

(THIS NUMBER IS TO BE PUNCHED IN COLS. 3-6 ON ALL CARDS) **FILL IN THIS FORM COMPLETELY PLEASE TYPE** COUNTY NUMBER **13**

ST/CO USE ONLY DATE Received **MM DD YY 10 11 17** DATE WELL COMPLETED **MM DD YY 08 10 11** Depth of Well **22 320 26** PERMIT NO. FROM "PERMIT TO DRILL WELL" **OK 10/17/16 SC HO-15-0283**

OWNER **Whong Jason** WELL SITE ADDRESS **6289 Tufted Moss** TOWN **Columbia, MD 21045-4534** SUBDIVISION SECTION LOT **95**

**WELL LOG**  
Not required for driven wells

STATE THE KIND OF FORMATIONS PENETRATED, THEIR COLOR, DEPTH, THICKNESS AND IF WATER BEARING

DESCRIPTION (Use additional sheets if needed)	FEET		check if water bearing
	FROM	TO	
Silt, Trace of sand			
Trace of clay brown	0	15	
Weathered Rock	15	20	
Rock, hard Gray	20	320	✓
Water at 130'			
Installed 1.25" Closed Loop Geothermal			

**GROUTING RECORD**  YES  NO

WELL HAS BEEN GROUTED (Circle Appropriate Box) **Y** **N**

TYPE OF GROUTING MATERIAL (Circle one) CEMENT **CM** BENTONITE CLAY **BC**

NO. OF BAGS <sup>45 46</sup> **18** NO. OF POUNDS <sup>45 46</sup> **900**

GALLONS OF WATER **432**

DEPTH OF GROUT SEAL (to nearest foot) from **3** ft. to **320** ft. (enter 0 if from surface)

**CASING RECORD**

cases types insert appropriate code below

**ST** STEEL **CO** CONCRETE **PL** PLASTIC **OT** OTHER

MAIN CASING TYPE Nominal diameter top (main) casing (nearest inch) Total depth of main casing (nearest foot)

**60 61 63 64 66 70**

**OTHER CASING (if used)** diameter inch depth (feet) from to

**E A C H C A S I N G**

**SCREEN RECORD**

screen type or open hole insert appropriate code below

**ST** STEEL **BR** BRASS **HO** OPEN HOLE **PL** PLASTIC **OT** OTHER

**C 2** DEPTH (nearest ft.)

**DEPTH (nearest ft.)**

**E A C H S C R E E N**

SLOT SIZE 1 2 3

DIAMETER OF SCREEN (NEAREST INCH) from to

GRAVEL PACK IF WELL DRILLED WAS FLOWING WELL INSERT F IN BOX 68

MDE USE ONLY (NOT TO BE FILLED IN BY DRILLER)

T (E.R.O.S.) W Q

70 72 74 75 76

TELESCOPE CASING LOG INDICATOR OTHER DATA

**C 3** **PUMPING TEST**

HOURS PUMPED (nearest hour) **NIA**

PUMPING RATE (gal. per min.) **NIA**

METHOD USED TO MEASURE PUMPING RATE **NIA**

WATER LEVEL (distance from land surface) BEFORE PUMPING **70** ft. WHEN PUMPING **NIA** ft.

TYPE OF PUMP USED (for test) **A** air **P** piston **T** turbine **C** centrifugal **R** rotary **O** other (describe below) **J** jet **S** submersible

**PUMP INSTALLED**

DRILLER INSTALLED PUMP (CIRCLE) (YES or NO) YES  NO

IF DRILLER INSTALLS PUMP, THIS SECTION MUST BE COMPLETED FOR ALL WELLS.

TYPE OF PUMP INSTALLED PLACE (A,C,J,P,R,S,T,O) IN BOX 29

CAPACITY: GALLONS PER MINUTE (to nearest gallon) **NIA**

PUMP HORSE POWER **NIA**

PUMP COLUMN LENGTH (nearest ft.) **NIA**

CASING HEIGHT (circle appropriate box and enter casing height) **+** above **-** below **3** (nearest foot)

LATITUDE **39.196109**  
LONGITUDE **-76.848617**  
(DEFAULT COORD. WGS 84)

Pursuant to §10-624 of the State Govt. Article of the Maryland Code personal info. requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info. may result in this form not being processed. You have the right to inspect, amend, or correct this form. The Maryland Department of the Environment is subject to the Maryland Public Information Act. This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not protected by federal or state law.

