

ANALYTICAL RESULTS SUMMARY

GENERAL CHEMISTRY
METALS
GC SEMI-VOLATILES
SEMI-VOLATILE ORGANICS
VOLATILE ORGANICS

PROJECT NAME : NYCDDC PHASE II SCI ARTHUR KILL ROAD CEQR

LOUIS BERGER U.S., INC., A WSP COMPANY

96 Morton Street

8th Floor

New York, NY - 10014

Phone No: 212-462-8500

ORDER ID : 01232

ATTENTION : Jonathan Ganz



Laboratory Certification ID # 20012





284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Hit Summary Sheet SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID: O1232-01	B-P-17A B-P-17A	SOIL	unknown10.947	* 5.60	J	0	0	ug/Kg
			Total Tics :	5.60				
			Total Concentration:	5.60				
Client ID: O1232-04	B-P-18A B-P-18A	SOIL	unknown10.947	* 12.6	J	0	0	ug/Kg
			Total Tics :	12.6				
			Total Concentration:	12.6				
Client ID: O1232-05	B-P-18B B-P-18B	SOIL	Benzene	1.80	J	0.72	5.40	ug/Kg
O1232-05	B-P-18B	SOIL	Toluene	1.10	J	0.69	5.40	ug/Kg
			Total Voc :	2.90				
			Total Concentration:	2.90				
Client ID: O1232-06	B-P-19A B-P-19A	SOIL	Acetone	18.2	J	13.6	28.0	ug/Kg
			Total Voc :	18.2				
O1232-06	B-P-19A	SOIL	unknown10.947	* 8.50	J	0	0	ug/Kg
			Total Tics :	8.50				
			Total Concentration:	26.7				
Client ID: O1232-07	B-P-19B B-P-19B	SOIL	Acetone	24.1	J	13.8	28.3	ug/Kg
			Total Voc :	24.1				
			Total Concentration:	24.1				
Client ID: O1232-10	DUP01 DUP01	SOIL	Benzene	3.30	J	0.73	5.50	ug/Kg
O1232-10	DUP01	SOIL	Toluene	1.80	J	0.70	5.50	ug/Kg
			Total Voc :	5.10				
			Total Concentration:	5.10				



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Hit Summary Sheet SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : B-P-17A								
O1232-01	B-P-17A	SOIL	2-Pentanone, 4-hydroxy-4-methyl *	1,200.000	AB	0	0	ug/Kg
O1232-01	B-P-17A	SOIL	Carbonic acid, hexadecyl prop-1-ε *	140.000	J	0	0	ug/Kg
O1232-01	B-P-17A	SOIL	n-Hexadecanoic acid *	120.000	J	0	0	ug/Kg
Total Tics :				1,460.00				
Total Concentration:				1,460.00				
Client ID : B-P-17B								
O1232-02	B-P-17B	SOIL	2-Pentanone, 4-hydroxy-4-methyl *	1,000.000	AB	0	0	ug/Kg
O1232-02	B-P-17B	SOIL	5-Eicosene, (E)- *	130.000	J	0	0	ug/Kg
O1232-02	B-P-17B	SOIL	Butane, 2-methoxy-2-methyl- *	920.000	J	0	0	ug/Kg
O1232-02	B-P-17B	SOIL	n-Hexadecanoic acid *	160.000	J	0	0	ug/Kg
Total Tics :				2,210.00				
Total Concentration:				2,210.00				
Client ID : B-P-18A								
O1232-04	B-P-18A	SOIL	2-Pentanone, 4-hydroxy-4-methyl *	920.000	AB	0	0	ug/Kg
O1232-04	B-P-18A	SOIL	Benzene, 1,3-dimethyl- *	130.000	J	0	0	ug/Kg
O1232-04	B-P-18A	SOIL	Butane, 2-methoxy-2-methyl- *	790.000	J	0	0	ug/Kg
O1232-04	B-P-18A	SOIL	Heptadecyl heptafluorobutyrate *	200.000	J	0	0	ug/Kg
O1232-04	B-P-18A	SOIL	n-Hexadecanoic acid *	86.200	J	0	0	ug/Kg
Total Tics :				2,126.20				
Total Concentration:				2,126.20				
Client ID : B-P-18B								
O1232-05	B-P-18B	SOIL	Fluoranthene	95.300	J	87.1	190	ug/Kg
O1232-05	B-P-18B	SOIL	Pyrene	110.000	J	81	190	ug/Kg
O1232-05	B-P-18B	SOIL	Benzo(b)fluoranthene	100.000	J	75.3	190	ug/Kg
O1232-05	B-P-18B	SOIL	Benzo(a)pyrene	74.200	J	73.9	190	ug/Kg
Total Svoc :				379.50				
O1232-05	B-P-18B	SOIL	2-Pentanone, 4-hydroxy-4-methyl *	660.000	AB	0	0	ug/Kg
O1232-05	B-P-18B	SOIL	n-Hexadecanoic acid *	180.000	J	0	0	ug/Kg
O1232-05	B-P-18B	SOIL	Pentafluoropropionic acid, pentad *	130.000	J	0	0	ug/Kg
O1232-05	B-P-18B	SOIL	Butyl citrate *	150.000	J	0	0	ug/Kg
Total Tics :				1,120.00				
Total Concentration:				1,499.50				
Client ID : B-P-19A								
O1232-06	B-P-19A	SOIL	Phenanthrene	1,000.000		94.7	190	ug/Kg
O1232-06	B-P-19A	SOIL	Anthracene	210.000		95.2	190	ug/Kg
O1232-06	B-P-19A	SOIL	Fluoranthene	790.000		90.4	190	ug/Kg
O1232-06	B-P-19A	SOIL	Pyrene	1,200.000		84.1	190	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo(a)anthracene	520.000		98.3	190	ug/Kg

