Environmental Programs
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National Nuclear Security Administration
Los Alamos Site Office, MS A316
Environmental Restoration Program
Los Alamos, New Mexico 87544
(505) 667-4255/FAX (505) 667-5948

Date: April 19, 2007
Refer To: EP2007-0231

Mr. James Bearzi
NMED-Hazardous Waste Bureau
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Submittal of Drilling and Sampling Results from Boreholes Between Pit 2 and Pit 3 at Material Disposal Area C, Solid Waste Management Unit 50-009, at Technical Area 50

Dear Mr. Bearzi:

Enclosed please find two hard copies with electronic files of the drilling and sampling results from the four boreholes drilled between Pit 2 and Pit 3 at Material Disposal Area (MDA) C, Solid Waste Management Unit 50-009, at Technical Area 50. The analytical data results are consistent with the data from the other 36 boreholes drilled at MDA C and reported in the investigation report submitted on December 6, 2006. The submission of these data completes the requirements set forth in the approved MDA C investigation work plan.

If you have any questions, please contact Kent Rich at (505) 665-4272 (krich@lanl.gov) or Rich Nevarez at (505) 845-5804 (rnevarez@doeal.gov).

Sincerely,

FOR Carolyn A. Mangeng, Acting Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

George J. Rael, Assistant Manager
Department of Energy
Los Alamos Site Office

Mr. James Bearzi
EP2007-0231

April 19, 2007

CAM/GJR/KR:ew

Enclosure: 1) Two hard copies with electronic files–Drilling and sampling results from the four boreholes between Pit 2 and Pit 3 at Material Disposal Area C, Solid Waste Management Unit 50-009, at Technical Area 50

Cy: (w/enc):
G. Rael, DOE-LASO, MS A316
D. Gregory, DOE LASO, MS A316
R. Nevarez, DOE-NNSA-SC, SC1-111
K. Rich, EP-CAP, MS M992
EP-CAP File, MS M992
RPF, MS M707 (w/ two sets of CDs)
Public Reading Room, MS M992

Cy: (Letter and CDs only)
L. King, EPA Region 6
P. Reneau, EP-ERSS, MS M992

Cy: (w/o enc)
T. Skibitski, NMED OB
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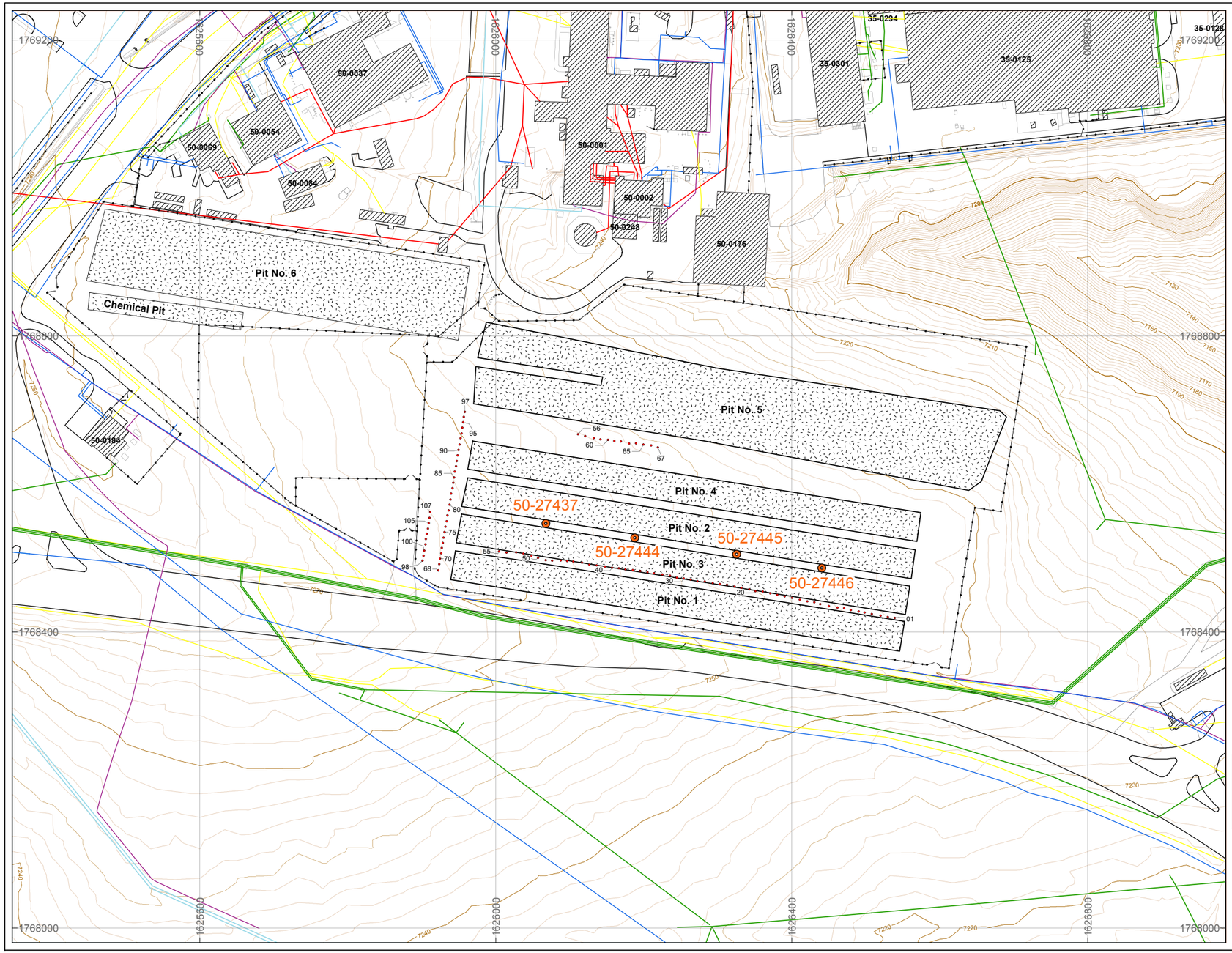
J. Sena, LATA
D. Davenport, LATA
ADEP File, MS J591
IRM-RMMSO, MS A150

Locations of Boreholes Between Pit 2 and Pit 3 at MDA C



Pits
Shafts
Structure
2 ft Contour
10 ft Contour
100 ft Contour
Dirt Road
Paved Road
Fence
Communication line
Electric line
Gas line
Industrial waste line
Sewer line
Water line
Borehole location

DATA SOURCES
Title; Owner; ID; Intended Scale; Publication Date.

1991 Hypsography (100ft); Los Alamos National Laboratory, ENV Remediation Services Project; NA;Unknown; 1991.

1991 Hypsography (10ft); Los Alamos National Laboratory, ENV Remediation Services Project; NA;Unknown; 1991.

1991 Hypsography (20ft); Los Alamos National Laboratory, ENV Remediation Services Project; NA;Unknown; 1991.

1991 Hypsography (2ft); Los Alamos National Laboratory, ENV Remediation Services Project; NA;Unknown; 1991.

Boundary, Technical Areas; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; August 12, 2002.

Communication Lines; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; August 8, 2002.

Fences; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; January 6, 2002.

Gas Lines; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; January 6, 2002.

Industrial Waste Lines; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; January 6, 2002.

Land Ownership Boundaries; Los Alamos National Laboratory, ENV Remediation Services Project; ER2002-0578; 1:100,000; Unknown; Derived from Bureau of Land Management Land Status Maps.

Location Ids; Los Alamos National Laboratory, ENV Remediation Services Project; ER2005-0200; 1:2,500; April 5, 2005.

Power Lines; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; January 6, 2002.

Road Centerlines; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; January 6, 2002.

Roads, Dirt; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; January 6, 2002.

Roads, Paved; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; January 6, 2002.

Sewer Lines; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; January 6, 2002.

Structures; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; January 6, 2002.

Water Lines; Los Alamos National Laboratory, UMAP-GIS; NA; Unknown; January 6, 2002.

Waste Storage Features; Los Alamos National Laboratory, ENV Remediation Services Project; ER2003-0194; 1:2,500; March 3, 2003.

N

100 0 100 200
Feet

GISLab Map No. m201457, GISLab Req. No. 13773
Cartography by: Doug Walther, April 22, 2005.
Modified by K. Rich, 4/17/07.

State Plane Coordinate System, New Mexico Central Zone
1983 North American Datum, Grid Provides Units in Feet
Contour Interval = 2 feet

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Table 1
Coordinates of Boreholes Drilled Between Pit 2 and Pit 3 at MDA C

Borehole Location ID	Easting (ft)	Northing (ft)
50-27437	1626071.365	1768544.285
50-27445	1626329.058	1768503.285
50-27446	1626444.258	1768486.154
50-27444	1626190.886	1768525.419

Table 2
Drilling Depths and Numbers of Samples Collected per Borehole Between Pit 2 and Pit 3 at MDA C

Location ID	Pore-Gas Samples	Core Samples	Duplicate Samples	Trip Blanks	Rinsates	Max. Core Depth (ft)	Max. Pore-Gas Depth (ft)
50-27437	5	5	1	1	1	80-82	80
50-27444	10	10	2	2	1	332.5-335	335
50-27445	5	5	2	2	1	80-82.5	80
50-27446	5	5	1	2	1	80-82.5	80

Table 3
Field Screening Results for Borehole Sampling Between Pit 2 and Pit 3 at MDA C

