hart hickman

SMARTER ENVIRONMENTAL SOLUTIONS

Via Fed Ex and e-mail

January 29, 2015

NC DENR
Division of Waste Management
Brownfields Program
1646 Mail Service Center
Raleigh, NC 27699-1646

Attention: Ms. Lisa Taber
Brownfields Project Manager

Re: Annual Monitoring Report and LURU
Former Alpha Mill Facility
311 East 12th Street
Brownfields Project No. 07009-03-60
Charlotte, Mecklenburg County, NC
H&H Job No. AES-001

Dear Lisa:

Please find enclosed the results of the recently completed groundwater and surface water monitoring event at the Alpha Mill site in Charlotte, North Carolina. In addition, the annual Land Use Restriction Update (LURU) has been enclosed with this submittal. The property subject to the Brownfields Agreement and owned by AERC Alpha Mill Lane, L.P. is shown on the enclosed Mecklenburg County Polaris map.

Please let us know if you have any questions or need additional information.

Sincerely,

Hart & Hickman, PC

Joselyn Harriger, PG
Senior Project Geologist

Bruce Hickman, PE
Principal

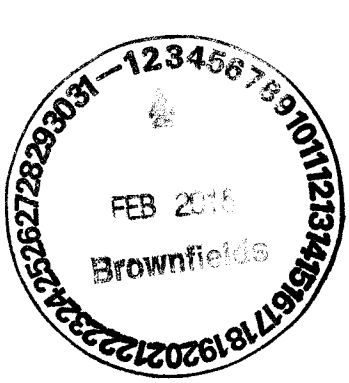
Attachments

cc: Ms. Shirley Liggins – NCDENR (1 copy via email)
Mr. Sean O'Neill – Associated Estates (1 copy via email)

2923 South Tryon Street, Suite 100
Charlotte, NC 28203
704.586.0007 main

3334 Hillsborough Street
Raleigh, NC 27607
919.847.4241 main

www.harthickman.com



Brownfields Project #: 07009-03-60
Brownfields Property: Alpha Mills, 312 East 12th Street
Property Owner (In whole or part): AERC Alpha Mill Lane, L.P.

LAND USE RESTRICTIONS ("LUR") UPDATE

LUR 1: No surface water or groundwater at the Brownfields Property may be used for any purpose without the approval of the Department of Environment and Natural Resources ("DENR") or its successor in function.

In compliance __X__ Out of compliance ____

Remarks: _____

LUR 2: No activities that encounter, expose, remove or use groundwater (for example, installation of water supply wells, fountains, ponds, lakes or swimming pools that extend to groundwater, or construction or excavation activities that encounter or expose groundwater) may occur on the Brownfields Property without prior sampling and analysis of groundwater to the satisfaction of DENR or its successor in function in any areas proposed for such activities, and submittal of the analytical results to DENR or its successor in function. If such results disclose to DENR or its successor in function contamination in excess of North Carolina's groundwater quality standards, the proposed activities may not occur without the approval of DENR or its successor in function on such conditions as DENR or its successor in function imposes, including at a minimum compliance with plans and procedures, approved pursuant to applicable law, to protect public health and the environment during the proposed activities.

In compliance __X__ Out of compliance ____

Remarks: _____

LUR 3: Soil underlying paved surfaces and buildings at the Brownfields Property may not be exposed without the performance of any prior sampling that DENR or its successor in function requires, and submittal of the analytical results of any such sampling to DENR or its successor in function. If the results of any such sampling disclose contamination in excess of the applicable standards as determined by DENR or its successor in function, the soil may not be exposed without the approval of DENR or its

successor in function on such conditions as DENR or its successor in function imposes, including at a minimum compliance with plans and procedures, approved pursuant to applicable law, to protect public health and the environment during the activities that would expose such soil.

In compliance __X__ Out of compliance ____

Remarks: _____

LUR 4: Soil underlying landscaping materials at the Brownfields Property, including but not limited to plants, flowers, trees, shrubs or any other above-ground vegetation, may not be disturbed, nor may landscaping materials be planted, without the prior addition of two (2) feet of clean fill or other material acceptable to DENR or its successor in function. If the desired grade would not allow said addition, as much soil as is necessary to allow said addition may be removed and disposed of in accordance with law. Incidental disturbance of soil in the subject areas, in connection with maintenance of landscaping materials, shall not constitute a violation of this land use restriction.

In compliance __X__ Out of compliance ____

Remarks: _____

LUR 5: No mining may be conducted on or under the Brownfields Property, including, without limitation, extraction of coal, oil, gas or any other minerals or non-mineral substances.

In compliance __X__ Out of compliance ____

Remarks: _____

LUR 6: No basements may be constructed on the Brownfields Property unless they are, as determined by DENR or its successor in function, vented in conformance with applicable building codes.

In compliance __X__ Out of compliance ____

Remarks: _____

LUR 7: None of the contaminants known to be present in the environmental media at the Brownfields Property, including those listed in paragraph 7 of the Brownfields Agreement ("Agreement"), may be used or stored at the Brownfields Property without the prior approval of DENR or its successor in function, except in *de minimis* amounts for cleaning and other routine housekeeping activities.

In compliance __X__ Out of compliance ____

Remarks: _____

LUR 8: During January of each year following the year in which the Notice of Brownfields Property ("Notice") is recorded, the then owner of the affected portion of the Brownfields Property shall sample monitoring wells MW-1s, MW-2s, MW-7i and a point near sample location SUR-4, all as shown on Exhibit 4 of the Agreement. Said owner shall effect analysis of the samples for volatile organic compounds, total chromium, hexavalent chromium and copper, and shall report the results to DENR each year as part of the update required by Land Use Restriction 9 below. After the third year of sampling, the then owner of the Brownfields Property may seek DENR's written authorization to discontinue sampling or change its frequency.

In compliance __X__ Out of compliance ____

Remarks: The 2014 annual monitoring is being submitted with this LURU. Per correspondence with Ms. Lisa Taber, the surface water sample was not collected this year due to construction activities in the area associated with the Charlotte Area Transit System (CATS) Blue Line Extension rail project.

LUR 9: During January of each year following the year in which the Notice is recorded, the then current owner of any part of the Brownfields Property shall submit a notarized Land Use Restrictions Update to DENR or its successor in function certifying that the Notice containing these Land Use Restrictions remains recorded at the Mecklenburg County register of deeds office, and that the Land Use Restrictions are being complied with.

In compliance __X__ Out of compliance ____

Remarks: _____

Notarized signing and submittal of this Land Use Restrictions Update constitutes certification that the Notice remains recorded at the Mecklenburg County Register of Deeds office and that the Land Use Restrictions are being complied with.

This Land Use Restrictions Update is certified by AERC Alpha Mill Lane, L.P., owner of at least part of the Brownfields Property.

Name typed or printed of party making certification: AERC Alpha Mill Lane, L.P.

In the case of owners that are entities:

Signature of individual signing: _____
Name typed or printed: Scott D. Irwin
Title: Vice President of Associated Estates Management Company, General Partner of AERC of NC, L.P., General Partner of AERC Alpha Mill Lane, L.P.

In the case of all owners:

Date: 1/27/2015

AERC ALPHA MILL LANE, L.P.,
a North Carolina limited partnership

By: AERC of NC, L.P.,
a North Carolina limited partnership

By: Associated Estates Management Company,
an Ohio corporation

By: _____
Name typed or printed: SCOTT D. IRWIN
Title typed or printed: VICE PRESIDENT

STATE OF OHIO
COUNTY OF CUYAHOGA

I, Susan K Bozek, a Notary Public of the county and state aforesaid, certify that Scott D Irwin personally came before me this day and acknowledged that he/she is the Vice President of Associated Estates Management Company, General Partner of AERC of NC, L.P., General Partner of AERC Alpha Mill Lane, L.P. and that by authority duly given and as the act of the limited partnership, the foregoing Land Use Restriction Update was signed in its name.

WITNESS my hand and official stamp or seal, this 27 day of January, 2015.

_____
Name:
Notary Public

SUSAN K. BOZEK, Notary Public
State of Ohio
My Commission Expires May 17, 2018

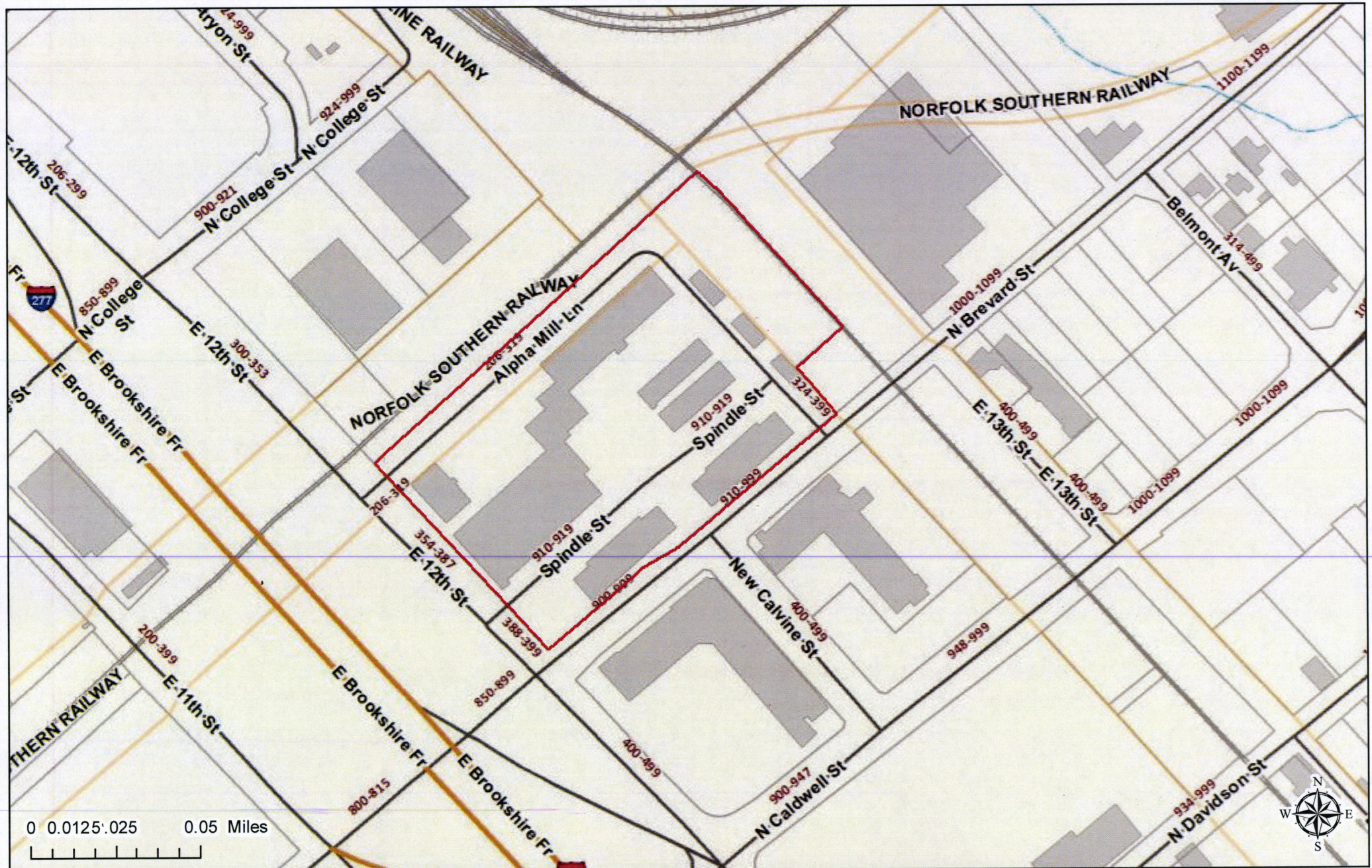
My Commission expires: _____

[Stamp/Seal]

Polaris 3G Map – Mecklenburg County, North Carolina

AERC Alpha Mill Lane, L.P.

