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ENGINEERING
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8/20/2018

REPORT

Ash Relocation Workplan WBASD New High School

Bethlehem
Pittsburgh
State College
Wilkes-Barre

Maffet Street and North Main Street
Plains Township
Luzerne County, Pennsylvania

Prepared for:
Wilkes-Barre Area School District
730 South Main Street
Wilkes-Barre, PA 18711-0375

WILKES-BARRE
613 Baltimore Drive
Suite 300
Wilkes-Barre, PA 18702

Voice: 570.821.1999
Fax: 570.821.1990

Project Number: 2017-3091-001



**Borton
Lawson**

**ENGINEERING
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Bethlehem
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Wilkes-Barre

WILKES-BARRE
613 Baltimore Drive
Suite 300
Wilkes-Barre, PA 18702

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Borton-Lawson.com

August 20, 2018

Department of Environmental Protection - Northeast Regional Office
Attn: Mr. Roger Bellas
2 Public Square
Wilkes-Barre, PA 18711-0790

RE: Wilkes Barre Area School District's New High School – Coal Ash Workplan

Dear Mr. Roger Bellas

Wilkes Barre Area School District's intentions to develop the subject site:

The Wilkes-Barre Area School District intends to construct a new high school for Grades 9 through 12 in Plains Township. The on-site project area encompasses approximately 55 acres of disturbance to accommodate the building pad, driveways, parking areas, an all-purpose athletic field, walks, site lighting, patios, stormwater management facilities, on-site utility services landscaping and site amenities. The two / one story building will be approximately 350,000 - 390,000 square feet and include such amenities as an auditorium, two gymnasiums, classrooms, and conference centers. Please see the following exhibit for additional information:

- Exhibit 1: Site Location Map

Site History:

The subject site was deep mined from the late 1800s through the 1950s and surfaced mined through the early 2000s. Culm material was trucked to the Northampton Cogeneration Plant and the ash refuse returned to the site from 1999 – 2005 under a surface mining permit on file with DEP (SMP#40840206).

Based on the Reclamation Plan for the Surface Mining Permit, groundwater monitoring wells were installed to monitor for potential groundwater contamination due to the placement of the coal ash. Ground water was sampled from 2005 – 2010.

Results of the ground water sampling were compared to PADEP drinking water standards. In general the trends for the parameters tested do not show potential risk for contamination. The permit remains open under Jeddo- Highland Coal Co. as the Prospect North site. See:

- Exhibit 2: Ground water monitoring results and ash sample testing results obtained from the Pottsville District Mining Office.
- Exhibit 3: Ash Placement Area Map

Workplan under the surface mining permit: (Aug 2018 – Jan 2019)

The Wilkes Barre Area School District will be completing dynamic compaction work under the surface mining permit in order to expedite the building construction schedule. Ash is likely to be encountered within the two new " sump areas" (future driveways) as indicated on the drawing found in Exhibit 4. Any ash material that is encountered will be placed and compacted in the designated "ash placement" area. The material will be compacted to, at

minimum, the surface mining permit requirements or higher (if required by the projects geotechnical engineer). Additionally, per the surface mining permit's requirements, 4' of onsite fill will be placed and compacted atop the ash material.

Also, if ash is encountered within the "new sump areas"; the new sump areas will be over excavated an additional 4' to ensure that 4' of cover is provided at the project's end.

- Exhibit 4 Operations Map submitted by Jeddo- Highland Coal Co. (on behalf of the Wilkes Barre Area School District) under the Surface Mining Permit.

Workplan under the NPDES Permit: (Jan 2019 – Dec 2022)

It is anticipated that all work necessary to complete the dynamic compaction will be completed by the end of December of 2018. The second phase of the project (additional earthwork, building construction, etc.) will begin in the early spring of 2019. Between Jan 2019 and the early spring of 2019 the surface mining permit will be closed and all future work will be done under the NPDES permit. As of the date of this letter the NPDES permit (PAC400072) was still being pursued.

A majority of the cut excavation within the ash placement boundary will take place while operating under the surface mining permit. As noted above, any ash that is encountered, while operating under the surfacing permit, will be placed, compacted and capped per the surface mining permit. As illustrated on Exhibit 5 a majority of the ash placed while operating under the surface mining permit will be placed below proposed parking areas. The lawn areas found within this boundary are not used for infiltration they are simply used to collect runoff from the parking lot.

Only a small 1.00± acre area of excavation will occur while operating under the NPDES permit within the ash placement boundary. While it is uncertain if any ash will be encountered, the maximum amount of ash that could be encountered is 11,500 cubic yards (total area x (total excavation depth + 4' of over excavation)). An area of approximately 0.8 acres has been designated on Exhibit 5 for ash placement. Again, a majority of this area is under parking and roadways. Approximately 12' of material is needed to bring this portion of the site from existing grade to finished grade therefore, maintaining a 4' fill cap is also easily achievable. All erosion and sediment controls necessary to prevent ash erosion during initial excavation, ash relocation, and re-compacting will be addressed on the E&S plan(s) submitted under the NPDES permit. Again, the ash will be compacted to the minimum compaction requirements as specified under the surface mining permit.

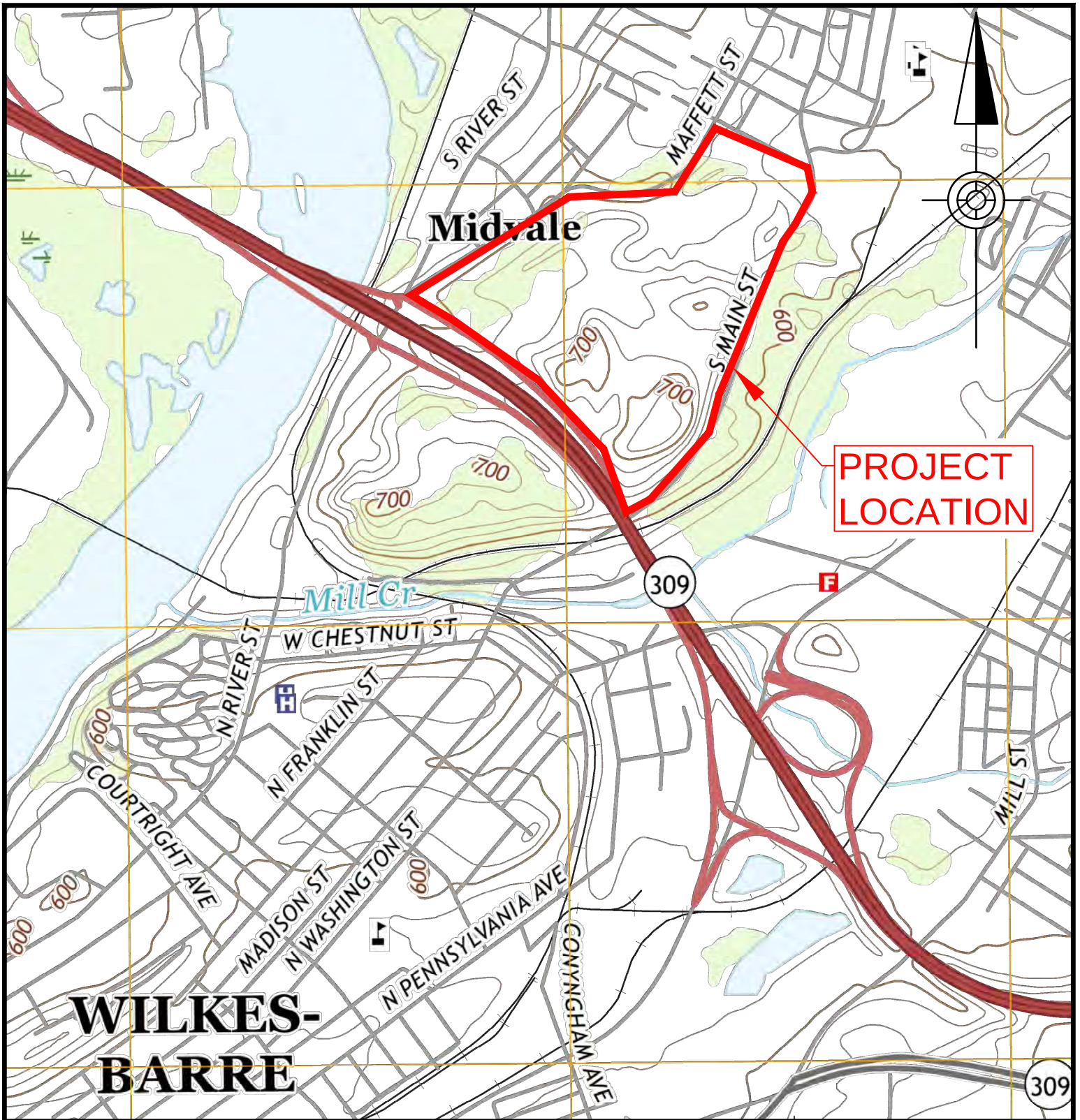
- Exhibit 5 Ash Work Plan

If you should have any questions or need additional information, please do not hesitate to contact me at (570) 821-1999 or at sstiner@borton-lawson.com.

