S & S ENVIRONMENTAL SCIENCES, INC.

Environmental Engineering, Testing and Consultation

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Client:	Amboy Aggregates				
Project:	South Amboy, New Jersey				
Subject:	Sampling and Laboratory Analysis of Sand				
Job No.:	96-E-002	**Report Number:**	13-E-273	**Date:**	10-15-2013

We present herewith the laboratory test results of one (1) sand sample collected by a representative of our firm on September 30, 2013. The pile location was indicated by a representative of Amboy Aggregates. A copy of the sample chain of custody form is attached.

As requested, the sample was analyzed for the U.S. EPA Target Compound List (TCL)+30/Target Analyte List (TAL) parameters, Extractable Petroleum Hydrocarbons (EPH), pH, and Hexavalent Chromium. The analyses were performed by Integrated Analytical Laboratories, LLC (IAL) (NJDEP Lab ID No. 14751).

The test results are summarized in Table Nos. 1 through 4. A copy of the IAL sample chain-of-custody form and a copy of the preliminary faxed IAL laboratory summary report are attached.

Based on the laboratory data, the sample collected and analyzed meets all of the NJDEP Residential Direct Contact Soil Remediation Standards. Manganese concentration in the sample exceeded the NJDEP Default Impact to Ground Water (IGW) soil screening level. However, no further evaluation through SPLP leaching is needed for Manganese, since the Ground Water Quality Standard for this metal is secondary and non-health based, and because it is present naturally and not due to a discharge.

If there are any questions or if we can be of further assistance in this matter please call us.

Very truly yours,
S & S ENVIRONMENTAL SCIENCES, INC.

Yilmaz Arhan, Ph.D.
Vice President

YA/ya

Attachments: (1) IAL Laboratory Summary Report and Sample Chain-of-Custody Form

cc: (1) Client (Attn: Mr. Richard Rosamilia)

TABLE 1 - SUMMARY OF LABORATORY TEST RESULTS

PARAMETERS	SAMPLE #13-165 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
Organic Compounds		
Volatile Organic Compounds	Acetone=0.013 Toluene=0.000361 J Others Not Detected (See Table 2)	Acetone=70,000 Toluene=6,300 Others See Attached List
Semi-Volatile Organics	Not Detected (See Table 3)	See Attached List
Pesticides	Not Detected (See Table 4)	See Attached List
PCBs	Not Detected (See Table 4)	Total 0.20
Metals:		
Aluminum	1,250	78,000
Antimony	ND (<0.271)	31
Arsenic	1.98	19
Barium	ND (<2.71)	16,000
Beryllium	ND (<0.216)	16
Cadmium	ND (<0.135)	78
Calcium	2,520	NA
Chromium	4.01	120,000
Cobalt	1.55 J	1,600
Copper	1.15 J	3,100
Iron	4,330	NA
Lead	1.24	400
Magnesium	929	NA
Manganese	47.0	11,000
Mercury	ND (<0.00619)	23
Nickel	2.56	1,600
Potassium	373	NA
Selenium	ND (<1.08)	390
Silver	0.162 J	390
Sodium	83.3 J	NA
Thallium	ND (<0.135)	5
Vanadium	5.94	78
Zinc	7.74	23,000
Others		
Extractable Petroleum Hydrocarbons (EPH) (C9-C40)	ND (<9.00)	1,000
Cyanide	ND (<0.500)	1,600
Hexavalent Chromium	ND (<0.273)	20
pH, SU	8.98	NA

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's "Residential Direct Contact Soil Remediation Standards"

ND – Not Detected (< - Indicates less than (the value reported is the Method Detection Limit))
NA – Not Applicable/Not Available
J – The concentration was detected at a value below the Reporting Limit and above the Method Detection Limit

TABLE 2 - TEST RESULTS FOR VOLATILE ORGANIC COMPOUNDS

PARAMETER	SAMPLE #13-165 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
Dichlorodifluoromethane	ND	490
Chloromethane	ND	4
Vinyl Chloride	ND	0.7
Bromomethane	ND	25
Chloroethane	ND	220
Trichlorofluoromethane	ND	23000
Acrolein	ND	0.5
1,1-Dichloroethene	ND	11
Acetone	0.013	70000
Carbon disulfide	ND	7800
Methylene Chloride	ND	34
trans-1,2-Dichloroethene	ND	300
Methyl tert-butyl ether (MTBE)	ND	110
1,1-Dichloroethane	ND	8
cis-1,2-Dichloroethene	ND	230
2-Butanone (MEK)	ND	3100
Bromochloromethane	ND	NA
Chloroform	ND	0.6
1,1,1-Trichloroethane	ND	290
Carbon tetrachloride	ND	0.6
1,2-Dichloroethane (EDC)	ND	0.9
Benzene	ND	2
Trichloroethene (TCE)	ND	7
1,2-Dichloropropane	ND	2
1,4-Dioxane	ND	NA
Bromodichloromethane	ND	1
cis-1,3-Dichloropropene	ND	NA
trans-1,3-Dichloropropene	ND	NA
4-Methyl-2-Pentanone (MIBK)	ND	NA
Toluene	0.000361 J	6300
1,1,2-Trichloroethane	ND	2
Tetrachloroethene (PCE)	ND	2
2-Hexanone	ND	NA
Dibromochloromethane	ND	3
1,2-Dibromoethane (EDB)	ND	0.008
Chlorobenzene	ND	510
Ethylbenzene	ND	7800
Xylenes (Total)	ND	12000
Styrene	ND	90
Bromoform	ND	81
Isopropylbenzene	ND	NA
1,1,2,2-Tetrachloroethane	ND	1
1,3-Dichlorobenzene	ND	5,300
1,4-Dichlorobenzene	ND	5
1,2-Dichlorobenzene	ND	5,300
1,2-Dibromo-3-chloropropane	ND	0.08
1,2,4-Trichlorobenzene	ND	73
1,2,3-Trichlorobenzene	ND	NA
1,1,2-Trichloro-1,2,2-trifluoroethane	ND	NA
Methyl acetate	ND	78000
Cyclohexane	ND	NA
Methylcyclohexane	ND	NA
1,3-Dichloropropene (cis and trans)	ND	2
Tentatively Identified Compounds (TICs)	ND	NA
Total Volatile Organics + TICs	0.014 J	

