Buxton Environmental, Inc.

1101 South Blvd., Suite 101 ~ Charlotte, North Carolina 28203
Phone (704) 344-1450 ~ Fax (704) 344-1451 ~ e-mail: buxtonenv@bellsouth.net

June 26, 2015

Mr. Mike Plummer, PE
HDR Engineering of the Carolinas, Inc.
440 South Church Street, Suite 1000
Charlotte, North Carolina 28202

Subject: ***Report of Abandonment of Piezometers at Cells 1 and 2***
Brickhaven No. 2 Mine Tract "A" Structural Fill
1315 Moncure-Flatwood Road (new address: 1271 Moncure-Flatwood Road)
Moncure, North Carolina

Dear Mr. Plummer,

Buxton Environmental, Inc. respectfully submits this report documenting the abandonment of piezometers located within and adjacent to the footprint of Cells 1 and 2 at the Brickhaven No. 2 Mine Tract "A" Structural Fill site located at 1315 Moncure-Flatwood Road (new address: 1271 Moncure-Flatwood Road) in Moncure, North Carolina. The piezometers were installed during the Design Hydrogeologic Report investigation conducted at the site by Buxton Environmental, Inc. The abandonment activities were conducted prior to construction of Cells 1 and 2 on behalf of HDR Engineering of the Carolinas, Inc. The piezometer abandonment activities were conducted in accordance with North Carolina Well Construction Standards (15A NCAC 02C .0113) by a North Carolina Registered Driller, and North Carolina Department of Environment and Natural Resources-Solid Waste Section (NCSWS) guidelines.

From May 26 through June 23, 2015, Mr. Steve Poloniewicz (North Carolina Well Contractor Certification # 2284-A) with SAEDACCO, Inc. conducted the abandonment of nine (9) single stand-alone shallow piezometers (PZM-5, PZM-10, PZM-11, PZM-12, PZM-13, PZM-15, PZM-16, PZM-18 and, PZM-29) and four (4) shallow/deep nested piezometer pairs (PZM-2 and PZM-2D, PZM-7s and PZM-7, PZM-14s and PZM-14, and PZM-17s and PZM-17) with oversight by Mr. Ross Klingman, P.G. (North Carolina Geologist License #1266) with Buxton Environmental, Inc. (North Carolina Corporate License #C-278). Prior to the abandonment of the piezometers, the protective steel stand-up well covers and concrete pads were removed. Each shallow piezometer was abandoned by over-drilling by advancing 8-inch outer diameter (4.25-inch inner diameter) hollow-stem augers over the piezometer (to keep boring centered) to the base of the piezometer (with the exception of PZM-5 as explained below), removing the PVC piezometer material, and tremie-grouting the boring from the base of the piezometer to the ground surface with neat cement grout. At PZM-5, auger refusal was encountered before reaching the total 27-foot depth of the piezometer (auger refusal occurred at 12-feet below grade). Each nested piezometer pair was abandoned by over-drilling by first pulling the shallow piezometer, then advancing 8-inch outer diameter (4.25-inch inner diameter) hollow-stem augers over the piezometer (to keep boring centered) to the base of the piezometer, removing the PVC piezometer material, and tremie-grouting the boring from the base of the piezometer to the ground surface with neat cement grout. Removed piezometer materials were properly disposed at an off-site facility by SAEDACCO, Inc. The Well Abandonment Records (Form GW-30) and original boring logs are attached in Appendix A. Reference Figure 3 in the Design Hydrogeologic Report section of the Brickhaven No.2 Mine Tract "A" Structural Fill permit application for abandoned piezometer locations.

If you have any further questions concerning these matters, please give me a call at (704) 344-1450.

Sincerely,
Buxton Environmental, Inc.

Ross Klingman, P.G.

NORTH CAROLINA
LICENSED
SEAL
1266
GEOLOGIST
CHARLES ROSS KLINGMAN

APPENDIX A
WELL ABANDONMENT RECORDS AND BORING LOGS

APPENDIX A
WELL ABANDONMENT RECORDS AND BORING LOGS

Buxton Environmental, Inc.
Consulting Services
1101 South Blvd., Suite 101
Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-5

Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

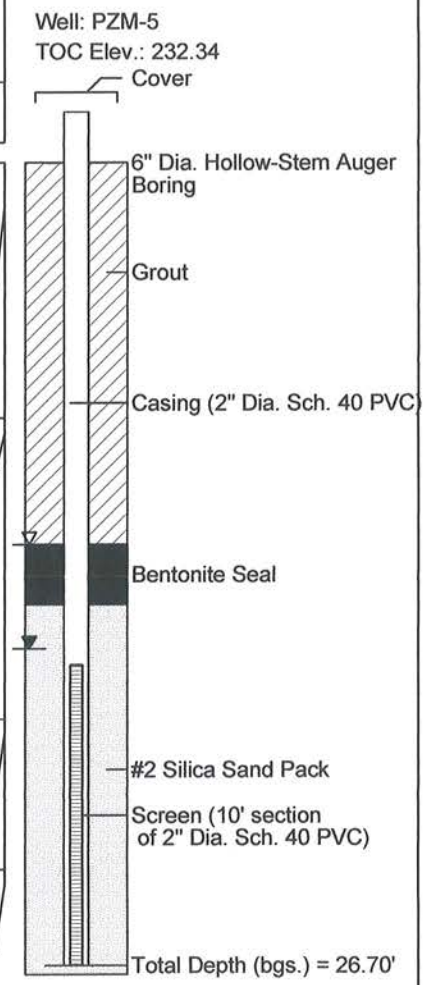
Date Started:	: 8/6/14	Logged By:	: Sean Quarry (HDR)
Date Completed:	: 8/6/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: HPC Land Services	Top-of-Casing Elev.:	: 232.34'(Lawrence Survey)
Drillers Name:	: Jason Cain	Ground Surface Elev.:	: 229.26'(Lawrence Survey)
NC Driller Certification:	: 3112A	Natural, Cut, Fill Grade::	natural

Water Levels
- 1 Hour = 15.95'
- 24 Hours = 12.49'

Sample Type
- SS = Split Spoon
- ST = Shelby Tube
- RC = Rock Core
- BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	229.26	[illegible]	SS,BAG	18	moist; stiff; reddish brown (5 YR 4/4) with gray; fine sandy silty clay; medium plasticity; cohesive; Residuum; (Lab Results: PZM-5 Bag (0-1.5'); USCS=CL; Gravel=15.7; Sand=21.4%; Silt=48.3%; Clay=14.6%; Effective Porosity=15%; Atterberg Limits: PL=22, LL=35, PI=13)
5	224.26				
		50/1"	SS	4	moist; very hard; reddish brown (5YR 4/4) with gray; fine sandy silty clay; medium plasticity; cohesive; Partially Weathered Rock
10	219.26				
15	214.26				
		50/0.5"	SS	0	soil cuttings; moist; very hard; reddish brown (5YR 4/4); fine sandy silty clay; medium plasticity; cohesive; Partially Weathered Rock
20	209.26				
		50/0.5"	SS	0	soil cuttings; wet; very hard; dark reddish brown (5YR 3/3); fine sandy silty clay' medium plastic; cohesive; Partially Weathered Rock
25	204.26				
30	199.26				
35	194.26				
40	189.26				
45					

Auger Refusal @ 27'



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 05/30/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-5

6b. Total well depth: 28 (ft.)

6c. Borehole diameter: 2" (in.)

6d. Water level below ground surface: _____ (ft.)

6e. Outer casing length (if known): 28' (ft.)

6f. Inner casing/tubing length (if known): _____ (ft.)

