



March 31, 2010
Project No. 10-03-30

Arten J. Avakian
MC 124
Municipal Solid Waste Permits Section
Texas Commission on Environmental Quality
P. O. Box 13087
Austin, Texas 78711-3087

Re: Response to a TCEQ Notice of Deficiency Letter; Regarding the Groundwater Sampling and Analysis Plan Permit Modification, Dated March 1, 2010, BFI-Sunset Farms Landfill, MSW Permit No. 1447, Travis County, Texas; Tracking No. 12962481; RN100542752/CN603341421

Dear Mr. Avakian:

This letter is written on behalf of the BFI-Sunset Farms Landfill in response to a Texas Commission on Environmental Quality (TCEQ) correspondence letter dated March 1, 2010, regarding the Groundwater Sampling and Analysis Plan (GWSAP) Permit Modification. The letter requested that the TCEQ comment be addressed within 30 days (March 31, 2010). The TCEQ's comment is provided below in italics and our response immediately follows.

Comment 1: *Revise Section 2.31 to state that monitor well inspection results will be documented on the BFI Groundwater Monitoring Well Condition Report found on page 11B.4 (in Appendix B)..*

Response: The requested change to Section 2.3.1 has been made.

Comment 2: *The application proposes to delete the last paragraph of Section 2.3.2 (Water Level Measurement), which provides instructions for measuring total well depth at each well at each monitoring event. A conforming change is proposed in Section 2.4.7 (Field Measurements). Please explain in accordance with 30 TAC §305.70(e)(2) why this change is necessary, and how the change would meet the eligibility requirements of §305.70(d) (that is, not substantially alter the permit conditions and not reduce the capability of the facility to protect human health and the environment).*

Response: Procedures for total depth measurements have been retained to be performed and recorded once every two years. A biennial total depth measurement frequency combined with semi-annual turbidity (a required field monitoring parameter per GWSAP Section 2.3.4) monitoring is adequate for evaluating potential well integrity issues that would be

evidenced by increased turbidity or siltation within the well casing and reduces potential cross-contamination issues from inserting an extended length of measuring tape successively into each well. The proposed schedule does not decrease the ability of the facility to continue to be protective of human health and the environment.

Comment 3: *Revise Section 2.3.4 (Purge Volume) to clarify whether or not purging will continue until parameters (specific conductance, pH, temperature, and turbidity) stabilize, or will cease after three casing volumes have been purged.*

Response: Section 2.3.4 has been revised to state: "Wells will be purged a minimum of three (3) casing volumes and stabilization of field parameters or to dryness if prior to extraction of three casing volumes of water."

Comment 4: *Revise Section 2.3.5 (Purge Water Management) to specify that all purge water will be managed as contaminated water, and disposed of accordingly.*

Response: Section 2.3.5 has been revised to state: "All purge water shall be stored in appropriate containers for each individual monitor well. Purge water known or suspected to be contaminated based on monitoring analytical data will be managed as contaminated water and disposed of accordingly."

Comment 5: *Revise Section 2.4.1 (General Sample Collection Information) to retain the instructions to allow up to seven days recovery time after purging low-yield monitor wells before determining that a well is dry or has not recharged sufficiently to sample. If after seven days a slowly recharging well has not recovered sufficiently for a complete set of samples, a partial set of samples should be collected in the order specified in the GWSAP, or in another order if warranted by conditions and data needs, until no more samples for the set can be collected.*

Response: The requested change has been made to Section 2.4.1.

Comment 6: *Section 2.4.2 (Sample Collection and Order) includes field parameters (temperature, specific conductance, pH, and turbidity) in the first bullet. Section 2.3.5 explains that these parameters will be measured during purging. Please explain whether you intend to collect samples for the field parameters during sampling, and for what purpose. If you do not intend to collect samples for field parameters during sampling, then we suggest you delete the first bullet.*

Response: The first bullet in Section 2.4.2 has been deleted.

