



United States Department of the Interior
Bureau of Land Management



Environmental Assessment UT-080-06-280-EA

Finding of No Significant Impact/Decision Record

**Oil Shale Exploration Company
Oil Shale Research, Development and Demonstration Project
UTU-84087
Location: White River Mine Site, Uintah County, Utah**

*Applicant/Address:
Oil Shale Exploration Company
273 Azalea Road
Suite 3-310
Mobile, AL 36609*

U.S. Department of the Interior
Bureau of Land Management
Vernal Field Office
170 South 500 East
Vernal, UT 84078

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INTRODUCTION:

The Bureau of Land Management (BLM) has conducted an environmental assessment (EA No. UT-080-06-280, April 2007) for a Proposed Action to lease 160 acres of BLM-administered public land for use in an oil shale research, development and demonstration (RD&D) project in Uintah County, Utah in accordance with the BLM's Oil Shale RD&D Program announced in the Federal Register (FR, June 9, 2005, Vol. 70, No. 110).

Oil Shale Exploration Company (OSEC) will conduct a RD&D project on 160 acres of public land managed by the BLM and associated rights-of-way to evaluate the commercial viability of using the Alberta Taciuk Process (ATP) surface retort system to extract shale oil from oil shale deposits in the Green River Formation in an economical, efficient and environmentally responsible manner.

The 160-acre site lies within the Uinta Basin of northeastern Utah, which contains important oil shale resources and is described as follows:

T. 10 S., R. 24 E., SLM, Utah.

Sec. 22, E $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$,
S $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$,
SW $\frac{1}{4}$ SE $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$;

Sec. 27, NW $\frac{1}{4}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$.

Containing 160.00 acres, more or less.

The Department of the Interior recognized that more extensive technology development and demonstration work is needed to test the viability of extracting energy fuels from the oil shale resources on public lands. The purpose of the action is to lease public land for a research, development and demonstration project that will inform and advance knowledge of commercially viable shale oil production and recovery technologies consistent with sound environmental management.

OSEC has proposed a RD&D project to evaluate the feasibility and commercial viability of developing oil shale resources via underground mining and surface retorting using the ATP system. The purpose of this proposal is to demonstrate a "proof of concept." That is, while laboratory experiments and pilot-scale projects indicate that various surface retorting methodologies are potential commercial options, none have been thoroughly field tested to evaluate the practical application. This proposed project provides the opportunity to further test the ATP technology. The project results will advance knowledge of this surface retort methodology regardless of whether or not it proves commercially viable.

The ATP system is a horizontal rotary kiln retort. OSEC's RD&D project will involve three phases of work, starting with an initial phase which includes processing of bulk samples of the

Green River oil shale which will be transported by truck to the existing 4-ton/hour ATP pilot plant system in Calgary, Alberta, Canada. The second phase involves mobilization of the 4-ton/hour ATP pilot plant unit to Utah and processing more of the existing oil shale stockpile, reopening of the White River Mine, and processing a limited amount of freshly-mined oil shale. The third phase includes construction of a 250-ton/hour ATP system on the lease, installation of necessary utilities along proposed rights-of-way, and operation of the system for a two-year period to fully evaluate the commercial viability of this shale oil recovery method.

The BLM has concluded that initiating steps to facilitate oil shale research and development efforts is worthwhile, and believes that this effort will enhance the collective knowledge regarding the viability of innovative technologies for oil shale development on a commercial scale. The development of the oil shale resources will help supply our future domestic energy needs and play an integral part in our nation's energy security.

The EA is available at the Vernal Field Office (VFO) and is incorporated by reference in this Finding of No Significant Impact (FONSI) determination. A Proposed Action, an Alternative Action with alternate utility rights-of-way, and a No Action alternative were analyzed in the EA.

PLAN CONFORMANCE AND CONSISTENCY:

The Proposed Action and alternatives have been reviewed and found to be in conformance with the following BLM Land Use Plan and the intent of the Energy Policy Act of 2005:

The proposed RD&D project is subject to and has been reviewed for conformance with the following plan (43 CFR 1610.5, BLM Manual Section 1617.3):

Name of Plan: Book Cliffs Record of Decision and Approved Resource Management Plan (ROD/RMP)

Date Approved: May 1985

Decision: On page 7 of the Book Cliffs ROD, it is specified that oil shale will be leased while other resource values will be protected or mitigated. On pages 9-12, five separate areas within the Book Cliffs Resource Area were delineated as priority management areas for future oil shale leases, including the area of the Proposed Action.

The Proposed Action was also evaluated with respect to the Draft Resource Management Plan and Environmental Impact Statement for the BLM's Vernal Field Office, dated January 2005 (BLM-UT-GI-04-001-1610), and was found to be consistent with all of the Alternatives presented in the Draft RMP and, as such, would not limit the BLM's choice of reasonable alternatives in the ongoing planning process. The Proposed Action is also consistent with the Uintah County land use plan.

FINDING OF NO SIGNIFICANT IMPACT DETERMINATION:

Based upon a review of the EA and the supporting documents, I have determined that the proposed RD&D project and associated rights-of-way will not significantly affect the quality of the human environment, individually or cumulatively with other actions in the general area. No environmental effects meet the definition of significance in context or intensity as defined in 40 CFR 1508.27 and do not exceed those effects described in the 1985 Book Cliffs RMP and Final

EIS. Therefore, an environmental impact statement is not needed. This finding is based on the context and intensity of the project as described below.

Context: The study area for cumulative impacts is the Vernal Planning Area (VPA). The VPA is managed by the VFO. Of the nearly 5.6 million acres of land within the VPA, the surface of 1,725,512 acres is managed by the BLM (BLM 2005). The primary human influences on the project area are oil and gas development, historic oil shale and gilsonite mining, livestock grazing, and recreational uses. Existing environmental conditions in the project area reflect changes based on past projects and activities. The project area is rural and relatively undeveloped but is experiencing growth related to energy development.

The OSEC RD&D project is a site-specific action directly involving one 160-acre parcel of public land and associated rights-of-way administered by the BLM. While the technology advanced by OSEC could have importance for its contribution to unlocking oil shale resources, the OSEC RD&D project, in and of itself, will not produce significant quantities of shale oil.

