



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 8**

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Ref: 8EPR-N
Michael Nedd, Assistant Director
Bureau of Land Management
Minerals, Realty and Resource Protection
1849 "C" Street NW
Washington, D.C. 20240

Sherri Thompson, Project Manager
Bureau of Land Management
Colorado State Office
2850 Youngfield Street
Lakewood, Colorado 80215-7093

Re: EPA Comments on Draft Programmatic Environmental
Impact Statement and Possible Land Use Plan
Amendments for Allocation of Oil Shale and Tar Sands
Resources
CEQ # 20120019

Dear Mr. Nedd and Ms. Thompson:

In accordance with our responsibilities under Section 102(2)(C) of the National Environmental Policy Act (NEPA), 42 U.S.C. Section 4332(2)(C), and Section 309 of the Clean Air Act (CAA), 42 U.S.C. Section 7609, the U.S. Environmental Protection Agency Region 8 (EPA) has reviewed the Bureau of Land Management's (BLM) Draft Programmatic Environmental Impact Statement and Possible Land Use Plan Amendments for Allocation of Oil Shale and Tar Sands Resources on Lands Administered by the BLM in Colorado, Utah, and Wyoming (Draft PEIS).

Background and Project Description

In 2008, the BLM amended twelve land use plans in Colorado, Utah and Wyoming to designate public lands administered by the BLM as available for commercial leasing for oil shale or tar sands development through the preparation of a PEIS (2008 OSTs PEIS). These 2008 amendments made approximately 2 million acres of public land available for application for leasing and development of oil shale, and approximately 431,000 acres of public land available for application for leasing and development of tar sands. In 2009 the 2008 OSTs PEIS was challenged in a lawsuit brought by a coalition of environmental organizations. As part of the resulting settlement agreement filed with the

U.S. District Court in Colorado in February of 2011, BLM decided to take a fresh look at the land allocations analyzed in the 2008 OSTTS PEIS and consider excluding certain lands from future leasing of oil shale and tar sands resources.

It is important to note that the Preferred Alternative represents an approximate 77% reduction in land proposed as available for application for oil shale leasing as compared to the 2008 OSTTS PEIS decision. Similarly for tar sands leasing, the Preferred Alternative represents an approximate 79% reduction in land proposed as available compared to the 2008 decision. These changes represent significant steps toward protecting environmental resources. The Draft PEIS analyses four alternatives: Alternative 1 (no action), Alternative 2 (conservation focus), Alternative 3 (research lands focus) and Alternative 4 (moderate development). Alternative 2 consists of two options for oil shale. Alternative 2(a) excludes all lands having wilderness characteristics (LWC), the whole of the Adobe Town "Very Rare or Uncommon Area," core or priority sage-grouse habitat and all areas of critical environmental concern (ACEC). Alternative 2(b) lands available for application for leasing and development of oil shale would be the same as Alternative 2(a); however, only for research, development and demonstration (RD&D) leases. A key benefit of Alternative 2(b) would be facilitation of a robust RD&D program for oil shale development. The BLM has identified Alternative 2(b) as the Agency's Preferred Alternative.

The EPA's Comments and Recommendations

The EPA appreciates having had the opportunity to consult with the BLM on the Draft PEIS and to see that many of our specific comments have been addressed. We remain committed to working with BLM to seek ways to address a few additional comments. The EPA focuses these comments on the need for rigorous NEPA analysis at future leasing and project decisions, particularly analysis regarding water resources and air quality. Along with an explanation of these comments, we offer recommendations on how the BLM might address them.

A. NEPA at Future Leasing and Project Decisions

The EPA's most essential remaining recommendation is that BLM make a strong and clear commitment in the Final PEIS that the agency will conduct additional NEPA analysis and disclosure prior to leasing any land for oil shale/tar sands development and also after development technologies and their potential impacts are better defined and understood. As the Draft PEIS explains, oil shale development will involve untested technologies where the magnitude and nature of impacts is currently undetermined, but may be significant. Furthermore, key information needed to evaluate and mitigate potential impacts is not yet available, including future project locations, operating characteristics, size and scope of the projects, and likely impacts and mitigation measures.

Given this situation, the EPA is reviewing this document with the assumption that the level of NEPA at future leasing and project decisions will be an EIS, and that BLM will perform rigorous NEPA analyses when technologies are better understood. We believe it is important for the Final PEIS to include a commitment to preparing EISs for future leasing and project decisions, and to confirm that BLM will fully disclose direct, indirect and cumulative impacts of future leasing and development decisions and apply mitigation necessary to reduce those impacts.

The Draft PEIS notes that the concept for the Preferred Alternative emerged during development of this document, is presented only in brief, and will be developed further in preparation of the Final PEIS

(page 2-35). The EPA believes the Preferred Alternative gives BLM an opportunity to acquire important data during RD&D leasing and prior to commercial leasing that will be useful to inform future NEPA analyses. The EPA recommends the Final PEIS discuss how the BLM intends to use the RD&D leasing process to assess potential impacts on water resources and air quality, thereby positioning BLM to mitigate these potential impacts in the event commercial leasing becomes viable. In addition, we recommend the Final PEIS identify the types of data sets that BLM may require be provided by RD&D lessees.

With respect to future leasing decisions, it would be useful to include information in the Final PEIS regarding criteria the BLM may be considering for converting research leases to commercial scale leases. This disclosure would be putting both industry and the public on notice regarding the decision-making process that BLM intends to undertake upon receipt of commercial lease applications.

