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**CERTIFIED MAIL – RETURN RECEIPT REQUESTED**

January 31, 2017

Doug Hintze, Manager  
U.S. Department of Energy  
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Michael Brandt, Associate Director  
Environment, Safety, Health  
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**RE: REQUEST FOR CERTIFICATES OF COMPLETION  
FOR THREE AREAS OF CONCERN AND TWENTY-SIX SOLID WASTE  
MANAGEMENT UNITS IN THE BAYO CANYON AGGREGATE AREA  
EPA ID #NM0890010515  
HWB-LANL-15-029**

Dear Messrs. Hintze and Brandt:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) and the Los Alamos National Security L.L.C.'s (LANS) (collectively, the Permittees) *Request for Certificates of Completion for Three Areas of Concern and Twenty-Six Solid Waste Management Units in the Bayo Canyon Aggregate Area* (Request), dated June 15, 2015 and referenced by ADESH-15-086.

These three areas of concern (AOCs) and twenty-six solid waste management units (SWMUs) were recommended for corrective action complete in the *Investigation Report for Bayo Canyon Aggregate Area, Revision 1* (Report), dated May 2008 (LA-UR-08-3202/EP2008-0226). NMED issued a *Notice of Disapproval* (NOD) for the Report on April 24, 2008 and a *Direction to Modify* (DTM) on May 27, 2010. The Permittees have requested that twenty-six SWMUs and three AOCs be granted certificates of completion without controls.

NMED hereby issues certificates of completion without controls for the following twenty-six SWMUs and three AOCs pursuant to Section XXI of the 2016 Consent Order. Consolidated Unit (CU) 10-002(a)-99, which consists of SWMUs 10-002(a,b), 10-003(a-o), 10-004(b), and 10-007,

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exceeded the residential dose limit due exclusively to strontium-90. In the April 24, 2008 DTM the Permittees were directed to submit a work plan for NMED review and approval proposing removal activities at the areas where strontium-90 contamination was present (two isolated areas south of the former radiochemistry building and SWMU 10-007). In the August 31, 2009 *Bayo Canyon Aggregate Area Strontium-90 Removal Field Implementation Plan* the Permittees stated that once the plan had been implemented, they would provide the results of the cleanup activities and confirmation sampling to NMED. According to the Request, the Permittees implemented the strontium-90 removal plan in September 2011. To date, the Permittees have not provided the results of the cleanup activities to NMED. NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE and notes that the Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only.

**SWMU 10-001(a)** is one of four former firing sites built specifically for experiments with high explosives (HE) in conjunction with research on nuclear weapons. The detonations resulted in the dispersion of radioactive materials, including uranium, lanthanum-140, and strontium-90, in the form of aerosols and solid debris. Five structures are associated with the shot pad: a battery building (power source), a fire control building, an electronics chamber, an X-unit chamber, and an inspection building. All explosives testing ceased in 1961 and decontamination and decommissioning activities (D&D) were completed by 1963. Multiple surveys, surface sampling, and subsurface sampling activities were conducted between 1963 and 1986. A Phase 1 Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was conducted in 1994 to determine if residual contamination existed in surficial deposits near the firing pads and to confirm no unacceptable human health or ecological risks were associated with the hazardous constituents found in previous investigations. A 1995 Interim Action (IA) was conducted to remove surface shrapnel. The 2005 *Investigation Work Plan for Bayo Canyon Aggregate Area* (WP) identified additional data needs for the site and was implemented in 2007. The current and reasonably foreseeable land use is recreational. The Report indicates that SWMU 10-001(a) does not pose an unacceptable risk to human health from RCRA hazardous constituents or radionuclides for the recreational, construction worker, and residential scenarios. The results of the ecological risk screening assessment indicate no potential risk to ecological receptors at the site.

**SWMU 10-001(b)** is one of four former firing sites built specifically for experiments with HE in conjunction with research on nuclear weapons. The detonations resulted in the dispersion of radioactive materials, including uranium, lanthanum-140, and strontium-90, in the form of aerosols and solid debris. Five structures are associated with the shot pad: a battery building (power source), a fire control building, an electronics chamber, an X-unit chamber, and an inspection building. All explosives testing ceased in 1961 and D&D was completed by 1963. Multiple surveys, surface sampling, and subsurface sampling activities were conducted between 1963 and 1986. A Phase 1 RFI was conducted in 1994 to determine if residual contamination existed in surficial deposits near the firing pads and to confirm no unacceptable human health or ecological risks were associated with the hazardous constituents found in previous investigations. A 1995 IA was conducted to remove surface shrapnel. The 2005 WP identified additional data needs for the site and was implemented in 2007. The current and reasonably foreseeable land use

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is recreational. The Report indicates that SWMU 10-001(b) does not pose an unacceptable risk to human health from RCRA hazardous constituents or radionuclides for the recreational, construction worker, and residential scenarios. The results of the ecological risk screening assessment indicate no potential risk to ecological receptors at the site.