6g. Screen length (if known): _____ (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 1

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~75 gallons

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade. SEE TEXT For clarification. RK

8. Certification:

Steve Poloniewicz — 6/17/2015

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

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Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-10

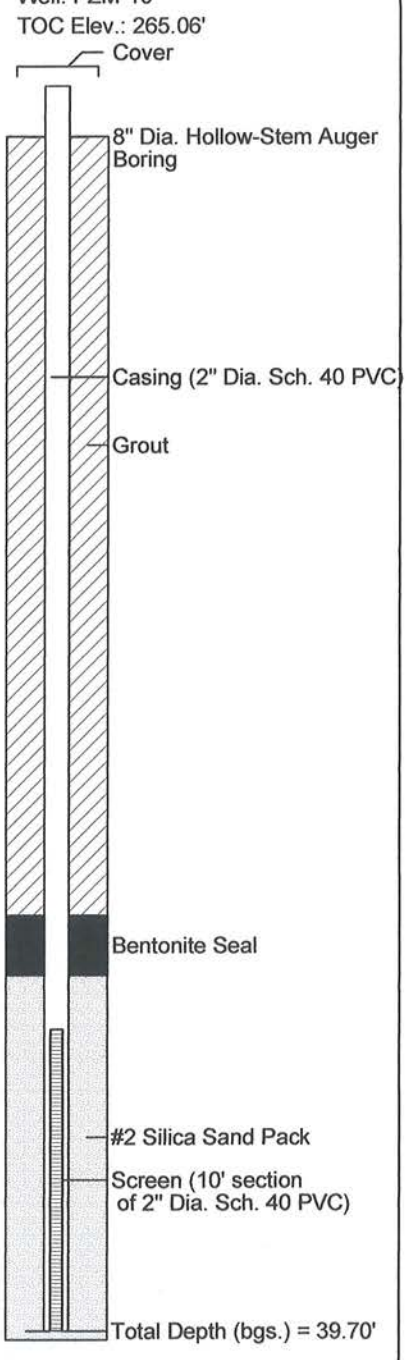
Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

Date Started:	: 8/12/14	Logged By:	: Sean Quarry (HDR)
Date Completed:	: 8/12/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: Summit Engineering	Top-of-Casing Elev.:	: 265.06'(Lawrence Survey)
Drillers Name:	: Robert Cassell	Ground Surface Elev.:	: 262.23'(Lawrence Survey)
NC Driller Certification:	: 4143A	Natural, Cut, Fill Grade::	cut

Water Levels
▼ 1 Hour = dry
▽ 24 Hours = dry

Sample Type
SS = Split Spoon
ST = Shelby Tube
RC = Rock Core
BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	262.23	4 4 6	SS	20	moist; stiff; dark reddish brown (5YR 3/4) with gray; silty clay; medium plasticity; cohesive; Residuum
5	257.23	7 11 14	SS	17	moist; very stiff; dark reddish brown (5YR 3/4) with gray; horizontal fissile; sandy silty clay; medium plasticity; cohesive; Residuum
10	252.23	7 9 22	SS	16	moist; very stiff; dark reddish brown (5YR 3/3) with gray, yellow and black; silty sandy clay; medium plasticity; cohesive; Residuum
15	247.23	24 50/5"	SS	13	moist; very hard; reddish brown (5YR 4/3) with gray; horizontal fissle; sandy silty clay; low plasticity; cohesive; Partially Weathered Rock
20	242.23	25 50/5"	SS,BAG	11	moist; very hard; reddish brown (5YR 6/3) with gray; sandy silty clay; low plasticity; cohesive; Partially Weathered Rock; (Lab Results: PZM-10 Bag (18.5-20'); USCS=CL; Sand=11.9%; Silt=59.1%; Clay=29%; Effective Porosity=4%; Atterberg Limits: PL=19, LL=30, PI=11)
25	237.23	50/5"	SS	5	moist; very hard; dark reddish gray (5YR 4/2); horizontal fissle; silty sandy clay; low plasticity; cohesive; Partially Weathered Rock
30	232.23	50/2"	SS	2	moist; very hard; dark reddish gray (5YR 4/2); silty clay; low plasticity; cohesive; Partially Weathered Rock
35	227.23	43 50/2"	SS	10	moist/wet; very hard; yellowish red (5YR 4/6); silty clay; low plasticity; cohesive; Partially Weathered Rock
40	222.23	50/0.5"	SS	1	wet; very hard; yellowish red (5YR 4/6); silty clay; low plasticity; cohesive; Partially Weathered Rock
45					



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 06/17/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-10

6b. Total well depth: 40 (ft.)

6c. Borehole diameter: 2" (in.)

6d. Water level below ground surface: _____ (ft.)

6e. Outer casing length (if known): 40' (ft.)

6f. Inner casing/tubing length (if known): _____ (ft.)

6g. Screen length (if known): _____ (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 1

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~105 gallon

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 6/17/2015

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

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Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-11

Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

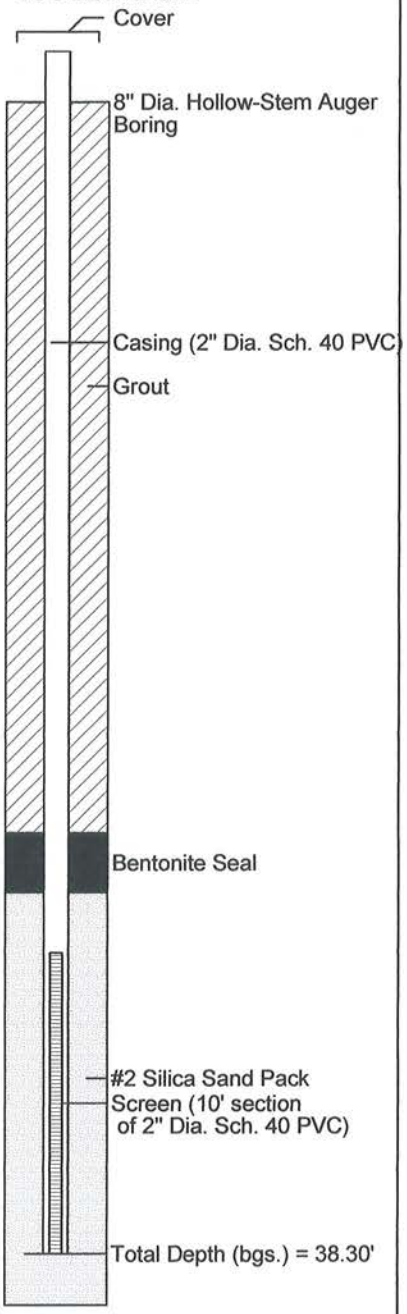
Date Started:	: 8/12/14	Logged By:	: Sean Quarry (HDR)
Date Completed:	: 8/12/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: Summit Engineering	Top-of-Casing Elev.:	: 248.71'(Lawrence Survey)
Drillers Name:	: Robert Cassell	Ground Surface Elev.:	: 246.27'(Lawrence Survey)
NC Driller Certification:	: 4143A	Natural, Cut, Fill Grade::	cut

Water Levels
▼ 1 Hour = dry
▽ 24 Hours = dry

Sample Type
SS = Split Spoon
ST = Shelby Tube
RC = Rock Core
BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	246.27	8 9 17	SS	17	moist; very stiff; gray (5YR 6/1) with yellow mottles; silty clay; low plasticity; cohesive; Residuum
5	241.27	14 50/3"	SS	10	moist; very hard; gray (5YR 6/2); fine sandy silty clay; low plasticity; cohesive; Partially Weathered Rock
10	236.27	50/3"	SS	3	moist; very hard; grayish green (Gley 1 4/2); weathered sandstone; Partially Weathered Rock
15	231.27	50/6"	SS	6	dry; very hard; grayish green (Gley 1 4/1) with gray; fine sandy silty clay and weathered mudstone; low plasticity; cohesive; Partially Weathered Rock
20	226.27	50/4"	SS	4	dry; redish brown (5YR 4/4); horizontal fissile; silty clay; low plasticity; cohesive; Partially Weathered Rock
25	221.27	24 50/4"	SS	8	moist; very hard; dark gray (5YR 4/1) with gray and yellow mottles; silty clay with thin weathered mudstone; medium plasticity; cohesive; Partially Weathered Rock
30	216.27	50/3"	SS	4	moist; very hard; reddish brown (5YR 4/3); silty clay with mudstone; low plasticity; cohesive; Partially Weathered Rock
35	211.27	50/1"	SS	1	moist; very hard; reddish brown (5YR 4/3); silty clay with mudstone; low plasticity; cohesive; Partially Weathered Rock
40	206.27	50/3"	SS,BAG	2	moist; very hard; reddish brown (5YR 4/3); silty clay with mudstone; low plasticity; cohesive; Partially Weathered Rock; (Lab Results: PZM-11 Bag (38.5-40'); USCS=CL; Gravel=4.6%; Sand=12.6%; Silt=62.4%; Clay=20.4%; Effective Porosity=7%; Atterberg Limits: PL=21, LL=37, PI=16)
45					

