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Updated Procedures for Using Drill Cores and Cuttings at the Lithologic Core Storage Library, Idaho National Laboratory, Idaho

Open-File Report 2018–1001

U.S. Department of the Interior
U.S. Geological Survey

COVER: Lithologic Core Storage Library warehouse interior. (Photograph by Mary Hodges, U.S. Geological Survey, June 2016.)

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RYAN K. ZINKE, Secretary

U.S. Geological Survey
William H. Werkheiser, Deputy Director
exercising the authority of the Director

U.S. Geological Survey, Reston, Virginia: 2018

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Conversion Factors

Inch/Pound to International System of Units

Multiply	By	To obtain
	Length	
inch (in.)	2.54	centimeter (cm)
inch (in.)	25.4	millimeter (mm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
	Area	
square foot (ft^2)	929.0	square centimeter (cm^2)
square foot (ft^2)	0.09290	square meter (m^2)
square inch (in^2)	6.452	square centimeter (cm^2)
section (640 acres or 1 square mile)	259.0	square hectometer (hm^2)
square mile (mi^2)	259.0	hectare (ha)
square mile (mi^2)	2.590	square kilometer (km^2)

Datums

Vertical coordinate information is referenced to the North American Vertical Datum of 1929 (NGVD 29).
Horizontal coordinate information is referenced to the North American Datum of 1927 (NAD 27).
Altitude, as used in this report, refers to distance above the vertical datum.

Updated Procedures for Using Drill Cores and Cuttings at the Lithologic Core Storage Library, Idaho National Laboratory, Idaho

By Mary K.V. Hodges, Linda C. Davis, and Roy C. Bartholomay

Abstract

In 1990, the U.S. Geological Survey, in cooperation with the U.S. Department of Energy Idaho Operations Office, established the Lithologic Core Storage Library at the Idaho National Laboratory (INL). The facility was established to consolidate, catalog, and permanently store nonradioactive drill cores and cuttings from subsurface investigations conducted at the INL, and to provide a location for researchers to examine, sample, and test these materials.

The facility is open by appointment to researchers for examination, sampling, and testing of cores and cuttings. This report describes the facility and cores and cuttings stored at the facility. Descriptions of cores and cuttings include the corehole names, corehole locations, and depth intervals available.

Most cores and cuttings stored at the facility were drilled at or near the INL, on the eastern Snake River Plain; however, two cores drilled on the western Snake River Plain are stored for comparative studies. Basalt, rhyolite, sedimentary interbeds, and surficial sediments compose most cores and cuttings, most of which are continuous from land surface to their total depth. The deepest continuously drilled core stored at the facility was drilled to 5,000 feet below land surface. This report describes procedures and researchers' responsibilities for access to the facility and for examination, sampling, and return of materials.

Introduction

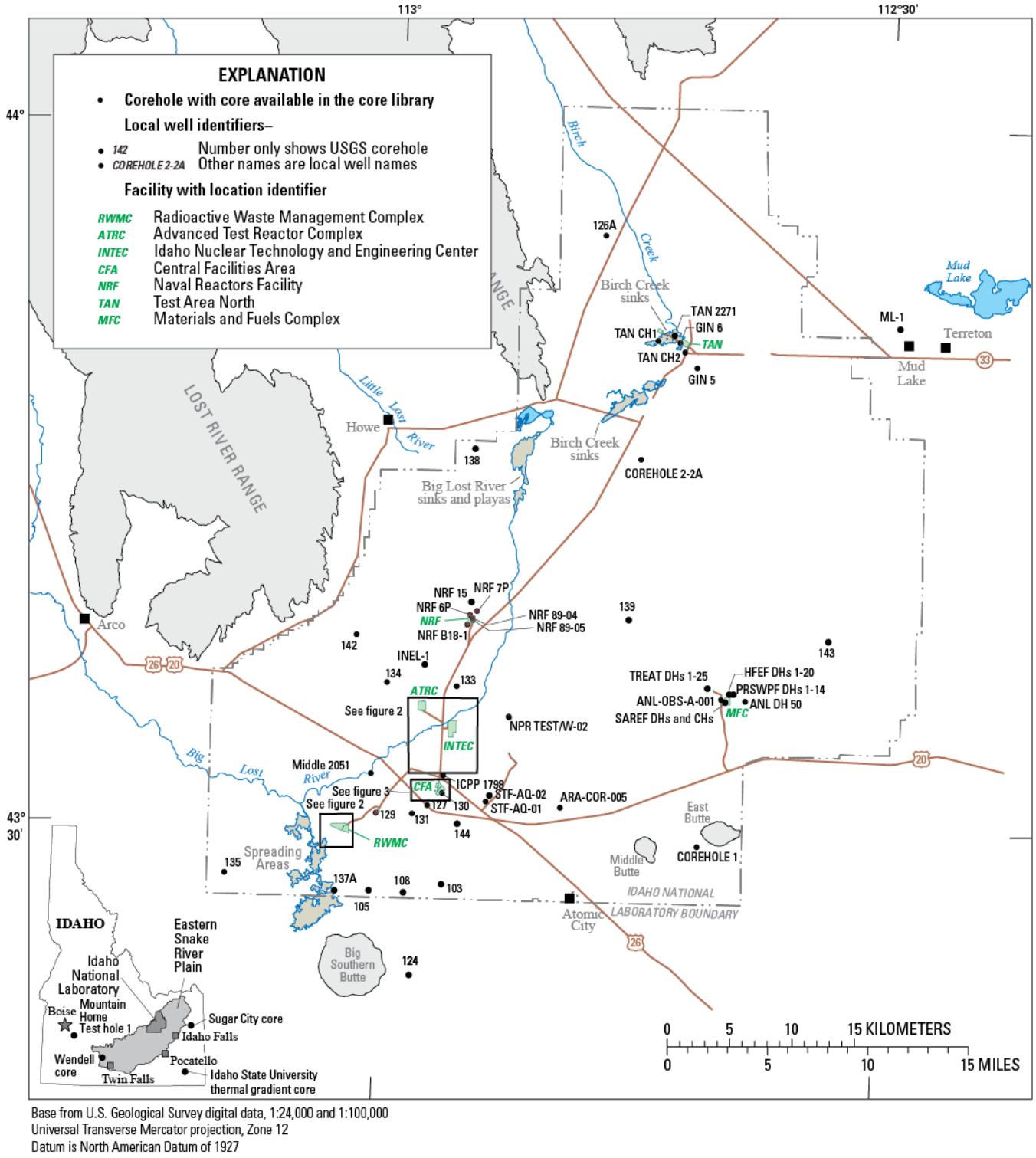
The Idaho National Laboratory (INL) occupies about 890 mi^2 of the eastern Snake River Plain in southeastern Idaho (fig. 1). The INL is managed by the U.S. Department of Energy (DOE) and operated by Battelle Energy Alliance. INL facilities are used to develop peacetime nuclear-energy applications, nuclear-safety research, defense programs, and advanced energy investigations.

Since the 1950s, more than 500 test holes, auger holes, and coreholes have been drilled at the INL to characterize hydrologic and geologic conditions in the subsurface and to supply water to INL facilities. Drill cores and cuttings from some of these holes and coreholes were stored in surplus buildings and other areas at the INL and at contractor facilities in Idaho Falls, Idaho, about 50 mi east of the INL. Before 1990, no attempt had been made to consolidate, catalog, or determine the spatial distribution and physical locations of cores and cuttings available for use by researchers. Also, before 1990, many boxes containing cores were left out in the weather, rendering markings unreadable and resulting in the loss of valuable technical information for future investigations. This lack of organization caused added expenses because additional cores were sometimes drilled to obtain information that could have been obtained from existing cores.

In 1990, the INL Lithologic Core Storage Library (CSL) was established to consolidate, catalog, and permanently store nonradioactive drill cores and cuttings from investigations of the subsurface at the INL, and to provide a location for researchers to examine, sample, and test these materials. The CSL is funded by the DOE and is operated by the U.S. Geological Survey (USGS), INL Project Office. For convenience, all holes are referred to as coreholes in this report. Corehole locations for cores stored in the core library are shown in figures 1 and 2.

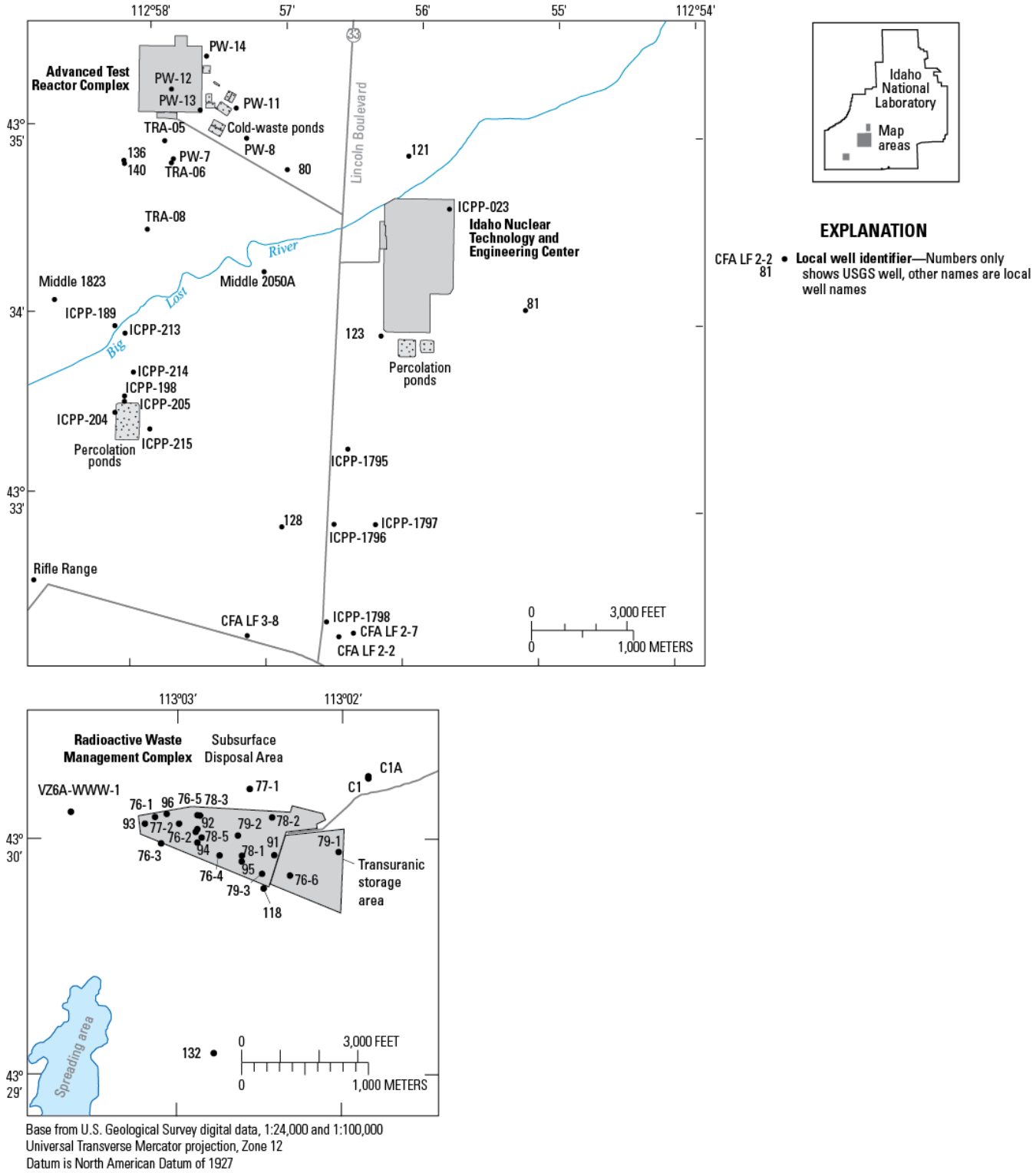
Purpose and Scope

This report, prepared in cooperation with the DOE, describes the CSL and procedures for use of the CSL, and provides a list of drill cores and cuttings currently (2017) available for study at the CSL. In 2017, this list included about 73,000 ft of drill cores and several suites of drill cuttings (tables 1 and 2, at back of report). Most of the cores and cuttings were drilled at or near the INL for studies of subsurface geohydrologic processes related to waste migration potential, geothermal potential, seismic potential, and characterization of the eastern Snake River Plain aquifer. Basalt, rhyolite, and sediment compose most of these cores and cuttings. Two cores from the western Snake River Plain are also available for comparative studies. Petrographic thin sections, primarily from cores drilled at the Radioactive Waste Management Complex (fig. 1), may be examined at the CSL. Publications containing results of analyses done on cores and cuttings are shown in table 3 (at back of report).



Base from U.S. Geological Survey digital data, 1:24,000 and 1:100,000
Universal Transverse Mercator projection, Zone 12
Datum is North American Datum of 1927

Figure 1. Locations of the Idaho National Laboratory and selected facilities and coreholes.



Base from U.S. Geological Survey digital data, 1:24,000 and 1:100,000
Universal Transverse Mercator projection, Zone 12
Datum is North American Datum of 1927

Figure 2. Locations of selected coreholes near the Advanced Test Reactor Complex, the Idaho Nuclear Technology and Engineering Center, and the Radioactive Waste Management Complex.

Description of the Lithologic Core Storage Library

The CSL is located at the INL Central Facilities Area (CFA) (fig. 1), Building CFA-663 (fig. 3). It is a 6,163-ft^2 building consisting of 4,110 ft^2 of core storage space, 1,340 ft^2 of laboratory space (which includes a rock room for sample preparation), 420 ft^2 of office space, a 143 ft^2 restroom, and a 150 ft^2 mechanical room for heating, cooling, plumbing, and electrical systems. Additional core storage is at building CFA-674 (fig. 3), where 6,400 ft^2 of space is allocated for core storage.

The core-storage areas are equipped with metal racks on which pallets of cores and cuttings are stored. Most cores are packaged in waxed cardboard core boxes, each holding up to 10 ft of core. Some cores are in 5-ft-long wooden boxes that hold 15–20 ft of core, depending on core diameter. A small forklift is used to move pallets of core on and off the racks. The core-storage area includes an examination/sampling area with several tables on which 300–400 ft of core may be laid out at a time. Equipment available for use in the examination/sampling area includes a binocular microscope, petrographic microscope, hand lenses, and an assortment of hand tools. Photographic equipment, including a digital camera, a copy stand, and accessories are also available for use.

The laboratory at the CSL is used for examining, sampling, or testing cores and cuttings. Laboratory equipment includes soil drying ovens, an oil-cooled rock saw, a water-cooled rock saw, a drill press with ½–l in.-diameter coring bits, petrographic microscopes, and balances, constant-temperature water baths, a mechanical sediment shaker and sieves, and an array of standard laboratory glassware and equipment. Chemicals must be provided by the users, and a Material Safety Data Sheet (MSDS) or Safety Data Sheet (SDS) must be provided to CSL personnel for each chemical brought into the laboratory. The INL contractor that operates the site for the Department of Energy, currently Battelle Energy Alliance, may have additional requirements regarding chemicals brought on the site. Some chemicals may be disallowed. The office is a work area for CSL personnel to manage the database and records related to core availability, core loaned for study, and previous investigations of the cores.

Personnel at the CSL perform many functions related to the preservation of drill cores and cuttings for scientific investigations. Chain-of-custody records are maintained and procedures followed by CSL personnel for cores for which chain-of-custody procedures were initiated at the drill site. Additionally, CSL personnel research existing information about stored cores and cuttings and maintain core-availability data. Publications containing results of analyses done on cores and cuttings are shown in table 3.

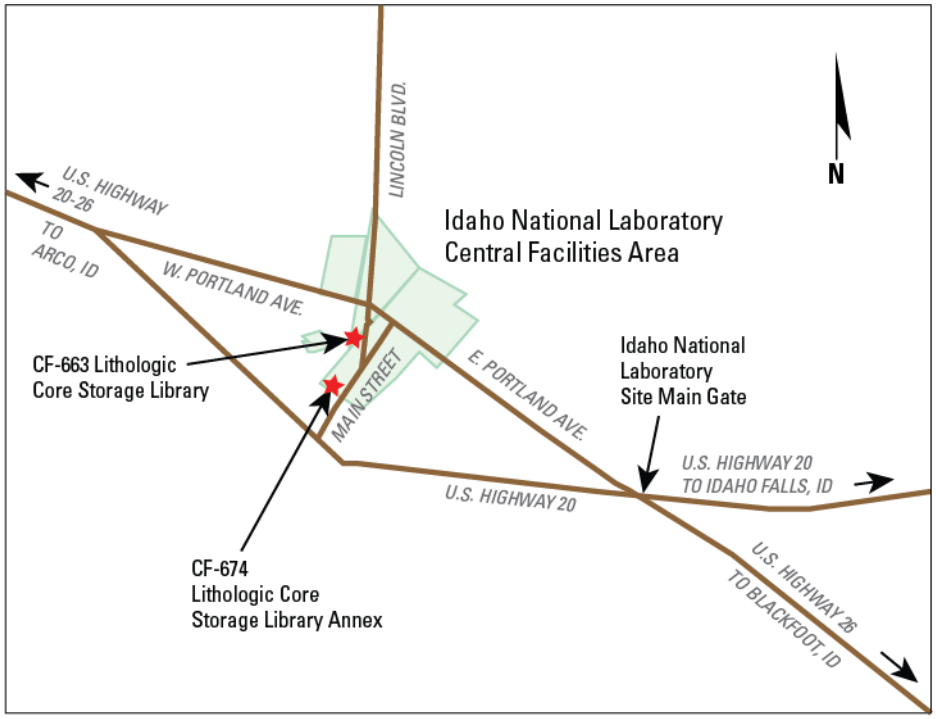


Figure 3. Locations of buildings CF-663 and CF-674 at the Central Facilities Area, Idaho.

Procedures for Use of the Lithologic Core Storage Library

Procedure for Delivering Core to the Lithologic Core Storage Library

Paper or electronic notice must be given (preferably before drilling) to the curator or to the U.S. Geological Survey INL Project Office project chief for the CSL to accept core from INL contractors or others who may wish to archive core at the CSL. Examples of the core storage notification form and core receiving logs are in appendix B. Core not drilled by USGS drill crews must be surveyed by a radiological control technician, and a radiological report must be generated (an example is shown in appendix B). A radiological report must accompany core before the CSL can accept it for storage. Chain of custody (see appendix B for example) information must also be filed with the request for core storage. Organizations and managers can choose to relinquish control of their core to the core library or to retain control, requiring permission for researchers to sample. Instructions regarding researcher access to core must be delivered electronically or in writing no later than when core is delivered to the core library.

Procedures for Sampling Core or Other Materials from the Lithologic Core Storage Library

The CSL is open to researchers for examining, sampling, or testing cores. The INL and the CSL are restricted-access areas, and permission to visit must be obtained prior to arrival at the INL. Access to the CSL is by appointment only. Appointments can be made by calling the U. S. Geological Survey Idaho National Laboratory Project Office (208) 526-2438 (administrative assistant), or by e-mailing the curator at gs-w-idif_ineel_federal_employees @usgs.gov, and putting “Core Library” in the subject line. For visitors who are United States citizens, staff can arrange access with INL security, which takes a

minimum of 5 business days. For non-U.S. citizens, special arrangements taking 30–90 business days (depending on country of origin) must be made. Visitor identification must meet REAL ID requirements, as specified by the U. S. Department of Homeland Security (https://www.dhs.gov/secure-drivers-license-documentation, https://www.tsa.gov/travel/security-screening/identification and https://www.dhs.gov/real-id-public-faqs). Detailed procedures for obtaining access to the CSL and permission to sample cores and cuttings can be found in the INL Lithologic Core Storage Library Standard Operating Procedures (appendix A). The CSL is open Monday through Thursday, 7:30 a.m.–5:00 p.m. Arrangements for alternate days and times may be made by special request.

Researchers must provide the CSL curator with a statement of proposed research detailing the purpose and scope of the project, including a description of analyses to be done on the samples (appendix B). Researchers must specify the minimum sample size or volume needed and whether or not the analyses will destroy the samples. Requests for large volumes of samples that will be destroyed, and that may deplete an interval of core or cuttings, must be justified in writing. The curator of the CSL is responsible for obtaining sampling approval from the owner of the cores. If additional testing of samples other than that outlined in the statement of proposed research is required, written permission from the curator of the CSL or owner of the samples must be obtained prior to testing. Researchers are strongly encouraged to do their own sampling after approval has been granted. CSL personnel are available for assistance in operating machinery and recording samples borrowed. Under very limited, special circumstances, CSL personnel may be available to sample materials for researchers if the number of samples requested is fewer than 10 and if arrangements are made in advance of the time samples are needed.

One copy (preferably electronic) of published reports containing results of analyses conducted on materials furnished by the CSL, interpretations based on analyses, or unpublished data must be provided to the curator for inclusion in the records. CSL personnel can keep unpublished data confidential, if requested, but because availability of data may save other researchers from unnecessary duplication of data, release is encouraged.

All borrowed samples that may be of use to other researchers must be returned to the CSL with a description of analyses made. Portions of samples that were not used or processed also must be returned. All samples returned must be clearly marked with the number of the core hole and the depth below land surface from which they were removed. Although not required, researchers are encouraged to donate clearly marked thin sections to the CSL for archiving. Some petrographic thin sections are available for examination for some of the cores sampled in the past.

Drill Cores and Cuttings Available at the Lithologic Core Storage Library

Tables 1 and 2 are compilations of information about cores and cuttings stored at the CSL. Cores and cuttings are available for sampling after permission has been obtained from the owner of the cores or cuttings. All cores and cuttings are available for examination without permission of the owner. Data for table 1 were compiled from many sources, including Davis and others (1997), Anderson and others (1996), Bartholomay (1990a), Sehlke and others (1994), verbal communications with contractors, corehole-completion reports and diagrams, and other documentation. Because some of the data could not be verified by the authors or is incomplete, the reader is encouraged to contact the curator with corrections or additional data that may improve table 1. Cores and cuttings for which locations were not found may still be valuable for tests in which location is unimportant. Latitude and longitude were determined from maps, traditional land surveying techniques, or using the global positioning system. In this report, latitude and longitude are referenced to the North American Datum of 1927, and elevation is referenced to National Geodetic Vertical Datum of 1929.

Summary

The Idaho National Laboratory (INL) Lithologic Core Sample Library (CSL), located at the Central Facilities Area, was established in 1990 to consolidate, catalog, and permanently store nonradioactive drill cores and cuttings, mostly from the INL subsurface. Before establishment of the CSL, cores and cuttings were stored in many locations and were not easily accessible to researchers for use. As of 2017, personnel at the CSL had identified and cataloged about 73,000 feet of drill core and several suites of cuttings which are available for examination, sampling, and testing by appointment. Some petrographic thin sections also are available for examination. In this report, drill cores and cuttings are identified by INL facility name or geographic location of the corehole, corehole name, depth intervals of cores and cuttings, latitude and longitude, and altitude. A description of the CSL equipment available for use by researchers, procedures for access, examination, and sampling and return of materials are presented.

Acknowledgments

The authors acknowledge Larry Mann for creating and sustaining the Lithologic Core Storage Library and the Department of Energy for their support of this valuable scientific resource.

References Cited

Anderson, S.R., Ackerman, D.J., Liszewski, M.J., and Freiburger, R.M., 1996, Stratigraphic data for wells at and near the Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Open-File Report 96-248 (DOE/ID- 22127), 27 p. plus 1 diskette. [Also available at http://pubs.er.usgs.gov/usgspubs/ofr/ofr96248.]

Barraclough, J.T., Robertson, J.B., and Janzer, V.J., 1976, Hydrology of the solid waste burial ground as related to the potential migration of radionuclides, Idaho National Engineering Laboratory, with a section on drilling and sample analyses by L.G. Saindon: U.S. Geological Survey Open-File Report 76-471, 183 p.

Bartholomay, R.C., 1990a, Digitized geophysical logs for selected wells on or near the Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Open-File Report 90-366 (DOE/ ID-22088), 347 p. [Also available at http://pubs.er.usgs.gov/usgspubs/ofr/ofr90366.]

Bartholomay, R.C., 1990b, Mineralogical correlation of surficial sediment from area drainages with selected sedimentary interbeds at the Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Water-Resources Investigations Report 90-4147 (DOE/ID-22092), 18 p. [Also available at http://pubs.er.usgs.gov/usgspubs/wri/wri904147.]

Bartholomay, R.C., Knobel, L.L., and Davis, L.C., 1989, Mineralogy and grain size of surficial sediment from the Big Lost River drainage and vicinity, with chemical and physical characteristics of geologic materials from selected sites at the Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Open-File Report 89-384 (DOE/ID-22081), 74 p. [Also available at http://pubs.er.usgs.gov/usgspubs/ofr/ofr89384.]

Bestland, E.A., Link, P.K., Lanphere, M.A., and Champion, D.E., 2002, Paleoenvironments of sedimentary interbeds in the Pliocene and Quaternary Big Lost Trough (eastern Snake River Plain, Idaho), *in* Link, P.K., and Mink, L.L., eds., Geology, hydrogeology and environmental remediation, Idaho National Engineering and Environmental Laboratory, Eastern Snake River Plain, Idaho: Boulder, Colorado, Geological Society of America Special Paper 353, p. 27–44.

Blair, J.J., 2002, Sedimentology and stratigraphy of sediments of the Big Lost trough subsurface from selected coreholes at the Idaho National Engineering and Environmental Laboratory: Pocatello, Idaho State University, Master's thesis, 148 p.

Champion, D.E., Dalrymple, G.B., and Kuntz, M.A., 1981, Radiometric and paleomagnetic evidence for the Emperor reversed polarity event at 0.46 ± 0.05 m. y. in basalt lava flows from the eastern Snake River Plain, Idaho: Geophysical Research Letters, v. 8, no. 10, p. 1,055–1,058.

Champion, D.E., Davis, L.C., Hodges, M.K.V., and Lanphere, M.A., 2013, Paleomagnetic correlation and ages of basalt flow groups in coreholes at and near the Naval Reactors Facility, Idaho National Laboratory, Idaho: U.S. Geological Survey Scientific Investigations Report 2013-5012 (DOE/ID-22223), 48 p. [Also available at https://pubs.usgs.gov/sir/2013/5012/.]

Champion, D.E., and Herman, T.C., 2003, Paleomagnetism of basaltic lava flows in coreholes ICPP-213, ICPP-214, ICPP-215, and USGS 128 near the vadose zone research park, Idaho Nuclear Technology and Engineering Center, Idaho National Engineering and Environmental Laboratory, Idaho: U.S. Geological Survey Open-File Report 2003-483 (DOE/ID 22189), 21 p. [Also available at https://pubs.er.usgs.gov/publication/ofr03483.]

Champion, D.E., Hodges, M.K.V., Davis, L.C., and Lanphere, M.A., 2011, Paleomagnetic correlation of surface and subsurface basaltic lava flows and flow groups in the southern part of the Idaho National Laboratory, Idaho, with paleomagnetic data tables for drill cores: U.S. Geological Survey Scientific Investigations Report 2011-5049, 34 p., 1 pl. (DOE/ID 22214), accessed February 25, 2016, at https://pubs.er.usgs.gov/publication/sir20115049.

Champion, D.E., Lanphere, M.A., Anderson, S.R., and Kuntz, M.A., 2002, Accumulation and subsidence of late Pleistocene basaltic lava flows of the eastern Snake River Plain, Idaho, in Link, P.K., and Mink, L.L., eds., Geology, hydrogeology, and environmental remediation—Idaho National Engineering and Environmental Laboratory, Eastern Snake River Plain, Idaho: Boulder, Colorado, Geological Society of America Special Paper 353, p. 175–192.

Champion, D.E., Lanphere, M.A., and Kuntz, M.A., 1988, Evidence for a new geomagnetic reversal from lava flows in Idaho—Discussion of short polarity reversals in the Brunhes and late Matuyama polarity chrons: Journal of Geophysical Research, v. 93, no. B10, p. 11,667–11,680.

Davis, L.C., Hannula, S.R., and Bowers, Beverly, 1997, Procedures for use of, and drill cores and cuttings available for study at, the Lithologic Core Storage Library, Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Open-File Report 97-124 (DOE/ID-22135), 31 p., accessed February 25, 2016, at https://pubs.er.usgs.gov/publication/ofr97124.

Doherty, D.J., 1979a, Drilling data from exploration well 2-2A, NW 1/4, sec. 15, T. 5 N., R. 31 E., Idaho National Engineering Laboratory, Butte County, Idaho: U.S. Geological Survey Open-File Report 79-851, https://pubs.er.usgs.gov/publication/ofr79851.

Doherty, D.J., 1979b, Drilling data from exploration well 1, NE 1/4, sec. 22, T. 2 N., R. 32 E., Bingham County, Idaho: U.S. Geological Survey Open-File Report 79-1225, https://pubs.er.usgs.gov/publication/ofr791225.

Doherty, D.J., McBroome, L.A., and Kuntz, M.A., 1979, Preliminary geological interpretation and lithologic log of the exploratory geothermal test well (INEL-1), Idaho National Engineering Laboratory, eastern Snake River Plain, Idaho: U.S. Geological Survey Open-File Report 79-1248, https://pubs.er.usgs.gov/publication/ofr791248.

Geist, D.J., Ellisor, R.A., Sims, E.N., and Hughes, S.S., 2002, Subsurface volcanology at Test Area North and controls on groundwater flow, *in* Link, P.K., and Mink, L.L., eds., Geology, hydrogeology, and environmental remediation—Idaho National Engineering and Environmental Laboratory, Eastern Snake River Plain, Idaho: Boulder, Colorado, Geological Society of America Special Paper 353, p. 45–59.

Geslin, J.K., Link, P.K., Riesterer, J.W., Kuntz, M.A., and Fanning, C.M., 2002, Pliocene and Quaternary stratigraphic architecture and drainage systems of the Big Lost Trough, northeastern Snake River Plain, Idaho, *in* Link, P.K., and Mink, L.L., eds., Geology, hydrogeology, and environmental remediation—Idaho National Engineering and Environmental Laboratory, Eastern Snake River Plain, Idaho: Boulder, Colorado, Geological Society of America Special Paper 353, p. 11–26.

Gianniny, G.L., Thackray, G.D., Kaufman, D.S., Forman, S.L., Sherbondy, M.J., and Findeisen, Delda, 2002, Late Quaternary highstands in the Mud Lake and Big Lost Trough subbasins of Lake Terreton, Idaho, *in* Link, P.K., and Mink, L.L., eds., Geology, hydrogeology, and environmental remediation—Idaho National Engineering and Environmental Laboratory, Eastern Snake River Plain, Idaho: Boulder, Colorado, Geological Society of America Special Paper 353, p. 77–90.

Grimm-Chadwick, Claire, 2004, Petrogenesis of an evolved olivine tholeiite and chemical stratigraphy of cores USGS 127, 128, and 129, Idaho National Engineering and Environmental Laboratory: Pocatello, Idaho State University, Master's thesis, 100 p., plus apps.

Hodges, M.K.V., and Champion, D.E., 2016, Paleomagnetic correlation of basalt flows in selected coreholes near the Advanced Test Reactor Complex, the Idaho Nuclear Technology and Engineering Center, and along the southern boundary, Idaho National Laboratory, Idaho: U.S. Geological Survey Scientific Investigations Report 2016-5131 (DOE/ID-22240), 65 p., 1 pl. [Also available at https://pubs.er.usgs.gov/publication/sir20165131.]

Hodges, M.K.V., Orr, S.M., Potter, K.E., and LeMaitre, Tynan, 2012, Construction diagrams, geophysical logs, and lithologic descriptions for boreholes USGS 103, 105, 108, 131, 135, NRF-15, and NRF-16, Idaho National Laboratory, Idaho: U.S. Geological Survey Data Series 660, 34 p., accessed February 25, 2016, at https://pubs.er.usgs.gov/publication/ds660.

Hodges, M.K.V., Turrin, B.D., Champion, D.E., and Swisher, C.C., III, 2015, New argon-argon ($^{40}Ar/^{39}Ar$) radiometric age dates from selected subsurface basalt flows at the Idaho National Laboratory, Idaho: U.S. Geological Survey Scientific Investigations Report 2015-5028 (DOE/ID 22234), 25 p., accessed February 25, 2016, at https://pubs.er.usgs.gov/publication/sir20155028.

Hughes, S.S., McCurry, Michael, and Geist, D.J., 2002, Geochemical correlations and implications for the magmatic evolution of basalt flow groups at the Idaho National Engineering and Environmental Laboratory, *in* Link, P.K., and Mink, L.L., eds., Geology, hydrogeology, and environmental remediation—Idaho National Engineering and Environmental Laboratory, Eastern Snake River Plain, Idaho: Boulder, Colorado, Geological Society of America Special Paper 353, p. 151–173.

Kuntz, M.A., Dalrymple, G.B., Champion, D.E., and Doherty, D.J., 1980, An evaluation of potential volcanic hazards at the Radioactive Waste Management Complex, Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Open- File Report 80-388, 68 p. [Also available at http://pubs.er.usgs.gov/usgspubs/ofr/ofr80388.]

Lanphere, M.A., Champion, D.E., and Kuntz, M.A., 1993, Petrography, age, and paleomagnetism of basalt lava flows in coreholes Well 80, NRF 89-04, NRF 89-05, and ICPP 123, Idaho National Engineering Laboratory: U.S. Geological Survey Open-File Report 93-0327, 40 p. [Also available at https://pubs.er.usgs.gov/publication/ofr93327.]

Lanphere, M.A., Kuntz, M.A., and Champion, D.E., 1994, Petrography, age, and paleomagnetism of basaltic lava flows in coreholes at Test Area North (TAN), Idaho National Engineering Laboratory: U.S. Geological Survey Open-File Report 94-686, 49 p.

Mazurek, John, 2004, Genetic controls on basalt alteration within the eastern Snake River Plain aquifer system, Idaho: Idaho State University, Master's thesis, 132 p. and apps.

Miller, M.L., 2007, Basalt stratigraphy of corehole USGS-132 with correlations and petrogenetic interpretations of the B Flow Group, Idaho National Laboratory, Idaho: Pocatello, Idaho State University, Master's thesis, 69 p. plus app. and 1 pl.

Morse, L.H., and McCurry, M.O., 2002, Genesis of alteration of Quaternary basalts within a portion of the eastern Snake River Plain aquifer, *in* Link, P.K., and Mink., L.L., eds., Geology, hydrogeology, and environmental remediation—Idaho National Engineering and Environmental Laboratory, Eastern Snake River Plain, Idaho: Boulder, Colorado, Geological Society of America Special Paper 353, p. 213–224.

Mudge, C.M., 2016, Properties of Pleistocene sediment in two wells in the west-central portion of the Big Lost Trough, eastern Snake River Plain, Idaho National Laboratory, Idaho: Idaho State University Master's thesis, 121 p., https://isu.app.box.com/v/Mudge-2016.

Perkins, K.S., 2003, Measurement of sedimentary interbed hydraulic properties and their hydrologic influence near the Idaho Nuclear Technology and Engineering Center at the Idaho National Engineering and Environmental Laboratory: U.S. Geological Survey Water-Resources Investigations Report 03-4048 (DOE/ID-22183), 19 p. [Also available at http://pubs.er.usgs.gov/usgspubs/wri/wri20034048.]

Perkins, K.S., and Nimmo, J.R., 2000, Measurement of hydraulic properties of the B-C interbed and their influence on contaminant transport in the unsaturated zone at the Idaho National Engineering and Environmental Laboratory, Idaho: U.S. Geological Survey Water-Resources Investigations Report 00-4073 (DOE/ID-22170), 30 p. [Also available at http://pubs.er.usgs.gov/usgspubs/wri/wri004073.]

Potter, K.E., 2010, Subsurface stratigraphy of the Arco-Big Southern Butte volcanic rift zone and implications for late pleistocene rift zone development, eastern Snake River Plain, Idaho: Pocatello, Idaho State University, Master's thesis, https://isu.app.box.com/v/Potter-2010.

Reed, M.F., Bartholomay, R.C., and Hughes, S.S., 1997, Geochemistry and stratigraphic correlation of basalt lavas beneath the Idaho Chemical Processing Plant, Idaho National Engineering Laboratory: Environmental Geology, v. 30, no. 1–2, p. 108–118.

Reed, M.F. and Bartholomay, R.C., 1994, Mineralogy of selected sedimentary interbeds at or near the Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Open- File Report 94-374 (DOE/ID-22116), 19 p. [Also available at http://pubs.er.usgs.gov/usgspubs/ofr/ofr94374.]

Rightmire, C.T., 1984, Description and hydrogeologic implications of cored sedimentary material from the 1975 drilling program at the Radioactive Waste Management Complex, Idaho: U.S. Geological Survey Water-Resources Investigations Report 84-4071 (IDO-22067), 33 p. [Also available at http://pubs.er.usgs.gov/usgspubs/wri/wri844071.]

Rightmire, C.T., and Lewis, B.D., 1987, Hydrogeology and geochemistry of the unsaturated zone, Radioactive Waste Management Complex, Idaho National Engineering Laboratory, Idaho: U.S. Geological Survey Water-Resources Investigations Report 87-4198 (DOE/ID-22073), 89 p. [Also available at http://pubs.er.usgs.gov/usgspubs/wri/wri874198.]

Scarberry, K.C., 2003, Volcanology, geochemistry, and stratigraphy of the F Basalt Flow Group, eastern Snake River Plain, Idaho: Idaho State University, Master's thesis, 139 p., 1 pl.

Sehlke, G., Davis, D.E., Smith, P.J., Jaacks, J.J., and Williams, S.J., 1994, Comprehensive well survey for the Idaho National Engineering Laboratory: U.S. Department of Energy, DOE/ID-10402, revision 3, p. 4-1–4-30.

Shervais, J.W., Vetter, S.K., and Hanan, B.B., 2006, A layered mafic sill complex beneath the eastern Snake River Plain—Evidence from cyclic geochemical variations in basalt: Geology, v. 34, no. 5, p. 365–368.

Twining, B.V., Bartholomay, R.C, and Hodges, M.K.V., 2012, Completion summary for borehole USGS 136 near the Advanced Test Reactor Complex, Idaho National Laboratory, Idaho: U.S. Geological Survey Scientific Investigations Report 2012–5230 (DOE/ID-22220), 32 p., plus appendixes. [Also available at http://pubs.usgs.gov/sir/2012/5230/.]

Twining, B.V., Bartholomay, R.C., and Hodges, M.K.V., 2014, Completion summary for boreholes USGS 140 and USGS 141 near the Advanced Test Reactor Complex, Idaho National Laboratory, Idaho: U.S. Geological Survey Scientific Investigations Report 2014-5098 (DOE/ID-22229), 40 p., plus appendixes. [Also available at http://pubs.usgs.gov/sir/2014/5098/.]

Twining, B.V., Bartholomay, R.C., and Hodges, M.K.V., 2016, Completion summary for boreholes TAN-2271 and TAN-2272 at Test Area North, Idaho National Laboratory, Idaho: U.S. Geological Survey Scientific Investigations Report 2016-5088 (DOE/ID-22239), 37 p., plus appendixes. [Also available at http://dx.doi.org/10.3133/sir20165088.]

Twining, B.V., Hodges, M.K.V., and Orr, Stephanie, 2008, Construction diagrams, geophysical logs, and lithologic descriptions for boreholes USGS 126a, 126b, 127, 128, 129, 130, 131, 132, 133, and 134, Idaho National Laboratory, Idaho: U.S. Geological Survey Data Series Report 350 (DOE/ID-22205), 27 p., and apps., accessed February 25, 2016, at http://pubs.usgs.gov/ds/350/.

Twining, B.V., Hodges, M.K.V., Schusler, Kyle, and Mudge, Christopher, 2017, Drilling, construction, geophysical log data, and lithologic log for boreholes USGS 142 and USGS 142A, Idaho National Laboratory, Idaho: U.S. Geological Survey Data Series 1058 (DOE/ID-22243), 21 p., plus appendixes, https://doi.org/10.3133/ds1058.

Wetmore, P.H., 1998, An assessment of physical volcanology and tectonics of the central eastern Snake River Plain based on the correlation of subsurface basalts at and near the Idaho National Engineering and Environmental Laboratory, Idaho: Pocatello, Idaho State University, Master's thesis https://isu.app.box.com/v/Wetmore-1998.

Winfield, K.A., 2003, Spatial variability of sedimentary interbed properties near the Idaho Nuclear Technology and Engineering Center at the Idaho National Engineering and Environmental Laboratory, Idaho: U.S. Geological Survey Water-Resources Investigations Report 03-4142 (DOE/ID-22187), 36 p. [Also available at http://pubs.er.usgs.gov/usgspubs/wri/wri034142.]

Table 1. Borehole location and identifiers for core stored at the Idaho National Laboratory Lithologic Core Storage Library.

[Blank cells indicate no information is available. **Abbreviations:** NAD 27, North American Datum of 1927; NGVD 29, National Geodetic Vertical Datum of 1929; ft, feet]

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Advanced Test Reactor Complex (ATR-Complex)						
TRA 05/PZ1	TRA-05, TRA-5	433453112574901	433453	1125749	4,926.37	CF-674
TRA 08		433431112580101	433431	1125801	4,934.10	CF-674
PW-7		433446112574602	433447	1125747	4,925.24	CF-674
PW-8		433456112572001	433457	1125721	4,918.56	CF-674
PW-11			433505	1125722	4,915.60	CF-674
PW-12			433510	1125749	4,923.71	CF-674
PW-13			433505	1125741	4,923.82	CF-674
PW-14			433518	1125734	4,918.68.	CF-674
USGS 80		433457112570002	433457	1125700	4,917.00	CF-674
TRA 06 (may not be from TRA)						CF-674
NRTS Hole 1						CF-674
NRTS Hole 2						CF-674
NRTS Hole 3						CF-674
NRTS Hole 4						CF-674
NRTS Hole 5						CF-674
NRTS Hole 7						CF-674
NRTS Hole 8						CF-674
NRTS Hole 9						CF-674
INEL #1	INEL-1, INEL 1	433717112563501	433717	1125636	4,873.29	CF-663
USGS 136		433447112581501	433448	1125812	4,935.00	CF-663
USGS 140		43344112581201	433441	1125812	4,936.51	CF-663
Middle 1823		433418112581700	4334318.97	1125817.59	4,939.36	CF-663
Big Southern Butte						
SOBU 950-1	950-1		432402	1130132	7,240.00	CF-674
USGS 124	(USGS-124)	432307112583101	432306	1125832	5,102.3	CF-674
USGS 103		432713112560600	432813.57	1125606.23	5,007.42	CF-663
USGS 105		432703113001700	432703.4	1130017.78	5,095.12	CF-663
USGS 108		432658112581600	432658.79	1125823.24	5,031.36	CF-663
USGS 135		432753113093500	432753.47	1130935.62	5,135.94	CF-663
USGS 137		432701113025701	432702.33	1130254.01	5,050	CF-663
USGS 137A		432710113025801	432703.07	1130255.62	5,053.81	CF-663
Box Canyon area (about 6 miles SE of Arco)						
11-2						CF-674
11-4						CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Box Canyon area (about 6 miles SE of Arco)—Continued						
11-5						CF-674
11-6						CF-674
Sl						CF-674
S2						CF-674
S3						CF-674
S4						CF-674
Hole #1						CF-674
Hole #2						CF-674
Hole #3						CF-674
Hole #4						CF-674
Hole #5						CF-674
Hole #6						CF-674
Hole #7						CF-674
Hole #11						CF-674
Central Facilities Area						
USGS 127		433058112572201	433058.28	1125722.04	4,956.44	CF-663
USGS 128		433250112565601	433249.86	1125655.51	4,934.92	CF-663
USGS 130		433130112562801	433130.67	1125628.4	4,927.55	CF-663
USGS 131		433036112581601	433026.28	1125816.05	4,977.3	CF-663
USGS 144		433021112552501	433020.58	1125527.98	4,954.22	CF-663
LF2-2	(LF2-02)		433218	1125637	4,932.19	CF-674
LF2-7	(LF2-07)		433220	1125629	4,928.65	CF-674
LF2-7B						CF-674
LF3-8	(LF3-08)	433218112571001	433218	1125710	4,940.22	CF-674
Rifle Range Well		433243112591101	433243	1125908	4,967.46	CF-674
Loss of Fluid Test Facility (LOFT)						
LOFT-A01	LOFT_A1		435143	1124340	4,785.14	CF-674
LOFT-A02	LOFT_A2		435141	1124335	4,784.27	CF-674
LOFT-A03	LOFT_A3		435135	1124340	4,795.31	CF-674
LOFT-A04	LOFT_A4		435137	1124344	4,787.97	CF-674
LOFT-A05	LOFT_A5		435138	1124342	4,787.81	CF-674
LOFT-A06	LOFT_A6		435139	1124342	4,787.26	CF-674
LOFT-A07	LOFT_A7		435139	1124343	4,791.34	CF-674
LOFT-A08	LOFT_A8		435141	1124341	4,791.67	CF-674
LOFT-A09	LOFT_A9		435141	1124341		CF-674
LOFT-A10	LOFT_A10		435140	1124341	4788.4	CF-674
LOFT-A11	LOFT_A11		435140	1124336	4791.42	CF-674
LOFT-A12	LOFT_A12		435141	1124336	4785.76	CF-674
LOFT-A13	LOFT_A13		435140	1124336	4784.54	CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Loss of Fluid Test Facility (LOFT)—Continued						
LOFT-A14	LOFT_A14		435138	1124337	4790.28	CF-674
LOFT-A15	LOFT_A15		435138	1124338	4788.77	CF-674
LOFT-A16	LOFT_A16		435138	1124337	4791.12	CF-674
LOFT-A17	LOFT_A17		435136	1124342	4782.53	CF-674
LOFT-A18	LOFT_A18		435136	1124342	4785.55	CF-674
LOFT-A19	LOFT_A19		435136	1124342	4791.63	CF-674
LOFT-A20	LOFT_A20		435136	1124338	4794.6	CF-674
Experimental Beryllium Oxide Reactor (EBOR)						
1						CF-674
2						CF-674
3						CF-674
4						CF-674
5						CF-674
6						CF-674
7						CF-674
8						CF-674
9						CF-674
10						CF-674
11						CF-674
12						CF-674
13						CF-674
14						CF-674
15						CF-674
16						CF-674
17						CF-674
A-1						CF-674
EBOR-01						CF-674
Idaho Nuclear Technology and Engineering Center (INTEC)						
USGS 133		433605112554301	433605.5	1125543.8	4,890.12	CF-663
Middle 2050						CF-663
Middle 2050A		433409112570500	433409	1125705	4,928.22	CF-663
1NW			433414	1125554		CF-674
2SE			433412	1125551		CF-674
3M			433413	1125552		CF-674
4NE			433414	1125551		CF-674
5SW			433412	1125554		CF-674
CPP_DH1_7th_Bin_Set			433419	1125549		CF-674
CPP_DH2_7th_Bin_Set			433419	1125549		CF-674
CPP_DH3_7th_Bin_Set			433419	1125549		CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Idaho Nuclear Technology and Engineering Center (INTEC)—Continued						
CPP_DH4_7th_Bin_Set			433418	1125549		CF-674
CPP_DH5_7th_Bin_Set			433419	1125549		CF-674
CPP_DH12_7th_Bin_Set						CF-674
PW-1		433349112560701	433349	1125608	4,917.49	CF-674
PW-2		433344112555601	433345	1125557	4,916.97	CF-674
PW-3		433351112555701	433351	1125558	4,916.53	CF-674
PW-4		433348112554901	433349	1125549	4,914.80	CF-674
PW-6		433353112562201	433353	1125622	4,920.44	CF-674
CPP-01-2	MW-16		433358	1125602		CF-674
TF-4-1	TF-4E, CPP_33-4-1		433427	1125557		CF-674
TF-4-A	CPP-33-4A		433424	1125557		CF-674
TF-5-1	TF-5, CPP-33-5L		433424	1125554		CF-674
TF-33-2-1	TF-2, CPP-33-2		433421	1125602		CF-674
TF-33-3-1	TF-3, CPP33-3		433424	1125602		CF-674
CPP 14-01	14-01					CF-674
CPP 14-03	14-03					CF-674
CPP 14-04A	14-04A					CF-674
CPP 14-08	14-08					CF-674
CPP 14-IOC	14-IOC					CF-674
CPP 37-4	37-4		433425	1125547		CF-674
USGS 81	USGS-081, USGS-81	433400112551001	433400	1125510	4,909	CF-674
USGS 121	ICPP-121, USGS-121	433450112560301	433450	1125603	4,909.66	CF-674
USGS 121	ICPP-121, USGS-121, A-1 through A-8 (duplicate intervals of USGS 121)	433450112560301	433450	1125603	4,909.66	CF-663
USGS 123	ICPP-123, USGS-123	433352112561401	433352	1125614	4,919.26	CF-663
ICPP-COR-A-023	CPP-CH-AQ-01		433428	1125541	4,907.88	CF-664
Idaho Falls, Idaho						
ROB-1						CF-674
Circular Butte Landfill (CB) (proposed about 3 miles west of Mud Lake, ID)						
CB20						CF-674
CB21						CF-674
CB22						CF-674
CB23						CF-674
Material and Fuels Complex (MFC) (formerly Argonne National Laboratory-West)						
DH1			433547	1123923		CF-674
DH2			433547	1123922		CF-674
DH3			433547	1123922		CF-674
DH4			433547	1123921		CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Material and Fuels Complex (MFC) (formerly Argonne National Laboratory-West)						
DH5			433447	1123922		CF-674
DH6			433547	1123922		CF-674
DH7			433547	1123922		CF-674
DH8			433547	1123921		CF-674
DH9			433546	1123923		CF-674
DH10			433546	1123922		CF-674
DH11			433546	1123922		CF-674
DH12			433546	1123922		CF-674
DH13			433546	1123923		CF-674
DH14			433546	1123922		CF-674
DH15			433546	1123922		CF-674
DH16			433546	1123921		CF-674
DH17			433545	1123923		CF-674
DH18			433545	1123922		CF-674
DH19			433545	1123922		CF-674
DH20			433545	1123921		CF-674
ANL-IWP-M1	ANL-M1, ANL-M01		433555	1123931		CF-674
ANL-M7	ANL-M07		433548	1123929		CF-674
ANL-M8	ANL-M08		433546	1123929		CF-674
ANL-M9	ANL-M09		433545	1123928		CF-674
DH1			433548	1123920		CF-674
DH2			433548	1123920		CF-674
DH3			433548	1123919		CF-674
DH4			433548	1123918		CF-674
DH5			433548	1123919		CF-674
DH6			433548	1123920		CF-674
DH7			433548	1123919		CF-674
DH8			433548	1123919		CF-674
DH9			433548	1123918		CF-674
DH10			433548	1123919		CF-674
DH11			433547	1123918		CF-674
DH12			433547	1123920		CF-674
DH13			433547	1123918		CF-674
DH14			433547	1123919		CF-674
CH-C7						CF-674
CH-E7.90			433541	1123813		CF-674
CH-F11.25			433539	1123804		CF-674
CH-G4-8.05			433538	1123813		CF-674
CH-G12			433537	1123802		CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Material and Fuels Complex (MFC) (formerly Argonne National Laboratory-West)—Continued						
DH44						CF-674
DH46			433542	1123812		CF-674
DH48			433542	1123812		CF-674
DH50			433541	1123813		CF-674
DH52			433541	1123812		CF-674
DH55			433541	1123812		CF-674
DH57			433541	1123812		CF-674
DH1						CF-674
DH2			433605	1124557		CF-674
DH3			433605	1124657		CF-674
DH4			433604	1124657		CF-674
DH5			433604	1124657		CF-674
DH6			433604	1124657		CF-674
DH7			433604	1124657		CF-674
DH8			433604	1124657		CF-674
DH9			433604	1124657		CF-674
DH10			433604	1124657		CF-674
DH11			433604	1124658		CF-674
DH12			433604	1124658		CF-674
DH13			433604	1124658		CF-674
DH14			433604	1124658		CF-674
DH15			433604	1124658		CF-674
DH16			433605	1124659		CF-674
DH17			433605	1124658		CF-674
DH18			433605	1124659		CF-674
DH19			433605	1124659		CF-674
DH20			433605	1124659		CF-674
DH21			433604	1124659		CF-674
DH22			433604	1124659		CF-674
DH23			433604	1124657		CF-674
DH24			433604	1124658		CF-674
DH25			433604	1124658		CF-674
DHl						CF-674
DH2						CF-674
DH5						CF-674
DH6						CF-674
ANL-OBS-AQ-014	ANL_1, Argonne_Core_Deep	433545112394101	433545	1123941	5121.04	CF-674
EBR-II						CF-663
USGS 143		433736112341301	433735.71	1123412.78	5184.35	CF-663

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Auxiliary Reactor Area (ARA)						
ARA-COR-005	ARA 1	433100112491903	433060	1124922	5043	CF-674
ARA-MON-A-01	ARA-MON-A-001		433055	1124916		CF-674
ARA-MON-A-02	ARA-MON-A-002		433054	1124925		CF-674
ARA-MON-A-03A	ARA-MON-A-003A		433146	1124950		CF-674
ARA-MON-A-04	ARA-MON-A-004		433180	1124979		CF-674
STF-PIE-AQ-01	STF		433111	1125349		CF-674
STF-PIE-AQ-02	STF	433127112533201	433127	1125332	4,937.4	CF-674
Mountain Home Air Force Base Idaho (MHAFB)						
MHTH-1	Mountain_Home_Test_Hole_1	430319115502301	430319	1155023	3021	CF-663
Mud Lake Landfill (ML) (about 1 mi northwest_of_Mud_Lake)						
ML-1						CF-674
New Production Reactor (NPR)						
A-26			433455	1125224		CF-674
DC-1			433453	1125223		CF-674
DC-2			433452	1125221		CF-674
DC-3			433450	1125220		CF-674
DC-4			433448	1125218		CF-674
F-1			433505	1125234		CF-674
F-2			433405	1125237		CF-674
F-3			433404	1125236		CF-674
F-4			433502	1125235		CF-674
F-5			433504	1125233		CF-674
F-6			433505	1125231		CF-674
F-7			433506	1125232		CF-674
F-8			433508	1125233		CF-674
F-9			433507	1125235		CF-674
F10			433507	1125243		CF-674
F11			433500	1125236		CF-674
F12			433505	1125227		CF-674
F13			433512	1125234		CF-674
F14			433458	1125239		CF-674
IC-5			433455	1125221		CF-674
IC-7			433451	1125218		CF-674
IC-10			433451	1125223		CF-674
IC-12			433448	1125220		CF-674
S17			433456	1125222		CF-674
NPR_Test	SITE_E, NPR_E	433449112523101	433449	1125231	4,933.13	CF-663
NPR	W-01, W01		433451	1125231		CF-663

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
New Production Reactor (NPR)—Continued						
NPR	W-02, W02	433451112523201	433451	1125232	4,930.29	CF-663
NPR	W-02, W02_deepened		433451	1125232		CF-663
Naval Reactors Facility (NRF)						
NRF 6P	#6P, NRF_6P		433910	1125501		CF-674
NRF 7P	#7P, NRF_7P		433920	1125436		CF-674
NRF 89-01	89-01					CF-674
NRF 89-02	89-02					CF-674
NRF 89-03	89-03					CF-674
NRF 89-04	89-04		433900	1125451		CF-674
NRF 89-05	89-05		433855	1125450		CF-674
NRF 15		433942112545001	433942.18	1125450.6	4841.87	CF-663
NRF 16		434018112545101	434018.28	1125451.4	4827.54	CF-663
SL 1						CF-674
SL 2						CF-674
SL 3						CF-674
SL 4						CF-674
B1-2						CF-674
B2-2						CF-674
B3-2						CF-674
B4-2						CF-674
B5-2						CF-674
B6-2						CF-674
B7-2						CF-674
B8-2						CF-674
B9-2						CF-674
B10-2						CF-674
B11-2						CF-674
B12-2						CF-674
B13-2						CF-674
B14-2						CF-674
B15-2						CF-674
B16-2						CF-674
B18-2						CF-674
B1-1						CF-674
B2-l						CF-674
B3-l						CF-674
B4-l						CF-674
B5-l						CF-674
B6-1						CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Naval Reactors Facility (NRF)—Continued						
B7-l						CF-674
B8-1						CF-674
B9-l						CF-674
B10-1						CF-674
B11-1						CF-674
B12-1						CF-674
B13-1						CF-674
B14-1						CF-674
B15-1						CF-674
B16-1						CF-674
B17-1						CF-674
B18-l						CF-663
SSG Prod.						CF-674
Idaho National Laboratory (unknown locations)						
A1						CF-674
A2						CF-674
A3						CF-674
A4						CF-674
5A						CF-674
5B						CF-674
5C						CF-674
5D						CF-674
Power Burst Facility (PBF)						
TH23						CF-674
TH27						CF-674
TH28						CF-674
TH32						CF-674
TH44						CF-674
TH92						CF-674
TH 100						CF-674
PBF-MON-A-004	(PBF-MW-A-004)					CF-674
PBF-MON-A-005	(PBF-MW-A-005					CF-674
Radioactive Waste Management Area (RWMC)						
Acid Pit-P01	Acid Pit PI, Acid Pit Perimeter penetration #1		432957	1130241		CF-674
Acid Pit-P02	Acid Pit P2, Acid Pit Perimeter penetration #2		432958	1130240		CF-674
Acid Pit-P03	Acid Pit P3, Acid Pit Perimeter penetration #3		432958	1130239		CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Radioactive Waste Management Area (RWMC)—Continued						
Acid Pit-P04	Acid Pit P4, Acid Pit Perimeter penetration #4		432957	1130238		CF-674
Acid Pit-P05	Acid Pit P5, Acid Pit Perimeter penetration #5		432956	1130239		CF-674
Acid Pit-P06	Acid Pit P6, Acid Pit Perimeter penetration #6		432956	1130241		CF-674
B03N21						CF-674
B07N21						CF-674
B09GN11						CF-674
B10G11						CF-674
B10N21						CF-674
B14N21						CF-674
BG-76-1	76-1		433004	1130304		CF-674
BG-76-2	76-2		432960	1130253		CF-674
BG-76-3	76-3		432959	1130306		CF-674
BG-76-4	76-4		432955	1130248		CF-674
BG-76-4A	76-4A		432956	1130248		CF-674
BG-76-5	76-5		433004	1130254		CF-674
BG-76-6	76-6		432954	1130222		CF-674
BG-77-1	77-1		433014	1130242		CF-663
BG-77-2	77-2		433002	1130300		CF-663
RWMC-78-1	78-1		432957	1130237		CF-674
RWMC-78-2	78-2		433004	1130226		CF-674
RWMC-78-3	78-3		433004	1130253		CF-674
RWMC-78-5	78-5		433000	1130252		CF-674
RWMC-79-1	79-1		432955	1130203		CF-674
RWMC-79-2	79-2		433003	1130239		CF-674
RWMC-79-3	79-3		432949	1130230		CF-674
USGS 91	USGS-091, USGS-91		432957	1130226		CF-674
USGS 92	USGS-092, USGS-92		433001	1130253		CF-674
USGS 93	USGS-093, USGS-93		433002	1130306		CF-674
USGS 93A	USGS-093A, USGS-93A		433002	1130306		CF-674
USGS 94	USGS-094, USGS-94		432957	1130250		CF-674
USGS 95	USGS-095, USGS-95		432954	1130237		CF-674
USGS 96	USGS-096, USGS -96		433004	1130237		CF-674
USGS 96A	USGS-096A, USGS - 96A		433004	1130259		CF-674
USGS 96B	USGS-096B, USGS-96B		433004	1130300		CF-674
USGS 104	USGS-104	432856112560801	432856	1125608	4,987.64	CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Radioactive Waste Management Area (RWMC)—Continued						
USGS 118	USGS-118	432947113023001	432947	1130230	5,012.42	CF-674
RWMC-88-1D	8801D, 88-01D		432959	1130240		CF-674
RWMC-88-02D	8802D		433001	1130232		CF-674
RWMC-89-01D	8901D		432959	1130239		CF-674
E-1						CF-674
W-1						CF-674
PIT-9-P01	Pit 9P1, SDA Pit 9 perimeter penetration #1		433002	1130224		CF-674
PIT-9-P02	Pit 9P2, SDA Pit 9 perimeter penetration #2		433003	1130223		CF-674
PIT-9-P03	Pit 9P3, SDA Pit 9 perimeter penetration #3		433005	1130224		CF-674
PIT-9-P04	Pit 9P4, SDA Pit 9 perimeter penetration #4		433001	1130224		CF-674
PIT-9-P05	Pit 9P5, SDA Pit 9 perimeter penetration #5		433001	1130226		CF-674
PIT-9-P06	Pit 9P6, SDA Pit 9 perimeter penetration #6		433004	1130225		CF-674
PIT-9-P07	Pit 9P7, SDA Pit 9 perimeter penetration #7		433003	1130226		CF-674
PIT-9-P08	Pit 9P8, SDA Pit 9 perimeter penetration #8		433003	1130223		CF-674
SIP W-05						CF-674
SIP W-06						CF-674
SIP W-09						CF-674
SIP W-11						CF-674
SIP W-13						CF-674
SIP W-17						CF-674
SIP W-17A						CF-674
SIP W-18						CF-674
SIP W-24						CF-674
SIP TH-5						CF-674
SIP C-1						CF-674
DO2			433003	1130239		CF-674
DO6			433005	1130243		CF-674
DO6A			433004	1130243		CF-674
D-10			433004	1130304		CF-674
D-15			432955	1130312		CF-674
AH-1						CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Radioactive Waste Management Area (RWMC)—Continued						
AH-1A						CF-674
C-1	C1		433023	1130204		CF-674
C-1A	C1A, C1-A		433024	1130204	5,025.21	CF-674
P-02						CF-674
WWW#1	WWW1, VZ6A		433005	1130333	5,029.70	CF-674
WWW#2	WWW2, VZ6		433003	1130334		CF-674
USGS 129		433036113002701	433036.52	1130027.45	5026.19	CF-663
USGS 132		432906113025001	432906.68	1130250.93	5028.6	CF-663
Sugar City Exploration Well						
Corehole 3		Sugar City, ID				CF-663
Test Area North (TAN)						
TCH #1	TAN CH1, TCH-1	435058112423401	435058	1124234	4780.84	CF-674
TCH #2 Piezo A	TAN CH2, TCH-2	435033112421701	435033	1124217		CF-674
GIN #1	GIN-1, GIN-01	434947112414301	434947	1124143	4,786.73	CF-674
GIN #2	GIN-2, GIN-02	434949112413401	434949	1124134	4,786.23	CF-674
GIN #3	GIN-3, GIN-03	434945112413101	434945	1124131	4,786.24	CF-674
GIN #4	GIN-4, GIN-04	434949112413601	434949	1124136	4,786.32	CF-674
GIN #5	GIN-5, GIN-05	434953112413301	434953	1124133	4,786.63	CF-674
GIN #6	GIN-6, GIN-06		435110	1124348		CF-674
TAN #27						CF-674
TAN #28						CF-674
TAN #29						CF-674
TAN #30						CF-674
TAN #30A						CF-674
MW-2						CF-674
USGS 126A		435529112471301	435529	1124713	4988.69	CF-674
Corehole-2A	2 -2A, Corehole 2-2A	434558112444801	434557	1124449	4787.05	CF-663
A1						CF-674
A2						CF-674
A3						CF-674
A4						CF-674
A6						CF-674
A7						CF-674
A9						CF-674
A10						CF-674
A11						CF-674
A12						CF-674
A13						CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Test Area North (TAN)—Continued						
A14						CF-674
A15						CF-674
A16						CF-674
A17						CF-674
A18						CF-674
A20						CF-674
A21						CF-674
A22						CF-674
A24						CF-674
A25						CF-674
A26						CF-674
A27						CF-674
A28						CF-674
A31						CF-674
A32						CF-674
A33						CF-674
A34						CF-674
A35						CF-674
A36						CF-674
A37						CF-674
A38						CF-674
A39						CF-674
C1						CF-674
C5						CF-674
C7						CF-674
C12						CF-674
C14						CF-674
C15						CF-674
C22						CF-674
C23						CF-674
C24						CF-674
C31						CF-674
C32						CF-674
C33						CF-674
C34						CF-674
C35						CF-674
C36						CF-674
C37						CF-674
C38						CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Test Area North (TAN)—Continued						
C39						CF-674
C40						CF-674
C41						CF-674
C42						CF-674
C43						CF-674
C44						CF-674
C45						CF-674
C46						CF-674
C47						CF-674
C48						CF-674
C49						CF-674
C50						CF-674
C51						CF-674
D1						CF-674
D4						CF-674
D5						CF-674
D6						CF-674
D8						CF-674
D9						CF-674
D10						CF-674
D12						CF-674
D13						CF-674
D14						CF-674
D16						CF-674
D17						CF-674
D18						CF-674
D20						CF-674
D22						CF-674
D23						CF-674
D26						CF-674
D29						CF-674
D30						CF-674
D32						CF-674
D33						CF-674
D35						CF-674
D36						CF-674
D37						CF-674
D39						CF-674
D40						CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Test Area North (TAN)—Continued						
D42						CF-674
D43						CF-674
D44						CF-674
D45						CF-674
D46						CF-674
D47						CF-674
D48						CF-674
D49						CF-674
D50						CF-674
D51						CF-674
D52						CF-674
D53						CF-674
D54						CF-674
D55						CF-674
D57						CF-674
E1						CF-674
E2						CF-674
E3						CF-674
E4						CF-674
E5						CF-674
E6						CF-674
E9						CF-674
E10						CF-674
E11						CF-674
E13						CF-674
E14						CF-674
TAN 2271		435053112423101	435053.33	1124231	4,780.98	CF-663
Wendell-RASA Test Hole						
Wendell-RASA Test Hole		424955114390305	424955	424955	3,599.93	CF-663
Idaho National Laboratory not associated with facility						
Exploration Well 1	Corehole 1	432927112410101	432927	1124107	5370	CF-674
CLC-3						CF-674
CLC-4A						CF-674
CLC-4B						CF-674
CLC-5						CF-674
CLC-6						CF-674
CLC-7						CF-674
CLC-8TR						CF-674
CLC-9						CF-674

Borehole name	Alias(es)	Site identifier	North Latitude (NAD 27)	West Longitude (NAD 27)	Altitude (ft above sea level, NGVD 29)	Current core location
Idaho National Laboratory not associated with facility—Continued						
CLC-10						CF-674
USGS 134		433611112595801	433611.15	1125958.27	4968.84	CF-663
USGS 138		434615112553501	434614.95	1125535.05	4798.79	CF-674
USGS 139		433823112460402	433823	1124604	4950.68	CF-663
USGS 142		433837113010901	433837	1130113	4997	CF-663
Middle 2051		433217113004900	433216.93	1130049.38	4997.31	CF-663

Table 2. Amount and depth below land surface of core and cuttings at the Idaho National Laboratory Lithologic Core Storage Library.

[See table 1 for locations of cores. Blank cells indicate no information is available. Abbreviations: ft, foot; mi, mile]

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Advanced Test Reactor Complex (ATR-Complex)					
TRA 05/PZ1	Core	59	297	238.0	297.00
TRA 08 (interval 1)	Core	115	120	5.0	
TRA-08 (interval 2)	Core	160	166.3	6.3	
TRA 08 (interval 3)	Core	204	207.5	3.5	501.50
PW-7	Core	205	240	35.0	237.00
PW-8	Core	150	183	33.0	188.00
PW-11	Core	131.5	169.6	38.1	168.00
PW-12	Core	133.8	141.5	7.7	141.50
PW-13	Core	40.2	141.9	101.7	148.50
PW-14	Core	135.4	136.2	0.8	136.20
USGS 80	Core	43.9	203.5	159.6	204.00
TRA 06	This core may not be from TRA	24.5	100	75.5	
NRTS Hole 1	Core	41.5	100	58.5	
NRTS Hole 2	Core	53.5	75	21.5	
NRTS Hole 3	Core	59.5	75	15.5	
NRTS Hole 4	Core	45.5	75	29.5	
NRTS Hole 5	Core	39	100	61.0	
NRTS Hole 7	Core	42	75	33.0	
NRTS Hole 8	Core	34	75	41.0	
NRTS Hole 9	Core	35	81	46.0	
INEL #1	Core	2,340	2,351	11.0	
INEL #1 (con't)	Core	2,507	2,515	8.0	
INEL #1 (con't)	Core	3,661	3,696	35.0	
INEL #1 (con't)	Core	3,768	3,769	1.0	
INEL #1 (con't)	Core	4,840	4,877	37.0	
INEL #1 (con't)	Core	9,811	9,812	1.0	
INEL #1 (con't)	Core	10,324	10,326	2.0	10,333.00
USGS 136	Core	48	1,048	1,000.0	1,048.00
USGS 140	Core	0	546	500.0	546.00
Middle 1823	Core	500	1,653.1	1,153.10	1,653.10
Big Southern Butte					
SOBU 950-1	Core	13	1,559	1,546.00	1,559.00
USGS 124	Core	361	361	<1, Small piece from 361 ft.	800.00
USGS 103	Core	760	1,307	547	1,307.00

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Big Southern Butte—Continued					
USGS 105	Core	800	1,409	609	1,409.00
USGS 108	Core	760	1,218	458	1,218.00
USGS 135	Core	4	1,198	1,194	1,198.00
USGS 137	Core	4	994	990	994.00
USGS 137A	Core	984	1,317	333	1,317.00
Box Canyon area about 6 mi southeast of Arco, ID					
11-2	Core	2	61.1	59.1	
11-4	Core	1.5	60.1	58.6	
11-5	Core	1.2	73.7	72.5	
11-6	Core	2.5	60	57.5	
Sl	Core/30°-angle hole	1.2	13.6	12.4	
S2	Core/30°-angle hole	1.3	17.1	15.8	
S3	Core/30°-angle hole	1	37.7	36.7	
S4	Core/30°-angle hole	1	55.4	54.4	
Hole #1	Core	0	30.6	30.6	
Hole #2	Core	0	29.4	29.4	
Hole #3	Core/22°-angle_hole	9.1	30	20.9	
Hole #4	Core	0	30	30	
Hole #5	Core	0	35.3	35.3	
Hole #6	Core	0.5	29.6	29.1	
Hole #7	Core	0	35	35	
Hole #11	Core/oriented corehole	6	46.5	40.5	
Central Facilities Area (CFA)					
USGS 127	Core	15.5	598	581	598.00
USGS 128	Core	23	768	745	768.00
USGS 130	Core	10.3	723	713	723.00
USGS 131	Core	10.1	1,239	1,228.90	1,239.00
USGS 144	Core	6	620	614	620.00
CFA Landfill					
LF2-2	Core	641	646	5	
LF2-7	Core	629	661	32	
LF2-7B	Core	50	70	20	
LF3-8	Core	Unidentified			
CFA Rifle Range					
Rifle Range Well	Cuttings	0	440	440	620.00
CTF (Formerly Loss-of-Fluid Test Facility LOFT					
LOFT-A01	Cuttings	0	25	25	
LOFT-A02	Cuttings	0	23.5	23.5	
LOFT-A03	Cuttings	0	35	35	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
CTF (Formerly Loss-of-Fluid Test Facility LOFT—Continued					
LOFT-A04	Cuttings	0	23	23	
LOFT-A05	Cuttings	0	28	28	
LOFT-A06	Cuttings	0	23	23	
LOFT-A07	Cuttings	0	28.5	28.5	
LOFT-A08	Cuttings	0	25	25	
LOFT-A09	Cuttings	0	23	23	
LOFT-A10	Cuttings	0	24	24	
LOFT-All	Cuttings	0	20	20	
LOFT-Al2	Cuttings	0	21	21	
LOFT-Al3	Cuttings	0	19.5	19.5	
LOFT-A14	Cuttings	0	29	29	
LOFT-A15	Cuttings	0	27	27	
LOFT-Al6	Cuttings	0	25	25	
LOFT-Al7	Cuttings	0	20	20	
LOFT-Al8	Cuttings	0	20	20	
LOFT-Al9	Cuttings	0	27	27	
LOFT-A20	Cuttings	0	40	40	
Experimental Beryllium Oxide Reactor (EBOR)					
1	Core	25.9	35.9	10	
2	Core	29.9	39.1	9.2	
3	Core	27.3	37.3	10	
4	Core	28.8	38.8	10	
5	Core	29.8	39.8	10	
6	Core	28.8	38.8	10	
7	Core	27.8	37.8	10	
8	Core	28.8	38.8	10	
9	Core	27.8	37.8	10	
10	Core	29	39	10	
11	Core	28.9	38.9	10	
12	Core	27.6	37.6	10	
13	Core	28.6	38.6	10	
14	Core	29.7	39.7	10	
15	Core	31.8	41.8	10	
16	Core	29	39	10	
17	Core	31.1	41.1	10	
A-1	Cuttings	0	25	25	
EBOR-01	Cuttings	0	25	25	
Idaho Nuclear Technology and Engineering Center (INTEC)					
USGS 133	Core	27.5	812	784.5	812.00
Middle 2050	Core	75	385	310	385.00

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Idaho Nuclear Technology and Engineering Center (INTEC)—Continued					
Middle 2050A	Core	400	1,379	979	1,379.00
1NW	Core	47	61.4	14.4	
2SE	Core	43.5	53.1	9.6	
3M	Core	39.3	48.9	9.6	
4NE	Core	45	59.4	14.4	
5SW	Core	39.2	53.6	14.4	
CPP_DH1_7th_Bin_Set	Core	44.5	114.5	70	
CPP_DH2_7th_Bin_Set	Core	43	63	20	
CPP_DH3_7th_Bin_Set	Core	45	64.4	19.4	
CPP_DH4_7th_Bin_Set	Core	45.5	68.3	22.8	
CPP_DH5_7th_Bin_Set	Core	46	65.4	19.4	
CPP_DH12_7th_Bin_Set	Core	43.5	48.8	5.3	
PW-1	Core	100	125	25	
PW-2	Core	110	129	19	
	Core	215	220	5	
PW-3	Core	105	130	25	
PW-4	Core	105	150	45	
PW-6	Core	100	125	25	
CPP-01-2	Core	55	108	53	
TF-4-1	Core	33.5	124.1	90.6	
TF-4-A	Core	42.2	112.7	70.5	
TF-5-1	Core	35.5	131.5	96	
TF-33-2-1	Core	41.3	114.8	73.5	
TF-33-3-1	Core	45.8	126.4	80.6	
CPP 14-01	Core	34.6	54.6	20	
CPP 14-03	Core	35.5	55.5	20	
CPP 14-04A	Core	38.7	55	16.3	
CPP 14-08	Core	30.5	55	24.5	
CPP 14-IOC	Core	45.3	55.3	10	
CPP 37-4	Core	34.1	105.7	71.6	
USGS 81	Core	8.5	107	98.5	107.00
USGS 121	Core	0	745.8	745.8	745.80
USGS 121	Core	40	68.2	28.2	
USGS 123	Core	0	741.7	741.7	744.20
ICPP-COR-A-023	Core	40.7	738.6	697.9	740.30
Idaho Falls, Idaho about 50 mi east of the CFA					
ROB-1	Core	9.5	53.1	43.6	
Circular Butte Landfill (CB) (proposed) (about 3 mi west of Mud Lake, ID)					
CB20	Core	0	185	185	
CB21	Core	0	155	155	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Circular Butte Landfill (CB) (proposed) (about 3 mi west of Mud Lake, ID)—Continued					
CB22	Core	0	160	160	
CB23	Core	0	163	163	
	Core	95	153	58	
Material and Fuels Complex (formerly Argonne National Laboratory West)					
DH1	Core	8	80	72	
DH2	Core	13.5	33.5	20	
DH3	Core	15	35	20	
DH4	Core	18.5	51.1	32.6	
DH5	Core	15	53	38	
DH6	Core	11	55	44	
DH7	Core	18.6	80	61.4	
DH8	Core	15.5	49.5	34	
DH9	Core	15.5	45	29.5	
DH10	Core	17	54.5	37.5	
DH11	Core	12	55	43	
DH12	Core	14.8	34.8	20	
DH13	Core	13	35.5	22.5	
DH14	Core	8	79	71	
DH15	Core	14.5	46	31.5	
DH16	Core	13	35.5	22.5	
DH17	Core	13.5	51	37.5	
DH18	Core	10	35	25	
DH19	Core	15	35	20	
DH20	Core	5	49	44	
ANL-IWP-M1	Core	7	54	47	
ANL-M7	Core	46.5	60	13.5	
ANL-M8	Core	36	54.5	18.5	
ANL-M9	Core	37	55	18	
DH1	Core	4.5	37.5	33	
DH2	Core	4.5	62.5	58	
DH3	Core	15	35	20	
DH4	Core	17	92	75	
DH5	Core	11.5	52.5	41	
DH6	Core	15.2	72	56.8	
DH7	Core	10	76.5	66.5	
DH8	Core	10	90	80	
DH9	Core	15	35	20	
DH10	Core	12	52.5	40.5	
DH11	Core	14.6	68.5	53.9	
DH12	Core	8.5	77	68.5	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Material and Fuels Complex (formerly Argonne National Laboratory West)—Continued					
DH13	Core	10	52	42	
DH14	Core	12.5	35	22.5	
CH-C7	Core	8	125	117	
CH-E7.90	Core	8	128	120	
CH-F11.25	Core	8	127.9	119.9	
CH-G4-8.05	Core	13	125	112	
CH-G12	Core	9.5	125	115.5	
DH44	Core	5.2	125.7	120.5	
DH46	Core	6.8	125.3	118.5	
DH48	Core	7.5	27	19.5	
DH50	Core	8.1	250.5	242.4	
DH52	Core	7.5	50	42.5	
DH55	Core	6.7	125.2	118.5	
DH57	Core	7.6	28	20.4	
CH-Gl2	Core	9.5	125	115.5	
DH44	Core	5.2	125.7	120.5	
DH46	Core	6.8	125.3	118.5	
DH48	Core	7.5	27	19.5	
DH50	Core	8.1	250.5	242.4	
DH52	Core	7.5	50	42.5	
DH55	Core	6.7	125.2	118.5	
DH57	Core	7.6	28	20.4	
DH1	Core	2.9	5.8	2.9	
DH2	Core	1.2	5.7	4.5	
DH3	Core	1.6	6.2	4.6	
DH4	Core	2.1	6.2	4.1	
DH5	Core	1.6	5.8	4.2	
DH6	Core	2.3	6.7	4.4	
DH7	Core	1.6	5.7	4.1	
DH8	Core	4	9	5	
DH9	Core	2.5	6.5	4	
DH10	Core	4.2	8.2	4	
DH11	Core	2.8	6.4	3.6	
DH12	Core	2.2	6.3	4.1	
DH13	Core	2.2	6	3.8	
DH14	Core	1.5	5.8	4.3	
DH15	Core	2	7.6	5.6	
DH16	Core	8.6	12.6	4	
DH17	Core	8.5	12.5	4	
DH18	Core	9.2	13.3	4.1	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Material and Fuels Complex (formerly Argonne National Laboratory West)—Continued					
DH19	Core	9.5	13.3	3.8	
DH20	Core	10.6	14.6	4	
DH21	Core	2.2	6.3	4.1	
DH22	Core	3.5	7.5	4	
DH23	Core	3.5	35	31.5	
DH24	Core	3.2	70	66.8	
DH25	Core	4.5	35	30.5	
DH1	Core	5	19.2	14.2	
DH2	Core	11.9	18.2	6.3	
DH5	Core	9	9.2	0.2	
DH6	Core	29.2	30.9	1.7	
ANL-OBS-AQ-014	Core	0	1,910	1,910	1,910.00
EBR-II	Cuttings	0	10	10	
USGS 143	Core	9	829	820	830.00
Auxiliary Reactor Area (ARA)					
ARA-COR-005	Core	9.7	855.4	845.7	860.00
ARA-MON-A-01	Cuttings	0	630	630	
ARA-MON-A-02	Cuttings	0	620	620	
ARA-MON-A-03A	Cuttings	10	650	640	
ARA-MON-A-04	Cuttings	0	485	485	
STF-PIE-AQ-01	Core	19	713.2	694.2	694.20
STF-PIE-AQ-02	Core	10.5	549.5	539	539.00
Mountain Home Air Base Idaho (about 165 mi southwest of the CFA)					
MHTH-1	Core	1325	4403	3078	4,403.00
Mud Lake Landfill (ML) (about 1 mi northwest of Mud Lake, ID)					
ML-1	Cuttings	0	90	90	
New Production Reactor (NPR)					
A-26	Core/45°-angle hole	4.5	240	235.5	
DC-1	Core	2.1	300	297.9	
DC-2	Core	3.1	296.9	293.8	
DC-3	Core	1.5	300.1	298.6	
DC-4	Core	3.5	300	296.5	
F-1	Core	4	200	196	
F-2	Core	2.4	50	47.6	
F-3	Core	12.7	50	37.3	
F-4	Core	1.7	50	48.3	
F-5	Core	2	50.1	48.1	
F-6	Core	5.3	50.4	45.1	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
New Production Reactor (NPR)—Continued					
F-7	Core	12.5	50.1	37.6	
F-8	Core	1	50	49	
F-9	Core	4	50.4	46.4	
F10	Core	1.7	50.2	48.5	
F11	Core	13	50	37	
F12	Core	16.4	50	33.6	
F13	Core	1.5	50	48.5	
F14	Core	0	50	50	
IC-5	Core	4.5	170	165.5	
IC-7	Core	1.5	170.3	168.8	
IC-10	Core	4.3	170	165.7	
IC-12	Core	2.5	170	167.5	
S17	Core	8.5	100	91.5	
NPR Test	Core	6.8	609.2	602.4	4,933.13
NPR W-01	Core	414.5	526.9	112.4	
NPR W-02	Core	525	734	209	4,930.29
NPR W-02 (deepened)	Core	620	4,995.7	4,375.70	5,000.00
Naval Reactors Facility (NRF)					
NRF 6P	Core	11	500.2	489.2	500.20
NRF 7P	Core	25	500	475	500.00
NRF 89-01	Core	0	38	38	38.00
NRF 89-02	Core	0	42	42	42.00
NRF 89-03	Core	0	34	34	34.00
NRF 89-04	Core	0	248	248	248.00
NRF 89-05	Core	0	241.5	241.5	241.50
NRF 15	Core	16.5	759	742	759.00
NRF 16	Core	7	425	418	418.00
SL 1	Core	30	35	5	
SL 2	Core	28.5	33.5	5	
SL 3	Core	42.5	47.5	5	
SL 4	Core	40	45	5	
Bl-2	Core	33	43	10	
B2-2	Core	34	44	10	
B3-2	Core	45.5	67.5	22	
B4-2	Core	36	58	22	
B5-2	Core	39	59.3	20.3	
B6-2	Core	2	12	10	
B7-2	Core	0	10.5	10.5	
B8-2	Core	7	14	7	
B9-2	Core	28	50	22	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Naval Reactors Facility (NRF)—Continued					
B10-2	Core	43	65	22	
B11-2	Core	36	58	22	
B12-2	Core	4	9	5	
B13-2	Core	2	12	10	
B14-2	Core	3	13	10	
B15-2	Core	3	13	10	
B16-2	Core	40	50	10	
B18-2	Core	36.5	96.1	59.6	
Bl-1	Core	32	42	10	
B2-l	Core	23	33	10	
B3-l	Core	23	34	11	
B4-l	Core	24.5	47	22.5	
B5-l	Core	39.5	57	17.5	
B6-1	Core	20.5	30.5	10	
B7-l	Core	26	36	10	
B8-1	Core	34.6	56.6	22	
B9-l	Core	31.5	41.5	10	
B10-1	Core	26	38	12	
B11-1	Core	31	52.3	21.3	
B12-1	Core	21	43	22	
B13-1	Core	21	31.5	10.5	
B14-1	Core	23.5	33.5	10	
B15-1	Core	24.5	34.5	10	
B16-1	Core	34	56	22	
B17-1	Core	50.2	59	8.8	
B18-l	Core	33	250.6	217.6	
SSG Prod.	Cuttings	10	1,340	1,330	
Idaho National Laboratory--unknown areas					
A1	Cuttings	0	10	10	
A2	Cuttings	0	5	5	
A3	Cuttings	0	3.5	3.5	
A4	Cuttings	0	4	4	
5A	Cuttings	0	40	40	
5B	Cuttings	0	35	35	
5C	Cuttings	0	8	8	
5D	Cuttings	0	58	58	
Power Burst Facility (PBF)					
TH 23	Core	24.7	41.5	16.8	
TH 27	Core	5.8	58.5	52.7	
TH 28	Core	6.4	69	62.6	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Power Burst Facility (PBF)—Continued					
TH 32	Core	3.8	13.6	9.8	
TH 44	Core	4.3	64.7	60.4	
TH 92	Core	13.6	49	35.4	
TH 100	Core	4.4	44.7	40.3	
PBF-MON-A-004	Cuttings	20	595	575	
PBF-MON-A-005	Cuttings	15	545	530	
Radioactive Waste Management Area (RWMC)					
Acid Pit-P01	Sediment	2	16	14	
Acid Pit-P02	Sediment	2	16	14	
Acid Pit-P03	Sediment	2	16	14	
Acid Pit-P04	Sediment	2	16	17	
Acid Pit-P05	Sediment	2	16	20	
Acid Pit-P06	Sediment	2	16	16	
B03N21	Core	6.3	171.1	164.8	
B07N21	Core	6.8	182	175.2	
B09GN11	Core	19.5	179.4	159.9	
B10G11	Core	11.8	178.2	166.4	
B10N21	Core	69.7	174.2	104.5	
B14N21	Core	5.1	176.6	171.5	
BG-76-1	Core	84.7	125.5	40.8	228.30
	Processed sediment	205.9	245.8	39.9	
BG-76-2	Core	18.1	152.6	134.5	252.50
	Core	218	222	4	
	Processed sediment	223	243.9	20.9	
BG-76-3	Core	22.2	95	72.8	240.00
	Processed sediment	99.3	119.7	20.4	
	Core	120	130.8	10.8	
	Core	216	221.8	5.8	
	Processed sediment	223.6	240.4	16.8	
BG-76-4	Core	11.2	114.2	103	215.00
	Processed sediment	232.3	234.9	2.6	
BG-76-4A	Core	11.2	101.3	90.1	254.00
	Core	196.8	226	29.2	
	Processed sediment	226	243.4	17.4	
BG-76-5	Core	10	122	112	245.00
	Processed sediment	95.9	121.2	25.3	
	Core	211.3	219.8	8.5	
	Processed sediment	223.7	241.2	17.5	
BG-76-6	Core	9.1	243.6	234.5	243.80
BG-77-1	Core	6	598	592	600.00

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Radioactive Waste Management Area (RWMC)—Continued					
BG-77-2	Core	19.8	87	67.2	87.00
	Core	193	202.2	9.2	87.40
RWMC-78-1	Core	23	78	55	82.00
RWMC-78-2	Core	4.7	97	92.3	252.60
	Core	106	230.1	124.1	
	Processed sediment	230.1	243.1	13	
RWMC-78-3	Core	5.5	224.5	219	248.00
	Processed sediment	224.5	242.4	17.9	
RWMC-78-5	Core	22	96.7	74.7	250.00
	Processed sediment	99	112.4	13.4	
	Core	129.2	224.7	95.5	
	Processed sediment	226.5	240.3	13.8	
RWMC-79-1	Core	4.8	129.2	124.4	244.00
	Processed sediment	129.2	141.7	12.5	
	Core	142.9	236.9	94	
RWMC-79-2	Core	18.5	98.7	80.2	222.70
	Processed sediment	99.9	103	3.1	
	Core	106.5	222.9	116.4	
RWMC-79-3	Core	17.2	169.1	151.9	262.00
	Processed sediment	235	251.7	16.7	
USGS 91	Core	8	111	103	255.00
	Core	131.8	234	102.2	
	Core	245	254	9	
USGS 92	Core	19.3	226.4	207.1	247.00
	Processed sediment	220.5	249.7	29.2	
USGS 93	Processed sediment	0	12.1	12.1	
	Core	14	246.1	232.1	246.25
USGS 93A	Core	25.8	100.5	74.7	
	Processed sediment	100.5	109.1	8.6	
	Core	109.5	221.7	112.2	
	Processed sediment	227.9	233.2	5.3	
USGS 94	Core	12.4	96.3	83.9	
	Core	112.6	223.3	110.7	
	Processed sediment	231.3	244.8	13.5	
	Core	247	302.3	55.3	
USGS 95	Processed sediment	0	24	24	
	Core	24	243	219	
USGS 96	Core	15	236.3	221.3	
USGS 96A	Core	22.3	67.9	45.6	
	Core	87.5	121	33.5	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Radioactive Waste Management Area (RWMC)—Continued					
USGS 96B	Core	20	105.4	84.7	
	Processed sediment	106.3	124.9	18.6	
	Core	128.8	214.5	85.7	
	Processed sediment	221	227.4	6.4	
USGS 104	Cuttings	15	201	186	
USGS 118	Core	0	569.9	569.9	569.90
RWMC-88-1 D	Core	28.6	210.9	181.4	
	Core	220.3	230.1	9.8	
RWMC-88-020 (8802D)	Core	6	206.4	200.4	
RWMC-89-01 D	Core	31.6	40.9	9.3	
		88.8	113	24.2	
PIT-9-P02	Sediment	16	14		
PIT-9-P03	Sediment	8	6		
PIT-9-P04	Sediment	16	14		
PIT-9-P05	Sediment	20	18		
PIT-9-P06	Sediment	4	2		
PIT-9-P07	Sediment	14	12		
PIT-9-P08	Sediment	14	12		
SIP W-05	Core	224	232	8.0	
SIP W-06	Core	233	247	14.0	
SIP W-09	Core	284	291	7.0	
SIP W-11	Core	200	208	8.0	
SIP W-13	Core	258	267	9.0	
SIP W-17 &l7A	Core	269	283	14.0	
SIP W-18	Core	248	257	9.0	
D-10	Core	96.5	221.5	125	
D-15	Core-miscellaneous pieces				
C-1 (Cl)	Core	9.5	663.5	654	
C-lA (CIA, Cl-A)	Core	7.2	1805	1,797.80	1,805.00
P-02	Cuttings	111.4	175	63.6	
WWW#l (WWWI, VZ6A)	Core	9.9	265	255.1	
WWW#2 (WWW2, VZ6)	Core	10.5	109.7	99.2	
USGS 129	core	9.2	779	770	779.00
USGS 132	core	9	1,238	1,229	1,238.00
Sugar City Exploration Well					
Corehole 3	Core	0	2,283	2,283	
Test Area North (Test Area North)					
TCH #1	Core	46	600	554	600.00
TCH #2 Piezo A	Core	47.4	1,113.5	1,066.1	1,113.50

