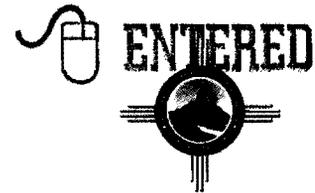




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Date: **FEB 14 2012**
Refer To: EP2012-0018

John Kieling, Acting Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
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**Subject: Submittal of the 2011 Annual Inspection Report for Los Alamos County
Airport Landfill, Solid Waste Management Units 73-001(a) and 73-001(d),
Technical Area 73**

Dear Mr. Kieling:

Enclosed please find two hard copies with electronic files of the 2011 Annual Inspection Report for Los Alamos County Airport Landfill, Solid Waste Management Units 73-001(a) and 73-001(d), Technical Area 73.

If you have any questions, please contact Todd Haagenstad at (505) 665-2936 (hth@lanl.gov) or Ramoncita Massey at (505) 845-4675 (ramoncita.massey@nnsa.doe.gov).

Sincerely,

Michael J. Graham, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

George J. Rael, Assistant Manager
Environmental Projects Office
Los Alamos Site Office



MG/GR/DM/TH:sm

Enclosures: Two hard copies with electronic files – 2011 Annual Inspection Report for Los Alamos County Airport Landfill, Solid Waste Management Units 73-001(a) and 73-001(d), Technical Area 73 (LA-UR-12-0671)

Cy: (w/enc.)
Ramoncita Massey, DOE-LASO, MS A316
Todd Haagenstad, EP-CAP, MS M992
RPF, MS M707 (electronic copy)
Public Reading Room, MS M992 (hard copy)

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Laurie King, EPA Region 6, Dallas, TX
Neil Weber, San Ildefonso Pueblo
Joe Chavarria, Santa Clara Pueblo
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Jeff Walterscheid, ENV-RCRA, MS M997 (w/ MS Word files on CD)
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LA-UR-12-0671
February 2012
EP2012-0018

**2011 Annual Inspection Report for
Los Alamos County Airport Landfill,
Solid Waste Management Units
73-001(a) and 73-001(d),
Technical Area 73**

Prepared by the Environmental Programs Directorate

Los Alamos National Laboratory, operated by Los Alamos National Security, LLC, for the U.S. Department of Energy under Contract No. DE-AC52-06NA25396, has prepared this document pursuant to the Compliance Order on Consent, signed March 1, 2005. The Compliance Order on Consent contains requirements for the investigation and cleanup, including corrective action, of contamination at Los Alamos National Laboratory. The U.S. government has rights to use, reproduce, and distribute this document. The public may copy and use this document without charge, provided that this notice and any statement of authorship are reproduced on all copies.

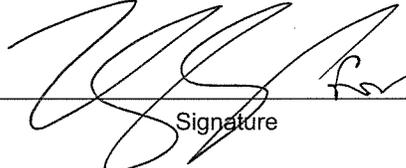
2011 Annual Inspection Report for Los Alamos County Airport Landfill, Solid Waste Management Units 73-001(a) and 73-001(d), Technical Area 73

February 2012

Responsible project manager:

Todd Haagenstad		Project Manager	Environmental Programs	2/10/2012
Printed Name	Signature	Title	Organization	Date

Responsible LANS representative:

Michael J. Graham		Associate Director	Environmental Programs	2/10/12
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Responsible DOE representative:

George J. Rael		Manager	DOE-LASO	2/14/12
Printed Name	Signature	Title	Organization	Date

EXECUTIVE SUMMARY

This report summarizes activities and findings of the landfill cover inspection conducted for the Los Alamos County Airport Technical Area 73 landfill for calendar year 2011 as part of the postclosure monitoring requirements.

Routine inspections and monitoring were conducted throughout the year and following significant precipitation events. In September 2011, existing wattles were replaced and additional wattles were installed along the access area to the retaining walls. In October 2011, cracks in the MatCon pavement and joints between the pavement and the concrete hanger pads were repaired.

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1.0 INTRODUCTION

This landfill cover inspection report, prepared by Los Alamos National Laboratory (LANL or the Laboratory), summarizes the findings of inspection activities conducted at the Los Alamos County (LAC) Airport at Technical Area 73 (TA-73) Solid Waste Management Unit (SWMU) 73-001(a), a landfill, and SWMU 73-001(d), a debris disposal area (DDA), for calendar year 2011.

Postclosure inspection and reporting requirements are described in the “Final Implementation Strategy for Post Closure Inspection and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico” (CE2 Corporation 2009, 111600) and the “Post-Closure Care and Monitoring Plan for the Los Alamos Site Office TA-73 Airport Landfill, Revision 2” (North Wind Inc. 2006, 111707). The final implementation strategy was developed to update the 2006 postclosure plan to include minor changes reflected in the 2007 final remedy and to include specific activities necessary for a comprehensive approach to maintaining and monitoring the landfill for 30 yr following construction.

2.0 BACKGROUND

Two inactive solid waste disposal sites [the airport landfill, SWMU 73-001(a), and the DDA, SWMU 73-001(d)] are located at the LAC Airport (Figure 1). The airport landfill operated from 1943 to 1973 for the disposal of solid waste consisting of household trash from the Los Alamos townsite and office trash from Los Alamos Scientific Laboratory. Before 1965, some of the waste was incinerated and subsequently buried in the airport landfill. Approximately 489,500 yd³ of waste was disposed of in the landfill.

From 1984 to 1986, approximately 126,000 yd³ of burned debris was excavated from the western end of the airport landfill and reburied in two parallel trenches at the DDA.

In late 2006 and early 2007, the U.S. Department of Energy (DOE) installed the final remedy landfill cover system at the airport landfill through a contract with North Wind, Inc. The final remedy design and completion activities for the landfill and the DDA are provided in the “Remedy Completion Report, DOE-LASO TA-73 Airport Landfill, SWMUs 73-001(a) and 73-001(d)” (North Wind Inc. 2007, 096333).

Approximately 50,000 yd³ of waste was relocated within the SWMU 73-001(a) boundary during the 2006 final remedy completion activities. With the exception of a single container of Freon-113 uncovered and subsequently managed off-site, no other hazardous or radioactive materials were discovered.

After waste relocation, compaction, and regrading were conducted, the following features were installed for the airport landfill cover (Figure 2):

- Approximately 6 acres of MatCon (Modified Asphalt Technology for Containment) asphalt pavement
- Five concrete hangar pads within the MatCon pavement area
- Turf reinforcement matting (TRM)
- A landfill-gas collection system
- Two rock retaining walls
- A concrete retaining wall

- Revegetation of approximately 4 acres with native grasses
- A stormwater collection system consisting of five trench drains, seven drain inlets, approximately 1950 ft of associated buried concrete storm-sewer lines, an 18-in.-diameter high-density polyethylene outfall pipe approximately 110 ft in length, and three riprap drainage channels

In 2009 and 2010, erosion features (rills and small gullies) and subsidence associated with stormwater runoff from the paved areas above the vegetated slopes were repaired. In addition, the curb along the runway was repaired and extended to redirect stormwater away from the main vegetated slope. These repairs and enhancements are detailed in the “Final Construction Report for Los Alamos Airport Landfill TA-73, SWMU 73-001(a) Cover Improvements, Los Alamos, New Mexico” (LANL 2011, 111750, Appendix A)

The New Mexico Environment Department’s (NMED’s) approval with modifications for the remedy completion report requires monitoring of stormwater runoff from the site (NMED 2007, 098285). This monitoring is being performed under the Laboratory’s individual permit for stormwater discharges from SWMUs and areas of concern.

3.0 INSPECTION ACTIVITIES

During calendar year 2011, inspection activities were conducted in accordance with the “Final Implementation Strategy for Post Closure Inspection and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico” (CE2 Corporation 2009, 111600), and the “Post-Closure Care and Monitoring Plan for the Los Alamos Site Office TA-73 Airport Landfill, Revision 2” (North Wind, Inc. 2006, 111707).

Inspection activities at SWMU 73-001(a) focused on evaluating the condition and overall integrity of each individual feature of the landfill cover. In addition, gas monitoring was conducted throughout the landfill cover to evaluate the presence of potentially combustible gases. The SWMU 73-001(d) DDA, located at the eastern end of the airport runway (Figure 1), was inspected for evidence of erosion or diminished vegetation. The completed inspection checklists are included in Appendix A.

In accordance with section 7 of the implementation strategy (CE2 Corporation 2009, 111600), the following field inspections and gas monitoring were completed during 2011.

January 27, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks. In addition, the vegetated areas, wattle area, concrete and rock retaining walls, stormwater-collection system, the outfall pipe, and the DDA were inspected.

February 28, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks. In addition, the vegetated areas, wattle area, concrete and rock retaining walls, stormwater-collection system, the outfall pipe, and the DDA were inspected.

March 28, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks. In addition, the vegetated areas, wattle area, concrete and rock retaining walls, stormwater-collection system, the outfall pipe, and the DDA were inspected.

March 29, 2011

- First quarter landfill-gas monitoring.

April 26, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks.
- Annual inspection of the gas-collection system, TRM, the vegetated areas, wattle area, concrete and rock retaining walls, stormwater-collection system, outfall pipe, and the DDA.
- Inspection checklist form modified to list inspection findings.

May 23, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks. The DDA was also inspected.

June 22, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks. The DDA was also inspected.

July 28, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks. The DDA was also inspected.

August 1, 2011

- Second quarter landfill-gas monitoring.

Note: The second quarter landfill-gas monitoring was delayed. Monitoring has been routinely scheduled to be completed during the last week of each quarter and was scheduled to be completed on June 27, 2011, for the second quarter of 2011. On June 26, 2011, because of the Las Conchas fire approaching the Laboratory and the Los Alamos townsite, a voluntary evacuation of the townsite was initiated, and the Laboratory was closed. For the duration of the fire, the Los Alamos airport was used as a base for approximately 18 helicopters and 2 fixed-wing aircraft to fight the fire. Because of the proximity of the aircraft and fuel trucks, two issues of concern were noted: (1) the sensitivity of the monitoring equipment possibly providing false readings because of the refueling equipment and engine exhaust and (2) crew safety concerns with the aircraft. Air operations were discontinued the week of July 25, and second-quarter monitoring was completed on August 1, 2011.

August 23, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks. The DDA was also inspected.

September 1, 2011

- Significant rainfall inspection of the MatCon pavement, hangar pads, vegetated areas, wattle area, retaining walls, and the stormwater-collection system.

September 14, 2011

- Significant rainfall inspection of the MatCon pavement, hangar pads, vegetated areas, wattle area, retaining walls, and the stormwater-collection system.

September 23, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks.

September 29, 2011

- Third quarter landfill-gas monitoring.

October 31, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks.

November 28, 2011

- Monthly inspection of MatCon pavement, concrete hangar pads, and survey benchmarks.

December 20, 2011

- Fourth quarter landfill-gas monitoring. Snow accumulation limited monitoring to risers.
- Monthly inspection of MatCon pavement, concrete hanger pads, and survey benchmarks could not be completed because of snow accumulation.

Inspection activities and findings are described below.

3.1 MatCon Pavement and Concrete Hangar Pads

Monthly inspection surveys of the MatCon asphalt pavement were conducted by walking transects along the western, eastern, and southern areas of the pavement and between each hangar pad shown in Figures 3 and 4. The survey looked for evidence of cracking, subsidence, or separation of the pavement.

During the surveys, visible cracking or separation was observed in various locations of the MatCon pavement. The cracks occurred mainly along the contact seam between paving lanes as shown in Figure 5. Cracks ranged from a few feet to over 100 ft in length and were up to 0.5 in. wide and approximately 3 in. deep. In several locations, weeds were growing through the cracks.

In October 2011, cracks in the MatCon pavement and joints between the pavement and the concrete hanger pads were hot sealed as shown in Figures 6 and 7. The MatCon pavement was repaired under an existing warranty by MatCon representatives. Joints between the pavement and the concrete hanger pads were hot sealed under a separate nonwarranty subcontract by the same representatives.

Visible subsidence of the MatCon pavement was observed near the northern half of hangar pads 2 and 3 and, to a lesser degree, along the northern quarter of pad 4. An inspection of the five concrete hangar pads was conducted by walking along the perimeter of each hangar pad and along a transect down the center of each pad. The inspection looked for evidence of cracking, subsidence, or separation between expansion joints and separation/subsidence between the concrete pads and the MatCon pavement.

Visible subsidence was noted on the northern half of hangar pads 2 and 3. Subsidence was also found on the northwest quarter of hangar pads 1 and 4, but to a lesser degree than on pads 2 and 3. Cracking associated with the subsidence of the pads was also observed throughout the central portion of each pad. Typical cracking observed at pad 3 is shown in Figure 8. Cracks in pads 2 and 3 had been treated in 2009 using polyurethane sealants; some of the treated cracks have expanded and grown in length and width. Separation of the expansion joints was observed at all the pads, with the exception of pad 5.

Separation or subsidence of joints between the pads and the MatCon pavement was noted at various locations.

3.2 Vegetated (Seeded) Areas

Inspections of the vegetated areas were conducted annually and after significant rainfall events and focused on evidence of erosion, subsidence, sparse vegetation, and animal burrows. Two parallel transects were surveyed along the northern vegetated area between the MatCon pavement and the chainlink perimeter fence, three parallel transects were surveyed along the upper reaches of the eastern sloped area, and three parallel transects were surveyed along the lower reaches of the eastern-sloped area.

The vegetated areas are well populated with various grasses, some shrubs, and seasonal weeds, as shown in Figures 9 and 10. A few areas have sparse vegetation but are covered with TRM. No animal burrows were noted. During the inspection, erosion caused by stormwater runoff was observed in one area. Rills are forming along the northeast margin of the vegetated slope and the straw wattle area. In September 2011, wattles were replaced and additional wattles were installed along the access area to the retaining walls as shown in Figure 10.

3.3 Stormwater-Collection System

Inspections of the visible components of the stormwater-collection system were completed annually and after significant rainfall. Components consist of 6 grated trench drains (5 of which run next to each of the 5 hangar pads), 13 drain inlets, a manhole, and the outfall pipe (Figure 2). The length of each trench drain was inspected for standing water, cracking, excessive sedimentation, and displacement of grates. The integrity of the drain inlet grates and concrete structures was inspected for cracking or displacement. The outfall pipe was inspected for damage and/or displacement.

General cracking was observed along the concrete channels of the five trench drains next to the hangar pads. Larger cracks (approximately 0.25 to 0.5 in. in width), as shown in Figure 11, and displacement of the concrete channels associated with hangar pad subsidence were noted in the trench drains next to hangar pads 1, 2, 3, and 4. Standing water was observed in the northern half of trench drains associated with pads 2, 3, 4, and 5, and ponding was observed at the northern ends of pads 2 and 3, as shown in Figure 12. Cracks in the trench drains next to pads 2 and 3 had been previously repaired with grout. Drain inlets associated with pads 1, 2, and 3 are cracking or flaking and contain standing water. The remaining 10 drain inlets, manhole, and outfall appear to be in good working order.

3.4 Riprap Drainage Channels

Inspections of the riprap drainage channels were conducted annually and after significant rainfall. Two riprap gravel drainage channels are located along the eastern and southeastern edges of the MatCon cover; a third riprap gravel channel is located mid-slope on the sloped portion of the landfill cover (Figures 1 and 2).

The length of each drainage channel was inspected for evidence of subsidence, erosion, vegetation, or excessive sedimentation. Areas below each end of the mid-slope drainage channel that receive flow from the channels were also inspected for signs of subsidence, erosion, and sedimentation.

All drainage channels are in good working order with no evidence of subsidence, erosion, sedimentation, or excessive vegetation.

3.5 Retaining Walls

Inspections of the retaining walls were conducted annually and after significant rainfall. The concrete retaining wall and the two rock retaining (rock basket/gabion) walls are located at the toe of the sloped portion of the landfill cover (Figure 2). The top and face of each wall were inspected for areas of cracking, separation, rotation, erosion/sedimentation, or slumping.

Three porous detention areas are located on the lower slope to the east of the concrete retaining wall to enhance sediment removal from stormwater prior to being discharged from the site and to reduce the velocity of the stormwater discharge.

All retaining walls are in good working order with no evidence of cracking, separation, rotation, erosion/sedimentation, or slumping. The detention areas are also in good working order.

3.6 Temporary Erosion-Control Features

Temporary erosion-control features installed during the remedy implementation included straw wattles, hay bales, and erosion fencing. These features served their intended purpose of protecting unvegetated runoff areas until vegetation could be established. During the 2010 inspections, it was observed that vegetation has been established (see Figure 13), and the existing temporary erosion-control measures were no longer needed. Therefore, they have been removed.

3.7 Landfill-Gas Monitoring

Landfill-gas monitoring was conducted quarterly and entailed measuring combustible gases, oxygen, and carbon dioxide at 54 locations, including the landfill-gas collection system riser vents, along the hangar pads, trench drains, drain inlets, and within the northern and eastern vegetated areas. Gas-monitoring locations are shown in Figure 2, and completed gas-measurement forms are provided in Appendix B. Figure 14 shows gas-monitoring activities. In accordance with the implementation plan (CE2 Corporation 2009, 111600), no landfill-gas monitoring was conducted at the DDA.

