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CERTIFIED MAIL - RETURN RECEIPT REQUESTED

August 27, 2019

Doug Hintze, Manager
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U.S. Department of Energy
Los Alamos Field Office
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**RE: APPROVAL
REQUEST FOR CERTIFICATES OF COMPLETION WITHOUT CONTROLS FOR 10 SOLID
WASTE MANAGEMENT UNITS AND 10 AREAS OF CONCERN IN THE THREEMILE
CANYON AGGREGATE AREA
LOS ALAMOS NATIONAL LABORATORY
EPA ID #NM0890010515
HWB-LANL-18-070**

Dear Mr. Hintze:

The New Mexico Environment Department (NMED) has received the United States Department of Energy (DOE) *Request for Certificates of Completion Without Controls for 10 Solid Waste Management Units and 10 Area of Concern in the Threemile Canyon Aggregate Area* (Request) dated and received December 17, 2018, and referenced by EM-LA-40AD-00370.

These sites were investigated in 2009-2010, and the results were submitted to NMED in the *Supplemental Investigation Report for Threemile Canyon Aggregate Areas, Revision 1* (SIR), dated July 31, 2018, and approved by NMED on August 28, 2018.

Solid Waste Management Unit (SWMU) 12-001(a) was a below-ground hexagonal steel-lined firing pit, approximately 10.5 feet (ft) on each side and 11 ft deep, and included an above-ground steel cover approximately 20 ft long by 22 ft wide by 5 ft high that overlay the firing pit. Recovery shots (which involved uranium) were performed in the firing pit. Firing pit operations began in 1944 and it was decommissioned in 1953. The unit was surveyed for radiation in 1993, and in 1996 the DOE conducted a voluntary corrective action (VCA) to remove approximately 105 cubic ft of noncontaminated soil from within the firing pit, while leaving the firing pit in place. Investigations were conducted in 1995 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial. The recreational land use scenario was also evaluated where trail users might be exposed to residual contamination. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU 12-001(a) does not pose an unacceptable risk to human health under the residential, industrial, recreational land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

SWMU 12-001(b) was a firing pit which consisted of an open pit measuring 5 ft long by 5 ft wide by 3 ft deep which was used for calorimetric experiments in 1945. From 1945-1950 the site was utilized to fire high explosive (HE) shots involving lead and uranium. Investigations were conducted in 1995 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial. The recreational land use scenario was also evaluated where trail users might be exposed to residual contamination. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU 12-001(b) does not pose an unacceptable risk to human health under the residential, industrial, recreational land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment

SWMU 12-002 was an area of potential soil contamination at former TA-12, where 0.5 lbs of HE scrap was burned on one occasion in 1962. The area measures approximately 3 square ft and is a component of Consolidated Unit 12-001(a)-99 and is located approximately 40 ft southeast of SWMU 12-001(b). The site is currently inaccessible beneath Redondo Road. Investigations were conducted in 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial. The recreational land use scenario was also evaluated where trail users might be exposed to residual contaminations. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU 12-002 does not pose an unacceptable risk to human health under the residential, industrial, recreational land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

Area of Concern (AOC) 12-004(a) was a radiation Test Facility (structure 15-8), the soil-bermed radiation shelter was utilized to conduct lanthanum experiments over a three-week period in 1950. The site originally consisted of a 6 ft by 6 ft long by 6 ft wide soil-bermed radiation

shelter which included three vertical poles. The shelter and poles were constructed in a line parallel to a drainage channel that flows southwest from Redondo Road into Threemile Canyon. The northmost pole was been removed and was located in a drainage 30 ft south of Redondo Road, the middle pole is located 58 ft south of the first pole location, and the radiation shelter and the third pole are located 40 ft south of the second pole. In 1959, DOE inspected the unit and surveyed it for radiation in 1966. Investigations were conducted in 1993, 1995, and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU 12-004(a) does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

AOC 12-004(b) was an aluminum pipe located at former TA-12 at the edge of Redondo Road approximately 78 ft north of a radiation shelter (12-8). The pipe was set vertically in the ground and protruded 8 inches above ground without a cover. The pipe was 7.5 inches thick in diameter and 3 ft long with an inner diameter of 18 inches. The pipe was filled with soil. Remnant fragments of HE were observed at the site in 1959. The pipe was removed in 2009, and confirmatory soil samples were collected beneath the pipe. Investigations were conducted in 1995 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU 12-004(b) does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

AOC C-12-001 was an area of potential soil contamination at former TA-12 associated with a former HE trim building (12-1). The trim building was built in December 1944 and was used to prepare HE for detonation experiments. The building was 16 ft long by 16 ft wide by 9 ft high and was composed of wood-frame construction with a soil berm on three sides and on top. Activities at the former TA-12 ceased in 1953. In 1959, the DOE surveyed the building for contamination, and in 1960 intentionally burned the building. Investigations were conducted in 1995 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that AOC C-12-001 does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

