



Florida Department of Environmental Protection

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

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

VIA ELECTRONIC MAIL
lm Marion@co.volusia.fl.us

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

OCD-SW-09-0326

Volusia County – SW
Tomoka Farms Road Landfill WACS #27540
Review of Evaluation Monitoring Plan and Related Documents

Dear Mr. Marion:

The SCS Engineers (SCS) submitted the following documents on your behalf:

Report	Report Date	Signed and Sealed Date	DEP Received Date
Spring 2009 Tomoka Farms Road Landfill, Semi-Annual Monitoring	6/26/09	6/26/09	7/6/09
Tomoka Farms Road Landfill Biennial Water Quality Monitoring Report 2009 (Spring 2007 through Fall 2009)	2/9/09	2/3/09	2/10/09
Department's Letter Concerning the Tomoka Farms 2007 Biennial Report, Tomoka Farms Road Landfill, Volusia County	11/25/07	N/A	N/A
Response to the Department's Letter Dated November 25, 2007 concerning the Tomoka Farms 2007 Biennial Report, Tomoka Farms Road Landfill, Volusia County	12/21/07	12/21/07	12/24/07
Evaluation Monitoring Plan, Tomoka Farms Road Landfill, Volusia County, Florida	12/21/07	12/21/07	12/24/07

The Department's detailed review comments are in Attachment I.

After a review of the above documents, the Central District's Ground Water files, and the Department's WACS database, the Department has made the following decisions about Evaluation Monitoring (EM) at the facility:

Sodium and Chloride at Leachate Basin

The Department will not require Evaluation Monitoring as outlined in Rule 62-701.510, F.A.C. for the leachate basin at this time because:

1. Although sodium and chloride are elevated in B33-2 it is reasonable that the overspray/irrigation of leachate around the leachate basin was the source of the elevated levels rather than a leak in the system.
2. The spraying has stopped and the sodium level at B33-2 is declining.

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Standard semi-annual monitoring is considered sufficient evaluation for the leachate basin at this time. If sodium does not continue to decline, the issue may be reopened.

Arsenic

Because the arsenic exceedances have been sporadic, the source may not be waste disposed in the landfill. Standard semi-annual monitoring is considered sufficient evaluation at this time.

Benzene

Evaluation Monitoring (EM) as required by Rule 62-701.510(7)(a), F.A.C. must be initiated for benzene.

As noted in the Spring Semi-annual Report for 2009, the initial EM actions will be in the vicinity of B43-1, B45-1, and B45-2. Monitoring well B41-1 shall also be included in the EM because the Department does not have reasonable assurance that work in the Waste Clean-Up area (B5 and B37) can be expected to reduce the Benzene at B41-1 as was noted in the report.

Within 90 days of the date of receipt of this letter, initial evaluation monitoring shall be done as required by Rule 62-701.510(7)(a)2 and 3, F.A.C. The sampling event shall include Field Parameters, TDS, and Appendix II for each well. Based on the results from the initial evaluation monitoring sampling event, the facility may submit a request to reduce parameters from the required quarterly sampling for the water quality parameters in Rule 62-701.510(8)(a) and (d), F.A.C.

At this time additional monitoring wells at the edge of the zone of discharge are not required. (Rule 62-701.510(7)(a)(3), F.A.C.)

Within 180 day of the date of this letter a Benzene Contamination Evaluation Plan shall be submitted to evaluate the source and the horizontal and vertical extent of contamination of Benzene. The Plan shall include recommendations for placement of additional monitoring wells.

Ammonia

Evaluation Monitoring will still be required to evaluate the ammonia exceedances at the facility.

In addition to the 13 wells proposed in the Evaluation Monitoring Plan (dated 12/21/2007). The ammonia evaluation monitoring shall also include 6 additional monitoring wells which had ammonia significantly above background in the April 2009 sampling.

