

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

Site Title: TSF-63—Storm Water Injection Well, TAN-D2	Site Code: TSF-63
	Document Number: NSI-26028

PART A

1. **Site Status:** **Potential New Site** **Existing Site**

If a potential new site, record the date entered into the Long-Term Stewardship Tracking System: 10/12/2015.

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

TSF-63 is a potential new Comprehensive Environmental, Response, Compensation, and Liability Act (CERCLA) site that comprises a deep injection well located in the southwest corner of the Technical Support Facility at Test Area North (TAN) (see Figure 1). The deep storm water injection well, TAN-D2, is permitted and operated as a Class 5D2 injection well for storm water runoff for roadway and pavement drainage (PER-130). TAN-D2 also is used as a CERCLA monitoring well for Operable Unit (OU) 1-07B groundwater remediation. Battelle Energy Alliance, LLC, (BEA) custodian of the well, is considering permanently decommissioning the well (Portage 2015). However, before decommission plans can proceed, the well is being evaluated under the OU 10-08 New Site Identification process to ensure the well did not receive storm water and that there is no risk to human health or the environment. If BEA chooses to no longer use the well for storm water management, only select well components will be permanently decommissioned (e.g., inlet pipe from the settling pond). The well will be maintained for CERCLA monitoring.

TAN-D2 was installed in 1967 after repeat flooding in the early 1960s threatened TAN facilities. Winter flooding in 1962 and 1964 (quick snowmelt over frozen ground) prompted U.S. Department of Energy (DOE) to expand the TAN drainage system and improve grading near roads and facilities. The deep injection well was connected to an already-existing drainage pond. The drainage pond—originally a construction borrow source—was enlarged as part of the facility-wide emergency flood control improvement plan. The settling pond is 318 × 300 ft (2.2 acres) and approximately 10 ft deep. It was designed to hold a sufficient volume of water to prevent flow into the injection well during all but the most extreme weather events. The pond slopes to the northeast, and surface water tends to collect in that side of the pond, opposite from the injection well.

The 262-ft-deep injection well has three screen intervals: 116.0 to 125.6 ft, 201.4 to 221.5 ft, and 231.5 to 251.2 ft. Depth to the Snake River Plain Aquifer water table is approximately 255 ft at TAN; thus, storm water is injected directly into the aquifer. The last water level measurement recorded in 2015 was 230.6 ft.

The expanded TAN drainage system connected several ponds via a network of culverts and ditches (see Figure 1). In 1991, the Federal Facility Agreement and Consent Order (FFA/CO) (DOE-ID 1991) identified several of these ponds and former facilities as sites to be investigated under CERCLA. The TAN-D2 deep injection well settling pond was assigned to OU 1-05 as CERCLA Site TSF-10 (see Figure 1).

CERCLA Site TSF-10 was investigated under the OU 1-05 Track 2 process (DOE-ID 1994). Soil sample results indicated only minor amounts of contaminants were disposed of in TSF-10. Groundwater samples taken from TAN-D2 contained concentrations similar to the TSF-05 injection well—source of groundwater contamination that is being addressed under OU 1-07B—and the Agencies concluded any potential contamination was masked by contamination from TSF-05. The Agencies determined the settling pond required further evaluation under the comprehensive OU 1-10 Remedial Investigation and Feasibility Study (Blackmore et al. 1997). Subsequently, the OU 1-10 Record of Decision (DOE-ID 1999) selected remedy for TSF-10 was no further action with institutional controls (ICs) until Cs-137 decayed to acceptable levels. ICs recently were terminated and TSF-10 qualifies for unlimited use and unrestricted exposure (DOE-ID 2011).

TAN-D2 was designed to receive an estimated maximum average weekly injection rate of 40 gpm; however, historical records indicate use of the injection well has not been necessary since its construction 48 years ago. In 1999, TAN-D2 was modified for CERCLA groundwater monitoring. The casing was extended approximately 35 in. above the ground surface (see Figure 2) and a Redi-Flo pump installed. Routine monitoring at TAN-D2 supports OU 1-07B TAN groundwater remediation.