**SWMU 10-001(c)** is one of four former firing sites built specifically for experiments with HE in conjunction with research on nuclear weapons. The detonations resulted in the dispersion of radioactive materials, including uranium, lanthanum-140, and strontium-90, in the form of aerosols and solid debris. Five structures are associated with the shot pad: a battery building (power source), a fire control building, an electronics chamber, an X-unit chamber, and an inspection building. All explosives testing ceased in 1961 and D&D was completed by 1963. Multiple surveys, surface sampling, and subsurface sampling activities were conducted in the area between 1963 and 1986. A Phase 1 RFI was conducted in 1994 to determine if residual contamination existed in surficial deposits near the firing pads and to confirm no unacceptable human health or ecological risks were associated with the hazardous constituents found in previous investigations. A 1995 IA was conducted to remove surface shrapnel. The 2005 WP identified additional data needs for the site and was implemented in 2007. The current and reasonably foreseeable land use is recreational. The Report indicates that SWMU 10-001(c) does not pose an unacceptable risk to human health from RCRA hazardous constituents or radionuclides. The results of the ecological risk screening assessment indicate no potential risk to ecological receptors at the site.

**SWMU 10-001(d)** is one of four former firing sites built specifically for experiments with HE in conjunction with research on nuclear weapons. The detonations resulted in the dispersion of radioactive materials, including uranium, lanthanum-140, and strontium-90, in the form of aerosols and solid debris. Five structures are associated with the shot pad: a battery building (power source), a fire control building, an electronics chamber, an X-unit chamber, and an inspection building. All explosives testing ceased in 1961 and D&D was completed by 1963. Multiple surveys, surface sampling, and subsurface sampling activities were conducted between 1963 and 1986. A Phase 1 RFI was conducted in 1994 to determine if residual contamination existed in surficial deposits near the firing pads and to confirm no unacceptable human health or ecological risks were associated with the hazardous constituents found in previous investigations. A 1995 IA was conducted to remove surface shrapnel. The 2005 WP identified additional data needs for the site and was implemented in 2007. The current and reasonably foreseeable land use is recreational. The Report indicates that SWMU 10-001(d) does not pose an unacceptable risk to human health from RCRA hazardous constituents or radionuclides. The results of the ecological risk screening assessment indicate no potential risk to ecological receptors at the site.

**SWMU 10-002(a)** consists of a former waste disposal pit associated with a liquid waste disposal complex used during radiochemistry laboratory operations. The pit received spent chemicals, laboratory equipment, gloves, rags, and acid bottles. In 1963 the pit was excavated to a depth of 15 feet and backfilled with clean soil. In 1994 RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996 IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-002(a) does not pose an unacceptable risk to human health from

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RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. Consolidate Unit (CU) 10-002(a)-99, which includes SWMU 10-002(a), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only.

**SWMU 10-002(b)** consists of a former waste disposal pit associated with a liquid waste disposal complex used during radiochemistry laboratory operations. In 1963 the pit was excavated to a depth of 26 feet and backfilled with clean soil. In 1994 RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996 IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-002(b) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. CU 10-002(a)-99, which includes SWMU 10-002(b), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only.

**SWMU 10-003(a)** consists of a former waste disposal pit that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the pit was excavated and backfilled with clean soil. In 1994, RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996, IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(a) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(a), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area

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in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

**SWMU 10-003(b)** consists of soil contamination from a former waste disposal pit that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the pit was excavated and backfilled with clean soil. In 1994, RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996, IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(b) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(b), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only.

**SWMU 10-003(c)** consists of soil contamination from a former waste disposal pit that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the pit was excavated and backfilled with clean soil. In 1994, RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996, IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(c) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(c), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

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**SWMU 10-003(d)** consists of a former waste disposal pit that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the pit was excavated and backfilled with clean soil. In 1994, RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996, IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(d) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(d), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only.

**SWMU 10-003(e)** consists of a former waste disposal pit that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the pit was excavated and backfilled with clean soil. In 1994, RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996, IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(e) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(e), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

**SWMU 10-003(f)** consists of a former waste disposal pit that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the pit was excavated and backfilled with clean soil. In 1994, RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996, IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(f) does not pose an unacceptable risk to human health from

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RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(f), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

**SWMU 10-003(g)** consists of manholes that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the site was excavated and backfilled with clean soil. In 1994, RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996, IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(g) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario. from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(g), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

**SWMU 10-003(h)** consists of soil contamination from a former manhole that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the site was excavated and backfilled with clean soil. In 1994, RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996, IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(h) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from

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radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(h), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only.

