PMC-EF2a
(2.04.02)

U.S. DEPARTMENT OF ENERGY
EERE PROJECT MANAGEMENT CENTER
NEPA DETERMINATION

RECIPIENT: Executive Office of the State of Arizona **STATE:** OR

PROJECT TITLE: Recovery Act: State Geological Survey Contributions to the National Geothermal Data System_OR

Funding Opportunity Announcement Number	Procurement Instrument Number	NEPA Control Number	CID Number
DE-FOA-0000109	DE-EE0002850	GFO-0002850-OR1	GO2850

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.
B3.2 Aviation activities	Aviation activities for survey, monitoring, or security purposes that comply with Federal Aviation Administration regulations.
B3.6 Small-scale research and development, laboratory operations, and pilot projects	Siting, construction, modification, operation, and decommissioning of facilities for smallscale research and development projects; conventional laboratory operations (such as preparation of chemical standards and sample analysis); and small-scale pilot projects (generally less than 2 years) frequently conducted to verify a concept before demonstration actions, provided that construction or modification would be within or contiguous to a previously disturbed or developed area (where active utilities and currently used roads are readily accessible). Not included in this category are demonstration actions, meaning actions that are undertaken at a scale to show whether a technology would be viable on a larger scale and suitable for commercial deployment.

Rational for determination:

DOE and cost share funding would be applied to expanding and enhancing the National Geothermal Data System (NGDS) by creating a national, sustainable, distributed, interoperable network of state geological survey-based data providers that will develop, collect, serve, and maintain geothermal-relevant data that operates as an integral compliant component of NGDS. Arizona Geological Survey (AZGS) would bring data from the State Geological Surveys into the NGDS, by digitizing at-risk legacy, geothermal-relevant data (paper records, samples, etc), publishing existing digital data using standard NGDS data services, and through limited collection of new data in areas lacking critical information.

All tasks within the SOPO were categorically excluded under CX A9 by GFO-10-085 on April 16, 2010 because they all concerned the gathering, analysis, and dissemination of data via reports, publications, and the development of computer software and wed-based programming. However, subsequent to that NEPA determination, additional funding was added into the award which provided the opportunity for various state geological surveys (acting as subcontractors to this award) to expand the scope of Subtask 2.4 to include collection of new data by field work, drilling of investigation wells, etc. States which expand Subtask 2.4 to include any of these activities will require

additional NEPA analysis of Subtask 2.4 because field activities fall outside of the CX A9 from the original determination. All other tasks and subtasks (with the exception of Subtask 2.4) remain covered by the original NEPA determination (GFO-10-085). The original SOPO has been modified to distinguish between the states participating in the expansion of Subtask 2.4 to facilitate the multiple NEPA reviews that will be necessary for this award. This NEPA determination is specific to the Oregon Department of Geology and Mineral Industries (DOGAMI).

Subtask 2.4 (M) – Collection of New Data – Oregon
This subtask involves the drilling, logging, and sampling of new temperature gradient (TG) wells and collection of airborne thermal infrared (TIR) measurements in the state of Oregon. DOGAMI would drill up to 3 temperature gradient (TG) wells using a truck-mounted rotary drilling rig at sites in Lake and Malheur Counties. Each well would be drilling to a depth of 1000 feet, with a ~8 inch diameter borehole. Conductor casing would be set in the upper 20 feet of the wellbore, with surface casing to a depth of about 400 feet, and open hole to total depth (TD). A 2 inch steel or PVC liner, capped at the bottom, would be set to TD, filled with water, and used to log TG measurements. These wells would be completed with bentonite filling the annular space, cement plugs (following removal of the conductor casing), and would be completely sealed at the surface to prevent contamination. During drilling, DOGAMI would collect fluid and cuttings samples for analysis. DOGAMI would also conduct regional geologic mapping, including collection of volcanic rock samples for dating/age analysis. Upon completion of the data collection project, the wells would be plugged and abandoned, and the sites restored to pre-drilling conditions.

In addition to the TG drilling described above, DOGAMI would collect and analyze airborne thermal infrared (TIR) measurements. These data would be collected using a thermal camera (TIR sensor) and global positioning system (GPS) on a fixed-wing aircraft flying at about 1000 feet. TIR data would be collected over five areas in Lake, Harney, and Malheur Counties. Flight operations would be based in Bend, Oregon, therefore no effects to environmental or cultural conditions in or on the surface of the five flight areas is anticipated.

All TG drill sites are owned by or under the control of the State of Oregon and are located in areas that have previously been disturbed. No site preparation or change to existing vegetation would be required to safely accommodate drilling equipment. No new roads or well site construction would be necessary. Water for drilling would be trucked from off-site source(s). Drilling activities at each site are expected to take less than four days per site. The State [Oregon] Historic Preservation Office (SHPO) has reviewed each of the proposed drilling locations and concluded that no cultural resources exist within the proposed area of potential effect for the proposed drilling. If during project activities DOGAMI encounters any cultural material (i.e. historic or prehistoric), all activities should cease in the vicinity of the discovery immediately. DOGAMI must inform the DOE Project Officer of the discovery and must contact a professional archaeologist to evaluate the discovery.

Funding associated with this subtask: $526,803 (DOE); Cost Share $0

Based upon the information provided, the expanded Subtask 2.4 (M) is composed of site characterization and environmental monitoring; aviation activities; and laboratory operations; therefore the DOE has categorized this into Categorical Exclusions B3.1, B3.2, and B3.6.

NEPA PROVISION

DOE has made a final NEPA determination for this award

Insert the following language in the award:

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You are required to:
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Note to Specialist :

EF2a prepared by Casey Strickland

SIGNATURE OF THIS MEMORANDUM CONSTITUTES A RECORD OF THIS DECISION.

NEPA Compliance Officer Signature: _____ Date: 4/20/2012
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: _____ Date: _____
Field Office Manager