Flooding has occurred near TAN at least once (i.e., 1969) since DOE expanded the TAN drainage system in 1967 (SAR-100-1) and the expansion project has prevented water from reaching the facility. Over the years, very little water has been observed in the TAN-D2 settling pond (DOE-ID 1994; LI-218). Annual monitoring reports from 2007 to 2014 state storm water did not flow into the injection well (Stenzel 2007, 2009a, 2009b, 2010, 2011, 2013; Dossett 2014; Mascareñas 2015), and historical records predating 2006—imagery from 1967, 1993, and 2004 and storm water sample logbooks from 1995 to 1996 and 2000 to 2003 (Matzen 1997; ICP 2001a, 2001b, 2002, 2003; Beus 2004)—also indicate flooding did not occur and measurable storm events did not fill the pond.

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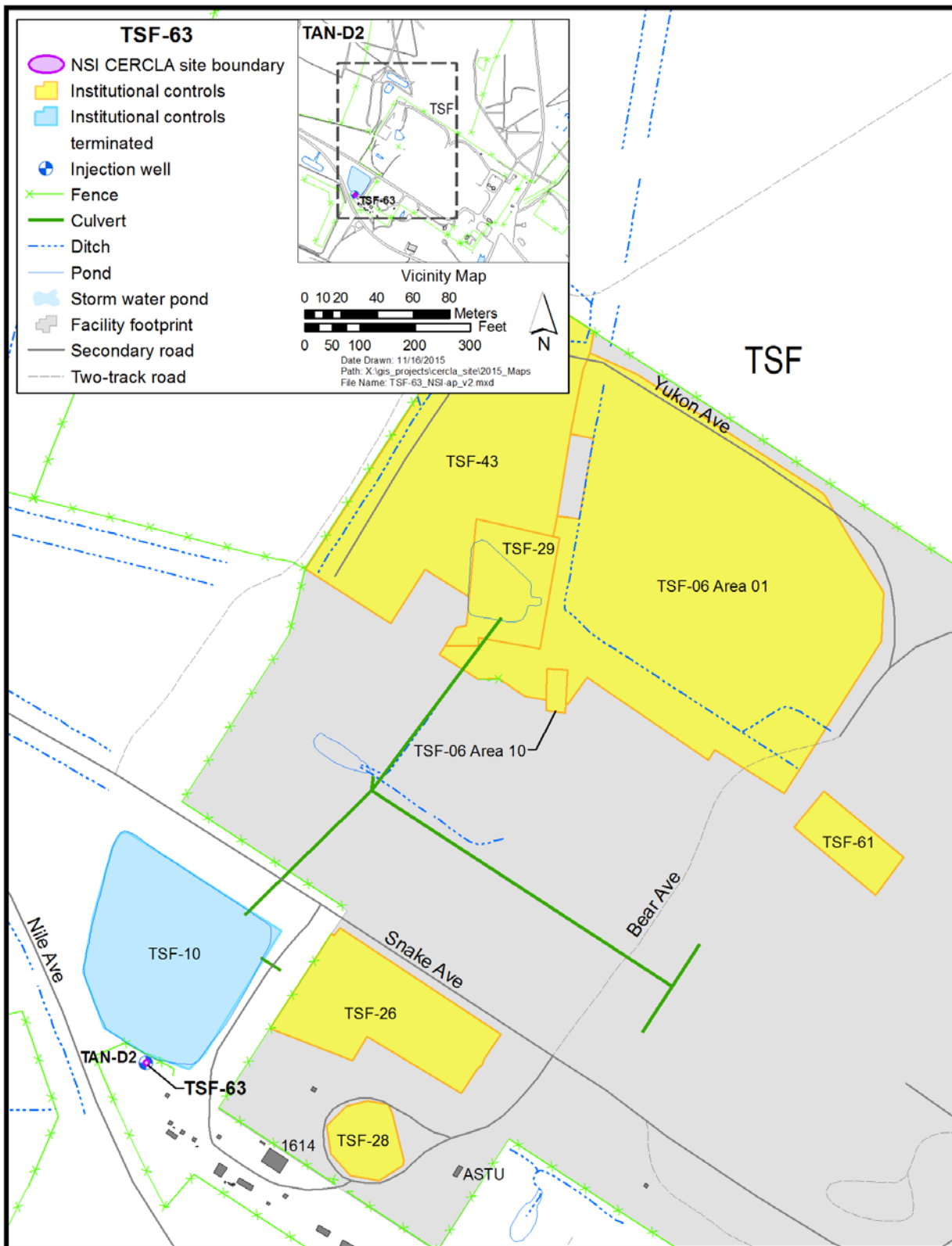


Figure 1. CERCLA Site TSF-63 at Test Area North.