Concentrations of combustible gases, oxygen, and carbon dioxide were measured in percent values using a factory-calibrated MSA Altair 5 multigas detector. This instrument is designed to detect the minimum concentration of a combustible gas in air that can ignite, or the lower explosive limit (LEL) as well as oxygen and carbon dioxide levels. The upper alarm level of the multigas detector was set at 20% of the LEL. Because of the potential for variable combustible gases and vapors that could rise from the landfill, the gas detector was calibrated using pentane rather than methane. Calibration to pentane results in the detector readings being more conservative (i.e., biased high) with respect to methane and minimizes the loss of sensitivity because of "poisoning" of the detector with elevated levels of methane.

Gas monitoring was conducted 2 in. above expansion joints for the hangar pad (HP) locations, 4 in. below the trench grate for trench drain (TD) locations, 4 in. below the grate for drainage culvert (DC) locations, 2 in. above ground surface for perimeter ground (PG) locations, and at the spinner for perimeter spinner

(PS) vent pipe locations. Vent risers are not installed at locations PS-02, PS-03, and PS-05 (Figures 2 and 15); instead, vent pipe locations are completed with blind flange cap fittings.

During first quarter monitoring, elevated combustible gases were detected at TD-08 at a concentration of 3%, at DC-01 at a concentration of 2%, at DC-05 at a concentration of 3%, and at PS-04 at a concentration of 20% of the LEL. First quarter gas-monitoring results are presented in Table 1.

During second quarter monitoring, elevated combustible gases were detected at DC-04 at a concentration of 4%, at DC-06 at a concentration of 8%, and at PS-06 at a concentration of 10% of the LEL. At PS-06 the oxygen concentration was 19.8%. Second quarter gas-monitoring results are presented in Table 2.

During third quarter monitoring, elevated combustible gases were detected at PS-04 at a concentration of 15% and at PS-06 at a concentration of 10% of the LEL. The oxygen concentration was 20.3% at both locations. Third quarter gas-monitoring results are presented in Table 3.

During fourth quarter monitoring, elevated combustible gases were detected at PS-04 and PS-06, and the monitoring instrument alarmed indicating a gas concentration greater than or equal to 20% of the LEL. The oxygen concentration was 11.3% at PS-04 and 15% at PS-06. Monitoring could only be completed at the vent risers; all other monitoring locations were not accessible because of snow accumulation, as seen in Figure 14. Fourth quarter gas-monitoring results are presented in Table 4.

Landfill-gas monitoring results are below action levels, as specified in the postclosure care and monitoring plan (North Wind Inc. 2006, 111707), for the first, second, and third quarters; however, gas concentrations increased for the fourth quarter of calendar year 2011.

3.8 Debris Disposal Area

Inspections of the DDA were conducted annually, monthly during the runway extension project, and after significant rainfall. The 2011 extension of the runway has improved stormwater management as shown in Figures 16 through 18.

4.0 REFERENCES

The following list includes all documents cited in this report. Parenthetical information following each reference provides the author(s), publication date, and ER ID. This information is also included in text citations. ER IDs are assigned by the Environmental Programs Directorate's Records Processing Facility (RPF) and are used to locate the document at the RPF and, where applicable, in the master reference set.

Copies of the master reference set are maintained at the NMED Hazardous Waste Bureau and the Directorate. The set was developed to ensure that the administrative authority has all material needed to review this document, and it is updated with every document submitted to the administrative authority. Documents previously submitted to the administrative authority are not included.

CE2 Corporation, July 2009. "Final Implementation Strategy for Post Closure Inspection and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico," report prepared for U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Site Office, Los Alamos, New Mexico. (CE2 Corporation 2009, 111600)

LANL (Los Alamos National Laboratory), February 2011. "Inspection Report for Technical Area 73, Los Alamos County Airport Landfill, Solid Waste Management Units 73-001(a) and 73-001(d)," Los Alamos National Laboratory document LA-UR-11-0772, Los Alamos, New Mexico. (LANL 2011, 111750)

NMED (New Mexico Environment Department), August 8, 2007. "Notice of Approval, Remedy Completion Report SWMUs 73-001(a) and 73-001(d)," New Mexico Environment Department letter to D. Gregory (DOE-LASO) and D. McInroy (LANL) from J.P. Bearzi (NMED-HWB), Santa Fe, New Mexico. (NMED 2007, 098285)

North Wind Inc., April 2006. "Post-Closure Care and Monitoring Plan for the Los Alamos Site Office TA-73 Airport Landfill, Revision 2," report prepared for the U.S. Department of Energy, Los Alamos Site Office, North Wind report no. NW-ID-2004-027, Los Alamos, New Mexico. (North Wind, Inc., 2006, 111707)

North Wind Inc., April 2007. "Remedy Completion Report, DOE-LASO TA-73 Airport Landfill, SWMUs 73-001(a) and 73-001(d)," report prepared for U.S. Department of Energy, National Nuclear Security Administration, Los Alamos Site Office, North Wind report no. NWI-4212-001, Los Alamos, New Mexico. (North Wind, Inc., 2007, 096333)

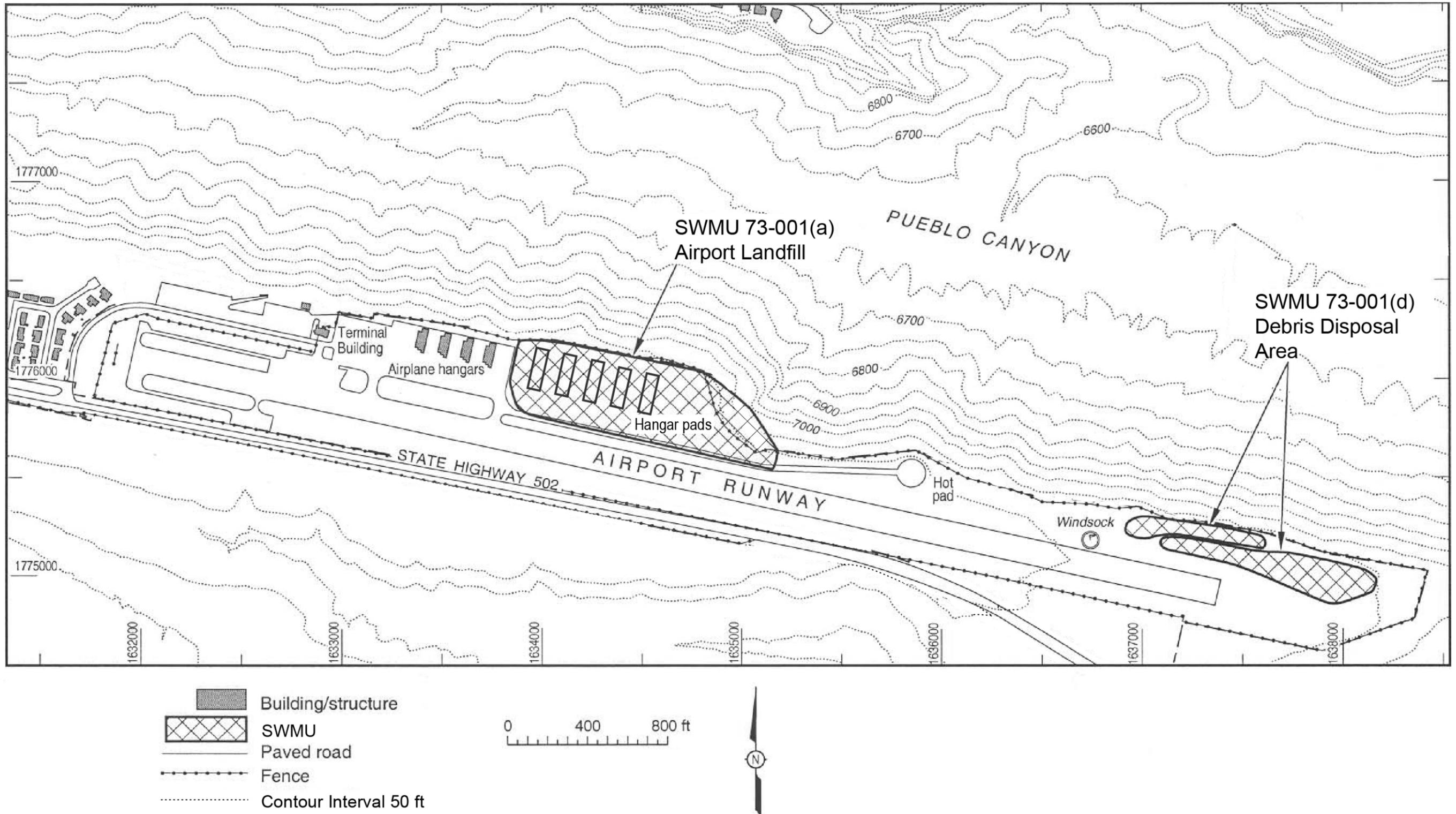
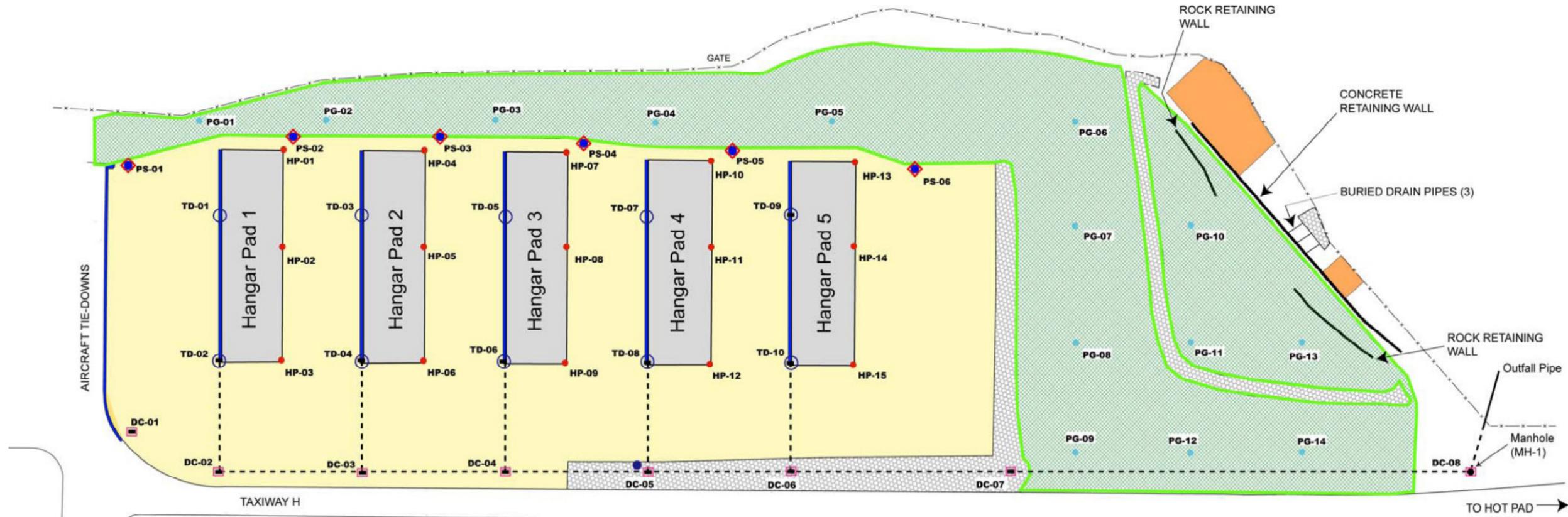


Figure 1 Locations of the airport landfill and DDA



LEGEND		Landfill Gas Monitoring Locations	
	Grated Trench		DC = Drainage Culvert (Inlet)
	Gas Vent Riser		HP = Hangar Pad
	Drainage Inlet		PG = Perimeter Ground
	Turf Reinforcement Mats		PS = Perimeter Spinner
	Asphalt Pavement (MatCon)		TD = Trench Drain
	Hangar Pads, Concrete		
	Buried Storm Sewer Line		
	Straw Wattle Area		
	Gravel Drainage Channel		
	Fence (approximate)		

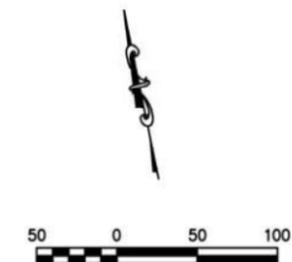


Figure 2 Airport landfill features



Figure 3 Northeast view across the MatCon pavement and concrete hangar pads



Figure 4 View to the east; note uneven appearance of pads and MatCon pavement



Figure 5 Typical crack in MatCon pavement;
view to the west



Figure 6 MatCon pavement hot seal; view to the west



Figure 7 MatCon pavement hot seal along trench drain and pad



Figure 8 Typical hangar pad cracking;
view to the east



Figure 9 Southeast view of vegetated slope and riprap drainage channel



Figure 10 Northwest view of vegetated slope, wattle area, and retaining wall



Figure 11 Crack across trench drain



Figure 12 Puddle at northwest corner of hangar pad 2



Figure 13 Northwest view of vegetated slope and wattle area



Figure 14 Gas vent riser monitoring



Figure 15 Gas vent locations; note missing risers and spinners



Figure 16 Northwest view of vegetated DDA



Figure 17 Vegetated DDA following runway extension project; view to the east



Figure 18 Stormwater controls at east end of DDA

Table 1
First Quarter Landfill-Gas Monitoring Results

Monitoring Location	Height	Time	CH ₄ ^a (% LEL)	O ₂ (%)	CO ₂ (%)
Hangar Pads (samples collected on the east side of the pad along the expansion joint)					
HP-01	2 in. above expansion joint	1100	0	20.8	0
HP-02	2 in. above expansion joint	1102	0	20.8	0
HP-03	2 in. above expansion joint	1104	0	20.8	0
HP-04	2 in. above expansion joint	1054	0	20.8	0
HP-05	2 in. above expansion joint	1055	0	20.8	0
HP-06	2 in. above expansion joint	1043	0	20.8	0
HP-07	2 in. above expansion joint	1044	0	20.8	0
HP-08	2 in. above expansion joint	1045	0	20.8	0
HP-09	2 in. above expansion joint	1047	0	20.8	0
HP-10	2 in. above expansion joint	1034	0	20.8	0
HP-11	2 in. above expansion joint	1035	0	20.8	0
HP-12	2 in. above expansion joint	1036	0	20.8	0
HP-13	2 in. above expansion joint	1024	0	20.8	0
HP-14	2 in. above expansion joint	1025	0	20.8	0
HP-15	2 in. above expansion joint	1027	0	20.8	0
Trench Drains (west side of each hangar pad)					
TD-01	4 in. below trench grate	1105	0	20.8	0
TD-02	4 in. below trench grate	1103	0	20.8	0
TD-03	4 in. below trench grate	1059	0	20.8	0
TD-04	4 in. below trench grate	1057	0	20.8	0
TD-05	4 in. below trench grate	1040	0	20.8	0
TD-06	4 in. below trench grate	1050	0	20.8	0
TD-07	4 in. below trench grate	1041	0	20.8	0
TD-08	4 in. below trench grate	1040	3	20.8	0
TD-09	4 in. below trench grate	1033	0	20.8	0
TD-10	4 in. below trench grate	1030	0	20.8	0
Drainage Culverts (drainage inlets on the buried storm sewer lines)					
DC-01	4 in. below grate	1107	2	20.8	0
DC-02	4 in. below grate	1108	0	20.8	0
DC-03	4 in. below grate	1056	0	20.8	0
DC-04	4 in. below grate	1049	0	20.8	0
DC-05	4 in. below grate	1038	3	20.8	0
DC-06	4 in. below grate	1029	0	20.8	0
DC-07	4 in. below grate	1027	0	20.8	0
DC-08	4 in. below manhole lid	1130	0	20.8	0

Table 1 (continued)

Monitoring Location	Height	Time	CH ₄ ^a (% LEL)	O ₂ (%)	CO ₂ (%)
Northern Perimeter (ground and spinner [wind turbine] locations)					
PG-01	2 in. above ground surface	1113	0	20.8	0
PG-02	2 in. above ground surface	1114	0	20.8	0
PG-03	2 in. above ground surface	1115	0	20.8	0
PG-04	2 in. above ground surface	1117	0	20.8	0
PG-05	2 in. above ground surface	1118	0	20.8	0
PG-06	2 in. above ground surface	1119	0	20.8	0
PG-07	2 in. above ground surface	1120	0	20.8	0
PG-08	2 in. above ground surface	1121	0	20.8	0
PG-09	2 in. above ground surface	1124	0	20.8	0
PG-10	2 in. above ground surface	1138	0	20.8	0
PG-11	2 in. above ground surface	1136	0	20.8	0
PG-12	2 in. above ground surface	1125	0	20.8	0
PG-13	2 in. above ground surface	1135	0	20.8	0
PG-14	2 in. above ground surface	1126	0	20.8	0
PS-01	At spinner (4 ft above pavement)	0835	0	20.8	0
PS-02	At spinner (4 ft above pavement)	Capped	n/a ^b	n/a	n/a
PS-03	At spinner (4 ft above pavement)	Capped	n/a	n/a	n/a
PS-04	At spinner (4 ft above pavement)	0923	20	20.8	0
PS-05	At spinner (4 ft above pavement)	Capped	n/a	n/a	n/a
PS-06	At spinner (4 ft above pavement)	0949	0	21.3	0

Notes: Methane concentrations measured in percent of the LEL. Other gases measured in percent.

^a CH₄ = Methane.

^b n/a = Not applicable.

