

**HAZARDOUS WASTE STORAGE, LESS THAN 90 DAY SITE
LEACHATE SUMP AT RUSSELL ROAD LANDFILL**

1. Version, Date. 3, 05 March 2014 (EMS)

2. Purpose. This Environmental Standard Operating Procedure (ESOP) establishes the procedures for monitoring and maintaining the leachate sump at the Russell Road Landfill and for disposing leachate collected in the sump. Adherence to the management and disposal procedures below is essential to prevent disturbance or degradation of groundwater, soil, surface water, air quality, and nearby natural resources and to prevent exposure of personnel to hazardous waste (HW).

3. Applicability

a. Audience. This ESOP is primarily for Natural Resources and Environmental Affairs (NREA) Branch personnel directly involved in the management of the leachate sump at the Russell Road Landfill, which includes all HW personnel and the Tank Program Manager. This procedure also applies to contractors responsible for activities at the Russell Road Landfill.

b. Scope. This ESOP applies to the monitoring, maintenance, reporting, and disposal requirements related specifically to the landfill leachate sump. Additional activities, including inspection and maintenance of the Russell Road Landfill benchmarks, gas vent/monitoring system, security controls, landfill cap, cover, erosion control measures, groundwater monitoring, and leachate collection trench and drain are addressed under Marine Corps Base Quantico (MCBQ) HW Management Permit, Attachments E and H, (Environmental Protection Agency (EPA) ID# VA1170024722).

4. Definitions

a. HW Storage, Less than (<)90-day Site. Includes any <90-day storage site as defined by Resource Conservation and Recovery Act regulations.

b. Leachate. Any liquid, including any suspended components in the liquid, that has percolated through or drained from soil or waste material.

c. Sump. A low-lying structure or place that serves as a receptacle for drainage of leachate from the Russell Road Landfill.

5. Responsible Parties. The following parties are responsible for processes described in this procedure:

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- a. NREA Branch Personnel
- b. MCBQ Fire Department
- c. Applicable Contracting Officer and staff
- d. Contractor - Quarterly Landfill Inspector
- e. Contractor - Vacuum Truck Operator/Waste Transporter

6. Procedures (Instructions for Operational Control). This paragraph provides background and establishes instructions for maintaining and monitoring the leachate sump and disposing of the collected leachate from the Russell Road Landfill.

a. The Russell Road Landfill is a closed HW landfill managed in accordance with the post-closure requirements described in Attachments E and H of the MCBQ HW Management Permit (EPA ID# VA1170024722). Under this permit, post-closure care is to continue for 30 years after certification of closure, which was accepted September 3, 1998.

b. Leachate generated within the landfill is conveyed via a leachate collection system to a collection trench drain, which discharges to the leachate sump. The leachate sump at the Russell Road Landfill consists of a 2,020 gallon, double-walled, poly tank installed in 1997.

c. Inspections (Quarterly, Monthly, Weekly and Major Rain Event Inspections)

(1) Quarterly Inspections

(a) In accordance with Attachment H of the MCBQ HW Management Permit (EPA ID# VA1170024722), quarterly general landfill inspections will be conducted.

(b) These quarterly inspections include above-grade visual inspections of the leachate sump to note any visible observation of leachate.

(c) The inspection logs (which are included in the MCBQ HW Management Permit (EPA ID# VA1170024722)) record any observations and any recommended repairs/remediation. NREA Branch personnel maintain inspection logs.

(2) Monthly Inspections

(a) The lateral leachate collection system and leachate collection system shall be inspected monthly.

(b) A copy of the inspection log can be obtained in the Operations and Maintenance Manual for the Russell Road Leachate Sump

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Alarms System dated March 2011. This manual is on file within the NREA Branch. All completed inspection reports will be maintained on file within the NREA Branch.

(3) Weekly Inspections

(a) If the autodialer becomes inoperable, NREA Branch personnel will conduct weekly inspections of the leachate sump.

(b) A copy of the inspection log can be obtained in the Operations and Maintenance Manual for the Russell Road Leachate Sump Alarms System dated March 2011. This manual is on file within the NREA Branch. All completed inspection reports will be maintained on file within the NREA Branch.

(4) Major Rain Event Inspections

(a) The lateral leachate collection system and leachate collection system will be inspected after major rainfall events.

(b) A major rainfall event is defined as 2 inches of precipitation within an 8 hour period.

d. Leachate Disposal

(1) Pump the leachate from the sump to the vacuum truck for offsite transport and disposal by lowering a collection device (i.e., a hose or tube) into the bottom of the sump. Apply negative pressure within the collection device. Leachate (i.e., liquid leachate and sludge) transfers directly into a vacuum truck.

(2) When pumping the leachate out of the sump into the vacuum truck, the vacuum truck operator wears Level D personal protective equipment with the exception of a hard hat.

(3) Manage leachate as a HW (F-039) in accordance with Virginia HW Management Regulations.

(4) The vacuum truck operator pumps, manifests, transports, and disposes the leachate in compliance with all applicable regulations. An EPA Uniform HW Manifest is used to show certification of proper disposal. The final copy from the disposal facility is mailed back to NREA Branch personnel per EPA regulations.