Sincerely,

Sam Stiner

Exhibit 1



 Borton Lawson	DRAWING TITLE & PROJECT NAME		DRAWN BY	CAA
	LOCATION MAP		DATE	JANUARY 11, 2018
	WBASD		PROJECT NUMBER	2017-3091-001
	NEW HIGH SCHOOL		DRAWING NUMBER	
	PLAINS, LUZERNE COUNTY, PA		LOC	

Exhibit 2

III. COAL ASH AND LEACHATE ANALYSES

Coal Ash Generation Facility Name Northampton Generating Plant (SEMI-ANNUAL ANALYSIS - PROSPECT)RESULTS OF ANALYSES ☒ No pH adjustment ☐ After pH Adjustment

Constituents	Acceptable Methods of Analysis Indicate Method Used		Ash Dry Wt. Concentration. (mg/kg)	EPA's SW 846 Method 1312, SPLP Leachate Concentration (mg/L)	Maximum Acceptable Leachate Concentration (mg/L)
	EPA SW-846	Other Acceptable			
pH Solid	9045		11.27	12.3	
Aluminum	6010A, 7020		15800	0.33	5.0
Antimony	6010A, 7040, 7041		<20.0	<0.010	0.15
Arsenic	6010A, 7060A, 7061A		27.1	<0.005	1.25
Barium	6010A, 7080A, 7081		179	0.43	50
Boron		EPA 600/4-79-020	30.7	<0.2	31.50
Cadmium	6010A, 7130, 7131A		1.0	<0.005	0.13
Chromium	601 OA, 7190, 7191		29	<0.05	2.5
Copper	6010A, 7210, 7211		21	0.02	32.5
Iron	6010A, 7380, 7381		14800	0.06	7.5
Lead	6010A, 7420, 7421		10	<0.10	1.25
Manganese	601 OA, 7460, 7461		77	0.02	1.25
Mercury	7470, 7471A		0.30	<0.0002	0.05
Molybdenum	6010A, 7480, 7481		<10.0	0.28	4.38
Nickel	6010A, 7250		50	0.09	2.5
Selenium	6010A, 7740, 7741		11.9	<0.005	1.00
Zinc	6010A, 7950, 7951		16.9	0.011	125
Sulfate	9035A, 9036A, 38A			1100.0	2500
Chloride	9250, 9251A, 9252			3.27	2500
Sodium	6010A, 7770			5.18	
Acid Neutralizing Potential*	Method of Analysis		Calcium Carbonate Equivalence		
	☐ Neutralization Potential Test, DEP's Overburden Sampling and Testing Manual, Noll et al. ☒ Other indicate method <u>EPA600/2-78-054</u>		Tons of CaCO ₃ per 1,000 tons of ash <u>96</u>		% CaCO ₃ Dry Wt. _____
Hydraulic Conductivity	☐ ASTM D 5084-90 ☐ Other indicate method _____		Permeability (cm/sec)		

* Provide only when the requested beneficial use is alkaline addition.

** Provide only when the requested beneficial use is as a low-permeability material.

Analytical Laboratory Name, Address

Hawk Mountain Labs

Analyst(s) Name

Mr. Jeffrey Gittleman201 West Clay Avenue, West Hazleton, PA 18202Telephone No. (570) 453-6011

Laboratory reports must be attached



LABS INC

201 West Clay Avenue / West Hazleton, PA 18202

PHONE (570) 455-6011 • FAX (570) 455-6321

LABORATORY REPORT

TO: Northampton Fuel Supply Co.
Bruce Tetkoskie
1 Horwith Drive PO Box 460
Northampton, PA 18067

Report Date: 5/30/01

Material Tested: Fly Ash HawkMtn #: 0104-00502-001
Date Received: 4/26/2001 Sampler: LM/HML
Date Sampled: 4/26/2001 Sample pt. ID: Prospect Ash Pit
Client ID: Northampton Fuel Supply, Prospect Site, Semi Annual Ash
Analysis

COMPACTION TEST

TESTS

ASH RESULTS

SIEVE ANALYSIS

Max Dry Density

76.8 lb/cu.ft.

Density 90% Dry

69.1 lb/cu.ft.

Optimum Water Content

21.8 %

SIZE

%PASSING

3/8"

89.3 %

#4

79.4 %

#10

63.9 %

#40

42.2 %

#100

30.5 %

#200

17.8 %


Jeffrey Gittleman, Lab Director



201 West Clay Avenue / West Hazleton, PA 18202

PHONE (570) 455-6011 • FAX (570) 455-6321

PAGE No. 1

DER MODULE 25
SEMI-ANNUAL MONITORING REPORTTO: Northampton Fuel Supply Co.
Bruce Tetkoskie
1 Horwith Drive PO Box 460
Northampton, PA 18067

Report Date: 5/30/01

Material Tested:	Fly Ash	HawkMtn #:	0104-00502-001
Date Received:	4/26/2001	Sampler	LM/HML
Date Sampled:	4/26/2001	Sample pt. ID:	Prospect Ash Pit
Client ID:	Northampton Fuel Supply, Prospect Site, Semi Annual Ash Analysis		

TEST DESCRIPTION	TEST RESULTS Dry Wt. mg/kg	Test Results Leachate mg/l	TEST METHOD
*pH	11.27	12.3	SW846-9045
Aluminum	15800	0.33	SW846-7020
Antimony	<20.0	<0.010	SW846-7040
Arsenic	27.1	<0.005	SW846-7060A
Barium	179	0.43	SW846-7080A
Boron	30.7	<0.2	SM-4500 B
Cadmium	1.0	<0.005	SW846-7130
Chromium	29	<0.05	SW846-7190
Copper	21	0.02	SW846-7210
Iron	14800	0.06	SW846-7380
Lead	10	<0.10	SW846-7420
Manganese	77	0.02	SW846-7460
Mercury	0.30	<0.0002	SW846-7471A
Molybdenum	<10.0	0.28	SW846-7480
Nickel	50	0.09	SW846-7520
Selenium	11.9	<0.005	SW846-7740
Zinc	16.9	0.011	SW846-7950

* pH values are represented by Standard pH units (su)



LABS INC

201 West Clay Avenue / West Hazleton, PA 18202

PHONE (570) 453-6011 • FAX (570) 453-6011

DER MODULE 25

SEM-ANNUAL FLY ASH/ SPLP LEACHATE ANALYSIS

TO: Northampton Fuel Supply Co.

Report Date: 5/30/2001

Material Tested: Fly Ash Hawk Mtn ID: 0104-00502-001
Date Received: 4/26/2001 Permit No.:
Date Sampled: 4/26/2001 Sample Pt. ID: Prospect Ash Pit
Client ID: Northampton Fuel Supply, Prospect Site, Semi Annual Ash
Analysis

TEST DESCRIPTION	TEST RESULT	UNITS	TEST METHOD	DATE OF ANALYSIS
SPLP Fluid #3, Water	12.3	su, ending	EPA SW846 METH. 1312	5/01/2001
Sulfate, Leachate	1100.0	mg/l	EPA METH. 300 HPLC IC	5/02/2001
Nitrate, Leachate	0.15	mg/l	EPA METH. 300 HPLC IC	5/02/2001
Chloride, Leachate	3.27	mg/l	EPA METH. 300 HPLC IC	5/02/2001
Sodium, Leachate	5.18	mg/l	SW846-7770	5/03/2001
Acid Neutralization Potent	96	**	EPA 600/2-78-054	5/04/2001

** Tons Calcium Carbonate equivalent/ 1000 Tons of Material


Jeffrey Gittleman, Lab Director

III. COAL ASH AND LEACHATE ANALYSES

Coal Ash Generation Facility Name Northampton Fuel Supply Company, Inc.RESULTS OF ANALYSES ☒ No pH adjustment☐ After pH Adjustment

