

DUGWAY PERMIT

MODULE VII

ATTACHMENT 46

**SWMU 011
POST-CLOSURE PLAN**

TABLE OF CONTENTS

	Page No.
LIST OF TABLES	ii
LIST OF FIGURES	ii
LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS	iii
1.0 INTRODUCTION.....	1
2.0 FACILITY DESCRIPTION	3
2.1 DPG-011 LOCATION AND HISTORY	4
2.2 PAST OPERATIONS.....	4
2.3 PREVIOUS INVESTIGATIONS DOCUMENTATION	5
2.4 CLOSURE ACTIVITIES	5
2.5 HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT.....	5
2.6 SURFACE WATER AND GROUNDWATER	6
2.7 CLOSURE NOTIFICATIONS	6
3.0 SECURITY REQUIREMENTS	6
4.0 POST-CLOSURE OPERATIONS AND INSPECTIONS	6
4.1 INTRODUCTION	6
4.2 ROUTINE SITE INSPECTIONS	7
4.3 CONTINGENCY INSPECTIONS	7
4.3.1 Earthquakes.....	8
4.3.2 Floods or Major Storms	8
4.3.3 Fires	8
4.4 INSPECTION FOLLOW-UP	8
5.0 SUBMITTALS/REPORTING	9
5.1 NON-COMPLIANCE REPORTING	9
5.2 BIENNIAL POST-CLOSURE REPORT	9
5.3 REQUIRED SUBMITTALS	9
6.0 POST-CLOSURE CERTIFICATION.....	10
7.0 REFERENCES.....	11

LIST OF TABLES

		Page No.
Table 1	Summary of DPG-011 Post-Closure Information Requirements Under 40 CFR §270.14, UAC R315-3-2.19, and UAC R315-3-2.5	1
Table 2	DSHW Library Documents Detailing DPG-003 Investigations	7
Table 3	DPG-011 Post-Closure Inspection Schedule	12
Table 4	Summary Table of Required Submittals	17

LIST OF FIGURES

Figure 1.1	DPG-011 Location Map
Figure 1.2	DPG-011 Site Map
Figure 1.3	Photograph of Site

LIST OF ACRONYMS, ABBREVIATIONS, AND SYMBOLS

bgs	below ground surface
CFR	Code of Federal Regulations
COPC	Chemical of Potential Concern
DPG	Dugway Proving Ground
DSHW	Divisions of Solid and Hazardous Waste
DWQ	Division of Water Quality
EPO	Environmental Program Office
ft	feet
GMA	Groundwater Management Area
HWMU	Hazardous Waste Management Unit
mg/L	milligrams per liter
msl	mean sea level
NFA	No Further Action
NRC	Nuclear Regulatory Commission
RCRA	Resource Conservation and Recovery Act
RFI	RCRA Facility Investigation
SWMU	Solid Waste Management Unit
TDS	Total Dissolved Solid
UAC	Utah Administrative Code
UDEQ	Utah Department of Environmental Quality
USEPA	United States Environmental Protection Agency
USGS	U.S Geological Survey
VOC	Volatile Organic Compound

1.0 INTRODUCTION

The two objectives of this Post-Closure Plan are: 1) outline the requirements needed to prevent exposure or contact with beryllium material left in place in trenches TR-1 through TR-4 at this landfill site; and 2) ensure that Dugway Proving Ground (DPG or Dugway) complies with the Post-Closure Permit issued by the State of Utah in accordance with Title 40 Code of Federal Regulations (CFR) §264.117, with respect to post-closure inspection requirements. To meet these objectives, this Post-Closure Plan provides detailed information regarding the location, regulatory criteria, and post-closure inspections at Solid Waste Management Unit (SWMU) 11, herein referred to as DPG-011. Post-closure requirements will continue for a minimum of 30 years after closure of DPG-011. The post-closure care period may be extended or shortened, as deemed necessary (40 CFR §264.117(a)(2)).

