OhioEPA
State of Ohio Environmental Protection Agency

Northwest District Office

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Ted Strickland, Governor
Lee Fisher, Lieutenant Governor
Chris Korleski, Director

Re: Seneca County
Sunny Farms Landfill
Ground Water Inspection

December 9, 2009

Mr. Chris Valerian
12500 W. County Road 18
Fostoria, Ohio 44830

Dear Mr. Valerian:

The owner/operator of the Sunny Farms Landfill (facility) is currently required to perform ground water detection monitoring activities at the facility as well as ground water quality assessment activities for the MP-2AR and MP-7AR assessment areas

On November 16 and 17, 2009, the Ohio Environmental Protection Agency (Ohio EPA) performed on Operating Facility Ground Water Inspection (OFGWI) at the facility. This represents the third ground water inspection performed at the facility. Previous ground water inspections were performed in June 1998 and June 2003.

This inspection included the observation of Civil & Environmental Consultants' (CEC) sampling procedures and surficial construction of the wells in the ground water monitoring network. Dave Crayne, Vanessa Hall and Jeff Kenedy represented CEC and Ken Brock represented Ohio EPA during the inspection.

The attached inspection form summarizes the inspection of the surficial well construction of the observed monitoring wells and also summarizes the inspection of the equipment and procedures used during the sampling event.

COMMENTS

Violations and Owner/Operator's Response

1. **At the time of the November 16-17, 2009, inspection, the owner/operator was in violation of Ohio Administrative Code (OAC) Rule 3745-27-10(B)(3)(e) which regards the operation and maintenance of the monitoring wells and piezometers.**

At the time of the inspection, Mr. Ed Brdicka was notified of the needed repair/maintenance to monitoring wells/piezometers MP-7AR, MP-10B, MP-11A, MP-11B, MP-12AR, MP-13A, MP-13B, MP-14A, MP-15AR, MP-15BR, MP-16A, MP-16B, MP-17A, MP-18A, MP-18B, MP-21A, MP-25A, MP-28A, MP-29A, MP-30A, MP-31A, MP-32A and MP-33A. Several weeks after the inspection, Mr. Brdicka sent notification (via phone) and a CD of photos (received December 4, 2009) to Ohio EPA that all of the needed repair/maintenance had been completed. Therefore, as all of the needed repair/maintenance has been completed, the owner/operator has regained compliance with OAC Rule 3745-27-10(B)(3)(e).

OAC Rule 3745-27-10(B)(3)(e) states, *"The monitoring wells, piezometers, and other measurement, sampling, and analytical devices shall be operated and maintained to perform to design specifications throughout the life of the monitoring program."*.

As observed during the inspection, and as detailed in the attachment to this letter, the on-site monitoring wells required repair/maintenance. However, as noted above, all of the needed repair/maintenance has since been performed.

More Information Needed to Determine Compliance

2. **Compliance with OAC Rule 3745-27-10(C)(1) cannot be determined at this time. This rule requires that the ground water monitoring program include sampling procedures that are protective of human health and the environment. During the inspection, the sampling crew disposed of all purge water (from detection and assessment wells) on the ground away from the well. Ohio EPA questions this procedure for the assessment wells, with respect to OAC Rule 3745-27-10(C)(1). The owner/operator needs to respond accordingly.**

   OAC Rule 3745-27-10(C)(1) requires that *"The ground water monitoring program shall include consistent sampling and analysis procedures...that are protective of human health and the environment..."*.

   The Sampling and Analysis Plan (SAP), in both the Ground Water Detection Monitoring Plan (GWDMP) and Ground Water Quality Assessment Plan (GWQAP) does not document the procedures for purge water disposal. During the inspection, purge water from the ground water detection monitoring wells and ground water quality assessment wells was disposed on the ground away from the well.

Ohio EPA concurs with this procedure for the ground water detection monitoring wells. However, compliance with OAC Rule 3745-27-10(C)(1) cannot be determined for this procedure regarding the disposal of purge water from wells in the assessment program.

Therefore, to allow for a determination of compliance with this rule, the owner/operator needs to either revise the procedures (including revisions to the SAP) for purge water disposal or demonstrate how the current procedures for purge water disposal meet the requirements of OAC Rule 3745-27-10(C)(1).

Recommendations

3. **Ohio EPA recommends that the SAP portions of the GWDMP and GWQAP be revised to document that the sampling crew will have a copy of the SAP in the field during ground water sampling events.**

   During the inspection, the ground water sampler had a copy of the SAP in the field. Ohio EPA concurs with this procedure as it should help the sampling crew to consistently follow the SAP. However, the SAP portions of the GWDMP and GWQAP do not document that this procedure will be followed.