AOC C-12-002 was an area of potential soil contamination at former TA-12 and was associated with a former control building (12-2). The control building was built in 1945 and was built of wood frame construction measuring 8 ft long by 8 ft wide by 8 ft high, with a soil berm on three

sides and on top. Activities at former TA-12 ceased in the early 1950s. In 1959, the DOE surveyed the building for contamination, and in 1960 intentionally burned the building. Investigations were conducted in 1995 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that AOC C-12-002 does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

AOC C-12-003 was an area of potential soil contamination associated with a former HE magazine (building 12-3) at former TA-12. The magazine was built in 1944 and was of wood frame construction measuring 6 ft long by 6 ft wide by 7 ft high, with a soil berm on three sides and on top. Activities at former TA-12 ceased in the early 1950s. In 1959, the DOE surveyed the building (12-3) for contamination, and in 1960 intentionally burned the building. Investigations were conducted in 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that AOC C-12-003 does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

AOC C-12-004 was an area of potential soil contamination at former TA-12 associated with a former generator building (12-5). The generator building was built of wood frame construction of unknown dimensions. The building was originally located next to a former junction box (12-6), but in 1952 the generator building was relocated 10 ft north of former control building (12-2). Activities at former TA-12 ceased in the early 1950s. In 1959, the DOE surveyed the building for contamination, and in 1960 intentionally burned the building. Investigations were conducted in 1995 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that AOC C-12-004 does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

AOC C-12-005 is the location of a former junction box (12-6) at former TA-12. The junction box was used to support experiments conducted at the firing pits, SWMUs 12-001 (a) and (b). AOC C-12-005 is located approximately 70 ft southwest of SWMU 12-001(a). The building was constructed in 1945 and was built of wood frame construction measuring 3 ft long by 3 ft wide by 4 ft high and was surrounded on three sides by a soil berm. The junction box served as a relay between former control building 12-2 and the two firing pits and housed diagnostic equipment, signal cables, electrical wires, and detonation wires. The junction box was not used after 1953 and was intentionally burned in place in 1960. Investigations were conducted in

1995 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial. The recreational land use scenario was also evaluated where trail users might be exposed to residual contaminations. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that AOC C-12-005 does not pose an unacceptable risk to human health under the residential, industrial, recreational land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

AOC C-14-006 was a site of potential soil contamination associated with a HE storage magazine (former building 14-9) at TA-14. The magazine was located 60 ft northwest of building 14-22. The magazine was built in 1945 and was of wood frame construction measuring 6 ft long by 6 ft wide by 6 ft high and was surrounded on three sides with a soil berm, and soil covering the top of the structure. The building was removed in 1952. Investigations were conducted in 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial at TA-14. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that AOC C-14-006 does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

AOC 15-005(c) was a former container storage area at building 15-41, located at TA-15 near Firing Site C. The area was used to store containers of scrap HE, and chem-wipes contaminated with acetone, ethanol, and mineral oil. The ground surface on the northern, western, and eastern sides of building 15-41 was unpaved, and an asphalt road (Pricilla Road) runs along the south side of the building. The date the storage area began to be used is not known, but the site was deactivated in 1996. Investigations were conducted in 1995 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial at TA-15. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that AOC 15-005(c) does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

SWMU 15-007(d) was an underground shaft (15-265) located at TA-15 approximately 300 ft east of building 15-263 and 100 ft north of underground shaft 15-264. The shaft measured approximately 6 ft in diameter, and 120 ft deep, and was situated within a 20 ft wide by 20 ft long concrete pad and covered with a wooden lid. In 1972, the shaft was used to conduct a single underground test involving beryllium, tritium and 500 lbs of HE. SWMU 15-007(d) was part of consolidated unit SWMU 15-007(c)-00. Investigations were conducted in 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial at TA-15. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU 15-007(d) does not pose an unacceptable risk to human

health under the residential land use and construction worker scenario. The industrial scenario was not evaluated because samples were not collected from the 0-1 ft depth interval. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

SWMU 15-009(c) was a septic system located a Firing Site R-44 at TA-15. The septic system was constructed in 1951 and consisted of cast iron drain lines and a reinforced concrete septic tank. The septic system served restroom facilities in the firing site control building 15-44. The septic system drained into an outfall into the south fork of Threemile Canyon and operated until 2003 when it was plugged. Investigations were conducted in 1998 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial at TA-15. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU 15-009(c) does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

SWMU 15-009(h) was a septic system located at the Ector firing site and on the eastern side of TA-15. The septic system served restroom facilities in the Ector firing site control building 15-280. The septic system consisted of a reinforced concrete tank measuring 6 ft long by 4 ft wide by 5 ft deep, associated drain lines, and a drain field. The septic system was built in the late 1970s and operated up to 1990, when the drain lines were re-routed to discharge into the Sanitary Wastewater Systems Consolidation (SWSC). The septic tank and drain lines were proposed to be removed as part of the work plan (2009) but were left in place due to their proximity to active utility lines. Investigations were conducted in 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial at TA-15. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU 15-009(h) does not pose an unacceptable risk to human health under the residential land use and construction worker scenario. The industrial scenario was not evaluated because samples were not collected from the 0-1 ft depth interval. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