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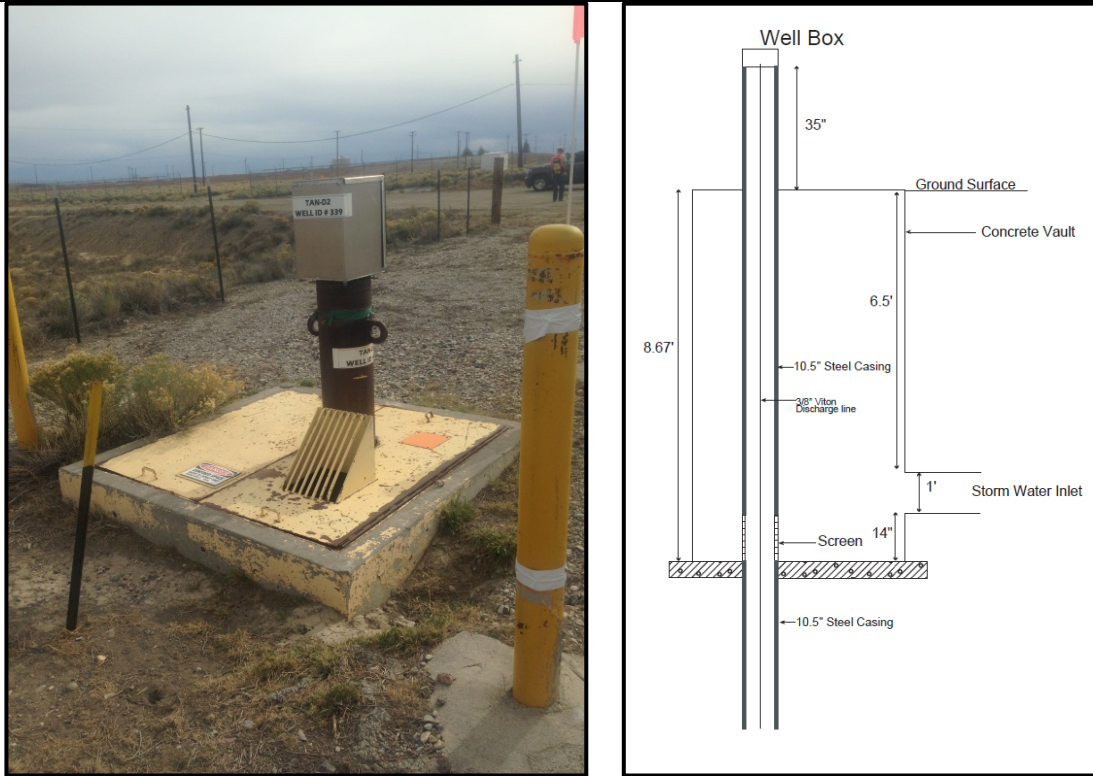


Figure 2. Photo and drawing of TAN-D2 extended casing for CERCLA groundwater sampling.

Recommendation

There is no evidence of a release of hazardous material or radiological contamination to TAN-D2, and the settling pond (CERCLA Site TSF-10) qualifies for unrestricted use. Source of groundwater contamination is the TSF-05 injection well, which is being addressed under OU 1-07B. Historical records from the 1970s to 1990s and more recent records from the 2000s indicate there was never enough water in the pond to create overflow into the well. Therefore, TSF-63 should not be included as a new FFA/CO site. If BEA decides to discontinue using TAN-D2 as a permitted deep injection well, decommissioning will not interfere with CERCLA monitoring. Decommissioning, for example, will restrict storm water flow into the well but will not alter the monitoring well or remove monitoring equipment.

References:

Beus, 2004, "Storm Water Sample Logbook, Date Start 03-15-2003, Date End 08-28-2004, Logbook No: STORM 009," EDMS ID STORM009, Idaho Cleanup Project, August 2004.

