Table 1

Soil Sample Locations Exceeding the Proposed NYSDEC Section 375 Part 6

Analyte/Building	Sample Identification	Detected Concentration (ug/kg)	Proposed NYSDEC Section 375 Part 6 Unrestricted Use Soil Cleanup Objectives for Commercial Use (ug/kg)
Building 3			
All Soils Exceeding the Cleanup Objectives for Commercial Use have been removed from this building			
Building 7			
Arsenic	Tank T4 Bldg28-T4D-041405	21,000	16,000
Arsenic	Bldg28pipetrench-center	22,400	16,000
Arsenic	Bldg28-GP1A-031805	32,000	16,000
Lead	B7-1-9.5-10-110805	1,230,000	1,000,000
Building 8/Service Corridor			
Benzo(a)anthracene	B51-(2-4)	24,000	5,600
Benzo(b)fluoranthene	B51-(2-4)	18,000	5,600
Dibenzo(a,h)anthracene	B51-(2-4)	4,800	560
Indeno(1,2,3-cd)pyrene	B51-(2-4)	13,000	5,600
Benzo(a)pyrene	B51-(2-4)	16,000	1,000
Benzo(a)pyrene	B48-(8-10)	1,800	1,000
Benzo(a)pyrene	B55-(0.5-4.5)	1,800	1,000
Benzo(a)pyrene	B57-(0-5)	1,800	1,000
Benzo(a)pyrene	UST1-NSW-033105	1,600	1,000
Benzo(a)pyrene	Coned-Bot1-022305	1,700	1,000

Notes:

ug/kg: micrograms per kilogram

Table 1B
Summary of Soil Sample Results 75 times Above the NYSDEC TAGM #4046 RSCOs

Analyte/Building	Soil Samples Above 75 times the NYSDEC TAGM #4046 RSCO[(1)]	Detected Concentration (ug/kg)	75-times NYSDEC TAGM 4046 RSCO[(2)] (ug/kg)
Metals			
No Exceedances 75-times TAGM			
VOCs (Building 3)			
Chloroform	B3-37-2.5-3-111405	151,000	4,500
Benzene	B3-37-2.5-3-111406	126,000	4,500
Dichloromethane (Methylene Chloride)	B3-37-2.5-3-111407	11,700	7,500
Methylbenzene (Toluene)	B3-37-2.5-3-111408	345,000	112,500
Tetrachloroethene	B3-37-2.5-3-111409	294,000	105,000
Trichloroethylene	B3-37-2.5-3-111410	1,420,000	52,500
SVOCs (Building 8)			
Benzo(a)anthracene	B51-(2-4)	24,000	16,800
Benzo(a)pyrene	B51-(2-4)	16,000	4,575
Benzo(b)fluoranthene	B51-(2-4)	18,000	16,500
Benzo(k)fluoranthene	B51-(2-4)	19,000	16,500
Dibenzo(a,h)anthracene	B51-(2-4)	4,800	1,050

Notes:

(1) Samples collected from following buildings:

B7-5E-9-9.5--Building 7, south end, 9 to 9.5 ft. bgs

B3-37-2.5-3--Building 3, south end, 2.5 to 3 ft. bgs (drain)

B51-(2-4)--Building 8, east end during initial RI, 2 to 4 ft. bgs

(2) RSCO from NYSDEC's TAGM HWR-94-4046, revised January 24, 1994

ug/kg: micrograms per kilogram

VOC: Volatile Organic Compounds

SVOC: Semivolatile Organic Compounds

Table 1C
Summary of Soil Sample Results 100 times Above the NYSDEC TAGM #4046 RSCOs