Well: PZM-11
TOC Elev.: 248.71'



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This form can be used for single or multiple wells

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Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 05/30/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-11

6b. Total well depth: 38 **(ft.)**

6c. Borehole diameter: 2" **(in.)**

6d. Water level below ground surface: _____ **(ft.)**

6e. Outer casing length (if known): 28' **(ft.)**

6f. Inner casing/tubing length (if known): _____ **(ft.)**

6g. Screen length (if known): 10' **(ft.)**

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 1

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ **(gal.)**

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~110 gallon

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 05/30/2015

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

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1636 Mail Service Center, Raleigh, NC 27699-1636

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Boring Log, PZM-12

Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

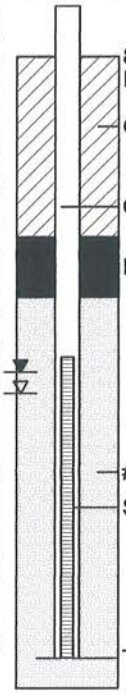
Date Started:	: 8/14/14	Logged By:	: Ross Klingman, P.G.
Date Completed:	: 8/14/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: Summit Engineering	Top-of-Casing Elev.:	: 236.07'(Lawrence Survey)
Drillers Name:	: Robert Cassell	Ground Surface Elev.:	: 233.21'(Lawrence Survey)
NC Driller Certification:	: 4143A	Natural, Cut, Fill Grade::	cut

Water Levels
▼ 1 Hour = 10.50' bgs
▽ 24 Hours = 11.20' bgs

Sample Type
SS = Split Spoon
ST = Shelby Tube
RC = Rock Core
BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	233.21	11 12 18	SS,ST	18	dry; very stiff; red (2.5YR 4/6) with black hroizontal planes; silty clay and weathered mudstone; no plasticity; cohesive; Residuum; (Lab Results: PZM-12 UD (0.5-1.5'); USCS=CL; Sand=16.3%; Silt=71.3%; Clay=12.4%; Specific Gravity=2.68; Hydraulic Conductivity=2.36 x 10-6 cm/sec; Total Porosity=19.2%; Effective Porosity=9%; Atterberg Limits: PL=20, LL=31, PI=11)
		22 50/5"	SS	16	
5	228.21				dry; very hard; red (2.5YR 4/6); horizontal to 5 degree fissile; silty clay and weathered mudstone; no plasticity; cohesive; Partially Weathered Rock
		21 50/6"	SS	13	dry; very hard; red (2.5YR 4/6) with light pink horizontal layers; highly horizontal fissile; silty clay and weathered mudstone; ; no plasticity; cohesive; Partially Weathered Rock
10	223.21				
		50/4"	SS	6	dry; very hard; reddish brown (2.5YR 4/4); highly horizontal fissile; weathered mudstone; Partially Weathered Rock hard rock layer 16-18.5'
15	218.21				
		32 50/3"	SS	20	wet; hard; reddish brown (2.5YR 4/4); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
20	213.21				
25	208.21				
30	203.21				
35	198.21				
40	193.21				
45					

Auger Refusal @ 21'



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 05/30/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-12

6b. Total well depth: 20 **(ft.)**

6c. Borehole diameter: 2" **(in.)**

6d. Water level below ground surface: _____ **(ft.)**

6e. Outer casing length (if known): 10' **(ft.)**

6f. Inner casing/tubing length (if known): _____ **(ft.)**

6g. Screen length (if known): 10' **(ft.)**

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 1

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ **(gal.)**

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~65 gallons

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 05/30/2015

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

Buxton Environmental, Inc.
Consulting Services
1101 South Blvd., Suite 101
Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-13

Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

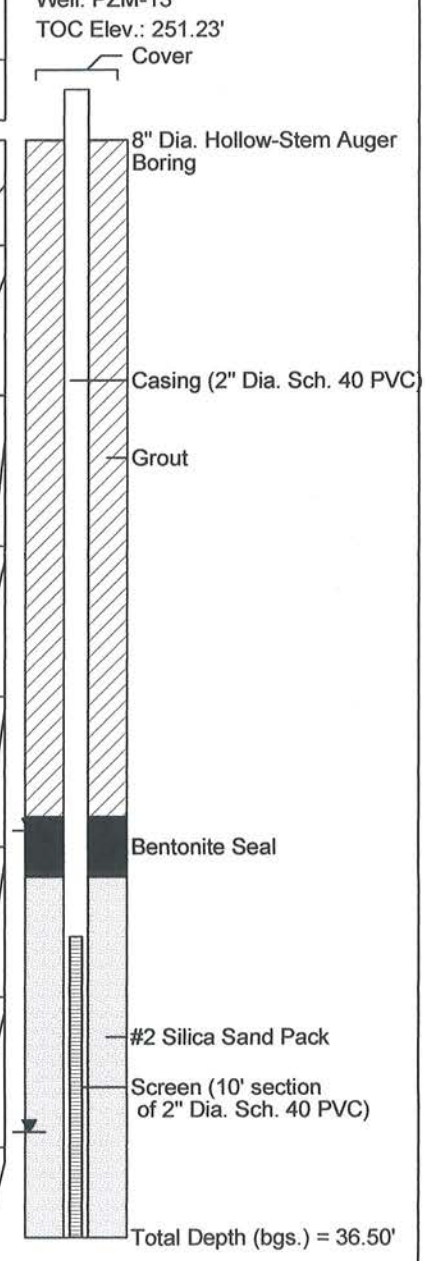
Date Started:	: 8/12/14	Logged By:	: Sean Quarry (HDR)
Date Completed:	: 8/12/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: Summit Engineering	Top-of-Casing Elev.:	: 251.23'(Lawrence Survey)
Drillers Name:	: Robert Cassell	Ground Surface Elev.:	: 249.19'(Lawrence Survey)
NC Driller Certification:	: 4143A	Natural, Cut, Fill Grade::	natural

Water Levels
1 Hour = 33.00' bgs
24 Hours =22.96' bgs

Sample Type
SS = Split Spoon
ST = Shelby Tube
RC = Rock Core
BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	249.19	3 2 6	SS	19	moist; medium; reddish brown (5YR 5); silty clay; medium plasticity; cohesive; Soil Horizon
5	244.19	22 50/3"	SS	8	moist; very hard; reddish brown (5YR 4/3) with gray and yellow; sandy silty clay; low plasticity; cohesive; Partially Weathered Rock
10	239.19	5 7 14	SS,BAG	16	moist; very stiff; light gray (10YR 7/2) with red brown bands; silty sandy clay; low plasticity; cohesive; Residuum; (Lab Results: PZM-13 Bag (8.5-10'); USCS=CL; Sand=16.4%; Silt=59.8%; Clay=23.8%; Effective Porosity=4%; Atterberg Limits: PL=16, LL=31, PI=15)
15	234.19	50/1"	SS	1	moist; very hard; light gray (10YR 7/2) with red brown; silty sandy clay; low plasticity; cohesive; Partially Weathered Rock
20	229.19	50/6"	SS	5	moist; very harr; dark reddish brown (5YR 4/3) with gray; horizontal fissile; silty clay; low plasticity; cohesive; Partially Weathered Rock
25	224.19	50/4"	SS	3	dry; very hard; reddish brown (5YR 4/3); silty clay with weathered muddy sandstone; low plasticity; cohesive; Partially Weathered Rock
30	219.19	50/4"	SS	3	dry; very hard; gray; horizontal fissile; silty clay with weathered mudstone; low plasticity; cohesive; Partially Weathered Rock
35	214.19	50/3"	SS	2	dry; very hard; gray; weathered mudstone; Partially Weathered Rock
40	209.19				
45					

Auger Refusal @ 36.5'



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 06/18/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-13

6b. Total well depth: 36.5' (ft.)

6c. Borehole diameter: 2" (in.)

6d. Water level below ground surface: _____ (ft.)

6e. Outer casing length (if known): 36.5' (ft.)

6f. Inner casing/tubing length (if known): _____ (ft.)