4. **Ohio EPA recommends that the SAP portions of the GWDMP and GWQAP be revised to thoroughly document the standard procedures for volumetric purging and sampling using bailers.**

   Prior to this most recent sampling event (November 2009 sampling event), the monitoring wells were typically purged and sampled with bladder pumps using low-flow procedures (for higher-yielding wells) and no/low-purge procedures (for low-yielding wells). Further, in the event that a well could not be purged and sampled with the bladder pump, the SAP includes a backup option to sample the wells with a bailer using volumetric purge procedures.

   However, under agreement with of Ohio EPA, the SAP was recently revised to remove procedures for no/low-purge procedures.

   During the November 2009 sampling event, it was discovered that for the low-yielding wells (wells formerly sampled using no/low-purge procedures), it is difficult to purge these wells to dryness using the bladder pump (because of the reduced water head above the pump intake during purging).

Therefore, bailers were used to purge and sample many of these low-yielding wells during the November 2009 sampling event.

Therefore, it appears that purging and sampling with bailers will now be a standard purging and sampling procedure at the facility for low-yielding wells, rather than an occasional "back-up" procedure (due to bladder pump failure).

Considering this, Ohio EPA recommends that the SAP portions of the GWDMP and GWQAP be revised to thoroughly document the standard procedures for volumetric purging and sampling using bailers.

If you have any questions please contact Ken Brock at Ohio EPA, Northwest District Office, Division of Drinking and Ground Waters, 347 N. Dunbridge Rd., Bowling Green, Ohio 43402. Submit all reports/data to Susan Hardy, Ohio EPA, Northwest District Office, Division of Solid and Infectious Waste Management, 347 N. Dunbridge Rd., Bowling Green, Ohio 43402.

Sincerely,

Susan Hardy, R.S.
Environmental Specialist
Division of Solid and Infectious Waste Management

/llr

pc: Ed Brdicka, Sunny Farms Landfill, LLC
Jim Mohrman, Seneca County Health Department
John DiNunzio, Civil & Environmental Consultants
DSIWM-NWDO File: Seneca County; Sunny Farms Landfill, Groundwater

ec: Ken Brock, DDAGW, NWDO
Jack Leow, DDAGW, NWDO
Lindsay Taliaferro, III, DDAGW, CO
Mike Reiser, DSIWM, NWDO
Andy Drumm, DSIWM, NWDO

5-8996

GROUND WATER INSPECTION CHECKLIST

Site/Facility Name: **Sunny Farms**	**November 16-17, 2009**
Site/Facility Address: **12500 W. Co. Rd. 18, Fostoria** Site/Facility Status (circle one): (Operating) Closed	Ohio EPA ID#: **74-00-02** District: **NWDO**
Client Division/Program (check applicable) DSIWM DHWM MSW__X_____ Interim Standards (65-90 to 94) Ind_____ Final Standards (54-90 to 100) Res_____ CA/IGWMP (54-01)_____ CDD	 DERR DSW Remedial Response_____ VAP
Site/Facility Contact, Name & Title: **Joe Frola, Operations Manager**	
Client Division Contact: **Sue Hardy**	DDAGW Geologist: **Ken Brock**
Names and company affiliations of facility or consulting personnel performing field monitoring and sampling activities: 1. **Dave Crayne, Vanessa Hall, Jeff Kennedy – CEC, Inc.** 2.	

Documentation Reviewed Prior to Field Inspection

Ground Water Sampling and Analysis Plan

If the ground water sampling and analysis plan (SAP) has previously been reviewed by DDAGW, it need not be formally reviewed again prior to the field inspection. However, it should be consulted during completion of the office portion of the ground water field inspection form. If DDAGW has not previously reviewed the SAP, a formal review of the document should be requested by the client division and completed as a separate project prior to the field inspection.

1. Has the current SAP been formally reviewed by DDAGW?	Yes X No	If yes, document date: **November 2009** Approval date (if applicable):
2. The current SAP is: (circle one)	**a stand alone document**? included in another document?	If another document, specify:

3. Sampling and analysis procedures are often modified through correspondence between the regulated entity and Ohio EPA. A new, revised SAP may not be generated as part of this process. If the current SAP has been modified through correspondence between the Ohio EPA and the regulated entity, please list in the space below, the dates of the correspondence and the modifications that were documented and approved.

November 2009: Multiple revisions with modifications too complex to list herein

Other Sources of Documentation

The key document for review prior to observing field activities is the Sampling and Analysis Plan; however, it may be necessary to review other documents to establish the evaluation basis for the inspection. Which of the following documents were reviewed by Ohio EPA to determine the applicable monitoring and sampling requirements?