Analyte/Building	Soil Samples Above 100 times the NYSDEC TAGM #4046 RSCO[(1)]	Detected Concentration (ug/kg)	100-times NYSDEC TAGM 4046 RSCO[(2)] (ug/kg)
Metals			
No Exceedances 100-times TAGM			
VOCs (Building 3)			
Chloroform	B3-37-2.5-3-111405	151,000	6,000
Benzene	B3-37-2.5-3-111406	126,000	6,000
Dichloromethane (Methylene Chloride)	B3-37-2.5-3-111407	11,700	10,000
Methylbenzene (Toluene)	B3-37-2.5-3-111408	345,000	150,000
Tetrachloroethene	B3-37-2.5-3-111409	294,000	140,000
Trichloroethylene	B3-37-2.5-3-111410	1,420,000	70,000
SVOCs (Building 8)			
Benzo(a)anthracene	B51-(2-4)	24,000	22,400
Benzo(a)pyrene	B51-(2-4)	16,000	6,100
Dibenzo(a,h)anthracene	B51-(2-4)	4,800	1,400

Notes:

(1) Samples collected from following buildings:

B7-5E-9-9.5--Building 7, south end, 9 to 9.5 ft. bgs

B3-37-2.5-3--Building 3, south end, 2.5 to 3 ft. bgs (drain)

B51-(2-4)--Building 8, east end during initial RI, 2 to 4 ft. bgs

(2) RSCO from NYSDEC's TAGM HWR-94-4046, revised January 24, 1994

ug/kg: micrograms per kilogram

VOC: Volatile Organic Compounds

SVOC: Semivolatile Organic Compounds

TABLE 2
REMEDIAL COST ESTIMATE - ALTERNATIVE 1
ATLAS PARK SITE - PARCEL B
GLENDALE, NY

Item #		Description of Work	Unit	Estimated Quantity	Estimated Unit Price	Estimated Cost
PARCEL B PRESENT VALUE						
		Building Value	SF	108000	$50	$5,400,000
					Sub-Total	***$5,400,000***
APPROXIMATE REMEDIAL ACTION COSTS						
1		***Mobilization/Site Maintenance/Demobilization***				
	a	Mobilization/Demobilization/Permits/Site Maintenance	LS	1	$250,000	$250,000
	b	Facilities and Utilities	MNTH	5	$15,000	$75,000
	c	Health and Safety Monitoring Equipment	MNTHS	5	$4,000	$20,000
					Sub-Total	***$345,000***
2		***Sheeting and Shoring for Excavation***				
	a	Engineer Shoring System	LS	1	$20,000	$20,000
	b	Sheet Pile Shoring	LS	1	$300,000	$300,000
	c	Install Sheeting and Shoring	LS	1	$420,000	$420,000
					Sub-Total	***$740,000***
3		***Building Demolition***				
	a	Demolition of all Buildings on Parcel B	SF	108000	$10	$1,080,000
					Sub-Total	***$1,820,000***
4		***Remedial Excavation/Disposal/Stockpiling Costs***				
	a	Excavate, Haul, Dispose of Soils (10-ft Cut Across Site)	TON	84070	$50	$4,203,500
	b	Excavate, Haul, Dispose of Deeper "Hot Spot" Soils	TON	2000	$100	$200,000
	c	Excavate, Haul, Dispose of Haz Lead Soils in Bldg 7	TON	1000	$250	$250,000
	d	Backfill to Previous Grade	TON	84930	$35	$2,972,550
	e	Laboratory Costs for Disposal Sampling (Lab Analysis)	EA	170	$1,200	$204,000
					Sub-Total	***$7,830,050***
5		***Engineering and Institutional Controls***				
	a	Sub Slab Depressurization Systems (Buildings 3, 7, and 8)	EA	3	$100,000	$300,000
	b	Operation and Maintenance (20 Years)	YR	20	$7,500	$150,000
					Sub-Total	***$450,000***
6		***Laboratory/Data Validation Costs***				
	a	End Point Soil Samples	EA	170	$1,000	$170,000
	b	Sidewall Soil Samples	EA	27	$1,000	$27,000
	c	Data Validation	LS	1	$15,000	$15,000
					Sub-Total	***$212,000***
7		***Environmental Consultant Fees (Langan)***				
	a	Langan Office and Field Oversight	MNTH	5	$100,000	$500,000
	b	Reporting (RAWP, FER, OM&M, SSDS Design)	LS	1	$100,000	$100,000
					Sub-Total	**$600,000**
					Total Capitol Costs	$17,397,050
					Administration, Insurance, and Engineering (15%)	$2,609,558
					Contingency (30%)	$5,219,115
					TOTAL ESTIMATED COSTS FOR ALTERNATIVE #1	**$25,225,723**
					ROUND TO	**$25,300,000**