Hit Summary Sheet SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1232-06	B-P-19A	SOIL	Chrysene	570.000		96.9	190	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo(b)fluoranthene	390.000		78.2	190	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo(k)fluoranthene	130.000	J	83.4	190	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo(a)pyrene	400.000		76.7	190	ug/Kg
O1232-06	B-P-19A	SOIL	Indeno(1,2,3-cd)pyrene	190.000		110	190	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo(g,h,i)perylene	250.000		110	190	ug/Kg
Total Svoc :				5,650.00				
O1232-06	B-P-19A	SOIL	11H-Benzo[b]fluorene	*	220.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	1H-Indene, 1-phenyl-	*	570.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	1-Methyl-3-phenyl-1H-indene	*	360.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	1-Nonadecene	*	180.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	630.000	AB 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	4-Methylnaphtho[1,2-b]thiophene	*	160.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	9,10-Anthracenedione	*	210.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Benzo[e]pyrene	*	380.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Benzophenone	*	150.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	di-p-Tolylacetylene	*	200.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Naphthalene, 2-phenyl-	*	230.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Anthracene, 1-methyl-	*	790.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Anthracene, 2-methyl-	*	210.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Pyrene, 1-methyl-	*	180.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Pyrene, 2-methyl-	*	140.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Pyrene, 4-methyl-	*	130.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Phenanthrene, 2,5-dimethyl-	*	540.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Phenanthrene, 2-methyl-	*	670.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Phenanthrene, 3-methyl-	*	330.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Phenanthrene, 4,5-dimethyl-	*	230.000	J 0	0	ug/Kg
O1232-06	B-P-19A	SOIL	Total PAH	*	5,700.000	J 1478.1	3040	ug/Kg
Total Tics :				12,210.00				
Total Concentration:				17,860.00				

Client ID : B-P-19B

O1232-07	B-P-19B	SOIL	Phenanthrene	1,000.000		94.8	190	ug/Kg
O1232-07	B-P-19B	SOIL	Anthracene	180.000	J	95.3	190	ug/Kg
O1232-07	B-P-19B	SOIL	Fluoranthene	1,000.000		90.5	190	ug/Kg
O1232-07	B-P-19B	SOIL	Pyrene	1,000.000		84.2	190	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo(a)anthracene	500.000		98.5	190	ug/Kg
O1232-07	B-P-19B	SOIL	Chrysene	480.000		97	190	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo(b)fluoranthene	480.000		78.3	190	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo(k)fluoranthene	160.000	J	83.5	190	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo(a)pyrene	360.000		76.8	190	ug/Kg
O1232-07	B-P-19B	SOIL	Indeno(1,2,3-cd)pyrene	190.000		110	190	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo(g,h,i)perylene	230.000		110	190	ug/Kg