Date Printed: 1/27/2015 11:37:12 AM



This map or report is prepared for the inventory of real property within Mecklenburg County and is compiled from recorded deeds, plats, tax maps, surveys, planimetric maps, and other public records and data. Users of this map or report are hereby notified that the aforementioned public primary information sources should be consulted for verification. Mecklenburg County and its mapping contractors assume no legal responsibility for the information contained herein.

Annual Monitoring Report

Former Alpha Mill Facility
Charlotte, North Carolina

Brownfields Project No. 07009-03-60

H&H Job No. AES-001
January 29, 2015

1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31
FEB 2015
Brownfields

hart hickman

SMARTER ENVIRONMENTAL SOLUTIONS

#C-1269 Engineering
#-245 Geology

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Charlotte, NC 28203
704.586.0007 main

3334 Hillsborough Street
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919.847.4241 main

www.harthickman.com

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Via Fed Ex and e-mail

January 29, 2015

NC DENR
Division of Waste Management
Brownfield Program
1646 Mail Service Center
Raleigh, NC 27699-1646

Attention: Ms. Lisa Taber
Brownfields Project Manager

Re: Annual Monitoring Report - DRAFT
Former Alpha Mill Facility
311 East 12th Street
Brownfields Project No. 07009-03-60
Charlotte, Mecklenburg County, NC
H&H Job No. AES-001

Dear Lisa:

Hart & Hickman, PC (H&H) is submitting results of the recently completed groundwater sampling event at the Alpha Mill site in Charlotte, North Carolina (Figure 1). This report summarizes results from the ninth annual groundwater monitoring event since completion of the site Brownfields Agreement (BFA) in July 2005. Annual groundwater monitoring was required in the BFA under section 24.h. for a minimum of three years.

1.0 Groundwater Sampling And Results

Groundwater samples were collected from three monitoring wells (MW-1SR, MW-2SR, and MW-7 IR) at the down gradient boundary of the site (Figure 2). The wells were installed in December 2006 as replacement wells for shallow monitoring wells MW-1S and MW2S, and intermediate well MW-7I, originally installed by Brown & Caldwell as part of the 2000 Remedial Investigation (RI) conducted on behalf of Consolidated Engraving Inc. Table 1 includes construction specifications and water level data.

Groundwater sampling was conducted at the site on December 16, 2014. Prior to sampling, the monitor wells were purged of a minimum of three well bore volumes of standing water. During

purging, field measurements of pH, temperature, and specific conductivity were collected. The monitor wells were purged until these field parameters stabilized, up to a maximum of five well bore volumes, prior to sampling. Well purging and sampling was conducted utilizing dedicated Teflon bailers. Groundwater sampling forms have been included in Appendix A. Purged water was placed in a 55-gallon drum for offsite disposal by A&D Environmental Services (Appendix C).

Collected groundwater samples were placed on ice in a cooler and transported to Pace Analytical Laboratory (Pace) located in Huntersville, NC under chain-of-custody protocol. The groundwater samples were submitted for analyses of volatile organic compounds (VOCs) by Environmental Protection Agency (EPA) Method 8260B, total chromium and total copper by EPA Method 6010B, and hexavalent chromium by EPA Method 7196A. A copy of the laboratory report is included in Appendix B.

VOCs

As indicated in Table 2, the December 2014 data are generally similar to the 2013 monitoring results, with several constituent concentrations lower than the previous reporting period. Consistent with historical data, tetrachloroethene (PCE) and trichloroethene (TCE) were detected above the North Carolina 2L Groundwater Standard (2L standard) in all wells sampled. PCE and TCE concentrations increased slightly in monitoring well MW-7IR; an overall decreasing trend is observed in this well over time.

Metals

Total chromium was detected at concentrations, which met or exceeded the 2L standard. Chromium concentrations increased slightly in monitoring wells MW-1SR and MW-2SR; an overall decreasing trend is observed in these wells over time. 1,2-dichlorobenzene and 1,4-dichlorobenzene remained above the 2L standard in monitoring well MW-1SR and MW-7IR. Chlorobenzene was found above the 2L standard in MW-1SR. A copy of the analytical results has been included in Appendix A.

2.0 Surface Water Sampling

A surface water sample was not collected for the December 2014 reporting period. Construction around the surface water sampling point associated with the Charlotte Area Transit System (CATS) Blue Line Extension rail project has caused substantial disturbances, which include grading and clearing of vegetation. Therefore, a surface water sample was not collected because data obtained may not be representative of impacts from the Alpha Mill Brownfields site. This modification of the 2014 sampling plan was approved by DENR in an email from Ms. Lisa Taber on December 16, 2014. Surface water sampling will resume with the next annual event in December 2015, provided continuing construction in the area is not disrupting to the integrity of the sample.

3.0 Conclusion

Overall, the analytical data was consistent with historical results for the site and an overall decreasing trend is observed over time. The next annual monitoring event is tentatively scheduled for December 2015. Please let me know if you have any questions or require additional information.

Sincerely,

Hart & Hickman, PC

Joselyn Harriger, PG
Senior Project Geologist

Attachments

cc: Ms. Shirley Liggins – NCDENR (1 copy via email)
Mr. Sean O'Neill – Associated Estates (1 copy via email)

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

Table 1
Well Specifications and Water Level Data
Former Alpha Mill
Charlotte, North Carolina
H&H Project No. AES-001

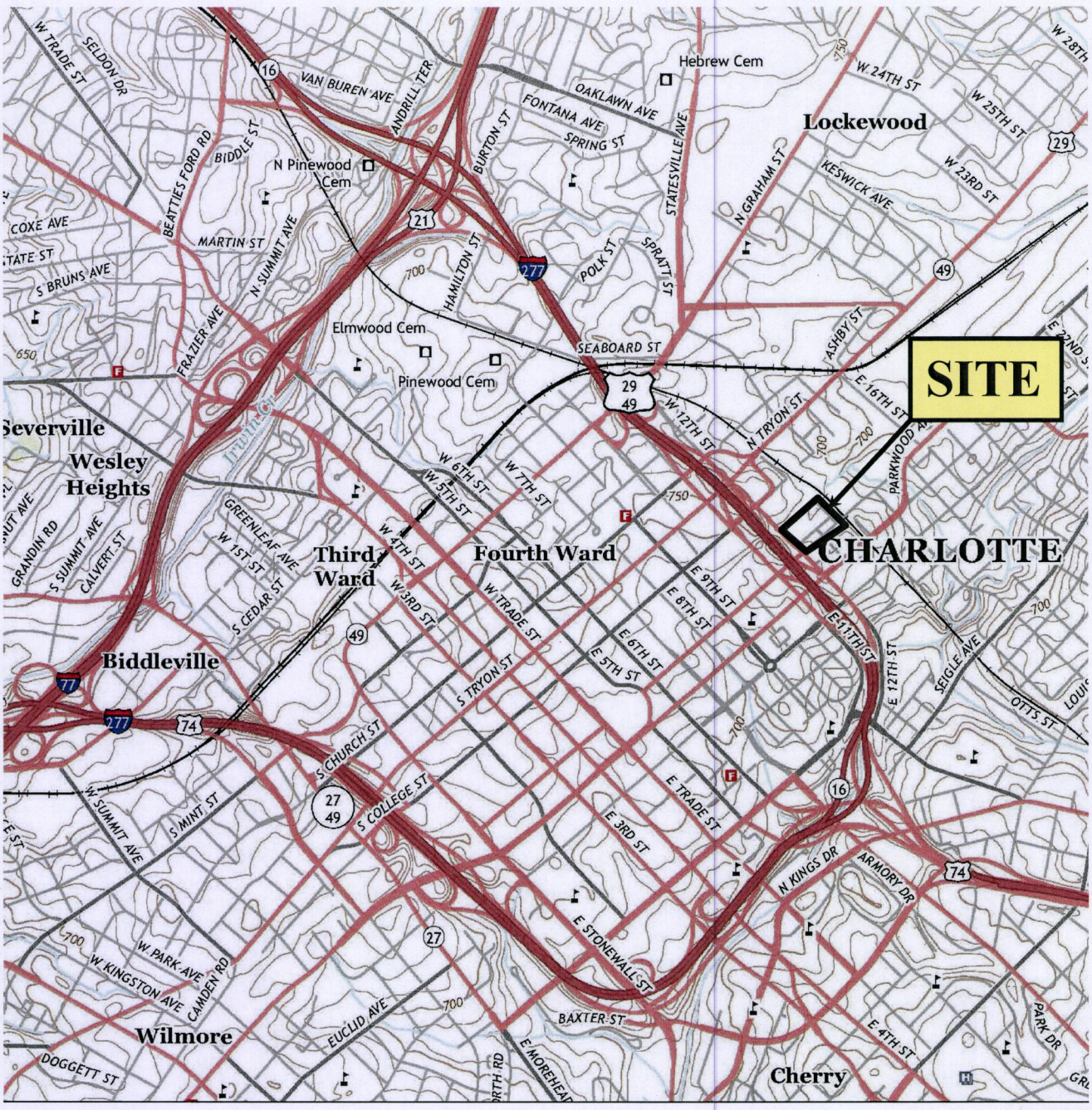
Monitoring Well	Total Depth (ft)	Screen Interval (ft)	December 4, 2007	December 9, 2008	December 3, 2009	November 30, 2010	December 27, 2011	November 28, 2012	December 17, 2013	December 16, 2014
			Depth to Water (ft blow casing)							
MW-1(S)R	19	5-15	8.47	7.59	6.38	7.98	6.65	8.02	7.24	9.2
MW-2(S)R	15.0	5-15	6.2	5.71	5.23	6.14	6.73	6.16	5.69	6.21
MW-7(i)R	19	9-19	8.21	7.48	6.39	7.8	5.38	7.88	7.2	8.89

Notes:
Wells were 2-inch PVC completed flush with ground surface
Wells installed by H&H on December 4, 2006

Table 2
Groundwater Analytical Results
for Replacement Monitoring Wells
Former Alpha Mill
Charlotte, North Carolina
H&H Job No. AES-001