B 1  
43397

SEQUENCE NO.  
(MDE USE ONLY)

STATE OF MARYLAND  
APPLICATION FOR PERMIT TO DRILL WELL  
558793 please type

STATE PERMIT NUMBER  
HO-15-0283  
fill in this form completely

Date Received (APA) 07/15/16  
OWNER INFORMATION  
8 MM DD YY 13  
15 Whong Jason  
Last Name Owner First Name 34  
36 6289 Tufted Moss  
Street or RFD 55  
57 Columbia MD 21045-4534  
Town State Zip 76

B 3 LOCATION OF WELL  
Howard County  
8 COUNTY 21  
23 SUBDIVISION 42  
SECTION 44 46 LOT 95 48 50  
Columbia  
52 NEAREST TOWN 71

DRILLER INFORMATION  
Jeff Corron M WD 567  
Driller's Name 76 License No. 81  
Chesapeake Geosystems, Inc.  
Firm Name  
6720 Fort Smallwood Rd Balt.  
Address  
Jeff Corron 7/8/16  
Signature Date

B 4 SOURCES OF DRILLING WATER  
1. municipal  
2.  
3.  
6289 Tufted Moss  
11 STREET ADDRESS 30  
ON WHICH SIDE OF ROAD  
(CIRCLE APPROPRIATE BOX)  
NORTH  
WEST 32 EAST  
SOUTH  
34 64 37  
DISTANCE FROM ROAD  
ENTER FT OR MI 38 39  
TAX MAP: 36 BLK: 21 PARCEL 357

B 2 WELL INFORMATION  
1 2 APPROX. PUMPING RATE N/A  
(GAL. PER MIN.) 8 12  
AVERAGE DAILY QUANTITY NEEDED N/A  
(GAL. PER DAY) 14 20

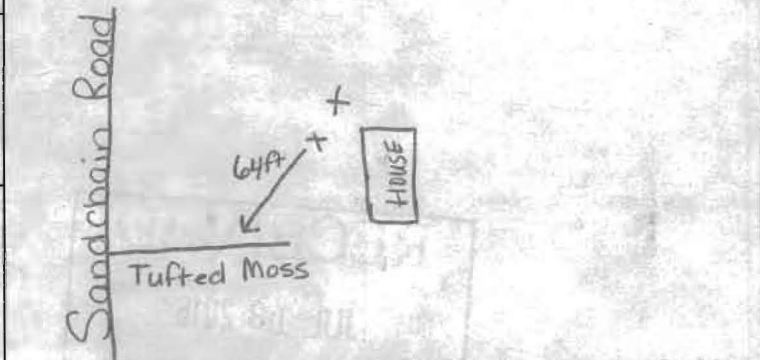
USE FOR WATER (CIRCLE APPROPRIATE BOX)  
D DOMESTIC POTABLE SUPPLY & RESIDENTIAL IRRIGATION  
F FARMING (LIVESTOCK WATERING & AGRICULTURAL IRRIGATION)  
22 I INDUSTRIAL, COMMERCIAL, DEWATERING  
P PUBLIC WATER SUPPLY WELL  
T TEST, OBSERVATION, MONITORING  
O OPEN LOOP GEOTHERMAL  
C CLOSED LOOP GEOTHERMAL

NOT TO BE FILLED IN BY DRILLER  
HEALTH DEPARTMENT APPROVAL  
Howard 13  
COUNTY NAME COUNTY NO.  
STATE SIGNATURE INSERT S → 41  
DATE ISSUED 7/27/16  
43 MM DD YY 48 CO SIGNATURE EXP. DATE