	Core Samples						Pore-Gas Samples			
LOCATION ID	Date Collected	Depth (ft)	Core Sample ID	Alpha (dpm)	Beta/ Gamma (ppm)	PID (ppm)	Date Collected	Depth (ft)	Pore-Gas Sample ID	PID (ppm)
50-27437	2/8/2007	4-5 ft	MD50-07-75313	73	1471	0	2/20/2007	10	MD50-07-75329	0
50-27437	2/9/2007	20.5-22.5 ft	MD50-07-75314	<64.6	<1471	1.3	2/20/2007	20	MD50-07-75328	0
50-27437	2/9/2007	32.5-35 ft	MD50-07-75317	<64.6	<1471	0	2/20/2007	32	MD50-07-75327	0
50-27437	2/10/2007	60-62.5 ft	MD50-07-75315	65.7	1888	0	2/16/2007	60	MD50-07-75326	0
50-27437	2/10/2007	80-82 ft	MD50-07-75318	65.7	1888	0	2/16/2007	80	MD50-07-75325	0
50-27444	2/17/2007	20-22.5 ft	MD50-07-75351	<16.8	<1091	0	3/1/2007	20	MD50-07-75367	0
50-27444	2/17/2007	35-37.5 ft	MD50-07-75355	<16.8	<1091	0	3/1/2007	35	MD50-07-75366	0.7
50-27444	2/20/2007	60-65 ft	MD50-07-75352	<46	<1061	0	3/1/2007	60	MD50-07-75365	0.4
50-27444	2/20/2007	80-82.5 ft	MD50-07-75354	<46	<1061	0	3/1/2007	80	MD50-07-75364	10.7
50-27444	2/21/2007	97.5-100 ft	MD50-07-75357	<38	<1467	0	2/28/2007	97	MD50-07-75363	5.5
50-27444	2/21/2007	140-153 ft	MD50-07-75368	<38	<1467	0	2/28/2007	140	MD50-07-75362	15.5
50-27444	2/22/2007	197.5-200 ft	MD50-07-76314	<18	<1522	0	2/27/2007	197	MD50-07-75361	1.3
50-27444	2/23/2007	247.5-250 ft	MD50-07-76315	<18	<1499	0	2/27/2007	247	MD50-07-75360	2.4
50-27444	2/24/2007	296-300 ft	MD50-07-76316	<18	<1320	0	2/27/2007	296	MD50-07-75359	3.5
50-27444	2/26/2007	332.5-335 ft	MD50-07-75356	<30.2	<1953	0	2/26/2007	335	MD50-07-75358	3.5
50-27445	2/12/2007	2.5-5 ft	MD50-07-75374	<87	<1784	0	2/22/2007	10	MD50-07-75386	1.5
50-27445	2/12/2007	20-22.5 ft	MD50-07-75375	<87	<1784	0	2/22/2007	20	MD50-07-75385	3.6
50-27445	2/13/2007	35-37.5 ft	MD50-07-75379	<37	<1491	0	2/21/2007	35	MD50-07-75384	0
50-27445	2/14/2007	62.5-65 ft	MD50-07-75376	<33.7	<1388	0	2/21/2007	62	MD50-07-75383	0
50-27445	2/14/2007	80-82.5 ft	MD50-07-75380	<33.7	<1388	0	2/21/2007	80	MD50-07-75382	0
50-27446	2/15/2007	2.5-5 ft	MD50-07-75398	<72	<1725	0	2/24/2007	10	MD50-07-75410	5.2
50-27446	2/15/2007	20-22.5 ft	MD50-07-75399	<72	<1725	0	2/24/2007	20	MD50-07-75409	6.7
50-27446	2/15/2007	35-37.5 ft	MD50-07-75403	<72	<1725	0	2/23/2007	32	MD50-07-75408	7.5
50-27446	2/16/2007	61-65 ft	MD50-07-75400	<15.68	1286	0	2/23/2007	61	MD50-07-75407	8
50-27446	2/16/2007	80-82.5 ft	MD50-07-75404	<15.68	1286	0	2/23/2007	80	MD50-07-75406	8.9

Table 4
Summary of Subsurface Fill and Tuff Samples Collected Between Pit 2 and Pit 3 at MDA C

Location ID	Sample ID	Depth (ft)	Media	Collection Date	Americium-241	Anions	Cyanide	Dioxins & Furans	Gamma Spectroscopy	High Explosives	Isotopic Plutonium	Isotopic Uranium	Metals	PCBs	Perchlorate	Pesticides & PCBs	Strontium-90	SVOCs	VOCs
50-27437	MD50-07-75313	4-5	Fill	2/8/2007	6661S[a]	6660S	6660S	—[b]	6661S	—	6661S	6661S	6660S	6659S	6660S	6661S	6659S	6659S	6661S
50-27437	MD50-07-75314	20.5-22.5	Qbt 3	2/9/2007	6667S	6666S	6666S	—	6667S	—	6667S	6667S	6666S	6665S	6666S	6667S	6665S	6665S	6667S
50-27437	MD50-07-75317	32.5-35	Qbt 3	2/9/2007	6667S	6666S	6666S	6664S	6667S	6665S	6667S	6667S	6666S	6665S	6666S	6667S	6665S	6665S	6667S
50-27437	MD50-07-75315	60-62.5	Qbt 3	2/10/2007	6667S	6666S	6666S	—	6667S	—	6667S	6667S	6666S	6665S	6666S	6667S	6665S	6665S	6667S
50-27437	MD50-07-75318	80-82	Qbt 3	2/10/2007	6667S	6666S	6666S	6664S	6667S	6665S	6667S	6667S	6666S	6665S	6666S	6667S	6665S	6665S	6667S
50-27444	MD50-07-75351	20-22.5	Qbt 3	2/17/2007	6714S	6713S	6713S	—	6714S	—	6714S	6714S	6713S	6712S	6713S	6714S	6712S	6712S	6714S
50-27444	MD50-07-75355	35-37.5	Qbt 3	2/17/2007	6714S	6713S	6713S	6710S	6714S	6711S	6714S	6714S	6713S	6712S	6713S	6714S	6712S	6712S	6714S
50-27444	MD50-07-75352	60-65	Qbt 3	2/20/2007	6722S	6721S	6721S	—	6722S	—	6722S	6722S	6721S	6720S	6721S	6722S	6720S	6720S	6722S
50-27444	MD50-07-75354	80-82.5	Qbt 3	2/20/2007	6722S	6721S	6721S	—	6722S	—	6722S	6722S	6721S	6720S	6721S	6722S	6720S	6720S	6722S
50-27444	MD50-07-75357	97.5-100	Qbt 3	2/21/2007	6736S	6735S	6735S	—	6736S	—	6736S	6736S	6735S	6734S	6735S	6736S	6734S	6734S	6736S
50-27444	MD50-07-75368	140-153	Qbt 2	2/21/2007	6736S	6735S	6735S	—	6736S	—	6736S	6736S	6735S	6734S	6735S	6736S	6734S	6734S	6736S
50-27444	MD50-07-76314	197.5-200	Qbt 1v	2/22/2007	6750S	6750S	6750S	—	6750S	—	6750S	6750S	6750S	6749S	6750S	6750S	6749S	6749S	6750S
50-27444	MD50-07-76315	247.5-250	Qbt 1v	2/23/2007	6765S	6764S	6764S	—	6765S	—	6765S	6765S	6764S	6763S	6764S	6765S	6763S	6763S	6765S
50-27444	MD50-07-76316	296-300	Qbt 1g	2/24/2007	6765S	6764S	6764S	—	6765S	—	6765S	6765S	6764S	6763S	6764S	6765S	6763S	6763S	6765S
50-27444	MD50-07-75356	332.5-335	Qct	2/26/2007	6762S	6762S	6762S	6759S	6762S	6760S	6762S	6762S	6762S	6761S	6762S	6762S	6761S	6761S	6762S
50-27445	MD50-07-75374	2.5-5	Fill	2/12/2007	6680S	6679S	6679S	—	6680S	—	6680S	6680S	6679S	6678S	6679S	6680S	6678S	6678S	6680S
50-27445	MD50-07-75375	20-22.5	Qbt 3	2/12/2007	6680S	6679S	6679S	—	6680S	—	6680S	6680S	6679S	6678S	6679S	6680S	6678S	6678S	6680S
50-27445	MD50-07-75379	35-37.5	Qbt 3	2/13/2007	6680S	6679S	6679S	6678S	6680S	6678S	6680S	6680S	6679S	6678S	6679S	6680S	6678S	6678S	6680S
50-27445	MD50-07-75376	62.5-65	Qbt 3	2/14/2007	6689S	6688S	6688S	—	6689S	—	6689S	6689S	6688S	6686S	6688S	6689S	6686S	6686S	6689S
50-27445	MD50-07-75380	80-82.5	Qbt 3	2/14/2007	6689S	6688S	6688S	6684S	6689S	6687S	6689S	6689S	6688S	6686S	6688S	6689S	6686S	6686S	6689S
50-27446	MD50-07-75398	2.5-5	Fill	2/15/2007	6698S	6697S	6697S	—	6698S	—	6698S	6698S	6697S	6696S	6697S	6698S	6696S	6696S	6698S
50-27446	MD50-07-75399	20-22.5	Qbt 3	2/15/2007	6698S	6697S	6697S	—	6698S	—	6698S	6698S	6697S	6696S	6697S	6698S	6696S	6696S	6698S
50-27446	MD50-07-75403	35-37.5	Qbt 3	2/15/2007	6698S	6697S	6697S	6704S	6698S	6705S	6698S	6698S	6697S	6696S	6697S	6698S	6696S	6696S	6698S
50-27446	MD50-07-75400	61-65	Qbt 3	2/16/2007	6701S	6700S	6700S	—	6701S	—	6701S	6701S	6700S	6699S	6700S	6701S	6699S	6699S	6701S
50-27446	MD50-07-75404	80-82.5	Qbt 3	2/16/2007	6701S	6700S	6700S	6706S	6701S	6707S	6701S	6701S	6700S	6699S	6700S	6701S	6699S	6699S	6701S

[a] Analytical request number.

[b] — = Analysis not requested.

Table 5
Summary of Pore-Gas Samples Collected Between Pit 2 and Pit 3 at MDA C

Location ID	Sample ID	Depth (ft)	Collection Date	Tritium	VOCs
50-27437	MD50-07-75329	10-10	2/20/2007	6719S[a]	6718S
50-27437	MD50-07-75328	20-20	2/20/2007	6719S	6718S
50-27437	MD50-07-75327	32-32	2/20/2007	6719S	6718S
50-27437	MD50-07-75326	60-60	2/16/2007	6703S	6702S
50-27437	MD50-07-75325	80-80	2/16/2007	6703S	6702S
50-27444	MD50-07-75367	20-20	3/1/2007	6793S	6794S
50-27444	MD50-07-75366	35-35	3/1/2007	6793S	6794S
50-27444	MD50-07-75365	60-60	3/1/2007	6793S	6794S
50-27444	MD50-07-75364	80-80	3/1/2007	6790S	6782S
50-27444	MD50-07-75363	97-97	2/28/2007	6790S	6782S
50-27444	MD50-07-75362	140-140	2/28/2007	6790S	6782S
50-27444	MD50-07-75361	197-197	2/27/2007	6777S	6776S
50-27444	MD50-07-75360	247-247	2/27/2007	6777S	6776S
50-27444	MD50-07-75359	296-296	2/27/2007	6777S	6776S
50-27444	MD50-07-75358	335-335	2/26/2007	6758S	6756S
50-27445	MD50-07-75386	10-10	2/22/2007	6743S	6742S
50-27445	MD50-07-75385	20-20	2/22/2007	6743S	6742S
50-27445	MD50-07-75384	35-35	2/21/2007	6732S	6731S
50-27445	MD50-07-75383	62-62	2/21/2007	6732S	6731S
50-27445	MD50-07-75382	80-80	2/21/2007	6732S	6730S
50-27446	MD50-07-75410	10-10	2/24/2007	6757S	6755S
50-27446	MD50-07-75409	20-20	2/24/2007	6757S	6755S
50-27446	MD50-07-75408	32-32	2/23/2007	6752S	6751S
50-27446	MD50-07-75407	61-61	2/23/2007	6752S	6751S
50-27446	MD50-07-75406	80-80	2/23/2007	6752S	6751S

[a]— = Analytical request number.

