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11/06/2012
Rev. 13
Use with MCP-3448

FEDERAL FACILITY AGREEMENT AND CONSENT ORDER (FFA/CO) NEW SITE IDENTIFICATION (NSI)

Site Title: V-Tanks and TAN-607 Soil Contamination Area	Site Code: TSF-61
	Document number: 26012

PART A

1. **Site Status:** ☒ **Potential** ☐ **Existing**

If a potential site, record the date entered into the Long Term Stewardship Tracking System:
November 28, 2012.

2. **Description of Site and Location:**

TSF-61 is a proposed new site comprising residual soil contamination at the Test Area North (TAN) Technical Support Facility (TSF). The proposed area encompasses the former locations of four removed underground tanks collectively known as the "V-tanks" and several removed buildings. The tanks were part of a system that collected and treated radioactive liquid effluents from TAN operations. The buildings provided waste treatment or maintenance and support.

Multiple response actions have been implemented under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) (42 USC 9601 et seq.) to remove tanks, piping, buildings, structures, and contaminated surface and subsurface soil and debris in accordance with the Operable Unit (OU) 1-10 Record of Decision (ROD) (DOE-ID 1999a) and two action memoranda (DOE-ID 2006, 2007). Additional actions at TSF were completed under other responses (e.g., TAN decontamination and decommissioning project [ICP 2009] and the Voluntary Consent Order and HWMA/RCRA [DOE-ID 1999b]), but are not discussed further because they are not significant with respect to defining the boundary or current nature and extent of contamination at TSF-61. Attachment 1 lists some of the many actions and their associated documents related to this proposed site.

TAN facilities were constructed largely between 1954 and 1961 to support the Aircraft Nuclear Propulsion Program. The majority of soil contamination was attributed to piping leaks, sumps, and building matter left behind from past decontamination and decommissioning projects. Contamination remaining at TSF-61 primarily is associated with historical operation of the V-tanks. Small spills occurred when waste was transferred to and from the tanks. Figure 1 shows the proposed site, which encompasses the following:

- Existing CERCLA Sites TSF-46, -47, -48, and -53
- Contaminated soil at depth in the vicinity of the previously removed V-tanks: CERCLA Sites TSF-09 and -18
- Footprints of removed Buildings TAN-608 (Water Filtration), TAN-615 (Maintenance), TAN-616 (Liquid Waste Treatment), TAN-633 (Hot Cell Annex), and TAN-649 (Water Filtration)
- Storage pool area at the north end of the removed Building TAN-607.

Most remedial actions addressing V-tanks and related soil sites were completed between July 2004 and August 2007 under OU 1-10 (Jessmore et al. 2008). At that time, physical limitations associated with proximity to TAN-607 made specific areas inaccessible for remediation. Consequently, the TAN-607 Action Memorandum (DOE-ID 2007) and the OU 1-10 Remedial Action Report (Jessmore et al. 2008) transferred a portion of the OU 1-10 response to the removal actions for TAN-607 and TAN-607A. Removal actions began in September 2006 and were complete in June 2008. Buildings TAN-607 and -607A were removed. Soil and other materials with Cs-137 in excess of the OU 1-10 remediation goal of 23.3 pCi/g (DOE-ID 1999a) were removed from the upper 10 ft and disposed of at the Idaho CERCLA Disposal Facility. The open excavation at the V-tanks and the storage pool area at the north end of the removed TAN-607 hot cells were used to dispose of Cs-137-contaminated media with concentrations up to 23.3 pCi/g. Remaining void space was filled with inert material (e.g., soil), and the area was contoured and seeded to initiate vegetation (DOE-ID 2008).

When the OU 1-10 ROD (DOE-ID 1999a) and the TAN-607 Removal Action Memorandum (DOE-ID 2007) were published, 2.3 pCi/g was the Cs-137 concentration that qualified a site for unlimited use/unrestricted exposure. The 95% upper confidence limit from data collected from the TAN-607 and TAN-607A removal actions was 5.05 pCi/g; therefore, the Removal Action Report (DOE-ID 2008) concluded that the entire footprint previously occupied by TAN-607 and -607A should be combined with the OU 1-10 institutional control area encompassing the V-tank sites (see Figure 2) until Cs-137 decayed to less than 2.3 pCi/g.

In 2011, based on analysis in the INL Site-wide 5-year review (DOE-ID 2011a), an explanation of significant differences was published that revised the Cs-137 remediation goal for unlimited use/unrestricted exposure to 6.15 pCi/g (DOE-ID 2011b). Except for the storage pool on the northeast end of TAN-607, the area within the original footprints of Buildings TAN-607 and TAN-607A and CERCLA sites within and adjacent to those footprints (i.e., Sites TSF-01, -34, -42, -52, and -54; see Figure 2) were remediated to levels that qualify for unrestricted land use based on the revised Cs-137 remediation goal. The storage pool and area around the V-tank sites do not qualify.