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Test Area North (Test Area North)—Continued					
GIN #1	Cuttings	10	372	362	
GIN #2	Cuttings	10	402	392	
GIN #3	Cuttings	10	375	365	
GIN #4	Cuttings	10	306	296	
GIN #5	Core	30.5	430.2	399.7	430.00
GIN #6	Core	59	200.1	141.1	200.10
TAN #27	Cuttings	45	205	160	
TAN #27(con't)	Core	205.5	249.5	44	253.70
TAN #28	Cuttings	0	255	255	
TAN #29	Cuttings	0	265	265	
TAN #30	Cuttings	0	170	170	
TAN #30A	Cuttings	30	320	290	
MW-2	Cuttings	0	250	250	
USGS 126A	Core	5.6	519.5	513.9	648
Corehole-2A	Core	40	3,000	2,960	3,000.00
A1	Core	42.9	57.9	15	
A2	Core	45.3	60.3	15	
A3	Core	40.8	50.8	10	
A4	Core	48	58	10	
A6	Core	44.2	54.2	10	
A7	Core	45	62	17	
A9	Core	45.2	60.2	15	
A10	Core	48.7	60.7	12	
A11	Core	42	52	10	
A12	Core	41.5	51.5	10	
A13	Core	44.6	54.6	10	
A14	Core	46.1	56.1	10	
A15	Core	48	58	10	
A16	Core	45.8	63.8	18	
A17	Core	43.8	53.8	10	
A18	Core	40.1	50.1	10	
A20	Core	45.1	55.1	10	
A21	Core	41.8	51.8	10	
A22	Core	40.5	50.5	10	
A24	Core	47.1	57.1	10	
A25	Core	41.1	51.1	10	
A26	Core	44.2	59.2	15	
A27	Core	42.6	52.6	10	
A28	Core	42.1	52.1	10	
A31	Core	39.8	49.8	10	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Test Area North (Test Area North)—Continued					
A32	Core	39.9	49.9	10	
A33	Core	40.3	50.3	10	
A34	Core	39.5	49.5	10	
A35	Core	41.7	51.7	10	
A36	Core	43.3	53.3	10	
A37	Core	41.1	51.1	10	
A38	Core	45	55	10	
A39	Core	43.7	53.7	10	
C1	Core	49	64	15	
C5	Core	42	52	10	
C7	Core	46	56	10	
C12	Core	44.2	54.2	10	
C14	Core	41.5	49.5	8	
C15	Core	42.5	57.5	15	
C22	Core	42.5	52.5	10	
C23	Core	42	51	9	
C24	Core	47.5	63.5	16	
C31	Core	41.5	65.5	24	
C32	Core	41.5	61.5	20	
C33	Core	45.3	55.3	10	
C34	Core	46.4	63.4	17	
C35	Core	47.1	57.1	10	
C36	Core	42.2	52.2	10	
C37	Core	47.1	57.1	10	
C38	Core	42.6	56.6	14	
C39	Core	41.7	51.7	10	
C40	Core	44.2	64.2	20	
C41	Core	42.2	52.2	10	
C42	Core	42	52	10	
C43	Core	41.6	51.6	10	
C44	Core	41.7	51.7	10	
C45	Core	41.2	51.2	10	
C46	Core	41.7	51.7	10	
C47	Core	41.1	51.1	10	
C48	Core	41.1	51.1	10	
C49	Core	41	51	10	
C50	Core	41.3	51.3	10	
C51	Core	40.8	50.8	10	
D1	Core	30.2	40.2	10	
D4	Core	38	58	20	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Test Area North (Test Area North)—Continued					
D5	Core	29	39	10	
D6	Core	32.5	42.5	10	
D8	Core	47	57	10	
D9	Core	29	39	10	
D10	Core	30.5	40.5	10	
D12	Core	44.5	54.5	10	
D13	Core	28	38	10	
D14	Core	30.7	40.7	10	
D16	Core	45.5	60.5	15	
D17	Core	35.4	45.4	10	
D18	Core	46.6	56.6	10	
D20	Core	37.6	47.6	10	
D22	Core	43.8	58.8	15	
D23	Core	37.6	47.6	10	
D26	Core	33.5	43.5	10	
D29	Core	31.9	41.9	10	
D30	Core	38	54	16	
D32	Core	32	42	10	
D33	Core	38	48	10	
D35	Core	27.8	37.8	10	
D36	Core	40.2	50.2	10	
D37	Core	57.3	67.3	10	
D39	Core	36.9	46.9	10	
D40	Core	45.7	55.7	10	
D42	Core	28	38	10	
D43	Core	29	39	10	
D44	Core	41.6	51.6	10	
D45	Core	32.3	42.3	10	
D46	Core	34.9	44.9	10	
D47	Core	45.6	65.6	20	
D48	Core	30.2	40.2	10	
D49	Core	33.6	43.6	10	
D50	Core	46.5	67.5	21	
D51	Core	28.2	38.2	10	
D52	Core	43.3	68.3	25	
D53	Core	30.8	40.8	10	
D54	Core	30	40	10	
D55	Core	28	38	10	
D57	Core	37.7	47.7	10	
E1	Core	42.1	52.1	10	

Borehole name	Sample type	Beginning footage	Ending footage	Total footage	Total depth (ft)
Test Area North (Test Area North)—Continued					
E2	Core	40.9	50.9	10	
E3	Core	41.2	51.2	10	
E4	Core	41.1	51.1	10	
E5	Core	41.3	51.4	10.1	
E6	Core	41.7	51.7	10	
E9	Core	41.1	61.1	20	
E10	Core	41.2	51.2	10	
E11	Core	41.6	51.6	10	
E13	Core	41.1	51.1	10	
E14	Core	41.7	51.7	10	
TAN 2271	Core	33	289	250	289.00
Wendell-RASA Test Hole					
Wendell-RASA Test Hole	Core		6	1093	1,087.00
Corehole 1					
Corehole 1, Exploration Well 1	Core		40	2000	1,960.00
Miscellaneous					
CLC-3	Sediment		0	19	19.00
CLC-4B	Sediment		0	12	12.00
CLC-5	Sediment		0	11.8	11.80
CLC-7	Sediment		0	7.5	7.50
CLC-8TR	Sediment		0	18	18.00
CLC-9	Sediment		0	16	16.00
CLC-10	Sediment		0	14	14.00
Idaho National Laboratory not associated with facility					
USGS 134	Core	10.5	949		938.50
USGS 138	Core	0	334	333.6	334.00
USGS 139	Core	6	788	782	788.0
USGS 142	Core	5	1,880	1,875	1,880.00
Middle 2051	Core	127	1,179	1,053	1,179.00

Table 3. Summary of investigations on geology, paleomagnetism, and stratigraphy of the eastern Snake River Plain and Idaho National Laboratory, Idaho.

[**Reference:** Many listed publications are available at https://pubs.er.usgs.gov/. **Abbreviations:** INL, Idaho National Laboratory; ESRP, eastern Snake River Plain; INTEC, Idaho Nuclear Technology and Engineering Center (also known as Idaho Chemical Processing Plant [ICPP]); CFA, Central Facilities Area; RWMC, Radioactive Waste Management Complex; TAN, Test Area North; NPR, New Production Reactor; NRF, Naval Reactors Facility; SRP, Snake River Plain; USGS, U.S. Geological Survey]

Reference	Core analyzed	Types of analyses
Barraclough and others, 1976	BG-88, 89, 90, 91, 92, 93, 94, 95, 96	Mineralogy and grainsize distribution of sedimentary interbeds
Bartholomay and others,1989	UZ6A; PW-1, 2, 3, 4, 6, 7, and 8	Mineralogy and grainsize distribution of sedimentary interbeds
Bartholomay 1990b	TAN CH-1	Mineralogy of sedimentary interbed material
Bestland and others, 2002	Corehole 2-2A	Sedimentary interbeds in corehole 2-2A in the Big Lost River trough. Carbon and oxygen isotopes of clay material.
Blair, 2002	Corehole 2-2A, WO-2, C-1A, ANL-OBS--A-001	Grain-size of sedimentary interbeds, zircon analyses.
Champion and others, 1981	NPR Test	Radiometric ages and paleomagnetism at corehole Site E (NPR Test)
Champion and others, 1988	NPR Test	Radiometric ages and paleomagnetism at corehole Site E (NPR Test), description of Big Lost cryptochron
Champion and Herman, 2003	ICPP 213, 214, 215; and USGS 128	Paleomagnetism of basalt from drill cores at Vadose zone research park near INTEC
Champion and others, 2002	ANL-OBS-AQ-014; ARA-COR-005; BG-77-1; C-1A; Corehole 1, 2-2A; ICPP-COR-A-023; NPR Test/WO-2; NRF-6P, 7P, B18-1, 89-04, 89-05; TAN CH-1, 2; TRA-05; USGS 80, 118, 121, 123	Age of basalt flows from cores throughout the INL
Champion and others, 2011	ANL-DH-50; ANL-OBS-A-001; ARA-COR-005; BG-76, 77-1, 93A, 94A; C1A; Corehole 1, 2-2A; GIN-5, 6; ICPP-023, 1795, 1796, 1797, 1798, 213, 214, 215; Middle 1823, 2050A, 2051; NPR Test-WO-2; NRF-B18-1, 6P, 7P, 89-04, 89-05; PW-13; STF-AQ-01; TAN CH-1, 2; TRA-5, 6; USGS 80, 81,118, 121, 123, 126A, 127, 128, 129, 130, 131, 121, 133, 134, 135; VZ6A-WWW-1	Stratigraphic correlation of southern part of INL along with paleomagnetic information for many cores throughout the INL
Champion and others, 2013	NRF B18-1, 89-04, 89-05, 6P, 7P, 15, 16, and USGS 133	Stratigraphic correlation of wells at NRF and to wells south of NRF; includes paleomagnetic data and argon age dates for several cores.
Doherty, 1979a	Corehole 2-2A	Drilling data, lithologic and geophysical logs
Doherty, 1979b	Corehole #1	Drilling data, lithologic and geophysical logs

Reference	Core analyzed	Types of analyses
Doherty and others, 1979	Exploratory geothermal test well (INEL-1)	Drilling data, geophysical, and lithologic logs
Geist and others, 2002	TAN 33, 34; GIN-5, 6;	Gechemistry and paleomagnetic inclination data collected and compared to Lanphere study.
Geslin and others, 2002	Corehole 2-2A; TAN CH 1, 2; GIN-5, 6; TAN-34; Borehole 14A	Point counts, detrital zircon analyses, and mineralogy of sediment from cores in the Big Lost Trough
Gianniny and others, 2002	Jefferson landfill cores CB 20, 21, 23; Corehole 2-2A	Ostracod identification in sediments cores
Grimm-Chadwick, 2004	USGS 127, 128, 129	Stratigraphy, geochemistry, and descriptions of high K2O flow in cores
Hodges and others, 2012	USGS 103, 105, 108, 131, 135; NRF-15, 16	Construction diagrams, lithologic descriptions, and geophysical logs for coreholes
Hodges and others, 2015	ARA-COR-005; BG-77-1; NRF-6P, 16; USGS 128, 131, 135	Age dates for selected flows from selected coreholes around the INL
Hodges and Champion, 2016	USGS 103, 105, 108, 131, 136, 137A	Stratigraphic correlation of southern part of INL including paleomagnetic data for several coreholes.
Hughes and others, 2002	TAN CH-1, 2; TAN 34; GIN-5, 6; Corehole 2-2A, USGS 80, 118, 126A; ML-1; CB-21, 23; ICPP-023; TRA-05; BG-77-1; C-1A; STF-PIE-AQ-01; Corehole 1; Argonne-1, WO-2	Major and trace element analyses of basalt cores
Kuntz and others, 1980	USGS 94, BG-77-1, 76-6	Radiometric dating, paleomagnetism on cores from RWMC
Lanphere and others, 1994	TAN CH 1, 2	Petrography, age and paleomagnetism of basalt flows at and near TAN
Lanphere and others, 1993	ICPP-123; NRF 89-04, 89-05; USGS 80	Petrography, age and paleomagnetism of basalt flows at and near NRF
Mazurek, 2004	Middle 1823, WO-2	Core logs, clay mineralogy of sediments, geochemistry of basalt and sedimentary interbeds
Miller, 2007	USGS 132	Geochemistry, and descriptions of the B flow, and stratigraphy of corehole USGS 132
Morse and McCurry, 2002	C1A, Corehole 2-2A, WO-2, ANL-1	Base of the aquifer, alteration in basalts, basalt geochemical data
Mudge, 2016	NRF-15, USGS 142	Sedimentary interbed grain size and provinence and correlation.
Perkins, 2003	ICPP-215	Hydraulic properties of sedimentary interbeds near INTEC
Perkins and Nimmo, 2000	UZ98-2	Hydraulic properties of sedimentary interbeds near RWMC
Potter, 2010	USGS 135	Geochemistry, photos, and petrological analyses of core USGS 135

Reference	Core analyzed	Types of analyses
Reed and Bartholomay, 1994	CLC-4A; DC-1, 4; GIN-6; HWY-1; NPR Test; NRF 6P, 7P; PW-7, PW-11; RWMC C1A; TAN CH 1, 2; TRA-5, 8; USGS 30, 80, 81, 99, 103, 104, 118, 121, 123; WO-2;	22 cores sampled for mineralogy of sedimentary interbeds
Reed and others, 1997	ICPP 121, ICPP 123	Whole rock geochemistry of cores from wells 121 and 123.
Rightmire, 1984	BG-93A, 96B	Mineralogy and grain size of sedimentary interbeds
Rightmire and Lewis, 1987	BG-76-1, 76-2, 76-3, 76-4, 76-5, 76-6, 77-1, 77-2	Unsaturated zone geology, geochemistry of sediment and alteration products, mineralogy and grain size of sedimentary interbeds, core descriptions.
Scarberry, 2003	ARA-COR-005; BG-77-1; C1A; NPR Test; STF-AQ-01; USGS 118	Geochemistry of the F flow (now referred to as the Big Lost Reversed Polarity Cryptochron flows) and distribution in several coreholes at the INL
Shervais and others, 2006	INL, TAN cores	Cyclic geochemical variations in basalt in TAN drill cores
Twining and others, 2008	USGS 126a, 126b, 127, 128, 129, 130, 131, 132, 133 and 134	Construction diagrams, lithological, and geophysical logs for coreholes
Twining and others, 2012	USGS 136	Core log, photos and geophysical logs for well USGS 136
Twining and others, 2014	USGS 140	Core log, photos and geophysical logs for well USGS 140
Twining and others, 2016	TAN 2271, 2272	Core log, photos and geophysical logs for well TAN 2271 and 2272
Twining and others, 2017	USGS 142	Core log, photos and geophysical logs for well USGS 142
Wetmore, 1998	BG-77-1, C1A, STF-PIE-AQ-1, USGS 118	Geochemistry of basalt flows to determine distribution in several coreholes at the INL
Winfield, 2003	ICPP-189, 198, 204, 205, 213, 214, 215	Particle size, bulk density, particle density, and specific surface area of sedimentary interbeds from 6 cores from the vadose zone research park near INTEC

Appendixes

Appendixes A and B are PDF files available for download at https://doi.org/10.3133/ofr20181001.

Appendix A. Idaho National Laboratory Lithologic Core Storage Library Standard Operating Procedures

Appendix B. Idaho National Laboratory Lithologic Core Storage Library Forms

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