)

Notes:

(1) BTEX: Benzene/Toluene/Ethylbenzene/Xylene
(2) Site-specific pyridines: Pyridine/2-aminopyridine/alpha-picoline
(3) Chlorinated benzenes: 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Chlorobenzene
(4) TCL Semi-volatiles
(5) TAL Metals

TABLE 3.22

GROUNDWATER SAMPLE KEY
INTERIM GROUNDWATER MONITORING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well ID	*Sample ID*	*Sample Date*	*Analytical Parameters*
May 1998 Groundwater Sampling			
Overburden Wells			
MW-5U-95	GW-3698-051498-JR-005	5/14/98	(1)
MW-8U-95	GW-3698-051498-JR-004	5/14/98	(1)
Bedrock wells			
MW-5D-95	GW-3698-051498-JR-002/003	5/14/98	(1)
August 1998 Groundwater Sampling			
Overburden Wells			
MW-5U-95	GW-3698-080598-MEJ-006	8/5/98	(1, 2, 3)
MW-8U-95	GW-3698-080598-MEJ-007	8/5/98	(1, 2, 3)
SW-9	GW-3698-080598-MEJ-002	8/5/98	(1, 2, 3)
Bedrock wells			
MW-5D-95	GW-3698-080598-MEJ-004/005	8/5/98	(1, 2, 3)
T-2	GW-3698-080598-MEJ-001	8/5/98	(1, 2, 3)
November 1998 Groundwater Sampling			
Overburden Wells			
MW-8U-95	GW-3698-112498-WW-01/02	11/24/98	(1, 2)
April 1999 Groundwater Sampling			
Overburden Wells			
MW-1	GW-3698-043099-JRR-007	4/3/99	(1, 2, 3)
MW-5U-95	GW-3698-043099-JRR-003	4/3/99	(1, 2, 3)
MW-8U-95	GW-3698-043099-JRR-004/005	4/3/99	(1, 2, 3)
SW-9	GW-3698-043099-JRR-001 MS/MSD	4/3/99	(1, 2, 3)
Bedrock wells			
MW-5D-95	GW-3698-043099-JRR-002	4/3/99	(1, 2, 3)
T-2	GW-3698-043099-JRR-006	4/3/99	(1, 2, 3)

Notes:

(1) BTEX: Benzene/Toluene/Ethylbenzene/Xylene
(2) Site-specific pyridines: Pyridine/2-aminopyridine/alpha-picoline
(3) Chlorinated benzenes: 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Chlorobenzene
(4) TCL Semi-volatiles
(5) TAL Metals

TABLE 3.22

GROUNDWATER SAMPLE KEY
INTERIM GROUNDWATER MONITORING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well ID	*Sample ID*	*Sample Date*	*Analytical Parameters*
November 2001 Groundwater Sampling			
Overburden Wells			
MW-5U-95	GW-3698-DD-110601-12	11/6/01	(1, 2)
MW-8U-95	GW-3698-DD-110701-11	11/7/01	(1, 2)
MW-9U-01	GW-3698-DD-110601-06	11/6/01	(1, 2)
MW-10U-01	GW-3698-DD-110601-02/03	11/6/01	(1, 2)
MW-11U-01	GW-3698-DD-110701-18	11/7/01	(1, 2)
SW-9	GW-3698-DD-110801-30	11/8/01	(1, 2)
Bedrock wells			
MW-3D-91	GW-3698-DD-110601-13	11/6/01	(1, 2)
MW-5D-95	GW-3698-DD-110601-01	11/6/01	(1, 2)
MW-6D-95	GW-3698-DD-110601-05	11/6/01	(1, 2)
MW-9D-01	GW-3698-DD-110701-17	11/7/01	(1, 2, 5)
MW-10D-01	GW-3698-DD-110701-22	11/7/01	(1, 2)
MW-11D-01	GW-3698-DD-110601-14	11/6/01	(1, 2)
March 2002 Groundwater Sampling			
Overburden Wells			
MW-1	GW-3698-031902-DD-14	3/19/02	(1)
MW-5U-95	GW-3698-031902-BC-11	3/19/02	(1, 2)
MW-8U-95	GW-3698-031902-DD-7	3/19/02	(1, 2)
MW-9U-01	GW-3698-032002-BC-12	3/20/02	(1, 2)
MW-10U-01	GW-3698-031902-BC-9	3/19/02	(1, 2)
MW-11U-01	GW-3698-031902-DD-2/3	3/19/02	(1, 2)
Bedrock wells			
MW-3D-91	GW-3698-031902-BC-10	3/19/02	(1, 2)
MW-5D-95	GW-3698-032002-BC-13	3/20/02	(1, 2)
MW-6D-95	GW-3698-031902-BC-8	3/19/02	(1, 2)
MW-9D-01	GW-3698-031902-DD-4	3/19/02	(1, 2)
MW-10D-01	GW-3698-031902-DD-5	3/19/02	(1, 2)
MW-11D-01	GW-3698-031902-DD-6	3/19/02	(1, 2)

Notes:

(1) BTEX: Benzene/Toluene/Ethylbenzene/Xylene
(2) Site-specific pyridines: Pyridine/2-aminopyridine/alpha-picoline
(3) Chlorinated benzenes: 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Chlorobenzene
(4) TCL Semi-volatiles
(5) TAL Metals

TABLE 3.22

GROUNDWATER SAMPLE KEY
INTERIM GROUNDWATER MONITORING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well ID	*Sample ID*	*Sample Date*	*Analytical Parameters*
August 2002 Groundwater Sampling			
Overburden Wells			
MW-5U-95	GW-3698-82802-06/07	8/28/02	(1, 2)
MW-8U-95	GW-3698-82802-RR-10/10DL	8/28/02	(1, 2)
MW-9U-01	GW-3698-82702-04	8/27/02	(1, 2)
	GW-3698-82802-04	8/28/02	(1, 2)
MW-10U-01	GW-3698-82702-02	8/27/02	(1, 2)
MW-11U-01	GW-3698-82802-RR-11	8/28/02	(1, 2)
SW-9	GW-3698-82802-14/14DL	8/28/02	(1, 2)
Bedrock wells			
MW-3D-91	GW-3698-82802-08	8/28/02	(1, 2)
MW-5D-95	GW-3698-82802-03	8/28/02	(1, 2)
MW-6D-95	GW-3698-82802-01	8/28/02	(1, 2)
MW-9D-01	GW-3698-82802-RR-13	8/28/02	(1, 2)
MW-10D-01	GW-3698-82802-RR-12	8/28/02	(1, 2)
MW-11D-01	GW-3698-82802-09	8/28/02	(1, 2)
February 2003 Groundwater Sampling			
Overburden Wells			
MW-1	GW-3698-021903-BC008	2/19/03	(1, 2)
MW-5U-95	GW-3698-021903-BC006	2/19/03	(1, 2)
MW-8U-95	GW-3698-021903-RR011	2/19/03	
	GW-3698-021903-RR011DL	2/19/03	(1, 2)
MW-9U-01	GW-3698-021903-RR009	2/19/03	(1, 2)
MW-10U-01	GW-3698-021803-RR001/RR003	2/18/03	(1, 2)
MW-11U-01	GW-3698-022003-BC006	2/20/03	(1, 2)
SW-9	GW-3698-022003-RR017	2/20/03	(1, 2)

Notes:

(1) BTEX: Benzene/Toluene/Ethylbenzene/Xylene
(2) Site-specific pyridines: Pyridine/2-aminopyridine/alpha-picoline
(3) Chlorinated benzenes: 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Chlorobenzene
(4) TCL Semi-volatiles
(5) TAL Metals

TABLE 3.22

GROUNDWATER SAMPLE KEY
INTERIM GROUNDWATER MONITORING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well ID	*Sample ID*	*Sample Date*	*Analytical Parameters*
February 2003 Groundwater Sampling			
Bedrock wells			
MW-5D-95	GW-3698-021803-RR002	2/18/03	(1, 2)
MW-9D-01	GW-3698-021903-RR007	2/19/03	(1, 2)
MW-10D-01	GW-3698-021803-RR005	2/18/03	(1, 2)
MW-11D-01	GW-3698-022003-RR015	2/20/03	(1, 2)
MW-12D-01	GW-3698-022003-BC14	2/20/03	(1, 2)
MW-13D-01	GW-3698-022003-BC012	2/20/03	(1, 2)
T-2	GW-3698-021903-BC010	2/19/03	(1, 2)
August 2003 Groundwater Sampling			
Overburden Wells			
MW-1	GW-3698-081203-RR-009	8/12/03	(1, 2)
MW-5U-95	GW-3698-081203-BC-06	8/12/03	(1, 2)
MW-8U-95	GW-3698-081303-BC-014/14DL	8/13/03	(1, 2)
MW-9U-01	GW-3698-081203-RR-007	8/12/03	(1, 2)
MW-10U-01	GW-3698-081203-BC-02/08	8/12/03	(1, 2)
MW-11U-01	GW-3698-081303-RR-013	8/13/03	(1, 2)
SW-9	GW-3698-081303-RR-015	8/13/03	(1, 2)
Bedrock wells			
MW-5D-95	GW-3698-81203-BC-010	8/12/03	(1, 2)
MW-9D-01	GW-3698-081203-RR-005	8/12/03	(1, 2)
MW-10D-01	GW-3698-081203-BC-04	8/12/03	(1, 2)
MW-11D-01	GW-3698-081203-RR-011	8/12/03	(1, 2)
MW-12D-01	GW-3698-081303-BC-16	8/13/03	(1, 2)
MW-13D-01	GW-3698-081203-BC-12	8/12/03	(1, 2)
T-2	GW-3698-081203-RR-001	8/12/03	(1, 2)

Notes:

(1) BTEX: Benzene/Toluene/Ethylbenzene/Xylene
(2) Site-specific pyridines: Pyridine/2-aminopyridine/alpha-picoline
(3) Chlorinated benzenes: 1,2-Dichlorobenzene, 1,3-Dichlorobenzene, 1,4-Dichlorobenzene, Chlorobenzene
(4) TCL Semi-volatiles
(5) TAL Metals

TABLE 3.23

NEW MONITORING WELL INSTALLATION DETAILS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well Location	*Date Completed (mm/dd/yy)*	*Ground Surface Elevation (ft AMSL)*	*Top of Casing Elevation (ft AMSL)*	*Screened Interval*		*Sand Pack Interval*	
				Depth (ft BGS)	*Elevation (ft AMSL)*	*Depth (ft BGS)*	*Elevation (ft AMSL)*
MW-9U-01	06/14/01	357.10	359.70	10.0 - 15.0	347.10 - 342.10	8.0 - 15.0	349.10 - 342.10
MW-9D-01	06/14/01	357.30	359.48	31.5 - 41.5	325.80 - 315.80	29.5 - 41.5	327.80 - 315.80
MW-10U-01	06/13/01	357.50	359.60	20.0 - 25.0	339.60 - 334.60	18.0 - 25.0	339.50 - 334.60
MW-10D-01	06/13/01	357.60	359.71	60.0 - 70.0	297.60 - 287.60	57.5 - 70.0	300.10 - 287.60
MW-11U-01	06/25/01	346.20	348.59	4.5 - 9.5	341.70 - 336.70	3.5 - 9.5	342.70 - 336.70
MW-11D-01	06/25/01	346.50	348.66	25.0 - 35.0	321.50 - 311.50	22.0 - 35.0	324.50 - 311.50
MW-12D-01	06/25/01	382.80	385.04	26.0 - 36.0	356.80 - 346.80	24.0 - 36.0	358.80 - 346.80
MW-13D-01	06/07/01	385.10	387.22	27.0 - 37.0	358.10 - 348.10	24.0 - 37.5	361.10 - 347.60

TABLE 3.24

MONITORING WELL CONVERSION DETAILS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well Location	*Date Completed (mm/dd/yy)*	*Ground Surface Elevation (ft AMSL)*	*Top of Casing Elevation (ft AMSL)*	*Screened Interval*		*Sand Pack Interval*	
				Depth (ft BGS)	*Elevation (ft AMSL)*	*Depth (ft BGS)*	*Elevation (ft AMSL)*
MW-1D-91	06/21/01	378.00	380.76	21.5 - 31.5	356.50 - 346.50	19.3 - 32.0	358.70 - 346.00
MW-2D-91	06/21/01	377.00	379.90	42.0 - 52.0	335.00 - 325.00	39.0 - 52.0	338.00 - 325.00
MW-3D-91	06/21/01	372.70	375.34	43.0 - 53.0	332.34 - 322.34	41.0 - 53.0	331.70 - 322.34
MW-5D-95	06/26/01	360.20	364.35	87.0 - 97.0	273.20 - 263.20	84.0 - 97.0	276.20 - 263.20

TABLE 3.25

GROUNDWATER SAMPLING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

	Natural Attenuation Study		*Additional Round of Groundwater Sampling*	
	Monitoring Well Network	*Analytical Parameters*	*Monitoring Well Network (1)*	*Analytical Parameters*
Overburden Wells				
MW-1	yes	(1)	yes	(2)
MW-2	--	--	yes	(2)
MW-3	yes	(1)	yes	(2)
MW-4	yes	(1)	yes	(2)
MW-6	yes	(1)	yes	(2)
MW-7	yes	(1)	yes	(2)
MW-1U-91	yes	(1)	yes	(2)
MW-5U-95	yes	(1)	yes	(2)
MW-7U-95	--	--	yes	(2)
MW-8U-95	yes	(1)	yes	(2)
MW-9U-01	--	--	yes	(2)
MW-10U-01	--	--	yes	(2)
MW-11U-01	--	--	yes	(2)
SW-1	--	--	yes	(2)
SW-2	yes	(1)	yes	(2)
SW-3	--	--	yes	(2)
SW-4	yes	(1)	yes	(2)
SW-6	yes	(1)	yes	(2)
SW-7	yes	(1)	yes	(2)
SW-8	--	--	yes	(2)
SW-9	yes	(1)	yes	(2)
SW-10	yes	(1)	yes	(2)
T-1	--	--	yes	(2)
Bedrock wells				
DW-1-95	yes	(1)	yes	(2)
DW-2-95	yes	(1)	yes	(2)
MW-1D-91	yes	(1)	yes	(2)
MW-2D-91	yes	(1)	yes	(2)
MW-3D-91	yes	(1)	yes	(2)
MW-4D-91	yes	(1)	yes	(2)
MW-5D-95	yes	(1)	yes	(2)
MW-6D-95	yes	(1)	yes	(2)
MW-9D-01	--	--	yes	(2)
MW-10D-01	--	--	yes	(2)
MW-11D-01	--	--	yes	(2)
MW-12D-01	--	--	yes	(2)
MW-13D-01	--	--	yes	(2)
T-2	yes	(1)	yes	(2)
T-3	yes	(1)	yes	(2)
Total Wells	**24**		**38**	

Notes:

(1) Analytical parameters inlude natural attenuation parameters (DOC, nitrate, nitrite, manganese, iron, sulfate, sulfide, methane, alkalinity, calcium, hardness, magnesium, chloride, ethane, ethene, redox potential, and DO), TCL VOCs, and Site-specific pyridines.

(2) Analytical parameters include TCL VOCs, SVOCs, TAL inorganics, cyanide, and Site-specific pyridines (pyridine, 2-aminopyridine, and alpha-picoline).

TABLE 3.26

GROUNDWATER SAMPLE KEY
ADDITIONAL ROUND OF GROUNDWATER SAMPLING
JULY 2001
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well Location	*Sample ID (Abbreviated)*	*Sample Date*	*Analytical Parameters*
Overburden Wells			
MW-1	12	07/05/01	(1)
MW-2	13	07/06/01	(1)
MW-3	14	07/10/01	(1)
MW-4	25	07/10/01	(1)
MW-6	DRY	--	--
MW-7	40/41(DUP)/15 (FB)	07/10/01	(1)
MW-1U-91	17	07/10/01	(1)
MW-5U-95	01/02 (DUP)/03(FB)	07/05/01	(1)
MW-7U-95	DRY	--	--
MW-8U-95	18	07/05/01	(1)
MW-9U-01	19	07/07/01	(1)
MW-10U-01	21	07/06/01	(1)
MW-11U-01	09/10(DUP)/11(FB)	07/06/01	(1)
SW-1	DRY	--	--
SW-2	22	07/10/01	(1)
SW-3	23	07/06/01	(1)
SW-4	24	07/10/01	(1)
SW-6	DRY	--	--
SW-7	26	07/09/01	(1)
SW-8	27	07/06/01	(1)
SW-9	08	07/09/01	(1)
SW-10	DRY	--	--
T-1	--	--	--
Bedrock wells			
DW-1-95	28	07/09/01	(1)
DW-2-95	29	07/10/01	(1)
MW-1D-91	30	07/10/01	(1)
MW-2D-91	31	07/10/01	(1)
MW-3D-91	04/05(DUP)/06(FB)	07/09/01	(1)
MW-4D-91	07 (MS/MSD)	07/09/01	(1)
MW-5D-95	33	07/05/01	(1)
MW-6D-95	32	07/09/01	(1)
MW-9D-01	34	07/07/01	(1)
MW-10D-01	35	07/06/01	(1)
MW-11D-01	36	07/06/01	(1)
MW-12D-01	37	07/06/01	(1)
MW-13D-01	20	07/06/01	(1)
T-2	38	07/05/01	(1)
T-3	39	07/05/01	(1)
Total Wells		**32**	

Notes:

(1) Analytical parameters include TCL VOCs, SVOCs, TAL inorganics, cyanide, and Site-specific pyridines (pyridine, 2-aminopyridine, and alpha-picoline).

TABLE 3.27

GROUNDWATER SAMPLE KEY
NATURAL ATTENUATION STUDY
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

	Round 1 - July 2001			*Round 2 - June 2002*		
Well Location	*Sample ID (Abbreviated)*	*Sample Date*	*Analytical Parameters*	*Sample ID (Abbreviated)*	*Sample Date*	*Analytical Parameters*
Overburden Wells						
MW-1	12	07/05/01	(1)	14	06/05/02	(1)
MW-3	14	07/10/01	(1)	25	06/05/02	(1)
MW-4	25	07/10/01	(1)	24	06/05/02	(1)
MW-6	Dry	-	-	-	Dry	-
MW-7	40/41	07/10/01	(1)	8	06/04/02	(1)
MW-1U-91	17	07/10/01	(1)	03/04 (DUP)	06/03/02	(1)
MW-5U-95	01/02	07/05/01	(1)	17	06/03/02	(1)
MW-8U-95	18	07/05/01	(1)	16	06/03/02	(1)
SW-2	22	07/10/01	(1)	28	06/06/02	(1)
SW-4	24	07/10/01	(1)	20	06/04/02	(1)
SW-6	Dry	-	-	27	06/05/02	(1)
SW-7	26	07/09/01	(1)	10	06/04/02	(1)
SW-9	8	07/09/01	(1)	06 (MS/MSD)	06/04/02	(1)
SW-10	Dry	-	-	11	06/04/02	(1)
Bedrock wells						
DW-1-95	28	07/09/01	(1)	07	06/04/02	(1)
DW-2-95	29	07/10/01	(1)	26	06/06/02	(1)
MW-1D-91	30	07/10/01	(1)	21/22 (DUP)	06/05/02	(1)
MW-2D-91	31	07/10/01	(1)	19	06/04/02	(1)
MW-3D-91	04/05	07/09/01	(1)	02	06/03/02	(1)
MW-4D-91	07	07/09/01	(1)	09	06/04/02	(1)
MW-5D-95	33	07/05/01	(1)	18	06/04/02	(1)
MW-6D-95	32	07/09/01	(1)	01	06/03/02	(1)
T-2	38	07/05/01	(1)	13	06/05/02	(1)
T-3	39	07/05/01	(1)	12 (MS/MSD)	06/05/02	(1)
Total Wells		**21**			**23**	

Notes:

(1) Analytical parameters inlude natural attenuation parameters (DOC, nitrate, nitrite, manganese, iron, sulfate, sulfide, methane, alkalinity, calcium, hardness, magnesium, chloride, ethane, ethene, redox potential, and DO), TCL VOCs, and Site-specific pyridines.

TABLE 3.28

ON-SITE PLANT TAXA AND INDICATOR STATUS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Scientific Name	*Common Name*	*Indicator Status*	*Sample Points*
Trees			
Acer rubrum	Red Maple	Facultative	**1**, 2, **3**, 4, 7
Acer saccharum	Sugar Maple	Facultative Upland -	4
Carya ovata	Shagbark Hickory	Facultative Upland -	2
Carya sp.	Hickory	- - -	5
Cornus amomum	Silky Dogwood	Facultative Wetland	**3**
Fraxinus americana	White Ash	Facultative Upland	7
Fraxinus pennsylvanica	Green Ash	Facultative Upland	2, **6**
Prunus serotina	Black Cherry	Facultative Upland	5, 7
Quercus bicolor	Swamp White Oak	Facultative Wetland +	**3, 6, 8**
Quercus palustris	Pin Oak	Facultative Wetland	**1, 3**, 4, 5, **10**
Robinia pseudoacacia	Black Locust	Facultative Upland -	5
Ulmus rubra	Slippery Elm	Facultative	**3**
Saplings and Shrubs			
Acer rubrum	Red Maple	Facultative	**1**, 2, **3, 8**, 9, **10**
Acer saccharum	Sugar Maple	Facultative Upland -	2
Aronia arbutifolia	Red Chokeberry	Facultative Wetland	**1**
Carya ovata	Shagbark Hickory	Facultative Upland -	2, 4
Cornus amomum	Silky Dogwood	Facultative Wetland	**1, 3, 10, 11**
Crataegus sp.	Hawthorn	- - -	5
Fraxinus americana	White Ash	Facultative Upland	7, 9
Fraxinus pennsylvanica	Green Ash	Facultative Upland	**1, 3**, 4
Hamamelis virginiana	Witch Hazel	Facultative -	**3**, 4
Lonicera tatarica	Tartarian Honeysuckle	Facultative Upland	2, 5, **10**
Nyssa sylvatica	Black Gum	Facultative	**1**
Parthenocissus quinquefolia	Virginia Creeper	Facultative Upland	2, 4, 5
Prunus serotina	Black Cherry	Facultative Upland	**1**, 2, 4, 7
Prunus virginiana	Choke Cherry	Facultative Upland	**6**
Quercus bicolor	Swamp White Oak	Facultative Wetland +	**8**
Quercus palustris	Pin Oak	Facultative Wetland	2, **8**
Ribes americanum	Wild Black Current	Facultative Wetland	**6**
Rosa multiflora	Multiflora Rose	Facultative Upland	**3, 10**
Rubus sp.	Wild Raspberry	- - -	4
Toxicodendron radicans	Poison Ivy	Facultative	**1, 3**, 5, **6**, 7, 9
Viburnum dentatum	Southern Arrowwood	Facultative	**1, 3, 6**
Viburnum prunifolia	Blackhaw	Facultative Upland	2, 5

Note: **Bold font** indicates Sample Point in Wetlands

TABLE 3.28

ON-SITE PLANT TAXA AND INDICATOR STATUS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Scientific Name	*Common Name*	*Indicator Status*	*Sample Points*
Herbaceous Ground Cover			
Alliaria petiolata	Garlic Mustard	Facultative Upland -	2, 4, 5, 7
Arisaema atrorubens	Jack-in-the Pulpit	Not List	**3**
Carex stricta	Tussock Sedge	Obligate Wetland	**6**
Carex sp.	Sedge	- - -	**1, 6, 8**
Circaea quadrisulata	Enchanters Nightshade	Not List	**1**
Erythronium americanum	Trout Lily	Facultative	**3**, 5, 9
Fragaria virginiana	Wild Strawberry	Facultative Upland -	2
Galium triflorum	Fragrant Bedstraw	Facultative Upland	2, **10**
Gerrnium maculatum	Wild Geranium	Facultative Upland	**3**
Geum sp.	Avens	- - -	5
Gramineae	Grass sp.	- - -	**10**
Impatiens capensis	Jewelweed	Facultative Wetland	**1**, 5
Iris sp.	Iris	- - -	**10**
Lythrum salicaria	Purple Loosestrife	Facultative Wetland +	**8**
Maianthemum canadense	Lily of the Valley	Facultative -	2
Onoclea sensilibis	Sensitive Fern	Facultative Wetland	**3, 6, 8, 10, 11**
Peltandra virginica	Arrow Arum	Obligate Wetland	**6**
Phalaris arundinacea	Reed Canary Grass	Facultative Wetland +	**11**
Poa pratensis	Kentucky Bluegrass	Facultative Upland	**10**
Polygonum virginianum	Jumpseed	Facultative	5
Solidago graminifolia	Grass-Leaved Goldenrod	Facultative	**8**
Spiraea tomentosa	Steeplebush	Facultative Wetland	**8**
Symplocarpus foetidus	Skunk Cabbage	Obligate Wetland	**3, 6**
Typha sp.	Cattail	Obligate Wetland	**11**
Viola cucullata	Marsh Blue Violet	Facultative Wetland +	**1**, 2, **3**, 5
- - -	Fern sp.	- - -	**1**

Note: **Bold font** indicates Sample Point in Wetlands

TABLE 5.1

HYDRAULIC GRADIENTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

I. Vertical Hydraulic Gradients

Monitoring Well Nest	*Date*	*Vertical Hydraulic Gradient (dh/dl)*
North:		
MW-5U-95/MW-5D-95	May 12/93	predates well installations
	June 1/95	predates well installations
	July 24/95	0.0076 (downward)
	July 12/2001	0.090 (downward)
	June 3/2002	0.096 (downward)
SW-2/DW-2	May 12/93	0.003 (downward)
SW-2/DW-2-95	June 1/95	0.049 (downward)
	July 24/95	0.043 (downward)
	July 12/2001	0.036 (downward)
	June 3/2002	0.044 (downward)
MW-9U-01/MW-9D-01	July 12/2001	-0.058 (upward)
	June 3/2002	-0.077 (upward)
MW-10U-01/MW-10D-01	July 12/2001	-0.012 (upward)
	June 3/2002	0.013 (downward)
Former Lagoon Area:		
SW-3/MW-1D-91	May 12/93	-0.017 (upward)
	June 17/93	0.008 (downward)
	July 12/2001	0.010(downward)
	June 3/2002	-0.014(upward)
SW-4/MW-2D-91	May 12/93	0.109 (downward)
	July 24/95	0.109 (downward)
	July 12/2001	0.103 (downward)
	June 3/2002	0.126 (downward)

TABLE 5.1

HYDRAULIC GRADIENTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

I. Vertical Hydraulic Gradients

Monitoring Well Nest	*Date*	*Vertical Hydraulic Gradient (dh/dl)*
South:		
SW-7/MW-4D-91	May 12/93	0.0125 (downward)
	June 17/93	0.0194 (downward)
	July 12/2001	0.0194 (downward)
	June 3/2002	0.0153 (downward)
SW-9/DW-1	May 12/93	0.111 (downward)
SW-9/DW-1-95	July 24/95	0.124 (downward)
	June 1/95	0.0745 (downward)
	July 12/2001	0.113 (downward)
	June 3/2002	0.095 (downward)
MW-11U-01/MW-11D-01	July 12/2001	0.0059 (downward)
	June 3/2002	0.0158 (downward)

TABLE 5.1

HYDRAULIC GRADIENTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

II. Horizontal Hydraulic Gradients

	Horizontal Hydraulic Gradient (dh/dl)			
	July 24/95	*August 14/95*	*July 12/2001*	*June 3/2002*
Shallow Aquifer - North:				
SW-4 to MW-1	0.030	0.028	0.030	0.031
MW-3 to MW-1	0.040	0.039	0.042	0.041
		average = 0.036		
Shallow Aquifer - South:				
MW-4 to PZ-3	0.024	0.021	--	--
MW-4 to SW-8	0.021	0.0165	0.018	0.020
		average = 0.020		
Bedrock Aquifer - North:				
MW-2D-91 to DW-2-95	0.025	0.023	0.024	0.029
		average = 0.025		
Bedrock Aquifer - South:				
MW-2D-91 to MW-4D-91	0.020	--	0.020	0.023
MW-2D-91 to DW-1-95	0.023	0.023	0.023	0.022
MW-1D-91 to MW-3D-91	--	0.025	0.026	0.031
		average = 0.025		

TABLE 5.2

SUMMARY OF IN SITU HYDRAULIC CONDUCTIVITY TESTS
SINGLE-WELL RESPONSE TESTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Sandpack Interval (ft bgs)*	*Hydraulic Conductivity*			*Formation Tested*
		Falling Head Test (cm/sec)	*Rising Head Test (cm/sec)*	*Geometric Mean (cm/sec)*	
Shallow Aquifer - Northern Portion:					
MW-2	9-15	8.81E-03 3.32E-03 9.86E-03	7.85E-03 4.62E-03 8.35E-03	6.66E-03	Overburden
MW-3	11-15.7	4.93E-04	7.13E-04	5.93E-04	Overburden
SW-2	6.4-17.4	1.10E-03	8.70E-04 6.32E-04	8.47E-04	
SW-3	4.4-15.4	-	3.37E-03	3.37E-03	Overburden
SW-10	6.2-17.2	-	4.25E-03 1.58E-04	8.19E-04	Overburden
MW-5U-95	6-19.6	4.08E-04	4.64E-04	4.35E-04	Overburden
MW-8U-95	4-10.2	2.07E-04	2.42E-04	2.24E-04	Overburden
		Overall Geometric Mean		***9.85E-04***	
Shallow Aquifer - Southern Aquifer:					
MW-7	8.5-14	1.01E-03	1.91E-03	1.39E-03	Overburden
SW-8	4.6-15.6	-	5.23E-04	5.23E-04	Overburden
SW-9	3.7-14.7	-	2.21E-04	2.21E-04	Overburden
MW-1U-91	7-13.3	2.99E-03 3.85E-03 3.82E-03	4.09E-03 3.89E-03 3.41E-03	3.66E-03	Overburden
		Overall Geometric Mean		***8.75E-04***	

TABLE 5.2

SUMMARY OF IN SITU HYDRAULIC CONDUCTIVITY TESTS
SINGLE-WELL RESPONSE TESTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Sandpack Interval (ft bgs)*	*Hydraulic Conductivity*			*Formation Tested*
		Falling Head Test (cm/sec)	*Rising Head Test (cm/sec)*	*Geometric Mean (cm/sec)*	
Shallow Aquifer - Former Lagoon Area:					
SW-4	6.2-17.2	-	1.07E-04	1.07E-04	Overburden
Bedrock Aquifer - Northern Portion:					
DW-2-95	96-106	-	5.22E-07	5.22E-07	Bedrock
MW-5D-95	36-97	1.98E-05	1.92E-05	1.95E-05	Bedrock
Bedrock Aquifer - Southern Portion:					
DW-1-95	112-123	-	2.87E-06	2.87E-06	Bedrock
MW-3D-91	28-50.7	1.65E-04	2.13E-04	1.87E-04	Bedrock
MW-4D-91	21-24.0	7.74E-03	7.92E-03	7.83E-03	Bedrock
MW-6D-95	63-72	3.58E-05	6.02E-05	4.64E-05	Bedrock
		Overall Geometric Mean		***1.18E-04***	
Bedrock Aquifer - Former Lagoon Area:					
MW-1D-91	13-32.5	3.11E-03	4.70E-03	3.82E-03	Bedrock
MW-2D-91	24-51.3	4.06E-05 4.94E-05	3.11E-05 8.58E-05	4.81E-05	Bedrock
		Overall Geometric Mean		***4.29E-04***	

Notes:
(1) - ft bgs - feet below ground surface
(2) - All single well response tests were conducted between June 14, 1995 and July 27, 1995 with the exception of MW-1U-91, conducted on May 12, 1993.
(3) - All single well response test were analyzed using the Bouwer and Rice (1976).
(4) - Sandpack interval is based on measured well depths obtained on January 10, 1995.

TABLE 5.3

SUMMARY OF IN SITU HYDRAULIC CONDUCTIVITY TESTS
SHORT DURATION PUMPING TESTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Location	*Transmissivity*		*Saturated*	*Hydraulic Conductivty*		*Formation Tested*
	(ft^2/day)	*(ft^2/s)*	*Thickness (ft)*	*(cm/s)*	*Geometric Mean (cm/s)*	
Bedrock Aquifer - Former Lagoon Area:						
MW-1D-91						
Drawdown	28.02	3.24E-04	17.00	5.82E-04	4.58E-04	Bedrock
Recovery	17.35	2.01E-04	17.00	3.60E-04		
MW-2D-91						
Drawdown	5.33	6.17E-05	34.61	5.43E-05	4.92E-05	Bedrock
Recovery	4.38	5.07E-05	34.61	4.46E-05		
Bedrock Aquifer - Southern Portion:						
MW-3D-91						
Drawdown	75.31	8.72E-04	27.47	9.67E-04	4.87E-04	Bedrock
Recovery	19.12	2.21E-04	27.47	2.46E-04		
MW-4D-91						
Drawdown	70.20	8.13E-04	9.43	2.63E-03	2.27E-03	Bedrock
Recovery	52.63	6.09E-04	9.43	1.97E-03		

Notes:

(1) - ft bgs - feet below ground surface
(2) - All pumping tests were conducted between June 14, 1995 and July 27, 1995
(3) - All pumping test data were analyzed using the Theis Method (1935).
(4) - Sandpack interval is based on measured well depths obtained on January 10, 1995.

TABLE 5.4

SUMMARY OF CALCULATED HYDRAULIC CONDUCTIVITIES
WATER INJECTION TESTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Well I.D.	*Tested Interval*		*Hydraulic Conductivity*
	(ft bgs)	*(ft AMSL)*	*(cm/s)*
DW-1-95	100 - 105.5	267.4 - 261.9	3.98E-07
	105 - 110.5	262.4 - 256.9	4.78E-07
	110 - 115.5	257.4 - 251.9	1.00E-06
	115 - 120.5	252.4 - 246.9	1.00E-06
		Geometric Mean	6.60E-07

Notes:

ft bgs- feet below ground surface.
ft AMSL - feet above mean sea level.
Water injection tests were conducted on May 18 and May 19, 1995.

TABLE 5.5

GROUNDWATER FLOW BUDGET
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

i) **Surface Infiltration (over recharge area)**

North Area	=	5,500 gal/day
South Area	=	10,500 gal/day
Total Surface Infiltration	=	16,000 gal/day

ii) **Shallow Aquifer**

North flow component	=	1,080 to 3,600 gal/day
South flow component	=	870 to 2,600 gal/day
Total Shallow Aquifer Flow	=	2,000 to 6,200 gal/day
Difference between total surface infiltration and total Shallow Aquifer flow (represents vertical recharge to the Bedrock Aquifer)	=	9,800 to 14,000 gal/day

iii) **Bedrock Aquifer**

North flow component	=	290 to 460 gal/day
South flow component	=	3,090 to 4,820 gal/day
Total Bedrock Aquifer Flow	=	3,400 to 5,300 gal/day

TABLE 5.6

SURFACE WATER ELEVATONS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Surface Water Level Monitoring Station	*Base of Stream Elevation (ft AMSL)*	*Surface Water Elevation (ft AMSL)*		
		6/28/1995	*7/24/1995*	*8/14/1995*
WEII-1	352.38	352.66	Dry	Dry
WEII-2	351.64	352.64	Dry	Dry
WEII-3	342.85	343.67	343.56	343.52
WEII-4	342.76	343.16	343.09	343.09
WEII-6	340.60	341.30	341.20	340.83
WEII-7	339.66	341.30	341.07	341.00
WEII-9	346.16	346.73	346.32	346.17
WEII-10	348.31	348.41	348.34	348.31
WEII-11	345.55	346.17	346.08	346.03

ft AMSL - feet above mean sea level

TABLE 6.1

SUMMARY OF ANALYTICAL DATA FOR 2003 BACKGROUND SOIL SAMPLES
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		S-2	S-2	S-3	S-3	S-4	S-4	S-5	S-5	S-6	S-6	S-7
Sample Date:		05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003
Sample Depth:		[0-2]	[4-5]	[0-2]	[6-8]	[0-2]	[6-8]	[0-2]	[6-8]	[0-2]	[6-7]	[0-2]
Parameter	NYSDEC Soil Cleanup Objective [1]											
TCL Pesticides (ug/kg)												
4,4'-DDD	2,900	3.8U	--	3.9U	--	3.7U	--	4.0U	--	3.8U	--	3.7U
4,4'-DDE	2,100	3.8U	--	2.0J	--	3.7U	--	4.0U	--	3.8U	--	3.7U
4,4'-DDT	2,100	3.8U	--	3.9U	--	3.7U	--	4.0U	--	3.8U	--	3.7U
Aldrin	41	2.0U	--	2.0U	--	1.9U	--	2.0U	--	2.0U	--	1.9U
alpha-BHC	110	2.0U	--	2.0U	--	1.9U	--	2.0U	--	2.0U	--	1.9U
alpha-Chlordane	NA	2.0U	--	2.0U	--	1.9U	--	2.0U	--	2.0U	--	1.9U
beta-BHC	200	2.0U	--	2.0U	--	1.9U	--	2.0U	--	2.0U	--	1.9U
delta-BHC	300	2.0U	--	2.0U	--	1.9U	--	2.0U	--	2.0U	--	1.9U
Dieldrin	44	3.8U	--	3.9U	--	3.7U	--	4.0U	--	3.8U	--	3.7U
Endosulfan I	900	2.0U	--	2.0U	--	1.9U	--	2.0U	--	2.0U	--	1.9U
Endosulfan II	900	3.8U	--	3.9U	--	3.7U	--	4.0U	--	3.8U	--	3.7U
Endosulfan sulfate	1000	3.8U	--	3.9U	--	3.7U	--	4.0U	--	3.8U	--	3.7U
Endrin	100	3.8U	--	3.9U	--	3.7U	--	4.0U	--	3.8U	--	3.7U
Endrin aldehyde	NA	3.8U	--	3.9U	--	3.7U	--	4.0U	--	3.8U	--	3.7U
Endrin ketone	NA	3.8U	--	3.9U	--	3.7U	--	4.0U	--	3.8U	--	3.7U
gamma-BHC (Lindane)	60	2.0U	--	2.0U	--	1.9U	--	2.0U	--	2.0U	--	1.9U
gamma-Chlordane	540	2.0U	--	2.0U	--	1.9U	--	2.0U	--	2.0U	--	1.9U
Heptachlor	100	2.0U	--	2.0U	--	1.9U	--	2.0U	--	2.0U	--	1.9U
Heptachlor epoxide	20	2.0U	--	2.0U	--	1.9U	--	2.0U	--	2.0U	--	1.9U
Methoxychlor	10,000 [3]	20U	--	20U	--	19U	--	20U	--	20U	--	19U
Toxaphene	10	200U	--	200U	--	190U	--	200U	--	200U	--	190U
	RBCs for U.S. EPA Region III [3]											
TAL Inorganics (mg/kg)												
Aluminum	78,000	19500	17300	15200	12800	16400	16200	16600	16400	20900	8900	16800
Antimony	31	0.51UJ	0.46UJ	0.52UJ	0.49UJ	0.50UJ	0.46UJ	0.53UJ	0.48UJ	0.51UJ	0.48UJ	0.49UJ
Arsenic	0.43	6.9J	10.9J	4.6J	10J	9.8J	12.6J	6.1J	9.2J	8.4J	4.7J	7.1J
Barium	5,500	47.9	24.5J	44.7J	45.0	26.1J	27.9J	52.6	43.9J	50.6	25.4J	43.9J
Beryllium	160	0.81J	0.86J	0.48J	0.67J	0.65J	0.87J	0.60J	0.81J	0.84J	0.33J	0.76J
Cadmium	39	0.023U	R	0.024U	0.022U	R	0.021U	0.024U	0.022U	R	R	0.022U
Calcium	NA	696J	556J	310J	836J	397J	815J	179J	472J	396J	1310J	371J
Chromium Total	120,000	21.7	25.2	14.6	17.3	20.1	22.7	15.4	21.1	23.2	9.3	21.6
Cobalt	1,600	10.3J	20.5	7.6J	12.1	15.1	20.6	9.5J	13.1	12.4	9.1J	13.2
Copper	3,100	25.9	49.6	13.5	27.8	32.2	44.7	16.2	42.3	28.0	17.0	31.7
Iron	23,000	31700	41900	22400	30800	32600	40800	22400	35500	37300	17900	32800
Lead	400	13.2	24.1	8.0	18.3	18.5	25.8	10.8	19.6	17.8	8.2	19.9
Magnesium	NA	6550	9790	3630	5800	8050	9430	3700	7950	7950	4750	6970
Manganese	1,600	637	828	311	1070	571	846	287	1120	883	528	925
Mercury	23	0.058U	0.066J	0.059U	0.077J	0.086J	0.062J	0.060U	0.055U	0.058U	0.054U	0.056U
Nickel	1,600	27.0	36.4	16.9	25.7	28.6	35.7	16.6	29.6	30.7	14.3	29.0
Potassium	NA	1080J	1320	966J	1100J	1250	1450	751J	1300	941J	566J	1130
Selenium	390	0.51UJ	0.46UJ	0.52UJ	0.49UJ	0.50UJ	0.46UJ	0.53UJ	0.48UJ	0.51UJ	0.48UJ	0.49UJ
Silver	390	0.092U	0.13J	0.095U	0.088U	0.090U	0.20J	0.096U	0.088U	0.093U	0.087U	0.089U
Sodium	NA	42.8J	34.9J	41.2J	38.2J	30.2J	47.0J	39.4J	33.8J	33.2J	35.4J	35.8J
Thallium	5.5	1.9J	2.0J	1.1J	1.5J	1.5J	2.0J	1.6J	1.4J	1.7J	0.50U	1.6J
Vanadium	550	24.6	21.0	20.3	17.8	19.2	19.4	21.2	22.4	27.3	15.4	23.1
Zinc	23,000	80.1	100	48.1	86.1	73.2	107	53.2	102	99.8	61.6	88.0
Cyanide (total)	1,600	0.58U	0.52U	0.59U	0.55U	0.56U	0.52U	0.60U	0.55U	0.58U	0.54U	0.56U
Wet Chemistry												
Total Solids (%)	NA	86.7	95.4	84.6	90.4	88.6	95.7	83.0	90.8	86.2	92.1	89.5

Notes:

- Exceeds NYSDEC Soil Cleanup Objective / Region III RBCs.
- J - Estimated
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- (1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
- (2) - As per HWR-94-4046, total VOCs < 10,000 ppb, total SVOCs < 500,000 ppb and individual SVOCs < 50,000 ppb.
- (3) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

SUMMARY OF ANALYTICAL DATA FOR 2003 BACKGROUND SOIL SAMPLES
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		S-7	S-8	S-8	S-9	S-9	S-10	S-10	S-11	S-11	S-11	S-12
Sample Date:		05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/07/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003
Sample Depth:		[8-9]	[0-2]	[4-5]	[0-2]	[7-9]	[0-2]	[6-7]	[0-2]	[0-2] Duplicate	[-]	[0-2]
Parameter	NYSDEC Soil Cleanup Objective [1]											
TCL Pesticides (ug/kg)												
4,4'-DDD	2,900	--	3.7U	--	3.8U	--	3.9U	--	3.9U	3.9U	--	3.8U
4,4'-DDE	2,100	--	3.7U	--	3.8U	--	3.9U	--	3.9U	3.9U	--	4.0
4,4'-DDT	2,100	--	3.7U	--	3.8U	--	3.9U	--	3.9U	3.9U	--	3.7J
Aldrin	41	--	1.9U	--	2.0U	--	2.0U	--	2.0U	2.0U	--	1.9U
alpha-BHC	110	--	1.9U	--	2.0U	--	2.0U	--	2.0U	2.0U	--	1.9U
alpha-Chlordane	NA	--	1.9U	--	2.0U	--	2.0U	--	2.0U	2.0U	--	1.9U
beta-BHC	200	--	1.9U	--	2.0U	--	2.0U	--	2.0U	2.0U	--	1.9U
delta-BHC	300	--	1.9U	--	2.0U	--	2.0U	--	2.0U	2.0U	--	1.9U
Dieldrin	44	--	3.7U	--	3.8U	--	3.9U	--	3.9U	3.9U	--	3.8U
Endosulfan I	900	--	1.9U	--	2.0U	--	2.0U	--	2.0U	2.0U	--	1.9U
Endosulfan II	900	--	3.7U	--	3.8U	--	3.9U	--	3.9U	3.9U	--	3.8U
Endosulfan sulfate	1000	--	3.7U	--	3.8U	--	3.9U	--	3.9U	3.9U	--	3.8U
Endrin	100	--	3.7U	--	3.8U	--	3.9U	--	3.9U	3.9U	--	3.8U
Endrin aldehyde	NA	--	3.7U	--	3.8U	--	3.9U	--	3.9U	3.9U	--	3.8U
Endrin ketone	NA	--	3.7U	--	3.8U	--	3.9U	--	3.9U	3.9U	--	3.8U
gamma-BHC (Lindane)	60	--	1.9U	--	2.0U	--	2.0U	--	2.0U	2.0U	--	1.9U
gamma-Chlordane	540	--	1.9U	--	2.0U	--	2.0U	--	2.0U	2.0U	--	1.9U
Heptachlor	100	--	1.9U	--	2.0U	--	2.0U	--	2.0U	2.0U	--	1.9U
Heptachlor epoxide	20	--	1.9U	--	2.0U	--	2.0U	--	2.0U	2.0U	--	1.9U
Methoxychlor	10,000 [3]	--	19U	--	20U	--	20U	--	20U	20U	--	19U
Toxaphene	10	--	190U	--	200U	--	200U	--	200U	200U	--	190U
	RBCs for U.S. EPA Region III [3]											
TAL Inorganics (mg/kg)												
Aluminum	78,000	11000	17300	13800	15900	11400	14500	14800	16100	15800	13300	8600
Antimony	31	0.48UJ	0.49UJ	0.47UJ	0.51UJ	0.48UJ	0.52UJ	0.47UJ	0.52UJ	0.52UJ	0.50UJ	0.50UJ
Arsenic	0.43	7.3J	7.2J	9.1J	9.4J	5.9	8.0	6.6	4.6	4.1	6.8	3.3
Barium	5,500	36.6J	45.7	52.9	34.4J	42.9J	49.2	47.2	40.9J	38.3J	39.3J	33.1J
Beryllium	160	0.50J	0.74J	0.71J	0.73J	0.56J	0.72J	0.73J	0.55J	0.53J	0.68J	0.38J
Cadmium	39	R	0.022U	R	0.023U	0.23J	R	R	R	R	R	R
Calcium	NA	2360J	536J	2100J	473J	1250J	658J	19100J	379J	348J	1740J	4540J
Chromium Total	120,000	15.4	22.0	19.8	19.1	16.2	28.6	20.8	16.9	17.0	19.8	11.3
Cobalt	1,600	11.1	12.1	12.6	12.6	10.4J	11.0J	11.3	9.5J	9.4J	10.4J	10.0J
Copper	3,100	24.6	30.7	31.9	32.2	27.9	28.8	33.5	17.2	16.9	31.0	21.0
Iron	23,000	26900	34100	32100	33300	25400	27400	32400	25400	24700	29100	18800
Lead	400	13.5	15.3	16.1	16.1	13.1	14.1	13.7	10.8	10.9	12.3	11.1
Magnesium	NA	5720	7310	6170	6890	5610	5010	7560	5230	5470	6580	4880
Manganese	1,600	768	710	969	1020	1020	811	949	477	524	1200	733
Mercury	23	0.055U	0.058J	0.062J	0.058U	0.055U	0.059U	0.054U	0.059U	0.059U	0.056U	0.057U
Nickel	1,600	23.5	28.8	26.6	28.3	22.3	22.4	29.5	21.9	21.5	28.7	20.5
Potassium	NA	893J	1250	1330	1100J	967J	1320	1640	1050J	1130J	1590	797J
Selenium	390	0.48UJ	0.49UJ	0.47UJ	0.51UJ	0.48UJ	0.52UJ	0.47UJ	0.52UJ	0.52UJ	0.50UJ	0.50UJ
Silver	390	0.087J	0.090U	0.11J	0.093U	0.12J	0.094U	0.10J	0.16J	0.10J	0.13J	0.098J
Sodium	NA	43.2J	35.1J	47.0J	43.0J	43.2J	56.8J	62.0J	44.3J	45.7J	66.4J	32.0J
Thallium	5.5	1.3J	1.9J	1.8J	2.0J	0.99J	1.1J	1.2J	0.94J	0.86J	1.2J	0.52U
Vanadium	550	16.7	23.9	20.2	22.4	16.5	22.8	22.4	21.9	21.9	20.7	12.7
Zinc	23,000	77.7	85.2	95.0	87.6	70.1	78.4	86.8	52.0	50.8	80.3	61.6
Cyanide (total)	1,600	0.55U	0.56U	0.53U	0.58U	0.55U	0.59U	0.54U	0.59U	0.59U	0.56U	0.57U
Wet Chemistry												
Total Solids (%)	NA	91.6	89.2	94.4	86.0	91.2	85.4	93.0	84.4	84.5	88.5	87.8

Notes:

- ☐ - Exceeds NYSDEC Soil Cleanup Objective / Region III RBCs.
- J - Estimated
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- (1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
- (2) - As per HWR-94-4046, total VOCs < 10,000 ppb, total SVOCs < 500,000 ppb and individual SVOCs < 50,000 ppb.
- (3) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.1

SUMMARY OF ANALYTICAL DATA FOR 2003 BACKGROUND SOIL SAMPLES
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		S-12	S-13	S-13	S-14	S-14	S-15	S-15	S-15	S-18	S-18
Sample Date:		05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003	05/06/2003
Sample Depth:		[-]	[0-2]	[8-9]	[0-2]	[8-9]	[0-2]	[5-7]	[5-7] Duplicate	[0-2]	[3-4]
Parameter	NYSDEC Soil Cleanup Objective (1)										
TCL Pesticides (ug/kg)											
4,4'-DDD	2,900	--	3.7U	--	3.9U	--	3.8U	--	--	3.9U	--
4,4'-DDE	2,100	--	3.7U	--	3.9U	--	33	--	--	3.9U	--
4,4'-DDT	2,100	--	3.7U	--	3.9U	--	27J	--	--	3.9U	--
Aldrin	41	--	1.9U	--	2.0U	--	1.9U	--	--	2.0U	--
alpha-BHC	110	--	1.9U	--	2.0U	--	1.9U	--	--	2.0U	--
alpha-Chlordane	NA	--	1.9U	--	2.0U	--	1.9U	--	--	2.0U	--
beta-BHC	200	--	1.9U	--	2.0U	--	1.9U	--	--	2.0U	--
delta-BHC	300	--	1.9U	--	2.0U	--	1.9U	--	--	2.0U	--
Dieldrin	44	--	3.7U	--	3.9U	--	3.8U	--	--	3.9U	--
Endosulfan I	900	--	1.9U	--	2.0U	--	1.9U	--	--	2.0U	--
Endosulfan II	900	--	3.7U	--	3.9U	--	3.8U	--	--	3.9U	--
Endosulfan sulfate	1000	--	3.7U	--	3.9U	--	3.8U	--	--	3.9U	--
Endrin	100	--	3.7U	--	3.9U	--	3.8U	--	--	3.9U	--
Endrin aldehyde	NA	--	3.7U	--	3.9U	--	3.8U	--	--	3.9U	--
Endrin ketone	NA	--	3.7U	--	3.9U	--	3.8U	--	--	3.9U	--
gamma-BHC (Lindane)	60	--	1.9U	--	2.0U	--	1.9U	--	--	2.0U	--
gamma-Chlordane	540	--	1.9U	--	2.0U	--	1.9U	--	--	2.0U	--
Heptachlor	100	--	1.9U	--	2.0U	--	1.9U	--	--	2.0U	--
Heptachlor epoxide	20	--	1.9U	--	2.0U	--	1.9U	--	--	2.0U	--
Methoxychlor	10,000 (3)	--	19U	--	20U	--	19U	--	--	20U	--
Toxaphene	10	--	190U	--	200U	--	190U	--	--	200U	--
	RBCs for U.S. EPA Region III (3)										
TAL Inorganics (mg/kg)											
Aluminum	78,000	16900	15300	13200	13700	15800	17800	13000	16100	16600	20800
Antimony	31	0.53UJ	0.55J	0.49UJ	0.52UJ	0.54UJ	0.56J	0.47UJ	0.48UJ	0.52UJ	0.54UJ
Arsenic	0.43	6.7	9.7	5.9	4.9	7.2	9.0J	5.3J	6.9J	5.9J	13.9J
Barium	5,500	52.3	78.2	44.4J	36.6J	79.2	48.6	49.6	59.4	58.0	41.1J
Beryllium	160	0.70J	0.90J	0.60J	0.48J	0.80J	0.79J	0.60J	0.72J	0.72J	0.96J
Cadmium	39	R	R	R	R	R	R	0.021U	R	R	0.024U
Calcium	NA	662J	565J	517J	350J	518J	651J	1500J	1670J	255J	837J
Chromium Total	120,000	20.7	19.2	16.8	14.5	19.2	20.6	18.6	21.9	15.6	28.8
Cobalt	1,600	13.3	17.7	9.3J	8.2J	14.0	12.5	10.5J	10.9	8.8J	25.4
Copper	3,100	34.4	38.2	26.1	16.3	28.3	27.4	26.4	34.6	17.1	46.6
Iron	23,000	31500	29900	25000	21300	27200	30000	28900	34800	22700	48500
Lead	400	19.9	20.5	12.8	8.7	18.2	16.5	12.6	14.8	14.5	24.8
Magnesium	NA	6840	5520	5240	4150	5520	6100	6000	7490	3800	12300
Manganese	1,600	1150	1430	729	457	957	751	1080	1300	594	948
Mercury	23	0.060U	0.057U	0.056U	0.059U	0.061U	0.057U	0.053U	0.054U	0.063J	0.061U
Nickel	1,600	26.8	32.5	22.0	18.8	31.1	25.0	25.8	29.0	18.0	43.1
Potassium	NA	935J	11.20J	830J	857J	2170	1040J	960J	1040J	829J	1520
Selenium	390	0.53UJ	0.50UJ	0.49UJ	0.52UJ	0.54UJ	0.50UJ	0.47UJ	0.48UJ	0.52UJ	0.54UJ
Silver	390	0.095U	0.29J	0.12J	0.13J	0.11J	0.092U	0.085U	0.11J	0.095U	0.15J
Sodium	NA	51.2J	60.5J	42.5J	36.3J	49.5J	39.1J	39.6J	45.2J	31.9J	40.6J
Thallium	5.5	1.1J	0.90J	1.2J	0.79J	0.56U	0.95J	0.97J	1.8J	0.77J	2.5
Vanadium	550	24.9	21.0	18.7	18.9	23.2	24.5	18.0	22.3	21.2	24.7
Zinc	23,000	74.1	71.9	65.4	47.0	68.8	84.0	78.6	94.3	67.0	102
Cyanide (total)	1,600	0.60U	0.57U	0.56U	0.59U	0.61U	0.57U	0.53U	0.54U	0.59U	0.61U
Wet Chemistry											
Total Solids (%)	NA	83.8	88.1	88.9	84.5	82.2	87.3	94.0	92.1	84.6	82.0

Notes:

- [ ] - Exceeds NYSDEC Soil Cleanup Objective / Region III RBCs.
- J - Estimated
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- (1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
- (2) - As per HWR-94-4046, total VOCs < 10,000 ppb, total SVOCs < 500,000 ppb and individual SVOCs < 50,000 ppb.
- (3) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.2

MERCURY SPECIATION RESULTS - MAY 2003
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

				Initial Analysis - H_2m	*Speciation Analysis - Brooks Rand*		
Area	*Sample Location*	*Sample Depth (ft bgs)*	*Sample ID*	*Total Mercury (mg/Kg)*	*Total Mercury (mg/Kg)*	*Methylmercury (mg/Kg)*	*Methylmercury (%)*
Lagoon 1	L1-5	4-6	S-050903-SW-135	**11**	1.546	0.00050	0.03
	L1-5	7-9	S-050903-SW-137	**2.8**	0.652	0.00230	0.35
Lagoon 2	L2-2	4-6	S-050903-SW-154	**17**	1.179	0.00052	0.04
	L2-7	4-6	S-050903-SW-143	**30**	1.788	0.00077	0.04
	L2-8	4-6	S-050903-SW-162	**14**	11.548	0.00730	0.06
	L2-10	4-6	S-050903-SW-164	**20**	7.763	0.01220	0.16
Lagoon 3	L3-3	5-7	S-050803-SW-112	**0.18**	0.347	0.00142	0.41
	L3-10	3-5	S-050803-SW-105	**0.99**	0.491	0.00266	0.54
Lagoon 4	L4-2	17-19	S-050703-SW-058	**0.45**	0.579	0.00079	0.14
	L4-6	5-7	S-050703-SW-072	**0.61**	0.508	0.00183	0.36
Lagoon 5	L5-2	4-6	S-050703-SW-035	**14**	9.505	0.00671	0.07
	L5-5	4-6	S-050703-SW-041	**1.5**	5.490	0.00365	0.07
	L5-8	8-10	S-050703-SW-049	**0.46**	0.312	0.00095	0.30
	L5-10	4-6	S-050703-SW-052	**9.0**	1.761	0.01500	0.85
Lagoon 6	L6-5	1-2	S-050803-SW-081	**0.31**	0.074	0.00002	0.03
						Mean	**0.23**