APPROXIMATE DEPTH OF WELL 320 FEET  
24 28  
APPROXIMATE DIAMETER OF WELL 6 INCH  
NEAREST INCH

PROPOSED LOCATION OF WELL ON LOT  
SHOW PERMANENT STRUCTURES SUCH AS BUILDINGS, SEPTIC SYSTEM,  
ROADS AND/OR LANDMARKS AND INDICATE NOT LESS THAN TWO  
DISTANCE MEASUREMENTS TO WELL

METHOD OF DRILLING (circle one)  
BORED (or Augered) JETTED Jetted & DRIVEN  
30 AIR-ROTary AIR-PERCussion ROTARY (Hydraulic Rotary)  
37 CABLE REVerse-ROTary DRive-POINT  
other



REPLACEMENT OR DEEPEMED WELLS  
(CIRCLE APPROPRIATE BOX)  
N THIS WELL WILL NOT REPLACE AN EXISTING WELL  
Y THIS WELL WILL REPLACE A WELL THAT WILL BE ABANDONED AND SEALED  
39 S THIS WELL WILL REPLACE A WELL THAT WILL BE USED AS A STANDBY-CONTACT LOCAL APPROVING AUTHORITY FOR POLICY ON STANDBY WELLS  
D THIS WELL WILL DEEPEMED AN EXISTING WELL  
PERMIT NUMBER OF WELL TO BE REPLACED OR DEEPEMED (IF AVAILABLE) 41 52

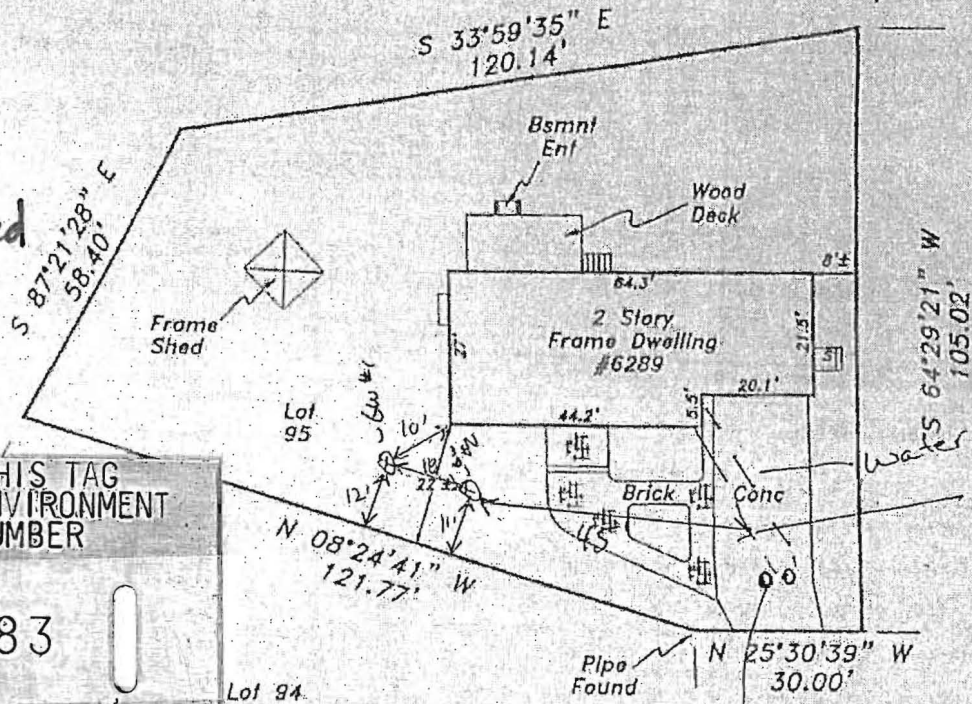
Not to be filled in by driller (MDE OR COUNTY USE ONLY)  
APPROX. PERMIT NUMBER G  
PERMIT No. HO-15-0283  
70 71 72 73 74 75 76 77 78 79

Pursuant to § 10-624 of the State Govt. Article of the Maryland Code, personal info requested on this form is used in processing this form pursuant to COMAR 26.04.04. Failure to provide the info may result in this form not being processed. You have the right to inspect, amend, or correct this form. The Maryland Department of the Environment is subject to the Maryland Public Information Act. This form may be made available on the Internet via MDE's website and is subject to inspection or copying, in whole or in part, by the public and other governmental agencies, if not protected by federal or State Law.