Table 6
Frequency of Inorganic Chemicals Detected or Detected Above BVs in Fill and Tuff at MDA C

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (mg/kg)	Background Value[b] (mg/kg)	Frequency of Detects above Background Value	Frequency of Nondetects above Background Value
Aluminum	Fill	3	3	3580 to 14500	29200	0/3	0/3
Aluminum	Qbt 2	1	1	479 to 479	7340	0/1	0/1
Aluminum	Qbt 3	17	17	202 to 4460	7340	0/17	0/17
Aluminum	Qbt 1g	1	1	954 to 954	3560	0/1	0/1
Aluminum	Qbt 1v	2	2	515 to 2670	8170	0/2	0/2
Aluminum	Qct	1	1	2310 to 2310	3560	0/1	0/1
Antimony	Fill	3	3	0.086 to 0.15	0.83	0/3	0/3
Antimony	Qbt 2	1	0	[0.2 to 0.2]	0.5	0/1	0/1
Antimony	Qbt 3	17	0	[0.2 to 0.23]	0.5	0/17	0/17
Antimony	Qbt 1g	1	0	[0.22 to 0.22]	0.5	0/1	0/1
Antimony	Qbt 1v	2	1	0.16 to [0.21]	0.5	0/2	0/2
Antimony	Qct	1	0	[0.21 to 0.21]	0.5	0/1	0/1
Arsenic	Fill	3	3	0.72 to 2.8	8.17	0/3	0/3
Arsenic	Qbt 2	1	1	0.38 to 0.38	2.79	0/1	0/1
Arsenic	Qbt 3	17	9	[0.2] to 1	2.79	0/17	0/17
Arsenic	Qbt 1g	1	0	[0.22 to 0.22]	0.56	0/1	0/1
Arsenic	Qbt 1v	2	2	0.31 to 0.9	1.81	0/2	0/2
Arsenic	Qct	1	1	0.35 to 0.35	0.56	0/1	0/1
Barium	Fill	3	3	37.8 to 182	295	0/3	0/3
Barium	Qbt 2	1	1	7.7 to 7.7	46	0/1	0/1
Barium	Qbt 3	13	13	8.1 to 19.1	46	0/13	0/13
Barium	Qbt 1g	1	1	3.3 to 3.3	25.7	0/1	0/1
Barium	Qbt 1v	2	2	7 to 8.1	26.5	0/2	0/2
Barium	Qct	1	1	12.4 to 12.4	25.7	0/1	0/1
Beryllium	Fill	3	3	0.31 to 0.78	1.83	0/3	0/3

Table 6 (continued)

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (mg/kg)	Background Value[b] (mg/kg)	Frequency of Detects above Background Value	Frequency of Nondetects above Background Value
Beryllium	Qbt 2	1	1	0.61 to 0.61	1.21	0/1	0/1
Beryllium	Qbt 3	13	13	0.14 to 0.69	1.21	0/13	0/13
Beryllium	Qbt 1g	1	1	0.29 to 0.29	1.44	0/1	0/1
Beryllium	Qbt 1v	2	2	0.39 to 0.78	1.7	0/2	0/2
Beryllium	Qct	1	1	0.29 to 0.29	1.44	0/1	0/1
Cadmium	Fill	3	3	0.043 to 0.079	0.4	0/3	0/3
Cadmium	Qbt 2	1	1	0.028 to 0.028	1.63	0/1	0/1
Cadmium	Qbt 3	17	17	0.014 to 0.074	1.63	0/17	0/17
Cadmium	Qbt 1g	1	1	0.016 to 0.016	0.4	0/1	0/1
Cadmium	Qbt 1v	2	2	0.029 to 0.05	0.4	0/2	0/2
Cadmium	Qct	1	1	0.015 to 0.015	0.4	0/1	0/1
Calcium	Fill	3	3	765 to 2170	6120	0/3	0/3
Calcium	Qbt 2	1	0	[201 to 201]	2200	0/1	0/1
Calcium	Qbt 3	17	14	162 to 763	2200	0/17	0/17
Calcium	Qbt 1g	1	1	222 to 222	1900	0/1	0/1
Calcium	Qbt 1v	2	2	250 to 254	3700	0/2	0/2
Calcium	Qct	1	1	872 to 872	1900	0/1	0/1
Chromium	Fill	3	3	2.3 to 7.7	19.3	0/3	0/3
Chromium	Qbt 2	1	1	5.7 to 5.7	7.14	0/1	0/1
Chromium	Qbt 3	13	12	0.42 to 2.3	7.14	0/13	0/13
Chromium	Qbt 1g	1	0	[0.54 to 0.54]	2.6	0/1	0/1
Chromium	Qbt 1v	2	1	[0.55] to 0.57	2.24	0/2	0/2
Chromium	Qct	1	1	2.1 to 2.1	2.6	0/1	0/1
Cobalt	Fill	3	3	1.3 to 6.2	8.64	0/3	0/3
Cobalt	Qbt 2	1	1	0.32 to 0.32	3.14	0/1	0/1
Cobalt	Qbt 3	13	13	0.24 to 0.72	3.14	0/13	0/13

Table 6 (continued)

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (mg/kg)	Background Value[b] (mg/kg)	Frequency of Detects above Background Value	Frequency of Nondetects above Background Value
Cobalt	Qbt 1g	1	1	0.092 to 0.092	8.89	0/1	0/1
Cobalt	Qbt 1v	2	2	0.19 to 0.33	1.78	0/2	0/2
Cobalt	Qct	1	1	1.2 to 1.2	8.89	0/1	0/1
Copper	Fill	1	0	[4.9 to 4.9]	14.7	0/1	0/1
Copper	Qbt 2	1	0	[1.6 to 1.6]	4.66	0/1	0/1
Copper	Qbt 3	13	9	[0.48] to 1.7	4.66	0/13	0/13
Copper	Qbt 1g	1	1	0.82 to 0.82	3.96	0/1	0/1
Copper	Qbt 1v	2	2	0.88 to 1.4	3.26	0/2	0/2
Copper	Qct	1	1	2.6 to 2.6	3.96	0/1	0/1
Cyanide (Total)	Fill	1	0	[0.44 to 0.44]	0.5	0/1	0/1
Cyanide (Total)	Qbt 2	1	0	[0.51 to 0.51]	0.5	0/1	1/1
Cyanide (Total)	Qbt 3	8	3	[0.17] to [0.52]	0.5	0/8	3/8
Cyanide (Total)	Qbt 1g	1	0	[0.54 to 0.54]	0.5	0/1	1/1
Cyanide (Total)	Qbt 1v	1	0	[0.55 to 0.55]	0.5	0/1	1/1
Cyanide (Total)	Qct	1	0	[0.53 to 0.53]	0.5	0/1	1/1
Iron	Fill	3	3	5350 to 14900	21500	0/3	0/3
Iron	Qbt 2	1	1	5170 to 5170	14500	0/1	0/1
Iron	Qbt 3	17	17	3380 to 6960	14500	0/17	0/17
Iron	Qbt 1g	1	1	1360 to 1360	3700	0/1	0/1
Iron	Qbt 1v	2	2	4960 to 5460	9900	0/2	0/2
Iron	Qct	1	1	3810 to 3810	3700	1/1	0/1
Lead	Fill	3	3	9 to 13	22.3	0/3	0/3
Lead	Qbt 2	1	1	2.3 to 2.3	11.2	0/1	0/1
Lead	Qbt 3	17	17	0.95 to 5.1	11.2	0/17	0/17
Lead	Qbt 1g	1	1	1.5 to 1.5	13.5	0/1	0/1
Lead	Qbt 1v	2	2	3.6 to 4.7	18.4	0/2	0/2

Table 6 (continued)

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (mg/kg)	Background Value[b] (mg/kg)	Frequency of Detects above Background Value	Frequency of Nondetects above Background Value
Lead	Qct	1	1	3.6 to 3.6	13.5	0/1	0/1
Magnesium	Fill	3	3	584 to 2500	4610	0/3	0/3
Magnesium	Qbt 2	1	1	102 to 102	1690	0/1	0/1
Magnesium	Qbt 3	17	17	76.7 to 650	1690	0/17	0/17
Magnesium	Qbt 1g	1	1	70.3 to 70.3	739	0/1	0/1
Magnesium	Qbt 1v	2	2	130 to 152	780	0/2	0/2
Magnesium	Qct	1	1	662 to 662	739	0/1	0/1
Manganese	Fill	2	2	173 to 604	671	0/2	0/2
Manganese	Qbt 2	1	1	206 to 206	482	0/1	0/1
Manganese	Qbt 3	17	17	111 to 269	482	0/17	0/17
Manganese	Qbt 1g	1	1	52.7 to 52.7	189	0/1	0/1
Manganese	Qbt 1v	2	2	212 to 274	408	0/2	0/2
Manganese	Qct	1	1	90.1 to 90.1	189	0/1	0/1
Mercury	Fill	3	1	[0.021] to 0.085	0.1	0/3	0/3
Mercury	Qbt 2	1	0	[0.034 to 0.034]	0.1	0/1	0/1
Mercury	Qbt 3	17	0	[0.0099 to 0.17]	0.1	0/17	1/17
Mercury	Qbt 1g	1	0	[0.036 to 0.036]	0.1	0/1	0/1
Mercury	Qbt 1v	2	0	[0.034 to 0.037]	0.1	0/2	0/2
Mercury	Qct	1	0	[0.035 to 0.035]	0.1	0/1	0/1
Nickel	Fill	3	3	2.1 to 7	15.4	0/3	0/3
Nickel	Qbt 2	1	0	[0.82 to 0.82]	6.58	0/1	0/1
Nickel	Qbt 3	13	7	[0.37] to [1.8]	6.58	0/13	0/13
Nickel	Qbt 1g	1	1	0.2 to 0.2	2	0/1	0/1
Nickel	Qbt 1v	2	2	0.46 to 0.51	2	0/2	0/2
Nickel	Qct	1	1	2.2 to 2.2	2	1/1	0/1
Nitrate	Fill	3	2	[0.25] to 2.4	na[c]	2/3	n/a[d]

Table 6 (continued)