Table 2
Second Quarter Landfill-Gas Monitoring Results

Monitoring Location	Height	Time	CH ₄ ^a (% LEL)	O ₂ (%)	CO ₂ (%)
Hangar Pads (samples collected on the east side of the pad along the expansion joint)					
HP-01	2 in. above expansion joint	1052	0	20.8	0
HP-02	2 in. above expansion joint	1052	0	20.8	0
HP-03	2 in. above expansion joint	1053	0	20.8	0
HP-04	2 in. above expansion joint	1047	0	20.8	0
HP-05	2 in. above expansion joint	1048	0	20.8	0
HP-06	2 in. above expansion joint	1048	0	20.8	0
HP-07	2 in. above expansion joint	1042	0	20.8	0
HP-08	2 in. above expansion joint	1043	0	20.8	0
HP-09	2 in. above expansion joint	1043	0	20.8	0
HP-10	2 in. above expansion joint	1037	0	20.8	0
HP-11	2 in. above expansion joint	1038	0	20.8	0
HP-12	2 in. above expansion joint	1039	0	20.8	0
HP-13	2 in. above expansion joint	1029	0	20.8	0
HP-14	2 in. above expansion joint	1030	0	20.8	0
HP-15	2 in. above expansion joint	1031	0	20.8	0
Trench Drains (west side of each hangar pad)					
TD-01	4 in. below trench grate	1056	0	20.8	0
TD-02	4 in. below trench grate	1055	0	20.8	0
TD-03	4 in. below trench grate	1051	0	20.8	0
TD-04	4 in. below trench grate	1050	0	20.8	0
TD-05	4 in. below trench grate	1046	0	20.8	0
TD-06	4 in. below trench grate	1045	0	20.8	0
TD-07	4 in. below trench grate	1041	0	20.8	0
TD-08	4 in. below trench grate	1040	0	20.8	0
TD-09	4 in. below trench grate	1036	0	20.8	0
TD-10	4 in. below trench grate	1035	0	20.8	0
Drainage Culverts (drainage inlets on the buried storm sewer lines)					
DC-01	4 in. below grate	1057	0	20.8	0
DC-02	4 in. below grate	1054	0	20.8	0
DC-03	4 in. below grate	1049	0	20.8	0
DC-04	4 in. below grate	1044	4	20.8	0
DC-05	4 in. below grate	1039	0	20.8	0
DC-06	4 in. below grate	1034	8	20.8	0
DC-07	4 in. below grate	1032	0	20.8	0
DC-08	4 in. below manhole lid	1023	0	20.8	0

Table 2 (continued)

Monitoring Location	Height	Time	CH ₄ ^a (% LEL)	O ₂ (%)	CO ₂ (%)
Northern Perimeter (ground and spinner [wind turbine] locations)					
PG-01	2 in. above ground surface	1001	0	20.8	0
PG-02	2 in. above ground surface	1003	0	20.8	0
PG-03	2 in. above ground surface	1005	0	20.8	0
PG-04	2 in. above ground surface	1006	0	20.8	0
PG-05	2 in. above ground surface	1008	0	20.8	0
PG-06	2 in. above ground surface	1027	0	20.8	0
PG-07	2 in. above ground surface	1026	0	20.8	0
PG-08	2 in. above ground surface	1026	0	20.8	0
PG-09	2 in. above ground surface	1025	0	20.8	0
PG-10	2 in. above ground surface	1014	0	20.8	0
PG-11	2 in. above ground surface	1016	0	20.8	0
PG-12	2 in. above ground surface	1018	0	20.8	0
PG-13	2 in. above ground surface	1017	0	20.8	0
PG-14	2 in. above ground surface	1018	0	20.8	0
PS-01	At spinner (4 ft above pavement)	0835	0	20.8	0
PS-02	At spinner (4 ft above pavement)	Capped	n/a ^b	n/a	n/a
PS-03	At spinner (4 ft above pavement)	Capped	n/a	n/a	n/a
PS-04	At spinner (4 ft above pavement)	1006	0	20.8	0
PS-05	At spinner (4 ft above pavement)	Capped	n/a	n/a	n/a
PS-06	At spinner (4 ft above pavement)	1009	10	19.8	0

Notes: Methane concentrations measured in percent of the LEL. Other gases measured in percent.

^a CH₄ = Methane.

^b n/a = Not applicable.

Table 3
Third Quarter Landfill-Gas Monitoring Results

Monitoring Location	Height	Time	CH ₄ ^a (% LEL)	O ₂ (%)	CO ₂ (%)
Hangar Pads (samples collected on the east side of the pad along the expansion joint)					
HP-01	2 in. above expansion joint	1124	0	20.8	0
HP-02	2 in. above expansion joint	1123	0	20.8	0
HP-03	2 in. above expansion joint	1122	0	20.8	0
HP-04	2 in. above expansion joint	1125	0	20.8	0
HP-05	2 in. above expansion joint	1126	0	20.8	0
HP-06	2 in. above expansion joint	1127	0	20.8	0
HP-07	2 in. above expansion joint	1137	0	20.8	0
HP-08	2 in. above expansion joint	1138	0	20.8	0
HP-09	2 in. above expansion joint	1138	0	20.8	0
HP-10	2 in. above expansion joint	1144	0	20.8	0
HP-11	2 in. above expansion joint	1141	0	20.8	0
HP-12	2 in. above expansion joint	1140	0	20.8	0
HP-13	2 in. above expansion joint	1145	0	20.8	0
HP-14	2 in. above expansion joint	1150	0	20.8	0
HP-15	2 in. above expansion joint	1151	0	20.8	0
Trench Drains (west side of each hangar pad)					
TD-01	4 in. below trench grate	1117	0	20.8	0
TD-02	4 in. below trench grate	1118	0	20.8	0
TD-03	4 in. below trench grate	1126	0	20.8	0
TD-04	4 in. below trench grate	1122	0	20.8	0
TD-05	4 in. below trench grate	1134	0	20.8	0
TD-06	4 in. below trench grate	1133	0	20.8	0
TD-07	4 in. below trench grate	1142	0	20.8	0
TD-08	4 in. below trench grate	1140	0	20.8	0
TD-09	4 in. below trench grate	1149	0	20.8	0
TD-10	4 in. below trench grate	1152	0	20.8	0
Drainage Culverts (drainage inlets on the buried storm sewer lines)					
DC-01	4 in. below grate	1119	0	20.8	0
DC-02	4 in. below grate	1120	0	20.8	0
DC-03	4 in. below grate	1121	0	20.8	0
DC-04	4 in. below grate	1132	0	20.8	0
DC-05	4 in. below grate	1139	0	20.8	0
DC-06	4 in. below grate	1153	0	20.8	0
DC-07	4 in. below grate	1155	0	20.8	0
DC-08	4 in. below manhole lid	1208	0	20.8	0

Table 3 (continued)

Monitoring Location	Height	Time	CH ₄ ^a (% LEL)	O ₂ (%)	CO ₂ (%)
Northern Perimeter (ground and spinner [wind turbine] locations)					
PG-01	2 in. above ground surface	1116	0	20.8	0
PG-02	2 in. above ground surface	1125	0	20.8	0
PG-03	2 in. above ground surface	1134	0	20.8	0
PG-04	2 in. above ground surface	1143	0	20.8	0
PG-05	2 in. above ground surface	1145	0	20.8	0
PG-06	2 in. above ground surface	1211	0	20.8	0
PG-07	2 in. above ground surface	1212	0	20.8	0
PG-08	2 in. above ground surface	1213	0	20.8	0
PG-09	2 in. above ground surface	1158	0	20.8	0
PG-10	2 in. above ground surface	1211	0	20.8	0
PG-11	2 in. above ground surface	1210	0	20.8	0
PG-12	2 in. above ground surface	1159	0	20.8	0
PG-13	2 in. above ground surface	1209	0	20.8	0
PG-14	2 in. above ground surface	1201	0	20.8	0
PS-01	At spinner (4 ft above pavement)	1115	0	20.8	0
PS-02	At spinner (4 ft above pavement)	Capped	n/a ^b	n/a	n/a
PS-03	At spinner (4 ft above pavement)	Capped	n/a	n/a	n/a
PS-04	At spinner (4 ft above pavement)	1136	15	20.3	0
PS-05	At spinner (4 ft above pavement)	Capped	n/a	n/a	n/a
PS-06	At spinner (4 ft above pavement)	1147	10	20.3	0

Notes: Methane concentrations measured in percent of the LEL. Other gases measured in percent.

^a CH₄ = Methane.

^b n/a = Not applicable.

Table 4
Fourth Quarter Landfill-Gas Monitoring Results

Monitoring Location	Height	Time	CH ₄ ^a (% LEL)	O ₂ (%)	CO ₂ (%)
Hangar Pads (samples collected on the east side of the pad along the expansion joint)					
HP-01	2 in. above expansion joint	— ^b	—	—	—
HP-02	2 in. above expansion joint	—	—	—	—
HP-03	2 in. above expansion joint	—	—	—	—
HP-04	2 in. above expansion joint	—	—	—	—
HP-05	2 in. above expansion joint	—	—	—	—
HP-06	2 in. above expansion joint	—	—	—	—
HP-07	2 in. above expansion joint	—	—	—	—
HP-08	2 in. above expansion joint	—	—	—	—
HP-09	2 in. above expansion joint	—	—	—	—
HP-10	2 in. above expansion joint	—	—	—	—
HP-11	2 in. above expansion joint	—	—	—	—
HP-12	2 in. above expansion joint	—	—	—	—
HP-13	2 in. above expansion joint	—	—	—	—
HP-14	2 in. above expansion joint	—	—	—	—
HP-15	2 in. above expansion joint	—	—	—	—
Trench Drains (west side of each hangar pad)					
TD-01	4 in. below trench grate	—	—	—	—
TD-02	4 in. below trench grate	—	—	—	—
TD-03	4 in. below trench grate	—	—	—	—
TD-04	4 in. below trench grate	—	—	—	—
TD-05	4 in. below trench grate	—	—	—	—
TD-06	4 in. below trench grate	—	—	—	—
TD-07	4 in. below trench grate	—	—	—	—
TD-08	4 in. below trench grate	—	—	—	—
TD-09	4 in. below trench grate	—	—	—	—
TD-10	4 in. below trench grate	—	—	—	—
Drainage Culverts (drainage inlets on the buried storm sewer lines)					
DC-01	4 in. below grate	—	—	—	—
DC-02	4 in. below grate	—	—	—	—
DC-03	4 in. below grate	—	—	—	—
DC-04	4 in. below grate	—	—	—	—
DC-05	4 in. below grate	—	—	—	—
DC-06	4 in. below grate	—	—	—	—
DC-07	4 in. below grate	—	—	—	—
DC-08	4 in. below manhole lid	—	—	—	—

Table 4 (continued)

Monitoring Location	Height	Time	CH ₄ ^a (% LEL)	O ₂ (%)	CO ₂ (%)
Northern Perimeter (ground and spinner [wind turbine] locations)					
PG-01	2 in. above ground surface	—	—	—	—
PG-02	2 in. above ground surface	—	—	—	—
PG-03	2 in. above ground surface	—	—	—	—
PG-04	2 in. above ground surface	—	—	—	—
PG-05	2 in. above ground surface	—	—	—	—
PG-06	2 in. above ground surface	—	—	—	—
PG-07	2 in. above ground surface	—	—	—	—
PG-08	2 in. above ground surface	—	—	—	—
PG-09	2 in. above ground surface	—	—	—	—
PG-10	2 in. above ground surface	—	—	—	—
PG-11	2 in. above ground surface	—	—	—	—
PG-12	2 in. above ground surface	—	—	—	—
PG-13	2 in. above ground surface	—	—	—	—
PG-14	2 in. above ground surface	—	—	—	—
PS-01	At spinner (4 ft above pavement)	1424	0	20.8	0
PS-02	At spinner (4 ft above pavement)	Capped	n/a ^c	n/a	n/a
PS-03	At spinner (4 ft above pavement)	Capped	n/a	n/a	n/a
PS-04	At spinner (4 ft above pavement)	1428	Instrument alarmed	11.3	0
PS-05	At spinner (4 ft above pavement)	Capped	n/a	n/a	n/a
PS-06	At spinner (4 ft above pavement)	1432	Instrument alarmed	15	0

Notes: Methane concentrations measured in percent of the LEL. Other gases measured in percent.

^a CH₄ = Methane.

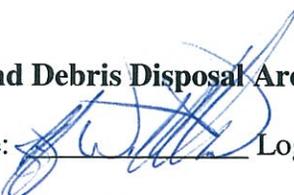
^b — = Not collected. Monitoring could only be completed at the vent risers; all other monitoring locations were not accessible because of snow accumulation

^c n/a = Not applicable.

Appendix A

Completed Inspection Checklists

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: January 27, 2011 Time: 1330 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s) none

Weather: temperature: 28 degrees wind: calm, ___ days since last rain: NA, on NA. Weather Data Source: Los Alamos Airport

January 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>				
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M <i>Monthly Inspection</i>	Yes	Visible cracking or separation was noted at various locations. Cracks mainly occur along paving lanes contact seam and range from a few feet to 100 ft in length and up to 3 inches deep. Additional cracking was noticed along the SE corner of Pad 3. Vegetation (weeds and grasses) were noted in several locations along the joints between the pavement and concrete hanger pads. Subsidence and lifting seem to be related to the hanger pads with minimal subsidence noted away from pads. Various locations have been patched. Some of the patches look like regular asphalt. Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the MatCon asphalt and Concrete Hanger Pads be reviewed under a separate engineering report.	No
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M <i>Monthly Inspection</i>	Yes	Numerous cracks, spalling, and separation associated with subsidence and possible lifting were noted in pads 1-3. Pad 4 was observed to have some minor cracking and subsidence. Pad 5 seem s to be in good condition.	No
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M <i>Monthly Inspection</i>	Yes	Pads 1, 2 and 4 have bronze (?) benchmarks located at the SE and NE corners of the pad. Pad 3 is missing the bronze benchmark in the NE corner of the pad. Pad 5 does not have any benchmarks.	No

Final Inspection Checklist Airport Landfill_15_July_2009

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A		Of the six turbine locations noted on the north side of the hanger pads three have not had riser vents and spinners installed, stub-outs are capped. The three that are installed are functional, accessible and clear of debris. The stub out along the southern edge of the asphalt is clear of debris and accessible, a riser/spinner has not been installed.	
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B		<i>Not completed during annual inspection</i>	
Turf Reinforcement Mats: tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR		No deficiencies noted	
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR		No deficiencies noted	
Seeded (hydromulched) Areas: barren areas >1,000 square feet, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR		No deficiencies noted	
Concrete Retaining Wall: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR		No deficiencies noted	
Rock Retaining Walls (2): movement, separation, bulges, rotation, nearby erosion	A, ASR		No deficiencies noted	

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR		Multiple cracks were noted in the trench drain associated with Pad 1. Some of the cracks had been previously repaired with crack/joint filler but are pulling apart while others have not been repaired and are assumed to be new from the 2009 inspection. Multiple repaired cracks were noted in trench drains associated with pads 2, 3, 4, and 5. Buckling of the trench drain was noted near the middle of pad 4. Standing water was noted in drains associated with pads 1-5. Improper drainage was noted with pads 1-4, subsidence at north end.	
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR		No deficiencies noted	
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR		No deficiencies noted	
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR		No deficiencies noted	
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR		No deficiencies noted	
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR		Rilling was noted along the margin of the turf matting. Minor surface erosion occurring in the exposed soil with accumulation behind wattles.	
Debris Disposal Area				
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR		No deficiencies noted. The County is storing soil piles on the eastern end of the runway and partially on the DDA for a future runway extension. The piles are not impacting the DDA.	

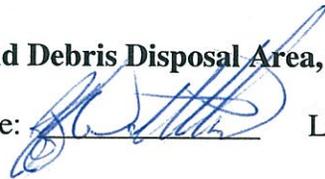
Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<p>Comments:</p> <p>Monthly inspection completed for the MatCon pavement, hanger pads and benchmarks.</p> <p>In addition, completed inspection for all other components of the landfill with the exception of gas monitoring for baseline 2011. Findings were same as identified in December 2010.</p> <p>See November 19, 2010 monthly inspection for marked up figure (has not changed).</p>				

Component locations are shown on Figure 2. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.

Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: February 28, 2011 Time: 1330 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s) none

Weather: temperature: 39 degrees wind: calm, ___ days since last rain: NA, on NA. Weather Data Source: Los Alamos Airport

February 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>				
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M <i>Monthly Inspection</i>	Yes	Visible cracking or separation was noted at various locations. Cracks mainly occur along paving lanes contact seam and range from a few feet to 100 ft in length and up to 3 inches deep. Vegetation (weeds and grasses) were noted in several locations along the joints between the pavement and concrete hanger pads. Subsidence and lifting seem to be related to the hanger pads with minimal subsidence noted away from pads. Various locations have been patched. Some of the patches look like regular asphalt. Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the MatCon asphalt and Concrete Hanger Pads be reviewed under a separate engineering report.	No
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M <i>Monthly Inspection</i>	Yes	Numerous cracks, spalling, and separation associated with subsidence and possible lifting was noted in pads 1-3. Pad 4 was observed to have some minor cracking and subsidence. Pad 5 seem s to be in good condition. Separation between the pad and associated MatCon noted at pads 1-3. Separation between the pad and trench drain has occurred at several locations. Previous attempt (2009) at repair of cracking and separation joints is failing in numerous locations. Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the Pads be reviewed under a separate engineering report.	No

Final Inspection Checklist Airport Landfill_15_July_2009

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M <i>Monthly Inspection</i>	Yes	Pads 1, 2 and 4 have bronze (?) benchmarks located at the SE and NE corners of the pad. Pad 3 is missing the bronze benchmark in the NE corner of the pad. Pad 5 does not have any benchmarks.	No
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A			
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B			
Turf Reinforcement Mats: tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR			
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR			
Seeded (hydromulched) Areas: barren areas >1,000 square feet, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR			
Concrete Retaining Wall: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR			
Rock Retaining Walls (2): movement, separation, bulges, rotation, nearby erosion	A, ASR			

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR		<p>Note: Monthly Inspection not required but completed as part of the concrete pad inspection.</p> <p>Multiple cracks were noted in the trench drain associated with Pad 1. Some of the cracks had been previously repaired with crack/joint filler but are pulling apart while others have not been repaired and are assumed to be new from the 2009 inspection. Multiple repaired cracks were noted in trench drains associated with pads 2, 3, 4, and 5. Buckling of the trench drain was noted near the middle of pad 4. Standing water was noted in drains associated with pads 1-5. Improper drainage was noted with pads 1-4, subsidence at north end. Cracks repaired in 2009 in the trench drain associated with pad 1 are failing and new cracks have been observed.</p>	
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR			
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR			
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR			
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR			
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR			
Debris Disposal Area				
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR		<p>Note: The County is storing soil piles on the eastern end of the runway and partially on the DDA for a future runway extension. The piles are not impacting the DDA.</p>	

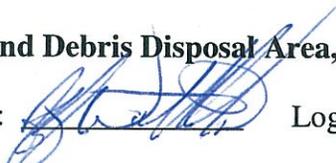
Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<p>Comments:</p> <p>Monthly inspection completed for the MatCon pavement, hanger pads and benchmarks.</p>				

Component locations are shown on Figure 2. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.

Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: March 28, 2011 Time: 1030 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s) none

Weather: temperature: 45 degrees wind: 5mph, ___ days since last rain: NA, on NA. Weather Data Source: Los Alamos Airport

March 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>				
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M <i>Monthly Inspection</i>	Yes	<p>Visible cracking or separation was noted at various locations. Cracks mainly occur along paving lanes contact seam and range from a few feet to 100 ft in length and up to 3 inches deep. Vegetation (weeds and grasses) were noted in several locations along the joints between the pavement and concrete hanger pads. Subsidence and lifting seem to be related to the hanger pads with minimal subsidence noted away from pads. Various locations have been patched. Some of the patches look like regular asphalt.</p> <p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the MatCon asphalt and Concrete Hanger Pads be reviewed under a separate engineering report.</p>	No
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M <i>Monthly Inspection</i>	Yes	<p>Numerous cracks, spalling, and separation associated with subsidence and possible lifting was noted in pads 1-3. Pad 4 was observed to have some minor cracking and subsidence. Pad 5 seems to be in good condition. Separation between the pad and associated MatCon noted at pads 1-3. Separation between the pad and trench drain has occurred at several locations. Previous attempt (2009) at repair of cracking and separation joints is failing in numerous locations.</p> <p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the Pads be reviewed under a separate engineering report.</p>	No

Final Inspection Checklist Airport Landfill_15_July_2009

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M <i>Monthly Inspection</i>	Yes	Pads 1, 2 and 4 have benchmarks located at the SE and NE corners of the pad. Note: benchmarks are not stamped. Pad 3 is missing the benchmark in the NE corner of the pad. Pad 5 does not have any benchmarks.	No
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A			
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B			
Turf Reinforcement Mats: tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR			
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR			
Seeded (hydromulched) Areas: barren areas >1,000 square feet, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR			
Concrete Retaining Wall: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR			
Rock Retaining Walls (2): movement, separation, bulges, rotation, nearby erosion	A, ASR			

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR		<p>Note: Monthly Inspection not required but completed as part of the concrete pad inspection.</p> <p>Multiple cracks were noted in the trench drain associated with Pad 1. Some of the cracks had been previously repaired with crack/joint filler but are pulling apart while others have not been repaired and are assumed to be new from the 2009 inspection. Multiple repaired cracks were noted in trench drains associated with pads 2, 3, 4, and 5. Buckling of the trench drain was noted near the middle of pad 4. Standing water was noted in drains associated with pads 1-5. Improper drainage was noted with pads 1-4, subsidence at north end. Cracks repaired in 2009 in the trench drain associated with pad 1 are failing and new cracks have been observed.</p>	
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR			
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR			
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR			
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR			
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR			
Debris Disposal Area				
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR	No	Note: The County started runway extension (450 ft) work in March. The very eastern section of the DDA is being built up to extend the runway (acting as additional capping material). Will monitor site during monthly inspections until complete to monitor for any impacts to the DDA.	

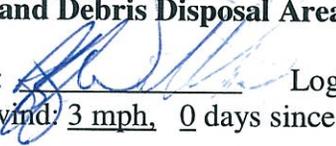
Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<p>Comments:</p> <p>Monthly inspection completed for the MatCon pavement, hanger pads and benchmarks. Will inspect and monitor runway extension activities at/near the DDA until</p> <p><i>No figure for inspection</i></p>				

Component locations are shown on Figure 2. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.

Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: April 26, 2011 Time: 1000 Printed Name: Jeff Walterscheid Signature:  Logbook: 1
 Figure(s) Inspection photos attached Weather: temperature: 38 degrees wind: 3 mph, 0 days since last rain: rain/snow, on April 26, 2011. Weather Data Source: Los Alamos Airport

April 2011 Combined Annual and Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M <i>(Monthly Inspection)</i>	Visible cracking or separation was noted at various locations. Cracks mainly occur along paving lanes contact seam and range from a few feet to 100 ft in length and up to 5 inches deep. Vegetation (weeds and grasses) were noted in several locations along the joints between the pavement and concrete hanger pads. Subsidence and lifting seem to be related to the hanger pads with some subsidence noted away from pads. Various locations have been patched. Some of the patches look like regular asphalt. Puddles of various size were noted throughout the area of MatCon pavement. Stormwater was draining into cracks in the MatCon. See Photo # 5, 8 & 9	Yes	Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the MatCon asphalt and Concrete Hanger Pads be reviewed under a separate engineering report. The ACOE has completed a preliminary review of the site with emphasis on the concrete hanger pads and has provided a draft report, dated April 11, 2011, for review to the DOE.	No

Inspection Checklist Airport Landfill

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M <i>Monthly Inspection</i>	Yes	<p>Numerous cracks, spalling, and separation associated with subsidence and possible lifting was noted in pads 1-3. Pad 4 was observed to have some minor cracking and subsidence. Pad 5 seems to be in good condition. Separation between the pad and associated MatCon noted at pads 1-3. Separation between the pad and trench drain has occurred at several locations. Previous attempt (2009) at repair of cracking and separation joints is failing in numerous locations.</p> <p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the Pads be reviewed under a separate engineering report.</p> <p>The ACOE has completed a preliminary review of the site with emphasis on the concrete hanger pads and has provided a draft report, dated April 11, 2011, for review to the DOE. The purpose of the report is to identify potential alternatives for stabilizing differential soil settlement beneath hangar pads.</p>	No
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M <i>Monthly Inspection</i>	No	<p>Pads 1, 2 and 4 have benchmarks located at the SE and NE corners of the pad. Note: benchmarks are not stamped.</p> <p>Pad 3 is missing the benchmark in the NE corner of the pad.</p> <p>Pad 5 does not have any benchmarks.</p> <p>No corrective action recommended.</p>	No

Inspection Checklist Airport Landfill

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A <i>Annual Inspection</i>	Yes	Of the six turbine locations noted on the north side of the hanger pads three have not had riser vents and spinners installed, stub-outs are capped. The three that are installed are functional, accessible and clear of debris. The stub out along the southern edge of the asphalt is clear of debris and accessible, a riser/spinner has not been installed. Corrective action to be completed: installation of vent risers and spinners.	
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B		<i>Not completed during annual inspection</i>	
Turf Reinforcement Mats: tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR <i>Annual Inspection</i>	Yes	<ol style="list-style-type: none"> 1. Subsidence along manhole <ol style="list-style-type: none"> a. Backfill small area of subsidence and seed 2. Sparse vegetation noted at various locations <ol style="list-style-type: none"> a. Hydromulch approximately ½ acre of total area with sparse to no vegetation 3. Saplings and brush were noted at various locations of the vegetated areas <ol style="list-style-type: none"> a. Clip back to within 6 inches of soil surface, leave clippings on site 4. Animal burrow trails noted in several locations Monitor and see if active burrows are from winter activity	
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR <i>Annual Inspection</i>	No	No deficiencies noted	

Inspection Checklist Airport Landfill

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Seeded (hydromulched) Areas: barren areas >1,000 square feet, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR <i>Annual Inspection</i>	Yes	<ol style="list-style-type: none"> 1. Rill erosion caused by storm water runoff from a rip-rap channel was noted along the margin of the established vegetation and the bare soil straw wattle area. <ol style="list-style-type: none"> a. Backfill, compact and seed rill area b. Matt and rock the bare soil area associated with the wattles with 4-6 inch angular rock c. Alternative to rocking slope is to roughen the surface and hydromulch 2. Sparse vegetation noted at various locations <ol style="list-style-type: none"> a. Hydromulch approximately 1/2 acre of total area with sparse to no vegetation 3. Saplings and brush were noted at various locations of the vegetated areas <ol style="list-style-type: none"> a. Clip back to within 6 inches of soil surface, leave clippings on site 4. Animal burrow trails noted in several locations, monitor for current activity. <p>Multiple small barren areas, no areas greater than 1000 sq ft were identified.</p>	
Concrete Retaining Wall: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR <i>Annual Inspection</i>	No	No deficiencies noted	
Rock Retaining Walls (2): movement, separation, bulges, rotation, nearby erosion	A, ASR <i>Annual Inspection</i>	No	No deficiencies noted	

Inspection Checklist Airport Landfill

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR <i>Annual Inspection</i>	Yes	<p>Multiple cracks were noted in the trench drain associated with Pad 1. Some of the cracks had been previously repaired with crack/joint filler but are pulling apart while others have not been repaired and are assumed to be new from the 2009 inspection. Multiple repaired cracks were noted in trench drains associated with pads 2, 3, 4, and 5. Buckling of the trench drain was noted near the middle of pad 4. Standing water was noted in drains associated with pads 1-5. Improper drainage was noted with pads 1-4, subsidence at north end. Cracks repaired in 2009 in the trench drain associated with pad 1 are failing and new cracks have been observed.</p> <p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the Pads and associated trench drain be reviewed under a separate engineering report.</p> <p>The ACOE has completed a preliminary review of the site with emphasis on the concrete hanger pads and has provided a draft report, dated April 11, 2011, for review to the DOE. The purpose of the report is to identify potential alternatives for stabilizing differential soil settlement beneath hangar pads.</p>	
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR <i>Annual Inspection</i>	Yes	<p>It was noted that the western most drainage inlet in the MatCon has been damaged and does not seat over the drain. The hazard is marked by an orange cone. It is assumed the damage was caused by a snowplow.</p> <p>Corrective action to be completed: replace grate.</p>	
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR <i>Annual Inspection</i>	No	No deficiencies noted	
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR <i>Annual Inspection</i>	No	No deficiencies noted	

Inspection Checklist Airport Landfill

Component: Concern(s)	Inspection Frequency*	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR <i>Annual Inspection</i>	No	No deficiencies noted. No erosion at outfall pipe. Significant downstream erosion and cutting has been observed. Remedies for the permanent corrective action of the downstream erosion and cutting are beyond the scope of the inspection.	
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR <i>Annual Inspection</i>	Yes	<ol style="list-style-type: none"> 1. Rill erosion caused by storm water runoff from a rip-rap channel was noted along the margin of the established vegetation and the bare soil straw wattle area. <ol style="list-style-type: none"> a. Backfill, compact and seed rill area b. Matt and rock the bare soil area associated with the wattles with 4-6 inch angular rock c. Alternative to rocking slope is to roughen the surface and hydromulch 2. Wattles are in place 	
Debris Disposal Area				
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR <i>Annual Inspection</i>	No	The County started runway extension (450 ft) work in March 2011. The very eastern section of the DDA is being built up to extend the runway (acting as additional capping material). Will continue to monitor site during monthly inspections to monitor for any impacts to the DDA.	
<p>Comments:</p> <ol style="list-style-type: none"> 1. Inspection combined the 2011 Annual and the 2011 Monthly (April). 2. Inspection completed during rain/snow event to monitor drainage. 3. Monthly inspection completed for the MatCon pavement, hanger pads and benchmarks. Similar findings to previous inspections. 4. The Corp of Engineers is monitoring the subsidence/upheaval of the concrete pads at points established by the corp. 5. Will inspect and monitor runway extension activities at/near the DDA until work is complete. No impact to DDA noted during inspection. 6. Some animal burrows were noted and will need to be monitored for future impacts. <p><i>No figure for inspection, photos attached to report.</i></p>				

Inspection Checklist Airport Landfill

Component locations are shown on Figure 2. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.

Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.



Crack in trench drain at Pad #1, note separation at expansion joint.



Looking east from Pad #1, note uneven, rolling nature of Pads 2 & 3 and associated MATCON pavement.



Work underway on 450 ft runway extension.



Looking east at eastern end of the Debris Disposal Area. Runway extension has minimal impact to the DDA and is adding additional cover material.



Looking west at the western portion DDA.



Looking east at runway extension.



Debris pile from LA County work near the existing hangars. Pile is being stored east of the hot pad access road. County is working on a disposal path.

Inspection Checklist Airport Landfill



Looking west at soil cap towards the hangars.



Looking NW at soil cap area. Note rill erosion and sediment movement in the straw wattle area near the boundary fence.

Inspection Checklist Airport Landfill



Looking NE at hangar pads, note damaged grate at cone.



Looking north at Pad #1, note cracks in MATCON pavement



Looking west towards Pad #1, note puddle does not drain and is forming over cracks in MATCON pavement.



Vegetation along seam between MATCON pavement and concrete at Pad #2



Looking west at cracks in MATCON along paving lanes



Looking east at crack in MATCON pavement



Looking south towards runway, note capped gas monitoring location at edge of pavement.



Looking west, note patch in pavement along left side of photo.



Tree growing along northern edge of MATCON pavement near pad #3. Will need to be removed.



Vegetation along edge of pad and MATCON pavement



Looking west at NW corner of Pad #3, note large puddle. Subsidence does not allow for water to drain correctly in the trench drain.

Inspection Checklist Airport Landfill



Looking north at NW corner of Pad #3, note large puddle. Subsidence does not allow for water to drain correctly in the trench drain. Also note previously repaired crack in trench drain.



Looking at trench drain along Pad #3. Note previously repaired crack, new cracking and subsidence/lifting of pad.



Looking east at cracking in middle of Pad #3, note previously repaired crack in trench drain.



Looking at NW corner of Pad #3. Note puddle, improper drainage of trench drain, separation/subsidence of MATCON and trench drain, and asphalt patch along trench drain.



Subsidence of Matcon and puddling at NW corner of Pad #2



Cracking of Pad #2, similar cracking can be found in all pads with the exception of Pad #5



Looking NE at Pad #2, note hoe trench drain drops in elevation at north end of pad.

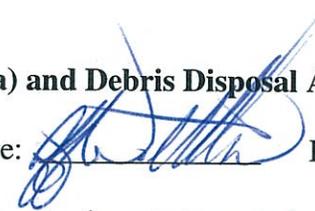


Cracking in MATCON pavement with vegetation growing in cracks. Cracks have been noted up to 1 inch wide, 5+ inches deep, and over 100 ft in length.



Trench drain along Pad #1, note cracking in drain and separation from MATCON.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: May 23, 2011 Time: 1000 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s): Inspection photos attached.

Weather: temperature: 60 degrees wind: 3 mph, 27 days since last significant rain: rain/snow mix, on April 26, 2011. Weather Data

Source: Los Alamos Airport

May 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M <i>(Monthly Inspection)</i>	Visible cracking or separation was noted at various locations. Cracks mainly occur along paving lanes contact seam and range from a few feet to 100 ft in length and up to 5 inches deep. Vegetation (weeds and grasses) were noted in several locations along the joints between the pavement and concrete hanger pads. Subsidence and lifting seem to be related to the hanger pads with some subsidence noted away from pads. Various locations have been patched. Some of the patches look like regular asphalt. Puddles of various size were noted throughout the area of MatCon pavement. Stormwater was draining into cracks in the MatCon. See Photo # 1 & 2	Yes	Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the MatCon asphalt and Concrete Hanger Pads be reviewed under a separate engineering report. The ACOE has completed a preliminary review of the site with emphasis on the concrete hanger pads and has provided a draft report, dated April 11, 2011, for review to the DOE.	No

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M <i>(Monthly Inspection)</i>	Numerous cracks, spalling, and separation associated with subsidence and possible lifting was noted in pads 1-3. Pad 4 was observed to have some minor cracking and subsidence. Pad 5 seems to be in good condition. Separation between the pad and associated MatCon noted at pads 1-3. Separation between the pad and trench drain has occurred at several locations. Previous attempt (2009) at repair of cracking and separation joints is failing in numerous locations. See Photo # 3 & 4	Yes	Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the Pads be reviewed under a separate engineering report. The ACOE has completed a preliminary review of the site with emphasis on the concrete hanger pads and has provided a draft report, dated April 11, 2011, for review to the DOE. The purpose of the report is to identify potential alternatives for stabilizing differential soil settlement beneath hangar pads.	No
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M <i>(Monthly Inspection)</i>	Pads 1, 2 and 4 have benchmarks located at the SE and NE corners of the pad. Note: benchmarks are not stamped. Pad 3 is missing the benchmark in the NE corner of the pad. Pad 5 does not have any benchmarks. NOTE: The ACOE has installed additional survey points (6 nails per pad) on the hanger pads. Per DOE instructions (May 3, 2011) the nails are to be considered the survey benchmarks. See Photo # 5 & 6	No		

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A <i>(Annual Inspection)</i>				
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Seeded Areas & Turf Reinforcement Mats: barren areas >1,000 square feet, tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR <i>(Annual Inspection)</i>				
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR <i>(Annual Inspection)</i>				
Concrete Retaining Wall & 2 Rock Retaining Walls: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR <i>(Annual Inspection)</i>				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR <i>(Annual Inspection)</i>				
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR <i>(Annual Inspection)</i>				
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR <i>(Annual Inspection)</i>				
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR <i>(Annual Inspection)</i>				
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR <i>(Annual Inspection)</i>				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR <i>(Annual Inspection)</i>				
Debris Disposal Area					

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR <i>(Annual Inspection)</i>	NOTE: The County started runway extension (450 ft) work in March 2011. The very eastern section of the DDA is being built up to extend the runway (acting as additional capping material). Will continue to monitor site during monthly inspections to monitor for any impacts to the DDA.	No		
<p>Comments:</p> <ol style="list-style-type: none"> 1. Inspection form modified per DOE verbal instruction May 3, 2011. 2. Monthly inspection completed for the MatCon pavement, hanger pads and benchmarks. Similar findings to previous inspections. 3. The Corp of Engineers has established survey monitoring points (nails) on each of the hanger pads to monitor the subsidence/upheaval of the concrete pads. Future surveys to be completed by LANS. 4. Will inspect and monitor runway extension activities at/near the DDA until work is complete. No impact to DDA noted during inspection. <p><i>No figure for inspection, photos attached to report.</i></p>					

Component locations are shown on Figure 2. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.

Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.



Photo # 1



Photo # 2

Cracking in MATCON pavement. Cracks have been note up to 1 inch wide, 5 inches deep and over 100 feet in length.



Photo # 3

Cracking in Pad #3. Majority of cracks run east to west.



Photo # 4

Subsidence of MATCON at NW corner of Pad #3



Photo # 5



Photo # 6

Original Survey Benchmark in upper right corner and ACOE nail (4F) in Photo # 5 . Benchmark not installed with ACOE nail (3C) in Photo # 6.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: June 22, 2011 Time: 1000 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s): Inspection photos attached.

Weather: temperature: 84 degrees wind: 3 mph, 57 days since last significant rain: rain/snow mix, on April 26, 2011. Weather Data Source: Los Alamos Airport

June 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M <i>(Monthly Inspection)</i>	Visible cracking or separation was noted at various locations. Cracks mainly occur along paving lanes contact seam and range from a few feet to 100 ft in length and up to 5 inches deep. Two recent cracks were observed in a east- west orientation between pad 2 & 3 and 4 & 5. Spider web type cracking was observed along the same line between pads 3 & 4. Orientation of cracks line up with the cracks observed in pads 1,2,3 & 4. Vegetation (weeds, grasses, shrubs) were noted in several locations along the joints between the pavement and concrete hanger pads, growing out of cracks in the asphalt, around concrete tie downs, and drains indicating that contact joints were not properly sealed. Subsidence and lifting seem to be related to the hanger pads with some subsidence noted away from pads. Various locations have been patched. Some of the patches look like regular asphalt. See Photo # 1, 2, 3, 4, 5, 6, 7, 8, 9	Yes	Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the MatCon asphalt and Concrete Hanger Pads be reviewed under a separate engineering report. The ACOE has completed a preliminary review of the site with emphasis on the concrete hanger pads and has provided a draft report, dated April 11, 2011, for review to the DOE.	No

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M <i>(Monthly Inspection)</i>	<p>Numerous cracks, spalling, and separation associated with subsidence and possible lifting was noted in pads 1-3. Cracking is mainly along an east-west orientation with additional cracking noted during this inspection. Pad 4 was observed to have additional spider web type cracking not noted in previous inspections in addition to some previously noted minor cracking and subsidence. Some minor cracking was noted in Pad 5 with new cracks observed in the Matcon between pad 4 & 5. Pad 5 seems to be in good condition, need to closely monitor for possible future cracking along the east-west crack orientation noted in other pads. Separation between the pad and associated MatCon noted at pads 1-3. Separation between the pad and trench drain has occurred at several locations. Previous attempt (2009) at repair of cracking and separation joints is failing in numerous locations. Concrete around drop inlets associated with the pads is failing in numerous locations. Vegetation between pad and Matcon was noted at all pads.</p> <p>See Photo # 1, 2, 3, 4, 9, 10, 11, 12, 12, 14, 15, 16, 17</p>	Yes	<p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the Pads be reviewed under a separate engineering report.</p> <p>The ACOE has completed a preliminary review of the site with emphasis on the concrete hanger pads and has provided a draft report, dated April 11, 2011, for review to the DOE. The purpose of the report is to identify potential alternatives for stabilizing differential soil settlement beneath hangar pads.</p>	No

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M <i>(Monthly Inspection)</i>	<p>Pads 1, 2 and 4 have benchmarks located at the SE and NE corners of the pad. Note: benchmarks are not stamped.</p> <p>Pad 3 is missing the benchmark in the NE corner of the pad.</p> <p>Pad 5 does not have any benchmarks.</p> <p>NOTE: The ACOE has installed additional survey points (6 nails per pad) on the hanger pads. Per DOE instructions (May 3, 2011) the nails are to be considered the survey benchmarks.</p> <p>See Photo # 18, 19</p>	No		
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B				
Seeded Areas & Turf Reinforcement Mats: barren areas >1,000 square feet, tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Retaining Wall & 2 Rock Retaining Walls: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR				
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR				
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR				
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR				
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR				
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Debris Disposal Area					
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR	NOTE: The County started runway extension (450 ft) work in March 2011. The very eastern section of the DDA is being built up to extend the runway (acting as additional capping material). Will continue to monitor site during monthly inspections to monitor for any impacts to the DDA.	No		
<p>Comments:</p> <ol style="list-style-type: none"> 1. Inspection form modified per DOE verbal instruction May 3, 2011. 2. Monthly inspection completed for the MatCon pavement, hanger pads and benchmarks. Similar findings to previous inspections with additional cracking of pads and Matcon in an east-west orientation with a visible hinge point noted in pads 1-3 . 3. The Corp of Engineers has established survey monitoring points (nails) on each of the hanger pads to monitor the subsidence/upheaval of the concrete pads. Unclear as to who will perform future surveys. 4. Will inspect and monitor runway extension activities at/near the DDA until work is complete. No impact to DDA noted during inspection. <p><i>No figure for inspection, photos attached to report.</i></p>					

Component locations are shown on Figure 2. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.
 Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.



Photo 1: Looking east at pads 2-5, note uneven nature of pads and Matcon asphalt.



Photo 2: NW corner of pad 2, note subsidence of Matcon and drainage problems.



Photo 3: Pad 3, note matcon patches, improper drainage and hinge point towards middle of pad.



Photo 4: Looking west at crack in matcon with vegetation growing through crack.



Photo 5: Crack in matcon between pads 2-3.



Photo 6: New crack in matcon between pads 4-5. Forming on hinge point similar to pads 1-4.



Photo 7: East-west oriented crack along paving lanes.



Photo 8: Crack in matcon approximately $\frac{3}{4}$ to 1 inch wide and 5 inches deep. Soil at bottom of crack.



Photo 9: SE corner of Pad 4, note cracks, matcon patch and vegetation.



Photo 10: Cracks in pad 3



Photo 11: Cracks in pad 3, note previously repaired cracks and new cracks.



Photo 12: Cracks in pad 4



Photo 13: Vegetation along pad edge (juniper, weeds, and deep rooting sage brush)



Photo 14: Concrete at drop inlet



Photo 15: Vegetation growing along contact between matcon and cement at tie down and trench drain. Note no vegetation observed growing in older section of hanger pads and asphalt access areas.



Photo 16: Russian olive growing along edge of matcon, also note vegetation along pad.



Photo 17: Missing concrete at drop inlet.



Photo 18: Original pad survey marker at SE corner of pad 3.

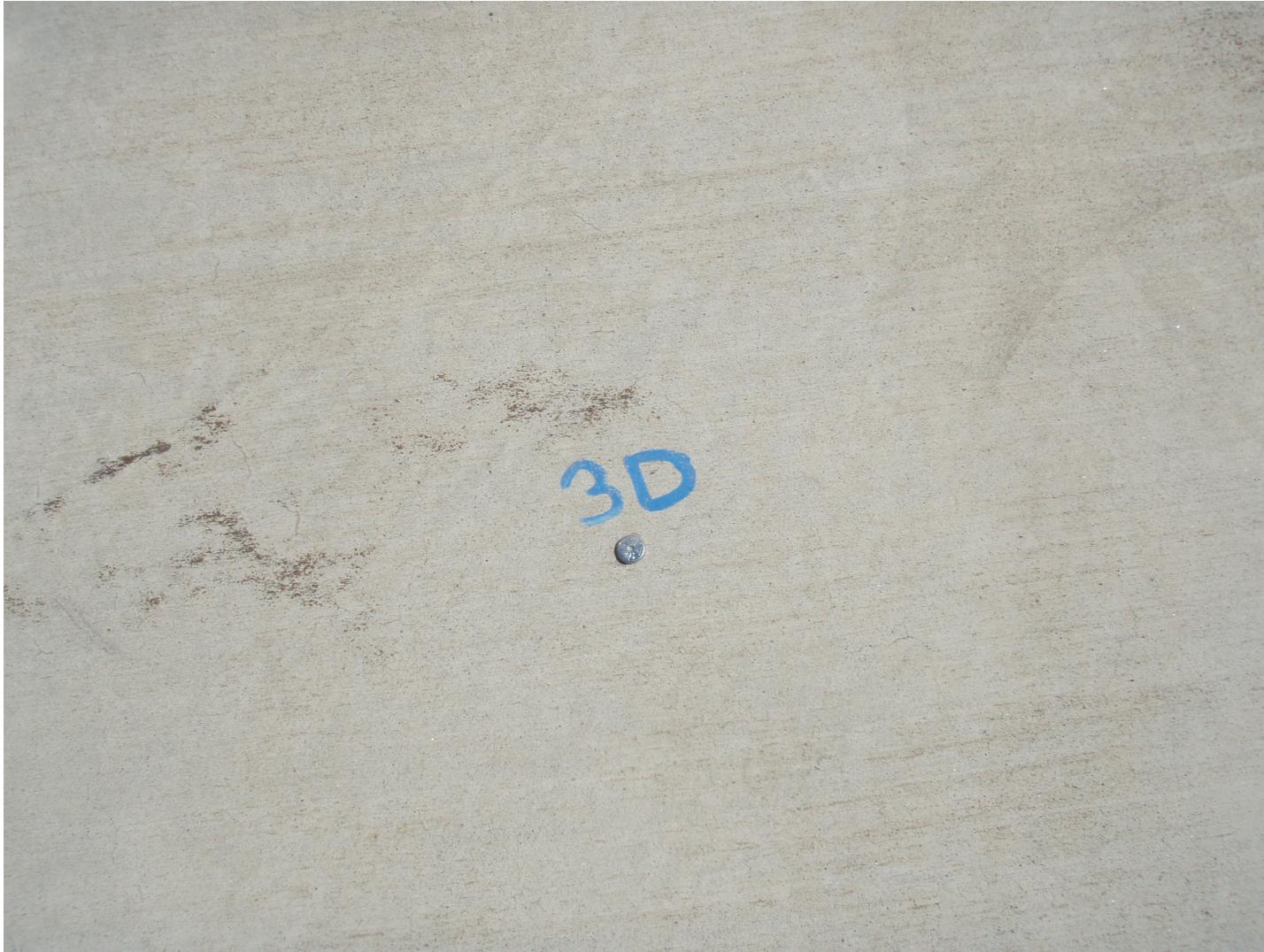
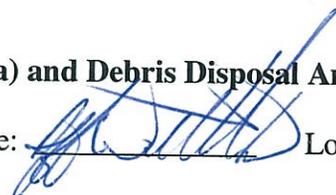


Photo 19: New survey pin installed by the ACOE at SE corner of pad 3.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: July 28, 2011 Time: 0900 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s): Inspection photos attached.

Weather: temperature: 75 degrees wind: 3 mph, 93 days since last significant rain: rain/snow mix, on April 26, 2011. Weather Data

Source: Los Alamos Airport

July 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M <i>(Monthly Inspection)</i>	Visible cracking or separation was noted at various locations. Cracks mainly occur along paving lanes contact seam and range from a few feet to 100 ft in length and up to 5 inches deep. Two recent cracks were observed in a east- west orientation between pad 2 & 3 and 4 & 5. Spider web type cracking was observed along the same line between pads 3 & 4. Orientation of cracks line up with the cracks observed in pads 1,2,3 & 4. Vegetation (weeds, grasses, shrubs) were noted in several locations along the joints between the pavement and concrete hanger pads, growing out of cracks in the asphalt, around concrete tie downs, and drains indicating that contact joints were not properly sealed. Subsidence and lifting seem to be related to the hanger pads with some subsidence noted away from pads. Various locations have been patched. Some of the patches look like regular asphalt. See Photo # 4, 5, 6, 12, 14, 15	Yes	Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the MatCon asphalt and Concrete Hanger Pads be reviewed under a separate engineering report. The ACOE has completed a preliminary review of the site with emphasis on the concrete hanger pads and has provided a draft report, dated April 11, 2011, for review to the DOE. DOE met with a representative from MatCon on July 27, 2011.	No

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M <i>(Monthly Inspection)</i>	<p>Numerous cracks, spalling, and separation associated with subsidence and possible lifting was noted in pads 1-3. Cracking is mainly along an east-west orientation with additional cracking noted during this inspection. Pad 4 was observed to have spider web type cracking and minor subsidence. Some minor cracking was noted in Pad 5 with new cracks observed in the Matcon between pad 4 & 5. Pad 5 seems to be in good condition, need to closely monitor for possible future cracking along the east-west crack orientation noted in other pads. Separation between the pad and associated MatCon noted at pads 1-3. Separation between the pad and trench drain has occurred at several locations. Previous attempt (2009) at repair of cracking and separation joints is failing in numerous locations. Concrete around drop inlets associated with the pads is failing in numerous locations. Vegetation between pad and Matcon was noted at all pads.</p> <p>See Photo # 1, 2, 3, 4, 5, 6, 9, 8, 10, 11, 13, 16</p>	Yes	<p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection. It is recommended that the Pads be reviewed under a separate engineering report.</p> <p>The ACOE has completed a preliminary review of the site with emphasis on the concrete hanger pads and has provided a draft report, dated April 11, 2011, for review to the DOE. The purpose of the report is to identify potential alternatives for stabilizing differential soil settlement beneath hangar pads.</p>	No

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M <i>(Monthly Inspection)</i>	<p>Pads 1, 2 and 4 have benchmarks located at the SE and NE corners of the pad. Note: benchmarks are not stamped.</p> <p>Pad 3 is missing the benchmark in the NE corner of the pad.</p> <p>Pad 5 does not have any benchmarks.</p> <p>NOTE: The ACOE has installed additional survey points (6 nails per pad) on the hanger pads. Per DOE instructions (May 3, 2011) the nails are to be considered the survey benchmarks.</p>	No		
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B				
Seeded Areas & Turf Reinforcement Mats: barren areas >1,000 square feet, tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Retaining Wall & 2 Rock Retaining Walls: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR				
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR				
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR				
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR				
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR				
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Debris Disposal Area					
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR	NOTE: The County started runway extension (450 ft) work in March 2011. The very eastern section of the DDA is being built up to extend the runway (acting as additional capping material).	No		
<p>Comments:</p> <ol style="list-style-type: none"> 1. Inspection form modified per DOE verbal instruction May 3, 2011. 2. Monthly inspection completed for the MatCon pavement, hanger pads and benchmarks. Similar findings to previous inspections with additional cracking of pads and Matcon in an east-west orientation with a visible hinge point noted in pads 1-3. 3. The Corp of Engineers has established survey monitoring points (nails) on each of the hanger pads to monitor the subsidence/upheaval of the concrete pads. Unclear as to who will perform future surveys. 4. Will inspect and monitor runway extension activities at/near the DDA until work is complete. No impact to DDA noted during inspection. 5. DOE met with MatCon representative on July 27, 2011. 6. Over 90 days with no significant rainfall, vegetative cap area is very dry with minimal green cover. <p><i>No figure for inspection, photos attached to report.</i></p>					

Component locations are shown on Figure 2 of the *Final Implementation Strategy for Post Closure and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico, July 2009*. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.
 Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.



Photo 1: Southeast view of concrete hanger pads. Note wavy nature of MatCon and pads.



Photo 2: East view of pads.



Photo 3: Crack in pad #1.



Photo 4: vegetation along contact of pad #1 and asphalt.



Photo 5: Example of crack in MatCon.



Photo 6: Northeast corner of pad #2.



Photo 7: Cracks in pad #2.



Photo 8: Drop inlet at Southwest corner of pad #3.



Photo 9: East view of pad #3.



Photo 10: Trench drain at pad #3, note rising and subsidence.



Photo 11: Seal in pad #3.



Photo 12: Cracking and vegetation in MatCon.



Photo 13: East view of cracking in pad #4.



Photo 14: Vegetation and cracking at Southeast corner of pad #4.



Photo 15: Cracks in MatCon south of pad #4.

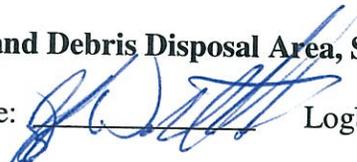


Photo 16: West view from pad #5.



Photo 17: View of vegetative cap, no significant precipitation for over 90 days.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: August 23, 2011 Time: 1000 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s): Inspection photos attached.

Weather: temperature: 84 degrees wind: 3 mph, 5 days since last significant rain: on August 19, 2011. Weather Data Source: Los Alamos Airport

August 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M <i>(Monthly Inspection)</i>	<p>Visible cracking or separation was noted at various locations. Cracks mainly occur along paving lanes contact seam and range from a few feet to 100 ft in length and up to 5 inches deep.</p> <p>Two cracks were observed in a east- west orientation between pad 2 & 3 and 4 & 5. Spider web type cracking was observed along the same line between pads 3 & 4. Orientation of cracks line up with the cracks observed in pads 1,2,3 & 4.</p> <p>Vegetation (weeds, grasses, shrubs) were noted in several locations along the joints between the pavement and concrete hanger pads, growing out of cracks in the asphalt, around concrete tie downs, and drains indicating that contact joints were not properly sealed.</p> <p>Subsidence and lifting seem to be related to the hanger pads with some subsidence noted away from pads. Various locations have been patched. Some of the patches look like regular asphalt.</p> <p>See Photo # 1, 3</p>	Yes	<p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection.</p> <p>It is recommended that DOE request MATCON installers visit site, provide corrective actions report and complete corrective actions.</p> <p>No corrective actions have been completed to date.</p>	No

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M <i>(Monthly Inspection)</i>	<p>Numerous cracks, spalling, and separation associated with subsidence and possible lifting has been noted in pads 1-3 in this and previous inspection reports. Cracking is prominently along an east-west orientation with additional cracking noted during this inspection.</p> <p>Pad 4 was observed to have spider web type cracking and minor subsidence. Pad 5 seems to be in good condition, will need to monitor for cracking along the east-west crack orientation noted in other pads.</p> <p>Separation between the pad and associated MatCon noted at pads 1-3. Separation between the pad and trench drain has occurred at several locations. Previous attempt (2009) at repair of cracking and separation joints is failing in numerous locations.</p> <p>Concrete around drop inlets associated with the pads is failing in numerous locations.</p> <p>Vegetation between pad and Matcon was noted at all pads.</p> <p>Subsidence and lifting is noticeable at pads 1, 2, & 3. From visual observation the north end of pad 1 is raising and twisting. The north ends of pad 2 & 3 have dropped, the trench drains drain in reverse and cause water to puddle. Pad 4 has some subsidence and drainage problems at the north end of the pad.</p> <p>See Photo # 1, 2, 3, 5, 6, 7, 8</p>	Yes	<p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection.</p> <p>The ACOE has completed a preliminary review of the site with emphasis on the concrete hanger pads and has provided a draft report, dated April 11, 2011, for review to the DOE. The purpose of the report is to identify potential alternatives for stabilizing differential soil settlement beneath hangar pads.</p> <p>No corrective actions have been completed to date.</p>	No

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<p>Survey Benchmark on each hangar pad: accessible, attached to concrete pad</p>	<p>M <i>(Monthly Inspection)</i></p>	<p>Pads 1, 2 and 4 have benchmarks located at the SE and NE corners of the pad. Benchmarks are not stamped.</p> <p>Pad 3 is missing the benchmark in the NE corner of the pad. None are stamped.</p> <p>Pad 5 does not have any benchmarks.</p> <p>NOTE: The ACOE has installed additional survey points (6 nails per pad) on the hanger pads. Per DOE instructions (May 3, 2011) the nails are to be considered the survey benchmarks.</p> <p>All ACOE points are in place and accessible.</p>	<p>No</p>		
<p>Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible</p>	<p>A</p>				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B				
Seeded Areas & Turf Reinforcement Mats: barren areas >1,000 square feet, tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Retaining Wall & 2 Rock Retaining Walls: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR				
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR				
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR				
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR				
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR				
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Debris Disposal Area					
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR	<p>NOTE: The County started runway extension (450 ft) work in March 2011. The very eastern section of the DDA is being built up to extend the runway (acting as additional capping material).</p> <p>Runway extension project completed in July 2011.</p> <p>Photo: 4</p>	No		
<p>Comments:</p> <ol style="list-style-type: none"> Inspection form modified per DOE verbal instruction May 3, 2011. Monthly inspection completed for the MatCon pavement, hanger pads and benchmarks. Similar findings to previous inspections with additional cracking of pads and Matcon in an east-west orientation with a visible hinge point noted in pads 1-3. The Corp of Engineers has established survey monitoring points (nails) on each of the hanger pads to monitor the subsidence/upheaval of the concrete pads. Unclear as to who will perform future surveys. Will inspect and monitor runway extension activities at/near the DDA until work is complete. No impact to DDA noted during inspection. DOE met with MatCon representative on July 27, 2011. Over 90 days with no significant rainfall, vegetative cap area is very dry with minimal green cover. <p><i>No figure for inspection, photos attached to report.</i></p>					

Component locations are shown on Figure 2 of the *Final Implementation Strategy for Post Closure and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico, July 2009*. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.
 Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.



Photo # 1: North view of pad #3. Note Matcon patch, subsidence and puddle at end of trench drain.



Photo # 2: View west at pad # 3. Grasses growing in east-west oriented crack.



Photo # 3: View west of hanger pad and Matcon.



Photo # 4: East view of the Debris disposal area with the runway extension over top.



Photo # 5: NE view from pad # 1.



Photo # 6: North end of pad # 1.

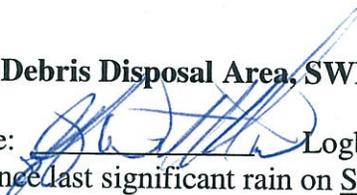


Photo # 7: North view of pad #2. Note Matcon patch, subsidence and puddle at end of trench drain.



Photo # 8: Grasses growing along trench drain at pad # 3.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: September 23, 2011 Time: 0930 Printed Name: Jeff Walterscheid Signature:  Logbook: 1
 Figure(s): None Weather: temperature: 54 degrees wind: 3 mph, 9 days since last significant rain on September 14, 2011.
 Weather Data Source: Los Alamos Airport

September 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M	<p>Visible cracking or separation was noted at various locations. Cracks mainly occur along paving lanes contact seam and range from a few feet to 100 ft in length and up to 5 inches deep.</p> <p>Two cracks were observed in a east- west orientation between pad 2 & 3 and 4 & 5. Spider web type cracking was observed along the same line between pads 3 & 4. Orientation of cracks line up with the cracks observed in pads 1,2,3 & 4.</p> <p>Vegetation (weeds, grasses, shrubs) were noted in several locations along the joints between the pavement and concrete hanger pads, growing out of cracks in the asphalt, around concrete tie downs, and drains indicating that contact joints were not properly sealed.</p> <p>Visible subsidence and lifting seem to be related to the hanger pads with some subsidence noted away from pads. Various locations have been patched. Some of the patches look like regular asphalt.</p> <p>No photos, see August inspection</p>	Yes	<p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection.</p> <p>No corrective actions have been completed to date.</p>	No

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M	<p>Numerous cracks, spalling, and separation associated with subsidence and possible lifting has been noted in pads 1-3 in this and previous inspection reports. Cracking is prominently along an east-west orientation with additional cracking noted during this inspection.</p> <p>Pad 4 was observed to have spider web type cracking and minor subsidence. Pad 5 seems to be in good condition, will need to monitor for cracking along the east-west crack orientation noted in other pads.</p> <p>Separation between the pad and associated MatCon noted at pads 1-3. Separation between the pad and trench drain has occurred at several locations. Previous attempt (2009) at repair of cracking and separation joints is failing in numerous locations.</p> <p>Concrete around drop inlets associated with the pads is failing in numerous locations.</p> <p>Vegetation between pad and Matcon was noted at all pads.</p> <p>Subsidence and lifting is noticeable at pads 1, 2, & 3. From visual observation the north end of pad 1 is raising and twisting. The north ends of pad 2 & 3 have dropped, the trench drains drain in reverse and cause water to puddle. Pad 4 has some subsidence and drainage problems at the north end of the pad.</p> <p>No photos, see August inspection</p>	Yes	<p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection.</p> <p>No corrective actions have been completed to date.</p>	No

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<p>Survey Benchmark on each hangar pad: accessible, attached to concrete pad</p>	<p>M</p>	<p>Pads 1, 2 and 4 have benchmarks located at the SE and NE corners of the pad. Benchmarks are not stamped.</p> <p>Pad 3 is missing the benchmark in the NE corner of the pad. None are stamped.</p> <p>Pad 5 does not have any benchmarks.</p> <p>NOTE: The ACOE has installed additional survey points (6 nails per pad) on the hanger pads. Per DOE instructions (May 3, 2011) the nails are to be considered the survey benchmarks.</p> <p>All ACOE points are in place and accessible.</p>	<p>No</p>		
<p>Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible</p>	<p>A</p>				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B				
Seeded Areas & Turf Reinforcement Mats: barren areas >1,000 square feet, tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Retaining Wall & 2 Rock Retaining Walls: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR				
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR				
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR				
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR				
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR				
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR			Additional wattles scheduled for installation the week of September 26, 2011.	

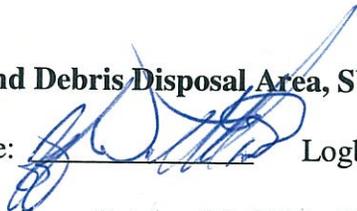
Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Debris Disposal Area					
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
<p>Comments:</p> <ol style="list-style-type: none"> 1. Inspection form modified per DOE verbal instruction May 3, 2011. 2. Monthly inspection completed for the MatCon pavement, hanger pads and benchmarks. Similar findings to previous inspections with additional cracking of pads and Matcon in an east-west orientation with a visible hinge point noted in pads 1-3. 3. The Corp of Engineers has established survey monitoring points (nails) on each of the hanger pads to monitor the subsidence/upheaval of the concrete pads. 					

Component locations are shown on Figure 2 of the *Final Implementation Strategy for Post Closure and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico, July 2009*. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.
 Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: October 31, 2011 Time: 0830 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s): Inspection photos attached.

Weather: temperature: 34 degrees wind: 1 mph, 5 days since last significant rain on October 26, 2011. Weather Data Source: Los Alamos Airport

October 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M	<p>Cracks in Matcon were repaired under warranty.</p> <p>It was noted that separation around tie downs, separation along the contact with the access road, along the original trench drain and a few cracks within the MatCon were not repaired.</p> <p>Spider web type cracking was observed between pads 3 & 4.</p> <p>Visible subsidence and lifting seem to be related to the hanger pads with some subsidence noted away from pads. Various locations have been patched. Some of the patches look like regular asphalt.</p> <p>Recommend curb be installed along north edge of matcon at hangar pad #2 to assist with drainage issues. Area ponds water and is seeping into soil cap, soil fissure is visible for approximately 125 ft and is most likely related to subsidence of matcon and pad.</p>	Yes	<p>Cracks in the MatCon were filled and repaired the week of October 24, 2011. Both warranty and non-warranty work was performed as negotiated between DOE/LASO and the MatCon contractor. The non-warranty work was limited to sealing cracks between the Matcon and the asphalt around each pad. All other work was performed under an existing warranty. Description of non-warranty repairs, material used and photographs to be provided under non-warranty repair work by MatCon representative.</p> <p>Remedies for the permanent corrective action of the subsidence are beyond the scope of the inspection.</p>	Yes week of October 24, 2011

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M	<p>Numerous cracks, spalling, and separation associated with subsidence and possible lifting has been noted in pads 1-3 in this and previous inspection reports. Cracking is prominently along an east-west orientation with additional cracking noted during this inspection.</p> <p>Pad 4 was observed to have spider web type cracking, cracks forming along an east-west orientation and additional subsidence near the middle of the pad on the west side. Cracking and subsidence/lifting in same orientation as observed in pads 1-3.</p> <p>Pad 5 is starting to show spider web type cracking. Will need to monitor for cracking along the east-west crack orientation noted in other pads.</p> <p>Separation between the pad and trench drain has occurred at several locations. Previous attempt (2009) at repair of cracking and separation joints is failing in numerous locations.</p> <p>Concrete around drop inlets associated with the pads is failing in numerous locations.</p> <p>Subsidence and lifting is noticeable at pads 1, 2, & 3. From visual observation the north end of pad 1 is raising and twisting. The north ends of pads 2 & 3 have dropped and the trench drains drain in reverse causing water to puddle. Pad 4 has some subsidence and drainage problems at the north end of the pad.</p>	Yes	<p>As part of the non-warranty work, vegetation was removed from joint between pads. All Joints along contact with Matcon were sealed using the same material to seal cracks in MatCon.</p> <p>Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection.</p>	Yes week of October 24, 2011

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M	<p>Pads 1, 2 and 4 have benchmarks located at the SE and NE corners of the pad. Benchmarks are not stamped.</p> <p>Pad 3 is missing the benchmark in the NE corner of the pad. None are stamped.</p> <p>Pad 5 does not have any benchmarks.</p> <p>NOTE: The ACOE has installed additional survey points (6 nails per pad) on the hangar pads. Per DOE instructions (May 3, 2011) the nails are to be considered the survey benchmarks.</p> <p>All ACOE points are in place and accessible.</p> <p>Recommend survey be completed quarterly to determine pad movement.</p>	No		
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B				
Seeded Areas & Turf Reinforcement Mats: barren areas >1,000 square feet, tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Retaining Wall & 2 Rock Retaining Walls: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR				
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR				
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR				
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR				
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR				
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR				Additional wattles installed the week of September 26, 2011.

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Debris Disposal Area					
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
Comments: 1. Inspection form modified per DOE verbal instruction May 3, 2011.					

Component locations are shown on Figure 2 of the *Final Implementation Strategy for Post Closure and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico, July 2009*. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

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Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.



Photo1: Sealed cracks in MatCon



Photo2: Crack repair in MatCon



Photo3: Crack repair in MatCon



Photo 4: Crack repair in MatCon



Photo 5: Crack repair in MatCon



Photo 6: Crack repair in MatCon



Photo 7: crack repair around drop inlet



Photo 8: Crack repaired in MatCon. Note tie downs were not sealed and contact with trench drain was not sealed.



Photo 9: Contact joint with trench drain was not sealed.



Photo 10: Crack in Matcon was prepared for sealing but was not completed. Note contact joint with tarmac was not sealed.



Photo 11: Contact joint between MatCon and access road was not sealed, note vegetation in joint.



Photo 12: Area around drop inlet was not sealed, note crack that was not sealed.



Photo 13: Seal between trench drain and MatCon is visible. Note asphalt patches, one sealed one not.



Photo14: Pad #3, note drop in trench drain elevation to north, pad does not drain correctly.



Photo 15: Puddle at north end of pad #2, note subsidence from pad and drop in trench drain. Water currently drains into soil cap.



Photo 16: Seal between trench drain, note crack runs completely through drain and is not sealed.



Photo 17: Seal between MatCon and trench drain. Note separation of trench drain and pad #1.



Photo 18: Cracking in pad 2 with an east-west orientation. Similar cracking in pads 1-4.



Photo 19: Cracking in pad #4.



Photo 20: spider web type cracking is visible in all pads.

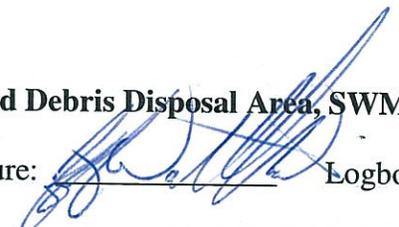


Photo 21: Seal between MatCon and pad #4.



Photo 22: Tie downs were not sealed.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: November 28, 2011 Time: 1330 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s): Inspection photos attached.

Weather: temperature: 44 degrees wind: 1 mph, 4 days since last significant rain on November 25, 2011. Weather Data Source: Los Alamos Airport

October 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M	Subsidence and lifting are visible throughout the new hangar pad area. See October report for MatCon repair and general status. Recommend curb and drainage outlet be installed along north edge of matcon at hangar pad #2 to assist with drainage issues. Area ponds water and is seeping into soil cap, soil fissure is visible for approximately 125 ft and is most likely related to subsidence of matcon and pad. See photo 1 & 2	es	Remedies for the permanent corrective action of the subsidence are beyond the scope of the inspection.	
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M	See October report for general status. Subsidence and lifting is noticeable at pads 1, 2, & 3. From visual observation the north end of pad 1 is raising and twisting. The north ends of pads 2 & 3 have dropped and the trench drains drain in reverse causing water to puddle. Pad 4 has some subsidence and drainage problems at the north end of the pad. See photo 2	Yes	Remedies for the permanent corrective action of the cracking and subsidence are beyond the scope of the inspection.	

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M	See October report for general status. All ACOE points are in place and accessible. Recommend survey be completed quarterly to determine pad movement.	No		
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A				
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Seeded Areas & Turf Reinforcement Mats: barren areas >1,000 square feet, tears, animal burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR				
Concrete Retaining Wall & 2 Rock Retaining Walls: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR				
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR				
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR				
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR				
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR	See Photo 3			Additional wattles installed the week of September 26, 2011.
Debris Disposal Area					
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
<p>Comments:</p> <p>1. Inspection form modified per DOE verbal instruction May 3, 2011.</p>					

Component locations are shown on Figure 2 of the *Final Implementation Strategy for Post Closure and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico, July 2009*. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.
 Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.



Photo 1: Puddle at north end of pad #2, note subsidence from pad and drop in trench drain. Water currently drains into soil cap.

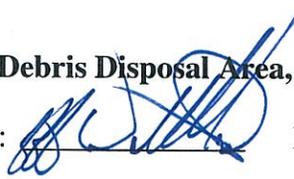


Photo 2: View of pads and MatCon.