Monitoring Well ID	Sampling Date	1,1-Dichloroethene	1,2-Dichlorobenzene	1,3-Dichlorobenzene	1,4-Dichlorobenzene	1,2,3-Trichlorobenzene	1,2,4-Trichlorobenzene	Benzene	cis-1,2-Dichloroethene	Chlorobenzene	Chloroform	Isopropylbenzene (Cumene)	p-Isopropyltoluene	sec-Butylbenzene	tert-Butylbenzene	Tetrachloroethene	trans-1,2-Dichloroethene	Trichloroethene	Total Chromium	Chromium VI	Total Copper
MW-1S / 1SR	10/4/2001	4.7	59	<2	5.4	BDL	BDL	BDL	BDL	11	<0.40	BDL	BDL	BDL	BDL	380	BDL	200	160	<0.025	360
	12/4/2006	<1	1,300	44	150	BDL	<10	<10	<10	630	<10	<10	<10	<10	<10	110	<20	<20	29	20	6.5
	12/4/2007	2.6	3,300	95	350	BDL	7.7	6.2	18	1,400	2.7	<1.0	<1.0	<1.0	<1.0	260	12	140	200	300	170
	12/9/2008	14	3,000	110	380	<2.0	15	17	46	1,400	3.3	1.7	2.7	1.6	1.3	330	46	220	470	190	490
	12/3/2009	<40	2,200	86	240	<80	<40	<40	<40	890	<40	<40	<40	<40	<40	370	<80	220	290	<25	250
	11/30/2010	6.2	3,090	94.8	347	1.0	8.7	11.8	24.8	1,480	2.2	<1.0	<1.0	<1.0	<1.0	367	18.9	184	376	63	332
	12/27/2011	<25.0	2,310	96.2	279	<25.0	<25.0	<25.0	<25.0	1,410	<25.0	<25.0	<25.0	<25.0	<25.0	257	<25.0	151	375	<50	271
	11/28/2012	<25.0	3,300	140	410	<120	50	<25.0	<25.0	2,200	<50.0	<25.0	<25.0	<25.0	<25.0	370	<25.0	180	23	33	<10
	12/17/2013	<10.0	1,300	69.8	187	<10.0	<10.0	<10.0	19.1	1,150	<10.0	<10.0	<10.0	<10.0	<10.0	327	15.5	130	28.9	24	<5.0
	12/16/2014	<12.5	1,090	51.1	122	<12.5	<12.5	<12.5	18.0	969	<12.5	<12.5	<12.5	<12.5	<12.5	210	13.0	103	46.0	24.0	15.4
MW-2S / 2SR	10/4/2001	2.7	<2	<2	<2	BDL	BDL	BDL	BDL	<0.20	<0.40	BDL	BDL	BDL	BDL	250	BDL	100	74	43	34
	12/4/2006	<1.0	<1.0	<1.0	<1.0	BDL	<1.0	<1.0	<1.0	<1.0	4.8	<10	<10	<10	<10	83	<2.0	33	12	10	2.5
	12/4/2007	<1.0	3	<1.0	<1.0	BDL	<1.0	<1.0	<1.0	<1.0	2.5	<1.0	<1.0	<1.0	<1.0	65	<2.0	34	75	260	240
	12/9/2008	1.3	1.5	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	3.9	<1.0	<1.0	<1.0	<1.0	68	<2.0	44	98	130	440
	12/3/2009	1.4	1.2	<1.0	<1.0	<2.0	<1.0	<1.0	<1.0	<1.0	6.4	<1.0	<1.0	<1.0	<1.0	83	<2.0	47	49	<25	150
	11/30/2010	2.0	2.1	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.6	<1.0	<1.0	<1.0	<1.0	104	<1.0	58.1	73.9	<50	294
	12/27/2011	2.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	5.5	<1.0	<1.0	<1.0	<1.0	124	<1.0	73.1	40.5	<50	133
	11/28/2012	3.8	<2.0	<2.0	<2.0	<10	<2.0	<2.0	<2.0	<2.0	6.8	<2.0	<2.0	<2.0	<2.0	190	<2.0	120	14	16	<10
	12/17/2013	3.9	1.7	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	<1.0	4.4	<1.0	<1.0	<1.0	<1.0	153	<1.0	99.7	7.1	10	<5.0
	12/16/2014	2.9	3.6	<1.0	1.5	<1.0	<1.0	<1.0	<1.0	<1.0	3.2	<1.0	<1.0	<1.0	<1.0	126	<1.0	81.8	12.8	<10	10.4
MW-7I / 7IR	10/4/2001	<1	250	6.4	23	BDL	BDL	BDL	BDL	2.2	0.99	BDL	BDL	BDL	BDL	380	BDL	180	96	72	<5.0
	12/4/2006	<10	980	15	70	BDL	<10	<10	<10	<10	<10	<10	<10	<10	<10	170	<20	<20	5.2	20	14
	12/4/2007	1.7	810	17	67	BDL	3.7	<1.0	1.3	24	4	<1.0	<1.0	<1.0	<1.0	180	<2.0	70	780	230	2,100
	12/9/2008	4.6	1,100	18	71	<2.0	1.8	<1.0	1.6	6.8	6.3	<1.0	<1.0	<1.0	<1.0	400	<2.0	230	320	250	1,100
	12/3/2009	<4.0	570	14	52	<8.0	<4.0	<4.0	<4.0	13	4.9	<4.0	<4.0	<4.0	<4.0	220	<8.0	120	360	27	1,000
	11/30/2010	3.3	625	12.7	47.4	<1.0	1.4	<1.0	2.1	13	3.6	<1.0	<1.0	<1.0	<1.0	227	<1.0	110	572	<50	1,600
	12/27/2011	<5.0	455	11.9	45.6	<5.0	<5.0	<5.0	<5.0	5.8	<5.0	<5.0	<5.0	<5.0	<5.0	218	<5.0	113	1,010	<50	3,210
	11/28/2012	<5.0	330	10	35	<25	9.6	<5.0	<5.0	12	<10	<5.0	<5.0	<5.0	<5.0	260	<5.0	150	<10	<4	30
	12/17/2013	<4.0	306	8	29.3	<4.0	<4.0	<4.0	<4.0	4.4	<4.0	<4.0	<4.0	<4.0	<4.0	175	<4.0	98.3	16	<10	38
	12/16/2014	3.8	170	5.1	20.2	<2.5	<2.5	<2.5	<2.5	17.4	3.7	<2.5	<2.5	<2.5	<2.5	283	<2.5	141	10.0	<10	22.8
2L Groundwater Standard[1]		350	20	200	6	NS	70	1	70	50	70	70	NS	70	70	0.7	100	3	10	NS	1,000

Notes:
Bold indicates an exceedance of the 2L Groundwater Standard
Grey indicates below detection limit
1) North Carolina 15A NCAC 02L.0202 Groundwater Quality Standards (April 1, 2013)
All concentrations reported in µg/L
NA = Not Analyzed, NS = Not Specified, BDL = Below laboratory detection limits, actual reporting limit unavailable
Only compounds detected in at least one sample are included in the table above



APPROXIMATE

0 2000 4000

SCALE IN FEET

U.S.G.S. QUADRANGLE MAP

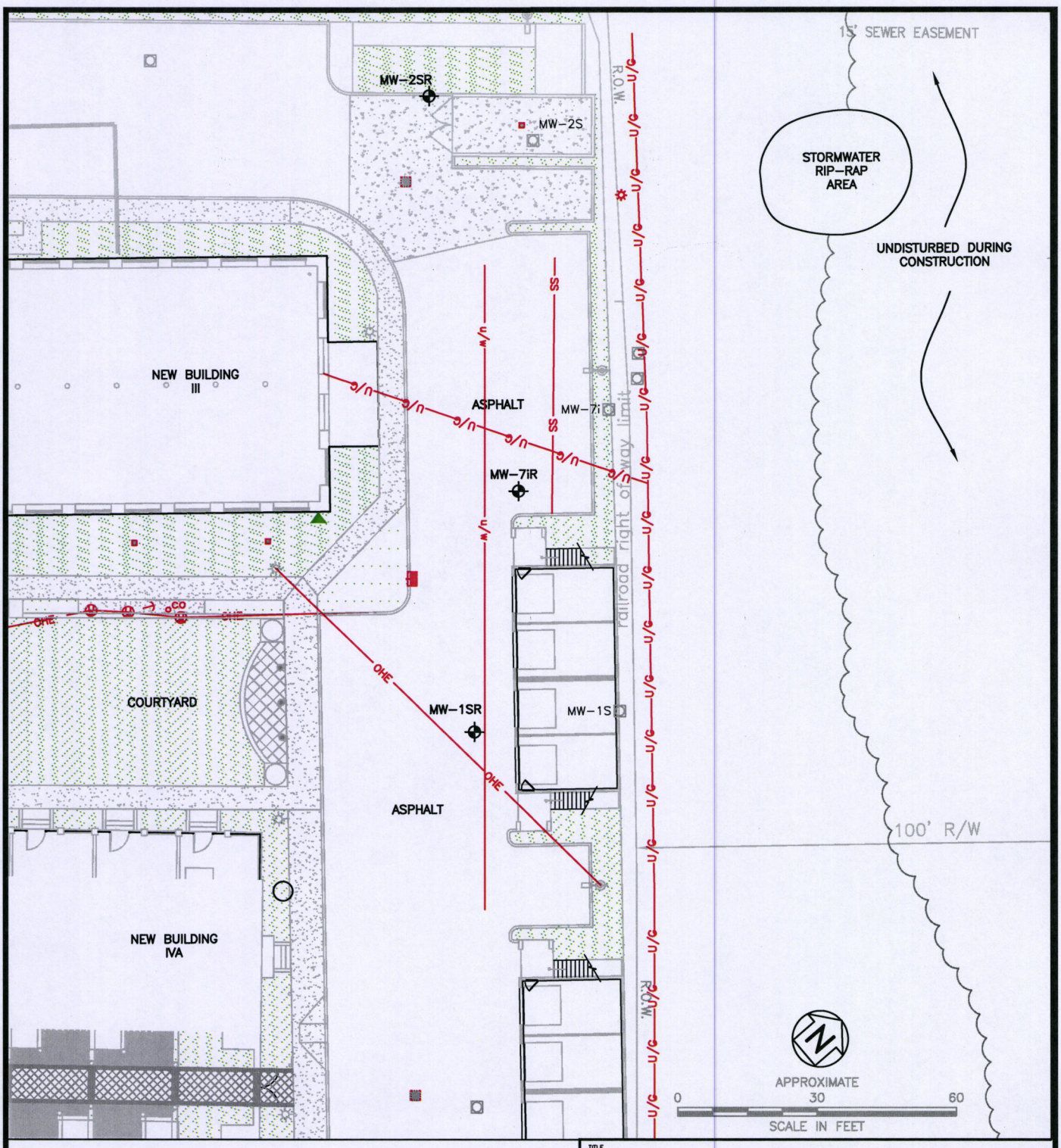
CHARLOTTE EAST, NC 2013

QUADRANGLE
7.5 MINUTE SERIES (TOPOGRAPHIC)

TITLE	SITE LOCATION MAP
PROJECT	FORMER ALPHA MILL CHARLOTTE, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007 (p) 704-586-0373 (f)

DATE:	01-05-15	REVISION NO:	0
JOB NO:	AES-001	FIGURE NO:	1



LEGEND

- SS — UNDERGROUND SANITARY SEWER LINE
- u/w — UNDERGROUND WATER LINE
- OHE — OVERHEAD ELECTRICAL LINE
- U/G — UNDERGROUND ELECTRICAL LINE
- MONITORING WELL
- FORMER/ABANDONED WELL LOCATION

TITLE

MONITORING WELL LOCATION MAP

PROJECT

FORMER ALPHA MILL
CHARLOTTE, NORTH CAROLINA

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS
2923 South Tryon Street-Suite 100
Charlotte, North Carolina 28203
704-586-0007(p) 704-586-0373(f)
License # C-1269 / #C-245 Geology

