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Date: September 29, 2008
Refer To: EP2008-0507

James P. Bearzi, Bureau Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, NM 87505-6303

Subject: Submittal of the Response to the Notice of Disapproval for the Investigation Work Plan for Upper Cañada del Buey Aggregate Area and Revision 1

Dear Mr. Bearzi:

Enclosed please find two hard copies with electronic files of the response to the notice of disapproval for the Investigation Work Plan for Upper Cañada del Buey Aggregate Area and Revision 1 of the work plan. Also enclosed is an electronic copy of a redline/strikeout version of the work plan that includes all changes made in response to the New Mexico Environment's (NMED's) notice of disapproval. A table detailing where revisions have been made to the work plan with cross-references to NMED's numbered comments is also included.

If you have any questions, please contact Kent Rich at (505) 665-4272 (krich@lanl.gov) or Cheryl Rodriguez at (505) 845-5804 (crodriguez2@doeal.gov).

Sincerely,

Susan G. Stiger, Associate Director
Environmental Programs
Los Alamos National Laboratory

Sincerely,

David R. Gregory, Project Director
Environmental Operations
Los Alamos Site Office

SS/DG/DM/KR:sm

Enclosures: Two hard copies with electronic files:
1) Response to the Notice of Disapproval for the Investigation Work Plan for Upper Cañada del Buey Aggregate Area (EP2008-0507)
2) Investigation Work Plan for Upper Cañada del Buey Aggregate Area, Revision 1 (EP2008-0508)
3) An electronic copy of the redline-strikeout version of the plan that includes all changes and edits to the document
4) Cross-reference table of NMED NOD comments and revisions to Cañada del Buey investigation work plan

Cy: (w/enc.)
Kent Rich, EP-CAP, MS M992
RPF, MS M707 (with two CDs)
Public Reading Room, MS M992

Cy: (Letter and CD only)
Kim Birdsall, North Wind
Cheryl Rodriguez, DOE-LASO, MS A316
Laurie King, EPA Region 6, Dallas, TX
Steve Yanicak, NMED-OB, White Rock, NM
Kristine Smeltz, EP-WES, MS M992
EP-CAP File, MS M992

Cy: (w/o enc.)
Tom Skibitski, NMED-OB, Santa Fe, NM
Alison Bennett, DOE-LASO (date-stamped letter emailed)
Susan G. Stiger, ADEP, MS M991
Alison M. Dorries, EP-WES, MS M992
Dave McInroy, EP-CAP, MS M992
IRM-RMMSO, MS A150 (date-stamped letter emailed)

Cross-Reference of the New Mexico Environment Department's Notice of Disapproval Comments and Revisions to Upper Cañada del Buey Aggregate Area Investigation Work Plan

NMED NOD Comment No.	Summary of NOD Comment Requirement	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
General Comments				
1	20% of all samples must be sent for off-site laboratory analysis of polychlorinated biphenyls (PCBs).	Table 4.0-1, pp. 109–132	Table 4.0-1, pp. 109–133	Table 4.0-1 has been revised to reflect PCB analyses for at least 20% of samples at each site undergoing investigation where PCB sampling was not already proposed.
2	Mercury (on the current U.S. Environmental Protection Agency [EPA] target analyte list [TAL]) must be added to Table 7.0-2.	Table 7.0-2, p. 141	Table 7.0-2, p. 142	Table 7.0-2 has been revised to include the 23 TAL metals on EPA's Contract Laboratory Program list, including mercury.
3	All work plan figures should be reviewed to ensure applicable area canyon drainage features are illustrated in the figures, similar to the figures recently provided in the July 2008 Upper Sandia Canyon Aggregate Area Investigation Work Plan, Revision 1.	Figures 5.1-2, 5.10-1, and 5.12-2, pp. 83, 94, 96	Figures 5.1-2, 5.10-1, and 5.12-2, pp. 83, 94, 96	Figures 5.1-2, 5.10-1, and 5.12-2 have been revised to show the locations of canyon investigation reaches in Cañada del Buey.
4	(1) Canyon drainage samples must be obtained in the drainages from the top of the slope to the toe of the colluvium. (2) Sampling must target areas such as fine-grained sediments or other areas of sediment accumulation.	Section 7.0, p. 61	Section 7.0, p. 62	(1) Drainage and sediment sampling locations from the top of the slope to the toe of the colluvium have been identified in the figure showing all proposed sampling locations (for sites where drainage and sediment sampling is required). (2) Text has been added to section 7.0, Investigation Methods, to clarify that drainage sampling locations are determined on the basis of geomorphic relationships and the presence of appropriate sediment packages.