Hit Summary Sheet SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
			Total Svoc :	5,580.00				
O1232-07	B-P-19B	SOIL	Anthracene, 1-methyl-	*	100.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Anthracene, 2-methyl-	*	310.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	11H-Benzo[a]fluoren-11-one	*	96.100	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	660.000	AB 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	3,4-Dimethylphenanthrene	*	100.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	3-Octadecene, (E)-	*	160.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	7H-Benz[de]anthracen-7-one	*	93.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	9,10-Anthracenedione	*	110.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	9,10-Dimethylanthracene	*	280.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Benzo[e]pyrene	*	310.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Benzophenone	*	180.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Cyclopenta(def)phenanthrenone	*	180.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Naphthalene, 2-phenyl-	*	160.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Pyrene, 1-methyl-	*	130.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Pyrene, 2-methyl-	*	87.400	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	unknown18.706	*	380.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Phenanthrene, 2-methyl-	*	370.000	J 0	0	ug/Kg
O1232-07	B-P-19B	SOIL	Phenanthrene, 4-methyl-	*	150.000	J 0	0	ug/Kg
			Total Tics :	3,856.50				
			Total Concentration:	9,436.50				
Client ID :	B-P-35A							
O1232-08	B-P-35A	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,300.000	AB 0	0	ug/Kg
O1232-08	B-P-35A	SOIL	Benzophenone	*	100.000	J 0	0	ug/Kg
O1232-08	B-P-35A	SOIL	n-Hexadecanoic acid	*	120.000	J 0	0	ug/Kg
O1232-08	B-P-35A	SOIL	Pentadecafluorooctanoic acid, oct:	*	160.000	J 0	0	ug/Kg
			Total Tics :	1,680.00				
			Total Concentration:	1,680.00				
Client ID :	B-P-35B							
O1232-09	B-P-35B	SOIL	Chrysene		98.900	J 91.5	180	ug/Kg
O1232-09	B-P-35B	SOIL	Bis(2-ethylhexyl)phthalate		110.000	J 94.8	180	ug/Kg
			Total Svoc :	208.90				
O1232-09	B-P-35B	SOIL	1-Tetracosene	*	190.000	J 0	0	ug/Kg
O1232-09	B-P-35B	SOIL	2-Pentanone, 4-hydroxy-4-methyl	*	1,100.000	AB 0	0	ug/Kg
O1232-09	B-P-35B	SOIL	Benzophenone	*	99.900	J 0	0	ug/Kg
O1232-09	B-P-35B	SOIL	Butane, 2-methoxy-2-methyl-	*	830.000	J 0	0	ug/Kg
O1232-09	B-P-35B	SOIL	n-Hexadecanoic acid	*	94.200	J 0	0	ug/Kg
			Total Tics :	2,314.10				
			Total Concentration:	2,523.00				
Client ID :	DUP01							
O1232-10	DUP01	SOIL	11-Methyldodecanol	*	130.000	J 0	0	ug/Kg



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Hit Summary Sheet
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1232-10	DUP01	SOIL	2-Pentanone, 4-hydroxy-4-methyl *	580.000	AB	0	0	ug/Kg
O1232-10	DUP01	SOIL	Benzophenone *	99.200	J	0	0	ug/Kg
O1232-10	DUP01	SOIL	Butyl citrate *	210.000	J	0	0	ug/Kg
O1232-10	DUP01	SOIL	n-Hexadecanoic acid *	160.000	J	0	0	ug/Kg
Total Tics :				1,179.20				
Total Concentration:				1,179.20				



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Hit Summary Sheet
SW-846

SDG No.: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : WC-17								
O1232-03	WC-17	SOIL	Benzo(a)anthracene	95.400	J	94.9	190	ug/Kg
O1232-03	WC-17	SOIL	Chrysene	120.000	J	93.5	190	ug/Kg
Total Svoc :				215.40				
Total Concentration:				215.40				



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Hit Summary Sheet
SW-846

SDG No.: O1232

Order ID: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Project ID: NYCDDC Phase II SCI Arthur Kill Re

