

DOE-ID NEPA CX DETERMINATION

Idaho National Laboratory

SECTION A. Project Title: United States Geological Survey (USGS) Geotechnical Drilling for USGS 139

SECTION B. Project Description:

The USGS proposes to drill an approximate 1,000-foot deep geotechnical corehole (USGS 139) into the eastern Snake River Plain aquifer. The location of the corehole will be 7.4 mile(s) (approximate) east of the Naval Reactors Facility (NRF) complex at the Northeast Quarter of the Southeast Quarter of the Southwest Quarter of Section 28, Township 4 North, Range 31 East (Figure 1); latitude/longitude (World Geodetic System [WGS] 1984 Datum) 43deg 38min 25.0sec N / 112deg 46min 06.7sec W, respectively. The borehole will be 5 inches in diameter, will have a locking wellhead installed after completion, will be marked with a brass survey marker, and will have a well pad poured at the surface. The purpose of this geotechnical borehole is to obtain geologic, stratigraphic, and hydraulic data to characterize flow in the eastern Snake River Plain aquifer. Water level and water quality information will be collected.

The project will make use of existing roads to access USGS 139. The primary road into the well leaves Lincoln Boulevard and heads west following 7 mile road and connects into E. Monument Line road. The existing roads into the well follow the path (black line trace) included in Figure 1. 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 site.

The well will be located within the gunnery range Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) site. A notice to disturb, reported through CH2M-WG Idaho, LLC (CWI), to the State and Environmental Protection Agency (EPA) will be required. An unexploded ordnance survey will be required prior to drilling.

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 1,000 feet. The USGS will archive all removable core material into the Idaho National Laboratory (INL) Core Storage Library for further studies. Upon completion of borehole drilling, the hole will be reamed to accommodate casing, casing seal, and well screen (as needed) for monitoring the water level. 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 2013. Coring work is anticipated to take approximately 10-12 weeks, and the projected cost of the project is estimated at \$175,000.