7. Inspection and Corrective Action

a. NREA Branch personnel or its contractors perform quarterly, monthly, and weekly inspections of the leachate sump as discussed in Paragraph 6. Any inoperable or damaged equipment needing repair or replacement and associated corrective actions shall be noted. Broken equipment shall be repaired or replaced immediately or as soon as practically possible.

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b. Inspection logs are available for review by Virginia Department of Environmental Quality (VDEQ) and EPA representatives upon request. The Russell Road Landfill and the leachate sump are subject to inspection by VDEQ and EPA.

c. The inspector communicates (written or verbally) to the NREA HW Manager any deficiencies identified by VDEQ, NREA Branch personnel, contractors, or any other party, and any necessary corrective actions. Necessary corrective actions shall be reviewed with NREA Branch personnel during the Russell Road Landfill Annual Training (refer to Paragraph 9).

8. Internal Communication. Any deficiencies noted during the inspections or reported by VDEQ/EPA shall be reported (either written or verbally) to NREA Branch personnel. If necessary, NREA Branch personnel report deficiencies to VDEQ.

a. In the event of a large release, when the MCBQ Fire Department is first notified, the Fire Department notifies the NREA Branch.

b. NREA Branch personnel notify VDEQ and other NREA Branch personnel of the release verbally and in writing.

c. Emergency preparedness and response to releases is discussed in Paragraph 10.

9. Training/Awareness

a. NREA Branch personnel receive annual training as required on the Russell Road Landfill permit.

(1) Annual training includes an onsite visit to the Russell Road Landfill, review of the MCBQ HW Management Permit conditions, and review of processes and any necessary corrective actions.

(2) The training form (Attachment 2-1) describes the scope of the training, date of training, and training attendees.

(3) NREA Branch personnel maintain the training records.

b. NREA Branch personnel ensure that Occupational Safety and Health Administration health and safety training as specified in 29 Code of Federal Regulation (CFR) 1910.120(e) is current.

c. The applicable Contracting Officer or representative shall review and verify federal and state certifications, licenses, and training documents required for contractors (e.g., the vacuum truck operator and the contractor performing the quarterly inspections).

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10. Emergency Preparedness and Response

a. When the leak detection monitoring system and reporting equipment are operational, a phone call notifies NREA Branch personnel if the capacity of the sump is being approached.

b. When the monitoring and reporting systems are inoperable, NREA Branch personnel conduct weekly inspections to identify if the capacity of the sump is being approached. NREA Branch personnel notify the vacuum truck operator and schedule a pump out.

c. NREA Branch personnel or contractor notifies other NREA Branch personnel or MCBQ Fire Department of any releases.

(1) If the MCBQ Fire Department is notified first, they notify NREA Branch personnel.

(2) NREA Branch personnel ensure that immediate corrective action is taken to contain and clean up any spills or releases and oversees any necessary remediation.

(3) NREA Branch personnel provide notification of the release according to the procedures summarized in Paragraph 8.

(a) NREA staff document the release and any corrective actions and maintain the documentation files.

(b) The Base's Oil and Hazardous Substance Spill Prevention and Response Plan provide emergency spill procedures.

11. Reference and Related Documents

a. Documents

(1) Semi-Annual/Monthly/Weekly Inspection Checklist
(Attachment 2-2)

(2) Virginia HW Management Requirements, Virginia Administrative Code (VAC), Chapter 60, 9 VAC 20-60

(3) Russell Road Landfill Annual Training

(4) 40 CFR Part 265 Subpart J (Leachate listed as an F-listed [F039] HW)

(5) Oil and Hazardous Substance Spill Prevention and Response Plan

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b. Records

- (1) Semi-Annual/Monthly/Weekly Inspection Checklist
- (2) Spill Report
- (3) Annual Training Record

c. Permits

(1) MCBQ HW Management Permit, Attachments E and H, EPA ID# VA1170024722, September 28, 2011.

12. Document Revision History. The following provides a history of revisions of this ESOP:

Revision Number	Revision Date	Revision Made By	Organization or Section	Paragraph	Summary of Change & Reason	Signature
1	1/2008	EMS Coordinator	Environmental Planning	All	Grammar & technical revisions	EMS
2	3/2014	DJG	Environmental Planning	All	Grammar & technical revisions	Dave Grose

13. Document Owner. This document has been reviewed and approved by the following personnel. Any revisions or future updates to the procedure shall be completed by the Document Owner as needed.

- a. Document Owner. HW Program Manager, NREA Branch
- b. Document Approval. Chair, E²MS Implementation Team.

2012 TRAINING RECORD

RUSSELL ROAD LANDFILL

NonCompliance issues that may endanger human health or the environment shall be provided orally within 24-hours of the Permittee becoming aware. Written submission will be provided to the Director within 5 days of the Permittee becoming aware.

Groundwater Monitoring – Corrective Action Program – Regulated Unit (MW09/MW15R)

- *SemiAnnual* groundwater monitoring and electron donor injection.
- If GPSs are no longer exceeded then the injections can stop; however, if the GPSs are exceeded then injections will continue on a Semi-Annual basis.
- *SemiAnnually* evaluate the effectiveness of the Enhanced Natural Attenuation Systems.