NMED NOD Comment No.	Summary of NOD Comment Requirement	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
Specific Comments				
1	The Permittees must revise Table 4.0-1 to include analyses of isotopic thorium for each sample collected at Solid Waste Management Unit (SWMU) 46-002.	Section 5.1.2 and Table 4.0-1, pp. 14, 109–111	Section 5.1.2 and Table 4.0-1, pp. 14, 109–111	Table 4.0-1 and the text in section 5.1.2 have been revised to indicate that each of the 59 samples to be collected at SWMU 46-002 will be analyzed for isotopic thorium.
2	(1) At SWMU 46-003(e), in addition to the eight samples to be collected from four locations associated with the former distribution box and drain field (Figure 5.6-2), the Permittees must also collect samples adjacent to the area where the drainline exits building 46-58. (2) All samples must be analyzed for the same analytical suite as proposed in Table 4.0-1. (3) All samples must be collected from two depths to define the nature and the extent of contamination.	Section 5.6.2, Figure 5.6-2, and Table 4.0-1, pp. 18, 91, 113	Section 5.6.2, Figure 5.6-2, and Table 4.0-1, pp. 18, 91, 113	(1) The text in section 5.6.2, Table 4.0-1, and Figure 5.6-2 have been revised to indicate that two additional samples will be collected from one location adjacent to the area where the drain line exits building 46-58. (2) The samples will be analyzed for TAL metals, VOCs, semivolatile organic compounds (SVOCs), PCBs, nitrate, cyanide, perchlorate, isotopic uranium, isotopic plutonium, americium-241, and gamma spectroscopy. (3) The samples will be collected from two depth intervals (0 to 1 ft and 5 to 6 ft) directly beneath the drainline.
3	Figure 5.4-2 shows a pipeline structure exiting the northeast corner of the SWMU 46-003(f) drain field. The Permittees have proposed a sampling location at the north end of the structure. (1) The work plan must be revised to clarify the nature and use of the structure. (2) If the structure is an outfall associated with the drain field, the Permittees must propose additional downslope sampling locations north of the structure to characterize the area between the structure and the common drainage segment of SWSC Canyon.	Section 5.7, Figure 5.4-2, and Table 4.0-1, pp. 18, 87, 113–114	Section 5.7, Figure 5.4-2, and Table 4.0-1, pp. 18, 87, 114	(1) The drain field, distribution box and drainpipe outfall associated with the SWMU 46-003(f) septic system have been removed. The drainpipe outfall formerly located at the northeast corner of the former drain field was installed to improve drain field performance. (2) The text in section 5.7 and Table 4.0-1 have been revised to include one additional sampling location north of the first sampling location below the former drainpipe outfall. Two samples will be collected from the new sampling location from the same depth intervals and analyzed for the same constituents as the samples to be collected from the first sampling location directly north of the former drainpipe outfall. Figure 5.4-2 has been revised to show the additional sampling location and sampling locations in SWCS Canyon downgradient of SWMU 46-003(f).