DATE: 1-5-15	REVISION NO. 0
JOB NO: AES-001	FIGURE NO. 2

Appendix A

Groundwater Sampling Forms

Well Development Form
Hart & Hickman, PC

GENERAL INFORMATION

Job No.: AES-0001 Well No.: MW-15R Date: 12/16/14

Site Name: Alpha Mills Location: Alpha Mills Charlotte, NC

Equipment ( ) Dedicated ( ) Decontaminated (✓) Bailer ( ) Pump

Material (✓) PVC ( ) Stainless Steel ( ) Teflon ( ) Other_____

Decontamination Method: _____

WELL INFORMATION

Coordinates:_____ Top of Casing (TOC) Elevation_____ ft msl

Material (✓) PVC ( ) Carbon Steel ( ) Stainless Steel ( ) Other:_____

Measurements from (TOC) Riser_____ ft Water Level 9.2 ft Bottom 14.85 ft

DEVELOPMENT INFORMATION

Method ( ) Bailing ( ) Pumping ( ) Other _____

Volume	Rate	pH (SU)	Temp. (°C)	S. Cond. (umhos/cm)	Redox	Turbidity (NTU)
.5		6.25	18.4	400.1	181	166.8
2.0		6.15	18.9	415.6	177	146.0
3.0		6.16	19.1	417.1	174	376.6
3.5 max		6.19	18.4	421.2	17.3	~~405.9~~ 131.5

Weather Conditions: _____

Final Water Condition: ( ) Clear ( ) Cloudy ( ) Other:_____ Odor:_____

Comments: _____

Performed by:_____ Date:_____ Time:_____

Well Development Form
Hart & Hickman, PC

GENERAL INFORMATION

Job No.: AES-001 Well No.: MW-25R Date: 12/16/14

Site Name: Aloha Mill Location: Charlotte, NC

Equipment ( ) Dedicated ( ) Decontaminated (✓) Bailer ( ) Pump

Material ( ) PVC ( ) Stainless Steel (✓) Teflon ( ) Other_____

Decontamination Method: _____

WELL INFORMATION

Coordinates:_____ Top of Casing (TOC) Elevation_____ ft msl

Material (✓) PVC ( ) Carbon Steel ( ) Stainless Steel ( ) Other:_____

Measurements from (TOC) Riser_____ ft Water Level 6.21 ft Bottom 15.1 ft

DEVELOPMENT INFORMATION

Method (✓) Bailing ( ) Pumping ( ) Other _____

Volume	Rate	pH (SU)	Temp. (°C)	S. Cond. (umhos/cm)	Redox	Turbidity (NTU)
.5g		7.01	16.9	677.6	132	250.7
1.5g		6.44	18.0	490.8	138	161.4
4.5g		6.19	17.3	474.4	141	178.2
8g		6.35	18.1	479.1	148	954.9
Sample Sample		6.37	18.2	464.9	141	136.2

Weather Conditions: 40's, rainy

Final Water Condition: ( ) Clear (✓) Cloudy ( ) Other:_____ Odor:_____

Comments: _____

Performed by: DLS Date: 12/16 Time: 940

Well Development Form
Hart & Hickman, PC

GENERAL INFORMATION

Job No.: AES-001 Well No.: MW-7iR Date: 12/16/14

Site Name: Alpha Mill Location: Charlotte, NC

Equipment ( ) Dedicated ( ) Decontaminated (✓) Bailer ( ) Pump

Material (✓) PVC ( ) Stainless Steel ( ) Teflon ( ) Other_____

Decontamination Method: _____

WELL INFORMATION

Coordinates:_____ Top of Casing (TOC) Elevation_____ ft msl

Material (✓) PVC ( ) Carbon Steel ( ) Stainless Steel ( ) Other:_____

Measurements from (TOC) Riser_____ ft Water Level 8.89 ft Bottom 175 ft

DEVELOPMENT INFORMATION

Method ( ) Bailing ( ) Pumping ( ) Other _____

Volume	Rate	pH (SU)	Temp. (°C)	S. Cond. (umhos/cm)	Redox	Turbidity (NTU)
.75g		5.68	16.5	407.a	168	1008
3.0g		5.74	17.0	406.1	171	>1000
8.0g		5.61	17.2	415.4	179	>1000
Sample		6.167	17.16	404.4	186	207.2

Weather Conditions: _____

Final Water Condition: ( ) Clear ( ) Cloudy ( ) Other:_____ Odor:_____

Comments: _____

Performed by:_____ Date:_____ Time:_____

Appendix B

Laboratory Analytical Data

hart hickman
SMARTER ENVIRONMENTAL SOLUTIONS

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January 15, 2015

Ms. Joselyn Harriger
Hart & Hickman
2923 S. Tryon St
Charlotte, NC 28203

RE: Project: Alpha Mill AES-001
Pace Project No.: 92229823

Dear Ms. Harriger:
Enclosed are the analytical results for sample(s) received by the laboratory on December 16, 2014. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin
kevin.godwin@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: Alpha Mill AES-001
Pace Project No.: 92229823

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

Asheville Certification IDs
2225 Riverside Drive, Asheville, NC 28804
Florida/NELAP Certification #: E87648
Massachusetts Certification #: M-NC030
North Carolina Drinking Water Certification #: 37712
North Carolina Wastewater Certification #: 40
South Carolina Certification #: 99030001
West Virginia Certification #: 356
Virginia/VELAP Certification #: 460222

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SAMPLE SUMMARY

Project: Alpha Mill AES-001
Pace Project No.: 92229823

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92229823001	**MW-2SR**	Water	12/16/14 13:00	12/16/14 14:17
92229823002	**MW-7IR**	Water	12/16/14 13:15	12/16/14 14:17
92229823003	**MW-1SR**	Water	12/16/14 13:30	12/16/14 14:17

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: Alpha Mill AES-001
Pace Project No.: 92229823

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92229823001	**MW-2SR**	EPA 6010	JMW	2	PASI-A
		EPA 8260	JDW1	66	PASI-C
		EPA 7196	KLB	1	PASI-A
92229823002	**MW-7IR**	EPA 6010	JMW	2	PASI-A
		EPA 8260	JDW1	66	PASI-C
		EPA 7196	KLB	1	PASI-A
92229823003	**MW-1SR**	EPA 6010	JMW	2	PASI-A
		EPA 8260	JDW1	66	PASI-C
		EPA 7196	KLB	1	PASI-A

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ANALYTICAL RESULTS

Project: Alpha Mill AES-001
Pace Project No.: 92229823

Sample: MW-2SR **Lab ID: 92229823001** Collected: 12/16/14 13:00 Received: 12/16/14 14:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Chromium	**12.8**	ug/L	5.0	1	12/17/14 15:05	12/18/14 00:38	7440-47-3	
Copper	**10.4**	ug/L	5.0	1	12/17/14 15:05	12/18/14 00:38	7440-50-8	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	25.0	1		12/23/14 16:54	67-64-1	
Benzene	ND	ug/L	1.0	1		12/23/14 16:54	71-43-2	
Bromobenzene	ND	ug/L	1.0	1		12/23/14 16:54	108-86-1	
Bromochloromethane	ND	ug/L	1.0	1		12/23/14 16:54	74-97-5	
Bromodichloromethane	ND	ug/L	1.0	1		12/23/14 16:54	75-27-4	
Bromoform	ND	ug/L	1.0	1		12/23/14 16:54	75-25-2	
Bromomethane	ND	ug/L	2.0	1		12/23/14 16:54	74-83-9	
2-Butanone (MEK)	ND	ug/L	5.0	1		12/23/14 16:54	78-93-3	
sec-Butylbenzene	ND	ug/L	1.0	1		12/23/14 16:54	135-98-8	
tert-Butylbenzene	ND	ug/L	1.0	1		12/23/14 16:54	98-06-6	
Carbon tetrachloride	ND	ug/L	1.0	1		12/23/14 16:54	56-23-5	
Chlorobenzene	ND	ug/L	1.0	1		12/23/14 16:54	108-90-7	
Chloroethane	ND	ug/L	1.0	1		12/23/14 16:54	75-00-3	
Chloroform	**3.2**	ug/L	1.0	1		12/23/14 16:54	67-66-3	
Chloromethane	ND	ug/L	1.0	1		12/23/14 16:54	74-87-3	
2-Chlorotoluene	ND	ug/L	1.0	1		12/23/14 16:54	95-49-8	
4-Chlorotoluene	ND	ug/L	1.0	1		12/23/14 16:54	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	2.0	1		12/23/14 16:54	96-12-8	
Dibromochloromethane	ND	ug/L	1.0	1		12/23/14 16:54	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	1.0	1		12/23/14 16:54	106-93-4	
Dibromomethane	ND	ug/L	1.0	1		12/23/14 16:54	74-95-3	
1,2-Dichlorobenzene	**3.6**	ug/L	1.0	1		12/23/14 16:54	95-50-1	
1,3-Dichlorobenzene	ND	ug/L	1.0	1		12/23/14 16:54	541-73-1	
1,4-Dichlorobenzene	**1.5**	ug/L	1.0	1		12/23/14 16:54	106-46-7	
Dichlorodifluoromethane	ND	ug/L	1.0	1		12/23/14 16:54	75-71-8	
1,1-Dichloroethane	ND	ug/L	1.0	1		12/23/14 16:54	75-34-3	
1,2-Dichloroethane	ND	ug/L	1.0	1		12/23/14 16:54	107-06-2	
1,1-Dichloroethene	**2.9**	ug/L	1.0	1		12/23/14 16:54	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	1.0	1		12/23/14 16:54	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	1.0	1		12/23/14 16:54	156-60-5	
1,2-Dichloropropane	ND	ug/L	1.0	1		12/23/14 16:54	78-87-5	
1,3-Dichloropropane	ND	ug/L	1.0	1		12/23/14 16:54	142-28-9	
2,2-Dichloropropane	ND	ug/L	1.0	1		12/23/14 16:54	594-20-7	
1,1-Dichloropropene	ND	ug/L	1.0	1		12/23/14 16:54	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	1.0	1		12/23/14 16:54	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	1.0	1		12/23/14 16:54	10061-02-6	
Diisopropyl ether	ND	ug/L	1.0	1		12/23/14 16:54	108-20-3	
Ethylbenzene	ND	ug/L	1.0	1		12/23/14 16:54	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	1.0	1		12/23/14 16:54	87-68-3	
2-Hexanone	ND	ug/L	5.0	1		12/23/14 16:54	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	1.0	1		12/23/14 16:54	98-82-8	
p-Isopropyltoluene	ND	ug/L	1.0	1		12/23/14 16:54	99-87-6	
Methylene Chloride	ND	ug/L	2.0	1		12/23/14 16:54	75-09-2	