Groundwater Monitoring Program – Corrective Action Program (Background Well, Compliance Monitoring Wells, Point of Compliance Wells)

- *SemiAnnual* Monitoring.
- Notify Department within 7 days of determining that an additional constituent was detected at levels exceeding GPSs (7 day notification requirement for GPSs exceeded of constituents not previously exceeded.)
Can resample within 30 days of the date that the data is available from the laboratory or within 60 days of the original sampling (whichever occurs first).
- Complete validation of data within 45 days of the data being available from the laboratory.
- Semiannual reports no later than March 1st and September 1st of each calendar year.
- Annual Groundwater Monitoring and Remedial Measures Report submitted on or before March 1 of the calendar year.

Gas Management Program

- *Annual* Monitoring (during the summer months).
- Exceedances: Notify Department within 24 hours verbally and in writing within 5 days of learning of the exceedance.

Inspection/Maintenance Schedule

- *Annual*: Groundwater Monitoring Wells, piezometers and Injection Wells and Professional Engineer inspection.
- *Annual*: Benchmarks, landfill gas vents and gas vent monitoring wells.
- *Quarterly*: Landfill cap, vegetative cover, cap drainage collection system, surface runoff management control systems (and after major rainfall events (2"/8hr period).
- *Monthly*: Leachate collection system (and after major rainfall events). *Weekly* if autodialer is inoperable.
- *SemiAnnual*: Sump, alarm system, autodialer system integrity, operation and maintenance.
- *SemiAnnual*: Inspection of the facility to verify no unauthorized entry.
- *Monthly*: Final cover of the RCRA cap (and after major rain events).

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- *Quarterly* Methane Monitoring
- *SemiAnnual* Groundwater Sampling
- *Annual* Cap Inspection (monitoring wells, gas vents, cap integrity, surface water flow controls, leachate collection system)
- *SemiAnnual* Landscaping

December 4, 2012

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**MARINE CORPS BASE QUANTICO, QUANTICO, VIRGINIA
LEACHATE COLLECTION SUMP, RUSSELL ROAD LADFILL
WEEKLY INSPECTION REPORT**

#	Description	OK	Error	Notes
1	Sensaphone Rings (three times before answer)			
2	ID # (703) 784-0595			
3	Time of Day (EST or EDT)			
4	Zone 1 Sump High High Level			
5	Zone 2 Sump High Level			
6	Zone 3 Temperature (set to 150°F)			
7	Zone 4 Secondary Containment			
8	Sound (actual noise within control panel)			
9	Power (from solar array)			
10	Battery (6-C-Cell battery backup)			
11	Output (no remote alarms connected)			
12	Sound Recording (30 seconds)			

Additional Comments:

Note: Errors noted will require the leachate sump to be visited to confirm condition and take corrective measures as necessary.

Inspected By: _____

Date: _____

Form Report I

**MARINE CORPS BASE QUANTICO, QUANTICO, VIRGINIA
LEACHATE COLLECTION SUMP, RUSSELL ROAD LADFILL
MONTHLY INSPECTION REPORT**

#	Description	Yes/ OK	No/ Error	Notes
1	Weekly Report Conducted			
2	Visual Check of Solar Module & Mounting			
3	Visual Check of Lightning Mast			
4	Lightning Air Horn			
5	Lightning Ground Cables			
6	Visual Check of Control Panel & Mounting			
7	Visual Check of Storage Battery			
8	Visual Check of Solar Array Controller			
9	Visual Check of Telephone Surge Arrestor			
10	Visual Check of Wiring			
11	Sump Cover Secure			
12	Secondary Containment Access Plates Secure			
13	Level of Leachate in Sump			
14	Visual Check of High-High and High Float Switch			
15	Sensaphone Power-On LED			
16	Sensaphone Phone-In-Use LED			
17	Sensaphone Alarm LED			
18	Sensaphone Battery OK LED			
19	Control Panel Door Locked & Secure			
20	Landfill Access Gate Locked			

Form Report II

**MARINE CORPS BASE QUANTICO, QUANTICO, VIRGINIA
LEACHATE COLLECTION SUMP, RUSSELL ROAD LADFILL
SEMI-ANNUAL INSPECTION REPORT**

#	Procedure	Yes/ OK	Readings/ Notes
1	Weekly Report Conducted		
2	Monthly Report Conducted		
3	Clean Solar Array Photovoltaic Panel		
4	Measure Storage Battery Voltage		
5	Voltage Input From Solar Array		
6	Change Sensaphone Batteries (6-C-cell)		
7	Manually Trip High-High Level Sensor		
8	Manually Trip High Level Sensor		
9	Manually Trip High Temperature Sensor		
10	Fluid Level in Secondary Containment		
11	Sump Cover Vent Cleaned		
12	Sump Cover Bolts		
13	Lightning Ground Cable to Earth Ground		
14	Terminal Box in Sump Secure		
15	Visual Inspection of Conduit		
16	Visual Inspection of Telephone Line		

Additional Comments:

Inspected By: _____

Date: _____

Form Report III