In accordance with 40 CFR §260.28 and Utah Administrative Code (UAC) R315-3-2.19, the Post-Closure Plan is required to include specific information for a closed facility. As applicable to DPG-011, the information requirements include:

- General description of the facility,
- Description of security procedures,
- General inspection schedule,
- Preparedness and Prevention Plan,
- Facility location information (including seismic and flood plain considerations),
- Closure Plan or Closure Proposal,
- Certificate of Closure,
- Topographic map, with specific scale,
- Summary of groundwater monitoring data, and
- Identification of uppermost aquifer and interconnected aquifers.

Table 1 provides the regulatory citations for the general information requirements and the specific locations in this Post-Closure Plan where the specific information is presented.

**Table 1: Summary of DPG-011 Post-Closure Information Requirements
Under 40 CFR §260.14, and UAC R315-3-2.5**

Regulation Citation	Requirement Description	Location Requirement is Addressed
40 CFR §260.14(b)(1) UAC R315-3-2.5(b)(1)	General Description of the Facility	Section 2.0
40 CFR §260.14(b)(4) UAC R315-3-2.5(b)(4)	Description of Security Procedures	Section 3.0
40 CFR §260.14(b)(5) UAC R315-3-2.5(b)(5)	General Inspection Schedule	Section 4.2 and Form B of Module VII
40 CFR §260.14(b)(6) UAC R315-3-2.5(b)(6)	Preparedness and Prevention	Section 4.0

**Table 1 (Continued): Summary of DPG-003 Post-Closure Information Requirements
Under 40 CFR §260.14, UAC R315-3-2.19, and UAC R315-3-2.5**

Regulation Citation	Requirement Description	Location Requirement is Addressed
40 CFR §260.14(b)(11)(i-ii, v) UAC R315-3-2.5(b)(11) (i-ii, v)	Facility Location Information Applicable seismic standard	Section 4.3.1
40 CFR §260.14(b)(11) (iii-v) UAC R315-3-2.5(b)(11) (iii-v)	Facility Location Information 100-year floodplain	Section 4.3.2
40CFR §260.14(b)(13) UAC R315-3-2.5(b)(13)	Copy of the Closure Proposal	The Final Phase II RCRA Facility Investigation (RFI) was approved 2010. No public comments were received.
40 CFR §260.14(b)(14) UAC R315-3-2.5(b)(14)	Closure Certification and Notification	Section 2.7
40 CFR §260.14(b)(16) UAC R315-3-2.5(b)(16)	Post-Closure Cost Estimate	Federal Facilities are exempt from this requirement.
40 CFR §260.14(b)(18) UAC R315-3-2.5(b)(18)	Proof of Financial Coverage	Federal Facilities are exempt from this requirement.
40 CFR §260.14(b)(19) UAC R315-3-2.5(b)(19) (i)	Topographic Map Map Scale and Date	Figure 1.2 (1 inch = 1000 feet (ft)).
40 CFR §260.14(b)(19) UAC R315-3-2.5(b)(19) (ii)	Topographic Map 100-year floodplain area	Section 4.3.2; DPG-011 is not located within a verified 100-year floodplain area.
40 CFR §260.14(b)(19) UAC R315-3-2.5(b)(19) (iii)	Topographic Map Surface waters including intermittent streams	Figure 1.3
40 CFR §260.14(b)(19) UAC R315-3-2.5(b)(19) (iv)	Topographic Map Surrounding land uses	DPG-011 is within a military base. There are no nearby operations in the vicinity of DPG-011.
40 CFR §260.14(b)(19) UAC R315-3-2.5(b)(19) (v)	Topographic Map A wind rose (i.e., prevailing windspeed and direction)	There are no residential populations abutting DPG-011. The closest residential area is English Village (approximately 35 miles away). A wind rose is not deemed necessary for DPG-011.
40 CFR §260.14(b)(19) UAC R315-3-2.5(b)(19) (vi)	Topographic Map Orientation of Map, North Arrow	Figure 1.2
40 CFR §260.14(b)(19) UAC R315-3-2.5(b)(19) (vii)	Topographic Map Legal boundaries of the hazardous waste management facility	Figure 1.2
40 CFR §260.14(b)(19) UAC R315-3-2.5(b)(19) (viii)	Topographic Map Access control, fence, gates	Figure 1.2. The site is not enclosed by a fence.
40 CFR §260.14(b)(19) UAC R315-3-2.5(b)(19) (ix)	Topographic Map Injection and withdrawal wells	Figure 1.2