**SWMU 10-003(i)** consists of a septic tank that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the site was excavated and backfilled with clean soil. In 1994, RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996, IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(i) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(i), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

**SWMU 10-003(j)** consists of a tank that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the site was excavated and backfilled with clean soil. In 1994 RFI activities were conducted to define the nature and extent of potential subsurface contamination related to historic activities at the site. In 1996 IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(j) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(j), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The

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Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

**SWMU 10-003(k)** consists of soil contamination from a former tank that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the site was excavated and backfilled with clean soil. In 1994, RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996, IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(k) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(k), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

**SWMU 10-003(l)** consists of a tank that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the site was excavated and backfilled with clean soil. In 1994 RFI activities were conducted to define the nature and extent of potential subsurface contamination related to historic activities at the site. In 1996 IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(l) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(l), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before

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the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

**SWMU 10-003(m)** consists of a soil contamination from a former waste line that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the site was excavated and backfilled with clean soil. In 1994 RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996 IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(m) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(m), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

**SWMU 10-003(n)** consists of a soil contamination from a former leach field that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the site was excavated and backfilled with clean soil. In 1994 RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996 IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(n) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(n), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only.

**SWMU 10-003(o)** consists of soil contamination from decontamination holes that received the liquid radioactive and chemical wastes generated by radiochemistry laboratory operations. In 1963 the site was excavated and backfilled with clean soil. In 1994 RFI activities were conducted

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to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996 IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-003(o) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-003(o), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only.

**SWMU 10-004(a)** is a former septic tank which was once part of a liquid waste disposal complex and was removed during D&D activities in 1963. The resulting excavation was backfilled and the tank was disposed at Technical Area (TA)-54. A Phase 1 RFI was conducted in 1994 to determine if residual contamination existed in surficial deposits near the site and to confirm no unacceptable human health or ecological risks were associated with the hazardous constituents found in previous investigations. A 1995 IA was conducted to remove surface shrapnel. The 2005 WP identified additional data needs for the site and was implemented in 2007. The current and reasonably foreseeable land use is recreational. The Report indicates that SWMU 10-004 does not pose an unacceptable risk to human health from RCRA hazardous constituents or radionuclides. The results of the ecological risk screening assessment indicate no potential risk to ecological receptors at the site.

**SWMU 10-004(b)** consists of a reinforced sanitary septic tank that served the radiochemistry lab and may have also received liquid waste from the radiochemistry lab operations. In 1963 the site was excavated and backfilled with clean soil. In 1994 RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996 IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-004(b) does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-004(b), exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only.

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**SWMU 10-005** consists of a former open disposal pit used in conjunction with test shot operations during the 1940s and 1950s. No documented quantity of debris disposed of in the pit can be found. A Phase 1 RFI was conducted in 1994 to determine if residual contamination existed in surficial deposits near the pit and to confirm no unacceptable human health or ecological risks were associated with the hazardous constituents found in previous investigations. A 1995 IA was conducted to remove surface shrapnel. The 2005 WP identified additional data needs for the site and was implemented in 2007. The current and reasonably foreseeable land use is recreational. The Report indicates that SWMU 10-005 does not pose an unacceptable risk to human health from RCRA hazardous constituents or radionuclides. The results of the ecological risk screening assessment indicate no potential risk to ecological receptors at the site.

**SWMU 10-006** consist of multiple locations where burning operations at TA-10 were conducted, primarily in the 1950s and early 1960s. The exact location of this SMWU is not known. As part of the 2007 investigation activities, efforts were made to locate this SWMU. The suspect area was located, and test pits and hand-auger holes were excavated to look for evidence of burning, such as ash, charcoal, and charred debris. The Report concludes that there is no indication that the site exists or that it may have been cleaned up during D&D of former TA-10. The Report indicates that SWMU 10-006 does not pose an unacceptable risk to human health from RCRA hazardous constituents or radionuclides. The results of the ecological risk screening assessment indicate no potential risk to ecological receptors at the site.