6g. Screen length (if known): _____ (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 1

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~105 gallon

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 6/18/2015

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

Buxton Environmental, Inc.
Consulting Services
1101 South Blvd., Suite 101
Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-15

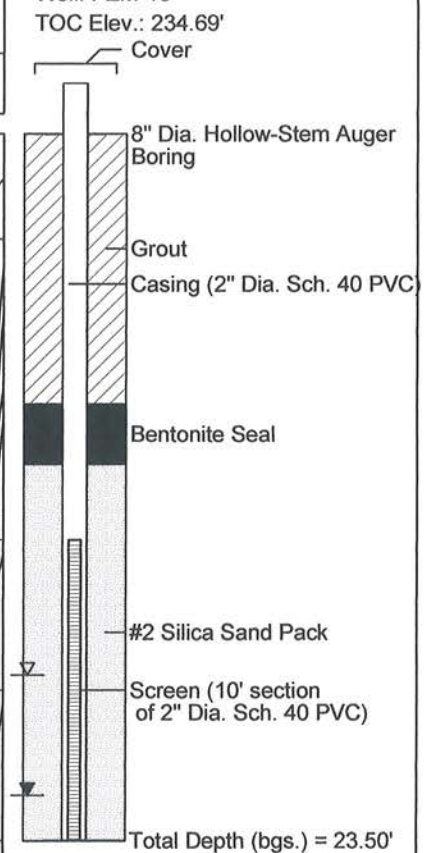
Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

Date Started:	: 8/13/14	Logged By:	: Sean Quarry (HDR)
Date Completed:	: 8/13/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: Summit Engineering	Top-of-Casing Elev.:	: 234.69'(Lawrence Survey)
Drillers Name:	: Robert Cassell	Ground Surface Elev.:	: 231.82'(Lawrence Survey)
NC Driller Certification:	: 4143A	Natural, Cut, Fill Grade::	natural

Water Levels
- 1 Hour = 22.00' bgs
- 24 Hours = 18.00' bgs

Sample Type
- SS = Split Spoon
- ST = Shelby Tube
- RC = Rock Core
- BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	231.82	2 2 5	SS	13	moist; medium; strong brown (7YR 5/6) with mottles; sandy silty clay with roots; low plasticity; cohesive; Soil Horizon
			ST	10	moist; reddish gray (5YR 5/2); silty clay; low plasticity; cohesive; Residuum; (Lab Results: PZM-15 UD (3.5-4.5'); USCS=CL; Sand=12.1%; Silt=39.6%; Clay=48.3%; Specific Gravity=2.72; Hydraulic Conductivity=3.69 x 10-9 cm/sec; Total Porosity=39.2%; Effective Porosity=1%; Atterberg Limits: PL=19, LL=39, PI=20)
5	226.82	8 11 36	SS	18	
		22 50/3"	SS	11	moist; very hard; reddish gray (5YR 5/2); horizontal fissile; silty clay; low plasticity; cohesive; Residuum
10	221.82				moist; very hard; reddish gray (5YR 5/2); horizontal fissile; silty clay; low plasticity; cohesive; Partially Weathered Rock
		50/2"	SS	1	moist; very hard; reddish brown (5YR 4/4); fine sandy clayey silt; low plasticity; cohesive; Partially Weathered Rock
15	216.82				
		50/2"	SS	2	moist; very hard; light reddish brown (5YR 6/3); horizontal fissile; fine sandy silt with weathered; low plasticity; cohesive; Partially Weathered Rock
20	211.82				
		50/3"	SS,BAG	3	wet; very hard; very dark gray; silty clay; medium plasticity; cohesive; Partially Weathered Rock; (Lab Results: PZM-15 Bag (23.5-25'): USCS=CL; Sand=6.3%; Silt=60.7%; Clay=33%; Effective Porosity=3%; Atterberg Limits: PL=17, LL=36, PI=33)
25	206.82				
30	201.82				Auger Refusal @ 23.5'
35	196.82				
40	191.82				
45					



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 06/23/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-15

6b. Total well depth: 23.5 (ft.)

6c. Borehole diameter: 2" (in.)

6d. Water level below ground surface: _____ (ft.)

6e. Outer casing length (if known): 23.5' (ft.)

6f. Inner casing/tubing length (if known): _____ (ft.)

6g. Screen length (if known): _____ (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 1

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~75 gallons

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 6/24/2015

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

Buxton Environmental, Inc.
Consulting Services
1101 South Blvd., Suite 101
Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-16

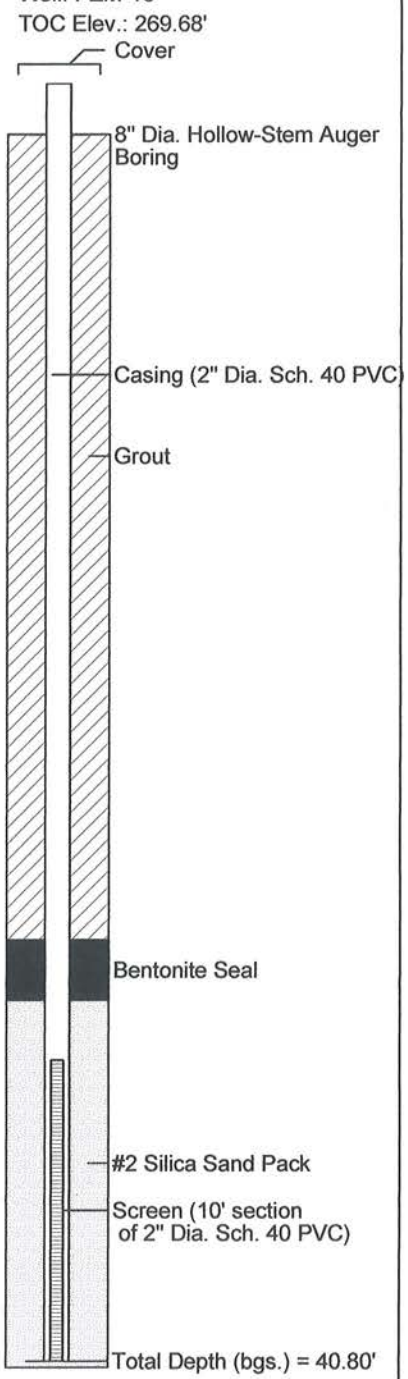
Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

Date Started:	: 8/14/14	Logged By:	: Ross Klingman, P.G.
Date Completed:	: 8/14/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: Summit Engineering	Top-of-Casing Elev.:	: 269.68'(Lawrence Survey)
Drillers Name:	: Robert Cassell	Ground Surface Elev.:	: 267.41'(Lawrence Survey)
NC Driller Certification:	: 4143A	Natural, Cut, Fill Grade::	natural

Water Levels
▼ 1 Hour = dry
▽ 24 Hours = dry

Sample Type
SS = Split Spoon
ST = Shelby Tube
RC = Rock Core
BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	267.41	3 3 6	SS	1	very moist; stiff; yellowish brown (10YR 6/6); fine to coarse sandy silty clay with quartz cobbles; medium plasticity; cohesive; Soil Horizon
5	262.41	4 5 8	SS	16	moist; stiff; light yellowish brown (2.5YR 6/4) with red orange mottles; clay; high plasticity; cohesive; Soil Horizon
10	257.41	2 3 4	SS	17	moist; medium; light yellowish brown (2.5YR 6/4) with red orange mottles; silty clay; medium plasticity; cohesive; Soil Horizon
			ST	10	moist; light yellowish brown (2.5YR 6/4) with red orange mottles; silty clay; medium plasticity; cohesive; Soil Horizon; (Lab Results: PZM-16 UD (10-11'); USCS=MH; Gravel=0.1%; Sand=7.2%; Silt=51.1%; Clay=47.9%; Specific Gravity=2.70; Hydraulic Conductivity=2.86 x 10-7 cm/sec; Total Porosity=48%; Effective Porosity=1%; Atterberg Limits: PL=32, LL=56, PI=24)
15	252.41	8 10 16	SS	18	moist; very stiff; weak red (10YR 4/3) with ligh gray and yellow stringers; silty clay; medium plasticity; cohesive; Residuum
20	247.41	8 16 27	SS	20	moist; hard; gray (10YR 6/1) with light orange and light maroon mottles and stringers; silty clay; no plasticity; cohesive; Residuum
25	242.41	21 50/6"	SS	14	moist; very hard; gray (10YR 6/1) with light orange and light maroon mottles and stringers; silty clay; no plasticity; cohesive; Partially Weathered Rock
30	237.41	22 50/2"	SS	14	moist; very hard; reddish brown (2.5YR 4/4); wavey horizontal fissile; silty clay; no plasticity; cohesive; Partially Weathered Rock; (Lab Results: PZM-16 Bag (28.5-30'): USCS=CL; Sand=21.3%; Silt=61.8%; Clay=16.9%; Effective Porosity=10; Atterberg Limits: PL=17, LL=32, PI=15)
35	232.41	50/6"	SS	10	dry; very hard; pinkish gray (7.5YR 6/2); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
40	227.41	50/1"	SS	3	dry; very hard; pinkish gray (7.5YR 6/2); highly horizontal fissile; weathered sandy mudstone; Partially Weathered Rock
45					Auger Refusal @ 41'



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 05/29/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-16

6b. Total well depth: 42 (ft.)