NMED NOD Comment No.	Summary of NOD Comment Requirement	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
4	(1) At SWMU 46-003(g), the Permittees must collect samples from beneath the inlet pipe, the tank inlet, and tank outlet at two depths to define the nature and extent of contamination. (2) The proposed sampling location just north of former structure 46-175 must be moved approximately 20 ft south to the piping bend located a few feet west of the former structure to address potential contamination. In the event underground or overhead utility lines preclude moving the sample location farther south, the Permittees must state the reason(s) for not moving the location in their response to the NOD. (3) All samples for the site must be analyzed for the analytical suites listed in Table 4.0-1.	Section 5.8.2, Figure 5.8-2, and Table 4.0-1, pp. 19, 93, 114	Section 5.8.2, Figure 5.8-2, and Table 4.0-1, pp. 20, 93, 114	(1) The text in section 5.8.2 and Table 4.0-1 of the work plan have been revised to indicate that samples will be collected from two depth intervals at three sampling locations beneath the septic tank and tank inlet and outlet to define the nature and extent of contamination. Figure 5.8-2 has been revised to show the new sampling locations. (2) Figure 5.8-2 has been revised to show that the sampling location formerly proposed just north of former structure 46-175 has been relocated approximately 20 ft to the south and is now next to the piping bend located a few feet west of former structure 46-175. (3) All samples for the site will be analyzed for the analytical suites listed in Table 4.0-1 for SWMU 46-003(g).
5	For SWMU 46-004(b), the Permittees must explain why the tank location shown in Figure 5.5-1 of the work plan differs from the locations shown in Figure 5.2.2-1 of the 1996 Resource Conservation and Recovery Act (RCRA) facility investigation (RFI) report.	Figure 5.5-1, p. 88	No change.	The tank's operating location depicted in Figure 5.2.2-1 of the 1996 RFI report is incorrect. The second location of the tank was used only for staging the tank before its removal. The tank did not operate during the time it occupied this location. Therefore, LANL did not indicate the second location of the tank in Figure 5.5-1 and sampling at this location is not necessary.

NMED NOD Comment No.	Summary of NOD Comment Requirement	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
6	(1) At SWMU 46-004(d), the two proposed sampling locations next to the dry well must be moved to a physically accessible transect location down slope of the dry well. See also, comment number 7 below. (2) Samples must be analyzed for the same analytical suite as proposed in Table 4.0-1 and must be collected from two depths to define the nature and the extent of contamination. (3) The Permittees must revise the work plan to provide for consulting the New Mexico Environment Department (NMED) in the event auger refusal is encountered in the well bottom borehole.	Sections 5.15, 5.15.1, and 5.15.1.2, Figure 5.6-2, and Table 4.0-1, pp. 25-26, 91, 116	Sections 5.15, 5.15.1, and 5.15.1.2, Figure 5.6-2, and Table 4.0-1, pp. 26, 91, 116–117 Also see Specific Comment 7	(1) Figure 5.6-2 and the text in section 5.15.1.2 have been revised to show that three of the proposed sampling locations adjacent to the dry wells have been moved to transect locations downslope of both dry wells. (2) Table 4.0-1 has been revised to indicate that the samples from the new hillside transect sampling locations will be collected from two depth intervals (0 to 1 ft and 1 to 2 ft) and analyzed for the same analytical suite proposed for the other samples to be collected for SWMU 46-004(d). (3) The text in section 5.15.1.2 has been revised to state that NMED will be consulted in the event auger refusal is encountered at the bottom of each dry well during sample collection activities. Additionally, the text in sections 5.15 and 5.15.1 that describes the dry wells has been revised to provide additional detail about the dry wells, including their depths.
7	(1) At SWMU 46-004(e), samples must also be collected from the area where the drainline exits the building. (2)The proposed sampling location north of and next to the dry well must be moved to a physically accessible transect location downslope of the dry well. See also, comment 6 above. (3) Samples must be analyzed for the same analytical suite as proposed in Table 4.0-1 and must be collected from two depths to define the nature and the extent of contamination. (4) The Permittees must revise the work plan to provide for consulting NMED in the event auger refusal is encountered at the well bottom location.	Sections 5.15.2 and 5.15.2.3, Figure 5.6-2, and Table 4.0-1, pp. 26, 91, 116	Sections 5.15.2 and 5.15.2.3, Figure 5.6-2, and Table 4.0-1, pp. 26–27, 91, 116–117	(1) Figure 5.6-2 and the text in section 5.15.2.3 have been revised to show that the proposed sampling location southeast of the two dry wells has been moved to a location next to the concrete platform/loading dock attached to the north side of building 46-58. This sampling location is the closest point to the area where the drainline to the SWMU 46-004(e) dry well exits building 46-58. Additionally, the text in section 5.15.2 has been revised to provide additional details. (2) Figure 5.6-2 and the text in sections 5.15.1.2 and 5.15.2.3 have been revised to show that three of the proposed sampling locations next to the dry wells have been moved to transect locations downslope of the dry wells. (3) Samples from the location next to building 46-58 will be collected from depth intervals of 0 to 1 ft and 2 to 3 ft beneath the drainline and analyzed for the same analytical suite proposed in Table 4.0-1. (4) See part 3 of the response to Specific Comment 6.

