

**SECTION A. Project Title: INL – USGS Geotechnical Drilling Program (USGS 131A)**

**SECTION B. Project Description:**

The U.S. Geological Survey (USGS) proposes to use an existing well pad to construct a replacement well, USGS131A, about 25 ft north of the original well head (USGS 131). USGS 131A will be drilled to about 1,300 ft below surface level (BSL) then instrumented with a multilevel monitoring system in FY 2012. The new well will replace USGS 131, which will be abandoned or used as a water level monitoring well. USGS 131 has casing stuck in it that does not allow for multilevel instrumentation, therefore, a replacement well is necessary. The drilling scope for USGS 131A is an addendum to the 2003 approved Environmental Checklist (INEL-03-001) for USGS 131 and will follow the same guidelines and scope.

Construction of USGS 131A will include the following: a graveled drill area surrounding each wellhead, a concrete wellhead pad at land surface, and 6-inch diameter steel casing above land surface. Steel casing strings will extend from land surface through the unsaturated zone to the water table surface (near 560 ft BLS). Completion below the water table will consist of an uncased open hole. USGS will drill to a depth of approximately 1,300 feet at the existing drill pad. This work will be performed in previously disturbed areas with no expected impact to cultural/historical resources. Interaction with wildlife/habitat is also expected to be minimal. Soil disturbance, if any, would be the result of transportation and staging activities that are adjacent to roadways and the graveled drill site.

Borehole USGS 131A is located 3 miles southwest of CFA (see map in fig.1) at the Northeast Quarter of the Southwest Quarter of the Southwest Quarter, Section 11, Township 02 North, Range 29 East. The surveyed latitude/longitude (NAD 27) is 433036.28 / 1125816.05, respectively. The purpose of this geotechnical borehole is to obtain geologic, stratigraphic, and hydraulic data to characterize flow in the eastern Snake River Plain aquifer. Multilevel monitoring instrumentation will be installed once drilling is completed, likely in FY12. No core will be collected during the drilling process since core had been previously collected at USGS 131.

USGS personnel will use a SD-300 drill rig and a Sullair 900-cfm, 350-psi air compressor to drill the borehole to a total projected depth of 1,300 feet. Upon completion of borehole drilling, borehole geophysical surveys will be conducted and/or an aquifer test. USGS 131A will be conditioned to accommodate a Westbay MP55 sampling system. The completed borehole will then be used as part of the USGS Long-Term Monitoring Network. When no longer needed, the boreholes will be closed in compliance with all applicable requirements.

The USGS plans to begin drilling activities as soon as reasonable in 2011. Work is anticipated to take approximately 6-8 weeks, with anticipated project cost about \$75,000.

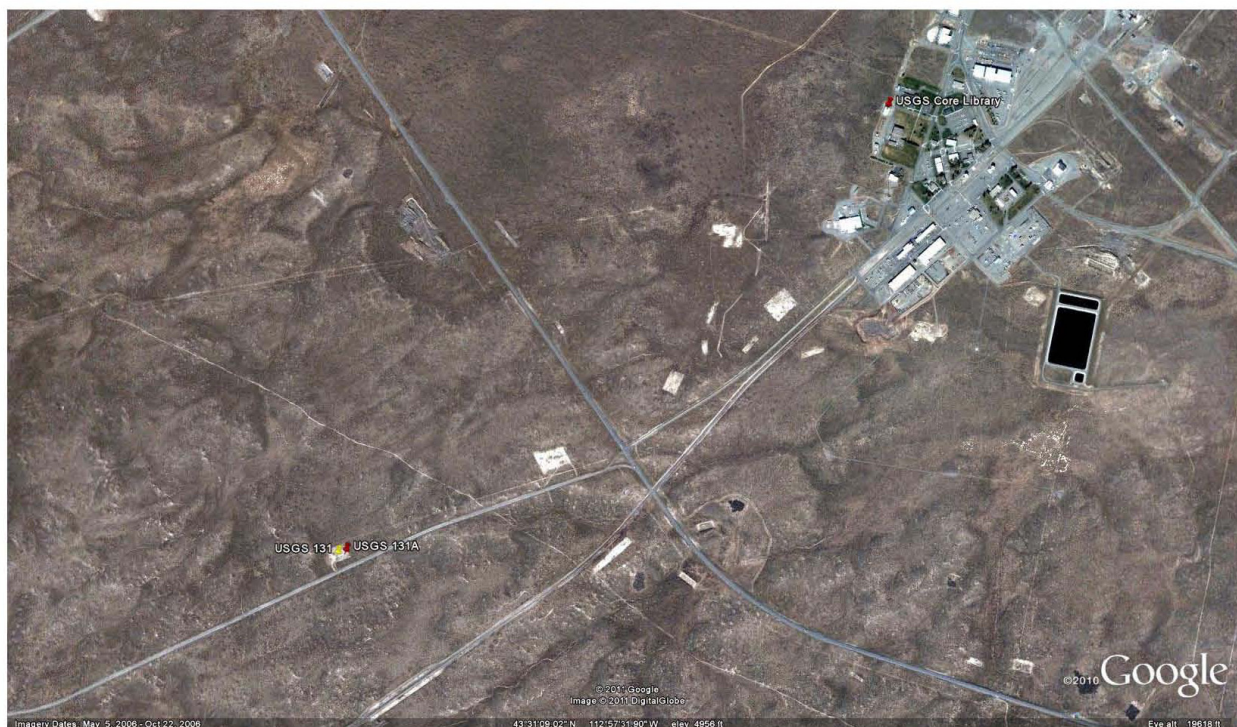


Figure 1. Location map of USGS 131, USGS 131A, and USGS Core Library (CFA-663) at the Idaho National Laboratory, Idaho.

**SECTION C. Environmental Aspects / Potential Sources of Impact:**

**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

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

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 Groundwater** – 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. This well falls outside of the 2004 Storm Water Corridor.

**Disturbing Biological/Cultural Resources**-Cultural Resources: Cultural resource surveys will be completed for associated laydown area to ensure 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. Prior USGS 131 recommendations from Brenda included in EC (INEL-03-001) -- USGS 131 drill pads have been surveyed and clearances granted. No sensitive remains have been identified in the areas, so clearance is recommended for drilling as long as standard stop work procedures are followed in the unlikely event that archaeological material is discovered as the work proceeds.

Biological Resources: Interaction with Wildlife/Habitat - Although the chance for increased disturbance at the wellhead sites and on existing roadways are minimal, there is the potential for some interaction with wildlife/habitat during the course of this project. Of special concern is the potential disturbance to sage grouse during the lekking season (generally early March to mid-May). A sage grouse lek is known to exist on Farragut Boulevard and this road will be closed to all unnecessary traffic during the lekking season. 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 (See Section E, Conditions) or to respond to any questions or concerns on this subject.

**Generating and Managing Waste** – Drilling activities will generate about 80 cubic feet of rock cuttings, most of which will enter fractures in the corehole. 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 WGS. Project personnel will incorporate waste minimization measures by obtaining reusable laundered Personal Protective Equipment where practical.

**Releasing Contaminants** – Because this project will use petroleum products and possibly other potentially hazardous industrial chemicals, there is the potential for release of small amounts of contaminants into the air, water, 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.

**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 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: 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: 5/18/2011