TABLE 6.3

SUMMARY OF ANALYTICAL DATA FOR SURFACE SOIL SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		*SSII-1*	*SSII-2*	*SSII-3*	*SSII-4*	*SSII-5*	*SSII-6*	*SSII-6*	*SSII-7*	*SSII-8*
Sample Date:		*06/02/1995*	*06/02/1995*	*06/02/1995*	*06/02/1995*	*06/02/1995*	*06/02/1995*	*06/02/1995 Duplicate*	*06/02/1995*	*06/02/1995*
Parameter	*NYSDEC Soil Cleanup Objectives* [1]									
TCL Volatiles (ug/kg)										
Acetone	200	11U	18	11U	11U	1J	10U	8J	11U	11U
Tetrachloroethene	1400	3J	11UJ	3J	11UJ	23J	4J	11UJ	51J	11U
Xylene (total)	1200	11U	11UJ	11U	11UJ	11UJ	R	11UJ	2J	11U
TCL Semi-Volatiles (ug/kg)										
4-Methylphenol	900	350U	360U	360U	370U	360UJ	160J	3600U	360UJ	350UJ
Benzo(a)anthracene	224	350U	360U	360U	370U	360U	360U	3600UJ	150J	350U
Benzo(a)pyrene	61	350U	57J	360U	370UJ	360UJ	360U	3600UJ	200J	350U
bis(2-Ethylhexyl)phthalate	50,000 [2]	350U	130J	60J	370U	360U	54J	3600UJ	59J	62J
Chrysene	400	350U	360U	360U	370U	360U	360U	3600UJ	230J	350U
Di-n-octyl phthalate	50,000 [2]	350U	360UJ	360U	370UJ	360UJ	360U	640J	360U	350U
Fluoranthene	50,000 [2]	61J	61J	360U	65J	360U	64J	3600U	110J	350U
Phenanthrene	50,000 [2]	350U	360U	360U	370U	360U	360U	3600U	86J	350U
Pyrene	50,000 [2]	350U	59J	360U	85J	360U	360U	3600UJ	220J	350U
TCL Pesticides/PCBs (ug/kg)										
4,4'-DDE	2,100	3.5U	3.6U	3.5U	3.7U	3.6U	86J	170J	3.5U	3.5U
4,4'-DDT	2,100	3.5U	3.6U	3.5U	3.7U	2.5J	100J	48J	3.5U	3.5U
Aroclor-1254 (PCB-1254)	1,000 [3]	35U	36U	35U	30J	34J	4800J	8900J	35U	32J
beta-BHC	200	1.8U	1.8U	1.8U	1.9U	1.8U	2.8	1.8U	1.8U	1.8U
delta-BHC	300	1.8U	1.8U	1.8U	1.9U	1.8U	3.9J	6.0	1.8U	1.8U
Dieldrin	44	3.5U	3.6U	3.5U	3.7U	3.6U	27J	27	3.5U	3.5U
Endosulfan I	900	1.8U	1.8U	1.8U	1.9U	1.8U	6.9	11	1.8U	1.8U
Endosulfan sulfate	1000	3.5U	3.6U	3.5U	3.7U	3.6U	55	41	3.5U	3.5U
Endrin	100	3.5U	3.6U	3.5U	3.7U	2.7J	3.5U	35U	3.5U	3.5U
Endrin aldehyde	NA	3.5U	3.6U	3.5U	3.7U	3.6U	97J	3.5UJ	3.5U	3.5U
Endrin ketone	NA	3.5U	3.6U	3.5U	3.7U	3.6U	21J	3.5UJ	3.5U	3.5U
Heptachlor	100	1.8U	1.8U	1.8U	1.9U	1.8U	0.89J	3.2J	1.8U	1.8U
Heptachlor epoxide	20	1.8U	1.8U	1.8U	1.9U	1.8U	9.6J	19J	1.8U	1.8U
Methoxychlor	10,000 [4]	18U	18U	18U	19U	18U	120J	220J	18U	18U
TAL Inorganics (mg/kg)	*RBCs for U.S. EPA Region III* [5]									
Aluminum	78000	18000	16400	17400	19200	18000	18400	14800	13600	18100
Antimony	31	0.51UJ	0.52UJ	0.52UJ	0.53UJ	0.52UJ	0.51UJ	0.67J	0.52UJ	0.51UJ
Arsenic	0.43	10.4	9.4	7.2	8.2	7.1	7.9	10.0	6.0	7.5
Barium	5500	43.5	45.3	47.9	65.2	61.0	71.3J	131J	58.2	55.3
Beryllium	160	0.92U	0.85U	0.82U	0.95	0.85	0.79U	0.64U	0.71U	0.87
Calcium	NA	725	1280	713	1470	548	712	826	1740	1170
Chromium Total	120000	22.8	22.0	22.0	23.9	21.2	44.7	60.7	17.0	23.5
Cobalt	1600	19.6	17.9	14.3	16.0	13.8	12.1	8.5	13.7	15.8
Copper	3100	41.7	41.5	35.7	60.1	41.6	89.4	108	34.0	41.8
Iron	23000	34200	32500	31800	31500	31500	38700	33800	23800	33700
Lead	400	24.0	39.3	16.7	30.9	18.1	48.8J	85.9J	22.3	19.3
Magnesium	NA	8060	8100	7300	7790	6540	7610	4700	5600	8230
Manganese	1600	1230	1240	936	1140	1040	545J	270J	1170	963
Mercury	23	0.17J	0.13J	0.16J	0.81J	1.6J	23.4J	13.0J	0.12J	0.17J
Nickel	1600	31.2	30.4	28.9	29.8	27.1	36.1	30.3	23.8	31.2
Potassium	NA	1170J	1060J	1270J	1890J	1040J	1530J	1370J	1200J	1570J
Selenium	390	0.97	0.99	0.93	0.80	0.75	0.92	0.91	0.76	0.99
Sodium	NA	27.8	42.6	28.3	47.8	27.5	38.1J	74.8J	44.1	40.2
Thallium	5.5	0.91	0.95	0.76	0.68	0.76	0.87	0.67	0.73	1.1
Vanadium	550	25.9	23.5	24.6	28.0	25.8	40.2	41.2	20.3	25.7
Zinc	23000	101	106	92.8	109	88.6	116	125	90.8	89.5
Wet Chemistry										
Total Organic Carbon (TOC) (mg/kg)	NA	12100	20900	8160	32400	20300	84100	87400	33900	9460
Total Solids (%)	NA	93.9	91.6	92.6	90.0	91.7	93.8	93.1	93.2	94.0

Notes:

- [ ] - Exceeds NYSDEC Soil Cleanup Objective / Region III RBCs.
- J - The reported value is an estimated quanitiy.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- (1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
- (2) - As per HWR-94-4046, total VOCs < 10,000 ppb, total SVOCs < 500,000 ppb and individual SVOCs < 50,000 ppb.
- (3) - Objective value is 1,000 ppb for all PCBs in surface soils.
- (4) - As per HWR-94-4046, total VOCs < 10,000 ppb.
- (5) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.4

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - VOCS AND SVOCS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		*Lagoon 1*										*Lagoon 2*				
		L-1	*TP-11A*	*TP-12*	*TP-15*	*TP-46*	*TP-46*	*L1-TP1*	*L1-TP1*	*L1-TP3*	*L1-TP3*	*L1-TP3*	*L-2*	*L2-TP1*	*L2-TP1*	*L2-TP1*	*L2-TP2*
Sample Date:		*08/20/1985*	*07/09/1991*	*07/08/1991*	*07/08/1991*	*12/04/1991*	*12/04/1991*	*11/25/1996*	*11/25/1996*	*11/25/1996*	*11/25/1996*	*11/25/1996*	*08/20/1985*	*11/26/1996*	*11/26/1996*	*11/26/1996*	*11/25/1996*
Sample Depth:		*[6-8]*	*[1-3]*	*[3-8]*	*[3-3]*	*[2-8]*	*[2-8]*	*[9-9]*	*[12-14]*	*[4-4]*	*[8-10]*	*[8-10]*	*[6.5-7]*	*[4-4]*	*[4-6]*	*[4-6]*	*[4-6]*
							Duplicate					*Duplicate*				*Duplicate*	
Parameter	*NYSDEC Soil Cleanup Objective* [1]																
TCL Volatiles (ug/kg)																	
1,1-Dichloroethane	100	26	25UJ	11U	6UJ	13U	25U	11U	12U	12U	11U	11U	1U	11U	12U	6600U	11U
1,2-Dichloroethene (total)	178 [2,4]	--	25UJ	11U	6UJ	13U	25U	11U	12U	12U	11U	11U	--	11U	12U	6600U	11U
1,2-Dichloropropane	44 [2,3]	--	25U	11U	6UJ	13U	25U	11U	12U	12U	11U	11U	--	11U	2J	6600U	11U
2-Butanone (Methyl Ethyl Ketone)	300	5	50UJ	23U	12UJ	27U	50U	4J	12U	12U	11U	14J	4	11U	16J	6600U	8J
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	1000	--	840	23U	12U	27U	50U	11U	12U	12U	11UJ	11UJ	--	11U	200J	6600UJ	11UJ
Acetone	200	3	300J	450	110J	91	110	28J	11J	12U	19J	62J	1U	11U	66J	6600U	39J
Benzene	60	--	210	120	160J	330JD	300	3J	120	3J	160	190	--	11U	1200J	1300J	13000
Carbon disulfide	2700	--	25UJ	19	8J	8J	25U	11U	2J	12U	2J	27J	--	11U	12U	6600U	2J
Chlorobenzene	1700	--	32	32	640	97	190	6J	17	12U	31J	41J	--	11U	5600J	3900J	12000
Ethylbenzene	5500	--	4,000	500J	610J	890D	1,900	11U	75	12U	820	680	--	3J	32000	22000	13000
Styrene	3880 [2,3]	--	25U	11U	6UJ	13U	25U	11U	12U	12U	11UJ	11UJ	--	11U	6200U	2600J	11UJ
Tetrachloroethene	1400	--	25U	11U	6UJ	13U	25U	11U	12U	12U	11UJ	11UJ	--	11U	6200U	6600U	11UJ
Toluene	1500	2	26,000	1,200	1,100	1,000D	990	11U	4J	5J	87J	160J	4	11U	7700	7700	7200
Trichloroethene	700	--	25U	11U	6UJ	13U	25U	11U	12U	12U	11U	11U	--	11U	12UJ	6600U	11U
Xylene (total)	1200	4	4,500	2100	810	3,800D	7,700	3J	170	5J	1300	1100	32	12	300000	240000	43000
TCL Semi-Volatiles (ug/kg)																	
2-Aminopyridine	400 [5]	1U	R	260J	170J	240J	750	380UJ	2900J	390UJ	610J	720J	57	380UJ	19000J	4400UJ	2200J
2-Methylnaphthalene	36400	--	R	66J	370U	750U	730U	380U	380U	390U	360U	350U	--	380U	450J	4400U	59J
2-Picoline	575 [5]	1U	7,600J	89J	370U	750U	730U	380UJ	78J	180J	150J	210J	1U	380UJ	4100UJ	4400UJ	380UJ
4-Chloro-3-methylphenol	240	--	R	370U	370U	750UJ	730U	380U	380U	390U	360U	350U	--	380U	4100U	4400U	380U
4-Nitrophenol	100	--	R	1900U	1900U	3700UJ	3700U	950UJ	960UJ	970UJ	900UJ	890UJ	--	950UJ	10000UJ	11000UJ	950UJ
Aniline	100	1U	--	--	--	--	--	--	--	--	--	--	1U	--	--	--	--
Anthracene	50000 [6]	--	R	370U	370U	750U	730U	380U	380U	390U	360U	350U	--	380U	4100U	4400U	380U
Benzo(a)anthracene	224	--	R	370U	370UJ	750U	730U	380U	380U	390U	360U	350U	--	380U	4100U	4400U	380UJ
Benzoic acid	2700	--	R	1900U	1900U	3700U	3700U	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	50000 [6]	--	R	4,400	370UJ	60,000J	730U	380U	380U	390U	360U	350U	--	380U	4100U	4400U	380UJ
Chrysene	400	--	R	370U	370UJ	750U	730U	380U	380U	390U	360U	350U	--	380U	4100U	4400U	380UJ
Fluoranthene	50000 [6]	--	R	370U	370U	750U	730U	380U	380U	390U	360U	350U	--	380U	4100U	4400U	380U
Naphthalene	13000	--	R	120J	370U	750U	730U	380U	380U	390U	84J	93J	--	380U	860J	490J	100J
N-Nitrosodiphenylamine	50000 [7]	--	R	370U	370U	750U	730U	380U	380U	390U	360U	350U	--	380U	4100U	4400U	380U
Phenanthrene	50000 [6]	--	R	370U	370U	750U	730U	380U	380U	390U	360U	350U	--	380U	4100U	4400U	380U
Phenol	30	--	R	370U	370U	750UJ	730U	380U	380U	390U	360U	350U	--	380U	4100U	4400U	380U
Pyrene	50000 [6]	--	R	370U	370UJ	750U	730U	380U	380U	390U	360U	350U	--	380U	4100U	4400U	380U
Pyridine	400 [5]	6.24	3,300J	52J	370U	750U	730U	380UJ	380UJ	390UJ	160J	170J	24.95	380UJ	4100UJ	4400UJ	380UJ

Notes:

- ☐ - Exceeds NYSDEC Soil Cleanup Objective.
- J - Estimated
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List

(1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
(2) - Soil cleanup objective determined using the methodology outlined in HWR-94-4046.
(3) - KOC value obtained from Soil Screening Guidance: Technical Background Document, EPA/540/R95/128, May 1996.
(4) - KOC value calculated using solubility value from Superfund Chemical Data Matric, USEPA, January 28, 2004 as per HWR-94-4046.
(5) - Soil cleanup objective for the pyridine compounds determined by NYSDEC and USEPA in letter dated August 14, 1996.
(6) - As per HWR-94-4046, total VOCs < 10,000 ppb, total SVOCs < 500,000 ppb and individual SVOCs < 50,000 ppb.
(7) - Calculated cleanup objective was greater than the maximum total SVOCs of 50,000 ppb, therefore criteria used is 50,000 ppb.

TABLE 6.4

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - VOCS AND SVOCS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 3									Lagoon 4										
Sample Location:		L-3	TP-6	L3-TP1	L3-TP2	L3-TP2	L3-TP2	L3-TP3	L3-TP3	L3-TP3	L-4	TP-20/TP-29	TP-22/TP-26	TP-23/TP-24	TP-28	L4-TP1	L4-TP1	L4-TP1	L4-TP2	L4-TP2	L4-TP2
Sample Date:		08/20/1985	07/10/1991	11/22/1996	11/22/1996	11/22/1996	11/22/1996	11/22/1996	11/22/1996	11/22/1996	08/20/1985	07/01/1991	07/02/1991	07/03/1991	06/28/1991	11/22/1996	11/22/1996	11/22/1996	11/21/1996	11/21/1996	11/21/1996
Sample Depth:		[10-12]	[4-6]	[8-12]	[5-7]	[3-5]	[3-5]	[5-10]	[3-5]	[12-12]	[12-15]	[5-7]	[6-7]	[5-7]	[3.5-3.5]	[2-4]	[4-6]	[4-6] Duplicate	[5-6]	[3-4]	[3-3]
Parameter	*NYSDEC Soil Cleanup Objective* [1]																				
TCL Volatiles (ug/kg)																					
1,1-Dichloroethane	100	1U	6U	12U	11U	11U	12U	13U	11U	12U	1U	22U	6U	6U	7U	11U	25U	12U	12U	12U	11U
1,2-Dichloroethene (total)	178 [2,4]	--	6U	12U	11U	11U	12U	13U	11U	12U	--	22U	6U	6U	7U	11U	25U	12U	12U	12U	11U
1,2-Dichloropropane	44 [2,3]	--	6U	12U	11U	11U	12U	13U	11U	12U	--	22U	6U	6U	7U	11U	25U	12U	12U	12U	11U
2-Butanone (Methyl Ethyl Ketone)	300	1U	30	12U	5J	11U	12U	29J	11U	12U	1U	45U	11U	12U	14U	11U	47J	34	12U	4J	11U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	1000	--	12U	12U	11U	11U	12U	13U	11U	12U	--	45U	11U	12U	14U	11U	25UJ	12U	12U	12U	11U
Acetone	200	1U	120	12U	16J	11U	12U	90	11U	8J	1U	160	11U	63	210	10J	140	100J	15	15	11U
Benzene	60	--	6U	12U	11U	11U	12U	67J	11U	17	--	22U	6U	6U	7U	11U	6J	2J	12U	12U	11U
Carbon disulfide	2700	--	6U	12U	1J	11U	12U	10J	11U	12U	--	22U	6U	6U	23	11U	5J	5J	12U	12U	11U
Chlorobenzene	1700	--	13	12U	11U	11U	12U	18	11U	12U	--	58	6U	6U	24J	11U	25UJ	2J	12U	12U	11U
Ethylbenzene	5500	--	6U	12U	11U	11U	12U	57	11U	12U	--	130	6U	6U	7UJ	11U	4J	12U	12U	12U	11U
Styrene	3880 [2,3]	--	6U	12U	11U	11U	12U	13U	11U	12U	--	22U	6U	6U	7UJ	11U	25UJ	12U	12U	12U	11U
Tetrachloroethene	1400	--	6U	12U	11U	11U	12U	13U	11U	12U	--	22U	6U	6U	7UJ	11U	25UJ	12U	12U	12U	11U
Toluene	1500	10	410	12U	11U	11U	1J	7J	11U	12U	10	63	120	25	94J	11U	15J	2J	12U	12U	11U
Trichloroethene	700	--	6U	12U	11U	11U	12U	13U	11U	12U	--	22U	6U	6U	7U	11U	25U	12U	12U	12U	11U
Xylene (total)	1200	1U	39	12U	11U	11U	12U	200	11U	3J	1U	1,200	6U	6U	1000E	3J	20J	12U	12U	12U	11U
TCL Semi-Volatiles (ug/kg)																					
2-Aminopyridine	400 [5]	1U	720	12000J	74000	380U	390U	17000	380UJ	30000J	1U	260J	4,700J	400U	5,800J	11000J	99000J	82000J	4200J	390J	370U
2-Methylnaphthalene	36400	--	410U	390U	370U	380U	390U	440U	380U	390U	--	360U	390U	400U	400U	380U	410U	400U	390U	390U	370U
2-Picoline	575 [5]	3.4	410U	390U	370UJ	380U	390U	110J	380UJ	390UJ	1U	360U	390U	400U	400U	380U	410U	400U	390U	390U	370U
4-Chloro-3-methylphenol	240	--	42J	390U	370U	380U	390U	440U	380U	390U	--	360U	390U	400U	400U	380U	410U	400U	390U	390U	370U
4-Nitrophenol	100	--	2000U	970UJ	920U	950UJ	980UJ	1100UJ	940UJ	980U	--	1800U	1900U	2000U	2000U	960UJ	1000U	990U	970UJ	980UJ	940UJ
Aniline	100	2.9	--	--	--	--	--	--	--	--	1U	--	--	--	--	--	--	--	--	--	--
Anthracene	50000 [6]	--	410U	390U	370U	42J	390U	440U	380U	390U	--	360U	390U	400U	400U	380U	410U	400U	390U	390U	370U
Benzo(a)anthracene	224	--	410U	390U	370U	45J	390U	440U	380U	390U	--	360U	390U	400U	400UJ	380U	410U	400U	390U	390U	370U
Benzoic acid	2700	--	2000U	--	--	--	--	--	--	--	--	1800U	1900U	2000U	2000U	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	50000 [6]	--	410U	46J	370U	290J	210J	440U	380U	390U	--	360U	390U	69J	400UJ	380U	410U	400U	390U	41J	160J
Chrysene	400	--	410U	390U	370U	52J	390U	440U	380U	390U	--	360U	390U	400U	400UJ	380U	410U	400U	390U	390U	370U
Fluoranthene	50000 [6]	--	410U	390U	370U	130J	390U	440U	380U	390U	--	360U	390U	400U	400U	380U	410U	400U	390U	390U	370U
Naphthalene	13000	--	410U	390U	370U	380U	390U	440U	380U	390U	--	360U	390U	400U	400U	380U	410U	400U	390U	390U	370U
N-Nitrosodiphenylamine	50000 [7]	--	410U	390U	370U	380U	390U	440U	380U	390U	--	360U	390U	400U	400U	380U	410U	400U	390U	390U	370U
Phenanthrene	50000 [6]	--	410U	390U	370U	69J	390U	440U	380U	390U	--	360U	390U	400U	400U	380U	410U	400U	390U	390U	370U
Phenol	30	--	410U	390U	370U	380U	390U	440U	380U	390UJ	--	360U	390U	400U	400U	380U	410U	400U	390U	390U	370U
Pyrene	50000 [6]	--	410U	390U	370U	92J	390U	440U	380U	390U	--	360U	390U	400U	400UJ	380U	410U	400U	390U	390U	370U
Pyridine	400 [5]	8.44	410U	390UJ	370UJ	380UJ	390UJ	440UJ	380UJ	390UJ	8.77	360U	390U	400U	400U	380UJ	410UJ	400UJ	390UJ	390UJ	370UJ

Notes:

[ ] - Exceeds NYSDEC Soil Cleanup Objective.
J - Estimated
U - Non- detect at associated value.
UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
R - Value has been rejected.
-- - Parameter is not analysed.
TAL - Target Analyte List.
TCL - Target Compound List
(1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
(2) - Soil cleanup objective determined using the methodology outlined in HWR-94-4046.
(3) - KOC value obtained from Soil Screening Guidance: Technical Background Document, EPA/540/R95/128, May 1996.
(4) - KOC value calculated using solubility value from Superfund Chemical Data Matric, USEPA, January 28, 2004 as per HWR-94-4046.
(5) - Soil cleanup objective for the pyridine compounds determined by NYSDEC and USEPA in letter dated August 14, 1996.
(6) - As per HWR-94-4046, total VOCs < 10,000 ppb, total SVOCs < 500,000 ppb and individual SVOCs < 50,000 ppb.
(7) - Calculated cleanup objective was greater than the maximum total SVOCs of 50,000 ppb, therefore criteria used is 50,000 ppb.

TABLE 6.4

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - VOCS AND SVOCS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 5							*Lagoon 6*	
Sample Location:		*L-5*	*TP-2*	*TP-2*	*TP-4*	*L5-TP1*	*L5-TP2*	*L5-TP2*	*TP-41*	*L6-TP3*
Sample Date:		*08/20/1985*	*07/12/1991*	*07/12/1991*	*07/11/1991*	*11/21/1996*	*11/21/1996*	*11/21/1996*	*06/26/1991*	*11/21/1996*
Sample Depth:		*[14-14.5]*	*[5-7]*	*[5-7]*	*[5-6]*	*[5-6]*	*[4-6]*	*[2-4]*	*[1-1]*	*[3-3]*
				Duplicate						
Parameter	*NYSDEC Soil Cleanup Objective* [1]									
TCL Volatiles (ug/kg)										
1,1-Dichloroethane	100	1U	6U	6U	5U	24U	30U	12U	6UJ	11U
1,2-Dichloroethene (total)	178 [2,4]	--	6U	6U	5U	24U	4J	12U	6UJ	11U
1,2-Dichloropropane	44 [2,3]	--	6U	6U	5U	24U	30U	12U	6UJ	11U
2-Butanone (Methyl Ethyl Ketone)	300	1U	12U	12U	11U	24U	30U	12U	11UJ	11U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	1000	--	12U	12U	11U	24U	48	12U	11UJ	11U
Acetone	200	1U	43J	31 J	55	20J	23J	12U	11UJ	11U
Benzene	60	--	6U	6U	5U	16J	190	12U	6UJ	11U
Carbon disulfide	2700	--	2J	6U	11	3J	30U	12U	6UJ	11U
Chlorobenzene	1700	--	77	72	760	280	6900	8J	6UJ	11U
Ethylbenzene	5500	--	6U	6U	24	120	12000	9J	6UJ	11U
Styrene	3880 [2,3]	--	6U	6U	5U	24U	30U	12U	6UJ	11U
Tetrachloroethene	1400	--	6U	6U	5U	24U	30U	12U	6UJ	11U
Toluene	1500	1U	160J	330	2,200	87	52000	34	1,800J	11U
Trichloroethene	700	--	6U	6U	5U	24U	13J	12U	6UJ	11U
Xylene (total)	1200	1U	7	6U	99	240	120000	72	6UJ	11U
TCL Semi-Volatiles (ug/kg)										
2-Aminopyridine	400 [5]	1U	350J	470J	570J	1800	1200	400U	730U	370U
2-Methylnaphthalene	36400	--	390U	750U	720U	650J	900	400U	730U	370U
2-Picoline	575 [5]	1U	390U	750U	720U	780U	390U	400U	730U	370U
4-Chloro-3-methylphenol	240	--	390U	750U	720U	780U	390U	400U	730U	370U
4-Nitrophenol	100	--	1900U	3700U	3600U	2000UJ	990U	1000UJ	3700U	53J
Aniline	100	134	--	--	--	--	--	--	--	--
Anthracene	50000 [6]	--	390U	750U	720U	780UJ	390U	400U	730U	370U
Benzo(a)anthracene	224	--	390U	750U	720U	780UJ	390U	400U	730UJ	370U
Benzoic acid	2700	--	1900U	3700U	3600U	--	--	--	4,400	--
bis(2-Ethylhexyl)phthalate	50000 [6]	--	390U	750U	800	780UJ	390U	400U	920J	38J
Chrysene	400	--	390U	750U	720U	780UJ	390U	400U	730UJ	370U
Fluoranthene	50000 [6]	--	390U	750U	720U	780UJ	390U	400U	730U	370U
Naphthalene	13000	--	390U	750U	720U	280J	320J	400U	730U	370U
N-Nitrosodiphenylamine	50000 [7]	--	390U	750U	720U	780UJ	390U	400U	730U	370U
Phenanthrene	50000 [6]	--	390U	750U	720U	430J	390U	400U	730U	370U
Phenol	30	--	390U	750U	720U	780U	390U	400U	730U	370U
Pyrene	50000 [6]	--	390U	750U	720U	780UJ	390U	400U	730UJ	370U
Pyridine	400 [5]	6.1	390U	750U	720U	780UJ	390UJ	400UJ	730U	370UJ

Notes:

[ ] - Exceeds NYSDEC Soil Cleanup Objective.
J - Estimated
U - Non- detect at associated value.
UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
R - Value has been rejected.
-- - Parameter is not analysed.
TAL - Target Analyte List.
TCL - Target Compound List
(1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
(2) - Soil cleanup objective determined using the methodology outlined in HWR-94-4046.
(3) - KOC value obtained from Soil Screening Guidance: Technical Background Document, EPA/540/R95/128, May 1996.
(4) - KOC value calculated using solubility value from Superfund Chemical Data Matric, USEPA, January 28, 2004 as per HWR-94-4046.
(5) - Soil cleanup objective for the pyridine compounds determined by NYSDEC and USEPA in letter dated August 14, 1996.
(6) - As per HWR-94-4046, total VOCs < 10,000 ppb, total SVOCs < 500,000 ppb and individual SVOCs < 50,000 ppb.
(7) - Calculated cleanup objective was greater than the maximum total SVOCs of 50,000 ppb, therefore criteria used is 50,000 ppb.

TABLE 6.5

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - PESTICIDES/PCBS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 1														
Sample Location:		*TP-11A*	*TP-12*	*TP-15*	*TP-46*	*TP-46*	*L1-TP1*	*L1-TP1*	*L1-TP3*	*L1-TP3*	*L1-TP3*	*L1-3*	*L1-3*	*L1-4*	*L1-4*	*L1-4*
Sample Date:		*07/09/1991*	*07/08/1991*	*07/08/1991*	*12/04/1991*	*12/04/1991*	*11/25/1996*	*11/25/1996*	*11/25/1996*	*11/25/1996*	*11/25/1996*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*
Sample Depth:		*[1-3]*	*[3-8]*	*[3-3]*	*[2-8]*	*[2-8]*	*[9-9]*	*[12-14]*	*[4-4]*	*[8-10]*	*[8-10]*	*[0.5-2]*	*[2-3]*	*[2-3.5]*	*[3.5-5]*	*[3.5-5]*
						Duplicate					*Duplicate*					*Duplicate*
Parameter	*NYSDEC Soil Cleanup Objectives* [1]															
TCL Pesticides/PCBs (ug/kg)																
4,4'-DDD	2,900	38U	18U	18U	18U	18U	3.8U	3.8U	**9.6**	3.6U	3.5U	3.9U	3.8U	3.6U	3.6UJ	3.8U
4,4'-DDE	2,100	38U	18U	18U	18U	18U	3.8U	3.8U	3.8U	**2.2J**	**3.1J**	3.9U	3.8U	3.6U	3.6UJ	**4.0**
4,4'-DDT	2,100	38U	18U	18U	18U	18U	3.8U	3.8U	R	3.6U	3.5U	3.9U	3.8U	3.6U	3.6UJ	3.8U
Aldrin	41	19U	8.9U	**9.9**	8.9U	8.9U	1.9U	2U	2U	1.8U	1.8U	2.0U	1.9U	1.9U	1.9UJ	1.9U
alpha-BHC	110	19U	8.9U	9U	8.9U	8.9U	1.9U	**4**	2U	1.8U	1.8U	2.0U	1.9U	1.9U	1.9UJ	1.9U
alpha-Chlordane	540	190U	89U	90U	89U	89U	1.9U	2U	2U	1.8U	**1J**	2.0U	1.9U	1.9U	1.9UJ	1.9U
Aroclor-1254 (PCB-1254)	10,000 [2]	**780**	180U	**260**	180U	180U	38U	38U	**300**	**58J**	**100J**	–	–	–	–	–
Aroclor-1260 (PCB-1260)	10,000 [2]	380U	180U	180U	180U	180U	38U	38U	38U	36U	35U	–	–	–	–	–
beta-BHC	200	19U	8.9U	9U	8.9U	8.9U	1.9U	2U	2U	1.8U	1.8U	2.0U	1.9U	1.9U	1.9UJ	1.9U
delta-BHC	300	19U	8.9U	9U	8.9U	8.9U	1.9U	2U	2U	1.8U	1.8U	2.0U	1.9U	1.9U	1.9UJ	1.9U
Dieldrin	44	38U	18U	18U	18U	18U	3.8U	3.8U	3.8U	3.6U	3.5U	3.9U	3.8U	3.6U	**2.2J**	**1.9J**
Endosulfan I	900	19U	8.9U	9U	8.9U	8.9U	1.9U	2U	2U	**0.97J**	**1.1J**	2.0U	1.9U	1.9U	1.9UJ	1.9U
Endosulfan II	900	38U	18U	18U	18U	18U	3.8U	3.8U	3.8U	3.6U	3.5U	3.9U	3.8U	3.6U	3.6UJ	3.8U
Endosulfan sulfate	1000	38U	18U	18U	18U	18U	3.8U	3.8U	38U	3.6U	3.5U	3.9U	3.8U	3.6U	3.6UJ	3.8U
Endrin	100	38U	18U	18U	18U	18U	3.8U	3.8U	**7.3J**	3.6U	**2.1J**	3.9U	3.8U	3.6U	3.6UJ	3.8U
Endrin aldehyde	NA	–	–	–	–	–	3.8U	3.8U	3.8U	3.6U	3.5U	3.9U	3.8U	3.6U	**4.4J**	R
Endrin ketone	NA	38U	18U	18U	18U	18U	3.8U	3.8U	3.8U	3.6U	3.5U	3.9U	3.8U	3.6U	3.6UJ	3.8U
gamma-Chlordane	540	190U	89U	90U	89U	89U	1.9U	2U	**5.4**	**1.4J**	**2.7J**	2.0U	1.9U	1.9U	**2.0JN**	**3.9J**
Heptachlor	100	19U	8.9U	9U	8.9U	8.9U	1.9U	2U	2U	1.8U	1.8U	2.0U	1.9U	1.9U	1.9UJ	1.9U
Heptachlor epoxide	20	19U	8.9U	9U	8.9U	8.9U	1.9U	2U	**1.7J**	**1.4J**	1.8U	2.0U	1.9U	1.9U	1.9UJ	1.9U
Methoxychlor	10,000 [3]	190U	89U	90U	89U	89U	19U	20U	20U	18U	18U	20U	19U	19U	19UJ	19U

Notes:

- ☐ - Exceeds NYSDEC Soil Cleanup Objective.
- J - The reported value is an estimated quanitiy.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- – - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- (1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
- (2) - Soil Cleanup Objective value is 10,000 ppb for all PCBs in subsurface soils.
- (3) - As per HWR-94-4046, total VOCs < 10,000 ppb.

TABLE 6.5

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - PESTICIDES/PCBS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 2								*Lagoon 3*							
Sample Location:		***L2-TP1***	***L2-TP1***	***L2-TP1***	***L2-TP2***	***L2-5***	***L2-5***	***L2-10***	***L2-10***	***TP-6***	***L3-TP1***	***L3-TP2***	***L3-TP2***	***L3-TP2***	***L3-TP3***	***L3-TP3***	***L3-TP3***
Sample Date:		***11/26/1996***	***11/26/1996***	***11/26/1996***	***11/25/1996***	***05/09/2003***	***05/09/2003***	***05/09/2003***	***05/09/2003***	***07/10/1991***	***11/22/1996***	***11/22/1996***	***11/22/1996***	***11/22/1996***	***11/22/1996***	***11/22/1996***	***11/22/1996***
Sample Depth:		***[4-4]***	***[4-6]***	***[4-6]***	***[4-6]***	***[2-4]***	***[4-5]***	***[4-6]***	***[10-12]***	***[4-6]***	***[8-12]***	***[3-5]***	***[3-5]***	***[5-7]***	***[3-5]***	***[5-10]***	***[12-12]***
				Duplicate									*Duplicate*				
Parameter	*NYSDEC Soil Cleanup Objectives* [1]																
TCL Pesticides/PCBs (ug/kg)																	
4,4'-DDD	2,900	3.7U	41U	44U	**25J**	3.7U	3.7U	3.8U	3.7U	20U	3.8U	3.8U	3.9U	3.7U	**2.4J**	**4.8**	3.9U
4,4'-DDE	2,100	**2J**	**320J**	**270J**	**21J**	3.7U	3.7U	**3.8J**	**8.4**	20U	3.8U	3.8U	3.9U	3.7U	3.7U	**5.9J**	3.9U
4,4'-DDT	2,100	3.7U	1200UJ	**1200J**	**34J**	3.7U	3.7U	3.8U	3.7U	20U	3.8U	3.8U	3.9U	3.7U	3.7U	4.3U	3.9U
Aldrin	41	1.9U	**77J**	**65**	1.9U	1.9U	1.9U	2.0U	1.9U	9.8U	2U	1.9U	2U	1.9U	1.9U	2.2UJ	2U
alpha-BHC	110	1.9U	21U	22U	**2.2J**	1.9U	1.9U	2.0U	1.9U	9.8U	2U	1.9U	2U	1.9U	1.9U	**4**	**1.5J**
alpha-Chlordane	540	1.9U	21U	22U	1.9U	1.9U	1.9U	2.0U	1.9U	98U	2U	1.9U	2U	1.9U	**7.3**	2.2U	2U
Aroclor-1254 (PCB-1254)	10,000 [2]	**78**	**15000**	**14000**	**1100J**	–	–	–	–	200U	38U	**37J**	**51**	37U	**80**	**110**	39U
Aroclor-1260 (PCB-1260)	10,000 [2]	37U	**4300J**	**2400J**	**310J**	–	–	–	–	200U	38U	**30J**	39U	37U	37U	43U	39U
beta-BHC	200	1.9U	21U	22U	1.9U	1.9U	1.9U	2.0U	1.9U	9.8U	2U	1.9U	2U	1.9U	1.9U	2.2U	2U
delta-BHC	300	1.9U	21U	22U	1.9U	1.9U	1.9U	2.0U	1.9U	9.8U	2U	1.9U	2U	1.9U	1.9U	2.2U	2U
Dieldrin	44	3.7U	**170J**	**140J**	**6.2J**	3.7U	3.7U	3.8U	**2.1J**	20U	3.8U	3.8U	3.9U	3.7U	3.7U	4.3U	3.9U
Endosulfan I	900	1.9U	**19J**	**11J**	1.9U	1.9U	1.9U	2.0U	**6.3JN**	9.8U	2U	1.9U	2U	1.9U	1.9U	2.2U	2U
Endosulfan II	900	3.7U	**750J**	**480J**	3.8U	3.7U	3.7U	3.8U	**13**	20U	3.8U	3.8U	3.9U	3.7U	**14**	**7.6J**	3.9U
Endosulfan sulfate	1000	3.7U	41U	44U	**37J**	3.7U	3.7U	3.8U	3.7U	20U	3.8U	3.8U	3.9U	3.7U	**52**	4.3U	3.9U
Endrin	100	**2J**	**390J**	**300J**	**23J**	3.7U	3.7U	3.8U	3.7U	20U	3.8U	3.8U	3.9U	3.7U	**5.5**	**5.9J**	3.9U
Endrin aldehyde	NA	R	41U	44U	3.8U	3.7U	3.7U	R	R	–	3.8U	3.8U	3.9U	3.7U	3.7U	**34**	3.9U
Endrin ketone	NA	3.7U	**23J**	**29J**	3.8U	3.7U	3.7U	3.8U	3.7U	20U	3.8U	3.8U	3.9U	3.7U	3.7U	4.3U	3.9U
gamma-Chlordane	540	**1.7J**	21U	22U	1.9U	1.9U	1.9U	**3.6J**	**26**	98U	2U	1.9U	2U	1.9U	**4.3**	**2.2J**	2U
Heptachlor	100	1.9U	21U	22U	1.9U	1.9U	1.9U	2.0U	R	9.8U	2U	1.9U	2U	1.9U	1.9U	2.2U	2U
Heptachlor epoxide	20	1.9U	**44J**	**36J**	**9.7J**	1.9U	1.9U	2.0U	1.9U	9.8U	2U	1.9U	2U	1.9U	**2.2**	2.2U	2U
Methoxychlor	10,000 [3]	19U	**110J**	220U	19U	19U	19U	20U	19U	98U	20U	19U	20U	19U	19U	22U	20U

Notes:

	- Exceeds NYSDEC Soil Cleanup Objective.
J	- The reported value is an estimated quanitiy.
U	- Non- detect at associated value.
UJ	- The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
R	- Value has been rejected.
–	- Parameter is not analysed.
TAL	- Target Analyte List.
TCL	- Target Compound List
(1)	- Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
(2)	- Soil Cleanup Objective value is 10,000 ppb for all PCBs in subsurface soils.
(3)	- As per HWR-94-4046, total VOCs < 10,000 ppb.

TABLE 6.5

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - PESTICIDES/PCBS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 4									
Sample Location:		***TP-20/P-29***	***TP-22/TP-26***	***TP-23/TP-24***	***TP-28***	***L4-TP1***	***L4-TP1***	***L4-TP1***	***L4-TP2***	***L4-TP2***	***L4-TP2***
Sample Date:		***07/01/1991***	***07/02/1991***	***07/03/1991***	***06/28/1991***	***11/22/1996***	***11/22/1996***	***11/22/1996***	***11/21/1996***	***11/21/1996***	***11/21/1996***
Sample Depth:		***[5-7]***	***[6-7]***	***[5-7]***	***[3.5-3.5]***	***[2-4]***	***[4-6]***	***[4-6]***	***[5-6]***	***[3-4]***	***[3-3]***
								Duplicate			
Parameter	*NYSDEC Soil Cleanup Objectives* [1]										
TCL Pesticides/PCBs (ug/kg)											
4,4'-DDD	2,900	17U	19U	19U	**30X**	3.8U	**87J**	**110J**	3.8U	3.9U	3.7U
4,4'-DDE	2,100	17U	19U	19U	19U	3.8U	**16J**	**27J**	3.8U	3.9U	**2.7J**
4,4'-DDT	2,100	17U	19U	19U	19U	3.8U	4U	3.9U	3.8U	3.9U	3.7U
Aldrin	41	8.6U	9.3U	9.6U	9.5U	2U	2.1U	**1.4J**	2U	2U	1.9U
alpha-BHC	110	8.6U	9.3U	9.6U	9.5U	2U	2.1U	2U	2U	2U	1.9U
alpha-Chlordane	540	86U	93U	96U	95U	2U	2.1U	2U	2U	2U	1.9U
Aroclor-1254 (PCB-1254)	10,000 [2]	170U	190U	190U	**210**	38U	**110J**	**210J**	38U	39U	**22J**
Aroclor-1260 (PCB-1260)	10,000 [2]	170U	190U	190U	190U	38U	**71**	**100**	38U	39U	37U
beta-BHC	200	8.6U	9.3U	9.6U	9.5U	2U	2.1U	2U	2U	2U	1.9U
delta-BHC	300	8.6U	9.3U	9.6U	9.5U	2U	2.1U	2U	2U	2U	1.9U
Dieldrin	44	17U	19U	19U	19U	3.8U	4U	3.9U	3.8U	3.9U	3.7U
Endosulfan I	900	8.6U	9.3U	9.6U	9.5U	2U	**2.3**	**3.1**	2U	2U	1.9U
Endosulfan II	900	17U	19U	19U	19U	3.8U	**4.9J**	**10J**	3.8U	3.9U	3.7U
Endosulfan sulfate	1000	17U	19U	19U	19U	3.8U	4U	3.9U	3.8U	3.9U	3.7U
Endrin	100	17U	19U	19U	19U	3.8U	**3.5J**	**4.4J**	3.8U	3.9U	3.7U
Endrin aldehyde	NA	–	–	–	–	3.8U	4U	3.9U	3.8U	3.9U	3.7U
Endrin ketone	NA	17U	19U	19U	19U	3.8U	4U	3.9U	3.8U	3.9U	3.7U
gamma-Chlordane	540	86U	93U	96U	95U	2U	2.1U	**3.4J**	2U	2U	1.9U
Heptachlor	100	8.6U	9.3U	9.6U	9.5U	2U	2.1U	2U	2U	2U	1.9U
Heptachlor epoxide	20	8.6U	9.3U	9.6U	9.5U	2U	**3J**	**5.9J**	2U	2U	1.9U
Methoxychlor	10,000 [3]	86U	93U	96U	95U	20U	21U	20U	20U	20U	19U

Notes:

[ ] - Exceeds NYSDEC Soil Cleanup Objective.
J - The reported value is an estimated quanitiy.
U - Non- detect at associated value.
UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
R - Value has been rejected.
– - Parameter is not analysed.
TAL - Target Analyte List.
TCL - Target Compound List
(1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
(2) - Soil Cleanup Objective value is 10,000 ppb for all PCBs in subsurface soils.
(3) - As per HWR-94-4046, total VOCs < 10,000 ppb.

TABLE 6.5

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - PESTICIDES/PCBS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 5						*Lagoon 6*			
Sample Location:		***TP-2***	***TP-2***	***TP-4***	***L5-TP1***	***L5-TP2***	***L5-TP2***	***TP-41***	***L6-TP3***	***L6-1***	***L6-2***
Sample Date:		***07/12/1991***	***07/12/1991***	***07/11/1991***	***11/21/1996***	***11/21/1996***	***11/21/1996***	***06/26/1991***	***11/21/1996***	***05/08/2003***	***05/08/2003***
Sample Depth:		***[5-7]***	***[5-7]***	***[5-6]***	***[5-6]***	***[2-4]***	***[4-6]***	***[1-1]***	***[3-3]***	***[2-3]***	***[0.6-2]***
			Duplicate								
Parameter	***NYSDEC Soil Cleanup Objectives*** [1]										
TCL Pesticides/PCBs (ug/kg)											
4,4'-DDD	2,900	19U	18U	17UJ	3.9U	4U	3.9U	18U	3.7U	3.6U	4.1U
4,4'-DDE	2,100	19U	18U	17UJ	**58J**	4U	**44J**	18U	3.7U	3.6U	4.1U
4,4'-DDT	2,100	19U	18U	17UJ	3.9U	**3.5J**	3.9U	**20X**	3.7U	3.6U	4.1U
Aldrin	41	9.3U	9U	8.7UJ	2U	2.1U	2U	**190J**	1.9U	1.9U	2.1U
alpha-BHC	110	9.3U	9U	8.7UJ	**2.4J**	2.1U	**1.5J**	8.8U	1.9U	1.9U	2.1U
alpha-Chlordane	540	93U	90U	87UJ	**14J**	2.1U	**13J**	88U	1.9U	1.9U	2.1U
Aroclor-1254 (PCB-1254)	10,000 [2]	190U	180U	170UJ	**1200J**	**290**	**910**	**9200J**	**110**	–	–
Aroclor-1260 (PCB-1260)	10,000 [2]	190U	180U	170UJ	**700J**	40U	**290J**	180U	37U	–	–
beta-BHC	200	9.3U	9U	8.7UJ	**4.3J**	2.1U	2U	8.8U	1.9U	1.9U	2.1U
delta-BHC	300	9.3U	9U	8.7UJ	2U	2.1U	2U	8.8U	1.9U	1.9U	2.1U
Dieldrin	44	19U	18U	17UJ	**10J**	**3.1J**	**8.2J**	**37X**	3.7U	3.6U	4.1U
Endosulfan I	900	9.3U	9U	8.7UJ	**32J**	2.1U	**27**	8.8U	1.9U	1.9U	2.1U
Endosulfan II	900	19U	18U	17UJ	**52J**	4U	**31J**	18U	3.7U	3.6U	4.1U
Endosulfan sulfate	1000	19U	18U	17UJ	3.9U	**3.8J**	3.9U	18U	3.7U	3.6U	4.1U
Endrin	100	19U	18U	17UJ	**16J**	**2.7J**	**9J**	**26J**	3.7U	3.6U	4.1U
Endrin aldehyde	NA	–	–	–	R	**3.4J**	R	–	3.7U	3.6U	4.1U
Endrin ketone	NA	19U	18U	17UJ	**14J**	4U	3.9U	18U	3.7U	3.6U	4.1U
gamma-Chlordane	540	93U	90U	87UJ	**16J**	**3.1J**	**12J**	88U	1.9U	1.9U	2.1U
Heptachlor	100	9.3U	9U	8.7UJ	2U	2.1U	2U	8.8U	1.9U	1.9U	2.1U
Heptachlor epoxide	20	9.3U	9U	8.7UJ	2U	**3.6J**	2U	**20X**	**1J**	1.9U	2.1U
Methoxychlor	10,000 [3]	93U	90U	87UJ	**23J**	21U	20U	**120**	19U	19U	21U

Notes:

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(2) - Soil Cleanup Objective value is 10,000 ppb for all PCBs in subsurface soils.
(3) - As per HWR-94-4046, total VOCs < 10,000 ppb.

TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

								Lagoon 1								
Sample Location:		*L-1*	*TP-11A*	*TP-12*	*TP-15*	*TP-46*	*TP-46*	*L1-TP1*	*L1-TP1*	*L1-TP3*	*L1-TP3*	*L1-TP3*	*L1-1*	*L1-1*	*L1-2*	*L1-2*
Sample Date:		*08/20/1985*	*07/09/1991*	*07/08/1991*	*07/08/1991*	*12/04/1991*	*12/04/1991*	*11/25/1996*	*11/25/1996*	*11/25/1996*	*11/25/1996*	*11/25/1996*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*
Sample Depth:		*[6-8]*	*[1-3]*	*[3-8]*	*[3-3]*	*[2-8]*	*[2-8]*	*[9-9]*	*[12-14]*	*[4-4]*	*[8-10]*	*[8-10]*	*[4-5]*	*[5-6]*	*[4-5]*	*[5-6]*
							Duplicate					*Duplicate*				
Parameter	*RBCs for U.S. EPA Region III* (1)															
TAL Inorganics (mg/kg)																
Aluminum	78,000	–	294000	20500	18600	18900	15200	13900	13000	18600	14500	14200	14500	13800	13800	16400
Antimony	31	10.39	67.5	7.3S	8.0S	6.3UJ	6.2U	0.62UJ	0.62UJ	0.63UJ	0.58UJ	0.57UJ	0.51UJ	0.49UJ	0.49UJ	0.50UJ
Arsenic	0.43	21.71	87.5	12.5	7.6	3.7UJ	3.7U	4	6.4	8.9	6	5.7	7.6J	6.5J	7.7J	9.2J
Barium	5,500	24.42	10.8S	39.5S	48.3	52.4	39.7	49.4	35.6	54.1	45.7	46.9	50.0	37.6J	43.3J	53.0
Beryllium	160	–	0.76S	0.74S	0.88S	0.65U	0.57U	0.59	0.68	0.9	0.75	0.79	0.78J	0.62J	0.69J	0.81J
Cadmium	39	0.3	5.2	4.9	3.6	1.1U	1.0U	0.27	0.17	0.05U	0.04U	0.04U	0.023U	0.022U	0.022U	0.023U
Calcium	NA	–	1,690S	1,110S	2,950	509	1,080	498	971	964	2100	2030	452J	402J	592J	625J
Chromium Total	120,000	–	9.6	40.8	26.0	24.7	21.0	16.8	21.8	24.8	22.2	22.3	16.9	16.6	17.4	21.0
Cobalt	1,600	–	4.9S	11.7	14.1	13.8	12.4	10	11.4	14.6	11.4	11	14.0	11.9	16.4	19.4
Copper	3,100	48.99	26.4	85.0	44.0	32.4	33.3	17	33.7	39.9	36.8	35.3	23.3	26.2	29.8	36.0
Iron	23,000	–	3,980	40,200	33,900	30,600	27,900	23400	33000	36700	35400	34200	27600	25600	26700	31700
Lead	400	21.12	4.6J	13.9J	16.3J	11.1	11.4	9.7	13.2	17.3	14	13.7	18.7	12.5	18.3	18.9
Magnesium	NA	–	2,250S	9,490	7,530	6,990	6,230	4100	6560	7590	6880	6640	5340	5450	6310	7270
Manganese	1,600	–	181	479	927	839	759	826	543	861	753	717	983	1620	1170	996
Mercury	23	1.188	0.74	1.1	0.1U	0.17J	0.24	0.05U	0.05U	79.9	0.25	0.29	0.058U	0.055U	0.056U	0.057U
Nickel	1,600	15.92	18.9S	38.1	36.8	32.1	29.9	18.7	27.7	30.2	30.2	29	23.4	22.9	25.9	29.2
Potassium	NA	–	514S	2,150	1,650	1,400	1,350	1000	967	2250	1690	1840	759J	788J	927J	1160
Selenium	390	1.93	0.95U	0.04UJ	0.07S	0.40U	0.40U	1U	0.95U	0.32U	0.3U	0.3U	0.51UJ	0.49UJ	0.49UJ	0.50UJ
Silver	390	0.2U	2U	0.94U	0.94U	0.49U	0.49U	0.09U	0.09U	0.09U	0.11	0.09U	0.13J	0.089U	0.15J	0.091U
Sodium	NA	176.32	2,740	490S	233S	224	309	112	283	316	192	189	42.7J	25.9J	34.2J	35.0J
Thallium	5.5	8.91	0.71U	0.36S	0.36S	0.42U	0.75U	0.43U	0.55	0.53	0.42	0.65	0.64J	0.51U	0.52U	0.69J
Vanadium	550	–	204	39.4	26.8	24.2	20.6	20.7	20.8	27.6	23.9	22.6	20.4	18.2	18.4	21.9
Zinc	23,000	63.47	42.9	105	91.0	86.9	73.4	59.6	84.1	105	91.9	88.1	77.1J	65.1J	79.8J	85.3J
Cyanide (total)	1,600	0.99	2.4U	21.2	1.1U	4.5	3.7	0.57U	0.58U	0.58U	0.54U	0.53U	0.58U	2.4	0.56U	4.0
Wet Chemistry																
pH	NA	–	6.6	8.0	6.7	8.2	7.4	6.2	6.9	6.5	7.9	7.5	–	–	–	–
Total Solids (%)	NA	–	42.3	89.6	89.0	89.4	90.7	87.7	86.7	86.2	92.9	94	85.5	90.1	89.2	88.1
Total Organic Carbon (TOC)	NA	39220	–	–	–	1,470	–	2150	1920	13900	16500J	32800J	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	–	253	3,140	4,980	689	253	–	–	–	–	–	–	–	–	–

Notes:

[ ] - Exceeds Region III RBCs.
J - The reported value is an estimated quanitiy.
U - Non- detect at associated value.
UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
R - Value has been rejected.
S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
– - Parameter is not analysed.
TAL - Target Analyte List.
(1) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 1														
Sample Location:		*L1-3*	*L1-3*	*L1-4*	*L1-4*	*L1-4*	*L1-5*	*L1-5*	*L1-5*	*L1-6*	*L1-6*	*L1-6*	*L1-7*	*L1-7*	*L1-8*	*L1-8*
Sample Date:		*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*
Sample Depth:		*[0.5-2]*	*[2-3]*	*[2-3.5]*	*[3.5-5]*	*[3.5-5]*	*[4-6]*	*[4-6]*	*[7-9]*	*[7-9]*	*[7-9]*	*[9-11]*	*[1-3]*	*[5-7]*	*[4-6]*	*[9-10]*
						Duplicate		*Duplicate*			*Duplicate*					
Parameter	*RBCs for U.S. EPA Region III* (1)															
TAL Inorganics (mg/kg)																
Aluminum	78,000	**15300**	**16700**	**16400**	**12900**	–	**10500**	**6840**	**2940**	**12900**	**12200**	**11700**	**11600**	**13400**	**15000**	**16000**
Antimony	31	0.53UJ	0.50UJ	0.48UJ	0.49UJ	–	0.49UJ	0.47UJ	0.50UJ	0.49UJ	0.48UJ	0.51UJ	0.52UJ	0.51UJ	0.51UJ	0.49UJ
Arsenic	0.43	**8.3J**	**7.9J**	**6.9J**	**5.6J**	–	**5.4J**	**4.7J**	**5.0J**	**6.1J**	**6.3J**	**7.3J**	**5.7J**	**4.5J**	**4.0J**	**6.2J**
Barium	5,500	**56.6**	**91.7**	**61.4**	**43.2J**	–	**27.9J**	**26.5J**	**36.7J**	**36.9J**	**39.0J**	**28.3J**	**55.3**	**29.3J**	**59.4**	**41.7J**
Beryllium	160	**0.74J**	**0.83J**	**0.85J**	**0.65J**	–	**0.39J**	**0.37J**	**0.16J**	**0.63J**	**0.59J**	**0.64J**	**0.43J**	**0.61J**	**0.64J**	**0.94J**
Cadmium	39	0.024U	**0.11J**	0.022U	0.022U	–	0.022U	0.021U	0.023U	0.022U	0.022U	0.023U	0.023U	0.051J	0.033J	0.022U
Calcium	NA	**729J**	**616J**	**631J**	**632J**	–	**491J**	**364J**	**331J**	**421J**	**491J**	**765J**	**1140J**	**524J**	**904J**	**755J**
Chromium Total	120,000	**18.9**	**18.1**	**19.6**	**19.1**	–	**19.3**	**9.7**	**9.0**	**18.5**	**16.9**	**21.3**	**16.3**	**16.6**	**17.2**	**20.3**
Cobalt	1,600	**13.8**	**12.5**	**14.2**	**9.2J**	–	**6.0J**	**6.6J**	**2.5J**	**9.3J**	**7.7J**	**8.3J**	**6.4J**	**11.8**	**10.5J**	**10.5J**
Copper	3,100	**29.6**	**21.1**	**26.3**	**28.6**	–	**38.2**	**22.0**	**29.3J**	**31.9**	**29.1**	**35.1**	**21.5J**	**26.2J**	**20.8J**	**28.9J**
Iron	23,000	**28100**	**26300**	**28300**	**27700**	–	**23800**	**12300**	**8720**	**27200**	**24100**	**25700**	**27900**	**25900**	**25800**	**27900**
Lead	400	**24.9**	**22.9**	**18.1**	**15.5**	–	**24.7**	**23.0**	**42.8**	**13.2**	**11.7**	**18.8**	**14.9**	**10.2**	**13.3**	**14.4**
Magnesium	NA	**6410**	**5130**	**6520**	**6470**	–	**5710**	**3020**	**1310**	**5260**	**4780**	**5830**	**4540**	**5710**	**5140**	**6270**
Manganese	1,600	**1120**	**1490**	**1270**	**425**	–	**368**	**298**	**92.7J**	**1220**	**1050**	**750**	**460J**	**1440J**	**1640J**	**713J**
Mercury	23	**0.31**	**0.074J**	**0.055U**	**1.2**	–	**10.7**	**10.5**	**2.8**	**0.10J**	**0.16**	**0.49**	**0.35**	0.058U	0.058U	**0.17**
Nickel	1,600	**24.9**	**21.8**	**25.6**	**27.5**	–	**20.5**	**12.0**	**6.4J**	**23.3**	**20.4**	**25.2**	**20.6**	**24.3**	**22.1**	**27.3**
Potassium	NA	**1030J**	**928J**	**998J**	**1010J**	–	**1300**	**1430**	**1110J**	**801J**	**1110**	**1240**	**724J**	**930J**	**687J**	**1480**
Selenium	390	0.53UJ	0.50UJ	0.48UJ	0.49UJ	–	0.49UJ	0.47UJ	0.50U	0.49UJ	0.48UJ	0.51UJ	0.52U	0.51U	0.51U	0.49U
Silver	390	**0.14J**	**0.092J**	**0.11J**	0.088U	–	**0.12J**	**0.21J**	**0.13J**	**0.12J**	0.088U	0.093U	**0.10J**	0.093U	0.093U	0.089U
Sodium	NA	**42.1J**	**34.5J**	**32.8J**	**64.1J**	–	**58.3J**	**47.2J**	**99.9J**	**83.3J**	**84.5J**	**77.7J**	**136J**	**354J**	**147J**	**145J**
Thallium	5.5	0.55U	0.53U	**0.86J**	**0.76J**	–	0.51U	0.49U	**0.68J**	**0.62J**	0.51U	**0.79J**	**1.5J**	**0.77J**	**0.66J**	**1.4J**
Vanadium	550	**21.3**	**24.2**	**22.5**	**19.9**	–	**19.5**	**14.3**	**6.9J**	**19.8**	**18.6**	**18.3**	**20.2**	**19.0**	**20.4**	**23.7**
Zinc	23,000	**78.4J**	**85.0J**	**73.0J**	**79.9J**	–	**71.9J**	**37.0J**	**20.7**	**73.8J**	**68.5J**	**84.6J**	**68.4**	**65.1**	**65.3**	**77.0**
Cyanide (total)	1,600	0.60U	0.57U	0.55U	**1.3**	–	0.55U	**1.2**	**1.4**	0.56U	**0.59**	**1.3**	0.59U	0.58U	0.58U	0.56U
Wet Chemistry																
pH	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Solids (%)	NA	**83.6**	**87.3**	**91.4**	**90.6**	**87.2**	**90.6**	**93.9**	**87.8**	**89.3**	**90.9**	**85.6**	**85.2**	**85.6**	**86.1**	**89.4**
Total Organic Carbon (TOC)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:

☐ - Exceeds Region III RBCs.
J - The reported value is an estimated quanitiy.
U - Non- detect at associated value.
UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
R - Value has been rejected.
S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
– - Parameter is not analysed.
TAL - Target Analyte List.
(1) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

								Lagoon 2							
Sample Location:		*L-2*	*L2-TP1*	*L2-TP1*	*L2-TP1*	*L2-TP2*	*L2-1*	*L2-1*	*L2-2*	*L2-2*	*L2-3*	*L2-3*	*L2-4*	*L2-4*	*L2-5*	*L2-5*
Sample Date:		*08/20/1985*	*11/26/1996*	*11/26/1996*	*11/26/1996*	*11/25/1996*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*
Sample Depth:		*[6.5-7]*	*[4-4]*	*[4-6]*	*[4-6]*	*[4-6]*	*[4-5]*	*[7-9]*	*[2-4]*	*[4-6]*	*[2-4]*	*[4-5]*	*[2-3]*	*[3-5]*	*[2-4]*	*[4-5]*
					Duplicate											
Parameter	*RBCs for U.S. EPA Region III* (1)															
TAL Inorganics (mg/kg)																
Aluminum	78,000	--	20400	15000	19500	15200	12800	13500	10800	11500	15600	12500	14800	14700	17000	17600
Antimony	31	8.46	0.61UJ	1.9J	1.6J	0.92J	0.50UJ	0.47UJ	0.48UJ	0.46UJ	0.48UJ	0.48UJ	0.51UJ	0.49UJ	0.49UJ	0.49UJ
Arsenic	0.43	17.34	12.2	7.6	9.9	5.1	4.5	3.8	6.4J	6.2J	8.3J	8.2J	8.2J	7.7J	12.8J	11.9J
Barium	5,500	16.92	63.2	87.6	91.6	45.4	31.2J	21.2J	35.2J	39.5J	55.4	28.7J	74.6	59.1	39.1J	41.4J
Beryllium	160	--	0.98	0.67	0.88	0.74	0.66J	0.50J	0.58J	0.57J	0.76J	0.63J	0.76J	0.81J	0.84J	0.91J
Cadmium	39	0.21	0.05U	2.4	1.6	0.59	0.18J	0.088J	0.54J	0.048J	0.11J	0.024J	0.076J	0.067J	0.022U	0.11J
Calcium	NA	--	590	17800J	9750J	11400	1220	2730	2690	490J	983J	542J	491J	632J	598J	1230
Chromium Total	120,000	--	25.3	184	139	43.2	17.7	24.5	32.5	13.7	18.7	16.2	16.2	17.5	21.2	23.1
Cobalt	1,600	--	21.1	11.8	15.8	9.5	10.1J	6.8J	10.2J	18.0	15.5	13.7	12.5	15.8	18.9	19.5
Copper	3,100	17.51	39.5	187	128	64.1	38.2	32.3	63.1J	20.6J	29.9J	31.1J	19.3J	24.4J	38.3J	42.1J
Iron	23,000	--	36300	35700	37900	30900	25100	30100	24700	21000	29000	25800	25300	24900	34500	32700
Lead	400	16.79	22.7	124	96.8	29	13.9	17.3	40.7	15.3	19.3	16.3	19.0	26.2	21.6	20.5
Magnesium	NA	--	7810	6430	7480	7430	5790	8270	5730	4460	6530	6190	5030	5710	7990	8090
Manganese	1,600	--	1210	1640	1470	679	599	709	463J	778J	1240J	991J	1440J	1340J	1170J	1420J
Mercury	23	3.173	0.05	51.3J	14.9J	3.8	0.72J	0.36J	0.054U	17.0	0.055U	0.055U	0.058U	0.056U	0.055U	0.35
Nickel	1,600	14.38	31	53.3	49.7	30.7	24.7	26.0	32.9	20.7	26.8	25.1	21.3	24.1	29.6	31.1
Potassium	NA	--	2180	2030	2730	2250	1080J	870J	609J	604J	961J	842J	702J	722J	1190	1680
Selenium	390	1.94	0.32U	0.35U	0.37U	0.32U	0.50U	0.47U	0.48U	0.46U	0.48U	0.48U	0.51U	0.49U	0.49U	0.49U
Silver	390	0.2U	0.09	0.35	0.29	0.09U	0.17J	0.18J	0.087U	0.084U	0.088U	0.088U	0.092U	0.089U	0.091J	0.10J
Sodium	NA	856.59	63.4	358	259	410	90.1J	94.0J	61.1J	33.5J	42.9J	33.8J	38.5J	37.6J	40.9J	43.1J
Thallium	5.5	10.99	0.71	0.54	0.5U	0.43U	0.58J	0.61J	1.1J	1.1J	1.0J	1.3J	0.78J	0.77J	1.1J	1.4J
Vanadium	550	--	29.3	30.5	34.4	23.2	17.2	17.7	17.0	16.0	20.4	16.1	19.6	20.2	21.8	23.0
Zinc	23,000	88.79	100	310	245	158	84.1	85.6	109	56.5	81.4	62.5	71.7	75.2	87.9	88.5
Cyanide (total)	1,600	6.52	0.57U	8.2	4.9	0.57U	0.57U	0.54U	0.54U	0.52U	0.55U	0.55U	0.58U	0.56U	0.55U	0.56U
Wet Chemistry																
pH	NA	--	7.6	5.7	7.2	7.9	--	--	--	--	--	--	--	--	--	--
Total Solids (%)	NA	--	88.1	81	75.3	87.7	87.4	92.8	92.4	95.7	90.9	90.9	86.5	89.5	90.2	89.7
Total Organic Carbon (TOC)	NA	31209	6630	42900J	82100J	13900	--	--	--	--	--	--	--	--	--	--
Petroleum Hydrocarbons (mg/kg)	NA	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Notes:

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- J - The reported value is an estimated quanitiy.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
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TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 2														
Sample Location:		*L2-6*	*L2-6*	*L2-7*	*L2-7*	*L2-8*	*L2-8*	*L2-9*	*L2-9*	*L2-9*	*L2-10*	*L2-10*	*L2-10*	*L2-11*	*L2-11*	*L2-11*
Sample Date:		*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*	*05/09/2003*
Sample Depth:		*[2-4]*	*[4-5]*	*[2-4]*	*[4-6]*	*[4-6]*	*[7-8]*	*[5-7]*	*[10-12]*	*[10-12] Duplicate*	*[4-6]*	*[10-12]*	*[10-12] Duplicate*	*[4-6]*	*[9-11]*	*[9-11] Duplicate*
Parameter	*RBCs for U.S. EPA Region III (1)*															
TAL Inorganics (mg/kg)																
Aluminum	78,000	15400	16000	14700	12400	12400	15500	16400	11600	10900	15900	11700	11400	8640	11100	9720
Antimony	31	0.49UJ	0.51UJ	0.48UJ	0.47UJ	0.51UJ	0.48UJ	0.50UJ	0.50UJ	0.50UJ	0.51UJ	0.49UJ	0.49UJ	0.47UJ	0.50UJ	0.49UJ
Arsenic	0.43	12.3J	7.0J	11.5J	7.4J	5.5	5.9	5.8	6.1	6.5	6.8	5.0	4.5	3.5J	4.2J	4.6J
Barium	5,500	34.2J	54.0	28.7J	29.4J	46.9	27.5J	22.0J	26.5J	14.7J	43.5J	22.6J	26.2J	19.3J	23.6J	18.5J
Beryllium	160	0.73J	0.74J	0.65J	0.59J	0.55J	0.71J	0.67J	0.55J	0.50J	0.78J	0.54J	0.51J	0.53J	0.54J	0.53J
Cadmium	39	0.022U	0.023U	0.022U	0.54J	0.96J	0.16J	0.073J	0.096J	0.083J	0.41J	0.096J	0.076J	0.021U	0.034J	0.040J
Calcium	NA	563J	967J	706J	2360	11000	1020J	303J	643J	330J	2590	482J	552J	644J	1310	1330
Chromium Total	120,000	18.4	19.1	19.3	41.3	54.8	21.7	20.4	16.2	16.7	26.2	16.7	15.7	12.9	17.2	15.1
Cobalt	1,600	16.4	14.2	14.1	7.5J	9.9J	8.3J	10.5J	6.3J	5.3J	6.3J	9.5J	7.7J	6.5J	8.2J	8.4J
Copper	3,100	31.4J	27.5J	37.2J	148J	85.1	42.3	44.5	28.8	29.6	43.8	33.5	27.1	27.2J	22.2J	26.1J
Iron	23,000	31200	29700	29600	32000	24800	30200	29900	24300	25400	30100	24900	23500	18700	23000	22500
Lead	400	20.7	15.7	23.6	39.4	36.5	15.4	13.7	11.3	12.5	20.3	10.9	10.2	11.9	10.4	14.2
Magnesium	NA	6880	6090	7690	7480	6010	7940	6270	4990	5000	6420	5430	4780	5020	5220	4910
Manganese	1,600	1050J	977J	792J	364J	1060	363	353	374	319	572	591	533	367J	439J	404J
Mercury	23	0.056U	0.058U	0.055U	30.1	14.1J	2.0J	0.057UJ	0.067J	0.079J	20.0J	0.082J	0.14J	0.073J	0.066J	0.12
Nickel	1,600	26.3	26.5	26.9	31.0	29.9	27.9	26.2	20.0	18.8	25.2	21.0	19.5	17.8	21.7	19.9
Potassium	NA	892J	929J	953J	886J	858J	1400	651J	1150	896J	1280	784J	985J	674J	1340	623J
Selenium	390	0.49U	0.51U	0.48U	0.47U	0.51U	0.48U	0.50U	0.50U	0.50U	0.51U	0.49U	0.49U	0.47U	0.50U	0.49U
Silver	390	0.090U	0.11J	0.088U	0.18J	0.12J	0.16J	0.14J	0.15J	0.13J	0.17J	0.13J	0.12J	0.086U	0.090U	0.12J
Sodium	NA	36.4J	46.4J	35.3J	76.4J	445J	204J	633J	383J	412J	259J	358J	324J	60.0J	150J	153J
Thallium	5.5	1.2J	1.6J	1.4J	2.0J	0.54U	0.59J	0.90J	0.53U	0.67J	0.66J	0.51U	0.51U	1.2J	1.3J	1.5J
Vanadium	550	19.6	21.4	18.2	17.8	17.5	19.1	20.9	17.0	16.7	22.4	16.3	15.7	10.8	16.2	14.0
Zinc	23,000	80.5	77.7	70.9	135	117	85.5	73.7	80.6	69.6	209	80.9	84.8	56.8	93.7	89.0
Cyanide (total)	1,600	0.56U	0.58U	0.55U	0.66	1.2	1.2	0.57U	0.57U	0.56U	0.58U	0.56U	0.56U	0.53U	0.56U	0.55U
Wet Chemistry																
pH	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Solids (%)	NA	89.3	86.1	91.0	94.0	85.8	92.6	87.6	87.6	88.7	86.7	89.4	89.6	93.5	88.5	90.3
Total Organic Carbon (TOC)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:

[ ] - Exceeds Region III RBCs.
J - The reported value is an estimated quanitiy.
U - Non- detect at associated value.
UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
R - Value has been rejected.
S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
– - Parameter is not analysed.
TAL - Target Analyte List.
(1) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 3														
Sample Location:		*L-3*	*TP-6*	*L3-TP1*	*L3-TP2*	*L3-TP2*	*L3-TP2*	*L3-TP3*	*L3-TP3*	*L3-TP3*	*L3-1*	*L3-1*	*L3-2*	*L3-2*	*L3-2*	*L3-3*
Sample Date:		*08/20/1985*	*07/10/1991*	*11/22/1996*	*11/22/1996*	*11/22/1996*	*11/22/1996*	*11/22/1996*	*11/22/1996*	*11/22/1996*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*
Sample Depth:		*[10-12]*	*[4-6]*	*[8-12]*	*[3-5]*	*[3-5]*	*[5-7]*	*[3-5]*	*[5-10]*	*[12-12]*	*[8-10]*	*[12-14]*	*[4-6]*	*[13-15]*	*[13-15]*	*[5-7]*
						Duplicate									*Duplicate*	
Parameter	*RBCs for U.S. EPA Region III* (1)															
TAL Inorganics (mg/kg)																
Aluminum	78,000	–	22600	13300	18000	17800	10700	15900	14300	16400	14600	10700	16700	14000	10600	18100
Antimony	31	14.68	9.4S	0.63UJ	0.62UJ	0.63UJ	0.6UJ	0.61UJ	0.71UJ	0.63UJ	0.56UJ	0.51UJ	0.54UJ	0.51UJ	0.54UJ	0.56UJ
Arsenic	0.43	13.79	7.3	7.1	6.3	6.3	4.2	9.7	4.6	6	3.7J	3.2J	5.0	6.7	4.8J	5.2
Barium	5,500	72.27	74.8	50.5	50.4	54.8	29.6	40.9	109	57.5	112	23.8J	114	44.5J	31.0J	69.1
Beryllium	160	–	0.83S	0.68	0.85	0.8	0.53	0.86	0.72	0.75	0.79J	0.51J	0.75J	0.65J	0.50J	0.56J
Cadmium	39	1.47	3.4	0.28	0.32	0.33	0.25	0.19	0.25	0.28	0.046J	0.023U	0.31J	0.28J	0.024U	0.19J
Calcium	NA	–	925S	1720	529	467	461	685	2560	800	932J	1130J	982J	545J	436J	748J
Chromium Total	120,000	–	27.1	19	23.2	21.5	16.9	23.1	16.1	21	14.8	15.4	15.5	17.7	14.0	17.8
Cobalt	1,600	–	13.1	15.4	13.5	13.6	10.4	17.8	16.1	12.7	10.6J	8.6J	10.4J	11.7	10.2J	14.0
Copper	3,100	177.48	20.6	36.2	31.3	22.4	24.7	40.3	21.2	30.5	14.2	93.6	12.9	30.1	24.6	17.0
Iron	23,000	–	28600	29800	32400	32400	26100	35500	23100	29400	21000	24000	21000	26700	22700	26000
Lead	400	43.66	12.9J	15.9	25	23.4	11.7	20.3	19.3	15	16.9	16.0	15.8	14.1	11.7	14.9
Magnesium	NA	–	5,010	5640	6930	6000	5260	7780	3800	5670	3420	5390	3370	5590	4420	4120
Manganese	1,600	–	1,100	1300	576	698	366	703	1770	1210	1320	995	1560	1270	733	1220
Mercury	23	29.15	0.14	0.06U	0.1	0.11	0.07	0.14	1.1	0.08	0.074J	0.058U	0.062U	0.058U	0.061U	0.18
Nickel	1,600	31.82	31.5	28.6	29.9	25.3	22.7	31.6	24.3	25.4	18.7	22.0	17.2	24.6	21.6	18.0
Potassium	NA	–	1,410	1450	1970	1490	812	1630	917	1880	685J	582J	828J	1350J	349J	963J
Selenium	390	2.67	0.19JS	1U	1U	1.1U	0.76U	1U	0.37U	0.57U	0.56UJ	0.51UJ	0.56J	0.51U	0.54UJ	0.56U
Silver	390	0.2U	1U	0.14	0.09U	0.09U	0.09U	0.09U	0.11U	0.09	0.10U	0.093U	0.15J	0.13J	0.098U	0.10U
Sodium	NA	952.38	329S	165	130	117	111	79.1	229	531	107J	212J	344J	484J	393J	128J
Thallium	5.5	17.36	0.36U	0.44U	0.51	0.45U	0.42U	0.82	0.5U	0.45U	0.58U	0.59J	0.57U	0.71J	0.56U	0.59U
Vanadium	550	–	33.1	20.7	27.1	28.2	16.5	23.2	22.8	25.9	20.0	16.6	22.5	20.8	15.5	27.0
Zinc	23,000	233.11	78.4	91.6	93	88.6	66.1	96	75.3	75.3	69.9J	133J	70.9	75.7	63.9J	61.4
Cyanide (total)	1,600	15.39	6.1	0.58U	0.57U	0.59U	0.55U	0.57U	0.66U	0.59U	1.0	0.58U	0.62U	0.58U	0.61U	0.64U
Wet Chemistry																
pH	NA	–	7.4	6.2	5.6	4.7	5.9	5.8	6.6	7.5	–	–	–	–	–	–
Total Solids (%)	NA	–	82.3	85.5	87.3	85.2	90.1	88.3	76.1	85.1	78.8	85.9	81.1	85.7	81.7	78.2
Total Organic Carbon (TOC)	NA	68443	–	3020	2780	8670	6100	3770	27400	3190	–	–	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	–	10.8	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:

- [ ] - Exceeds Region III RBCs.
- J - The reported value is an estimated quanitiy.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
- – - Parameter is not analysed.
- TAL - Target Analyte List.
- (1) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 3														
Sample Location:		***L3-3***	***L3-4***	***L3-4***	***L3-5***	***L3-5***	***L3-6***	***L3-6***	***L3-7***	***L3-7***	***L3-8***	***L3-8***	***L3-8***	***L3-9***	***L3-9***	***L3-10***
Sample Date:		***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***	***05/08/2003***
Sample Depth:		***[8-10]***	***[5-7]***	***[8-10]***	***[8-10]***	***[18-20]***	***[8-10]***	***[12-14]***	***[6-8]***	***[8-10]***	***[13-15]***	***[17-19]***	***[17-19] Duplicate***	***[7-9]***	***[12-14]***	***[3-5]***
Parameter	***RBCs for U.S. EPA Region III*** (1)															
TAL Inorganics (mg/kg)																
Aluminum	78,000	**10100**	**15500**	**13500**	**8440**	**10000**	**15000**	**9460**	**13700**	**13200**	**12300**	**12200**	**6940**	**12500**	**12400**	**13200**
Antimony	31	0.50UJ	0.56UJ	0.52UJ	0.54UJ	0.48UJ	0.51UJ	0.50UJ	0.50UJ	0.49UJ	0.52UJ	0.52UJ	0.47UJ	0.50UJ	0.55UJ	0.53UJ
Arsenic	0.43	**5.0**	**2.9J**	**4.5J**	**3.0**	**4.8**	**6.0**	**6.6**	**5.0**	**6.9**	**6.3**	**6.7**	**2.7**	**5.1**	**4.2**	**3.5**
Barium	5,500	**47.8**	**73.2**	**42.1J**	**19.2J**	**26.1J**	**37.9J**	**36.4J**	**37.7J**	**47.6**	**41.2J**	**44.0J**	**14.9J**	**31.4J**	**31.1J**	**54.3**
Beryllium	160	**0.52J**	**0.61J**	**0.57J**	**0.36J**	**0.49J**	**0.69J**	**0.47J**	**0.64J**	**0.67J**	**0.65J**	**0.61J**	**0.33J**	**0.60J**	**0.59J**	**0.43J**
Cadmium	39	**0.19J**	0.026U	0.024U	**0.12J**	**0.23J**	**0.23J**	**0.33J**	**0.15J**	**0.21J**	**0.18J**	**0.15J**	**0.14J**	**0.18J**	**0.18J**	**0.22J**
Calcium	NA	**270J**	**863J**	**777J**	**606J**	**1420J**	**802J**	**27100J**	**301J**	**1170J**	**1320J**	**1240J**	**2950J**	**648J**	**731J**	**1200J**
Chromium Total	120,000	**13.8**	**14.4**	**15.9**	**10.9**	**14.3**	**21.1**	**13.4**	**16.5**	**17.9**	**16.6**	**16.8**	**9.7**	**16.2**	**18.3**	**15.5**
Cobalt	1,600	**7.4J**	**7.8J**	**12.7**	**6.4J**	**10.5J**	**14.6**	**9.9J**	**6.7J**	**12.9**	**12.8**	**12.0**	**5.8J**	**10.5J**	**10.6J**	**6.7J**
Copper	3,100	**19.5**	**11.0**	**21.5**	**13.8**	**29.3**	**33.8**	**30.3**	**27.6**	**33.1**	**33.8**	**37.7**	**16.5**	**29.8**	**28.0**	**16.1**
Iron	23,000	**23400**	**19000**	**24500**	**16300**	**23100**	**30900**	**22800**	**29500**	**27900**	**27200**	**25900**	**16200**	**26800**	**27000**	**16100**
Lead	400	**9.4**	**9.8**	**12.0**	**6.2**	**11.8**	**13.3**	**11.5**	**14.0**	**14.4**	**13.7**	**14.2**	**6.6**	**12.9**	**11.7**	**10.4**
Magnesium	NA	**4470**	**3260**	**4060**	**3590**	**4920**	**7510**	**4700**	**6560**	**5750**	**5140**	**4970**	**4040**	**5750**	**6280**	**3180**
Manganese	1,600	**525**	**1340**	**1480**	**309**	**686**	**625**	**711**	**311**	**1650**	**828**	**987**	**734**	**726**	**613**	**529**
Mercury	23	0.057U	0.064U	0.060U	0.062U	0.055U	0.058U	0.057U	**0.11J**	0.056U	0.059U	0.059U	0.053U	0.057U	0.062U	**0.99**
Nickel	1,600	**17.6**	**15.3**	**20.0**	**15.4**	**23.0**	**33.0**	**23.0**	**23.1**	**26.5**	**28.0**	**26.8**	**15.0**	**24.7**	**25.9**	**14.8**
Potassium	NA	**754J**	**681J**	**729J**	**687J**	**800J**	**963J**	**1040J**	**868J**	**959J**	**774J**	**1030J**	**566J**	**827J**	**830J**	**635J**
Selenium	390	0.50U	0.56UJ	0.52UJ	0.54U	0.48U	0.51U	0.50U	0.50U	0.49U	0.52U	0.52U	0.47U	0.50U	0.55U	0.53U
Silver	390	0.091U	**0.18J**	0.095U	0.099U	0.088U	**0.15J**	**0.14J**	0.091U	0.090U	**0.11J**	0.094U	0.085U	0.091U	0.099U	0.096U
Sodium	NA	**379J**	**104J**	**151J**	**145J**	**595J**	**115J**	**791J**	**53.6J**	**158J**	**747J**	**751J**	**419J**	**111J**	**109J**	**109J**
Thallium	5.5	**1.3J**	0.59U	0.55U	**0.82J**	**0.90J**	**1.7J**	**0.75J**	**1.6J**	**0.65J**	**1.0J**	**0.65J**	0.49U	**1.1J**	**1.5J**	0.55U
Vanadium	550	**15.3**	**20.3**	**20.4**	**12.6**	**15.7**	**22.0**	**14.8**	**19.1**	**19.3**	**18.0**	**18.3**	**10.6J**	**18.6**	**18.0**	**18.3**
Zinc	23,000	**51.8**	**51.3J**	**46.6J**	**42.1**	**77.7**	**84.3**	**71.5**	**79.6**	**85.9**	**84.2**	**85.2**	**49.9**	**76.4**	**72.9**	**46.4**
Cyanide (total)	1,600	0.57U	0.64U	0.60U	0.62U	0.55U	0.58U	0.57U	0.57U	0.56U	0.59U	0.59U	0.53U	0.57U	0.62U	0.60U
Wet Chemistry																
pH	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Solids (%)	NA	**88.0**	**78.0**	**83.9**	**81.2**	**91.4**	**85.8**	**87.4**	**87.8**	**89.0**	**84.9**	**85.0**	**94.0**	**88.1**	**80.6**	**83.0**
Total Organic Carbon (TOC)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:

- ☐ - Exceeds Region III RBCs.
- J - The reported value is an estimated quanitiy.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
- – - Parameter is not analysed.
- TAL - Target Analyte List.
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TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 3														
Sample Location:		*L3-10*	*L3-10*	*L3-11*	*L3-11*	*L3-12*	*L3-12*	*L3-13*	*L3-13*	*L3-14*	*L3-14*	*L3-14*	*L3-15*	*L3-15*	*L3-16*	*L3-16*
Sample Date:		*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*	*05/08/2003*
Sample Depth:		*[7-8]*	*[7-8]* *Duplicate*	*[4-6]*	*[7-9]*	*[1-3]*	*[3-5]*	*[3-5]*	*[5-7]*	*[4-5]*	*[6-7]*	*[6-7]* *Duplicate*	*[0.5-1.5]*	*[1.5-3]*	*[0.5-2]*	*[2-4]*
Parameter	*RBCs for U.S. EPA Region III (1)*															
TAL Inorganics (mg/kg)																
Aluminum	78,000	14600	15900	18400	9380	17700	17400	13400	11300	14600	15200	11200	9920	12900	11000	10200
Antimony	31	0.50UJ	0.52UJ	0.50UJ	0.50UJ	0.54UJ	0.48UJ	0.52UJ	0.50UJ	0.52UJ	0.52UJ	0.51UJ	0.50UJ	0.47UJ	0.50UJ	0.48UJ
Arsenic	0.43	5.8	6.2	5.8	5.2	4.5	6.8	6.6	5.6	9.2	4.4	5.7	6.0	7.4	5.9	6.4
Barium	5,500	41.1J	40.7J	51.8	28.5J	58.3	42.5J	33.2J	28.4J	40.2J	67.3	25.5J	23.0J	22.5J	24.8J	20.8J
Beryllium	160	0.62J	0.80J	0.80J	0.45J	0.61J	0.83J	0.59J	0.45J	0.80J	0.73J	0.49J	0.47J	0.72J	0.50J	0.50J
Cadmium	39	0.18J	0.21J	0.25J	0.17J	0.029J	0.022U	0.024U	0.023U	0.033J	0.023U	0.023U	0.023U	0.021U	0.023U	0.022U
Calcium	NA	650J	666J	415J	630J	352J	284J	293J	348J	1600	383J	238J	289J	812J	305J	125J
Chromium Total	120,000	17.6	17.7	18.2	12.7	18.6	20.1	15.2	13.0	21.3	15.2	12.5	12.3	18.3	12.5	12.7
Cobalt	1,600	11.2J	11.2J	14.0	9.7J	10.4J	12.1	10.4J	7.6J	17.5	8.4J	8.0J	7.9J	12.8	9.1J	8.5J
Copper	3,100	23.4	30.0	25.3	25.5	13.6	29.2	30.5	20.7	35.6	12.7	25.2	26.0	37.5	28.1	28.3
Iron	23,000	24700	28500	27200	21300	23300	30100	24100	21500	33900	21700	20400	21800	26900	22100	21700
Lead	400	12.5	19.8	14.9	10.2	11.1	14.5	11.8	9.9	21.0	10.4	11.2	10.7	12.4	10.6	10.7
Magnesium	NA	4680	5120	5450	4240	4390	6910	5070	3750	7590	4070	4460	4450	7200	4400	4320
Manganese	1,600	633	532	773	1290	599	684	957	429	1150	654	511	658	510	601	552
Mercury	23	0.057U	0.059U	0.11J	0.057U	0.061U	0.055U	0.059U	0.057U	0.059U	0.059U	0.058U	0.18	0.054U	0.056U	0.055U
Nickel	1,600	20.4	23.6	23.8	19.9	17.4	27.8	21.7	17.2	33.5	19.3	17.9	19.3	26.1	19.6	18.2
Potassium	NA	847J	1120J	741J	692J	908J	1550	880J	615J	1300	666J	804J	724J	1290	746J	673J
Selenium	390	0.50U	0.52U	0.50U	0.50U	0.54UJ	0.48UJ	0.52UJ	0.50UJ	0.52UJ	0.52UJ	0.51UJ	0.50UJ	0.47UJ	0.50UJ	0.48UJ
Silver	390	0.097J	0.095U	0.091U	0.092U	0.12J	0.12J	0.11J	0.13J	0.18J	0.22J	0.14J	0.12J	0.14J	0.12J	0.14J
Sodium	NA	80.3J	78.4J	88.3J	70.8J	85.3J	60.6J	47.8J	35.2J	60.8J	35.8J	40.7J	35.9J	59.8J	33.0J	28.4J
Thallium	5.5	0.98J	1.9J	0.73J	0.53U	0.99J	1.5J	0.68J	0.98J	1.5J	0.82J	1.0J	1.1J	1.5J	1.0J	1.3J
Vanadium	550	22.8	23.7	22.7	13.9	25.6	24.0	17.8	15.9	22.1	20.7	14.8	14.1	16.6	14.4	14.5
Zinc	23,000	57.7	68.6	72.4	68.9	60.3	77.4	70.7	51.3	97.3	59.0	56.0	63.3	69.2	71.0	68.4
Cyanide (total)	1,600	0.57U	0.59U	0.57U	0.80	1.7	0.55U	0.59U	0.57U	0.59U	0.59U	0.58U	0.57U	0.54U	0.56U	0.55U
Wet Chemistry																
pH	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Solids (%)	NA	87.4	84.6	88.3	87.2	81.5	91.1	84.4	88.4	84.4	85.3	86.8	87.5	93.2	88.6	91.5
Total Organic Carbon (TOC)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:

- [ ] - Exceeds Region III RBCs.
- J - The reported value is an estimated quanitiy.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
- – - Parameter is not analysed.
- TAL - Target Analyte List.
- (1) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 4														
Sample Location:		***L-4***	***TP-20andTP-29***	***TP-22andTP-26***	***TP-23andTP-24***	***TP-28***	***L4-TP1***	***L4-TP1***	***L4-TP1***	***L4-TP2***	***L4-TP2***	***L4-TP2***	***L4-1***	***L4-1***	***L4-2***	***L4-2***
Sample Date:		***08/20/1985***	***07/01/1991***	***07/02/1991***	***07/03/1991***	***06/28/1991***	***11/22/1996***	***11/22/1996***	***11/22/1996***	***11/21/1996***	***11/21/1996***	***11/21/1996***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***
Sample Depth:		***[12-15]***	***[5-7]***	***[6-7]***	***[5-7]***	***[3.5-3.5]***	***[2-4]***	***[4-6]***	***[4-6]***	***[3-3]***	***[3-4]***	***[5-6]***	***[9-10]***	***[16-18]***	***[6-8]***	***[17-19]***
									Duplicate							
Parameter	***RBCs for U.S. EPA Region III*** (1)															
TAL Inorganics (mg/kg)																
Aluminum	78,000	–	15400	15900	17600	21800	14300	15300	15700	14300	13900	14800	12300	10100	14700	10700
Antimony	31	4.71	7.9S	10.8S	7.3UJ	7.2U	0.62UJ	0.66UJ	0.64UJ	0.61UJ	0.63UJ	0.63UJ	0.50UJ	0.49UJ	0.52UJ	0.52UJ
Arsenic	0.43	22.86	7.8JS	6.8	13.3J	10.2	3.6	6.9	6.7	8.1	4.5	5	5.6	5.1	5.0	3.9
Barium	5,500	7.54	44.7	49.7	39.7S	72.1	37.7	51.2	66.8	44.4	36.5	41.3	53.5	34.7J	33.4J	21.7J
Beryllium	160	–	0.78S	0.82S	0.62S	1.0S	0.6	0.77	0.74	0.8	0.63	0.76	0.61J	0.50J	0.64J	0.48J
Cadmium	39	0.1U	3.6	4.0	3.1	4.2	0.29U	0.43	0.6	0.22U	0.26U	0.35U	0.023U	0.022U	0.024U	0.024U
Calcium	NA	–	721S	1,550	494S	741S	597	865	786	638	392	495	1040J	26400	312J	1710
Chromium Total	120,000	–	23.8	22.6	20.5	50.0	18	27.6	22.4	20.9	18.6	22.3	15.5	13.9	16.6	15.3
Cobalt	1,600	–	11.1	14.9	9.0S	13.1	10.6	14.3	13.7	15.9	10.5	17.7	10.5J	8.8J	9.9J	7.1J
Copper	3,100	25.4	53.5	40.7	18.6	176	22.8	84.9J	144J	36.6	33	41	25.1	24.1	26.6	25.2
Iron	23,000	–	29,800	30,700	25,300	34,400	26400	33200	24100	34200	25100	33200	27900	21100	27200	23900
Lead	400	9.05	20.3	14.5	10.3	24.8	10.6	21.8	19.6	18.4	11.3	15.1	11.4	9.9	14.1	11.3
Magnesium	NA	–	6,960	6,170	5,240	6,990	5000	6480	4700	6810	5140	7380	4980	4780	5530	5600
Manganese	1,600	–	741	1,430	1,170	981	981	1750J	1000J	994	672	788	1630	634	678	477
Mercury	23	0.05U	0.26	0.09	0.11U	7.9	0.05U	2.4	1.9	0.34	0.13	0.06U	0.056U	0.056U	0.059U	0.45J
Nickel	1,600	15.32	31.6	41.0	29.2	36.5	22	28.1	26.2	28.4	23.6	33.1	22.9	21.7	23.0	19.5
Potassium	NA	–	1,580	1,730	877JS	1,640	1130	1150	1880	1200	1230	1490	1010J	1640	668J	1590
Selenium	390	2.69	0.04U	0.16JS	0.14S	0.05UJ	0.64U	1.2U	0.89U	0.99U	0.82U	1.1U	0.50UJ	0.49UJ	0.52UJ	0.52UJ
Silver	390	0.2U	0.91U	0.98U	1U	1U	0.09U	0.2	0.1U	0.11	0.09U	0.09	0.090U	0.14J	0.11J	0.10J
Sodium	NA	261.55	203S	201S	150S	137S	309	119J	225J	50.9	116	145	345J	948J	382J	641J
Thallium	5.5	2U	0.32U	0.35S	0.36U	0.36U	0.44U	0.47U	0.45U	0.43U	0.45U	0.44U	0.62J	0.51U	1.0J	1.3J
Vanadium	550	–	23.6	26.9	25.6	31.5	20.9	24	27.1	20.8	20.2	22.3	17.8	16.2	19.6	14.4
Zinc	23,000	63.99	91.8	92.0	60.5	176	63	113	122	86.7	65.4	95.5	71.2	70.2	64.7	68.8
Cyanide (total)	1,600	0.42	1.1U	1.2	6.4	5.3	0.57U	0.61U	0.6U	0.56U	0.59U	0.58U	0.56U	2.2	0.59U	0.59U
Wet Chemistry																
pH	NA	–	7.3	7.5	7.3	6.6	5.7	5.4	5.6	4.5	5.9	5.7	–	–	–	–
Total Solids (%)	NA	–	92.6	85.8	83.3	84.0	87.1	81.5	84	89	85.2	86.2	88.5	90.0	84.8	84.5
Total Organic Carbon (TOC)	NA	17012	–	–	–	–	1490	21800	18500	5550	2030	2710	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	–	5U	8.3	13.9	31.3	–	–	–	–	–	–	–	–	–	–

Notes:

- ☐ - Exceeds Region III RBCs.
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- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
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- – - Parameter is not analysed.
- TAL - Target Analyte List.
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TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 4														
Sample Location:		*L4-3*	*L4-3*	*L4-3*	*L4-4*	*L4-4*	*L4-5*	*L4-5*	*L4-6*	*L4-6*	*L4-7*	*L4-7*	*L4-8*	*L4-8*	*L4-9*	*L4-9*
Sample Date:		*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*
Sample Depth:		*[6-8]*	*[13-15]*	*[13-15]*	*[7-9]*	*[13-15]*	*[4-5]*	*[7-9]*	*[5-7]*	*[8-10]*	*[7-8]*	*[9-11]*	*[7-9]*	*[13-15]*	*[7-9]*	*[13-15]*
				Duplicate												
Parameter	*RBCs for U.S. EPA Region III (1)*															
TAL Inorganics (mg/kg)																
Aluminum	78,000	15700	9030	9920	12800	8030	12100	8580	12600	10300	13700	12600	10900	7980	14200	10300
Antimony	31	1.3J	1.1J	1.0J	1.5J	1.2J	1.3J	0.82J	0.89J	1.0J	1.5J	1.3J	1.5J	1.0J	0.54UJ	1.1J
Arsenic	0.43	6.3	5.4	5.0	6.0	5.6	8.4	3.7	6.8	2.7	6.3	6.2	5.8	4.0	5.9	5.0
Barium	5,500	42.9J	25.1J	24.0J	41.2J	24.1J	33.1J	26.2J	43.1J	35.6J	65.0	38.8J	32.5J	60.8	41.2J	36.3J
Beryllium	160	0.74J	0.45J	0.48J	0.63J	0.41J	0.64J	0.43J	0.65J	0.51J	0.69J	0.68J	0.54J	0.41J	0.73J	0.52J
Cadmium	39	0.069U	0.070U	0.069U	0.070U	0.067U	0.066U	0.071U	0.071U	0.069U	0.070U	0.070U	0.070U	0.067U	0.27J	0.071U
Calcium	NA	449J	17200	26400	830J	23900	384J	1340	490J	861J	679J	2510	1490	3790	1890	1940
Chromium Total	120,000	20.4	13.1	14.5	17.5	11.8	14.7	13.7	24.2	15.8	20.4	19.7	16.0	12.2	19.6	14.7
Cobalt	1,600	13.8	9.7J	10.6J	12.0	9.2J	18.2	7.5J	12.0	11.2J	14.3	12.2	10.5J	8.5J	12.4	10.2J
Copper	3,100	33.4	28.8	29.2	34.6	27.2	33.9	25.2	59.7	52.8	33.0	35.8	32.6	29.1	35.4	41.4
Iron	23,000	28700	20400	22300	27600	19000	26400	19400	26700	21300	30000	28400	25400	19100	30600	22400
Lead	400	15.6	12.2	11.5	14.6	17.5	23.8	15.0	18.9	14.6	15.5	14.7	12.9	10.8	15.0	15.8
Magnesium	NA	6430	4530	5150	5390	4100	5490	4580	5680	4890	6670	5310	4860	4400	5580	4840
Manganese	1,600	686	903	839	795	663	932	676	496	499	470	1030	935	810	1250	893
Mercury	23	0.058U	0.058U	0.058U	0.058U	0.055U	0.055U	0.32J	0.61J	0.13J	0.058U	0.058U	0.058U	0.055U	0.14J	0.060U
Nickel	1,600	30.6	21.2	21.0	26.8	20.2	24.7	19.0	27.2	23.0	30.5	28.0	25.4	21.0	29.8	24.5
Potassium	NA	832J	689J	758J	609J	599J	559J	678J	765J	719J	833J	809J	599J	489J	1160J	803J
Selenium	390	0.88U	0.88U	0.88U	0.88U	0.84U	0.84U	0.89U	0.90U	0.87U	0.88U	0.88U	0.88U	0.84U	0.54U	0.90U
Silver	390	0.23U	0.23U	0.23U	0.23U	0.22U	0.22U	0.24U	0.24U	0.23U	0.23U	0.23U	0.23U	0.22U	0.16J	0.24U
Sodium	NA	80.5J	651J	678J	164J	547J	31.7J	115J	57.4J	81.8J	59.3J	221J	299J	81.9J	176J	715J
Thallium	5.5	1.2J	0.98U	0.97U	0.98J	0.93U	0.93U	0.99U	1.3J	0.96U	0.97U	0.98U	0.98U	0.93U	0.71J	1.0U
Vanadium	550	22.8	14.6	15.9	19.4	12.8	15.5	13.0	19.9	15.6	20.9	20.5	17.5	13.3	20.8	16.4
Zinc	23,000	76.9J	73.0J	68.5J	76.1J	65.0J	72.0J	51.2J	91.7J	69.3J	87.3J	79.9J	76.4J	66.0J	93.4J	81.4J
Cyanide (total)	1,600	0.58U	0.58U	0.58U	0.58U	0.55U	0.55U	0.59U	0.59U	0.57U	1.0	0.58U	0.58U	0.55U	2.1	0.60U
Wet Chemistry																
pH	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Solids (%)	NA	86.8	85.9	86.6	86.1	90.1	90.3	85.1	84.9	87.2	86.3	86.1	85.9	90.2	81.9	84.0
Total Organic Carbon (TOC)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:

- [ ] - Exceeds Region III RBCs.
- J - The reported value is an estimated quanitiy.
- U - Non- detect at associated value.
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TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

								Lagoon 5								
Sample Location:		*L-5*	*TP-2*	*TP-2*	*TP-4*	*L5-TP1*	*L5-TP2*	*L5-TP2*	*L5-1*	*L5-1*	*L5-2*	*L5-2*	*L5-3*	*L5-3*	*L5-4*	*L5-4*
Sample Date:		*08/20/1985*	*07/12/1991*	*07/12/1991*	*07/11/1991*	*11/21/1996*	*11/21/1996*	*11/21/1996*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*	*05/07/2003*
Sample Depth:		*[14-14.5]*	*[5-7]*	*[5-7]*	*[5-6]*	*[5-6]*	*[2-4]*	*[4-6]*	*[5-6]*	*[6-7]*	*[4-6]*	*[8-9]*	*[4-6]*	*[6-8]*	*[4-5]*	*[7-8]*
				Duplicate												
Parameter	*RBCs for U.S. EPA Region III (1)*															
TAL Inorganics (mg/kg)																
Aluminum	78,000	–	21600	16200	17500	12000	13900	13700	14700	11500	11500	12400	15500	14000	16600	17400
Antimony	31	10.81	13.5S	6.8U	11.1S	0.63UJ	0.65UJ	0.64UJ	0.55UJ	0.51UJ	0.54UJ	0.52UJ	0.54UJ	0.51UJ	0.54UJ	0.55UJ
Arsenic	0.43	19.22	7.1J	9.6	6.8	3.7	5	4.1	9.8	3.0	2.2J	3.0	6.3	4.1	5.7	5.5
Barium	5,500	18.99	64.6	46.3	73.8	55.6	45.9	43.4	68.3	51.3	38.7J	56.8	49.0J	63.2	61.0	63.0
Beryllium	160	–	1.0S	0.70S	0.84S	0.66	0.65	0.71	0.92J	0.58J	0.57J	0.68J	0.67J	0.75J	0.76J	0.75J
Cadmium	39	0.24	4.9	3.6	4.1	1.5	0.39	0.72	0.48J	0.26J	0.28J	0.50J	0.31J	0.28J	0.37J	0.32J
Calcium	NA	–	2,070	937S	1,950	9030	549	3830	3200J	873J	862J	1180J	612J	590J	1790J	712J
Chromium Total	120,000	–	32.2	24.1	27.6	56.1	19.4	37.8	21.8	14.0	15.0	26.4	20.7	15.4	22.1	20.7
Cobalt	1,600	–	15.7	11.6	11.6	9.6	12.8	8.8	14.2	7.9J	6.2J	7.9J	13.7	8.1J	15.4	12.2J
Copper	3,100	39.15	46.3	34.0	85.2	2890	29.5	1090	48.6	24.7	109	594	62.6	17.1	34.8	27.4
Iron	23,000	–	38,500	28,100	33,900	31600	27800	33200	35700	17900	18900	26300	29700	21600	32100	28300
Lead	400	8.15	26.2J	11.9	20.4J	50	16.3	27.9	16.7	13.1	11.3	25.8	13.7	14.5	14.7	14.2
Magnesium	NA	–	8,160	5,780	6,930	6380	5960	7070	6710	4050	5180	5890	5820	4630	7480	6640
Manganese	1,600	–	2,470	986	1,260	1070	879	991	1460	946	549	646	840	878	1260	874
Mercury	23	0.09	0.11U	0.11U	0.32	61.7	2.9	26.5	0.36	0.31	14.2	0.060U	0.063	0.40	0.061U	0.86
Nickel	1,600	14.21	52.4	30.2	36.1	40.9	25.6	35.4	34.6	16.6	19.1	25.9	26.4	17.9	32.1	26.4
Potassium	NA	–	2,840	2,110	2,660	1390	1100	1690	1470	635J	627J	875J	1710	1310	2370	1650
Selenium	390	2.49	0.26JS	0.05U	0.04U	0.99U	0.63U	0.89U	0.55UJ	0.51UJ	0.54UJ	0.52UJ	0.54UJ	0.51UJ	0.54UJ	0.55UJ
Silver	390	0.2U	0.98U	0.95U	0.91U	0.24	0.1U	0.12	0.24J	0.12J	0.13J	0.15J	0.16J	0.12J	0.098U	0.099U
Sodium	NA	174.15	385S	287S	176S	485	63.4	360	55.8J	568J	364J	245J	248J	544J	184J	62.7J
Thallium	5.5	4.98	0.35U	0.34U	1.5S	0.45U	0.46U	0.45U	1.4J	0.53U	0.74J	1.0J	1.1J	0.56J	1.3J	1.0J
Vanadium	550	–	32.5	25.7	29.1	17.3	20.2	19.8	26.9	14.5	12.9	16.7	22.8	17.6	24.5	25.6
Zinc	23,000	75.27	105	75.2	104	1010	75.5	391	115	49.7	53.2	212	74.4	55.2	91.2	79.9
Cyanide (total)	1,600	0.18	54.8	18.1	2.2	1.4	0.61U	0.59U	2.1	1.2	1.1	0.60U	2.7	0.58U	0.61U	2.0
Wet Chemistry																
pH	NA	–	8.3	8.6	7.3	7	6	7.1	–	–	–	–	–	–	–	–
Total Solids (%)	NA	–	85.7	88.6	92.4	85	82.5	84.6	80.4	86.0	81.4	83.9	81.3	86.2	81.6	80.7
Total Organic Carbon (TOC)	NA	15796	–	–	–	109000	3860	76900	–	–	–	–	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	–	5U	5U	609	–	–	–	–	–	–	–	–	–	–	–

Notes:

- Exceeds Region III RBCs.
- J - The reported value is an estimated quanitiy.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
- – - Parameter is not analysed.
- TAL - Target Analyte List.
- (1) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Lagoon 5															
Sample Location:		***L5-5***	***L5-5***	***L5-5***	***L5-6***	***L5-6***	***L5-7***	***L5-7***	***L5-8***	***L5-8***	***L5-9***	***L5-9***	***L5-10***	***L5-10***	***L5-10***	***L5-11***	***L5-11***
Sample Date:		***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***	***05/07/2003***
Sample Depth:		***[4-6]***	***[7-9]***	***[7-9]***	***[5-7]***	***[10-12]***	***[7-9]***	***[12-14]***	***[6-8]***	***[8-10]***	***[5-7]***	***[8-10]***	***[4-6]***	***[7-9.5]***	***[7-9.5]***	***[5-7]***	***[8-9]***
				Duplicate											***Duplicate***		
Parameter	***RBCs for U.S. EPA Region III*** (1)																
TAL Inorganics (mg/kg)																	
Aluminum	78,000	**12400**	**13500**	**14700**	**10000**	**10600**	**12100**	**12400**	**14900**	**11100**	**12900**	**10700**	**15800**	**10300**	**9300**	**12300**	**10700**
Antimony	31	0.50UJ	0.52UJ	0.51UJ	0.53UJ	0.51UJ	0.49UJ	0.50UJ	0.48UJ	0.49UJ	0.51UJ	0.50UJ	0.51UJ	0.51UJ	0.50UJ	0.51UJ	0.51UJ
Arsenic	0.43	**4.6**	**5.5**	**4.2**	**4.8**	**6.6**	**4.1**	**3.7**	**6.3**	**4.0**	**3.6**	**7.1**	**5.6**	**4.8**	**4.9**	**7.1**	**6.1**
Barium	5,500	**29.3J**	**53.4**	**46.0J**	**34.1J**	**33.8J**	**48.8**	**37.6J**	**38.7J**	**37.5J**	**39.6J**	**36.8J**	**31.5J**	**29.3J**	**26.0J**	**55.1**	**24.4J**
Beryllium	160	**0.52J**	**0.68J**	**0.66J**	**0.45J**	**0.59J**	**0.58J**	**0.55J**	**0.68J**	**0.51J**	**0.66J**	**0.53J**	**0.67J**	**0.48J**	**0.46J**	**0.50J**	**0.52J**
Cadmium	39	0.023U	0.024U	0.023U	0.024U	0.023U	**0.19J**	0.023U	0.022U	0.022U	0.023U	0.023U	0.023U	0.023U	0.025U	0.023U	0.023U
Calcium	NA	**797J**	**1580**	**1350**	**1990**	**1430**	**1860**	**2580**	**2000**	**1790**	**2440**	**5440**	**470J**	**20400**	**44400**	**738J**	**1490**
Chromium Total	120,000	**17.5**	**17.1**	**19.8**	**12.7**	**14.5**	**17.6**	**25.1**	**27.6**	**18.0**	**20.6**	**14.5**	**20.1**	**13.9**	**12.9**	**20.1**	**14.7**
Cobalt	1,600	**8.5J**	**8.1J**	**11.7**	**9.8J**	**9.1J**	**9.1J**	**7.6J**	**9.3J**	**8.8J**	**9.9J**	**12.1**	**8.7J**	**9.5J**	**8.6J**	**6.5J**	**11.4J**
Copper	3,100	**139**	**33.8**	**47.8**	**26.3**	**29.9**	**70.3**	**436**	**211**	**71.1**	**405**	**31.1**	**71.7**	**45.2**	**30.5**	**389**	**32.0**
Iron	23,000	**26200**	**29900**	**34400**	**24000**	**24600**	**25800**	**28200**	**32700**	**23400**	**30700**	**25000**	**24800**	**22400**	**20600**	**25000**	**24700**
Lead	400	**14.4**	**13.1**	**16.4**	**12.5**	**12.6**	**13.0**	**15.6**	**16.3**	**10.9**	**13.3**	**12.5**	**12.7**	**10.5**	**12.0**	**16.5**	**14.0**
Magnesium	NA	**6450**	**5540**	**7280**	**5170**	**5030**	**5470**	**6520**	**7760**	**4290**	**6240**	**5330**	**5100**	**5150**	**4820**	**5600**	**5350**
Manganese	1,600	**660**	**895**	**831**	**1980**	**805**	**837**	**699**	**720**	**563**	**1290**	**800**	**300**	**719**	**765**	**234**	**730**
Mercury	23	**1.5J**	**1.1J**	**3.2J**	**0.17J**	**0.19J**	**1.9J**	**8.3J**	**4.6J**	**0.46J**	**2.9J**	0.057U	**9.0J**	**0.19J**	0.057U	**2.2J**	0.058U
Nickel	1,600	**23.7**	**23.6**	**29.8**	**22.0**	**19.5**	**25.2**	**26.2**	**28.7**	**19.9**	**29.1**	**21.8**	**22.0**	**19.2**	**20.9**	**21.7**	**22.9**
Potassium	NA	**874J**	**2000**	**1520**	**1090J**	**1470**	**1580**	**1210**	**1720**	**1760**	**1430**	**2250**	**913J**	**1350**	**1160**	**1200**	**762J**
Selenium	390	0.50UJ	0.52UJ	0.51UJ	0.53UJ	0.51UJ	0.49UJ	0.50UJ	0.48UJ	0.49UJ	0.51UJ	0.50UJ	0.51UJ	0.51UJ	0.50UJ	0.51UJ	0.51UJ
Silver	390	**0.15J**	0.095U	0.093U	**0.12J**	**0.27J**	0.089U	**0.14J**	**0.12J**	0.090U	0.094U	**0.19J**	0.092U	**0.12J**	0.091U	0.093U	0.093U
Sodium	NA	**63.7J**	**174J**	**145J**	**122J**	**115J**	**132J**	**112J**	**116J**	**129J**	**134J**	**641J**	**231J**	**607J**	**688J**	**83.2J**	**125J**
Thallium	5.5	0.53U	**0.77J**	**1.0J**	0.56U	**0.64J**	**0.73J**	**1.1J**	**1.3J**	**0.67J**	**0.66J**	**0.95J**	**0.85J**	**0.53J**	0.52U	**0.80J**	**0.87J**
Vanadium	550	**15.3**	**19.2**	**20.7**	**15.3**	**15.9**	**16.7**	**17.1**	**19.7**	**15.3**	**17.1**	**16.9**	**19.0**	**15.4**	**14.0**	**16.8**	**15.6**
Zinc	23,000	**86.3**	**76.1**	**92.4**	**66.2**	**77.0**	**81.4**	**175**	**151**	**79.7**	**96.1**	**76.2**	**151**	**71.7**	**71.7**	**72.5**	**81.6**
Cyanide (total)	1,600	0.57U	**2.0J**	**7.6J**	0.61U	0.58U	0.56U	**1.4**	0.55U	0.56U	0.57U	0.57U	0.58U	0.57U	0.57U	**1.2**	**1.6**
Wet Chemistry																	
pH	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Total Solids (%)	NA	**87.3**	**84.3**	**86.0**	**82.5**	**86.8**	**89.7**	**88.0**	**91.2**	**89.1**	**87.1**	**87.9**	**86.9**	**87.1**	**88.3**	**85.8**	**86.3**
Total Organic Carbon (TOC)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–	–

Notes:

- ☐ - Exceeds Region III RBCs.
- J - The reported value is an estimated quanitiy.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
- – - Parameter is not analysed.
- TAL - Target Analyte List.
- (1) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.6

SUMMARY OF ANALYTICAL DATA FOR LAGOON SUBSURFACE SOIL SAMPLING - INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

								Lagoon 6						
Sample Location:		TP-41	L6-TP3	L6-1	L6-2	L6-3	L6-3	L6-3	L6-4	L6-5	L6-6	L6-6	L6-7	L6-7
Sample Date:		06/26/1991	11/21/1996	05/08/2003	05/08/2003	05/08/2003	05/08/2003	05/08/2003	05/08/2003	05/08/2003	05/08/2003	05/08/2003	05/08/2003	05/08/2003
Sample Depth:		[1-1]	[3-3]	[2-3]	[0.6-2]	[1-3]	[3-5]	[3-5]	[0.5-2]	[1-2]	[4-7]	[7-9]	[2-3]	[4-5]
								Duplicate						
Parameter	*RBCs for U.S. EPA Region III* (1)													
TAL Inorganics (mg/kg)														
Aluminum	78,000	19100	12900	14400	16900	17100	17800	19600	6150	16200	10400	16100	17900	16200
Antimony	31	6.7U	0.6UJ	0.48UJ	0.54UJ	0.46UJ	0.49UJ	0.49UJ	0.46UJ	0.46UJ	0.49UJ	0.53J	0.47UJ	0.48UJ
Arsenic	0.43	8.7JS	7.7	8.1	11.1	7.5	10.6	12.6	47.6	4.7	6.5	8.7	9.0J	10J
Barium	5,500	82.9	41.1	45.5	38.2J	28.8J	24.4J	18.4J	11.5J	16.9J	38.2J	35.8J	33.2J	16.0J
Beryllium	160	0.88S	0.65	0.71J	0.83J	0.92J	1.3	1.7	0.36J	0.70J	0.54J	0.82J	0.78J	0.76J
Cadmium	39	4.4	0.36	0.022U	0.025U	0.021U	0.022U	0.022U	0.021U	0.021U	0.022U	0.26J	0.021U	0.022U
Calcium	NA	2,020	683	885J	590J	1180	662J	731J	164J	1200	991J	1580	1110J	1550J
Chromium Total	120,000	49.2	18.5	18.9	23.3	25.0	24.6	28.3	8.8	24.5	16.8	22.9	25.5	23.7
Cobalt	1,600	10.8S	15	9.0J	12.0J	10.7	8.3J	10.0J	5.7J	8.8J	9.6J	16.4	18.8	17.4
Copper	3,100	82.7	36.5	40.7	41.6	42.4	50.5	62.5	39.6	38.8	28.6	40.2	44.2	42.2
Iron	23,000	42,400	30400	31500	37300	35200	37700	49200	15500	34000	24400	34700	38800	35500
Lead	400	0.24U	18.1	18.2	22.7	18.2	25.6	29.9	22.4	18.6	17.8	20.5	20.6	18.1
Magnesium	NA	8,710	6060	7890	8130	8380	6440	8160	3340	9130	4980	8310	10600	9550
Manganese	1,600	308	1060	342	486	456	243	306	147	280	679	1090	665	898
Mercury	23	6.9	1.2	0.055U	0.078J	0.16	0.13	0.10J	0.29	0.31	0.055U	0.055U	0.054U	0.055U
Nickel	1,600	40.9	26.6	27.1	31.7	32.7	32.7	41.4	12.7	29.2	21.0	32.8	33.9	32.1
Potassium	NA	1,690	1330	1050J	1910	1470	1400	1040J	496J	1360	1020J	1300	1320	1280
Selenium	390	0.04U	0.8U	0.48UJ	0.54UJ	0.46UJ	0.49UJ	0.49UJ	0.46UJ	0.46UJ	0.49UJ	0.48UJ	0.47UJ	0.48UJ
Silver	390	0.93U	0.09	0.19J	0.17J	0.17J	0.16J	0.22J	0.16J	0.16J	0.13J	0.10J	0.21J	0.14J
Sodium	NA	430S	79.5	37.1J	57.0J	53.3J	70.1J	81.4J	34.6J	45.6J	42.4J	49.4J	32.2J	35.8J
Thallium	5.5	0.33JS	0.42U	1.7J	2.0J	1.5J	2.4	2.9	0.82J	2.1J	1.2J	1.1J	1.2J	0.82J
Vanadium	550	35.4	18.9	18.1	25.8	22.5	24.6	26.4	8.3J	23.9	16.0	20.7	20.9	18.2
Zinc	23,000	123	87	80.1	102	91.0	118	143	46.4	86.7	74.5	94.7	87.1J	84.9J
Cyanide (total)	1,600	7.6	0.56U	0.55U	1.3	0.89	1.9	1.7	0.81	0.53	0.55U	0.55U	0.54U	0.55U
Wet Chemistry														
pH	NA	7.0	5.6	–	–	–	–	–	–	–	–	–	–	–
Total Solids (%)	NA	90.5	89.6	90.8	81.1	94.7	89.5	89.2	95.6	96.6	90.3	91.7	93.1	91.0
Total Organic Carbon (TOC)	NA	–	1930	–	–	–	–	–	–	–	–	–	–	–
Petroleum Hydrocarbons (mg/kg)	NA	300	–	–	–	–	–	–	–	–	–	–	–	–

Notes:

- [ ] - Exceeds Region III RBCs.
- J - The reported value is an estimated quanitiy.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
- – - Parameter is not analysed.
- TAL - Target Analyte List.
- (1) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.7

SUMMARY OF ANALYTICAL DATA FOR BOREHOLE SOIL SAMPLES
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		BH-1-91			BH-3-91	BH-4-91		BH-5-91			MW-1D-91		MW-1U-91			MW-2D-91				MW-4D-91		
Sample Date:		06/25/1991	06/25/1991	06/25/1991	06/27/1991	06/25/1991	06/25/1991	06/25/1991	06/25/1991	06/25/1991	06/25/1991	06/25/1991	06/28/1991	06/28/1991	06/28/1991	06/25/1991	06/25/1991	06/25/1991	06/25/1991	06/26/1991	06/26/1991	06/26/1991
Sample Depth:		[0-2]	[4-6]	[8-10]	[0-2]	[0-2]	[4-6]	[0-2]	[4-6]	[8-10]	[0-2]	[4-8]	[0-2]	[8-10]	[8-10] Duplicate	[0-2]	[0-2] Duplicate	[4-6]	[12-14]	[0-2]	[4-6]	[8-10]
Parameter	*NYSDEC Soil Cleanup Objectives* [1]																					
TCL Volatiles (ug/kg)																						
1,2-Dichloroethane	100	6U	6U	7U	5U	6U	6U	6U	7	6U	5U	5U	5U	5U	5U	5U	5U	5U	6U	6U	5U	6U
Acetone	200	12U	12U	13U	11U	12U	13U	12U	11U	12U	11U	10U	11U	11U	19	11U	11U	11U	11U	11U	11U	12U
Chlorobenzene	1,700	6U	6U	22	5U	6U	6U	6U	6U	6U	5U	5U	5U	5U	5U	5U	5U	5U	6U	6U	5U	6U
Toluene	1,500	6U	6U	7U	5U	6U	6U	6U	6U	6U	5U	5U	5U	5U	5U	5U	5U	5U	6U	13	14	7
TCL Semi-Volatiles (ug/kg)																						
2-Aminopyridine	400 [2]	360U	390J	3600	360U	370U	350U	370U	360U	150J	360U	340U	360U	2,100J	3,500J	360U	360U	370U	400J	350U	360U	390U
Benzo(a)anthracene	224	360U	400U	410U	360UJ	370U	350U	370U	360U	400U	360U	340U	360U	370U	360U	360U	360U	370U	370U	62J	360U	390U
Benzo(b)fluoranthene	110	360U	400U	410U	360U	370U	350U	370U	360U	400U	360U	340U	360U	370U	360U	360U	360U	370U	370U	120J	360U	390U
bis(2-Ethylhexyl)phthalate	50,000 [3]	440	92J	93J	600J	63J	350U	50J	84J	63J	59J	99J	65J	58J	360U	360U	360U	370U	370U	68J	61J	86J
Chrysene	400	360U	400U	410U	360UJ	370U	350U	370U	360U	400U	360U	340U	360U	370U	360U	360U	360U	370U	370U	110J	360U	390U
Di-n-octyl phthalate	50,000 [3]	370	400U	410U	360U	370U	350U	370U	44J	400U	360U	340U	360U	370U	360U	360U	360U	370U	370U	350U	360U	390U
Fluoranthene	50,000 [3]	360U	400U	410U	360U	370U	350U	370U	360U	400U	360U	340U	360U	370U	360U	360U	360U	370U	370U	130J	360U	390U
N-Nitrosodiphenylamine	50,000 [4]	360U	400U	410U	360U	370U	350U	370U	360U	400U	360U	340U	360U	370U	360U	360U	360U	370U	370U	44J	360U	390U
Phenanthrene	50,000 [3]	360U	400U	410U	360U	370U	350U	370U	360U	400U	360U	340U	360U	370U	360U	360U	360U	370U	370U	43J	360U	390U
Phenol	30	360U	350J	410U	360U	370U	350U	370U	360U	400U	360U	340U	360U	370U	360U	360U	360U	370U	370U	350U	360U	390U
Pyrene	400 [2]	360U	400U	410U	360UJ	370U	350U	370U	360U	400U	360U	340U	360U	370U	360U	360U	360U	370U	370U	120J	360U	390U
	RBCs for U.S. EPA Region III [5]																					
TAL Inorganics (mg/kg)																						
Aluminum	78,000	21,800	23,700	15,100	12,500	23,300	13,900	19,200	21,400	21,200	19,600	19,100	19,700	16,400	20,000	17,500	15,600	12,200	14,600	16,200	13,500	10,700
Antimony	31	6.6U	7.2U	7.5U	6.6U	6.7U	6.4U	6.8U	6.5U	7.2U	6.5U	6.3U	6.6U	6.7U	10.5U	6.6U	12.5S	6.7U	9.6U	6.5U	6.5U	7.1U
Arsenic	0.43	7.7	4.5U	7.5	6.1	4.8U	7.0	11.8	10.2S	7.9	7.8S	12.7	15.2S	12.1	8.1	6.5	8.3	9.0J	7.5J	8.6	7.4	10.2
Barium	5,500	65.2	51.9	44.6S	67.3	87.2	34.1S	102	64.9	72.9	53.4	47.1	68.5	38.6S	47.5	39.7S	34.0S	30.2S	31.2S	43.0	47.5	34.5S
Beryllium	160	1.0S	0.88S	0.8S	0.72S	0.81S	0.61S	0.85S	1.0S	1.1S	0.95S	0.91S	0.83S	0.73S	0.95S	0.72S	0.62S	0.53S	0.77S	0.58S	0.67S	0.49S
Cadmium	39	3.7	4.2	3.9	3.4	3.6	2.7	3.0	3.8	3.5	3.6	3.8	2.6	3.2	4.3	3.3	2.1	2.5	3.0	2.6	3.3	2.3
Calcium	NA	858S	643S	1,060S	946S	307S	572S	3,030	896S	1,900	859S	1,930	530S	776S	989S	300S	202S	354S	2,140	109S	1310	1600
Chromium Total	120,000	30.0	30.2	22.0	18.4	26.9	21.1	22.9	30.8	32.3	30.6	31.1	23.2	25.3	29.7	24.3	19.8	19.5	24.0	22.7	19.3	18.1
Cobalt	1,600	14.4	17.6	12.3S	12.2	14.6	10.3S	8.6U	16.0	17.3	13.8	17.6	11.1	15.3	19.0	15.3	11.6	10.8S	13.4	12.6	13.0	9.2U
Copper	3,100	41.3	43.6	35.6	50.3	22.2	34.3	32.5	45.5	53.4	43.8	44.3	25.4	33.5	47.1	38.9	34.0	30.0	35.0	39.5	33.2	28.5
Iron	23,000	36,300	35,500	29,800	27,600	31,900	27,300	23,700	42,400	41,600	38,500	37,900	29,700	33,800	39,700	32,200	28,300	24,100	31,400	30,400	27,800	23,500
Lead	400	29.1	9.5	16.7	202.0	21.0	9.9	19.2	25.0	12.5	20.6	25.9	26.3	20.4	24.8	23.4	16.5	24.8	18.0	36.4	20.1	26.0
Magnesium	NA	8,280	7,400	6,250	4,840	6,440	5,810	4,720	10,200	7,890	8,950	9,960	6,030	7,720	9,640	7,270	6,220	5,270	7,580	6,510	5,900	4,610
Manganese	1,600	1,230	872	976	995	646	668	1,670	816	1,260	1,240	972	1,030	713	1,170	908	639	391	1,120	774	952	779
Mercury	23	0.1U	0.24	0.14	0.09U	0.12U	0.09U	0.09U	0.12U	0.08U	0.1U	0.11U	0.12U	0.11U	0.13U	0.11U	0.1U	0.20	0.11U	0.08U	0.11U	0.11U
Nickel	1,600	37.1	38.6	32.0	27.1	28.2	28.3	27.9	44.9	43.7	40.1	39.9	30.3	33.8	41.4	31.8	25.8	22.5	36.6	27.6	30.4	25.5
Potassium	NA	1,820	1,870	1,580	1,280	1,100	1,150	1,190	1,740	2,090	1,680	1,920	1,360	1,330	1,680	1,380	1,260	1,310	1,580	1,340	1,520	1,210
Sodium	NA	122S	970S	449S	57.7S	98.4S	82.6S	122S	149S	567S	131S	137	56.5S	211S	258S	59.4S	82.0S	98.0S	1,310	64.3S	58.6S	57.0S
Vanadium	550	30.9	33.2	25.3	19.8	33.7	20.5	26.8	34.2	34.4	30.2	30.0	28.3	25.9	31.5	26.5	23.4	18.8	24.7	24.7	21.2	18.4
Zinc	23,000	101.0	92.3	92.6	594	86.3	91.9	94.4	125	136	113	101	97.8	90.1	120.0	91.6	81.6	76.2	88.3	75.9	82.3	72.0
Cyanide (total)	1,600	1.1U	2.9	1.2U	1.1U	1.1U	1U	1.1U	1.1U	1.2U	1.1U	1U	1.9U	1.1U	1.1U	1.1U	1.1U	1.1U	3.3	1.1U	1.1	1.2U
Wet Chemistry																						
pH	NA	5.7	6.0	8.5	6.2	9.2	5.8	5.7	5.8	6.2	5.9	6.3	5.8	8.6	8.3	5.5	6.0	5.5	9.6	5.5	6.3	6.4
Total Solids (%)	NA	92.5	83.8	81.1	91.5	91.1	95.3	89.3	93.0	84.0	93.0	96.8	92.0	90.5	92.2	92.3	93.0	90.4	90.6	93.5	92.9	85.0
Petroleum hydrocarbons	NA	6.6	5U	5U	5U	5U	5U	5U	5U	10.6	5U	5U	9.7	5U	5.8	21.1	27.6	9.8	8.9	5U	5U	5U

Notes:

[ ] - Exceeds NYSDEC Soil Cleanup Objective / Region III RBCs.
J - Estimated
U - Non- detect at associated value.
UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
R - Value has been rejected.
-- - Parameter is not analysed.
S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
TAL - Target Analyte List.
TCL - Target Compound List
(1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
(2) - Soil cleanup objective for the pyridine compounds determined by NYSDEC and USEPA in letter dated August 14, 1996.
(3) - As per HWR-94-4046, total VOCs < 10,000 ppb, total SVOCs < 500,000 ppb and individual SVOCs < 50,000 ppb.
(4) - Calculated cleanup objective was greater than the maximum total SVOCs of 50,000 ppb, therefore criteria used is 50,000 ppb.
(5) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.8

SUMMARY OF ANALYTICAL DATA FOR CURTAIN DRAIN INVESTIGATION SOIL SAMPLES
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		*TP-49*	*TP-51*		*TP-52*
Sample Date:		*06/29/1995*	*06/29/1995*	*06/29/1995 Duplicate*	*06/29/1995*
Parameter	*NYSDEC Soil Cleanup Objective* [1]				
TCL Volatiles (ug/kg)					
Tetrachloroethene	1,400	12U	12U	12U	1J
Trichloroethene	700	12U	12U	12U	2J
TCL Semi-Volatiles (ug/kg)					
Fluoranthene	50,000 [2]	390U	400U	75J	380U
Pyrene	50,000 [2]	390U	400U	55J	380U
	RBCs for U.S. EPA Region III [3]				
TAL Inorganics (mg/kg)					
Aluminum	78,000	16200	14700	16800	18700
Arsenic	0.43	6.9	7.2	6.5	4.3
Barium	550	54.9	45.8	56.1	74.8
Calcium	NA	1300	480	509	1130
Chromium Total	120,000	22.3	16.5	18.6	19.5
Cobalt	1,600	14.5	10.2	11.0	11.0
Copper	3,100	58.2J	32.8J	32.0J	22.5J
Iron	23,000	34100	24700	24700	23300
Lead	400	16.0J	12.1J	13.1J	13.8J
Magnesium	NA	7200	4170	4440	4600
Manganese	1,600	1150	714	870	940
Mercury	23	0.05U	0.06U	0.06U	0.05
Nickel	1,600	31.1	20.3	21.4	22.6
Potassium	NA	2420	1430	2030	1300
Sodium	NA	264	624	674	165U
Vanadium	550	25.1	21.4	24.9	25.8
Zinc	23,000	101	64.3	68.9	75.4
Wet Chemistry					
Total Solids (%)		84.8	84.2	84.3	86.6
Total Organic Carbon (TOC) (mg/kg)		2190	2180	2200	5190

Notes:

[ ] - Exceeds NYSDEC Soil Cleanup Objective / Region III RBCs.
J - Estimated
U - Non- detect at associated value.
UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
R - Value has been rejected.
-- - Parameter is not analysed.
TAL - Target Analyte List.
TCL - Target Compound List
(1) - Technical and Administrative Guidance Memorandum: Determination of Soil Cleanup Objectives and Cleanup Levels, HWR-94-4046, NYSDEC, January 24, 1994.
(2) - As per HWR-94-4046, total VOCs < 10,000 ppb, total SVOCs < 500,000 ppb and individual SVOCs < 50,000 ppb.
(3) - Generic residential risk-based criterion for U.S. EPA Region III, U.S. EPA, April 2003.