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (mg/kg)	Background Value[b] (mg/kg)	Frequency of Detects above Background Value	Frequency of Nondetects above Background Value
Nitrate	Qbt 2	1	1	0.56 to 0.56	na	1/1	n/a
Nitrate	Qbt 3	17	16	0.18 to 3.9	na	16/17	n/a
Nitrate	Qbt 1g	1	1	0.26 to 0.26	na	1/1	n/a
Nitrate	Qbt 1v	2	2	0.24 to 0.9	na	2/2	n/a
Nitrate	Qct	1	1	0.14 to 0.14	na	1/1	n/a
Perchlorate	Fill	3	0	[0.0011 to 0.0025]	na	0/3	n/a
Perchlorate	Qbt 2	1	0	[0.002 to 0.002]	na	0/1	n/a
Perchlorate	Qbt 3	17	7	0.00073 to 0.07	na	7/17	n/a
Perchlorate	Qbt 1g	1	0	[0.0022 to 0.0022]	na	0/1	n/a
Perchlorate	Qbt 1v	2	2	0.00098 to 0.0018	na	2/2	n/a
Perchlorate	Qct	1	0	[0.0021 to 0.0021]	na	0/1	n/a
Potassium	Fill	3	3	516 to 1940	3460	0/3	0/3
Potassium	Qbt 2	1	0	[511 to 511]	3500	0/1	0/1
Potassium	Qbt 3	17	11	62.7 to [523]	3500	0/17	0/17
Potassium	Qbt 1g	1	1	338 to 338	2390	0/1	0/1
Potassium	Qbt 1v	2	2	137 to 393	6670	0/2	0/2
Potassium	Qct	1	1	522 to 522	2390	0/1	0/1
Selenium	Fill	3	1	[0.23] to 0.28	1.52	0/3	0/3
Selenium	Qbt 2	1	1	0.35 to 0.35	0.3	1/1	0/1
Selenium	Qbt 3	17	12	0.14 to 0.42	0.3	5/17	0/17
Selenium	Qbt 1g	1	1	0.28 to 0.28	0.3	0/1	0/1
Selenium	Qbt 1v	2	2	0.35 to 0.47	0.3	2/2	0/2
Selenium	Qct	1	0	[0.21 to 0.21]	0.3	0/1	0/1
Silver	Fill	3	3	0.054 to 0.12	1	0/3	0/3
Silver	Qbt 2	1	1	0.021 to 0.021	1	0/1	0/1
Silver	Qbt 3	13	11	0.023 to [0.21]	1	0/13	0/13

Table 6 (continued)

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (mg/kg)	Background Value[b] (mg/kg)	Frequency of Detects above Background Value	Frequency of Nondetects above Background Value
Silver	Qbt 1g	1	1	0.022 to 0.022	1	0/1	0/1
Silver	Qbt 1v	2	2	0.029 to 0.077	1	0/2	0/2
Silver	Qct	1	1	0.037 to 0.037	1	0/1	0/1
Sodium	Fill	3	2	58.6 to 133	915	0/3	0/3
Sodium	Qbt 2	1	0	[79.2 to 79.2]	2770	0/1	0/1
Sodium	Qbt 3	17	11	[38.8] to 152	2770	0/17	0/17
Sodium	Qbt 1g	1	1	268 to 268	4350	0/1	0/1
Sodium	Qbt 1v	2	2	81.5 to 284	6330	0/2	0/2
Sodium	Qct	1	1	315 to 315	4350	0/1	0/1
Thallium	Fill	3	1	[0.11] to [0.31]	0.73	0/3	0/3
Thallium	Qbt 2	1	0	[0.1 to 0.1]	1.1	0/1	0/1
Thallium	Qbt 3	17	0	[0.1 to 0.11]	1.1	0/17	0/17
Thallium	Qbt 1g	1	1	0.079 to 0.079	1.22	0/1	0/1
Thallium	Qbt 1v	2	1	[0.1] to 0.2	1.24	0/2	0/2
Thallium	Qct	1	0	[0.11 to 0.11]	1.22	0/1	0/1
Vanadium	Fill	3	3	4.6 to 17.3	39.6	0/3	0/3
Vanadium	Qbt 2	1	1	1.8 to 1.8	17	0/1	0/1
Vanadium	Qbt 3	13	11	[0.81] to 4	17	0/13	0/13
Vanadium	Qbt 1g	1	1	0.64 to 0.64	4.59	0/1	0/1
Vanadium	Qbt 1v	2	2	1.3 to 2.3	4.48	0/2	0/2
Vanadium	Qct	1	1	5.8 to 5.8	4.59	1/1	0/1
Zinc	Fill	3	3	28.1 to 36.2	48.8	0/3	0/3
Zinc	Qbt 2	1	1	35.7 to 35.7	63.5	0/1	0/1
Zinc	Qbt 3	17	15	[17.3] to [39.6]	63.5	0/17	0/17
Zinc	Qbt 1g	1	1	7.4 to 7.4	40	0/1	0/1
Zinc	Qbt 1v	2	2	39.9 to 40	84.6	0/2	0/2

Table 6 (continued)

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (mg/kg)	Background Value[b] (mg/kg)	Frequency of Detects above Background Value	Frequency of Nondetects above Background Value
Zinc	Qct	1	1	16.2 to 16.2	40	0/1	0/1

[a] Values in square brackets indicate nondetects.

[b] BVs obtained from LANL 1998, 059730.

[c] na = Not available.

[d] n/a = Not applicable.

Table 7
Summary of Inorganic Chemicals Detected or Detected Above BVs in Fill and Tuff at MDA C

Sample ID	Location ID	Depth (ft)	Media	Cyanide (Total)	Iron	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Vanadium
Soil, Fill Background Value[a]				**0.5**	**21500**	**0.1**	**15.4**	**na**[b]	**na**	**1.52**	**39.6**
Qbt 2,3,4 Background Value[a]				**0.5**	**14500**	**0.1**	**6.58**	**na**	**na**	**0.3**	**17**
Qbt 1v Background Value[a]				**0.5**	**9900**	**0.1**	**2**	**na**	**na**	**0.3**	**4.48**
Qbt 1g, Qct, Qbo Background Value[a]				**0.5**	**3700**	**0.1**	**2**	**na**	**na**	**0.3**	**4.59**
MD50-07-75314	50-27437	20.50–22.50	Qbt 3	—[c]	—	—	—	3.9	0.00073 (J-)	—	—
MD50-07-75317	50-27437	32.50–35.00	Qbt 3	—	—	—	—	0.41	—	—	—
MD50-07-75315	50-27437	60.00–62.50	Qbt 3	—	—	—	—	0.41	—	—	—
MD50-07-75318	50-27437	80.00–82.00	Qbt 3	—	—	—	—	0.37	—	—	—
MD50-07-75351	50-27444	20.00–22.50	Qbt 3	0.52 (UJ)	—	—	—	1	0.0011 (J-)	0.42	—
MD50-07-75355	50-27444	35.00–37.50	Qbt 3	—	—	—	—	0.62	0.00086 (J-)	0.36	—
MD50-07-75352	50-27444	60.00–65.00	Qbt 3	—	—	—	—	0.34 (J-)	—	0.36	—
MD50-07-75354	50-27444	80.00–82.50	Qbt 3	—	—	0.17 (U)	—	0.47 (J-)	—	—	—
MD50-07-75357	50-27444	97.50–100.00	Qbt 3	0.51 (UJ)	—	—	—	0.45 (J-)	—	—	—
MD50-07-75368	50-27444	140.00–153.00	Qbt 2	0.51 (UJ)	—	—	—	0.56 (J-)	—	0.35	—
MD50-07-76314	50-27444	197.50–200.00	Qbt 1v	—	—	—	—	0.24	0.00098 (J-)	0.35	—
MD50-07-76315	50-27444	247.50–250.00	Qbt 1v	0.55 (UJ)	—	—	—	0.9	0.0018 (J-)	0.47	—
MD50-07-76316	50-27444	296.00–300.00	Qbt 1g	0.54 (UJ)	—	—	—	0.26	—	—	—
MD50-07-75356	50-27444	332.50–335.00	Qct	0.53 (U)	3810	—	2.2 (J-)	0.14 (J)	—	—	5.8
MD50-07-75374	50-27445	2.50–5.00	Fill	—	—	—	—	2.4 (J-)	—	—	—
MD50-07-75375	50-27445	20.00–22.50	Qbt 3	—	—	—	—	0.45 (J-)	0.014 (J-)	0.39	—
MD50-07-75379	50-27445	35.00–37.50	Qbt 3	—	—	—	—	0.64 (J-)	0.016 (J-)	0.37	—
MD50-07-75376	50-27445	62.50–65.00	Qbt 3	—	—	—	—	0.22 (J-)	0.07 (J-)	—	—

Table 7 (continued)

Sample ID	Location ID	Depth (ft)	Media	Cyanide (Total)	Iron	Mercury	Nickel	Nitrate	Perchlorate	Selenium	Vanadium
Soil, Fill Background Value[a]				**0.5**	**21500**	**0.1**	**15.4**	**na**[b]	**na**	**1.52**	**39.6**
Qbt 2,3,4 Background Value[a]				**0.5**	**14500**	**0.1**	**6.58**	**na**	**na**	**0.3**	**17**
Qbt 1v Background Value[a]				**0.5**	**9900**	**0.1**	**2**	**na**	**na**	**0.3**	**4.48**
Qbt 1g, Qct, Qbo Background Value[a]				**0.5**	**3700**	**0.1**	**2**	**na**	**na**	**0.3**	**4.59**
MD50-07-75380	50-27445	80.00–82.50	Qbt 3	0.52 (U)	—	—	—	0.38 (J-)	—	—	—
MD50-07-75398	50-27446	2.50–5.00	Fill	—	—	—	—	0.96 (J-)	—	—	—
MD50-07-75399	50-27446	20.00–22.50	Qbt 3	—	—	—	—	0.69 (J-)	—	—	—
MD50-07-75403	50-27446	35.00–37.50	Qbt 3	—	—	—	—	0.68 (J-)	0.0038 (J-)	—	—
MD50-07-75400	50-27446	61.00–65.00	Qbt 3	—	—	—	—	0.18 (J-)	—	—	—

Note: Units are mg/kg.

[a] BVs are from LANL 1998, 059730.

[b] na = Not available.

[c] — = Not detected above BV or not detected.

