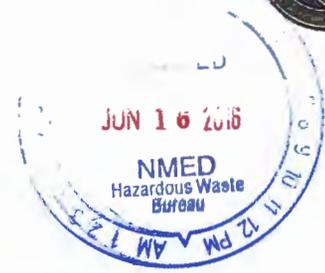




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DEPARTMENT OF ENERGY
National Nuclear Security Administration
Los Alamos Field Office
Los Alamos, New Mexico 87544

JUN 09 2016



CERTIFIED MAIL – RETURN RECEIPT REQUESTED

Mr. John Kieling, Chief
Hazardous Waste Bureau
New Mexico Environment Department
2905 Rodeo Park Drive East, Building 1
Santa Fe, New Mexico 87505-6303

Dear Mr. Kieling:

Subject: Conveyance of Land Conveyance and Transfer Tract A-16-a to the County of Los Alamos

This letter provides the New Mexico Environment Department (NMED) Hazardous Waste Bureau written notice the Department of Energy, National Nuclear Security Administration, Los Alamos Field Office (Field Office) intends to convey Land Conveyance and Transfer Tract A-16-a, under section III.Y.1.a of the *Compliance Order on Consent* for Los Alamos National Laboratory.

The Field Office intends to convey this tract of land to the County of Los Alamos within 120 days. Accordingly, the Field Office is requesting a meeting between NMED, the Field Office and the County of Los Alamos within 30 days of receipt of this letter, to discuss this conveyance, any remedial actions taken, and the County's intended use of the property. The intended use is commercial/light industrial use.

Enclosed for your use are maps of the tract and narrative of the history and description of the solid waste management units (SWMUs) and areas of concern (AOC) that may be within or in close proximity to Tract A-16-a. The size of the tract is approximately 29.72 acres.

If you have any questions or comments, please contact Jordan Arnsward at (505) 667-6764 or by email at Jordan.Arnsward@nnsa.doe.gov or Vicki Loucks at (505) 667-6819 or by email at Vicki.Loucks@nnsa.doe.gov.

Sincerely,


Kimberly Davis Lebak
Manager

Enclosure



cc w/enclosure:

Mr. Neelam Dhawan
Environmental Specialist, Hazardous Waste Bureau
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Mr. Harry Burgess
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cc w/o enclosure:

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Records Center, NA-LA
Official Contract File, NA-LA

4300 NSM:8JA-681502



History and Description of Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) within and near Tract A-16-a, DP Road, Los Alamos County, New Mexico

SWMUs and AOCs within Tract A-16-a

AOC 21-009

AOC 21-009 is a former waste treatment laboratory (building 21-33) that was built in 1948 and operated until 1965. It was a wooden-frame, one-story structure built on concrete pillars and measuring 16 feet x 48 feet. Building components and laboratory furniture were contaminated with plutonium dust. Perchloric acid was used and may have contaminated the exhaust hoods. Wastewater from the laboratory was discharged to septic tank 21-33, which then discharged to an outfall at the rim of Los Alamos Canyon. The tank was removed during demolition of building 21-33 in 1965. However, the drain line from the laboratory to the septic tank may remain in place. The outfall and tank associated with this waste line were designated as SWMU 21-023(c). NMED issued a Certificate of Completion (CoC) with controls under the Consent Order for the site in January 2016.

SWMU 21-013(b)

SWMU 21-013(b) is the former location of a surface disposal area on the southern edge of DP Mesa, southwest of former Material Disposal Area (MDA) V in Technical Area (TA) 21. This area contained concrete building debris from the 1965 demolition of a waste treatment laboratory (former building 21-33). A radiological contamination survey of the building interior before demolition showed that various surfaces were contaminated with plutonium dust. It is not known if other materials were disposed of at SWMU 21-013(b). All debris was removed and the entire site was regraded in 2005. NMED issued a CoC with controls under the Consent Order for the site in June 2011.

AOC 21-013(g)

AOC 21-013(g) is the former location of a surface disposal area south of MDA V in TA-21 on the south-facing slope leading into BV Canyon. The site consisted of miscellaneous building debris, the origin of which is not known. All debris was removed 2005. Decision-level data for the site indicate no risk to residential or ecological receptors. The New Mexico Environment Department (NMED) issued a CoC with controls under the Consent Order for the site in June 2011.

SWMU 21-015

SWMU 21-015, MDA B, is the former location of an inactive 6.03-acre subsurface disposal site located in western TA-21 at Los Alamos National Laboratory (Laboratory). MDA B is located south of DP Road and is approximately 1600 feet east of the intersection of DP Road and Trinity Drive. The SWMU drains south into BV Canyon, a small tributary of Los Alamos Canyon. From 1944 until it closed in 1948, MDA B received Laboratory wastes that contained both hazardous constituents and radionuclides.

The vast majority of waste disposed of at MDA B was contaminated with residual radioactivity, including routine laboratory waste, glassware, obsolete equipment, wooden laboratory furniture, demolition debris, building materials, clothing, paper, trash, and small amounts of chemicals from laboratory areas.

The MDA B disposal trenches and surrounding contaminated soil and tuff were excavated in 2010 and 2011. A total of 47,350 cubic yards of material was excavated and sent off-site for disposal. Once all wastes were removed, confirmation samples were collected at a depth of 0–2 feet into the excavated surface. With the exception of arsenic at one location, no inorganic or organic chemical concentrations from samples collected in the depth range of 0–10 feet below ground surface (bgs) exceeded residential soil screening levels. The arsenic confirmation data were not statistically different from background data, thereby meeting the cleanup goal for arsenic. Concentrations for all radionuclides were below the residential screening action levels (SALs) from 0–10 feet bgs, except for one sample that slightly exceeded the residential SAL for plutonium-239/240. The overall 95% upper confidence limit (9.85 picocuries per gram [pCi/g]) for plutonium-239/240 from 0–10 feet bgs was below the residential SAL. The highest activities of plutonium-239/240 and cesium-137 detected in confirmation samples (above 33 pCi/g and 5.6 pCi/g, respectively) were in samples collected at depths greater than 10 feet bgs, which is below the exposure depth interval for the residential scenario. A CoC without controls was received from NMED in May 2015.

SWMU 21-018(a)

SWMU 21-018(a), former MDA V, consisted of three interconnected liquid waste absorption beds on approximately 1-acre immediately south of the former DP laundry facility [SWMU 21-018(b), former building 21-20]. The cobble- and gravel-filled absorption beds with dimensions of 25 feet wide × 220 feet long × 5 feet to 6 feet deep were constructed to receive radioactive liquid waste from the former laundry facility and were designed to enhance liquid infiltration into the tuff. The average discharge rate to MDA V was 6000 gallons to 8000 gallons per day. Discharged wastewater flowed into pit 1, which overflowed into pit 2 and then into pit 3. Historical evidence shows the beds were under-designed for the volume of wastewater discharged, resulting in overflows into adjacent drainages and into BV Canyon, a tributary of Los Alamos Canyon. The absorption beds were used continuously from 1945 to 1961 and remained on standby status until September 1963, when they were permanently removed from service. A soil cover was placed over the site to repair erosion damage in 1985.

During the 2005 investigation of SWMU 21-018(a), 15 boreholes were advanced within the absorption bed area. Remediation activities were performed and included removing all distribution lines from the absorption bed material. All three absorption beds were excavated based on analytical results from waste characterization that were collected when the pipelines were removed. A total of approximately 14,600 cubic yards of material from the absorption beds was removed. Confirmation samples were collected from the bottom of the excavated area. Following excavation, all three absorption beds were backfilled with clean fill material.

After the final site grading was completed, a radiological survey was performed in 2006. An area of elevated radioactivity was identified east of the absorption beds, and samples were collected and

analyzed for radionuclides. Americium-241, cesium-137, plutonium-238, plutonium-239, uranium-234, uranium-235, and uranium-238 were detected above background values (BVs). In 2007, soil from a 6-foot × 12-foot area was removed, but contamination was determined to extend laterally from the area. In 2007, an area approximately 30 feet × 50 feet was excavated to a depth of 5–6 feet. Confirmation samples were collected from the bottom of the excavation, the sidewalls of the excavation, and outside the excavated perimeter. Based on the results of the confirmation samples, an additional 1 foot of tuff was removed from the excavated area. Based on the decision-level data collected from the excavation, the nature and extent of contamination have been defined, and the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC with controls in June 2011.

SWMU 21-018(b)

SWMU 21-018(b) is a former laundry facility (former structure 21-20) located next to MDA V at the west entrance of TA-21. The laundry facility was used to launder radioactively contaminated clothing generated as part of the TA-21 research. Constructed in 1945, the wood-framed building had both concrete slab floors and wood-framed pier floors. The eastern portion of the building was used to sort, mend, fold, radiation-screen, and store clean laundry and for offices and general storage. The western portion of the building was used for receiving, washing, and drying laundry and included a boiler room and a storage room. The western portion of the laundry had several floor drains in the washing, drying, storage, and boiler rooms. In the wet-laundry room (Room 2002), concrete troughs carried wastewater from the laundry machines to a concrete well. This well was drained by a 6-inch cast-iron pipe leading to the MDA V absorption beds [SWMU 21-018(a)]. Floor drains in Rooms 2014, 2015, and 2016 also were connected to the 6-inch cast-iron drain that led to the MDA V absorption beds. The boiler room contained equipment that generated hot water for the washing and drying machines and for space-heating in the laundry facility. The boiler equipment and floor drains in the boiler room were connected to a blowdown sump located outside the south wall of the boiler room. The blowdown sump was connected to a drainpipe that ran south approximately 50 feet to the surface of DP Mesa north of MDA V. Anecdotal evidence suggests that the boiler equipment was not used extensively because steam supply lines from the main steam plant were connected to the laundry after 1945. The building underwent decontamination and decommissioning (D&D) in 1965.

Between 1999 and 2000, the Department of Energy (DOE), NMED, and the Laboratory conducted an in situ vitrification (NTISV) demonstration at MDA V. The demonstration was conducted in two phases, a “cold” test in an area with no known radiological contamination and a “hot” test over absorption bed 1 where radiological contamination had been detected. To prepare for the “hot” vitrification process, trenches were excavated and sampled in absorption bed 1 and three boreholes were drilled and sampled next to the targeted vitrification area. In April 2000, the vitrification process was implemented. In May 2002, three post-vitrification boreholes were drilled outside the vitrification area, and three boreholes were drilled directly into the vitrified mass. All samples were submitted for laboratory analysis of target analyte list (TAL) metals, radionuclides, tritium, isotopic plutonium, isotopic uranium, and strontium-90. The NTISV demonstration resulted in an approximately 222-cubic yard vitrified mass that

is approximately 20 feet × 30 feet × 10 feet thick. Analysis of the glass samples indicated the glass is homogeneous because of the convective mixing that occurred during melting.