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : B-P-19A								
O1232-06	B-P-19A	SOIL	4,4-DDE	1.10	J	0.18	1.90	ug/kg
O1232-06	B-P-19A	SOIL	4,4-DDT	0.22	J	0.20	1.90	ug/kg
Total Concentration:				1.320				
Client ID : B-P-19B								
O1232-07	B-P-19B	SOIL	4,4-DDE	0.88	J	0.18	1.90	ug/kg
Total Concentration:				0.880				
Client ID : B-P-35A								
O1232-08	B-P-35A	SOIL	4,4-DDE	1.10	J	0.18	1.90	ug/kg
O1232-08	B-P-35A	SOIL	4,4-DDT	1.90		0.20	1.90	ug/kg
O1232-08	B-P-35A	SOIL	alpha-Chlordane	0.65	JP	0.14	1.90	ug/kg
O1232-08	B-P-35A	SOIL	gamma-Chlordane	0.43	J	0.15	1.90	ug/kg
Total Concentration:				4.080				



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Hit Summary Sheet
SW-846

SDG No.:	O1232	Order ID:	O1232
Client:	Louis Berger U.S., Inc., A WSP Company	Project ID:	NYCDDC Phase II SCI Arthur Kill Re

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID :	WC-17							
O1232-03	WC-17	SOIL	Aroclor-1242	42.6	P	2.60	18.6	ug/kg
Total Concentration:				42.600				
Client ID :	B-P-18B							
O1232-05	B-P-18B	SOIL	Aroclor-1242	20.4		2.60	18.6	ug/kg
Total Concentration:				20.400				



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Hit Summary Sheet
SW-846

SDG No.: O1232

Order ID: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Project ID: NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID : B-P-17A								
O1232-01	B-P-17A	SOIL	Aluminum	2510		2.30	5.20	mg/Kg
O1232-01	B-P-17A	SOIL	Antimony	0.37	J	0.37	2.60	mg/Kg
O1232-01	B-P-17A	SOIL	Arsenic	1.07		0.22	1.04	mg/Kg
O1232-01	B-P-17A	SOIL	Barium	33.0		0.75	5.20	mg/Kg
O1232-01	B-P-17A	SOIL	Beryllium	0.28	J	0.022	0.31	mg/Kg
O1232-01	B-P-17A	SOIL	Cadmium	0.13	J	0.028	0.31	mg/Kg
O1232-01	B-P-17A	SOIL	Calcium	1460		7.43	104	mg/Kg
O1232-01	B-P-17A	SOIL	Chromium	11.7		0.094	0.52	mg/Kg
O1232-01	B-P-17A	SOIL	Cobalt	4.76		0.078	1.56	mg/Kg
O1232-01	B-P-17A	SOIL	Copper	8.92		0.44	1.04	mg/Kg
O1232-01	B-P-17A	SOIL	Iron	8860		4.09	5.20	mg/Kg
O1232-01	B-P-17A	SOIL	Lead	7.47		0.27	0.62	mg/Kg
O1232-01	B-P-17A	SOIL	Magnesium	1820		9.48	104	mg/Kg
O1232-01	B-P-17A	SOIL	Manganese	288		0.11	1.04	mg/Kg
O1232-01	B-P-17A	SOIL	Nickel	22.9		0.19	2.08	mg/Kg
O1232-01	B-P-17A	SOIL	Potassium	556		24.2	104	mg/Kg
O1232-01	B-P-17A	SOIL	Silver	0.58		0.081	0.52	mg/Kg
O1232-01	B-P-17A	SOIL	Sodium	52.5	J	24.3	104	mg/Kg
O1232-01	B-P-17A	SOIL	Vanadium	9.25		0.33	2.08	mg/Kg
O1232-01	B-P-17A	SOIL	Zinc	18.7		0.21	2.08	mg/Kg
Client ID : B-P-17B								
O1232-02	B-P-17B	SOIL	Aluminum	2060		2.13	4.81	mg/Kg
O1232-02	B-P-17B	SOIL	Arsenic	0.66	J	0.20	0.96	mg/Kg
O1232-02	B-P-17B	SOIL	Barium	27.6		0.69	4.81	mg/Kg
O1232-02	B-P-17B	SOIL	Beryllium	0.23	J	0.020	0.29	mg/Kg
O1232-02	B-P-17B	SOIL	Cadmium	0.094	J	0.026	0.29	mg/Kg
O1232-02	B-P-17B	SOIL	Calcium	3480		6.88	96.3	mg/Kg
O1232-02	B-P-17B	SOIL	Chromium	6.61		0.087	0.48	mg/Kg
O1232-02	B-P-17B	SOIL	Cobalt	3.33		0.072	1.44	mg/Kg
O1232-02	B-P-17B	SOIL	Copper	5.83		0.40	0.96	mg/Kg
O1232-02	B-P-17B	SOIL	Iron	6700		3.78	4.81	mg/Kg
O1232-02	B-P-17B	SOIL	Lead	3.48		0.25	0.58	mg/Kg
O1232-02	B-P-17B	SOIL	Magnesium	1550		8.77	96.3	mg/Kg
O1232-02	B-P-17B	SOIL	Manganese	147		0.11	0.96	mg/Kg
O1232-02	B-P-17B	SOIL	Mercury	0.013	J	0.0040	0.015	mg/Kg
O1232-02	B-P-17B	SOIL	Nickel	13.4		0.17	1.93	mg/Kg
O1232-02	B-P-17B	SOIL	Potassium	558		22.4	96.3	mg/Kg
O1232-02	B-P-17B	SOIL	Silver	0.43	J	0.075	0.48	mg/Kg