**SWMU 10-007** consists of a landfill containing the waste and building debris generated during the 1963 D&D activities associated with the former liquid disposal complex and firing sites. The landfill is covered with soil and sparse vegetation and is enclosed by a posted fenced area with a wattle-bermed barrier. In 1994 RFI activities were conducted to define the nature and extent of subsurface contamination related to historic activities at the site. In 1996 IA activities were conducted to address radioactive contamination of vegetation. The results of the Report indicate that SWMU 10-007 does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is potential unacceptable risk to human health under the residential scenario from radionuclides. The results of the ecological risk-screening assessment indicate no potential unacceptable risk to ecological receptors at the site. The current and reasonably foreseeable land use is recreational. CU 10-002(a)-99, which includes SWMU 10-007, exceeds dose guidelines under the residential scenario due exclusively to strontium-90. The excess cancer risk from radionuclides for the residential scenario is  $1 \times 10^{-4}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The Permittees have recommended that DOE continue to maintain administrative control of the area in order to restrict the land use to recreational land use only. The DOE currently maintains physical controls which consist of monuments posted to prohibit excavation of the area before the year 2142, a fenced exclusion zone, and a path that directs recreational land users away from the area.

**AOC 10-008** consists of a tree rimmed, nonradioactive, satellite firing site. The site was identified during the 1994 IA and evaluated during the RFI. A 1995 IA was conducted to



remove surface shrapnel. The 2005 WP identified additional data needs for the site and was implemented in 2007. The current and reasonably foreseeable land use is recreational. The Report indicates that AOC 10-008 does not pose an unacceptable risk to human health from RCRA hazardous constituents or radionuclides. The results of the ecological risk screening assessment indicate no potential risk to ecological receptors at the site.

**AOC 10-009** is a suspected former disposal site discovered during IA operations in Bayo Canyon in 1994. A 1995 IA was conducted to remove surface shrapnel. The 2005 WP identified additional data needs for the site and was implemented in 2007. The current and reasonably foreseeable land use is recreational. The Report indicates that AOC 10-009 does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is an unacceptable risk to human health under the residential scenario from radionuclides. The excess cancer risk from radionuclides for the residential scenario is  $2 \times 10^{-5}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . The results of the ecological risk screening assessment indicate no potential risk to ecological receptors at the site. NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The DOE currently maintains physical controls to prevent access by recreational land users which consist of a locked chain-link fence surrounding the area encompassing AOC 10-009.

**AOC C-10-001** is located within the fenced area and consists of two former radioactive (strontium-90) soil contamination areas. These areas were bulldozed during 1963 D&D activities but were rediscovered during shrapnel-removal operations in 1994. A voluntary corrective action (VCA) was conducted in 1995 to excavate the radioactive soil and restore the site with clean fill material. The 2005 WP identified additional data needs for the site and was implemented in 2007. The current and reasonably foreseeable land use is recreational. The Report indicates that AOC C-10-001 does not pose an unacceptable risk to human health from RCRA hazardous constituents under the recreational, construction worker, and residential scenarios or from radionuclides under the recreational and construction worker scenario. There is an unacceptable risk to human health under the residential scenario from radionuclides. The excess cancer risk from radionuclides for the residential scenario is  $2 \times 10^{-5}$  which exceeds the NMED target risk of  $1 \times 10^{-5}$ . The results of the ecological risk screening assessment indicate no potential risk to ecological receptors at the site. NMED acknowledges that activities concerning radionuclides are regulated solely by the DOE. The DOE currently maintains physical controls to prevent access by recreational land users which consist of a locked chain-link fence surrounding the area encompassing AOC C-10-001.

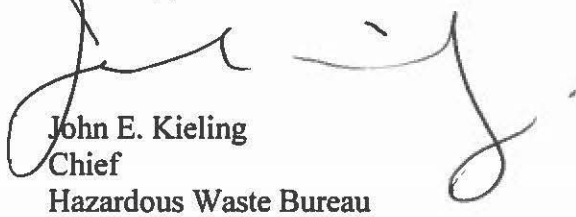
NMED has determined that the above mentioned sites qualify for certificates of completion. Site controls are appropriate for AOC 10-009, AOC C-10-001, and CU 10-002(a)-99 (SWMUs 10-002(a,b), 10-003(a-o), 10-004(b), and 10-007), however, the controls are limited exclusively to radionuclides and, therefore, are not enforceable under the Consent Order. Although corrective action is complete under the Consent Order, the Permittees must continue to comply with all applicable state and federal regulations. If new information becomes available that indicates that these sites potentially pose a risk to human health or the environment, NMED may require additional corrective action at these sites.

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Messrs. Hintze and Mr. Brandt  
January 31, 2017  
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Please contact Robert Murphy at (505) 476-6022, if you have any questions.

Sincerely,



John E. Kielling  
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File: 2017 LANL, Certificates of Completion for SWMUs and AOCs in Bayo Canyon  
LANL 15-029

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