During the 2005 investigation of SWMUs 21-018(a) and 21-018(b), 15 boreholes were advanced and samples were collected and submitted for laboratory analysis of TAL metals, perchlorate, cyanide, anions, semivolatile organic compounds, americium-241, isotopic plutonium, isotopic thorium, isotopic uranium, strontium-90, and tritium and by gamma spectroscopy. A subset of these samples was also submitted for polychlorinated biphenyl analysis. Pore-gas samples were collected from two intervals from each of the 15 boreholes and analyzed for tritium and volatile organic compounds. Based on the decision-level data collected from the 2005 investigation, the nature and extent of contamination have been defined, and the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in June 2011.

SWMU 21-021

SWMU 21-021 consists of soil contamination resulting from historical emissions from stacks throughout TA-21. The estimated area of soil contamination is approximately 74 acres and overlaps all of TA-21, a developed industrial area, and an adjacent canyon, including portions of DP Canyon. Radionuclides were known to have been released from stacks throughout TA-21. In 1992, surface samples were collected from 363 locations throughout TA-21 and in drainages around TA-21 and submitted for analysis of radionuclides. Sampling data showed americium-241 and plutonium-239 detected above BVs/fallout values (FVs), but below residential SALs. There is no documentation of nonradioactive chemical releases associated with SWMU 21-021. The approved DP Site Aggregate Area investigation work plan indicated the investigation of SWMU 21-021 was complete and no additional investigations were required.

SWMU 21-023(c)

SWMU 21-023(c) is a former septic system that served the former waste treatment laboratory in building 21-33 (SWMU 21-009). The septic tank (former structure 21-62) was installed in 1948 and was constructed of reinforced concrete and measured 3.5 feet wide × 7 feet long × 5.8 feet deep. The inlet and outlet drain lines were 4-inch vitrified clay pipe (VCP); the outlet line discharged 40 feet southwest of the septic tank, approximately 30 feet from the south-facing edge of BV Canyon, a tributary of Los Alamos Canyon. The septic tank was removed in 1965 and disposed of at MDA G at TA-54. All associated piping has been removed.

During the 2005 and 2006 investigation of SWMU 21-023(c), sampling data showed that americium-241 and plutonium-239 exceeded residential SALs within the outfall drainage channel. In April 2006, approximately 10 cubic yards of material was removed from the drainage area. Based on the results of the confirmation samples collected following the initial soil removals, an additional 1 cubic yard of weathered tuff was removed in August 2006. Risk-assessment results based on Consent Order sampling indicate SWMU 21-023(c) poses no potential unacceptable risks to residential or ecological receptors. NMED issued a CoC with controls in June 2011.

SWMU 21-024(e)

SWMU 21-024(e), a former septic system (structure 21-123) that served the former TA-21 laundry facility (structure 21-20) and a former diesel power plant and shop (structure 21-14), was located east of MDA V at TA-21. The septic tank was a 1000-gallon steel tank that was 6 feet, 4 inches wide × 11 feet, 4 inches long × 8 feet deep. The septic tank discharged to an outfall that was located about 20 feet from the southern edge of DP Mesa. Building 21-20 was removed in 1965. In 1996, a voluntary corrective action (VCA) was performed at SWMU 21-024(e) and the contents of the septic tank were removed, the inlet and outlet drain lines were plugged, the septic tank was filled with concrete, and the site was regraded. The septic tank and the associated drain lines were removed in 2004. Based on the decision-level data for SWMU 21-024(e), the nature and extent of contamination have been defined and the site does not pose potential unacceptable risk to residential or ecological receptors. A CoC without controls was requested in June 2015.

SWMU 21-027(d)

SWMU 21-027(d) consists of the former drain line and outfall for the secondary containment that was around a former aboveground diesel fuel tank (AOC C-21-028). The concrete secondary containment structure was built around the tank in 1948 to contain any potential releases from the tank. A sump was constructed in the center of the south side of the containment, and a drain line was installed in the drainage ditch from the tank containment. The first segment of the drain line (approximately 5 feet) from the sump to a gate valve just outside the containment wall was a 4-inch steel pipe. At the gate valve, the drain line changed to a VCP. When the wastewater treatment laboratory (former structure 21-33, AOC 21-009) was built, the drainage ditch was rerouted around the building and south toward the rim of DP Mesa. The new containment drain line was then installed below ground surface. The outfall for the drain line began near the mesa edge and continued down the hillside toward BV Canyon. The fuel tank and concrete containment were removed in 1960, and the drain line was removed in March 1965. There was no record or evidence of a release from the fuel tank or containment area. Risk-assessment results based on Consent Order sampling indicate SWMU 21-027(d) poses no potential unacceptable risks to residential or ecological receptors. A CoC without controls was requested in June 2015.