Estimates of the total past, present, and foreseeable future surface disturbance from oil and gas development, oil shale and gilsonite mining equate to approximately 2.6 percent of the total area of the VPA managed by the BLM. There are no other oil shale RD&D proposed actions located in the Uinta Basin or within the VPA. The 160 acres associated with the Proposed Action equates to less than 1 percent of all past, present and future proposed actions, and less than 0.01 percent of the VPA managed by the BLM.

Intensity: The following discussion is organized around the Ten Significance Criteria described in 40 CFR 1508.27 and incorporated into the BLM's Critical Elements of the Human Environment list (H-1790-1), and supplemental Instruction Memorandum, Acts, Regulations and Executive Orders. The following have been considered in evaluating intensity for this proposal:

1. Impacts that may be both beneficial and adverse:

The beneficial effects of the RD&D project include the advancement of innovative technologies to develop the oil shale resources within the Uinta Basin. Opting for a small-scale, staged approach to oil shale development provides an opportunity to prove the concept of the technology involved and to field test operations at economic and environmentally acceptable levels. The OSEC RD&D project will add to the collective knowledge regarding the viability of various technologies for use in shale oil extraction.

The RD&D project would modify the land surface of approximately 38 acres within the 160-acre lease area and additional temporary disturbance for utility rights-of-way. If the RD&D efforts prove not to be technically, environmentally, or economically feasible, the project will be dismantled and lands will be reclaimed with minimal adverse environmental impact.

Adverse effects include the potential for impacts to air, water resources, soils, vegetation, wildlife, recreation, and visual resources that would occur during construction and operation of the RD&D project. None of the environmental effects discussed in the EA are considered significant.

2. Degree of effect on public health and safety:

The small-scale RD&D project would have minimal impacts on the public health and safety of local communities. Environmental commitments and mitigation measures described in Terms/Conditions/Stipulations as part of this Decision will minimize any public safety effects during project construction and operation.

The applicant-committed environmental control and management measures incorporated in the RD&D project, and the mitigation measures to address potential residual impacts enumerated in the EA, provide sufficient control to reduce or minimize impacts to an insignificant level.

3. Unique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands, wetlands, wild and scenic rivers, or ecologically critical areas:

Currently, there are no prime farmlands, parklands, wild and scenic rivers (WSR), wilderness areas, National Landscape Conservation Areas, National Monuments, National Parks, or Areas of Critical Environmental Concern (ACECs) in the project area. However, three ACECs have been proposed and two WSR segments have been tentatively classified in the vicinity of the RD&D project. Potential impacts to these areas have been analyzed in the EA. As described in the EA, impacts to these areas, floodplains, wetlands and riparian areas are expected to be minimal.

Cultural and paleontological resource surveys covering the 160-acre lease area and surrounding lands were conducted in the 1970s as part of a comprehensive Environmental Impact Statement (EIS) for the White River Shale Project. These surveys were reviewed as part of this EA and additional surveys were conducted for the proposed utility rights-of-way in May and June 2006. The RD&D project contains requirements and contingencies in the event that eligible sites identified in the surveys or previously unknown cultural or paleontological resources are found to be in an area directly impacted by the proposed rights-of-way. Monitoring and environmental commitments included in the RD&D project will be developed prior to, and implemented during project construction to minimize the potential for adverse impacts to important cultural or paleontological resources and will lessen adverse effects to public lands administered by the VFO.

The Draft Vernal RMP has proposed segments of the White River and Evacuation Creek for inclusion in the WSR System. A portion of the White River is proposed as a scenic segment. A portion of Evacuation Creek is proposed as a recreational segment. Until the ROD for the Vernal RMP is signed, protection of the eligible segments involves case-by-case review and mitigation of any actions proposed that might affect the eligibility. Mitigation measures presented in the OSEC EA would help reduce the visibility of the proposed power lines and would comply with the existing Book Cliffs RMP. The proposed power line crossing of the eligible segment of the White River would be located within an existing utility corridor. Impacts would be incremental, but minor. The two power line crossings associated with Evacuation Creek would be located along the northern portion of the eligible river segment and therefore away from the historic protected values of Evacuation Creek (narrow gauge railroad, towns of Watson and Rainbow). The proposed action and alternatives would not be precluded because the values for which the

WSR was considered would not be impacted. Furthermore, mitigation measures do offer some protection to the potentially eligible WSR segments. Although not all of the impacts would be eliminated, the proposed locations of the power line crossings would not jeopardize the tentative classifications of their eligibility status, especially given the proposed applicant-committed measures to be employed.

The Draft Vernal RMP also identifies a potential Coyote Basin ACEC and Coyote Basin Complex ACEC for protection of white-tailed prairie dog populations that may be important to black-footed ferret reintroduction efforts. Neither the potential Coyote Basin ACEC described in Alternatives A and B of the Draft Vernal RMP nor the Coyote Basin Complex ACEC described in Alternative C would be affected by the proposed utility rights-of-way. The proposed natural gas pipeline would come within ¼ mile of the southern boundaries of these ACECs, but the 2006 wildlife surveys determined that no prairie dogs towns are located within or adjacent to this pipeline right-of-way.

The Draft Vernal RMP also identifies a potential White River ACEC for protection of unique geologic, historic and scenic values, and riparian ecosystems. The potential White River ACEC as described in Alternative A of the draft Vernal RMP could be affected by two of the three proposed utility rights-of-way. Water required for operations at the RD&D site could be withdrawn from ground water wells located near the White River within the ACEC. The northern portions of the improved access road, water line, and power line from these wells to the 160-acre RD&D site would be located within previously disturbed areas of the potential White River ACEC. The wells are located on private land. A water agreement with the State of Utah issued in 1983 has expired and will need to be reissued prior to the use of these wells. Construction of the power line, the water line, and improvements to the existing access road to the wells would have short-term, direct impacts to the visual and riparian components of this potential ACEC. The natural gas pipeline would cross the White River through an exclusion zone between the east and west portions of the potential White River ACEC as described in Alternative A of the draft Vernal RMP. This exclusion zone covers the existing right-of-way for the Highway 45 right-of-way where it crosses the White River. The new power line will be constructed parallel to an existing power line. It would cross the potential White River ACEC and White River in the NE¼, Section 12, T10S, R24E. The power line crossing would span the proposed ACEC with poles located in upland areas. Under Alternative C of the draft Vernal RMP, both the gas pipeline and power line would affect the potential White River ACEC. These utility rights-of-way would have similar impacts as those described for Alternative A of the draft Vernal RMP. However, the applicant-committed measures to be adopted for protection of riparian areas (Section 2.2.5 and 4.2.7) will substantially reduce impacts to the potential White River ACEC. Implementation of these applicant-committed measures and the fact that the utility rights-of-way will be within utility corridors will help ensure that the proposal will be compatible with the objectives for protection of the White River ACEC.