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's "Residential Direct Contact Soil Remediation Standards"
ND: Not Detected (see laboratory report for detection limits) NA–Not Applicable/Not Available
J – The concentration was detected at a value below the Reporting Limit and above the Method Detection Limit

TABLE 3 – TEST RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUNDS

PARAMETER	SAMPLE #13-165 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
bis(2-chloroethyl) ether	ND	0.4
1,3–Dichlorobenzene	ND	5300
1,4–Dichlorobenzene	ND	5
1,2–Dichlorobenzene	ND	5300
Benzyl alcohol	ND	NA
bis(2-chloroisopropyl) ether	ND	23
bis(2-ethylhexyl) phthalate	ND	35
Hexachloroethane	ND	35
n-Nitroso-di-n-propylamine	ND	0.2
Nitrobenzene	ND	31
Isophorone	ND	510
1,2,4–Trichlorobenzene	ND	73
4–Chloroaniline	ND	NA
Hexachloro-1,3-butadiene	ND	6
Hexachlorocyclopentadiene	ND	45
Dimethylphthalate	ND	NA
Diethylphthalate	ND	49,000
2,4-Dinitrotoluene	ND	0.7
2,6- Dinitrotoluene	ND	0.7
n-Nitrosodiphenylamine	ND	99
Hexachlorobenzene	ND	0.3
Butylbenzylphthalate	ND	1200
4–Chloro-3-methylphenol	ND	NA
2–Chlorophenol	ND	310
Di-n-butyl phthalate	ND	6100
Di-n-octyl phthalate	ND	2400
3,3'-Dichlorobenzidine	ND	1
2,4-Dichlorophenol	ND	180

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's "Residential Direct Contact Soil Remediation Standards"

ND - Not Detected (see laboratory report for detection limits)

NA - Not Applicable/Not Available

TABLE 3 - TEST RESULTS FOR SEMI-VOLATILE ORGANIC COMPOUNDS (continued)

PARAMETER	SAMPLE #13-165 RESULT	NJDEP SOIL REMEDIATION STANDARD(*)
2,4-Dimethylphenol	ND	1200
2,4-Dinitrophenol	ND	120
2-Methylphenol (o-Cresol)	ND	310
4-Methylphenol (p-Cresol)	ND	31
Pentachlorophenol	ND	3
Phenol	ND	18,000
2,4,5-Trichlorophenol	ND	6100
2,4,6-Trichlorophenol	ND	19
Benzoic Acid	ND	NA
Acenaphthene	ND	3400
Acenaphthylene	ND	NA
Anthracene	ND	17,000
Benzo[a]anthracene	ND	0.6
Benzo[a]pyrene	ND	0.2
Benzo[b]fluoranthene	ND	0.6
Benzo[k]fluoranthene	ND	6
Carbazole	ND	24
Chrysene	ND	62
Dibenz[a,h]anthracene	ND	0.2
Dibenzofuran	ND	NA
Fluoranthene	ND	2300
Fluorene	ND	2300
Indeno[1,2,3-cd]pyrene	ND	0.6
Naphthalene	ND	6
2-Methylnaphthalene	ND	230
Pyrene	ND	1700
Benzo[g,h,i]perylene	ND	380000
Phenanthrene	ND	NA
Total	ND	NA
Tentatively Identified Compounds (TICs)	ND	NA
Total	ND	NA

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's "Residential Direct Contact Soil Remediation Standards"

ND - Not Detected (see laboratory report for detection limits)
NA - Not Applicable/Not Available

TABLE 4- TEST RESULTS FOR PESTICIDES AND PCBs

PARAMETER	SAMPLE #13-165 RESULT	NJDEP SOIL REMEDIATION STANDARDS(*)
PESTICIDES		
Aldrin	ND	0.04
4,4' – DDD	ND	3
4,4' – DDE	ND	2
4,4' – DDT	ND	2
Dieldrin	ND	0.04
Endosulfan I and Endosulfan II	ND	470
Endosulfan sulfate	ND	470
Endrin	ND	23
Heptachlor	ND	0.1
Heptachlor epoxide	ND	0.07
alpha-BHC	ND	0.1
beta-BHC	ND	0.4
gamma – BHC (Lindane)	ND	0.4
Methoxychlor	ND	390
Toxaphene	ND	0.6
Chlordane (Alpha and Gamma)	ND	0.2
PCBs		
Aroclor - 1016	ND	NA
Aroclor - 1221	ND	NA
Aroclor - 1232	ND	NA
Aroclor - 1242	ND	NA
Aroclor - 1248	ND	NA
Aroclor - 1254	ND	NA
Aroclor - 1260	ND	NA
Aroclor - 1262	ND	NA
Aroclor - 1268	ND	NA
Total PCBs	ND	0.20 (TOTAL PCBs)

Results are in mg/kg (milligrams per kilogram) unless otherwise specified.