The Remedial Action Report (Jessmore et al. 2008) and the Removal Action Report (DOE-ID 2008) indicate that Cs-137 is the only contaminant of concern for TSF-61. Residual Cs-137 concentrations are less than the OU 1-10 remediation goal of 23.3 pCi/g

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(DOE-ID 1999a), but greater than the unlimited use/unrestricted exposure concentration of 6.15 pCi/g at depths to 10 ft in the storage pool area and in the V-tank area (i.e., 19.25 and 20.42 pCi/g, respectively [DOE-ID 2008]). Figure 3 shows the nature and extent of Cs-137 contamination as determined by gamma scans of the area before the V-tank excavation was backfilled with demolition debris and soil (adapted from DOE-ID 2008). The 4,772-ft contour shown in Figure 3 represents 10 ft below grade. The V-tank excavation within that contour was 24 ft deep. Cs-137 concentrations as high as 168 pCi/g were detected at the base of the excavation. The extent and magnitude of Cs-137 contamination below the excavation is not known.

Because Cs-137 concentrations preclude unlimited use/unrestricted exposure in the general vicinity around the V-tanks, identifying TSF-61 as a new CERCLA site is recommended. Institutional controls for soil sites, as documented in the INL Site-Wide Institutional Controls and Operations and Maintenance Plan (DOE-ID 2012), will be implemented as an interim measure to control the site pending the remedial decision, which will be documented when Part B of this new site identification form is completed. The OU 1-10 Remedial Action Report (Jessmore et al. 2008) and the TAN-607A and 607 Removal Action Report (DOE-ID 2008) contain sufficient information to evaluate shallow and deep contamination for this site in Part B; therefore, sampling is not recommended.

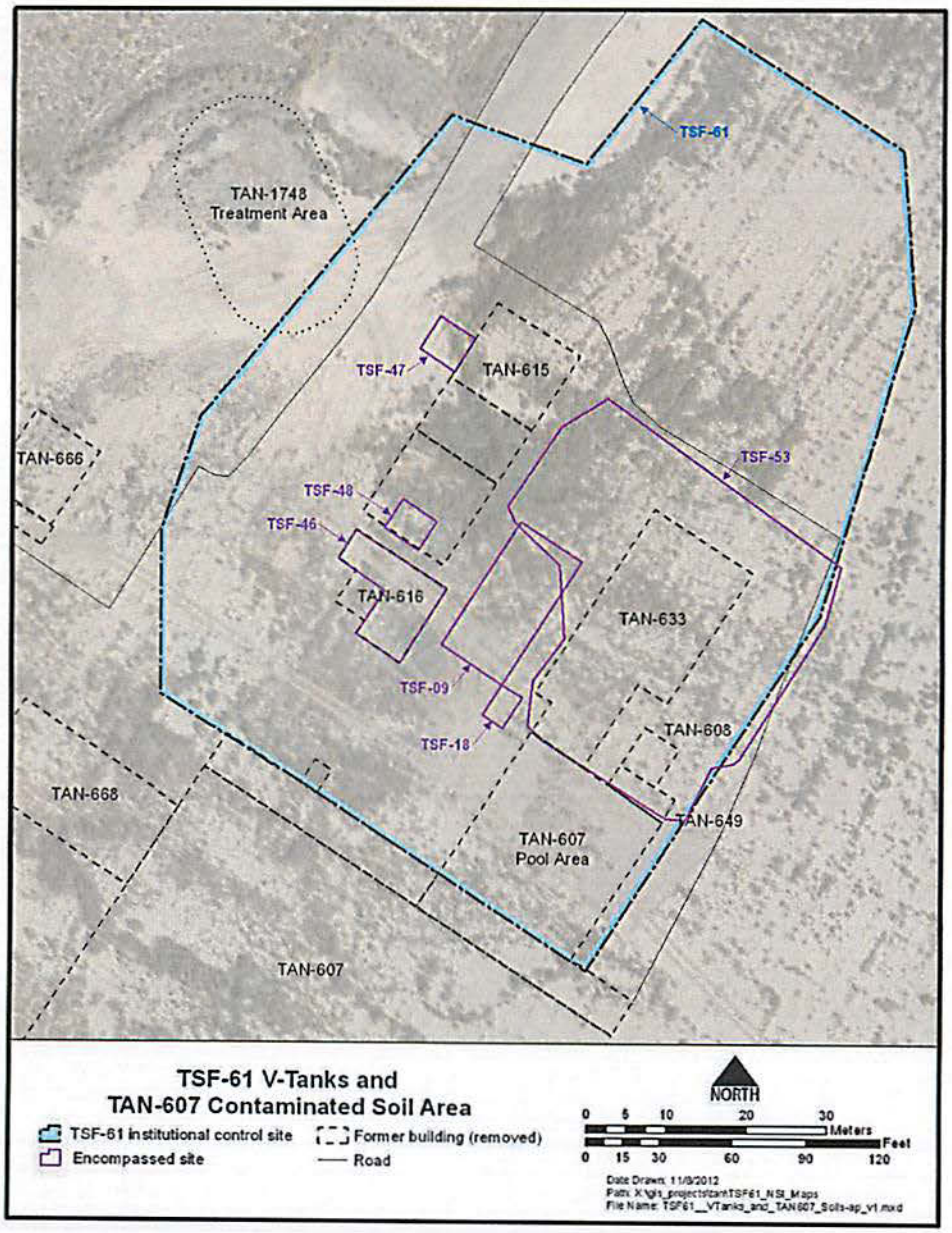

Figure 1. Proposed Site TSF-61 V-Tanks and TAN-607 Contaminated Soil Area encompassing several sites and footprints of multiple removed buildings.