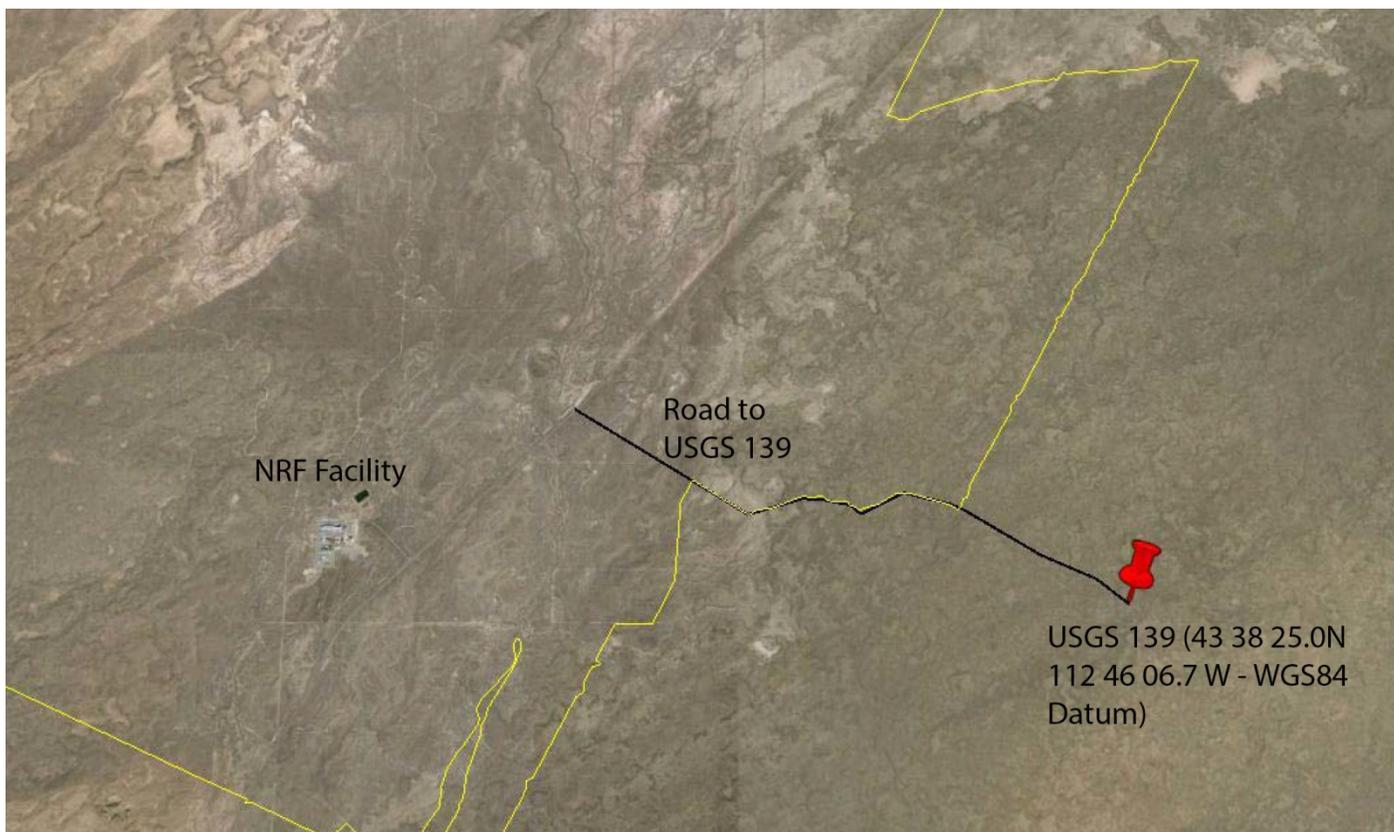


Figure 1. Location of USGS 139 in relation to Naval Reactors Facility, Idaho National Laboratory, Idaho.

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SECTION C. Environmental Aspects or Potential Sources of Impact:

Air Emissions – USGS personnel would use a truck-mounted coring unit with an air compressor to core the borehole. Because drilling activities would be conducted several hundred feet below the surface, air pollutants from the borehole itself are not of concern. There would be some exhaust from operation of the coring unit and other heavy equipment but these emissions would be well below any reportable levels. If fugitive dust is expected during drill site operations, reasonable precautions would 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 (Idaho Administrative Procedures Act [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 would result in the discharge of wastewater from the drilling operation to the ground. Project personnel would 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 would fall within the lands (Monroe Meander) excluded from the current 2004 Storm Water Corridor - see Figure 1. Drilling activities within the 2004 Corridor that could disturb one acre or more would require a Storm Water Pollution Prevention Plan (SWPPP) and submittal of a Notice of Intent to the EPA.

Disturbing Cultural or Biological Resources - Cultural resource surveys would be completed prior to drilling the well and working within associated laydown areas to ensure that potential cultural resources would not be impacted. Project activities would be organized to minimize impacts to any culturally sensitive materials identified during these surveys. Brenda Pace (526-0916) of the INL Cultural Resource Management (CRM) office should be contacted to arrange for a cultural resource review.

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 Jackie Hafla (525-8250) of Gonzales-Stoller Surveillance to report sage grouse sightings near the drilling areas. Jackie should also be contacted to arrange for nesting bird surveys prior to any disturbance and to respond to any questions or concerns on biological resources. 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 Jenifer Nordstrom (526-8119). Any travel through weed infestations would require monitoring for spread of weeds and contacting the Central Facilities Area (CFA) Weed Maintenance group for control measures.

Generating and Managing Waste – Core drilling activities would generate about several hundred cubic feet of rock cuttings and drilling fluid, most of which would enter fractures in the corehole. Drilling activities would 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 would be disposed of at the INL Landfill Complex through WGS. Project personnel will incorporate waste minimization measures by obtaining reusable laundered PPE where practical.

Releasing Contaminants – Diesel fuel for operation of drilling equipment would be stored in fuel tanks. Other chemicals such as hydraulic oil may also be used. Because this project would 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 would 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 would apply spill prevention/minimization measures during chemical use and storage and will reference Affirmative Procurement (Management Control Procedure [MCP]-592) as guidance to procure appropriate chemicals.

Using, Reusing, and Conserving Natural Resources – All applicable waste would be diverted from disposal in the landfill when possible. Project personnel would use every opportunity to recycle, reuse, and recover materials and divert waste from the landfill when possible. The project would practice sustainable acquisition, as appropriate and practicable, by procuring construction materials that are energy efficient, water efficient, are bio-based in content, environmentally preferable, non-ozone depleting, have recycled content, or are non-toxic or less-toxic alternatives.

SECTION D. Determine the Recommended 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.

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, or similar requirements of DOE or Executive Orders; 2) require siting and construction or major expansion of waste storage, disposal, recovery, or treatment or facilities; 3) disturb hazardous substances, pollutants, contaminants, or CERCLA-excluded petroleum and natural gas products that pre-exist in the environment such that there

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would be uncontrolled or unpermitted releases; 4) have the potential to cause significant impacts on environmentally sensitive resources (see 10 CFR 1021). 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 activities 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: 8/8/2013