

**CATEGORICAL EXCLUSION FOR  
Palouse Drilling Project Located Near  
Winona and Washtucna Washington**

**Proposed Action:**

Golder Federal Services, Inc. is proposing to do small-scale intrusive drilling (two test holes) in eastern Washington.

**Location of Proposed Action:**

The two drilling sites are located in the Palouse Region of eastern Washington. The first site is near Winona, located 80 miles northeast of Richland. The second site is near Washtucna, located 60 miles northeast of Richland.

**Description of Proposed Action:**

The proposed action involves small-scale intrusive drilling activities. Two vertical test holes will be drilled. The first hole near Winona will be drilled to about 190 ft. The second hole near Washtucna will be from 50-100 ft. deep. Both holes will be drilled using standard truck-mounted auger drilling equipment with work slated to begin in early January 1996 and taking approximately one week to complete.

The purpose of the Palouse Drilling Project is to collect aseptic soil samples for microbiological characterization and chloride mass balance analysis. The project is funded under the Subsurface Science Program (SSP), managed by the U.S. Department of Energy's Office of Health and Environmental Research and Pacific Northwest National Laboratory (PNNL), Richland, Washington. One of the major objectives of the SSP is to gain an understanding of the distribution and population dynamics of microorganisms in the subsurface environment, and to better understand their potential application to bioremediation of subsurface contaminants at DOE facilities. The soil samples will be processed at the PNNLs Life Science Laboratory II.

The proposed action will be conducted on privately owned farm properties which have been used for wheat production for decades. The hollow stem auger drilling and associated sampling actions do not produce significant amounts of fugitive dust and the proposed action is expected to generate much less dust than normal farming practices in the site area. No water, mud, or other circulating fluids would be used in drilling the test holes. This is necessary to avoid contaminating the desired subsurface soil samples with naturally occurring surface microorganisms. Once drilling is completed, site restoration activities would be conducted at both drilling sites. The test holes will be backfilled in accordance with state regulations and the soil cuttings at the surface will be distributed around each drill site, such that subsequent farming would readily incorporate them into the fields.

**Categorical Exclusion (CX) to be Applied:**

The following CXs are listed in 10 *Code of Federal Regulations* (CFR) 1021, "National Environmental Policy Act Implementing Procedures," Subpart D, Appendix B, published in the Friday, April 24, 1992, 57 *Federal Register* 15151:

B3.1 Site characterization and environmental monitoring, including siting, construction, operation, and dismantlement of closing (abandonment) of characterization and monitoring devices and siting, construction, and operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis. Activities covered include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. Specific activities include, but are not limited to:

(f) Sampling and characterization of water, soil, rock, or contaminants;

3.6 Indoor bench-scale research projects and conventional laboratory operations (for example, preparation of chemical standards and sample analysis) within existing laboratory facilities.

**ELIGIBILITY CRITERIA**

Since there are no extraordinary circumstances that may affect the significance of the environmental effects of the proposal, the proposed activity meets the eligibility criteria of 10 CFR 1021.410(b), as shown in the following table. The proposed activity is not "connected" to other actions with potentially significant impacts (40 CFR 1508.25[a][1]), or with cumulatively significant impacts (40 CFR 1508.25[a][2]), and is not precluded by 10 CFR 1021.211.

The "Integral Elements" of 10 CFR 1021 are satisfied as discussed in below.

INTEGRAL ELEMENTS 10 CFR 1021, SUBPART D, APPENDIX B	
Would the Proposed Action:	Comment or explanation:
Threaten a violation of environmental, safety or health laws, regulations, or DOE orders?	No laws, regulations, or Orders would be violated by the proposed action.
Require siting, construction or major expansion of waste treatment, storage, or disposal facilities?	Wastes created by the proposed action would be disposed of in existing waste facilities.
Disturb hazardous substances preexisting in the environment, allowing uncontrolled releases?	No liquids would be discharged to the ground by the proposed action.
Adversely affect archaeological or historical property?	Properties of archeological or historical significance would not be adversely affected.
Adversely affect federally- or state listed, proposed or candidate, threatened or endangered species or habitat?	The proposed action would not adversely affect any federally or state listed, proposed or candidate, threatened or endangered species or habitat.
Adversely affect floodplains or wetlands?	The proposed action would not take place on a floodplain or wetland.
Adversely affect wild and scenic rivers, state or federal wildlife refuges or specially designated areas?	The proposed action would not take place in a specially designated area.
Affect special sources of water?	No special sources of water would be affected.