	Additional MWs Ammonia >0.5 mg/L in the April 2009 sampling	Zone
1	B35-2	Zone 1-2
2	B64	Zone 1-2
3	B2	Zone 4
4	B37-1	Zone 4
5	B68	Zone 4
6	MO5-B	Zone 4

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At this time the ammonia evaluation monitoring need not include Appendix II parameters as specified in Rule 62-701.510(7)(a)2, F.A.C. Within 90 days of the date of receipt of this letter, initiate quarterly monitoring of the 19 wells. The water quality parameters must include Field Parameters and ammonia for each well.

After the 4th quarter of sampling an Ammonia Contamination Evaluation Plan shall be submitted to evaluate the source and the horizontal and vertical extent of contamination of ammonia. Submit the Plan within 30 days of your receipt of the 4th quarter sampling results.

Contamination Evaluation Plan

The objective of the required Contamination Evaluation Plans is to predict the likelihood that Department water quality standards will be violated outside the zone of discharge and to evaluate methods to prevent any such violations.

The horizontal Zone of Discharge (ZOD) for the facility is 100 feet from the edge of the waste or the property line whichever is closest. The vertical ZOD is to the base of the surficial aquifer as shown in Figure 2 of the permit. Rule 62-701.510(7)(a), F.A.C. requires installation of compliance wells at the edge of the ZOD, downgradient of the affected detection wells. However, many of the wells with exceedances are already compliance wells and are further than 100 feet horizontally from the edge of waste.

Since many of the affected wells are compliance wells, corrective actions, as well as, preventive actions may be necessary. (Rule 62-701.510(7)(b), F.A.C.) The Contamination Evaluation Plans should recommend specific corrective actions. Chapter 62-780, F.A.C. describes the requirements for corrective actions. If appropriate, the Contamination Evaluation Plans may recommend expanding the ZOD according to Chapter 62-520.465(2)(b), F.A.C.

Please respond to issues in Attachment I within 90 days. You can contact me by e-mail at marjorie.heidorn@dep.state.fl.us or phone at (407) 893-3320 with questions about this letter.

Sincerely,



Marjorie Heidorn, P.G.
SW/HW Technical Support

Date: October 26, 2009

MH

Attachments:

- I. Review Comments on the Contamination Evaluation Report, and the Biennial Report (2007 - 2009)
- II. Reference Information
- III. Figures A and B

cc:

Jennifer Stirk, jstirk@co.volusia.fl.us

Chet Purves, cpurves@co.volusia.fl.us

Pat McCormack, Volusia County, pmccormack@co.volusia.fl.us

Lee Powell, lpowell@scsengineers.com

Attachment I: Review Comments on the Contamination Evaluation Report, and the Biennial Report (2007 - 2009)

Biennials

1. The Department's November 26, 2007 response to the 2007 Biennial noted that B-2 and B-5 are in Zones 4 instead of Zone 1-2. The facility's December 21, 2007 response disagreed and noted that B-2 and B-5 should have their zone designations changed to Zone 1-2. However the facility's response referenced well screen elevations. The zones are not based on screen elevations but on stratigraphic zones. (See Attachment III, Figures A and B) These differences can influence the ground water mapping. If the zones for B-2 and B-5 are to be changed in the MPIS, the response must include a discussion of the soil boring logs and why Dr. Gomborg's designations are not correct. (Note B5 Zone 4 is in parenthesis "(4)" after the Zone 1-2 listed for the MPIS.)

Semi-annual Spring 2009

2. The Semi-Annual Report does not include the staff gauge readings for the north and south leachate ponds required by Condition 14 of the Permit MPIS. (See Attachment II, Item 1.) Please provide this information.
3. The Semi-Annual Report does not include the ground water and surface water data table required by Condition 24 of the Permit MPIS. (See Attachment II, Item 1.) Please provide this information.
4. Revise the Zone 1-2 ground water contour maps to include the surface water elevations as required by Condition 25 of the MPIS. (See Attachment II, Item 1.)

