



# Florida Department of Environmental Protection

Central District  
3319 Maguire Boulevard, Suite 232  
Orlando, Florida 32803-3767

Charlie Crist  
Governor

Jeff Kottkamp  
Lt. Governor

Mimi Drew  
Secretary

## VIA ELECTRONIC MAIL

[Imarion@co.volusia.fl.us](mailto:Imarion@co.volusia.fl.us)

Mr. Leonard Marion  
Volusia County Solid Waste Services  
3151 East State Road 44  
Deland, FL 32724-6409

OCD-SW-10-0569

Volusia County – SW  
Tomoka Farms Road Landfill  
Review of Evaluation Monitoring Plan and Related Documents

Dear Mr. Marion:

HDR submitted the following documents on your behalf:

Report	Report Date	Signed and Sealed Date	DEP Received Date
Benzene Contamination Evaluation Plan	4/22/2010	4/21/2010	4/23/2010
Ammonia Contamination Evaluation Plan	9/29/2010	9/30/2010	10/01/2010

The Department's detailed review comments are in Attachments I and II. Additional Comments are provided in Attachment III. All three attachments describe actions that must be accomplished.

- 1) A combined Benzene and Ammonia Contamination Evaluation Report (CER) shall be submitted within 120 days from receipt of this letter. The following actions are part of that submittal:
  - a) Install and sample the proposed Benzene and Ammonia delineation wells.
  - b) Conduct a potable well survey.
- 2) Within 30 days, provide a site plan with the target locations of each of the proposed Benzene and Ammonia delineation wells.
- 3) Within 30 days provide a response to Attachment III, Item 4.
- 4) Within 30 days provide a response to Attachment III, Item 5.

Mr. Leonard Marion  
OCD-SW-10-0569  
Page #2

You can contact Marjorie Heidorn by e-mail at [marjorie.heidorn@dep.state.fl.us](mailto:marjorie.heidorn@dep.state.fl.us) or phone at (407) 893-3320 with questions about this letter.

Sincerely,



---

F. Thomas Lubozynski, P.E.  
Waste Program Administrator

Date: December 8, 2010

FTL/mh

Attachment:

- I. Review Comments on Benzene Contamination Evaluation Plan
- II. Review Comments on Ammonia Contamination Evaluation Plan
- III. Additional Comments

cc:

Jennifer Stirk [jstirk@co.volusia.fl.us](mailto:jstirk@co.volusia.fl.us)

Chet Purves [cpurves@co.volusia.fl.us](mailto:cpurves@co.volusia.fl.us)

Pat McCormack, Volusia County, [pmccormack@co.volusia.fl.us](mailto:pmccormack@co.volusia.fl.us)

John Locklear, HDR, [john.locklear@hdrinc.com](mailto:john.locklear@hdrinc.com)

**Attachment I: Review Comments on Benzene Contamination Evaluation Plan (CEP)  
submittal dated April 22, 2010**

CEP text is in quotes and *italic type* and DEP comments are in standard type:

**Benzene CEP Conclusions (on page 2)**

1. The Department agrees with the following conclusions regarding Benzene:
  - a. *“Benzene concentrations above the GCTL extend beyond the current Zone of Discharge (ZOD) based on the location of B45-1 at the edge of the ZOD.”*
  - b. *“The horizontal and vertical extent of contamination In the vicinity of B45-1 has not been defined.”*
  - c. *“Delineation monitoring wells are not warranted in the vicinity of B41-1, B43-1 and B45-2 as the Benzene concentrations have been decreasing and are currently at or below the GCTL.”*
  - d. *“Once the extent of contamination in the area of B45-1 has been defined, the facility may qualify for an expanded ZOD ...”*

DEP Comment: The extent of the contamination is not yet defined. Once defined, the Department will consider whether it is appropriate to allow for an expanded ZOD.

2. The Department is not convinced that the following conclusion has been proven. *“The lined landfills are not the source of the Benzene contamination based on the lack of Benzene concentrations above the MDL in all leachate samples.”*

DEP Comments:

The lined (and unlined) landfills may not be the source of the Benzene, but that conclusion cannot be based on the lack of Benzene concentrations above the minimum detection level (MDL) in the leachate samples.

The only MDL (10 ug/L) in Table 2 of the Benzene CEP for 2009-2010 is higher than the benzene concentrations measured in the monitoring wells for the same time period. Therefore, the Benzene MDL in the leachate was not low enough to firmly establish that the lined landfills are not the source of benzene contamination.

The only bottom “lined landfill” at the facility is the North Cell. Besides the North Cell were you referring to other cells or waste disposal areas? Did you use the term “lined landfills” to specifically exclude certain areas from your conclusion? If so, please identify those specific waste disposal or handling areas.