AOC 21-030

AOC 21-030 is a former sump that was located in former building 21-45 (AOC C-21-015) in the western portion of TA-21. The 3.5-foot × 4.0-foot × 2.8-foot concrete sump was installed in 1949 and was connected to the DP laundry facility sump that discharged to the MDA V absorption beds [SWMU 21-018(a)]. Building 21-45 was removed in 1954 and the concrete sump and outlet line were abandoned in place. A VCA performed in 2001 removed the sump and associated outlet drain line. Risk-assessment results for AOC 21-030 determined the site does not pose potential unacceptable risk to residential or ecological receptors. AOC 21-030 was approved for no further action in June 2004.

AOC C-21-028

AOC C-21-028 is a former aboveground fuel tank (structure 21-47) that was located at the west end of TA-21. The tank was installed in 1945 and rested on a reinforced 9-inch-thick concrete slab. In 1948, a concrete secondary containment structure was built around the tank and a drain line [SWMU 21-027(d)] was installed that connected to a sump in the center of the south side of the containment. The fuel tank was removed in 1960. Samples were collected in 1999 during the voluntary corrective measure. Risk-assessment results for AOC C-21-028 determined the site does not pose potential unacceptable risk to residential or ecological receptors. AOC 21-028 was approved for no further action in June 2004.

AOC C-21-029

AOC C-21-029 is a former aboveground oil tank (structure 21-60) that was located east of MDA V. The 3000-gallon steel tank was installed in July 1948 and removed in 1957. AOC C-21-029 was approved for no further action in 2005. No sampling has been performed at this site.

AOC C-21-030

AOC C-21-030 is a former aboveground steel propane tank (structure 21-64) that was situated on a 2-inch pipe stand located at TA-21. The 320-gallon tank was installed in August 1946 and was removed in November 1963. AOC C-21-030 was approved for no further action in 2005.

SWMUs and AOCs outside Tract A-16-a

Numerous SWMUs and AOCs are located on tracts and DOE-owned property outside Tract A-16-a, including Tracts A-8-a, A-8-b, A-9, and A-15-1.

Tract A-8-a

Tract A-8-a is directly south and west of Tract A-16-a and contains three SWMUs and one AOC [SWMUs 00-030(b), 00-030(m), and 21-021 and AOC 00-010(a)] Tract A-8-a was conveyed to Los Alamos County in 2007.

AOC 00-010(a) within Tract A-8-a

AOC 00-010(a) is a surface disposal site located southwest of MDA B (SWMU 21-015) within TA-21. It was first identified as a SWMU based on preliminary review of aerial photographs taken in the mid-1940s that seemed to indicate a drum storage area and several trenches. Further analysis of the photos indicated the items thought to be drums were in fact rows of stockpiled supplies, not waste awaiting disposal. An interview with a former Zia Company employee who had worked in the area identified the stored material as canisters of roofing asphalt and roofing coal-tar pitch. It is believed the site was used only for stockpiling and storage. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in 2006.

SWMUs 00-030(b) and 00-030(m) within Tract A-8-a

SWMU 00-030(b) is an inactive septic system that was located east of the Sixth Street warehouses. The septic system consists of four tanks that served the Sixth Street Warehouses 1 through 4, an office building, a cold storage plant, and the eastern portion of TA-01. The septic tanks discharged to a leach field and ultimately to an outfall into Los Alamos Canyon. The septic tanks were backfilled and abandoned in place during the early 1970s. During a 2002 VCA, the outlet drain lines were removed.

SWMU 00-030(m) consists of a former septic tank that served an incinerator building where residential garbage was burned. The septic tank discharged to an outlet line that connected to the outlet drain line from SWMU 00-030(b). During a 2002 VCA, the septic tank and drain lines were removed.

Risk-assessment results indicated SWMUs 00-030(b) and 00-030(m) pose no unacceptable risk to residential or ecological receptors. NMED approved the VCA completion report in June 2004 and issued CoCs without controls for SWMUs 00-030(b) and 00-030(m) in 2006.

SWMU 21-021 within Tract A-8-a

SWMU 21-021 consists of soil contamination resulting from historical emissions from stacks throughout TA-21. The estimated area of soil contamination is approximately 74 acres and overlaps all of TA-21. Most of this SWMU is located within Tract A-16, north and east of Tract A-8-a.

Tract A-8-b

Tract A-8-b is directly west of Tract A-16-a and contains only SWMU 21-021. Tract A-8-b was conveyed to Los Alamos County in 2003.

SWMU 21-021 within Tract A-8-b

SWMU 21-021 consists of soil contamination resulting from historical emissions from stacks throughout TA-21. The estimated area of soil contamination is approximately 74 acres and overlaps all of TA-21. The majority of this SWMU is located within Tract A-16, north and east of Tract A-8-a.

Tract A-9

Tract A-9, directly north of Tract A-16-a and across DP Road, contains only SWMU 21-029. Tract A-9 was conveyed to Los Alamos County in 2002.

SWMU 21-029 within Tract A-9

SWMU 21-029, DP Tank Farm, at TA-21 is the location of 15 former storage tanks and 2 fill stations that contained various petroleum hydrocarbon products. DP Tank Farm was operational from 1946 to 1985 and is a 3.5-acre site located between the eastern boundary of the Knights of Columbus property line and the western boundary of the Los Alamos County Fire and Training Station. DP Tank Farm was the primary fueling station supporting Los Alamos Scientific Laboratory (the Laboratory's designation before 1981) operations until the late 1970s, when some of the fuel storage and distribution operations were

moved to TA-03. Thirteen of the tanks were installed belowground and two were installed aboveground. To contain any petroleum hydrocarbon release, an earthen berm was constructed on the northern perimeter of the site sometime between 1974 and 1986. The berm was approximately 397 feet long x 4 feet high.

