

**DOE-ID NEPA CX DETERMINATION  
IDAHO NATIONAL LABORATORY**

<b>SECTION A.</b>	<b>Project Title: INL – USGS Geotechnical Drilling Program (USGS 137)</b>
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<b>SECTION B.</b>	<b>Project Description:</b>
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The U.S. Geological Survey (USGS) proposes to drill a 2,000-foot deep geotechnical corehole (USGS 137) into the eastern Snake River Plain aquifer. Geotechnical borehole USGS 137 is located 3.0 miles south of RWMC at the Southeast Quarter of the Southwest Quarter, Section 31, Township 02 North, Range 29 East. USGS 137 will be located approximately 50 ft northeast of USGS 109 and within the same well pad. The purpose of this geotechnical borehole is to obtain geologic, stratigraphic, and hydraulic data to characterize flow in the Snake River Plain aquifer. Multilevel monitoring instrumentation will be installed into the boreholes once the core drilling is completed.

USGS 137 will be drilled within the existing well pad for borehole USGS 109, which was originally drilled in 1980. This well includes a graveled drill area surrounding the wellhead and a concrete wellhead pad at land surface (Figure 1).

USGS personnel will use a Christensen CS-1500 truck-mounted coring unit, SD300 drill rig, and a Sullair 900-cfm, 350-psi air compressor to core the borehole to a total projected depth of about 2,000 feet. The USGS will archive all removable core material into the INL Core Storage Library for further studies. Upon completion of borehole drilling, the hole will be bored to a 4.5-inch diameter, large enough to accommodate a Westbay MP55 sampling system to about 1,300 ft BLS. The completed borehole will then be used as part of the USGS Long-Term Monitoring Network. When no longer needed, the borehole will be closed in compliance with all applicable requirements.

The USGS plans to begin coring activities in fall of 2011. Coring work is anticipated to take approximately 10-12 weeks and the projected cost of the project is estimated at \$100,000.

<b>SECTION C. Environmental Aspects / Potential Sources of Impact</b>
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**Air Emissions** – USGS personnel will use a truck-mounted coring unit with an air compressor to core the borehole. Because drilling activities will be conducted several hundred feet below the surface, air pollutants from the borehole itself are not of concern. There will be some exhaust from operation of the coring unit and other heavy equipment but these emissions should be well below any reportable levels. If fugitive dust is expected during drill site operations, reasonable precautions will be taken to prevent particulate from becoming airborne. This is in accordance with the methods specified in the Rules for the Control of Air Pollution in Idaho (IDAPA 58.01.01.650-651). Steps taken to control fugitive dust at the INL Site (such as application of water or other suppressants) must be recorded in the project records. The date, time, location, and amount/type of suppressant must be recorded to demonstrate compliance with the INL Title V Air Permit.

USGS personnel bringing non-INL owned air emission sources onto the INL (e.g., internal combustion equipment) are responsible for determining if any permitting requirements apply to that equipment and, if necessary, obtaining the permit and maintaining an on-site file of the documentation. This requirement does not apply to mobile equipment (an engine that is connected to a drive train to propel a vehicle).

**Discharging to Surface-, Storm-, or Ground Water** – Project activities will result in the discharge of wastewater from the drilling operation to the ground. Project personnel will work with Waste Generator Services (WGS) to determine appropriate waste disposal pathways.

**Disturbing Cultural/Biological Resources** – This work will be performed in a previously disturbed area. Any soil disturbance would be the result of transportation and staging activities that are adjacent to roadways and the graveled drill sites. Interaction with wildlife/habitat is expected to be minimal.

**Cultural Resources:** Surveys will be completed near the well and associated laydown areas prior to drilling to verify that no resources have been previously impacted. Project activities will be organized to minimize impacts to any sensitive materials identified during these surveys. Contact Brenda Pace (525-0916) to arrange for cultural resource surveys and a review.

**Biological Resources:** Although the chance for increased disturbance at the wellhead sites and on existing roadways is minimal, there is the potential for some interaction with wildlife/habitat during the course of this project. Contact Jackie Hafra (525-9358) to report sage grouse sightings near the drilling areas. Jackie should also be contacted to arrange for nesting bird surveys or to respond to any questions or concerns on this subject.

**Generating and Managing Waste** – Core drilling activities will generate about 40 cubic feet of rock cuttings, most of which will enter fractures in the corehole. Drilling activities will also generate about 60 cubic feet of basalt and sediment core, all of which will be archived at the INL Core Storage Library for future studies. Project activities may also generate limited amounts of used personal protective equipment (PPE) and miscellaneous industrial waste. This waste will be disposed of at the INL Landfill Complex through Waste Generator Services (WGS). Project personnel will incorporate waste minimization measures by obtaining reusable laundered personal protective equipment (PPE) where practical.

**Releasing Contaminants** – Diesel fuel for operation of drilling equipment will be stored in fuel tanks. Other chemicals such as hydraulic oil may also be used. Because this project will use petroleum products and possibly other potentially hazardous industrial chemicals, there is the potential for small amounts of contaminant release into the air or soil. Project personnel will use non-hazardous chemical substitutes in the place of hazardous chemicals as long as the non-hazardous substitutes meet the requirements/specifications of the requester. Project personnel will apply spill prevention/minimization measures during chemical use and storage and will reference Affirmative Procurement (MCP-592) as guidance to procure appropriate chemicals. Project personnel will maintain an inventory of on-site chemicals purchased from off-site sources and records of any chemical releases. Chemical usage data is directly provided to DOE-ID for inclusion in annual EPCRA reports.