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ANALYTICAL RESULTS

Project: Alpha Mill AES-001
Pace Project No.: 92229823

Sample: MW-2SR **Lab ID: 92229823001** Collected: 12/16/14 13:00 Received: 12/16/14 14:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
4-Methyl-2-pentanone (MIBK)	ND	ug/L	5.0	1		12/23/14 16:54	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	1.0	1		12/23/14 16:54	1634-04-4	
Naphthalene	ND	ug/L	1.0	1		12/23/14 16:54	91-20-3	
Styrene	ND	ug/L	1.0	1		12/23/14 16:54	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	1.0	1		12/23/14 16:54	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	1.0	1		12/23/14 16:54	79-34-5	
Tetrachloroethene	**126**	ug/L	1.0	1		12/23/14 16:54	127-18-4	
Toluene	ND	ug/L	1.0	1		12/23/14 16:54	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	1.0	1		12/23/14 16:54	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	1.0	1		12/23/14 16:54	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	1.0	1		12/23/14 16:54	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	1.0	1		12/23/14 16:54	79-00-5	
Trichloroethene	**81.8**	ug/L	1.0	1		12/23/14 16:54	79-01-6	
Trichlorofluoromethane	ND	ug/L	1.0	1		12/23/14 16:54	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	1.0	1		12/23/14 16:54	96-18-4	
Vinyl acetate	ND	ug/L	2.0	1		12/23/14 16:54	108-05-4	
Vinyl chloride	ND	ug/L	1.0	1		12/23/14 16:54	75-01-4	
Xylene (Total)	ND	ug/L	2.0	1		12/23/14 16:54	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	1		12/23/14 16:54	179601-23-1	
o-Xylene	ND	ug/L	1.0	1		12/23/14 16:54	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	1		12/23/14 16:54	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130	1		12/23/14 16:54	17060-07-0	
Toluene-d8 (S)	98	%	70-130	1		12/23/14 16:54	2037-26-5	
7196 Chromium, Hexavalent	Analytical Method: EPA 7196							
Chromium, Hexavalent	ND	mg/L	0.010	1		12/17/14 17:05	18540-29-9	

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ANALYTICAL RESULTS

Project: Alpha Mill AES-001
Pace Project No.: 92229823

Sample: MW-7IR **Lab ID: 92229823002** Collected: 12/16/14 13:15 Received: 12/16/14 14:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Chromium	**10.0**	ug/L	5.0	1	12/17/14 15:05	12/18/14 00:51	7440-47-3	
Copper	**22.8**	ug/L	5.0	1	12/17/14 15:05	12/18/14 00:51	7440-50-8	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	62.5	2.5		12/23/14 17:11	67-64-1	
Benzene	ND	ug/L	2.5	2.5		12/23/14 17:11	71-43-2	
Bromobenzene	ND	ug/L	2.5	2.5		12/23/14 17:11	108-86-1	
Bromochloromethane	ND	ug/L	2.5	2.5		12/23/14 17:11	74-97-5	
Bromodichloromethane	ND	ug/L	2.5	2.5		12/23/14 17:11	75-27-4	
Bromoform	ND	ug/L	2.5	2.5		12/23/14 17:11	75-25-2	
Bromomethane	ND	ug/L	5.0	2.5		12/23/14 17:11	74-83-9	
2-Butanone (MEK)	ND	ug/L	12.5	2.5		12/23/14 17:11	78-93-3	
sec-Butylbenzene	ND	ug/L	2.5	2.5		12/23/14 17:11	135-98-8	
tert-Butylbenzene	ND	ug/L	2.5	2.5		12/23/14 17:11	98-06-6	
Carbon tetrachloride	ND	ug/L	2.5	2.5		12/23/14 17:11	56-23-5	
Chlorobenzene	**17.4**	ug/L	2.5	2.5		12/23/14 17:11	108-90-7	
Chloroethane	ND	ug/L	2.5	2.5		12/23/14 17:11	75-00-3	
Chloroform	**3.7**	ug/L	2.5	2.5		12/23/14 17:11	67-66-3	
Chloromethane	ND	ug/L	2.5	2.5		12/23/14 17:11	74-87-3	
2-Chlorotoluene	ND	ug/L	2.5	2.5		12/23/14 17:11	95-49-8	
4-Chlorotoluene	ND	ug/L	2.5	2.5		12/23/14 17:11	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	5.0	2.5		12/23/14 17:11	96-12-8	
Dibromochloromethane	ND	ug/L	2.5	2.5		12/23/14 17:11	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	2.5	2.5		12/23/14 17:11	106-93-4	
Dibromomethane	ND	ug/L	2.5	2.5		12/23/14 17:11	74-95-3	
1,2-Dichlorobenzene	**170**	ug/L	2.5	2.5		12/23/14 17:11	95-50-1	
1,3-Dichlorobenzene	**5.1**	ug/L	2.5	2.5		12/23/14 17:11	541-73-1	
1,4-Dichlorobenzene	**20.2**	ug/L	2.5	2.5		12/23/14 17:11	106-46-7	
Dichlorodifluoromethane	ND	ug/L	2.5	2.5		12/23/14 17:11	75-71-8	
1,1-Dichloroethane	ND	ug/L	2.5	2.5		12/23/14 17:11	75-34-3	
1,2-Dichloroethane	ND	ug/L	2.5	2.5		12/23/14 17:11	107-06-2	
1,1-Dichloroethene	**3.8**	ug/L	2.5	2.5		12/23/14 17:11	75-35-4	
cis-1,2-Dichloroethene	ND	ug/L	2.5	2.5		12/23/14 17:11	156-59-2	
trans-1,2-Dichloroethene	ND	ug/L	2.5	2.5		12/23/14 17:11	156-60-5	
1,2-Dichloropropane	ND	ug/L	2.5	2.5		12/23/14 17:11	78-87-5	
1,3-Dichloropropane	ND	ug/L	2.5	2.5		12/23/14 17:11	142-28-9	
2,2-Dichloropropane	ND	ug/L	2.5	2.5		12/23/14 17:11	594-20-7	
1,1-Dichloropropene	ND	ug/L	2.5	2.5		12/23/14 17:11	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	2.5	2.5		12/23/14 17:11	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	2.5	2.5		12/23/14 17:11	10061-02-6	
Diisopropyl ether	ND	ug/L	2.5	2.5		12/23/14 17:11	108-20-3	
Ethylbenzene	ND	ug/L	2.5	2.5		12/23/14 17:11	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	2.5	2.5		12/23/14 17:11	87-68-3	
2-Hexanone	ND	ug/L	12.5	2.5		12/23/14 17:11	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	2.5	2.5		12/23/14 17:11	98-82-8	
p-Isopropyltoluene	ND	ug/L	2.5	2.5		12/23/14 17:11	99-87-6	
Methylene Chloride	ND	ug/L	5.0	2.5		12/23/14 17:11	75-09-2	

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ANALYTICAL RESULTS

Project: Alpha Mill AES-001
Pace Project No.: 92229823

Sample: MW-7IR **Lab ID: 92229823002** Collected: 12/16/14 13:15 Received: 12/16/14 14:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
4-Methyl-2-pentanone (MIBK)	ND	ug/L	12.5	2.5		12/23/14 17:11	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	2.5	2.5		12/23/14 17:11	1634-04-4	
Naphthalene	ND	ug/L	2.5	2.5		12/23/14 17:11	91-20-3	
Styrene	ND	ug/L	2.5	2.5		12/23/14 17:11	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	2.5	2.5		12/23/14 17:11	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	2.5	2.5		12/23/14 17:11	79-34-5	
Tetrachloroethene	**283**	ug/L	2.5	2.5		12/23/14 17:11	127-18-4	
Toluene	ND	ug/L	2.5	2.5		12/23/14 17:11	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	2.5	2.5		12/23/14 17:11	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	2.5	2.5		12/23/14 17:11	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	2.5	2.5		12/23/14 17:11	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	2.5	2.5		12/23/14 17:11	79-00-5	
Trichloroethene	**141**	ug/L	2.5	2.5		12/23/14 17:11	79-01-6	
Trichlorofluoromethane	ND	ug/L	2.5	2.5		12/23/14 17:11	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	2.5	2.5		12/23/14 17:11	96-18-4	
Vinyl acetate	ND	ug/L	5.0	2.5		12/23/14 17:11	108-05-4	
Vinyl chloride	ND	ug/L	2.5	2.5		12/23/14 17:11	75-01-4	
Xylene (Total)	ND	ug/L	5.0	2.5		12/23/14 17:11	1330-20-7	
m&p-Xylene	ND	ug/L	5.0	2.5		12/23/14 17:11	179601-23-1	
o-Xylene	ND	ug/L	2.5	2.5		12/23/14 17:11	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	101	%	70-130	2.5		12/23/14 17:11	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130	2.5		12/23/14 17:11	17060-07-0	
Toluene-d8 (S)	97	%	70-130	2.5		12/23/14 17:11	2037-26-5	
7196 Chromium, Hexavalent	Analytical Method: EPA 7196							
Chromium, Hexavalent	ND	mg/L	0.010	1		12/17/14 17:06	18540-29-9	

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ANALYTICAL RESULTS

Project: Alpha Mill AES-001
Pace Project No.: 92229823

Sample: MW-1SR **Lab ID: 92229823003** Collected: 12/16/14 13:30 Received: 12/16/14 14:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010							
Chromium	**46.0**	ug/L	5.0	1	12/17/14 15:05	12/18/14 00:54	7440-47-3	
Copper	**15.4**	ug/L	5.0	1	12/17/14 15:05	12/18/14 00:54	7440-50-8	
8260 MSV Low Level	Analytical Method: EPA 8260							
Acetone	ND	ug/L	312	12.5		12/23/14 17:28	67-64-1	
Benzene	ND	ug/L	12.5	12.5		12/23/14 17:28	71-43-2	
Bromobenzene	ND	ug/L	12.5	12.5		12/23/14 17:28	108-86-1	
Bromochloromethane	ND	ug/L	12.5	12.5		12/23/14 17:28	74-97-5	
Bromodichloromethane	ND	ug/L	12.5	12.5		12/23/14 17:28	75-27-4	
Bromoform	ND	ug/L	12.5	12.5		12/23/14 17:28	75-25-2	
Bromomethane	ND	ug/L	25.0	12.5		12/23/14 17:28	74-83-9	
2-Butanone (MEK)	ND	ug/L	62.5	12.5		12/23/14 17:28	78-93-3	
sec-Butylbenzene	ND	ug/L	12.5	12.5		12/23/14 17:28	135-98-8	
tert-Butylbenzene	ND	ug/L	12.5	12.5		12/23/14 17:28	98-06-6	
Carbon tetrachloride	ND	ug/L	12.5	12.5		12/23/14 17:28	56-23-5	
Chlorobenzene	**969**	ug/L	12.5	12.5		12/23/14 17:28	108-90-7	
Chloroethane	ND	ug/L	12.5	12.5		12/23/14 17:28	75-00-3	
Chloroform	ND	ug/L	12.5	12.5		12/23/14 17:28	67-66-3	
Chloromethane	ND	ug/L	12.5	12.5		12/23/14 17:28	74-87-3	
2-Chlorotoluene	ND	ug/L	12.5	12.5		12/23/14 17:28	95-49-8	
4-Chlorotoluene	ND	ug/L	12.5	12.5		12/23/14 17:28	106-43-4	
1,2-Dibromo-3-chloropropane	ND	ug/L	25.0	12.5		12/23/14 17:28	96-12-8	
Dibromochloromethane	ND	ug/L	12.5	12.5		12/23/14 17:28	124-48-1	
1,2-Dibromoethane (EDB)	ND	ug/L	12.5	12.5		12/23/14 17:28	106-93-4	
Dibromomethane	ND	ug/L	12.5	12.5		12/23/14 17:28	74-95-3	
1,2-Dichlorobenzene	**1090**	ug/L	12.5	12.5		12/23/14 17:28	95-50-1	
1,3-Dichlorobenzene	**51.1**	ug/L	12.5	12.5		12/23/14 17:28	541-73-1	
1,4-Dichlorobenzene	**122**	ug/L	12.5	12.5		12/23/14 17:28	106-46-7	
Dichlorodifluoromethane	ND	ug/L	12.5	12.5		12/23/14 17:28	75-71-8	
1,1-Dichloroethane	ND	ug/L	12.5	12.5		12/23/14 17:28	75-34-3	
1,2-Dichloroethane	ND	ug/L	12.5	12.5		12/23/14 17:28	107-06-2	
1,1-Dichloroethene	ND	ug/L	12.5	12.5		12/23/14 17:28	75-35-4	
cis-1,2-Dichloroethene	**18.0**	ug/L	12.5	12.5		12/23/14 17:28	156-59-2	
trans-1,2-Dichloroethene	**13.0**	ug/L	12.5	12.5		12/23/14 17:28	156-60-5	
1,2-Dichloropropane	ND	ug/L	12.5	12.5		12/23/14 17:28	78-87-5	
1,3-Dichloropropane	ND	ug/L	12.5	12.5		12/23/14 17:28	142-28-9	
2,2-Dichloropropane	ND	ug/L	12.5	12.5		12/23/14 17:28	594-20-7	
1,1-Dichloropropene	ND	ug/L	12.5	12.5		12/23/14 17:28	563-58-6	
cis-1,3-Dichloropropene	ND	ug/L	12.5	12.5		12/23/14 17:28	10061-01-5	
trans-1,3-Dichloropropene	ND	ug/L	12.5	12.5		12/23/14 17:28	10061-02-6	
Diisopropyl ether	ND	ug/L	12.5	12.5		12/23/14 17:28	108-20-3	
Ethylbenzene	ND	ug/L	12.5	12.5		12/23/14 17:28	100-41-4	
Hexachloro-1,3-butadiene	ND	ug/L	12.5	12.5		12/23/14 17:28	87-68-3	
2-Hexanone	ND	ug/L	62.5	12.5		12/23/14 17:28	591-78-6	
Isopropylbenzene (Cumene)	ND	ug/L	12.5	12.5		12/23/14 17:28	98-82-8	
p-Isopropyltoluene	ND	ug/L	12.5	12.5		12/23/14 17:28	99-87-6	
Methylene Chloride	ND	ug/L	25.0	12.5		12/23/14 17:28	75-09-2	