**Table 1 (Continued): Summary of DPG-003 Post-Closure Information Requirements
Under 40 CFR §260.14, UAC R315-3-2.19, and UAC R315-3-2.5**

Regulation Citation	Requirement Description	Location Requirement is Addressed
40 CFR §260.14(b)(19) UAC R315-3-2.5(b)(19) (xi)	Topographic Map Barriers for drainage or flood control	DPG-011 is graded to drain surface water away from the soil covers. There are no barriers to drainage or flood control.
40 CFR §260.14(c) UAC R315-3-2.5(c)(1)	Groundwater Monitoring Information Summary of Groundwater Data	Final Phase II RFI Report, Section 2.2.4
40 CFR §260.14(c) UAC R315-3-2.5(c)(2)	Groundwater Monitoring Information Identification of uppermost aquifer	Final Phase II RFI Report, Section 2.2.1
40 CFR §260.14(c) UAC R315-3-2.5(c)(3)	Groundwater Monitoring Information Delineation of the Waste Management Area	Figure 1.2
40 CFR §260.14(c) UAC R315-3-2.5(c)(4)	Groundwater Monitoring Information Extent of Plume	Final Phase II RFI Report, Section 2.2.4
40 CFR §260.14(c) UAC R315-3-2.5(c)(5)	Groundwater Monitoring Information Detailed Plans/Engineering Report for Proposed Groundwater Program	Post-closure groundwater monitoring at DPG-011 will be in accordance with the Downrange Groundwater Management Area (GMA) Plan.
40 CFR §260.14(c) UAC R315-3-2.5(c)(6)(i)	Groundwater Monitoring Information Proposed List of Parameters	Post-closure groundwater monitoring at DPG-011 will be in accordance with the Downrange GMA Plan.
40 CFR §260.14(c) UAC R315-3-2.5(c)(6)(ii)	Groundwater Monitoring Information Proposed Groundwater Monitoring System	Post-closure groundwater monitoring at DPG-011 will be in accordance with the Downrange GMA Plan.
40 CFR §260.14(c) UAC R315-3-2.5(c)(6)(iii)	Groundwater Monitoring Information Background Values	Post-closure groundwater monitoring at DPG-011 will be in accordance with the Downrange GMA Plan.
40 CFR §260.14(c) UAC R315-3-2.5(c)(6)(iv)	Groundwater Monitoring Information A description of the Proposed Sampling	Post-closure groundwater monitoring at DPG-011 will be in accordance with the Downrange GMA Plan.

2.0 FACILITY DESCRIPTION

The following provides a general description of DPG-011, as required by UAC R315-3-2.5(b)(1) (Figures 1.1 and 1.2).

2.1 DPG-011 LOCATION AND HISTORY

DPG-11 covers approximately 3.4 acres on the east side of Granite Mountain (Figure 1.1). The site consists of six trenches, five mounds, and a CONEX box container (Figure 1.2). DPG-11 also corresponds to the location for the East Granite Holding Area. This holding area was reported to be approximately 65 hectares (160.6 acres) and bound on three sides by steep canyon walls with the fourth side cordoned off by a security fence, which is no longer present (DPG, 1982). A photograph of the site is provided as Figure 1.3.

During the spring and summer of 1965, DPG received 50,000 pounds of propellant waste, of which 300 pounds were estimated to be beryllium metal stabilizer. Under the direction of the US Air Force and the approval of the state of Utah, a study was conducted to determine environmental dispersion of beryllium resulting from burning missile propellant wastes in an open trench (USAEHA, 1965). At least two trenches were used during the test and contain residual burned waste material. The first trench (TR-1) is open, runs east-west parallel to the ridge, and is approximately 400 feet (ft) long. The second trench (TR-4) is backfilled to existing grade, runs north-south perpendicular to the ridge, and is approximately 200 ft long surrounded by four metal warning signs stating: “Danger - Contaminated Waste - Buried July 1966.” Two additional trenches (TR-2 and TR-3) are parallel to the ridge and near TR-1. These are open trenches which were most likely associated with additional propellant burning operations. Based on the available historical information (USAEHA, 1965), combined with results from test pitting and soil sampling, the beryllium contamination is believed to be confined to the four trenches (TR-1 through TR-4).