Blackmore, C. S., D. E. Burns, T. S. Green, S. M. Lewis, D. L. Michael, and I. E. Stephen, 1997, *Comprehensive Remedial Investigation/Feasibility Study for the Test Area North Operable Unit 1-10 at the Idaho National Engineering and Environmental Laboratory*, DOE/ID-10557, Rev. 0, Idaho National Engineering and Environmental Laboratory, November 1997.

DOE-ID, 1991, *Federal Facility Agreement and Consent Order for the Idaho National Engineering Laboratory*, Administrative Docket No. 1088-06-29-120, U.S. Department of Energy Idaho Field Office; U.S. Environmental Protection Agency, Region 10; Idaho Department of Health and Welfare, December 4, 1991.

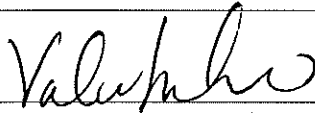
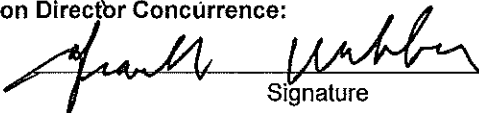
DOE-ID, 1994, *Preliminary Scoping Track 2 Summary Report for the Test Area North Operable Unit 1-05: Radioactive Contamination Sites*, INEL-94/0135, Rev. 0, U.S. Department of Energy Idaho Operations Office, October 1994.

DOE-ID, 1999, *Final Record of Decision for Test Area North Operable Unit 1-10, Idaho National Engineering and Environmental Laboratory*, DOE/ID-10682, Rev. 0, U.S. Department of Energy Idaho Operations Office; U.S. Environmental Protection Agency, Region 10; Idaho Department of Health and Welfare, Division of Environmental Quality, December 1999.