Photo 3: Wattles replaced in September.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: December 20, 2011 Time: 1330 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s): Inspection photos attached.

Weather: temperature: 24 degrees wind: 1 mph, 1 days since last significant snow on December 19, 2011. Weather Data Source: Los Alamos Airport

December 2011 Monthly Inspection

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M	<p>NOTE Site inspection could not be completed due to snow accumulation from December 6 and 19 storm events. Site currently has 6 inches of snow with drifts up to 18 inches. Due to uneven nature of pads and Matcon LA County is not plowing or clearing snow from this section of the airport</p> <p>See photo 1, 2 & 3</p>			
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M	See above note			
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M	See above note			

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A				
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Seeded Areas & Turf Reinforcement Mats: barren areas >1,000 square feet, tears, animal burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR				
Concrete Retaining Wall & 2 Rock Retaining Walls: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR				
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR				
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR				
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR				
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR				
Debris Disposal Area					
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR				
<p>Comments:</p> <p>1. Inspection form modified per DOE verbal instruction May 3, 2011.</p>					

Component locations are shown on Figure 2 of the *Final Implementation Strategy for Post Closure and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico, July 2009*. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.
 Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.



Photo 1: Looking east photo taken December 16, 2011.



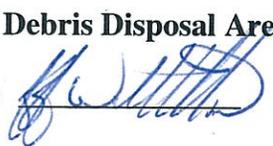
Photo 2: Looking west, photo taken December 16, 2011.



Photo 3: Looking east, photo taken December 20, 2011.

Significant Rain Events
September 2011

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: September 2, 2011 Time: 1000 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s): Inspection photos attached.

Weather: temperature: 78 degrees wind: 2 mph, 1 days since last significant rain on September 1, 2011. Weather Data Source: Los Alamos Airport

Significant Rain Event: September 1, 2011

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M <i>(Monthly Inspection)</i>				
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M <i>(Monthly Inspection)</i>				
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M <i>(Monthly Inspection)</i>				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A				
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Seeded Areas & Turf Reinforcement Mats: barren areas >1,000 square feet, tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR	<p>No large barren areas were observed, no new animal burrows were observed (previous observations were of mole trails under the winter snow). No subsidence, rills or cracks were observed on the main slope area. Sage a few small trees have rooted in the exposed soil areas.</p> <p>A soil crack was observed approximately 10-15 ft north of the asphalt at pad #2. The crack or small fissure is approximately 100ft long and six inches deep. It is not a continuous opening but can be traced along the surface. The cracking may be in conjunction with Pad #1 raising higher at the north end and subsidence of pads 2 and 3 also at the north end.</p> <p>Photo 1, 2, 3</p>	No	The gas ports near the soil crack are capped. Recommend discussion and possible follow-on action to open gas ports and sample to assist in determination for rising of pad 1.	
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR	<p>All gravel drainage channels are clear of trash and blockages, no evidence of subsidence or erosion.</p> <p>Photo 1, 2</p>	No		

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Concrete Retaining Wall & 2 Rock Retaining Walls: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR	The concrete and rock retaining walls are in excellent condition with no evidence of cracks, bulges, separation, rotation, spalling or pop-outs. The drain pipes and small sediment retention basins are clear. Minor erosion is taking place along the east end of the concrete retaining wall but is not a concern at this time.	No		
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR	Grated trenches are open and clear of any blockage. Standing water was observed in north at the north end of trenches associated with pads 2,3,4, and 5 with puddles forming at north ends of pad 2 & 3. Photo 4, 5, 6	Yes	Subsidence and lifting of pads is beyond the scope of this inspection. The ACOE has completed a draft report of possible concerns with the pads. report has been provided to the DOE and LAC.	
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR	All drainage inlets are functional with no blockage	No		
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR	No evidence of spills	No		

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR	No evidence of sediment washing off site	No		
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR	<p>Outfall pipe is secure and in place, no blockage, no evidence of soil staining and the manhole is in place.</p> <p>Significant erosion of channel below outfall draining into Pueblo Canyon. Debris in channel includes tires, metal and household trash.</p>	Yes	Additional debris removal from channel should be completed.	
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR	<p>The exposed earthen slope continues to have sheet flow issues, rills and one small channel. Wattles have helped control the flow but are a temporary measure and are filled with sediment.</p> <p>Photo 2, 7, 8</p>	Yes	Up to 20 additional wattles are needed on the slope, dirt access road and in the small sediment basins at the base of the wall structure. This will get us through this year and possible next but is not the long term solution.	

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Debris Disposal Area					
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR	<p>NOTE: The County started runway extension (450 ft) work in March 2011. The very eastern section of the DDA is being built up to extend the runway (acting as additional capping material).</p> <p>Runway extension project completed in July 2011.</p> <p>The DDA cover has been reworked and added to for the runway extension. Upon completion of work the area was reseeded. Grass is currently growing. Evidence of rill erosion following the storm event. LAC and their contractor are responsible for any issues/concerns with reseeded areas.</p> <p>A concrete wash-out basin was built over part of the DDA cap. Basin is still in place while drying out.</p> <p>Photo 9, 10</p>	No		
<p>Comments:</p> <ol style="list-style-type: none"> 1. Inspection form modified per DOE verbal instruction May 3, 2011. 2. Prior to August over 90 days with no significant rainfall, vegetative cap area was very dry with minimal green cover. Following monsoonal moisture in late July and August area greened up. <p><i>No figure for inspection, photos attached to report.</i></p>					

Component locations are shown on Figure 2 of the *Final Implementation Strategy for Post Closure and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico, July 2009*. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.
 Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.



Photo 1: View SE at soil cap slope. No evidence of erosion, subsidence or sediment accumulation/movement. Note sage brush.



Photo 2: View NW across soil cap slope. Rill erosion and sediment accumulation behind wattles is evident along fence line. Remainder of slope is well vegetated. Rock channel is clean. Note sage brush across slope.



Photo 3: Trace of soil crack is visible down center of photo.



Photo 4: Looking east note puddles at north end of pads 2 & 3. Subsidence of pad and Matcon is visible along pad 3.



Photo 5: Puddle at north end of trench drain at pad # 2



Photo 6: Looking east at pad # 3, puddle is at north end.



Photo 7: View of wattle area with sheet flow concerns.



Photo 8: Sediment behind wattles and rilling along erosion control matting.

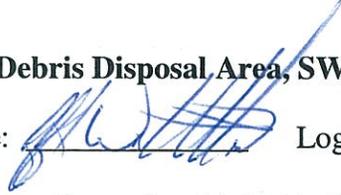


Photo 9: Concrete washout basin over the DDA.



Photo 10: Runway extension and reseeding of the DDA.

Inspection Checklist for the Airport Landfill, SWMU 73-001(a) and Debris Disposal Area, SWMU 73-001(d)

Date: September 16, 2011 Time: 1430 Printed Name: Jeff Walterscheid Signature:  Logbook: 1

Figure(s): no photos or figures attached.

Weather: temperature: 61 degrees wind: 8 mph, 2 days since last significant rain on September 14, 2011. Weather Data Source: Los Alamos Airport

Significant Rain Event: September 14, 2011

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<i>Airport Landfill</i>					
MatCon Asphalt Pavement: cracks, gaps, spalling, subsidence	M <i>(Monthly Inspection)</i>				
Concrete Hangar Pads (5) and expansion joints: cracks, gaps, spalling, pop-outs, separation of pad from asphalt, subsidence	M <i>(Monthly Inspection)</i>				
Survey Benchmark on each hangar pad: accessible, attached to concrete pad	M <i>(Monthly Inspection)</i>				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Gas Collection System: Turbines (6) along northern edge of asphalt pavement and 1 stub-out on southern edge of asphalt pavement: debris, functional, accessible	A				
Measure landfill-gas concentrations using Landfill Gas Monitoring Form: any values greater than 25% of the methane LEL (lower explosive limit)?	Q or B				

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Seeded Areas & Turf Reinforcement Mats: barren areas >1,000 square feet, tears, animals burrows >4 inches deep, subsidence >1 ft, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR	<p>No large barren areas were observed, no new animal burrows were observed. No subsidence, rills or cracks were observed on the main slope area. Sage a few small trees have rooted in the exposed soil areas.</p> <p>A soil crack was observed approximately 10-15 ft north of the asphalt at pad #2. The crack or small fissure is approximately 100ft long and six inches deep. It is not a continuous opening but can be traced along the surface. The cracking may be in conjunction with Pad #1 raising higher at the north end and subsidence of pads 2 and 3 also at the north end.</p>	No	The gas ports near the soil crack are capped. Recommend discussion and possible follow-on action to open gas ports and sample to assist in determination for rising of pad 1.	
Gravel drainage channels (3): subsidence, erosion, clear of trash, soil, other blockages	A, ASR	All gravel drainage channels are clear of trash and blockages, no evidence of subsidence or erosion.	No		
Concrete Retaining Wall & 2 Rock Retaining Walls: cracks, bulges, separation, rotation, nearby erosion, spalling, pop-outs, drain pipes (3) open at gravel drainage channel	A, ASR	The concrete and rock retaining walls are in excellent condition with no evidence of cracks, bulges, separation, rotation, spalling or pop-outs. The drain pipes and small sediment retention basins are clear. Minor erosion is taking place along the east end of the concrete retaining wall but is not a concern at this time.	No		

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Grated Trenches (6): cracks; clear of trash, soil, other blockages, draining properly, standing water, subsidence	A, ASR	Grated trenches are open and clear of any blockage. Standing water was observed in north at the north end of trenches associated with pads 2,3,4, and 5 with puddles forming at north ends of pad 2 & 3.	Yes	Subsidence and lifting of pads is beyond the scope of this inspection. The ACOE has completed a draft report of possible concerns with the pads. report has been provided to the DOE and LAC.	
Drainage inlets (8): functional, grates not blocked by trash, soil, other material	A, ASR	All drainage inlets are functional with no blockage	No		
Evidence that pollutants (spills) have entered the storm-water system?	A, ASR	No evidence of spills	No		
Sediment washing off the site? If so, map the location[s] in logbook	A, ASR	No evidence of sediment washing off site	No		
Outfall Pipe: secure, blockage, significant erosion, soil staining, manhole in place	A, ASR	Outfall pipe is secure and in place, no blockage, no evidence of soil staining and the manhole is in place. Significant erosion of channel below outfall draining into Pueblo Canyon. Debris in channel includes tires, metal and household trash.	Yes	Additional debris removal from channel should be completed.	

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
Straw-wattle areas between retaining walls and fence: wattles in place, erosion, rills	A, ASR	The exposed earthen slope continues to have sheet flow issues, rills and one small channel. Wattles have helped control the flow but are a temporary measure and are filled with sediment.	Yes	Up to 20 additional wattles are needed on the slope, dirt access road and in the small sediment basins at the base of the wall structure. This will get us through this year and possible next but is not the long term solution. Work Oder for wattle installation issued September 16, 2011	
Debris Disposal Area					
Seeded (hydromulched) Areas: animals burrows >4 inches deep, barren areas >1,000 square feet, subsidence >1 ft deep, rills/cracks >4 inches deep, large vegetation (trees, shrubs, bushes, deep-rooting weeds)	A, ASR	<p>NOTE: The County started runway extension (450 ft) work in March 2011. The very eastern section of the DDA is being built up to extend the runway (acting as additional capping material).</p> <p>Runway extension project completed in July 2011.</p> <p>The DDA cover has been reworked and added to for the runway extension. Upon completion of work the area was reseeded. Grass is currently growing. Evidence of rill erosion following the storm event. LAC and their contractor are responsible for any issues/concerns with reseeded areas.</p> <p>A concrete wash-out basin was built over part of the DDA cap. Basin is still in place while drying out.</p>	No		

Inspection Checklist Airport Landfill (form modified April, 2011)

Component: Concern(s)	Inspection Frequency*	Inspection Findings	Corrective Action Needed Yes/No?	Description of Corrective Action	Corrective Action Completed Yes/No? & Date
<p>Comments:</p> <ol style="list-style-type: none"> 1. Inspection form modified per DOE verbal instruction May 3, 2011. 2. September 14, 2011 rain event of 0.51 inches in less than 1 hour with a total rain of 0.69 inches in 24 hours. 3. No photos taken during inspection, please refer to Sept. 1, 2011 significant rain event. Site conditions have not changed. 4. No marked-up figure for inspection. 					

Component locations are shown on Figure 2 of the *Final Implementation Strategy for Post Closure and Maintenance of the DOE/NNSA LASO Airport Landfill SWMU 73-001(a) and Debris Disposal Area SWMU 73-001(d), Los Alamos County Airport, New Mexico, July 2009*. Copies of this figure can be marked up to show concerns, findings, and corrective actions. These copies should be listed above in the comments section and stapled to this checklist.

*Inspection Frequency: A= annual, ASR = After Significant Rainfall, B = biannual (twice a year), M = Monthly, Q = quarterly.

Note: If an additional component(s) is installed for the Airport Landfill, the component(s) can be added in the blank row.

Appendix B

Completed Landfill-Gas Measurement Forms

LANDFILL GAS MONITORING FORM

Landfill Name: Airport Landfill, SWMU 73-001(a) at the Los Alamos County Airport

Inspector Printed Name: Jeff Walterscheid

Inspector Signature: 

Date: 3/29/11 Barometric Pressure: 29.95 Temperature: 48 degrees

Weather conditions: fair Wind Direction: east Wind Speed: 5-10 mph

Date and amount of last precipitation (within last 48 hours): NA

Instrument: MSA Altair 5 #1412 Calibration method and date: Factory calibrated 3/17/11, Pentane gas

Sample Location	Height (ft)	Time	CH ₄ % LEL	O ₂ %	CO %
Hangar Pads: Samples will be collected on the east side of the pad along the expansion joint.* After a hangar is built, samples will be collected along the interior walls at 4 inches to 4 ft above pad.					
HP-01	2 inches above expansion joint*	1100	0	20.8	0
HP-02	2 inches above expansion joint*	1102	0	20.8	0
HP-03	2 inches above expansion joint*	1104	0	20.8	0
HP-04	2 inches above expansion joint*	1054	0	20.8	0
HP-05	2 inches above expansion joint*	1055	0	20.8	0
HP-06	2 inches above expansion joint*	1043	0	20.8	0
HP-07	2 inches above expansion joint*	1044	0	20.8	0
HP-08	2 inches above expansion joint*	1045	0	20.8	0
HP-09	2 inches above expansion joint*	1047	0	20.8	0
HP-10	2 inches above expansion joint*	1034	0	20.8	0
HP-11	2 inches above expansion joint*	1035	0	20.8	0
HP-12	2 inches above expansion joint*	1036	0	20.8	0
HP-13	2 inches above expansion joint*	1024	0	20.8	0
HP-14	2 inches above expansion joint*	1025	0	20.8	0
HP-15	2 inches above expansion joint*	1027	0	20.8	0

Trench drains (west side of each hangar pad)					
TD-01	4 inches below trench grate	1105	0	20.8	0
TD-02	4 inches below trench grate	1103	0	20.8	0
TD-03	4 inches below trench grate	1059	0	20.8	0
TD-04	4 inches below trench grate	1057	0	20.8	0
TD-05	4 inches below trench grate	1040	0	20.8	0
TD-06	4 inches below trench grate	1050	0	20.8	0
TD-07	4 inches below trench grate	1041	0	20.8	0
TD-08	4 inches below trench grate	1040	3%	20.8	0
TD-09	4 inches below trench grate	1033	0	20.8	0
TD-10	4 inches below trench grate	1030	0	20.8	0
Drainage culverts (drainage inlets on the buried storm sewer lines)					
DC-01	4 inches below grate	1107	2%	20.8	0
DC-02	4 inches below grate	1108	0	20.8	0
DC-03	4 inches below grate	1056	0	20.8	0
DC-04	4 inches below grate	1049	0	20.8	0
DC-05	4 inches below grate	1038	3%	20.8	0
DC-06	4 inches below grate	1029	0	20.8	0
DC-07	4 inches below grate	1027	0	20.8	0
DC-08	4 inches below manhole lid	1130	0	20.8	0
Northern perimeter (ground and spinner [wind turbine] locations)					
PG-01	2 inches above ground surface	1113	0	20.8	0
PG-02	2 inches above ground surface	1114	0	20.8	0
PG-03	2 inches above ground surface	1115	0	20.8	0
PG-04	2 inches above ground surface	1117	0	20.8	0
PG-05	2 inches above ground surface	1118	0	20.8	0
PG-06	2 inches above ground surface	1119	0	20.8	0
PG-07	2 inches above ground surface	1120	0	20.8	0
PG-08	2 inches above ground surface	1121	0	20.8	0

PG-09	2 inches above ground surface	1124	0	20.8	0
PG-10	2 inches above ground surface	1138	0	20.8	0
PG-11	2 inches above ground surface	1136	0	20.8	0
PG-12	2 inches above ground surface	1125	0	20.8	0
PG-13	2 inches above ground surface	1135	0	20.8	0
PG-14	2 inches above ground surface	1126	0	20.8	0
PS-01	at spinner (4 ft above pavement)	0835	0	20.8	0
PS-02	at spinner (4 ft above pavement)	See comment	NA	NA	NA
PS-03	at spinner (4 ft above pavement)	See comment	NA	NA	NA
PS-04	at spinner (4 ft above pavement)	0923	20%	20.8	0
PS-05	at spinner (4 ft above pavement)	See comment	NA	NA	NA
PS-06	at spinner (4 ft above pavement)	0949	0	21.3	0

Note:

Methane concentrations shall be measured in percent of the LEL. Other gases measured in %.