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ANALYTICAL RESULTS

Project: Alpha Mill AES-001
Pace Project No.: 92229823

Sample: MW-1SR **Lab ID: 92229823003** Collected: 12/16/14 13:30 Received: 12/16/14 14:17 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level	Analytical Method: EPA 8260							
4-Methyl-2-pentanone (MIBK)	ND	ug/L	62.5	12.5		12/23/14 17:28	108-10-1	
Methyl-tert-butyl ether	ND	ug/L	12.5	12.5		12/23/14 17:28	1634-04-4	
Naphthalene	ND	ug/L	12.5	12.5		12/23/14 17:28	91-20-3	
Styrene	ND	ug/L	12.5	12.5		12/23/14 17:28	100-42-5	
1,1,1,2-Tetrachloroethane	ND	ug/L	12.5	12.5		12/23/14 17:28	630-20-6	
1,1,2,2-Tetrachloroethane	ND	ug/L	12.5	12.5		12/23/14 17:28	79-34-5	
Tetrachloroethene	**210**	ug/L	12.5	12.5		12/23/14 17:28	127-18-4	
Toluene	ND	ug/L	12.5	12.5		12/23/14 17:28	108-88-3	
1,2,3-Trichlorobenzene	ND	ug/L	12.5	12.5		12/23/14 17:28	87-61-6	
1,2,4-Trichlorobenzene	ND	ug/L	12.5	12.5		12/23/14 17:28	120-82-1	
1,1,1-Trichloroethane	ND	ug/L	12.5	12.5		12/23/14 17:28	71-55-6	
1,1,2-Trichloroethane	ND	ug/L	12.5	12.5		12/23/14 17:28	79-00-5	
Trichloroethene	**103**	ug/L	12.5	12.5		12/23/14 17:28	79-01-6	
Trichlorofluoromethane	ND	ug/L	12.5	12.5		12/23/14 17:28	75-69-4	
1,2,3-Trichloropropane	ND	ug/L	12.5	12.5		12/23/14 17:28	96-18-4	
Vinyl acetate	ND	ug/L	25.0	12.5		12/23/14 17:28	108-05-4	
Vinyl chloride	ND	ug/L	12.5	12.5		12/23/14 17:28	75-01-4	
Xylene (Total)	ND	ug/L	25.0	12.5		12/23/14 17:28	1330-20-7	
m&p-Xylene	ND	ug/L	25.0	12.5		12/23/14 17:28	179601-23-1	
o-Xylene	ND	ug/L	12.5	12.5		12/23/14 17:28	95-47-6	
Surrogates								
4-Bromofluorobenzene (S)	102	%	70-130	12.5		12/23/14 17:28	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130	12.5		12/23/14 17:28	17060-07-0	
Toluene-d8 (S)	97	%	70-130	12.5		12/23/14 17:28	2037-26-5	
7196 Chromium, Hexavalent	Analytical Method: EPA 7196							
Chromium, Hexavalent	**0.024**	mg/L	0.010	1		12/17/14 17:06	18540-29-9	

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QUALITY CONTROL DATA

Project: Alpha Mill AES-001
Pace Project No.: 92229823

QC Batch: MPRP/17574 Analysis Method: EPA 6010
QC Batch Method: EPA 3010 Analysis Description: 6010 MET
Associated Lab Samples: 92229823001, 92229823002, 92229823003

METHOD BLANK: 1354153 Matrix: Water
Associated Lab Samples: 92229823001, 92229823002, 92229823003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium	ug/L	ND	5.0	12/17/14 23:18	
Copper	ug/L	ND	5.0	12/17/14 23:18	

LABORATORY CONTROL SAMPLE: 1354154

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium	ug/L	500	496	99	80-120	
Copper	ug/L	500	485	97	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354155 1354156

Parameter	Units	92229777001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium	ug/L	ND	500	500	500	495	100	99	75-125	1	20	
Copper	ug/L	4.9J	500	500	487	477	96	94	75-125	2	20	

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QUALITY CONTROL DATA

Project: Alpha Mill AES-001
Pace Project No.: 92229823

QC Batch: MSV/29789 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 92229823001, 92229823002, 92229823003

METHOD BLANK: 1358088 Matrix: Water
Associated Lab Samples: 92229823001, 92229823002, 92229823003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	1.0	12/23/14 08:56	
1,1,1-Trichloroethane	ug/L	ND	1.0	12/23/14 08:56	
1,1,2,2-Tetrachloroethane	ug/L	ND	1.0	12/23/14 08:56	
1,1,2-Trichloroethane	ug/L	ND	1.0	12/23/14 08:56	
1,1-Dichloroethane	ug/L	ND	1.0	12/23/14 08:56	
1,1-Dichloroethene	ug/L	ND	1.0	12/23/14 08:56	
1,1-Dichloropropene	ug/L	ND	1.0	12/23/14 08:56	
1,2,3-Trichlorobenzene	ug/L	ND	1.0	12/23/14 08:56	
1,2,3-Trichloropropane	ug/L	ND	1.0	12/23/14 08:56	
1,2,4-Trichlorobenzene	ug/L	ND	1.0	12/23/14 08:56	
1,2-Dibromo-3-chloropropane	ug/L	ND	2.0	12/23/14 08:56	
1,2-Dibromoethane (EDB)	ug/L	ND	1.0	12/23/14 08:56	
1,2-Dichlorobenzene	ug/L	ND	1.0	12/23/14 08:56	
1,2-Dichloroethane	ug/L	ND	1.0	12/23/14 08:56	
1,2-Dichloropropane	ug/L	ND	1.0	12/23/14 08:56	
1,3-Dichlorobenzene	ug/L	ND	1.0	12/23/14 08:56	
1,3-Dichloropropane	ug/L	ND	1.0	12/23/14 08:56	
1,4-Dichlorobenzene	ug/L	ND	1.0	12/23/14 08:56	
2,2-Dichloropropane	ug/L	ND	1.0	12/23/14 08:56	
2-Butanone (MEK)	ug/L	ND	5.0	12/23/14 08:56	
2-Chlorotoluene	ug/L	ND	1.0	12/23/14 08:56	
2-Hexanone	ug/L	ND	5.0	12/23/14 08:56	
4-Chlorotoluene	ug/L	ND	1.0	12/23/14 08:56	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	5.0	12/23/14 08:56	
Acetone	ug/L	ND	25.0	12/23/14 08:56	
Benzene	ug/L	ND	1.0	12/23/14 08:56	
Bromobenzene	ug/L	ND	1.0	12/23/14 08:56	
Bromochloromethane	ug/L	ND	1.0	12/23/14 08:56	
Bromodichloromethane	ug/L	ND	1.0	12/23/14 08:56	
Bromoform	ug/L	ND	1.0	12/23/14 08:56	
Bromomethane	ug/L	ND	2.0	12/23/14 08:56	
Carbon tetrachloride	ug/L	ND	1.0	12/23/14 08:56	
Chlorobenzene	ug/L	ND	1.0	12/23/14 08:56	
Chloroethane	ug/L	ND	1.0	12/23/14 08:56	
Chloroform	ug/L	ND	1.0	12/23/14 08:56	
Chloromethane	ug/L	ND	1.0	12/23/14 08:56	
cis-1,2-Dichloroethene	ug/L	ND	1.0	12/23/14 08:56	
cis-1,3-Dichloropropene	ug/L	ND	1.0	12/23/14 08:56	
Dibromochloromethane	ug/L	ND	1.0	12/23/14 08:56	
Dibromomethane	ug/L	ND	1.0	12/23/14 08:56	
Dichlorodifluoromethane	ug/L	ND	1.0	12/23/14 08:56	

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QUALITY CONTROL DATA

Project: Alpha Mill AES-001
Pace Project No.: 92229823

METHOD BLANK: 1358088 Matrix: Water
Associated Lab Samples: 92229823001, 92229823002, 92229823003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Diisopropyl ether	ug/L	ND	1.0	12/23/14 08:56	
Ethylbenzene	ug/L	ND	1.0	12/23/14 08:56	
Hexachloro-1,3-butadiene	ug/L	ND	1.0	12/23/14 08:56	
m&p-Xylene	ug/L	ND	2.0	12/23/14 08:56	
Methyl-tert-butyl ether	ug/L	ND	1.0	12/23/14 08:56	
Methylene Chloride	ug/L	ND	2.0	12/23/14 08:56	
Naphthalene	ug/L	ND	1.0	12/23/14 08:56	
o-Xylene	ug/L	ND	1.0	12/23/14 08:56	
p-Isopropyltoluene	ug/L	ND	1.0	12/23/14 08:56	
Styrene	ug/L	ND	1.0	12/23/14 08:56	
Tetrachloroethene	ug/L	ND	1.0	12/23/14 08:56	
Toluene	ug/L	ND	1.0	12/23/14 08:56	
trans-1,2-Dichloroethene	ug/L	ND	1.0	12/23/14 08:56	
trans-1,3-Dichloropropene	ug/L	ND	1.0	12/23/14 08:56	
Trichloroethene	ug/L	ND	1.0	12/23/14 08:56	
Trichlorofluoromethane	ug/L	ND	1.0	12/23/14 08:56	
Vinyl acetate	ug/L	ND	2.0	12/23/14 08:56	
Vinyl chloride	ug/L	ND	1.0	12/23/14 08:56	
Xylene (Total)	ug/L	ND	2.0	12/23/14 08:56	
1,2-Dichloroethane-d4 (S)	%	100	70-130	12/23/14 08:56	
4-Bromofluorobenzene (S)	%	102	70-130	12/23/14 08:56	
Toluene-d8 (S)	%	99	70-130	12/23/14 08:56	