AOC 15-014(h) consisted of three outfalls located in the northwest corner at TA-15 which received discharge from a former photographic laboratory and office building (15-40). All three outfalls daylight north of former building 15-40 and discharge into Threemile Canyon. The westernmost outfall was a former National Pollutant Discharge Elimination System (NPDES) permitted outfall which was constructed from vitrified clay. The middle outfall is a former NPDES-permitted outfall that received noncontact cooling water, roof runoff, and a floor drain from former building 15-40, which was constructed from vitrified clay which extended approximately 100 ft north of the northeast corner of former building 15-40. The third and easternmost outfall was constructed from a 12-inch diameter corrugated metal pipe and

extended approximately 75 ft and then connected into a 60 ft long ditch. Investigations were conducted in 1995 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial at TA-15. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that AOC 15-014(h) does not pose an unacceptable risk to human health under the residential and construction worker scenario. The industrial scenario was not evaluated because samples were not collected from the 0-1 ft depth interval. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

SWMU 36-002 is a former sump that was located at TA-36, near the edge of Threemile Canyon and approximately 40 ft northwest of building 36-48. The sump measured 4 ft in diameter by 8 ft deep and was constructed in 1965. A 4 ft diameter corrugated metal pipe was placed vertically in the trench. The interior of the pipe was filled with 3-inch diameter gravel to a depth of 2 ft below ground surface (bgs). The sump had a metal cover, and the interior of the pipe was filled with rocks. The former sump received effluent from building 36-48 which had been used for shot assembly and temperature-controlled experiments. The sump received effluent from 1965 to 1993. The sinks were disconnected from the sump in 1993, and the sump was removed in 1994. Investigations were conducted in 1994 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial at TA-36. Human health and ecological risk were evaluated and presented in the SIR that indicated that SWMU 36-002 does not pose an unacceptable risk to human health under the residential land use and construction worker scenario. The industrial scenario was not evaluated because samples were not collected from the 0-1 ft depth interval. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

SWMU 36-003(a) was a septic system located at TA-36 approximately 115 ft east of building 36-1. The septic system consisted of a septic tank (36-17), drain lines, a manhole (36-38), a distribution box/drain field, and a seepage pit. The septic tank was a single-chamber tank constructed of reinforced concrete. The septic system was constructed in 1949 and received effluent from the restroom and a photo-processing laboratory in building 36-1. The septic system operated from 1949 to 1992 when the septic system was disconnected from the sanitary waste drain lines and was rerouted into the SWSC. In 1995 the septic tank was decontaminated and was filled with concrete. Investigations were conducted in 1994, 1995, and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial at TA-36. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU 36-003(a) does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

SWMU 36-008 was a surface disposal area located at TA-36 north of building 36-1 which included an office and photo-processing laboratory. The disposal area is on the south rim of Threemile Canyon and extends down the steeply sloping edge of the mesa. The disposal area measures approximately 1 acre in area, the exact dates of operation for the unit were not known, but the associated building 36-1 was constructed in 1949. The surface disposal area's existence was unknown prior to the Cerro Grande fire (June 2000) which revealed the site when the vegetation was burned. Investigations were conducted in 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial at TA-36. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU 36-008 does not pose an unacceptable risk to human health under the residential, land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

SWMU C-36-003 was a former NPDES-permitted outfall which received effluent from a floor drain and a sink in a photo processing laboratory located in building 36-1. The outfall began operation in the 1950s. In 1993, the floor and sink drains were rerouted to the SWSC plant. The outfall was removed from the NPDES permit in 2001. Investigations were conducted in 1994 and 2009-2010 to define the nature and extent of contamination. The current and reasonably foreseeable land use is industrial at TA-36. Human health and ecological risk were evaluated and presented in the 2018 SIR that indicated that SWMU C-36-003 does not pose an unacceptable risk to human health under the residential, industrial land use, and construction worker scenario. The results of ecological risk screening indicate that the site does not pose an unacceptable risk to the environment.

NMED hereby issues certificates of completion without controls for SWMUs 12-001(a), 12-001(b), 12-002, 15-007(d), 15-009(c), 15-009(h), 36-002, 36-003(a), 36-008, C-36-003; and AOCs 12-004(a), 12-004(b), C-12-001, C-12-002, C-12-003, C-12-004, C-12-005, C-14-006, 15-005(c), and 15-014(h).

If new information becomes available that indicates that the sites may pose an unacceptable risk to human health or the environment, NMED may require the DOE to conduct additional corrective action at these sites.

Mr. Hintze
August 26, 2019
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If you have any questions regarding this letter, please contact Siona Briley at (505) 476-6049.

Sincerely,



John E. Kieling
Chief

Hazardous Waste Bureau

cc:

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File: 2019 LANL, Certificate of Completion for 10 SWMUs and 10 AOCs in TA 12, 15, and 36.
Threemile Canyon Aggregate Area, Technical Area 12
LANL-18-070