

DOE-ID NEPA CX DETERMINATION IDAHO NATIONAL LABORATORY

SECTION A. Project Title: Idaho National Laboratory (INL) - United States Geological Survey (USGS) Geotechnical Drilling Program (USGS 136)

SECTION B. Project Description:

The USGS proposes to drill a 1,000-foot deep geotechnical corehole (USGS 136) into the eastern Snake River Plain aquifer. The location of the corehole will be approximately 0.5 mile(s) southwest of the Advanced Test Reactor (ATR) Complex at the Idaho National Laboratory. The purpose of this geotechnical corehole is to obtain geologic, stratigraphic, and hydraulic data to characterize flow in the eastern Snake River Plain aquifer.

The project will need to extend a road to the new well location making use of the existing road to well TRA-07. Potential impact to cultural and biological resources will be minimized by making use of existing INL roads wherever possible. Any soil disturbance would be the result of transportation and staging activities that are adjacent to roadways and the graveled drill sites.

USGS personnel will use a Christensen CS-1500 truck-mounted coring unit and a Sullair 900-cfm, 350-psi air compressor to core the hole to a total projected depth of 1,000 feet. The USGS will archive all removable core material into the INL Core Storage Library for further studies. Upon completion of corehole drilling, the hole will be reamed to accommodate casing, casing seal, and wire-wrap well screen for a monitoring well completion, a dedicated submersible pump, and a water level access line. USGS personnel will develop the well using a pump and allowing sufficient time for the well to purge and clean out any residual drilling fluids and restore the well back to pre-drilling conditions. The completed corehole will then be used as part of the USGS Long-Term Monitoring Network. When no longer needed, the corehole will be closed in compliance with all applicable requirements.

The USGS plans to begin coring activities in the Fall of 2010. Coring work is anticipated to take approximately 10-12 weeks and the projected cost of the project is estimated at \$376,000. A well drilling permit application for USGS 136 shall be submitted to the Idaho Department of Water Resources in January 2011 during submittal of the annual INL monitoring well permit application.

SECTION C. Environmental Aspects / Potential Sources of Impact:

Air Emissions – USGS personnel will use a truck-mounted coring unit with an air compressor to drill the corehole. Because drilling activities will be conducted several hundred feet below the surface, air pollutants from the corehole 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). 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.

Drilling activities have the potential to contaminate storm water, although that potential is very small. The well location will fall within the lands (Monroe Meander) excluded from the 2004 INL Storm Water Corridor and therefore do not require preparation of a Storm Water Pollution Prevention Plan (SWPPP) and submittal of a Notice of Intent to the Environmental Protection Agency (EPA).

Disturbing Cultural / Biological Resources - Cultural resource surveys will be completed prior to drilling the well and working within associated laydown areas to ensure that potential cultural resources will not be impacted. Project activities will be organized to minimize impacts to any culturally sensitive materials identified during these surveys. The INL Cultural Resource Management (CRM) office will be contacted to arrange for a cultural resource review. Recent cultural resource surveys have also been completed in the same ATR-Complex area where the new well site is located (see INL/EXT-10-19116 "Cultural Resource Investigations for the Remote Handled Low Level Waste Facility at the Idaho National Laboratory)."

Although the chance for increased biological disturbance at the wellhead site and on existing roadways is minimal, there is the potential for some impact to wildlife and/or habitat during the course of this project. Contact Stoller Corporation (525-9358) to report sage grouse sightings near the drilling areas. Stoller should also be contacted to arrange for nesting bird surveys or to respond to any questions or concerns on biological resources.

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 WGS. Project personnel will incorporate waste minimization measures by obtaining reusable laundered PPE where practical.

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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 release of small amounts of contaminants into the air, water or soil.

To minimize the potential impact of contaminant release, 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.

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: INL/EXT-10-19116 and 10 CFR 1021, Appendix B to Subpart D, B3.1

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 9/9/2010