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<p>DOE-ID, 2011, <i>Explanation of Significant Differences to Revise Institutional Controls in Various Records of Decision at the Idaho National Laboratory Site</i>, DOE/ID-11439, Rev. 0, U.S. Department of Energy Idaho Operations Office; U.S. Environmental Protection Agency, Region 10; Idaho Department of Environmental Quality, September 2011.</p> <p>Dossett, Sharon D., Idaho National Laboratory, letter, to Matt Anders, Idaho Department of Water Resources, January 9, 2014, "Idaho National Laboratory 2013 Annual Monitoring Report for Injection Wells Permit Numbers 34-W-003-001, 34-W-003-002, 34-W-003-003, 34-W-003-004, 34-W-003-005, 34-W-003-006, and 34-W-003-007," CCN 232073.</p> <p>ICP, 2001a, "Storm Water Sample Logbook, Date Start 03-21-2000, Date End 03-18-2001, Logbook No: STORM 004," EDMS ID STORM004, Idaho Cleanup Project, March 2001.</p> <p>ICP, 2001b, "Storm Water Sample Logbook, Date Start 03-19-2001, Date End 08-14-2001, Logbook No: STORM 005," EDMS ID STORM005, Idaho Cleanup Project, August 2001.</p> <p>ICP, 2002, "Storm Water Sample Logbook, Date Start 09-10-2001, Date End 04-16-2002, Logbook No: STORM 007," EDMS ID STORM007, Idaho Cleanup Project, April 2002.</p> <p>ICP, 2003, "Storm Water Sample Logbook, Date Start 04-17-2002, Date End 03-17-2003, Logbook No: STORM 008," EDMS ID STORM008, Idaho Cleanup Project, March 2003.</p> <p>LI-218, 2013, "Laboratory Instruction Storm Water Sampling at the INL Injection Wells," Rev. 1, Idaho National Laboratory, March 2013.</p> <p>Mascareñas, Carolyn S., Idaho National Laboratory, letter, to Brian Ragan, Idaho Department of Water Resources, January 16, 2015, "Idaho National Laboratory 2014 Annual Monitoring Report for Injection Wells, Permit Numbers 34-W-003-001, 34-W-003-002, 34-W-003-003, 34-W-003-004, 34-W-003-005, 34-W-003-006, and 34-W-003-007," CCN 234744.</p> <p>Matzen, T. A., 1997, "Storm Water Sample Logbook, Date Start 01-11-1995, Date End 01-02-1997, Logbook No: STORM 002," EDMS ID 2300014, Idaho Cleanup Project, January 1997.</p> <p>PER-130, 2012, "Injection Well Permit No. 34-W-003-006 Test Area North, TAN Disposal Well #2," Rev. 1, Idaho National Laboratory, May 2012.</p> <p>Portage, 2015, <i>Regulatory and Facility Impacts of Storm Water Injection Well Closure at the Idaho National Laboratory Site</i>, TEV-2195.42-001, Rev. 0, Portage, Inc., March 2015.</p> <p>SAR-100-1, 2015, <i>Safety Analysis Report for the ICP Standardized Safety Analysis Report (SAR) Chapters</i>, Chapter 1, "Idaho National Laboratory (INL) Site Characteristics," Rev. 15, Idaho Cleanup Project, October 2015.</p> <p>Stenzel, Jo Anna, Idaho National Laboratory, letter, to Angela M. Grimm, Idaho Department of Water Resources, November 6, 2007, "Annual Monitoring Report for Permit Year 2007 for the Idaho National Laboratory Injection Wells Permit Numbers 34W003001, 34W003002, 34W003003, 34W003004, 34W003005, 34W003006, and 34W003007," CCN 211701.</p> <p>Stenzel, Jo Anna, Idaho National Laboratory, letter, to Matt Anders, Idaho Department of Water Resources, February 3, 2009a, "Annual Monitoring Report for Permit Year 2008 for the Idaho National Laboratory Injection Wells Permit Numbers 34W003001, 34W003002, 34W003003, 34W003004, 34W003005, 34W003006, and 34W003007," CCN 216210.</p> <p>Stenzel, Jo Anna, Idaho National Laboratory, letter, to Matt Anders, Idaho Department of Water Resources, November 24, 2009b, "Annual Monitoring Report for Permit Year 2009 for the Idaho National Laboratory Injection Wells Permit Numbers 34W003001, 34W003002, 34W003003, 34W003004, 34W003005, 34W003006, and 34W003007," CCN 219302.</p> <p>Stenzel, Jo Anna, Idaho National Laboratory, letter, to Matt Anders, Idaho Department of Water Resources, November 3, 2010, "Annual Monitoring Report for Permit Year 2010 for the Idaho National Laboratory Injection Wells Permit Numbers 34W003001, 34W003002, 34W003003, 34W003004, 34W003005, 34W003006, and 34W003007," CCN 222417.</p> <p>Stenzel, Jo Anna, Idaho National Laboratory, letter, to Matt Anders, Idaho Department of Water Resources, November 1, 2011, "Idaho National Laboratory 2011 Annual Monitoring Report for Injection Wells Permit Numbers 34W003001, 34W003002, 34W003003, 34W003004, 34W003005, 34W003006, and 34W003007," CCN 225743.</p> <p>Stenzel, Jo Anna, Idaho National Laboratory, letter, to Matt Anders, Idaho Department of Water Resources, January 15, 2013, "Idaho National Laboratory 2012 Annual Monitoring Report for Injection Wells Permit Numbers 34-W-003-001, 34-W-003-002, 34-W-003-003, 34-W-003-004, 34-W-003-005, 34-W-003-006, and 34-W-003-007," CCN 229401.</p>	

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3. Solid Waste Management Unit <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
4. Potential New Site Recommendation		
4a. <input checked="" type="checkbox"/> Do not include as a new FFA/CO site. Provide NSI to Agencies for information only.		
4b. <input type="checkbox"/> Include as a new FFA/CO site. Additional sampling recommended?		
<input type="checkbox"/> Yes – Submit Part A		
<input checked="" type="checkbox"/> No		
5. Existing Site Recommendation		
5a. <input type="checkbox"/> No evidence of an additional CERCLA release or other changed conditions. Provide NSI to Agencies for information only.		
5b. <input type="checkbox"/> Include as an existing FFA/CO site. Additional sampling recommended?		
<input type="checkbox"/> Yes – Submit Part A		
<input type="checkbox"/> No		
6. Prepared By:		
Valerie M. Kimbro Name (printed)	 Signature	12/22/15 Date
7. Idaho Cleanup Project Environmental Restoration Director Concurrence:		
Frank L. Webber Name (printed)	 Signature	12/22/15 Date

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PART A

8. 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

Name (printed) Signature Date

Nicole Badrov *Nicole Badrov* 1-6-16

Explanation:

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

Name (printed) Signature Date

Explanation:

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

Name (printed) Signature Date

Explanation: