

PMC-ND

(1.08.09.13)

**U.S. DEPARTMENT OF ENERGY  
OFFICE OF ENERGY EFFICIENCY AND RENEWABLE ENERGY  
NEPA DETERMINATION**



RECIPIENT: NREL

STATE: CO

PROJECT TITLE: STMFTLB Groundwater Monitoring Wells, NREL Tracking No. 15-016

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
	DE-AC36-08GO28308	NREL-15-016	GO28308

Based on my review of the information concerning the proposed action, as NEPA Compliance Officer (authorized under DOE Order 451.1A), I have made the following determination:

**CX, EA, EIS APPENDIX AND NUMBER:**

Description:

**B3.1 Site characterization and environmental monitoring** Site characterization and environmental monitoring (including, but not limited to, siting, construction, modification, operation, and dismantlement and removal or otherwise proper closure (such as of a well) of characterization and monitoring devices, and siting, construction, and associated operation of a small-scale laboratory building or renovation of a room in an existing building for sample analysis). Such activities would be designed in conformance with applicable requirements and use best management practices to limit the potential effects of any resultant ground disturbance. Covered activities include, but are not limited to, site characterization and environmental monitoring under CERCLA and RCRA. (This class of actions excludes activities in aquatic environments. See B3.16 of this appendix for such activities.) Specific activities include, but are not limited to: (a) Geological, geophysical (such as gravity, magnetic, electrical, seismic, radar, and temperature gradient), geochemical, and engineering surveys and mapping, and the establishment of survey marks. Seismic techniques would not include large-scale reflection or refraction testing; (b) Installation and operation of field instruments (such as stream-gauging stations or flow-measuring devices, telemetry systems, geochemical monitoring tools, and geophysical exploration tools); (c) Drilling of wells for sampling or monitoring of groundwater or the vadose (unsaturated) zone, well logging, and installation of water-level recording devices in wells; (d) Aquifer and underground reservoir response testing; (e) Installation and operation of ambient air monitoring equipment; (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); (g) Sampling and characterization of water effluents, air emissions, or solid waste streams; (h) Installation and operation of meteorological towers and associated activities (such as assessment of potential wind energy resources); (i) Sampling of flora or fauna; and (j) Archeological, historic, and cultural resource identification in compliance with 36 CFR part 800 and 43 CFR part 7.

**DOE/EA-1968 (NREL STM)** SITEWIDE ENVIRONMENTAL ASSESSMENT, U.S. DOE NATIONAL RENEWABLE ENERGY LABORATORY, SOUTH TABLE MOUNTAIN CAMPUS, GOLDEN, COLORADO

## Rationale for determination:

The U.S. Department of Energy (DOE) proposes the installation and monitoring of three groundwater monitoring wells behind the Field Test Laboratory Building (FTLB) at the National Renewable Energy Laboratory (NREL) South Table Mountain (STM) campus located in Golden, Colorado.

The FTLB has intermittently had water leaking through the basement foundation over the last few years, and NREL engineers have not been able to determine if the water intrusion is from surface or ground water. Therefore this project would install three groundwater wells upgradient from and below the elevation of the FTLB basement floor to monitor groundwater levels. The wells would be installed at the locations depicted in the FTLB Well Site Plan uploaded to the PMC. The wells would be constructed of 2-inch diameter PVC screen and casing in three borings drilled with steam-cleaned 7-1/4" OD hollow-stem auger. The screened interval of each well would consist of factory slotted PVC screen (10-slot; 0.010-inch), which would be sand packed with 10-20 silica sand to approximate 1-foot above the screen. A bentonite seal would be placed above the sand pack with the remaining annulus filled with a bentonite grout to the ground surface. Flush mount traffic-rated protective covers would be installed at the ground surface. The wells would be developed following the standard industry practice of surging and purging five well volumes. Additionally, hand auger borings would be made to a depth between 5 and 10 feet along the outside edge of the FTLB basement wall to investigate the lateral extent of the geocomposite drainage board. Several shallower borings may also be made to further investigate the extent of the



drainage board.