(*) NJDEP's "Residential Direct Contact Soil Remediation Standards"

ND - Not Detected (see laboratory report for detection limits)
NA - Not Applicable/Not Available

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Tel (973) 857-7188 Fax (973) 239-8380

NJDEP Lab Certification No. 07073

SAMPLE CHAIN OF CUSTODY

CLIENT	Amboy Aggregates	SSES PROJECT NO.	
ADDRESS		TEL. NO.	
		FAX NO.	
PROJECT	S. Amboy, NJ	PROJECT LAB ID NO.	13165

SAMPLE NUMBER	SAMPLING DATE	SAMPLING TIME	SAMPLE TYPE	NO. OF BOTTLES	ANALYSES REQUESTED
13165	9/30/13	10:15	Grab	3	TAL/TCL +30, EPH, Cr+6, ph

Comments: Sand

Field Measurements: pH= _____ Temp.= _____ Flow Rate= _____

Sample Preservation: Cooled at 4° C ✗ H_2SO_4 _____ NaOH _____

HNO_3 _____ HCl _____ Sodium Thiosulfate _____ Other _____

Sampled By: P. Khaite

RELINQUISHED BY:	RECEIVED BY:	DATE AND TIME:
		9/30/13 2:05 pm

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT

Client: S & S Environmental
Project: SOUTH AMBOY - NJ
Lab Case No.: E13-09593

Lab ID:		**09593-001**	
Client ID:		**13-165**	
Matrix:		**Solid**	
Sampled Date		**9/30/13**	
PARAMETER(Units)	Conc	Q	MDL
Volatiles (Units)		*(mg/Kg-ppm)*	
Acetone	0.013		0.000526
Toluene	0.000361	J	0.000262
TOTAL VO's:	0.014	J	
TOTAL TIC's:	ND		
TOTAL VO's & TIC's:	0.014	J	
Semivolatiles - BNA (Units)		*(mg/Kg-ppm)*	
TOTAL BNA'S:	ND		
TOTAL TIC's:	ND		
TOTAL BNA'S & TIC's:	ND		
PCB's (Units)		*(mg/Kg-ppm)*	
Aroclor-1016	ND		0.014
Aroclor-1221	ND		0.014
Aroclor-1232	ND		0.014
Aroclor-1242	ND		0.014
Aroclor-1248	ND		0.014
Aroclor-1254	ND		0.014
Aroclor-1260	ND		0.014
Aroclor-1262	ND		0.014
Aroclor-1268	ND		0.014
PCBs	ND		0.014
Pesticides (Units)		*(mg/Kg-ppm)*	
alpha-BHC	ND		0.000165
beta-BHC	ND		0.000165
gamma-BHC (Lindane)	ND		0.000165
delta-BHC	ND		0.000165
Heptachlor	ND		0.000165
Aldrin	ND		0.000165
Heptachlor epoxide	ND		0.000165
Endosulfan I	ND		0.000165
4,4'-DDE	ND		0.000165
Dieldrin	ND		0.000165
Endrin	ND		0.000165
Endosulfan II	ND		0.000165
4,4'-DDD	ND		0.000165
Endrin aldehyde	ND		0.000165
Endosulfan sulfate	ND		0.000165
4,4'-DDT	ND		0.000165
Endrin ketone	ND		0.000165
Methoxychlor	ND		0.000165
alpha-Chlordane	ND		0.000165
gamma-Chlordane	ND		0.000165
Toxaphene	ND		0.00198
Endosulfan (I and II)	ND		0.000165
Chlordane (alpha and gamma)	ND		0.000165

ND = Analyzed for but Not Detected at the MDL
J = The concentration was detected at a value below the RL and above the MDL
All qualifiers on individual Volatiles & Semivolatiles are carried down through summation.

INTEGRATED ANALYTICAL LABORATORIES, LLC.

SUMMARY REPORT

Client: S & S Environmental
Project: SOUTH AMBOY - NJ
Lab Case No.: E13-09593

Lab ID:		**09593-001**	
Client ID:		**13-165**	
Matrix:		**Solid**	
Sampled Date		**9/30/13**	
PARAMETER(Units)	Conc	Q	MDL
NJ-EPH-C40 (Units)		*(mg/Kg-ppm)*	
C9-C40	ND		9.00
Metals (Units)		*(mg/Kg-ppm)*	
Aluminum	1250		5.41
Antimony	ND		0.271
Arsenic	1.98		0.271
Barium	ND		2.71
Beryllium	ND		0.216
Cadmium	ND		0.135
Calcium	2520		27.1
Chromium	4.01		0.541
Cobalt	1.55	J	0.541
Copper	1.15	J	0.541
Iron	4330		13.5
Lead	1.24		0.135
Magnesium	929		13.5
Manganese	47.0		0.271
Mercury	ND		0.00619
Nickel	2.56		0.541
Potassium	373		13.5
Selenium	ND		1.08
Silver	0.162	J	0.135
Sodium	83.3	J	27.1
Thallium	ND		0.135
Vanadium	5.94		0.541
Zinc	7.74		2.16
General Analytical (Units)			
Hexavalent Chromium(mg/Kg-ppm)	ND		0.273
Cyanide, Total(mg/Kg-ppm)	ND		0.500
pH/Corrosivity(SU)	8.98		NA

ND = Analyzed for but Not Detected at the MDL
J = The concentration was detected at a value below the RL and above the MDL