**Hit Summary Sheet**
SW-846**SDG No.:** O1232**Order ID:** O1232**Client:** Louis Berger U.S., Inc., A WSP Company**Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1232-02	B-P-17B	SOIL	Sodium	63.3	J	22.5	96.3	mg/Kg
O1232-02	B-P-17B	SOIL	Vanadium	9.32		0.31	1.93	mg/Kg
O1232-02	B-P-17B	SOIL	Zinc	15.1		0.19	1.93	mg/Kg

Client ID : B-P-18A

O1232-04	B-P-18A	SOIL	Aluminum	4820		2.18	4.93	mg/Kg
O1232-04	B-P-18A	SOIL	Antimony	1.33	J	0.35	2.46	mg/Kg
O1232-04	B-P-18A	SOIL	Arsenic	3.02		0.21	0.99	mg/Kg
O1232-04	B-P-18A	SOIL	Barium	21.1		0.71	4.93	mg/Kg
O1232-04	B-P-18A	SOIL	Beryllium	0.58		0.021	0.30	mg/Kg
O1232-04	B-P-18A	SOIL	Cadmium	0.90		0.027	0.30	mg/Kg
O1232-04	B-P-18A	SOIL	Calcium	756		7.03	98.5	mg/Kg
O1232-04	B-P-18A	SOIL	Chromium	68.5		0.089	0.49	mg/Kg
O1232-04	B-P-18A	SOIL	Cobalt	12.7		0.074	1.48	mg/Kg
O1232-04	B-P-18A	SOIL	Copper	24.2		0.41	0.99	mg/Kg
O1232-04	B-P-18A	SOIL	Iron	28000		3.87	4.93	mg/Kg
O1232-04	B-P-18A	SOIL	Lead	18.6		0.26	0.59	mg/Kg
O1232-04	B-P-18A	SOIL	Magnesium	2000		8.98	98.5	mg/Kg
O1232-04	B-P-18A	SOIL	Manganese	253		0.11	0.99	mg/Kg
O1232-04	B-P-18A	SOIL	Mercury	0.021		0.0040	0.015	mg/Kg
O1232-04	B-P-18A	SOIL	Nickel	66.5		0.18	1.97	mg/Kg
O1232-04	B-P-18A	SOIL	Potassium	769		23.0	98.5	mg/Kg
O1232-04	B-P-18A	SOIL	Silver	1.39		0.077	0.49	mg/Kg
O1232-04	B-P-18A	SOIL	Sodium	187		23.1	98.5	mg/Kg
O1232-04	B-P-18A	SOIL	Vanadium	52.7		0.32	1.97	mg/Kg
O1232-04	B-P-18A	SOIL	Zinc	55.5		0.20	1.97	mg/Kg