SPECIAL CONDITIONS  
NOTE APPROVING AUTHORITIES SHOULD USE SEPARATE SHEET IF NEEDED-  
SEE ATTACHED MEMO 39.196109 - 76.848617

Open Space  
Lot 270

Well sites approved  
7/27/16 SC



DO NOT REMOVE THIS TAG  
DEPARTMENT OF THE ENVIRONMENT  
WELL PERMIT NUMBER

HO-15-0283

INFORMATION: GIVE NUMBER AND WRITE  
1800 WASHINGTON BLVD  
BALTIMORE MARYLAND. 21230

purpose of this drawing is to locate, describe, and represent the  
locations of buildings and substantial improvements affecting the  
property shown hereon, being known as:

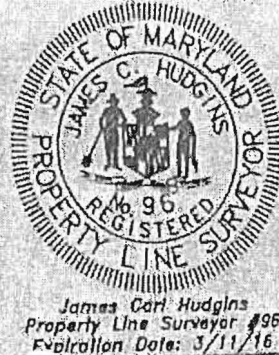
Lot 95, Section 7, Area 1, COLUMBIA  
VILLAGE OF OWEN BROWN

as shown among the land records of Howard County, Maryland in  
Book 23 Plot 26

PREPARED FOR:

**CREATER**  
**MARYLAND TITLE, LLC**  
An Affiliate of Title Alliance, Ltd.  
16250 E. ...

This is page one of a two  
page document. The advice  
found on the affixed page  
is an integral part of this  
drawing, and is not valid  
without all pages.



LOCATION DRAWING

6289 Tufted Moss

16th ELECTION DISTRICT

HOWARD COUNTY, MARYLAND

NTT Associates, Inc.

16205 Old Frederick Rd.

Mt. Airy, Maryland 21771

Phone: (410) 442-2031

Fax: (410) 442-1315

www.nftsurveyors.com

Scale: 1" = 30'

Date: 1-14-16

Field By: DR

Drawn By: DR

File No.: 652-000600

Page No.: 1 of 2

# WELL SCHEMATIC FORM

**PERMANENT OUTER CASING (if area contaminated)**

MATERIAL \_\_\_\_\_  
 DIAMETER N/A  
 LENGTH \_\_\_\_\_  
 DEPTH INTO CONFINING UNIT \_\_\_\_\_

**TUBE CASING (if not regular, single loop)**

ATTACH HORIZONTAL SCHEMATIC \_\_\_\_\_  
 NUMBER OF TUBES PER BOREHOLE 2  
 DIAMETER OF TUBES 1.25"  
 MATERIAL HDPE  
 SHAPE AND LENGTH \_\_\_\_\_  
 TUBE CONNECTION METHOD Fusion  
 TUBE CONNECTION MATERIAL HDPE

**LOOP PIPE CASING (regular, single loop)**

MATERIAL HDPE? YES  NO   
 DIAMETER 1.25"  
 LENGTH 320'

**GROUT**

MATERIAL Thermap / Bentonite  
 PERMEABILITY ~~400~~ 1x10<sup>-8</sup>  
 WATER / GROUT RATIO 24 / 50  
 PERCENT SOLIDS 20  
 TREMIE GROUTED FROM BOTTOM OF BOREHOLE? YES  NO   
 USING A POSITIVE DISPLACEMENT PUMP? YES  NO

DEPTH TO THE BOTTOM OF HOLE 320  
 DIAMETER OF BOREHOLE 6

WELL ADDRESS: 6289  
Talferd Moss  
Columbia MD

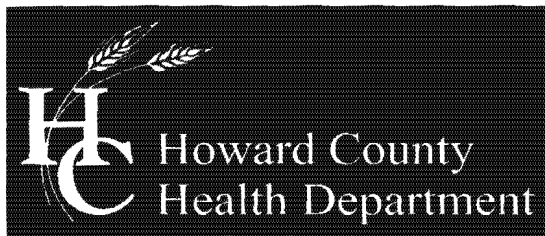
LOT NUMBER: \_\_\_\_\_  
 SQUARE NUMBER: \_\_\_\_\_