Document:	Yes	No	N/A	Comments:
1. Approved Permit?		X		If yes, date approved:
2. Approved Closure Plan?		X		If yes, date approved:
3. Final enforcement actions between AGO/Ohio EPA and facility?	X			If yes, date signed:
4. Current GWDMP?	X			If yes, document date: **November 2009**
5. Current GWQAP?	X			If yes, document date: **November 2009**
6. Current GWCMP?			X	If yes, document date:
7. Previous Ohio EPA inspection?	X			If yes, inspection date: **6/98, 6/03**

Monitoring Well System

Maintenance & Sampling Information:	Yes	No	NA	Comments:
1. Do the actual number, locations, and depths of the wells sampled correspond to the SAP or other governing document?	X			
2. Are the wells maintained properly? (Please refer to the attached *Ground Water Monitoring Well Inspection Form*)		X		**See Comment No. 1**
3. Are there bumper guards around the wells ?	X	X		Some yes, some no
4. Are there additional monitoring wells or piezometers present at the site that are not currently used as part of the ground water monitoring program?	X			
a) If so, were they also inspected during this visit?	X			
b) If inspected, are they constructed/maintained properly? If inspected, please include these wells on the attached *Ground Water Monitoring Well Inspection Form.* If not inspected, please indicate why in the Comments column.		X		**See Comment No. 1**
5. Additional comments			X	

Please note that for the purposes of this inspection, the terms Amonitoring well@ and Awell@ include piezometers (used to collect water level elevation data only) required by the SAP or other governing document.

Sampling & Analysis Plan Requirements and Field Procedures

Completing the ASAP Requirement@ section of the checklist is not meant to constitute a formal review of an already reviewed and approved SAP. It is meant to prepare the DDAGW geologist for the field inspection, where the implementation of the SAP is reviewed and evaluated.

The main purpose of the field inspection (along with a review of monitoring well maintenance) is to address whether the procedures and techniques required by the SAP were properly implemented. The questions posed here are not intended to encompass every detail that may be contained in a SAP. The comments column can be used to document, as necessary, any observations regarding SAP implementation not explicitly addressed by the questions. While the DDAGW geologist can comment if the approved procedures are inadequate to ensure collection of representative ground water samples and protection of human health and the environment, these comments would be considered Arecommendations@.

Well Identification: Specify well numbers where ground water purging and sampling procedures were observed by Ohio EPA.	**Wells:** MP-18B, MP-12A, MP-29A, MP-1B, MP-2B						
	SAP Requirement?			**Field Instrumentation**			**Comments:**
	Yes	**No**	**N/A**	**Yes**	**No**	**N/A**	
1. Does the person performing the sampling have a copy of the most current SAP with him/her in the field or is one available at the site?		X		X			**See Comment No. 3**
2. Measuring ground water levels/elevations (and surface water levels/elevations, if applicable), including:							
a) Measuring ground water levels (and if applicable, surface water levels) within a 24-hour period?	X			X			
b) Measuring ground water levels prior to purging and sampling?	X			X			
c) Measuring ground water levels (and if applicable, surface water levels) to an accuracy of at least 0.01 ft?	X			X			

	SAP Requirement?			Field Instrumentation			Comments:
	Yes	No	N/A	Yes	No	N/A	
2. Measuring ground water levels/elevations, cont. : **d)** Using a reference point established at the top of each well casing (and at each surface water sampling point, if applicable) to measure each water level?	X			X			
e) Procedures for documenting and measuring both dense non-aqueous phase liquid (DNAPL) and light non-aqueous phase liquid (LNAPL)?		X				X	SAP says no exact procedures, but documented if observed
f) Is the total depth for each well measured? If so, does it match the total depth of the well documented on the well log? If not, what is the facility's schedule for measuring and evaluating total depths?	X	X				X	Only when pump not in well
g) Type(s) of device(s) used to measure water levels and total depths?	**SAP:** Elec. Meter			**Field:** Elec. Meter			
h) Are water levels used for determining ground water flow direction recorded on the field form with well purging and sampling information or on a separate field form?	**SAP:** Same Form			**Field:** Same Form			
3. Well Purging (Generic to all methods): **a)** Specify purging method(s) used for each well observed.	**SAP:**			**Field:**			
(1) Volumetric Purge?	X			X			**See Comment No. 4**
(2) Low Flow?	X			X			
(3) Minimum/No Purge?	NA			NA			
(4) Purge to Dryness	X			X			
(5) Other: _____							
b) Type of equipment used to purge each well observed. (Type /material) (Note: Specify particular type of pump or bailer)	**SAP:** Bladder			**Field:** Bladder			
c) Is purging equipment dedicated?	X			X			
d) If equipment is not dedicated, was the equipment properly decontaminated?			X			X	
e) If bailers are used, specify the type of cord used with the bailer.	**SAP:** Not spec.			**Field:** Not obs.			
4. For Volumetric Purging: **a)** Was the volume of water in the well column determined?	X					X	
b) Was the purging performed in a manner that minimizes mixing and aeration of the water column?	X					X	
c) Were all SAP field stabilization parameters obtained to properly determine when purging is adequate?						X	
(1) List stabilization parameters obtained:	**SAP:** pH, temp, cond			**Field:** NA			
(2) Were stabilization parameters taken every 1 to 1 2 well volumes?	X					X	
(3) Was it demonstrated that three consecutive measurements were within their respective stabilization criteria?	X					X	
d) Were samples obtained immediately after purging?	X					X	