All storage tanks and structures (including piping, fill stations, and valve boxes) were decommissioned and removed in 1988. The excavation for each underground tank was backfilled with the soil that had covered the tanks. During decommissioning activities, one tank (structure-21-ATF-10) had a leaking gasket. The remaining tanks were reportedly in excellent condition, as documented by the 1980 corrosion inspections. Approximately 4 cubic yards of contaminated soil was removed from beneath the location of former structure-21-ATF-10. In addition, approximately 75 cubic yards of contaminated soil was removed from the former locations of the two fill stations. Clean fill was brought in to fill the depression caused by the removal of contaminated soil beneath structure-21-ATF-10. Clean soil from the soil berm was used to regrade the site. Piping and concrete were disposed of at Los Alamos County landfill. Petroleum-contaminated soil excavated during decommissioning activities was removed. In addition, in 1996, 1720 cubic yards of petroleum-contaminated soil and tuff was excavated and removed from the former location of the East Fill Station. The excavation was backfilled, regraded, and reseeded. The NMED-approved Phase II RCRA Facility Investigation report determined the site does not pose potential unacceptable risk to residential or ecological receptors. A CoC without controls was requested in June 2015.

Tract A-11

Tract A-11 is west of Tract A-16-a and contains three SWMUs and three AOCs [SWMUs 00-030(l), 00-033(a), and 21-021, and AOCs 00-004, 00-010(b), and 00-033(b)]. Tract A-11 was conveyed to Los Alamos County in 2003.

SWMU 00-030(l) within Tract A-11

SWMU 00-030(l) consisted of a 1000-gallon concrete septic tank and its associated drain lines that served Sixth Street Warehouses 3 and 4. This septic system reportedly handled sanitary wastes and discharge from a blow-down tank used to release pressure from a boiler. The septic tank and its inlet drain lines were removed in 1995. The outlet drain lines were removed in 2002. The NMED-approved VCA completion report determined that the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in 2006.

SWMU 00-033(a) within Tract A-11

SWMU 00-033(a) consists of potentially contaminated soil associated with a removed 5000-gallon diesel fuel underground storage tank (UST). The tank served a generator in Warehouse 3 at the Sixth Street warehouses. The UST was located next to the north side of Warehouse 3. During a 1995 VCA, the UST and soil surrounding the tank were removed. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in 2006.

SWMU 21-021 within Tract A-11

SWMU 21-021 consists of soil contamination resulting from historical emissions from stacks throughout TA-21. The estimated area of soil contamination is approximately 74 acres and overlaps all of TA-21. The majority of this SWMU is located within Tract A-16, east of Tract A-11.

AOC 00-004 within Tract A-11

AOC 00-004 consists of a former container storage area located inside the Sixth Street Warehouses 3 and 4. The area was used primarily to store solvents; however, other chemicals may have been stored at this site, including asphalt, lubricants, pesticides, and herbicides. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in 2006.

AOC 00-010(b) within Tract A-11

AOC 00-010(b) is a purported surface disposal site located east of the Sixth Street Warehouses 1 through 4. However, no evidence of a waste disposal pit was found. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in 2006.

AOC C-00-033(b) within Tract A-11

AOC 00-033(b) consists of potential soil contamination related to operations associated with the materials testing laboratory at the Sixth Street warehouses. The materials testing laboratory was constructed south of Warehouses 3 and 4 in 1948; operations involved the use of solvents, asphalt leaching, destructive testing of concrete cylinders, and sieve tests of aggregates for roadwork. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in 2006.

AOC 00-027

AOC 00-027, the DP Road storage area, is located at the intersection of Trinity Drive and DP Road at the current location of the Knights of Columbus hall. This site was used as a fuel tank farm beginning in 1946 and was converted to a product container storage area in mid-1948. The storage capacity of the site was approximately six hundred to seven hundred 55-gallon containers. The storage area consisted of six compartments, each about 38 feet wide. The compartments were separated by 2-foot-high earthen dikes around the northern perimeter and a concrete berm at the southern perimeter. The floor of each compartment was sloped to the north and covered by 2 inches of gravel. The containers were held at the site until they were redistributed to various Laboratory job sites and craft shops. The storage area may have remained active until it was decommissioned in the late 1950s. Archival information originally determined that an iron drain line was beneath each compartment. However, in an interview the former site supervisor indicated that the drain lines never were installed. As part of the 2002 VCA, a soil vapor extraction (SVE) system was installed to remove organic chemicals from the subsurface soils at AOC 00-027. The SVE system operated for 20 months and removed approximately 16,000 pounds of

petroleum contamination. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors.

SWMU 00-030(a)

SWMU 00-030(a) is a single septic system and its associated inlet and outlet piping. The septic tank measured 6 feet 6 inches long × 3 feet 6 inches wide × 5 feet 6 inches deep. The system was installed in the early 1940s and served a former dispatch office. The septic system outlet is believed to have discharged to DP Canyon. The septic system operated through the late 1950s. SWMU 00-030(a) lies entirely on private property owned by the Columbian Club, which operates the Knights of Columbus hall that occupies the site. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in 2006.