6c. Borehole diameter: 2" (in.)

6d. Water level below ground surface: _____ (ft.)

6e. Outer casing length (if known): 32' (ft.)

6f. Inner casing/tubing length (if known): _____ (ft.)

6g. Screen length (if known): 10' (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 1

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~115 gallon

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 6/17/2015

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

Buxton Environmental, Inc.
Consulting Services
1101 South Blvd., Suite 101
Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-18

Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

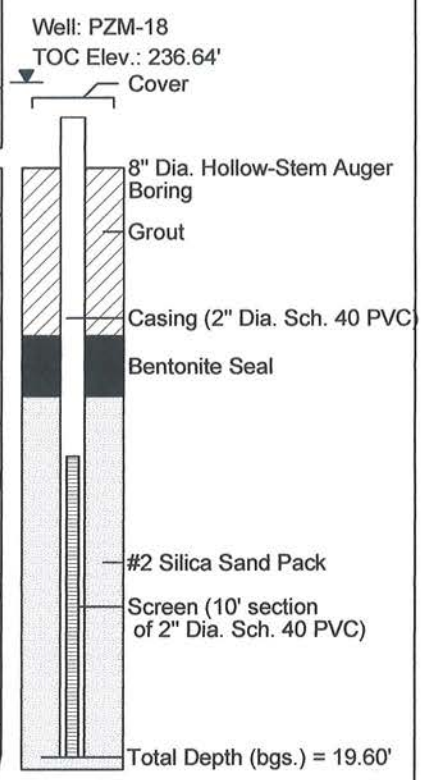
Date Started:	: 8/13/14	Logged By:	: Ross Klingman, P.G.
Date Completed:	: 8/13/14	Drilling Method:	: HSA; Geoprobe 8040DT
Drilling Company:	: Geologic Exploration	Top-of-Casing Elev.:	: 236.64'(Lawrence Survey)
Drillers Name:	: Johnny Burr	Ground Surface Elev.:	: 233.78'(Lawrence Survey)
NC Driller Certification:	: 3098A	Natural, Cut, Fill Grade::	cut

Water Levels
▼ 1 Hour = dry
▽ 24 Hours = dry

Sample Type
SS = Split Spoon
ST = Shelby Tube
RC = Rock Core
BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	233.78	11 12 14	SS	24	dry; very stiff; yellowish red (5YR 4/6) with light gray specks; silty clay with mudstone fragments; no plasticity; cohesive; Residuum
5	228.78	2 8 12	SS	18	dry; very stiff; gray (7.5YR 6/1) with brown and light gray mottles; horizontal fissile; silty clay; no plasticity; cohesive; Residuum
10	223.78	2 4 14	SS,BAG	24	moist; very stiff; grayish brown (10YR 5/2); silty clay with weathered mudstone fragments; no plasticity; cohesive; Residuum; (Lab Results: PZM-18 Bag (8.5-10'); USCS=CL; Sand=7.2%; Silt=56.3%; Clay=36.5%; Effective Porosity=3; PL=20, LL=39; PI=19)
15	218.78	50/2"	SS	8	moist; very hard; dark greenish gray (Gley 2 3/1); weathered sandy mudstone; Partially Weathered Rock
20	213.78	23 50/1"	SS	14	dry; very hard; gray (7.5YR 6/1) with maroon mottles; clayey silt with mudstone fragments; no plasticity; cohesive; Partially Weathered Rock
25	208.78				
30	203.78				
35	198.78				
40	193.78				
45					

Auger Refusal @ 20'



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 05/30/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-18

6b. Total well depth: 20 **(ft.)**

6c. Borehole diameter: 2" **(in.)**

6d. Water level below ground surface: _____ **(ft.)**

6e. Outer casing length (if known): 10' **(ft.)**

6f. Inner casing/tubing length (if known): _____ **(ft.)**

6g. Screen length (if known): 10' **(ft.)**

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 1

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ **(gal.)**

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~65 gallons

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 05/30/2015

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

Buxton Environmental, Inc.
Consulting Services
1101 South Blvd., Suite 101
Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-29

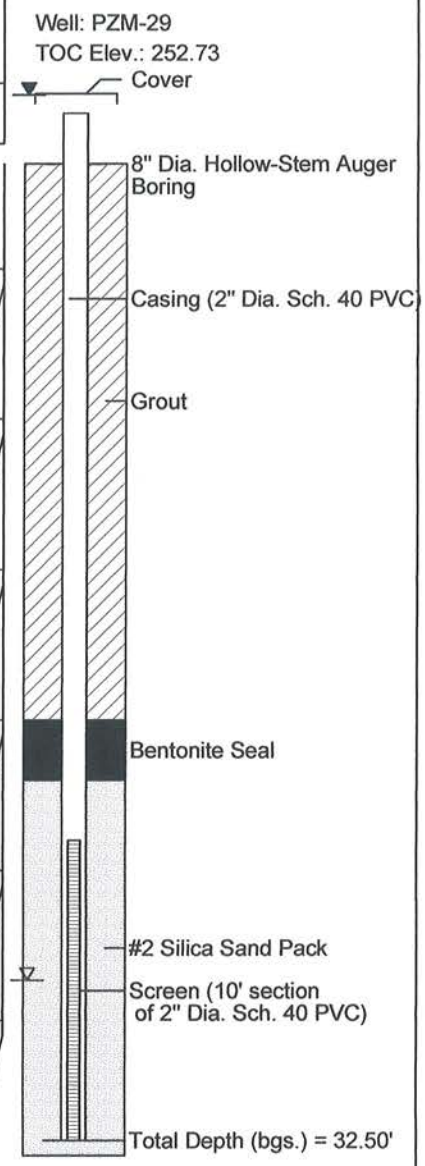
Brickhaven Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

Date Started:	: 12/2/14	Logged By:	: Ross Klingman, P.G.
Date Completed:	: 12/2/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: Summit Engineering	Top-of-Casing Elev.:	: 252.73'(Lawrence Survey)
Drillers Name:	: Robert Cassell	Ground Surface Elev.:	: 250.44'(Lawrence Survey)
NC Driller Certification:	: 4143A	Natural, Cut, Fill Grade::	~12' cut

Water Levels
- 1 Hour = dry
- 24 Hours = 27.16' bgs

Sample Type
- SS = Split Spoon
- ST = Shelby Tube
- RC = Rock Core
- BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	250.44				
		50/4"	SS	4	moist; very hard; weak red (10R 4/4); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
5	245.44				
		50/4"	SS	6	moist; very hard; weak red (10R 4/4); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
10	240.44				
		50/1"	SS	4	moist; very hard; dark red (10R 3/4); blocky; weathered sandy mudstone; Partially Weathered Rock
15	235.44				
		50/3"	SS	4	moist; very hard; dark red (10R 3/4); highly horizontal fissile; weathered sandy mudstone; Partially Weathered Rock
20	230.44				
		50/4"	SS	3	moist; very hard; dark reddish gray (10R 4/1); highly horizontal fissile; weathered sandy mudstone; Partially Weathered Rock
25	225.44				
		50/3"	SS	6	moist; very hard; weak red (10R 4/2); blocky; weathered sandy mudstone; Partially Weathered Rock
30	220.44				
					Auger Refusal @ 33'
35	215.44				
40	210.44				
45					



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 05/26/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-29

6b. Total well depth: 32' (ft.)