4. Degree to which the possible effects on the quality of the human environment are likely to be highly controversial:

Public input regarding the proposed RD&D project has been solicited throughout the RD&D planning process. Representatives of the BLM, Uintah County government, and the U.S. Fish

and Wildlife Service, met or consulted informally at various times to discuss the potential impacts of oil shale development on the resources under their respective administration.

The EA scoping activities completed include the preparation and submittal of the EA workplan dated February 17, 2006, the April 3 and 4, 2006, site visit and meeting, and a subsequent April 17, 2006, scoping meeting. The project was posted to the BLM's Environmental Notification Bulletin Board on April 7, 2006. A public information session was held by BLM and OSEC on May 17, 2006. Through this scoping process, the public had an opportunity to identify potential elements of concern as specified by NEPA guidance.

Following the public information session in Vernal, Utah, the White River Mine Oil Shale Research Development and Demonstration Environmental Assessment (EA) was prepared and the official public comment period opened on September 18, 2006. The EA was available for public comment through October 18, 2006.

The BLM distributed the EA via first-class mail to contacts on the mailing list. The mailing list included federal, state, and local elected officials and interested members of the public. The EA was mailed out to approximately 68 individuals, groups, and agencies. In addition, it was provided for public review by CD-ROM or bound paper format upon request, and was posted for review or downloading on the Vernal Field Office web site. Availability of the EA was also announced by publishing notices in local newspapers, as well as posting on the Utah BLM Environmental Notification Bulletin Board.

A total of nine individuals, groups or agencies submitted comments by letter, fax and Internet response. All comment letters were reviewed, and most comments fell within general topics or 'themes'. Eleven themes were identified that encompassed the majority of the comments, as follows: NEPA process, Regulatory/Permitting, Air Emissions, Spent Shale Handling and Disposal, Water Resources, Wildlife/Ecology, Floodplains/Wetlands/Wild & Scenic Rivers, Socio-economics, Cumulative Impacts, ATP Process/Viability of Technology, and General Miscellaneous.

No scientific controversy has been identified regarding the nature of the impacts associated with the proposed project. Based on the number and content of comments received from the public, the effects of the RD&D program on the quality of the human environment are not considered highly controversial. However, there is the likelihood that a level of public interest in the implementation, monitoring and demonstration of feasibility associated with the RD&D lease can be expected.

5. Degree to which the possible effects on the quality of the human environment are highly uncertain or involve unique or unknown risk:

The OSEC project will use the ATP surface retorting system to convert kerogen within the oil shale to produce shale oil and gases. Anticipated effects on the quality of the human environment as a result of the proposed technology have been thoroughly identified, analyzed, and will be controlled or mitigated to an insignificant level.

Due to the nature of the RD&D project, some degree of uncertainty is to be expected. The small-scale approach of initiating research on a 160-acre parcel reduces risk by providing an opportunity to field test operations at environmentally acceptable levels. OSEC will develop various response, compliance and mitigation plans as part an approved Plan of Development.

When uncertainty about impacts to the human environment was identified in the analysis of the RD&D project, comprehensive mitigation measures were identified and analyzed in the EA. In addition to project design criteria, mitigation, and required monitoring and response plans, the permitting that accompanies the proposed RD&D project also includes requirements from regulatory agencies that further mitigate aspects of implementing the project. The result is a series of built-in checks to address uncertainties associated with reopening the mine and operating the ATP system, and incorporates adaptive measures to implement in the event unknown risks are identified.

6. Degree to which the action may establish a precedent for future actions with significant effects or represents a decision in principle about a future consideration:

The RD&D project is a site-specific action directly involving one 160-acre parcel of land and associated utility rights-of-way administered by the BLM. OSEC has applied for an oil shale RD&D lease to be issued for a term of ten years with the option for an extension up to five years upon demonstration to the satisfaction of the Authorized Officer that a process leading to production in commercial quantities is being diligently pursued. The Lessee has a preferential right to convert the 160-acre RD&D lease acreage to a 20-year commercial lease and acquire any or all portions of the remaining preference lease area (4,960 acres) up to a total of 5,120 contiguous acres. Additional NEPA analysis would be required prior to the decision to convert the RD&D lease and add the preference lease acreage. The BLM will receive and process utility right-of-way applications associated with the RD&D project, as addressed in the EA.

If implementation of OSEC's RD&D project results in proving the ATP technology for hydrocarbon extraction from oil shale, this could affect future BLM actions with regard to future leasing of public oil shale lands, based on the outcome of a separate programmatic environmental impact statement (PEIS) currently being prepared for a commercial leasing program. The demonstration of the feasibility of the ATP technology could result in increased interest in using BLM-administered public lands for energy production. However, this action does not represent a decision in principle about a future consideration. Any future oil shale proposal and decisions would require additional NEPA analysis, and the decision to approve the proposed project does not commit the BLM to any particular course of action. Therefore, the BLM retains discretion over future proposals for oil shale development.

The Energy Policy Act of 2005, Public Law 109-58, directs the Secretary of the Interior (the Secretary) to complete a PEIS for a commercial leasing program for oil shale and tar sands resources on public lands with an emphasis on the most geologically prospective lands within the states of Colorado, Utah, and Wyoming. The BLM will base future decisions with respect to land use planning and regulations for commercial oil shale leasing in these three states on that analysis. Those decisions will be made independently of this action, except insofar as the results of OSEC's project may add to information about surface retorting technology.