Comment 7: *The last sentence of Section 2.5.1 (Field Logs) in the current GWSAP has been omitted from the proposed GWSAP. Please revise the proposed GWSAP to restore the last sentence of Section 2.5.1, which states that "Copies of field logs will be placed in the operating record for the facility."*

Response: The noted sentence was not present in the GWSAP version in which the proposed revisions were initially proposed, and was therefore not purposefully omitted. Discrepancy of the GWSAP versions has been resolved and the requested sentence has been added to Section 2.5.1.

Comment 8: *The last sentence of the first paragraph of Section 2.5.2 (Chain-of-Custody/Sample Container Labels) in the current GWSAP has been omitted from the proposed GWSAP. Please revise the proposed GWSAP to restore the last sentence of the first paragraph of Section 2.5.2, which states that "Copies of the final groundwater monitoring and analytical reports will be placed in the operating record for the facility."*

Response: The noted sentence was not present in the GWSAP version in which the proposed revisions were initially proposed, and was therefore not purposefully omitted. Discrepancy of the GWSAP versions has been resolved and the requested sentence has been added to Section 2.5.2.

Comment 9: *Revise Section 2.6 (Sample Transport) to restore the sentence "The sample shipping container will be sealed using a method that will reveal whether the container security has been violated or otherwise compromised before it is turned over to a common carrier or any other person that does not complete the chain-of-custody documentation." The sentence appears in the current GWSAP, but was omitted without explanation from the proposed GWSAP.*

Response: The noted sentence was not present in the GWSAP version in which the proposed revisions were initially proposed, and was therefore not purposefully omitted. Discrepancy of the GWSAP versions has been resolved and the requested sentence has been added to Section 2.6.

Comment 10: *In Section 3 (Laboratory Procedures/Performance Standards), replace "shall" and "must" with "will" to clarify that the practices will be implemented. (Exception: Retain "must" in the last sentence of the second paragraph.)*

Response: The requested change has been made to Section 3.

Comment 11: *Revise Section 4.2 (Background) to indicate the following:*

- a. *The facility will continue to monitor for volatile organic compounds in existing wells (that is, wells that existed before issuance of MSW Permit No. 1447A), while collecting background samples for total metals.*
- b. *The facility will monitor for volatile organic compounds in new wells at least semiannually while collecting background for total metals.*
- c. *Groundwater monitoring results from new wells will be evaluated after each sampling event during the background data collection period for the new wells, for evidence of releases from the facility.*

Response: New wells and existing wells that are part of the new groundwater monitoring system will be monitored for volatile organic compounds (VOCs) a least semi-annually while collecting background for total metals and subsequent monitoring. New wells and existing wells that are part of the new groundwater monitoring system will be treated under the detection monitoring program for VOCs, even during background monitoring for total metals. Collection of samples for analysis of VOCs will be discontinued in wells not part of the new groundwater monitoring system because detection monitoring for VOCs will be initiated in existing wells carried over to the new system and new wells following installation and initiation of monitoring. Collection of samples and statistical evaluation of former GWSAP metals will continue in wells to be decommissioned during background monitoring for total metals in wells of the new groundwater monitoring system.

Section 4.2 has been revised to state: "VOCs will be monitored at least semi-annually in new wells and existing wells part of the new groundwater monitoring system while collecting background for total metals. Eight (8) independent samples from each well shall be collected and analyzed for the metal constituents listed in Table 11-1 to establish background due to the seasonal and temporal variations natural in ground water analytical data, and in consideration of potential statistical analysis methodologies and requirements. The facility will continue to monitor the existing wells for the previously approved list of filtered parameters while collecting background samples for the revised list of unfiltered constituents in accordance with 30 TAC §330.401(b). After each sampling event and upon completion of background monitoring, the facility will evaluate the data to ensure that they are representative of background groundwater constituent concentrations unaffected by waste management activities or other sources of contamination."