DC = Drainage Culvert (inlet)

HP = Hangar Pad

LEL = lower explosive limit

PG = Perimeter Ground

PS = Perimeter Spinner (wind turbine)

TD = Trench Drain

Methane = CH₄

Oxygen = O₂

Carbon dioxide = CO₂

Comments: PS-02, PS-03 & PS-05 are capped. 2010 results were taken at cap.

PS-04 approximately 6 inches down pipe CH4 63% O2 19.3 CO2 0%

Form modified from <http://www.nmenv.state.nm.us/swb/documents/ExampleMethaneFORM10-10-08.doc>.

LANDFILL GAS MONITORING FORM

Landfill Name: Airport Landfill, SWMU 73-001(a) at the Los Alamos County Airport

Inspector Printed Name: Alethea Banar Inspector Signature: *Alethea K Banar*

Date: 8/1/11 Barometric Pressure: 30.43 Temperature: 65 degrees F

Weather conditions: Partly cloudy Wind Direction: NE Wind Speed: 3 mph

Date and amount of last precipitation (within last 48 hours): Trace 7/31/11

Instrument: MSA Altair 5 #1310 Calibration method and date: Factory calibrated 7/18/11, Pentane gas

Sample Location	Height (ft)	Time	CH ₄ % LEL	O ₂ %	CO %
Hangar Pads: Samples will be collected on the east side of the pad along the expansion joint.* After a hangar is built, samples will be collected along the interior walls at 4 inches to 4 ft above pad.					
HP-01	2 inches above expansion joint*	1052	0	20.8	0
HP-02	2 inches above expansion joint*	1052	0	20.8	0
HP-03	2 inches above expansion joint*	1053	0	20.8	0
HP-04	2 inches above expansion joint*	1047	0	20.8	0
HP-05	2 inches above expansion joint*	1048	0	20.8	0
HP-06	2 inches above expansion joint*	1048	0	20.8	0
HP-07	2 inches above expansion joint*	1042	0	20.8	0
HP-08	2 inches above expansion joint*	1043	0	20.8	0
HP-09	2 inches above expansion joint*	1043	0	20.8	0
HP-10	2 inches above expansion joint*	1037	0	20.8	0
HP-11	2 inches above expansion joint*	1038	0	20.8	0
HP-12	2 inches above expansion joint*	1039	0	20.8	0
HP-13	2 inches above expansion joint*	1029	0	20.8	0
HP-14	2 inches above expansion joint*	1030	0	20.8	0
HP-15	2 inches above expansion joint*	1031	0	20.8	0

Trench drains (west side of each hangar pad)					
TD-01	4 inches below trench grate	1056	0	20.8	0
TD-02	4 inches below trench grate	1055	0	20.8	0
TD-03	4 inches below trench grate	1051	0	20.8	0
TD-04	4 inches below trench grate	1050	0	20.8	0
TD-05	4 inches below trench grate	1046	0	20.8	0
TD-06	4 inches below trench grate	1045	0	20.8	0
TD-07	4 inches below trench grate	1041	0	20.8	0
TD-08	4 inches below trench grate	1040	0	20.8	0
TD-09	4 inches below trench grate	1036	0	20.8	0
TD-10	4 inches below trench grate	1035	0	20.8	0
Drainage culverts (drainage inlets on the buried storm sewer lines)					
DC-01	4 inches below grate	1057	0	20.8	0
DC-02	4 inches below grate	1054	0	20.8	0
DC-03	4 inches below grate	1049	0	20.8	0
DC-04	4 inches below grate	1044	4%	20.8	0
DC-05	4 inches below grate	1039	0	20.8	0
DC-06	4 inches below grate	1034	8%	20.8	0
DC-07	4 inches below grate	1032	0	20.8	0
DC-08	4 inches below manhole lid	1023	0	20.8	0
Northern perimeter (ground and spinner [wind turbine] locations)					
PG-01	2 inches above ground surface	1001	0	20.8	0
PG-02	2 inches above ground surface	1003	0	20.8	0
PG-03	2 inches above ground surface	1005	0	20.8	0
PG-04	2 inches above ground surface	1006	0	20.8	0
PG-05	2 inches above ground surface	1008	0	20.8	0
PG-06	2 inches above ground surface	1027	0	20.8	0
PG-07	2 inches above ground surface	1026	0	20.8	0
PG-08	2 inches above ground surface	1026	0	20.8	0

PG-09	2 inches above ground surface	1025	0	20.8	0
PG-10	2 inches above ground surface	1014	0	20.8	0
PG-11	2 inches above ground surface	1016	0	20.8	0
PG-12	2 inches above ground surface	1018	0	20.8	0
PG-13	2 inches above ground surface	1017	0	20.8	0
PG-14	2 inches above ground surface	1018	0	20.8	0
PS-01	at spinner (4 ft above pavement)	0835	0	20.8	0
PS-02	at spinner (4 ft above pavement)	See comment	NA	NA	NA
PS-03	at spinner (4 ft above pavement)	See comment	NA	NA	NA
PS-04	at spinner (4 ft above pavement)	1006	0	20.8	0
PS-05	at spinner (4 ft above pavement)	See comment	NA	NA	NA
PS-06	at spinner (4 ft above pavement)	1009	10%	19.8	0

Note:

Methane concentrations shall be measured in percent of the LEL. Other gases measured in %.

DC = Drainage Culvert (inlet)

HP = Hangar Pad

LEL = lower explosive limit

PG = Perimeter Ground

PS = Perimeter Spinner (wind turbine)

TD = Trench Drain

Methane = CH₄

Oxygen = O₂

Carbon dioxide = CO₂

Comments: PS-02, PS-03 & PS-05 are capped. 2010 results were taken at cap.

Note

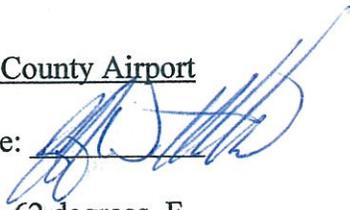
Unable to complete the 2nd quarter methane gas monitoring at the Los Alamos airport as scheduled. The monitoring has been routinely scheduled to be completed during the last week of each quarter and was scheduled to be completed June 27th, 2011 for the 2nd quarter of 2011. On June 26th, due to the Los Conchas fire approaching the Laboratory and Los Alamos town site, a voluntary evacuation of the town site was initiated and the Laboratory was closed. The following day, Monday June 27th, a mandatory evacuation of Los Alamos was initiated. The evacuation notice was rescinded on Sunday July 3rd but the Laboratory remained closed. On Wednesday July 6th the Laboratory was re-opened. Due to start-up concerns the gas monitoring was rescheduled for Monday, July 11. Note that for the duration of the fire the Los Alamos airport has been and continues to be used as a heli-base for approximately 18 helicopters and two fixed wing aircraft used to fight the fire. The concrete hanger pads are being used for the larger

helicopters to stage from. Numerous aviation fuel trucks are stationed on or near the hanger pads. With the large number of helicopters, fuel trucks, maintenance vehicles, and crews the Forest Service has full control and authority of the airport until further notice (the fire is out). With a Forest Service escort we were able to walk out to the pads and monitoring locations to make a determination if the gas monitoring could be completed. Due to the proximity of the helicopters and fuel trucks two issues of concern were noted: 1) the sensitivity of the monitoring equipment may provide false readings due to the refueling equipment and engine exhaust, and 2) crew safety concerns with the proximity of aircraft. After consulting with the FS deck authority it was determined that, due to the emergency nature of the air operations, that we would postpone the 2nd quarter gas monitoring until air operations were reduced or completed from the hanger pad area. Air operations were discontinued the week of July 25th , monitoring was completed August 2nd.

Form modified from <http://www.nmenv.state.nm.us/swb/documents/ExampleMethaneFORM10-10-08.doc>.

LANDFILL GAS MONITORING FORM

Landfill Name: Airport Landfill, SWMU 73-001(a) at the Los Alamos County Airport

Inspector Printed Name: Jeff Walterscheid Inspector Signature: 

Date: 9/29/11 Barometric Pressure: 30.43 Temperature: 62 degrees F

Weather conditions: Fair Wind Direction: NE Wind Speed: 5 mph

Date and amount of last precipitation (within last 48 hours): None

Instrument: MSA Altair 5X #1548 Calibration method and date: 9/15/11, Pentane gas

Sample Location	Height (ft)	Time	CH ₄ % LEL	O ₂ %	CO %
Hangar Pads: Samples will be collected on the east side of the pad along the expansion joint.* After a hangar is built, samples will be collected along the interior walls at 4 inches to 4 ft above pad.					
HP-01	2 inches above expansion joint*	1124	0	20.8	0
HP-02	2 inches above expansion joint*	1123	0	20.8	0
HP-03	2 inches above expansion joint*	1122	0	20.8	0
HP-04	2 inches above expansion joint*	1125	0	20.8	0
HP-05	2 inches above expansion joint*	1126	0	20.8	0
HP-06	2 inches above expansion joint*	1127	0	20.8	0
HP-07	2 inches above expansion joint*	1137	0	20.8	0
HP-08	2 inches above expansion joint*	1138	0	20.8	0
HP-09	2 inches above expansion joint*	1138	0	20.8	0
HP-10	2 inches above expansion joint*	1144	0	20.8	0
HP-11	2 inches above expansion joint*	1141	0	20.8	0
HP-12	2 inches above expansion joint*	1140	0	20.8	0
HP-13	2 inches above expansion joint*	1145	0	20.8	0
HP-14	2 inches above expansion joint*	1150	0	20.8	0
HP-15	2 inches above expansion joint*	1151	0	20.8	0

Trench drains (west side of each hangar pad)					
TD-01	4 inches below trench grate	1117	0	20.8	0
TD-02	4 inches below trench grate	1118	0	20.8	0
TD-03	4 inches below trench grate	1126	0	20.8	0
TD-04	4 inches below trench grate	1122	0	20.8	0
TD-05	4 inches below trench grate	1134	0	20.8	0
TD-06	4 inches below trench grate	1133	0	20.8	0
TD-07	4 inches below trench grate	1142	0	20.8	0
TD-08	4 inches below trench grate	1140	0	20.8	0
TD-09	4 inches below trench grate	1149	0	20.8	0
TD-10	4 inches below trench grate	1152	0	20.8	0
Drainage culverts (drainage inlets on the buried storm sewer lines)					
DC-01	4 inches below grate	1119	0	20.8	0
DC-02	4 inches below grate	1120	0	20.8	0
DC-03	4 inches below grate	1121	0	20.8	0
DC-04	4 inches below grate	1132	0	20.8	0
DC-05	4 inches below grate	1139	0	20.8	0
DC-06	4 inches below grate	1153	0	20.8	0
DC-07	4 inches below grate	1155	0	20.8	0
DC-08	4 inches below manhole lid	1208	0	20.8	0
Northern perimeter (ground and spinner [wind turbine] locations)					
PG-01	2 inches above ground surface	1116	0	20.8	0
PG-02	2 inches above ground surface	1125	0	20.8	0
PG-03	2 inches above ground surface	1134	0	20.8	0
PG-04	2 inches above ground surface	1143	0	20.8	0
PG-05	2 inches above ground surface	1145	0	20.8	0
PG-06	2 inches above ground surface	1211	0	20.8	0
PG-07	2 inches above ground surface	1212	0	20.8	0
PG-08	2 inches above ground surface	1213	0	20.8	0

PG-09	2 inches above ground surface	1158	0	20.8	0
PG-10	2 inches above ground surface	1211	0	20.8	0
PG-11	2 inches above ground surface	1210	0	20.8	0
PG-12	2 inches above ground surface	1159	0	20.8	0
PG-13	2 inches above ground surface	1209	0	20.8	0
PG-14	2 inches above ground surface	1201	0	20.8	0
PS-01	at spinner (4 ft above pavement)	1115	0	20.8	0
PS-02	at spinner (4 ft above pavement)	See comment	NA	NA	NA
PS-03	at spinner (4 ft above pavement)	See comment	NA	NA	NA
PS-04	at spinner (4 ft above pavement)	1136	15%	20.3	0
PS-05	at spinner (4 ft above pavement)	See comment	NA	NA	NA
PS-06	at spinner (4 ft above pavement)	1147	10%	20.3	0

Note:

Methane concentrations shall be measured in percent of the LEL. Other gases measured in %.

DC = Drainage Culvert (inlet)

HP = Hangar Pad

LEL = lower explosive limit

PG = Perimeter Ground

PS = Perimeter Spinner (wind turbine)

TD = Trench Drain

Methane = CH₄

Oxygen = O₂

Carbon dioxide = CO₂

Comments: PS-02, PS-03 & PS-05 are capped. PS-06 approximately 3ft down vent tube at level of asphalt registered 50% of LEL.

Form modified from <http://www.nmenv.state.nm.us/swb/documents/ExampleMethaneFORM10-10-08.doc>.

LANDFILL GAS MONITORING FORM

Landfill Name: Airport Landfill, SWMU 73-001(a) at the Los Alamos County Airport

Inspector Printed Name: Jeff Walterscheid

Inspector Signature: 

Date: 12/20/11 Barometric Pressure: 29.94 Temperature: 32 degrees F

Weather conditions: Partly Cloudy Wind Direction: SW Wind Speed: 4 mph

Date and amount of last precipitation (within last 48 hours): 8 inches of snow 12/19/11

Instrument: MSA Altair 5X #1501 Calibration method and date: 12/12/11, Pentane gas

Sample Location	Height (ft)	Time	CH ₄ % LEL	O ₂ %	CO %
Hangar Pads: Samples will be collected on the east side of the pad along the expansion joint.* After a hangar is built, samples will be collected along the interior walls at 4 inches to 4 ft above pad.					
HP-01	2 inches above expansion joint*	NA			
HP-02	2 inches above expansion joint*	NA			
HP-03	2 inches above expansion joint*	NA			
HP-04	2 inches above expansion joint*	NA			
HP-05	2 inches above expansion joint*	NA			
HP-06	2 inches above expansion joint*	NA			
HP-07	2 inches above expansion joint*	NA			
HP-08	2 inches above expansion joint*	NA			
HP-09	2 inches above expansion joint*	NA			
HP-10	2 inches above expansion joint*	NA			
HP-11	2 inches above expansion joint*	NA			
HP-12	2 inches above expansion joint*	NA			
HP-13	2 inches above expansion joint*	NA			
HP-14	2 inches above expansion joint*	NA			
HP-15	2 inches above expansion joint*	NA			

Trench drains (west side of each hangar pad)					
TD-01	4 inches below trench grate	NA			
TD-02	4 inches below trench grate	NA			
TD-03	4 inches below trench grate	NA			
TD-04	4 inches below trench grate	NA			
TD-05	4 inches below trench grate	NA			
TD-06	4 inches below trench grate	NA			
TD-07	4 inches below trench grate	NA			
TD-08	4 inches below trench grate	NA			
TD-09	4 inches below trench grate	NA			
TD-10	4 inches below trench grate	NA			
Drainage culverts (drainage inlets on the buried storm sewer lines)					
DC-01	4 inches below grate	NA			
DC-02	4 inches below grate	NA			
DC-03	4 inches below grate	NA			
DC-04	4 inches below grate	NA			
DC-05	4 inches below grate	NA			
DC-06	4 inches below grate	NA			
DC-07	4 inches below grate	NA			
DC-08	4 inches below manhole lid	NA			
Northern perimeter (ground and spinner [wind turbine] locations)					
PG-01	2 inches above ground surface	NA			
PG-02	2 inches above ground surface	NA			
PG-03	2 inches above ground surface	NA			
PG-04	2 inches above ground surface	NA			
PG-05	2 inches above ground surface	NA			
PG-06	2 inches above ground surface	NA			
PG-07	2 inches above ground surface	NA			
PG-08	2 inches above ground surface	NA			

PG-09	2 inches above ground surface	NA			
PG-10	2 inches above ground surface	NA			
PG-11	2 inches above ground surface	NA			
PG-12	2 inches above ground surface	NA			
PG-13	2 inches above ground surface	NA			
PG-14	2 inches above ground surface	NA			
PS-01	at spinner (4 ft above pavement)	1424	0	20.8	0
PS-02	at spinner (4 ft above pavement)	Capped	NA	NA	NA
PS-03	at spinner (4 ft above pavement)	Capped	NA	NA	NA
PS-04	at spinner (4 ft above pavement)	1428	Instrument alarm exceeded	11.3	0
PS-05	at spinner (4 ft above pavement)	Capped	NA	NA	NA
PS-06	at spinner (4 ft above pavement)	1432	Instrument alarm exceeded	15	0

Note:

Methane concentrations shall be measured in percent of the LEL. Other gases measured in %.

DC = Drainage Culvert (inlet)

HP = Hangar Pad

LEL = lower explosive limit

PG = Perimeter Ground

PS = Perimeter Spinner (wind turbine)

TD = Trench Drain

Methane = CH₄

Oxygen = O₂

Carbon dioxide = CO₂

Comments: All sites with NA were not accessible due to snow from the December 6 and 20 storms, see attached photos. PS-02, PS-03 & PS-05 are capped. PS-04 and PS-06 registered at 100% for instrument alarm. Recommend additional monthly monitoring.

Form modified from <http://www.nmenv.state.nm.us/swb/documents/ExampleMethaneFORM10-10-08.doc>.



Monitoring PS-06



Snow across hangar pads. Pads, trench drains and drop inlets were not accessible due snow accumulation and drifting snow from the December 6th and 20th storm events.