LABORATORY CONTROL SAMPLE: 1358089

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	50	55.7	111	70-130	
1,1,1-Trichloroethane	ug/L	50	53.1	106	70-130	
1,1,2,2-Tetrachloroethane	ug/L	50	51.3	103	70-130	
1,1,2-Trichloroethane	ug/L	50	52.8	106	70-130	
1,1-Dichloroethane	ug/L	50	53.4	107	70-130	
1,1-Dichloroethene	ug/L	50	53.7	107	70-132	
1,1-Dichloropropene	ug/L	50	53.7	107	70-130	
1,2,3-Trichlorobenzene	ug/L	50	54.8	110	70-135	
1,2,3-Trichloropropane	ug/L	50	50.4	101	70-130	
1,2,4-Trichlorobenzene	ug/L	50	54.0	108	70-134	
1,2-Dibromo-3-chloropropane	ug/L	50	54.0	108	70-130	
1,2-Dibromoethane (EDB)	ug/L	50	55.4	111	70-130	
1,2-Dichlorobenzene	ug/L	50	52.1	104	70-130	
1,2-Dichloroethane	ug/L	50	49.4	99	70-130	
1,2-Dichloropropane	ug/L	50	51.6	103	70-130	
1,3-Dichlorobenzene	ug/L	50	51.5	103	70-130	
1,3-Dichloropropane	ug/L	50	51.9	104	70-130	
1,4-Dichlorobenzene	ug/L	50	51.4	103	70-130	

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QUALITY CONTROL DATA

Project: Alpha Mill AES-001
Pace Project No.: 92229823

LABORATORY CONTROL SAMPLE: 1358089

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
2,2-Dichloropropane	ug/L	50	47.0	94	58-145	
2-Butanone (MEK)	ug/L	100	90.9	91	70-145	
2-Chlorotoluene	ug/L	50	52.2	104	70-130	
2-Hexanone	ug/L	100	101	101	70-144	
4-Chlorotoluene	ug/L	50	51.4	103	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	100	101	101	70-140	
Acetone	ug/L	100	90.9	91	50-175	
Benzene	ug/L	50	54.1	108	70-130	
Bromobenzene	ug/L	50	52.0	104	70-130	
Bromochloromethane	ug/L	50	56.9	114	70-130	
Bromodichloromethane	ug/L	50	54.1	108	70-130	
Bromoform	ug/L	50	49.1	98	70-130	
Bromomethane	ug/L	50	55.5	111	54-130	
Carbon tetrachloride	ug/L	50	54.5	109	70-132	
Chlorobenzene	ug/L	50	51.5	103	70-130	
Chloroethane	ug/L	50	56.6	113	64-134	
Chloroform	ug/L	50	52.2	104	70-130	
Chloromethane	ug/L	50	57.3	115	64-130	
cis-1,2-Dichloroethene	ug/L	50	54.2	108	70-131	
cis-1,3-Dichloropropene	ug/L	50	52.3	105	70-130	
Dibromochloromethane	ug/L	50	50.2	100	70-130	
Dibromomethane	ug/L	50	53.2	106	70-131	
Dichlorodifluoromethane	ug/L	50	60.5	121	56-130	
Diisopropyl ether	ug/L	50	49.8	100	70-130	
Ethylbenzene	ug/L	50	51.3	103	70-130	
Hexachloro-1,3-butadiene	ug/L	50	51.1	102	70-130	
m&p-Xylene	ug/L	100	102	102	70-130	
Methyl-tert-butyl ether	ug/L	50	49.2	98	70-130	
Methylene Chloride	ug/L	50	51.7	103	63-130	
Naphthalene	ug/L	50	56.6	113	70-138	
o-Xylene	ug/L	50	51.5	103	70-130	
p-Isopropyltoluene	ug/L	50	52.6	105	70-130	
Styrene	ug/L	50	55.0	110	70-130	
Tetrachloroethene	ug/L	50	50.6	101	70-130	
Toluene	ug/L	50	52.7	105	70-130	
trans-1,2-Dichloroethene	ug/L	50	55.4	111	70-130	
trans-1,3-Dichloropropene	ug/L	50	55.0	110	70-132	
Trichloroethene	ug/L	50	51.4	103	70-130	
Trichlorofluoromethane	ug/L	50	51.5	103	62-133	
Vinyl acetate	ug/L	100	94.7	95	66-157	
Vinyl chloride	ug/L	50	50.8	102	50-150	
Xylene (Total)	ug/L	150	154	102	70-130	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			102	70-130	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Alpha Mill AES-001
Pace Project No.: 92229823

MATRIX SPIKE SAMPLE: 1358090

Parameter	Units	92230384013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	20	21.9	109	70-130	
1,1,1-Trichloroethane	ug/L	ND	20	22.4	112	70-130	
1,1,2,2-Tetrachloroethane	ug/L	ND	20	21.4	107	70-130	
1,1,2-Trichloroethane	ug/L	ND	20	21.9	109	70-130	
1,1-Dichloroethane	ug/L	7.6	20	29.2	108	70-130	
1,1-Dichloroethene	ug/L	ND	20	22.6	113	70-166	
1,1-Dichloropropene	ug/L	ND	20	23.0	115	70-130	
1,2,3-Trichlorobenzene	ug/L	ND	20	22.3	111	70-130	
1,2,3-Trichloropropane	ug/L	ND	20	21.0	105	70-130	
1,2,4-Trichlorobenzene	ug/L	ND	20	21.9	109	70-130	
1,2-Dibromo-3-chloropropane	ug/L	ND	20	21.4	107	70-130	
1,2-Dibromoethane (EDB)	ug/L	ND	20	22.7	113	70-130	
1,2-Dichlorobenzene	ug/L	ND	20	22.1	109	70-130	
1,2-Dichloroethane	ug/L	ND	20	20.2	101	70-130	
1,2-Dichloropropane	ug/L	ND	20	21.9	107	70-130	
1,3-Dichlorobenzene	ug/L	ND	20	21.9	109	70-130	
1,3-Dichloropropane	ug/L	ND	20	21.5	108	70-130	
1,4-Dichlorobenzene	ug/L	4.3	20	25.5	106	70-130	
2,2-Dichloropropane	ug/L	ND	20	19.6	98	70-130	
2-Butanone (MEK)	ug/L	ND	40	39.1	98	70-130	
2-Chlorotoluene	ug/L	ND	20	22.0	110	70-130	
2-Hexanone	ug/L	ND	40	43.5	109	70-130	
4-Chlorotoluene	ug/L	ND	20	21.7	109	70-130	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	40	42.1	105	70-130	
Acetone	ug/L	ND	40	41.9	105	70-130	
Benzene	ug/L	2.3	20	25.2	115	70-148	
Bromobenzene	ug/L	ND	20	21.6	108	70-130	
Bromochloromethane	ug/L	ND	20	22.5	112	70-130	
Bromodichloromethane	ug/L	ND	20	21.2	106	70-130	
Bromoform	ug/L	ND	20	20.2	101	70-130	
Bromomethane	ug/L	ND	20	24.3	122	70-130	
Carbon tetrachloride	ug/L	ND	20	22.6	113	70-130	
Chlorobenzene	ug/L	ND	20	23.2	111	70-146	
Chloroethane	ug/L	2.9	20	27.6	124	70-130	
Chloroform	ug/L	ND	20	21.7	108	70-130	
Chloromethane	ug/L	ND	20	23.8	119	70-130	
cis-1,2-Dichloroethene	ug/L	14.0	20	34.6	103	70-130	
cis-1,3-Dichloropropene	ug/L	ND	20	20.7	104	70-130	
Dibromochloromethane	ug/L	ND	20	20.5	102	70-130	
Dibromomethane	ug/L	ND	20	21.1	106	70-130	
Dichlorodifluoromethane	ug/L	ND	20	26.2	131	70-130	M0
Diisopropyl ether	ug/L	ND	20	20.8	102	70-130	
Ethylbenzene	ug/L	ND	20	22.0	110	70-130	
Hexachloro-1,3-butadiene	ug/L	ND	20	26.1	131	70-130	M0
m&p-Xylene	ug/L	ND	40	44.6	111	70-130	
Methyl-tert-butyl ether	ug/L	1.9	20	21.7	99	70-130	
Methylene Chloride	ug/L	ND	20	21.0	105	70-130	

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(704)875-9092

QUALITY CONTROL DATA

Project: Alpha Mill AES-001
Pace Project No.: 92229823

MATRIX SPIKE SAMPLE: 1358090

Parameter	Units	92230384013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	ND	20	23.7	119	70-130	
o-Xylene	ug/L	ND	20	21.6	108	70-130	
p-Isopropyltoluene	ug/L	ND	20	22.7	114	70-130	
Styrene	ug/L	ND	20	23.0	115	70-130	
Tetrachloroethene	ug/L	ND	20	22.0	110	70-130	
Toluene	ug/L	ND	20	21.9	110	70-155	
trans-1,2-Dichloroethene	ug/L	ND	20	23.8	119	70-130	
trans-1,3-Dichloropropene	ug/L	ND	20	20.7	103	70-130	
Trichloroethene	ug/L	ND	20	22.6	110	69-151	
Trichlorofluoromethane	ug/L	ND	20	22.5	112	70-130	
Vinyl acetate	ug/L	ND	40	34.9	87	70-130	
Vinyl chloride	ug/L	2.2	20	23.3	106	70-130	
1,2-Dichloroethane-d4 (S)	%				96	70-130	
4-Bromofluorobenzene (S)	%				102	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE: 1358091

Parameter	Units	92230384014 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,1-Trichloroethane	ug/L	ND	ND		30	
1,1,2,2-Tetrachloroethane	ug/L	ND	ND		30	
1,1,2-Trichloroethane	ug/L	ND	ND		30	
1,1-Dichloroethane	ug/L	ND	.68J		30	
1,1-Dichloroethene	ug/L	ND	ND		30	
1,1-Dichloropropene	ug/L	ND	ND		30	
1,2,3-Trichlorobenzene	ug/L	ND	ND		30	
1,2,3-Trichloropropane	ug/L	ND	ND		30	
1,2,4-Trichlorobenzene	ug/L	ND	ND		30	
1,2-Dibromo-3-chloropropane	ug/L	ND	ND		30	
1,2-Dibromoethane (EDB)	ug/L	ND	ND		30	
1,2-Dichlorobenzene	ug/L	ND	ND		30	
1,2-Dichloroethane	ug/L	ND	ND		30	
1,2-Dichloropropane	ug/L	ND	ND		30	
1,3-Dichlorobenzene	ug/L	ND	ND		30	
1,3-Dichloropropane	ug/L	ND	ND		30	
1,4-Dichlorobenzene	ug/L	ND	ND		30	
2,2-Dichloropropane	ug/L	ND	ND		30	
2-Butanone (MEK)	ug/L	ND	ND		30	
2-Chlorotoluene	ug/L	ND	ND		30	
2-Hexanone	ug/L	ND	ND		30	
4-Chlorotoluene	ug/L	ND	ND		30	
4-Methyl-2-pentanone (MIBK)	ug/L	ND	ND		30	
Acetone	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: Alpha Mill AES-001
Pace Project No.: 92229823

