



**FINAL**

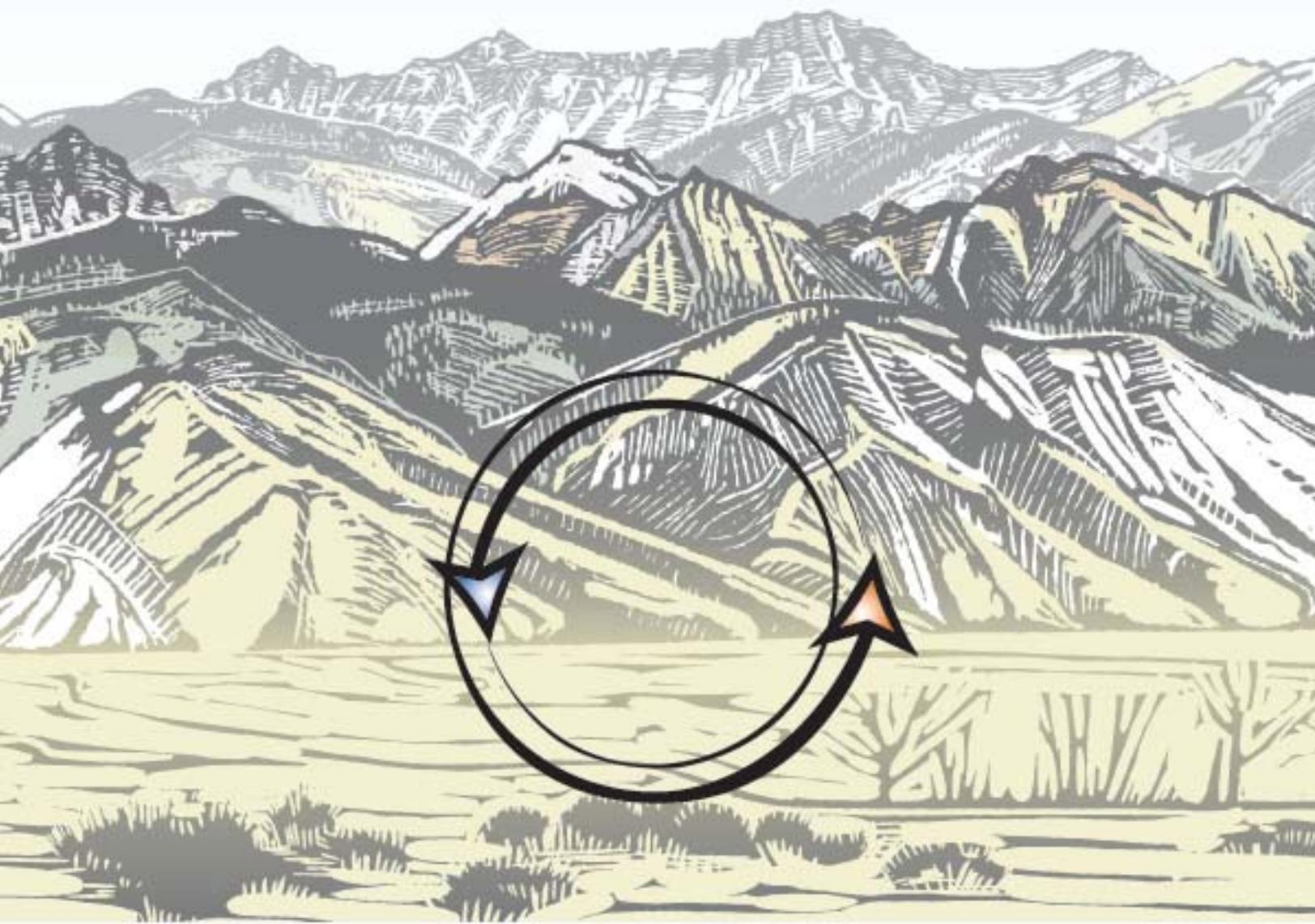
Programmatic Environmental Impact Statement for

# **Geothermal Leasing**

**in the Western United States**

Volume III: Appendices

October 2008



**FINAL**  
PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT FOR  
**GEOHERMAL LEASING**  
IN THE **WESTERN UNITED STATES**

**VOLUME III: APPENDICES**

OCTOBER 2008



US DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

US DEPARTMENT OF AGRICULTURE  
UNITED STATES FOREST SERVICE

## **DOCUMENT CONTENTS**

### **VOLUME I - PROGRAMMATIC ANALYSIS**

List of Acronyms  
Executive Summary  
Chapter 1: Purpose and Need for Action  
Chapter 2: Proposed Action and Alternatives  
Chapter 3: Affected Environment  
Chapter 4: Environmental Consequences  
Chapter 5: Cumulative Impacts  
Chapter 6: Consultation and Coordination  
Chapter 7: References  
Chapter 8: List of Preparers  
Chapter 9: Glossary

### **VOLUME II - ANALYSIS FOR PENDING LEASE APPLICATIONS**

Chapter 10: Introduction to Pending Lease Environmental Analysis  
Chapter 11: Tongass National Forest/Anchorage District Leases  
Chapter 12: El Centro Field Office Leases  
Chapter 13: Modoc National Forest/Surprise Field Office Leases  
Chapter 14: Humboldt-Toiyabe National Forest/Battle Mountain District Leases  
Chapter 15: Mount Hood National Forest/Prineville Field Office Leases  
Chapter 16: Willamette National Forest/Salem District Leases  
Chapter 17: Mount Baker-Snoqualmie National Forest/Spokane District Leases