	SAP Requirement?			Field Instrumentation			Comments:
	Yes	No	N/A	Yes	No	N/A	
5. For Low-Flow Purging: a) Was water level drawdown measured during purging?	X						
b) Was it demonstrated that drawdown stabilized?	X						
c) Specify location of pump.	**SAP:** In screen			**Field:** In screen			
d) What was the purging rate?	**SAP:** 100-500 ml			**Field:** 100-500 ml			
e) Were all SAP field stabilization parameters obtained to properly determine when purging is adequate?	X			X			
(1) List stabilization parameters obtained:	**SAP:** pH, temp, cond			**Field:** pH, temp, cond			
(2) Were stabilization parameters taken every 3 to 5 minutes?	X			X			
(3) Was it demonstrated that three consecutive measurements were within their respective stabilization criteria?	X			X			
f) Were samples obtained immediately after purging?	X			X			
6. For Minimum/No Purge: a) If the pump was not dedicated, was the pump placed far enough in advance so that the effect of the pump installation has completely dissipated?			X			X	
b) Specify the location of the pump.	**SAP:** NA			**Field:** NA			
c) Were steps taken to prevent stagnant water from entering the well?			X			X	
(1) Was drawdown measured during purging?			X			X	
(2) Was the amount of drawdown no more than the distance from the top of the screen and the position of the pump intake within the screen, minus a 2 foot safety margin maintained?			X			X	
(3) If other, specify .	**SAP:** NA			**Field:** NA			
7. For Purging to Dryness: Were samples taken as soon as sufficient water was available?	X	X		X	X		Yes, but turbidity needs to be less than 100 NTU
8. Field parameters for ground water, surface water, and/or leachate, including: a) Are field analyses of temperature, pH, and specific conductance performed?	X			X			
b) Are field parameters checked after purging and before sampling?	X			X			
9. Ground water (and if applicable, surface water or leachate) sample collection, including: a) Specify sample collection methods and equipment used:	**SAP:** Bladder/bailer			**Field:** Bladder			
b) Is the ground water sampling equipment dedicated?	X			X			
c) If applicable, is the well sampling order from least to most contaminated?		X			X		All equipment is dedicated
d) Are sample containers filled in order of parameter volatilization sensitivity, *e.g.*, VOCs, SVOCs, total metals?	X			X			
e) If bailers are used, samples collected in a manner that minimizes aeration of the well water column?	X					X	

	SAP Requirement?			Field Instrumentation			Comments:
	Yes	No	N/A	Yes	No	N/A	
9. Ground water sample collection, cont. : f) Specify type of cord or wire used with sampling bailers:	**SAP:** Not spec.			**Field:** NA			
g) If used, are bladder pumps operated in a manner that prevents sample aeration and minimizes sample turbidity?	X			X			
h) Are pumps (all types) operated at a rate low enough to prevent sample aeration and minimize sample turbidity?	X			X			
10. Calibration of field monitoring and analytical equipment: a) Is each device calibrated to its manufacturer's specifications?	X			X			
b) Is each device calibrated prior to use in accordance with the SAP?				X			
c) Are all calibration procedures and/or equipment maintenance (and the date(s) performed) documented on field forms or in a field log book?	X			X			
11. Equipment decontamination, including: a) If applicable, is all non-dedicated monitoring, purging, and sampling equipment decontaminated between sampling locations in accordance with the SAP?						X	
b) Is clean or decontaminated sampling equipment placed on the ground or in other potentially contaminated areas prior to use?	X				X		SAP requirement followed in field
c) Are all decontamination fluids contained and disposed in accordance with the SAP?						X	
12. Purge water disposal, including: a) If previous monitoring results indicate that a well has not been contaminated, is all purge water disposed in an area where it cannot affect purging or sampling activities at any sampling location during the ongoing event?		X		X			**See Comment No. 2**
b) If previous monitoring results indicate that a well has been contaminated, or if the ground water is known to be contaminated, is all purge water properly contained, stored, transported, and disposed per applicable federal, state, and local laws?		X					**See Comment No. 2**
13. Field sample preparation, including: a) <u>Sample containers and handling</u>: *(1)* Are all sample containers pre-cleaned and provided by the laboratory?	X			X			
(2) Are any samples field filtered prior to being transferred to their appropriate containers?		X			X		
(3) Are samples transferred directly from the sampling device to their appropriate containers in a manner that minimizes agitation and aeration?	X			X			