Comment 12: *Revise the second paragraph of Section 4.5 (Ground Water Analytical Result Submittals) to state that if the facility is in assessment monitoring, it will submit an annual assessment monitoring report within 60 days after the facility's second semiannual (not "last") groundwater monitoring event in a calendar year.*

Response: Section 4.5 has been revised as requested.

Comment 13: *Revise the second paragraph of Section 5.1 (Statistically Significant Constituents and Verification Resampling) to specify that verification resampling will be completed and the results submitted within 60 days of the determination of the initial statistically significant exceedance (SSI).*

Response: The second paragraph of Section 5.1 has been revised as requested.

Comment 14: *Revise the second paragraph of Section 5.1 to specify that if an initial SSI occurs in a monitor well and verification resampling is not conducted, then the initial SSI will be treated as a verified SSI.*

Response: The following sentence has been added to the second paragraph of Section 5.1: "If an initial SSI occurs in a monitor well and verification resampling is not conducted, then the initial SSI will be treated as a verified SSI."

Comment 15: *Address the following comments regarding the Statistical Analysis Plan (Appendix E)*

- a. *Revise Section 2.1 (Data Analysis for Volatile Organic Constituents) to state that if an initial SSI occurs in a monitor well and verification resampling is not conducted, then the initial SSI will be treated as a verified SSI.*
- b. *Update the rule citations in Section 2.2.1.2 (Minimum Background) to reflect the 2006 Revisions to the MSW Rules (30 TAC Chapter 330).*
- c. *Explain the meaning of "O" in the formula in Section 2.2.2 (Parametric Prediction Interval Procedure). Is it a zero or the letter "O"?*
- d. *Revise the practice stated in the first paragraphs of Sections 2.2.3 (Censored Data) and 3.1.3 (Censored Data) for substituting values for nondetects, to indicate that nondetects will be replaced with the value of the quantitation limit, rather than one-half the value of the reporting limit.*

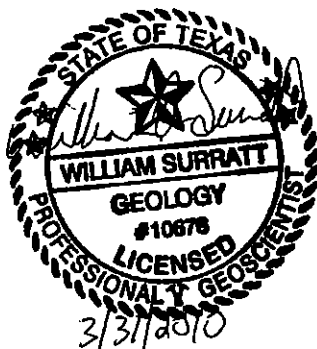
- e. *The third paragraph of Section 3 (Assessment Monitoring Statistical Analysis) appears to be missing several words, and is unclear in its meaning. Please examine the paragraph and revise accordingly.*
- f. *Revise the practice stated in the third paragraph of Section 3.1.3 for substituting values for nondetects, to indicate instead that nondetects will be replaced with the value of the quantitation limit, rather than one-half the value of the method detection limit.*

Response:


- a. The following sentence has been added to the second paragraph of Section 5.1: "If an initial SSI occurs in a monitor well and verification resampling is not conducted, then the initial SSI will be treated as a verified SSI."
- b. The rule citations in Section 2.2.1.2 have been revised to reflect the 2006 Revisions to the MSW Rules (30 TAC Chapter 330).
- c. The meaning of "O" in the formula in Section 2.2.2 is zero. The "O" has been revised to a zero "0".
- d. The phrase "one-half the value of the reporting limit" has been replaced with "the value of the quantitation limit" in the first paragraphs of both Sections 2.2.3 and 3.1.3.
- e. The third paragraph in Section 3 has been revised to state: "The upper 95-percent confidence limit on the mean will be compared to a GWPS for constituents that have previously occurred at a statistically significant level over a GWPS to statistically evaluate if that constituent has returned to below the GWPS. If the upper 95-percent confidence limit on the mean does not exceed the GWPS then there is statistically significant evidence that the mean concentration of that constituent no longer exceed the GWPS."
- f. The phrase "one-half the value of the reporting limit" has been replaced with "the value of the quantitation limit" in the third paragraph of Section 3.1.3.