AOC 21-002(b)

AOC 21-002(b) is a former drum storage structure (structure 21-38) located southeast of a former shop (building 21-31). The storage structure was built in 1945 and consisted of three tin-siding walls, a roof, and a concrete floor. The north side of the structure was open. Fifty-five-gallon drums were stored upright within the structure and on the ground immediately outside the building. The storage structure was decommissioned in 1966. Contents of the drums formally stored in this structure are not known, and there are no documented spills or leaks from the drums. Risk-assessment results based on Consent Order sampling indicate SWMU 21-002(b) poses no potential unacceptable risks to residential or ecological receptors. A CoC without controls was requested in June 2015.

SWMU 21-013(d)

SWMU 21-013(d) consists of a former surface disposal area located north of DP Road within TA-21. The surface disposal area included building debris such as excess concrete and demolished foundations and reportedly received no materials containing or contaminated with hazardous, explosive, or radioactive constituents. A VCA performed in 1995 removed concrete, asphalt, and other surface debris from the site. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in 2006.

SWMU 21-013(e)

SWMU 21-013(e) consists of a former surface disposal area located north of DP Road within TA-21. The surface disposal area included building debris such as excess concrete and demolished foundations and reportedly received no materials containing or contaminated with hazardous, explosive, or radioactive constituents. A VCA performed in 1995 removed concrete, asphalt, and other surface debris from the site. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in 2006.

SWMU 21-024(d)

SWMU 21-024(d) consists of a former septic system that served building 21-01. The septic system was constructed in 1945 at the same time building 21-01 was built. The septic system consisted of a reinforced concrete septic tank (structure 21-106) that measured 17 feet 6 inches × 9 feet 6 inches × 8 feet 9 inches deep, with 6-inch-diameter VCP inlet and outlet drain lines. The outfall discharged to the surface on the south rim of DP Mesa above Los Alamos Canyon. The septic system was decommissioned in the early 1960s. In 1995, the septic tank was filled with gravel, and the inlet and outlet lines were grouted with concrete and left in place. The septic tank and all remaining inlet and outlet drain lines were removed in 2007. Decision-level data indicate the nature and extent of contamination are not defined. Additional sampling was conducted at SWMU 21-024(d) during the DP Aggregate Area Phase III investigation. Risk-assessment results based on Consent Order sampling indicate SWMU 21-024(d) poses no potential unacceptable risks to residential or ecological receptors, and the site was recommended for corrective action complete without controls in the Phase III investigation report.

SWMU 21-024(f)

SWMU 21-024(f) is a former septic system that consisted of an inlet pipe, septic tank (structure 21-124), outlet pipe, outfall pit, and outfall drainage area. The septic system received sewage from building 21-45 (AOC C-21-015) from 1947 to 1954. Building 21-45 was initially used for safety training and was converted to a waste research laboratory in 1949. The conversion included the installation of a concrete sump (AOC 21-030). Discharge from building 21-45 flowed through a 4-inch VCP to the septic tank. The outlet from the septic tank discharged to a shallow rock-lined pit and eventually to the northern edge of DP Mesa. Building 21-54 was removed in 1954, but the septic system was abandoned in place. The septic tank, associated lines, and the outfall pit were removed during 2001–2003 VCA activities. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a CoC without controls in 2005.

SWMU 21-024(o)

SWMU 21-024(o) is a 4-inch VCP drain line that served a diesel plant at TA-21 (building 21-46). The building was converted to a warehouse in 1957 and used as such until 1964. The drain discharges south into Los Alamos Canyon. Risk-assessment results based on Consent Order sampling indicate SWMU 21-024(o) poses no potential unacceptable risks to residential or ecological receptors. A CoC without controls was requested in June 2015.

SWMU 21-027(a)

SWMU 21-027(a) consists of former drain lines that received effluent from floor drains in building 21-3, a surface-drainage system, and a former outfall at the south of DP Canyon that discharged to Los Alamos Canyon. Building 21-3 was constructed in 1945 as part of original DP West plutonium facilities. A 4-inch VCP ran beneath a paved area south of building 21-3 for approximately 30 feet and emptied into a storm drain. A 12-inch-diameter culvert ran from the storm drain underground for approximately 50 feet, emptying onto the ground at a ponding area on the southwest corner of the footprint of a former

cooling tower (structure 21-143, AOC C-21-027). From the cooling tower footprint, runoff flowed in an unlined ditch to a 24-inch-diameter corrugated metal pipe (CMP) culvert that carried runoff beneath the south TA-21 perimeter road to the mesa edge. The CMP extended approximately 3 feet over the mesa edge into Los Alamos Canyon. In 1994 and 1995, building 21-3, including all building drains and the drain lines beneath the building, and the cooling tower were removed during TA-21 D&D activities. The 4-inch-diameter pipe beneath the paved area was left in place as was the storm drain, which collected runoff from nearby parking lots. During the 2007 DP Site Aggregate Area investigation, remaining drain lines were removed along with the top 1 foot of soil at the former ponding area. The section of drain line beneath the TA-21 perimeter road was left in place because the road is active and continues to service DP East. Risk-assessment results based on Consent Order sampling indicate SWMU 21-027(a) poses no potential unacceptable risks to residential or ecological receptors and the site was recommended for corrective action complete without controls in the Phase III investigation report.