Line Item Notes

1a Mobilization and demobilization cost estimate includes mobolization and demobilization of all labor, equipment, and materials necessary to excavate, transport, and dispose offsite the targeted soil in the excavation areas and the USTs. Any project related permit or regulation fees associated with this project are assumed to be part of the mobilization cost. Soil and Erosion Plan and Stormwater Management cost estimate assumes appropriate application of BMPs and tempory stormwater systems.

1b Facilties and Utilities cost estimate includes cost of leasing and installing the office trailers and connections to utilities

2 Perimeter cost estimate assumes that sheet pile walls will be required along most of the southern, western and northern property boundaries. These bound critical critical structural locations such as Lon Island Railroad Easement, 80th Street Viaduct, and Cooper Avenue.

3a Demolition of Buildings 3, 7, and 8 including removal of foundations.

4a/b/c Soil Excavation cost estimate assumes typical excavation costs for the New York City area and an average disposal cost for the excavated soil. A cut of 10 feet across the site is assumed. A relatively small amount of hazardous material is expected in the Building 7 Area (approx 500 tons).

4d Site grade will be restored to historic grade prior to excavation activities. Backfill material will be Certified TAGM clean materials. Price includes placement of material.

4e Waste characterization sampling and analysis for soil disposal purposes, to facilitate disposal facility acceptance

5a SSDS systems installed in all buildings to mitigate potential residual vapors remaining in soil pore space. Material, construction, and oversight costs included. Does not include OM&M

5b Includes operation and maintenance of the three systems over an estimated 20 year period.

6 Soil sampling for end point and sidewall samples per DER-10.

7a Assumes a team of three Langan personnel onsite full time with office support when needed.

7b Cost to prepare and submit Remedial Action Workplan, Final Engineering Report, SSDS Design and OM&M Plans.

General Notes

1 There are no operations and maintenance costs associated with Alternative I as the site is cleaned to Track 1 standard.

2 Total estimated cost is the sum of all estimated costs rounded up to the nearest million dollars.

TABLE 3
REMEDIAL COST ESTIMATE - ALTERNATIVE #2
ATLAS PARK SITE - PARCEL B
GLENDALE, NY

Item #	Description of Work	Unit	Estimated Quantity	Estimated Unit Price	Estimated Cost
APPROXIMATE REMEDIAL ACTION COSTS					
1	***Mobilization/Site Maintenance/Demobilization***				
a	Mobilization/Demobilization/Permits/Site Maintenance	LS	1	$100,000	$100,000
b	Facilities and Utilities	MNTHS	3	$15,000	$45,000
c	Health and Safety Monitoring Equipment	MNTHS	3	$4,000	$12,000
				Sub-Total	***$157,000***
2	***Disposal of Excavated Soils***				
a	Soil Disposal	TON	3000	$50	$150,000
b	Laboratory Costs for Disposal Sampling (Lab Analysis)	EA	5	$1,200	$6,000
				Sub-Total	***$156,000***
3	***Engineering and Institutional Controls***				
a	Sub Slab Depressurization Systems (Buildings 3, 7, and 8)	EA	3	$100,000	$300,000
b	Operation and Maintenance (20 Years)	YR	20	$7,500	$150,000
				Sub-Total	***$450,000***
4	***Soil Vapor Extraction System (Building 3)***				
a	SVE System Design	LS	1	$15,000	$15,000
b	SVE Components and Construction	LS	1	$75,000	$75,000
c	Operation and Maintenance (20 Years)	YR	20	$15,000	$300,000
				Sub-Total	***$390,000***
5	***Laboratory/Data Validation Costs***				
a	End Point Soil Samples (Building 3 Hot Spots)	EA	2	$1,000	$2,000
b	Sidewall Soil Samples (Building 3 Hot Spots)	EA	8	$1,000	$8,000
c	Data Validation	LS	1	$5,000	$5,000
				Sub-Total	***$15,000***
6	***Environmental Consultant Fees (Langan)***				
a	Environmental Oversight and Office Support	MNTHS	4	$60,000	$240,000
b	Reporting (FER, SMP, OM&M Plans (2), Deed Notice)	LS	1	$125,000	$125,000
				Sub-Total	***$365,000***
				Total Capitol Costs	$1,533,000
				Administration, Insurance, and Engineering (15%)	$229,950
				Contingency (30%)	$459,900
				TOTAL ESTIMATED COSTS FOR ALTERNATIVE #2	**$2,222,850**
				ROUND TO	**$2,300,000**