Arten J. Avakian
March 31, 2010
Page 7

I trust that this information is acceptable to you. Please call Michael Stewart at (512) 392-9105 or me at (817) 337-0112 if you have any questions.



Sincerely,
THE CAREL CORPORATION


William D. Surratt, P.G.
Groundwater Services Manager

Att: TCEQ Part 1 Application Page 1 and Signature Page
GWSAP – Underlined/Strikeout Replacement Pages
GWSAP – Clean Replacement Pages

cc: TCEQ Region 11 Office
Michael Stewart – Republic Services, Inc.
Everett Moore – Sunset Farms Landfill

TCEQ Part 1 Application Page 1 and Signature Page



Texas Commission on Environmental Quality

Permit or Registration Application for Municipal Solid Waste Facility

Part I

A. General Information

Facility Name:	Sunset Farms Landfill			
Physical or Street Address (if available):	9912 Giles Road			
(City) (County)(State)(Zip Code):	Austin	Travis	TX	78754
(Area Code) Telephone Number:	512-272-4327			
Charter Number:				

If the application is submitted on behalf of a corporation, provide the Charter Number as recorded with the Office of the Secretary of State for Texas.

Operator Name ¹ :	BFI Waste Systems of North America, Inc.			
Mailing Address:	P.O. Box 140026			
(City) (County)(State)(Zip Code):	Austin	Travis	TX	78714
(Area Code) Telephone Number:	512-272-4327			
(Area Code) FAX Number:	512-272-8004			
Charter Number:				

If the permittee is the same as the operator, type "Same as Operator".

Permittee Name:	Same as Operator			
Physical or Street Address (if available):				
(City) (County)(State)(Zip Code):			TX	
(Area Code) Telephone Number:				
Charter Number:				

If the application is submitted by a corporation or by a person residing out of state, the applicant must register an Agent in Service or Agent of Service with the Texas Secretary of State's office and provide a complete mailing address for the agent. The agent must be a Texas resident.

Agent Name:	CT Corporation System			
Mailing Address:	350 N. St. Paul Street			
(City) (County)(State)(Zip Code):	Dallas	Dallas	TX	75201
(Area Code) Telephone Number:	214-979-1172			
(Area Code) FAX Number:	214-754-0921			

Application Type:

<input type="checkbox"/> Permit	<input type="checkbox"/> Major Amendment	<input type="checkbox"/> Minor Amendment
<input type="checkbox"/> Registration	<input checked="" type="checkbox"/> Modification	<input type="checkbox"/> Temporary Authorization
	<input type="checkbox"/> w/Public Notice	
	<input checked="" type="checkbox"/> w/out Public Notice	<input type="checkbox"/> Notice of Deficiency Response

¹ The operator has the duty to submit an application if the facility is owned by one person and operated by another [30 TAC 305.43(b)]. The permit will specify the operator and the owner who is listed on this application [Section 361.087 Texas Health and Safety Code].

Signature Page

I, Michael Stewart
(Operator)

Environmental Manager
(Title)

certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature: Michael Stewart

Date: 3/29/2010

TO BE COMPLETED BY THE OPERATOR IF THE APPLICATION IS SIGNED BY AN AUTHORIZED REPRESENTATIVE FOR THE OPERATOR

I, _____, hereby designate _____
(Print or Type Operator Name) (Print or Type Representative Name)

as my representative and hereby authorize said representative to sign any application, submit additional information as may be requested by the Commission; and/or appear for me at any hearing or before the Texas Commission on Environmental Quality in conjunction with this request for a Texas Water Code or Texas Solid Waste Disposal Act permit. I further understand that I am responsible for the contents of this application, for oral statements given by my authorized representative in support of the application, and for compliance with the terms and conditions of any permit which might be issued based upon this application.