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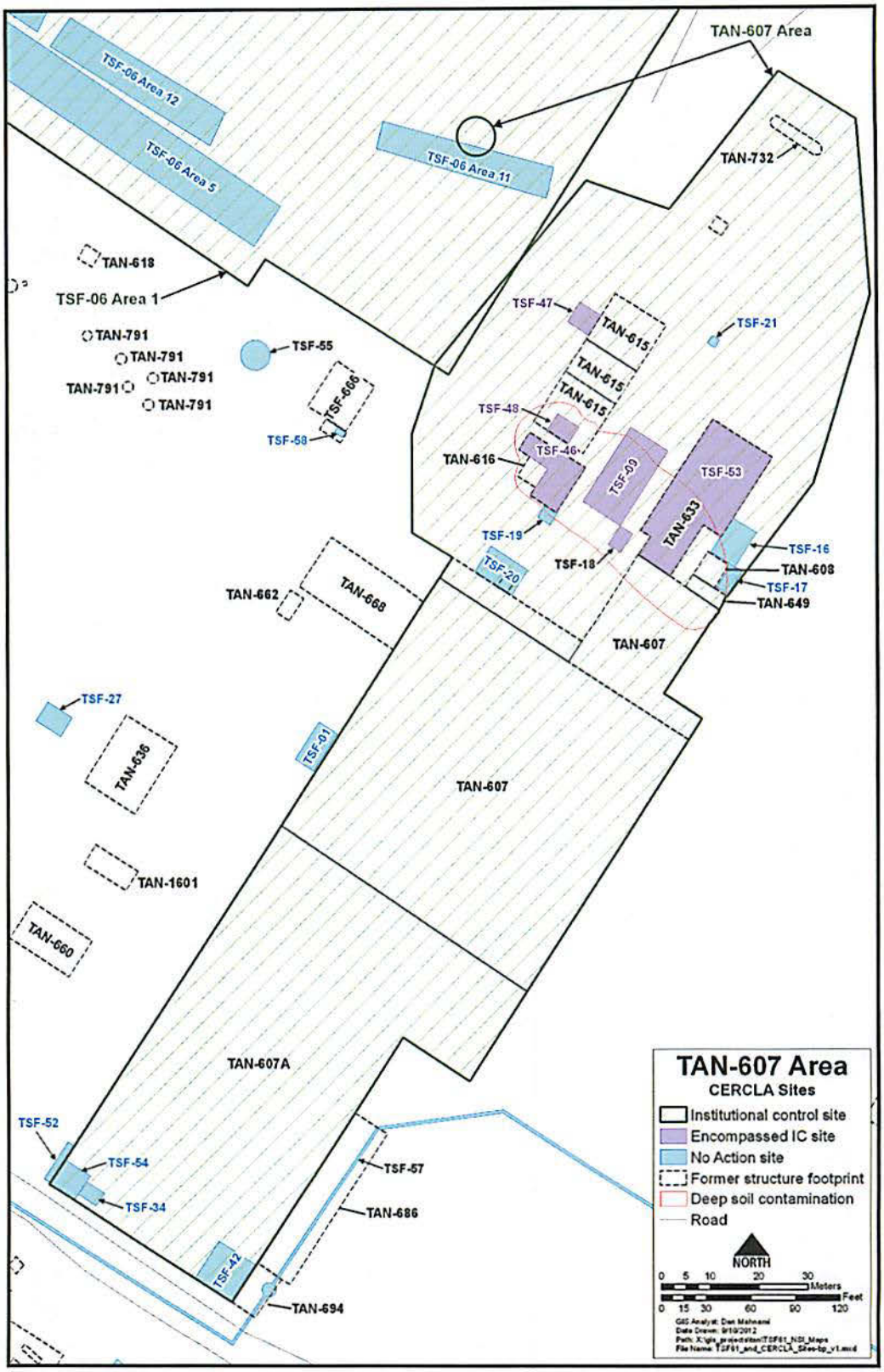

Figure 2. Former institutional control boundary recommended in the TAN-607 Removal Action Report (DOE-ID 2008).