6c. Borehole diameter: 2" (in.)

6d. Water level below ground surface: _____ (ft.)

6e. Outer casing length (if known): 22' (ft.)

6f. Inner casing/tubing length (if known): _____ (ft.)

6g. Screen length (if known): 10' (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 1

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:752lb ,Wtr:90gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~100 gallon

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 05/26/15

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

Buxton Environmental, Inc.
Consulting Services
1101 South Blvd., Suite 101
Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-2 and 2D

Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

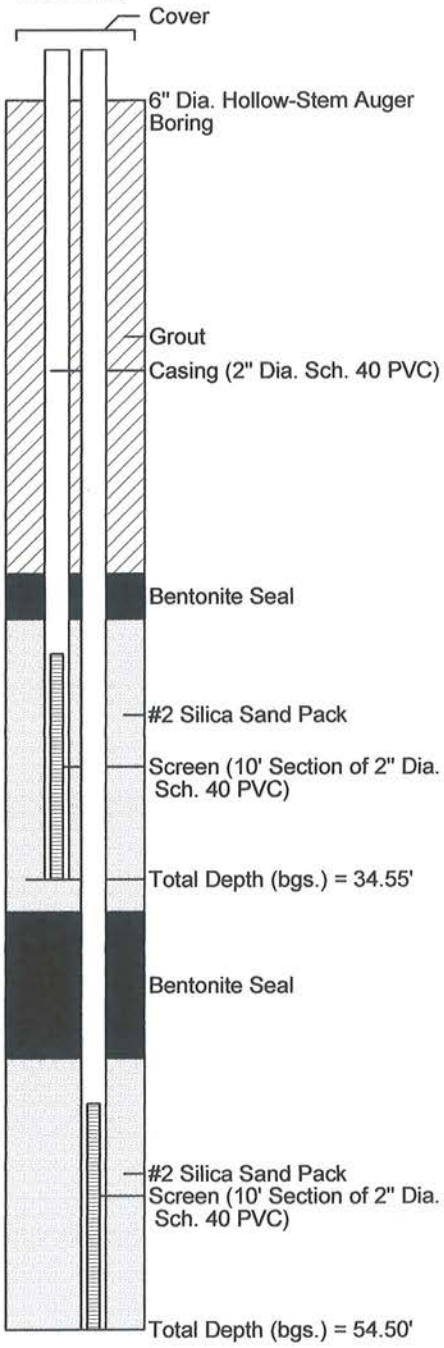
Date Started:	: 8/6/14	Logged By:	: Ross Klingman, P.G.
Date Completed:	: 8/6/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: HPC Land Services	Top-of-Casing Elev.:	: 222.37'/222.40'
Drillers Name:	: Jason Cain	Ground Surface Elev.:	: 219.73
NC Driller Certification:	: 3112A	Natural, Cut, Fill Grade::	fill, road bed

Water Levels
- 1 Hour = 32.00' bgs/dry
- 24 Hours = 16.76'/29.49' bgs

Sample Type
- SS = Split Spoon
- ST = Shelby Tube
- RC = Rock Core
- BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	219.73	9 13	SS	10	moist/dry; very stiff; strong brown (7.5YR 5/6) with orange mottles; quartz gravelly clayey silt; no plasticity; cohesive; Fill
5	214.73	4 3 6	SS	8	wet; stiff; strong brown (7.5YR 5/6) with orange mottles; quartz gravelly silty clay with brick fragments; no plasticity; cohesive; Fill
10	209.73	3 5 8	SS	16	moist; stiff; light brownish gray (10YR 6/2) with orange mottles; silty fat clay with roots; high plastcity; cohesive; Soil Horizon
15	204.73	4 11 12	SS	24	moist; very stiff; reddish brown (5YR 4/4) with black mottles; medium horizontal fissile; silty clay; low plasticity; Residuum
20	199.73	50/4"	SS	8	moist; reddish gray (5YR 5/2); highly horizontal fissile; clayey silt; no plasticity; cohesive; Partially Weathered Rock
25	194.73	50/6"	SS,BAG	10	moist; very hard; reddish gray (5YR 5/2) with green flecks; medium horizontal fissile; silty clay; no plasticity; cohesive; Partially Weathered Rock; (Lab Results: PZM-2 Bag (23.5-24); USCS=CL; Gravel=4.7%; Sand=19.9%; Silt=50.3%; Clay=25.1%; Effective Porosity=5%; Atterberg Limits: PL=20, LL=38, PI=18)
30	189.73	50/4"	SS	8	moist; very hard; reddish gray (5YR 5/2) with green flecks; highly horizontal fissile; weathered mudstone; Partially Weathered Rock
35	184.73	50/2"	SS	6	dry; very hard; dark reddish gray (5YR 4/2); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
40	179.73	50/1"	SS	6	dry; very hard; dark reddish gray (5YR 4/2); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
45	174.73	50/2"	SS	6	dry; very hard; dark reddish gray (5YR 4/2); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
50	169.73	50/3"	SS	8	dry; very hard; dark reddish gray (5/YR 4/2); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
55	164.73	50/3"	SS	4	dry; vary hard; dark reddish gray (5YR 4/2); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
60					

Well1: PZM-2
Well2: PZM-2D
TOC Elev.:



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 06/17/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-2/PZM2B

6b. Total well depth: 54.5 (ft.)

6c. Borehole diameter: 2" (in.)

6d. Water level below ground surface: _____ (ft.)

6e. Outer casing length (if known): 54.5 (ft.)

6f. Inner casing/tubing length (if known): _____ (ft.)

6g. Screen length (if known): _____ (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 2

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~140 gallon

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 6/17/2015

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

Buxton Environmental, Inc.
Consulting Services
1101 South Blvd., Suite 101
Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-7s and 7

Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

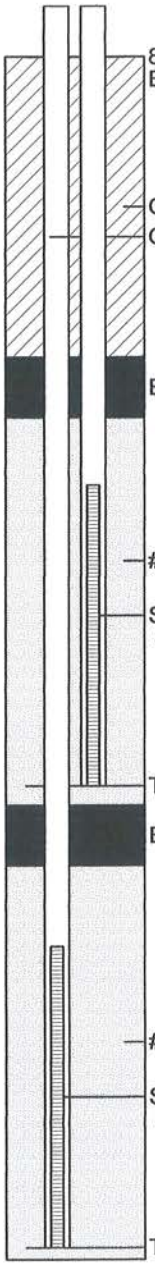
Date Started:	: 8/11/14	Logged By:	: Ross Klingman, P.G.
Date Completed:	: 8/11/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: Summit Engineering	Top-of-Casing Elev.:	: 266.04'/265.79'
Drillers Name:	: Robert Cassell	Ground Surface Elev.:	: 263.59'
NC Driller Certification:	: 4143A	Natural, Cut, Fill Grade::	slight cut

Water Levels
▼ 1 Hour = dry/dry
▽ 24 Hours = dry/dry

Sample Type
SS = Split Spoon
ST = Shelby Tube
RC = Rock Core
BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	263.59	3 5 7	SS	18	moist; stiff; yellowish red (5YR 4/6) with yellow and orange mottles; silty clay; medium plasticity; cohesive; Soil Horizon
5	258.59	5 7 15	SS,ST	24/4	moist; very stiff; weak red (2.5YR 5/2) with light green mottles; silty clay; no plasticity; cohesive; Residuum; (Lab Results: PZM-7 UD (5-5.5'); USCS=CL; Sand=2.2%; Silt=59.5%; Clay=38.3%; Specific Gravity=2.66; Hydraulic Conductivity=4.94 x 10-8 cm/sec; Total Porosity=22.7%; Effective Porosity=2%; Atterberg Limits: PL=22, LL=38; PI=16)
10	253.59	22 50/5"	SS	18	moist; very hard; weak red (10R 5/2) with orange yellow mottles; wavey horizontal fissile; silty clay; no plasticity; cohesive; Partially Weathered Rock
15	248.59	50/4"	SS	10	moist; very hard; weak red (10R 5/2) with orange yellow mottles; wavey horizontal fissile; weathered mudstone; Partially Weathered Rock
20	243.59	50/4"	SS	10	moist; very hard; weak red (10R 5/2); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
25	238.59	50/3"	SS	14	moist; very hard; red (2.5YR 4/6) with light green specks; highly horizontal fissile; weathered mudstone and sandstone layers; Partially Weathered Rock
30	233.59	50/3"	SS	6	moist; very hard; dark blueish gray (Glay 2 4/1); horizontal blocky; weathered mudstone; Partially Weathered Rock
35	228.59	50/0"	SS	3	dry; very hard; reddish brown (2.5YR 4/3) with light green specks; blocky; weathered mudstone; Partially Weathered Rock
40	223.59	50/0"	SS	1	wet; very hard; reddish brown (2.5YR 4/3) with light green specks; blocky; weathered mudstone; Partially Weathered Rock
45					Auger Refusal @ 40'

Well1: PZM-2s
Well2: PZM-2
TOC Elev.: Cover



06-26-2015 C:\Users\Ross\Desktop\Boring Logs\PZM-7s-7.bor

WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 05/26/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-7s/ PZM-7

6b. Total well depth: 39 (ft.)