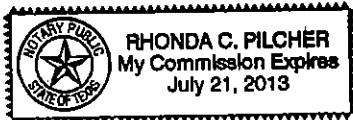
Printed or Typed Name of Operator or Principal Executive Officer

Signature

SUBSCRIBED AND SWORN to before me by the said Michael Stewart

On this 29th day of March, 2010

My commission expires on the 21st day of July, 2013



Rhonda C. Pilcher
Notary Public in and for

Hays County, Texas

(Note: Application Must Bear Signature & Seal of Notary Public)

GWSAP – Underlined/Strikeout Replacement Pages

**BFI-SUNSET FARMS LANDFILL
TRAVIS COUNTY, TEXAS
TCEQ PERMIT NO. MSW 1447-A**

PERMIT AMENDMENT APPLICATION

**PART III - SITE DEVELOPMENT PLAN
ATTACHMENT 11
GROUNDWATER SAMPLING AND ANALYSIS PLAN**

Prepared for

BFI Waste Systems of North America, LLC

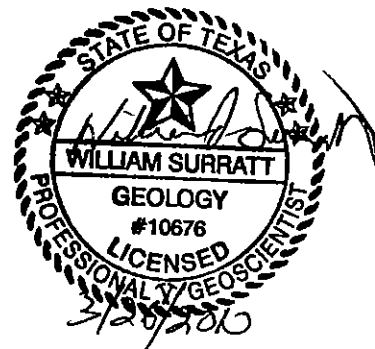
October 2004

Revised ~~January~~ March 2010

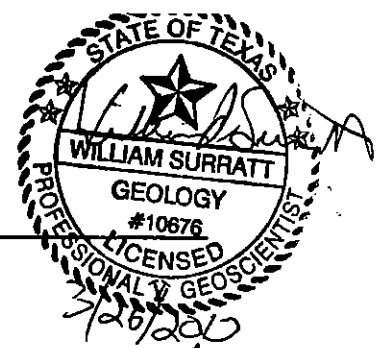
Prepared by



*136 Pecan Street
Keller, Texas 76248
(817) 337-0112*



CONTENTS



1	INTRODUCTION	1
2	FIELD PROCEDURES	2
2.1	Field Sampling Health and Safety Plan	2
2.2	Sample Event Preparation and QA/QC	2
2.2.1	General Event Preparation	2
2.2.2	Sample Container Selection	2
2.2.3	Sample Container Preparation	3
2.2.4	Equipment Preparation Prior to Site Arrival	3
2.2.5	Field QA/QC Samples	3
2.3	Well Purge	5
2.3.1	General Well Purge Information	5
2.3.2	Water Level Measurement	5
2.3.3	Purge Equipment and Procedures	6
2.3.4	Purge Volume	8
2.3.5	Purge Water Management	9
2.4	Monitoring Well Sample Collection	9
2.4.1	General Sample Collection Information	9
2.4.2	Sample Collection Order	9
2.4.3	Sampling Equipment/Procedures	10
2.4.4	VOC Sample Collection	10
2.4.5	Sample Filtration	1140
2.4.6	Sample Preservation	11
2.4.7	Field Measurements	11
2.5	Record Keeping	11
2.5.1	Field Logs	11
2.5.2	Chain-of-Custody/Sample Container Labels	1244
2.6	Sample Transport	12
3	LABORATORY PROCEDURES/PERFORMANCE STANDARDS	13
4	SAMPLING FREQUENCY - DETECTION MONITORING	16
4.1	Analyzed Constituents	16
4.2	Background	17
4.3	Updating Background Data	17
4.4	Detection Monitoring Events	18
4.5	Ground Water Analysis Result Submittals	18
5	STATISTICAL METHODOLOGY - GROUND WATER DATA ANALYSIS	19
5.1	Statistically Significant Constituents and Verification Resampling	19
6	REFERENCES	20

CONTENTS (CONTINUED)

APPENDIX A

Table 11-1 - Analyzed Parameters 11A.1 – 11A.3

APPENDIX B

BFI Field Information Log 11B.1

Recommended Containerization and Preservation of Samples 11B.2

Chain-of-Custody 11B.3

BFI Ground Water Monitor Well Condition Report 11B.4

APPENDIX C

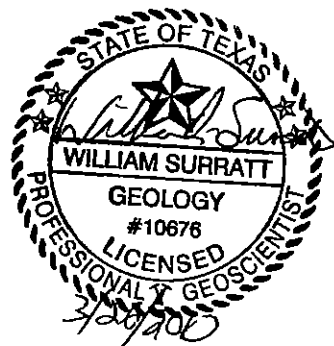
Basic Water Level Indicator Procedures 11C.1

APPENDIX D

Laboratory Checklist 11D.1 – 11D.4

APPENDIX E

Statistical Analysis Plan 11E.1 – 11E.10



1 INTRODUCTION

This Ground Water Sampling and Analysis Plan (GWSAP) has been prepared for the BFI-Sunset Farms Landfill site (Texas Commission on Environmental Quality [TCEQ] Permit No. 1447). The BFI-Sunset Farms Landfill is a Type I Municipal Solid Waste Disposal Facility located at the intersection of Giles and Blue Goose Roads, approximately five (5) miles east of the intersection of US Highway 290 and Interstate Highway 35 in Travis County, Texas.

The following plan covers the procedures for collecting representative samples from ground water monitoring wells and the basic laboratory requirements for obtaining valid, defensible data. The plan is limited to sampling and analysis requirements and does not include monitoring well placement, design and construction, or well development procedures.

This GWSAP is, and will be followed, in accordance with 30 TAC §330.401 - §330.421. Groundwater monitoring will be conducted at the site through the active life and post-closure care period of the landfill, pursuant to 30 TAC §330.401(f).

2 FIELD PROCEDURES

2.1 Field Sampling Health and Safety Plan

A health and safety plan is required for all ground water sampling events at the BFI Sunset Farms Landfill. Prior to monitoring well purging and sampling, the sampling contractor's Ground Water Sampling Health and Safety Plan must be in place. Designing the site Ground Water Sampling Health and Safety Plan will be the responsibility of the party performing the actual work.

In addition, each laboratory facility is responsible for their own standard laboratory health and safety plan as required by current OSHA regulations.

2.2 Sample Event Preparation and QA/QC

2.2.1 General Event Preparation

The laboratory performing the ground water analysis shall supply all necessary coolers, pre-cleaned containers, trip blanks, chemical preservatives, packaged refrigerant, labels, custody seals, chain-of-custody and shipping forms. All field data shall be entered on a BFI Field Information Log (see Page 11B.1 in Appendix B) or a similar form. Any changes to the monitoring plan and/or procedures need to be given to the laboratory prior to the field sampling personnel arriving on the site. A specific contact person should be established at both the facility and contract laboratory for communication between the two (2) parties.

2.2.2 Sample Container Selection

Each sample container needs to be constructed of materials compatible and nonreactive with the sample it is to contain. Consult Page 11B.2 (Appendix B), *Recommended Containerization and Preservation of Samples*, to determine the number, type and volume of appropriate containers. As noted in Section 2.2.1, the contract laboratory performing the analysis shall supply all the required containers. In circumstances when the facility must obtain its own containers, these containers will be purchased from local container distributors with the exception of septum vials and PTFE (e.g. Teflon[®]) lined caps required for organic analyses, which are available from laboratory supply companies. Metal lids shall not be utilized for any sample containers.

2.2.3 Sample Container Preparation

Sample containers will be purchased as a pre-cleaned product or cleaned in the laboratory in a manner consistent with EPA protocol. An example protocol is as follows:

- Bottles, vials, cubitainers, liners and caps hand washed in a laboratory-grade, non-phosphate detergent.
- Rinse three (3) times with distilled water.
- Rinse with a chemically pure or reagent grade 10% nitric acid solution.
- Rinse three (3) times with organic-free water.
- Oven-dried (air-dried for high-density polyethylene containers and caps).

After containers and caps are cool and dry, cap each container and store in a clean and dry environment.

2.2.4 Equipment Preparation Prior to Site Arrival

This section outlines the equipment preparation prior to site arrival for a specific monitoring event. This equipment preparation includes, at a minimum, decontamination procedures for water level indicators, and field parameter (temperature, pH, specific conductivity, and turbidity) measurement device(s).

- Water Level Indicators - will be decontaminated prior to initial site arrival by hand washing the sensor probe and entire length of tape in a laboratory grade non-phosphate detergent followed by a triple rinse with organic free water. While the tape is reeled back onto the carrying spool, the tape and probe will be wiped down with a clean dry paper towel.
- Field Parameter (Temperature, pH, Specific Conductivity, Turbidity) Measuring Device(s) – Field parameter measuring device(s) will be decontaminated by hand washing the sample cells in a laboratory grade, non-phosphate detergent followed by rinsing with organic-free water. Meters will then be checked for proper calibration and operation as per the manufacturer's instructions. Any malfunctioning meters will be replaced prior to packing.

In case of equipment failure, it is recommended that back-up instruments be in the sample crew's possession. If a back-up instrument is not available, then sampling should not proceed until proper equipment is made available.

2.2.5 Field QA/QC Samples

Field QA/QC samples consist of two (2) primary areas of quality control. The first area is the quality control designed to prevent sample contamination from occurring in the field

and/or shipping procedures. This is monitored in the trip blank(s), field blank(s), and any applicable equipment (rinsate) blank(s). A basic description of each is as follows:

- **Trip Blank** - These samples will be prepared in the laboratory by filling the appropriate clean sample containers with organic-free water and adding the applicable chemical preservative, if any, as indicated on Page 11B.2. These containers are to be labeled "Trip Blank", the analyses to be performed on each container indicated, and then shipped in the typical transportation cooler to the field and back to the laboratory along with the other sample set containers for a given event. This blank is tested to detect any contamination that may occur as a result of the containers, sample coolers, cleaning procedures, or chemical preservatives used. Trip blanks will consist of analysis of volatile organics and shall be taken and analyzed for each sampling event at a frequency of one (1) in twenty (20) per monitoring event or at a minimum of one per event, whichever is greater.
- **Field Blank** - Field blank containers will be prepared in the field at a routine sample collection point during a monitoring event by filling the appropriate sample containers from the field supply of organic-free water. This field supply water shall be the same water used for cleaning and decontamination of all field purge and sample equipment. This blank is tested to detect contamination that may occur as a result of site ambient air conditions and serves as an additional check for contamination in the containers, sample transport coolers, cleaning procedures, and any chemical preservatives. Field blanks will consist of analysis of volatile organics and shall be taken and analyzed for each sampling event at a frequency of a one (1) in twenty (20) per monitoring event or at a minimum of one per event, whichever is greater.
- **Equipment (Rinsate) Blank** - These blanks will be prepared in the field immediately following decontamination cleaning procedures on any non-dedicated equipment used for purging, sampling or sample filtration. Following decontamination, field supply organic-free water is passed through the non-dedicated equipment in the same procedure as a ground water sample. This blank confirms proper field decontamination procedures on non-dedicated equipment utilized in the field. Equipment blanks shall be taken and analyzed for volatile organics anytime non-dedicated equipment is used to purge, sample, or sample filtration at a well at a frequency of one (1) in twenty (20) per monitoring event or at a minimum of one per event, whichever is greater.

Other Field QA/QC Samples - A second area of standard field QA/QC samples are field duplicates, matrix spike and matrix spike duplicates.

- **Field duplicates** are an extra set of samples taken at a particular monitoring point and labeled "Field Duplicate". These are independent samples which are collected as close as possible to the same point in space and time. They are two (2) separate