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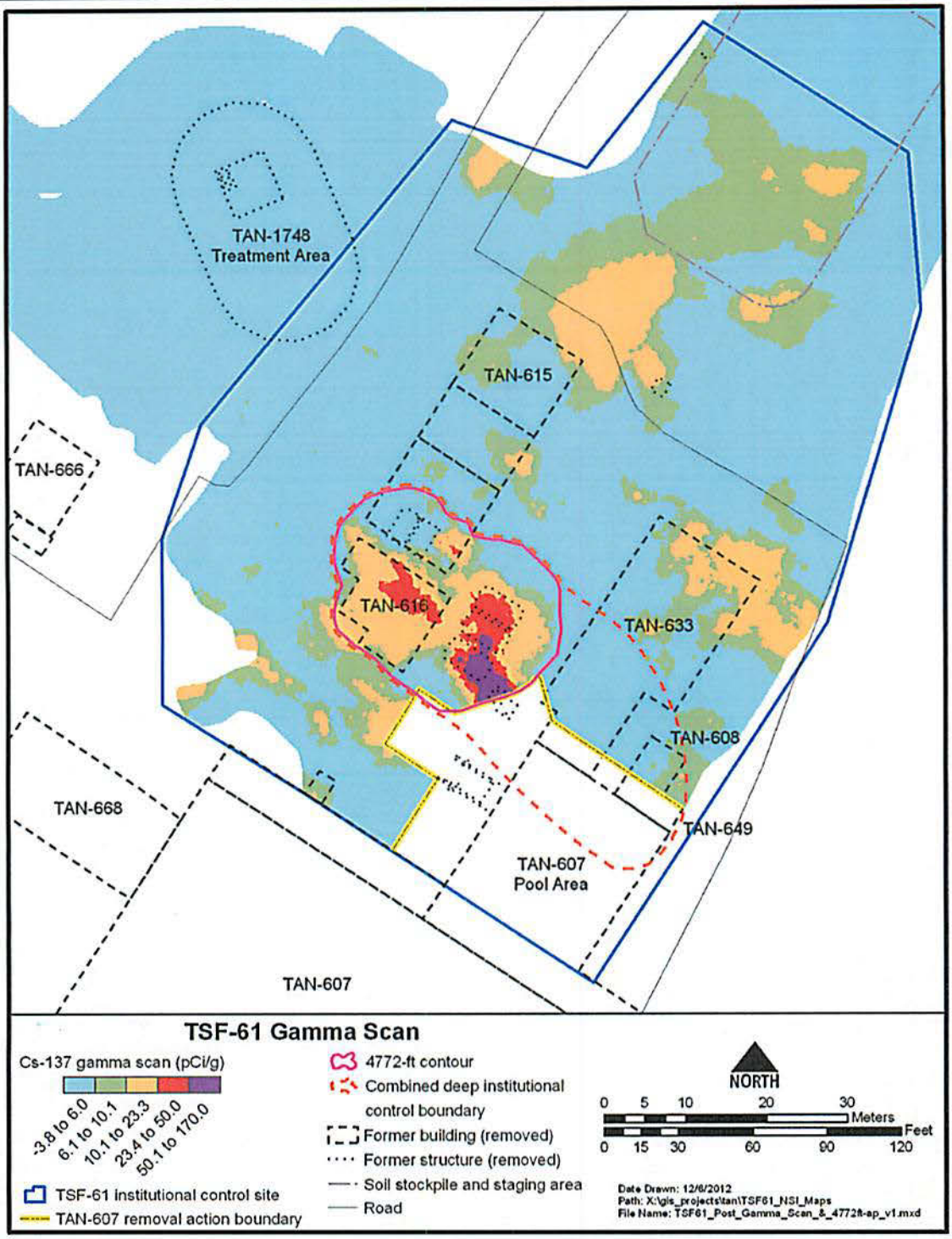

Figure 3. Gamma scan following excavation and removal of the V-tanks showing the extent of Cs-137 contamination before the site was backfilled and the proposed larger institutional control boundary. The TAN-607 Pool Area is included within the proposed boundary because debris and soil with Cs-137 concentrations up to 23.3 pCi/g were disposed of there.

References:

42 USC 9601 et seq., 1980, "Comprehensive Environmental Response, Compensation, and Liability Act of 1980

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(CERCLAQ/Superfund)," *United States Code*.

DOE-ID, 1999a, *Final Record of Decision for Test Area North Operable Unit 1-10*, DOE/ID-10682, U.S. Department of Energy Idaho Operations Office, U.S. Environmental Protection Agency, and Idaho Department of Environmental Quality.

DOE-ID, 1999b, *Hazardous Waste Management Act Closure Plan for the Process Experimental Pilot Plant Incinerator and Waste Stabilization Units*, DOE/ID-10525, Rev. 1, U.S. Department of Energy.

DOE-ID, 2006, *Action Memorandum for Decommissioning of TAN-607A*, DOE/ID-11290, U.S. Department of Energy Idaho Operations Office.

DOE-ID, 2007, *Action Memorandum for Decommissioning of TAN-607 Hot Shop Area*, DOE/ID-11322, U.S. Department of Energy Idaho Operations Office.

DOE-ID, 2008, *Final Removal Action Report for Test Area North 607A and 607*, DOE/ID-11362, U.S. Department of Energy Idaho Operations Office.

