DOE-ID NEPA CX DETERMINATION
IDAHO NATIONAL LABORATORY

CX Posting No.: DOE-ID-INL-12-007

SECTION A. Project Title: Geotechnical Core Drilling for USGS 138

SECTION B. Project Description: .

The U.S. Geological Survey (USGS) proposes to drill a 1,000-foot deep geotechnical corehole (USGS 138) into the eastern Snake River Plain aquifer. The location of the corehole will be about 4.0 mile(s) east of the city Howe and about 8.5 mile(s) north of the Naval Reactors Facility at the Southeast Quarter of the Southwest Quarter, Section 7, Township 5 North, Range 30 East; lattitude/longitude (WGS84) 43 46 16.1 N / 112 55 27.7W (fig. 1). The purpose of this geotechnical borehole is to obtain geologic, stratigraphic, and hydraulic data to characterize flow in the eastern Snake River Plain aquifer.

This work will minimize impact to cultural/historical resources by making use of existing roads to extent possible. Interaction with wildlife/habitat is also expected to be minimal. Soil disturbance would be the result of transportation and staging activities that are adjacent to roadways and the graveled drill sites. Project personnel will minimize the disturbed footprint to the extent practicable.

USGS personnel will use a Christensen CS-1500 truck-mounted coring unit and a Sullair 900-cfm, 350-psi air compressor to core the borehole to a total projected depth of 750 feet. The borehole will be constructed according to the applicable requirements of IDAPA 37.03.09 Well Construction Standards. The USGS will archive all core material at the INL Core Storage Library for further studies. Construction information (coordinates, lithology, geophysical logs, etc) will be submitted to the Hydrogeologic Data Repository. Upon completion of borehole drilling, the hole will be reamed to accommodate casing, casing seal, and we will investigate a dual piezometer completion for long term water level monitoring. 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 accordance with IDAPA 37.03.09 and/or as agreed upon by the Idaho Department of Water Resources.

The USGS plans to begin coring activities summer of 2012. Coring work is anticipated to take approximately 10-12 weeks and the projected cost of the project is estimated at $150,000.

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 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).

Disturbing Cultural/Biological Resources – Any soil disturbance would be the result of transportation and staging activities that are adjacent to roadways and 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. Project activities will be organized to minimize impacts to any sensitive materials identified during these surveys. Contact Brenda Pace (526-0916) to arrange for cultural resource surveys and a review.
Biological Resources: Although the chance for increased disturbance at the wellhead site and on existing roadways is minimal, there is the potential for some interaction with wildlife/habitat during the course of this project. Contact Jackie Hafla (525-8250) 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. Off-road travel and drilling activities have the potential to remove vegetation and introduce invasive species. Extensive soil disturbance may require revegetation. Soil removal and transportation activities must be reviewed by Mike Lewis (526-0623). Any travel through weeds infestations will require monitoring for spread of weeds and contacting the CFA Weed Maintenance group for control measures.

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.

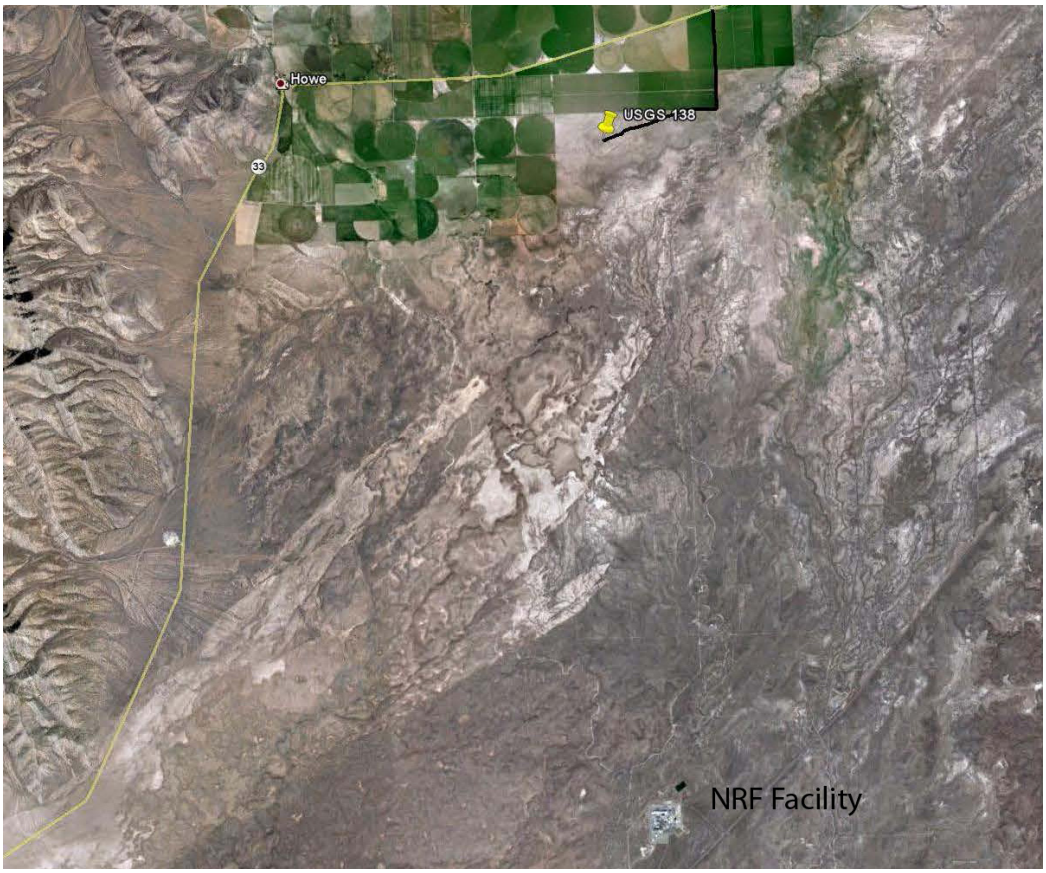

Figure 1. Location of USGS 138, located about 8.5 miles north of the Naval Reactors Facility Complex, Idaho National Laboratory, Idaho.

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: 10 CFR 1021, Appendix B to Subpart D, item B3.1 categorical exclusion, "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 activites described in this EC are consistent with 10 CFR 1021, Appendix B to Subpart D, item B3.1 categorical exclusion, "Site characterization and monitoring… Specific activities include, but are not limited to: … (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (saturated) zone, well logging, and installation of water-level recording devices in wells … (f) Sampling and characterization of water, soil, rock, or contaminants (such as drilling using truck-or mobile-scale equipment, and modification, use, and plugging of boreholes)…"

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: 4/18/2012