Two additional burial areas on the west side of TR-4 were also discovered during Phase II geophysical and radiological surveying. These two backfilled trenches were designated TR-5 and TR-6, and are perpendicular to the ridge approximately 50 and 150 ft west of TR-4, respectively. Phase II results from test pit excavation and radiological surveying indicate that TR-5 and TR-6 are most likely associated with radiological waste disposal. All or portions of TR-5, TR-6, and the CONEX container remain uncharacterized with respect to radiological constituents following the completion of RFI field operations at this site; therefore, further evaluation of the radiological portion of DPG-11 under the direction and regulation of the Nuclear Regulatory Commission (NRC) is recommended (Section 4).

2.2 PAST OPERATIONS

DPG-11 was identified as a landfill site type based on available site history and field observations that suggest waste/contamination is present in the six trenches identified at the site. Surface soil samples were collected from worst-case locations at each of the six trenches identified at DPG-11 (Figure 1.2) to investigate potential impacts to surface soil overlying TR-1 through TR-6. Test pits were excavated to investigate potential waste buried in five of the six trenches (TR-1 through TR-4 and TR-6). Descriptions of the beryllium-containing fuel burn in the relevant text (USAEHA, 1965) identified two trenched areas associated with the burning. However, several other trenches were identified at the site. These additional trenches were most likely associated with either beryllium-containing fuel burning and/or low-level radioactive waste disposal. In addition to the 14 Phase II test pits described above, nine supplemental exploratory test pits were also excavated in association with the scheduled test pits in TR-1 through TR-3 to delineate the extent of burn layers within these features.

2.3 PREVIOUS INVESTIGATIONS DOCUMENTATION

The detailed results of previous soil and groundwater sampling and closure information including the risk assessment are available for DPG-11 in the Division of Solid and Hazardous Waste (DSHW) public documents listed below in Table 2 (UAC R315-3-2.5(b)(13)).

Table 2: DSHW Library Documents Detailing DPG-11 Investigations

Document Title	Received Date	DSHW Library No.
Parsons, 1999. <i>Final Phase I RCRA Facility Investigation, Investigation Report, Revision 1</i> . September.	09/99	DPG00007
Parsons, 2009. <i>Final Phase II RCRA Facility Investigation Report, SWMU-011 Addendum</i> . August	08/09	

2.4 CLOSURE ACTIVITIES

In accordance with UAC R315-7-21 and the Final RCRA RFI (Parsons, 2000), closure of Area 1 at DPG-011 has been completed utilizing a modified version of Remedial Option 1 combined with additional controls outlined in the RFI. This option consists of site controls including site documentation, access restrictions, fencing and/or placards, and land-use restrictions such as prohibiting installation of water supply wells and residential use of the site. As risk levels from direct exposure to the beryllium material in the trenches exceeded industrial levels, Option 1 was modified to include implementation of additional controls consisting of placement of additional soil cover over TR-1 through TR-4. The additional soil material is being placed to ensure any potential exposure to the beryllium layer in the trenches is mitigated.

These measures will prevent human contact with the buried material and provide for protection of groundwater. A general inspection checklist for landfill sites designed to insure that these objectives are maintained is presented in Module VII as Form B.

2.5 HUMAN HEALTH AND ECOLOGICAL RISK ASSESSMENT

The results of the human health risk assessment performed per UAC R315-101 (DSHW, 2001) indicate that soils at TR-1 through TR-4 currently do not qualify for no further action under UAC R315-101 (DSHW, 2001) based on hypothetical residential or industrial land use. Soil-to-groundwater analysis indicates that future impacts to groundwater from constituents of potential concern (COPCs) in soil are not expected. Cross-media cumulative risks and hazards from inhalation of COPCs volatilized from subsurface soil at DPG-11 are not expected since the predicted risks and hazards associated with inhalation of subsurface soil volatile organic compounds (VOCs) volatilized into indoor air were an order of magnitude below the DSHW (2001) industrial target risk level of 1E-04 and hazard index of one. Inhalation of residual beryllium in the burn layers of the trenches poses adverse inhalation risk. Site controls coupled with the interim voluntary action of added soil cover will ensure protection against inhalation of buried beryllium material.