WELL OWNER: Jason Whong

OWNER ADDRESS: 6289 Talferd  
Moss  
Columbia Md

\_\_\_\_\_

\_\_\_\_\_



**Bureau of Environmental Health**

8930 Stanford Blvd, Columbia, MD 21045  
Main: 410-313-2640 | Fax: 410-313-2648  
TDD 410-313-2323 | Toll Free 1-866-313-6300  
[www.hchealth.org](http://www.hchealth.org)

**Maura J. Rossman, M.D., Health Officer**

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***MEMORANDUM***

DATE: July 27, 2016

TO: Chesapeake Geosystems, Inc.  
Jeff Corron (MWD 567)

FROM: Sarah Collins, L.E.H.S. SEC  
Howard County Health Department

RE: 6289 Tufted Moss geothermal wells

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The proposed geothermal wells at 6289 Tufted Moss are very close to and uphill of a stream. Drill cuttings must be contained on site via silt fence; any discharge to the stream may require a discharge permit from Maryland Department of the Environment.

Cc: File





**Maryland Department of Environment**  
**Water Management Administration**  
**Compliance Program - Western Division**  
**91 Eastern Blvd N, Hagerstown, MD 21740**  
**301-665-2850**

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**AI ID:** 1000201296 (temporary ID) **Inspector:** Punam Tyagi

**Site Name:** PAF 17-3018 / Chesapeake Geosystems  
**Facility Address:** 6289 Tufted Moss, Columbia, MD 21045  
**County:** Howard County

**Inspection Date:** August 10, 2016 **Start Date/Time:** August 10, 2016, 09:00 AM  
**End Date /Time:** August 10, 2016, 11:30 AM

**Media Type(s):** NPDES Industrial Minor Surface Water

**Contact(s):** Pam Cassidy- Resident at 6289 Tufted Moss property

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**NPDES Industrial Minor Surface Water**

**PAF Number:** PAF 17-3018

**Site Status:** Active - No work today

**Site Condition:** Noncompliance

**Recommended Action:** Continue Routine Investigation

**Inspection Reason:** PAF

**Evidence Collected:**

Photos/Videos Taken, Visual Observation

**Inspection Findings:**

A NPDES industrial surface water complaint investigation was conducted in response to a complaint that Chesapeake Geosystems drilled two geothermal wells at above location and allowed the drill cuttings to enter into the stream, tributary to Little Patuxent River, Waters of the State. I met Mrs. Cassidy at the site and explained the reason of my visit. She explained that the property owners are not at home. Upon approval I conducted the complaint investigation. Site is active but no drilling work noticed during the investigation today. Weather was dry and warm today.

With respect to the above NPDES inspection for construction activity following violations of Environment Article Title 9 were observed by **Chesapeake Geosystems (Contractor)** on this date:

1. Drill cuttings leaving the site and entering into the waters of the state at above location. Deposition of mud/drill fluid noticed into the stream, tributary to Little Patuxent River, Waters of the State at above location.
2. Silt fence was not installed as per the MD Standard & Specifications for Soil Erosion and Sediment Control 2011. Silt fence was not trenched into the ground. Waste material was

Inspection Date: August 10, 2016  
 Site Name: PAF 17-3018 / Chesapeake Geosystems  
 Facility Address: 6289 Tufted Moss, Columbia, MD 21045

noticed outside the silt-fence [*Sediments left in a position likely to pollute the waters of the state.*].

3. Silt fence installed around the drilled wells was overloaded with mud/drilled fluid.

To achieve compliance with Environmental Article 9 following corrections should be implemented immediately.

Permittee is responsible to prepare the site so as to prevent pollution from entering waters of the State:

- Repair the silt-fence and install in accordance with MD Standard & Specifications for Soil Erosion and Sediment Control 2011
- Place a semi circle soil berm with stone outlet structure down slope of the construction activity. If the outlet discharges to surface water, then a separate discharge permit is required.
- Clean/remove the drill cuttings, mud, drill fluid from the stream and outside the outside the silt fence.

NOTE: This is notify, , that the discharge of drill cutting and/or drilling fluids is a violation of Environment Article, (EA), 9-322, unless a permit is obtained for the discharge.

**NOTICE!! THIS INSPECTION REPORT SERVES AS OFFICIAL NOTICE, ADVISEMENT, WARNING, TO THE “Chesapeake Geosystems” THAT: IT IS A VIOLATION OF MD SEDIMENT POLLUTION LAW, TITLE-4 ENVIRONMENT, AND MD POLLUTION LAW, TITLE-9 ENVIRONMENT, TO DISCHARGE DRILLING FLUIDS, SEDIMENT-LADEN WATER, DISCOLORED WATER, TURBID WATER, MUDDY WATER, ETC., THAT CAUSES A VISUAL IMPACT OR COLOR CHANGE, OR ADDS SEDIMENT TO RECEIVING SURFACE WATERS OF THE STATE, EVEN IF SEDIMENT CONTROLS WERE USED. IN THE EVENT OF A DEWATERING OPERATION USING SEDIMENT CONTROLS, WHICH RESULT IN A VISUAL IMPACT TO THE RECEIVING WATERWAY, ADDITIONAL MEASURES SHOULD BE IMPLEMENTED SUFFICIENT TO CLARIFY THE DISCHARGE AND NOT CAUSE A VISUAL IMPACT OR ADD SEDIMENT TO THE WATERWAY, OR THE DEWATERING/PUMPING OPERATION SHOULD STOP. \*\*\*\***

A copy of the inspection report will be mailed to the responsible parties on my next office day. Investigation will continue. If you have any questions regarding the report please contact me @301-665-2893.

### NPDES Industrial Minor Surface Water- Inspection Checklist

<i>Inspection Item</i>	<i>Status</i>	<i>Comments</i>
1. Does the facility have a discharge permit? [Environment Article §9-323a(1-3)]	Not Applicable	
2. Is the discharge permit current? Has facility applied for renewal? [Environment Article §9-328a(1)]	Not Applicable	
3. Is the facility as described in the current permit? Are treatment processes as described in the current permit? [COMAR 26.08.04.01.01B(4)]	Not Applicable	

Inspection Date: August 10, 2016  
 Site Name: PAF 17-3018 / Chesapeake Geosystems  
 Facility Address: 6289 Tufted Moss, Columbia, MD 21045

**NPDES Industrial Minor Surface Water- Inspection Checklist**

<b>Inspection Item</b>	<b>Status</b>	<b>Comments</b>
4. Has notification been submitted about any new, different or increased discharges? [40 CFR Part 122 Subpart C Section 122.42.b(1-3)]	Not Applicable	
5. Is the number and location of discharge points as described in the discharge permit? [Environment Article §9-3314]	Not Applicable	
6. Has permittee submitted correct name and address of receiving waters? [40 CFR 122.21.j(3)]	Not Applicable	
7. Is the permittee meeting the compliance schedule per permit requirements? [COMAR 26.08.04.02-1.02-1A(3)]	Not Applicable	
8. Has the operator or superintendent been certified by the Board in the appropriate classification for the facility? [COMAR 26.06.01.05A(1)]	Not Applicable	
9. Are adequate records being maintained for the sampling date, time, and exact location; analysis dates and times; individual performing analysis; and analytical results? [COMAR 26.08.04.03.03B(3)(a, b, c, e)]	Not Applicable	
10. Are adequate records being maintained for the analytical methods/techniques used? [COMAR 26.08.04.03.03B(3)(d)]	Not Applicable	
11. Does the permittee retained a minimum of 3 years worth of monitoring records including raw data and original strip chart recordings; calibration and maintenance records; and reports? [COMAR 26.08.04.03.03B(1)]	Not Applicable	
12. Is the lab and monitoring equipment being properly calibrated and maintained? Are they keeping records to reflect this? [Environment Article §9-3313]	Not Applicable	
13. Is laboratory controls and appropriate quality assurance procedures properly operated and maintained? [40 CFR Part 122 Subpart C Section 122.41.e]	Not Applicable	
14. Has the permittee submitted the monitoring results on the proper Discharge Monitoring Report form? [COMAR 26.08.04.03.03C(1)]	Not Applicable	
15. Has the permittee submitted these results within the allotted time? [COMAR 26.08.04.03.03C(2)]	Not Applicable	
16. Are discharge monitoring reports complete and reflect permit conditions? [COMAR 26.08.04.03B(3)]	Not Applicable	
17. Is the facility being properly operated and maintained including:(a) stand-by power or equivalent provisions available, (b) adequate alarm system for power or equipment failure available, (c) all treatments units are in service, . [40 CFR Part 122 Subpart C Section 122.41.e]	Not Applicable	
18. Is sewage sludge managed correctly per permit requirements? [COMAR 26.04.06.03.03]	Not Applicable	
19. Any by-pass since last inspection? Has permittee submitted notice of any by-pass? [40 CFR Part 122 Subpart C Section 122.41.m(4)(i)(C)]	Not Applicable	
20. Any non-complying discharges experienced since last inspection? Has regulatory agency been notified? [40 CFR Part 122 Subpart C Section 122.41.l(6)]	Not Applicable	
21. Have overflows occurred since the last inspection? [COMAR 26.08.10.02A]	Not Applicable	
22. Has records of overflows been maintained at the facility for at least five years? [COMAR 26.08.10.06A-B]	Not Applicable	
23. Are flow measuring devices properly installed and operated, calibration frequency of flow meter adequate, flow measurement equipment adequate to handle expected ranges of flow? [40 CFR Part 122 Subpart C Section 122.41.e]	Not Applicable	

Inspection Date: August 10, 2016  
 Site Name: PAF 17-3018 / Chesapeake Geosystems  
 Facility Address: 6289 Tufted Moss, Columbia, MD 21045

**NPDES Industrial Minor Surface Water- Inspection Checklist**

<i>Inspection Item</i>	<i>Status</i>	<i>Comments</i>
24. Are discharge monitoring points adequate for representative sampling? Do parameters and sampling frequency meet the minimum requirements? Does the permittee use the method of sample collection required by the permit? [Environment Article §9-331(4)]	Not Applicable	
25. Are analytical testing procedures approved by EPA? If alternate analytical procedures are used, proper approval has been obtained? [COMAR 26.08.01.02B(1)]	Not Applicable	
26. Has the permittee notified the Department of the name and address of the commercial laboratory? [COMAR 26.08.04.03.03A(3)]	Not Applicable	
27. Were discharges observed at the authorized outfalls? Does the facility have any unauthorized discharges to waters of the State? [Environment Article §9-322]	Out of Compliance	refer to FIR
28. Does the discharges or receiving waters have any visible pollutants (oil sheen, grease, turbidity, foam, floating solids, color), odor, noncompliant DO concentrations, and/or noncompliant temperature ranges? [Environment Article §9-314b(1)]	Out of Compliance	refer to FIR
29. Were discharge samples collected? [Environment Article §9-261c(1)]	Not Applicable	
30. Is the facility required to have a storm water pollution prevention plan? Has storm water pollution prevention plan been developed and implemented as required? Does storm water pollution prevention plan require modifications to prevent runoff of pollutants? [40 CFR Part 122 Subpart B Section 122.26.c(1)(I)(A-B)]	Not Applicable	
31. Are the permit conditions being met? [Environment Article §9-326a(1)]	Not Applicable	

Inspector: Punam Tyagi 8/10/16  
 Punam Tyagi/Date  
 punam.tyagi@maryland.gov  
 301-665-2893

Received by: \_\_\_\_\_  
 Signature/Date

\_\_\_\_\_  
 Print Name

Report Provided to: \_\_\_\_\_  
 Fax  
 Email  
 Regular Mail  
 Certified Mail