Constituents	Acceptable Methods of Analysis Indicate Method Used		Ash Dry Wt. Concentration. (mg/kg)	EPA's SW 846 Method 1312, SPLP Leachate Concentration (mg/L)	Maximum Acceptable Leachate Concentration (mg/L)
	EPA SW-846	Other Acceptable			
pH Solid	9045		11.65	11.15	
Aluminum	6010A, 7020		23400	0.19	5.0
Antimony	6010A, 7040, 7041		20.0	0.010	0.15
Arsenic	6010A, 7060A, 7061A		11.4	0.005	1.25
Barium	6010A, 7080A, 7081		177	0.18	50
Boron		EPA 600/4-79-020	54.4	0.2	31.50
Cadmium	6010A, 7130, 7131A		0.5	0.028	0.13
Chromium	601 OA, 7190, 7191		76	0.08	2.5
Copper	6010A, 7210, 7211		126	0.02	32.5
Iron	6010A, 7380, 7381		13600	0.06	7.5
Lead	6010A, 7420, 7421		10.0	0.16	1.25
Manganese	601 OA, 7460, 7461		80.5	0.01	1.25
Mercury	7470, 7471A		0.277	0.0002	0.05
Molybdenum	6010A, 7480, 7481		85	0.29	4.38
Nickel	6010A, 7250		27	0.04	2.5
Selenium	6010A, 7740, 7741		0.5	0.005	1.00
Zinc	6010A, 7950, 7951			0.031	125
Sulfate	9035A, 9036A, 38A			627.0	2500
Chloride	9250, 9251A, 9252			55.7	2500
Sodium	6010A, 7770			15.9	
Acid Neutralizing Potential*	Method of Analysis		Calcium Carbonate Equivalence		
	☐ Neutralization Potential Test, DEP's Overburden Sampling and Testing Manual, Noll et al. ☒ Other indicate method <u>EPA 600/2-78-054</u>		Tons of CaCO ₃ per 1,000 tons of ash <u>82.7</u>		% CaCO ₃ Dry Wt. _____
Hydraulic Conductivity	☐ ASTM D 5084-90 ☐ Other indicate method _____		Permeability (cm/sec)		

* Provide only when the requested beneficial use is alkaline addition.

** Provide only when the requested beneficial use is as a low-permeability material.

Analytical Laboratory Name, Address

Hawk Mountain Labs

Analyst(s) Name

Jeffrey Gittleman201 West Clay Avenue, West Hazleton, PA 18201Telephone No. (570) 455-6011

Laboratory reports must be attached



201 West Clay Avenue / West Hazleton, PA 18201
PHONE (570) 455-6011 • FAX (570) 455-6321

PAGE No. 1

DER MODULE 25
SEMI-ANNUAL MONITORING REPORT

TO: Northampton Fuel Supply Co.
1 Horwith Drive
P.O. Box 460
Northampton, PA 18067

Report Date: 7/09/99

Material Tested: Fly Ash HawkMtn #: 9906-00248-001
Date Received: 6/16/1999 Sampler JG/HML
Date Sampled: 6/16/1999 Sample pt. ID: Prospect Fly Ash
Client ID: Semi Annual Fly Ash Analysis, Prospect Fly Ash

TEST DESCRIPTION	TEST RESULTS Dry Wt. mg/kg	Test Results Leachate mg/l	TEST METHOD
*pH	11.65	11.15	EPA SW846 METH. 9045
Aluminum	23400	0.19	SW-846 METH. 7020
Antimony	<20.0	<0.010	SW-846 METH. 7040
Arsenic	11.4	<0.005	EPA SW846 METH. 7060
Barium	177	0.18	EPA SW846 METH. 7080
Boron	54.4	<0.2	AGR. #9, PART 2, 2ND. ED
Cadmium	<0.5	0.028	EPA SW846 METH. 7131
Chromium	76	0.08	EPA SW846 METH. 7191
Copper	126	0.02	EPA SW846 METH. 7210
Iron	13600	0.06	EPA SW846 METH. 7380
Lead	<10.0	0.16	EPA SW846 METH. 7421
Manganese	80.5	<0.01	EPA SW846 METH. 7460
Mercury	0.277	<0.0002	EPA SW846 METH. 7471
Molybdenum	85	0.29	EPA SW846 METH. 7480
Nickel	27	<0.04	EPA SW846 METH. 7250
Selenium	<0.5	<0.005	EPA SW846 METH. 7740
Zinc	19.8	0.031	EPA SW846 METH. 7950

* pH values are represented by Standard pH units (su)

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PAGE No. 2

DER MODULE 25

201 West Clay Avenue / West Hazleton, PA 18201

~~SEMI ANNUAL FLY ASH / SPLP LEACHATE ANALYSIS~~

PHONE (570) 455-6011 • FAX (570) 455-6321

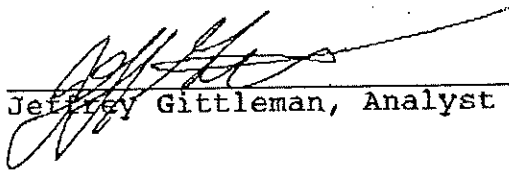
TO: Northampton Fuel Supply Co.

Report Date: 7/09/1999

Material Tested: Fly Ash Hawk Mtn ID: 9906-00248-001
Date Received: 6/16/1999 Permit No.:
Date Sampled: 6/16/1999 Sample Pt. ID: Prospect Fly Ash
Client ID: Semi Annual Fly Ash Analysis, Prospect Fly Ash

TEST DESCRIPTION	TEST RESULT	UNITS	TEST METHOD	DATE OF ANALYSIS
SPLP Fluid #3, Water	11.26	su, ending	EPA SW846 METH. 1312	6/21/99
Sulfate, Leachate	627.0	mg/l	EPA METH. 300 HPLC IC	6/28/99
Nitrate, Leachate	<0.002	mg/l	EPA METH. 300 HPLC IC	6/28/99
Chloride, Leachate	55.7	mg/l	EPA METH. 300 HPLC IC	6/28/99
Sodium, Leachate	15.9	mg/l	EPA SW846 METH. 7770	6/24/99
Acid Neutralization Potent	82.7	**	EPA 600/2-78-054	7/02/99

** Tons Calcium Carbonate equivalent/ 1000 Tons of Material


Jeffrey Gittleman, Analyst

III. COAL ASH AND LEACHATE ANALYSES

Coal Ash Generation Facility Name NORTHAMPTON FUEL SUPPLY COMPANY, INC. (ANNUAL) (11/19/99)RESULTS OF ANALYSES ☒ No pH adjustment ☐ After pH Adjustment

Constituents	Acceptable Methods of Analysis Indicate Method Used		Ash Dry Wt. Concentration. (mg/kg)	EPA's SW 846 Method 1312, SPLP Leachate Concentration (mg/L)	Maximum Acceptable Leachate Concentration (mg/L)
	EPA SW-846	Other Acceptable			
pH Solid	9045		12.39	11.7	
Aluminum	6010A, 7020		16100	0.18	5.0
Antimony	6010A, 7040, 7041		64	0.010	0.15
Arsenic	6010A, 7060A, 7061A		46.5	0.005	1.25
Barium	6010A, 7080A, 7081		146	0.60	50
Boron		EPA 600/4-79-020	55.0	0.73	31.50
Cadmium	6010A, 7130, 7131A		0.5	0.008	0.13
Chromium	601 OA, 7190, 7191		29	0.19	2.5
Copper	6010A, 7210, 7211		26	0.02	32.5
Iron	6010A, 7380, 7381		17900	0.12	7.5
Lead	6010A, 7420, 7421		15	0.10	1.25
Manganese	601 OA, 7460, 7461		59	0.01	1.25
Mercury	7470, 7471A		1.04	0.0002	0.05
Molybdenum	6010A, 7480, 7481		31	0.4	4.38
Nickel	6010A, 7250		24	0.04	2.5
Selenium	6010A, 7740, 7741		2.2	0.005	1.00
Zinc	6010A, 7950, 7951		5.5	0.009	125
Sulfate	9035A, 9036A, 38A			719.0	2500
Chloride	9250, 9251A, 9252			4.11	2500
Sodium	6010A, 7770			12.8	
Acid Neutralizing Potential*	Method of Analysis		Calcium Carbonate Equivalence		
	☐ Neutralization Potential Test, DEP's Overburden Sampling and Testing Manual, Noll et al. ☒ Other indicate method <u>EPA 600/2-78-054</u>		Tons of CaCO ₃ per 1,000 tons of ash <u>105</u>		% CaCO ₃ Dry Wt. _____
Hydraulic Conductivity	☐ ASTM D 5084-90 ☐ Other indicate method _____		Permeability (cm/sec)		

* Provide only when the requested beneficial use is alkaline addition.