	SAP Requirement?			Field Instrumentation			Comments:
	Yes	No	N/A	Yes	No	N/A	
13. Field sample preparation, cont. : *(4)* Are VOC sample containers completely filled to form a meniscus and capped in a prompt manner to minimize volatilization?	X			X			
(5) Are VOC containers checked for air bubbles after filling and capping?	X			X			
b) Sample preservation (per SW-846, Revision 1, 12/96, Chapter 2, Table 2-36): *(1)* To the extent applicable, are samples for all organic parameters, PCBs, chromium VI, phenols, coliform bacteria, oil and grease, pesticides, specific conductance, **alkalinity**, COD, cyanide, phosphorous, **sulfate**, sulfide, **TDS**, TOC, and/or turbidity immediately placed in a cooler with ice for preservation at 4° C?	X			X			
(2) Are VOC samples field-acidified to pH < 2 with HCl?	X			X			
(3) To the extent applicable, are samples for **metals** and/or radiological parameters (gross alpha, gross beta, radium); endrin; lindane; methoxychlor; toxaphene; 2,4-D; and/or 2,4,5-TP Silvex field-acidified to pH < 2 with HNO_3?	X			X			
(4) To the extent applicable, are samples for phenols,oil and grease, **ammonia**, COD, **nitrate/nitrite**,phosphorous, TOX, and/or TOC field-acidified to pH <2 with H_2SO_4?	X			X			
(5) Are CN samples field-preserved pH>12/50% w/NaOH?	X			X			
c) Sample labeling: *(1)* Unique sample (field) identification number that clearly associates the sample and the sampling location?	X			X			
(2) Facility/site name?	X			X			
(3) Sample type (matrix) and date and time of collection?	X	X		X	X		Date/time – yes, matrix - no
(4) Parameters and analyses requested?	X			X			
(5) Sample preservatives?	X			X			
(6) Name or initials of sampler and company affiliation?	X			X			
(7) Is an indelible pen or marker used to complete sample labels?		X		X			Not SAP requirement – typical field procedures
(8) Are sample labels secured and protected to ensure legibility when delivered to the laboratory?		X		X			Not SAP requirement – typical field procedures
14. Field Quality Assurance/Quality Control (QA/QC), including: a) Use of standard procedures that ensure the validity and reliability of field and laboratory data, as well as representative analytical results?	X			X			

	SAP Requirement?			Field Instrumentation			Comments:
	Yes	No	N/A	Yes	No	N/A	
14. Field Quality Assurance/Quality Control, cont. :	X					X	
b) Documentation of all deviations from SAP-required procedures?							
c) Collection of the following QA/QC samples in accordance with the SAP:							
(1) Duplicate samples?	X			X			
(2) Field blanks?		X			X		
(3) Equipment blanks?		X			X		
(4) Trip blanks?		X			X		
d) Collection of all necessary laboratory QA/QC samples (*e.g.*, matrix spike, matrix spike duplicate)?			X			X	
15. Chain-of-Custody (COC) procedures, including:							
a) Are all SAP-required COC procedures followed? (If not, explain why.)				X			
b) Are standardized COC forms used to establish a complete custody record from the field to the laboratory for all samples?	X			X			
c) Is the following field and laboratory information properly documented on the COC form to provide effective sample tracking and to ensure that samples are not misidentified; are properly preserved; and are properly analyzed?							
(1) Address and contact information for the site/facility, laboratory, and, if applicable, all consulting firms performing sampling?	X			X			
(2) Unique sample (field) identification numbers that clearly associate the sampling location and sample?	X			X			
(3) Sample type (matrix) and date and time of collection?	X			X			
(4) Requested parameters, or a reference for therequested parameters?	X			X			
(5) Requested analytical methods, or a reference for the requested analytical methods?	X			X			
(6) Types of sampling containers used, or a reference for the types of sampling containers used?		X			X		
(7) Types of sample preservatives used, or a reference for the types of sample preservatives used?	X			X			
(8) Sample shipping information, including but not limited to the transporter(s), tracking #(s), and delivery time frame(s)?	X			X			
(9) Legible names (printed) and signatures of all field and laboratory personnel relinquishing and/or receiving the samples and inclusive dates and times of possession that provide a complete record of sample custody? (Names and signatures of commercial shipping personnel are not required.)	X			X			
d) Are custody seals (signed by the sampler) placed on sample coolers prior to shipment to indicate if the cooler has been opened or tampered with during shipment?		X			X		Not a SAP requirement - Lab courier used

	SAP Requirement?			Field Instrumentation			Comments:
	Yes	No	N/A	Yes	No	N/A	
16. Is the following sampling and water level elevation information properly documented on field forms or in a field log book for each well, surface water, or leachate sampling location observed?							
a) Monitoring program (detection, assessment, or compliance) identified?		X			X		
b) Correct reference to well identification number or specific well location?	X			X			
c) Static ground water level (elevation), associated measurement technique, date, and time?	X			X			
d) Surface water level (elevation), associated measurement technique, date, and time?			X			X	
e) Total depth and associated measurement technique for each well?	X					X	
f) Presence and thickness of immiscible layers and associated measurement technique?		X				X	
g) Well purging procedures and all associated SAP-required information?	[redacted]						SAP-required info documented throughout this form
h) Field analyses procedures and all associated SAP-required information?							SAP-required info documented throughout this form
i) Sampling procedures and all associated SAP-required information?							SAP-required info documented throughout this form
j) Field observations, including but not limited to unusual sample characteristics (appearance, odor, *etc.*), unusual well recharge rates, apparent well damage, potential contamination sources, and unusual climatic conditions?	X			X			
k) Equipment malfunction(s)?	X					X	
l) Any deviations from the SAP and explanation of why such modifications were necessary?	X					X	
m) Sampling team personnel and company affiliation?	X			X			
17. Are copies of all field forms (and/or field log book), COC forms, and sample shipping documents stored at the site/facility as part of the operating record?		X		X			Not a SAP requirement. Are kept at facility upon report submittal.