DOE-ID, 2011a, *Five-Year Review of CERCLA Response Actions at the Idaho National Laboratory Site—Fiscal Years 2005–2009*, DOE/ID-11429, U.W. Department of Energy Idaho Operations Office.

DOE-ID, 2011b, *Explanation of Significant Differences to Revise Institutional Controls in Various Records of Decision at the Idaho National Laboratory Site*, DOE/ID-11439, U.S. Department of Energy Idaho Operations Office, U.S. Environmental Protection Agency, and Idaho Department of Environmental Quality.

DOE-ID, 2012, *INL Site-Wide Institutional Controls, and Operations and Maintenance Plan for CERCLA Response Actions*, DOE/ID-11042, Rev. 7, U.S. Department of Energy Idaho Operations Office, April 2012.

ICP, 2009, *Idaho Cleanup Project Decontamination and Decommissioning Project Final Report for Test Area North*, RPT-538, Idaho Cleanup Project.

Jessmore, James J., Richard K. Farnsworth, Stuart K. Janikowski, David L. Eaton, and Allen E. Jantz, 2008, *Remedial Action Report for OU 1-10 Sites at Test Area North, WAG 1*, DOE/ID-11262, U.S. Department of Energy Idaho Operations Office.

3. **Is the site a solid waste management unit?** ☒ Yes ☐ No

4a. **Potential Site Recommendation**

☐ Do NOT include as a new FFA/CO site. This site does NOT warrant further investigation, and does NOT meet the criteria for acceptance (i.e., no evidence of a release of a CERCLA hazardous substance). The site should NOT be included under FFA/CO Action Plan.

☒ Include as a new FFA/CO site. This site DOES meet the criteria for acceptance (i.e., evidence of a release of a CERCLA hazardous substance), DOES warrant further investigation, and SHOULD be included under the FFA/CO Action Plan (complete the remainder of Part A).

Additional sampling recommended?

☐ Yes – Submit Part A .

☒ No – Proceed to Part B.

4b. **Existing Site Recommendation**

Additional sampling recommended?

☐ Yes – Submit Part A.

☐ No – Proceed to Part B.

4c. **Idaho Cleanup Project Environmental Restoration Director Concurrence:**

Frank Webber — Name (printed)

Frank Webber — Signature

12/17/2012 — Date

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PART A

5. FFA/CO Remedial Project Manager (RPM) Concurrence:

DOE-ID FFA/CO RPM: ☒ Concur with recommendation. ☐ Do not concur with recommendation.

EPA and DEQ concurrence required? ☒ Yes ☐ No

Kevin O'Neill	Kevin O'Neill	12/18/2012
Name (printed)	Signature	Date

Explanation:

EPA FFA/CO RPM: ☐ Concur with recommendation. ☐ Do not concur with recommendation.

Name (printed)	Signature	Date

Explanation:

DEQ FFA/CO RPM concurrence: ☒ Concur with recommendation. ☐ Do not concur with recommendation.

Daryl F. Koch	Daryl F. Koch	1/08/2013
Name (printed)	Signature	Date

Explanation:

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PART A

5. FFA/CO Remedial Project Manager (RPM) Concurrence:

DOE-ID FFA/CO RPM: ☒ Concur with recommendation. ☐ Do not concur with recommendation.

EPA and DEQ concurrence required? ☒ Yes ☐ No

Kevin O'Neill	Kevin O'Neill	12/18/2012
Name (printed)	Signature	Date

Explanation:

EPA FFA/CO RPM: ☑ Concur with recommendation. ☐ Do not concur with recommendation.

Dennis Faulk		1/8/13
Name (printed)	Signature	Date

Explanation:

DEQ FFA/CO RPM concurrence: ☐ Concur with recommendation. ☐ Do not concur with recommendation.

Name (printed)	Signature	Date

Explanation:

Documents Related to TSF-61

Proposed new Site TSF-61 encompasses residual soil contamination at the Test Area North (TAN) Technical Storage Facility (TSF). Cs-137 is the only contaminant of concern (COC) (see Part A). The proposed area encompasses the historical locations of the V-tanks and several buildings. The tanks and buildings have been removed, leaving Cs-137 in concentrations less than the Operable Unit (OU) 1-10 remediation goal of 23.3 pCi/g specified in the OU 1-10 Record of Decision (ROD (DOE/ID-10682, October 1999), but greater than 6.15 pCi/g at depths to 10 ft. Higher concentrations are present at depths below 10 ft. Institutional controls (ICs) are required until Cs-137 concentrations decay to less than 6.15 pCi/g (DOE/ID-11439, 2011), making the area suitable for unlimited use and unrestricted exposure. The area encompasses numerous existing sites, several of which were identified after the ROD was finalized. Cleanup occurred at various times over the course of TAN remediation under the ROD, removal actions, and other programs (e.g., the Voluntary Consent Order [VCO] and Decontamination and Decommissioning [D&D]). Some of the many actions and their associated documents related to TSF-61 are listed and described chronologically below.

