



Maryland

Department of the Environment

Larry Hogan, Governor
Boyd K. Rutherford, Lt. Governor

Ben Grumbles, Secretary
Horacio Tablada, Deputy Secretary

October 25, 2019

Mr. Steve Fleischman
National Waste Managers, Inc.
2900 Linden Lane, Suite 300
Silver Spring, Maryland 20910

Dear Mr. Fleischman:

On August 8, 2019, the Maryland Department of the Environment (MDE) received the revised Phase II Geologic and Hydrogeologic Report (Report) in response to our comments dated June 19, 2019, for the proposed Chesapeake Terrace Rubble Landfill. The response and the revised Report were prepared and submitted on your behalf by Advanced Geoservices.

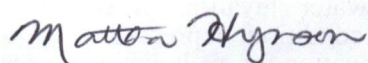
MDE has completed its review of the revised Report. In order for MDE to consider the Report complete, the following deficiencies in the revised Report must be fully addressed and submitted to us for review and approval:

1. Section 5 Site Hydrogeology must discuss the underlying formations in detail and the relationship to the local and regional hydrologic patterns, including identification of all confining and semi confining layers, and aquifer depths, and showing lithology layers below the proposed landfill, as required under the Code of Maryland Regulations (COMAR) 26.04.07.15A(2).
2. Section 5.1 of the Report on page 5-1 divides the site into four hydrogeologic areas. Hydrogeologic Area A is underlain by at least 50 feet of permeable sand below the cell floor, Hydrogeologic Area B is underlain by a clay subsurface, Hydrogeologic Area TA transitions from clay in Area B to the sandy deposits in Area A, and Hydrogeologic Area TB transitions from thick to thinner clay. However, under Section 9.1.3 Consolidation and Unconfined Compressive Strength Testing, you have stated "the high density of the clay as well as the depth and drilling method under Areas A, TA, and TB made it impossible to advance Shelby tubes. There was almost no penetration before the tubes collapsed". The statement made in Section 9.1.3 does not match with the description of the hydrogeologic areas presented under Section 5.1. Please properly evaluate the hydrogeologic areas of the proposed landfill site and the consolidation testing results.
3. The groundwater contour maps included in the Report combined the highest observed/predicted, depressed, and elevated groundwater elevations on a single map, making them difficult to read. Also, different color designations were used on the maps to show the same thing, makes it difficult and confusing to understand. Please note COMAR 26.04.07.15A(4) requires three separate groundwater contour maps to show the occurrence and direction of groundwater flow beneath the site superimposed on the current topographic map. The maps must be constructed from a set of water elevations measured or predicted during the month that represents the most elevated groundwater condition, depressed groundwater condition, and highest observed or predicted groundwater elevation for each distinct water bearing formation occurring within 50 feet of the anticipated lowest elevation of the refuse cell floor using the monthly groundwater elevation data collected from piezometers on the site over a period of not less than 12 months. All hydrogeologic areas must be depicted on each single groundwater contour map, showing how groundwater flows between the different hydrogeologic areas. Also, when generating these maps, be consistent with the contour colors used for each map depicting the highest predicted, depressed, and elevated conditions.
4. Figures 13 and 16 through 18 show a surficial pond on Area TA labeled as "W.L. 111.51", and monitoring well MW-25 is depicted inside the surficial pond. What is the purpose for the surficial pond on maps depicting groundwater elevations?

5. The water level readings that are flagged do not have any documented support to remove the readings from the record. MDE had stressed the importance of clarifying discrepancies within previous Phase II reports and will not dismiss data without verifiable justification. MDE's Comment No.10 remains unaddressed. If you choose to attempt to further document the readings, you must also clarify whether there are two erroneous readings for MW-16 as noted in Section 4.2.3 or one, as highlighted in Table 4B.
6. The footnotes for Table 3 do not explain the different colors used within the table. Additionally, most of the alpha-numerical footnotes listed are not within the table. The table should be revised as necessary.
7. The characterization of groundwater quality conditions is not adequate. All laboratory data and field forms for the 4 quarters of sampling must be submitted within the Report. As indicated in Table 8E, several wells returned elevated turbidity (>1000 NTU), including wells that were reported to have Maximum Contaminant Level exceedances. The effect of turbidity and whether the concentrations are representative of groundwater conditions should be further evaluated. You must consider whether the turbidity has caused falsely high inorganic values as part of the baseline data. In regards to volatile organic compounds (VOCs), Section 6.4 states "the VOCs were all non-detected." Then the table on page 6-6 lists 9 additional VOCs that were detected. The Report must provide an explanation for the presence and prevalence of the detected VOCs, even if the detections are at low levels. Additionally, the acetone detections throughout the 4 quarters in well MW-15 were 100 ug/L, 1000 ug/L, non-detect, and 130 ug/L. MW-14 detected acetone at non-detect, 110 ug/L, 1700 ug/L, and 130 ug/L. The Report does not identify whether there is a significant source of acetone or explain the variation in concentrations. Any demonstration of sampler or laboratory error must be supported by documentation. If a well is believed to be compromised by surface water intrusion, age, or trespassers, the well should be evaluated for replacement. MDE also recommends additional measures as necessary to further secure the site from trespassers to prevent tampering and ensure the data collected is representative of groundwater conditions. This information is important to establish as you will be required to demonstrate how the monitoring network will be able to detect a release from the landfill if prior contamination exists on the site. If you cannot provide further discussion and support of the groundwater quality data presented in this Report, additional groundwater quality data will be required to accurately assess the groundwater conditions of the site.
8. Section 6.2.2 of the Report states the field forms for the September 2013 events have been lost, but January 2014 is the only quarterly event included for field data in Table 8E. Table 8E should be revised to include the additional sampling events. Also, the groundwater quality data was not reformatted as requested in MDE's Comment No. 7. Please see the attached examples of acceptable formatting for time-series groundwater data.
9. The wetland delineation report and all approvals received from the Army Corps of Engineers and MDE's Nontidal Wetland Division must be included in the revised Phase II Report.

If you have any questions regarding these comments, please contact Mr. Samuel Ogbogu at (410) 537-3315 or samuel.ogbogu@maryland.gov.

Sincerely,



Martha Hynson, Chief
Solid Waste Operations Division

Enclosure

cc: Veronica E. Foster, P.E. Advanced Geoservices
Brian Coblentz, Chief, Compliance Division, Land and Materials Administration (LMA)
Kaley Laleker, Director, LMA
Kassa Kebede, Section Head, Solid Waste Operations Division, LMA
Samuel Ogbogu, Project Manager, Solid Waste Operations Division, LMA

Times Series Format Examples

B13	Iron
4/15/2011	0.53
7/18/2011	0.61
10/17/2011	0.86
1/6/2012	0.65
4/23/2012	0.36
7/25/2012	0.38
10/9/2012	0.50
1/9/2013	0.72
5/17/2013	0.42
7/15/2013	0.98
10/11/2013	0.89
1/10/2014	0.65
4/7/2014	0.58
7/30/2014	0.05
10/13/2014	0.88
1/16/2015	0.05
4/10/2015	0.14
8/24/2015	0.24
11/10/2015	0.05
1/28/2016	0.41
4/13/2016	0.18
7/19/2016	0.41
10/5/2016	0.55
1/25/2017	0.95

B13	1/1/2015	4/1/2015	8/1/2015	11/15/2015	1/1/2016	4/1/2016
Iron	0.64	0.14	0.09	0.96	0.19	0.54
Chloride	0.55	0.17	0.19	0.48	0.80	0.26
TDS	0.55	0.43	0.07	0.78	0.86	0.33