6c. Borehole diameter: 2" (in.)

6d. Water level below ground surface: _____ (ft.)

6e. Outer casing length (if known): 29' (ft.)

6f. Inner casing/tubing length (if known): _____ (ft.)

6g. Screen length (if known): 10' (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 2

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~110 gallon

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 5/26/15

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

Buxton Environmental, Inc.
Consulting Services
1101 South Blvd., Suite 101
Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-14s and 14

Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

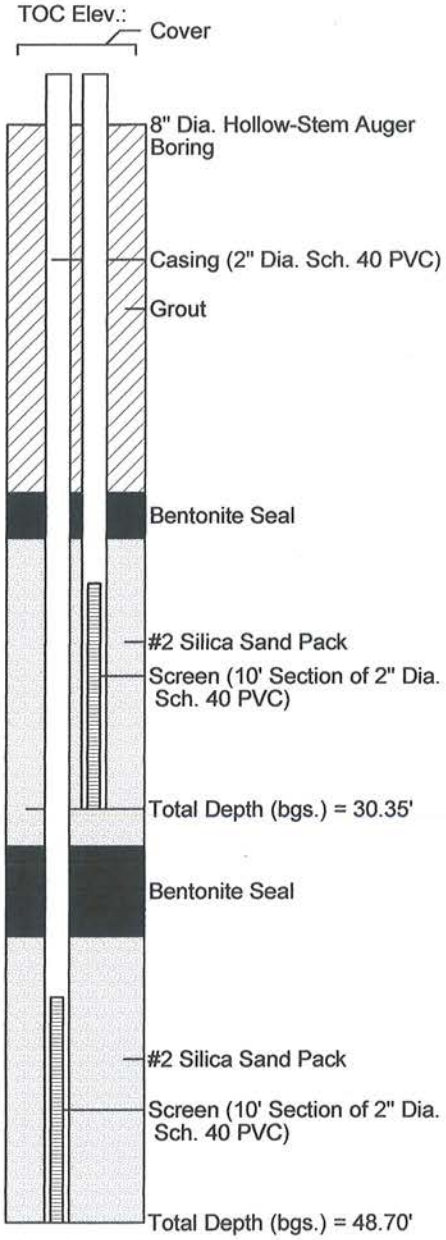
Date Started:	: 8/13/14	Logged By:	: Sean Quarry (HDR)
Date Completed:	: 8/13/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: Summit Engineering	Top-of-Casing Elev.:	: 277.90'/277.75'
Drillers Name:	: Robert Cassell	Ground Surface Elev.:	: 274.79'
NC Driller Certification:	: 4143A	Natural, Cut, Fill Grade::	natural

Water Levels
- 1 Hour = dry/dry
- 24 Hours = dry/dry

Sample Type
- SS = Split Spoon
- ST = Shelby Tube
- RC = Rock Core
- BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	274.79	3 3 5	SS	6	moist; medium; light reddish brown (5YR 6/4); sandy silty clay with rocks, gravel and roots; low plastiticy, cohesive; Soil Horizon
5	269.79	5 5 10	SS	18	moist; very stiff; yellowish red (5YR 4/6) with yellow and gray mottles; silty sandy clay; low plasticity; cohesive; Soil Horizon
10	264.79	10 14 19	SS	17	moist; hard; dark gray with red brown; silty clay; medium plasticity; cohesive; Residuum
15	259.79	13 25 50/6"	SS	17	moist; very hard; dark reddish brown (5YR 3/4) with gray; sandy silty clay; medium plasticity; cohesive; Residuum
20	254.79	8 20 50/6"	SS	15	moist; very hard; dark reddish brown (5YR 3/4) with gray; silty clay; medium plasticity; cohesive; Residuum
25	249.79	39 50/2"	SS	10	moist; very hard; reddish brown (5YR 4/3); horizontal fissile; silty clay; low plasticity; cohesive; Partially Weathered Rock
30	244.79	50/2"	SS	6	moist; very hard; reddish brown (5YR 4/3) with yellow mottles; horizontal fissile; silty clay; low plasticity; cohesive; Partially Weathered Rock
35	239.79	50/3"	SS	3	moist; very hard; reddish brown (5YR 4/3) with yellow mottles; horizontal fissile; silty clay; low plasticity; cohesive; Partially Weathered Rock
40	234.79	35 50/2"	SS	7	moist; very hard; reddish brown (5YR 4/4) with gray; horizontal fissile; silty clay; low plasticity; cohesive; Partially Weathered Rock
45	229.79	50/4"	SS	3	wet; very hard; reddish brown (5YR 4/4) with gray; horizontal fissile; low plasticity; cohesive; Partially Weathered Rock
50	224.79	50/6"	SS,BAG	5	wet; very hard, reddish brown (5YR 4/4) with gray and olive; horizontal fissile; silty clay; low plastcity; cohesive; Partially Weathered Rock; (Lab Results: PZM-14 Bag (48-50'): USCS=CL; Sand=1.3%; Silt=66%; Clay=32.7%; Effective Porosity=3%; Atterberg Limits: PL=19, LL=35, PI=16)
55	219.79				
60					

Well1: PZM-14s
Well2: PZM-14
TOC Elev.:



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 06/18/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-14s/14

6b. Total well depth: 49' (ft.)

6c. Borehole diameter: 2" (in.)

6d. Water level below ground surface: _____ (ft.)

6e. Outer casing length (if known): 49' (ft.)

6f. Inner casing/tubing length (if known): _____ (ft.)

6g. Screen length (if known): _____ (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 2

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~120 gallon

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Signature of Certified Well Contractor or Well Owner — Date 06/18/2015

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.

Buxton Environmental, Inc.
Consulting Services
1101 South Blvd., Suite 101
Charlotte, North Carolina 28203
Ph (704) 344-1450 Fax (704) 344-1451
buxtonenv@bellsouth.net