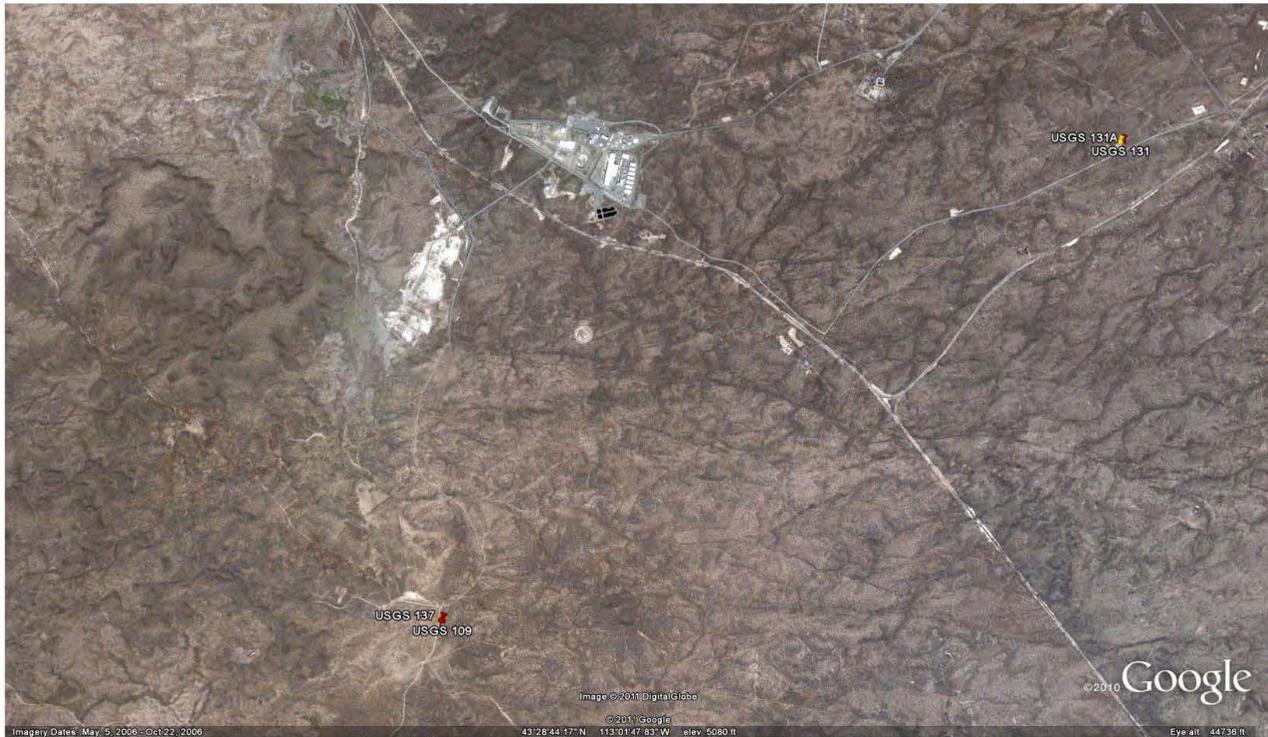


Figure 1. Location of USGS 137 and USGS 109, south of the Radioactive Waste Management Complex, Idaho National Laboratory, Idaho.

**SECTION D. Determine the Level of Environmental Review (or Documentation) and Reference(s):** Identify the applicable categorical exclusion from 10 CFR 1021, Appendix B, give the appropriate justification, and the approval date.

Note: For projects Categorical Exclusions (CXs) the proposed action must not: 1) threaten a violation of applicable statutory, regulatory, or permit requirements for environmental, safety, and health, including requirements of DOE orders; 2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment facilities; 3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there would be uncontrolled or unpermitted releases; 4) adversely affect environmentally sensitive resources. In addition, no extraordinary circumstances related to the proposal exist which would affect the significance of the action, and the action is not “connected” nor “related” (40 CFR 1508.25(a)(1) and (2), respectively) to other actions with potentially or cumulatively significant impacts

References: INL-EXT-10-19116, 10 CFR 1021, Appendix B to Subpart D, item B3.1 categorical exclusion, "Onsite and offsite site characterization and environmental monitoring

Justification: The proposed USGS action will provide additional capability to monitor and characterize flow through the Snake River Plain Aquifer. Project activities described in this EC are consistent with 10 CFR 1021, Appendix B to Subpart D, item B3.1 categorical exclusion, "Onsite and offsite site characterization and environmental monitoring ... Specific activities include, but are not limited to: ... (c) Drilling of wells for sampling or monitoring of groundwater ..."

Is the project funded by the American Recovery and Reinvestment Act of 2009 (Recovery Act)  Yes  No

Approved by Jack Depperschmidt, DOE-ID NEPA Compliance Officer on 5/12/2011