Client ID : B-P-18B

O1232-05	B-P-18B	SOIL	Aluminum	4010		2.28	5.16	mg/Kg
O1232-05	B-P-18B	SOIL	Antimony	0.93	J	0.36	2.58	mg/Kg
O1232-05	B-P-18B	SOIL	Arsenic	1.94		0.22	1.03	mg/Kg
O1232-05	B-P-18B	SOIL	Barium	45.9		0.74	5.16	mg/Kg
O1232-05	B-P-18B	SOIL	Beryllium	0.58		0.022	0.31	mg/Kg
O1232-05	B-P-18B	SOIL	Cadmium	0.59		0.028	0.31	mg/Kg
O1232-05	B-P-18B	SOIL	Calcium	1460		7.37	103	mg/Kg
O1232-05	B-P-18B	SOIL	Chromium	58.7		0.093	0.52	mg/Kg
O1232-05	B-P-18B	SOIL	Cobalt	14.5		0.077	1.55	mg/Kg
O1232-05	B-P-18B	SOIL	Copper	14.9		0.43	1.03	mg/Kg
O1232-05	B-P-18B	SOIL	Iron	20500		4.06	5.16	mg/Kg
O1232-05	B-P-18B	SOIL	Lead	11.8		0.27	0.62	mg/Kg
O1232-05	B-P-18B	SOIL	Magnesium	5930		9.40	103	mg/Kg
O1232-05	B-P-18B	SOIL	Manganese	345		0.11	1.03	mg/Kg
O1232-05	B-P-18B	SOIL	Mercury	0.0040	J	0.0030	0.013	mg/Kg

**Hit Summary Sheet**
SW-846**SDG No.:** O1232**Order ID:** O1232**Client:** Louis Berger U.S., Inc., A WSP Company**Project ID:** NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1232-05	B-P-18B	SOIL	Nickel	151		0.19	2.06	mg/Kg
O1232-05	B-P-18B	SOIL	Potassium	809		24.0	103	mg/Kg
O1232-05	B-P-18B	SOIL	Silver	1.12		0.081	0.52	mg/Kg
O1232-05	B-P-18B	SOIL	Sodium	143		24.2	103	mg/Kg
O1232-05	B-P-18B	SOIL	Vanadium	26.7		0.33	2.06	mg/Kg
O1232-05	B-P-18B	SOIL	Zinc	38.9		0.21	2.06	mg/Kg

Client ID : B-P-19A

O1232-06	B-P-19A	SOIL	Aluminum	5220		2.48	5.61	mg/Kg
O1232-06	B-P-19A	SOIL	Antimony	0.73	J	0.40	2.81	mg/Kg
O1232-06	B-P-19A	SOIL	Arsenic	3.88		0.24	1.12	mg/Kg
O1232-06	B-P-19A	SOIL	Barium	42.8		0.81	5.61	mg/Kg
O1232-06	B-P-19A	SOIL	Beryllium	0.49		0.024	0.34	mg/Kg
O1232-06	B-P-19A	SOIL	Cadmium	0.42		0.030	0.34	mg/Kg
O1232-06	B-P-19A	SOIL	Calcium	1150		8.02	112	mg/Kg
O1232-06	B-P-19A	SOIL	Chromium	21.6		0.10	0.56	mg/Kg
O1232-06	B-P-19A	SOIL	Cobalt	9.75		0.084	1.68	mg/Kg
O1232-06	B-P-19A	SOIL	Copper	21.1		0.47	1.12	mg/Kg
O1232-06	B-P-19A	SOIL	Iron	15600		4.41	5.61	mg/Kg
O1232-06	B-P-19A	SOIL	Lead	30.5		0.29	0.67	mg/Kg
O1232-06	B-P-19A	SOIL	Magnesium	2490		10.2	112	mg/Kg
O1232-06	B-P-19A	SOIL	Manganese	301		0.12	1.12	mg/Kg
O1232-06	B-P-19A	SOIL	Mercury	0.051		0.0040	0.016	mg/Kg
O1232-06	B-P-19A	SOIL	Nickel	69.5		0.20	2.25	mg/Kg
O1232-06	B-P-19A	SOIL	Potassium	898		26.2	112	mg/Kg
O1232-06	B-P-19A	SOIL	Silver	0.97		0.088	0.56	mg/Kg
O1232-06	B-P-19A	SOIL	Sodium	154		26.3	112	mg/Kg
O1232-06	B-P-19A	SOIL	Vanadium	20.5		0.36	2.25	mg/Kg
O1232-06	B-P-19A	SOIL	Zinc	41.8		0.23	2.25	mg/Kg