If the “lined landfills” are not the source, discuss what you believe is the source. Include in the discussion all areas considered. The Household Hazardous Waste area in the vicinity of B45-1 must be included.

3. The Department is not convinced that the following conclusion has been proven. *“The Benzene concentrations at B45-1 likely pose no threat to human health or safety due to the extremely long travel time required for the groundwater to reach the property boundary nearly 1800 feet downgradient.”*

**Benzene CEP Recommendations (on page 4)**

4. The Department agrees with the following recommendations regarding Benzene:
  - a. *“A horizontal delineation well should be installed in Zone 4 approximately 100 feet downgradient of B45-1 to define the extent of Benzene contamination in this area.”*

- b. *“A vertical delineation well should be installed in Zone 6 in cluster with B45-1 to define the vertical extent of Benzene contamination in this area.”*
5. The two new Benzene wells shall have the following names and WACS numbers:

<b>MW Testsite Name</b>	<b>WACS #</b>	<b>Location of MW</b>	<b>Zone</b>	<b>ADaPT Report Type for Initial Sample</b>
B76-1	27333	100 feet downgradient of B45-1 for horizontal delineation	4	ASSMT
B77	27334	Vertical delineation at B45-1	6	ASSMT

**Attachment II: Review comments on Ammonia Contamination Evaluation Plan (CEP) submittal dated September 29, 2010**

CEP text is in quotes and *italic type* and DEP comments are in standard type:

**Ammonia (CEP) Conclusions (pages 5 and 6)**

1. The Department agrees with the following conclusions regarding Ammonia:
  - a. *“The unlined landfill appears to be the source of the elevated Ammonia concentrations based on the presence of elevated leachate indicator parameters in groundwater samples collected from the impacted wells.”*
  - b. *“Ammonia concentrations above the GCTL extend beyond the current Zone of Discharge (ZOD).”*
  - c. *“Delineation in the vicinity of B1, B1-B, and B41-1 appears warranted.”*
  - d. *“Delineation monitoring wells are not warranted in the vicinity of B75, B40-2, B33-2, B38-2, B35-2, B59-1, B2, B37-1, B68, and M05-B as the Ammonia concentrations have been decreasing and are currently below the GCTL.”*
  - e. *“Delineation is also not warranted in the vicinity of B43-1 as Ammonia concentrations have been decreasing and are currently only slightly above the GCTL.”*
2. The Department does not agree with the following conclusion. *“Also, monitoring well B64 is located upgradient of the Class III landfill. Installing a horizontal delineation monitoring well to the south (upgradient) does not appear warranted based on groundwater flow direction.”*

DEP Comment:

The ground water in the vicinity of B-64 needs to be evaluated for Ammonia, both horizontally and vertically. While the Department is not objecting to the ground water contour maps at this time, the Department does not agree that the direction of ground water flow has been proven in the area of B-64. Also, the Industrial Waste Outfall location for leachate (as shown on the Site Map for NPDES Permit # FL0037877 Renewal May 2010) to G-001 is upgradient of B-64. This could affect the ground water quality in the area.

The Department shall require Evaluation Monitoring for Ammonia at B-64.

**Ammonia CEP Recommendations (pages 6 and 7)**

3. The Department agrees with the following recommendations regarding Ammonia:
  - a. *“A horizontal delineation well should be installed in Zone 4 approximately 100 feet downgradient of B1-B to define the extent of Ammonia contamination in this area.”*
  - b. *“A horizontal delineation well should be installed in Zone 4 approximately 100 feet downgradient of B41-1 to define the extent of Ammonia contamination in this area.”*

4. The 4 new wells for Ammonia (two proposed wells plus the 2 delineation wells for B64 noted above) shall have the following names and WACS numbers:

<b>MW Testsite Name</b>	<b>WACS #</b>	<b>Location of MW</b>	<b>Zone</b>	<b>ADaPT Report Type for Initial Sample</b>
B78-1	27349	100' Downgradient of B1-B for horizontal delineation	4	ASSMT
B79-1	27350	100' Downgradient of B41-1 for horizontal delineation	4	ASSMT
B80-2	27360	South of B64 for horizontal delineation	1-2	ASSMT
B81-4	27359	B64 cluster Zone 4 for vertical delineation	4	ASSMT

**Attachment III: Additional Comments**

1. Within 30 days, provide a site plan with an outline of the target locations of each of the proposed Benzene and Ammonia delineation wells.
2. After the locations have been approved and the wells installed, the next quarterly sampling event must include:
  - a. The six new wells sampled for the following parameters:

<b>Field Parameters</b>	<b>Laboratory Parameters</b>
1. Static water level in wells before purging	1. Chlorides
2. Dissolved oxygen	2. Iron
3. pH	3. Sodium
4. Specific conductivity	4. Nitrate
5. Temperature	5. Total ammonia as N
6. Turbidity	6. Total Dissolved Solids
7. Colors and sheens (by observation)	7. Those parameters listed in 40 CFR Part 258 Appendix II