7. Whether the action is related to other actions with individually insignificant but cumulatively significant impacts:

The study area for cumulative impacts is the Vernal Planning Area (VPA). The VPA is managed by the VFO. Of the nearly 5.6 million acres of land within the VPA, the surface of 1,725,512

acres is managed by the BLM. Estimates of the total past, present and foreseeable future surface disturbance from oil and gas development and oil shale and gilsonite mining are estimated to equate to 2.6 percent of the BLM-administered public lands in the VPA.

No other oil shale RD&D proposed actions are located on BLM-administered public land in the Uinta Basin. The 160 acres associated with the RD&D project equates to less than 1 percent of all past, present and future proposed actions, and less than 0.01 percent of the VPA lands managed by BLM.

The RD&D project would not individually have a significant impact on any natural resource within the Uinta Basin or within the communities of the region. Cumulative impacts to natural resources could occur as the RD&D project operates in conjunction with other past, present, or reasonably foreseeable future actions, such as the expanding oil and gas production operations in northeastern Utah. However, the increment added by the actions approved through this decision would be extremely small and does not constitute a significant cumulative impact. The overall cumulative impacts of development in the VPA are being considered at the EIS level in the Vernal RMP/EIS.

8. Degree to which the action may adversely affect districts, sites, highways, structures, or objects listed on the National Register of Historic Places or may cause loss or destruction of significant scientific, cultural, or historical resources:

No districts or other properties eligible for listing to, or included on, the National Register of Historic Places were identified in the EA. Cultural investigations have satisfied the Secretary of the Interior's Standards and Guidelines for the identification of historic properties. No eligible historic properties were identified within the area of potential direct or indirect effects. Two eligible sites, including a pre-historic rock shelter and stone circle, were identified along or near proposed rights-of-way. The action alternatives contain requirements and contingencies to mitigate impacts to the identified eligible sites in the event that previously unknown cultural resources are identified. While scientifically important paleontological resources may occur in the Project Area, identified mitigating measures would reduce the potential for or avoid impacts to these resources.

9. Degree to which the action may adversely affect an endangered or threatened species or its critical habitat:

No critical habitats for threatened and endangered terrestrial animal or plant species are present at the lease site or along the proposed utility rights-of-way.

The analysis, results, and conclusions presented in the EA were based on surveys and research conducted by biologists and botanists under contract and by the BLM. Based on the analyzed impacts of the RD&D project, the BLM concluded there will be "no effect" on all but one federally-listed threatened bird species, four federally-listed endangered fish species, two federally-listed threatened plant species, and two proposed for listing or candidate plant species.

The project area contains bald eagle winter foraging and roosting habitat. Although there are no known bald eagle nests in the Project Area, potential nesting habitat exists. Mitigation measures identified in the EA, including timing restrictions and buffer zones, allow for avoidance of direct

impacts to the individuals and roost and active nest sites. The project was determined to "may affect, not likely to adversely affect" bald eagle individuals and populations.

The project area contains habitat for four federally-listed endangered fish species (humpback chub, bonytail, Colorado pikeminnow, and razorback sucker). Potential impacts include increased sedimentation, capturing of juvenile fish in water pumps, and impinging of juvenile fish on screened intakes. Mitigation measures have been identified, including screen specifications, timing and placement restrictions, and sediment control measures that would reduce impacts to individuals and populations. In addition, water depletions of up to 247 acre-feet per year for two years may adversely affect the four endangered Colorado River fish species. The 247 acre-feet per year are to be used during oil shale processing operations during the two-year duration of the Phase 3 demonstration program of the RD&D project. The depletion represents only 0.13 percent of the lowest average flow rate in the White River.

The project contains potential habitat for Uinta Basin hookless cactus (threatened), Ute ladies'-tresses (threatened), Graham's beardtongue (proposed for listing as threatened), and White River beardtongue (candidate). Potential impacts include injury to or destruction of plants and habitat and/or seed displacement during construction activities. Indirect impacts could result from sedimentation, erosion, dust, weed competition, or changes in surface runoff patterns. Mitigation measures include surveys so avoidance can be implemented, weed control, and reclamation. Therefore, the project was determined to "may affect, not likely to adversely affect" Uinta basin hookless cactus. The project was also determined to "may affect, not likely to lead to the need to federal listing" of Graham's beardtongue and White River beardtongue. Additional impacts to Ute ladies'-tresses include water withdrawals from the river, which could slightly reduce the water flow in the river; however, the water depletion represents only 0.13 percent of the lowest average flow rate of the White River. Therefore, the project was determined to "may affect, not likely to adversely affect" Ute ladies'-tresses.

Consultation was conducted with the U.S. Fish and Wildlife Service. The result of the consultation is provided in the Rationale for the Decision section of the Decision Record.

10. Whether the action threatens a violation of federal, state, or local environmental protection law:

Approval of the RD&D project violates no federal, state, or local environmental protection law.

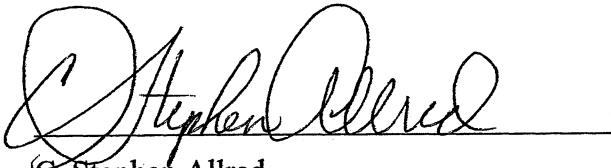
Potential resource conflicts were resolved through environmental commitments defined in the EA. These commitments and stipulations were developed during project planning involving all participants in the RD&D program and during ongoing coordination with the Utah Department of Wildlife Resources, U.S. Fish and Wildlife Service and the Uintah County government.

To meet air quality standards, the operator will obtain all necessary air emission permits under the Clean Air Act and implement appropriate air emissions control measures to comply with the permit limits. For more information refer to Section 4.2.1 of the EA.

To maintain water quality compliance, the operator will install monitoring wells and collect surface water data and develop a water monitoring and response plan for both surface and

ground water. For more information refer to Section 4.2.3 of the EA and the Terms/Conditions/Stipulations listed in the Decision Record.

APPROVED BY:

A handwritten signature in cursive script, appearing to read "C. Stephen Allred", is written over a horizontal line.