There are no COPCs identified as potential hazards for populations of ecological receptors.

2.6 SURFACE WATER AND GROUNDWATER

There is no surface water present at DPG-11. DPG-11 is located at the mouth of a small, northeast-trending colluvial valley along the eastern side of Granite Mountain. Groundwater in this region is generally characterized by high total dissolved solids (TDS) and very flat hydraulic gradients. However, the flanks of Granite Mountain, including the DPG-11 site, constitute a local recharge zone for basin groundwater. Groundwater flow at DPG-11 is likely to the east or northeast, based largely on the local topographic gradient present at the site. Groundwater quality at DPG-11 is Class II (drinking water quality) per UAC R317-6-3 (DWQ, 2002), based on the laboratory TDS measurement of 1770 milligrams per liter (mg/L) from the groundwater sample collected from MW01.

Groundwater will be managed in accordance with the Downrange GMA.

2.7 CLOSURE NOTIFICATIONS

Federal facilities are exempt from submitting notifications to the local zoning authority as required by 40 CFR §264.116 and §264.119, which are incorporated by reference in UAC R315-8-7.

3.0 SECURITY REQUIREMENTS

The following security conditions are applicable to DPG-011:

1. DPG-011 is located within a federal, military installation (DPG). As such, the installation is restricted for the common population.
2. At DPG-011, signs will be placed warning against unauthorized entry.
3. Security facilities are to be maintained and inspected throughout the post-closure care period. The security facilities (i.e., posted signs) will be inspected and the frequency of inspection is given in Section 4.2. Dugway shall report to the DSHW any decrease of Dugway's Base Security, which could affect the security conditions as applicable to DPG-011.
4. Damaged or missing security facilities shall be noted in the inspection checklist. Repairs shall be completed as soon as practicable after the problem is discovered, in compliance with R315-8-2.6(c).

4.0 POST-CLOSURE OPERATIONS AND INSPECTIONS

4.1 INTRODUCTION

DPG-011 has been closed under the DPG RCRA part B Permit requirements and specifications of the Final RFI (Parsons, 2009). Disturbance of buried material will not be allowed. To ensure that the area is not reused or developed, periodic site inspections and a biennial post-closure report shall be required. Removal and reuse of soil from this site will not be allowed unless under an excavation permit approved by the Dugway Proving Ground Environmental Program Office (EPO). Soil excavation at this site must be coordinated through the DPG EPO and the DPG Dig Permit Process (Module VII.F.4).

4.2 ROUTINE SITE INSPECTIONS

During its post-closure period general inspections of the former DPG-011 site shall be conducted annually by November 1st to ensure that the integrity of the protective soil layer is maintained and to verify the Dugway Dig Permit process (Module VII.F.4) has been followed. Any modifications to the frequency of inspections will be in accordance with amendments submitted in the form of proposed permit modifications.

Site inspections will consist of a complete walkthrough and visual inspection of the covered areas as well as surface water drainage features. A general site inspection checklist for landfill sites is included in Module VII as Form B. Completed inspection forms shall be filed with the Dugway Environmental Office.

At a minimum the site shall be visually inspected to ensure the following conditions are maintained at the site:

- No noticeable damage to the soil covering from burrowing animals,
- No noticeable depressions or ponding water are present,
- No excessive soil erosion is evident on the cover surface or at the cover edges,
- Signs are in good condition, and
- The SWMU monument is undamaged
- There is no significant subsidence of the trenches.

Table 3 summarizes the Post-Closure Inspection Schedule for DPG-011, and lists the items to be inspected. Inspection personnel shall note any problems found and shall inform appropriate Dugway representatives.