** Provide only when the requested beneficial use is as a low-permeability material.

Analytical Laboratory Name, Address

Hawk Mountain Labs

Analyst(s) Name

Jeffrey Gittleman

201 West Clay Avenue, West Hazleton, PA 18201

Telephone No. (570) 455-6011

Laboratory reports must be attached

DER MODULE 25
SEMI-ANNUAL MONITORING REPORTTO: Northampton Fuel Supply Co.
1 Horwith Drive
P.O. Box 460
Northampton, PA 18067

Report Date: 1/25/00

Material Tested: Fly Ash HawkMtn #: 9911-00255-001
Date Received: 11/19/1999 Sampler Client
Date Sampled: 11/19/1999 Sample pt. ID: Prospect Ash Pit
Client ID: Semi Annual Fly Ash Analysis, Prospect Ash Pit, 10 Point
Composit of Active Fill Area, Tag #3185

TEST DESCRIPTION	TEST RESULTS Dry Wt. mg/kg	Test Results Leachate mg/l	TEST METHOD
*pH	12.39	11.7	EPA SW846 METH. 9045
Aluminum	16100	0.18	SW-846 METH. 7020
Antimony	64	<0.010	SW-846 METH. 7040
Arsenic	46.5	<0.005	EPA SW846 METH. 7060
Barium	146	0.60	EPA SW846 METH. 7080
Boron	55.0	0.73	AGR. #9, PART 2, 2ND. ED
Cadmium	<0.5	0.008	EPA SW846 METH. 7131
Chromium	29	0.19	EPA SW846 METH. 7191
Copper	26	<0.02	EPA SW846 METH. 7210
Iron	17900	0.12	EPA SW846 METH. 7380
Lead	15	<0.10	EPA SW846 METH. 7421
Manganese	59	<0.01	EPA SW846 METH. 7460
Mercury	1.04	<0.0002	EPA SW846 METH. 7471
Molybdenum	31	0.4	EPA SW846 METH. 7480
Nickel	24	0.04	EPA SW846 METH. 7250
Selenium	2.2	<0.005	EPA SW846 METH. 7740
Zinc	15.5	0.009	EPA SW846 METH. 7950

* pH values are represented by Standard pH units (su)

HAWKMTN

201 West Clay Avenue / West Hartford, CT 06107

PAGE No 18201

L A B S

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DER MODULE 25

PHONE (570) 455-6011 • FAX (570) 455-6321

SEM-ANNUAL FLY ASH/ SPLP LEACHATE ANALYSIS

TO: Northampton Fuel Supply Co.

Report Date: 1/25/2000

Material Tested: Fly Ash Hawk Mtn ID: 9911-00255-001
Date Received: 11/19/1999 Permit No.:
Date Sampled: 11/19/1999 Sample Pt. ID: Prospect Ash Pit
Client ID: Semi Annual Fly Ash Analysis, Prospect Ash Pit, 10 Point
Composit of Active Fill Area, Tag #3185

TEST DESCRIPTION	TEST RESULT	UNITS	TEST METHOD	DATE OF ANALYSIS
SPLP Fluid #3, Water	11.7	su, ending	EPA SW846 METH. 1312	11/30/19
Sulfate, Leachate	719.0	mg/l	EPA METH. 300 HPLC IC	1/25/200
Nitrate, Leachate	0.24	mg/l	EPA METH. 300 HPLC IC	1/25/200
Chloride, Leachate	4.11	mg/l	EPA METH. 300 HPLC IC	1/25/200
Sodium, Leachate	12.8	mg/l	EPA SW846 METH. 7770	12/28/19
Acid Neutralization Potent	105	**	EPA 600/2-78-054	12/02/19

** Tons Calcium Carbonate equivalent/ 1000 Tons of Material


Jeffrey Gittleman, Lab Director

HAWKMTN

LABS INC

201 West Clay Avenue / West Hazleton, PA 18201

PHONE (570) 455-6011 • FAX (570) 455-6321

LABORATORY REPORT

TO: Northampton Fuel Supply Co.
1 Horwith Drive
P.O. Box 460
Northampton, PA 18067

Report Date: 1/25/00

Material Tested:	Fly Ash	HawkMtn #:	9911-00255-001
Date Received:	11/19/1999	Sampler:	Client
Date Sampled:	11/19/1999	Sample pt. ID:	Prospect Ash Pit
Client ID:	Semi Annual Fly Ash Analysis, Prospect Ash Pit, 10 Point		
	Composit of Active Fill Area, Tag #3185		

COMPACTION TEST**TESTS****ASH RESULTS****SIEVE ANALYSIS**

Max Dry Density

73.4 lb/cu.ft.

SIZE

%PASSING

3/8"

98.4 %

#4

92.9 %

#10

83.5 %

#40

63.0 %

#100

54.7 %

#200

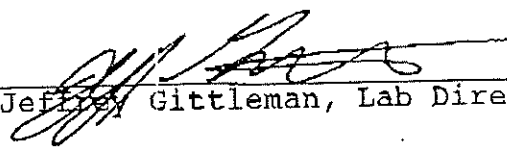
30.6 %

Density 90% Dry

66.1 lb/cu.ft.

Optimum Water Content

20.7 %


Jeffrey Gittleman, Lab Director

UNITED INSPECTION SERVICES

1588 Center Avenue - Jim Thorpe, PA 18229
717-325-3293 FAX: 717-325-3687LABORATORY SOIL TEST REPORTCLIENT: Hawk Mountain Labs Inc.REPORT: L-9911-255PROJECT: Ash Sample - Northampton FuelDATE: 11-30-99LAB #: 2435STOCKPILE IDENTIFICATION & LOCATION: fly ashTEST DATAPROCTOR ASTM D- 698 , METHOD ADRY DENSITY lbs/ft³ 1. 70.9 2. 71.9 3. 73.4 4. 68.2 5. 6. MOISTURE CONTENT, % 1. 15.3 2. 16.9 3. 20.7 4. 25.6 5. 6. MAXIMUM DRY DENSITY 73.4 lbs/ft³OPTIMUM MOISTURE 20.7 %PARTICLE SIZE ANALYSIS N/A

SIEVE SIZE												
% PASSING												

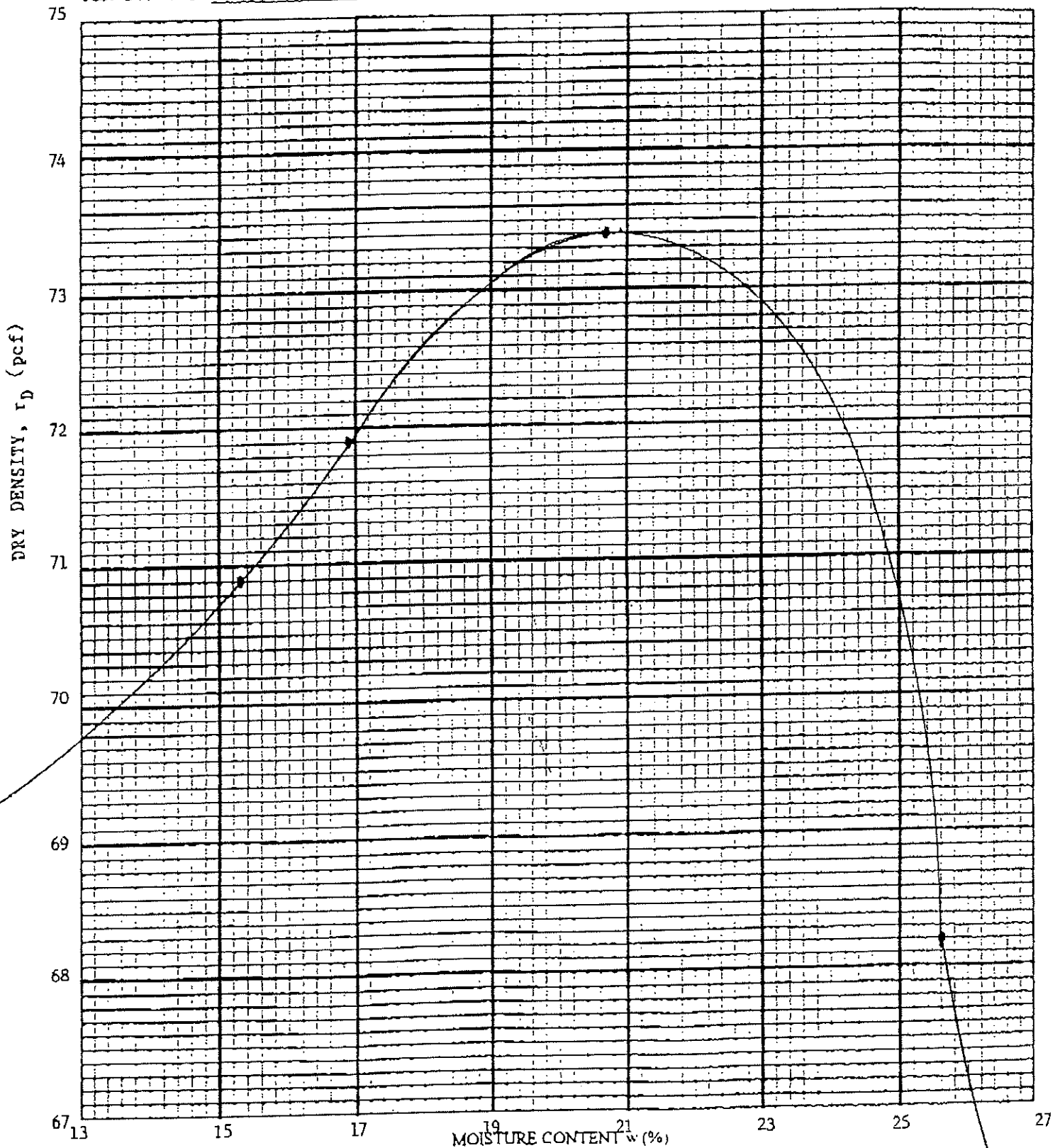
ATTERBURG LIMITS N/ACOARSE SPECIFIC GRAVITY - N/ALIQUID LIMIT PLASTIC LIMIT PLASTICITY INDEX