C. Stephen Allred
Assistant Secretary
Land and Minerals Management

4/30/2007

Date

DECISION RECORD

OSEC OIL SHALE RD&D PROJECT, WHITE RIVER MINE

UTU-84087

DECISION

It is my decision to authorize issuance of an Oil Shale Research, Development, and Demonstration (RD&D) lease, as described in Alternative A (Proposed Action) of the Oil Shale RD&D Project, White River Mine EA (UT-080-06-280, April 2007) to the Oil Shale Exploration Company (OSEC) along with any supporting rights-of-way, for the demonstration of their shale oil extraction technology. This decision requires OSEC to fulfill all applicable environmental commitments, including terms, conditions, stipulations, and certain monitoring commitments described in the Proposed Action, along with mitigations identified in the EA, which are included as Terms/Conditions/Stipulations in this Decision Record.

The legal description for the 160-acre lease area is:

T. 10 S., R. 24 E., SLM, Utah.

Sec. 22, E $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$ SW $\frac{1}{4}$, NE $\frac{1}{4}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$,

S $\frac{1}{2}$ NE $\frac{1}{4}$ SE $\frac{1}{4}$, S $\frac{1}{2}$ NW $\frac{1}{4}$ SE $\frac{1}{4}$,

SW $\frac{1}{4}$ SE $\frac{1}{4}$, W $\frac{1}{2}$ SE $\frac{1}{4}$ SE $\frac{1}{4}$;

Sec. 27, NW $\frac{1}{4}$ NE $\frac{1}{4}$, E $\frac{1}{2}$ NE $\frac{1}{4}$ NE $\frac{1}{4}$ NW $\frac{1}{4}$.

Containing 160.00 acres, more or less.

RATIONALE FOR THE DECISION

The decision to approve the selected alternative has been made in consideration of the identified environmental impacts of the Proposed Action, Alternative B (Eastern Natural Gas Pipeline Right-of-way), and the No Action Alternative.

Purpose and Need

The Department of the Interior has identified the need to conduct research and to provide for development on public lands and demonstrate on a pilot scale, within the next ten years, the technical, economic and environmental feasibility of oil shale extractive technology. The Proposed Action is to lease 160 acres of public land for a research, development and demonstration project that will inform and advance knowledge of commercially viable production, development and recovery technologies consistent with sound environmental management. Leasing this 160-acre parcel for OSEC's project will contribute to information which the BLM and other agencies can use to develop strategies for managing environmental effects of, and enhancing community infrastructure for orderly development of oil shale resources and for rulemaking addressing commercial oil shale leasing.

OSEC's objective is to research, develop and demonstrate the use of surface retorts to extract oil from shale. By addressing this RD&D project in three phases, the technical feasibility and economical and environmental impacts of shale oil production can be assessed, allowing negative impacts to be evaluated and eliminated or minimized before full-scale production begins. The three phases are progressively more complex and build on knowledge learned from each phase. This phased approach allows development of the final design for each succeeding phase based on the knowledge gained from the previous phase(s).

Other Alternatives

To meet the stated purpose and need, the EA considered the following: the Proposed Action, Alternative B for an alternate utility right-of-way, and a No Action Alternative. The decision to implement the Proposed Action without mitigation was not selected because it would have resulted in unacceptable environmental impacts due to the lack of mitigation. Alternative B was not selected because the alternate pipeline route would have resulted in a longer pipeline route as well as cross country disturbance that will be avoided through selection of the proposed action. In addition, other environmental impacts were identified that could have been minimized or eliminated. The No Action Alternative was not selected because it would not allow for the research, development, and demonstration of the technical, environmental, and economic feasibility of using the ATP retort system to extract oil from oil shale.

The Proposed Action with mitigation derived from the EA is the selected alternative. The Proposed Action incorporates applicant-committed mitigation measures that are considered appropriate for the project and additional mitigation measures to reduce or eliminate impacts, which have been carried forward as Terms/Conditions/Stipulations in the decision. The Proposed Action with mitigation meets the applicant's purpose and need as well as the BLM's objectives.

Mitigation not carried forward into the Decision Record

An applicant-committed measure that no construction would be undertaken between November 1 and March 31 within big game crucial winter range areas was included in the EA (Section 2.2.5). This applicant committed measure was not carried forward in the Terms/Conditions/Stipulations of this decision record because no big game crucial winter range exists in the project area (Section 4.2.9).

Public Involvement and Consultation

Public input regarding the proposed RD&D project was solicited throughout the environmental assessment process. Representatives of the BLM, Uintah County government, and the U.S. Fish and Wildlife Service, met or consulted informally at various times to discuss the potential impacts of the RD&D project under their respective jurisdiction.

The BLM initiated public scoping on May 17, 2006. The EA was published on September 18, 2006, for a 30-day public comment period. A summary of the comments is provided in Appendix F of the EA. The person, organization, or agency that provided the individual

comment is also identified. Responses follow the comments. Based on the comments provided, certain clarifying language was added to the text of the EA. A summary of changes to the EA is provided in Appendix G of the EA.

Section 5.2 of the EA discussed the agency consultations conducted during the review of the RD&D project and the preparation of the EA. Eighteen agencies or tribes were identified as being consulted or notified during this process. If circumstances change, additional analysis and/or reinitiation of consultation will occur as necessary.

Monitoring and Enforcement

Potential resource conflicts were resolved through environmental commitments and monitoring stipulations integral to the Proposed Action with mitigations. These are fully described in the subject EA. These commitments and stipulations were developed during project planning involving all participants in the RD&D project and during ongoing consultations with the Utah Division of Wildlife Resources, USFWS and the Utah State Historic Preservation Office.

Monitoring and enforcement of these commitments will be incorporated as special lease stipulations that, in conjunction with the lease terms and conditions, will ensure the right of the BLM to inspect the leased lands, including surface and underground improvements, equipment, books and records; and require the lessee to monitor environmental effects. Failure to comply with lease terms could result in suspension of operations or forfeiture and cancellation of the lease.

TERMS/CONDITIONS/STIPULATIONS

The following terms, conditions, stipulations, and other mitigation measures are incorporated in the Proposed Action as outlined in the subject EA, and are comprised of both the BLM specifications and guidelines, and the environmental commitments put forth by OSEC. These measures were designed for site-specific mitigation so as to lessen the potential for adverse effects to public lands administered by the BLM Vernal Field Office. These measures will be stipulated, as appropriate, in any Plan of Development approval. Following the BLM approval of a Plan of Development, OSEC will make oil shale available to other entities for oil shale research purposes from the existing oil shale stockpile and mined oil shale from the reopened mine. This material will be provided at a reasonable cost to cover mining and loading costs as approved by the BLM. In addition, these terms, conditions, stipulations and other mitigation measures will be incorporated, as appropriate, into any right-of-way grant issued under the applicable regulations contained in 43 CFR Part 2800.

Air Quality

OSEC will acquire appropriate State of Utah air quality permits, comply with permit stipulations, implement emission control measures, and monitor air quality control required by the air quality permitting agency. In addition, OSEC will:

- Avoid roads and other surface construction activities with soils susceptible to wind erosion, as appropriate, to reduce the amount of fugitive dust generated by traffic and other activities.

- Use dust inhibitors to prevent fugitive dust problems. Measures, such as the use of water trucks and moisture control and baghouses, will be implemented to minimize fugitive dust emissions.
- Establish and enforce speed limits on roads where needed to reduce fugitive dust problems.
- Cooperate with atmospheric deposition and visibility impact monitoring programs consistent with State requirements.
- Mitigate fugitive dust emissions using erosion control measures, and control dust during construction, wind events, and stockpiles, as necessary.
- OSEC will obtain and comply with all necessary air permits and install, operate and maintain air emission control devices on the ATP system during Phase 2 and Phase 3 and on units of the wastewater treatment system and hydrotreatment system during Phase 3. This will include, for Phase 3, Best Available Control Technology (BACT) that complies with the Prevention of Significant Deterioration (PSD) requirements of the Clean Air Act.

Wastes

- The environmental controls to be required for the disposal of spent shale will be approved by the BLM as well as other regulatory authorities as appropriate. The spent shale disposal areas for Phases 2 and 3 will be designed and constructed to prevent contact with storm water from other areas and minimize infiltration of precipitation that lands on the shale pile. The disposal areas will also have drainage features to control runoff. Monitoring of the spent shale disposal areas and runoff areas will be conducted throughout the project. Until the Phase 1 and Phase 2 testing results demonstrate that the spent shale is not a hazardous material, it will be isolated from the environment. The results of the Phase 1 and, if necessary, Phase 2 testing will be used to determine the continued need for an impervious liner to isolate the spent shale from the environment.
- Prior to and during mine dewatering, testing will be performed and water that does not meet water quality standards will be contained and transported for off-site treatment.
- OSEC will develop and implement all necessary plans and engineering measures (e.g., bermed, lined and covered storage areas) to comply with the Resource Conservation and Recovery Act and to properly manage hazardous wastes and oil wastes generated during Phases 2 and 3.
- OSEC will develop and implement a plan for the handling and disposal of construction related wastes at licensed off-site facilities.
- OSEC will dispose of (Phase 2) or treat on-site (Phase 3) any process waters that do not meet water quality standards prior to re-use for moisture control or discharge on the 160-acre lease.
- OSEC will evaluate and upgrade as necessary the on-site sewage treatment facility and treat all sewage waters generated on the 160-acre lease.

- If monitoring shows adverse impacts to soil quality or the potential for adverse impacts to ground water quality beneath the site from the spent shale disposal during Phase 2, OSEC will notify the BLM and implement measures to address any impacts.
- If lighter debris becomes wind-borne and is transported away from the construction area, OSEC will implement measures to collect all such debris and to have it properly disposed of.
- In the event of a spill of sulfur, nitrogen, or spent catalyst wastes, the following mitigation measures will be implemented:
 - Immediate response actions will be taken to contain the spill and to remove as much of the discharged material from the environment as possible.
 - Investigations will be undertaken to determine the extent and magnitude of impacts to the environment following the response measures.
 - Working with regulatory agencies, OSEC will develop a remediation plan to cleanup affected media to acceptable levels such that adverse long-term impacts are minimized.
- In the event an accidental release of mine water that does not meet water quality standards, the following mitigation measures will be implemented:
 - Immediate response actions will be taken to contain the spill and to pump up as much of the discharged water into tanks as possible;
 - Investigations will be undertaken to determine the extent and magnitude of impacts to the environment following the initial response measures; and
 - Working with regulatory agencies, OSEC will develop a remediation plan to cleanup affected media to acceptable levels such that no adverse long-term impacts remain.
- In the event of an accidental release of water generated during retorting or process washdown operations that does not meet water quality standards, the following mitigation measures will be implemented:
 - Immediate response actions will be taken to contain the spill and to pump up as much of the discharged water into tanks as possible;
 - Investigations will be undertaken to determine the extent and magnitude of impacts to the environment following the initial response measures; and
 - Working with regulatory agencies, OSEC will develop a remediation plan to cleanup affected media to acceptable levels such that no unacceptable adverse long-term impacts remain.
- In the event of an accidental release of waste oils or oily sludges, the following mitigation measures will be implemented:
 - Immediate response actions will be taken to contain the spill and to remove as much of the discharged wastes from the spill area as possible;

- Investigations will be undertaken to determine the extent and magnitude of impacts to the environment following the initial response measures; and
- Working with regulatory agencies, OSEC will develop a remediation plan to cleanup affected media to acceptable levels such that no unacceptable adverse long-term impacts remain.
- In the event that a spill of sanitary wastes from a portable unit occurs, the material will be cleaned up, contained as quickly as possible, and moved to an approved disposal facility.
- In the event of an accidental release of untreated or partially treated effluent from the sanitary waste water treatment facility, the following mitigation measures will be implemented:
 - Immediate response actions will be taken to contain the release and to remove as much of the discharged wastes from the spill area as possible;
 - Investigations will be undertaken to determine the extent and magnitude of impacts to the environment following the initial response measures; and
 - Working with regulatory agencies, OSEC will develop a remediation plan to cleanup affected media to acceptable levels such that no unacceptable adverse long-term impacts remain.