Have all discrepancies between the SAP and the field implementation been described in the AComment@ section? Comments should include specific monitoring well (or other sampling) locations where deviations from the SAP and/or other regulatory requirements were observed.

Additional Comments & Notes:

GROUND WATER MONITORING WELL FIELD INSPECTION FORM

Sunny Farms Landfill
November 16-17, 2009

Well Identification Number:	MP-1AR	MP-1B	MP-2AR	MP-2B	MP-3A	MP-3B	MP-4A	MP-4B
Correct location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clearly and correctly labeled?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Locked prior to arrival at well location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ground water depth:	13.01	13.73	14.98	14.32	10.30	13.24	15.51	15.65
Well total depth:	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas
For above ground completions: a) Protective outer casing present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(1) Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(2) Locking cap? Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(3) Weep hole present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(4) Standing water between protective casing & well casing?	No	No	No	No	No	No	No	No
b) Surface seal/apron present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(1) Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(2) Ponded surface water?	No	No	No	No	No	No	No	No
For flush mount completions: a) Well vault present?	NA	NA	NA	NA	NA	NA	NA	NA
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	NA
(2) Covered with bolted vault lid?	NA	NA	NA	NA	NA	NA	NA	NA
(3) Standing water in vault? Covering top of inner casing?	NA	NA	NA	NA	NA	NA	NA	NA
b) Surface seal/apron present?	NA	NA	NA	NA	NA	NA	NA	NA
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	NA
(2) Raised at least slightly above grade and sloped away from the top of the vault?	NA	NA	NA	NA	NA	NA	NA	NA
(3) Ponded surface water on top of vault lid?	NA	NA	NA	NA	NA	NA	NA	NA
Well (inner) Inner well casing condition?	Good	Good	Good	Good	Good	Good	Good	Good
a) Material?	2"PVC	4"PVC	2"PVC	4"PVC	4"PVC	4"PVC	4"PVC	4"PVC
b) Survey reference mark?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c) Cap present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d) If the completion is flush mount, is the cap expandable and locking?	NA	NA	NA	NA	NA	NA	NA	NA
e) Condition of casing and cap?	Good	Good	Good	Good	Good	Good	Good	Good

Additional Comments:

GROUND WATER MONITORING WELL FIELD INSPECTION FORM

Sunny Farms Landfill
November 16-17, 2009

Well Identification Number:	MP-7AR	MP-7B	MP-8AR	MP-8B	MP-9A	MP-9B	MP-10A	MP-10B
Correct location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clearly and correctly labeled?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	No
Locked prior to arrival at well location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ground water depth:	Not Obs.	Not Obs.	Not Obs.	Not Obs.	15.74	17.16	21.58	23.19
Well total depth:	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas
For above ground completions: a) Protective outer casing present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(1) Condition?	Tilted	Good	Good	Good	Good	Good	Good	Good
(2) Locking cap? Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(3) Weep hole present?	Yes	Yes	Yes	Yes	Yes	NA	Yes	Yes
(4) Standing water between protective casing & well casing?	No	No	No	No	No	No	No	No
b) Surface seal/apron present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(1) Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(2) Ponded surface water?	No	No	No	No	No	No	No	No
For flush mount completions: a) Well vault present?	NA	NA	NA	NA	NA	NA	NA	NA
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	NA
(2) Covered with bolted vault lid?	NA	NA	NA	NA	NA	NA	NA	NA
(3) Standing water in vault? Covering top of inner casing?	NA	NA	NA	NA	NA	NA	NA	NA
b) Surface seal/apron present?	NA	NA	NA	NA	NA	NA	NA	NA
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	NA
(2) Raised at least slightly above grade and sloped away from the top of the vault?	NA	NA	NA	NA	NA	NA	NA	NA
(3) Ponded surface water on top of vault lid?	NA	NA	NA	NA	NA	NA	NA	NA
Well (inner) Inner well casing condition?	Against steel	Good	Good	Good	Good	Good	Good	Good
a) Material?	2"PVC	4"PVC	2"PVC	4"PVC	4"PVC	4"PVC	4"PVC	4"PVC
b) Survey reference mark?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c) Cap present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d) If the completion is flush mount, is the cap expandable and locking?	NA	NA	NA	NA	NA	NA	NA	NA
e) Condition of casing and cap?	Good	Good	Good	Good	Good	Good	Good	Good

Additional Comments: The steel protective casing at MP-7AR appeared to be tilted such that the PVC well casing was pressed against the steel casing.