NP=Non Plastic

SOIL CLASSIFICATION N/ALAB TECHNICIAN: D. HascinREVIEWED BY: BW

UNITED INSPECTION SERVICES

MOISTURE - DENSITY RELATIONSHIP CURVE

CLIENT: Hawk Mountain Labs Inc. PROJECT: Ash SamplesREPORT NO.: L9911-255 SAMPLE NO.: 2435 DATE PICKED UP 11-26-99MAXIMUM DRY DENSITY 73.4 pcfOPTIMUM MOISTURE CONTENT 20.7 %

UNITED INSPECTION SERVICES
1588 CENTER AVENUE
JIM THORPE, PA 18229

FIELD DENSITY TEST DATA
(ASTM D-2922 & D-3017)

DATE: 12-10-99
REPORT NO.: F-1210
PAGE: 1 OF 2

TYPE OF MATERIAL: fly ash

CLIENT: Hawk Mountain Labs, Inc.

GENERAL LOCATION: pit area

PROJECT: Prospect pit

GAUGE #: 6645 MOISTURE S.C. DENSITY S.C.

TEST NO.	LOCATION / ELEV. / STATION ETC.	LIFT # / THICKNESS	RE-TEST	PROBE DEPTH	WET DENSITY	% MOIST.	DRY DENSITY	MAX. DENSITY	OPT. MOIST.	% COMPAC.	% REQ. DENSITY	PASS/FAIL
01	see page 2 of 2	N/A		8"	89.1	18.4	73.2	73.4	20.7	100	90	P
02	"			8"	94.7	22.5	77.3	73.4	20.7	100	90	P
03	"			8"	98.6	19.2	82.7	73.4	20.7	100	90	P
04	"			8"	95.2	22.3	78.0	73.4	20.7	100	90	P
05	"			8"	92.2	16.4	79.2	73.4	20.7	100	90	P
06	"			8"	88.5	15.3	76.4	73.4	20.7	100	90	P
07	"			8"	89.3	17.3	76.1	73.4	20.7	100	90	P
08	"			8"	92.0	14.2	80.5	73.4	20.7	100	90	P

REMARKS:

P=PASS TECHNICIAN: S. Dorshefski

F=FAIL REVIEWED BY: *BW*

PROSPECT BANK OPERATION
TOTAL ASH VOLUME 1999

TOTAL WEIGHT OF ASH = 175,566 tons
MAX. BULK DENSITY = 88.6 lb / cu. ft.

$$\frac{175,566 \text{ tons} \times 2240 \text{ lb/ton}}{88.6 \text{ lb / cu. ft.}} = 4,438,689 \text{ cf}$$

$$\frac{4,438,689 \text{ cf}}{27 \text{ cf/cy}} = 164,396 \text{ CY of material used at site in 1999}$$

III. COAL ASH AND LEACHATE ANALYSES

Coal Ash Generation Facility Name Northampton Fuel Supply Company, Inc.RESULTS OF ANALYSES ☒ No pH adjustment ☐ After pH Adjustment

Constituents	Acceptable Methods of Analysis Indicate Method Used		Ash Dry Wt. Concentration. (mg/kg)	EPA's SW 846 Method 1312, SPLP Leachate Concentration (mg/L)	Maximum Acceptable Leachate Concentration (mg/L)		
	EPA SW-846	Other Acceptable					
pH Solid	9045		11.65	11.15			
Aluminum	6010A, 7020		23400	0.19	5.0		
Antimony	6010A, 7040, 7041		20.0	0.010	0.15		
Arsenic	6010A, 7060A, 7061A		11.4	0.005	1.25		
Barium	6010A, 7080A, 7081		177	0.18	50		
Boron		EPA 600/4-79-020	54.4	0.2	31.50		
Cadmium	6010A, 7130, 7131A		0.5	0.028	0.13		
Chromium	601 OA, 7190, 7191		76	0.08	2.5		
Copper	6010A, 7210, 7211		126	0.02	32.5		
Iron	6010A, 7380, 7381		13600	0.06	7.5		
Lead	6010A, 7420, 7421		10.0	0.16	1.25		
Manganese	601 OA, 7460, 7461		80.5	0.01	1.25		
Mercury	7470, 7471A		0.277	0.0002	0.05		
Molybdenum	6010A, 7480, 7481		85	0.29	4.38		
Nickel	6010A, 7250		27	0.04	2.5		
Selenium	6010A, 7740, 7741		0.5	0.005	1.00		
Zinc	6010A, 7950, 7951		178	0.031	125		
Sulfate	9035A, 9036A, 38A			627.0	2500		
Chloride	9250, 9251A, 9252			55.7	2500		
Sodium	6010A, 7770			15.9			
Acid Neutralizing Potential*	Method of Analysis		Calcium Carbonate Equivalence				
	☐ Neutralization Potential Test, DEP's Overburden Sampling and Testing Manual, Noll et al. ☒ Other indicate method <u>EPA 600/2-78-054</u>		Tons of CaCO ₃ per 1,000 tons of ash <u>82.7</u>	% CaCO ₃ Dry Wt. _____			
Hydraulic Conductivity	☐ ASTM D 5084-90 ☐ Other indicate method _____		Permeability (cm/sec)				

* Provide only when the requested beneficial use is alkaline addition.

** Provide only when the requested beneficial use is as a low-permeability material.

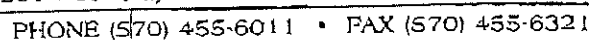
Analytical Laboratory Name, Address

Hawk Mountain Labs201 West Clay Avenue, West Hazleton, PA 18201

Analyst(s) Name

Jeffrey GittlemanTelephone No. (570) 455-6011

Laboratory reports must be attached



Year	1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100
1970	1971	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032	2033	2034	2035	2036	2037	2038	2039	2040	2041	2042	2043	2044	2045	2046	2047	2048	2049	2050	2051	2052	2053	2054	2055	2056	2057	2058	2059	2060	2061	2062	2063	2064	2065	2066	2067	2068	2069	2070	2071	2072	2073	2074	2075	2076	2077	2078	2079	2080	2081	2082	2083	2084	2085	2086	2087	2088	2089	2090	2091	2092	2093	2094	2095	2096	2097	2098	2099	2100	

HAWKMTN

LABS INC

201 West Clay Avenue / West Hazleton, PA 18201

PHONE (717) 455-6011 • FAX (717) 455-6321

PAGE No. 1

DER MODULE 25
SEMI-ANNUAL MONITORING REPORTTO: Northampton Fuel Supply Co.
1 Horwith Drive
P.O. Box 460
Northampton, PA 18067

Report Date: 5/20/98

Material Tested:	Fly Ash	HawkMtn #:	9804-00156-001
Date Received:	4/13/1998	Sampler	LM/HML
Date Sampled:	4/13/1998	Sample pt. ID:	Alden Ash Pit
Client ID:	Semi Annual Fly Ash Analysis, Alden Ash Pit		

TEST DESCRIPTION	TEST RESULTS Dry Wt. mg/kg	Test Results Leachate mg/l	TEST, METHOD
*pH	8.38	7.78	EPA SW846 METH. 9045
Aluminum	25500	18.07	SW-846 METH. 7020
Antimony	<20.0	<0.001	SW-846 METH. 7040
Arsenic	<0.5	0.40	EPA SW846 METH. 7060
Barium	277	<0.10	EPA SW846 METH. 7080
Boron	18.8	<0.2	AGR. #9, PART 2, 2ND. ED
Cadmium	<0.5	<0.005	EPA SW846 METH. 7131
Chromium	81	<0.05	EPA SW846 METH. 7191
Cobalt	21	0.06	EPA SW846 METH. 7200
Copper	60	0.30	EPA SW846 METH. 7210
Iron	9690	1.45	EPA SW846 METH. 7380
Lead	52	<0.10	EPA SW846 METH. 7421
Manganese	148	0.34	EPA SW846 METH. 7460
Mercury	0.194	<0.0002	EPA SW846 METH. 7471
Molybdenum	<10.0	<0.1	EPA SW846 METH. 7480
Nickel	33	<0.04	EPA SW846 METH. 7520
Potassium	876	<1.0	STD. METH. 3500-K D
Selenium	<0.5	<0.005	EPA SW846 METH. 7740
Silver	<1.0	<0.01	EPA SW846 METH. 7760
Zinc	70	0.31	EPA SW846 METH. 7950

* pH values are represented by Standard pH units (su)

PAGE No. 2

DER MODULE 25
SEM-ANNUAL FLY ASH/ SPLP LEACHATE ANALYSIS

TO: Northampton Fuel Supply Co.

Report Date: 5/20/1998

Material Tested: Fly Ash Hawk Mtn ID: 9804-00156-001
Date Received: 4/13/1998 Permit No.:
Date Sampled: 4/13/1998 Sample Pt. ID: Alden Ash Pit
Client ID: Semi Annual Fly Ash Analysis, Alden Ash Pit

TEST DESCRIPTION	TEST RESULT	UNITS	TEST METHOD	DATE OF ANALYSIS
SPLP Fluid #3, Water	8.12	su, ending	EPA SW846 METH. 1312	4/24/98
Sulfate, Leachate	7.28	mg/l	EPA METH. 300 HPLC IC	4/24/98
Ammonia-Nitrogen, Leachate	<1.0	mg/l	EPA METH. 350.1	4/29/98
Nitrate, Leachate	0.05	mg/l	EPA METH. 300 HPLC IC	4/24/98
Chloride, Leachate	<0.02	mg/l	EPA METH. 300 HPLC IC	4/24/98
Cyanide Total, Leachate	<0.010	mg/l	EPA SW846, METH. 9010	5/01/98
Sodium, Total, leachate	37.00	mg/l	EPA SW846 METH. 7770	4/29/98
Phenolics Total, Leachate	<0.05	mg/l	EPA SW846, METH. 9065	5/08/98
Organic Carbon Total, leach	<2.0	mg/l	EPA METH. 415.1	5/04/98
Halogen, Total, Leachate	<0.005	mg/l	EPA SW846, METH. 9020	5/08/98
Chem. O2 Demand, Leachate	42	mg/l	STD METHODS 508C	5/01/98
Acid Neutralization Potent	0.63	**	EPA 600/2-78-054	5/11/98

** Tons Calcium Carbonate equivalent/ 1000 Tons of Material

David Gittleman, Lab Director

LABORATORY REPORT

TO: Northampton Fuel Supply Co.
1 Horwith Drive
P.O. Box 460
Northampton, PA 18067

Report Date: 6/10/98

Material Tested:	Fly Ash	HawkMtn #:	9804-00156-001
Date Received:	4/13/1998	Sampler:	LM/HML
Date Sampled:	4/13/1998	Sample pt. ID:	Alden Ash Pit
Client ID:	Semi Annual Fly Ash Analysis, Alden Ash Pit		

COMPACTION TEST

TESTS	ASH RESULTS	SIEVE ANALYSIS	
		SIZE	%PASSING
Max Bulk Density	110.1 lb/cu.ft.	3/8"	100.0%
		#4	100.0%
Max Dry Density	83.5 lb/cu.ft.	#10	99.8 %
		#40	99.6 %
Density 90% Dry	75.2 lb/cu.ft.	#100	99.0 %
		#200	93.4 %
Optimum Water Content	31.9 %		

David Gittleman, Lab Director

UNITED INSPECTION SERVICES

1588 Center Avenue - Jim Thorpe, PA 18229
717-325-3293 FAX: 717-325-3687

LABORATORY SOIL TEST REPORT

CLIENT: Hawk Mountain Laboratories

REPORT: L-002

PROJECT: Alden Ash Pit 9804-156-1

DATE: 5-18-98

LAB #: 1818

STOCKPILE IDENTIFICATION & LOCATION: Alden Ash Pit

9804-156-1

TEST DATA

PROCTOR ASTM D-1557, METHOD A

DRY DENSITY lbs/ft³ 1. 72.9 2. 82.1 3. 81.0 4. 74.0 5. _____ 6. _____

MOISTURE CONTENT, % 1. 25.5 2. 30.10 3. 35.2 4. 39.5 5. _____ 6. _____

CORRECTED (ASTM D-4718)

MAXIMUM DRY DENSITY 83.5 lbs/ft³

OPTIMUM MOISTURE 31.9 %

PARTICLE SIZE ANALYSIS - N/A

SIEVE SIZE												
% PASSING												

ATTERBURG LIMITS

N/A

COARSE SPECIFIC GRAVITY - N/A

LIQUID LIMIT _____

PLASTIC LIMIT _____

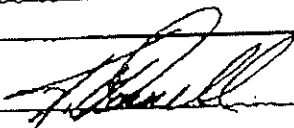
PLASTICITY INDEX _____

NP=Non Plastic

SOIL CLASSIFICATION

ash

LAB TECHNICIAN: H. Nonnemacher

REVIEWED BY: 

UNITED INSPECTION SERVICES

1388 CENTER AVENUE

JIM THORPE, PA 18229

FIELD DENSITY TEST DATA

(ASTM D-2922 & D-3017)

DATE: 5-22-98

REPORT NO: F-01-9804-156-1

PAGE: 1 OF 1

TYPE OF MATERIAL: ash-Norhampton

CLIENT: Hawk Mountain Labs

GENERAL LOCATION: Alden Pit

PROJECT: Alden-9804-156-1

GAUGE #: 6645 MOISTURE S.C. 58Q DENSITY S.C. 2536

TEST NO	LOCATION/ELEV./STATION ETC	LIFT # / THICKNESS	REF. TEST	PROBE DEPTH	WET DENSITY	% MOIST.	DRY DENSITY	MAX. DENSITY	OPT. MOIST.	% COMPAC	% REQ DENSITY	PASS/ FAIL
01	NE corner	N/A		8"	94.2	20.1	78.4	83.5	31.9	94	90	P
02	center E end	"		"	95.5	19.8	79.7	83.5	31.9	95	90	P
03	SE corner	"		"	96.7	22.6	78.9	83.5	31.9	94	90	P
04	N side center	"		"	93.8	19.0	78.8	83.5	31.9	94	90	P
05	col. line pit	"		"	94.2	18.7	79.4	83.5	31.9	95	90	P
06	S side center	"		"	98.3	23.4	79.7	83.5	31.9	95	90	P
07	NW corner	"		"	101.9	25.7	81.1	83.5	31.9	97	90	P
08	center W end	"		"	101.5	21.7	83.4	83.5	31.9	100	90	P
09	SW corner	"		"	99.1	20.8	82.0	83.5	31.9	98	90	P

REMARKS:

elev. existing grade

P=PASS

TECHNICIAN: S. Dorshefski

F=FAIL

REVIEWED BY:



HAWKMTN

LABS INC

201 West Clay Avenue / West Hazleton, PA 18202

PHONE (570) 455-6011 • FAX (570) 455-6321

LABORATORY REPORT

TO: Northampton Fuel Supply Co.
Bruce Tetkoskie
1 Horwith Drive PO Box 460
Northampton, PA 18067

Report Date: 5/30/01

Material Tested: Fly Ash
Date Received: 4/26/2001
Date Sampled: 4/26/2001
Client ID: Northampton Fuel Supply, Prospect Site, Semi Annual Ash Analysis

HawkMtn #: 0104-00502-001
Sampler: LM/HML
Sample pt. ID: Prospect Ash Pit

COMPACTION TEST

TESTS

ASH RESULTS

SIEVE ANALYSIS

Max Dry Density	76.8 lb/cu.ft.	SIZE	%PASSING
		3/8"	89.3 %
Density 90% Dry	69.1 lb/cu.ft.	#4	79.4 %
		#10	63.9 %
		#40	42.2 %
Optimum Water Content	21.8 %	#100	30.5 %
		#200	17.8 %


Jeffrey Gittleman, Lab Director

UNITED INSPECTION SERVICES

1588 Center Avenue - Jim Thorpe, PA 18229
570-325-3293 FAX: 570-325-3687LABORATORY SOIL TEST REPORTCLIENT: Hawk Mountain LabsREPORT: L-0104-502-1PROJECT: NFSCI - ProspectDATE: 5-22-01LAB #: 2746STOCKPILE IDENTIFICATION & LOCATION: fly ashTEST DATAPROCTOR ASTM D-1557, METHOD ADRY DENSITY lbs/ft³ 1. 73.6 2. 74.9 3. 74.1 4. 73.9 5. 76.8 6. _____MOISTURE CONTENT, % 1. 18.2 2. 17.5 3. 25.6 4. 24.2 5. 21.8 6. _____

CORRECTED (ASTM D-4718)

MAXIMUM DRY DENSITY 76.8 lbs/ft³OPTIMUM MOISTURE 21.8 %PARTICLE SIZE ANALYSIS N/A

SIEVE SIZE												
% PASSING												

ATTERBURG LIMITS

N/A

COARSE SPECIFIC GRAVITY - N/A

LIQUID LIMIT _____

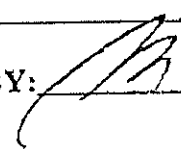
PLASTIC LIMIT _____

PLASTICITY INDEX _____

NP = Non Plastic

SOIL CLASSIFICATION

N/A

LAB TECHNICIAN: C. BallierREVIEWED BY: 

PROPOSED MONITORING WELL

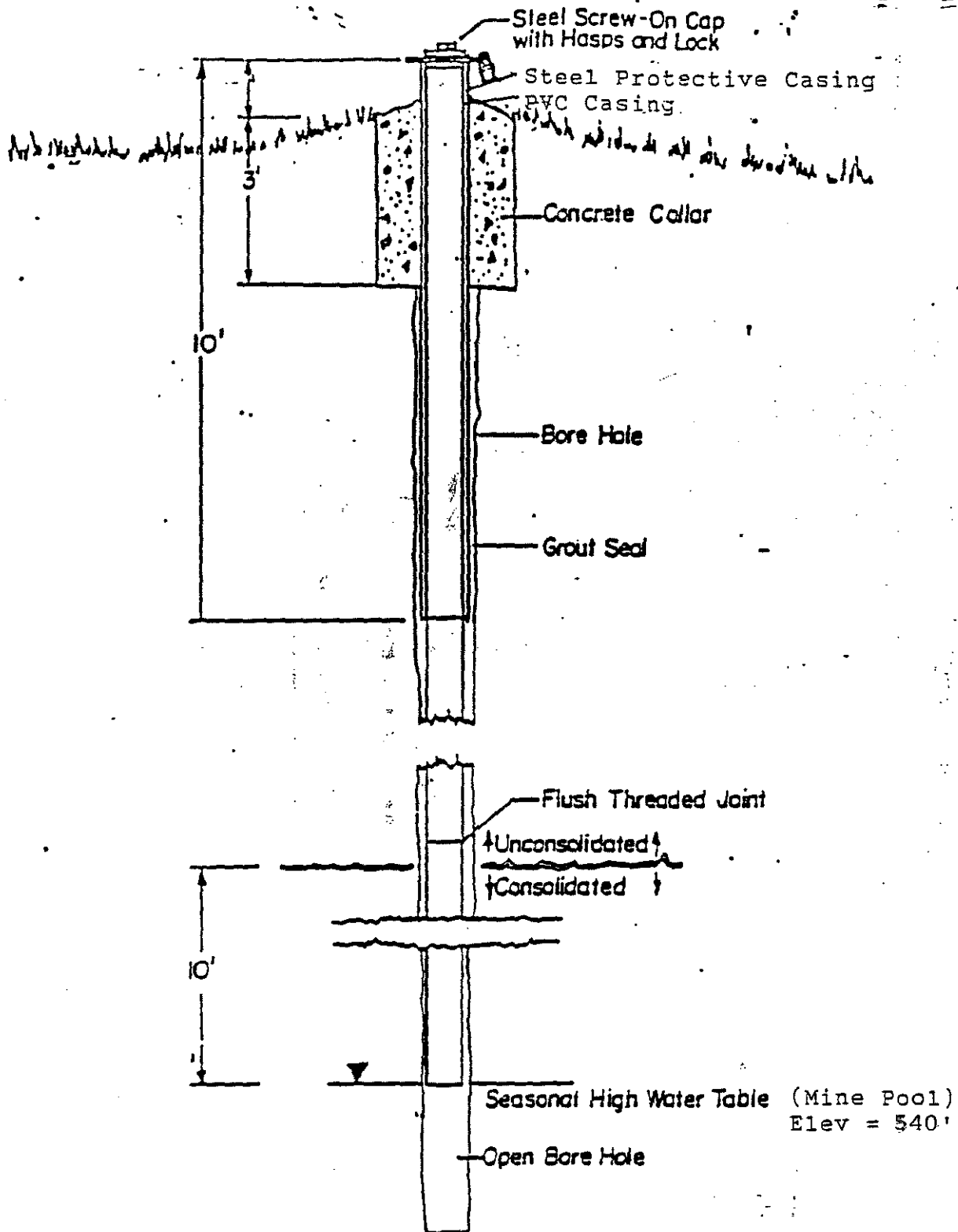
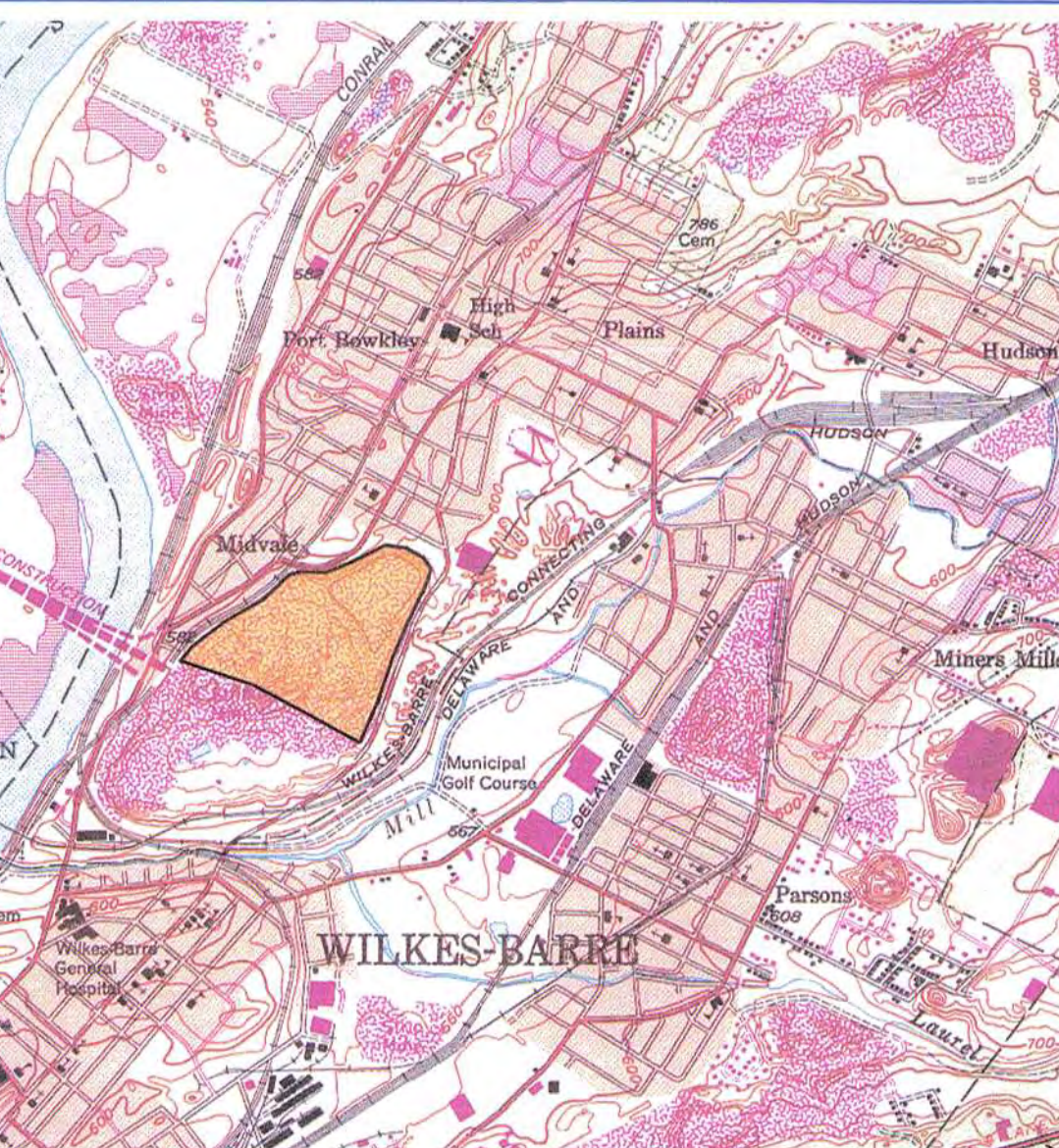