SAMPLE DUPLICATE: 1358091

Parameter	Units	92230384014 Result	Dup Result	RPD	Max RPD	Qualifiers
Bromobenzene	ug/L	ND	ND		30	
Bromochloromethane	ug/L	ND	ND		30	
Bromodichloromethane	ug/L	ND	ND		30	
Bromoform	ug/L	ND	ND		30	
Bromomethane	ug/L	ND	ND		30	
Carbon tetrachloride	ug/L	ND	ND		30	
Chlorobenzene	ug/L	ND	ND		30	
Chloroethane	ug/L	ND	ND		30	
Chloroform	ug/L	ND	ND		30	
Chloromethane	ug/L	ND	ND		30	
cis-1,2-Dichloroethene	ug/L	ND	.23J		30	
cis-1,3-Dichloropropene	ug/L	ND	ND		30	
Dibromochloromethane	ug/L	ND	ND		30	
Dibromomethane	ug/L	ND	ND		30	
Dichlorodifluoromethane	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
Hexachloro-1,3-butadiene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Methylene Chloride	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
p-Isopropyltoluene	ug/L	ND	ND		30	
Styrene	ug/L	ND	ND		30	
Tetrachloroethene	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
trans-1,2-Dichloroethene	ug/L	ND	ND		30	
trans-1,3-Dichloropropene	ug/L	ND	ND		30	
Trichloroethene	ug/L	ND	ND		30	
Trichlorofluoromethane	ug/L	ND	ND		30	
Vinyl acetate	ug/L	ND	ND		30	
Vinyl chloride	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	109	111	1		
4-Bromofluorobenzene (S)	%	100	101	2		
Toluene-d8 (S)	%	98	99	1		

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QUALITY CONTROL DATA

Project: Alpha Mill AES-001
Pace Project No.: 92229823

QC Batch: WETA/21324 Analysis Method: EPA 7196
QC Batch Method: EPA 7196 Analysis Description: 7196 Chromium, Hexavalent
Associated Lab Samples: 92229823001, 92229823002, 92229823003

METHOD BLANK: 1354185 Matrix: Water
Associated Lab Samples: 92229823001, 92229823002, 92229823003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Chromium, Hexavalent	mg/L	ND	0.010	12/17/14 17:02	

LABORATORY CONTROL SAMPLE: 1354186

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Chromium, Hexavalent	mg/L	.25	0.26	102	90-110	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1354187 1354188

Parameter	Units	92229823001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Chromium, Hexavalent	mg/L	ND	.25	.25	0.26	0.26	101	101	75-125	0	20	

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QUALIFIERS

Project: Alpha Mill AES-001
Pace Project No.: 92229823

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Acid preservation may not be appropriate for 2-Chloroethylvinyl ether, Styrene, and Vinyl chloride.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-A	Pace Analytical Services - Asheville
PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Alpha Mill AES-001
Pace Project No.: 92229823

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92229823001	**MW-2SR**	EPA 3010	MPRP/17574	EPA 6010	ICP/15829
92229823002	**MW-7IR**	EPA 3010	MPRP/17574	EPA 6010	ICP/15829
92229823003	**MW-1SR**	EPA 3010	MPRP/17574	EPA 6010	ICP/15829
92229823001	**MW-2SR**	EPA 8260	MSV/29789		
92229823002	**MW-7IR**	EPA 8260	MSV/29789		
92229823003	**MW-1SR**	EPA 8260	MSV/29789		
92229823001	**MW-2SR**	EPA 7196	WETA/21324		
92229823002	**MW-7IR**	EPA 7196	WETA/21324		
92229823003	**MW-1SR**	EPA 7196	WETA/21324		

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Pace Analytical	Sample Condition Upon Receipt (SCUR) Document Number: F-CHR-CS-003-rev.15	Page 1 of 2 Issuing Authority: Pace Huntersville Quality Office

Client Name: Hart & Hickman

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☑ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no Seals Intact: ☐ yes ☐ no

Optional
Proj. Due Date:
Proj. Name:

Packing Material: ☐ Bubble Wrap ☒ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun (T1401) Type of Ice: (Wet) Blue None ☒ Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 3.4 °C Biological Tissue is Frozen: Yes No (N/A)

Date and Initials of person examining contents: YW 12-16-14

Temp should be above freezing to 6°C

		Comments:
Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:_____		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☑Yes ☐No	
Samples checked for dechlorination:	☐Yes ☐No ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased):_____		

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted:_____ Date/Time:_____

Comments/ Resolution:_____

SCURF Review: JY Date: 12/16/14

SRF Review: LO Date: 12-18-14

Note: Whenever there is a discrepancy affecting North Carolina compliance samples, a copy of this form will be sent to the North Carolina DEHNR Certification Office (i.e out of hold, incorrect preservative, out of temp, incorrect containers)

WO# : 92229823

92229823

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CHAIN-OF-CUSTODY / Analytical Request Document

The Chain-of-Custody is a LEGAL DOCUMENT. All relevant fields must be completed accurately.

Page: 1 of 1

1888167

Section A Required Client Information:

Company: Hart & Hickman PC
Address: 2923 S. Tryon St Suite 100
Email To: Jharriger@harthickman.com
Phone: 704-682-4544 Fax: NA
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Jharriger@harthickman.com
Copy To: dstreet@harthickman.com
Purchase Order No.:
Project Name: Aloha Mill
Project Number: AES-001

Section C Invoice Information:

Attention: Cynthia Wells
Company Name: H & H
Address:
Pace Quote Reference:
Pace Project Manager:
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☑ GROUND WATER ☐ DRINKING WATER
☐ UST ☐ RCRA ☐ OTHER

Site Location STATE: NC

Section D Required Client Information

Matrix Codes (MATRIX / CODE)

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID
(A-Z, 0-9 / ,-)
Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test ↓ Y/N	VOCs 8260B	Total Chromium 6010B	Total Copper 6010B	Hex Chrom 7196A	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-25R	WT	G			12/16/14	1300		5			1	3		1				X	X	X	X		001
2	MW-7iR	WT	G			12/16/14	1315		5			1	3		1				X	X	X	X		002
3	MW-1SR	WT	G			12/16/14	1330		5			1	3		1				X	X	X	X		003
4																								
5																								
6																								
7																								
8																								
9																								
10																								
11																								
12																								

9222982 3

Pace Project No./ Lab I.D.

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
		12/16/14	1417	P Lucas / PACE	12/16/14	1417	3.4	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER:

SIGNATURE of SAMPLER: DATE Signed (MM/DD/YY):

Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

*Important Note: By signing this form you are accepting Pace's NET 30 day payment terms and agreeing to late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Appendix C

Disposal of IDW Receipt From Receiving Facility

A&D Environmental Services — Bill of Lading / Material Manifest

A&D Job No:	Generator ID Number	Page 1 of	Emergency Response Phone	Tracking Number
73812		1	800-255-3924-MIS0007951	25680

Generator's Name and Mailing Address
Associated Estates
312 East 12th Street
Charlotte, NC 28203 USA
704-586-0007

Generator's site address (if different from mailing address)

Transporter 1 [X] 2 [ ] Company Name: **A&D Environmental Services, Inc.** — US EPA ID No: **NCD986232221**

Transporter 1 [ ] 2 [ ] Company Name: **A&D Environmental Services (SC), LLC** — US EPA ID No: **SCD987598331**

[X] Designated Facility	[ ] Designated Facility	[ ] Designated Facility	[ ] Designated Facility
A&D Environmental Services, Inc. 2718 Uwharrie Road Archdale, NC 27263 336-434-7750 NCD986232221	**A&D Environmental Services, Inc.** 3149 Lear Drive Burlington, NC 27215 336-229-0058 NCR000138628	**A&D Environmental Services (SC), LLC** 1741 Calks Ferry Road Lexington, SC 29073 803-957-9175 SCD987598331	**A&D Environmental Services (SC), LLC** 1321 White Horse Road, Suite C Greenville, SC 29605 864-234-6055

HM	Hazardous Materials Shipping Name and Description (if applicable)	No.	Type	QTY	Wt/Vol	Profile Number
	Non Regulated Material (IDW-Liquids)	1	DM	175	P	2014485

	Petroleum Products for Recycle		No.	Type	QTY	Wt/Vol	Profile Number
X	NA1993, Diesel fuel, 3, III	ERG# 128					
X	NA1993, Fuel oil (No.1,2,4,5 or 6), 3, III	ERG# 128					
X	UN1203, Gasoline, 3, II	ERG# 128					
	USED OIL (Not a USDOT Hazardous Material)						
	Petroleum Contact Water (Not a USDOT Hazardous Material)						

Universal Waste Lamps, Batteries, Ballasts, and Electronics for Recycle

HM	No.	Type	Est. Wt.	Count	Shipping Name and Description (if applicable)		Common Name	Discrepancy
X					RQ, UN2809, Mercury contained in manufactured articles, 8, III	ERG# 172	Mercury Containing Articles	
X					RQ, UN3432, Polychlorinated biphenyls, solid, 9, II	ERG# 171	TSCA Exempt PCB Lamp Ballasts	
X					UN2800, Batteries, wet, nonspillable, 8, III	ERG# 154	Sealed Lead Acid Batteries	
X					UN2794, Batteries, wet, filled with acid, 8, III	ERG# 154	Lead Acid Batteries	
X					UN2795, Batteries, wet, filled with alkali, 8, III	ERG# 154	Wet NiCad Batteries	
X					UN3090, Lithium batteries, 9, II	ERG# 138	Lithium Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	ERG# 154	Alkaline Batteries	
X					UN3028, Batteries, dry, containing potassium hydroxide solid, 8, III	ERG# 154	NiCad Batteries	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e)		Fluorescent lamps 4' or <	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e)		Fluorescent lamps 4'	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e)		Circular/U-tube lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e)		Compact Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e)		Shattershield	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e)		HID/MV/UV Lamps	
					Universal Waste Lamps (Not DOT-Regulated per 49 CFR 173.164(e)		Incandescent Lamps	
					Non-PCB Light Ballasts for Recycle (Not DOT-Regulated)		Non-PCB Light Ballasts	
					Electronic Equipment for Recycle (Not DOT-Regulated)		Electronics	

Generator's Certification: This is to certify that the above-named materials are properly classified, described, packaged, marked, and labeled, and are in proper condition for transportation according to the applicable regulations of the Department of Transportation. I further certify that none of the materials described above are a hazardous waste as defined by EPA 40CFR Part 261 or any applicable state law, and unless specifically identified above the materials contain less than 1,000 ppm total halogens and do not contain quantifiable levels (2ppm) of PCBs as defined by EPA 40 CFR Parts 279 and 761.

Generator's/Offeror's Printed/Typed Name	Signature	Month	Day	Year
Rachel Ryan / AEC AEM				
Transporter 1 Printed/Typed Name	**Signature**	**Month**	**Day**	**Year**
Tony Jeffries	Tony Jeffries	12	16	14
Transporter 2 Printed/Typed Name	**Signature**	**Month**	**Day**	**Year**

Discrepancy Indication / Additional Information:

Designated Facility Certification: I hereby acknowledge receipt of the materials covered by this manifest except for any discrepancy indicated above.

Printed/Typed Name	Signature	Month	Day	Year
Travis Capp	Travis Capp	12	29	14

DESIGNATED FACILITY TO GENERATOR