NMED NOD Comment No.	Summary of NOD Comment Requirement	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
8	(1) The Permittees must add a sampling location between the SWMU 46-004(m) outfall and building 46-30 to evaluate potential soil contamination below and next to the drainline. The sampling location must be positioned to evaluate soil contamination below the drainline as close as possible to where the line exits from building 46-30. (2) One sampling location proposed for SWMU 46-004(m) must be moved from the mouth of the outfall to approximately 6 ft east of the outfall. (3) Samples from these locations must be collected at two depths and analyzed for the same constituents proposed for other locations at SWMU 46-004(m).	Section 5.20.3, and Figure 5.12-2, pp. 35, 96	Section 5.20.3 and Figure 5.12-2, pp. 35, 96	(1) Figure 5.12-2 and the text in section 5.20.3 have been revised to show a new sampling location along the drainline between the SWMU 46-004(m) outfall and building 46-30 and next to the drainline as close as possible to the point where the line exits building 46-30. (2) In Figure 5.12-2, one of the proposed outfall discharge point sampling locations has been moved approximately 6 ft to the east. (3) The text in section 5.20.3 has been revised to indicate that the samples from the new sampling locations will be collected at two depths and analyzed for the same constituents proposed for the other locations at SWMU 46-004(m).
9	If there are currently three (or two) outfalls still associated with SWMU 46-004(q), the Permittees must revise the work plan to include discussion of the nature and location of each outfall and to propose sampling locations at appropriate depth intervals to characterize potential impacts associated with each outfall. If there is only one outfall currently associated with SWMU 46-004(q), the Permittees must revise the work plan to include discussion concerning the physical and/or administrative disposition of the other two outfalls identified in the 1996 RFI.	Sections 5.16.6 and 5.22, pp. 29, 36	No change	Only one outfall (Outfall B) is associated with SWMU 46-004(q). No text or figure has been revised in the work plan because Outfall A is addressed under the proposed sampling for SWMU 46-004(h), Outfall B is addressed under the proposed sampling for SWMU 46-004(q), and Outfall C is not a SWMU or area of concern (AOC), nor is it associated with any SWMUs or AOCs.