Exhibit 3



- 500' PERIMETER BOUNDARY
100 YEAR FLOOD BOUNDARY
500 YEAR FLOOD BOUNDARY
EXTENT OF BANK MATERIAL
SLOPE @35° HORIZONTAL ~ 1.5h : 1v
ROCK CONSTRUCTION ENTRANCE

*** RCE**



LOCATION MAP
1"=2000'

ALL AREAS WHERE ASH HAS BEEN PLACED
(40.25 ACRES) HAS THE REQUIRED 3 FT.
OF COVER MATERIAL.

THE REQUIRED TOPSOIL (ONE FOOT THICK)
IS STILL NEEDED AND HAS NOT BEEN
PLACED AT THE SITE.



DATE
07/07/08

DRAWN BY

EJH
CHECKED BY

CHECKED BY
FCS

SCALE

$$1'' = 200'$$

REVISION	DATE
----------	------

100

ASH PLACEMENT AREAS

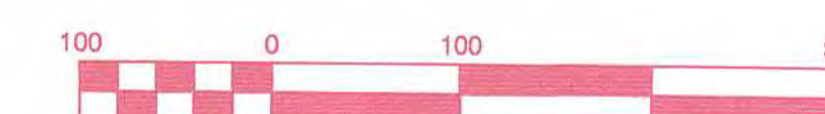
PROSPECT BANK OPERATION
NORTHAMPTON FUEL SUPPLY CO., INC.
PLAINS TOWNSHIP, LUZERNE COUNTY, PA

SHEET NO.

1

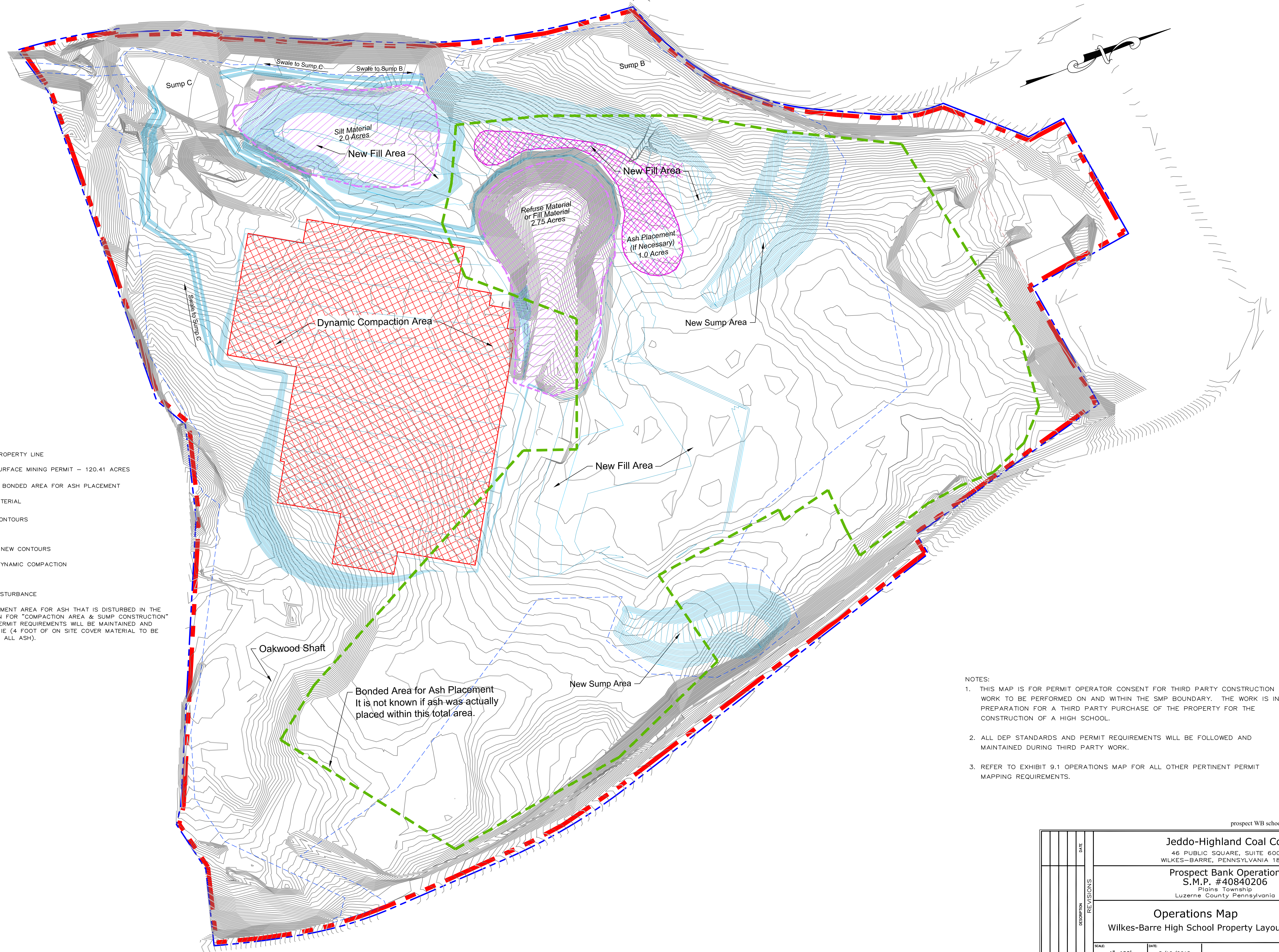
OF

1



Scale 1" = 200 ft

Exhibit 4



LEGEND

- EXISTING PROPERTY LINE
- LIMIT OF SURFACE MINING PERMIT - 120.41 ACRES
- EXTENT OF BONDED AREA FOR ASH PLACEMENT
- REFUSE MATERIAL
- EXISTING CONTOURS
- PROPOSED NEW CONTOURS
- AREA OF DYNAMIC COMPACTION
- LIMIT OF DISTURBANCE
- ASH PLACEMENT AREA FOR ASH THAT IS DISTURBED IN THE EXCAVATION FOR "COMPACTION AREA & SUMP CONSTRUCTION" ALL DEP PERMIT REQUIREMENTS WILL BE MAINTAINED AND FOLLOWED. IE (4 FOOT OF ON SITE COVER MATERIAL TO BE PLACED ON ALL ASH).

NOTES:

- THIS MAP IS FOR PERMIT OPERATOR CONSENT FOR THIRD PARTY CONSTRUCTION WORK TO BE PERFORMED ON AND WITHIN THE SMP BOUNDARY. THE WORK IS IN PREPARATION FOR A THIRD PARTY PURCHASE OF THE PROPERTY FOR THE CONSTRUCTION OF A HIGH SCHOOL.
- ALL DEP STANDARDS AND PERMIT REQUIREMENTS WILL BE FOLLOWED AND MAINTAINED DURING THIRD PARTY WORK.
- REFER TO EXHIBIT 9.1 OPERATIONS MAP FOR ALL OTHER PERTINENT PERMIT MAPPING REQUIREMENTS.

prospect WB school - ops map 8-16-2018.dwg

		DATE	REVISIONS	Jeddo-Highland Coal Co.	
				46 PUBLIC SQUARE, SUITE 600 WILKES-BARRE, PENNSYLVANIA 18701	
				Prospect Bank Operation S.M.P. #40840206 Plains Township Luzerne County Pennsylvania	
		DESCRIPTION		Operations Map	
				Wilkes-Barre High School Property Layout	
		SCALE:	DATE:	DRAWN BY: KJF	APPROVED BY: —
		1"=100'	8/16/2018	PROJECT NO.	
					EXHIBIT 9.2

Exhibit 5