SWMU 21-027(c)

SWMU 21-027(c) consists of a former drain line and outfall that discharged 50 feet inside the south TA-21 perimeter fence to a broad, gently sloping area on the south rim of DP Mesa toward Los Alamos Canyon. Building 21-6 was constructed in 1945 as a cafeteria and machine shop. A 4-inch VCP drain line exited the southeast corner of the building and discharged sanitary wastewater to the SWMU 21-027(c) outfall. Building 21-6 was removed in 1966; however, the drain line was left in place. The entire drain line was removed in 2007. Risk-assessment results based on Consent Order sampling indicate SWMU 21-027(c) poses no potential unacceptable risks to residential or ecological receptors. A CoC without controls was requested in June 2015.

AOC 21-028(e)

AOC 21-028(e) consists of three former satellite accumulation areas for solvents, Freon, and waste oil located inside former building 21-210. In 1991, AOC 21-028(e) was proposed for no further action because no release to the environment ever occurred. The U.S. Environmental Protection Agency (EPA) approved the no further action determination in 1992. In 2005, EPA reaffirmed its concurrence with the Laboratory's no further action proposal in a letter to NMED.

AOC C-21-015

AOC C-21-015 is former building 21-45. The building was installed north of DP Road and north of the former DP laundry building (building 21-20). Building 21-45 was initially used for safety training and was converted to a waste research laboratory in 1949. The conversion included the installation of a concrete sump (AOC 21-030). Building 21-45 was removed in 1954. The concrete sump and underground pipes were abandoned in place in 1954. The sump and drain lines were removed during the 2001–2003 VCA activities. The NMED-approved VCA completion report determined the site does not pose potential unacceptable risk to residential or ecological receptors. NMED issued a determination of corrective action complete, thereby approving no further action in 2005.

AOC C-21-016

AOC C-21-016 is a 16-foot × 16-foot wood-frame storage hutment, designated TA-21-0023, built in February 1946 and demolished in August 1954 based on Laboratory engineering records. In 1991, AOC C-21-016 was proposed for no further action because no release to the environment ever occurred. EPA approved the no further action determination in 1992. In 2005, EPA reaffirmed its concurrence with the Laboratory's no further action proposal in a letter to NMED.

AOC C-21-017

AOC C-21-017 is a 16-foot × 16-foot wood-frame storage hutment, designated TA-21-0024, built in March 1946. The hutment was removed in October 1953. In 2005, AOC C-21-017 was approved for no further action.

AOC C-21-018

AOC C-21-018 is a former 16-foot × 16-foot wood-frame storage hutment (structure 21-25) built in March 1946 at TA-21. The structure was removed in 1953. In 2005, AOC C-21-018 was approved for no further action.

AOC C-21-019

AOC C-21-019 is a former 16-foot × 16-foot × 8-foot-high wood-frame storage hutment, designated TA-21-0026, that was built in December 1948. The hutment was removed in August 1954 according to Laboratory engineering records. In 2005, AOC C-21-019 was approved for no further action.

AOC C-21-020

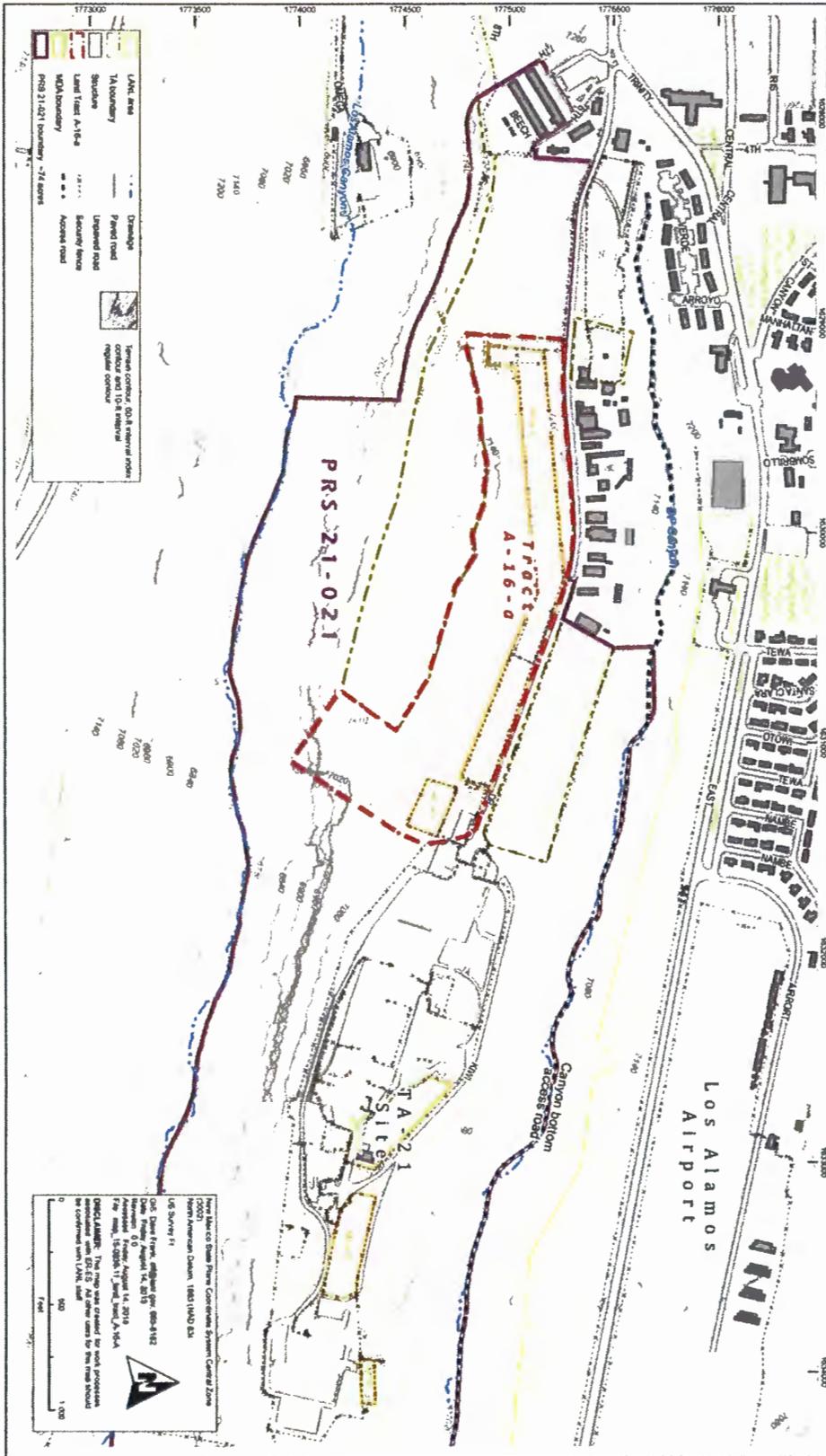
AOC C-21-020 is a former 16-foot × 16-foot × 8-foot-high wood-frame storage hutment (structure 21-27) that was built in December 1948. The hutment was removed in August 1954 according to Laboratory engineering records. In 2005, AOC C-21-020 was approved for no further action.