### **VOLUME III - APPENDICES**

List of Acronyms  
Appendix A: Status of US Geothermal Energy and Permitting in the Western States and Tribal Lands  
Appendix B: Memorandum of Understanding: Implementation of Section 225 of the Energy Policy Act of 2005 Regarding Geothermal Leasing and Permitting  
Appendix C: Preliminary List of ACEC Status for Fluid Mineral Leasing  
Appendix D: Best Management Practices and Sample Conditions of Approval  
Appendix E: Review of Paleontological Resource Sections of BLM RMPs in the Project Area  
Appendix F: Hot and Warm Springs in the Project Area  
Appendix G: Ecoregion Divisions  
Appendix H: Federally Listed Species  
Appendix I: Cultural Resource Regional Ethnohistory  
Appendix J: Special Designation Areas on BLM and FS Lands within the 12 Western States  
Appendix K: Special Designation Areas on BLM and FS Lands within the Planning Area  
Appendix L: Public Comments and Comment Analysis

*This Page Intentionally Left Blank*

---

## **VOLUME III: APPENDICES**

### Appendix

---

#### List of Acronyms

- A Status of US Geothermal Energy and Permitting in the Western States and Tribal Lands
- B Memorandum of Understanding: Implementation of Section 225 of the Energy Policy Act of 2005 Regarding Geothermal Leasing and Permitting
- C Preliminary List of ACEC Status for Fluid Mineral Leasing
- D Best Management Practices – Mitigation Measures
- E Review of Paleontological Resource Sections of BLM RMPs in the Project Area
- F Hot and Warm Springs in the Project Area
- G Ecoregion Divisions
- H Federally Listed Species
- I Cultural Resource Regional Ethnohistory
- J Special Designation Areas on BLM and FS Lands within the Project Area
- K Special Designation Areas on BLM and FS Lands within the Planning Area
- L Public Comments and Comment Analysis

*This Page Intentionally Left Blank*

---

## **LIST OF ACRONYMS**

---

ACEC - Area of Critical Environmental Concern

ADR - Alternative Dispute Resolution

ANCSA - Alaska Native Claims Settlement Act

ANILCA - Alaska National Interest Lands Conservation Act

APD - Application for Permit to Drill

AUM - Animal Unit Month

BLM - United States Department of the Interior, Bureau of Land Management

BMPs - Best Management Practices

C - Celsius

CA - Conservation Agreement

CERCLA - Comprehensive Environmental Response, Compensation and Liability Act

CEQ - Council on Environmental Quality

CFR - Code of Federal Regulations

COAs - Conditions of Approval

CS - Conservation Strategy

CSU - Controlled Surface Use

CX (or CE) - Categorical Exclusion

DM - Departmental Manual

DNA - Documentation of Land Use Plan Conformance and National Environmental Policy Act (NEPA) Adequacy

DOI - Department of the Interior

DR - Decision Record (for an EA)

EA - Environmental Assessment

EFH - Essential Fish Habitat

EIS - Environmental Impact Statement

EPAct of 2005 - Energy Policy Act of 2005 (Public Law 109-58, August 8, 2005)

ESA - Endangered Species Act

F - Fahrenheit

FACA - Federal Advisory Committee Act

FLPMA - Federal Land Policy and Management Act of 1976 (43 United States Code 1701 et seq.)

FONSI - Finding of No Significant Impact

FS - United States Department of Agriculture, Forest Service

FWS - Fish and Wildlife Service

GIS - Geographic Information System

IBLA - Interior Board of Land Appeals

ITAs - Indian Trust Assets

IMP - Interim Management Policy

KGRAs - Known Geothermal Resource Areas

LAC - Limits of Acceptable Change

LUP - Land Use Plan

MFP - Management Framework Plan

MOU - Memorandum of Understanding

NEPA - National Environmental Policy Act of 1969

NFMA - National Forest Management Act of 1976

NFS - National Forest System

NGD - No Ground Disturbance

NHPA - National Historic Preservation Act

NLCS- BLM's National Landscape Conservation System

NMFS - National Marine Fisheries Service

NOA - Notice of Availability

NOAA - National Oceanographic and Atmospheric Administration

NOI - Notice of Intent

NPS - National Park Service

NRCS – National Resources Conservation Service

NREL - US DOE National Renewable Energy Laboratory National Renewable Energy Laboratory

NRHP - National Register of Historic Places

NSO - No Surface Occupancy

OSHA - Occupational Safety and Health Administration

OHV - Off-Highway Vehicle

PAC - Provincial Advisory Council

PEIS - Programmatic Environmental Impact Statement

PFYC – Potential Fossil Yield Classification

PM10 - Particulate Matter Less than 10 Micrometers in Diameter

PM2.5 - Particulate Matter Less than 2.5 Micrometers in Diameter

POD - Plan of Operation and Development

Ppm - Parts per Million

RAC - Resource Advisory Council

RFD - Reasonably Foreseeable Development

RMP - Resource Management Plan

RNA - Research and Natural Area

ROD - Record of Decision (for an EIS)

ROS - Recreation Opportunity Spectrum

ROW- Right of Way

SMS - Scenery Management System

T&E - Threatened and Endangered

TL - Timing Limitation

TMDL -Total Maximum Daily Load

US - United States

USC - United States Code

USDA - United States Department of Agriculture

US DOE - United States Department of Energy

US DOI - United States Department of the Interior

US EPA - United States Environmental Protection Agency

USGS - United States Geological Survey

USFWS - United States Department of Interior, Fish and Wildlife Service

VRM - Visual Resource Management

WGA - Western Governors Association

WSR - Wild and Scenic River

WSA - Wilderness Study Area