Line Item Notes

1a Mobilization and demobilization cost estimate includes mobolization and demobilization of all labor, equipment, and materials necessary to excavate, transport, and dispose offsite the targeted soil in the excavation areas and the USTs. Any project related permit or regulation fees associated with this project are assumed to be part of the mobilization cost. Soil and Erosion Plan and Stormwater Management cost estimate assumes appropriate application of BMPs and tempory stormwater systems.

1b Facilties and Utilities cost estimate includes cost of leasing and installing the office trailers and connections to utilities

2a Soil Excavation cost estimate assumes typical excavation costs for the New York City area and an average disposal cost for the excavated soil. All soils anticipated to be non-hazardous and disposed of at a permitted non-hazardous soil disposal/treatment facility in New York, New Jersey, or Massachusetts.

2b Waste characterization sampling and analysis for soil disposal purposes.

3a SSDS systems installed in all buildings to mitigate potential residual vapors remaining in soil pore space. Material,

3b Includes operation and maintenance of the three systems over an estimated 20 year period.

4a Cost for Langan to design a soil vapor extraction system for Building 3

4b Cost of all components and installation

4c Cost per year for operation and general maintenance of the system, including carbon change out, filters, etc.

5 Soil sampling for end point and sidewall samples per DER-10.

6a Assumes a team of three Langan personnel onsite full time with office support when needed.

6b Cost to prepare and submit Remedial Action Workplan, Final Engineering Report, OM&M Plans, and preparation of Deed Notice.

General Notes

1 There are no operations and maintenance costs associated with Alternative I as the site is cleaned to Track 1 standard.