Boring Log, PZM-17s and 17

Moncure Mine Reclamation Site
1315 Moncure-Flatwood Road
Moncure, North Carolina

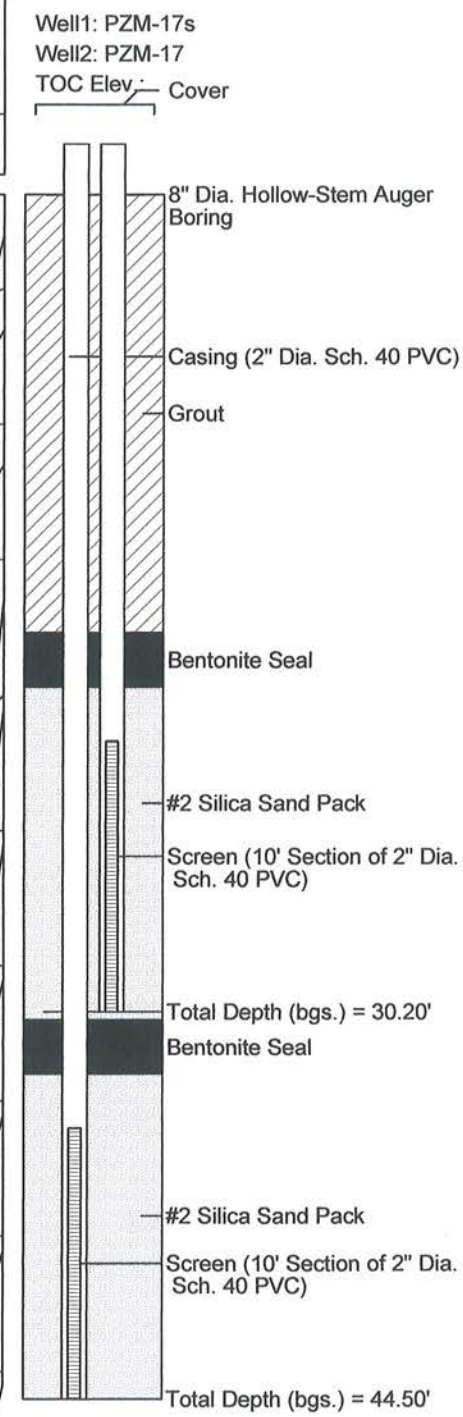
Date Started:	: 8/14/14	Logged By:	: Ross Klingman, P.G
Date Completed:	: 8/14/14	Drilling Method:	: HSA; CME-550
Drilling Company:	: Summit Engineering	Top-of-Casing Elev.:	: 266.74'/266.85'
Drillers Name:	: Robert Cassell	Ground Surface Elev.:	: 263.78'
NC Driller Certification:	: 4143A	Natural, Cut, Fill Grade::	cut

Water Levels
▼ 1 Hour = dry/dry
▽ 24 Hours = dry/dry

Sample Type
SS = Split Spoon
ST = Shelby Tube
RC = Rock Core
BAG = Bag Sample

Depth (feet bgs.)	Elevation (feet asl.)	Blow Count/6-inches	Sampler Type	Recovery (in.)	Lithologic Description
0	263.78	4 7 10	SS	24	moist; very stiff; dark reddish brown (2.5YR 3/4) with tan and light gray mottles; sandy clay, clayey silt and clayey sand; no plasticity; cohesive; Soil Horizon
5	258.78	8 17 24	SS	18	moist; hard; dark red (2.5YR 3/6) with light green gray mottles; silty clay; no plasticity; cohesive; Residuum
10	253.78	8 11 29	SS	19	moist; hard; dark red (2.5YR 3/6) with light green gray mottles; silty clay; no plasticity; cohesive; Residuum
15	248.78	23 15 17	SS,BAG	14	moist; hard; dark red (2.5YR 3/6) with light green gray mottles; blocky horizontal fissile; silty clay; no plasticity; cohesive; Residuum; (Lab Results PZM-17 Bag (13.5-15'); USCS=CL; Sand 1.5%; Silt=75%; Clay 23.5%; Effective Porosity=4%; Atterberg Limits: PL=19, LL=35, PI=16)
20	243.78	50/3"	SS	10	moist; very hard; dark red (2.5YR 3/6); blocky horizontal fissile; silty clay; no plasticity, cohesive; Partially Weathered Rock
25	238.78	50/4"	SS	6	moist; very hard; dark red (2.5YR 3/6); blocky horizontal fissile; silty clay; no plasticity; cohesive; Partially Weathered Rock
30	233.78	50/4"	SS	6	moist; very hard; reddish brown (2.5YR 4/4); highly horizontal fissile; weathered sandy mudstone; Partially Weathered Rock
35	228.78	50/1"	SS	3	moist; very hard; dark red (2.5YR 3/6); silty clay with rock fragments; no plasticity; cohesive; Partially Weathered Rock
40	223.78	50/2"	SS	8	dry; very hard; weak red (10R 4/4); highly horizontal fissile; weathered mudstone; Partially Weathered Rock
45	218.78	50/1"	SS	6	wet; very hard; dark red (2.5YR 3/6); silty clay; no plasticity; cohesive; Partially Weathered Rock
50					

Auger Refusal @ 44.5'



WELL ABANDONMENT RECORD

This form can be used for single or multiple wells

1. Well Contractor Information:

Steve Poloniewicz

Well Contractor Name (or well owner personally abandoning well on his/her property)

2284-A

NC Well Contractor Certification Number

SAEDACCO Inc

Company Name

2. Well Construction Permit #: , ,

List all applicable well permits (i.e. County, State, Variance, Injection, etc.) if known

3. Well use (check well use):

Water Supply Well:	
☐Agricultural	☐Municipal/Public
☐Geothermal (Heating/Cooling Supply)	☐Residential Water Supply (single)
☐Industrial/Commercial	☐Residential Water Supply (shared)
☐Irrigation	
Non-Water Supply Well:	
☒Monitoring	☐Recovery
Injection Well:	
☐Aquifer Recharge	☐Groundwater Remediation
☐Aquifer Storage and Recovery	☐Salinity Barrier
☐Aquifer Test	☐Stormwater Drainage
☐Experimental Technology	☐Subsidence Control
☐Geothermal (Closed Loop)	☐Tracer
☐Geothermal (Heating/Cooling Return)	☐Other (explain under 7g)

4. Date well(s) abandoned: 05/29/2015

5a. Well location:

Green Meadows LLC c/o Buxton Environmental

Facility/Owner Name — Facility ID# (if applicable)

1315 Moncure-Flatwood Road Moncure, NC 27559 Chath

Physical Address, City, and Zip

Chatham

County — Parcel Identification No. (PIN)

5b. Latitude and longitude in degrees/minutes/seconds or decimal degrees:
(if well field, one lat/long is sufficient)

35.594601 N 79.011080 W

CONSTRUCTION DETAILS OF WELL(S) BEING ABANDONED

*Attach well construction record(s) if available. For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

6a. Well ID#: PZM-17s/ PZM-17

6b. Total well depth: 44.5 (ft.)

6c. Borehole diameter: 2" (in.)

6d. Water level below ground surface: _____ (ft.)

6e. Outer casing length (if known): 29.5' (ft.)

6f. Inner casing/tubing length (if known): _____ (ft.)

6g. Screen length (if known): _____ (ft.)

For Internal Use ONLY:

WELL ABANDONMENT DETAILS

7a. Number of wells being abandoned: 2

*For multiple injection or non-water supply wells **ONLY** with the same construction/abandonment, you can submit one form.*

7b. Approximate volume of water remaining in well(s): _____ (gal.)

FOR WATER SUPPLY WELLS ONLY:

7c. Type of disinfectant used: _____

7d. Amount of disinfectant used: _____

7e. Sealing materials used (check all that apply):

☒ Neat Cement Grout	☐ Bentonite Chips or Pellets
☐ Sand Cement Grout	☐ Dry Clay
☐ Concrete Grout	☐ Drill Cuttings
☐ Specialty Grout	☐ Gravel
☐ Bentonite Slurry	☐ Other (explain under 7g)

7f. For each material selected above, provide amount of materials used:

Neat Cem.:94lb ,Wtr:7gal. Sand Cem.:lb ,Wtr:gal.

Neat cememt Amount:~120 gallon

7g. Provide a brief description of the abandonment procedure:

Overdrill with 8" outer diameter HSA to base of well, remove PVC well, tremmie grout from bottom to grade.

8. Certification:

Steve Poloniewicz — 05/29/2015

Signature of Certified Well Contractor or Well Owner — Date

By signing this form, I hereby certify that the well(s) was (were) abandoned in accordance with 15A NCAC 02C .0100 or 2C .0200 Well Construction Standards and that a copy of this record has been provided to the well owner.

9. Site diagram or additional well details:
You may use the back of this page to provide additional well site details or well abandonment details. You may also attach additional pages if necessary.

SUBMITTAL INSTRUCTIONS

10a. For All Wells: Submit this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Information Processing Unit,
1617 Mail Service Center, Raleigh, NC 27699-1617

10b. For Injection Wells: In addition to sending the form to the address in 10a above, also submit one copy of this form within 30 days of completion of well abandonment to the following:

Division of Water Resources, Underground Injection Control Program,
1636 Mail Service Center, Raleigh, NC 27699-1636

10c. For Water Supply & Injection Wells: In addition to sending the form to the address(es) above, also submit one copy of this form within 30 days of completion of well abandonment to the county health department of the county where abandoned.