Table 8
Frequency of Radionuclides Detected or
Detected Above Background/Fallout Values in Fill and Tuff at MDA C

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (pCi/g)	Background Value[b] (pCi/g)	Frequency of Detects above Background Value
Americium-241	Fill	3	2	[-0.0015] to 0.566	0.013[c]	2/3
Americium-241	Qbt 2	1	0	[0.024 to 0.024]	na[d]	0/1
Americium-241	Qbt 3	16	0	[-0.004 to 0.019]	na	0/16
Americium-241	Qbt 1g	1	0	[-0.0044 to -0.0044]	na	0/1
Americium-241	Qbt 1v	1	0	[-0.0082 to -0.0082]	na	0/1
Americium-241	Qct	1	0	[-0.0035 to -0.0035]	na	0/1
Cesium-134	Fill	3	0	[-0.045 to 0.03]	na	0/3
Cesium-134	Qbt 2	1	0	[0.003 to 0.003]	na	0/1
Cesium-134	Qbt 3	16	0	[-0.038 to 0.034]	na	0/16
Cesium-134	Qbt 1g	1	0	[-0.024 to -0.024]	na	0/1
Cesium-134	Qbt 1v	2	0	[-0.014 to 0.033]	na	0/2
Cesium-137	Fill	3	1	[-0.035] to 0.164	1.65[c]	1/3
Cesium-137	Qbt 2	1	0	[-0.002 to -0.002]	na	0/1
Cesium-137	Qbt 3	17	0	[-0.072 to 0.039]	na	0/17
Cesium-137	Qbt 1g	1	0	[-0.029 to -0.029]	na	0/1
Cesium-137	Qbt 1v	2	0	[-0.019 to -0.013]	na	0/2
Cesium-137	Qct	1	0	[-0.018 to -0.018]	na	0/1
Cobalt-60	Fill	3	0	[-0.0009 to 0.098]	na	0/3
Cobalt-60	Qbt 2	1	0	[-0.028 to -0.028]	na	0/1
Cobalt-60	Qbt 3	17	0	[-0.033 to 0.07]	na	0/17
Cobalt-60	Qbt 1g	1	0	[0.013 to 0.013]	na	0/1
Cobalt-60	Qbt 1v	2	0	[-0.07 to 0.009]	na	0/2
Cobalt-60	Qct	1	0	[-0.022 to -0.022]	na	0/1
Europium-152	Fill	3	0	[-0.007 to 0.31]	na	0/3

Table 8 (continued)

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (pCi/g)	Background Value[b] (pCi/g)	Frequency of Detects above Background Value
Europium-152	Qbt 2	1	0	[0.239 to 0.239]	na	0/1
Europium-152	Qbt 3	17	0	[-0.06 to 0.44]	na	0/17
Europium-152	Qbt 1g	1	0	[0.34 to 0.34]	na	0/1
Europium-152	Qbt 1v	1	0	[0.23 to 0.23]	na	0/1
Europium-152	Qct	1	0	[0.122 to 0.122]	na	0/1
Plutonium-238	Fill	3	1	[-0.0075] to 0.078	0.023[c]	1/3
Plutonium-238	Qbt 2	1	0	[0.0092 to 0.0092]	na	0/1
Plutonium-238	Qbt 3	17	1	[-0.007] to 0.064	na	1/17
Plutonium-238	Qbt 1g	1	0	[-0.0022 to -0.0022]	na	0/1
Plutonium-238	Qbt 1v	2	0	[-0.005 to 0.0055]	na	0/2
Plutonium-238	Qct	1	0	[-0.0041 to -0.0041]	na	0/1
Plutonium-239/Plutonium-240	Fill	3	2	[0.0071] to 8.96	0.054[c]	2/3
Plutonium-239/Plutonium-240	Qbt 2	1	0	[0.0114 to 0.0114]	na	0/1
Plutonium-239/Plutonium-240	Qbt 3	17	4	[-0.0046] to 0.352	na	4/17
Plutonium-239/Plutonium-240	Qbt 1g	1	0	[-0.0008 to -0.0008]	na	0/1
Plutonium-239/Plutonium-240	Qbt 1v	2	0	[0.0035 to 0.0161]	na	0/2
Plutonium-239/Plutonium-240	Qct	1	0	[0.0015 to 0.0015]	na	0/1
Ruthenium-106	Fill	3	0	[-0.008 to 0.11]	na	0/3
Ruthenium-106	Qbt 2	1	0	[-0.08 to -0.08]	na	0/1
Ruthenium-106	Qbt 3	16	0	[-0.24 to 0.18]	na	0/16
Ruthenium-106	Qbt 1g	1	0	[0.11 to 0.11]	na	0/1
Ruthenium-106	Qbt 1v	2	0	[-0.17 to 0.24]	na	0/2
Sodium-22	Fill	3	0	[-0.027 to 0.054]	na	0/3
Sodium-22	Qbt 2	1	0	[0.016 to 0.016]	na	0/1
Sodium-22	Qbt 3	17	0	[-0.065 to 0.096]	na	0/17
Sodium-22	Qbt 1g	1	0	[-0.034 to -0.034]	na	0/1

Table 8 (continued)

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (pCi/g)	Background Value[b] (pCi/g)	Frequency of Detects above Background Value
Sodium-22	Qbt 1v	2	0	[-0.031 to 0.024]	na	0/2
Sodium-22	Qct	1	0	[0.006 to 0.006]	na	0/1
Strontium-90	Fill	3	0	[-0.09 to 0.055]	1.31[c]	0/3
Strontium-90	Qbt 2	1	0	[0.04 to 0.04]	na	0/1
Strontium-90	Qbt 3	17	0	[-0.055 to 0.16]	na	0/17
Strontium-90	Qbt 1g	1	0	[0.249 to 0.249]	na	0/1
Strontium-90	Qbt 1v	2	0	[-0.05 to 0.035]	na	0/2
Strontium-90	Qct	1	0	[-0.035 to -0.035]	na	0/1
Uranium-234	Fill	3	3	0.715 to 1.12	2.59	0/3
Uranium-234	Qbt 2	1	1	1.02 to 1.02	1.98	0/1
Uranium-234	Qbt 3	17	17	0.318 to 0.829	1.98	0/17
Uranium-234	Qbt 1g	1	1	2.11 to 2.11	4	0/1
Uranium-234	Qbt 1v	2	2	1.19 to 1.5	3.12	0/2
Uranium-234	Qct	1	1	2.03 to 2.03	4	0/1
Uranium-235	Fill	3	2	0.0347 to [0.057]	0.2	0/3
Uranium-235	Qbt 2	1	0	[0.044 to 0.044]	0.09	0/1
Uranium-235	Qbt 3	17	8	[0.0043] to 0.051	0.09	0/17
Uranium-235	Qbt 1g	1	1	0.106 to 0.106	0.18	0/1
Uranium-235	Qbt 1v	2	2	0.067 to 0.071	0.14	0/2
Uranium-235	Qct	1	1	0.102 to 0.102	0.18	0/1
Uranium-238	Fill	3	3	0.735 to 1.23	2.29	0/3
Uranium-238	Qbt 2	1	1	0.995 to 0.995	1.93	0/1
Uranium-238	Qbt 3	17	17	0.308 to 0.754	1.93	0/17
Uranium-238	Qbt 1g	1	1	2.05 to 2.05	3.9	0/1

Table 8 (continued)

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range[a] (pCi/g)	Background Value[b] (pCi/g)	Frequency of Detects above Background Value
Uranium-238	Qbt 1v	2	2	1.2 to 1.63	3.05	0/2
Uranium-238	Qct	1	1	2.12 to 2.12	3.9	0/1

[a] Values in brackets indicate nondetects.

[b] BVs and FVs are from LANL 1998, 059730.

[c] FV applies to samples collected from 0–6 in. only.

[d] na = Not available.

Table 9
Summary of Radionuclides Detected above Background/Fallout Values, or Detected Where Fallout Values Not Available in Fill and Tuff at MDA C

Sample ID	Location ID	Depth (ft)	Media	Americium-241	Cesium-137	Plutonium-238	Plutonium-239/Plutonium-240
Soil, Fill Background Value[a]				**0.013**[b]	**1.65**[b]	**0.023**[b]	**0.054**[b]
Qbt 2,3,4 Background Value[a]				**na**[c]	**na**	**na**	**na**
MD50-07-75351	50-27444	20.00–22.50	Qbt 3	—[d]	—	0.064	0.352
MD50-07-75355	50-27444	35.00–37.50	Qbt 3	—	—	—	0.227
MD50-07-75352	50-27444	60.00–65.00	Qbt 3	—	—	—	0.052
MD50-07-75354	50-27444	80.00–82.50	Qbt 3	—	—	—	0.046
MD50-07-75374	50-27445	2.50–5.00	Fill	0.102	—	—	0.863
MD50-07-75398	50-27446	2.50–5.00	Fill	0.566	0.164	0.078	8.96

Note: Units are pCi/g.

[a] BVs from LANL 1998, 059730.

[b] Background value applies to samples collected from 0–6 in. only.

[c] na = Not available.

[d] — = Not detected or not detected above BV/FV.

Table 10
Frequency of Tritium Detected in Pore Gas at MDA C

Analyte	Analyte Code	Number of Analyses	Number of Detects	Number of Detected Locations	Concentration Range (pCi/L)	Location of Minimum Detected	Location of Maximum Detected
Tritium	H-3	25	25	4	720 to 92300	50-27444 (335 ft)	50-27444 (20 ft)

Table 11
Summary of Tritium Detected in Pore Gas at MDA C

Sample ID	Location ID	Depth (ft)	Tritium (pCi/L)
MD50-07-75329	50-27437	10.00–10.00	3770 (J)
MD50-07-75328	50-27437	20.00–20.00	5920 (J)
MD50-07-75327	50-27437	32.00–32.00	4930 (J)
MD50-07-75326	50-27437	60.00–60.00	1360
MD50-07-75325	50-27437	80.00–80.00	1900
MD50-07-75367	50-27444	20.00–20.00	92300
MD50-07-75366	50-27444	35.00–35.00	20300
MD50-07-75365	50-27444	60.00–60.00	6420
MD50-07-75364	50-27444	80.00–80.00	3580
MD50-07-75363	50-27444	97.00–97.00	4270
MD50-07-75362	50-27444	140.00–140.00	3950
MD50-07-75361	50-27444	197.00–197.00	2610
MD50-07-75360	50-27444	247.00–247.00	1990
MD50-07-75359	50-27444	296.00–296.00	3390
MD50-07-75358	50-27444	335.00–335.00	720
MD50-07-75386	50-27445	10.00–10.00	1320 (J)
MD50-07-75385	50-27445	20.00–20.00	1440 (J)
MD50-07-75384	50-27445	35.00–35.00	2260 (J)
MD50-07-75383	50-27445	62.00–62.00	2630 (J)
MD50-07-75382	50-27445	80.00–80.00	1980 (J)
MD50-07-75410	50-27446	10.00–10.00	1800
MD50-07-75409	50-27446	20.00–20.00	1510
MD50-07-75408	50-27446	32.00–32.00	3780
MD50-07-75407	50-27446	61.00–61.00	4120
MD50-07-75406	50-27446	80.00–80.00	5490

Table 12
Frequency of Organic Chemicals Detected in Fill and Tuff at MDA C

Analyte	Media	Number of Analyses	Number of Detects	Concentration Range* (mg/kg)	Frequency of Detects	Quant Limit
Acetone	Fill	2	1	0.018 to [0.023]*	1/2	0.023
Acetone	Qbt 3	11	3	0.0046 to [0.023]	3/11	0.023
Bis(2-ethylhexyl)phthalate	Qbt 3	17	1	0.036 to [0.37]	1/17	0.39
Carbon Tetrachloride	Fill	3	1	0.0032 to [0.0063]	1/3	0.0063
Chloroform	Fill	3	1	0.0028 to [0.0063]	1/3	0.0063
Isopropyltoluene[4-]	Fill	3	1	[0.0057] to 0.0062	1/3	0.0058
Methylene Chloride	Fill	3	1	[0.0058] to 0.0075	1/3	0.0063
Methylene Chloride	Qbt 3	17	9	0.0028 to 0.011	9/17	0.0063
Methylene Chloride	Qbt 1g	1	1	0.006 to 0.006	1/1	0.0063
Methylene Chloride	Qbt 1v	2	2	0.0032 to 0.0055	2/2	0.0063
Methylene Chloride	Qct	1	1	0.0035 to 0.0035	1/1	0.0063
Octachlorodibenzodioxin[1,2,3,4,6,7,8,9-]	Qbt 3	7	2	[2.45E-07] to [6.2E-07]	2/7	6.20E-07
Tetrachloroethene	Fill	3	1	0.0013 to [0.0058]	1/3	0.0058
Toluene	Fill	3	1	0.0046 to [0.0063]	1/3	0.0063
Toluene	Qbt 3	17	1	0.00059 to [0.0057]	1/17	0.0063
Trichloroethene	Fill	3	2	0.00093 to [0.0057]	2/3	0.0057
Trichloroethene	Qct	1	1	0.0009 to 0.0009	1/1	0.0057

*Values in brackets indicate nondetects.

