

**SECTION A. Project Title: TAN – Monitoring Well Drilling Actions**

**SECTION B. Project Description**

Two new monitoring wells will be drilled in the spring of 2015 within the Test Area North facility. Both wells will be drilled to a total depth of approximately 280 ft. and will be completed with two vapor ports, two pumps, and an inflatable isolation packer. Depending on location, the annular space will be filled with bentonite, silica sand, and bentonite associated with the vapor port filter pack only. Throughout the drilling process, various geophysical logs, and video logs will be collected from the wells. The well drilling actions will be performed by the USGS. The wells will be constructed in accordance with the Idaho Well Construction Standards.

In preparation of drilling the two wells, a containment/decontamination pad will be constructed, and the work zone and rad zones will be established. The pad will consist of plastic on the ground. The plastic at the boundary of the pad will be wrapped around railroad ties such that it will contain the liquids. Plastic will be placed beneath the drill rig to capture any fluids (i.e., oil, hydraulic fluid, etc.) that may drip from the drill rig.

Once USGS has completed drilling the monitoring wells and the characterization activities, the wells will be used as injection wells as part of the Operable Unit (OU) 1-07B Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) action at Test Area North (TAN).

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

**1. Air Pollutants** – USGS will use reasonable precautions to prevent fugitive dust emissions generated from drilling the new wells. 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). Since the drilling equipment qualifies as a nonroad engine and will not operate at a given location for longer than 12 months, the drilling equipment is exempt from permitting.

Radiological emissions to the environment, including those from point and diffuse sources, must be determined for demonstrating compliance with the NESHAP Standard [see 40 CFR 61.93(a)] and submitted for reporting in the INL NESHAP Annual Report per 40 CFR 61.94. If any fugitive radiological emissions are released, the performing organization Project Manager or Source Owner/Manager shall ensure that the calendar year emissions are determined and reported (via signed memorandum) to Environmental Program by March 7 for the preceding year.

**4. Chemical Use and Storage** – Fuels and petroleum products will be used in support of the proposed action. Project personnel will use non-hazardous chemical substitutes in place of hazardous chemicals as long as the non-hazardous substitutes meet the requirements/specifications of the requester. Spill prevention/minimization measures will be employed during storage and use of chemicals/fuels. Affirmative Procurement (MCP-1185) will be used as guidance in procuring applicable chemicals and materials.

**5. Contaminated Sites Disturbance** – A Notice of Soil Disturbance (NSD) will be required prior to disturbing the soil. The NSD will be conducted per the Sitewide IC/O&M Plan (DOE/ID-11042).

**6. Cultural/Historical Resource Disturbance** – Should the additional wells be located outside of the TAN facility boundary, a cultural resource survey will be completed and clearance granted prior to disturbing soil.

**7. Discharge to Wastewater Systems or Groundwater** - The wells will be constructed in accordance with IDAPA 37.03.09 and USGS well drilling procedures. The wells will be drilled by a State of Idaho licensed well driller. The groundwater extracted during the well drilling process is considered F001-listed waste. See #9 (Hazardous/Mixed Waste Generation and Management) for disposition.

**9. Hazardous/Mixed Waste Generation and Management** - All drill cuttings and water generated from the wells below 210 ft will be containerized in waste boxes. Drill cuttings will be allowed to settle, after which, the water will be pumped-off and processed through the pump-and-treatment facility at TAN. The remaining drill cuttings will be treated with an acceptable absorbent to solidify residual liquid, and the cuttings will be dispositioned at Idaho CERCLA Disposal Facility.

**10. Hazardous/Rad. Material or Waste handling and Trans.** - Waste will be characterized as per MCP-1390 to support onsite waste management and disposition planning as per Waste Generator Services (WGS). Waste streams will be evaluated to determine if any of the materials can be recycled or reused and will be evaluated to implement actions for minimizing waste entering a landfill.