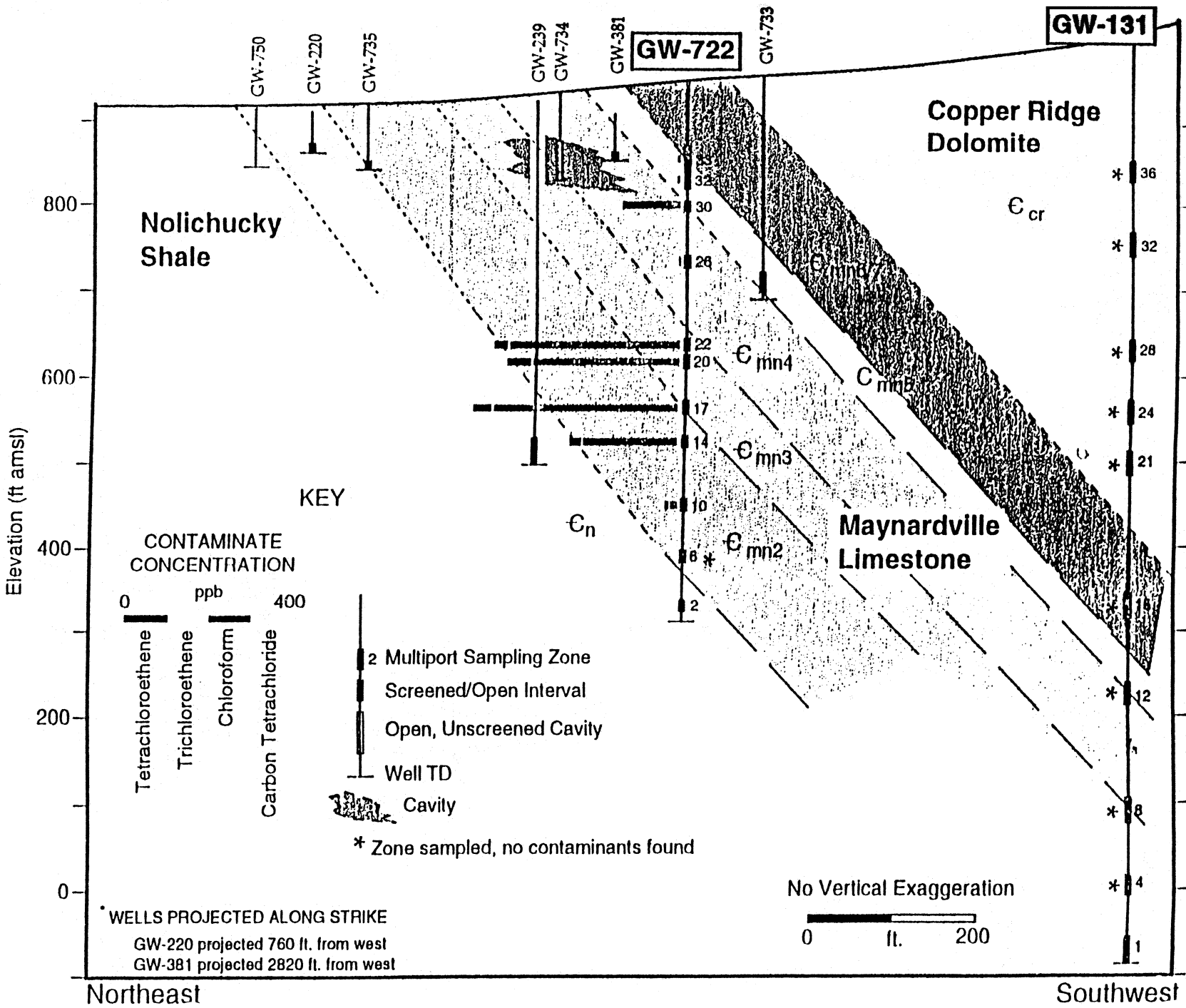
I have reviewed the attached documentation and have determined that the proposed action may be categorically excluded from further NEPA review and documentation.

Signature/Date:

Paul F. X. Dunigan, Jr.  
Paul F. X. Dunigan, Jr.  
RL NEPA Compliance Officer

12/22/95

Attachments



*Both Locations*

- The rate of transport and impact of matrix diffusion over relatively long distances in the Maynardville Limestone deep exit pathways will be determined by using multiple tracer injection tests.
- The results of the tracer tests can be used by the Integrated Water Quality Program (IWQP) to determine meaningful sampling frequencies and the impact of matrix diffusion on the rate of aquifer restoration (i.e., expected change in groundwater concentration) in response to remedial actions. This will become more important, especially at sites where natural attenuation is selected as the remedial option.
- Testing at both sites will provide information the regulators and public have requested regarding the monitoring, and fate and transport within the exit pathway plumes.

*BCV test site*

- The likely rate of groundwater restoration in the Maynardville Limestone from source actions taken at the BYBY and S-3 ponds can be better determined. Using the results of the tracer test, the information can be used to determine monitoring frequencies for the uranium, nitrate, and TCE plumes migrating in the Maynardville Limestone exit pathway.
- The BCV site will be used to test the equipment and tracers prior to conducting the UEFPC test (in GW-722, a Westbay well) where transport mechanisms are not as well understood.

*UEFPC test site*

- The data will be used to determine if the current direction of groundwater flow is east and off site or west toward the UEFPC underdrain, which is on site. This information can be used to determine the monitoring locations the IWQP should be focusing on.
- The information can be used to determine monitoring frequencies for the off-site CT plume in the Maynardville exit pathway. The likely rate of off-site groundwater remediation (concentration change) due to the proposed on-site containment actions can be better determined.

### 3. Scope

The tracer test will be conducted in a similar manner at both locations. Three tracers—ice nucleating agent (INA), bromide, and sulfur hexafluoride (SF<sub>6</sub>)—will be injected at both locations using the same Westbay downhole equipment. The purpose of using three tracers is to determine the rate of movement of a colloid (i.e., INA) that is theoretically too large to be subject to matrix diffusion relative to the rate of movement of two other tracers that are impacted by matrix diffusion but to different degrees (i.e., bromide and SF<sub>6</sub>). At the BCV site, a fluorescent dye tracer will also be injected to assess the impacts of sorption on contaminant transport.