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			DW-1			DW-2			MW-1		MW-1D-91			MW-1U-91	MW-2D-91			
Sample Date:			12/01/1985	08/23/1991	06/09/1995	12/01/1985	08/26/1991	06/09/1995	12/01/1985	06/07/1995	08/27/1991	08/27/1991 Duplicate	06/05/1995	08/26/1991	08/26/1991	08/26/1991 Duplicate	06/06/1995	06/06/1995 Duplicate
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)																
TCL Volatiles (ug/L)																		
1,1,1-Trichloroethane	200	5 S	--	5U	10U	--	5U	10U	--	10U	5U	5U	10U	5U	5U	5U	10U	10U
1,2-Dichloroethane	5	0.6 S	--	5U	10U	--	5U	10U	--	10U	5U	5U	10U	5U	5U	5U	10U	10U
2-Butanone (Methyl Ethyl Ketone)	NA	50 G	10U	10U	**15J**	10U	10U	**25J**	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	NA	50 G	--	10U	**3J**	--	10U	**3J**	--	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	--	10U	10U	--	**8J**	**1J**	--	10U	10U	10U	10U	10U	**220**	**150D**	**10**	**10**
Acetone	NA	50 G	10U	10U	**77J**	10U	4U	100J	10U	10U	10U	10U	10U	10U	**330J**	**440J**	**22**	**22**
Benzene	5	1 S	5U	**160**	**130J**	5U	**68J**	**12J**	5U	10U	5U	5U	**12**	**81**	**210D**	**170D**	**88**	**84**
Chlorobenzene	100	5 S	--	**3J**	10U	--	**8J**	10U	--	10U	5U	5U	**2J**	**10**	5U	**12JD**	**11**	**10**
Ethylbenzene	700	5 S	--	**11**	**4J**	--	**3J**	10U	--	10U	5U	5U	10U	5U	**120**	**100**	**54**	**57**
Methylene chloride	5	5 S	--	5U	10U	--	2U	10U	--	10U	5U	5U	10U	5U	**1J**	**2**	10U	10U
Toluene	1,000	5 S	5U	5U	**1J**	5U	**3J**	**2J**	5U	10U	6U	5U	10U	5U	**44J**	**56J**	**4J**	**4J**
Vinyl chloride	2	2 S	--	10U	10U	--	10U	10U	--	10U	10U	10U	10U	10U	10U	10U	10U	10U
Xylene (total)	10,000	5 S	**5**	**6**	**2J**	5U	5U	**4J**	5U	10U	5U	5U	10U	**2J**	**290J**	**380J**	**130**	**100**
TCL Semi-volatiles (ug/L)																		
2-Aminopyridine	NA	1 G	**110**	**110**	10U	25U	**310**	10U	25U	10U	**63J**	**35J**	10U	**120J**	**210**	**670J**	**72J**	10UJ
2-Chloropyridine	NA	NA	**33**	--	--	25U	--	--	25U	--	--	--	--	--	--	--	--	--
2-Methylphenol	NA	1 S		11R	R	--	10U	10U	--	10U	11U	10U	10U	11U	10R	11R	**2J**	10UJ
2-Picoline	NA	NA	**25**	**4J**	**8J**	25U	**24**	10U	25U	10U	**3J**	10U	10U	11U	**94**	**100**	**2J**	10UJ
4-Chloroaniline	NA	5 S	--	**55**	10U	--	10U	10U	--	10U	11U	10U	10U	11U	10U	11U	10U	10UJ
4-Methylphenol	NA	1 S	--	11R	10U	--	10U	10U	--	10U	11U	10U	10U	11U	10R	11R	10U	10UJ
Aniline	NA	5 S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	6	5 S	--	**130**	**34**	--	63U	**5J**	--	10U	**70J**	54UJ	**2J**	**110J**	57U	59U	10U	10UJ
Butyl benzylphthalate	NA	50 G	--	11U	10U	--	10U	10U	--	10U	11U	10U	10U	11U	10U	11U	10U	10UJ
Dimethyl phthalate	NA	50 G	--	11U	10U	--	10U	10U	--	10U	11U	10U	10U	11U	10U	11U	10U	10UJ
Di-n-butylphthalate	NA	50 S	--	**160**	10U	--	96U	10U	--	10U	**110J**	10UJ	10U	**150J**	**87**	**91**	10U	10UJ
Di-n-octyl phthalate	NA	50 G	--	**220**	10U	--	79U	10U	--	**3J**	**100J**	10UJ	10U	**120J**	**71**	**79**	10U	10UJ
Isophorone	NA	50 G	--	11U	10U	--	10U	10U	--	10U	11U	10U	10U	11U	10U	11U	10U	10UJ
Naphthalene	NA	10 G	--	11U	10U	--	10U	10U	--	10U	11U	10U	10U	11U	10U	11U	10U	10UJ
Phenol	NA	1 S	--	11R	R	--	10R	10U	--	10U	11U	10U	10U	11U	10R	11R	10U	10UJ
Pyridine	NA	50 G	**6000**	11U	**4J**	**5300**	**6J**	10U	**1000**	10U	11U	10U	10U	11U	**130**	**140**	10U	10UJ

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			DW-1			DW-2			MW-1		MW-1D-91			MW-1U-91	MW-2D-91			
Sample Date:			12/01/1985	08/23/1991	06/09/1995	12/01/1985	08/26/1991	06/09/1995	12/01/1985	06/07/1995	08/27/1991	08/27/1991 Duplicate	06/05/1995	08/26/1991	08/26/1991	08/26/1991 Duplicate	06/06/1995	06/06/1995 Duplicate
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)																
TAL Inorganics (ug/L)																		
Aluminum	NA	NA	–	475	381U	–	552U	26,500J	–	51,100J	1,860	1,650	133U	161,000	36,700J	4,390J	4,730J	6,000J
Antimony	6	3 S	100U	30U	2.4U	100U	30U	21.4	100U	7.1U	30.3U	30.3U	7.1U	30U	30.3U	30.3U	7.1U	7.1U
Arsenic	10	25 S	2	21.4J	6.0	16	22.6	130.0	1U	34.5	11U	10.6U	6.7	44.4J	33.7	24.8J	20.0	18.5
Barium	2,000	1,000 S	50U	69.10	527.0	50U	30.0	2730.0	50U	252J	54.5	53.2	60.5J	794	212J	48.2J	51.2J	52.2J
Beryllium	4	3 G	3U	0.30	0.73U	3U	0.3U	1.7U	3U	2.9U	0.90	0.80	0.3U	8.1	1.9	0.30	0.57U	0.5U
Cadmium	5	5 S	6	4.8U	0.4U	3U	4.8U	1.6U	5	0.8U	4.8U	4.8U	0.4U	21.8	4.8U	4.8U	0.4U	0.4U
Calcium	NA	NA	–	20,900	280,000	–	7,060	105,000	–	17,800	40,600	40,200	37,900	19,100	17,300J	8,710J	12,000	11,400
Chromium Total	100	50 S	10U	10U	223.0	10U	10U	97.2	10U	120.0	10.0	10.0	1.6U	170	50.0J	10.0J	4.6	5.7
Cobalt	NA	NA	–	5.4U	2.0	–	5.4U	24.5	–	50.5	5.4U	5.4U	2.8	90.1	22.5J	7.7J	11.2	10.7
Copper	1,300	200 S	10U	12.4	15.1	11	8.6	310	25	163	11.9	12.5	2.9	383	85.4J	32.8J	26.8	24.1
Iron	NA	300 S (3)	–	7,390	589J	–	3,440	45,900J	–	83,600	5,820	5,400	10,200	181,000	45,200J	5,590J	4,360	4,550
Lead	15	25 S	25U	4.2U	1.6	25U	5.7	296	25U	64.5	9.6	8.7	1.7	262	151J	17.2J	21.4	19.6
Magnesium	NA	35,000 G	–	5,970	504	–	1,900	12,400	–	16,500	7,660	7,560	6,520	42,900	16,700J	4,400J	4,240	4250
Manganese	NA	300 S (3)	–	870	33.1	–	298	858	–	6560	6,060	6,050	7,450	14,200	2,070J	475J	832	789
Mercury	2	0.7 S	0.5U	0.2U	0.10	0.5U	0.20	0.18	0.5U	0.16	0.2U	0.2U	0.1U	0.43	0.57J	0.20J	0.82	0.9J
Nickel	NA	100 S	33	26.0	12.8	20U	14.7U	69.2	33	152.0	41.8	38.1	2.6	250	66.0J	21.9J	11.3	10.9
Potassium	NA	NA	–	2,420	813,000	–	5,320	298,000	–	10,800J	9,320	9,300	5,610J	36,700	24,100J	16,000J	14,000J	13,700
Selenium	50	10 S	8	0.4UJ	4.2	19	0.2U	4.1	14	3.2	0.2U	0.2U	1.9U	0.4UJ	0.4U	0.2U	1.9U	1.9U
Silver	NA	50 S	–	4.2U	0.9U	–	4.2U	0.9U	–	0.9U	4.2U	0.2U	0.9U	4.2U	4.2U	4.2U	0.9U	0.9U
Sodium	NA	NA	333700	261,000	396,000	310000	257,000	311,000	209600	132,000	53,700	54,900	39,000	70,400	358,000	431,000	294,000	284,000
Thallium	2	0.5 G	–	1.6U	2.5U	–	2U	3.6U	–	2.7	1.7U	1.5U	2.9	1.5U	2.4U	2.8U	2.4U	2.4U
Vanadium	NA	NA	–	5.7U	2.3	–	5.7U	144	–	86.1	5.7U	5.7U	1.8U	247	59.7J	9.6J	6.3	6.9
Zinc	NA	2,000 G	189	5.2	50.2U	80	39.1J	1170	95	327J	45.3J	12.9J	9.2U	875	168J	22.5J	89.8J	58.9J
Cyanide (total)	200	200 S	20U	10U	10U	190	96.0	112	110	131	10U	10U	14.0	50.0	730J	400J	412	408

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			DW-1			DW-2			MW-1		MW-1D-91			MW-1U-91	MW-2D-91			
Sample Date:			12/01/1985	08/23/1991	06/09/1995	12/01/1985	08/26/1991	06/09/1995	12/01/1985	06/07/1995	08/27/1991	08/27/1991 Duplicate	06/05/1995	08/26/1991	08/26/1991	08/26/1991 Duplicate	06/06/1995	06/06/1995 Duplicate
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)																
TAL Inorganics (Dissolved) (ug/L)																		
Aluminum (Dissolved)	NA	NA	--	--	113U	--	--	75.6U	--	39.7	--	--	9.9U	--	--	--	65.7J	95J
Arsenic (Dissolved)	10	25 S	--	--	3.9	--	--	2.7	--	1.4U	--	--	1.4U	--	--	--	17.4	16.7
Barium (Dissolved)	2,000	1,000 S	--	--	624	--	--	1380	--	198	--	--	47.4	--	--	--	331	324
Calcium (Dissolved)	NA	NA	--	--	269,000	--	--	446,000	--	14,100	--	--	38,900	--	--	--	8,150	8,240
Chromium Total (Dissolved)	100	50 S	--	--	220	--	--	56.8	--	0.73U	--	--	0.6U	--	--	--	0.6U	0.6U
Cobalt (Dissolved)	NA	NA	--	--	1.9	--	--	5.1	--	1.7U	--	--	2.7	--	--	--	3.3	3.3
Copper (Dissolved)	1,300	200 S	--	--	7	--	--	59.9	--	1.7	--	--	1.5	--	--	--	3.9	3.8
Iron (Dissolved)	NA	300 S (3)	--	--	35.9U	--	--	425	--	73.4	--	--	886	--	--	--	243	240
Lead (Dissolved)	15	25 S	--	--	1.4	--	--	5.7	--	0.7U	--	--	1.6	--	--	--	2.8	1.8
Magnesium (Dissolved)	NA	35,000 G	--	--	32.5U	--	--	20.4U	--	2,540	--	--	6,780	--	--	--	2,470	2,490
Manganese (Dissolved)	NA	300 S (3)	--	--	0.5U	--	--	0.5U	--	377	--	--	7,350	--	--	--	168	168
Mercury (Dissolved)	2	0.7 S	--	--	0.1U	--	--	0.1U	--	0.1U	--	--	0.1U	--	--	--	0.1U	0.1U
Nickel (Dissolved)	NA	100 S	--	--	5.2	--	--	12.4	--	1.5U	--	--	2.1	--	--	--	3.5	2.9
Potassium (Dissolved)	NA	NA	--	--	854,000	--	--	255,000	--	665	--	--	5,580J	--	--	--	13,300J	13,400J
Selenium (Dissolved)	50	10 S	--	--	4.6U	--	--	4.8	--	1.9U	--	--	1.9U	--	--	--	1.9U	1.9U
Silver (Dissolved)	NA	50 S	--	--	0.9UJ	--	--	0.9UJ	--	0.9U	--	--	0.9U	--	--	--	0.9U	0.9U
Sodium (Dissolved)	NA	NA	--	--	442,000	--	--	308,000	--	136,000	--	--	36,800	--	--	--	290,000	291,000
Thallium (Dissolved)	2	0.5 G	--	--	2.4U	--	--	2.4U	--	2.4U	--	--	2.6	--	--	--	2.4U	2.4U
Vanadium (Dissolved)	NA	NA	--	--	1.9	--	--	1.8U	--	1.8U	--	--	1.8U	--	--	--	1.8	1.8U
Zinc (Dissolved)	NA	2,000 G	--	--	31.5U	--	--	40.6U	--	60.2J	--	--	16	--	--	--		16.5
Wet Chemistry																		
Chloride (Dissolved)	NA	250,000	98	--	28	61	--	20	18	7	--	--	4	--	--	--	90	91
pH	NA	NA	--	7.7	--	--	8.4	--	--	--	7.2	7.2	--	7.7	9.2	9.2	--	--
Petroleum Hydrocarbons	NA	NA	--	5U	--	--	5U	--	--	--	5U	5U	--	5U	5U	5U	--	--
Total Organic Carbon (TOC)	NA	NA	39	--	--	25	--	--	13	--	--	--	--	--	--	--	--	--

Notes:

- [ ] - Exceeds New York State Standard (S) or Guideline (G).
- Exceeds the USEPA Federal MCLs.

U - Compound was not detected at the associated detection limit.

J - Indicates an estimated value.

UJ - The analyte was not detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.

R - Indicates the value has been rejected.

-- - Parameter was not analyzed.

TCL - Target Compound List.

TAL - Target Analyte List.

(1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.

(2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.

(3) - The N.Y. State Standard limits the sum of Iron and Manganese to be 500 ug/L.

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			*MW-3*		*MW-3D-91*			*MW-4*	*MW-4D-91*		*MW-5*	*MW-5D-95*	*MW-5U-95*	*MW-6D-95*	
Sample Date:			*12/01/1985*	*06/07/1995*	*08/27/1991*	*06/06/1995*	*06/06/1995 Duplicate*	*12/01/1985*	*08/26/1991*	*06/05/1995*	*12/01/1985*	*06/08/1995*	*06/07/1995*	*06/08/1995*	*06/08/1995 Duplicate*
Parameter	*USEPA Federal MCLs* [1]	*NY State Groundwater Criteria* [2]													
TCL Volatiles (ug/L)															
1,1,1-Trichloroethane	200	5 S	–	10U	5U	10U	10U	–	5U	10U	–	10U	10U	10U	10U
1,2-Dichloroethane	5	0.6 S	–	10U	5U	10U	10U	–	5U	10U	–	10U	10U	1J	1J
2-Butanone (Methyl Ethyl Ketone)	NA	50 G	14	10U	10U	10U	10U	10U	10U	10U	10U	10UJ	10U	10UJ	10UJ
2-Hexanone	NA	50 G	–	10U	10U	10U	10U	–	10U	10U	–	10U	10U	10U	10U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	–	9J	10U	10U	10U	–	10U	10U	–	10U	10U	10U	10U
Acetone	NA	50 G	10U	10U	5J	10U	10U	10U	10U	10U	10U	10UJ	10U	5J	7J
Benzene	5	1 S	46	100J	5U	10U	10U	5U	5U	10U	5U	10U	10U	10U	10U
Chlorobenzene	100	5 S	–	69	5U	10U	10U	–	5U	10U	–	10U	10U	10U	10U
Ethylbenzene	700	5 S	–	27	5U	10U	10U	–	5U	10U	–	10U	10U	10U	10U
Methylene chloride	5	5 S	–	10U	5U	10U	10U	–	5U	10U	–	10U	10U	10U	10U
Toluene	1,000	5 S	192	15	3U	10U	10U	5U	2J	10U	5U	10U	10U	2J	2J
Vinyl chloride	2	2 S	–	10U	10U	10U	10U	–	10U	10U	–	10U	10U	10U	10U
Xylene (total)	10,000	5 S	5U	45	5U	10U	10U	5U	5U	10U	32	10U	10U	2J	2J
TCL Semi-volatiles (ug/L)															
2-Aminopyridine	NA	1 G	1300	10U	11U	10U	10U	87	11U	10U	1200	10U	10U	10U	10U
2-Chloropyridine	NA	NA	25U	–	–	–		25U	–	–	54	–	–	–	–
2-Methylphenol	NA	1 S	–	10U	11U	10U	10U	–	11U	10U	–	10U	10U	10U	10U
2-Picoline	NA	NA	52	10U	11U	10U	10U	52	11U	10U	93	10U	10U	10U	10U
4-Chloroaniline	NA	5 S	–	10U	11U	10U	10U	–	11U	10U	–	10U	10U	10U	10U
4-Methylphenol	NA	1 S	–	10U	11U	10U	10U	–	11U	10U	–	10U	10U	10U	10U
Aniline	NA	5 S	–	–	–	–	–	–	–	–	48	–	–	–	–
bis(2-Ethylhexyl)phthalate	6	5 S	–	10U	56U	10U	10U	–	50U	10U	–	7J	10U	6J	7J
Butyl benzylphthalate	NA	50 G	–	10U	11U	10U	10U	–	11U	10U	–	10U	10U	10U	10U
Dimethyl phthalate	NA	50 G	–	10U	11U	10U	10U	–	11U	10U	–	10U	10U	10U	10U
Di-n-butylphthalate	NA	50 S	–	10U	100	10U	10U	–	86	10U	–	10U	10U	10U	10U
Di-n-octyl phthalate	NA	50 G	–	10U	79	10U	10U	–	73	10U	–	10U	10U	10U	10UJ
Isophorone	NA	50 G	–	10U	11U	10U	10U	–	11U	10U	–	10U	10U	10U	10U
Naphthalene	NA	10 G	–	10U	11U	10U	10U	–	11U	10U	–	10U	10U	10U	10U
Phenol	NA	1 S	–	10U	11U	10U	10U	–	11U	10U	–	10U	10U	10U	10U
Pyridine	NA	50 G	67600	3J	11U	10U	10U	7600	11U	10U	17100	10U	10U	10U	10U

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			*MW-3*		*MW-3D-91*			*MW-4*	*MW-4D-91*		*MW-5*	*MW-5D-95*	*MW-5U-95*	*MW-6D-95*	
Sample Date:			*12/01/1985*	*06/07/1995*	*08/27/1991*	*06/06/1995*	*06/06/1995 Duplicate*	*12/01/1985*	*08/26/1991*	*06/05/1995*	*12/01/1985*	*06/08/1995*	*06/07/1995*	*06/08/1995*	*06/08/1995 Duplicate*
Parameter	*USEPA Federal MCLs (1)*	*NY State Groundwater Criteria (2)*													
TAL Inorganics (ug/L)															
Aluminum	NA	NA	--	61,500J	7,310	1,030J	961J	--	18,600	86.2U	--	351U	13,400J	654J	679J
Antimony	6	3 S	180	2.6	30.3U	7.1U	7.1U	100U	30.3U	7.1U	150	2.4U	2.4U	2.4U	3.0
Arsenic	10	25 S	123	50.0	9.2U	1.7	1.4U	27	10.2U	1.8	111	3.9	7.9	3.7	3.3
Barium	2,000	1,000 S	226	181	96.4	43.8J	43.4J	50U	75.9	12.1	82	326	70.3	252.0	247.0
Beryllium	4	3 G	28	4.3U	1.0	0.3U	0.3U	10	1.5	1.1U	10	0.4U	1.1U	0.37U	0.4U
Cadmium	5	5 S	15	0.63U	1U	0.4U	0.4U	9	4.8U	0.63U	18	0.4U	0.4U	0.4U	0.4U
Calcium	NA	NA	--	7,820	42,900	39,500	39,200	--	32,100	32,800	--	122,000	19,200	151,000	154,000
Chromium Total	100	50 S	204	118.0	30.0	8.1	6.5	10U	20.0	0.6U	101	6.8	19.8	11.5	14.9
Cobalt	NA	NA	--	77.2	5.4U	3.2	2.9	--	7.1	1.7U	--	2.2	10.5	3.3	2.8
Copper	1,300	200 S	537	218	22.0	5.9	6.0	61	36.1	1.2U	264	2.0	33.8	9.7	8.8
Iron	NA	300 S (3)	--	130,000J	9,890	1,520	1,280	--	21,300	84.1U	--	1,590J	19,100J	891J	928J
Lead	15	25 S	397	98.6	20.0	4.4	4.7	370	26.0	0.7U	191	0.7U	10.9	3.6	3.1
Magnesium	NA	35,000 G	--	22,600	12,600	8,240	8,110	--	12,200	7,170	--	42,500	6,460	2,060	1,890
Manganese	NA	300 S (3)	--	8500	277	170	158	--	4,110	4,420	--	127	1430	737	660
Mercury	2	0.7 S	0.9	4.30	0.2U	0.1U	0.1U	1.6	0.2U	0.1U	3.9	0.1U	0.1U	0.1U	0.1U
Nickel	NA	100 S	626	146.0	28.6	4.7	4.4	32	37.7	1.5U	379	20.2	21.0	8.2	9.2
Potassium	NA	NA	--	45,600	3,440	500	476	--	5,330	438	--	799	2,910	17,900	17,900
Selenium	50	10 S	3	2.2	0.2U	1.9U	1.9U	1	0.2U	1.9U	30	1.9U	1.9U	1.9U	1.9U
Silver	NA	50 S	--	0.9U	17.8	0.9U	0.9U	--	4.2U	0.9U	--	0.9U	0.9U	0.9U	0.9U
Sodium	NA	NA	347700	165,000	5,660	6,600	6,420	242700	28,600	20,700	197100	49,700	59,400	96,400	90,600
Thallium	2	0.5 G	--	10.2U	1.5U	2.4U	2.4U	--	1.5U	2.8	--	2.4U	3.3U	2.4U	2.4U
Vanadium	NA	NA	--	97.5	12.5	1.8U	1.8U	--	23.8	1.8U	--	1.8U	22.6	5.6	5.2
Zinc	NA	2,000 G	1598	493	51.4	37.9J	43.1J	124	66.6	0.7U	972	78.9	98.6	41.3U	60.4
Cyanide (total)	200	200 S	5790	70.7	10U	10U	10U	20U	10U	10U	50	10U	10U	10U	10U

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			MW-3		MW-3D-91			MW-4	MW-4D-91		MW-5	MW-5D-95	MW-5U-95	MW-6D-95	
Sample Date:			12/01/1985	06/07/1995	08/27/1991	06/06/1995	06/06/1995 Duplicate	12/01/1985	08/26/1991	06/05/1995	12/01/1985	06/08/1995	06/07/1995	06/08/1995	06/08/1995 Duplicate
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)													
TAL Inorganics (Dissolved) (ug/L)															
Aluminum (Dissolved)	NA	NA	–	**349**	–	9.9U	9.9U	–	–	9.9U	–	38.5U	48.6U	44.5U	51U
Arsenic (Dissolved)	10	25 S	–	**11.9**	–	1.4U	1.4U	–	–	1.4U	–	**2.7**	1.4U	**1.6**	1.4U
Barium (Dissolved)	2,000	1,000 S	–	**210**	–	**88.4**	**90.4**	–	–	**76.3**	–	**389**	**4.7**	**177**	**217**
Calcium (Dissolved)	NA	NA	–	**1,740**	–	**40,400**	**41,300**	–	–	**29,300**	–	**117,000**	**15,000**	**62,300J**	**96,500J**
Chromium Total (Dissolved)	100	50 S	–	1.4U	–	0.6U	0.6U	–	–	0.6U	–	0.6U	0.93U	4U	5U
Cobalt (Dissolved)	NA	NA	–	**2**	–	1.7U	1.7U	–	–	1.7U	–	**1.8**	1.7U	1.7U	1.7U
Copper (Dissolved)	1,300	200 S	–	**5**	–	1.2U	1.2U	–	–	1.2U	–	1.2U	1.2U	**2.7**	**3.7**
Iron (Dissolved)	NA	300 S (3)	–	**452**	–	**17.9**	12.9U	–	–	**25.3**	–	**235**	44.4U	18.5U	19.4U
Lead (Dissolved)	15	25 S	–	**3.5**	–	0.7U	0.7U	–	–	**0.7**	–	0.7U	0.7U	0.7U	0.7U
Magnesium (Dissolved)	NA	35,000 G	–	248U	–	**8,320**	**8,550**	–	–	**6,410**	–	**41,600**	**2,610**	**722J**	**424J**
Manganese (Dissolved)	NA	300 S (3)	–	**36.5**	–	**35.8**	**29**	–	–	**3,480**	–	**114**	**679**	1.6U	0.83U
Mercury (Dissolved)	2	0.7 S	–	**0.12**	–	0.1U	0.1U	–	–	0.1U	–	0.1U	0.1U	0.1U	0.1U
Nickel (Dissolved)	NA	100 S	–	**4.8**	–	1.5U	1.5U	–	–	1.5U	–	**10.6**	**1.8**	**1.6**	**1.8**
Potassium (Dissolved)	NA	NA	–	**43,600**	–	**265**	**284**	–	–	**421**	–	**956**	**564**	**15,700**	**19,100**
Selenium (Dissolved)	50	10 S	–	1.9U	–	1.9U	1.9U	–	–	1.9U	–	1.9U	1.9U	1.9U	1.9U
Silver (Dissolved)	NA	50 S	–	0.9U	–	0.9U	0.9U	–	–	0.9U	–	0.9UJ	0.9UJ	0.9UJ	0.9UJ
Sodium (Dissolved)	NA	NA	–	**174,000**	–	**5,980**	**6,180**	–	–	**24600**	–	**51,900**	**61,500**	**94,500**	**95,100**
Thallium (Dissolved)	2	0.5 G	–	2.9U	–	2.4U	2.4U	–	–	2.4U	–	2.4U	2.4U	2.4U	2.4U
Vanadium (Dissolved)	NA	NA	–	**2.2**	–	1.8U	1.8U	–	–	1.8U	–	1.8U	1.8U	**3.9**	**4.1**
Zinc (Dissolved)	NA	2,000 G	–	**52.9**	–	**13.1**	**13.9**	–	–	**11.6**	–	13.2U	12.6U	11.2U	17.2U
Wet Chemistry															
Chloride (Dissolved)	NA	250,000	**20**	**5**	--	**3**	**3**	**27**	--	**8**	**21**	**192**	**7**	**5**	**5**
pH	NA	NA	--	--	**8.1**	--	--	--	**7.6**	--	--	--	--	--	--
Petroleum Hydrocarbons	NA	NA	--	--	5U	--	--	--	5U	--	--	--	--	--	--
Total Organic Carbon (TOC)	NA	NA	**110**	--	--	--	--	**24**	--	--	**45**	--	--	--	--

Notes:

- Exceeds New York State Standard (S) or Guideline (G).
- Exceeds the USEPA Federal MCLs.

U - Compound was not detected at the associated detection limit.

J - Indicates an estimated value.

UJ - The analyte was not detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.

R - Indicates the value has been rejected.

-- - Parameter was not analyzed.

TCL - Target Compound List.

TAL - Target Analyte List.

(1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.

(2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.

(3) - The N.Y. State Standard limits the sum of Iron and Manganese to be 500 ug/L.

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			MW-7		MW-8U-95	SW-2			SW-3			SW-4			SW-6	
Sample Date:			12/01/1985	06/05/1995	06/07/1995	12/01/1985	08/23/1991	06/06/1995	12/01/1985	08/23/1991	06/05/1995	12/01/1985	08/23/1991	06/06/1995	12/01/1985	06/07/1995
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)														
TCL Volatiles (ug/L)																
1,1,1-Trichloroethane	200	5 S	--	10U	10U	--	5U	10U	--	5U	10U	--	5U	10U	--	10U
1,2-Dichloroethane	5	0.6 S	--	10U	10U	--	5U	10U	--	5U	1J	--	5U	10U	--	10U
2-Butanone (Methyl Ethyl Ketone)	NA	50 G	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
2-Hexanone	NA	50 G	--	10U	10U	--	10U	10U	--	10U	10U	--	10U	10U	--	10U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	--	48	10U	--	3J	10U	--	10U	10U	--	11	14	--	10U
Acetone	NA	50 G	10U	10U	10U	10U	10U	10U	10U	4J	10U	10U	8U	10U	10U	3J
Benzene	5	1 S	5U	890	10U	5U	5U	44	5U	5U	16	5U	9	43	5U	10U
Chlorobenzene	100	5 S	--	10J	10U	--	4J	8J	--	5U	3J	--	5U	10U	--	10U
Ethylbenzene	700	5 S	--	54	10U	--	4J	2J	--	5U	10U	--	24	33	--	10U
Methylene chloride	5	5 S	--	10U	10U	--	5U	10U	--	2J	10U	--	1J	10U	--	10U
Toluene	1,000	5 S	5U	35	10U	5U	5U	10U	5U	5U	10U	5U	4U	6J	5U	10U
Vinyl chloride	2	2 S	--	2J	10U	--	10U	10U	--	10U	10U	--	10U	10U	--	10U
Xylene (total)	10,000	5 S	465	400	10U	5U	5	1J	5U	5U	10U	5U	76	130	5U	10U
TCL Semi-volatiles (ug/L)																
2-Aminopyridine	NA	1 G	25U	360	10U	736	450E	16	25U	14J	10UJ	25U	360J	410	25U	10U
2-Chloropyridine	NA	NA	25U	--	--	25U	--	--	25U	--	--	25U	--	--	25U	--
2-Methylphenol	NA	1 S	--	10U	10U	--	11U	10U	--	11UJ	10U	--	11U	10U	--	10U
2-Picoline	NA	NA	255	31J	10U	25U	22	10U	25U	11UJ	10U	25U	10J	18J	25U	10U
4-Chloroaniline	NA	5 S	--	56	10U	--	11UJ	10U	--	11UJ	10U	--	11U	10U	--	10U
4-Methylphenol	NA	1 S	--	10U	10U	--	11U	10U	--	11UJ	10UJ	--	11U	10U	--	10U
Aniline	NA	5 S	--	--	--	--	--	--	--	--	--	--	--	--	--	--
bis(2-Ethylhexyl)phthalate	6	5 S	--	10U	10U	--	120UJ	10U	--	93UJ	10U	--	140U	10U	--	10U
Butyl benzylphthalate	NA	50 G	--	10U	10U	--	11UJ	10U	--	11UJ	10U	--	11U	10U	--	10U
Dimethyl phthalate	NA	50 G	--	10U	10U	--	11UJ	10U	--	11UJ	10U	--	11U	10U	--	10U
Di-n-butylphthalate	NA	50 S	--	10U	10U	--	160UJ	10UJ	--	140UJ	10U	--	190U	10U	--	10U
Di-n-octyl phthalate	NA	50 G	--	10U	10U	--	200UJ	10U	--	170UJ	10U	--	270U	10U	--	10U
Isophorone	NA	50 G	--	10U	10U	--	11UJ	10U	--	11UJ	10U	--	11U	10U	--	10U
Naphthalene	NA	10 G	--	10U	10U	--	11UJ	10U	--	11UJ	10U	--	11U	10U	--	10U
Phenol	NA	1 S	--	10U	10U	--	11U	10U	--	11UJ	5J	--	11U	10U	--	10U
Pyridine	NA	50 G	45000	20J	10U	26000	11UJ	10U	1200	11UJ	10U	5400	12	2J	1800	10U

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			MW-7		MW-8U-95	SW-2			SW-3			SW-4			SW-6	
Sample Date:			12/01/1985	06/05/1995	06/07/1995	12/01/1985	08/23/1991	06/06/1995	12/01/1985	08/23/1991	06/05/1995	12/01/1985	08/23/1991	06/06/1995	12/01/1985	06/07/1995
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)														
TAL Inorganics (ug/L)																
Aluminum	NA	NA	–	16,300J	4,180J	–	27,100	3,960J	–	35,800	11,400J	–	26,200	2,600J	–	4,900J
Antimony	6	3 S	100U	7.1U	7.1U	100U	30.3U	7.1U	100U	30.3U	7.1U	10U	30.3U	7.1U	100U	2.4U
Arsenic	10	25 S	85	73.8	3.4	30	48.1	16.0	55	17.2	10.4	1U	14.9U	34.3	1U	5.7
Barium	2,000	1,000 S	50U	99.1J	48.4J	50U	122	37.4J	50U	163	95.8J	50U	96.5	15.9	50U	94.7
Beryllium	4	3 G	15	1.1U	0.43U	3U	1.4	0.5U	3U	2.4	1.4U	3U	1.6	0.3U	8	0.77U
Cadmium	5	5 S	7	0.5U	0.4U	4	5.7	0.4U	8	12.6	3.4	3U	5.9	0.4U	5	0.4U
Calcium	NA	NA	–	38,600	40,000	–	7,800	5,740	–	33,400	39,500	–	12,900	3,770	–	53,900
Chromium Total	100	50 S	69	33.9	9.7	10U	30.0	5.4	30	40.0	23.2	17	40.0	3.4U	13	7.5
Cobalt	NA	NA	–	21.5	4.8	–	21.8	3.8	–	24.8	12.8	–	22.5	6.5	–	7.4
Copper	1,300	200 S	214	110	15.2	16	63.1	10.3	54	84.6	31.6	24	126	27.2J	10U	22.7
Iron	NA	300 S (3)	–	30,100	6,320	–	34,700	4,620	–	55,200	25,700	–	42,900	3,410	–	19,100J
Lead	15	25 S	81	49.9	5.4	25U	36.0	5.2	29	320	225	661	111	19.9	25U	36.8
Magnesium	NA	35,000 G	–	7,050	7,170	–	9,590	2,400	–	20,300	11,800	–	9,930	1,100	–	10,100
Manganese	NA	300 S (3)	–	3,890	2260	–	1,490	660	–	5,920	7,040	–	6,810	504	–	8370
Mercury	2	0.7 S	1.6	0.14	0.1U	0.5U	0.62	0.1U	1.4	0.57	0.28	1.7	0.48	0.10	0.5U	0.15
Nickel	NA	100 S	139	45.2	12.1	26	43.0	6.4	30	78.4	22.7	36	93.5	10.0	20U	11.5
Potassium	NA	NA	–	6,310J	16,800J	–	13,100	7,880J	–	11,600	7,060J	–	7,250	6,950J	–	5,260
Selenium	50	10 S	1	1.9U	1.9U	1	0.2U	1.9U	5	0.55UJ	2.1	38	0.2U	1.9U	6	1.9U
Silver	NA	50 S	–	0.9U	0.9U	–	4.2U	0.9U	–	4.2U	0.9U	–	4.2U	0.9U	–	0.9U
Sodium	NA	NA	622000	362,000	9,230	20	252,000	238,000	60700	30,900	37,600	204000	138,000	333,000	24860	32,700
Thallium	2	0.5 G	–	2.4U	2.4U	–	1.5U	2.4U	–	1.5U	2.4U	–	1.5U	2.4U	–	6.4U
Vanadium	NA	NA	–	32.3	7.0	–	50.2	7.3	–	56.1	20.4	–	44.4	7.4	–	10.1
Zinc	NA	2,000 G	415	194J	50.6J	5	117	49.1J	151	178	85.5J	108	219	38J	106	85.7
Cyanide (total)	200	200 S	150	98.1	10U	150	196	42.4	300	74.0	10U	650	188	254	20U	10U

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			MW-7		MW-8U-95	SW-2			SW-3			SW-4			SW-6	
Sample Date:			12/01/1985	06/05/1995	06/07/1995	12/01/1985	08/23/1991	06/06/1995	12/01/1985	08/23/1991	06/05/1995	12/01/1985	08/23/1991	06/06/1995	12/01/1985	06/07/1995
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)														
TAL Inorganics (Dissolved) (ug/L)																
Aluminum (Dissolved)	NA	NA	--	**23.8**	**44.7**	--	--	**34J**	--	--	9.9U	--	--	**341**	--	46.3U
Arsenic (Dissolved)	10	25 S	--	**71.9**	1.4U	--	--	**11.9J**	--	--	1.4U	--	--	**31.6**	--	1.4U
Barium (Dissolved)	2,000	1,000 S	--	**143**	**27.3**	--	--	**144J**	--	--	**116.0**	--	--	**75.3**	--	**50.5**
Calcium (Dissolved)	NA	NA	--	**23,500**	**40,700**	--	--	**5,530J**	--	--	**39,100**	--	--	**3,820**	--	**50,800**
Chromium Total (Dissolved)	100	50 S	--	**0.9**	0.6U	--	--	**0.6UJ**	--	--	0.6U	--	--	0.6U	--	0.6U
Cobalt (Dissolved)	NA	NA	--	**4.6**	1.7U	--	--	**1.7UJ**	--	--	**3.3**	--	--	**3.5**	--	**3**
Copper (Dissolved)	1,300	200 S	--	**20.5**	**3.8**	--	--	**2.5j**	--	--	**1.3**	--	--	**9.9**	--	1.2U
Iron (Dissolved)	NA	300 S (3)	--	**138**	**47.4**	--	--	**34.7J**	--	--	**2120**	--	--	**425**	--	**1760**
Lead (Dissolved)	15	25 S	--	**6.6**	0.7U	--	--	0.7UJ	--	--	**0.73**	--	--	**4.5**	--	**0.79**
Magnesium (Dissolved)	NA	35,000 G	--	**1,790**	**6,530**	--	--	**1,400J**	--	--	**6,600**	--	--	**543**	--	**8,120**
Manganese (Dissolved)	NA	300 S (3)	--	**1,290**	**2,210**	--	--	**528J**	--	--	**6,520**	--	--	**361**	--	**8,740**
Mercury (Dissolved)	2	0.7 S	--	0.1U	0.1U	--	--	**0.2J**	--	--	0.1U	--	--	0.1U	--	0.1U
Nickel (Dissolved)	NA	100 S	--	**7.9**	**3**	--	--	1.5UJ	--	--	1.5U	--	--	**5**	--	1.5U
Potassium (Dissolved)	NA	NA	--	**4,580J**	**17,100**	--	--	**7,080J**	--	--	**5,550J**	--	--	**6,640J**	--	**5,160**
Selenium (Dissolved)	50	10 S	--	**1.9U**	1.9U	--	--	1.9UJ	--	--	1.9U	--	--	1.9U	--	1.9U
Silver (Dissolved)	NA	50 S	--	0.9U	0.9U	--	--	0.9UJ	--	--	0.9U	--	--	0.9U	--	0.9UJ
Sodium (Dissolved)	NA	NA	--	**387,000**	**10,600**	--	--	**227,000J**	--	--	**35,700**	--	--	**320,000**	--	**28,700**
Thallium (Dissolved)	2	0.5 G	--	2.4U	2.4U	--	--	2.4UJ	--	--	**3.0**	--	--	2.4U	--	3.3U
Vanadium (Dissolved)	NA	NA	--	**5.4**	1.8U	--	--	1.8UJ	--	--	1.8U	--	--	4.2U	--	1.8U
Zinc (Dissolved)	NA	2,000 G	--	**19.5**	**12.2**	--	--	**14.7J**	--	--	**17.3**	--	--	**12.8**	--	18.8U
Wet Chemistry																
Chloride (Dissolved)	NA	250,000	**176**	**24**	**4**	**21**	--	**9**	**9**	--	**3**	**45**	--	**24**	**1**	**2**
pH	NA	NA	--	--	--	--	**8.4**	--	--	**6.8**	--	--	**7.2**	--	--	--
Petroleum Hydrocarbons	NA	NA	--	--	--	--	5U	--	--	5U	--	--	5U	--	--	--
Total Organic Carbon (TOC)	NA	NA	**130**	--	--	**25**	--	--	**17**	--	--	**10**	--	--	**9**	--

Notes:

- [ ] - Exceeds New York State Standard (S) or Guideline (G).
- **bold** - Exceeds the USEPA Federal MCLs.

U - Compound was not detected at the associated detection limit.

J - Indicates an estimated value.

UJ - The analyte was not detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.

R - Indicates the value has been rejected.

-- - Parameter was not analyzed.

TCL - Target Compound List.

TAL - Target Analyte List.

(1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.

(2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.

(3) - The N.Y. State Standard limits the sum of Iron and Manganese to be 500 ug/L.

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			SW-7		SW-8		SW-9			SW-10			T-1		T-2
Sample Date:			12/01/1985	06/06/1995	12/01/1985	06/05/1995	12/01/1985	08/23/1991	06/06/1995	12/01/1985	08/23/1991	06/08/1995	12/01/1985	06/06/1995	06/06/1995
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)													
TCL Volatiles (ug/L)															
1,1,1-Trichloroethane	200	5 S	--	10U	--	10U	--	5U	10U	--	7	10U	--	10U	10U
1,2-Dichloroethane	5	0.6 S	--	10U	--	10U	--	5U	10U	--	5U	10U	--	1J	10U
2-Butanone (Methyl Ethyl Ketone)	NA	50 G	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ	10U	10U	10U
2-Hexanone	NA	50 G	--	10U	--	10U	--	10U	10U	--	10U	10U	--	10U	10U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	NA	--	10U	--	10U	--	10U	10U	--	10U	10U	--	10U	4J
Acetone	NA	50 G	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ	39	10U	10U
Benzene	5	1 S	5U	10U	5U	10U	5U	5U	10U	5U	5U	10U	5U	10U	30
Chlorobenzene	100	5 S	--	10U	--	10U	--	5U	10U	--	5U	10U	--	10U	6J
Ethylbenzene	700	5 S	--	10U	--	10U	--	5U	10U	--	5U	10U	--	10U	3J
Methylene chloride	5	5 S	--	10U	--	10U	--	5U	10U	--	3J	10U	--	10U	10U
Toluene	1,000	5 S	5U	10U	5U	10U	5U	5U	10U	5U	5U	10U	5U	10U	1J
Vinyl chloride	2	2 S	--	10U	--	10U	--	10U	10U	--	10U	10U	--	10U	10U
Xylene (total)	10,000	5 S	5U	10U	5U	10U	5U	5U	10U	5U	5U	10U	12	10U	4J
TCL Semi-volatiles (ug/L)															
2-Aminopyridine	NA	1 G	25U	10U	25U	2J	25U	12UJ	10U	25U	23J	10U	830	10U	17
2-Chloropyridine	NA	NA	25U	--	25U	--	25U	--	--	25U	--	--	25U	--	--
2-Methylphenol	NA	1 S	--	10U	--	10U	--	12R	10U	--	11UJ	10U	--	10U	10U
2-Picoline	NA	NA	25U	10U	25U	10U	25U	12UJ	10U	25U	11UJ	10U	570	10U	10U
4-Chloroaniline	NA	5 S	--	10U	--	10U	--	12UJ	10U	--	11UJ	10U	--	10U	10U
4-Methylphenol	NA	1 S	--	10U	--	10U	--	12R	10U	--	11UJ	10U	--	10U	10U
Aniline	NA	5 S	--	--	--	--	--	--	--	--	--	--	140	--	--
bis(2-Ethylhexyl)phthalate	6	5 S	--	10U	--	10U	--	170UJ	10U	--	110UJ	10U	--	10U	10U
Butyl benzylphthalate	NA	50 G	--	10U	--	10U	--	12UJ	10U	--	11UJ	10U	--	10U	10U
Dimethyl phthalate	NA	50 G	--	10U	--	10U	--	12UJ	10U	--	11UJ	10U	--	10U	10U
Di-n-butylphthalate	NA	50 S	--	10U	--	10U	--	190UJ	10U	--	150UJ	10U	--	10U	10UJ
Di-n-octyl phthalate	NA	50 G	--	10U	--	10U	--	290UJ	10U	--	210UJ	10U	--	10U	10U
Isophorone	NA	50 G	--	10U	--	10U	--	12UJ	10U	--	11UJ	10U	--	10U	10U
Naphthalene	NA	10 G	--	10U	--	10U	--	12UJ	10U	--	11UJ	10U	--	10U	10U
Phenol	NA	1 S	--	10U	--	10U	--	12R	10U	--	11UJ	10U	--	10U	10U
Pyridine	NA	50 G	1000U	10U	8500	10U	1000U	12UJ	10U	3500	11UJ	10U	22400	10U	10U

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			SW-7		SW-8		SW-9			SW-10			T-1		T-2
Sample Date:			12/01/1985	06/06/1995	12/01/1985	06/05/1995	12/01/1985	08/23/1991	06/06/1995	12/01/1985	08/23/1991	06/08/1995	12/01/1985	06/06/1995	06/06/1995
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)													
TAL Inorganics (ug/L)															
Aluminum	NA	NA	–	220U	–	3,990J	–	14,000	313U	–	3,400	2,080J	–	425J	845J
Antimony	6	3 S	100U	7.1U	100U	7.1U	100U	30.3U	7.1U	100U	30.4U	2.4U	100U	7.1U	7.1U
Arsenic	10	25 S	3	4.4	37	8.3	1U	8.9U	1.4U	8	4.4U	2.5	35	2.0	18.3
Barium	2,000	1,000 S	218	19.9	65	25.5J	50U	84.1	26.0J	50U	30.8	26.3	150	27.4	8.8
Beryllium	4	3 G	10	0.3U	9	0.43U	3U	1.0	0.3U	3U	0.70	0.5U	6	0.3U	0.3U
Cadmium	5	5 S	6	0.4U	3U	0.4U	3U	4.8U	0.4U	3U	4.8U	0.4U	8	0.4U	0.4U
Calcium	NA	NA	–	29,600	–	5,910	–	13,800	11,600	–	37,700	22,800	–	11,800	2,180
Chromium Total	100	50 S	10U	0.6U	10U	7.0	10U	20.0	1.2U	13	10.0	2.1	20	1.2U	1.2U
Cobalt	NA	NA	–	1.7U	–	3.8	–	15.4	6.2	–	5.4U	3.1	–	14.4	1.7
Copper	1,300	200 S	10U	3.6	19	10.7	10U	33.9	6.3	11	14.4	8.9	46	6.2	11.8
Iron	NA	300 S (3)	–	467	–	4,670	–	25,200	156	–	4,860	3,130J	–	5,800	3,710
Lead	15	25 S	25U	0.95	25U	8.8	25U	21.8	2.1	25U	6.5	4.1	40	6.2	5.3
Magnesium	NA	35,000 G	–	6,360	–	2,390	–	5,620	1,260	–	8,890	5,590	–	2,490	418
Manganese	NA	300 S (3)	–	5,270	–	1,820	–	15,200	13,700	–	1,520	1030	–	4730	150
Mercury	2	0.7 S	0.5U	0.1U	0.5U	0.1U	0.9	0.62	0.1U	0.8	0.2U	0.11	1.3	0.1U	0.1U
Nickel	NA	100 S	20U	1.5U	20U	8.1	20U	77.3	8.7	20U	14.7U	5.0	39	6.4	3.5
Potassium	NA	NA	–	486	–	1,250J	–	6,710	2,380J	–	6,740	5,050	–	1,150J	5,140J
Selenium	50	10 S	5	1.9U	13	1.9U	10	0.2UJ	1.9U	1	0.2U	1.9U	2	1.9U	1.9U
Silver	NA	50 S	–	0.9U	–	0.9U	–	4.2U	0.9U	–	4.2U	0.9U	–	0.9U	0.9U
Sodium	NA	NA	26740	24,100	280100	151,000	141500	95,400	79,600	79300	118,000	80,200	345100	48,400	239,000
Thallium	2	0.5 G	–	2.4U	–	2.4U	–	1.5U	2.4U	–	1.5U	2.4U	–	2.4U	2.4U
Vanadium	NA	NA	–	1.8U	–	6.3	–	19.5	1.8U	–	5.7U	3.0	–	1.8U	2.2
Zinc	NA	2,000 G	157	6.1	136	75.4J	136	111	33.9	99	27.0	32.9U	548	174J	51.6J
Cyanide (total)	200	200 S	20U	10U	40	12.7	20	10U	10U	25	178	268	610	20.8	242

TABLE 6.9

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
1985, 1991 AND 1995
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			SW-7		SW-8		SW-9			SW-10			T-1		T-2
Sample Date:			12/01/1985	06/06/1995	12/01/1985	06/05/1995	12/01/1985	08/23/1991	06/06/1995	12/01/1985	08/23/1991	06/08/1995	12/01/1985	06/06/1995	06/06/1995
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)													
TAL Inorganics (Dissolved) (ug/L)															
Aluminum (Dissolved)	NA	NA	--	9.9U	--	**35**	--	--	**46.8**	--	--	42.6U	--	9.9U	**198J**
Arsenic (Dissolved)	10	25 S	--	1.4U	--	**4.7**	--	--	1.4U	--	--	1.4U	--	1.4U	**18.8J**
Barium (Dissolved)	2,000	1,000 S	--	**5.3**	--	**67.9**	--	--	**91.5**	--	--	**82.4**	--	**130**	**194J**
Calcium (Dissolved)	NA	NA	--	**31,200**	--	**4,430**	--	--	**12,000**	--	--	**21,000**	--	**11,900**	**1,550J**
Chromium Total (Dissolved)	100	50 S	--	0.6U	--	0.6U	--	--	0.6U	--	--	0.6U	--	0.6U	0.6UJ
Cobalt (Dissolved)	NA	NA	--	1.7U	--	1.7U	--	--	**5.8**	--	--	1.7U	--	1.7U	1.7UJ
Copper (Dissolved)	1,300	200 S	--	**7.6**	--	**2.6**	--	--	**1.8**	--	--	**2**	--	1.2U	**3.6J**
Iron (Dissolved)	NA	300 S (3)	--	12.9U	--	**29.9**	--	--	12.9U	--	--	148U	--	12.9U	**450J**
Lead (Dissolved)	15	25 S	--	0.7U	--	**1.4**	--	--	**1.3**	--	--	0.7U	--	0.7U	**1.6J**
Magnesium (Dissolved)	NA	35,000 G	--	**6,700**	--	**926**	--	--	**1,260**	--	--	**4,700**	--	**2,450**	**274J**
Manganese (Dissolved)	NA	300 S (3)	--	**3,920**	--	**1,580**	--	--	**14,300**	--	--	**721**	--	**2,200**	**109J**
Mercury (Dissolved)	2	0.7 S	--	**0.20**	--	0.1U	--	--	0.1U	--	--	0.1U	--	0.1U	**0.16J**
Nickel (Dissolved)	NA	100 S	--	1.5U	--	1.5U	--	--	**8.1**	--	--	**2.4**	--	**3**	1.5UJ
Potassium (Dissolved)	NA	NA	--	441U	--	**634**	--	--	**2,390J**	--	--	**5,420**	--	**1,030J**	**5,200J**
Selenium (Dissolved)	50	10 S	--	1.9U	--	1.9U	--	--	1.9U	--	--	1.9U	--	1.9U	1.9UJ
Silver (Dissolved)	NA	50 S	--	0.9U	--	0.9U	--	--	0.9U	--	--	0.9UJ	--	0.9U	0.9UJ
Sodium (Dissolved)	NA	NA	--	**22,100**	--	**120,000**	--	--	**75,900**	--	--	**81,800**	--	**44,900**	**230,000J**
Thallium (Dissolved)	2	0.5 G	--	2.4U	--	2.4U	--	--	**5**	--	--	2.4U	--	2.4U	2.4UJ
Vanadium (Dissolved)	NA	NA	--	1.8U	--	1.8U	--	--	1.8U	--	--	1.8U	--	1.8U	1.8UJ
Zinc (Dissolved)	NA	2,000 G	--	**23.1**	--	**26.8**	--	--	**34.1**	--	--	**37.4**	--	**68J**	**11.1J**
Wet Chemistry															
Chloride (Dissolved)	NA	250,000	**13**	**4**	**19**	**8**	**13**	--	**4**	**4**	--	**3**	**25**	**4**	**7**
pH	NA	NA	--	--	--	--	--	**6.5**	--	--	**7.1**	--	--	--	--
Petroleum Hydrocarbons	NA	NA	--	--	--	--	--	5U	--	--	5U	--	--	--	--
Total Organic Carbon (TOC)	NA	NA	**4**	--	**30**	--	**12**	--	--	**38**	--	--	**9**	--	--

Notes:

- [ ] - Exceeds New York State Standard (S) or Guideline (G).
- **bold** - Exceeds the USEPA Federal MCLs.
- U - Compound was not detected at the associated detection limit.
- J - Indicates an estimated value.
- UJ - The analyte was not detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.
- R - Indicates the value has been rejected.
- -- - Parameter was not analyzed.
- TCL - Target Compound List.
- TAL - Target Analyte List.
- (1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
- (2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.
- (3) - The N.Y. State Standard limits the sum of Iron and Manganese to be 500 ug/L.