NMED NOD Comment No.	Summary of NOD Comment Requirement	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
10	(1) For SWMU 46-005, the Permittees must revise the work plan (and associated figures) to move the proposed sampling location from outside of and just east of the southern impoundment (structure 46-170) to a location south of the fence along the north side of the north impoundment (structure 46-171) to evaluate potential overflow from the impoundment. (2) One of the proposed sampling locations from the south impoundment must be moved to a location inside the northern impoundment to provide better sample coverage within the structure.	Section 5.32.2, Figure 5.8-2, and Table 4.0-1, pp. 45, 93, 124	Section 5.32.2, Figure 5.8-2, and Table 4.0-1, pp. 46, 93, 125	(1) Figure 5.8-2 of the work plan has been revised to show that the proposed sampling location outside of and just east of the southern impoundment (structure 46-170) has been moved to a location south of the fence along the north side of the north impoundment (structure 46-171). (2) Figure 5.8-2 of the work plan has been revised to show that one of the proposed sampling locations from the south impoundment has been moved to a location inside the northern impoundment and the symbol for the sampling location adjacent to the line connecting the two impoundments has been changed (from a circle to a triangle) to denote that surface and subsurface samples will be collected. In addition, section 5.32.2, Table 4.0-1, and Figure 5.8-2 have been revised to clarify sampling depths associated with the four locations beneath the drainlines.
11	At SWMU 46-006(d), the Permittees must revise sampling depths of the samples proposed to be collected for SWMU 46-006(d) in each of the four locations along the north building wall from 2 to 3 ft and 4 to 5 ft to 0 to 1 and 4 to 5 ft.	Section 5.36.3 and Table 4.0-1, pp. 50, 126	Section 5.36.3 and Table 4.0-1, pp. 50, 127	The text in section 5.36.3 and Table 4.0-1 have been revised to indicate that samples from the four locations along the north building wall will be collected from depth intervals of 0 to 1 ft and 4 to 5 ft beneath the asphalt within SWMU 46-006(d).

NMED NOD Comment No.	Summary of NOD Comment Requirement	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
12	(1) For SWMU 46-009(a), the Permittees must include analyses of total petroleum hydrocarbons (TPH) for samples collected within the landfill and from sampling locations downslope of the landfill area. Alternatively, the Permittees may provide justification for why TPH analyses are not appropriate at this SWMU. (2) Additional sample locations are needed in the SWSC Canyon drainage area shown on the lower right-hand corner of Figure 5.2-2 and east of the SWSC WWTP in the drainage area near the eastern boundary of Technical Area 46 (TA-46) as shown on Plate 1 of the work plan. (3) See also Specific Comment 13.	Section 5.46.3, Figure 5.2-2, and Table 4.0-1, pp. 59, 85, 130	Section 5.46.3, Figure 5.2-2, and Table 4.0-1, pp. 59, 85, 130–131	(1) The text in section 5.46.3 and Table 4.0-1 have been revised to indicate that samples collected within the landfill and from sampling locations downgradient of the landfill will be analyzed for TPH. (2) Figure 5.2-2, Table 4.0-1, and the text in section 5.46.3 have been revised to include 14 samples collected from seven additional locations in SWSC Canyon. (3) See response to Specific Comment 13.
13	(1) In addition to the three mesa slope locations shown for SWMU 46-009(b) in Figure 5.1-2 of the work plan, sampling locations must be proposed in the eastward drainage located just south of the southernmost mesa slope location. The Permittees must ensure that samples are collected in the drainage to Cañada del Buey to define the nature and extent of contamination. (2) See also Specific Comment 12.	Section 5.47.2, Figure 5.1-2, and Table 4.0-1, pp. 59, 83, 131	Section 5.47.2, Figure 5.1-2, and Table 4.0-1, pp. 60, 83, 131–132	(1) Figure 5.1-2 and the text in Section 5.47.2 have been revised to include 14 samples from seven additional locations in the drainage south and east of SWMU 46-009(b) to define the nature and extent of contamination. (2)Table 4.0-1 has been revised to indicate samples will be collected from two depth intervals at each of the new sampling locations and analyzed for the same constituents proposed for other locations at SWMU 46-009(b).
14	For SWMU 46-010(d), the Permittees must propose collection of samples from all sampling locations and intervals to include analyses of TPH or provide justification for why TPH analyses are not appropriate at this SWMU.	Section 5.48.3 and Table 4.0-1, pp. 60, 131	Section 5.48.3 and Table 4.0-1, pp. 61, 132	The text in section 5.48.3 and Table 4.0-1 have been revised to indicate that the 10 samples to be collected within and downgradient of SWMU 46-010(d) will be analyzed for TPH.