After installation and development of the groundwater wells, the monitoring phase of the project would begin. The initial groundwater level measurements would be taken approximately one week after wells are installed and developed. Bimonthly monitoring for groundwater level would then continue for least one year. Precipitation-related groundwater leveling monitoring would also be done, at least once during the monitoring year in addition to the bimonthly schedule. This monitoring would measure the groundwater level during or immediately after a precipitation event and then 3 to 5 times after the event to study the impact of precipitation events on groundwater levels near the FTLB. During the initial groundwater level monitoring event, one round of water quality samples would be taken from a single well. A list of water quality parameters that would be tested for has been uploaded to the PMC. More details of the proposing monitoring plan and schedule are uploaded to the PMC.

The land disturbance for the proposed project would be minimal and would only consist of the three 7.25" inch borings for the three monitoring wells in the previously disturbed areas on the northside of the North Loop Road as well as several hand auger borings adjacent to the FTLB. The hand auger boreholes would be properly abandoned upon completion of the visual geotechnical inspection. Monitoring well construction, development, sampling, and abandonment would be conducted in accordance with 2 CCR 402-2 Colorado Rules and Regulations for Water Well Construction, Pump Installation, Cistern Installation, and Monitoring and Observation Hole/Well Construction. Wells will be properly permitted with Colorado Division of Water Resources and all required notices, reports, and forms would be submitted.

Any mobile air emission sources from construction equipment, such as the drill rig, support trucks, etc., would be negligible and short-term. Construction-related noise would consist of a short-term, intermittent increase in ambient noise levels and would abide by applicable noise ordinances. Soil cuttings from the drilling of the monitoring wells would be left at an on-site location designed by the NREL Project Manager and coordinated with NREL EHS. Purge water from the development and sampling of the wells would be containerized and left on-site until completion of the water quality testing. The purge water would either discharged back into the wells or removed for off-site disposal per direction from NREL EHS and DOE GO Environmental Stewardship Division. NREL and contractors would follow all applicable federal, state, local regulations and NREL EHS policies and procedures.

Per agency consultations conducted during the Site-Wide Environmental Assessment for the NREL South Table Mountain campus (DOE/EA-1968), no cultural resources, threatened or endangered species, wetlands, floodplains, or prime farmlands would be impacted by this proposed project. A migratory bird nesting survey would be conducted prior to project activity on DOE property. If nests or eggs are found, the particular area would be cordoned off with a proper buffer until nestlings fledge. This would ensure that no migratory birds, nests or eggs are destroyed during the proposed project.

DOE has determined based upon the information above, there are no extraordinary circumstances presented by this proposed action. DOE has determined the proposed project is consistent with the actions contained in DOE categorical exclusion B3.1 "site characterization and environmental monitoring," and is categorically excluded from further NEPA review.

**NEPA PROVISION**

DOE has made a final NEPA determination for this award

Insert the following language in the award:

If you intend to make changes to the scope or objective of your project you are required to contact the Project Officer identified in Block 11 of the Notice of Financial Assistance Award before proceeding. You must receive notification of approval from the DOE Contracting Officer prior to commencing with work beyond that currently approved.

Note to Specialist :

NEPA review completed by Rob Smith on 4/28/15  
National Renewable Energy Laboratory

**SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.**

NEPA Compliance Officer Signature:



Kristin Kerwin

Date:

4/28/2015

NEPA Compliance Officer

**FIELD OFFICE MANAGER DETERMINATION**

Field Office Manager review required

**NCO REQUESTS THE FIELD OFFICE MANAGER REVIEW FOR THE FOLLOWING REASON:**

- Proposed action fits within a categorical exclusion but involves a high profile or controversial issue that warrants Field Office Manager's attention.
- Proposed action falls within an EA or EIS category and therefore requires Field Office Manager's review and determination.

**BASED ON MY REVIEW I CONCUR WITH THE DETERMINATION OF THE NCO :**

Field Office Manager's Signature:

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Field Office Manager

Date:

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