2 Total estimated cost is the sum of all estimated costs rounded up to the nearest million dollars.

TABLE 4
REMEDIAL COST ESTIMATE - ALTERNATIVE #3
ATLAS PARK SITE - PARCEL B
GLENDALE, NY

Item #		Description of Work	Unit	Estimated Quantity	Estimated Unit Price	Estimated Cost
APPROXIMATE REMEDIAL ACTION COSTS						
1		***Mobilization/Site Maintenance/Demobilization***				
	a	Mobilization/Demobilization/Permits/Site Maintenance	LS	1	$150,000	$150,000
	b	Facilities and Utilities	MNTHS	3	$15,000	$45,000
					Sub-Total	***$195,000***
2		***Excavation for Construction Purposes***				
	a	Soil Disposal Resulting from Construction	TONS	3000	$50	$150,000
	b	Laboratory Costs for Disposal Sampling (Lab Analysis)	EA	10	$1,200	$12,000
					Sub-Total	***$162,000***
3		***Engineering and Institutional Controls***				
	a	Sub Slab Depressurization Systems (Buildings 3, 7, and 8)	EA	3	$100,000	$300,000
	b	Operation and Maintenance (20 Years)	YR	20	$7,500	$150,000
					Sub-Total	***$450,000***
4		***Remedial Excavation/Disposal/Stockpiling Costs***				
	a	Excavate, Haul, Dispose of Soils (50x TAGM Exceedances)	TONS	1500	$50	$75,000
	b	Excavate, Haul, Dispose of Deeper "Hot Spot" Soils	TONS	1500	$250	$375,000
	c	Backfill to Previous Grade	TONS	2400	$35	$84,000
	d	Laboratory Costs for Disposal Sampling (Lab Analysis)	EA	12	$1,500	$18,000
					Sub-Total	***$552,000***
5		***Soil Vapor Extraction System (Building 3)***				
	a	SVE System Design	LS	1	$15,000	$15,000
	b	SVE Components and Construction	LS	1	$75,000	$75,000
	c	Operation and Maintenance (20 Years)	YR	20	$15,000	$300,000
					Sub-Total	***$390,000***
6		***Laboratory/Data Validation Costs***				
	a	End Point Soil Samples	EA	9	$1,000	$9,000
	b	Sidewall Soil Samples	EA	36	$1,000	$36,000
	c	Data Validation	LS	3	$5,000	$15,000
					Sub-Total	***$60,000***
7		***Environmental Consultant Fees (Langan)***				
	a	Environmental Oversight and Office Support	MNTHS	6	$90	$540
	b	Reporting (FER, SMP, OM&M, SMP, Deed Notice)	LS	1	$125,000	$125,000
					Sub-Total	***$125,540***
					Total Capitol Costs	$1,934,540
					Administration, Insurance, and Engineering (15%)	$290,181
					Contingency (30%)	$580,362
					TOTAL ESTIMATED COSTS FOR ALTERNATIVE #3	**$2,805,083**
					ROUND TO	**$2,800,000**

Line Item Notes

1a Mobilization and demobilization cost estimate includes mobolization and demobilization of all labor, equipment, and materials necessary to excavate, transport, and dispose offsite the targeted soil in the excavation areas and the USTs. Any project related permit or regulation fees associated with this project are assumed to be part of the mobilization cost. Soil and Erosion Plan and Stormwater Management cost estimate assumes appropriate application of BMPs and tempory stormwater systems.

1b Facilties and Utilities cost estimate includes cost of leasing and installing the office trailers and connections to utilities

2a Soil Excavation cost estimate assumes typical excavation costs for the New York City area and an average disposal cost for the excavated soil. All soils anticipated to be non-hazardous and disposed of at a permitted non-hazardous soil disposal/treatment facility in New York, New Jersey, or Massachusetts.

2b Waste characterization sampling and analysis for soil disposal purposes.

3a SSDS systems installed in all buildings to mitigate potential residual vapors remaining in soil pore space. Material, construction, and oversight costs included. Does not include OM&M

3b Includes operation and maintenance of the three systems over an estimated 20 year period.

4a/b Soil Excavation cost estimate assumes typical excavation costs for the New York City area and an average disposal cost for the excavated soil. Approximately 500 tons of material will require removal to meet the 50 times TAGM 4046 criteria. This material is assumed to be non-hazardous. Approximately 250 tons of material will be generated from excavations deeper than 10 to 12 feet below existing grade.

4c Site grade will be restored to historic grade prior to excavation activities. Backfill material will be Certified TAGM clean materials. Price includes placement of material.

4d Waste characterization sampling and analysis for soil disposal purposes, to facilitate disposal facility acceptance criteria.

5a Cost for Langan to design a soil vapor extraction system for Building 3

5b Cost of all components and installation

5c Cost per year for operation and general maintenance of the system, including carbon change out, filters, etc.

6 Soil sampling for end point and sidewall samples per DER-10.

7a Assumes a team of three Langan personnel onsite full time with office support when needed.

7b Cost to prepare and submit Remedial Action Workplan, Final Engineering Report, OM&M Plans, and preparation of Deed Notice.

General Notes

1 There are no operations and maintenance costs associated with Alternative I as the site is cleaned to Track 1

2 Total estimated cost is the sum of all estimated costs rounded up to the nearest million dollars.