S S Environmental
Project Name: SOUTH AMBOY - NJ
IAL SDG No:E13-09593

Sample #:		NJDEP SOIL REMEDIATION			13-165			
Field ID:		STANDARDS						
Lab ID:		Residential	Non-Res	Default IGW	09593-001			
Date Sampled:		SRS	SRS	Screening	09/30/2013			
Depth(ft):				Level				
	CAS	(mg/Kg)	(mg/Kg)	(mg/Kg)				
Volatiles (mg/Kg)					Conc	Q	RL	MDL
Dichlorodifluoromethane	75-71-8	490	230000	25	ND		0.00096	0.000605
Chloromethane	74-87-3	4	12	NS	ND		0.00096	0.00038
Vinyl chloride	75-01-4	0.7	2	0.005	ND		0.00096	0.000508
Bromomethane	74-83-9	25	59	0.03	ND		0.00096	0.000459
Chloroethane	75-00-3	220	1100	NS	ND		0.00096	0.00043
Trichlorofluoromethane	75-69-4	23000	340000	22	ND		0.00096	0.000533
1,1-Dichloroethene	75-35-4	11	150	0.005	ND		0.00096	0.000397
Acetone	67-64-1	70000	NS	12	0.013		0.0048	0.000526
Carbon disulfide	75-15-0	7800	110000	4	ND		0.00096	0.000437
Methylene chloride	75-09-2	34	97	0.007	ND		0.00192	0.0019
trans-1,2-Dichloroethene	156-60-5	300	720	0.4	ND		0.00096	0.00036
Methyl tert-butyl ether (MTBE)	1634-04-4	110	320	0.2	ND		0.00096	0.000688
1,1-Dichloroethane	75-34-3	8	24	0.2	ND		0.00096	0.000288
cis-1,2-Dichloroethene	156-59-2	230	560	0.2	ND		0.00096	0.000267
2-Butanone (MEK)	78-93-3	3100	44000	0.6	ND		0.00096	0.00054
Bromochloromethane	74-97-5	NS	NS	NS	ND		0.00096	0.000266
Chloroform	67-66-3	0.6	2	0.2	ND		0.00096	0.000353
1,1,1-Trichloroethane	71-55-6	290	4200	0.2	ND		0.00096	0.000315
Carbon tetrachloride	56-23-5	0.6	2	0.005	ND		0.00096	0.000346
1,2-Dichloroethane (EDC)	107-06-2	0.9	3	0.005	ND		0.00096	0.000358
Benzene	71-43-2	2	5	0.005	ND		0.00096	0.000256
Trichloroethene	79-01-6	7	20	0.007	ND		0.00096	0.000327
1,2-Dichloropropane	78-87-5	2	5	0.005	ND		0.00096	0.000251
1,4-Dioxane	123-91-1	NS	NS	NS	ND		0.192	0.018
Bromodichloromethane	75-27-4	1	3	0.005	ND		0.00096	0.000372
cis-1,3-Dichloropropene	10061-01-5	NS	NS	NS	ND		0.00096	0.000245
4-Methyl-2-pentanone (MIBK)	108-10-1	NS	NS	NS	ND		0.00096	0.000289
Toluene	108-88-3	6300	91000	4	0.000361	J	0.00096	0.000262
trans-1,3-Dichloropropene	10061-02-6	NS	NS	NS	ND		0.00096	0.000246
1,1,2-Trichloroethane	79-00-5	2	6	0.01	ND		0.00096	0.000417
Tetrachloroethene	127-18-4	2	5	0.005	ND		0.00096	0.000244
2-Hexanone	591-78-6	NS	NS	NS	ND		0.00096	0.00026
Dibromochloromethane	124-48-1	3	8	0.005	ND		0.00096	0.000232
1,2-Dibromoethane (EDB)	106-93-4	0.008	0.04	0.005	ND		0.00096	0.000308
Chlorobenzene	108-90-7	510	7400	0.4	ND		0.00096	0.00027
Ethylbenzene	100-41-4	7800	110000	8	ND		0.00096	0.000341
Total Xylenes	1330-20-7	12000	170000	12	ND		0.00192	0.00076
Styrene	100-42-5	90	260	2	ND		0.00096	0.00038

Standards are based upon published regulatory information.
Users are encouraged to consult appropriate regulatory sources for current values and updates.
IAL assumes no responsibility for the accuracy of these values.

EDD created on 10/14/13

FOIA_07123_0002318_0010

S S Environmental
Project Name: SOUTH AMBOY - NJ
IAL SDG No:E13-09593

Bromoform	75-25-2	81	280	0.02	ND		0.00096	0.000228
Isopropylbenzene	98-82-8	NS	NS	NS	ND		0.00192	0.000311
1,1,2,2-Tetrachloroethane	79-34-5	1	3	0.005	ND		0.00096	0.000252
1,3-Dichlorobenzene	541-73-1	5300	59000	12	ND		0.00096	0.000254
1,4-Dichlorobenzene	106-46-7	5	13	1	ND		0.00096	0.000288
1,2-Dichlorobenzene	95-50-1	5300	59000	11	ND		0.00096	0.000269
1,2-Dibromo-3-chloropropane	96-12-8	0.08	0.2	0.005	ND		0.00096	0.000585
1,2,4-Trichlorobenzene	120-82-1	73	820	0.4	ND		0.00096	0.000387
1,2,3-Trichlorobenzene	87-61-6	NS	NS	NS	ND		0.00096	0.000422
1,1,2-Trichloro-1,2,2-trifluoroethane	76-13-1	NS	NS	NS	ND		0.00096	0.00048
Methyl acetate	79-20-9	78000	NS	14	ND		0.00096	0.000576
Cyclohexane	110-82-7	NS	NS	NS	ND		0.0048	0.000374
Methylcyclohexane	108-87-2	NS	NS	NS	ND		0.00096	0.000346
1,3-Dichloropropene (cis- and trans-)	542-75-6	2	7	0.005	ND		0.00096	0.00025
TOTAL VO's:		NS	NS	NS	0.014	J		NA
TOTAL TIC's:		NS	NS	NS	ND			NA
TOTAL VO's & TIC's:		NS	NS	NS	0.014	J		NA

Standards are based upon published regulatory information.
Users are encouraged to consult appropriate regulatory sources for current values and updates.
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EDD created on 10/14/13

FOIA_07123_0002318_0011

S S Environmental
Project Name: SOUTH AMBOY - NJ
IAL SDG No:E13-09593

Semivolatiles - BNA (mg/Kg)					Conc	Q	RL	MDL
Benzaldehyde	100-52-7	6100	68000	NS	ND		0.033	0.020
Phenol	108-95-2	18000	210000	5	ND		0.033	0.020
Bis(2-chloroethyl) ether	111-44-4	0.4	2	0.2	ND		0.033	0.023
2-Chlorophenol	95-57-8	310	2200	0.5	ND		0.033	0.020
2-Methylphenol	95-48-7	310	3400	NS	ND		0.033	0.026
Bis(2-chloroisopropyl) ether	108-60-1	23	67	3	ND		0.033	0.020
4-Methylphenol **	106-44-5	31	340	NS	ND		0.033	0.020
N-Nitrosodi-n-propylamine	621-64-7	0.2	0.3	0.2	ND		0.033	0.022
Acetophenone	98-86-2	2	5	2	ND		0.033	0.020
Hexachloroethane	67-72-1	35	140	0.2	ND		0.033	0.020
Nitrobenzene	98-95-3	31	340	0.2	ND		0.033	0.032
Isophorone	78-59-1	510	2000	0.2	ND		0.033	0.021
2-Nitrophenol	88-75-5	NS	NS	NS	ND		0.033	0.024
2,4-Dimethylphenol	105-67-9	1200	14000	0.7	ND		0.033	0.025
Bis(2-chloroethoxy) methane	111-91-1	NS	NS	NS	ND		0.033	0.027
2,4-Dichlorophenol	120-83-2	180	2100	0.2	ND		0.033	0.030
Naphthalene	91-20-3	6	17	16	ND		0.033	0.020
4-Chloroaniline	106-47-8	NS	NS	NS	ND		0.033	0.031
Hexachlorobutadiene	87-68-3	6	25	0.6	ND		0.033	0.020
Caprolactam	105-60-2	31000	340000	8	ND		0.033	0.020
4-Chloro-3-methylphenol	59-50-7	NS	NS	NS	ND		0.033	0.031
2-Methylnaphthalene	91-57-6	230	2400	5	ND		0.033	0.027
Hexachlorocyclopentadiene	77-47-4	45	110	210	ND		0.033	0.022
2,4,6-Trichlorophenol	88-06-2	19	74	0.2	ND		0.033	0.020
2,4,5-Trichlorophenol	95-95-4	6100	68000	44	ND		0.033	0.020
1,1'-Biphenyl	92-52-4	3100	34000	90	ND		0.033	0.020
2-Chloronaphthalene	91-58-7	NS	NS	NS	ND		0.033	0.031
2-Nitroaniline	88-74-4	39	23000	NS	ND		0.033	0.020
Dimethyl phthalate	131-11-3	NS	NS	NS	ND		0.033	0.020
2,6-Dinitrotoluene	606-20-2	0.7	3	NS	ND		0.033	0.020
Acenaphthylene	208-96-8	NS	300000	NS	ND		0.033	0.023
3-Nitroaniline	99-09-2	NS	NS	NS	ND		0.033	0.027
Acenaphthene	83-32-9	3400	37000	74	ND		0.033	0.026
2,4-Dinitrophenol	51-28-5	120	1400	0.3	ND		0.033	0.020
4-Nitrophenol	100-02-7	NS	NS	NS	ND		0.033	0.024
2,4-Dinitrotoluene	121-14-2	0.7	3	NS	ND		0.033	0.021
Dibenzofuran	132-64-9	NS	NS	NS	ND		0.033	0.020
Diethyl phthalate	84-66-2	49000	550000	57	ND		0.033	0.024
Fluorene	86-73-7	2300	24000	110	ND		0.033	0.020
4-Chlorophenyl phenyl ether	7005-72-3	NS	NS	NS	ND		0.033	0.020
4-Nitroaniline	100-01-6	NS	NS	NS	ND		0.033	0.027
1,2,4,5-Tetrachlorobenzene	95-94-3	NS	NS	NS	ND		0.033	0.020
2,3,4,6-Tetrachlorophenol	58-90-2	NS	NS	NS	ND		0.033	0.030
4,6-Dinitro-2-methylphenol	534-52-1	6	68	0.3	ND		0.033	0.026
N-Nitrosodiphenylamine	86-30-6	99	390	0.2	ND		0.033	0.020

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EDD created on 10/14/13

FOIA_07123_0002318_0012

4-Bromophenyl phenyl ether	101-55-3	NS	NS	NS	ND	0.033	0.020
Hexachlorobenzene	118-74-1	0.3	1	0.2	ND	0.033	0.026
Atrazine	1912-24-9	210	2400	0.2	ND	0.033	0.023
Pentachlorophenol	87-86-5	3	10	0.3	ND	0.033	0.020
Phenanthrene	85-01-8	NS	300000	NS	ND	0.033	0.022
Anthracene	120-12-7	17000	30000	1500	ND	0.033	0.033
Carbazole	86-74-8	24	96	NS	ND	0.033	0.020
Di-n-butyl phthalate	84-74-2	6100	68000	620	ND	0.033	0.030
Fluoranthene	206-44-0	2300	24000	840	ND	0.033	0.020
Pyrene	129-00-0	1700	18000	550	ND	0.033	0.024
Butyl benzyl phthalate	85-68-7	1200	14000	150	ND	0.033	0.021
3,3'-Dichlorobenzidine	91-94-1	1	4	0.2	ND	0.033	0.023
Benzo[a]anthracene	56-55-3	0.6	2	0.5	ND	0.033	0.031
Chrysene	218-01-9	62	230	52	ND	0.033	0.022
Bis(2-ethylhexyl) phthalate	117-81-7	35	140	790	ND	0.033	0.020
Di-n-octyl phthalate	117-84-0	2400	27000	3300	ND	0.033	0.029
Benzo[b]fluoranthene	205-99-2	0.6	2	2	ND	0.033	0.020
Benzo[k]fluoranthene	207-08-9	6	23	16	ND	0.033	0.031
Benzo[a]pyrene	50-32-8	0.2	0.2	0.2	ND	0.033	0.020
Indeno[1,2,3-cd]pyrene	193-39-5	0.6	2	5	ND	0.033	0.022
Dibenz[a,h]anthracene	53-70-3	0.2	0.2	0.5	ND	0.033	0.024
Benzo[g,h,i]perylene	191-24-2	380000	30000	NS	ND	0.033	0.030
Dinitrotoluene (2,4- and 2,6-)	25321-14-6	0.7	3	0.2	ND	0.033	0.021
TOTAL BNA'S:		NS	NS	NS	ND		NA
TOTAL TIC's:		NS	NS	NS	ND		NA
TOTAL BNA'S & TIC's:		NS	NS	NS	ND		NA

S S Environmental
Project Name: SOUTH AMBOY - NJ
IAL SDG No:E13-09593

PCB's (mg/Kg)					Conc	Q	RL	MDL
Aroclor-1016	12674-11-2	NS	NS	NS	ND		0.035	0.014
Aroclor-1221	11104-28-2	NS	NS	NS	ND		0.035	0.014
Aroclor-1232	11141-16-5	NS	NS	NS	ND		0.035	0.014
Aroclor-1242	53469-21-9	NS	NS	NS	ND		0.035	0.014
Aroclor-1248	12672-29-6	NS	NS	NS	ND		0.035	0.014
Aroclor-1254	11097-69-1	NS	NS	NS	ND		0.035	0.014
Aroclor-1260	11096-82-5	NS	NS	NS	ND		0.035	0.014
Aroclor-1262	37324-23-5	NS	NS	NS	ND		0.035	0.014
Aroclor-1268	11100-14-4	NS	NS	NS	ND		0.035	0.014
PCBs	1336-36-3	0.2	1	0.2	ND		0.035	0.014

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EDD created on 10/14/13

FOIA_07123_0002318_0014

S S Environmental
Project Name: SOUTH AMBOY - NJ
IAL SDG No:E13-09593

Pesticides (mg/Kg)					Conc	Q	RL	MDL
alpha-BHC	319-84-6	0.1	0.5	0.002	ND		0.00033	0.000165
beta-BHC	319-85-7	0.4	2	0.002	ND		0.00033	0.000165
gamma-BHC (Lindane)	58-89-9	0.4	2	0.002	ND		0.00033	0.000165
delta-BHC	319-86-8	NS	NS	NS	ND		0.00033	0.000165
Heptachlor	76-44-8	0.1	0.7	0.3	ND		0.00033	0.000165
Aldrin	309-00-2	0.04	0.2	0.1	ND		0.00033	0.000165
Heptachlor epoxide	1024-57-3	0.07	0.3	0.009	ND		0.00033	0.000165
Endosulfan I	959-98-8	NS	NS	NS	ND		0.00033	0.000165
4,4'-DDE	72-55-9	2	9	12	ND		0.00033	0.000165
Dieldrin	60-57-1	0.04	0.2	0.003	ND		0.00033	0.000165
Endrin	72-20-8	23	340	0.6	ND		0.00033	0.000165
Endosulfan II	33213-65-9	NS	NS	NS	ND		0.00033	0.000165
4,4'-DDD	72-54-8	3	13	3	ND		0.00033	0.000165
Endrin aldehyde	7421-93-4	NS	NS	NS	ND		0.00033	0.000165
Endosulfan sulfate	1031-07-8	470	6800	1	ND		0.00033	0.000165
4,4'-DDT	50-29-3	2	8	7	ND		0.00033	0.000165
Endrin ketone	53494-70-5	NS	NS	NS	ND		0.00033	0.000165
Methoxychlor	72-43-5	390	5700	100	ND		0.00033	0.000165
alpha-Chlordane	5103-71-9	NS	NS	NS	ND		0.00033	0.000165
gamma-Chlordane	5103-74-2	NS	NS	NS	ND		0.00033	0.000165
Toxaphene	8001-35-2	0.6	3	0.2	ND		0.00413	0.00198
Endosulfan (I and II)	115-29-7	470	6800	2	ND		0.00033	0.000165
Chlordane (alpha and gamma)	57-74-9	0.2	1	0.03	ND		0.00033	0.000165

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EDD created on 10/14/13

FOIA_07123_0002318_0015

S S Environmental
Project Name: SOUTH AMBOY - NJ
IAL SDG No:E13-09593

NJ-EPH-C40 (mg/Kg)					Conc	Q	RL	MDL
C9-C40	IALC9C40	NS	NS	NS	ND		36.0	9.00

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EDD created on 10/14/13

FOIA_07123_0002318_0016

S S Environmental
Project Name: SOUTH AMBOY - NJ
IAL SDG No:E13-09593

Metals (mg/Kg)					Conc	Q	RL	MDL
Aluminum	7429-90-5	78000	NS	3900	1250		10.8	5.41
Antimony	7440-36-0	31	450	6	ND		1.08	0.271
Arsenic	7440-38-2	19	19	19	1.98		0.541	0.271
Barium	7440-39-3	16000	59000	1300	ND		10.8	2.71
Beryllium	7440-41-7	16	140	0.5	ND		0.379	0.216
Cadmium	7440-43-9	78	78	1	ND		0.541	0.135
Calcium	7440-70-2	NS	NS	NS	2520		54.1	27.1
Chromium	7440-47-3	NS	NS	NS	4.01		2.16	0.541
Cobalt	7440-48-4	1600	590	59	1.55	J	2.16	0.541
Copper	7440-50-8	3100	45000	7300	1.15	J	2.16	0.541
Iron	7439-89-6	NS	NS	NS	4330		27.1	13.5
Lead	7439-92-1	400	800	59	1.24		0.541	0.135
Magnesium	7439-95-4	NS	NS	NS	929		54.1	13.5
Manganese	7439-96-5	11000	5900	42	47.0		1.08	0.271
Mercury	7439-97-6	23	65	0.1	ND		0.013	0.00619
Nickel	7440-02-0	1600	23000	31	2.56		1.08	0.541
Potassium	7440-09-7'	NS	NS	NS	373		54.1	13.5
Selenium	7782-49-2	390	5700	7	ND		2.16	1.08
Silver	7440-22-4	390	5700	1	0.162	J	0.541	0.135
Sodium	7440-23-5	NS	NS	NS	83.3	J	108	27.1
Thallium	7440-28-0	5	79	3	ND		0.541	0.135
Vanadium	7440-62-2	78	1100	NS	5.94		2.16	0.541
Zinc	7440-66-6	23000	110000	600	7.74		2.16	2.16

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EDD created on 10/14/13

FOIA_07123_0002318_0017

S S Environmental
Project Name: SOUTH AMBOY - NJ
IAL SDG No:E13-09593

General Analytical					Conc	Q	RL	MDL
Hexavalent Chromium-mg/Kg	18540-29-9	**240**	**20**	**NS**	ND		1.00	0.273
Cyanide, Total-mg/Kg	57-12-5	**1600**	**23000**	**13**	ND		1.00	0.500
pH/Corrosivity-SU	SRP 6	**NS**	**NS**	**NS**	8.98		NA	NA

NJDEP Soil Remediation Standards: Remediation Standards N.J.A.C. 7:26E, May 2012

BOLD Conc	Indicates a concentration that exceeds applicable criteria.
BOLD RL	Indicates RL that exceeds applicable criteria.
BOLD MDL	Indicates MDL that exceeds applicable criteria.

NS = No Standard Available
ND = Analyzed for but Not Detected at the MDL
J = The concentration was detected at a value below the RL and above the MDL
All qualifiers on individual Volatiles & Semivolatiles are carried down through summation.

Standards are based upon published regulatory information.
Users are encouraged to consult appropriate regulatory sources for current values and updates.
IAL assumes no responsibility for the accuracy of these values.

EDD created on 10/14/13

FOIA_07123_0002318_0018

Integrated Analytical Labs
273 Franklin Road
Randolph, NJ 07869

Contact Us: 973-361-4252
Fax: 973-989-5288
Web: www.ialonline.com

CUSTOMER INFO		REPORTING INFO	
Company:	Sax S Env. Sci.	REPORT TO:	Same
Address:	98 Sand Park Rd.	Address:	
	Cedar Grove NJ 07009		
Telephone #:	973-239-6001	Attn:	
Fax #:	8380	FAX #	
Project Manager:	P. K.	INVOICE TO:	Same
EMAIL Address:		Address:	
Sampler:	P. K.		
Project Name:	South Amboy-NJ		
Project Location (State):	NJ	Attn:	
Bottle Order #:		PO #	13-165
Quote # :			

Turnaround Time (starts the following day if samples rec'd at lab > 5PM)

*Lab notification is required for RUSH TAT prior to sample arrival. RUSH TAT IS NOT GUARANTEED WITHOUT LAB APPROVAL. **RUSH SURCHARGES WILL APPLY IF ABLE TO ACCOMMODATE

PHC - MUST CHOOSE		Rush TAT Charge **	Report Format	EDDs
NJ EPH DRO (5 day TAT)	NJ EPH Fractionated (5 day TAT)	24 hr - 100%....	Results Only	NJ SRP format
NJ EPH - C40 (5 day TAT)		48 hr - 75%....	Reduced	NYSDEC
DRO-8015 (3-5 day TAT)	QAM025 (5 day TAT)	72 hr - 50%....	Regulatory - 15% Surcharge applies	lab approved custom EDD
Verbal/Fax: Std 2 wk unless otherwise specified		96 hr - 35%....	Other (describe)	NO EDD/CD REQ'D
24 hr** 48 hr** 72 hr** 96 hr** 1 wk**		5 day - 25%....		
Other** (specify):		6-9 day 10%		
Hard Copy: Std 3 week *	Other - call for price		Cooler Temp 4 °C	

Sample Matrix
DW - Drinking Water AQ - Aqueous WW - Waste Water
OI - Oil LIQ - Liquid (Specify) OT - Other (Specify)
S - Soil SL - Sludge SOL - Solid W - Wipe

SAMPLE INFORMATION

ANALYTICAL PARAMETERS

BOTTLES & PRESERVATIVES

Client ID	Depth (ft only)	Sampling Date	Sampling Time	Matrix	# container	IAL #	TAL/TCL +30	Cr+6	pH	EPH	HCL	HNO3	MeOH	NaOH	H2SO4	Other	None	Encore
13-165		9/30/13	10:15	OT	5	1	✓	✓	✓	✓			1			2	2	
								# 14375		# 19268								
										# 19296								
										5 ea each								

Known Hazard: Yes or No Describe:
Conc. Expected: Low Med High
MDL Req: GWQS (11/05) - SRS - SRS/IGW - SRS Residential - OTHER (SEE COMMENTS)

Please print legibly and fill out completely. Samples cannot be processed and the turnaround time will not start until any ambiguities have been resolved.

Carrier (check one): ____ IAL Courier ____ Client Courier ____ FedEx/UPS

	Signature/Company	Date	Time		Signature/Company	Date	Time
Relinquished by:	[signature]	9/30/13	15:20	Received by:	[signature]	9/30/13	15:20
Relinquished by:	[signature]	9/30/13	1609	Received by:	[signature]	9/30/13	1609
Relinquished by:				Received by:			
Relinquished by:				Received by:			
Relinquished by:				Received by:			

Comments: OT - Raw Sand

Lab Case # 09593

PAGE: 1 of 1

LAB COPIES - WHITE & YELLOW; CLIENT COPY - PINK

IA2012 REV COC

01/2012 rev

FOIA_07123_0002318_0019

INTEGRATED ANALYTICAL LABORATORIES, LLC

SAMPLE RECEIPT VERIFICATION

CASE NO: **E 13** **09593** CLIENT: SHS

COOLER TEMPERATURE: 2° - 6°C: ✓ (See Chain of Custody)

COC: (COMPLETE) / INCOMPLETE

Comments

KEY

✓ = YES/NA
✗ = NO

VOA received: (check one) [ ] Encore [✓] Terra Core [ ] IGW - Methanol [ ] No Preservative

✓ Bottles Intact
✓ no-Missing Bottles
✓ no-Extra Bottles

✓ Sufficient Sample Volume
✓ no-headspace/bubbles in VOs
✓ Labels intact/correct
✓ pH Check (exclude VOs)[1]
✓ Correct bottles/preservative
✓ Sufficient Holding/Prep Time[1]
[ ] Multiphasic Sample
[ ] Sample to be Subcontracted
✓ **Chain of Custody is Clear**

[1] All samples with "Analyze Immediately" holding times will be analyzed by this laboratory past the holding time. This includes but is not limited to the following tests: pH, Temperature, Free Residual Chlorine, Total Residual Chlorine, Dissolved Oxygen, Sulfite.

ADDITIONAL COMMENTS:

SAMPLE(S) VERIFIED BY: INITIAL [illegible] DATE 9/30/13

CORRECTIVE ACTION REQUIRED: **YES** [ ] (SEE BELOW) **NO** [ ]

If COC is **NOT** clear, ***STOP*** until you get client to authorize/clarify work.

CLIENT NOTIFIED: YES [ ] Date/ Time: _____ NO [ ]
PROJECT CONTACT:
SUBCONTRACTED LAB:
DATE SHIPPED:

ADDITIONAL COMMENTS:

VERIFIED/TAKEN BY: INITIAL KJ DATE 10/1/13

REV 03/2013

IAL
Integrated Analytical Laboratories LLC

PROJECT INFORMATION

E13-09593: SOUTH AMBOY - NJ

To: P. Khaitan
S & S Environmental
Fax: 1(973) 239-8380
EMail: angelal@sorlabs.com;Alig@sorlabs.con

Report To

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009
Attn: P. Khaitan

Bill To

S & S Environmental
98 Sand Park Road
Cedar Grove, NJ 07009
Attn: P. Khaitan

Report Format	P.O. #	Received At Lab	TPHC Due	Verbal Due	Hardcopy Due
Reduced	13-165	Sep 30, 2013 @ 16:09	Oct 7, 2013	Oct 14, 2013	Oct 21, 2013 *

* Any *Conditional or Hold* status will delay final hardcopy report sent date.

Diskette Req. Not Required

**** QC Requirement (must meet):** NJ IGW

Lab ID	Client Sample ID	Depth	Sampling Time	Matrix	Unit	Field pH/Temp
09593-001	13-165	NA	09/30/13@10:15	Solid	mg/Kg (ppm)	

Sample #	Test	Status	QA Method	TAT	Holding Time Expires
001	TCL VO + 15	Analyze	8260C	STD/2 WKS	10/14/2013
	TCL BNA + 15	Analyze	8270D	STD/2 WKS	10/14/2013
	TCL PCB	Analyze	8082A	STD/2 WKS	10/14/2013
	NJ-EPH-C40	Analyze	Method 10.08 Rev 3	RUSH 1 WK	10/14/2013
	NJ-EPH-Fractionated	**Hold**	Method 10.08 Rev 3	RUSH 1 WK	10/14/2013
	TCL Pesticides	Analyze	8081B	STD/2 WKS	10/14/2013
	TAL Metals	Analyze	6020/7471A	STD/2 WKS	10/28/2013
	pH/Corrosivity	Analyze	9045C	STD/2 WKS	10/28/2013
	Cr-VI (Hexavalent Chromium)	Analyze	3060A/7196A	STD/2 WKS	10/30/2013
	Cyanide, Total	Analyze	9012B	STD/2 WKS	10/14/2013

273 Franklin Road
Randolph, NJ 07869
Phone: 973 361 4252
Fax: 973 989 5288

nelac
IAL is a NELAP New Jersey Accredited Lab (14751) and maintains certification in Connecticut (PH-0699), New York (11402), Pennsylvania (68-00773) and West Virginia TO-15 and Method 18