TABLE 6.10

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
INTERIM GROUNDWATER MONITORING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			*MW-1*						*MW-5D-95*											
Sample Date:			*Feb-97*	*Feb-98*	*Apr-99*	*Mar-02*	*Feb-03*	*Aug-03*	*Feb-97*	*Aug-97*	*Feb-98*	*May-98*	*Aug-98*	*Apr-99*	*Aug-99*	*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*
Parameters	*USEPA Federal MCLs* [1]	*NY State Groundwater Criteria* [2]																		
TCL Volatiles (ug/L)																				
Benzene	5	1 S	1 U	1 U	1 U	1 U	1 U	1 UJ	1 U	1 U	0.6 J	1U / 1U	1U / 1U	1 U	1 U	1 U	1 U	1U	1 U	1 UJ
Ethylbenzene	700	5 S	1 U	1 U	1 U	1 U	5	1 UJ	1 U	1 U	1 U	1U / 1U	1U / 1U	1 U	--	1 U	1 U	1U	1 U	1 UJ
m&p-Xylene	NA	5 S	1 U	1 U	1 U	2U	22	1 UJ	1 U	1 U	1 U	1U / 1U	1U / 1U	1 U	--	--	1 J	--	2 U	1 UJ
o-Xylene	NA	5 S	1 U	1 U	1 U	1 U	12	1 UJ	1 U	1 U	1 U	1U / 1U	1U / 1U	1 U	--	--	0.6 J	1U	1 U	1 UJ
Toluene	1,000	5 S	1 U	1 U	1 U	1 U	4	1 UJ	1 U	1 U	1 U	1U / 1U	1U / 1U	1 U	--	1.1	1 U	1U	1 U	1 UJ
Xylene (total)	10,000	5 S	--	--	--	--	--	--	--	--	--	--	--	--	--	1 J	--	2U	--	--
TCL Semi-volatiles (ug/L)																				
2-Aminopyridine	NA	1 G	10 U	10 U	10 U	--	0.9 J	1 U	10 U	10 U	1 U	--	10U / 10U	10 U	10 U	10 U	10 U	0.5J	1 U	1 U
2-Picoline	NA	NA	10 U	10 U	10 U	--	1 U	1 U	10 U	10 U	1 U	--	10U / 10U	10 U	10 U	10 U	10 U	1U	1 U	1 U
bis(2-Ethylhexyl)phthalate	6	5 S	10 U	--	--	--	--	--	6 J	--	1 U	--	--	--	--	--	--	--	--	--
Pyridine	NA	50 G	10 U	10 U	10 U	--	1 U	1 U	10 U	10 U	1 U	--	10U / 10U	10 U	10 U	10 U	10 U	1U	1 U	1 U

Notes:

- ☐ - Exceeds New York State Standard (S) or Guideline (G).
- ▨ - Exceeds the USEPA Federal MCLs.
- J - Estimated
- U - Non- detect at associated value.
- UJ - The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- (1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
- (2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum and June 2004 Addendum.

TABLE 6.10

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
INTERIM GROUNDWATER MONITORING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			*MW-5U-95*											*MW-8U-95*								
Sample Date:			*Feb-97*	*Aug-97*	*Feb-98*	*May-98*	*Aug-98*	*Apr-99*	*Aug-99*	*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*	*May-98*	*Aug-98*	*Nov-98*	*Apr-99*	*Aug-99*	*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*
Parameters	*USEPA Federal MCLs* [1]	*NY State Groundwater Criteria* [2]																					
TCL Volatiles (ug/L)																							
Benzene	5	1 S	1 U	1U / 1U	1 U	7	2	1 U	1 U	1 U	1 U	1U / 1U	1 U	1 UJ	1 U	1 U	8/7	2/3	4	1 U	1 U	1U	2	1.74 J
Ethylbenzene	700	5 S	1 U	1U / 1U	1 U	1 U	1 U	1 U	--	1 U	1 U	1U / 1U	1 U	1 UJ	1 U	1 U	1U / 1U	1U / 1U	--	1 U	1 U	1U	1 U	1 UJ
m&p-Xylene	NA	5 S	1 U	1U / 1U	1 U	1 U	1 U	1 U	--	--	2 U	--	2 U	1 UJ	1 U	1 U	1U / 1U	1U / 1U	--	--	2 U	--	2 U	1 UJ
o-Xylene	NA	5 S	1 U	1U / 1U	1 U	1 U	1 U	1 U	--	--	1 U	1U / 1U	1 U	1 UJ	1 U	1 U	1U / 1U	1U / 1U	--	--	1 U	1U	1 U	1 UJ
Toluene	1,000	5 S	1 U	1U / 1U	1 U	1 U	1 U	1 U	--	1 U	1 U	1U / 1U	0.7 J	1 UJ	1 U	1 U	1U / 1U	1U / 1U	--	1 U	1 U	2	1 U	1 UJ
Xylene (total)	10,000	5 S	--	--	--	--	--	--	--	2 U	--	2U /2U	--	--						2 U	--	1J	--	--
TCL Semi-volatiles (ug/L)																							
2-Aminopyridine	NA	1 G	10 U	10U / 10U	10 U	--	590 JD	10 U	10 U	10 U	10 U	1U/0.3J	1 U	1 U	--	10 U	10U / 10U	1300 D / 960	1300	10 U	10 U	130	75	69
2-Picoline	NA	NA	10 U	10U / 10U	10 U	--	10 U	10 U	10 U	10 U	10 U	1U / 1U	1 U	1 U	--	10 U	10U / 10U	10/5 J	19	10 U	10 U	1U	3	0.4 J
bis(2-Ethylhexyl)phthalate	6	5 S	10 U	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyridine	NA	50 G	10 U	10U / 10U	10 U	--	10 U	10 U	10 U	10 U	10 U	1U / 1U	1 U	1 U	--	10 U	10U / 10U	10U / 10U	10 U	10 U	10 U	1U	1 U	1 U

Notes:

- ☐ - Exceeds New York State Standard (S) or Guideline (G).
- ▒ - Exceeds the USEPA Federal MCLs.
- J - Estimated
- U - Non- detect at associated value.
- UJ - The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- (1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
- (2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum and June 2004 Addendum.

TABLE 6.10

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
INTERIM GROUNDWATER MONITORING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			*MW-9D-01*					*MW-9U-01*					*MW-10D-01*					*MW-10U-01*				
Sample Date:			*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*	*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*	*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*	*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*
Parameters	*USEPA Federal MCLs* [1]	*NY State Groundwater Criteria* [2]																				
TCL Volatiles (ug/L)																						
Benzene	5	1 S	1 U	1 U	1U	1	2.36 J	1 U	1 U	1U	1 U	1 UJ	1 U	1 U	1U	1 U	1 UJ	1U / 1U	1 U	1U	1U / 1U	1 UJ
Ethylbenzene	700	5 S	1 U	1 U	0.6J	1 U	1 UJ	1 U	1 U	0.5J	1 U	1 UJ	1 U	1 U	1U	1 U	1 UJ	1U / 1U	1 U	1U	1U / 1U	1 UJ
m&p-Xylene	NA	5 S	--	2 U	--	2 U	1 UJ	--	2 U	--	2 U	1 UJ	--	2 U	--	2 U	1 UJ	--	2 U	--	2U / 2U	1 UJ
o-Xylene	NA	5 S	--	1 U	0.6J	1 U	1 UJ	--	1 U	1U	1 U	1 UJ	--	1 U	1U	1 U	1 UJ	--	1 U	1U	1U / 1U	1 UJ
Toluene	1,000	5 S	1 U	1 U	1	1 U	1 UJ	1 U	1 U	0.6J	1 U	1 UJ	1 U	1 U	1U	1 U	1 UJ	1U / 1U	1 U	1U	1U / 1U	1 UJ
Xylene (total)	10,000	5 S	2 U	--	1J	--	--	2 U	--	1J	--	--	2 U	--	0.7J	--	--	2U / 2U	--	2U	--	--
TCL Semi-volatiles (ug/L)																						
2-Aminopyridine	NA	1 G	5 J	2 J	4	1 U	4	10 U	10 U	1U	1 U	1 U	10 U	10 U	1U	1 U	1 U	10U / 10U	10 U	1U	1U / 1U	1U / 1U
2-Picoline	NA	NA	10 U	10 U	1U	1 U	0.3 J	10 U	10 U	1U	1 U	1 U	10 U	10 U	1U	1 U	1 U	10U / 10U	10 U	1U	1U / 1U	1U / 1U
bis(2-Ethylhexyl)phthalate	6	5 S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyridine	NA	50 G	10 U	10 U	1U	1 U	1 U	10 U	10 U	1U	1 U	1 U	10 U	10 U	1U	1 U	1 U	10U / 10U	10 U	1U	1U / 1U	1U / 1U

Notes:

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- ▒ - Exceeds the USEPA Federal MCLs.
- J - Estimated
- U - Non- detect at associated value.
- UJ - The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- (1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
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TABLE 6.10

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
INTERIM GROUNDWATER MONITORING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			*MW-11D-01*					*MW-11U-01*					*MW-12D-01*					*MW-13D-01*				
Sample Date:			*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*	*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*	*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*	*Nov-01*	*Mar-02*	*Aug-02*	*Feb-03*	*Aug-03*
Parameters	*USEPA Federal MCLs* [1]	*NY State Groundwater Criteria* [2]																				
TCL Volatiles (ug/L)																						
Benzene	5	1 S	1 U	1 U	1U	1 U	1 UJ	1 U	1U / 1U	1U	1 U	1 UJ	1 U	1 U	1U	1 U	1 UJ	1 U	1 U	1U	1 U	1 UJ
Ethylbenzene	700	5 S	1 U	1 U	1U	1 U	1 UJ	1 U	1U / 1U	1U	1 U	1 UJ	1 U	1 U	1U	1 U	1 UJ	1 U	1 U	1U	1 U	1 UJ
m&p-Xylene	NA	5 S	--	2 U	--	2 U	1 UJ	--	2U / 2U	--	2 U	1 UJ	--	2 U	--	2 U	1 UJ	--	2 U	--	2 U	1 UJ
o-Xylene	NA	5 S	--	1 U	1U	1 U	1 UJ	--	1U / 1U	1U	1 U	1 UJ	--	1 U	1U	1 U	1 UJ	--	1 U	1U	1 U	1 UJ
Toluene	1,000	5 S	1 U	1 U	1U	1 U	1 UJ	1 U	1U / 1U	1U	1 U	1 UJ	1 U	1 U	1U	1 U	1 UJ	1 U	1 U	1U	1 U	1 UJ
Xylene (total)	10,000	5 S	2 U	--	2U	--	--	2 U	--	2U	--	--	2 U	--	2U	--	--	2 U	--	2U	--	--
TCL Semi-volatiles (ug/L)																						
2-Aminopyridine	NA	1 G	10 U	10 U	1U	1 U	1 U	10 U	10U /10U	1U	1 U	1 U	10 U	10 U	1U	1 U	5	10 U	10 U	1U	1 U	1 U
2-Picoline	NA	NA	10 U	10 U	1U	1 U	1 U	10 U	10U /10U	1U	1 U	1 U	10 U	10 U	1U	1 U	1 U	10 U	10 U	1U	1 U	1 U
bis(2-Ethylhexyl)phthalate	6	5 S	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Pyridine	NA	50 G	10 U	10 U	1U	1 U	1 U	10 U	10U /10U	1U	1 U	1 U	10 U	10 U	1U	1 U	1 U	10 U	10 U	1U	1 U	1 U

Notes:

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- ▒ - Exceeds the USEPA Federal MCLs.
- J - Estimated
- U - Non- detect at associated value.
- UJ - The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- (1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
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TABLE 6.10

SUMMARY OF ANALYTICAL DATA FOR GROUNDWATER SAMPLES
INTERIM GROUNDWATER MONITORING PROGRAM
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			*SW-9*									*T-2*							
Sample Date:			*Feb-97*	*Aug-97*	*Feb-98*	*Aug-98*	*Apr-99*	*Aug-99*	*Nov-01*	*Aug-02*	*Feb-03*	*Aug-03*	*Feb-97*	*Aug-97*	*Feb-98*	*Aug-98*	*Apr-99*	*Aug-99*	*Feb-03*	*Aug-03*
Parameters	*USEPA Federal MCLs* [1]	*NY State Groundwater Criteria* [2]																		
TCL Volatiles (ug/L)																				
Benzene	5	1 S	1 U	1 U	1 U	1 U	1 U	1 U	1 U	190	1 U	0.651 J	1 U	1 U	1 U	1 U	1 U	1 U	1 U	1 UJ
Ethylbenzene	700	5 S	1 U	1 U	1 U	1 U	1 U	--	1 U	1U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	--	1 U	1 UJ
m&p-Xylene	NA	5 S	1 U	1 U	1 U	1 U	1 U	--	--	--	2 U	1 UJ	1 U	1 U	1 U	1 U	1 U	--	2 U	1 UJ
o-Xylene	NA	5 S	1 U	1 U	1 U	1 U	1 U	--	--	1U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	--	1 U	1 UJ
Toluene	1,000	5 S	1 U	1 U	1 U	1 U	1 U	--	1 U	1U	1 U	1 UJ	1 U	1 U	1 U	1 U	1 U	--	1 U	1 UJ
Xylene (total)	10,000	5 S	--	--	--	--	--	--	2 U	2U	--	--	--	--	--	--	--	--	--	--
TCL Semi-volatiles (ug/L)																				
2-Aminopyridine	NA	1 G	10 U	10 U	10 U	17	11	14	2 J	3900	1 U	1	10 U	10 U	10 U	4 J	43	24	0.6 J	1 U
2-Picoline	NA	NA	10 U	10 U	10 U	10 U	10 U	10 U	10 U	35J	1 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U
bis(2-Ethylhexyl)phthalate	6	5 S	1 J	--	--	--	--	--	--	--	--	--	10 U	--	--	--	--	--	--	--
Pyridine	NA	50 G	10 U	10 U	10 U	10 U	10 U	10 U	10 U	0.8J	1 U	1 U	10 U	10 U	10 U	10 U	10 U	10 U	1 U	1 U

Notes:

- ☐ - Exceeds New York State Standard (S) or Guideline (G).
- ▒ - Exceeds the USEPA Federal MCLs.
- J - Estimated
- U - Non- detect at associated value.
- UJ - The analyte was not detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- (1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
- (2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum and June 2004 Addendum.

TABLE 6.11

SUMMARY OF ANALYTICAL DATA FOR GROUND WATER SAMPLES
ADDITIONAL GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			DW-1-95		DW-2-95		MW-1		MW-1D-91			MW-1U-91			MW-2	MW-2D-91	
Sample Date:			07/09/2001	06/04/2002	07/10/2001	06/06/2002	07/05/2001	06/05/2002	07/10/2001	06/05/2002	06/05/2002 Duplicate	07/10/2001	06/03/2002	06/03/2002 Duplicate	07/06/2001	07/10/2001	06/04/2002
Parameter	USEPA Federal MCLs [1]	NY State Groundwater Criteria [2]															
TCL Volatiles (ug/L)																	
1,1,1-Trichloroethane	200	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,1-Dichloroethane	7	5 S	1U	1U	1U	1U	0.9J	1UJ	1U	1UJ	1UJ	1U	1U	1U	1U	1U	1U
1,2-Dibromo-3-chloropropane (DBCP)	0.2	0.04 S	1UJ	1U	1UJ	1U	1UJ	1U	1UJ	1U	1U	1UJ	1U	1U	1UJ	1UJ	1U
1,2-Dichloroethane	5	0.6 S	1U	1.3	1U	1U	1U	1U	1U	1U	1.4	1U	1.7	1.6	1U	1U	1U
2-Butanone (Methyl Ethyl Ketone)	NA	50 G	28J	44	25J	71	R	5U	R	5U	5U	R	5U	5U	R	R	5U
2-Hexanone	NA	50 G	5UJ	4J	5U	5.7	5U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U	5U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	N S/G	5UJ	5U	4J	7.5	5UJ	5U	5UJ	5U	5U	5UJ	5U	5U	5UJ	5UJ	4J
Acetone	NA	50 G	110J	230UJ	290J	640J	6J	5UJ	R	5UJ	5UJ	R	5U	5U	R	R	5U
Benzene	5	1 S	130	100	11	13	0.7J	1U	67	91	94	190	170	170	96	59	90
Carbon disulfide	NA	60 G	1UJ	1U	1U	1U	1U	1U	1U	1U	1U	1UJ	1U	1U	1U	1U	1U
Chlorobenzene	100	5 S	0.5J	1U	1U	0.6J	1U	1U	7.1	5.6	5.9	9.3	8.1	7.7	22	16	9.3
Chloromethane (Methyl Chloride)	NA	5 S	1U	1U	1U	2.0	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
cis-1,2-Dichloroethene	70	5 S	1U	1U	1U	1U	0.8J	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Ethylbenzene	700	5 S	2.6J	1	1U	1U	1U	1U	1U	1U	1U	1UJ	1U	1U	1	150	53
Methyl Tert Butyl Ether	NA	10 G	1UJ	1U	1U	0.9J	1U	1U	1U	1U	1U	1.6J	1U	1U	1U	1U	1U
Methylene chloride	5	5 S	1UJ	1U	1UJ	1U	1UJ	1U	1UJ	1U	1U	1UJ	1U	1U	1UJ	1UJ	1U
Toluene	1,000	5 S	0.7J	1.4U	1J	2.1	4	1U	1U	1U	1U	1U	1U	1U	1U	1.5	1U
Vinyl chloride	2	2 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Xylene (total)	10,000	5 S	1J	0.9J	2U	0.9J	4	2U	2U	2U	2U	2U	2U	2U	2	120	49
TCL Semi-volatiles (ug/L)																	
2-Aminopyridine	NA	1 G	10U	10J	10U	10U	10U	10U	2J	3J	3J	20	10UJ	14J	520	5J	10U
2-Methylphenol	NA	1 S	10U	--	10U	--	10U	--	10U	--	--	10U	--	--	10U	10U	--
2-Picoline	NA	N S/G	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10	10U	10U
4-Chloroaniline	NA	5 S	10U	--	10U	--	10U	--	10U	--	--	10U	--	--	10U	10U	--
4-Methylphenol	NA	1 S	10U	--	10U	--	10U	--	10U	--	--	1J	--	--	10U	10U	--
bis(2-Ethylhexyl)phthalate	6	5 S	10U	--	8J	--	10U	--	10U	--	--	10U	--	--	10U	10U	--
Butyl benzylphthalate	NA	50 G	10U	--	10U	--	10U	--	10U	--	--	10U	--	--	10U	10U	--
Dimethyl phthalate	NA	50 G	10U	--	10U	--	10U	--	10U	--	--	10U	--	--	10U	10U	--
Di-n-butylphthalate	NA	50 S	10U	--	10U	--	10U	--	10U	--	--	10U	--	--	10U	10U	--
Di-n-octyl phthalate	NA	50 G	10U	--	10U	--	10U	--	10U	--	--	10U	--	--	10U	10U	--
Isophorone	NA	50 G	10U	--	10U	--	10U	--	10U	--	--	10U	--	--	10U	10U	--
Naphthalene	NA	10 G	10U	--	10U	--	10U	--	10U	--	--	10U	--	--	10U	10U	--
Phenol	NA	1 S	10U	--	10U	--	10U	--	10U	--	--	10U	--	--	10U	10U	--
Pyridine	NA	50 G	10U	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10UJ	10UJ	3J	10U	10U

TABLE 6.11

SUMMARY OF ANALYTICAL DATA FOR GROUND WATER SAMPLES
ADDITIONAL GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			DW-1-95		DW-2-95		MW-1		MW-1D-91			MW-1U-91			MW-2	MW-2D-91	
Sample Date:			07/09/2001	06/04/2002	07/10/2001	06/06/2002	07/05/2001	06/05/2002	07/10/2001	06/05/2002	06/05/2002 Duplicate	07/10/2001	06/03/2002	06/03/2002 Duplicate	07/06/2001	07/10/2001	06/04/2002
Parameter	USEPA Federal MCLs [1]	NY State Groundwater Criteria [2]															
TAL Inorganics (ug/L)																	
Aluminum	NA	N S/G	35.7	--	978	--	334	--	11.7U	--	--	63.8	--	--	124U	614	--
Antimony	6	3 S	4.4U	--	4.4U	--	4.4U	--	4.4U	--	--	4.4U	--	--	4.4U	4.4U	--
Arsenic	10	25 S	2.7UJ	--	2.7UJ	--	2.7U	--	2.7UJ	--	--	10.5J	--	--	8.8	2.7J	--
Barium	2,000	1,000 S	518	--	460	--	7.8	--	51.7	--	--	39.4	--	--	10.9	42.8	--
Beryllium	4	3 G	0.10U	--	0.10U	--	0.10U	--	0.10U	--	--	0.10U	--	--	0.10U	1.2	--
Cadmium	5	5 S	0.20U	--	0.20U	--	0.20U	--	0.20U	--	--	0.20U	--	--	0.20U	0.20U	--
Calcium	NA	N S/G	388000	475000	75000	86500	12900	13100	41000	65500	67000	14400	26600	24000	6370	12800	15200
Chromium Total	100	50 S	3.8	--	9.6	--	0.70U	--	1.2	--	--	0.70U	--	--	0.80	8.3	--
Cobalt	NA	N S/G	1.8U	--	3.6	--	1.8U	--	3.6	--	--	1.8U	--	--	1.8U	1.8U	--
Copper	1,300	200 S	1.3UJ	--	66.9J	--	4.1	--	1.3UJ	--	--	1.3UJ	--	--	2.4	1.3UJ	--
Iron	NA	300 S [3]	32.2	53.7	111	152J	397	871J	4180	6000J	6130J	6730	5950	5330	415	3600	1410
Lead	15	25 S	0.60UJ	--	0.60UJ	--	1.4	--	0.60UJ	--	--	0.60UJ	--	--	0.84	4.8J	--
Magnesium	NA	35,000 G	114	306	27.8	25.4	2400	2390	7330	11000	11300	3910	6300	5680	1230	4100	4820
Manganese	NA	300 S [3]	0.50U	--	0.50U	--	1310	--	7490	--	--	4770	--	--	374	355	--
Manganese (Dissolved)	NA	300 S [3]	0.50UJ	1.8U	2.5UJ	5.0	1310	97.1	7440J	10900	11600	5160J	7910	7780	--	90.5J	402
Mercury	2	0.7 S	0.10U	--	0.10U	--	0.10U	--	0.10U	--	--	0.10U	--	--	0.10U	0.10U	--
Nickel	NA	100 S	6.6	--	14.0	--	5.6	--	1.9U	--	--	1.9U	--	--	1.9U	11.4	--
Potassium	NA	N S/G	82400	--	170000	--	1570	--	8710	--	--	4600	--	--	21300	22900	--
Selenium	50	10 S	R	--	R	--	R	--	R	--	--	R	--	--	R	R	--
Silver	NA	50 S	1.1U	--	1.1U	--	1.1U	--	1.5	--	--	1.5	--	--	1.1U	1.1U	--
Sodium	NA	N S/G	210000	--	367000	--	126000	--	41600	--	--	79800	--	--	191000	285000	--
Thallium	2	0.5 G	2.2U	--	2.2U	--	2.2U	--	2.2U	--	--	2.2U	--	--	2.2U	2.2U	--
Vanadium	NA	N S/G	1.3U	--	3.4	--	1.3U	--	1.3U	--	--	1.3U	--	--	1.3U	2.4	--
Zinc	NA	2,000 G	36.2J	--	0.70UJ	--	6.4	--	16.2J	--	--	0.70UJ	--	--	1.7U	182J	--
Cyanide (total)	200	200 S	10.0U	--	34.2	--	64.7	--	10.0U	--	--	10.0U	--	--	15.1	122	--

Notes:

[ ] - Exceeds New York State Standard (S) or Guideline (G).
[ ] - Exceeds the USEPA Federal MCLs.
U - Indicates compound was analyzed but not detected at associated detection limit.
J - Indicates an estimated value.
UJ - The analyte was detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.
R - Indicates the value has been rejected.
-- - Parameter was not analyzed.
TCL - Target Compound List.
TAL - Target Analyte List.
(1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
(2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.
(3) - The N.Y. State Standard limits the sum of Iron and Manganese to be 500 ug/L.

TABLE 6.11

SUMMARY OF ANALYTICAL DATA FOR GROUND WATER SAMPLES
ADDITIONAL GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			MW-3		MW-3D-91			MW-4		MW-4D-91		MW-5D-95		MW-5U-95		
Sample Date:			07/10/2001	06/05/2002	07/09/2001	07/09/2001 Duplicate	06/03/2002	07/10/2001	06/05/2002	07/09/2001	06/04/2002	07/05/2001	06/04/2002	07/05/2001	07/05/2001 Duplicate	06/03/2002
Parameter	USEPA Federal MCLs [1]	NY State Groundwater Criteria [2]														
TCL Volatiles (ug/L)																
1,1,1-Trichloroethane	200	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,1-Dichloroethane	7	5 S	1U	1UJ	1U	1U	1U	1U	1UJ	1U	1U	1U	1U	1U	1U	1U
1,2-Dibromo-3-chloropropane (DBCP)	0.2	0.04 S	1UJ	1U	1UJ	1UJ	1U	1UJ	1U	1UJ	1U	1UJ	1U	1UJ	1UJ	1U
1,2-Dichloroethane	5	0.6 S	1U	1U	1U	1U	1U	1U	**1.5**	1U	1U	1U	1U	1U	1U	1U
2-Butanone (Methyl Ethyl Ketone)	NA	50 G	R	5U	R	R	5U	R	5U	R	5U	**10J**	5U	R	R	5U
2-Hexanone	NA	50 G	5UJ	5U	5UJ	5UJ	5U	5UJ	5U	5UJ	5U	5U	5U	5U	5U	5U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	N S/G	**5.4J**	**6.9**	5UJ	5UJ	5U	5UJ	5U	5UJ	5U	5UJ	5U	5UJ	5UJ	5U
Acetone	NA	50 G	R	5UJ	R	R	5U	**16J**	**37J**	R	5U	**9J**	5U	R	R	5U
Benzene	5	1 S	**96**	**110**	1U	1U	1U	**27**	**72**	1U	1U	**0.6J**	1U	1U	1U	1U
Carbon disulfide	NA	60 G	1UJ	1U	1UJ	1UJ	1U	**6.9J**	1U	1UJ	1U	1U	**0.5J**	1U	1U	1U
Chlorobenzene	100	5 S	**84**	**110**	1U	1U	1U	**2.2**	**4.6**	1U	1U	1U	1U	1U	1U	1U
Chloromethane (Methyl Chloride)	NA	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
cis-1,2-Dichloroethene	70	5 S	**0.6J**	**0.6J**	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Ethylbenzene	700	5 S	**23J**	**22**	1UJ	1UJ	1U	1UJ	1U	1UJ	1U	1U	1U	1U	1U	1U
Methyl Tert Butyl Ether	NA	10 G	1UJ	1U	1UJ	1UJ	1U	1UJ	1U	1UJ	1U	**0.6J**	1U	**9**	**9**	**24**
Methylene chloride	5	5 S	1UJ	1U	1UJ	1UJ	1U	1UJ	1U	1UJ	1U	1UJ	1U	1UJ	1UJ	1U
Toluene	1,000	5 S	**1.2**	**1.2**	1U	1U	1U	1U	1U	1U	1U	**12**	1U	**2**	**2**	1U
Vinyl chloride	2	2 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Xylene (total)	10,000	5 S	**15**	**18**	2U	2U	2U	2U	2U	2U	2U	**5**	**1J**	2U	2U	2U
TCL Semi-volatiles (ug/L)																
2-Aminopyridine	NA	1 G	**5J**	**9J**	10U	10U	10UJ	**3J**	10U	10U	10UJ	10U	10U	10U	10U	10UJ
2-Methylphenol	NA	1 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	--
2-Picoline	NA	N S/G	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
4-Chloroaniline	NA	5 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	--
4-Methylphenol	NA	1 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	--
bis(2-Ethylhexyl)phthalate	6	5 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	--
Butyl benzylphthalate	NA	50 G	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	--
Dimethyl phthalate	NA	50 G	10U	--	10U	10U	--	10U	--	1J	--	10U	--	10U	10U	--
Di-n-butylphthalate	NA	50 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	--
Di-n-octyl phthalate	NA	50 G	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	--
Isophorone	NA	50 G	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	--
Naphthalene	NA	10 G	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	--
Phenol	NA	1 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	--
Pyridine	NA	50 G	10U	10U	10U	10U	10UJ	10U	10U	10U	10UJ	10U	10U	10U	10U	10UJ

TABLE 6.11

SUMMARY OF ANALYTICAL DATA FOR GROUND WATER SAMPLES
ADDITIONAL GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			MW-3		MW-3D-91			MW-4		MW-4D-91		MW-5D-95		MW-5U-95		
Sample Date:			07/10/2001	06/05/2002	07/09/2001	07/09/2001 Duplicate	06/03/2002	07/10/2001	06/05/2002	07/09/2001	06/04/2002	07/05/2001	06/04/2002	07/05/2001	07/05/2001 Duplicate	06/03/2002
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)														
TAL Inorganics (ug/L)																
Aluminum	NA	NS/G	61.1	--	24.0	27.2	--	898	--	70.0U	--	77.2U	--	17.3U	111U	--
Antimony	6	3 S	4.4U	--	4.4U	4.4U	--	4.4U	--	4.4U	--	4.4U	--	4.4U	4.4U	--
Arsenic	10	25 S	2.7UJ	--	2.7UJ	2.7UJ	--	4.5J	--	5.3	--	2.7U	--	2.7U	2.7U	--
Barium	2,000	1,000 S	3.7U	--	26.2	26.6	--	48.6	--	12.1	--	146	--	3.7U	3.7U	--
Beryllium	4	3 G	0.10U	--	0.10U	0.10U	--	0.10U	--	0.26U	--	0.12U	--	0.10U	0.10U	--
Cadmium	5	5 S	0.20U	--	0.20U	0.20U	--	0.32	--	0.46U	--	0.20U	--	0.20U	0.20U	--
Calcium	NA	NS/G	2790	2930	36500	37800	44500	9880	24200	29800	30700	71900	128000	10700	10700	10500
Chromium Total	100	50 S	0.70U	--	1.4	1.2	--	2.7	--	0.70U	--	1.3	--	0.70U	0.70U	--
Cobalt	NA	NS/G	1.8U	--	1.8U	1.8U	--	3.6	--	1.8U	--	1.9	--	1.8U	1.8U	--
Copper	1,300	200 S	1.3UJ	--	1.3UJ	1.3UJ	--	1.3UJ	--	1.3U	--	1.8	--	1.3U	1.3U	--
Iron	NA	300 S (3)	193	366J	103	102	146	6220	11500J	276	264	160	261	14.0U	25.4U	240
Lead	15	25 S	0.60UJ	--	0.60UJ	0.60UJ	--	109J	--	0.60U	--	0.60U	--	0.60U	0.60U	--
Magnesium	NA	35,000 G	468	501	7190	7360	8190	2870	5920	6420	6410	28800	50600	1840	1850	1840
Manganese	NA	300 S (3)	96.5	--	40.4	38.5	--	3080J	--	3560	--	97.0	--	132	148	--
Manganese (Dissolved)	NA	300 S (3)	98.7J	121	15.6J	14.9J	44.0	4260J	5910	3780	3290	107	127	144	139	165
Mercury	2	0.7 S	0.10U	--	0.10U	0.10U	--	0.10U	--	0.10U	--	0.10U	--	0.10U	0.10U	--
Nickel	NA	100 S	2.7	--	3.0	3.2	--	7.8	--	1.9U	--	11.6	--	1.9U	1.9U	--
Potassium	NA	NS/G	63700	--	679	676	--	6720	--	968	--	1310	--	760	778	--
Selenium	50	10 S	R	--	R	R	--	R	--	R	--	R	--	R	R	--
Silver	NA	50 S	1.1U	--	1.1U	1.1U	--	1.1U	--	1.1U	--	1.1U	--	1.1U	1.1U	--
Sodium	NA	NS/G	171000	--	16900	17200	--	103000	--	25700	--	107000	--	43700	44000	--
Thallium	2	0.5 G	2.2U	--	2.2U	2.2U	--	2.2U	--	2.2U	--	2.2U	--	2.2U	2.2U	--
Vanadium	NA	NS/G	1.3U	--	1.3U	1.3U	--	2.8	--	1.3U	--	1.3U	--	1.3U	1.3U	--
Zinc	NA	2,000 G	4.9J	--	10.4J	11.3J	--	12.3J	--	2.4U	--	141	--	1.5U	1.4U	--
Cyanide (total)	200	200 S	10.0U	--	10.0U	10.0U	--	166	--	10.0U	--	10.7	--	10.0U	10.0U	--

Notes:

[ ] - Exceeds New York State Standard (S) or Guideline (G).
[ ] - Exceeds the USEPA Federal MCLs.
U - Indicates compound was analyzed but not detected at associated detection limit.
J - Indicates an estimated value.
UJ - The analyte was detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.
R - Indicates the value has been rejected.
-- - Parameter was not analyzed.
TCL - Target Compound List.
TAL - Target Analyte List.
(1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
(2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.
(3) - The N.Y. State Standard limits the sum of Iron and Manganese to be 500 ug/L.

TABLE 6.11

SUMMARY OF ANALYTICAL DATA FOR GROUND WATER SAMPLES
ADDITIONAL GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			MW-6D-95		MW-7			MW-8U-95		MW-9D-01		MW-9U-01		MW-10D-01	MW-10U-01	MW-11D-01	MW-1
Sample Date:			07/09/2001	06/03/2002	07/10/2001	07/10/2001 Duplicate	06/04/2002	07/05/2001	06/03/2002	07/07/2001	06/05/2002	07/07/2001	06/05/2002	07/06/2001	07/06/2001	07/06/2001	07/06/2001
Parameter	USEPA Federal MCLs [1]	NY State Groundwater Criteria [2]															
TCL Volatiles (ug/L)																	
1,1,1-Trichloroethane	200	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,1-Dichloroethane	7	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1UJ	1U	1UJ	1U	1U	1U	1U
1,2-Dibromo-3-chloropropane (DBCP)	0.2	0.04 S	1UJ	1U	1UJ	1UJ	1U	1UJ	1U	1UJ	1U	1UJ	1	1UJ	1UJ	1UJ	1UJ
1,2-Dichloroethane	5	0.6 S	1U	1U	1U	1U	4.3	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
2-Butanone (Methyl Ethyl Ketone)	NA	50 G	R	5U	R	R	5U	R	5U	R	5U	R	5U	R	R	R	R
2-Hexanone	NA	50 G	5UJ	5U	5U	5U	5U	5U	5U	5UJ	5U	5U	5U	5U	5U	5U	5U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	N S/G	5UJ	5U	7.0J	7.0J	15	5UJ	5U	5UJ	5U	5UJ	5U	5UJ	5UJ	5UJ	5UJ
Acetone	NA	50 G	22J	5U	R	R	5U	R	5U	R	5UJ	R	5UJ	R	R	R	R
Benzene	5	1 S	1U	1U	1100	940	790	1	40	0.7J	1U	1U	1U	1U	1U	1U	1U
Carbon disulfide	NA	60 G	1UJ	1U	1U	1U	1U	1U	1U	1UJ	1U	1U	1U	1U	1U	1U	1U
Chlorobenzene	100	5 S	1U	1U	23	23	14	1U	1	1U	1U	1U	1U	1U	1U	1U	1U
Chloromethane (Methyl Chloride)	NA	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
cis-1,2-Dichloroethene	70	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Ethylbenzene	700	5 S	1UJ	1U	150	130	70	1U	0.7J	1UJ	1U	1U	1U	1U	1U	1U	1U
Methyl Tert Butyl Ether	NA	10 G	1UJ	1U	1U	1U	1U	1U	1U	1UJ	1.5	1U	250	1U	1U	1U	1U
Methylene chloride	5	5 S	1UJ	1U	1UJ	1UJ	1U	1UJ	1U	1UJ	1U	1UJ	1U	1UJ	1UJ	1UJ	1UJ
Toluene	1,000	5 S	1U	1U	23	23	19	0.6J	1U	1.5	1U	1U	1U	1U	1U	1U	1U
Vinyl chloride	2	2 S	1U	1U	1.2	1.2	0.8J	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Xylene (total)	10,000	5 S	2U	2U	520	450	210	2U	1J	2U	2U	2U	2U	2U	2U	2U	2U
TCL Semi-volatiles (ug/L)																	
2-Aminopyridine	NA	1 G	10U	10UJ	94	130	300	2J	10UJ	10U	-	10U	-	10U	10U	10U	10U
2-Methylphenol	NA	1 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	10U	10U
2-Picoline	NA	N S/G	10U	10U	14	14	28	10U	10U	10U	-	10U	-	10U	10U	10U	10U
4-Chloroaniline	NA	5 S	10U	--	25	25	--	10U	--	10U	--	10U	--	10U	10U	10U	10U
4-Methylphenol	NA	1 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	10U	10U
bis(2-Ethylhexyl)phthalate	6	5 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	10U	5J
Butyl benzylphthalate	NA	50 G	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	10U	1J
Dimethyl phthalate	NA	50 G	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	6J	10U
Di-n-butylphthalate	NA	50 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	10U	10U
Di-n-octyl phthalate	NA	50 G	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	10U	10U
Isophorone	NA	50 G	10U	--	10U	1J	--	10U	--	10U	--	10U	--	10U	10U	10U	10U
Naphthalene	NA	10 G	10U	--	10U	4J	--	10U	--	10U	--	10U	--	10U	10U	10U	10U
Phenol	NA	1 S	10U	--	10U	10U	--	10U	--	10U	--	10U	--	10U	10U	10U	10U
Pyridine	NA	50 G	10U	10UJ	8J	8J	15J	10U	10UJ	10U	-	10U	-	10U	10U	10U	10U

TABLE 6.11

SUMMARY OF ANALYTICAL DATA FOR GROUND WATER SAMPLES
ADDITIONAL GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			MW-6D-95		MW-7			MW-8LI-95		MW-9D-01		MW-9LI-01		MW-10D-01	MW-10LI-01	MW-11D-01	MW-1
Sample Date:			07/09/2001	06/03/2002	07/10/2001	07/10/2001 Duplicate	06/04/2002	07/05/2001	06/03/2002	07/07/2001	06/05/2002	07/07/2001	06/05/2002	07/06/2001	07/06/2001	07/06/2001	07/06/2001
Parameter	USEPA Federal MCLs (1)	NY State Groundwater Criteria (2)															
TAL Inorganics (ug/L)																	
Aluminum	NA	N S/G	311	--	178	181	--	61.0U	--	23.2	--	11.7U	--	85.6U	189	105U	110U
Antimony	6	3 S	4.4U	--	4.4U	4.4U	--	4.4U	--	14.4	--	4.4U	--	4.4U	4.4U	4.4U	4.4U
Arsenic	10	25 S	2.7UJ	--	32.7J	32.5J	--	2.7U	--	2.7UJ	--	2.7UJ	--	2.7U	2.7U	2.7U	2.7U
Barium	2,000	1,000 S	126	--	16.7	16.2	--	23.2	--	167	--	20.4	--	286	7.7	64.8	7.6
Beryllium	4	3 G	0.10U	--	0.10U	0.10U	--	0.10U	--	0.10U	--	0.10U	--	0.10U	0.10U	0.10U	0.10U
Cadmium	5	5 S	0.20U	--	0.20U	0.20U	--	0.28U	--	0.20U	--	0.20U	--	0.25U	0.20U	0.20U	0.22U
Calcium	NA	N S/G	64300	4980	19500	18500	46000	21700	17300	61900	-	52100	-	80400	11400	38600	33000
Chromium Total	100	50 S	34.3	--	0.88	0.83	--	0.70U	--	4.0	--	0.70U	--	2.6	0.70U	1.4	0.94
Cobalt	NA	N S/G	1.8U	--	4.9	4.7	--	1.8U	--	1.8U	--	1.8U	--	1.8U	1.8U	1.8U	1.8U
Copper	1,300	200 S	1.3UJ	--	19.2J	18.7J	--	2.6	--	1.3UJ	--	1.3UJ	--	3.1	2.5	3.2	2.1
Iron	NA	300 S (3)	63.9	129	1000	972	726	345	553	160	-	15.8	-	322	132	142	77.2U
Lead	15	25 S	0.60UJ	--	10J	9.6J	--	0.60U	--	0.60UJ	--	0.60UJ	--	2.0	0.60U	0.60U	0.60U
Magnesium	NA	35,000 G	17.2	117	1540	1470	4460	5190	3010	15400	-	10400	-	31100	1340	8860	4000
Manganese	NA	300 S (3)	0.50U	--	1400	1340	--	817	--	222	--	224	--	131	442	51.5	89.9
Manganese (Dissolved)	NA	300 S (3)	0.61UJ	2.6U	1390J	1280J	7710	955	395	--	-	--	-	--	--	--	--
Mercury	2	0.7 S	0.10U	--	0.10U	0.10U	--	0.10U	--	0.10U	--	0.10U	--	0.10U	0.10U	0.10U	0.10U
Nickel	NA	100 S	3.0	--	15.9	14.7	--	2.8	--	2.7	--	1.9	--	3.3	1.9U	6.4	1.9U
Potassium	NA	N S/G	29200	--	6680	6400	--	18800	--	1660	--	8310	--	1580	1050	691	1080
Selenium	50	10 S	R	--	R	R	--	R	--	R	--	R	--	R	R	R	R
Silver	NA	50 S	1.1U	--	1.1U	1.1U	--	1.1U	--	1.1U	--	1.1U	--	1.1U	1.1U	1.1U	1.1U
Sodium	NA	N S/G	103000	--	353000	341000	--	18800	--	47800	--	52100	--	48700	73800	6190	7250
Thallium	2	0.5 G	2.2U	--	2.2U	2.2U	--	2.2U	--	2.2U	--	2.2U	--	2.2U	2.2U	2.2U	2.2U
Vanadium	NA	N S/G	2.8	--	4.5	4.1	--	1.3U	--	1.3U	--	1.3U	--	1.3U	1.3U	1.3U	1.3U
Zinc	NA	2,000 G	6.7J	--	22.3J	25.5J	--	3.5U	--	0.70UJ	--	0.70UJ	--	2.5U	1.7U	2.4U	6.2U
Cyanide (total)	200	200 S	10.0U	--	91.4J	39.3J	--	10.0U	--	10.0U	--	10.0U	--	10.0U	79.3	10.0U	10.0U

Notes:

[ ] - Exceeds New York State Standard (S) or Guideline (G).
 - Exceeds the USEPA Federal MCLs.
U - Indicates compound was analyzed but not detected at associated detection limit.
J - Indicates an estimated value.
UJ - The analyte was detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.
R - Indicates the value has been rejected.
-- - Parameter was not analyzed.
TCL - Target Compound List.
TAL - Target Analyte List.
(1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
(2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.
(3) - The N.Y. State Standard limits the sum of Iron and Manganese to be 500 ug/L.

TABLE 6.11

SUMMARY OF ANALYTICAL DATA FOR GROUND WATER SAMPLES
ADDITIONAL GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			1U-01	MW-12D-01	MW-13D-01	SW-2		SW-3	SW-4		SW-6	SW-7		SW-8	SW-9	
Sample Date:			07/06/2001 Duplicate	07/06/2001	07/06/2001	07/10/2001	06/06/2002	07/06/2001	07/10/2001	06/04/2002	06/05/2002	07/09/2001	06/04/2002	07/06/2001	07/09/2001	06/04/2002
Parameter	USEPA Federal MCLs [1]	NY State Groundwater Criteria [2]														
TCL Volatiles (ug/L)																
1,1,1-Trichloroethane	200	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
1,1-Dichloroethane	7	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1UJ	1U	1U	1U	1U	1U
1,2-Dibromo-3-chloropropane (DBCP)	0.2	0.04 S	1UJ	1UJ	1UJ	1UJ	1U	1UJ	1UJ	1U	1U	1UJ	1U	1UJ	1UJ	1U
1,2-Dichloroethane	5	0.6 S	1U	1U	1U	1U	1.6	1U	1U	1U	1U	1U	1U	1U	1U	1U
2-Butanone (Methyl Ethyl Ketone)	NA	50 G	R	R	R	R	5U	R	R	5U	5U	R	5U	R	R	5U
2-Hexanone	NA	50 G	5U	5U	5U	5UJ	5U	5U	5UJ	5U	5U	5UJ	5U	5U	5U	5U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	N S/G	5UJ	5UJ	5UJ	5UJ	5U	5UJ	6.7J	5U	5U	5UJ	5U	5UJ	5UJ	5U
Acetone	NA	50 G	R	R	R	R	5UJ	R	R	5U	5UJ	R	5U	R	R	5U
Benzene	5	1 S	1U	1U	1U	55	55	18	37	2.8	25	1U	1U	63	1.5	1U
Carbon disulfide	NA	60 G	1U	1U	1U	1UJ	1U	1U	1UJ	1U	1U	1UJ	1U	1U	1U	1U
Chlorobenzene	100	5 S	1U	1U	1U	14	8.6	2	1U	1U	1.4	1U	1U	1U	1U	1U
Chloromethane (Methyl Chloride)	NA	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
cis-1,2-Dichloroethene	70	5 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Ethylbenzene	700	5 S	1U	1U	1U	1.1J	0.7J	1U	25	1.4	1U	1UJ	1U	1U	1U	1U
Methyl Tert Butyl Ether	NA	10 G	1U	1U	1U	1UJ	1U	1U	1UJ	1U	1U	1UJ	1U	1U	1U	1U
Methylene chloride	5	5 S	1UJ	1UJ	1UJ	1UJ	1U	1UJ	1UJ	1U	1U	1UJ	1U	1UJ	1UJ	1U
Toluene	1,000	5 S	1U	1U	1	0.5J	0.7J	1	3.7	1U	1U	1U	1U	1U	1U	1U
Vinyl chloride	2	2 S	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U	1U
Xylene (total)	10,000	5 S	2U	2U	2U	1J	1J	2U	45	3.2	2U	2U	2U	2U	2U	2U
TCL Semi-volatiles (ug/L)																
2-Aminopyridine	NA	1 G	10U	10U	10U	8J	42	1J	41	5J	3J	10U	10UJ	26	10U	10UJ
2-Methylphenol	NA	1 S	10U	10U	10U	10U	--	10U	10U	--	--	10U	--	10U	10U	--
2-Picoline	NA	N S/G	10U	10U	10U	10U	10U	10U	5J	10U	10U	10U	10U	10U	10U	10U
4-Chloroaniline	NA	5 S	10U	10U	10U	10U	--	10U	10U	--	--	10U	--	10U	10U	--
4-Methylphenol	NA	1 S	10U	10U	10U	3J	--	10U	10U	--	--	10U	--	10U	10U	--
bis(2-Ethylhexyl)phthalate	6	5 S	10U	10U	10U	10U	--	4J	10U	--	--	10U	--	10U	10U	--
Butyl benzylphthalate	NA	50 G	10U	10U	10U	10U	--	10U	10U	--	--	10U	--	10U	10U	--
Dimethyl phthalate	NA	50 G	10U	1J	10U	10U	--	10U	10U	--	--	10U	--	10U	10U	--
Di-n-butylphthalate	NA	50 S	10U	10U	10U	10U	--	10U	10U	--	--	10U	--	10U	10U	--
Di-n-octyl phthalate	NA	50 G	10U	10U	10U	10U	--	10U	10U	--	--	10U	--	10U	10U	--
Isophorone	NA	50 G	10U	10U	10U	10U	--	10U	10U	--	--	10U	--	10U	10U	--
Naphthalene	NA	10 G	10U	10U	10U	10U	--	10U	10U	--	--	10U	--	10U	10U	--
Phenol	NA	1 S	10U	10U	10U	10U	--	10U	10U	--	--	10U	--	10U	10U	--
Pyridine	NA	50 G	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ	10U	10U	10UJ

TABLE 6.11

SUMMARY OF ANALYTICAL DATA FOR GROUND WATER SAMPLES
ADDITIONAL GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			1U-01	MW-12D-01	MW-13D-01	SW-2		SW-3	SW-4		SW-6	SW-7		SW-8	SW-9	
Sample Date:			07/06/2001	07/06/2001	07/06/2001	07/10/2001	06/06/2002	07/06/2001	07/10/2001	06/04/2002	06/05/2002	07/09/2001	06/04/2002	07/06/2001	07/09/2001	06/04/2002
			Duplicate													
Parameter	USEPA Federal MCLs [1]	NY State Groundwater Criteria [2]														
TAL Inorganics (ug/L)																
Aluminum	NA	N S/G	183	74.1U	90.4U	41.3	--	27.0U	190	--	--	11.7U	--	34.0U	11.7U	--
Antimony	6	3 S	4.4U	4.4U	4.4U	4.4U	--	4.4U	4.4U	--	--	4.4U	--	4.4U	4.4U	--
Arsenic	10	25 S	2.7U	2.7U	2.7U	2.8J	--	2.7U	15.1J	--	--	2.7UJ	--	3.8	2.7UJ	--
Barium	2,000	1,000 S	8.7	22.3	6.1	25.0	--	35.8	7.8	--	--	7.3	--	7.3	30.1	--
Beryllium	4	3 G	0.10U	0.10U	0.10U	0.10U	--	0.10U	0.10U	--	--	0.10U	--	0.10U	0.25	--
Cadmium	5	5 S	0.20U	0.20U	0.20U	0.20U	--	0.46U	0.20U	--	--	0.20U	--	0.20U	0.56	--
Calcium	NA	N S/G	33100	35600	28400	6780	16700	30100	8810	12900	58200	28300	33200	6770	11400	25300
Chromium Total	100	50 S	1.8	0.70U	1.2	0.70U	--	0.83	0.70U	--	--	0.70U	--	0.77	0.99	--
Cobalt	NA	N S/G	1.8U	1.8U	1.8U	1.8U	--	3.1	2.5	--	--	1.8U	--	1.8U	2.7	--
Copper	1,300	200 S	3.0	2.1	1.9	1.3UJ	--	2.0	1.3UJ	--	--	1.3UJ	--	3.6	1.3UJ	--
Iron	NA	300 S [3]	234	94.3	118	624	566J	1180	382	158	11600J	55.0	24.2	48.1U	48.3	12.4U
Lead	15	25 S	0.60U	0.60U	0.60U	0.60UJ	--	2.3	2.2J	--	--	0.60UJ	--	0.60U	0.60UJ	--
Magnesium	NA	35,000 G	4020	7040	3280	1770	3750	5060	1150	1620	9610	6320	6750	1440	1610	3080
Manganese	NA	300 S [3]	136	31.6	21.9	890	--	5540	495J	--	--	3680	--	1640	6620	--
Manganese (Dissolved)	NA	300 S [3]	--	--	--	877J	1570	--	674J	415	22900	3740J	3270	--	6780J	2830
Mercury	2	0.7 S	0.10U	0.10U	0.10U	0.10U	--	0.10U	0.10U	--	--	0.10U	--	0.10U	0.10U	--
Nickel	NA	100 S	1.9U	1.9U	3.1	1.9U	--	2.1	4.2	--	--	1.9U	--	4.5	11.4	--
Potassium	NA	N S/G	1050	1110	560	12900	--	5510	10700	--	--	880	--	1880	4320	--
Selenium	50	10 S	R	R	R	R	--	R	R	--	--	R	--	R	R	--
Silver	NA	50 S	1.1U	1.1U	1.1U	1.1U	--	1.1	1.1U	--	--	1.1U	--	1.1U	1.1	--
Sodium	NA	N S/G	7180	5390	3060	208000	--	25500	360000	--	--	23400	--	110000	68300	--
Thallium	2	0.5 G	2.2U	2.2U	2.2U	2.2U	--	2.2U	2.2U	--	--	2.2U	--	2.2U	2.2U	--
Vanadium	NA	N S/G	1.3U	1.3U	1.3U	1.3U	--	1.3U	1.7	--	--	1.3U	--	1.3U	1.3U	--
Zinc	NA	2,000 G	9.9U	2.2U	7.5U	39.7J	--	3.4U	5.2J	--	--	114J	--	2.7U	82.8J	--
Cyanide (total)	200	200 S	10.0U	10.0U	10.0U	10.0U	--	10.0U	132	--	--	10.0U	--	10.0U	10.0U	--

Notes:

[ ] - Exceeds New York State Standard (S) or Guideline (G).
[ ] - Exceeds the USEPA Federal MCLs.
U - Indicates compound was analyzed but not detected at associated detection limit.
J - Indicates an estimated value.
UJ - The analyte was detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.
R - Indicates the value has been rejected.
-- - Parameter was not analyzed.
TCL - Target Compound List.
TAL - Target Analyte List.
(1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
(2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.
(3) - The N.Y. State Standard limits the sum of Iron and Manganese to be 500 ug/L.

TABLE 6.11

SUMMARY OF ANALYTICAL DATA FOR GROUND WATER SAMPLES
ADDITIONAL GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			SW-10	T-2		T-3	
Sample Date:			06/04/2002	07/05/2001	06/05/2002	07/05/2001	06/05/2002
Parameter	USEPA Federal MCLs [1]	NY State Groundwater Criteria [2]					
TCL Volatiles (ug/L)							
1,1,1-Trichloroethane	200	5 S	1U	1U	1U	1U	1U
1,1-Dichloroethane	7	5 S	1U	1U	1UJ	1U	1UJ
1,2-Dibromo-3-chloropropane (DBCP)	0.2	0.04 S	1U	1UJ	1U	1UJ	1U
1,2-Dichloroethane	5	0.6 S	1U	1U	1U	1U	1U
2-Butanone (Methyl Ethyl Ketone)	NA	50 G	5U	R	5U	R	5U
2-Hexanone	NA	50 G	5U	5U	5U	5U	5U
4-Methyl-2-Pentanone (Methyl Isobutyl Ketone)	NA	N S/G	5U	5UJ	5U	5UJ	5U
Acetone	NA	50 G	5U	R	5UJ	R	5UJ
Benzene	5	1 S	1U	1U	1U	1U	1U
Carbon disulfide	NA	60 G	1U	1U	1U	1U	1U
Chlorobenzene	100	5 S	1U	1U	1U	1U	1U
Chloromethane (Methyl Chloride)	NA	5 S	1U	1U	1U	1U	1U
cis-1,2-Dichloroethene	70	5 S	1U	1U	1U	1U	1U
Ethylbenzene	700	5 S	1U	1U	1U	1U	1U
Methyl Tert Butyl Ether	NA	10 G	1U	1U	1U	1U	1U
Methylene chloride	5	5 S	1U	1UJ	1U	1UJ	1U
Toluene	1,000	5 S	1.5U	1	1U	1U	1U
Vinyl chloride	2	2 S	1U	1U	1U	1U	1U
Xylene (total)	10,000	5 S	2	2U	2U	2U	2U
TCL Semi-volatiles (ug/L)							
2-Aminopyridine	NA	1 G	10U	10U	10U	10U	10U
2-Methylphenol	NA	1 S	--	10U	--	10U	--
2-Picoline	NA	N S/G	10U	10U	10U	10U	10U
4-Chloroaniline	NA	5 S	--	10U	--	10U	--
4-Methylphenol	NA	1 S	--	10U	--	10U	--
bis(2-Ethylhexyl)phthalate	6	5 S	--	10U	--	10U	--
Butyl benzylphthalate	NA	50 G	--	10U	--	10U	--
Dimethyl phthalate	NA	50 G	--	10U	--	10U	--
Di-n-butylphthalate	NA	50 S	--	10U	--	10U	--
Di-n-octyl phthalate	NA	50 G	--	10U	--	10U	--
Isophorone	NA	50 G	--	10U	--	10U	--
Naphthalene	NA	10 G	--	10U	--	10U	--
Phenol	NA	1 S	--	10U	--	10U	--
Pyridine	NA	50 G	10U	10U	10U	10U	10U

TABLE 6.11

SUMMARY OF ANALYTICAL DATA FOR GROUND WATER SAMPLES
ADDITIONAL GROUNDWATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:			SW-10	T-2		T-3	
Sample Date:			06/04/2002	07/05/2001	06/05/2002	07/05/2001	06/05/2002
Parameter	USEPA Federal MCLs [1]	NY State Groundwater Criteria [2]					
TAL Inorganics (ug/L)							
Aluminum	NA	N S/G	--	45.9U	--	56.6U	--
Antimony	6	3 S	--	4.4U	--	4.4U	--
Arsenic	10	25 S	--	2.7U	--	2.7U	--
Barium	2,000	1,000 S	--	4.1	--	5.9	--
Beryllium	4	3 G	--	0.10U	--	0.10U	--
Cadmium	5	5 S	--	0.20U	--	0.22U	--
Calcium	NA	N S/G	19300	15900	27500	55300	60900
Chromium Total	100	50 S	--	0.70U	--	0.70U	--
Cobalt	NA	N S/G	--	1.8U	--	1.8U	--
Copper	1,300	200 S	--	2.2	--	1.5	--
Iron	NA	300 S [3]	130	192	40.4J	2110	1130J
Lead	15	25 S	--	0.60U	--	0.60U	--
Magnesium	NA	35,000 G	3810	3340	4870	9030	9560
Manganese	NA	300 S [3]	--	933J	--	99.9	--
Manganese (Dissolved)	NA	300 S [3]	917	1300J	4560	66.7	40.3
Mercury	2	0.7 S	--	0.10U	--	0.10U	--
Nickel	NA	100 S	--	2.5	--	1.9U	--
Potassium	NA	N S/G	--	2200	--	1040	--
Selenium	50	10 S	--	R	--	R	--
Silver	NA	50 S	--	1.1U	--	1.1U	--
Sodium	NA	N S/G	--	47900	--	42800	--
Thallium	2	0.5 G	--	2.2U	--	2.2U	--
Vanadium	NA	N S/G	--	1.3U	--	1.3U	--
Zinc	NA	2,000 G	--	4.7U	--	8.6	--
Cyanide (total)	200	200 S	--	14.7	--	10.0U	--

Notes:

[ ] - Exceeds New York State Standard (S) or Guideline (G).
[ ] - Exceeds the USEPA Federal MCLs.
U - Indicates compound was analyzed but not detected at associated detection limit.
J - Indicates an estimated value.
UJ - The analyte was detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.
R - Indicates the value has been rejected.
-- - Parameter was not analyzed.
TCL - Target Compound List.
TAL - Target Analyte List.
(1) - Maximum Contaminant Level (MCL) allowed in drinking water as defined by the USEPA.
(2) - per " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.
(3) - The N.Y. State Standard limits the sum of Iron and Manganese to be 500 ug/L.