Track 2 Summary Report for OU 1-05 Soil Contamination Sites (INEL94/0135, October 1994).

TSF-46 New Site Identification (NSI) (NSI 10547, October 19, 1998)

- Established a new Site at the TAN-616, Liquid Waste Treatment Facility, comprising the Evaporator Pit and associated system
- Facility processed waste from the V-tanks
- The Evaporator Pit leaked. A lot.
- Radioactively contaminated floors, walls, and soil beneath and surrounding the building.

Hazardous Waste Management Act (HWMA) Closure Plan for the Process Experimental Pilot Plant Incinerator and Waste Stabilization Units (DOE/ID-10525, January 1999).

OU 1-10 ROD (DOE/ID-10682, October 1999)

- Addresses TSF-09 (TSF Intermediate-Level [Radioactive] Waste Disposal System) and TSF-18 (Contaminated Tank Southeast of Tank V-3), later referred to collectively as TSF-09/18 V-tanks
- Selected removal and treatment of V-tank contents, soil excavation, backfill, and contouring (no vegetation requirement) to meet the Cs-137 remediation goal (RG) of 23.3 pCi/g in soil, with post-remediation ICs, if needed, based on post-remediation sampling (ROD, p. Part II 7-6)
- TSF site codes ended with TSF-45 in the ROD. TSF-16, -17, -19, -20, and -21, within the proposed footprint for TSF-61, were identified as no action sites (ROD Table 12-1, pp. Part II 12-9 and 10).

SOW (DOE/ID-10723, February 2000)

- Assigned V-tanks to OU 1-10 Group 2
- Added requirement to vegetate the area after removal of the tanks and backfilling and contouring of the excavation

- Specified separate Group 1 and Group 2 remedial design/remedial action work plans (RD/RAWPs)
- Added no new sites (i.e., sites after TSF-45 in the ROD).

DOE letter (EM-ER-218, November 2000)
- Accelerated V-tank schedule and reassigned groups
- Left only V-tanks in Group 2
- Reassigned other previous Group 2 sites (e.g., TSF-26 [PM-2A Tanks], TSF-03, and WRRTF-01) to a new Group 3.

TAN-616 Track 1 Decision Documentation Package (DOE/ID-10846, January 2001)
- Selected the Track 2 investigation and listed related sites including TSF-09/18

Follow-up transmittal letter (EM-ER-01-011, 2005) indicated that the Track 2 process would be coordinated with VCO and D&D actions at TAN-616.

VCO TAN-616 (INEEL/EXT-2000-01263, June 2001)
- Enumerated V-tank inventory
- Enumerated TAN-615 east and west sump inventories.

Group 2 RD/RAWP (DOE/ID-10875, Rev. 1, March 2002)
- Addresses Site TSF-18 comprising Tank V-9, which received waste from the TAN-616 evaporator pit sump and pump room sump, TAN-607 laboratory drain, TAN-607 Warm/Hot Shop drain, and TSF-21 (Valve Pit 2) through the TAN-1704 valve pit (Valve Pit 1). Tank V-9 discharged waste to the V-tanks (TSF-09)
- Addresses Site TSF-09 comprising V-Tanks V-1, V-2, and V-3. TSF-09 received overflow from Tank V-9
- Defined area of contamination (AOC) as a 50 x 80-ft area including soil contaminated by TSF-09 and -18 operations. North boundary abuts a dike, west boundary is TAN-616 and near TAN 615, east boundary is TAN 633, and south boundary is beyond the valve pit (TAN-1704)
- Documented that VCO would manage and fund removal of the valve pit (TAN-1704) and associated influent lines and additional piping under this RD/RAWP
- Defined remedy performance objectives to include characterization of soil and removal of soil exceeding the RG.

Explanation of Significant Differences (ESD) (DOE/ID-11050, April 2003)
- Required additional soil characterization at TSF-09 and -18, further defining the corresponding AOC, and additional soil remediation (if required) beyond the original 50 x 80-ft AOC in the ROD
- Modified the polychlorinated biphenyl applicable or relevant and appropriate requirement.

RD/RAWP Addendum (DOE/ID-11075, May 2003)
- Described early remedial actions to support V-tank response action
- Included relocating the sand filter, isolating TSF-18 (Tank V-9) from TAN-616 lines, and soil sampling to further characterize the AOC surrounding the V-tanks

- Cited the VCO Closure Plan (DOE-ID 2004) for the valve pit (TAN-1704) and piping
- Showed removal of TAN-615, while TAN -607, -608, -616, -649, -633, and -668 remained
- Required no soil removal, only soil sampling.

HWMA/Resource Conservation and Recovery Act (RCRA) Closure Plan for the TAN/TSF Intermediate-Level Radioactive Waste Management System, Phase I, Treatment Subsystem (DOE/ID-11021, Rev. 2, January 2004).