GROUND WATER MONITORING WELL FIELD INSPECTION FORM

Sunny Farms Landfill
November 16-17, 2009

Well Identification Number:	MP-11A	MP-11B	MP-12A	MP-12AR	MP-12B	MP-13A	MP-13B	MP-14A
Correct location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clearly and correctly labeled?	No	No	Yes	No	Yes	No	No	No
Locked prior to arrival at well location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ground water depth:	Not Obs.	Not Obs	Not Obs	Not Obs	Not Obs	Not Obs	Not Obs	Not Obs
Well total depth:	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas
For above ground completions: a) Protective outer casing present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(1) Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(2) Locking cap? Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(3) Weep hole present?	Yes	Yes	Yes	Yes	NA	Yes	Yes	Yes
(4) Standing water between protective casing & well casing?	No	No	No	No	No	No	No	No
b) Surface seal/apron present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(1) Condition?	Loose	Good	Good	Good	Good	Good	Good	Good
(2) Ponded surface water?	No	No	No	No	No	No	No	No
For flush mount completions: a) Well vault present?	NA	NA	NA	NA	NA	NA	NA	NA
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	NA
(2) Covered with bolted vault lid?	NA	NA	NA	NA	NA	NA	NA	NA
(3) Standing water in vault? Covering top of inner casing?	NA	NA	NA	NA	NA	NA	NA	NA
b) Surface seal/apron present?	NA	NA	NA	NA	NA	NA	NA	NA
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	NA
(2) Raised at least slightly above grade and sloped away from the top of the vault?	NA	NA	NA	NA	NA	NA	NA	NA
(3) Ponded surface water on top of vault lid?	NA	NA	NA	NA	NA	NA	NA	NA
Well (inner) Inner well casing condition?	Good	Good	Good	Good	Good	Good	Good	Good
a) Material?	4"PVC	4"PVC	4"PVC	2"PVC	4"PVC	4"PVC	4"PVC	4"PVC
b) Survey reference mark?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c) Cap present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d) If the completion is flush mount, is the cap expandable and locking?	NA	NA	NA	NA	NA	NA	NA	NA
e) Condition of casing and cap?	Good	Good	Good	Good	Good	Grout	Good	Good

Additional Comments: External labels (on outside of steel casing) were not present at MP-11A, MP-11B, MP-12AR, MP-13A, MP-13B or MP-14A. Concrete pad at MP-11A was loose. Well cap at MP-13A could not be placed on well casing due to elevated grout above top of casing.

GROUND WATER MONITORING WELL FIELD INSPECTION FORM

Sunny Farms Landfill
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Well Identification Number:	MP-14B	MP-15AR	MP-15BR	MP-16A	MP-16B	MP-17A	MP-17B	MP-18A
Correct location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clearly and correctly labeled?	Yes	No	No	Yes	Yes	Yes	Yes	No
Locked prior to arrival at well location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ground water depth:	Not Obs.	23.51	23.95	Not Obs.	Not Obs.	Not Obs.	Not Obs.	17.89
Well total depth:	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas
For above ground completions: a) Protective outer casing present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(1) Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(2) Locking cap? Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(3) Weep hole present?	Yes	Yes	Yes	No	Yes	Yes	Yes	Yes
(4) Standing water between protective casing & well casing?	No	No	No	No	No	No	No	No
b) Surface seal/apron present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(1) Condition?	Good	Good	Good	Loose	Cracked	Good	Good	Good
(2) Ponded surface water?	No	No	No	No	No	No	No	No
For flush mount completions: a) Well vault present?	NA	NA	NA	NA	NA	NA	NA	NA
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	NA
(2) Covered with bolted vault lid?	NA	NA	NA	NA	NA	NA	NA	NA
(3) Standing water in vault? Covering top of inner casing?	NA	NA	NA	NA	NA	NA	NA	NA
b) Surface seal/apron present?	NA	NA	NA	NA	NA	NA	NA	NA
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	NA
(2) Raised at least slightly above grade and sloped away from the top of the vault?	NA	NA	NA	NA	NA	NA	NA	NA
(3) Ponded surface water on top of vault lid?	NA	NA	NA	NA	NA	NA	NA	NA
Well (inner) Inner well casing condition?	Good	Good	Good	Good	Good	Good	Good	Good
a) Material?	4"PVC	2"PVC	2"PVC	4"PVC	4"PVC	4"PVC	4"PVC	4"PVC
b) Survey reference mark?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c) Cap present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d) If the completion is flush mount, is the cap expandable and locking?	NA	NA	NA	NA	NA	NA	NA	NA
e) Condition of casing and cap?	Good	Good	Good	Good	Good	Broken	Good	Good

Additional Comments: External labels (on outside of steel casing) were not present at MP-15AR, MP-15BR or MP-18A. A weep hole was not observed in the steel casing of MP-16A. The concrete pad was loose at MP-16A and was cracked at MP-16B. The PVC well casing at MP-17A was broken several feet down.