AOC C-21-021

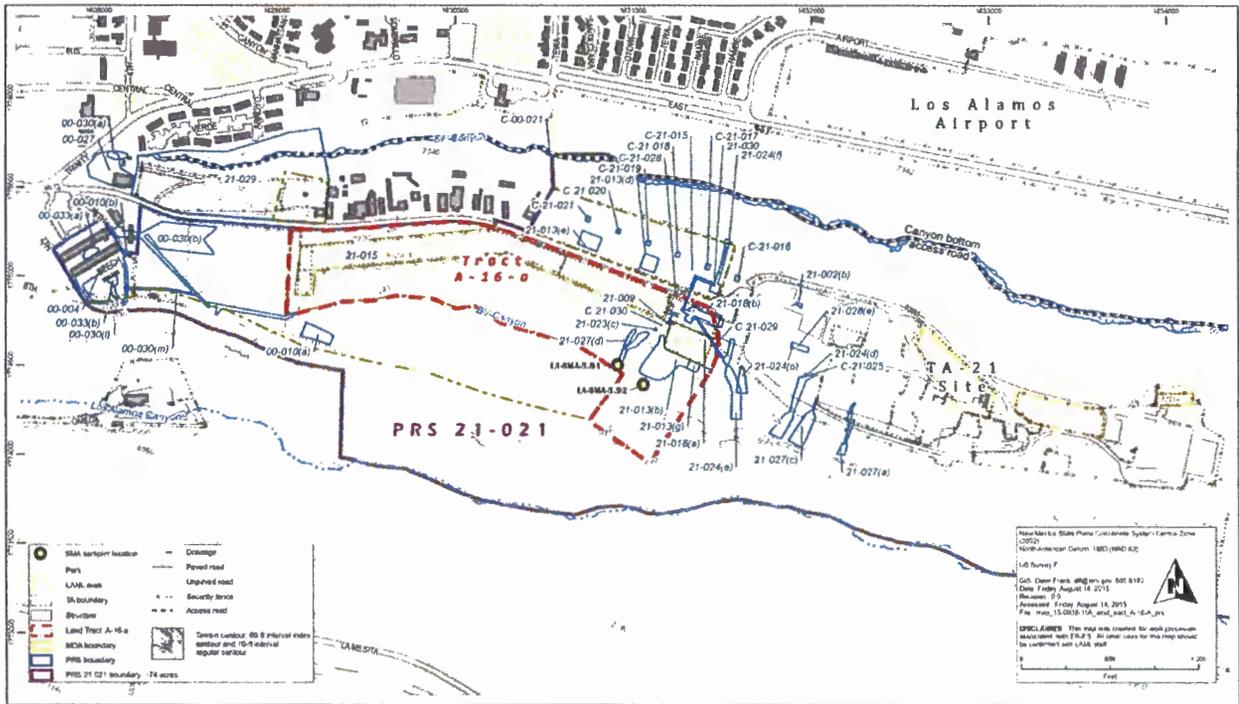
AOC C-21-021 is a former 16-foot × 16-foot × 8-foot-high wood-frame storage hutment (structure 21-28) that was built in December 1948. The hutment was removed in August 1954 according to Laboratory engineering records. In 2005, AOC C-21-021 was approved for no further action.

AOC C-21-025

AOC C-21-025 is the location of a corridor at former building 21-19 that was reportedly contaminated with radionuclides. The building was demolished in 1965. In 2005, AOC C-21-025 was approved for no further action.



Tract A-16-a and Surrounding Area



Tract A-16-a with Proximate SWMUs and AOCs (potential release sites or PRSs) and sampler locations