TABLE 6.12

SUMMARY OF ANALYTICAL DATA FOR SURFACE WATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		W-1	W-2	W-3	W-4	3			4			6		7	
Sample Date:		12/1985	12/1985	12/1985	12/1985	08/14/1991	08/20/1991	08/20/1991	08/14/1991	08/20/1991	08/20/1991	08/13/1991	08/20/1991	08/13/1991	08/20/1991
Flow Conditions:						Low	High	High Duplicate	Low	High	High Duplicate	Low	High	Low	High
Parameter	*NY State Criteria* [1]														
TCL Volatiles (ug/L)															
Acetone	N S/G	U	U	U	U	10U	10U	16	10U	3J	10U	5U	3J	10U	3J
Methylene chloride	200 S	U	U	U	U	5U	5U	5U	4J	5U	5U	4J	5U	3J	5U
Toluene	480 G	U	U	U	U	1J	5UJ	12J	1J	1J	1J	5U	5U	5U	1J
TCL Semi-Volatiles (ug/L)															
bis(2-Ethylhexyl)phthalate	0.6 S	--	--	--	--	14U	250	180	19U	120U	87U	18U	250	39U	320
Di-n-octyl phthalate	N S/G	--	--	--	--	11U	81	54	11U	11U	11U	10U	82	11U	110
Pyridine	N S/G	1400	2000	1800	1700	11U	11U	10U	11U	11U	11U	10U	12U	11U	11U
TAL Inorganics (ug/L)															
Aluminum	100 S	--	--	--	--	62.4	504J	677J	145	618	629	134	296	65.3	600
Antimony	N S/G	U	U	U	U	30U	40.4	30.3U	30.3U	30.3U	30.3U	30.3U	30.3U	30.3U	30.3U
Arsenic	340 S	0.001U	0.001U	0.001U	0.001U	2.5UJ	2.5U	4.3	3.3	2.5U	2.5U	2.5U	3.7	2.5U	3.8
Barium	N S/G	0.05U	0.05U	0.05U	0.05U	22.3	24.5	25.6	22.0	26	26.2	10.0	14.8	10.9	24.8
Beryllium	1,100 S	0.003U	0.003U	0.003U	0.013	1.0	0.70J	1.0J	1.1	0.90	0.90	0.60	0.70	0.90	0.80
Cadmium	5.68 S	0.003U	0.003U	0.005	0.003U	5U	5U	5U	5U	5U	5U	5U	5U	5U	5U
Calcium	N S/G	--	--	--	--	58,900	41,700	43,000	59,600	43,300	42,200	44,900	34,100	46,700	41,700
Chromium Total	0.44 S	0.01U	0.01U	0.01U	0.01U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Copper	18.6 S	0.01U	0.01U	0.01U	0.01U	23.2	9.9	6.4	10.7	8.9	9.1	13.8	8.6	9.5	8.3
Iron	300 S	--	--	--	--	349	904	996	365	1,140	1,050	237	564	152	871
Lead	141 S	0.025U	0.025U	0.025U	0.025U	2.9	1.5	1.1U	1.1U	1.1U	1.1U	1.3	1.1U	2.2	1.1U
Magnesium	N S/G	--	--	--	--	8,020	6,280	6,450	8,140	6,470	6,320	7,850	7,210	7,720	6,740
Manganese	N S/G	--	--	--	--	270	221	226	364	273	265	56.4	133	65.9	291
Mercury	0.0026 S	0.0005U	0.001	0.0005U	0.0005U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U	0.2U
Nickel	628 S	0.02U	0.02U	0.02U	0.02U	14.7U	14.7U	14.7U	14.7U	14.7U	14.7U	14.7U	14.7U	14.8	14.7U
Potassium	N S/G	--	--	--	--	1,940	3,220	3,310	2,080	3,360	3,270	3,060	3,850	2,800	3,630
Selenium	4.6 S	0.013	0.011	0.012	0.003	0.2UJ	0.2UJ	0.2UJ	0.2UJ	0.2UJ	0.2UJ	0.2UJ	0.2UJ	0.2U	0.2U
Silver	7.37 S	0.006U	0.013	0.006U	0.006U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Sodium	N S/G	7.8	11.67	5.73	28.1	15,900	7,820	7,950	15,700	7,900	7,680	33,400	22,400	29,300	11,300
Thallium	8 S	U	U	U	U	1.5UJ	1.5	1.8	1.5U	1.5U	1.5U	1.5UJ	1.5U	1.5UJ	1.5U
Vanadium	14 S	--	--	--	--	5.7U	5.7U	5.7U	5.7U	5.7U	5.7U	5.7U	5.7U	5.7U	5.7U
Zinc	157 S	0.074	0.102	0.074	0.11	11.0	3.3U	3.3U	50.6	7.4U	4.7	42.8	3.3U	10.5	5.8
Cyanide (total)	22 S	U	U	U	U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Wet Chemistry															
Chloride (mg/L)	N S/G	18	24	14	16	--	--	--	--	--	--	--	--	--	--

Notes:

- [ ] - Exceeds New York State Standard (S) or Guideline (G).
U - Indicates compound was analyzed but not detected at associated detection limit.
J - Indicates an estimated value.
UJ - The analyte was detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.
R - Indicates the value has been rejected.
-- - Parameter was not analyzed.
TCL - Target Compound List.
TAL - Target Analyte List.
(1) - " New York State Ambient Water Quality Standards and Guidance Values", Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.

TABLE 6.12

SUMMARY OF ANALYTICAL DATA FOR SURFACE WATER SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		SWII-2			SWII-4				SWII-7			SWII-9				
Sample Date:		06/05/1995	06/14/1995	06/19/1995	06/05/1995	06/14/1995	06/14/1995	06/19/1995	06/05/1995	06/14/1995	06/19/1995	06/05/1995	06/05/1995	06/14/1995	06/19/1995	06/19/1995
Flow Conditions:		Low	Medium	High	Low	Medium	Medium Duplicate	High	Low	Medium	High	Low	Low Duplicate	Medium	High	High Duplicate
Parameter	*NY State Criteria* [1]															
TCL Volatiles (ug/L)																
Acetone	N S/G	10U	10UJ	5J	10U	10UJ	10UJ	10U	10U	10UJ	10U	10U	10U	10UJ	10U	10U
Methylene chloride	200 S	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Toluene	480 G	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TCL Semi-Volatiles (ug/L)																
bis(2-Ethylhexyl)phthalate	0.6 S	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
Di-n-octyl phthalate	N S/G	10U	10U	10U	10U	10U	10U	10U	10U	10U	10UJ	10U	10U	10U	10U	10U
Pyridine	N S/G	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U	10U
TAL Inorganics (ug/L)																
Aluminum	100 S	263U	479U	566	78.4U	130U	149U	226U	65.4	66.4U	76.8U	28.3U	43.4U	24.6U	349J	221UJ
Antimony	N S/G	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U
Arsenic	340 S	2.6	1.4U	1.4U	3.2	1.7	1.5	1.4U	2.2	1.7	1.4U	1.4U	2.1	1.4U	1.4U	1.4U
Barium	N S/G	18.3	18.4	20.6	13.4	13.7	14.0	17.1	7.8	9.5	7.9	6.5	6.5	7.9	10.6	7.9
Beryllium	1,100 S	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	0.3U	1.2U	0.5U	0.3U	0.3U	0.3U	0.3U	0.3U
Cadmium	5.68 S	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	0.4U	1U	0.43U	0.4U	0.4U	0.4U	0.4U	0.4U
Calcium	N S/G	27700J	26000	26900	54300J	55300	57200	45400	41500J	46800	43500	52600J	52400J	53000	42600	41600
Chromium Total	0.44 S	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U	0.70	0.6U	0.6U	0.6U	0.6U	0.6U	0.6U
Copper	18.6 S	6U	1.2U	3.3	9.7	1.2U	1.2U	1.2U	1.2U	1.2U	1.2U	1.9U	2U	1.2U	2.1	1.7
Iron	300 S	2260	1920	1800	836	812	847	926	375	318	246	883	934	720	1050	904
Lead	141 S	2.8U	3.2U	4.3U	0.83U	0.7U	1.1U	0.7U	0.7U	0.89U	0.7U	0.7U	0.7U	0.77U	0.77U	0.7U
Magnesium	N S/G	3500J	3330	3560	8630J	8740	9030	7590	8110J	8910	8140	8520J	8450J	8460	7690	7550
Manganese	N S/G	120J	102	95.9	499J	290	301	607	157J	108	117	565J	578J	50.8	373	318
Mercury	0.0026 S	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U	0.1U
Nickel	628 S	1.5U	1.6	1.5U	1.5U	1.5U	1.5U	1.5U	1.5U	1.5	1.5U	1.5U	1.5U	1.5U	1.5U	1.5U
Potassium	N S/G	501	388	462	300	583	600	779	392	744J	443	94.6	104	257	1170	1130
Selenium	4.6 S	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U	1.9U
Silver	7.37 S	0.9U	0.9U	0.9U	0.9U	0.9U	0.9U	0.9U	0.9U	0.9U	0.9U	0.9U	0.9U	0.9U	0.9U	0.9U
Sodium	N S/G	4800J	3460	4910	19700J	18400	18900	16500	28700J	31700	32700	19800J	19700J	17600	17300	16900
Thallium	8 S	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.4U	2.8	2.4U	2.4U	2.4U	2.4U	2.4U
Vanadium	14 S	1.8U	1.8U	2.2	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U	1.8U
Zinc	157 S	18.6U	24.7	27.4	6.6U	4.1	6.5	9.1	8.8U	5.7	1.7U	3.7U	9.1U	4.9	16.5J	7.1J
Cyanide (total)	22 S	10U	10U	10U	10U	54.4J	10UJ	10U	10U	10U	10U	10U	10U	10U	10U	10U
Wet Chemistry																
Chloride (mg/L)	N S/G	7	6	9	77	55	56	49	50	65	72	60	60	56	54	54

Notes:

- ☐ - Exceeds New York State Standard (S) or Guideline (G).
- U - Indicates compound was analyzed but not detected at associated detection limit.
- J - Indicates an estimated value.
- UJ - The analyte was detected above the sample quanitation limit. The reported quantitation limit is an estimated quantity.
- R - Indicates the value has been rejected.
- -- - Parameter was not analyzed.
- TCL - Target Compound List.
- TAL - Target Analyte List.
- [1] - * New York State Ambient Water Quality Standards and Guidance Values*, Division of Water, NYSDEC, Albany, N.Y., June 1998, April 2000 Addendum, and June 2004 Addendum.

TABLE 6.13

SUMMARY OF ANALYTICAL DATA FOR SEDIMENT SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		W-1	W-2	W-3	W-4	1a*		1b*		2	3	4	5	6	7	8	SDII-2		SDII-12
Sample Date:		12/1985	12/1985	12/1985	12/1985	08/14/1991	08/14/1991 Duplicate	08/21/1991	08/21/1991 Duplicate	08/14/1991	08/14/1991	08/14/1991	08/14/1991	08/13/1991	08/13/1991	08/14/1991	06/05/1995	06/05/1995 Duplicate	07/12/1995
Parameter	*Sediment Screening Benchmark* [1]																		
TCL Volatiles (ug/kg)																			
2-Butanone (Methyl Ethyl Ketone)	270 [2]	7	10U	10U	10U	17U	–	14U	24U	58U	20U	24U	13U	38	15U	48U	29UJ	31UJ	51J
Acetone	8.7 [2]	U	U	U	U	17U	–	14U	24U	58U	13J	35	13U	130	33	48U	29UJ	71J	140J
Ethylbenzene	89 [2]	–	–	–	–	9U	–	7U	12U	29U	10U	12U	6U	8U	7U	24U	6J	31UJ	22UJ
Methylene Chloride	370 [2]	–	–	–	–	9U	–	7U	12U	86	28	37	36	56	19	43	29UJ	31UJ	22UJ
Toluene	50 [2]	U	U	U	U	9U	–	7UJ	12U	29U	10U	12U	470J	8U	22	110	20J	140J	22UJ
TCL Semi-Volatiles (ug/kg)																			
2-Methylnaphthalene	70 [3]	–	–	–	–	700J	770J	53J	1600U	3900U	670U	790U	600J	1100U	1000U	1700U	1400UJ	1400UJ	700UJ
4-Chloroaniline	140 [7]	–	–	–	–	1100U	2200U	60J	1600U	3900U	670U	790U	810U	1100U	1000U	1700U	1400UJ	1400UJ	700UJ
4-Methylphenol	NA	–	–	–	–	1100U	2200U	1000U	1600U	3900U	670U	790U	810U	1100U	1000U	1700U	1400UJ	1400UJ	700UJ
Acenaphthene	4000 [4]	–	–	–	–	3,500	4,200	450J	620J	3900U	670U	790U	87J	1100U	1000U	1700U	1400UJ	1400UJ	110J
Anthracene	10 [3]	–	–	–	–	3,400	4,000	490J	550J	3900U	670U	790U	230J	1100U	1000U	1700U	1400UJ	1400UJ	180J
Benzo(a)anthracene	110 [2]	–	–	–	–	9,400	9,700	1,700	2,500	480J	670U	140J	2,900	1100U	1000U	1700U	320J	1400UJ	380J
Benzo(a)pyrene	140 [2]	–	–	–	–	7,200	9,600	2,600	3,900	3900U	670U	120J	2,200	1100U	1000U	1700U	330J	1400UJ	470J
Benzo(b)fluoranthene	NA	–	–	–	–	9,200	14,000	3,700	5,500	3900U	670U	170J	4,200	1100U	1000U	1700U	350J	1400UJ	420J
Benzo(g,h,i)perylene	170 [4]	–	–	–	–	4,800	5,400	1,400	2,100	3900U	670U	790U	1,200	1100U	1000U	1700U	1400UJ	1400UJ	220J
Benzo(k)fluoranthene	240 [4]	–	–	–	–	3,200	4,600	1,500	1,800	3900U	670U	790U	1,800	1100U	1000U	1700U	340J	1400UJ	460J
bis(2-Ethylhexyl)phthalate	1,995 [5,6]	–	–	–	–	1,200	1,600J	4700U	9,600	2,100J	210J	340J	480J	1100U	1000U	530J	1400UJ	1400UJ	700UJ
Chrysene	340 [4]	–	–	–	–	8,500	11,000	2,100	2,900	640J	670U	150J	3,600	1100U	1000U	1700U	420J	1400UJ	700UJ
Dibenz(a,h)anthracene	60 [3,4]	–	–	–	–	900J	1,100J	200J	460J	3900U	670U	790U	400J	1100U	1000U	1700U	1400UJ	1400UJ	130J
Dibenzofuran	420 [2]	–	–	–	–	1,400	1,700J	1000U	1600U	3900U	670U	790U	250J	1100U	1000U	1700U	1400UJ	1400UJ	700UJ
Di-n-butylphthalate	11,000 [2]	–	–	–	–	1100U	2200U	5,400	8,400	3900U	670U	790U	810U	1100U	1000U	1700U	1400UJ	1400UJ	700UJ
Di-n-octyl phthalate	40,600 [7]	–	–	–	–	1100U	2200U	6,500	11,000	3900U	670U	790U	810U	1100U	1000U	1700U	1400UJ	1400UJ	700UJ
Fluoranthene	600 [3]	–	–	–	–	18,000J	27,000	5,300	7,100	1,700J	670U	230J	4,600	1100U	1000U	1700U	990J	1400UJ	970J
Fluorene	10 [3]	–	–	–	–	2,600	3,200	320J	430J	3900U	670U	790U	810U	1100U	1000U	1700U	1400UJ	1400UJ	700UJ
Indeno(1,2,3-cd)pyrene	200 [4]	–	–	–	–	4,300	4,900	1,300	1,900	3900U	670U	790U	1,200	1100U	1000U	1700U	1400UJ	1400UJ	220J
Naphthalene	160 [3]	–	–	–	–	4,200	5,000	230J	360J	3900U	670U	790U	410J	1100U	1000U	1700U	1400UJ	1400UJ	700UJ
Phenanthrene	240 [3]	–	–	–	–	15,000	20,000	3,000	4,100	970J	670U	86J	1,500	1100U	1000U	1700U	550J	1400UJ	660J
Phenol	6 [5,6]	–	–	–	–	1100U	2200U	1000UJ	1600U	1,400J	670U	790U	810U	1100U	1000U	1700U	1400UJ	1400UJ	700UJ
Pyrene	490 [4]	–	–	–	–	15,000	19,000	3,600J	5,300	1,300J	670U	240J	4,300	1100U	1000U	1700U	700J	1400UJ	650J
Pyridine	NA	82500	5720	39940	38100	1100U	2200U	1000U	1600U	3900U	670U	790U	170J	1100U	1000U	1700U	1400UJ	1400UJ	700UJ
TCL Pesticides/PCBs (ug/kg)																			
4,4'-DDD	2 [3]	–	–	–	–	26U	52U	24U	38U	94U	32U	38U	62	26U	24U	80U	14UJ	14UJ	6.9UJ
4,4'-DDE	2.2 [3]	–	–	–	–	26U	52U	24U	38U	94U	32U	38U	150	26U	24U	80U	11J	14UJ	6.9UJ
4,4'-DDT	1.58 [3]	–	–	–	–	26U	52U	24U	38U	94U	32U	38U	180	26U	24U	80U	14UJ	14UJ	6.9UJ
Aldrin	2 [4]	–	–	–	–	13U	26U	12UJ	19U	47U	16U	19U	28	13U	12U	40U	7.1UJ	7.1UJ	3.5UJ
Endrin ketone	NA	–	–	–	–	26U	52U	24U	38U	94U	32U	38U	30	26U	24U	80U	14UJ	14UJ	6.9UJ
Methoxychlor	6 [7,8]	–	–	–	–	130U	260U	120U	190U	470U	160U	190U	170	130U	120U	400U	71UJ	71UJ	35UJ
TAL Inorganics (mg/kg)																			
Aluminum	NA	–	–	–	–	21,100	–	22,500	32,600	7,510	16,500	18,100	12,700	20,000	11,100	31,800	12300J	10600J	10100J
Antimony	2 [5]	U	U	U	U	10U	–	9.1UJ	20.3	256	19.2	14.4U	7.4U	9.8U	9U	30.5U	1.9UJ	2.4UJ	1.2UJ
Arsenic	6 [4,5]	0.8	1.1	14.7	0.8	16.7	–	15.6	22.4	4.7	13.0	10.4	20.3	17.4	10.6	13.6	2.5J	2.9J	2.3J
Barium	NA	28.1	29.3	27.3	24.7	83.4	–	92.9	114	86.5	125	118	127	134	49.3	221	77.3J	85.8J	79.9J
Beryllium	NA	0.003U	0.003U	0.003U	0.003U	1.1	–	1.2	1.6	0.35U	0.93	0.76	0.83	0.90	0.66	2.1	0.24UJ	0.3UJ	0.48UJ

TABLE 6.13

SUMMARY OF ANALYTICAL DATA FOR SEDIMENT SAMPLING
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		W-1	W-2	W-3	W-4	1a*		1b*		2	3	4	5	6	7	8	SDII-2		SDII-12
Sample Date:		12/1985	12/1985	12/1985	12/1985	08/14/1991	08/14/1991 Duplicate	08/21/1991	08/21/1991 Duplicate	08/14/1991	08/14/1991	08/14/1991	08/14/1991	08/13/1991	08/13/1991	08/14/1991	06/05/1995	06/05/1995 Duplicate	07/12/1995
Parameter	*Sediment Screening Benchmark* [1]																		
Cadmium	0.6 [5]	0.003U	0.003U	0.003U	0.003U	4.3	–	5.5	6.6	22.7	1.9U	4.0	3.4	2.4	2.2	4.8U	0.32UJ	0.39UJ	0.45UJ
Calcium	NA	–	–	–	–	3,010	–	4,910	7,720	12,600	4,460	3,270	3,350	2,930	3,680	9,870	8540J	9630J	3520J
Chromium Total	26 [4,5]	5.2	109.1	6.8	7.4	16.4	–	20.9J	28.9	11.6U	16.2	19.0	17.1	9.7	11.9	30.2	16.7J	12.8J	11.7J
Cobalt	50* [3]	–	–	–	–	12.8	–	14.4	21.6	31.6	6.5	11.3	9.7	8.7	8.0	5.4U	6.6J	4.6J	10.6J
Copper	16 [4,5]	109.0	100.0	25.6	23.7	37.4	–	42.6J	60.4	91.6	10.9	14.7	45.2	12.6	24.4	62.2	24.2J	30.2J	154J
Iron	20,000 [4,5]	–	–	–	–	40,200	–	44,200	64,500	13,500	14,200	44,700	30,100	21,500	21,400	15,000	20600J	14700J	23000J
Lead	31 [4,5]	11.1	25.9	18.2	19.7	31.2	–	36.1J	46.0	70.1	14.6	27.2	293	14.7	17.6	134	48.0J	53.6J	25.1J
Magnesium	NA	–	–	–	–	9,110	–	11,000	17,600	2,100	3,920	8,750	3,180	4,590	6,190	3,350	5370J	3790J	4120J
Manganese	460 [4,5]	–	–	–	–	942	–	1,150J	1,370	223	192	1,590	3,070	506	729	175	184J	143J	990J
Mercury	0.15 [3,5]	0.0005U	0.0005U	0.0005U	0.0005U	0.13U	–	0.16U	0.25U	0.46U	0.13U	0.12U	0.35	0.13U	0.09U	0.55U	0.27J	0.33J	0.14J
Nickel	16 [4,5]	19.9	28.1	26.4	19.9	47.6	–	45.3J	58.1	17U	22.1	43.8	35.6	24.2	28.3	23.5	20.0J	15.3J	20.4J
Potassium	NA	–	–	–	–	1,530	–	1,700	2,330	1,630	993	1,500	1,300	1,020	1,070	1,710	509J	741J	961J
Selenium	NA	0.001U	0.001U	1.3	3.3	0.10	–	0.19	0.41	1.9	1.9	0.1U	1.7	0.52	0.24	2.4	1.5UJ	1.9UJ	0.99UJ
Silver	1 [3,5]	0.006U	0.006U	0.006U	0.006U	1.4U	–	1.3U	2U	66.5	1.7U	2U	1U	1.4U	1.3U	4.2U	0.73UJ	0.89UJ	0.47UJ
Sodium	NA	89.1	89.1	79.3	55.1	87.2	–	78.8	113	114	133	222	138	152	88.5	114	288UJ	348UJ	310UJ
Thallium	NA	U	U	U	U	0.49U	–	0.45U	0.72U	1.7U	0.61U	0.71U	0.46	0.48	0.45U	1.5U	1.9UJ	2.4UJ	1.2UJ
Vanadium	NA	–	–	–	–	34.7	–	37.2	53.9	102	23.9	31.6	30.0	28.0	18.4	49.3	22.4J	21.2J	16.7J
Zinc	120 [4,5]	105.0	119.0	104.3	100.0	128	–	114	169	80.9	60.6	100	115	51.5	89.6	101	122J	113J	104J
Cyanide (total)	0.5* [3]	U	U	U	U	1.6U	–	1.5U	2.4U	5.8U	2U	2.4U	1.5	1.6U	1.5U	9.0	1.5UJ	1.5UJ	1.8UJ
Wet Chemistry																			
Total Solids	NA	–	–	–	–	60.9	–	66.9	41.5	17.3	49.5	42	81.8	62.1	67	19.9	33.2	33.4	44.4
Total Organic Carbon (TOC)	NA	38083	34078	12649	8981	–	–	–	–	–	–	–	–	–	–	–	133000J	132000J	34300J
pH	NA	–	–	–	–	6.7	–	7.1	7.1	5.7	7.3	7.2	6.1	6.8	7.6	5.4	–	–	–
Petroleum Hydrocarbons	NA	–	–	–	–	16	–	13	69	29U	10U	12U	6	13	10	42	–	–	–

Notes:

- ☐ - Exceeds Sediment Screeing Benchmark.
- J - Estimated.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- – - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- * - MOE additional parameter based on open water disposal guidelines.
- (1) - The selected sediment screening benchmark is the lowest criterion for the listed sources (see Table 8.6).
- (2) - ORNL Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effect on Sediment-Associated Biota: 1997 Revision.
- (3) - Long, E.R., et al. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments, Environmental Management, Volume 19, No.1, pg 81-97, 1995.
- (4) - MOE Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario, August 1993.
- (5) - NYSDEC Technical Guidance for Screening Contaminated Sediments, Division of Fish and Wildlife, March 1998.
- (6) - NYSDEC values are based on a 1 percent organic carbon.
- (7) - U.S. EPA Region V Environmental Data Quality Limits (EDQL).

TABLE 6.14

SUMMARY OF ANALYTICAL DATA FOR EPA SEDIMENT SAMPLING
BEAVERDAM BROOK
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		SE-01	SE-02	SE-03	SE-04	SE-05	SE-06	SE-07	SE-08	SE-09	SE-10	SE-11	SE-12	SE-13
Sample Date:		05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003
Parameter	*Sediment Screening Benchmark* [1]													
TCL Volatiles (ug/kg)														
2-Butanone (Methyl Ethyl Ketone)	270 [c]	15U	17U	16U	12U	**110J**	23U	**21**	13U	**110J**	19U	14U	12U	**150J**
Acetone	8.7 [c]	15U	17U	16U	12U	**310J**	47U	**53**	13U	**260J**	19U	15U	12U	**370J**
Toluene	50 [c]	15U	17U	16U	12U	39U	23U	14U	13U	47U	19U	14U	12U	48U
TCL Semi-Volatiles (ug/kg)														
Anthracene	10 [3]	470U	**410J**	1000U	490U	2000U	590U	510U	510U	1600U	600U	600U	600U	1900U
Benzaldehyde	NA	470U	**500J**	1000U	490U	**1100J**	590U	510U	510U	**1200J**	**190J**	600U	600U	**1900J**
Benzo(a)anthracene	110 [c]	**260J**	**1400**	1000U	490U	**510J**	590U	510U	510U	**530J**	600U	**170J**	600U	**550J**
Benzo(a)pyrene	140 [c]	**250J**	**1600**	1000U	490U	**520J**	590U	510U	510U	**530J**	600U	600U	600U	**550J**
Benzo(b)fluoranthene	NA	**300J**	**1900**	1000U	490U	**700J**	590U	510U	510U	**720J**	600U	**180J**	600U	**800J**
Benzo(g,h,i)perylene	170 [4]	**160J**	**840J**	1000U	490U	2000U	590U	510U	510U	1600U	600U	600U	600U	1900U
Benzo(k)fluoranthene	240 [4]	470U	**760J**	1000U	490U	2000U	590U	510U	510U	1600U	600U	600U	600U	1900U
bis(2-Ethylhexyl)phthalate	1,995 [3,b]	470U	1200U	1000U	490U	2000U	590U	**270J**	510U	1600U	**2300**	600U	600U	1900U
Chrysene	340 [4]	**290J**	**1700**	1000U	490U	**610J**	590U	510U	510U	**650J**	600U	**170J**	600U	**660J**
Di-n-butylphthalate	11,000 [c]	**190J**	**710J**	**880J**	490U	2000U	590U	350J	**210J**	1600U	**310J**	**250J**	600U	1900U
Fluoranthene	600 [3]	**670**	**3400**	**370J**	490U	**1100J**	590U	**180J**	510U	**1200J**	600U	**290J**	600U	**1200J**
Indeno(1,2,3-cd)pyrene	200 [4]	**160J**	**930J**	1000U	490U	2000U	590U	510U	510U	1600U	600U	600U	600U	1900U
Phenanthrene	240 [3]	**400J**	**1800**	1000U	490U	**550J**	590U	510U	510U	**610J**	600U	600U	600U	**600J**
Pyrene	490 [4]	**570J**	**3100**	**320J**	490U	**1000J**	590U	**140J**	510U	**1100J**	600U	**240J**	600U	**1100J**
TCL Pesticides/PCBs (ug/kg)														
4,4'-DDD	2 [3]	3.0U	12U	**19**	3.0U	12U	4.0U	3.0U	**6.8**	**21**	6.0U	**14**	4.0U	11U
4,4'-DDE	2.2 [3]	3.0U	**40**	**14**	3.0U	12U	4.0U	3.0U	4.0U	**20**	6.0U	**13**	4.0U	**18**

TABLE 6.14

SUMMARY OF ANALYTICAL DATA FOR EPA SEDIMENT SAMPLING
BEAVERDAM BROOK
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		SE-01	SE-02	SE-03	SE-04	SE-05	SE-06	SE-07	SE-08	SE-09	SE-10	SE-11	SE-12	SE-13
Sample Date:		05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003	05/14/2003
Parameter	*Sediment Screening Benchmark (1)*													
TAL Inorganics (mg/kg)														
Aluminum	NA	13400J	13100J	13100J	17400J	17400J	12800J	17400J	11200J	19000J	14600J	13900J	13600J	19400J
Antimony	2 (5)	14U	36.3U	23.2U	13.5U	53.8U	16.6U	14.5U	15.6U	43.3U	24.4U	18.1U	15.8U	48.3U
Arsenic	6 (4,5)	5.4	4.7J	2.6J	7.1	2.6J	2.5J	7.2	2.5J	3.8J	3.6J	3.1J	4.0U	2.5J
Barium	NA	95	77.4J	79	51	157J	60.6	59.1	51.4J	152J	98.1J	46.0J	49.3J	169J
Beryllium	NA	0.6J	0.6J	0.57J	0.78J	0.74J	0.53J	0.79J	0.50J	0.76J	0.8J	0.55J	0.54J	0.78J
Cadmium	0.6 (5)	0.23J	0.29J	1.9U	0.41J	0.53J	0.11J	0.22J	0.09J	0.50J	0.15J	0.11J	0.06J	0.53J
Calcium	NA	2380	5610J	3230	1150	6840J	3530	1700	5880	5910J	6560J	5430	2030	7380J
Chromium Total	26 (4,5)	19.0J	18.3J	17.3J	25.6J	23.8J	17.3J	22.6J	15.5J	24.7J	19.6J	18.2J	19.1J	25.7J
Cobalt	50* (3)	11.4J	11.6J	8.2J	14.0J	12.8J	9.4J	14.5J	8.7J	12.5J	10.8J	9.3J	8.5J	14.0J
Copper	16 (4,5)	18.1	433J	310	237	70.5J	159	44.1	66	457J	462J	685	3.5	72.0J
Iron	20,000 (4,5)	32900	22500J	18000	39700	26100J	19200	30400	19200	25500J	20300J	23900	1900	27900J
Lead	31 (4,5)	16	27.5J	17.3	20.7	44.5J	16.1	21.7	13.4	42.6J	26.6J	15.7	11.8	46.1J
Magnesium	NA	6850	4460J	4020	8440	4250J	5010	7390	5520	4660J	4160J	6340	5280	4550J
Manganese	460 (4,5)	1410	473J	488	544	1700J	329	500	449	1080J	549J	326	282	1850J
Mercury	0.15 (3,5)	0.13U	0.30U	0.20U	0.12U	0.43U	0.13U	0.12U	0.14U	0.41U	0.2U	0.15U	0.14U	0.46U
Nickel	16 (4,5)	24.0J	21.8J	18.5J	31.1J	25.2J	20.2J	32.2J	19.7J	24.0J	19.7J	30.9J	20.5J	23.6J
Potassium	NA	1590J	1880J	1540J	1910J	1910J	1660J	2060J	1810J	2320J	1850J	1590	1700J	2210J
Selenium	NA	8.2U	21.2U	13.5U	2.3J	31.4U	9.7U	8.4U	9.1U	25.3U	14.2U	10.6U	9.2U	28.2U
Silver	1 (3,5)	0.14J	6.0U	0.15J	2.2U	0.31J	2.8U	2.4U	2.6U	0.26J	4.1U	3.0U	2.6U	0.44J
Sodium	NA	73.7J	325J	201J	71.7J	394J	134J	109J	123J	367J	209J	133J	105J	442J
Thallium	NA	1.9J	15.1U	9.7U	5.6U	22.4U	6.9U	0.53J	6.5U	18.1U	10.2U	7.5U	0.48J	20.1U
Vanadium	NA	21.1J	22.1J	19.4J	25.6J	27.5J	19.1J	23.5J	17.4J	29.9J	23J	21.1J	20.4J	30.4J
Zinc	120 (4,5)	62.4J	114J	78.6J	69.8J	162J	61.2J	80.3J	51.5J	151J	75.8J	82.5J	54.7J	166J
Cyanide (total)	0.5* (3)	0.34J	0.72J	0.25J	0.99J	1.4J	1.1J	0.36J	0.29J	0.90J	0.55J	0.4J	0.37J	1.2J

Notes:

- [ ] - Exceeds Sediment Screeing Benchmark.
J - Estimated.
U - Non- detect at associated value.
UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
R - Value has been rejected.
– - Parameter is not analysed.
TAL - Target Analyte List.
TCL - Target Compound List
* - MOE additional parameter based on open water disposal guidelines.
(1) - The selected sediment screening benchmark is the lowest criterion for the listed sources (see Table 8.6).
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(3) - Long, E.R., et al. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments, Environmental Management, Volume 19, No.1, pg 81-97, 1995.
(4) - MOE Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario, August 1993.
(5) - NYSDEC Technical Guidance for Screening Contaminated Sediments, Division of Fish and Wildlife, March 1998.
(6) - NYSDEC values are based on a 1 percent organic carbon.

TABLE 6.14

SUMMARY OF ANALYTICAL DATA FOR EPA SEDIMENT SAMPLING
BEAVERDAM BROOK
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		SE-14	SE-15	SE-16	SE-17	SE-17	SE-18	SE-19	SE-20	SE-21	SE-22	SE-23	SE-24	SE-25	SE-27
Sample Date:		05/16/2003	05/16/2003	05/16/2003	05/16/2003	05/16/2003 Duplicate	05/16/2003	05/16/2003	05/16/2003	05/16/2003	05/16/2003	05/16/2003	05/14/2003	05/14/2003	05/14/2003
Parameter	*Sediment Screening Benchmark* (1)														
TCL Volatiles (ug/kg)															
2-Butanone (Methyl Ethyl Ketone)	270 (4)	14U	10U	11U	11U	14U	18U	17U	20U	12U	10U	11U	12U	14U	14U
Acetone	8.7 (4)	14U	10U	11U	11U	14U	21U	17U	20U	12U	10U	11U	12U	14U	14U
Toluene	50 (4)	14U	10U	11U	11U	14U	3J	17U	20U	12U	10U	11U	12U	14U	14U
TCL Semi-Volatiles (ug/kg)															
Anthracene	10 (3)	540U	540U	200J	500U	520U	650U	980U	850U	480U	480U	160J	550U	630U	650U
Benzaldehyde	NA	540U	540U	470U	500U	520U	650U	980U	850U	480U	480U	500U	550U	630U	210J
Benzo(a)anthracene	110 (4)	540U	540U	370J	500U	520U	650U	980U	850U	120J	480U	390J	550U	630U	650U
Benzo(a)pyrene	140 (4)	540U	540U	320J	500U	520U	650U	980U	850U	480U	480U	350J	550U	630U	650U
Benzo(b)fluoranthene	NA	540U	540U	360J	500U	520U	650U	980U	270J	130J	480U	410J	550U	630U	650U
Benzo(g,h,i)perylene	170 (4)	540U	540U	180J	500U	520U	650U	980U	850U	480U	480U	190J	550U	630U	650U
Benzo(k)fluoranthene	240 (4)	540U	540U	140J	500U	520U	650U	980U	850U	480U	480U	170J	550U	630U	650U
bis(2-Ethylhexyl)phthalate	1,995 (3,5)	540U	540U	470U	500U	520U	650U	980U	850U	480U	480U	500U	160J	630U	650U
Chrysene	340 (4)	540U	540U	460J	500U	520U	650U	980U	230J	140J	480U	420J	550U	630U	650U
Di-n-butylphthalate	11,000 (4)	540U	540U	470U	500U	150J	650U	980U	850U	480U	480U	600	1100	180J	360J
Fluoranthene	600 (3)	540U	540U	1100	500U	520U	650U	310J	400J	280J	480U	920	550U	630U	650U
Indeno(1,2,3-cd)pyrene	200 (4)	540U	540U	170J	500U	520U	650U	980U	850U	480U	480U	200J	550U	630U	650U
Phenanthrene	240 (3)	540U	540U	1100	500U	520U	650U	980U	850U	140J	480U	530	550U	630U	650U
Pyrene	490 (4)	540U	540U	1000	500U	520U	650U	270J	370J	230J	480U	760	550U	630U	650U
TCL Pesticides/PCBs (ug/kg)															
4,4'-DDD	2 (3)	3.0U	3.0U	3.0U	3.0U	3.0U	5.0U	5.0U	5.0U	3.0U	3.0U	3.0U	3U	4U	8.4
4,4'-DDE	2.2 (3)	3.0U	3.0U	3.0U	3.0U	3.0U	5.0U	5.0U	5.0U	3.0U	3.0U	3.0U	3U	4U	4U

TABLE 6.14

SUMMARY OF ANALYTICAL DATA FOR EPA SEDIMENT SAMPLING
BEAVERDAM BROOK
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Sample Location:		SE-14	SE-15	SE-16	SE-17	SE-17	SE-18	SE-19	SE-20	SE-21	SE-22	SE-23	SE-24	SE-25	SE-27
Sample Date:		05/16/2003	05/16/2003	05/16/2003	05/16/2003	05/16/2003 Duplicate	05/16/2003	05/16/2003	05/16/2003	05/16/2003	05/16/2003	05/16/2003	05/14/2003	05/14/2003	05/14/2003
Parameter	*Sediment Screening Benchmark (1)*														
TAL Inorganics (mg/kg)															
Aluminum	NA	12300J	11000J	11600J	14100J	17200	14400	18600	17400	12800	14100	14100	11500	15700	14200
Antimony	2 (5)	15.4U	16.0U	13.5U	14.0U	4.5J	4.6J	5.1J	3.8J	3.2J	4.1J	3.8J	2.9J	3.2J	3.1J
Arsenic	6 (4,5)	3.4J	0.4J	2.6J	0.53J	3.7U	2.3J	4.3J	6.1	1.1J	3.8	2.6J	1.8J	0.95J	4.6U
Barium	NA	82.9	49.1J	49.7	53.5	65.7	87.4	119	122	36.2J	38.0J	50	55.8	72.7	69.1
Beryllium	NA	0.5J	0.47J	0.48J	0.60J	0.68J	0.55J	0.74J	0.72J	0.51J	0.62J	0.59J	0.43J	0.65J	0.54J
Cadmium	0.6 (5)	0.12J	0.07J	0.12J	0.11J	0.54J	0.4J	0.61J	0.71J	0.40J	0.49J	0.45J	0.38J	0.55J	0.46J
Calcium	NA	2060	2170	1720	1920	2390	3040	4210	3720	2060	3670	2330	2210	2940	2230
Chromium Total	26 (4,5)	16.7J	15.5J	15.3J	20.2J	22.7	19.2	23.2	22.2	17.8	19.4	19	15.8	21	18.6
Cobalt	50* (3)	9.2J	7.1J	8.4J	9.9J	9.4J	7.8J	9.6J	9.9J	7.9J	8.8J	7.7J	5.9J	8.8J	6.9J
Copper	16 (4,5)	14.5	11.1	10.4	19.8	20.8	11.2	14	14.7	14	20.6	17.8	11.4	15.5	10.9
Iron	20,000 (4,5)	25300	17500	25700	23700	28400	17400	20000	23500	19500	24400	21800	16000	20000	16600
Lead	31 (4,5)	20.3	11.9	19	14.6	12.7	14.3	26	30.6	8.1	10.1	10.2	10.6	12.1	10.9
Magnesium	NA	5990	4830	5680	6610	7470	4090	4150	4110	5970	6870	5170	4290	5360	4500
Manganese	460 (4,5)	492	320	539	382	473	815	885	1420	181	272	207	458	312	249
Mercury	0.15 (3,5)	0.14U	0.14U	0.11U	0.12U	0.04J	0.15U	0.13J	0.11J	0.04J	0.12U	0.12U	0.06J	0.047J	0.06J
Nickel	16 (4,5)	21.1J	17.9J	20.8J	25.3J	26.6	16.9	19.1	19.1	21.5	23.9	21	15.5	21.4	17.6
Potassium	NA	1600J	1510J	1380J	1990J	2340J	1840J	2250J	1850J	1770J	2090J	1880J	1730J	2120J	1770J
Selenium	NA	9.0U	9.4U	7.9U	8.2U	8.6U	10.5U	13.2U	12.9U	8.3U	8.1U	8.3U	9.3U	11.4U	10.8U
Silver	1 (3,5)	2.6U	0.08J	0.08J	2.3U	2.5U	3.0U	3.8U	3.7U	2.4U	2.3U	2.4U	2.7U	3.3U	3.1U
Sodium	NA	110J	112J	81.2J	107J	111J	212J	284J	158J	78.4J	133J	155J	107J	114J	146J
Thallium	NA	0.57J	6.7U	0.65J	5.8U	1.5J	2.2J	2.6J	2.9J	1.1J	1.3J	0.98J	1.2J	0.98J	1.1J
Vanadium	NA	18.8J	17.0J	17.7J	20.2J	25.3	20.7	29.4	27.1	19.6	23.5	21.7	18.3	23.9	21.4
Zinc	120 (4,5)	81.5J	52.2J	62.9J	64.6J	79.2	71.6	85.2	110	55.6	60.9	65.6	49.6	82.7	70.8
Cyanide (total)	0.5* (3)	0.35J	0.32J	0.28J	0.28J	0.49J	0.38J	0.75J	0.58J	0.30J	0.33J	0.38J	0.35J	0.48J	0.6J

Notes:

- ☐ - Exceeds Sediment Screeing Benchmark.
- J - Estimated.
- U - Non- detect at associated value.
- UJ - The analyte was detected above the sample quantitation limit. The reported quantitation limit is an estimated quantity.
- R - Value has been rejected.
- -- - Parameter is not analysed.
- TAL - Target Analyte List.
- TCL - Target Compound List
- * - MOE additional parameter based on open water disposal guidelines.
- (1) - The selected sediment screening benchmark is the lowest criterion for the listed sources (see Table 8.6).
- (2) - ORNL Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effect on Sediment-Associated Biota: 1997 Revision.
- (3) - Long, E.R., et al. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments, Environmental Management, Volume 19, No.1, pg 81-97, 1995.
- (4) - MOE Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario, August 1993.
- (5) - NYSDEC Technical Guidance for Screening Contaminated Sediments, Division of Fish and Wildlife, March 1998.
- (6) - NYSDEC values are based on a 1 percent organic carbon.

TABLE 7.1

PHYSICAL AND CHEMICAL PROPERTIES OF ORGANIC COMPOUNDS[a]
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Volatile Organic Compounds	*Molecular Weight (g/mol)*	*Aqueous Solubility @ 25°C (mg/L)*	*Vapor Pressure @ 25°C (mm Hg)*	*Henry's Law Constant @ 25°C (atm-m^3/mol)*	*Koc (ml/g)*	*Specific Density*
acetone	58.08	m	266	3.97×10^{-5}	2.2	0.790
benzene	78.11	1,770	95.2	5.48×10^{-3}	78	0.877
2-butanone	72.11	268,000	77.5	4.66×10^{-5}	1.2	0.805
carbon disulfide	76.14	2,300	360	1.33×10^{-2}	292	1.25
chlorobenzene	112.56	462	11.8	3.92×10^{-3}	126	1.11
ethylbenzene	106.17	174	10	7.24×10^{-3}	157	0.867
methylene chloride	84.93	16,260	455	2.43×10^{-3}	8.8	1.33
4-methyl-2-pentanone	100.16	19,000	6	1.49×10^{-5}	6.2	0.798
toluene	92.14	826	28.1	6.74×10^{-3}	132	0.862
1,1,1-trichloroethane	133.40	1,500	124	1.62×10^{-2}	125	1.34
xylenes (total)[c]	106.17	198	10	7.04×10^{-3}	240	0.864

General Notes:

NA - no value presented in references
m - miscible in all proportions

Footnotes:

(a) Chemical property values are based on data presented in "Groundwater Chemicals Desk Reference", J.H. Montgomery and L.M. Welkom, Lewis Publishers Inc., Chelsea, Michigan, 1990.

(b) Chemical property values are based on data presented in "Handbook of Environmental Data on Organic Chemicals", second edition, K. Verschueran, Van Nostrand Reinhold, N.Y., 1983.

(c) Chemical property values are based on data presented in "Superfund Public Health Evaluation Manual", EPA/540/1-86/060 (OSWER Directive 9285.4-1). United States Environmental Protection Agency, October 1986.

TABLE 7.1

PHYSICAL AND CHEMICAL PROPERTIES OF ORGANIC COMPOUNDS[a]
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

	Molecular Weight (g/mol)	*Aqueous Solubility @ 25°C* (mg/L)	*Vapor Pressure @ 25°C* (mm Hg)	*Henry's Law Constant @ 25°C* ($atm\text{-}m^3/mol$)	*Koc* (ml/g)	*Specific Density*
Semi-Volatile Organic Compounds						
acenaphthene	154.21	3.70	1.55×10^{-3}	7.92×10^{-5}	18	1.02
alpha-picoline[b]	93.12	NA	8.0	NA	11.5	0.95
2-amino-pyridine[b]	94.11	NA	NA	NA	0.60	NA
anthracene	178.24	0.48	1.95×10^{-4}	6.51×10^{-5}	19,724	1.283
benzoic acid	112.12	3,400	4.5×10^{-3}	$7.02x\ 10^{-8}$	182	1.316
benzo(a)anthracene	228.30	0.012	1.1×10^{-7}	4.3×10^{-6}	1.38×10^{6}	1.274
benzo(a)pyrene	252.32	0.004	5.6×10^{-9}	1.55×10^{-6}	5.5×10^{6}	1.351
benzo(b)fluoranthene	252.32	0.014	5.0×10^{-7}	1.20×10^{-5}	8.8×10^{5}	NA
benzo(g,h,i)perylene	276.34	2.6×10^{-4}	1.01×10^{-10}	1.40×10^{-7}	7.76×10^{6}	NA
benzo(k) fluoranthene	252.32	5.5×10^{-4}	9.59×10^{-11}	1.04×10^{-3}	5.5×10^{5}	NA
bis (2-ethylhexyl) phthalate	390.57	0.35	6.2×10^{-8}	1.1×10^{-5}	4.4×10^{6}	0.985
4-chloroaniline	127.57	3.9	0.025	1.07×10^{-5}	455	1.429
4-chloro-3-methylphenol[b]	142.6	NA	NA	NA	1,259	NA
chrysene	228.30	0.0018	6.3×10^{-9}	7.26×10^{-20}	2.5×10^{5}	1.274

General Notes:

NA - no value presented in references
m - miscible in all proportions

Footnotes:

(a) Chemical property values are based on data presented in "Groundwater Chemicals Desk Reference", J.H. Montgomery and L.M. Welkom, Lewis Publishers Inc., Chelsea, Michigan, 1990.

(b) Chemical property values are based on data presented in "Handbook of Environmental Data on Organic Chemicals", second edition, K. Verschueran, Van Nostrand Reinhold, N.Y., 1983.

(c) Chemical property values are based on data presented in "Superfund Public Health Evaluation Manual", EPA/540/1-86/060 (OSWER Directive 9285.4-1). United States Environmental Protection Agency, October 1986.

TABLE 7.1

PHYSICAL AND CHEMICAL PROPERTIES OF ORGANIC COMPOUNDS[a]
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Semi-Volatile Organic Compounds (Cont'd)	*Molecular Weight* (g/mol)	*Aqueous Solubility @ 25°C* (mg/L)	*Vapor Pressure @ 25°C* (mm Hg)	*Henry's Law Constant @ 25°C* ($atm\text{-}m^3/mol$)	*Koc* (ml/g)	*Specific Density*
dibenzo (a,h) anthracene	278.36	0.0005	1.0×10^{-10}	7.33×10^{-9}	1.7×10^{6}	1.282
dibenzofuran	168.20	10.0	NA	NA	10,115	1.089
di-n-butylphthalate	278.35	11.1	1.4×10^{-5}	6.3×10^{-5}	1,380	1.042
di-n-octylphthalate	390.57	0.285	1.4×10^{-4}	1.41×10^{-12}	9.8×10^{8}	0.978
fluoranthene	202.26	0.268	5.0×10^{-6}	1.69×10^{-3}	4.2×10^{4}	1.252
fluorene	116.22	1.78	1.6×10^{-4}	2.1×10^{-4}	5012	1.203
indeno (1,2,3-c,d) pyrene	276.34	0.062	1.0×10^{-10}	2.96×10^{-20}	3×10^{7}	NA
2-methylnaphthalene	142.20	25.0	NA	NA	7,943	1.006
naphthalene	128.18	30	0.23	4.7×10^{-4}	1,368	1.162
n-nitrosodiphenylamine	198.22	35.1	0.10	2.33×10^{-8}	575	NA
phenanthrene	178.24	1.1	6.8×10^{-4}	2.56×10^{-5}	1.7×10^{4}	1.179
phenol	94.11	80,700	0.35	3.97×10^{-7}	21.6	1.071
pyrene	202.26	0.147	2.5×10^{-6}	1.48×10^{-5}	6.9×10^{4}	1.271
pyridine[b][c]	79	1.0×10^{6}	20.0	NA	6.9	0.982

General Notes:

NA - no value presented in references
m - miscible in all proportions

Footnotes:

(a) Chemical property values are based on data presented in "Groundwater Chemicals Desk Reference", J.H. Montgomery and L.M. Welkom, Lewis Publishers Inc., Chelsea, Michigan, 1990.

(b) Chemical property values are based on data presented in "Handbook of Environmental Data on Organic Chemicals", second edition, K. Verschueran, Van Nostrand Reinhold, N.Y., 1983.

(c) Chemical property values are based on data presented in "Superfund Public Health Evaluation Manual", EPA/540/1-86/060 (OSWER Directive 9285.4-1). United States Environmental Protection Agency, October 1986.

TABLE 7.1

PHYSICAL AND CHEMICAL PROPERTIES OF ORGANIC COMPOUNDS[a]
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

	Molecular Weight (g/mol)	*Aqueous Solubility @ 25°C (mg/L)*	*Vapor Pressure @ 25°C (mm Hg)*	*Henry's Law Constant @ 25°C (atm-m^3/mol)*	*Koc (ml/g)*	*Specific Density*
Pesticides						
Aldrin	365.92	0.014	6×10^{-6}	4.96×10^{-4}	407	1.70
Dieldrin	380.91	0.20	1.8×10^{-7}	5.8×10^{-5}	20,650	1.75
4,4'-DDD	320.05	0.09	1.02×10^{-6}	2.16×10^{-5}	43,650	1.476
4,4'-DDE	319.03	0.12	6.49×10^{-6}	2.34×10^{-5}	4.93×10^{5}	NA
4,4'-DDT	354.49	0.003	1×10^{-7}	5.98×10^{-5}	2.6×10^{5}	1.56
Endrin	380.92	0.24	7×10^{-7}	5×10^{-7}	8,318	1.65
Heptachlor Epoxide	389.32	0.275	2.6×10^{-6}	3.2×10^{-5}	20,893	NA
Methoxychlor	345.66	0.045	NA	NA	85,114	1.41
PCBs						
Arochlor - 1254	327	0.04	7.71×10^{-5}	2.6×10^{-3}	4.1×10^{5}	1.505

General Notes:

NA - no value presented in references
m - miscible in all proportions

Footnotes:

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(b) Chemical property values are based on data presented in "Handbook of Environmental Data on Organic Chemicals", second edition, K. Verschueran, Van Nostrand Reinhold, N.Y., 1983.

(c) Chemical property values are based on data presented in "Superfund Public Health Evaluation Manual", EPA/540/1-86/060 (OSWER Directive 9285.4-1). United States Environmental Protection Agency, October 1986.

TABLE 7.2

PHYSICAL AND CHEMICAL PROPERTIES OF INORGANIC COMPOUNDS
FORMER LAGOON SITE
HAMPTON BURGH, NEW YORK

Parameter	*CAS RN*	*Atomic Weight (g/mole)*	*Vapor Pressure (mm Hg)*	*Henry's Law Constant (atm-m^3/mol)*	*Water Solubility (mg/L)*
aluminum	7429-90-5	26.98	0	0	varies with salt
antimony	7440-36-0	121.75	NA	NA	insoluble; some compounds are soluble
arsenic	7440-38-2	74.92	0	NA	Insoluble; some salts are soluble
barium	7440-39-3	137.33	NA	NA	decomposes, BaSO4 has a solubility of 1.6 mg/L at 20°C
cadmium	7440-43-9	112.41	0	NA	insoluble
calcium	7440-70-2	40.08	NA	NA	variable, depending upon salt; some are soluble
chromium	7440-47-3	51.19	NA	NA	insoluble as element; varies as compound
cobalt	7440-48-4	58.93	0	0	insoluble, some salts are soluble
copper	7439-50-8	63.55	1.77 m @ 1,628°C	NA	most copper salts are insoluble except sulfate, copper, nitrate and cupric chloride
iron	7439.89-6	55.86	NA	NA	salts with various solubilities
lead	7439-92-1	207.2	1.77 m @ 1,000°C	NA	insoluble; some organic compounds are soluble
magnesium	7439-96-5	24.31	NA	NA	insoluble; most salts are very soluble
manganese	7439-96-5	54.94	1 mm @ 1,292°C	NA	decomposes in water
mercury	7439-97-6	200.59	.0012 mm @ 12°C	NA	0.08 mg/L at 30°C; some salts and organic compounds are soluble
nickel	7440-02-0	58.69	1 mm @ 1,810°C	NA	insoluble; some salts are soluble
potassium	7440-09-7	39.1	NA	NA	NA
selenium	7782-49-2	78.96	NA	NA	most forms insoluble
silver	7440-22-4	107.87	NA	NA	insoluble; some compounds are soluble
sodium	7440-23-5	22.99	NA	NA	very soluble, decomposes explosively in water
vanadium	7440-62-2	50.94	NA	NA	insoluble, varies with salts and oxides
zinc	7440-66-6	65.38	1 mm @ 486°C	NA	insoluble; some salts ar soluble
cyanide	74-90-8	27	657.8 mm @ 21.9°C	NA	soluble (HCN)

Note:

NA - Not Applicable

TABLE 7.3

DESCRIPTIVE RANGES FOR PHYSICAL AND CHEMICAL PROPERTIES OF SITE-RELATED CHEMICALS FORMER LAGOON SITE HAMPTONBURGH, NEW YORK

Property	*Description*	*Units*	*Descriptive Ranges*	*Examples of Site Contaminants*
Liquid density	The density of a chemical in its pure liquid form, relative to water.	D (g/cm^3)	<1 -- less dense than water	acetone
			> 1 -- more dense than water	PCBs, 1,1,1-TCA, methylene chloride
Aqueous solubility	The amount of a chemical at equilibrium that will be dissolved in pure water.	mg/L	high -- soluble in water	acetone, pyridine
			low -- insoluble in water	bis(2-ethyl hexyl)phthalate, PCBs
Vapor Pressure	The partial pressure of a vapor at equilibrium with the chemical in its pure state; describes the tendency of a chemical to evaporate.	Vp (mm Hg)	high -- volatile	VOCs, pyridine
			low -- nonvolatile	PAHs, bis (2-ethyl hexyl)phthalate,
Partitioning between air and water	The proportion of a chemical at equilibrium in the vapor phase in the space above an aqueous solution of the chemical; describes the tendency of a chemical to transfer between air and water.	Henry's law constant, H (atm m^3/mol)	$<10^{-7}$ -- nonvolatile	benzoic acid, di-n-octylphthalate, phenol
			10^{-7} to 10^{-5} -- low volatility	phthalates, PAHs
			10^{-5} to 10^{-3} -- moderate volatility	acetone
			$>10^{-3}$ -- high volatility	ethylbenzene, xylene, benzene, toluene

TABLE 7.3

**PHYSICAL AND CHEMICAL PROPERTIES
OF COMMON CONTAMINANTS FOUND AT THE SITE
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK**

Property	*Description*	*Units*	*Descriptive Ranges*	*Examples of Site Contaminants*
Partitioning between organic matter and water	The proportion of a chemical at equilibrium sorbed to organic material in a water-soil or water-sediment system; more strongly sorbed chemicals tend to be less mobile	K_{OC} (ml/g)	0 to 50 -- very high mobility	acetone, pyridine
			50 to 100 -- high mobility	benzene
			100 to 500 -- moderate mobility	xylene, ethylbenzene
			500 to 2,000 -- low mobility	di-n-butylphthalate, naphthalene
			2,000 to 20,000 -- slight mobility	bis(2-ethyl hexyl)phthalate
			>20,000 -- immobile	PAHs, PCBs

TABLE 8.1

WILDLIFE SPECIES EXPECTED TO UTILIZE EACH HABITAT TYPE
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Terrestrial Habitats				Wetlands			Riverine
Common Name	**Scientific Name**	**Appalachian Oak-Hickory Forest**	**Successional Northern Hardwood Forest**	**Successional Shrubland**	**Successional Old Field**	**Palustrine Forested Wetlands**	**Palustrine Scrub-Shrub Wetlands**	**Palustrine Emergent Wetlands**	**Beaverdam Brook Otter Kill**
BIRDS									
Wood Duck	*Aix sponsa*					X			X
Mallard	*Anas platyrhynchos*						X	X	X
Great Blue Heron	*Ardea herodias*								X
Green-Backed Heron	*Butorides striatus*					X			
Wild Turkey	*Meleagris gallopavo*	X							
Belted Kingfisher	*Ceryle alcyon*								X
Woodcock	*Scolopax minor*						X	X	
Marsh Wren	*Cistothorus palustris*						X	X	
Redwing Blackbird	*Agelaius phoeniceus*						X	X	
Yellow Warbler	*Dendroica petechia*					X			
Louisiana Waterthrush	*Seiurus motaacilla*					X			
Alder Flycatcher	*Empidonax alnorum*					X			
Blue-Gray Gnatcatcher	*Polioptila caerulea*					X			
Yellow-Bellied Sapsucker	*Sphyrapicus varius*		X						
Downy Woodpecker	*Picoides pubescens*	X	X						
Hairy Woodpecker	*Picoides villosus*	X	X						
Red-Bellied Woodpecker	*Melanerpes carolinus*	X							
Whip-Poor-Will	*Caprimulgus vociferus*	X							
Northern Flicker	*Colaptes auratus*	X	X						
Eastern Phoebe	*Sayornis phoebe*	X	X						
Blue Jay	*Cyanocitta cristata*	X	X						
American Crow	*Corvus brachyrhynchos*	X	X						
Black-Capped Chickadee	*Parus atricapillus*	X	X						
Tufted Titmouse	*Parus bicolor*	X	X						
Red-Breasted Nuthatch	*Sitta canadensis*	X	X						

TABLE 8.1

WILDLIFE SPECIES EXPECTED TO UTILIZE EACH HABITAT TYPE
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Terrestrial Habitats				Wetlands			Riverine
Common Name	**Scientific Name**	**Appalachian Oak-Hickory Forest**	**Successional Northern Hardwood Forest**	**Successional Shrubland**	**Successional Old Field**	**Palustrine Forested Wetlands**	**Palustrine Scrub-Shrub Wetlands**	**Palustrine Emergent Wetlands**	**Beaverdam Brook Otter Kill**
White-Breasted Nuthatch	*Sitta carolinensis*	X	X						
Brown Creeper	*Certhia americana*	X	X						
Gray Catbird	*Dumetella carolinensis*	X	X						
Barred Owl	*Strix varia*					X			
Great Horned Owl	*Bubo virginianus*	X							
Northern Saw-Whet Owl	*Aegolius acadicus*	X							
MAMMALS									
Deer Mouse	*Peromyscus maniculatus*			X	X				
Meadow Vole	*Microtus pennsylvanicus*			X	X				
House Mouse	*Mus musculus*			X	X				
Eastern Cottontail	*Sylvilagus floridanus*			X	X				
Red Fox	*Vulpes vulpes*			X	X				
Raccoon	*Procyon lotor*			X	X				
Striped Skunk	*Mephitis mephitis*			X	X				
Woodchuck	*Marmota monax*			X	X				
Eastern Chipmunk	*Tamias striatus*	X	X						
Gray Squirrel	*Sciurus carolinensis*	X	X						
Musrat	*Ondatra zibethicus*					X			
Mink	*Mustela vison*					X			
White Tailed Deer	*Odocoileus virginianus*	X	X	X	X	X			
REPTILES									
Snapping Turtle	*Chelydra serpentina*						X	X	X
Painted Turtle	*Chrysemys picta*								X
Northern Water Snake	*Nerodia sipedon*						X	X	X
AMPHIBIANS									

TABLE 8.1

WILDLIFE SPECIES EXPECTED TO UTILIZE EACH HABITAT TYPE
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Terrestrial Habitats				Wetlands			Riverine
Common Name	**Scientific Name**	**Appalachian Oak-Hickory Forest**	**Successional Northern Hardwood Forest**	**Successional Shrubland**	**Successional Old Field**	**Palustrine Forested Wetlands**	**Palustrine Scrub-Shrub Wetlands**	**Palustrine Emergent Wetlands**	**Beaverdam Brook Otter Kill**
Bullfrog	*Rana catesbeiana*						X	X	X
Green Frog	*Rana clamitans*						X	X	X
Wood Frog	*Rana sylvatica*						X	X	X
Pickerel Frog	*Rans sylvatica*						X	X	X
Leopard Frog	*Rans pipiens*								X
Spring Peeper	*Psuedacris crucifer*						X	X	X
American Toad	*Bufo americanus*								X
FISH [1]									
Lake Chubsucker	*Erimyzon sucetta*								X
Golden Shiner	*Notemigonus crysoleucas*								X
Redfin Pickerel	*Esox americanus*								X
Chain Pickerel	*Esox niger*								X
Rock Bass	*Ambloplites rupestris*								X
Largemouth Bass	*Micropterus salmoides*								X
Redbreast Sunfish	*Lepomis auritus*								X
Black Crappie	*Pomoxi nigromaculatus*								X
Pumpkinsee	*Leopmis gibbosus*								X

[1] - Fish species identified in this table were collected by NYSDEC in 1936.