GROUND WATER MONITORING WELL FIELD INSPECTION FORM

Sunny Farms Landfill
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Well Identification Number:	MP-18B	MP-20A	MP-21A	MP-22A	MP-23A	MP-24A	MP-25A	MP-26A
Correct location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clearly and correctly labeled?	No	Yes	No	Yes	Yes	Yes	Yes	Yes
Locked prior to arrival at well location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Ground water depth:	17.97	10.46	9.91	16.60	10.06	10.90	Not Obs.	13.84
Well total depth:	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas
For above ground completions: a) Protective outer casing present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(1) Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(2) Locking cap? Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(3) Weep hole present?	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
(4) Standing water between protective casing & well casing?	No	No	No	No	No	No	No	No
b) Surface seal/apron present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
(1) Condition?	Good	Good	Good	Good	Good	Good	Good	Good
(2) Ponded surface water?	No	No	No	No	No	No	No	No
For flush mount completions: a) Well vault present?	NA	NA	NA	NA	NA	NA	NA	NA
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	NA
(2) Covered with bolted vault lid?	NA	NA	NA	NA	NA	NA	NA	NA
(3) Standing water in vault? Covering top of inner casing?	NA	NA	NA	NA	NA	NA	NA	NA
b) Surface seal/apron present?	NA	NA	NA	NA	NA	NA	NA	NA
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	NA
(2) Raised at least slightly above grade and sloped away from the top of the vault?	NA	NA	NA	NA	NA	NA	NA	NA
(3) Ponded surface water on top of vault lid?	NA	NA	NA	NA	NA	NA	NA	NA
Well (inner) Inner well casing condition?	Good	Good	Good	Good	Good	Good	Good	Good
a) Material?	4"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC
b) Survey reference mark?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
c) Cap present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
d) If the completion is flush mount, is the cap expandable and locking?	NA	NA	NA	NA	NA	NA	NA	NA
e) Condition of casing and cap?	Good	Good	Good	Good	Good	Good	Good	Good

Additional Comments: External labels (on outside of steel casing) were not present at MP-18B or MP-21A. A weep hole was not observed in the steel casing of MP-25A.

GROUND WATER MONITORING WELL FIELD INSPECTION FORM

Sunny Farms Landfill
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Well Identification Number:	MP-27A	MP-28A	MP-29A	MP-30A	MP-31A	MP-32A	MP-33A	
Correct location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Clearly and correctly labeled?	Yes	No	No	No	No	No	No	
Locked prior to arrival at well location?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
Ground water depth:	14.85	Not Obs.	8.64	9.73	14.91	11.61	11.56	
Well total depth:	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	Not Meas	
For above ground completions: a) Protective outer casing present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
(1) Condition?	Good	Good	Good	Good	Sunk	Good	Sunk	
(2) Locking cap? Condition?	Good	Good	Good	Good	Good	Good	Good	
(3) Weep hole present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
(4) Standing water between protective casing & well casing?	No	No	No	No	No	No	No	
b) Surface seal/apron present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
(1) Condition?	Good	Good	Good	Good	Good	Good	Good	
(2) Ponded surface water?	No	No	No	No	No	No	No	
For flush mount completions: a) Well vault present?	NA	NA	NA	NA	NA	NA	NA	
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	
(2) Covered with bolted vault lid?	NA	NA	NA	NA	NA	NA	NA	
(3) Standing water in vault? Covering top of inner casing?	NA	NA	NA	NA	NA	NA	NA	
b) Surface seal/apron present?	NA	NA	NA	NA	NA	NA	NA	
(1) Condition?	NA	NA	NA	NA	NA	NA	NA	
(2) Raised at least slightly above grade and sloped away from the top of the vault?	NA	NA	NA	NA	NA	NA	NA	
(3) Ponded surface water on top of vault lid?	NA	NA	NA	NA	NA	NA	NA	
Well (inner) Inner well casing condition?	Good	Good	Good	Good	Good	Good	Good	
a) Material?	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	2"PVC	
b) Survey reference mark?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
c) Cap present?	Yes	Yes	Yes	Yes	Yes	Yes	Yes	
d) If the completion is flush mount, is the cap expandable and locking?	NA	NA	NA	NA	NA	NA	NA	
e) Condition of casing and cap?	Good	Good	Good	Good	Good	Good	Good	

Additional Comments: External labels (on outside of steel casing) were not present at MP-28A, MP-29A, MP-30A, MP-31A, MP-32A or MP-33A. The concrete pads at MP-31A and MP-33A had settled enough that the PVC well cap was pushing up against the steel casing lid (enough that the well could not be relocked after opening.).