Table 13
Summary of Organic Chemicals Detected in Fill and Tuff at MDA C

Sample ID	Location ID	Depth (ft)	Media	Acetone	Bis(2-ethylhexyl)phthalate	Carbon Tetrachloride	Chloroform	Isopropyltoluene[4-]	Methylene Chloride	Octachlorodibenzodioxin [1,2,3,4,6,7,8,9-]	Tetrachloroethene	Toluene	Trichloroethene
MD50-07-75313	50-27437	4.00–5.00	Fill	0.018 (J)	—*	—	—	0.0062 (J)	—	—	0.0013 (J)	—	0.00093 (J)
MD50-07-75317	50-27437	32.50–35.00	Qbt 3	0.0046 (J)	—	—	—	—	—	3.83E-07 (J)	—	—	—
MD50-07-75318	50-27437	80.00–82.00	Qbt 3	—	—	—	—	—	—	3.53E-07 (J)	—	—	—
MD50-07-75351	50-27444	20.00–22.50	Qbt 3	—	—	—	—	—	0.011	—	—	—	—
MD50-07-75355	50-27444	35.00–37.50	Qbt 3	0.009 (J)	—	—	—	—	0.0088	—	—	—	—
MD50-07-75354	50-27444	80.00–82.50	Qbt 3	—	—	—	—	—	0.0028 (J)	—	—	—	—
MD50-07-76314	50-27444	197.50–200.00	Qbt 1v	—	—	—	—	—	0.0032 (J)	—	—	—	—
MD50-07-76315	50-27444	247.50–250.00	Qbt 1v	—	—	—	—	—	0.0055	—	—	—	—
MD50-07-76316	50-27444	296.00–300.00	Qbt 1g	—	—	—	—	—	0.006	—	—	—	—
MD50-07-75356	50-27444	332.50–335.00	Qct	—	—	—	—	—	0.0035 (J)	—	—	—	0.0009 (J)
MD50-07-75374	50-27445	2.50–5.00	Fill	—	—	0.0032 (J)	0.0028 (J)	—	—	—	—	0.0046 (J)	0.0022 (J)
MD50-07-75375	50-27445	20.00–22.50	Qbt 3	0.0094 (J)	0.036 (J)	—	—	—	—	—	—	0.00059 (J)	—
MD50-07-75376	50-27445	62.50–65.00	Qbt 3	—	—	—	—	—	0.0068	—	—	—	—
MD50-07-75380	50-27445	80.00–82.50	Qbt 3	—	—	—	—	—	0.0045 (J)	—	—	—	—
MD50-07-75398	50-27446	2.50–5.00	Fill	—	—	—	—	—	0.0075	—	—	—	—
MD50-07-75399	50-27446	20.00–22.50	Qbt 3	—	—	—	—	—	0.0082	—	—	—	—
MD50-07-75403	50-27446	35.00–37.50	Qbt 3	—	—	—	—	—	0.008	—	—	—	—
MD50-07-75400	50-27446	61.00–65.00	Qbt 3	—	—	—	—	—	0.0045 (J)	—	—	—	—
MD50-07-75404	50-27446	80.00–82.50	Qbt 3	—	—	—	—	—	0.0028 (J)	—	—	—	—

Note: Units are mg/kg.

*— = Not detected.

Table 14
Frequency of Organic Chemicals (VOCs) Detected in Pore Gas at MDA C

Analyte	Analyte Code	Number of Analyses	Number of Detects	Number of Detected Locations	Concentration Range (µg/m³)*	Location of Min	Location of Max
Ethylbenzene	100-41-4	25	4	2	[3.4] to [460]*	50-27444 (20 ft)	50-27444 (247 ft)
Butadiene[1,3-]	106-99-0	6	1	1	[3.7] to [14]	50-27445 (80 ft)	50-27437 (60 ft)
Dichloroethane[1,2-]	107-06-2	25	14	3	3.2 to [430]	50-27444 (20 ft)	50-27444 (197 ft)
Trimethylbenzene[1,3,5-]	108-67-8	25	2	1	[4.1] to [520]	50-27437 (20 ft)	50-27444 (197 ft)
Toluene	108-88-3	25	13	3	[19] to [400]	50-27446 (20 ft)	50-27444 (247 ft)
Hexane	110-54-3	6	2	1	[5.9] to [23]	50-27445 (80 ft)	50-27437 (60 ft)
Propylene	115-07-1	6	2	1	[12] to [44]	50-27445 (80 ft)	50-27437 (60 ft)
Tetrachloroethene	127-18-4	25	24	4	27 to 2300	50-27444 (20 ft)	50-27444 (140 ft)
Xylene (Total)	1330-20-7	19	2	1	[8.6] to [460]	50-27444 (20 ft)	50-27444 (247 ft)
n-Heptane	142-82-5	6	2	1	4.3 to [26]	50-27437 (20 ft)	50-27437 (60 ft)
Dichloroethene[cis-1,2-]	156-59-2	25	25	4	5.4 to 670	50-27444 (20 ft)	50-27444 (197 ft)
Carbon Tetrachloride	56-23-5	25	25	4	22 to 54000	50-27444 (20 ft)	50-27445 (10 ft)
Ethyltoluene[4-]	622-96-8	25	4	2	[7.8] to [520]	50-27444 (20 ft)	50-27444 (197 ft)
Ethanol	64-17-5	6	1	1	[6.3] to [49]	50-27437 (20 ft)	50-27437 (60 ft)
Acetone	67-64-1	25	5	2	[13] to [1300]	50-27444 (20 ft)	50-27444 (197 ft)
Chloroform	67-66-3	25	25	4	57 to 8100	50-27444 (20 ft)	50-27445 (10 ft)
Benzene	71-43-2	25	3	1	[2.5] to [340]	50-27444 (20 ft)	50-27444 (247 ft)
Methylene Chloride	75-09-2	25	15	2	3.7 to 3100	50-27437 (20 ft)	50-27444 (197 ft)
Dichlorodifluoromethane	75-71-8	25	24	4	7.2 to 1900	50-27444 (20 ft)	50-27446 (80 ft)
Trichloro-1,2,2-trifluoroethane[1,1,2-]	76-13-1	25	3	1	8.8 to [820]	50-27437 (20 ft)	50-27444 (247 ft)
Dichloropropane[1,2-]	78-87-5	25	7	2	[3.6] to [490]	50-27444 (20 ft)	50-27444 (247 ft)
Butanone[2-]	78-93-3	25	1	1	3.2 to [1600]	50-27437 (20 ft)	50-27444 (247 ft)
Trichloroethane[1,1,2-]	79-00-5	25	16	4	5.9 to [580]	50-27444 (20 ft)	50-27444 (197 ft)
Trichloroethene	79-01-6	25	25	4	570 to 75000	50-27444 (20 ft)	50-27444 (197 ft)

Table 14 (continued)

Analyte	Analyte Code	Number of Analyses	Number of Detects	Number of Detected Locations	Concentration Range (µg/m³)	Location of Min	Location of Max
Xylene[1,2-]	95-47-6	25	5	2	[3.4] to [460]	50-27444 (20 ft)	50-27444 (247 ft)
Trimethylbenzene[1,2,4-]	95-63-6	25	4	2	[7.8] to [520]	50-27444 (20 ft)	50-27444 (247 ft)
Xylene[1,3-]+Xylene[1,4-]	Xylene[1,3 and 1,4]	21	6	2	[8.6] to [460]	50-27444 (20 ft)	50-27444 (197 ft)

*Values in brackets indicate nondetects.

Table 15
Summary of Organic Chemicals (VOCs) Detected in Pore Gas at MDA C

Sample ID	Location ID	Depth (ft)	Acetone	Benzene	Butadiene[1,3-]	Butanone[2-]	Carbon Tetrachloride	Chloroform	Dichlorodifluoromethane	Dichloroethane[1,2-]	Dichloroethene[cis-1,2-]
MD50-07-75329	50-27437	10.00–10.00	—*	11	—	—	310	1200	130	29	47
MD50-07-75328	50-27437	20.00–20.00	18	40	9	3.2	84	340	37	8.9	14
MD50-07-75327	50-27437	32.00–32.00	33	12	—	—	100	590	52	22	28
MD50-07-75326	50-27437	60.00–60.00	—	—	—	—	390	1800	200	71	120
MD50-07-75325	50-27437	80.00–80.00	310	—	—	—	330	1500	170	66	96
MD50-07-75367	50-27444	20.00–20.00	—	—	—	—	22	57	7.2	3.2	5.4
MD50-07-75366	50-27444	35.00–35.00	—	—	—	—	260	350	55	18	31
MD50-07-75365	50-27444	60.00–60.00	—	—	—	—	370	590	—	39	57
MD50-07-75364	50-27444	80.00–80.00	—	—	—	—	180	490	59	35	43
MD50-07-75363	50-27444	97.00–97.00	—	—	—	—	5400	4800	1100	240	410
MD50-07-75362	50-27444	140.00–140.00	—	—	—	—	9100	5600	1700	330	590
MD50-07-75361	50-27444	197.00–197.00	—	—	—	—	2600	2700	1100	—	670
MD50-07-75360	50-27444	247.00–247.00	—	—	—	—	1500	1700	750	—	510
MD50-07-75359	50-27444	296.00–296.00	—	—	—	—	820	1200	710	—	350
MD50-07-75358	50-27444	335.00–335.00	—	—	—	—	850	810	660	—	240
MD50-07-75386	50-27445	10.00–10.00	—	—	—	—	54000 (J)	8100	590	—	75
MD50-07-75385	50-27445	20.00–20.00	—	—	—	—	18000 (J)	3200	210	—	30
MD50-07-75384	50-27445	35.00–35.00	—	—	—	—	12000 (J)	3000	260	30	56
MD50-07-75383	50-27445	62.00–62.00	30	—	—	—	4500 (J)	1300	37	22	31

Table 15 (continued)

Sample ID	Location ID	Depth (ft)	Acetone	Benzene	Butadiene[1,3-]	Butanone[2-]	Carbon Tetrachloride	Chloroform	Dichlorodifluoromethane	Dichloroethane[1,2-]	Dichloroethene[cis-1,2-]
MD50-07-75382	50-27445	80.00–80.00	34	—	—	—	2400	1200	56	22	24
MD50-07-75410	50-27446	10.00–10.00	—	—	—	—	7900	2200	960	—	180
MD50-07-75409	50-27446	20.00–20.00	—	—	—	—	370	240	44	—	21
MD50-07-75408	50-27446	32.00–32.00	—	—	—	—	13000	3800	1700	—	310
MD50-07-75407	50-27446	61.00–61.00	—	—	—	—	4000	1300	630	—	130
MD50-07-75406	50-27446	80.00–80.00	—	—	—	—	11000	4100	1900	—	400

Table 15 (continued)

Sample ID	Location ID	Depth (ft)	Dichloropropane[1,2-]	Ethanol	Ethylbenzene	Ethyltoluene[4-]	Hexane	Methylene Chloride	n-Heptane	Propylene	Tetrachloroethene
MD50-07-75329	50-27437	10.00–10.00	28	—	—	—	—	12	—	—	1900
MD50-07-75328	50-27437	20.00–20.00	8.6	—	9.9	9.6	6.6	3.7	4.3	36	490
MD50-07-75327	50-27437	32.00–32.00	17	—	17	15	9.5	7.7	10	—	540
MD50-07-75326	50-27437	60.00–60.00	53	—	—	—	—	25	—	—	1200
MD50-07-75325	50-27437	80.00–80.00	49	47	—	—	—	23	—	30	860
MD50-07-75367	50-27444	20.00–20.00	—	—	—	—	—	21	—	—	27
MD50-07-75366	50-27444	35.00–35.00	—	—	—	—	—	100	—	—	140
MD50-07-75365	50-27444	60.00–60.00	—	—	—	—	—	150	—	—	180
MD50-07-75364	50-27444	80.00–80.00	—	—	—	—	—	120	—	—	120
MD50-07-75363	50-27444	97.00–97.00	—	—	—	—	—	500	—	—	2000
MD50-07-75362	50-27444	140.00–140.00	—	—	—	—	—	1100	—	—	2300
MD50-07-75361	50-27444	197.00–197.00	—	—	—	—	—	3100	—	—	1900
MD50-07-75360	50-27444	247.00–247.00	—	—	—	—	—	2400	—	—	1400
MD50-07-75359	50-27444	296.00–296.00	—	—	—	—	—	2100	—	—	—
MD50-07-75358	50-27444	335.00–335.00	—	—	—	—	—	1500	—	—	1300
MD50-07-75386	50-27445	10.00–10.00	—	—	—	—	—	—	—	—	1100
MD50-07-75385	50-27445	20.00–20.00	—	—	—	—	—	—	—	—	400
MD50-07-75384	50-27445	35.00–35.00	—	—	—	—	—	—	—	—	330
MD50-07-75383	50-27445	62.00–62.00	11	—	20	30	—	—	—	—	130
MD50-07-75382	50-27445	80.00–80.00	8.7	—	31	28	—	—	—	—	100
MD50-07-75410	50-27446	10.00–10.00	—	—	—	—	—	—	—	—	540
MD50-07-75409	50-27446	20.00–20.00	—	—	—	—	—	—	—	—	45

Table 15 (continued)

Sample ID	Location ID	Depth (ft)	Dichloropropane[1,2-]	Ethanol	Ethylbenzene	Ethyltoluene[4-]	Hexane	Methylene Chloride	n-Heptane	Propylene	Tetrachloroethene
MD50-07-75408	50-27446	32.00–32.00	—	—	—	—	—	—	—	—	950
MD50-07-75407	50-27446	61.00–61.00	—	—	—	—	—	—	—	—	360
MD50-07-75406	50-27446	80.00–80.00	—	—	—	—	—	—	—	—	990

Table 15 (continued)

Sample ID	Location ID	Depth (ft)	Toluene	Trichloro-1,2,2-trifluoroethane[1,1,2-]	Trichloroethane[1,1,2-]	Trichloroethene	Trimethylbenzene[1,2,4-]	Trimethylbenzene[1,3,5-]	Xylene (Total)	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
MD50-07-75329	50-27437	10.00–10.00	37	30	39	5200	—	—	—	—	20
MD50-07-75328	50-27437	20.00–20.00	71	8.8	12	1500	13	—	—	13	38
MD50-07-75327	50-27437	32.00–32.00	160	—	32	2200	16	—	—	23	61
MD50-07-75326	50-27437	60.00–60.00	170	—	90	8500	—	—	—	—	—
MD50-07-75325	50-27437	80.00–80.00	130	33	72	7000	—	—	—	—	—
MD50-07-75367	50-27444	20.00–20.00	27	—	5.9	570	—	—	—	—	—
MD50-07-75366	50-27444	35.00–35.00	45	—	—	3000	—	—	—	—	—
MD50-07-75365	50-27444	60.00–60.00	49	—	44	4400	—	—	—	—	—
MD50-07-75364	50-27444	80.00–80.00	31	—	38	3000	—	—	—	—	—
MD50-07-75363	50-27444	97.00–97.00	—	—	—	41000	—	—	—	—	—
MD50-07-75362	50-27444	140.00–140.00	—	—	—	57000	—	—	—	—	—
MD50-07-75361	50-27444	197.00–197.00	—	—	—	75000	—	—	—	—	—
MD50-07-75360	50-27444	247.00–247.00	—	—	—	53000	—	—	—	—	—
MD50-07-75359	50-27444	296.00–296.00	—	—	—	29000	—	—	—	—	—
MD50-07-75358	50-27444	335.00–335.00	—	—	—	51000	—	—	—	—	—
MD50-07-75386	50-27445	10.00–10.00	—	—	59	8400	—	—	—	—	—
MD50-07-75385	50-27445	20.00–20.00	28	—	26	3100	—	—	—	—	—
MD50-07-75384	50-27445	35.00–35.00	58	—	46	3900	—	—	88	23	65
MD50-07-75383	50-27445	62.00–62.00	82	—	33	1700	28	10	130	35	90
MD50-07-75382	50-27445	80.00–80.00	120	—	34	1200	30	11	—	40	110
MD50-07-75410	50-27446	10.00–10.00	—	—	—	13000	—	—	—	—	—

Table 15 (continued)

Sample ID	Location ID	Depth (ft)	Toluene	Trichloro-1,2,2-trifluoroethane[1,1,2-]	Trichloroethane[1,1,2-]	Trichloroethene	Trimethylbenzene[1,2,4-]	Trimethylbenzene[1,3,5-]	Xylene (Total)	Xylene[1,2-]	Xylene[1,3-]+Xylene[1,4-]
MD50-07-75409	50-27446	20.00–20.00	—	—	32	1200	—	—	—	—	—
MD50-07-75408	50-27446	32.00–32.00	—	—	—	24000	—	—	—	—	—
MD50-07-75407	50-27446	61.00–61.00	—	—	77	9500	—	—	—	—	—
MD50-07-75406	50-27446	80.00–80.00	—	—	210	27000	—	—	—	—	—

Note: Units are µg/m^3.

*— = Not detected.

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Borehole Location ID: 50-27437 **Start Date:** 02/08/07 **End Date:** 02/10/07

Coordinates : 1626085.0 E / 1768544.0 N **Ground Surface Elevation:** 7257.8 ft

Attitude: Vertical **Total Depth (TD):** 82.5 ft

Driller/Co.: Jesse Garcia/Water Development Corporation **Geologist/ Co.:** Dave Frank/LATA

Estimated depth of adjacent disposal unit(s): 9.2 ft **Depth to Groundwater:** Not encountered

Core Barrel: 3.8" OD, 5.0 ' long lexan lined split-spoon

Drilling Equipment: CME-85 4 1/4" ID hollow stem auger (HSA) with continuous core

Depth (ft)	Core run/% recovery	Core PID Screening (ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
0	56%	1.5	NDA			NA	NA	Yes			Fill	(0.0, 7.5) Fill: Gray wet gravelly clayey silt with local grass and weathered tuff fragments up to 0.2 ft across surrounded by silty fill matrix.	Borehole 50-27437 is located in the south-central portion of MDA C between Pits 2 and 3. The borehole is open below a capped and secured, 6-ft deep, 10-in diameter steel surface casing. Surface moisture has penetrated to 5.0 ft.
5	100%	0	NDA	75313				Yes					
	100%	0	NDA					No					
	100%	0	NDA		75329			No			Unit 3, Tshirege Member, Bandelier Tuff	(7.5, 82.5) Qbt3: Light gray to reddish gray, slightly indurated to moderately indurated, nonwelded, dry, devitrified ash flow.	
10	100%	0	NDA					No					
	100%	0	NDA					No					
15	100%	0	NDA					No					
	100%	0	NDA					No					
20	100%	1.7	NDA	75314	75328			No					
	100%	0	NDA					No					
25	100%	0	NDA					No					
	100%	0	NDA					No					
30	80%	0	NDA	75317	75327			No					
	100%	0	NDA					No					
35	80%	0	NDA					No					
	100%	0	NDA					No					
40	100%	0	NDA					No					
45	100%	0	NDA					No					
50	100%	0	NDA					No					

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Sample Location ID: 50-27437

Depth (ft)	Core run/% recovery	Core PID Screening(ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
55	100%	0	NDA			NA	NA	No			Unit 3, Tshirege Member, Bandelier Tuff	Qbt3 continued. Light reddish gray, slightly indurated to moderately indurated, nonwelded, dry, devitrified ash flow.	
60	100%	0	NDA	75315 75330	75326			No					
65	100%	0	NDA					No					
70	100%	0	NDA					No					
75	80%	0	NDA					No					
80	100%	0	NDA	75318	75325			No					TD = 82.5 ft.