Client ID : B-P-19B

O1232-07	B-P-19B	SOIL	Aluminum	4950		2.40	5.44	mg/Kg
O1232-07	B-P-19B	SOIL	Arsenic	4.24		0.23	1.09	mg/Kg
O1232-07	B-P-19B	SOIL	Barium	62.4		0.78	5.44	mg/Kg
O1232-07	B-P-19B	SOIL	Beryllium	0.64		0.023	0.33	mg/Kg
O1232-07	B-P-19B	SOIL	Cadmium	0.38		0.029	0.33	mg/Kg
O1232-07	B-P-19B	SOIL	Calcium	6200		7.76	109	mg/Kg
O1232-07	B-P-19B	SOIL	Chromium	20.1		0.098	0.54	mg/Kg
O1232-07	B-P-19B	SOIL	Cobalt	8.36		0.082	1.63	mg/Kg
O1232-07	B-P-19B	SOIL	Copper	17.2		0.46	1.09	mg/Kg
O1232-07	B-P-19B	SOIL	Iron	14700		4.27	5.44	mg/Kg
O1232-07	B-P-19B	SOIL	Lead	42.0		0.28	0.65	mg/Kg
O1232-07	B-P-19B	SOIL	Magnesium	3580		9.91	109	mg/Kg

Hit Summary Sheet SW-846

SDG No.: O1232

Order ID: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Project ID: NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1232-07	B-P-19B	SOIL	Manganese	299		0.12	1.09	mg/Kg
O1232-07	B-P-19B	SOIL	Mercury	0.040		0.0040	0.015	mg/Kg
O1232-07	B-P-19B	SOIL	Nickel	37.3		0.20	2.17	mg/Kg
O1232-07	B-P-19B	SOIL	Potassium	942		25.3	109	mg/Kg
O1232-07	B-P-19B	SOIL	Silver	0.89		0.085	0.54	mg/Kg
O1232-07	B-P-19B	SOIL	Sodium	157		25.4	109	mg/Kg
O1232-07	B-P-19B	SOIL	Vanadium	19.8		0.35	2.17	mg/Kg
O1232-07	B-P-19B	SOIL	Zinc	48.6		0.22	2.17	mg/Kg

Client ID : B-P-35A

O1232-08	B-P-35A	SOIL	Aluminum	4840		2.07	4.68	mg/Kg
O1232-08	B-P-35A	SOIL	Arsenic	2.03		0.20	0.94	mg/Kg
O1232-08	B-P-35A	SOIL	Barium	27.4		0.67	4.68	mg/Kg
O1232-08	B-P-35A	SOIL	Beryllium	0.49		0.020	0.28	mg/Kg
O1232-08	B-P-35A	SOIL	Cadmium	0.22	J	0.025	0.28	mg/Kg
O1232-08	B-P-35A	SOIL	Calcium	3250		6.68	93.6	mg/Kg
O1232-08	B-P-35A	SOIL	Chromium	11.1		0.084	0.47	mg/Kg
O1232-08	B-P-35A	SOIL	Cobalt	5.95		0.070	1.40	mg/Kg
O1232-08	B-P-35A	SOIL	Copper	13.3		0.39	0.94	mg/Kg
O1232-08	B-P-35A	SOIL	Iron	12100		3.68	4.68	mg/Kg
O1232-08	B-P-35A	SOIL	Lead	10.3		0.24	0.56	mg/Kg
O1232-08	B-P-35A	SOIL	Magnesium	3740		8.53	93.6	mg/Kg
O1232-08	B-P-35A	SOIL	Manganese	252		0.10	0.94	mg/Kg
O1232-08	B-P-35A	SOIL	Mercury	0.0040	J	0.0030	0.013	mg/Kg
O1232-08	B-P-35A	SOIL	Nickel	27.8		0.17	1.87	mg/Kg
O1232-08	B-P-35A	SOIL	Potassium	822		21.8	93.6	mg/Kg
O1232-08	B-P-35A	SOIL	Silver	0.73		0.073	0.47	mg/Kg
O1232-08	B-P-35A	SOIL	Sodium	73.8	J	21.9	93.6	mg/Kg
O1232-08	B-P-35A	SOIL	Vanadium	13.2		0.30	1.87	mg/Kg
O1232-08	B-P-35A	SOIL	Zinc	24.9		0.19	1.87	mg/Kg