TABLE 8.2

ASSESSMENT AND MEASUREMENT ENDPOINTS

FORMER LAGOON SITE

HAMPTONBURGH, NEW YORK

Medium	Assessment Area	Assessment Endpoint	Measurement Endpoint
Soil	Property Boundaries	Protection of Soil Microorganisms Protection of Soil Invertebrates Protection of Terrestrial Plants Protection of Wildlife	ORNL Screening Values (1,2) Netherland Intermediary Values (3) PRGs (4) ECO-SSLs (5)
Surface Water	Beaverdam Brook/Otter Kill Northeast Marsh Area	Protection of Aquatic Organisms in the Water Column	NY State AWQC (6) U.S. EPA RWQC (7) NOAA SQuiRT (8)
Sediment	Beaverdam Brook/Otter Kill Northeast Marsh Area	Protection of Benthic Macroinvertebrates	NYSDEC Benthic Toxicity Values (10) U.S. EPA Ets (9) Ontario MOE LEL and SEL (11)

(1) Toxicological Benchmarks for Potential Contaminants of Concern for Effects on Soil and Litter Invertebrates and Heterotropic Process, Will and Suter, Oak Ridge National Laboratory, ES/ER/TM-126/R1, September 1995.
(2) Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Terrestrial Plants : 1997 Revision, Will et al., ES/ER/TM-85/R3, Oak Ridge National Laboratory, November 1997.
(3) Intervention Values and Target Values, Soil Quality Standards, Department of Soil Protection, Netherlands, May 9, 1994.
(4) Preliminary Remediation Goals for Ecological Endpoints, Efroymson et al., Oak Ridge National Laboratory, ES/ER/TM-162-R2, August 1997.
(5) Ecological Soil Screening Levels, USEPA
(6) Ambient Water Quality Standards and Guideline Values, NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1), June 1998.
(7) USEPA Recommended Water Quality Criteria (RWQC). Office of Water, Office of Science and Technology (4304T), 2004
(8) SQuiRT, NOAA, 1999
(9) NYSDEC Technical Guidance for Screening Contaminated Sediments, Division of Fish and Wildlife, March 1998.
(10) USEPA Sediment Quality Criteria Values for Non-Ionic Organic Contaminants, dated January 18, 1994.
(11) MOE Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario, August 1993.

TABLE 8.3

IDENTIFICATION OF SURFACE SOIL BENCHMARK VALUES
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

	ORNL			Netherlands	Efroymson et al., 1997	Ecological Soil Screening Levels (5)				Soil
	Earthworms (1)	Plants (2)	Microorganisms (1)	Intermediary Values (3)	PRGs for Wildlife (4)	Avian	Inverte	Mammals	Plants	Screening Benchmark (6)
Parameter	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Volatile Organic Compounds (VOCs)										
Acetone	-	-	-	-	-	-	-	-	-	2,500 (7)
Tetrachloroethene	-	-	-	2,000	-	-	-	-	-	2,000
BTEX										
Toluene	-	200,000	-	65,000	-	-	-	-	-	65,000
Xylenes (total)	-	-	-	12,500	-	-	-	-	-	12,500
TIC VOCs										
Cyclohexane	-	-	-		-	-	-	-	-	100 (8)
Semi-Volatile Organic Compounds (SVOCs)										
4-Methylphenol	-	-	-	-	-					500 (8)
Benzoic Acid	-	-	-	-	-					N/A
n-Nitrosodiphenylamine	20,000	-	-	-	-					20,000
PAHS				20,500*	-	-	-	-	-	20,500
Benz(a)anthracene	-	-	-	-	-	-	-	-	-	N/A
Benzo(b)fluoranthene	-	-	-	-	-	-	-	-	-	N/A
Benzo(a)pyrene	-	-	-	-	-	-	-	-	-	N/A
Phenanthrene	-	-	-	-	-	-	-	-	-	N/A
Fluoranthene	-	-	-	-	-	-	-	-	-	N/A
Pyrene	-	-	-	-	-	-	-	-	-	N/A
Chrysene	-	-	-	-	-	-	-	-	-	N/A
Phthalates				30,500*	-	-	-	-	-	30,500
bis(2-Ethylhexyl)phthalate	-	-	-	-	-	-	-	-	-	N/A
Di-n-octyl phthalate	-	-	-	-	-	-	-	-	-	N/A
TIC SVOCs										
1,2-Propanedione, 1-phenyl	-	-	-	-	-	-	-	-	-	N/A
1-Propanone, 1-(3-pyridinyl)	-	-	-	-	-	-	-	-	-	N/A
2-Butyl pyridine	-	-	-	-	-	-	-	-	-	N/A
Bipyridine isomer	-	-	-	-	-	-	-	-	-	N/A
Chlorothioxanthenone isomer 1	-	-	-	-	-	-	-	-	-	N/A
Chlorothioxanthenone isomer 2	-	-	-	-	-	-	-	-	-	N/A
Dichlorobiphenyl isomer	-	-	-	-	-	-	-	-	-	N/A
Methyl ester benzoic acid	-	-	-	-	-	-	-	-	-	N/A
Methyl phenanthrene isomer	-	-	-	-	-	-	-	-	-	N/A

TABLE 8.3

IDENTIFICATION OF SURFACE SOIL BENCHMARK VALUES
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

	ORNL			*Netherlands*	Efroymson et al., 1997 Soil Screening Levels (5)					*Soil*
	Earthworms (1)	*Plants (2)*	*Microorganisms (1)*	*Intermediary Values (3)*	*PRGs for Wildlife (4)*	*Avian*	*Inverte*	*Mammals*	*Plants*	*Screening Benchmark (6)*
Parameter	*ug/kg*	*ug/kg*	*ug/kg*	*ug/kg*	*ug/kg*	*ug/kg*	*ug/kg*	*ug/kg*	*ug/kg*	*ug/kg*
Pesticides										
Heptachlor	-	-	-	500 +	-	-	-	-	-	500
Heptachlor epoxide	-	-	-	500 +	-	-	-	-	-	500
Endosulfan I	-	-	-	3,570 +	-	-	-	-	-	3,570
Endosulfan sulfate	-	-	-	3,570 +	-	-	-	-	-	3,570
Methoxychlor	-	-	-	2,500~	-	-	-	-	-	2,500
BHC Group	-	-	-	1,000*	-	-	-	-	-	1,000
beta-BHC	-	-	-	-	-	-	-	-	-	N/A
delta-BHC	-	-	-	-	-	-	-	-	-	N/A
DRINs Group	-	-	-	2,000*	-	-	-	-	-	2,000
Aldrin	-	-	-	-	-	-	-	-	-	N/A
Endrin	-	-	-	-	-	-	-	-	-	N/A
Dieldrin	-	-	-	-	-	-	-	-	-	N/A
Endrin ketone	-	-	-	-	-	-	-	-	-	N/A
Endrin aldehyde	-	-	-	-	-	-	-	-	-	N/A
DDT/DDE/DDD Group	-	-	-	2,000*	-	-	-	-	-	2,000
4,4'-DDE	-	-	-	-	-	-	-	-	-	N/A
4,4'-DDT	-	-	-	-	-	-	-	-	-	N/A
PCBs										
Aroclor-1254	-	40,000	-	510	371	-	-	-	-	371

TABLE 8.3

IDENTIFICATION OF SURFACE SOIL BENCHMARK VALUES
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

	ORNL			Netherlands	Efroymson et al., 1997	Ecological Soil Screening Levels (5)				Soil
	Earthworms	Plants	Microorganisms	Intermediary	PRGs for	Avian	Inverte	Mammals	Plants	Screening
	(1)	(2)	(1)	Values (3)	Wildlife (4)					Benchmark (6)
Parameter	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg	mg/kg
Inorganics										
Aluminum	-	50	600	-	-	-	-	-	-	50
Antimony	-	5.0	-	1,445 [+]	-	-	78	0.27	-	0.27
Arsenic	60	10	100	42	9.9	43	46	-	18	9.9
Barium	-	500	3,000	413	283	-	330	2,000	-	283
Beryllium	-	10	-	14.6 [+]	-	-	40	21	-	10
Cadmium	20	4.0	20	6.4	4.2	0.77	140	0.36	32	0.36
Calcium	-	-	-	-	-	-	-	-	-	N/A
Chromium	0.4	1.0	10	240	16.1	26	-	34	-	0.4
Cobalt	-	20	1,000	130	-	120		230	13	13
Copper	50	100	100	113	370	-	-	-	-	50
Cyanide	-	-	-	10.5	-	-	-	-	-	10.5
Iron	-	-	200	-	-	-	-	-	-	200
Lead	500	50	900	308	40.5	11	1,700	56	120	11
Magnesium	-	-	-	-	-	-	-	-	-	N/A
Manganese	-	500	100	-	-	-	-	-	-	100
Mercury	0.1	0.3	30	5.2	0.00051	-	-	-	-	0.00051
Nickel	200	30	90	123	121	-	-	-	-	30
Potassium	-	-	-	-	-	-	-	-	-	N/A
Selenium	70	1.0	100	-	0.21	-	-	-	-	0.21
Silver	-	2.0	50	7.5	-	-	-	-	-	2.0
Sodium	-	-	-	-	-	-	-	-	-	N/A
Thallium	-	1.0	-	-	2.1	-	-	-	-	1.0
Vanadium	-	2.0	20	-	55	7.8	-	280	-	2.0
Zinc	200	50	100	430	8.5	-	-	-	-	8.5

TABLE 8.3

IDENTIFICATION OF SURFACE SOIL BENCHMARK VALUES
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Notes:
N/A = ESV not available
TIC = Tentatively Identified Compound
* = Total allowable concentration for all isomers of the 'chemical group', in which the parameter is included.
+ = Proposed Dutch value from: Derivation of the Ecotoxicological Serious Soil Contamination Concentration, Substances Evaluated in 1993 and 1994, RIVM, Report No. 715810 008, August 1995.
~ = applies to individual organochlorine pesticides not included in the Dutch chemical lists.
(1) Toxicological Benchmarks for Potential Contaminants of Concern for Effects on Soil and Litter Invertebrates and Heterotropic Process, Will and Suter, Oak Ridge National Laboratory, ES/ER/TM-126/R1, September 1995.
(2) Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Terrestrial Plants : 1997 Revision, Will et al., ES/ER/TM-85/R3, Oak Ridge National Laboratory, November 1997.
(3) Intervention Values and Target Values, Soil Quality Standards, Department of Soil Protection, Netherlands, May 9, 1994.
(4) Preliminary Remediation Goals for Ecological Endpoints, Efroymson et al., Oak Ridge National Laboratory, ES/ER/TM-162-R2, August 1997.
(5) Ecological Soil Screening Levels, USEPA
(6) The selected soil benchmark value is the lowest criterion from listed sources.
(7) ORNL, Dutch, PRG, or ECO-SSL ESV is not available. ESV is from U.S. EPA Region 5 (http://www.epa.gov/reg5rcra/ca/ESL.pdf)
(8) ORNL, Dutch, PRG, or ECO-SSL ESV is not available. ESV is from U.S. EPA Region 4 (http://www.epa.gov/region4/waste/ots/ecolbul.htm#tbl4)

TABLE 8.4

IDENTIFICATION OF SURFACE WATER BENCHMARK VALUES
FOR BEAVERDAM BROOK AND OTTER KILL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		NYSDEC AWQC (1)		USEPA RWQC (2)		NOAA SQuiRT (3)		Surface Water Screening
Parameter	*Units*	*Class D*	*Class C*	*Acute*	*Chronic*	*Acute*	*Chronic*	*Benchmark (4)*
Volatile Organic Compounds (VOCs)								
Acetone	ug/L	-	-	-	-	-	-	N/A
Methylene Chloride	ug/L	-	-	-	-	11,000	-	11,000
BTEX								
Toluene	ug/L	-	-	-	-	17,500		17,500
Semi-Volatile Organic Compounds (SVOCs)								
Phthalates								
Bis(2-ethylhexyl)phthalate	ug/L	-	0.6	-	-			0.6
Di-n-octyl phthalate	ug/L	-	-	-	-	940	3.0	3.0
SVOC TICs								
Ethylmethylbenzene Isomer	ug/L	-	-	-	-	-	-	N/A
Ethylmethylcyclohexane Isomer 1	ug/L	-	-	-	-	-	-	N/A
Ethylmethylcyclohexane Isomer 2	ug/L	-	-	-	-	-	-	N/A
4-Hydroxy-4-Methyl-2-Pentanone	ug/L	-	-	-	-	-	-	N/A
Inorganics								
Aluminum	ug/L	-	100	-	-	-	-	100
Arsenic	ug/L	340 [a]	150	-	-	-	-	150
Barium	ug/L	-	-	-	-	-	-	N/A
Beryllium	ug/L	-	11	-	-	-	-	11
Calcium	ug/L	-	-	-	-	-	-	N/A
Chromium	ug/L	816 +	106 +	-	-	-	-	106
Copper	ug/L	20 +	13 +	-	-	-	-	13
Cyanide	ug/L	22	5.2	-	-	-	-	5.2
Iron	ug/L	300	300	-	-	-	-	300
Lead	ug/L	-	-	104 +	4 +	-	-	4.0
Magnesium	ug/L	-	-	-	-	-	-	N/A
Manganese	ug/L	-	-	-	-	-	-	N/A
Nickel	ug/L	678 +	75 +	-	-	-	-	75
Potassium	ug/L	-	-	-	-	-	-	N/A
Sodium	ug/L	-	-	-	-	-	-	N/A
Thallium	ug/L	20 [a]	8	-	-	-	-	8.0
Zinc	ug/L	170 +	120 +	-	-	-	-	120

Notes:

TIC = Tentatively Identified Compound.

\+ Criterion based on water hardness of 155 mg $CaCO_3$/L, which is the mean concentration from samples collected from SWII-4 and SWII-7 in 1995.

Class C = waters that are adequate for fish propagation and survival.

Class D = waters that are adequate for fish survival.

(1) Ambient Water Quality Standards and Guideline Values, NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1), June 1998. Values are chronic unless otherwise indicated.

(2) USEPA Recommended Water Quality Criteria (RWQC). Office of Water, Office of Science and Technology (4304T), 2004

(3) Screening Quick Reference Table, NOAA, 1999

(4) The selected surface water ESV is based on the following hierarchy: (1) NYSDEC AWQC; (2) EPA NRWQ, (3) NOAA SQuiRT

a -Value is based on acute toxicity because a chronic value is not available.

TABLE 8.5

IDENTIFICATION OF SURFACE WATER BENCHMARK VALUES FOR THE NORTHEAST MARSH AREA FORMER LAGOON SITE HAMPTONBURGH, NEW YORK

Parameter	*Units*	*NYSDEC AWQC (1) Class D*	*USEPA RWQC (2) Acute*	*NOAA SQuiRT (3) Acute*	*Surface Water Screening Benchmark (4)*
Volatile Organic Compounds					
Acetone	ug/L	-	-	-	N/A
Semi-Volatile Organic TICs					
Ethylmethylbenzene Isomer	ug/L	-	-	-	N/A
4-Hydroxy-4-Methyl-2-Pentanone	ug/L	-	-	-	N/A
Inorganics					
Aluminum	ug/L	-	750		750
Arsenic	ug/L	340	-		340
Barium	ug/L	-	-	-	N/A
Calcium	ug/L	-	-	-	N/A
Copper	ug/L	11 +	-		11
Iron	ug/L	300	-		300
Magnesium	ug/L	-	-		N/A
Manganese	ug/L	-	-		N/A
Nickel	ug/L	393 +	-		393
Potassium	ug/L	-	-		N/A
Sodium	ug/L	-	-		N/A
Vanadium	ug/L	190	-		190
Zinc	ug/L	98 +	-		98

Notes:

TIC = Tentatively Identified Compound.

* Ethyl benzene used as a surrogate.

+ Criterion based on water hardness of 81.4 mg $CaCO_3$/L, which is the mean concentration from samples collected from SWII-2 in 1995.

Class D = waters that are adequate for fish survival.

(1) Ambient Water Quality Standards and Guideline Values, NYSDEC Division of Water Technical and Operational Guidance Series (1.1.1), June 1998. Due the intermittency of suface water in the Northeast Marsh Area, acute vaules are presented.

(2) USEPA Recommended Water Quality Criteria (RWQC). Office of Water, Office of Science and Technology (4304T), 2004 Due the intermittency of suface water in the Northeast Marsh Area, acute vaules are presented.

(3) Screening Quick Reference Table, NOAA, 1999

(4) The selected surface water ESV is based on the following hierarchy: (1) NYSDEC AWQC; (2) EPA NRWQ, (3) NOAA SQuiRT

TABLE 8.6

IDENTIFICATION OF SEDIMENT BENCHMARK VALUES
FOR BEAVERDAM BROOK, OTTER KILL, AND NORTHEAST MARSH AREA
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

	NYSDEC (1,6,8)			USEPA						Sediment
	Benthic Aquatic Life Toxicity		Wildlife	ET	Ontario MOE (3)		LONG (4)		ORNL	Screening
	Acute	Chronic	Bioaccumulation	(2)	LEL	SEL	ER-L	ER-M	(5)	Benchmark (7)
Parameter	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg	ug/kg
Volatile Organic Compounds (VOCs)										
2-Butanone	--	--	--	--	--	--	--	--	270	270
Acetone	--	--	--	--	--	--	--	--	8.7	8.7
Methylene Chloride	--	--	--	--	--	--	--	--	370	370
BTEX										
Ethylbenzene		24,000		--					--	24,000
Toluene	235,000	49,000	--	--					--	49,000
Semi-Volatile Organic Compounds (SVOCs)										
4-Methylphenol	--	--	--	--	--	--	--	--	--	N/A
Phenol	--	600	--						--	600
Phthalates										
Bis(2-ethylhexyl)phthalate	--	199,500	--	--	--	--	--	--	--	199,500
PAHs										
Acenaphthene	--	140,000	--	--	--	--	--	--	--	140,000
Anthracene	986,000	107,000	--	--	--	--	--	--	--	107,000
Benz(a)anthracene	94,000	12,000	--	--	--	--	--	--	--	12,000
Benzo(a)pyrene	--	--	--	430	370	14,400	430	1600	140	140
Benzo(b)fluoranthene	--	--	--	--	--	--	--	--	--	N/A
Benzo(g,h,i)perylene	--	--	--	--	170	3,200	--	--	--	170
Benzo(k)fluoranthene	--	--	--	--	240	13,400	--	--	--	240
Chrysene	--	--	--	--	340	4,600	380	2,800	--	340
Dibenz(a,h)anthracene	--	--	--	--	60	1,300	60	260	--	60
Fluoranthene	--	1,020,000	--	--	--	--	--	--	--	1,020,000
Indeno(1,2,3-cd)pyrene	--	--	--	--	200	3,200	--	--	--	200
Phenanthrene	--	120,000	--	--	--	--	--	--	--	120,000
Pyrene	8,775,000	961,000	--	--	--	--	--	--	--	961,000
SVOC TICs										
Aliphatic Hydrocarbon	--	--	--	--	--	--	--	--	123,000	123,000
Pesticides										
4,4'-DDE	1,100,000	1,000	1,000	--	--	--	--	--	--	1,000

TABLE 8.6

IDENTIFICATION OF SEDIMENT BENCHMARK VALUES
FOR BEAVERDAM BROOK, OTTER KILL, AND NORTHEAST MARSH AREA
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

	NYSDEC (1)		*USEPA*	*Ontario MOE (3)*		*LONG (4)*		*ORNL*	*Sediment Screening*
Parameter	*LEL mg/kg*	*SEL mg/kg*	*(2) mg/kg*	*LEL mg/kg*	*SEL mg/kg*	*ER-L mg/kg*	*ER-M mg/kg*	*(5) mg/kg*	*Benchmark (7 mg/kg*
Inorganics									
Aluminum	--	--	--	--	--	--	--	--	N/A
Antimony	2	25	--	--	--	--	--	--	2
Arsenic	6	33	--	--	--	--	--	--	6
Barium	--	--	--	--	--	--	--	--	N/A
Beryllium	--	--	--	--	--	--	--	--	N/A
Cadmium	0.6	9	--	--	--	--	--	--	0.6
Calcium	--	--	--	--	--	--	--	--	N/A
Chromium	26	110	--	--	--	--	--	--	26
Cobalt	--	--	--	--	50*	--	--	--	50
Copper	16	110	--	--	--	--	--	--	16
Iron	20,000	40,000	--	--	--	--	--	--	20,000
Lead	31	110	--	--	--	--	--	--	31
Magnesium	--	--	--	--	--	--	--	--	N/A
Manganese	460	1100	--	--	--	--	--	--	460
Mercury	0.15	1.3	--	--	--	--	--	--	0.15
Nickel	16	50	--	--	--	--	--	--	16
Potassium	--	--	--	--	--	--	--	--	N/A
Selenium	--	--	--	--	--	--	--	--	N/A
Silver	1	2.2	--	--	--	--	--	--	1
Sodium	--	--	--	--	--	--	--	--	N/A
Vanadium	--	--	--	--	--	--	--	--	N/A
Zinc	120	270	--	--	--	--	--	--	120

Notes:

ER-L = Effects Range Low
ER-M = Effects Range Median
LEL = Lowest Effect Level
SEL = Severe Effect Level
N/A = Not Available
-- = No Value
* = MOE additional parameter based on open water disposal guidelines.

(1) NYSDEC Technical Guidance for Screening Contaminated Sediments, Division of Fish and Wildlife, March 1998.
(2) USEPA Sediment Quality Criteria Values for Non-Ionic Organic Contaminants, dated January 18, 1994.
(3) MOE Guidelines for the Protection and Management of Aquatic Sediment Quality in Ontario, August 1993.
(4) Long, E.R., et al. Incidence of Adverse Biological Effects within Ranges of Chemical Concentrations in Marine and Estuarine Sediments, Environmental Management, Volume 19, No.1, pg 81-97, 1995.
(5) ORNL Toxicological Benchmarks for Screening Contaminants of Potential Concern for Effects on Sediment-Associated Biota: 1997 Revision.
(6) NYSDEC values are based on 1 percent organic carbon
(7) The selected sediment ESV is based on the following hierarchy: (1) NYSDEC Benthic Aquatic Life Toxicity; (2) lowest of the other available benchmarks
(8) TOC data are available for Beaverdam Brook and the Northeast Marsh Area. Benchmark values were not normalized for TOC in the screening phase.

TABLE 8.7

SUMMARY OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SURFACE SOIL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Parameters	*Units*	*DETECTION FREQUENCY (1)* Detects / Total	*RANGE OF DETECTS (1)* Min. - Max.	*Soil Screening Benchmark (2)*	*Hazard Quotient (HQ) (3)*	*COPC*	*Rationale*
Volatile Organic Compounds (VOCs)							
Acetone	ug/kg	3 / 15	1 J - 18	2,500	0.0072		HQ below 1
Tetrachloroethene	ug/kg	5 / 15	5 - 51 J	2,000	0.026		HQ below 1
BTEX							
Toluene	ug/kg	2 / 15	13 - 1,800	65,000	0.028		HQ below 1
Xylenes (total)	ug/kg	1 / 15	2 J	12,500	0.0002		HQ below 1
TIC VOCs							
Cyclohexane	ug/kg	1 / 1	6	100	0.06		HQ below 1
Semi-Volatile Organic Compunds (SVOCs)							
4-Methylphenol	ug/kg	1 / 15	160 J	500	0.32		HQ below 1
Benzoic Acid	ug/kg	1 / 15	4,400	N/A	-	√	No ESV
n-Nitrosodiphenylamine	ug/kg	1 / 15	44 J	20,000	0.002		HQ below 1
PAHS	ug/kg	5 / 13	64 - 996	20,500	0.05		HQ below 1
Benzo(a)anthracene	ug/kg	2 / 15	62 - 150	*	-		Group HQ below 1
Benzo(b)fluoranthene	ug/kg	1 / 15	120 J	*	-		Group HQ below 1
Benzo(a)pyrene	ug/kg	2 / 15	57 J - 200	*	-		Group HQ below 1
Chrysene	ug/kg	2 / 15	110 - 230	*	-		Group HQ below 1
Phenanthrene	ug/kg	2 / 15	43 J - 86 J	*	-		Group HQ below 1
Fluoranthene	ug/kg	6 / 15	61 J - 130	*	-		Group HQ below 1
Pyrene	ug/kg	4 / 15	59 J - 220 J	*	-		Group HQ below 1
Phthalates	ug/kg	11 / 15	235 - 920	30,500	0.030		HQ below 1
Bis(2-Ethylhexyl)phthalate	ug/kg	11 / 15	50 J - 920 J	**	-		Group HQ below 1
Di-n-Octyl phthalate	ug/kg	2 / 15	370 - 640 J	**	-		Group HQ below 1
TIC SVOCs							
1,2-Propanedione, 1-phenyl	ug/kg	1 / 1	2,000	N/A	-	√	No ESV
1-Propanone, 1-(3-pyridinyl)	ug/kg	1 / 1	20,000	N/A	-	√	No ESV
2-Butyl pyridine	ug/kg	1 / 1	1,000	N/A	-	√	No ESV
2-Ethenyl pyridine	ug/kg	1 / 1	7,000	N/A	-	√	No ESV
Bipyridine Isomer	ug/kg	1 / 1	200	N/A	-	√	No ESV
Chlorothioxanthenone isomer 1	ug/kg	1 / 1	200	N/A	-	√	No ESV
Chlorothioxanthenone isomer 2	ug/kg	1 / 1	100	N/A	-	√	No ESV
Dichlorobiphenyl isomer	ug/kg	2 / 2	700 - 20,000	N/A	-	√	No ESV
Methyl ester benzoic acid	ug/kg	1 / 1	5,000	N/A	-	√	No ESV
Methyl phenanthrene isomer	ug/kg	1 / 1	500	N/A	-	√	No ESV
Pesticides							
Heptachlor	ug/kg	1 / 17	0.89 J - 3.2 J	500	0.006		HQ below 1
Heptachlor epoxide	ug/kg	2 / 17	9.6 J - 20 X	500	0.04		HQ below 1
Endosulfan I	ug/kg	1 / 17	6.9 - 11	3,570	0.003		HQ below 1
Endosulfan sulfate	ug/kg	1 / 17	14 - 55	3,570	0.015		HQ below 1
Methoxychlor	ug/kg	2 / 17	120 J - 220 J	2,500	0.09		HQ below 1
BHC Group	ug/kg	1 / 17	6 - 6.7	1,000	0.007		Group HQ below 1
beta-BHC	ug/kg	1 / 17	2.8	~	-		Group HQ below 1
delta-BHC	ug/kg	1 / 17	3.9 J - 6 J	~	-		Group HQ below 1
DDT/DDE/DDD Group	ug/kg	3 / 17	2.5 - 218	2,000	0.11		Group HQ below 1
4,4'-DDT	ug/kg	3 / 17	2.5 J - 100 J	++	-		Group HQ below 1
4,4'-DDE	ug/kg	2 / 17	2.5 J - 170 J	++	-		Group HQ below 1
DRINs Group	ug/kg	3 / 17	27 - 253	2,000	0.13		Group HQ below 1
Aldrin	ug/kg	1 / 17	190 J	+	-		Group HQ below 1
Dieldrin	ug/kg	2 / 17	27 - 37	+	-		Group HQ below 1
Endrin	ug/kg	2 / 17	2.7 J - 26 J	+	-		Group HQ below 1
Endrin aldehyde	ug/kg	3 / 10	32 - 97 J	+	-		Group HQ below 1
Endrin ketone	ug/kg	1 / 17	21 J	+	-		Group HQ below 1
PCBs							
Aroclor-1254	ug/kg	5 / 15	30 J - 9,200 J	371	25	√	HQ exceeds 1

TABLE 8.7

SUMMARY OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SURFACE SOIL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Parameters	*Units*	*DETECTION FREQUENCY (1)* Detects / Total	*RANGE OF DETECTS (1)* Min. - Max.	*Soil Screening Benchmark (2)*	*Hazard Quotient (HQ) (3)*	*COPC*	*Rationale*
Inorganics							
Aluminum	mg/kg	21 / 21	6,150 - 21,800	50	436	√	HQ exceeds 1
Antimony	mg/kg	2 / 21	4.4 - 12.5	0.27	46	√	HQ exceeds 1
Arsenic	mg/kg	21 / 21	4.7 - 47.6	9.9	4.8	√	HQ exceeds 1
Barium	mg/kg	21 / 21	11.5 J - 131 J	283	0.46		HQ below 1
Beryllium	mg/kg	16 / 21	0.36 J - 1.0	10	0.10		HQ below 1
Cadmium	mg/kg	13 / 21	0.021 J - 4.4	0.36	12	√	HQ exceeds 1
Calcium	mg/kg	21 / 21	109 - 3,030	N/A	-	√	No ESV
Chromium	mg/kg	21 / 21	21 - 60.7	0.4	152	√	HQ exceeds 1
Cobalt	mg/kg	20 / 21	4.3 - 19.6	13	1.5	√	HQ exceeds 1
Copper	mg/kg	21 / 21	25.4 - 108	50	2.2	√	HQ exceeds 1
Cyanide	mg/kg	4 / 21	0.53 - 7.6	10.5	0.72		HQ below 1
Iron	mg/kg	21 / 21	15,500 - 42,400	200	212	√	HQ exceeds 1
Lead	mg/kg	20 / 21	10.6 - 202	11	18	√	HQ exceeds 1
Magnesium	mg/kg	21 / 21	3,340 - 9,130	N/A	-	√	No ESV
Manganese	mg/kg	21 / 21	147 - 1,670	100	17	√	HQ exceeds 1
Mercury	mg/kg	14 / 21	0.078 J - 23.4	0.00051	45,882	√	HQ exceeds 1
Nickel	mg/kg	21 / 21	12.7 - 41	30	1.4	√	HQ exceeds 1
Potassium	mg/kg	21 / 21	496 - 1,910	N/A	-	√	No ESV
Selenium	mg/kg	8 / 21	0.75 - 0.99	0.21	4.7	√	HQ below 1
Silver	mg/kg	6 / 21	0.12 J - 0.17 J	2.0	0.023		HQ below 1
Sodium	mg/kg	21 / 21	27.5 - 430	N/A	-	√	No ESV
Thallium	mg/kg	14 / 21	0.33 - 2.1 J	1.0	2.1	√	HQ exceeds 1
Vanadium	mg/kg	21 / 21	8.3 J - 41	2.0	21	√	HQ exceeds 1
Zinc	mg/kg	21 / 21	46.4 - 594	8.5	70	√	HQ exceeds 1

Notes :
J - Associated value is estimated.
NA - Not Analyzed.
N/A - Not Available
ND = Not Detected.
S - The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.
X - Compound with spectra that do not meet identification criteria, but are suspected to be present.
* - Total PAH group represents the per sample sum of detected concentrations of phenanthrene, fluoranthene, pyrene, benzo(a)anthracene, chrysene, benzo(b)fluoranthene, benzo(a)pyrene, chlorothioxanthenone isomers 1 & 2, and methyl phenanthrene isomer.
** - Total Phthalate group represents the per sample sum of detected concentrations of bis(2-ethylhexyl)phthalate and di-n-octyl phthalate.
~ - Total BHC group represents the per sample sum of detected concentrations of beta-BHC and dellta-BHC.
+ - Total 'Drin' group represents the per sample sum of detected concentrations of aldrin, dieldrin, endrin, endrin ketone, and endrin aldehyde.
++ - Total DDT/DDE/DDD group represents the per sample sum of detected concentrations of DDE and DDT.
(1) Based on data collected during 1991 and 1995.
(2) Taken from Table 8.3.
(3) Calculated by dividing the maximum detected concentration by the soil screening benchmark value.

TABLE 8.8

SUMMARY OF CHEMICALS OF POTENTIAL CONCERN (COPC)
FOR BEAVERDAM BROOK AND OTTER KILL SURFACE WATER
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Parameter	*Units*	*Detection Frequency (1)* Detects / Total	*Range of Detects (1)* Min. - Max.	*Surface Water Screening Benchmark (3)*	*Hazard Quotient (HQ) (4)*	*COPC*	*Rationale*
Volatile Organic Compounds (VOCs)							
Acetone	ug/L	2 / 10	3 J - 3 J	N/A	-	√	No ESV
Methylene Chloride	ug/L	2 / 10	3 J - 4 J	11,000	0.0004		HQ below 1
BTEX							
Toluene	ug/L	3 / 10	1 J - 1 J	17,500	0.0001		HQ below 1
Semi-Volatile Organic Compounds (SVOCs)							
Phthtalates							
Bis(2-ethylhexyl)phthalate	ug/L	1 / 10	320	0.6	533	√	HQ exceeds 1
Di-n-octyl phthalate	ug/L	1 / 10	110	3.0	37	√	HQ exceeds 1
SVOC TICs							
Ethylmethylbenzene Isomer	ug/L	2 / 2	90 J - 200 J	N/A	-	√	No ESV
Ethylmethylcyclohexane Isomer 1	ug/L	1 / 1	200 J	N/A	-	√	No ESV
Ethylmethylcyclohexane Isomer 2	ug/L	1 / 1	200 J	N/A	-	√	No ESV
4-Hydroxy-4-Methyl-2-Pentanone	ug/L	3 / 3	2 J - 8 J	N/A	-	√	No ESV
Inorganics							
Aluminum	ug/L	5 / 10	65.3 - 629	100	6.3	√	HQ exceeds 1
Arsenic	ug/L	6 / 10	1.5 - 3.8	150	0.03		HQ below 1
Barium	ug/L	10 / 10	7.8 - 26.2	N/A	-	√	No ESV
Beryllium	ug/L	4 / 10	0.8 - 1.1	11	0.1		HQ below 1
Calcium	ug/L	10 / 10	41500 J - 59,600	N/A	-	√	No ESV
Chromium	ug/L	1 / 10	0.7	106	0.01		HQ below 1
Copper	ug/L	5 / 10	8.3 - 10.7	13	0.82		HQ below 1
Cyanide	ug/L	1 / 10	54.4	5.2	10	√	HQ exceeds 1
Iron	ug/L	10 / 10	152 - 1,140	300	3.8	√	HQ exceeds 1
Lead	ug/L	1 / 10	2.2	4.0	0.55		HQ below 1
Magnesium	ug/L	10 / 10	6320 - 9,030	N/A	-	√	No ESV
Manganese	ug/L	10 / 10	65.9 - 607	N/A	-	√	No ESV
Nickel	ug/L	2 / 10	1.5 - 14.8	75	0.20		HQ below 1
Potassium	ug/L	10 / 10	300 - 3,360	N/A	-	√	No ESV
Sodium	ug/L	10 / 10	7680 - 32,700	N/A	-	√	No ESV
Thallium	ug/L	1 / 10	2.8	8.0	0.35		HQ below 1
Zinc	ug/L	7 / 10	4.1 - 50.6	120	0.42		HQ below 1

Notes:
TIC = Tentatively Identified Compound.
J = Associated value is estimated.
N/A = Not Available
ND = Not Detected.
(1) Based on surface water sampling location 7 and 4, 1991 and SWII-7 and SWII-4, 1995.
(2) Based on data collection from background locations: 3 and 6 in 1991 and SWII-9 in 1995.
(3) Taken from Table 8.4.
(4) Calculated by dividing the maximum detected concentration by the surface water screening benchmark.

TABLE 8.9

SUMMARY OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN THE NORTHEAST MARSH AREA SURFACE WATER FORMER LAGOON SITE HAMPTONBURGH, NEW YORK

Parameter	*Units*	*Detection Frequency (1)* Detects / Total	*Range of Detects (1)* Min. - Max.	*Surface Water Screening Benchmark (2)*	Hazard *Quotient (HQ) (3)*	*COPC*	*Rationale*
Volatile Organic Compounds							
Acetone	ug/L	1 / 3	5J	N/A	-	√	No ESV
Semi-Volatile Organic TICs							
Ethylmethylbenzene Isomer	ug/L	1 / 1	3 J	N/A	-	√	No ESV
4-Hydroxy-4-Methyl-2-Pentanone	ug/L	1 / 1	11 J	N/A	-	√	No ESV
Inorganics							
Aluminum	ug/L	1 / 3	566	750	0.75		HQ below 1
Arsenic	ug/L	1 / 3	2.6	340	0.01		HQ below 1
Barium	ug/L	3 / 3	18.3 - 20.6	N/A	-	√	No ESV
Calcium	ug/L	3 / 3	26000 - 27,700 J	N/A	-	√	No ESV
Copper	ug/L	1 / 3	3.3	11	0.30		HQ below 1
Iron	ug/L	3 / 3	1800 - 2,260	300	7.5	√	HQ exceeds 1
Magnesium	ug/L	3 / 3	3330 - 3,560	N/A	-	√	No ESV
Manganese	ug/L	3 / 3	95.9 - 120 J	N/A	-	√	No ESV
Nickel	ug/L	1 / 3	1.6	393	0.004		HQ below 1
Potassium	ug/L	3 / 3	388 - 501	N/A	-	√	No ESV
Sodium	ug/L	3 / 3	3460 - 4,910	N/A	-	√	No ESV
Vanadium	ug/L	1 / 3	2.2	190	0.01		HQ below 1
Zinc	ug/L	2 / 3	24.7 - 27.4	98	0.28		HQ below 1

Notes:
TIC = Tentatively Identified Compound.
N?A = Not Available
J = Associated value is estimated.
(1) Based on surface water sampling location SWII-2, 1995.
(2) Taken from Table 8.5.
(3) Calculated by dividing the maximum detected concentration by the surface water screening benchmark.

TABLE 8.10

SUMMARY OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT
FOR BEAVERDAM BROOK AND OTTER KILL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Parameter	*Units*	*DETECTION FREQUENCY* Detects		Total	*RANGE OF DETECTS* Min		Max	*Screening Benchmark (1)* ug/kg	*Hazard Quotient (HQ)* (2)	*COPC*	*Rationale*
Volatile Organic Compounds (VOCs)											
2-Butanone	ug/kg	5	/	26	21	-	150 J	270	0.56		HQ below 1
Acetone	ug/kg	5	/	24	37	-	370 J	8.7	43	√	HQ exceeds 1
Methylene Chloride	ug/kg	1	/	24		35		370	0.095		HQ below 1
BTEX											
Toluene	ug/kg	1	/	24		3 J		49,000	0.00006		HQ below 1
Semi-Volatile Organic Compounds (SVOCs)											
Phthalates											
Bis(2-ethylhexyl)phthalate	ug/kg	2	/	3	250 J	-	340 J	199,500	0.002		HQ below 1
Total PAHs	ug/kg	3	/	3	1,476 J	-	5,120 J	4000 (3)	#VALUE!		
Acenaphthene	ug/kg	1	/	3		110 J		140,000	0.001		HQ below 1
Anthracene	ug/kg	1	/	3		180 J		107,000	0.002		HQ below 1
Benzo(a)anthracene	ug/kg	2	/	3	140 J	-	380 J	12,000	0.032		HQ below 1
Benzo(a)pyrene	ug/kg	2	/	3	120 J	-	470 J	140	3.4	√	HQ exceeds 1
Benzo(b)fluoranthene	ug/kg	2	/	3	170 J	-	420 J	N/A	-	√	No ESV
Benzo(g,h,i)perylene	ug/kg	1	/	3		220 J		170	1.3	√	HQ exceeds 1
Benzo(k)fluoranthene	ug/kg	1	/	3		460 J		240	1.9	√	HQ exceeds 1
Chrysene	ug/kg	1	/	3		150 J		340	0.44		HQ below 1
Dibenz(a,h)anthracene	ug/kg	1	/	3		130 J		60	2.2	√	HQ exceeds 1
Fluoranthene	ug/kg	2	/	3	230 J	-	970 J	1,020,000	0.10		HQ below 1
Indeno(1,2,3-cd)pyrene	ug/kg	1	/	3		220 J		200	1.1	√	HQ exceeds 1
Phenanthrene	ug/kg	2	/	3	86 J	-	660 J	120,000	0.006		HQ below 1
Pyrene	ug/kg	2	/	3	240 J	-	650 J	961,000	0.0007		HQ below 1
SVOC TICs											
Aliphatic Hydrocarbon	ug/kg	1	/	1		100 J		123,000	0.001		HQ below 1

TABLE 8.10

SUMMARY OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT
FOR BEAVERDAM BROOK AND OTTER KILL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Parameter	*Units*	*DETECTION FREQUENCY* Detects		Total	*RANGE OF DETECTS* Min		Max	*Screening Benchmark (1)* ug/kg	*Hazard Quotient (HQ)* (2)	*COPC*	*Rationale*
Inorganics											
Aluminum	mg/kg	26	\	26	10,100	-	19,400	N/A	--	√	No ESV
Antimony	mg/kg	24	\	6	0.00	-	5.1	2	2.6	√	HQ exceeds 1
Arsenic	mg/kg	26	\	25	0.4 J	-	10.6	6	1.8	√	HQ exceeds 1
Barium	mg/kg	26	\	169	36.2 J	-	169 J	N/A	--	√	No ESV
Beryllium	mg/kg	26	\	25	0.47 J	-	0.8 J	N/A	--	√	No ESV
Cadmium	mg/kg	26	\	25	0.06 J	-	4.0	0.6	6.7	√	HQ exceeds 1
Calcium	mg/kg	26	\	26	1,150	-	7,380 J	N/A	--	√	No ESV
Chromium	mg/kg	26	\	26	11.7	-	25.7 J	26	0.99		HQ below 1
Cobalt	mg/kg	26	\	26	7.1 J	-	14.5 J	50	0.29		HQ below 1
Copper	mg/kg	26	\	26	10.4	-	685	16	43	√	HQ exceeds 1
Cyanide	mg/kg	24	\	21	0.28 J	-	1.2 J	N/A	--	√	No ESV
Iron	mg/kg	26	\	26	17,400	-	44,700	20,000	2.2	√	HQ exceeds 1
Lead	mg/kg	26	\	26	8.1	-	46.1 J	31	1.5	√	HQ exceeds 1
Magnesium	mg/kg	26	\	25	4,020	-	8,750	N/A	--	√	No ESV
Manganese	mg/kg	26	\	26	181	-	1,820 J	460	4.0	√	HQ exceeds 1
Mercury	mg/kg	26	\	4	0.04 J	-	0.14 J	0.15	0.93		HQ below 1
Nickel	mg/kg	26	\	26	16.9	-	43.80	16	2.7	√	HQ exceeds 1
Potassium	mg/kg	26	\	26	961 J	-	2,.340 J	N/A	--	√	No ESV
Selenium	mg/kg	19	\	3	0.24	-	31.4 J	N/A	--	√	No ESV
Sodium	mg/kg	26	\	24	71.7 J	-	442 J	N/A	--	√	No ESV
Thallium	mg/kg	24		12	0.48 J		18.1 J	N/A	--	√	No ESV
Vanadium	mg/kg	26	\	26	16.7 J	-	31.6	N/A	--	√	No ESV
Zinc	mg/kg	26	\	26	51.5	-	166 J	120	1.4	√	HQ exceeds 1

Notes:
J = Associated value is estimated.
-- = No Value
N/A = Not Available
ND = Compound was not detected at or above associated value.
(1) Taken from Table 8.6
(2) Calculated by dividing the maximum detected concentration by the sediment screening benchmark value.
(3) The screening benchmark for Total PAHs is the Ontario Lowest Effects Level (LEL)

TABLE 8.11

SUMMARY OF CHEMICALS OF POTENTIAL CONCERN (COPC) IN SEDIMENT
FOR THE NORTHEAST MARSH AREA
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Parameter	Units	Detection Frequency Detects	Total	Range of Detects Min	Max	Screening Benchmark (1) ug/kg	Hazard Quotient (HQ) (2)	COPC	Rationale
Volatile Organic Compounds (VOCs)									
Acetone	ug/kg	1	1	71 J		8.7	8.2	√	HQ exceeds 1
Methylene Chloride	ug/kg	1	2	86		370	0.23		HQ below 1
BTEX									
Ethyhlbenzene	ug/kg	1	1	6 J		24,000	0.0003		HQ below 1
Toluene	ug/kg	1	2	140 J		49,000	0.0029		HQ below 1
Semi-Volatile Organic Compounds (SVOCs)									
4-Methylphenol	ug/kg	1	1	630 J		120	5.3	√	HQ exceeds 1
Phenol	ug/kg	1	2	1,400 J		600	2.3	√	HQ exceeds 1
Phthalates									
Bis(2-ethylhexyl)phthalate	ug/kg	1	2	2,100 J		199,500	0.011		HQ below 1
Pesticides									
4,4'-DDE	ug/kg	1	1	11 J		1,000	0.011		HQ below 1
Inorganics									
Aluminum	mg/kg	2	2	7,500	12,300 J	N/A	--	√	No ESV
Antimony	mg/kg	1	2	256		2.0	128	√	HQ exceeds 1
Arsenic	mg/kg	2	2	2.5 J	4.7	6.0	0.78		HQ below 1
Barium	mg/kg	2	2	77.3 J	86.5	N/A	--	√	No ESV
Cadmium	mg/kg	1	2	22.70		0.6	38	√	HQ exceeds 1
Calcium	mg/kg	2	2	8,540 J	12,600	N/A	--	√	No ESV
Chromium	mg/kg	1	2	16.7 J		26	0.64		HQ below 1
Cobalt	mg/kg	2	2	4.6 J	31.6	50	0.63		HQ below 1
Copper	mg/kg	2	2	24.2 J	91.6	16	5.7	√	HQ exceeds 1
Iron	mg/kg	2	2	13,500	20,600 J	20,000	1.0		HQ equals 1
Lead	mg/kg	2	2	48 J	70.1	31	2.3	√	HQ exceeds 1
Magnesium	mg/kg	2	2	2,100	5,370 J	N/A	--	√	No ESV
Manganese	mg/kg	2	2	143 J	223	460	0.48		HQ below 1
Mercury	mg/kg	1	2	0.33 J		0.15	2.2	√	HQ exceeds 1
Nickel	mg/kg	1	2	20 J		16	1.3	√	HQ exceeds 1
Potassium	mg/kg	2	2	509 J	1,630	N/A	--	√	No ESV
Selenium	mg/kg	1	2	1.9		N/A	--	√	No ESV
Silver	mg/kg	1	2	66.5		1.0	67	√	HQ exceeds 1
Sodium	mg/kg	1	2	114		N/A	--	√	No ESV
Vanadium	mg/kg	2	2	21.2 J	102	N/A	--	√	No ESV
Zinc	mg/kg	2	2	80.9	122 J	120	1.0		HQ equals 1

Notes:

J = Associated value is estimated.
-- = No Value
N/A = Not Available
ND = Compound was not detected at or above associated value.
(1) Taken from Table 8.6.
(2) Calculated by dividing the maximum detected concentration by the sediment screening benchmark value.

TABLE 8.12

MAXIMUM ON-SITE AND MAXIMUM BACKGROUND CONCENTRATIONS OF INORGANICS IN SOIL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Constituent	Maximum On-Site Concentration (mg/kg)	Maximum Background Concentration (mg/kg)	Maximum On-Site Concentration ≤ Maximum Background Concentration	On-Site Concentrations Consistent with Background Concentrations	Site-Related	COPC
Aluminum	21,800	23,300	Yes	---	YES	No
Antimony	**12.5**	**0.56**	**NO**	**NO**	**No**	**YES**
Arsenic	47.6	13.9	NO	Yes	No	No
Cadmium	**4.4**	**3.8**	**NO**	**NO**	No	**YES**
Chromium	60.7	31.1	NO	Yes	No	No
Cobalt	19.6	11.0	NO	Yes	No	No
Copper	**108**	**49.6**	**NO**	**NO**	**YES**	**YES**
Iron	42,400	48,500	Yes	---	YES	No
Lead	202	25.9	NO	Yes	No	No
Manganese	1,670	1,430	NO	Yes	No	No
Mercury	**23.4**	**0.09**	**NO**	**NO**	**YES**	**YES**
Nickel	41.0	43.1	Yes	---	No	No
Selenium	0.99	ND	NO	Yes	No	No
Thallium	2.1	2.5	Yes	---	No	No
Vanadium	41.0	33.7	NO	Yes	No	No
Zinc	594	113	NO	Yes	No	No

Bold Font identifies inorganic constituents identified as COPCs based on background concentrations, consistency with background concentrations, and past site activities
ND - Selenium was not detected in background samples

TABLE 8.13

MAXIMUM, MEAN, AND 95% UCL CONCENTRATIONS FOR INORGANIC SOIL COPCs
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Constituent	ESV (mg/kg)	Maximum		Mean		95% UCL		COPC
		Concentration (mg/kg)	HQ	Concentration (mg/kg)	HQ	Concentration (mg/kg)	HQ	
Antimony	0.27 [a]	12.50	**46**	1.9	**7.0**	3.1	**12**	√
Cadmium	0.36 [a]	4.4	**12**	1.1	**3.1**	1.8	**5.0**	√
Copper	50 [b]	108	**2.2**	44	0.88	52	1.0	
Mercury	0.00051 [c]	23.4	**45,882**	1.7	**3,333**	3.9	**7,647**	√

Bold Font identifies inorganic constituents with a maximum, mean, and/or upper 95% UCL concentration greater than its screening ESV.

[a] - ESV is the ECO-SSL for mammals

[b] - ESV is the ORNL benchmark for earthworms

[c] - ESV is the PRG for wildlife

TABLE 8.14

COMPARISON OF UPPER 95% UCL OF SOIL INORGANICS TO MAXIMUM PERMISSIBLE CONCENTRATIONS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Constituent	Upper 95% UCL	Maximum Background Concentration (mg/kg)	ESV (mg/kg)	Maximum Permisible Concentration		Lowest Ecological Benchmark Above Maximum Background Concentration		COPC
				Benchmark (mg/kg)	HQ	Benchmark (mg/kg)	HQ	
Antimony	3.1	0.56	0.27	3.5	0.90	---	---	
Cadmium	1.8	3.8	0.36	1.6	1.1	4.0 (1)	0.45	
Mercury	**3.9**	**0.09**	**0.00051**	**2.2**	**1.8**	**---**	**---**	√

TABLE 8.15

SUMMARY OF COPCs ELIMINATED AND COECs RETAINED IN STEP 3 FOR SOIL
ORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

					Rationale for Elimination		
COPC	**Units**	**Max. Conc.**	**HQ**	**Retained as COEC**	**Surrogate**	**Surrogate ESV**	**Max. Conc. Below Surrogate ESV**
SVOCs							
Benzoic acid	ug/kg	4,400	No ESV	No	None Identified	---	---
TIC SVOCs							
1,2-Propanedione, 1-phenyl	ug/kg	2,000	No ESV	No	Benzaldehyde	n/a	---
1-Propanone, 1-(3-pyridinyl)	ug/kg	20,000	No ESV	No	None Identified	---	---
2-Butyl pyridine	ug/kg	1,000	No ESV	No	Terbutryn	n/a	---
2-Ethenyl pyridine	ug/kg	7,000	No ESV	No	Terbutryn	n/a	---
Bipyridine Isomer	ug/kg	200	No ESV	No	Terbutryn	n/a	---
Chlorothioxanthenone isomer 1	ug/kg	200	No ESV	No	None Identified	---	---
Chlorothioxanthenone isomer 2	ug/kg	100	No ESV	No	None Identified	---	---
Dichlorobiphenyl isomer	**ug/kg**	**20,000**	**No ESV**	**Yes**	**Diphenylamine**	**1,010**	**NO**
Methyl ester benzoic acid	ug/kg	5,000	No ESV	No	Diethyl phthalate	24,800	Yes
Methyl phenanthrene isomer	ug/kg	500	No ESV	No	Biphenol A	n/a	---
PCBs							
Aroclor-1254	**ug/kg**	**9,200**	**18**	**Yes**	**---**	**---**	**---**

n/a - ESV for identified surrogate is not available.

TABLE 8.16

SUMMARY OF COPCs ELIMINATED AND COECs RETAINED IN STEP 3 FOR SOIL
INORGANICS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

						Rationale for Elimination				
COPC	**Units**	**Max. Conc.**	**HQ**	**Retained as COEC**	**Essential Nutrient**	**Maximum On-Site Concentration ≤ Maximum Background Concentration**	**On-Site Concentrations Consistent with Background Concentrations**	**Upper 95% UCL Below Screening ESV**	**95% UCL Below MPC**	**95% UCL Below Site-Specific ESV**
Inorganics										
Aluminum	mg/kg	21,800	436	No		√				
Antimony	mg/kg	12.50	2.5	No					√	
Arsenic	mg/kg	47.6	1.5	No			√			
Cadmium	mg/kg	4.4	1.1	No						√
Calcium	mg/kg	3,030	No ESV	No	√					
Chromium	mg/kg	60.7	152	No			√			
Cobalt	mg/kg	19.6	1.5	No			√	√		
Copper	mg/kg	108	2.2	No				√		
Iron	mg/kg	42,400	212	No		√				
Lead	mg/kg	202	4.0	No			√	√		
Magnesium	mg/kg	9,130	No ESV	No	√					
Manganese	mg/kg	1,670	17	No			√			
Mercury	**mg/kg**	**23.4**	**234**	**Yes**						
Nickel	mg/kg	40.9	1.4	No		√				
Potassium	mg/kg	1,910	No ESV	No	√					
Selenium	mg/kg	0.99	4.7	No			√			
Sodium	mg/kg	430	No ESV	No	√					
Thallium	mg/kg	2.1 J	2.1	No		√				
Vanadium	mg/kg	41.2	21	No			√			
Zinc	mg/kg	594	12	No			√			

TABLE 8.17

SUMMARY OF COPCs ELIMINATED AND COECs RETAINED IN STEP 3 FOR SURFACE WATER
BEAVERDAM BROOK/OTTER KILL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

					Rationale for Elimination				
COPC	Units	Max. Conc.	HQ	Retained as COEC	Max. Conc. Below Surrogate ESV	Appropriate ESV Not Available	Essential Nutrient	On-Site Concentrations Consistent the Background Concentrations	Max. Conc. Equal to or Below Alternative ESV(s)
VOCs									
Acetone [a]	ug/L	3 J	No ESV	No					√
SVOCs									
Bis(2-ethylhexyl)phthalate	**ug/L**	**320**	**533**	**Yes**					
Di-n-octyl phthalate	**ug/L**	**110**	**367**	**Yes**					
TIC SVOCs									
Ethylmethylbenzene Isomer [b]	ug/L	200 J	No ESV	No	√				
Ethylmethylcyclohexane Isomer 1 [c]	ug/L	200 J	No ESV	No		√			
Ethylmethylcyclohexane Isomer 2 [c]	ug/L	200 J	No ESV	No		√			
4-Hydroxy-4-Methyl-2-Pentanone [d]	ug/L	8 J	No ESV	No	√				
Inorganics									
Aluminum [e]	mg/kg	629	6.3	No				√	√
Barium [f]	mg/kg	26.2	No ESV	No					√
Calcium	mg/kg	3,030	No ESV	No			√		
Cyanide	**mg/kg**	**54.4**	**10**	**Yes**					
Iron [g]	mg/kg	1,140	3.8	No				√	√
Magnesium	mg/kg	9,130	No ESV	No			√		
Manganese [h]	mg/kg	607	No ESV	No				√	√
Potassium	mg/kg	1,910	No ESV	No			√		
Sodium	mg/kg	430	No ESV	No			√		

a - Alternative ecological benchmarks for acetone range from 1,500 ug/L (U.S. EPA Tier II secondary chronic value) to 508,000 ug/L (ORNL LCV for fish)
b - Syrene was identified as a surrogate for the ethylmethylbenzene isomer. ESVs for styrene are 32 ug/L (U.S. EPA Region V) and 2,500 ug/L (U.S. EPA Region VI).
c - Cyclohexylamine was identified as a surrogate for the ethylmethylcyclohexane isomers. An ESV is not available for cyclohexylamine.
d - Methyl methacrylate was identified as a surrogate. The ESVs for methyl methacrylate are 2,800 ug/L (U.S. EPA Region V) and 232,400 ug/L (U.S. EPA Region VI).
e - Alternative ecological benchmarks for aluminum range from 1,900 ug/L (LCV - daphnids) to 3,290 ug/L (LCV - fish).
f - The MPC for barium is 220 ug/L
g - The alternative ecological benchmark for iron is 1,000 ug/L (U.S. EPA Regions IV and VI, NRWQC, OSWER).
h - Alternative ecological benchmarks for magnesium range from 1,100 ug/L (LCV - fish) to 1,780 ug/L (LCV - fish).

TABLE 8.18

SUMMARY STATISTICS FOR ON-SITE AND BACKGROUND SEDIMENTS
BEAVERDAM BROOK/OTTERKILL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Inorganic Constituent	Units	On-Site			Background			Maximum Concentration Within Range of Background	COPC
		Max	Mean	95% UCL	Low	High	Mean		
Aluminum	mg/kg	19,400	14,636	15,652	11,500	20,000	15,850	Yes	
Antimony	mg/kg	5.1	9.6	12.2	2.9	19.2	6.3	Yes	
Arsenic	mg/kg	10.6	3.8	4.8	1.0	17.4	6.2	Yes	
Beryllium	mg/kg	0.80	0.61	0.67	0.43	0.93	0.69	Yes	
Cadmium	mg/kg	4.0	0.58	0.91	0.38	2.4	0.88	No	√
Copper	mg/kg	685	130	201	11	21	14	No	√
Cyanide	mg/kg	1.2	0.55	0.68	0.35	28	5.2	Yes	
Iron	mg/kg	44,700	24,327	26,850	14,200	28,400	19,450	No	
Lead	mg/kg	46	21	25	11	15	13	No	√
Manganese	mg/kg	1,820	722	911	192	506	365	No	√
Nickel	mg/kg	44	23	26	16	27	21	No	√
Selenium	mg/kg	31	7	10	0.52	1.9	1.2	No	√
Thallium	mg/kg	18	3.8	5.5	0.24	1.5	0.89	No	√
Zinc	mg/kg	166	83	96	50	83	66	No	√

TABLE 8.19

MAXIMUM, MEAN, AND 95% UCL CONCENTRATIONS FOR INORGANIC SEDIMENT COPCs
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Constituent	ESV (mg/kg)	Maximum		Mean		95% UCL		COPC
		Concentration (mg/kg)	HQ	Concentration (mg/kg)	HQ	Concentration (mg/kg)	HQ	
Cadmium	0.6	4.0	**6.7**	0.58	0.96	0.91	**1.5**	√
Copper	16	685	**43**	130	**8.1**	201	**13**	√
Iron	20,000	44,700	**2.2**	24,327	**1.2**	26,850	**1.3**	√
Lead	31	46	**1.5**	21	0.69	25	0.82	
Manganese	460	1,820	**4.0**	722	**1.6**	911	**2.0**	√
Nickel	16	44	**2.7**	23	**1.5**	26	**1.6**	√
Selenium	2.9	31	**11**	6.8	**2.4**	10	**3.4**	√
Thallium	2.6	18	**7.0**	3.8	**1.5**	5.5	**2.1**	√
Zinc	120	166	**1.4**	83	0.69	96	0.80	

Bold Font identifies inorganic constituents with a maximum, mean, and/or upper 95% UCL concentration greater than its screening ESV.