- b. The affected wells (B-41-1, B43,-1, B-45-1, B-45-2, B1-B, and B-64) shall be sampled for the current quarterly parameters.
    - c. The February and August quarterly sampling in the ammonia wells not named in III.2.a. above can stop. (See Table1 below.) Semi-annual sampling must continue.
    - d. All sampling and analytical data shall be submitted in acceptable ADaPT format per Condition #32 of the MPIS.
  3. A combined Benzene and Ammonia Contamination Evaluation Report (CER) shall be prepared in accordance with Rule 62-701.510(7)(a)4, F.A.C. The report will include an evaluation of the criteria and applicability of Rule 62-520.465(2)(b), F.A.C.
    - a. The activities proposed herein will be completed and the CER submitted within 120 days from receipt of this letter.
    - b. Include a potable well survey as was recommended in both CEP reports.
  4. For the Evaluation Monitoring sampling events, the Department must have a successful ADaPT submittal to Tallahassee for an ADaPT Report and upload into WACS. The Department does not have any record of the following:
    - a. A successful ADaPT submittal for November 2009 sampling event. (The Department records note that the ADaPT electronic submittal was withdrawn 2/19/2010.) Please provide a successful submittal including Appendix II data.
    - b. ADaPT submittals for any quarterly sampling in February 2010 and August 2010.
    - c. ADaPT submittals for the Appendix II sampling in May 2010.

If this information has been submitted, please provide the date and name of the person the submittal was addressed to. If it has not been submitted, provide this information with the next semi-annual report.

5. The Department's Evaluation Monitoring letter (10/26/09) was written prior to the Chapter 62-701 revision (01/06/2010). The letter required quarterly monitoring of Appendix II parameters in the Benzene wells until reduced parameters are approved by the Department. Based on the Appendix II sampling that has been done to date, please provide a discussion and request for reduced quarterly sampling parameters. The reduced parameter list in the Benzene wells must include sampling for:

**Quarterly**

- The parameters listed in paragraph Rule 62-701.510(8)(a), F.A.C.
- All additional parameters detected in the Appendix II sampling (e.g., bis (2-Ethylhexyl) phthalate) Rule 62-701.510 (7)(a)3., F.A.C. Provide the full results for all laboratory tests. (e.g., if 8270 is run, provide the results for all parameters for 8270.)

**Annually**

- The parameters listed in paragraph Rule 62-701.510(8)(d), F.A.C.

6. SCS Engineers 11/16/09 Letter-Response to Comments for the FDEP Letter October 26, 2009: The Department agrees that B-2 and B-5 are in Zone 3-4 and will be listed as such in the MPIS for the facility.

7. Table 1: Revised List of Evaluation Monitoring Wells:

Table 1	Current EM Monitoring Wells	Can Stop Quarterly Evaluation Monitoring	Revised Benzene Wells	Revised Ammonia Wells
<b>Current Quarterly Wells</b>				
1	<b>B1-B</b>			<b>B1-B</b>
2	<b>B2</b>	<b>B2</b>		
3	<b>B33-2</b>	<b>B33-2</b>		
4	<b>B-352</b>	<b>B-352</b>		
5	<b>B37-1</b>	<b>B37-1</b>		
6	<b>B38-2</b>	<b>B38-2</b>		
7	<b>B40-2</b>	<b>B40-2</b>		
8	<b>B41-1</b>		<b>B41-1</b>	<b>B41-1</b>
9	<b>B43-1</b>		<b>B43-1</b>	<b>B43-1</b>
10	<b>B45-1</b>		<b>B45-1</b>	
11	<b>B45-2</b>		<b>B45-2</b>	
12	<b>B59-1</b>	<b>B59-1</b>		
13	<b>B61</b>	<b>B61</b>		
14	<b>B62-1R</b>	<b>B62-1R</b>		
15	<b>B62-2R</b>	<b>B62-2R</b>		
16	<b>B64</b>			<b>B64</b>
17	<b>B68</b>	<b>B68</b>		
18	<b>B75</b>	<b>B75</b>		
19	<b>B8-1</b>	<b>B8-1</b>		
20	<b>MO5-B</b>	<b>MO5-B</b>		
<b>New Wells</b>				
1	<b>B76-1</b>		<b>B76-1</b>	
2	<b>B77-1</b>		<b>B77-1</b>	
3	<b>B78-1</b>			<b>B78-1</b>
4	<b>B79-1</b>			<b>B79-1</b>
5	<b>B80-2</b>			<b>B80-2</b>
6	<b>B81-4</b>			<b>B81-4</b>