Client ID : B-P-35B

O1232-09	B-P-35B	SOIL	Aluminum	3720		2.29	5.18	mg/Kg
O1232-09	B-P-35B	SOIL	Arsenic	1.99		0.22	1.04	mg/Kg
O1232-09	B-P-35B	SOIL	Barium	28.7		0.75	5.18	mg/Kg
O1232-09	B-P-35B	SOIL	Beryllium	0.45		0.022	0.31	mg/Kg
O1232-09	B-P-35B	SOIL	Cadmium	0.17	J	0.028	0.31	mg/Kg
O1232-09	B-P-35B	SOIL	Calcium	7290		7.39	104	mg/Kg
O1232-09	B-P-35B	SOIL	Chromium	13.3		0.093	0.52	mg/Kg
O1232-09	B-P-35B	SOIL	Cobalt	6.41		0.078	1.55	mg/Kg
O1232-09	B-P-35B	SOIL	Copper	9.23		0.44	1.04	mg/Kg
O1232-09	B-P-35B	SOIL	Iron	11000		4.07	5.18	mg/Kg
O1232-09	B-P-35B	SOIL	Lead	5.30		0.27	0.62	mg/Kg



284 Sheffield Street, Mountainside, NJ 07092 Phone: 908 789 8900 Fax: 908 789 8922

Hit Summary Sheet
SW-846

SDG No.: O1232

Order ID: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Project ID: NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
O1232-09	B-P-35B	SOIL	Magnesium	5750		9.43	104	mg/Kg
O1232-09	B-P-35B	SOIL	Manganese	281		0.11	1.04	mg/Kg
O1232-09	B-P-35B	SOIL	Nickel	32.9		0.19	2.07	mg/Kg
O1232-09	B-P-35B	SOIL	Potassium	667		24.1	104	mg/Kg
O1232-09	B-P-35B	SOIL	Silver	0.65		0.081	0.52	mg/Kg
O1232-09	B-P-35B	SOIL	Sodium	151		24.2	104	mg/Kg
O1232-09	B-P-35B	SOIL	Vanadium	11.9		0.33	2.07	mg/Kg
O1232-09	B-P-35B	SOIL	Zinc	22.6		0.21	2.07	mg/Kg

Client ID : DUP01

O1232-10	DUP01	SOIL	Aluminum	4430		2.32	5.26	mg/Kg
O1232-10	DUP01	SOIL	Arsenic	4.09		0.22	1.05	mg/Kg
O1232-10	DUP01	SOIL	Barium	37.7		0.76	5.26	mg/Kg
O1232-10	DUP01	SOIL	Beryllium	0.80		0.022	0.32	mg/Kg
O1232-10	DUP01	SOIL	Cadmium	0.56		0.028	0.32	mg/Kg
O1232-10	DUP01	SOIL	Calcium	1520		7.51	105	mg/Kg
O1232-10	DUP01	SOIL	Chromium	45.3		0.095	0.53	mg/Kg
O1232-10	DUP01	SOIL	Cobalt	16.3		0.079	1.58	mg/Kg
O1232-10	DUP01	SOIL	Copper	18.9		0.44	1.05	mg/Kg
O1232-10	DUP01	SOIL	Iron	20100		4.13	5.26	mg/Kg
O1232-10	DUP01	SOIL	Lead	14.2		0.27	0.63	mg/Kg
O1232-10	DUP01	SOIL	Magnesium	3300		9.58	105	mg/Kg
O1232-10	DUP01	SOIL	Manganese	306		0.12	1.05	mg/Kg
O1232-10	DUP01	SOIL	Mercury	0.011	J	0.0040	0.015	mg/Kg
O1232-10	DUP01	SOIL	Nickel	118		0.19	2.10	mg/Kg
O1232-10	DUP01	SOIL	Potassium	968		24.5	105	mg/Kg
O1232-10	DUP01	SOIL	Silver	1.14		0.082	0.53	mg/Kg
O1232-10	DUP01	SOIL	Sodium	197		24.6	105	mg/Kg
O1232-10	DUP01	SOIL	Vanadium	27.6		0.34	2.10	mg/Kg
O1232-10	DUP01	SOIL	Zinc	99.6		0.21	2.10	mg/Kg



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Hit Summary Sheet
SW-846

SDG No.: O1232

Order ID: O1232

Client: Louis Berger U.S., Inc., A WSP Company

Project ID: NYCDDC Phase II SCI Arthur Kill Road C

Sample ID	Client ID	Matrix	Parameter	Concentration	C	MDL	RDL	Units
Client ID :	WC-17							
O1232-03	WC-17	TCLP	Barium	3210		77.9	500	ug/L