Well Abandonment

5. Recently an inspector was told that potable well F-MB has been abandoned. This well is in the MPIS. If it has been abandoned:
 - a. Why was it abandoned without DEP prior approval?
 - b. Is this the well that was reported as F-MB in the April 2009 sampling event?
 - c. Provide a copy of the Well Abandonment Report.

Attachment II: Reference Information

1. Conditions 14, 24, and 25 of the Monitoring Plan Implementation Schedule (MPIS) included in the permit require:

14. Semi-annual staff gauge readings for the north and south leachate ponds shall be reported on **Attachment H** and included in the monitoring report.

WATER ELEVATIONS

24. Water levels in all monitoring wells, whether sampled or not, all piezometers and all surface water sites must be measured to the nearest 0.01 foot and reported semi-annually unless required more frequently by permit condition. All water level measurements must be made within a one-day period. These measurements should be reported in a table that includes well or surface water point name, date water level measured, measuring point elevation referenced to NGVD, depth to water and calculated water level elevation referenced to NGVD. **[62-701.510(9)(a)8, F.A.C.]**

GROUND WATER CONTOUR MAPS

25. Ground water elevation contour maps for each monitored aquifer zone must be submitted semi-annually to the Department. Ground water elevation contour map(s) should include monitoring well and piezometer locations, ground water elevation at each monitoring well or piezometer location referenced to NGVD, a bar scale, north arrow, ground water contour interval, date of measurement and ground water flow direction. The map(s) must incorporate adjacent and on-site surface water elevations where appropriate. These maps shall be signed and sealed pursuant to Florida Statutes (F.S.) Chapters 471 and 492 which require that documents requiring the practice of professional engineering or professional geology, as described in Chapter 471 or 492, F.S., be signed and sealed by the professional(s) who prepared or approved them. This certification must be made by a licensed professional who is able to demonstrate competence in this subject area. **[62-701.510(9)(a)9, F.A.C.]**