Water Resources and Water Quality

OSEC will obtain necessary federal and state permits, and will comply with the Corps of Engineers Nationwide Permit requirements, if appropriate; State of Utah discharge permit conditions, Stormwater discharge permit, and all other applicable water quality permitting requirements to minimize impacts to water quality. OSEC will minimize impacts to water quality, surface and ground, by implementing the following measures:

- OSEC will evaluate and implement measures to reduce, to the extent practicable, water usage for the process. If water is withdrawn from the White River or from the White River alluvium, the monitoring will consist of (1) measuring water withdrawal from the White River and (2) measuring the ground water level in two piezometers located in the alluvium near the withdrawal point(s). If ground water is extracted from the Birds Nest Aquifer, the monitoring will include a piezometer in the Birds Nest Aquifer and a gauging station along Evacuation Creek. It is anticipated that such monitoring would be daily for the first two weeks of water withdrawals, weekly for the next six weeks, and monthly thereafter.
- If the initial water level monitoring indicates that potential impacts could be materially greater than anticipated, OSEC will modify its selected water supply system.
- OSEC will obtain all necessary federal and state permits and will comply with all applicable water-quality permitting requirements to minimize impacts to water quality.
- Develop a groundwater monitoring and response plan and continue the monitoring program as long as needed to determine that the site is acceptable for abandonment.

- Obtain a stormwater discharge permit and submit a stormwater management plan to the BLM authorized officer.
- Prepare and implement a Spill Prevention Control and Countermeasure (SPCC) Plan for BLM approval.
- Submit a water monitoring and response plan to the BLM authorized officer with the Plan of Development.

Soils

- OSEC will develop and implement a soil erosion/sediment control plan to stipulate methods for minimizing soil erosion or sedimentation using appropriate practices, such as maximum allowable slopes, silt fencing or straw wattles.
- OSEC will develop and implement a soil management plan stipulating appropriate practices for the handling, staging, and re-use of topsoil and soil reclamation activities to be conducted following construction, such as soil pile seeding and reclamation requirements.
- Additional soil erosion and sediment control measures and remediation of damaged site soils may be necessary if the applicant-committed measures are found to be inadequate.
- Reseeding may be necessary if the initial application is unsuccessful.

Geology/Energy Production/Mineral Use

- OSEC will coordinate its activities with the oil and gas lessee for the 160-acre lease and lessees along the utility rights-of-way to avoid development conflicts.
- Gilsonite veins will be crossed by the proposed gas pipeline within existing pipeline rights-of-way. OSEC will coordinate construction of utility lines with the owner of gilsonite mines crossed by the proposed utility line right-of-way.

Floodplains

- Horizontal directional drilling techniques will be used to install the natural gas pipeline beneath the channel of the White River at a minimum depth of three meters below grade. Every effort will be made to conduct all drilling activities associated with the gas pipeline installation within already disturbed areas. Upon completion of this work, reclamation activities will be undertaken to return disturbed areas to pre-construction conditions to the extent possible.
- Upon completion of installation of any new water wells and associated utilities in the floodplain, reclamation activities will be undertaken to return disturbed areas to pre-construction conditions to the extent possible.
- Following a major flood in the White River or a flash flood in an ephemeral stream, damaged utility lines, access roads, and equipment would be repaired and exposed pipe would be reburied. These measures would minimize residual project-related impacts from flooding.

Wetlands/Riparian Areas

- Surveys will be conducted prior to utility construction to establish the presence or absence of wetlands or riparian areas. If wetlands or riparian areas are present, they would be avoided to the extent practicable. If avoidance is not possible, disturbance within the wetland or riparian areas would be minimized to the extent practicable in accordance with any state or federal wetland permitting requirements.
- OSEC will limit construction equipment working in wetlands or riparian areas to that essential for clearing, trench excavation, pipe fabrication and installation, backfilling, and restoration.
- Horizontal directional drilling techniques will be used to install the natural gas pipeline beneath the channel of the White River at a minimum depth of three meters below the channel bottom. Every effort will be made to conduct all drilling activities in existing disturbed areas adjacent to Highway 45. The power line will be constructed to span the width of the river with poles located in upland areas.
- OSEC will prohibit storage of hazardous materials, chemicals, fuels, lubricating oils, concrete coating, and refueling activities within 200 feet of any wetland or riparian area.
- Any impacts to wetlands and riparian areas would be minimized by implementing measures to reduce the soil disturbance and enhance restoration of vegetation within wetlands and riparian areas. These mitigation measures may include:
 - Limit construction equipment working in wetlands and riparian zones to that essential for clearing, trench excavation, pipe fabrication and installation, backfilling, and restoration.
 - Limit stump removal, grading, topsoil segregation, and excavation in wetlands and riparian zones to the area immediately over the trench line to avoid excessive disruption of soils and the native seed and rootstock within the soils.
 - Prohibit storage of hazardous materials, chemicals, fuels, lubricating oils, concrete coating, and refueling activities within 200 feet of any wetland or riparian area.
 - Equipment working in wetlands and riparian zones will be cleaned of any possible weed seeds prior to bringing it into these areas.
 - Implement measures to control introduction and spread of invasive, non-native species into wetlands and riparian areas.

Threatened/Endangered Wildlife Species

- Pre-construction clearance surveys will be conducted in the spring prior to construction to identify active bald eagle nests within 1.0 mile of the surface occupancy area and in the winter to identify bald eagle roosts within 0.5 mile of the project site and utility rights-of-way. Construction activities will not occur within 1.0 mile of any active bald eagle nest without further consultation with the USFWS.

Construction activities will not be conducted within 0.5 mile of active roost sites from November 1 through March 31.

- Mitigation solutions such as fencing, flagging, or floatation balls should be thoroughly considered if necessary to reduce contamination of wildlife if monitoring results in a conclusion that the water may be toxic.
- The lessee will make a one-time payment to the USFWS Recovery Program to compensate for water depletion impacts to four endangered fish species which is calculated by multiplying the project's average annual water depletion by the depletion charge in effect at the time the payment is made. The average depletion is estimated at approximately 247 acre-feet per year for the two year test period of Phase 3. If the average depletion is found to be larger than 247 acre-feet per year over this test period, then consultation with USFWS will be reinitiated. The lessee will be required to pay the one-time contribution to the Recovery Program to the USFWS.