Table 3: DPG-011 Post-Closure Inspection Schedule

Inspection/ Monitoring Item	Method of Documentation	Frequency of Inspection
Soil Cover	Inspection Checklist (Module VII Form B)	Annual, by November 1 st
Signs	Inspection Checklist (Module VII Form B)	Annual, by November 1 st
Drainage	Inspection Checklist (Module VII Form B)	Annual, by November 1 st

4.3 CONTINGENCY INSPECTIONS

This section provides information about emergency response inspection procedures to be implemented in the event of any natural disaster in the DPG area that may affect the final cover system at DPG-11. Module VII Includes a general inspection checklist for landfill sites as Form B.

The Dugway Emergency Response and Contingency Plan (Part B Permit), where applicable to this site, shall be used to announce and respond to emergency conditions. At a minimum, the site inspector should have a radio or phone and a First Aid kit available during inspections.

4.3.1 Earthquakes

Dugway Proving Ground is located in Seismic Zone 2 with a maximum acceleration of 0.2 gravity force (Hunt, 1984). DPG-011 is not located within 200 ft of any active faults. Although Utah is tectonically active, most of the earthquake activity occurs about 65 miles to the east along the Wasatch Range Foothills.

A geologic map completed in a 1988 study by the U.S. Geological Survey (USGS) (Barnhard and Dodge, 1988), was used to determine the distribution, relative age, and amount and extent of surface rupture on Quaternary fault scarps, in the area of DPG-011.

The USGS study (Barnhard and Dodge, 1988) concluded that morphologic and geologic data collected along the fault scarps in the area indicate that all were formed during the later Pleistocene era and there is not any clear evidence of Holocene surface rupture. Several faults inferred on geophysical evidence are located at DPG; however, there is no evidence of displacement during Holocene time.

In the event of a 6.5 magnitude or higher earthquake centered within 50 miles of the site, qualified personnel will visually inspect the protective soil cover for signs of damage as soon as it is safe and practical to do so. Any damage to the protective soil cover will be repaired to ensure the integrity of the system. Dugway will implement corrective actions to ensure that contaminants are contained and human health is protected. Post-earthquake site inspection records will be submitted to the Dugway Environmental Department.

4.3.2 Floods or Major Storms

DPG-011 is not located within a 100-year verified floodplain. The National Flood Insurance Rate Map, identifying the boundary of the 100-year flood, does not include DPG. There are no permanent streams or other surface water bodies on DPG.

In the event of a flood or major storm, Dugway will inspect the protective soil cover to ensure their integrity within 72 business hours of the event. A checklist is included in Module VII (Form B). A major storm is defined in this plan as a storm with 1 inch of precipitation or more over a 24-hour period. Any damage to the cover will be repaired as soon as possible to ensure the integrity of the system.

4.3.3 Fires

In the event of a surface fire near the covered trenches, the Dugway fire department will be notified and the Dugway integrated contingency plan will be implemented. In the event of a landfill fire, if the protective soil cover is observed to have been breached, firefighting methods such as using foam or smothering with soil will be considered and used, as appropriate. Following the incident, Dugway will perform a thorough inspection of the cover using the checklist included in Module VII (Form B), to ensure that the integrity of the soil cover has not been compromised and waste has not been exposed. If there is fire damage, DPG will implement corrective actions to ensure that contaminants are contained and human health is protected.

4.4 INSPECTION FOLLOW-UP

Copies of completed site inspection checklists (Form B of Module VII) shall be forwarded to the Dugway Environmental Office. The Point-of-Contact for the Dugway Environmental Office is as follows:

Environmental Programs Compliance Representative
Dugway Proving Ground Environmental Program Office
Dugway Proving Ground, UT 84022
Telephone: (435) 831-3560

The Dugway Environmental Office shall notify the appropriate personnel to implement corrective action as needed.

Corrective action shall be initiated as soon as practical after identifying the problem, or as directed by Dugway. If the corrective action requires substantial effort, a technical plan shall be prepared to summarize the problem, the potential impacts, the proposed plan for action, and the time-frame in which corrective action will be implemented as required under this Permit. This plan shall be approved by the Executive Secretary prior to implementing corrective action.