ROD Amendment (DOE/ID-10682 Amend, February 2004)

- Modified ex situ treatment component for tank contents to oxidation/reduction with stabilization and disposal
- Reiterated removal and disposal of surrounding soil with Cs-137 greater than 23.3 pCi/g to a maximum depth of 3 m (10 ft) below ground surface
- Required excavating additional soil below 3 m (10 ft) only as needed to exhume the V-tanks and associated piping
- Included an ESD portion addressing two Group 3 sites (i.e., TSF-26 and TSF-06).

TSF-47 NSI (NSI Document No. 24888, April 28, 2004)

- Established a new site to address Cs-137-contaminated soil found on July 15, 2002, during D&D of TAN-615
- Described contaminated area found 10 to 11 ft deep, approximately 5 ft from the west wall of TAN-615, and above a sanitary sewer line. Areal extent was not given.

TSF-48 NSI (NSI Document No. 24858, April 28, 2004)

- Established a new site to address arsenic and possible radionuclides associated with east and west pits/sumps on the south end of TAN-615, which were removed in July 2002
- Described results of sampling conducted under the VCO at depths of 13.25 ft and 9.5 ft (east pit/sump) and 10.25 ft (west pit/sump) and based on analysis in the 2002 EDF-2167, "VCO New-TAN-008 Characterization—TAN-615 Pits/Sumps"
- Documented detection of arsenic, calcium, and sodium above background (from Rood, Harris, and White 1995) in east pit/sump with low levels of radionuclides (Cs-137 was not detected)
- Documented detection of arsenic, Cs-137 (0.238 pCi/g), and low concentrations of other radionuclides in west pit/sump.

HWMA/RCRA Closure Plan for Phase II, V-Tanks, Feed Subsystem (DOE/ID-11053 Rev. 3, July 2004).

RD/RAWP Addendum (DOE/NE-ID-11152, August 2004).

V-Tanks Progress Report CY 2003/2004 (ICP/EXT-03-00080, August 2004).

RD/RA SOW for V-Tanks (DOE/ID-11119, September 2004).

ESD (DOE/NE-ID-11199, January 2005)

- Written for Sites TSF-09 and -18, mainly dealt with tank contents

- Clarified that post-remediation revegetation is not required at TSF-09/18, but that noxious weed control is required via the site-wide Operations and Maintenance (O&M) Plan (DOE/ID-11362, September 2008)under Long-Term Stewardship (LTS)
- Added TSF-46, -47, and -48 to V-tank remediation with the same remedial action objectives (RAOs) and final remediation goals (FRGs)
- Added TSF-19 soil to TSF-46
- Added caustic tank exhumation, content treatment, and disposal of tank and contents.

Group 2 RD/RAWP Addendum 2, Rev. 3 (DOE/NE-ID-11150, November 2005)

- Combined CERCLA and RCRA sampling, eliminating separate RCRA samples (Section 6.2.15)
- Required analysis to identify additional COCs and FRGs if needed to meet the RAO (e.g., future residential risk <1E-04 and HQ<1)
- Required removal of soil to meet the Cs-137 RG of 23.3 pCi/g down to a 10-ft depth, but could be limited by physical reach by equipment and building foundations
- Required removal of soil from outside of the designated Phase 3 area if contamination is proximal to soil identified for removal and if contamination is associated with the V-tanks and TAN-616
- Specified wide-area gamma scan to estimate Cs-137 concentrations followed by confirmation samples, and excavation of additional soil until the RG is met
- Specified application of ICs as needed (e.g., signs and LTS Tracking System)
- Summarized new Site TSF-53 Contaminated Soil West of Building TAN-633 as tritium-contaminated soil associated with Site 2 Waste Line Location (633 T) discovered in October 2004. Included expectation that Cs-137 would be addressed with the new site
- Required backfill, compaction, grading, and contouring, and no vegetation because of upcoming D&D in the area and truck traffic to TAN-607
- Specified reconsideration of revegetation after TAN-607 activities are complete
- Required removal of the TAN-616 east sub-foundation wall and soil to the west as part of the V-tanks response action
- Cited the Risk-Based Screening and Assessment Approach document (INEEL/EXT-03-00540, May 2004) for Group 1 soil for process to identify new COCs and RGs for Group 2, if necessary.

TSF-53 NSI (NSI Document No. 25008 August 10, 2006) TAN-633 Area Soil

- Defined TSF-53 as beneath and in the area surrounding the former locations of buildings TAN-633, -608, and -649
- Noted demolition of TAN-608 and -649 in 2005 and TAN-633 in January 2006
- Noted removal of building foundations to 3 ft deep
- Noted Cs-137-contaminated soil
- Documented joint cleanup with VCO addressing piping and CERCLA addressing soil
- Assigned TSF-53 to OU 1-10.

Action Memorandum TAN-607A (DOE/ID-11290, September 2006)

- Required a non-time critical removal action (NTCRA) to demolish TAN-607A aboveground structures and components, remove belowground components (e.g., sumps and trenches),

remove structural walls to 3 ft below grade, remove radiologically and nonradiologicallycontaminated soil, fill void to grade with clean solid inert material, and clean up TSF-42, -52, and -54.