Attachment III: Figures A and B

Figure A

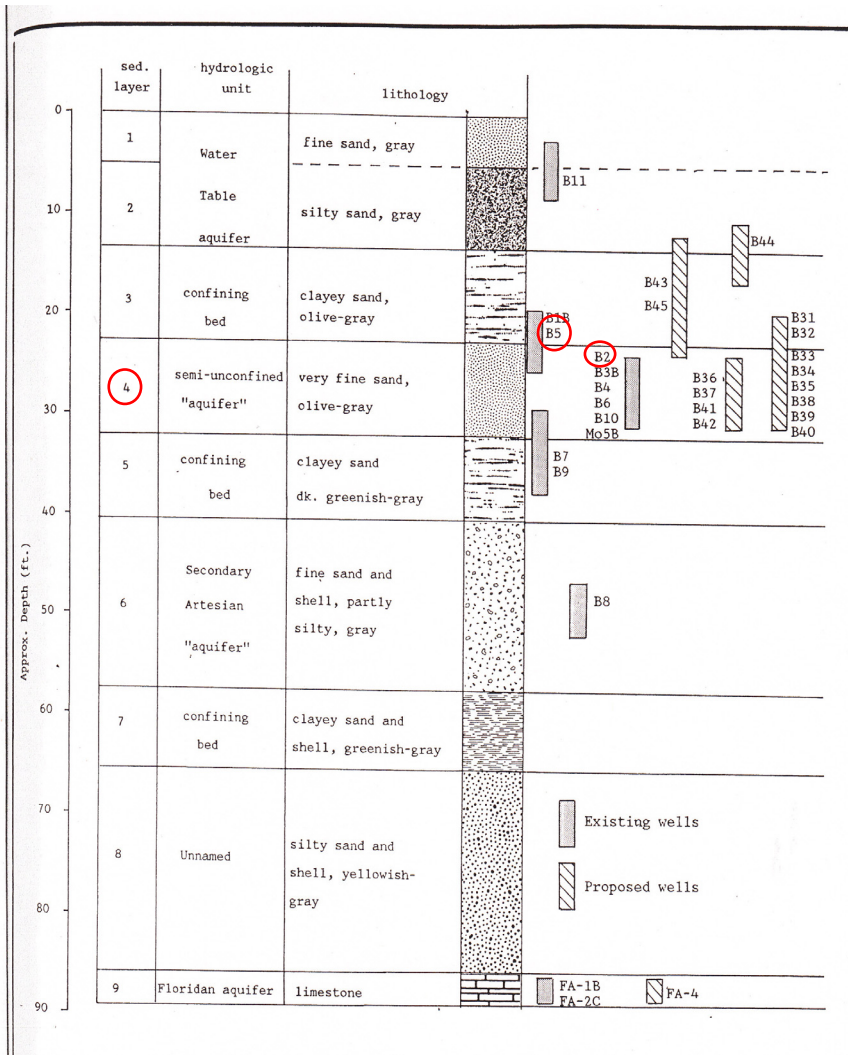


Figure B

Table 1. Well Data

Well	Screened or Open Hole Depth (ft)	Zone Monitored ¹	When Constructed
B1-B	28 - 33	Zone 1-2 (4)	3/87
B-2B	19 - 24	Zone 4	8/94
B5-B	18 - 23	Zone 1-2 (4)	3/91
B8-1	43 - 48	Zone 1-2 (6)	3/87
B8-2	20 - 30	Zone 4	8/94
B11-B	4 - 14	Zone 1-2	12/89
B-32	20 - 30	Zone 4	8/94
B33-1	22 - 32	Zone 4	8/94
B33-2	5 - 15	Zone 1-2	8/94
B34-1	22 - 32	Zone 4	8/94
B34-2	5 - 15	Zone 1-2	8/94
B35-1	22 - 32	Zone 4	8/94
B35-2	5 - 15	Zone 1-2	8/94
B36	23 - 33	Zone 4	8/94
B37-1	27 - 37	Zone 4	8/94
B37-2	5 - 15	Zone 1-2	8/94
B38-1	27 - 37	Zone 4	8/94
B38-2	5 - 15	Zone 1-2	8/94
B39	5 - 15	Zone 1-2	8/94
B40-1	18 - 28	Zone 4	8/94
B40-2	5 - 15	Zone 1-2	8/94
B41-1	27 - 37	Zone 4	8/94
B41-2	5 - 15	Zone 1-2	8/94
B42-1	20 - 30	Zone 4	8/94
B42-2	5 - 12	Zone 1-2	8/94
B43-1	17 - 27	Zone 3-4	8/94
B43-2	5 - 12	Zone 1-2	8/94
B44	5 - 12	Zone 1-2	8/94
B45-1	25 - 35	Zone 4	8/94
B45-2	5 - 15	Zone 1-2	8/94
B58-1	18 - 28	Zone 4	8/94
B58-2	5 - 12	Zone 1-2	8/94
B59-1	22 - 32	Zone 4	8/94
B59-2	5 - 15	Zone 1-2	8/94
B60	20 - 30	Zone 4	8/94
B61	5 - 12	Zone 1-2	8/94
B62-1	25 - 35	Zone 4	8/94
B62-2	5 - 12	Zone 1-2	8/94
B63-1	19 - 29	Zone 4	8/94
B63-2	5 - 12	Zone 1-2	8/94
B64	5 - 12	Zone 1-2	8/94
B65	5 - 15	Zone 1-2	8/94
B66	5 - 15	Zone 1-2	8/94
B67	18 - 28	Zone 4	8/94
B68	20 - 30	Zone 4	8/94
FA-1B	91 - 92	Floridan	3/87
FA-2C	94 - 100	Floridan	9/91
MO5-B	27 - 32	Zone 1-2 (4)	3/87

In 4 cases; the zone monitored - as shown on the DEP permit - is different from the actual zone monitored, which is shown in ().

From Tomoka Landfill: Summary and Evaluation of 1992-1996 Monitoring Data--Dr David Gomberg