**11. Industrial Waste Generation** – A limited quantity of industrial waste will be generated in the form of PPE and pad construction materials. All industrial waste will be disposed of in the INL Landfill Complex or other approved waste disposal facilities in accordance with WGS procedures. Work planning will support waste minimization objectives as outlined in the project specific waste management plan and INL Pollution Prevention Plan.

**12. Interaction with Wildlife/Habitat** – Should the additional wells be located outside or inside of the TAN facility boundary, an ecological resource survey will be completed and clearance granted prior to disturbing soil. The TAN operational areas are highly disturbed areas and are exempt from the additional ecological resource surveys prior to soil and vegetation disturbance. This area is mowed twice a year per an approved preventative maintenance work order and is a non-habitat area.

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A nesting bird survey is required prior to any activity with the potential to harm or disturb migratory bird nests containing eggs or young on vegetation, ground, buildings, or structures (see MCP-3480, Section 4.7.67-68). This requirement applies to both inside and outside the TAN facility boundary. Project personnel are responsible for walking down the areas for the presence of bird nests between April 1 and October 1 and documenting their survey results .

**16. Radioactive Waste Generation and Management** – Limited volumes of radioactive waste may be generated in the form of soil, drill cuttings, PPE, and plastic liners. This waste stream will be dispositioned at Idaho CERCLA Disposal Facility.

**19. Work Within Areas Subject to Flooding** – Well drilling activities may be within the 100-year floodprone area of Birch Creek. The Location Standards at 40 CFR 264.18 (a) and (b) (Floodplains) are identified in Table 9-1 of the Record of Decision Amendment (DOE/ID-10139) as applicable requirements in the Medial Zone. The potential for 100-year flood impacts from Birch Creek and the Big Lost River on the ASTU and ISB components are discussed below.

The proposed well area is inside the TAN flood control dike, however, the dike is not currently maintained and is open at road and railroad crossings. Birch Creek flood flows could enter through these openings in the dike unless they are blocked. If the roadway openings in the dike are not blocked, the well location would be within the 100-year Birch Creek floodprone area and activities that occur may experience some 100-year flood related impacts.

The potential for Birch Creek flooding is discussed in the report entitled "Simulation of Water-Surface Elevations for a Hypothetical 100-Year Peak Flow in Birch Creek at the INEEL", by Berenbrock and Kjelstrom (USGS, 1997). The water surface elevations from the 100-yr peak flows and peak volumes in Birch Creek were simulated in this report. Because of the highly braided nature of Birch Creek and several anthropogenic features of the INL, floodplain boundaries could not be located exactly so USGS developed what they called a generalized 100-yr "floodprone" area map of Birch Creek flood potential which is analogous to a floodplain map. The USGS report relates hypothetical flood elevations to the elevations of flood control dikes and drainage systems previously constructed at TAN including emergency channels on the Birch Creek fan and a dike system around the west end of the TAN facility. The top of the TAN flood control dike once measured 4786.5 ft amsl, approximately 4 ft higher than surrounding terrain. The Birch Creek Playa has capacity to contain the 13,000 acre-feet 100-year flow volume of Birch Creek at an elevation 2 ft lower than the top of the TAN flood control dike (about 4784.5 ft msl). The elevation of the dike near the proposed area ranges from about 4782 to 4784 ft msl (NGVD29).

If the hypothetical 100-year Birch Creek flood was to occur during well drilling operations, areas near or below 4784.5 feet amsl may be inundated by the hypothetical 100-year Birch Creek flow. Access to the work areas may be temporarily interrupted.

The hypothetical 100-year Big Lost River flood flow is expected to terminate in the Big Lost River Playa and Sinks and is not expected to impact the proposed well drilling area.

<b>SECTION D. Determine the Level of Environmental Review (or Documentation) and Reference(s):</b> Identify the applicable categorical exclusion from 10 CFR 1021, Appendix B, give the appropriate justification, and the approval date.
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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: Categorical Exclusion B3.1, Site characterization/environmental monitoring

Justification: Drilling monitoring wells as described in Section B is categorically excluded. This action meets the criteria described above (see Note).

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 April 29, 2015..