5.0 SUBMITTALS/REPORTING

Based on the evaluation presented in the RFI for DPG-011 (Parsons, 2009), post-closure inspection is required. Groundwater monitoring for DPG-011 will be managed under Downrange GMA Plan.

5.1 NON-COMPLIANCE REPORTING

The conditions at DPG-011 are such that the impact to human health and the environment is very unlikely. Hazardous wastes are no longer managed at the site. Nonetheless, if there is any type of non-compliance with any condition of this Permit, notifications shall be submitted per permit condition VII.C.5.

5.2 BIENNIAL POST-CLOSURE REPORT

In accordance with UAC R315-3-3.1(1)(9), a Biennial Post-Closure Report shall be prepared for all Dugway closed Hazardous Waste Management Units (HWMUs) and SWMUs undergoing post-closure care by March 1, of the reporting year. Specifically for DPG-011, the Biennial Post-Closure Report shall include, at a minimum, the following:

- General site description and conditions,
- Areas of protective soil cover repair (if any), and
- Inspection records.

5.3 REQUIRED SUBMITTALS

Table 4 summarizes the requirements for the Biennial Post-Closure Report for DPG-011 and reporting for any non-compliance.

Table 4: Summary Table of Required Submittals

Required Submittals	Frequency and Submittal Date
<p><u>Biennial Post-Closure Report</u></p>	<p>Post-Closure Reports shall be submitted to the Division of Solid and Hazardous Waste no later than March, of the year the report is due. Reporting years are even numbered years beginning with March 2012, for the duration of the Post-Closure Monitoring Period.</p>
<p><u>Non-Compliance Reporting</u></p> <p>Anticipated Non-Compliance</p> <p>24-hour Notification for information concerning the non-compliance, which may endanger public drinking water supplies or human health or the environment.</p> <p>Five-day written notification for information concerning the non-compliance, which may endanger public drinking water supplies or human health or the environment including evidence of groundwater contamination, significant data quality issues, or a request for reduced monitoring frequency. The Executive Secretary may waive the 5-day notice, in favor of a 15-day notice.</p> <p>Written notification for information concerning the non-compliance, which does not endanger human health or the environment.</p>	<p>30 days advance notice of any change which may result in noncompliance</p> <p>Orally within 24 hours of discovery</p> <p>Within 5 days of discovery</p> <p>Submitted when the Biennial Post-Closure Reports are submitted.</p>

6.0 POST-CLOSURE CERTIFICATION

No later than 60 days after post-closure activities are completed and approved by the Executive Secretary, Dugway representatives shall submit a certification to the Board, signed by Dugway and an independent professional engineer registered in the State of Utah, stating why post-closure care is no longer needed.

7.0 REFERENCES

Barnhard, T.P. and R.L. Dodge, 1988. *Map of Fault Scarps Formed on Unconsolidated Sediments, Tooele 1° x 2° quadrangle, Northwestern Utah*, United States Geological Survey.

Division of Water Quality (DWQ), 2002. *Administrative Rules for Ground Water Quality Protection*. Utah Department of Environmental Quality. R317-6, Utah Administrative Code.

Hunt, Roy E, 1984. *Geotechnical Engineering Investigation Manual*. New York, McGraw-Hill.

Parsons Engineering Science, Inc. (Parsons), 1999. *Final Phase I RCRA Facility Investigation, Investigation Report, Revision 1*. September.

Parsons, 2002. *Final Phase II RCRA Facility Investigation Risk Assumptions Document*. Parsons, Denver, May 31. Version 2.

Parsons. 2009. Final Phase II RCRA Facility Investigation Report SWMU 11 Addendum. Parsons, Salt Lake City, August.

Utah Department of Environmental Quality (UDEQ), 1992. *RCRA Facility Assessment of Solid Waste Management Units at DPG*.

USAEHA (United States Army Environmental Hygiene Agency). 1965. *Evaluation of Solid Waste Units, DPG*. Groundwater Contamination Survey, No. 38-26-0847-88. Interim Final Report.

FIGURES