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Borehole Location ID: 50-27444 **Start Date:** 02/17/07 **End Date:** 02/26/07

Coordinates : 1626240.0 E / 1768518.0 N **Ground Surface Elevation:** 7252.2 ft

Attitude: Vertical **Total Depth (TD):** 335.5 ft

Driller/Co.: Jesse Garcia/Water Development Corporation **Geologist/ Co.:** Dave Frank/LATA

Estimated depth of adjacent disposal unit(s): 9.5 ft **Depth to Groundwater:** Not encountered

Core Barrel: 3.8" OD, 5.0 ' long lexan lined split-spoon

Drilling Equipment: CME-85 4 1/4" ID hollow stem auger (HSA) with continuous core

Depth (ft)	Core run/% recovery	Core PID Screening (ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
0	100%	0	NDA			NA	NA	No			Fill	(0.0, 9.2) Fill: Brown gravelly clayey silt with local weathered tuff fragments up to 0.2 ft across surrounded by silty fill matrix.	Borehole 50-27444 is located is located in the south-central portion of MDA C between Pits 2 and 3. The borehole is open below a capped and secured, 9-ft deep, 10-in diameter steel surface casing. @ 4 ft. during pre-drilling Geoprobe exploration, elevated alpha contamination was detected in fill material at 30,000 pCi/g; during subsequent hollow stem auger drilling through this interval, alpha contamination was measured at 11,000 pCi/g.
5	100%	0	see note					No					
	100%	0	NDA					No					
	100%	0	NDA					No					
10	100%	0	NDA					No				(9.2, 120.0) Qbt3: Weak red, reddish brown, to reddish gray, slightly indurated to moderately indurated, nonwelded, dry, devitrified ash flow.	
	100%	0	NDA					No					
15	100%	0	NDA					No					
	100%	0	NDA					No					
	100%	0	NDA					No					
20	100%	0	NDA	75351	75367			No					
	100%	0	NDA					No					
25	100%	0	NDA					No					
	100%	0	NDA					No					
	100%	0	NDA					No					
30	100%	0	NDA					No					
	100%	0	NDA					No					
	100%	0	NDA					No					
35	100%	0	NDA	75355	75366			No					
	100%	0	NDA					No					
40	100%	0	NDA					No					
	100%	0	NDA					No					
	100%	0	NDA					No					
45	8%	0	NDA					No					
	0%	0	NDA					NA					
50	0%	0	NA					NA			Unit 3, Tshirege Member, Bandelier Tuff		

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Depth (ft)	Core run/% recovery	Core PID Screening(ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
55	0%	0	NA			NA	NA	NA				Qbt3 continued. Weak red, reddish brown, to reddish gray, slightly indurated to moderately indurated, nonwelded, dry, devitrified ash flow.	
	0%	0	NA					NA					
	100%	0	NA					No					
60	100%	0	NDA	75352 75353	75365			No					
65	100%	0	NDA					No					
70	100%	0	NDA					No					
75	100%	0	NDA					No					
80	100%	0	NDA	75354	75364			No					
	100%	0	NDA					No					
85	100%	0	NDA					No					
90	100%	0	NDA					No					
95	100%	0	NDA					No					
	100%	0	NDA	75357	75363 75370			No					
100	100%	0	NDA					No					
105	100%	0	NDA					No					
110	100%	0	NDA					No					
115	100%	0	NDA					No					
120	%											(120.0, 185.0)	

Unit 3, Tshirege Member, Bandelier Tuff

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Depth (ft)	Core run/% recovery	Core PID Screening(ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
125	100	0	NDA			NA	NA	No			Unit 2, Tshirege Member, Bandelier Tuff	Qbt2: Pale red, strongly indurated, slightly welded, dry, devitrified ash flow with 20% quartz phenocryrsts from 0.5 - 1.0 mm, and 10% sanidine phenocryrsts up to 1.0 mm showing schiller blue iridescence. Hollow-stem auger drilling typically required use of pull down force or center bit.	
130	100%	0	NDA					No					
135	4%	0	NDA					No					
140	50%	0	NDA		75362			No					
145	50%	0	NDA	75368				No					
150	100%	0	NDA					No					
155	100%	0	NDA					No					
160	40%	0	NDA					No					
165	60%	0	NDA					No					
170	100%	0	NDA					No					
175	50%	0	NDA					No					
180	90%	0	NDA					No					
185	80%	0	NDA					No					
190	100%	0	NDA					No			Unit 1v	(185.0, 240.0) Qbt1v: Pinkish gray to light gray, nonindurated to slightly indurated,	
	100%	0	NDA					No					

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Depth (ft)	Core run/% recovery	Core PID Screening(ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
195	100%	0	NDA			NA	NA	No			Unit 1v, Tshirege Member, Bandelier Tuff	nonwelded, dry, devitrfified ash flow with local light pinkinsh gray clay alteration in pumice lapilli.	
	100%	0	NDA	76314	75361			No					
200	100%	0	NDA					No					
205	100%	0	NDA					No					
210	100%	0	NDA					No					
215	100%	0	NDA					No					
220	100%	0	NDA					No					
225	100%	0	NDA					No					
230	100%	0	NDA					No					
235	100%	0	NDA					No					
240	100%	0	NDA					No			Colonnade	(240.0, 250.0) Qbt1v(c): Pinkish reddish gray to orangish gray, moderately indurated, non welded, dry devitrified ash flow with chocolate brown pumice lapilli and dacite lithics from 1 to 5 percent.	
245	100%	0	NDA		75360			No					
250	100%	0	NDA	76315				No			Unit 1g	(250.0, 310.0) Qbt1g: Pinkish reddish gray to orangish gray,	
255	100%	0	NDA					No					

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Depth (ft)	Core run/% recovery	Core PID Screening(ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
260	100%	0	NDA			NA	NA	No			Unit 1g, Tshirege Member, Bandelier Tuff	moderately indurated in upper few feet, changing to light pinkish gray, nonindurated, dry, vitric, ash flow.	
265	100%	0	NDA					No					
270	100%	0	NDA					No					
275	90%	0	NDA					No					
280	100%	0	NDA					No					
285	100%	0	NDA					No					
290	80%	0	NDA					No					
295	100%	0	NDA	76316	75359			No					
300	100%	0	NDA					No					
305	100%	0	NDA					No					
310	100%	0	NDA					No			Cerro Toledo Interval	(310.0, 312.0) Qbt1g(Ts): Tsankawi Pumice Bed is the basal airfall pumice deposit for the Tshirege Member cooling units.	
315	100%	0	NDA					No				(312.0, 332.5) Qct: Pinkish gray to pale red, locally strongly oxidized, volcaniclastic sediments consisting mostly of reworked	
320	100%	0	NDA					No					
325	100%	0	NDA					No					

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Depth (ft)	Core run/% recovery	Core PID Screening(ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
330	100%	0	NDA					No			Qct	Otowi Formation Tuff, pumice beds, sand, gravel, and local cobble deposits.	
335		0	NDA	75356	75358			No					TD = 335.5 ft.

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Borehole Location ID: 50-27445 **Start Date:** 02/12/07 **End Date:** 02/13/07

Coordinates : 1626370.0 E / 1768498.0 N **Ground Surface Elevation:** 7248.2 ft

Attitude: Vertical **Total Depth (TD):** 82.5 ft

Driller/Co.: Jesse Garcia/Water Development Corporation **Geologist/ Co.:** Dave Frank/LATA

Estimated depth of adjacent disposal unit(s): 9.5 ft **Depth to Groundwater:** Not encountered

Core Barrel: 3.8" OD, 5.0 ' long lexan lined split-spoon

Drilling Equipment: CME-85 4 1/4" ID hollow stem auger (HSA) with continuous core

Depth (ft)	Core run/% recovery	Core PID Screening (ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
0	56%	0	NDA			NA	NA	No			Fill	(0.0, 8.9) FILL: Gray moist gravelly clayey silt with local grass and weathered tuff fragments up to 0.2 ft across surrounded by silty fill matrix.	Borehole 50-27445 is located in the south eastern portion of MDA C between Pits 2 and 3.
	100%	0	NDA	75374				No					
5	100%	0	NDA					No					
	100%	0	NDA		75386			No					
10	100%	0.5	NDA		75394			No					
	100%	0	NDA					No					
15	100%	0.3	NDA					No					
	100%	0.1	NDA					No					
20	100%	0	NDA	75375	75385			No			Unit 3, Tshirege Member, Bandelier Tuff	(8.9, 82.5) QBT3: Light gray to reddish gray, slightly indurated to moderately indurated, nonwelded, dry, devitrified ash flow.	The borehole is open below a capped and secured, 6-ft deep, 10-in diameter steel surface casing.
	100%	0	NDA					No					
25	100%	0.5	NDA					No					
	100%	0.5	NDA					No					
30	80%	0	NDA					No					
	100%	0	NDA					No					
35	80%	0	NDA	75379	75384			No					
	100%	0	NDA					No					
40	100%	0	NDA					No					
45	100%	0	NDA					No					
50	100%	0	NDA					No					

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Depth (ft)	Core run/% recovery	Core PID Screening(ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
55	100%	0.2	NDA			NA	NA	No			Unit 3, Tshirege Member, Bandelier Tuff	Qbt3 continued. Light reddish gray, slightly indurated to moderately indurated, nonwelded, dry, devitrified ash flow.	
60	100%	0	NDA	75376 75377	75383			No					
65	100%	0	NDA					No					
70	100%	0	NDA					No					
75	80%	0	NDA					No					
80	100%	0	NDA	75380	75382			No					TD = 82.5 ft.

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Borehole Location ID: 50-27446 **Start Date:** 02/15/07 **End Date:** 02/16/07

Coordinates : 1626498.0 E / 1768477.0 N **Ground Surface Elevation:** 7244.05 ft

Attitude: Vertical **Total Depth (TD):** 82.5 ft

Driller/Co.: Jesse Garcia/Water Development Corporation **Geologist/ Co.:** Dave Frank/LATA

Estimated depth of adjacent disposal unit(s): 8.8 ft **Depth to Groundwater:** Not encountered

Core Barrel: 3.8" OD, 5.0 ' long lexan lined split-spoon

Drilling Equipment: CME-85 4 1/4" ID hollow stem auger (HSA) with continuous core

Depth (ft)	Core run/% recovery	Core PID Screening (ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
0	56%	0	NDA			NA	NA	No			Fill	(0.0, 8.5) FILL: Gray moist gravelly clayey silt with local grass and weathered tuff fragments up to 0.2 ft across surrounded by silty fill matrix.	Borehole 50-27446 is located in the south eastern portion of MDA C between Pits 2 and 3.
	100%	0	NDA	75398				No					
5	100%	0	NDA					No					
	100%	0	NDA		75410			No			Unit 3, Tshirege Member, Bandelier Tuff	(8.5, 82.5) QBT3: Light gray to reddish gray, slightly indurated to moderately indurated, nonwelded, dry, devitrified ash flow.	The borehole is open below a capped and secured, 6-ft deep, 10-in diameter steel surface casing.
10	100%	0.5	NDA					No					
	100%	0	NDA					No					
15	100%	0.3	NDA					No					
	100%	0.1	NDA					No					
20	100%	0	NDA	75399	75409			No					
	100%	0	NDA					No					
25	100%	0.5	NDA					No					
	100%	0.5	NDA					No					
30	80%	0	NDA					No					
	100%	0	NDA					No					
35	80%	0	NDA	75403	75408			No					
	100%	0	NDA					No					
40	100%	0	NDA					No					
	100%	0	NDA					No					
45	100%	0	NDA					No					
50	100%	0	NDA					No					

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Depth (ft)	Core run/% recovery	Core PID Screening(ppm)	Core Rad Screening ($\alpha\beta\gamma$)	Core Sample # (MD50-07-XXXXX)	1st Pore-gas Sample # (MD50-07-XXXXX)	2nd Pore-gas Sample #	Geotechnical Sample #	Visible Moisture in core	Fractures	Graphic Log	Lithologic Unit	Lithology	Notes
55	100%	0.2	NDA			NA	NA	No			Unit 3, Tshirege Member, Bandelier Tuff	Qbt3 continued. Light reddish gray, slightly indurated to moderately indurated, nonwelded, dry, devitrified ash flow.	
60	100%	0	NDA	07400 07401	75407			No					
65	100%	0	NDA					No					
70	100%	0	NDA					No					
75	80%	0	NDA					No					
80	100%	0	NDA	07404	75406			No					TD = 82.5 ft.