ESD (DOE/ID-11300, January 2007)

- Addressed ex situ treatment of Tank V-9 (TSF-18) waste
- Did not change soil cleanup.

Action Memorandum TAN-607 (DOE/ID-11322, May 2007)

- Required a NTCRA to demolish TAN-607 aboveground structures and components, remove belowground non-inert components, and remove radiologically contaminated debris exceeding OU 1-10 RAOs
- Specified that debris meeting RAOs would be left in the excavation created by demolition of TAN-607 and in the adjacent void remaining after completion of the V-tanks soil removal project
- Required backfilling of remaining void with solid inert material, grading to meet the natural contour of the area, and reseeding.

OU 1-10 Remedial Action Report (DOE/ID-11262, April 2008)

- Defined Group 2 as containing seven sites: TSF-09, -18, -21, -46, -47, -48, and -53. Section 1.10.3 indicated merging of TSF-21 with TSF-09/18 and would no longer be addressed separately, but TSF-21 is discussed in Section 4.6
- Stated in Section 1.13:

  > The Environmental Restoration Project has completed all remedial actions for WAG 1 Group 1, 2, and 3 sites identified in the ROD. However, area conditions and collocated work activities dictated that remedial actions for a segment of the Group 2 AOC be transferred to the TAN Clean/Close Project to be completed under the TAN-607 NTCRA. Completion of these remaining remedial actions under the TAN 607 NTCRA will be performed in compliance with the Amendment and ESD to the Final ROD for TAN OU 1-10 (DOE ID 2004a).... Areas requiring further remediation include parts of TSF-09/18 and TSF-53.

- Specified the following:
  - TAN-607 removal action report will address outstanding OU 1-10 actions and document required ICs
  - Remediation area will be managed as part of the TAN industrial complex. Revegetation will not be performed
  - Noxious weed growth will be monitored as part of O&M Plan (DOE/ID-11362, September 2008) and controlled by the LTS Program.
- Described the following:
  - TSF-19 was remediated with TSF-46/48
  - In Section 2 that the modified remedy for soil remediation was successfully implemented at the Group 2 V Tanks Area Sites TSF-09/18, V-Tanks Area Surface Soils, V-Tanks Area New Sites TSF 46/47/48, and at TSF-53 between March 2004 and September 2007
  - Excavations were completed in an iterative fashion by first removing soil, per design requirements, followed by surveys performed by radiological control technicians with

hand-held instrumentation to identify remaining hot spots. Identified hot spot areas then were excavated; after which, wide-area gamma scans were performed to determine whether the FRG of 23.3 pCi/g for Cs-137 had been met. If soil above the FRG still remained, it was excavated, and the gamma scan was repeated. After soil excavation was completed, a land survey of the final excavation was performed for each area

- A risk-screening protocol, specific to TAN (INEEL/EXT-03-00540, May 2004), was used to evaluate results of the samples taken at bias and nonbias sample locations as well as points of release or potential historical release from the piping addressed under this remedial action. This risk evaluation, as documented in EDF 6686, confirmed that no additional remedial actions or ICs are needed for soil beneath TSF-09/18, TSF-21, TSF-46/47/48, TSF-53, and VCO Subunit 3 piping releases in TSF-06 Area 1, based on contaminants other than Cs-137

- Stated in Section 4.6.10.2:

  > Plans are to fill the Group 2 soil excavation with debris up to 23.3 pCi/g from the TAN 607 site. Any debris from TAN-607 can be placed in this excavation if the debris meets LDRs and has a Cs-137 concentration below 23.3 pCi/g. As a result, it is expected that institutional controls for both the shallow and deep soil sites will eventually be modified to require the full 100-year institutional control period (following completion of the TAN-607 demolition), unless the remedial action report for the TAN 607 NTCRA justifies a shorter time period, based on actual waste placed in the excavation. The INL Site-Wide Institutional Controls and O&M Plan (DOE-ID 2008) will be used to define and implement necessary institutional controls.

- See pp. 1-9, 1-17, 1-26, 1-29, 1-41, 2-7, 4-92, 4-99…120, 122…133.

Removal Action Report for TAN-607A and -607 (DOE/ID-11362, September 2008)

- Consisted of removing TAN-607A area and TAN-607 Hot Shop aboveground structures and components, removing belowground components (e.g., sumps, pipes, and trenches), removing certain structural walls to 3 ft below grade, ensuring that materials left in place met RAOs, filling excavated areas, grading, and initiating revegetation
- Also included final actions taken to implement the remedy for V-tank area sites as identified in the OU 1-10 ROD and subsequent ROD amendments and ESDs.

ICP D&D report for TAN (RPT-538, November 2009).

ESD for multiple RODs (DOE/ID-11439, September 2011)

- Changed Cs-137 RG to 6.15 pCi/g for OU 1-10 (and others)
- Specifically changed TSF-06 Area 5, TSF-06 Area 11, TSF-10, and TSF-42 to no action sites.