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15	For AOC C-46-001, given the uncertainty of where the spill occurred and the drainage patterns of the paved areas around building 46-75, a multidepth sampling location is needed above the storm drain approximately 25 ft southwest of the southwest corner of the building shown in Figure 5.4-2 of the work plan.	Section 5.49.2, Figure 5.4-2, and Table 4.0-1, pp. 61, 87, 132	Section 5.49.2, Figure 5.4-2, and Table 4.0-1, pp. 61, 87, 133	Figure 5.4-2 and the text in section 5.49.2 have been revised to indicate that two samples will be collected from one additional sampling location above the storm drain, approximately 15 ft southwest of the southwest corner of building 46-75. Table 4.0-1 has been revised to indicate that the samples will be collected from two depth intervals (0 to 1 ft and 2 to 3 ft) and analyzed only for mercury.
16	The sampling locations within the downslope areas on the north side of Cañada del Buey for various SWMUs and AOCs illustrated in Figure 5.12-2 are not positioned in well-defined drainages. The proposed locations should be spread over appropriate bench areas below the mesa top to define contaminant extent for affected SWMUs and AOCs.	Sections 5.14.3, 5.16.5, 5.16.6, 5.19.3, 5.20.3, 5.22.3, 5.26.3, 5.27.3, 5.30.3, and 5.31.3, Figures 5.10-1 and 5.12-2, and Table 4.0-1, pp. 25, 28, 29, 34, 36, 40, 41, 44, 45, 94, 96, 116–124	Sections 5.14.3, 5.16.5, 5.16.6, 5.19.3, 5.20.3, 5.22.3, 5.26.3, 5.27.3, 5.30.3, and 5.31.3, Figures 5.10-1 and 5.12-2, and Table 4.0-1, pp. 25, 28, 30, 34, 35, 37, 40, 41, 44, 45, 94, 96, 116–124	Since there are no defined drainage channels below the outfalls of SWMUs 46-004(c2), 46-004(g), 46-004(m), 46-004(z), 46-004(y), 46-004(x), 46-004(u), 46-004(v), 46-004(h), and 46-004(q) and AOC 46-004(f2), Figures 5.10-1 and 5.12-2 and Table 4.0-1 have been revised to reflect the proposed sampling locations in transects across the bench areas below the mesa top where sheet flow would carry potential contaminants to the canyon bottom. The sampling locations associated with the individual SWMUs and AOCs shown in these figures have been modified based on the new hillside transect sampling approach. Sampling locations previously sited in the canyon bottom were relocated to the toe of the slope as part of the hillside transect sampling approach agreed upon with NMED during the August 2008 site visit.

NMED NOD Comment No.	Summary of NOD Comment Requirement	Section(s)/Page(s) in Original Report	Section(s)/Page(s) in Revised Report	Nature of Revision
Revision Not Specified by NMED				
Not Applicable	Not Applicable	Throughout work plan	Throughout work plan	Many of the sampling intervals throughout the Upper Cañada del Buey Aggregate work plan were originally proposed to be from 0 to 0.5 ft. and 1 to 2 ft. Upon further consideration, Los Alamos National Laboratory (LANL) has determined that (1) the 0- to 0.5-ft interval will not provide a sufficient amount of material to fill all the sampling containers specified by the analytical suites, (2) per LANL procedures, volatile organic compound (VOC) samples are not collected from the 0- to 0.5-ft interval, and (3) a separation of only 6 in. between two sampling depth intervals is usually not adequate to determine the nature and extent of contamination. Therefore, the sampling depth intervals of 0 to 0.5 ft were changed to 0 to 1 ft throughout the work plan. These changes are noted in the red-line strikeout version of the revised work plan, submitted with this response to the notice of disapproval (NOD).Field conditions may warrant further changes to sampling intervals.