TABLE 8.20

SUMMARY OF COPCs ELIMINATED AND COECs RETAINED IN STEP 3 FOR SEDIMENTS
BEAVERDAM BROOK/OTTER KILL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

					Rationale for Elimination						
COPC	**Units**	**Max. Conc.**	**HQ**	**Retained as COEC**	**Laboratory Contaminant**	**Max. Conc. Below ESV Adj. For TOC**	**Max. Conc. Below Alternative ESV(s)**	**Max. Conc. Below Surrogate ESV**	**Essential Nutrient**	**Max. Conc. Within Range of Background Concentrations**	**95% UCL Below MPC [p] or Site-Specific ESV**
VOCs											
Acetone	ug/kg	370 J	43	No	√						
SVOCs											
Phthalates											
Bis(2-ethylhexyl)phthalate [a]	ug/kg	340 J	1.7	No		√					
PAHs											
Benzo(a)pyrene [b]	ug/kg	470 J	3.4	No			√				
Benzo(b)fluoranthene [c]	ug/kg	420 J	No ESV	No			√				
Benzo(g,h,i)perylene [d]	ug/kg	220 J	1.3	No			√				
Benzo(k)fluoranthene [e]	ug/kg	460 J	1.9	No			√				
Dibenz(a,h)anthracene [f]	ug/kg	130 J	2.2	No			√				
Indeno(1,2,3-cd)pyrene [g]	ug/kg	220 J	1.1	No			√				
TIC SVOCs											
Aliphatic Hydrocarbon	ug/kg	2,000	No ESV	No				√			
Inorganics											
Aluminum	mg/kg	19,400	No ESV	No						√	
Antimony	mg/kg	5.10	2.6	No						√	
Arsenic	mg/kg	10.6	1.8	No						√	
Barium	mg/kg	169 J	No ESV	No			√				
Beryllium	mg/kg	0.8 J	No ESV	No						√	
Cadmium [h]	mg/kg	4.0	6.7	No							√
Calcium	mg/kg	7,380	No ESV	No					√		
Copper [i]	**mg/kg**	**685**	**43**	**Yes**							
Cyanide	mg/kg	1.2 J	No ESV	No						√	
Iron [j]	mg/kg	20,000	2.2	No							
Lead	mg/kg	46.1	1.5	No							√
Magnesium	mg/kg	8,750	No ESV	No					√		
Manganese [k]	mg/kg	1,820 J	4.0	No							√

TABLE 8.20

SUMMARY OF COPCs ELIMINATED AND COECs RETAINED IN STEP 3 FOR SEDIMENTS
BEAVERDAM BROOK/OTTER KILL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

					Rationale for Elimination						
COPC	**Units**	**Max. Conc.**	**HQ**	**Retained as COEC**	**Laboratory Contaminant**	**Max. Conc. Below ESV Adj. For TOC**	**Max. Conc. Below Alternative ESV(s)**	**Max. Conc. Below Surrogate ESV**	**Essential Nutrient**	**Max. Conc. Within Range of Background Concentrations**	**95% UCL Below MPC [p] or Site-Specific ESV**
Nickel [l]	mg/kg	43.8	2.7	No							√
Potassium	mg/kg	2,340 J	No ESV	No					√		
Selenium [m]	**mg/kg**	**31.4 J**	**No ESV**	**Yes**							
Sodium	mg/kg	422 J	No ESV	No					√		
Thallium [n]	**mg/kg**	**18.1 J**	**No ESV**	**Yes**							
Vanadium [o]	mg/kg	31.6	No ESV	No			√				
Zinc	mg/kg	166 J	1	No							√

a - ESV for bis(2-ethylhexyl)phthtalate adjusted for TOC is 599 ug/kg.
b - Alternative ecological benchmarks for benzo(a)pyrene are 1,290 ug/kg (U.S. EPA), 14,400 ug/kg (Onatario SEL), and 1,600 ug/kg (NOAA ER-M).
c - Alternative ecological benchmarks for benzo(b)fluoranthene are 20 ug/kg (ARCS TEC), 4,000 ug/kg (ARCS PEC), and 10,400 (ESL).
d - The alternative ecological benchmark for benzo(g,h,i)perylene is 3,200 ug/kg (Ontario SEL).
e - The alternative ecological benchmark for benzo(k)fluoranthene is 13,400 ug/kg (Ontario SEL).
f - Alternative ecological benchmarks for dibenz(a,h)anthracene are 260 ug/kg (NOAA ER-M) and 1,300 (Ontario SEL).
g - An alternative ecological benchmarks for indeno(1,2,3-cd)pyrene is 3,200 ug/kg (Ontario SEL).
h - An alternative, site-specific ecological benchmark for cadmium is 30 mg/kg (MPC).
i - An alternative, site-specific ecological benchmark for copper is 73 mg/kg (MPC).
j - An alternative, site-specific ecological benchmark for iron is 40,000 mg/kg (NYSDEC and Ontario SEL).
k - An alternative, site-specific ecological benchmark for manganese is 1,100 mg/kg (NYSDEC and Ontario SEL).
l - An alternative site-specific ecological benchmark for nickel is 44 mg/kg (MPC).
m - An alternative ecological benchmark for selenium is 2.9 mg/kg (MPC).
n - An alternative ecological benchmark for thallium is 2.6 mg/kg (MPC).
o - An alternative ecological benchmark for vanadium is 56 mg/kg (MPC).
p - MPC is the maximum permissible concentration identified by Crommentuijn et al. (1997).

TABLE 8.21

ASSESSMENT AND MEASUREMENT ENDPOINTS
BASELINE ASSESSMENT
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Medium	Assessment Area	Assessment Endpoint	Measurement Endpoint
Soil	Property Boundaries	Protection of Soil Macroinvertebrates	COPC Toxicity on Survival and Growth Using Data from Scientific Literature
		Protection of Terrestrial Plants	COPC Toxicity on Survival and Growth Using Data from Scientific Literature
		Protection of Mammalian and Avian Insectivores	COPC Toxicity on Survival and Growth Using Data from Scientific Literature and Food Chain Modeling
		Protection of Mammalian Herbivores	COPC Toxicity on Survival and Growth Using Data from Scientific Literature and Food Chain Modeling
		Protection of Mammalian and Avian Carnivores	COPC Toxicity on Survival and Growth Using Data from Scientific Literature and Food Chain Modeling
Surface Water	Beaverdam Brook/Otter Kill	Protection of Fish	COPC Toxicity on Survival and Growth Using Data from Scientific Literature
		Protection of Mammalian and Avian Piscivores	COPC Toxicity on Survival and Growth Using Data from Scientific Literature
Sediment	Beaverdam Brook/Otter Kill	Protection of Benthic Macroinvertebrates	COPC Toxicity on Survival and Growth Using Data from Scientific Literature
		Protection of Mammalian and Avian Piscivores	COPC Toxicity on Survival and Growth Using Data from Scientific Literature

TABLE 8.22

LITERATURE VALUES OF SOIL TO SMALL RODENT BIOACCUMULATION OF PCBs
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Compound	Soil Conc.	Rodent Conc.	UF	Source of Chemical/Habitat	Reference
PCB #118	0.44	1.5	3.3	No known release/rural land	Hebert et al. 1994
PCB #138	0.33*	1.9*	5.9	No known release/rural land	Hebert et al. 1994
PCB	47.7	0.19	0.004	PCB spill /wetland	Charters et al. 1993
PCB	44.3	0.16	0.004	PCB spill/wetland	Charters et al. 1993
PCB	64	0.1	0.001	PCB spill/wetland	Charters et al. 1993
PCB	10	0.98	0.1	PCB release/terrestrial habitat	NASA Privileged Data
Arith. Mean			1.55		

NOTES:

1) Concentrations in milligrams per kilogram (mg/Kg) - dry weight for soil and wet weight for rodents.
2) UF - Uptake Factor.

TABLE 8.23

RISK TO THE SHREW FROM COECs BIOACCUMULATED IN EARTHWORM TISSUE FROM SOIL

FORMER LAGOON SITE

HAMPTONBURGH, NEW YORK

COEC	Mean Soil Conc. mg/kg	95% UCL Soil Conc. mg/kg	Mean Earthworm Tissue Conc. (1) mg/kg	95% UCL Earthworm Tissue Conc. (1) mg/kg	Mean Shrew Dose Conc. (2) mg/kg/day	95% UCL Shrew Dose Conc. (2) mg/kg/day	Toxicity Reference Value (3)		NOAEL HQ		LOAEL HQ	
							NOAEL mg/kg/day	LOAEL mg/kg/day	Mean	95% UCL	Mean	95% UCL
PCBs	2.50	6.14	2.87	6.86	1.75	4.20	0.067	0.67	26	63	2.6	6.3
Mercury (Hg)	1.66	3.89	0.26	0.34	0.27	0.50	0.07	0.35	3.9	7.1	0.78	1.4

Notes:

NOAEL = No Observed Adverse Effect Level.

LOAEL = Lowest Observed Adverse Effect Level.

(1) Tissue concentrations were estimated from soil concentrations using the following regression models developed by Sample et al., 1998 for PCBs and mercury:

Ln[earthworm PCB] = 1.410 + 1.3691 * Ln[soil PCB]; and

Ln[earthworm Hg] = 0.0781 + 0.3369 * Ln[soil Hg], and were then multiplied by 0.2 to convert from dry to wet weight.

(2) Dose = ([Worm] * 0.87 + [Soil] * 0.13) * 0.62.

(3) Toxicity reference data taken from Sample et al., 1996.

TABLE 8.24

RISK TO THE WOODCOCK FROM COECs BIOACCUMULATED IN EARTHWORM TISSUE FROM SOIL

FORMER LAGOON SITE

HAMPTONBURGH, NEW YORK

COEC	Mean Soil Conc. mg/kg	95% UCL Soil Conc. mg/kg	Mean Earthworm Tissue Conc. (1) mg/kg	95% UCL Earthworm Tissue Conc. (1) mg/kg	Mean Woodcock Dose Conc. (2) mg/kg/day	95% UCL Woodcock Dose Conc. (2) mg/kg/day	Toxicity Reference Value (3)		NOAEL HQ		LOAEL HQ	
							NOAEL mg/kg/day	LOAEL mg/kg/day	Mean	95% UCL	Mean	95% UCL
PCBs	2.50	6.14	2.87	9.83	2.18	7.28	0.18	1.8	12	40	1.2	4.0
Mercury (Hg)	1.66	3.89	0.26	0.34	0.31	0.54	0.006	0.064	51	89	4.8	8.4

Notes:

NOAEL = No Observed Adverse Effect Level.

LOAEL = Lowest Observed Adverse Effect Level.

(1) Tissue concentrations were estimated from soil concentrations using the following regression models developed by Sample et al., 1998 for PCBs and mercury:

Ln[earthworm PCB] = 1.410 + 1.3691 * Ln[soil PCB]; and

Ln[earthworm Hg] = 0.0781 + 0.3369 * Ln[soil Hg], and were then multiplied by 0.2 to convert from dry to wet weight.

(2) Dose = ([Worm] * 0.90 + [Soil] * 0.10) * 0.77.

(3) Toxicity reference data taken from Sample et al., 1996.

TABLE 8.25

RISK TO THE WEASEL FROM COECs BIOACCUMULATED IN SMALL MAMMAL TISSUE FROM SOIL

FORMER LAGOON SITE

HAMPTONBURGH, NEW YORK

COEC	Mean Soil Conc. mg/kg	95% UCL Soil Conc. mg/kg	UF	Mean Small Mammal Tissue Conc. mg/kg	95% UCL Small Mammal Tissue Conc. mg/kg	Mean Weasel Dose Conc. (1) mg/kg/day	95% UCL Weasel Dose Conc. (1) mg/kg/day	Toxicity Reference Value (2) NOAEL mg/kg/day	Toxicity Reference Value (2) LOAEL mg/kg/day	NOAEL HQ Mean	NOAEL HQ 95% UCL	LOAEL HQ Mean	LOAEL HQ 95% UCL
PCBs	2.50	6.14	1.55	3.88	9.52	1.20	2.95	0.14	0.69	8.6	21	1.7	4.3
Mercury (Hg)	1.66	3.89	1.046	1.74	4.07	0.54	1.26	1.00	NV	0.54	1.3	NV	NV

NV - No toxicity reference value available. HQs could not be calculated.

Notes:

NOAEL = No Observed Adverse Effect Level.

LOAEL = Lowest Observed Adverse Effect Level.

NV = No Value.

(1) Dose = ([Small Mammal] * 0.31).

(2) Toxicity reference data taken from Sample et al., 1996 and are for mink. TRVs are not available for the weasel.

TABLE 8.26

RISK TO THE RED-TAILED HAWK FROM COECs BIOACCUMULATED IN SMALL MAMMAL TISSUE FROM SOIL

FORMER LAGOON SITE

HAMPTONBURGH, NEW YORK

COEC	Mean Soil Conc. mg/kg	95% UCL Soil Conc. mg/kg	UF	Mean Small Mammal Tissue Conc. mg/kg	95% UCL Small Mammal Tissue Conc. mg/kg	Mean Hawk Dose Conc. (1) mg/kg/day	95% UCL Hawk Dose Conc. (1) mg/kg/day	Toxicity Reference Value (2)		NOAEL HQ		LOAEL HQ	
								NOAEL mg/kg/day	LOAEL mg/kg/day	Mean	95% UCL	Mean	95% UCL
PCBs	2.50	6.14	1.55	3.88	9.52	0.43	1.05	0.18	1.80	2.4	5.8	0.24	0.58
Mercury (Hg)	1.66	3.89	1.046	1.74	4.07	0.191	0.45	0.006	0.064	31.8	75	3.0	7.0

Notes:

NOAEL = No Observed Adverse Effect Level.

LOAEL = Lowest Observed Adverse Effect Level.

(1) Dose = ([Small Mammal] * 0.11.

(2) Toxicity reference data taken from Sample et al., 1996.

TABLE 8.27

RISK TO THE MEADOW VOLE FROM COECs BIOACCUMULATED IN PLANT TISSUE FROM SOIL

FORMER LAGOON SITE

HAMPTONBURGH, NEW YORK

COEC	Mean Soil Conc. mg/kg	95% UCL Soil Conc. mg/kg	UF	Mean Plant Tissue Conc. mg/kg	95% UCL Plant Tissue Conc. mg/kg	Mean Meadow Vole Dose Conc. (1) mg/kg/day	95% UCL Meadow Vole Dose Conc. (1) mg/kg/day	Toxicity Reference Value (2)		NOAEL HQ		LOAEL HQ	
								NOAEL mg/kg/day	LOAEL mg/kg/day	Mean	95% UCL	Mean	95% UCL
PCBs	2.50	6.14	0.01	0.025	0.061	0.096	0.236	0.051	0.511	1.9	4.6	0.19	0.46
Mercury (Hg)	1.66	3.89	---	0.097	0.155	0.043	0.077	0.054	0.269	0.79	1.4	0.16	0.29

Notes:

NOAEL = No Observed Adverse Effect Level.

LOAEL = Lowest Observed Adverse Effect Level.

(1) Dose =((([Plant] * 0.976) + ([Soil] * 0.024)) * 0.316)

(2) Toxicity reference data taken from Sample et al., 1996.

TABLE 8.28

RISK TO THE MINK FROM COECs BIOACCUMULATED IN FISH FROM SURFACE WATER

FORMER LAGOON SITE

HAMPTONBURGH, NEW YORK

COEC	Mean SW Conc. mg/L	95% UCL SW Conc. mg/L	UF	Mean Fish Conc. mg/kg	95% UCL Fish Conc. mg/kg	Mean Mink Dose Conc. (1) mg/kg/day	95% UCL Mink Dose Conc. (1) mg/kg/day	Toxicity Reference Value (2)		NOAEL HQ		LOAEL HQ	
								NOAEL mg/kg/day	LOAEL mg/kg/day	Mean	95% UCL	Mean	95% UCL
Bis(2-ethylhexyl)phthalate	0.044	0.101	70	3.1	7.1	0.497	1.14	7.6	76	0.065	0.15	0.0065	0.015
Di-n-octylphthalate	0.016	0.035	9,400	147	328	23.5	52	NV	NV	NV	NV	NV	NV
Cyanide	0.010	0.019	633	6.3	12	1.01	1.93	49.7	NV	0.020	0.039	NV	NV

NV - No toxicity reference value available. HQs could not be calculated.

Notes:

NOAEL = No Observed Adverse Effect Level.

LOAEL = Lowest Observed Adverse Effect Level.

(1) Dose = ([Fish] * 0.16 + [Water] * 0.11

(2) Toxicity reference data taken from Sample et al., 1996.

TABLE 8.29

RISK TO THE BELTED KINGFISHER FROM COECs BIOACCUMULATED IN FISH FROM SURFACE WATER

FORMER LAGOON SITE

HAMPTONBURGH, NEW YORK

COEC	Mean SW Conc. mg/L	95% UCL SW Conc. mg/L	UF	Mean Fish Conc. mg/kg	95% UCL Fish Conc. mg/kg	Mean Kingfisher Dose Conc. (1) mg/kg/day	95% UCL Kingfisher Dose Conc. (1) mg/kg/day	Toxicity Reference Value (2)		NOAEL HQ		LOAEL HQ	
								NOAEL mg/kg/day	LOAEL mg/kg/day	Mean	95% UCL	Mean	95% UCL
Bis(2-ethylhexyl)phalate	0.044	0.101	70	3.1	7.1	3.76	8.66	1.1	NV	3.4	7.9	NV	NV
Di-n-ocytylphthalate	0.016	0.035	9,400	147	328	180	402	NV	NV	NV	NV	NV	NV
Cyanide	0.010	0.019	633	6.3	12	7.7	15	NV	NV	NV	NV	NV	NV

NV - No toxicity reference value available. HQs could not be calculated.

Notes:

NOAEL = No Observed Adverse Effect Level.

LOAEL = Lowest Observed Adverse Effect Level.

(2) Toxicity reference data taken from Sample et al., 1996.

TABLE 8.30

RISK TO THE MINK FROM COECs BIOACCUMULATED IN FISH FROM SEDIMENT

FORMER LAGOON SITE

HAMPTONBURGH, NEW YORK

COEC	Mean Sed. Conc. mg/L	95% UCL Sed. Conc. mg/L	UF	Mean Fish Conc. (1) mg/kg	95% UCL Fish Conc. (1) mg/kg	Mean Mink Dose Conc. (2) mg/kg/day	95% UCL Mink Dose Conc. (2) mg/kg/day	Toxicity Reference Value (3)		NOAEL HQ		LOAEL HQ	
								NOAEL mg/kg/day	LOAEL mg/kg/day	Mean	95% UCL	Mean	95% UCL
Copper	130	201	0.1	3.24	5.0	1.81	2.8	11.7	15.4	0.15	0.24	0.12	0.18
Selenium	6.84	9.97	1.0	1.7	2.5	0.34	0.49	0.154	0.254	2.2	3.2	1.3	1.9
Thallium	3.83	5.50	0.9	3.4	5.0	0.58	0.84	0.006	0.058	97	140	10	14

Notes:

NOAEL = No Observed Adverse Effect Level.

LOAEL = Lowest Observed Adverse Effect Level.

(1) For copper - [Fish] = [Sediment Cu] * 0.10 * 0.25

For Selenium - [Fish] = [Sediment Se] * 1.0 * 0.25

For Thallium - [Fish] = [Sediment Tl] * 0.09 * 1.0

(2) For Copper and Thallium - Dose = ((([Fish] * 0.99) + ([Sediment] * 0.01)) * 0.16) + ([Surface Water] * 0.11)

For Thallium - Dose = ((([Fish] * 0.99) + ([Sediment] * 0.01)) * 0.16)

(3) Toxicity reference data taken from Sample et al., 1996.

TABLE 8.31

RISK TO THE BELTED KINGFISHER FROM COECs BIOACCUMULATED IN FISH FROM SEDIMENT

FORMER LAGOON SITE

HAMPTONBURGH, NEW YORK

COEC	Mean Sed. Conc. mg/L	95% UCL Sed. Conc. mg/L	UF	Mean Fish Conc. mg/kg	95% UCL Fish Conc. mg/kg	Mean Kingfisher Dose Conc. (1) mg/kg/day	95% UCL Kingfisher Dose Conc. (1) mg/kg/day	Toxicity Reference Value (2)		NOAEL HQ		LOAEL HQ	
								NOAEL mg/kg/day	LOAEL mg/kg/day	Mean	95% UCL	Mean	95% UCL
Copper	130	201	0.3	13.0	20.1	15.9	24.6	47.0	61.7	0.34	0.52	0.26	0.40
Selenium	6.84	10.0	0.9	9.8	10.0	8.4	12.2	0.40	1.0	21	31	8.4	12
Thallium	3.83	5.50	0.9	3.4	5.0	4.2	6.1	NV	NV	NV	NV	NV	NV

NV - No toxicity reference value available. HQs could not be calculated.

Notes:

NOAEL = No Observed Adverse Effect Level.

LOAEL = Lowest Observed Adverse Effect Level.

(1) Dose = ([Fish] * 1.23) + ([Surface Water] * 0.11)

(2) Toxicity reference data taken from Sample et al., 1996.

TABLE 8.32

RISK TO TERRESTRIAL SOIL INVERTEBRATES FROM COECs IN SOIL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		Benchmarks		*Selected Measurement*	*Maximum Detected*	*Background Mean*	
COEC	*Units*	*ORNL*	*EPA VI*	*Endpoint*	*Concentration*	*Concentration*	HQ
Dichlorobiphenyl isomer	ug/kg	-	-		20,000	-	
Aroclor 1254	ug/kg	-	-		9,200	-	
Mercury	mg/kg	0.1	0.1	0.1	18.2*	ND	182

Notes :
- = No Value
* = maximum detected value based the average of duplicate sample results from sample SSII-6.
HQ = Hazard Quotient.
ND = Not Detected.

TABLE 8.33

RISK TO TERRESTRIAL PLANTS FROM COECs IN SOIL
FORMER LAGOON SITE
HAMPTONBURGN, NEW YORK

		Benchmarks		*Selected*	*Maximum*	*Upper*	*Mean*	
				Measurement	*Detected*	*95%*	*Background*	
COEC	*Units*	*ORNL*	*EPV VI*	*Endpoint Value*	*Concentration*	*UCL*	*Concentration*	*HQ*
Dichlorobiphenyl isomer	ug/kg	-	-	-	20,000	-	-	-
Aroclor 1254	ug/kg	40,000	-	40,000	9,200	6.1		0.23
Mercury	mg/kg	0.3	0.3	0.3	18.2~	3.9	ND	61

Notes :

- = No Value
~ = maximum detected value based the average of duplicate sample results from sample SSII-6.
HQ = Hazard Quotient.
N/A = Not Available
ND = Not Detected.

TABLE 8.34

ALTERNATIVE MEASUREMENTS ENDPOINTS
BENTHIC MACROINVERTEBRATE COMMUNITY
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

	COEC		
SOURCE	*Copper*	Selenium	Thallium
ARCS			
NEC	54.8	-	-
PEC	77.7	-	-
TEC	28	-	-
CCME			
ISQG	35.7	-	-
PEL	197	-	-
MacDonald et al. (2000)			
PEC	149	-	-
TEC	31.6	-	-
OSWER			
ET	34	-	-
U.S. EPA			
Reg. IV	18.7	-	-
Reg. V	16	-	-
Reg. VI	34	-	-
Washington DOE			
NEL	390	-	-
Ontario MOE			
LEL	16	-	-
SEL	110	-	-
NOAA			
ER-L	34	-	-
ER-M	270	-	-

TABLE 8.35

RISK TO FISH FROM COECs IN BEAVERDAM BROOK/OTTER KILL SURFACE WATER
FROMER LAGOON SITE
HAMPTONBURGH, NEW YORK

		ORNL Fish (1)		Literature Toxicity Values						Selected Measurement	95%	
COEC	*Units*	*EC20*	*LCV*	*Value*	*Study Duration*	*Endpoint*	*Effect*	*Species*	*Ref.*	*Endpoint Value*	*UCL*	*HQ*
Bis(2-ethylhexyl)phthalate	ug/L	> 54	912~	-	-	-	-	-	-	54	101	1.9
Di-n-octyl phthalate	ug/L	< 100	3,822	-	-	-	-	-	-	100	35.2	0.35
Cyanide	ug/L	5.3	7.8	114*	8 days	LC50	mortality	fathead minnow	(2)	5.3	12.1	2.3
				114*	10 days	LC50	mortality	fathead minnow	(2)			
				99.1*	6 days	LC50	mortality	fathead minnow	(2)			
				118*	10 days	LETC	mortality	fathead minnow	(2)			
				126*	17 days	LETC	mortality	fathead minnow	(2)			
				91.5*	35 days	LETC	mortality	fathead minnow	(2)			

Notes :
- = No Value.
* as sodium cyanide.
~ all aquatic organisms.
HQ = Hazard Quotient.
EC20 = Concentration at which effect is observed in 20% of test species.
LC50 = Lethal Concentration for 50% of test species.
LCV = Lowest Chronic Value.
LETC = Lethal Threshold Concentration.
ND = Not Detected.
(1) Toxicological Benchmarks for Screening Potential Contaminants of Concern for Effects on Aquatic Biota, ORNL, 1996.
(2) AQUIRE, 1999, U.S.EPA ECOTOX Database System.

TABLE 8.36

SUMMARY OF SURFACE SOIL DATASET EXCLUDING SAMPLES FROM LAGOON 6
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Parameters	Units	DETECTION FREQUENCY (1) Detects / Total	RANGE OF DETECTS (1) Min. - Max.	Background Mean Conc. (2)	Mean Conc. (1)	95% UCL Conc. (1)	Measurement Endpoint	Hazard Quotients Maximum	Hazard Quotients Mean	Hazard Quotients UCL
Volatile Organic Compounds (VOCs)										
Acetone	ug/kg	2 / 13	1 J - 18	-	6.19	8.24	2,500	0.007	0.002	0.003
Tetrachloroethene	ug/kg	4 / 13	3 J - 51 J	-	8.69	16.2	2,000	0.03	0.004	0.008
Toluene	ug/kg	1 / 13	13	-	5.00	6.51	65,000	0.0002	0.00008	0.0001
Xylenes (total)	ug/kg	1 / 13	2 J	-	3.96	4.78	12,500	0.0002	0.0003	0.0004
TIC VOCs										
Cyclohexane	ug/kg	1 / 1	6	-	6	-	100	0.06	0.06	-
Semi-Volatile Organic Compounds (SVOCs)										
4-Methylphenol	ug/kg	0 / 13	ND	-	-	-	500	-	-	-
Benzoic acid	ug/kg	0 / 13	ND	-	-	-	N/A	-	-	-
n-Nitrosodiphenylamine	ug/kg	1 / 13	44 J	-	170	191	20,000	0.002	0.008	0.01
Phthalates							35,000*			
Bis(2-Ethylhexyl)phthalate	ug/kg	9 / 13	50 J - 600 J	-	173	264	N/A	-	-	-
Di-n-Octyl phthalate	ug/kg	1 / 13	370	-	194	223	N/A	-	-	-
PAHs							20500*	-	-	-
Benzo(a)anthracene	ug/kg	2 / 13	62 J - 150 J	-	169	187	N/A	-	-	-
Benzo(a)pyrene	ug/kg	2 / 13	57 J - 200 J	-	172	191	N/A	-	-	-
Benzo(b)fluoranthene	ug/kg	1 / 13	120 J	-	175	185	N/A	-	-	-
Chrysene	ug/kg	2 / 13	110 J - 230 J	-	178	192	N/A	-	-	-
Fluoranthene	ug/kg	5 / 13	61 J - 130 J	-	144	172	N/A	-	-	-
Phenanthrene	ug/kg	2 / 13	43 J - 86 J	-	162	186	N/A	-	-	-
Pyrene	ug/kg	4 / 13	59 J - 220 J	-	161	186	N/A	-	-	-

TABLE 8.36

SUMMARY OF SURFACE SOIL DATASET EXCLUDING SAMPLES FROM LAGOON 6
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Parameters	Units	DETECTION FREQUENCY (1) Detects / Total	RANGE OF DETECTS (1) Min. - Max.	Background Mean Conc. (2)	Mean Conc. (1)	95% UCL Conc. (1)	Measurement Endpoint	Hazard Quotients Maximum	Hazard Quotients Mean	Hazard Quotients UCL
TIC SVOCs										
Bipyridine Isomer	ug/kg	1 / 1	200	-	200	-	N/A	-	-	-
Chlorothioxanthenone isomer 1	ug/kg	1 / 1	200	-	200	-	N/A	-	-	-
Chlorothioxanthenone isomer 2	ug/kg	1 / 1	100	-	100	-	N/A	-	-	-
Pesticides/PCBs										
Heptachlor	ug/kg	0 / 14	ND	-	-	-	500	-	-	-
Heptachlor epoxide	ug/kg	0 / 14	ND	-	-	-	500	-	-	-
Endosulfan I	ug/kg	0 / 14	ND	-	-	-	3,570	-	-	-
Endosulfan sulfate	ug/kg	0 / 15	ND	-	-	-	3,570	-	-	-
Methoxychlor	ug/kg	0 / 14	ND	-	-	-	2,500	-	-	-
BHC Group							1,000	-	-	-
beta-BHC	ug/kg	0 / 14	ND	-	-	-	N/A	-	-	-
delta-BHC	ug/kg	0 / 14	ND	-	-	-	N/A	-	-	-
DDT/DEE/DDD Group							2,000	-	-	-
4,4'-DDT	ug/kg	1 / 14	2.5 J	-	4.8	6.6	N/A	-	-	-
4,4'-DDE	ug/kg	0 / 14	ND	-	-	-	N/A	-	-	-
DRINs Group							2,000	-	-	-
Aldrin	ug/kg	0 / 14	ND	-	-	-	N/A	-	-	-
Dieldrin	ug/kg	0 / 14	ND	-	-	-	N/A	-	-	-
Endrin	ug/kg	0 / 14	ND	-	-	-	N/A	-	-	-
Endrin aldehyde	ug/kg	2 / 8	32 - 34	-	10	20	N/A	-	-	-
Endrin ketone	ug/kg	0 / 14	ND	-	-	-	N/A	-	-	-
PCBs										
Aroclor-1254	ug/kg	3 / 13	30 J - 34 J	-	52	70	371	0.09	0.14	0.19

TABLE 8.36

SUMMARY OF SURFACE SOIL DATASET EXCLUDING SAMPLES FROM LAGOON 6
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

Parameters	Units	DETECTION FREQUENCY (1) Detects / Total	RANGE OF DETECTS (1) Min. - Max.	Background Mean Conc. (2)	Mean Conc. (1)	95% UCL Conc. (1)	Measurement Endpoint	Hazard Quotients Maximum	Hazard Quotients Mean	Hazard Quotients UCL
Inorganics										
Aluminum[3]	mg/kg	16 / 16	9920 - 21,800	21,450	16,429	18,031	23,300	1.02	0.71	0.77
Antimony[4]	mg/kg	1 / 16	12.5	ND	2.0	3.5	3.5	3.5	0.56	1.0
Arsenic[5]	mg/kg	16 / 16	5.9 - 15.2	5.1	8.3	9.5	13.9	1.1	0.6	0.7
Barium	mg/kg	16 / 16	23 - 102	70.3	54	63	283	0.36	0.19	0.22
Beryllium	mg/kg	12 / 16	0.47 - 1.0	0.88	0.67	0.77	10	0.10	0.07	0.08
Cadmium[6]	mg/kg	9 / 16	0.023 - 3.7	3.6	1.2	1.9	4.0	0.93	0.30	0.48
Calcium[7]	mg/kg	16 / 16	109 - 3,030	583	969	1,768	N/A	-	-	-
Chromium[5]	mg/kg	16 / 16	12.3 - 30	28.8	21	23	31.1	0.96	0.67	0.74
Cobalt[5]	mg/kg	15 / 16	4.3 - 20	14.2	13	15	13	1.5	1.0	1.2
Copper[5]	mg/kg	16 / 16	25.4 - 60	33	38	42	49.6	1.2	0.76	0.85
Cyanide	mg/kg	0 / 16	ND	ND	--	--	10.5	-	-	-
Iron	mg/kg	16 / 16	21,800 - 36,300	35,200	29,309	31,482	48,500	0.75	0.60	0.65
Lead[5]	mg/kg	16 / 16	10.6 - 202	20.8	34	57	25.9	7.8	1.3	2.2
Magnesium[7]	mg/kg	16 / 16	4,400 - 8,280	7,695	6,500	7,183	N/A	-	-	-
Manganese[5]	mg/kg	16 / 16	601 - 1,670	943	1,036	1,165	1,430	1.2	0.72	0.81
Mercury[4]	mg/kg	9 / 19	0.12 - 1.6	ND	0.25	0.45	2.2	0.73	0.11	0.20
Nickel[3]	mg/kg	16 / 16	19.3 - 27.8	34.2	27.8	30.0	43.1	0.65	0.65	0.70
Potassium[7]	mg/kg	16 / 16	724 - 1,890	1,390	1,251	1,407	N/A	-	-	-
Selenium[5]	mg/kg	7 / 16	0.75 - 0.99	ND	0.51	0.69	0.21	4.7	2.4	3.3
Silver	mg/kg	3 / 16	0.12 - 0.14	0.13	0.24	0.32	2.0	0.07	0.12	0.16
Sodium	mg/kg	16 / 16	27.5 - 122	115	54	68	N/A	-	-	-
Thallium[3]	mg/kg	9 / 16	0.68 - 1.1	ND	0.59	0.77	2.5	0.44	0.24	0.31
Vanadium[5]	mg/kg	16 / 16	14.1 - 31	32	24	26	33.7	0.92	0.70	0.77
Zinc[5]	mg/kg	16 / 16	63.3 - 594	99.7	121	183	113	5.3	1.1	1.6

Notes :

(1) Based on data collected during 1991, 1995, and 2003, excluding soil sample locations from Lagoon 6.

(2) Based on background sampling locations : MW-1D and BH-4.

(3) Measurement endpoint is maximum background concentration.

(4) Measure is endpoint is the MPC

(5) On-Site concentrations are consistent with background concentrations.

(6) Measurement endpoint is the lowest concentration above the maximum site-specific background concentration.

(7) Essential nutrient.

ND - Not Detected

J - Associated value is estimated.

* = Total allowable concentration for all isomers of the 'chemical group', in which the parameter is included.

Bold Font identifies those constituents detected in Lagoon 6 only.

TABLE 8.37

RISK TO BENTHIC INVERTEBRATES FROM COECs IN BEAVERDAM BROOK/OTTER KILL SEDIMENTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

COECs	Units	*Range of Measurement Endpoints* Low	High	*EPC (1)*	*Number of Samples Outside Range of Measurement Endpoints*	*Background Mean Conc.*	*HQ (2) Low*	*High*
Copper	mg/kg	16	390	685	4	14	701	1.8
Selenium	mg/kg	2.9	NA	31.4	1	1.2	11	-
Thallium	mg/kg	2.6	NA	18.1	2	0.89	7.0	-

Notes:
- = No Value.
EPC = Exposure Point Concentration
NA = Not Available
ND = Not Detected
(1) Exposure point concentration (EPC) equals the maximum detected sediment concentration.
(2) The Hazard Quotient (HQ) equals the EPC divided by the measurement endpoint value.

TABLE 8.38

EXPOSURE ADJUSTED RISK TO THE CARNIVORES
FROM COECs BIOACCUMULATED IN SMALL MAMMAL AND FISH TISSUE FROM SOIL
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

RED-TAILED HAWK

COEC	LOAEL HQ		Exposure Factor Range		Exposure Adjusted Range	Exposure Adjusted Range
	Mean	95% UCL	Min	Max	Mean LOAEL HQ	95% UCL LOAEL HQ
PCBs	0.24	0.58	0.2	0.75	0.05 to 0.18	0.12 to 0.44
Mercury	3.0	7.0	0.2	0.75	0.60 to 0.2.4	1.4 to 5.2

MINK

COEC	LOAEL HQ		Exposure Factor Range		Exposure Adjusted Range	Exposure Adjusted Range
	Mean	95% UCL	Min	Max	Mean LOAEL HQ	95% UCL LOAEL HQ
Cyanide	0.02	0.04	0.046	0.099	0.001 to 0.002	0.002 to 0.004
Copper	0.48	0.75	0.046	0.099	0.02 to 0.05	0.03 to 0.07
Selenium	4.1	6.0	0.046	0.099	0.19 to 0.41	0.28 to 0.59
Thallium	10	14	0.046	0.099	0.46 to 1.0	0.67 to 1.4

BELTED KINGFISHER

COEC	LOAEL HQ		Exposure Factor Range		Exposure Adjusted Range	Exposure Adjusted Range
	Mean	95% UCL	Min	Max	Mean LOAEL HQ	95% UCL LOAEL HQ
Copper	0.77	1.20	0.056	0.31	0.04 to 0.24	0.07 to 0.37
Selenium	7.5	11	0.056	0.31	0.42 to 2.3	0.62 to 3.4

Notes:

LOAEL = Lowest Observed Adverse Effect Level.

TABLE 9.1

IEUBK MODEL INPUT PARAMETERS, EXPOSURE, AND ROUTE POINT CONCENTRATION INPUTS
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

AIR CONCENTRATIONS

Indoor Air Pb Concentrations: 30.0 percent of outdoor

Other Air Parameters:

Age (Years)	*Time Outdoors (Hours)*	*Ventilation Rate (m^3/day)*	*Lung Absorption (%)*
0-1	1.0	2.0	32.0
1-2	2.0	3.0	32.0
2-3	3.0	5.0	32.0
3-4	4.0	5.0	32.0
4-5	4.0	5.0	32.0
5-6	4.0	7.0	32.0
6-7	4.0	7.0	32.0

DIETARY INTAKE

Default Concentrations (Variable)

Age (Years)	*(µg/day)*
0-1	5.53
1-2	5.78
2-3	6.49
3-4	6.24
4-5	6.01
5-6	6.34
6-7	7

DRINKING WATER CONCENTRATION

Site-Specific Concentration: 4.18 µg Pb/L

Age (Years)	*Water Consumption (L/day)*
0-1	0.2
1-2	0.5
2-3	0.52
3-4	0.53
4-5	0.55
5-6	0.58
6-7	0.59

ABSORPTION METHODOLOGY: **Non-Linear Active - Passive**

SOIL AND DUST

SOIL (Constant Concentration): Default = 200.0 µg Pb/g

DUST: (Constant Concentration): Default = 150.0 µg Pb/g

Outdoor Air (µg Pb/m^3)	*Age (Years)*	*Soil (µg Pb/g)*	*House Dust (µg Pb/g)*
0.002	0-1	16.1	16.1
0.002	1-2	16.1	16.1
0.002	2-3	16.1	16.1
0.002	3-4	16.1	16.1
0.002	4-5	16.1	16.1
0.002	5-6	16.1	16.1
0.002	6-7	16.1	16.1

PAINT INTAKE : 0.00 µg Pb/day

MATERNAL CONTRIBUTION : Infant Model

Maternal Blood Concentration: 2.50 µg Pb/dL (default)

TABLE 9.2
COMPARISON OF SITE SURFACE SOIL DATA TO BACKGROUND SURFACE SOIL DATA
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

CAS Number	Chemical	Site (1)							Background (2)						
		Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Units	Detection Frequency	Arithmetic Mean (3)	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Units	Detection Frequency	Arithmetic Mean (3)
	INORGANICS														
7429-90-5	Aluminum	9920		21800		mg/kg	16/16	1.64E+04	8600		20900		mg/kg	15/15	1.61E+04
7440-36-8	Antimony	12.5		12.5		mg/kg	1/16	1.98E+00	0.55	J	0.56	J	mg/kg	2/15	2.95E-01
7440-38-2	Arsenic	5.9		15.2		mg/kg	16/16	8.30E+00	3.3		9.8	J	mg/kg	15/15	6.98E+00
7440-39-3	Barium	23		102		mg/kg	16/16	5.40E+01	26.1	J	78.2		mg/kg	15/15	4.59E+01
7440-41-7	Beryllium	0.47	J	1.0		mg/kg	12/16	6.68E-01	0.38	J	0.9	J	mg/kg	15/15	6.76E-01
7440-43-9	Cadmium	2.1		3.7		mg/kg	6/16	1.18E+00	ND		ND		mg/kg	0/6	1.15E-02
7440-70-2	Calcium	109		3030		mg/kg	16/16	9.18E+02	179	J	4540	J	mg/kg	15/15	7.16E+02
7440-47-3	Chromium	12.3		30		mg/kg	16/16	2.10E+01	11.3		28.6		mg/kg	15/15	1.90E+01
7440-48-4	Cobalt	7.9		19.6		mg/kg	15/16	1.31E+01	7.6	J	17.7		mg/kg	15/15	1.14E+01
7440-50-8	Copper	25.4		60.1		mg/kg	16/16	3.78E+01	13.5		38.2		mg/kg	15/15	2.51E+01
7439-89-6	Iron	21800		36300		mg/kg	16/16	2.93E+04	18800		37300		mg/kg	15/15	2.81E+04
7439-92-1	Lead	10.6		202		mg/kg	16/16	3.44E+01	8.0		20.5		mg/kg	15/15	1.44E+01
7439-95-4	Magnesium	4400		8280		mg/kg	16/16	6.50E+03	3630		8050		mg/kg	15/15	5.72E+03
7439-96-5	Manganese	601		1670		mg/kg	16/16	1.04E+03	287		1430		mg/kg	15/15	7.08E+02
7439-97-6	Mercury	0.12		1.6		mg/kg	9/16	2.48E-01	0.058	J	0.086	J	mg/kg	3/15	3.70E-02
7440-02-0	Nickel	19.3		37.1		mg/kg	16/16	2.78E+01	16.6		32.5		mg/kg	15/15	2.43E+01
7440-09-7	Potassium	724		1890		mg/kg	16/16	1.25E+03	11.2	J	1320		mg/kg	15/15	9.61E+02
7782-49-2	Selenium	0.75		0.99		mg/kg	7/16	5.08E-01	ND		ND		mg/kg	0/15	2.55E-01
7440-22-4	Silver	0.12	J	0.14	J	mg/kg	3/16	2.38E-01	0.098	J	0.29	J	mg/kg	4/15	7.72E-02
7440-23-5	Sodium	27.5		122		mg/kg	16/16	5.39E+01	30.2	J	60.5	J	mg/kg	15/15	4.02E+01
7440-28-0	Thallium	0.68		1.1		mg/kg	9/16	5.92E-01	0.77	J	2	J	mg/kg	14/15	1.26E+00
7440-62-2	Vanadium	14.1		30.9		mg/kg	16/16	2.37E+01	12.7		27.3		mg/kg	15/15	2.17E+01
7440-66-6	Zinc	63.3		594		mg/kg	16/16	1.21E+02	47.0		99.8		mg/kg	15/15	7.18E+01
57-12-5	Cyanide	ND		ND		mg/kg	0/16	4.04E-01	ND		ND		mg/kg	0/15	2.89E-01

Notes:

(1) Based on data collected during 1991, 1995, 1996, and 2003.

(2) Based on data collected from background sampling locations : S-2, S-3, S-4, S-5, S-6, S-7, S-8, S-9, S-10, S-11, S-12, S-13, S-14, S-15, S-18.

(3) Arithmetic mean based on detected concentrations and 1/2 detection limits.

ND Not Detected

J Associated value is estimated.

TABLE 9.3
COMPARISON OF SITE SURFACE WATER DATA TO BACKGROUND SURFACE WATER DATA
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

CAS Number	Chemical	Site (1)							Background (2)						
		Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Units	Detection Frequency	Arithmetic Mean (3)	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Units	Detection Frequency	Arithmetic Mean (3)
	INORGANICS														
7429-90-5	Aluminum	65.3		629		ug/L	6/13	2.10E+02	62.4		677	J	ug/L	5/7	2.09E+02
7440-36-8	Antimony	ND		ND		ug/L	0/13	5.49E+00	40.4		40.4		ug/L	1/7	1.28E+01
7440-38-2	Arsenic	1.5		3.8		ug/L	7/13	1.82E+00	2.1		4.3		ug/L	3/7	2.00E+00
7440-39-3	Barium	7.8		26.2		ug/L	13/13	1.62E+01	6.5		25.6		ug/L	7/7	1.37E+01
7440-41-7	Beryllium	0.80		1.1		ug/L	4/13	4.31E-01	0.60		1.0		ug/L	4/7	5.14E-01
7440-43-9	Cadmium	ND		ND		ug/L	0/13	9.32E-01	ND		ND		ug/L	0/7	1.51E+00
7440-70-2	Calcium	26000		59600		ug/L	13/13	4.30E+04	34100		58900		ug/L	7/7	4.68E+04
7440-47-3	Chromium	0.70		0.70		ug/L	1/13	1.78E+00	ND		ND		ug/L	0/7	2.99E+00
7440-50-8	Copper	3.3		10.7		ug/L	6/13	4.39E+00	1.7		23.2		ug/L	5/7	8.18E+00
7439-89-6	Iron	152		2260		ug/L	13/13	9.23E+02	237		1050		ug/L	7/7	6.72E+02
7439-92-1	Lead	2.2		2.2		ug/L	1/13	8.74E-01	1.3		2.9		ug/L	3/7	1.05E+00
7439-95-4	Magnesium	3330		9030		ug/L	13/13	6.90E+03	5820	J	8460		ug/L	7/7	7.52E+03
7439-96-5	Manganese	65.9		607		ug/L	13/13	2.38E+02	50.8		578	J	ug/L	7/7	2.36E+02
7439-97-6	Mercury	ND		ND		ug/L	0/13	6.54E-02	ND		ND		ug/L	0/7	7.86E-02
7440-02-0	Nickel	1.5		14.8		ug/L	3/13	3.48E+00	14.7		14.7		ug/L	1/7	5.57E+00
7440-09-7	Potassium	300		3,630		ug/L	13/13	1.26E+03	94.6		3850		ug/L	7/7	1.95E+03
7782-49-2	Selenium	ND		ND		ug/L	0/13	6.88E-01	ND		ND		ug/L	0/7	4.64E-01
7440-22-4	Silver	ND		ND		ug/L	0/13	1.85E+00	ND		ND		ug/L	0/7	3.05E+00
7440-23-5	Sodium	3460		32700		ug/L	13/13	1.73E+04	7820		33400		ug/L	7/7	1.91E+04
7440-28-0	Thallium	2.8		2.8		ug/L	1/13	1.18E+00	1.5		1.8		ug/L	1/7	1.07E+00
7440-62-2	Vanadium	2.2		2.2		ug/L	1/13	1.60E+00	ND		ND		ug/L	0/7	2.01E+00
7440-66-6	Zinc	4.1		50.6		ug/L	9/13	1.31E+01	4.9		42.8		ug/L	4/7	1.10E+01
57-12-5	Cyanide	54.4	J	54.4	J	ug/L	1/13	8.80E+00	ND		ND		ug/L	0/7	5.00E+00

Notes:

(1) Based on data collected from sampling locations : 4 (1991), 7 (1991), SWII-2 (1995), SWII-4 (1995), SWII-7 (1995).

(2) Based on data collected from background sampling locations : 3 (1991), 6 (1991), SWII-9 (1995).

(3) Arithmetic mean based on detected concentrations and 1/2 detection limits.

ND Not Detected

J Associated value is estimated.

TABLE 9.4
COMPARISON OF LAGOON 6 SURFACE SOIL DATA TO BACKGROUND SURFACE SOIL DATA
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

CAS Number	Chemical	Site (1)							Background (2)						
		Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Units	Detection Frequency	Arithmetic Mean (3)	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Units	Detection Frequency	Arithmetic Mean (3)
	INORGANICS														
7429-90-5	Aluminum	6150		19100		mg/kg	5/5	1.50E+04	8600		20900		mg/kg	15/15	1.61E+04
7440-36-8	Antimony	ND		ND		mg/kg	0/5	8.67E-01	0.55	J	0.56	J	mg/kg	2/15	2.95E-01
7440-38-2	Arsenic	4.7		47.6		mg/kg	5/5	1.62E+01	3.3		9.8	J	mg/kg	15/15	6.98E+00
7440-39-3	Barium	11.5	J	131	J	mg/kg	5/5	5.01E+01	26.1	J	78.2		mg/kg	15/15	4.59E+01
7440-41-7	Beryllium	0.36	J	0.88		mg/kg	4/5	6.26E-01	0.38	J	0.9	J	mg/kg	15/15	6.76E-01
7440-43-9	Cadmium	4.4		4.4		mg/kg	1/5	9.24E-01	ND		ND		mg/kg	0/6	1.15E-02
7440-70-2	Calcium	164	J	2020		mg/kg	5/5	9.49E+02	179	J	4540	J	mg/kg	15/15	7.16E+02
7440-47-3	Chromium	8.8		60.7		mg/kg	5/5	3.17E+01	11.3		28.6		mg/kg	15/15	1.90E+01
7440-48-4	Cobalt	5.7	J	12.1		mg/kg	5/5	9.52E+00	7.6	J	17.7		mg/kg	15/15	1.14E+01
7440-50-8	Copper	38.8		108		mg/kg	5/5	6.03E+01	13.5		38.2		mg/kg	15/15	2.51E+01
7439-89-6	Iron	15500		42400		mg/kg	5/5	3.31E+04	18800		37300		mg/kg	15/15	2.81E+04
7439-92-1	Lead	18.6		85.9		mg/kg	4/5	2.62E+01	8.0		20.5		mg/kg	15/15	1.44E+01
7439-95-4	Magnesium	3340		9130		mg/kg	5/5	7.09E+03	3630		8050		mg/kg	15/15	5.72E+03
7439-96-5	Manganese	147		545		mg/kg	5/5	3.26E+02	287		1430		mg/kg	15/15	7.08E+02
7439-97-6	Mercury	0.078	J	23.4		mg/kg	5/5	5.16E+00	0.058	J	0.086	J	mg/kg	3/15	3.70E-02
7440-02-0	Nickel	12.7		40.9		mg/kg	5/5	2.95E+01	16.6		32.5		mg/kg	15/15	2.43E+01
7440-09-7	Potassium	496	J	1910		mg/kg	5/5	1.38E+03	11.2	J	1320		mg/kg	15/15	9.61E+02
7782-49-2	Selenium	0.91		0.92		mg/kg	1/5	3.33E-01	ND		ND		mg/kg	0/15	2.55E-01
7440-22-4	Silver	0.16	J	0.17	J	mg/kg	3/5	2.10E-01	0.098	J	0.29	J	mg/kg	4/15	7.72E-02
7440-23-5	Sodium	34.6	J	430		mg/kg	5/5	1.25E+02	30.2	J	60.5	J	mg/kg	15/15	4.02E+01
7440-28-0	Thallium	0.33	JS	2.1	J	mg/kg	5/5	1.20E+00	0.77	J	2	J	mg/kg	14/15	1.26E+00
7440-62-2	Vanadium	8.3	J	41.2		mg/kg	5/5	2.68E+01	12.7		27.3		mg/kg	15/15	2.17E+01
7440-66-6	Zinc	46.4		125		mg/kg	5/5	9.57E+01	47.0		99.8		mg/kg	15/15	7.18E+01
57-12-5	Cyanide	0.53		7.6		mg/kg	4/5	2.10E+00	ND		ND		mg/kg	0/15	2.89E-01

Notes:

(1) Based on data collected from sampling locations : TP-41, SSII-6, L6-2, L6-4, and L6-5.

(2) Based on data collected from background sampling locations : S-2, S-3, S-4, S-5, S-6, S-7, S-8, S-9, S-10, S-11, S-12, S-13, S-14, S-15, S-18.

(3) Arithmetic mean based on detected concentrations and 1/2 detection limits.

ND Not Detected

J Associated value is estimated.

S The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.

TABLE 9.5
COMPARISON OF SITE SURFACE AND SUBSURFACE SOIL DATA TO BACKGROUND SURFACE AND SUBSURFACE SOIL DATA
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

CAS Number	Chemical	Site (1)							Background (2)						
		Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Units	Detection Frequency	Arithmetic Mean (3)	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Units	Detection Frequency	Arithmetic Mean (3)
	INORGANICS														
7429-90-5	Aluminum	2940		294000		mg/kg	163/163	1.54E+04	8600		20900		mg/kg	30/30	1.53E+04
7440-36-8	Antimony	0.82	J	67.5		mg/kg	24/163	1.50E+00	0.55	J	0.56	J	mg/kg	2/30	2.70E-01
7440-38-2	Arsenic	2.2	J	87.5		mg/kg	161/163	6.96E+00	3.3		13.9	J	mg/kg	30/30	7.59E+00
7440-39-3	Barium	10.8	S	114		mg/kg	163/163	4.35E+01	24.5	J	79.2		mg/kg	30/30	4.49E+01
7440-41-7	Beryllium	0.16	J	1.1	S	mg/kg	158/163	6.39E-01	0.33	J	0.96	J	mg/kg	30/30	6.86E-01
7440-43-9	Cadmium	0.024	J	13.6		mg/kg	90/163	4.49E+01	0.23	J	0.23	J	mg/kg	1/12	2.95E-02
7440-70-2	Calcium	109	S	44400		mg/kg	163/163	2.41E+03	179	J	19100	J	mg/kg	30/30	1.51E+03
7440-47-3	Chromium	9.0		184		mg/kg	163/163	2.10E+01	9.3		28.8		mg/kg	30/30	1.93E+01
7440-48-4	Cobalt	2.5	J	21.1		mg/kg	161/163	1.24E+01	7.6	J	25.4		mg/kg	30/30	1.25E+01
7440-50-8	Copper	11		2890		mg/kg	163/163	1.34E+03	13.5		49.6		mg/kg	30/30	2.91E+01
7439-89-6	Iron	3980		42400		mg/kg	163/163	2.55E+04	17900		48500		mg/kg	30/30	3.00E+04
7439-92-1	Lead	4.6	J	202		mg/kg	163/163	3.17E+02	8.0		25.8		mg/kg	30/30	1.57E+01
7439-95-4	Magnesium	1310		10200		mg/kg	163/163	5.46E+03	3630		12300		mg/kg	30/30	6.40E+03
7439-96-5	Manganese	92.7	J	2470		mg/kg	163/163	8.31E+02	287		1430		mg/kg	30/30	8.30E+02
7439-97-6	Mercury	0.05		79.9		mg/kg	84/163	3.86E+00	0.058	J	0.086	J	mg/kg	7/30	3.78E-02
7440-02-0	Nickel	6.4	J	53.3		mg/kg	163/163	7.75E+01	14.3		43.1		mg/kg	30/30	2.63E+01
7440-09-7	Potassium	349	J	2840		mg/kg	163/163	1.09E+03	11.2	J	2170		mg/kg	30/30	1.10E+03
7782-49-2	Selenium	0.07	S	0.99		mg/kg	13/163	1.83E+00	ND		ND		mg/kg	0/30	2.50E-01
7440-22-4	Silver	0.09		0.35		mg/kg	66/163	1.59E-01	0.087	J	0.29	J	mg/kg	15/30	9.01E-02
7440-23-5	Sodium	4.12	J	2740		mg/kg	163/163	2.26E+02	30.2	J	66.4	J	mg/kg	30/30	4.27E+01
7440-28-0	Thallium	0.35		2.0	J	mg/kg	99/163	4.84E+00	0.77	J	2.5		mg/kg	27/30	1.30E+00
7440-62-2	Vanadium	6.9	J	204		mg/kg	163/163	2.10E+01	12.7		27.3		mg/kg	30/30	2.10E+01
7440-66-6	Zinc	20.7		1010		mg/kg	163/163	9.18E+01	47.0		107		mg/kg	30/30	7.80E+01
57-12-5	Cyanide	0.59		54.8		mg/kg	37/163	1.48E+00	ND		ND		mg/kg	0/30	2.83E-01

Notes:

(1) Based on data collected during 1991, 1995, 1996, and 2003.

(2) Based on data collected from background sampling locations : S-2, S-3, S-4, S-5, S-6, S-7, S-8, S-9, S-10, S-11, S-12, S-13, S-14, S-15, S-18.

(3) Arithmetic mean based on detected concentrations and 1/2 detection limits.

ND Not Detected

J Associated value is estimated.

S The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.

TABLE 9.6
COMPARISON OF LAGOON 6 SURFACE AND SUBSURFACE SOIL DATA TO BACKGROUND SURFACE AND SUBSURFACE SOIL DATA
FORMER LAGOON SITE
HAMPTONBURGH, NEW YORK

CAS Number	Chemical	Site (1)							Background (2)						
		Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Units	Detection Frequency	Arithmetic Mean (3)	Minimum Detected Concentration	Minimum Qualifier	Maximum Detected Concentration	Maximum Qualifier	Units	Detection Frequency	Arithmetic Mean (3)
	INORGANICS														
7429-90-5	Aluminum	6150		19600		mg/kg	13/13	1.53E+04	8600		20900		mg/kg	30/30	1.53E+04
7440-36-8	Antimony	0.53	J	0.53	J	mg/kg	1/13	5.08E-01	0.55	J	0.56	J	mg/kg	2/30	2.70E-01
7440-38-2	Arsenic	4.7		47.6		mg/kg	13/13	1.16E+01	3.3		13.9	J	mg/kg	30/30	7.59E+00
7440-39-3	Barium	11.5	J	131	J	mg/kg	13/13	3.93E+01	24.5	J	79.2		mg/kg	30/30	4.49E+01
7440-41-7	Beryllium	0.36	J	1.7		mg/kg	12/13	7.54E-01	0.33	J	0.96	J	mg/kg	30/30	6.86E-01
7440-43-9	Cadmium	0.26	J	4.4		mg/kg	3/13	4.08E-01	0.23	J	0.23	J	mg/kg	1/12	2.95E-02
7440-70-2	Calcium	164	J	2020		mg/kg	13/13	1.03E+03	179	J	19100	J	mg/kg	30/30	1.51E+03
7440-47-3	Chromium	8.8		60.7		mg/kg	13/13	2.59E+01	9.3		28.8		mg/kg	30/30	1.93E+01
7440-48-4	Cobalt	5.7	J	18.8		mg/kg	13/13	1.18E+01	7.6	J	25.4		mg/kg	30/30	1.25E+01
7440-50-8	Copper	28.6		108		mg/kg	13/13	4.87E+01	13.5		49.6		mg/kg	30/30	2.91E+01
7439-89-6	Iron	15500		49200		mg/kg	13/13	3.38E+04	17900		48500		mg/kg	30/30	3.00E+04
7439-92-1	Lead	17.8		85.9		mg/kg	12/13	2.23E+01	8.0		25.8		mg/kg	30/30	1.57E+01
7439-95-4	Magnesium	3340		10600		mg/kg	13/13	7.58E+03	3630		12300		mg/kg	30/30	6.40E+03
7439-96-5	Manganese	147		1090		mg/kg	13/13	5.46E+02	287		1430		mg/kg	30/30	8.30E+02
7439-97-6	Mercury	0.078	J	23.4		mg/kg	8/13	2.11E+00	0.058	J	0.086	J	mg/kg	7/30	3.78E-02
7440-02-0	Nickel	12.7		41.4		mg/kg	13/13	3.01E+01	14.3		43.1		mg/kg	30/30	2.63E+01
7440-09-7	Potassium	496	J	1910		mg/kg	13/13	1.30E+03	11.2	J	2170		mg/kg	30/30	1.10E+03
7782-49-2	Selenium	0.91		0.92		mg/kg	1/13	2.88E-01	ND		ND		mg/kg	0/30	2.50E-01
7440-22-4	Silver	0.09		0.22	J	mg/kg	11/13	1.75E-01	0.087	J	0.29	J	mg/kg	15/30	9.01E-02
7440-23-5	Sodium	32.2	J	430		mg/kg	13/13	7.92E+01	30.2	J	66.4	J	mg/kg	30/30	4.27E+01
7440-28-0	Thallium	0.33	JS	2.9		mg/kg	12/13	1.26E+00	0.77	J	2.5		mg/kg	27/30	1.30E+00
7440-62-2	Vanadium	8.3	J	41.2		mg/kg	13/13	2.27E+01	12.7		27.3		mg/kg	30/30	2.10E+01
7440-66-6	Zinc	46.4		143		mg/kg	13/13	9.30E+01	47.0		107		mg/kg	30/30	7.80E+01
57-12-5	Cyanide	0.53		7.6		mg/kg	6/13	1.14E+00	ND		ND		mg/kg	0/30	2.83E-01

Notes:

(1) Based on data collected from sampling locations: TP-41 (1991), SSII-6 (1995), L6-TP3 (1996), L6-1 (2003), L6-2 (2003), L6-3 (2003), L6-4 (2003), L6-5 (2003), L6-6 (2003), L6-7 (2003).

(2) Based on data collected from background sampling locations : S-2, S-3, S-4, S-5, S-6, S-7, S-8, S-9, S-10, S-11, S-12, S-13, S-14, S-15, S-18.

(3) Arithmetic mean based on detected concentrations and 1/2 detection limits.

ND Not Detected

J Associated value is estimated.

S The reported value is less than the Contract Required Detection Limit, but greater than the Instrument Detection Limit.