Fish and Wildlife Including Special Status Species other than FWS Candidate or Listed Endangered or Threatened Species

- OSEC will conduct clearance surveys, each spring prior to construction, to identify active raptor nests within 0.5 mile of the construction rights-of-way. Construction activities will not be conducted within 0.5 mile of active raptor nests between February 1 and August 31 or until fledging and dispersal of the young.
- OSEC will conduct clearance surveys each spring prior to construction, to identify presence of any BLM sensitive species. If any BLM sensitive species are found, OSEC will consult with the BLM to determine an appropriate action to reduce impacts.
- If bats are found in the White River Mine, OSEC will install one-way doors or other suitable mitigation at the mine shaft entrances allowing sufficient time prior to re-opening the mine for bats to leave but not to re-enter the mine shafts.

Threatened/Endangered Plant Species

- Following the completion of utility construction, disturbed areas will be reclaimed in a timely manner and in accordance with a project revegetation plan.
- OSEC will conduct clearance surveys each spring prior to construction along the rights-of-way to identify the presence of any T&E plant species.

Vegetation Including Special Status Species other than FWS Candidate or Listed Endangered or Threatened Species

- OSEC will minimize vegetation removal to the extent necessary to allow for safe and efficient construction activities.
- OSEC will develop and implement a revegetation/reclamation plan using appropriate practices to restore disturbed areas to pre-construction conditions to the extent practicable.

- OSEC will conduct clearance surveys each spring prior to construction along the rights-of-way to identify the presence of any BLM sensitive plant species.

Invasive, Non-Native Species

- An invasive, non-native weed management plan, conforming to the requirements of the BLM and local weed management agencies, will be adopted and followed for the project.
- A pesticide use permit will be submitted to and approved by the Authorized Officer prior to implementation of weed control.

Recreation

- The RD&D facility on the 160-acre lease will minimize potential light pollution by limiting the height of light poles and using light shields provided that use of such shields does not affect worker safety.
- OSEC will minimize light and sound pollution at the White River shoreline by use of topographic shielding to ensure that recreational experiences within the Book Cliffs Extensive Recreation Management Area (ERMA) and/or proposed White River Special Recreation Management Area (SRMA) are not diminished.

Visual Resources

- OSEC will develop and implement a plan using appropriate measures to minimize visual impacts from the construction and operations of the facility and utilities in the Project Area, including visual impacts from dust during construction.
- Within all VRM Class II areas, OSEC will construct utility lines within or parallel and adjacent to existing utility rights-of-way.

Cultural Resources

- OSEC will develop and implement standard operating procedures for avoiding historic or archaeological sites in the project, including stop work and notification procedures in the event that such sites are discovered during construction activities, and develop steps to be taken to prevent damage to any such discoveries, consistent with the NHPA and other applicable laws and regulations.
- If any eligible site cannot be avoided by construction, additional work will be conducted to mitigate any adverse impacts as directed by the Authorized Officer. This work may include data recovery by qualified archaeologists prior to construction disturbance or other measures deemed appropriate by the Authorized Officer.
- Even if all eligible surface sites are avoided, it is possible that cultural resources not visible on the surface may be encountered during construction or other project-related activities. In this case, the following measures will be implemented in accordance with the project-specific cultural resources protection plan:
 - Activities will stop in the immediate area of the find, and the Authorized Officer will be immediately contacted. Within five working days, the Authorized Officer will inform OSEC as to (1) whether the materials appear eligible for the

NRHP; (2) the mitigation measures OSEC will likely have to undertake before the site can be used (assuming in situ preservation is not practicable); and (3) a timeframe for the Authorized Officer to complete an expedited review under 36 CFR Part 800 to confirm, through the SHPO, that the findings of the BLM Authorized Officer are correct and that mitigation was appropriate.

- The Authorized Officer will be notified immediately by telephone and with written confirmation, upon discovery of human remains, funerary items, sacred objects, or objects of cultural patrimony. Activities would stop in the immediate area of the find, and the discovery will be protected for 30 days or until notification in writing by the BLM Authorized Officer to proceed.

Paleontology

- OSEC will develop and implement standard operating procedures for managing the discovery of fossils to minimize damage to scientifically important fossil discoveries, including stop work and notification procedures in the event that such sites are discovered during construction activities, and develop steps to prevent damage to any such discoveries, consistent with best management practices.
- If suspected fossil materials are uncovered during construction or project operations, the operator should stop work immediately and the Authorized Officer should be contacted. Activities should not resume until the authorized officer can assess the situation and advise whether additional mitigation is needed.
- Fossil specimens, if any, recovered during the project that are considered of scientific importance will be curated into the collections of a museum repository acceptable to the BLM.

Special Designation Areas

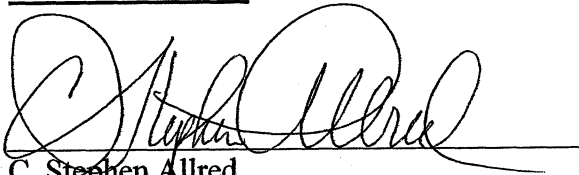
- OSEC will construct the proposed power line immediately adjacent to the existing power line at the White River crossing to minimize additional impacts to visual resources within potential Special Designation Areas.
- Horizontal directional drilling techniques will be used to install the natural gas pipeline beneath the channel of the White River at a depth of three meters below the channel bottom. The crossing will occur at the already disturbed Highway 45 crossing location and every effort will be taken to conduct drilling activities in already-disturbed areas of the floodplain to protect the Outstanding Remarkable Values and scenic classification of the eligible WSR.
- Upon completion of construction, disturbed areas will be restored to preconstruction conditions to the extent practicable in accordance with a project reclamation and revegetation plan.
- Power poles will be located to minimize their view from eligible WSR and ACEC areas.

Conclusion

Based on the above analysis of the context and intensity of potential impacts resulting from the Proposed Action and the mitigation identified in the Terms/Conditions/Stipulations, the BLM has determined that the proposed Oil Shale Exploration Company Oil Shale Research, Development and Demonstration project will have no significant impact on health or the human environment.

The decision to grant an Oil Shale RD&D Lease to Oil Shale Exploration Company has been made in consideration of the factors described above. The Proposed Action with mitigation represents an opportunity to develop domestic energy sources and to inform and advance knowledge of commercially viable production, development and recovery technologies consistent with sound environmental management.

APPROVED BY:



C. Stephen Allred
Assistant Secretary
Land and Minerals Management

4/30/2007
Date