B. Water Resources

1. *Surface Water*

The EPA recommends that the Final PEIS include the most up-to-date information on the existing quality of surface waters in these areas is included in the document, which can be obtained from each State (see below). This is particularly important since water bodies in portions of the study area are already impacted where significant oil and gas development is occurring. The number of impaired streams listed on the current 303(d) lists of impaired waters within both the Piceance Basin in Colorado and the Uinta Basin in Utah have increased since the previous listings, as outlined below.

Under the Clean Water Act (CWA), states are required to establish and maintain water quality standards to protect water bodies such as rivers, lakes and streams. Water bodies that do not meet these standards are placed on the State's Section 303(d) List of impaired waters. The Draft PEIS provides 2006 data for the 303(d) Lists from Colorado, Utah and Wyoming. Updated information is now available to replace 2006 impaired water body data in Table 3.4.1-1 (pages 3-64 and 3-65) within the study areas of Colorado, Utah and Wyoming. 2010 data is available for Utah, while 2012 data is in the process of being finalized for Colorado and Wyoming. The EPA recommends that the Final PEIS reflect these updates, as discussed in the following paragraphs.

In Colorado, the draft 2012 303(d) List indicates that water quality has become further impaired in the Piceance Basin since 2006. This draft 2012 303(d) List identifies five additional river segments in the basin. Colorado's Monitoring and Evaluation List (M&E List) identifies water bodies exhibiting some stress in the aquatic ecosystem, but where more data is needed to make an appropriate determination. The M&E List identifies one additional river segment within the Piceance-Yellow Creek watershed between the 2010 and 2012 lists. Based on the potential oil shale development in this area in addition to ongoing and planned oil and gas development, there is a trend toward further impairment and the potential for additional violations of surface water quality standards and the CWA if additional pollutant loads reach these impacted river segments. Colorado finalized their 2012 303(d) and M&E lists and submitted the 303(d) list to EPA on March 23, 2012 for approval. These lists can be found online at [http://www.cdphe.state.co.us/op/wqcc/Reports/303\(d\)/93_2012\(03\).pdf](http://www.cdphe.state.co.us/op/wqcc/Reports/303(d)/93_2012(03).pdf). The following table identifies 5 additional water segment impairments in the Piceance Basin.

Colorado ID	Water Segment	Impairment
COLCWH13c	Yellow Creek	Fe (Trec) and Aquatic Life
COLCWH14a	Piceance Creek	Fe (Trec)
COLCWH15	Piceance Creek	Aquatic Life (provisional)
COLCWH20	Black Sulfur Creek	Aquatic Life (provisional)
COLCWH23	W. Douglas Creek	Aquatic Life

Source: CDPHE, 2012

In Utah, the 2010 303(d) List indicates that water quality has also become further impaired in the Uinta Basin since 2006. Based on the ongoing and planned oil and gas development in this area in addition to potential oil shale and tar sands development, there appears to be a high likelihood of further impairment and the potential for additional violations of surface water quality standards and the Clean Water Act if additional pollutant loads reach these impacted river segments. The 2010 303(d) list can be found at <http://www.epa.gov/waters/ir/index.html>.

Utah ID	Water Segment	Impairment
UT14050007-003	Evacuation Creek	TDS
UT14030001-001	Cottonwood Wash	Benthic Macro-invertebrate Assessment (BMAI)
UT14060006-001	Willow Creek	BMAI
UT14060004-002	Indian Canyon Creek	Arsenic and boron (in addition to TDS)
UT14060005-003	Ninemile Creek	Temperature

Source: UDEQ, 2010

In Wyoming, the draft 2012 303(d) List indicates that water quality impairments have not changed within the project's study area portion of the Green River Basin since 2006. Wyoming finalized their draft 2012 303(d) list on March 27, 2012. This list can be found at http://deq.state.wy.us/wqd/watershed/Downloads/305b/2012/WY2012IR_Draft_Doc11-1058.pdf.

The EPA recommends that BLM include all updated 303(d) list information for each state in the Final PEIS. EPA also recommends that the Final PEIS provide a discussion of the changes between 2006 and 2012 to clearly disclose any increases in impaired water bodies for each state's study area. Inclusion of this data represents a key piece of information needed to fully disclose current water quality conditions and to evaluate, and if necessary mitigate, impacts of any future oil shale and tar sands development.

2. Groundwater

In order to provide a baseline to accurately assess the potential impacts of the alternatives, we recommend that the Final PEIS add additional information to more thoroughly characterize groundwater resources in Utah and Wyoming. Specifically, we recommend the Final PEIS include the delineated depth of underground source of drinking water (USDWs) in the study areas as well as the quality of each zone within these aquifers, to the extent there is existing information to do so. Without this information, the Draft PEIS provides little information regarding the location or depth

of USDWs. All groundwater that has not been exempted through the aquifer exemption process and meets the definition of USDW at 40 C.F.R. § 144.3 is protected under the Safe Drinking Water Act. A USDW is defined as an aquifer or portion of an aquifer that supplies any public water system or that contains a sufficient quantity of ground water to supply a public water system, and currently supplies drinking water for human consumption, or that contains fewer than 10,000 mg/l total dissolved solids (TDS) and is not an exempted aquifer. Aquifers are presumed to be USDWs unless they have been specifically exempted or if they have been shown to fall outside the definition of a USDW (e.g., over 10,000 mg/L TDS). We provide the following sources for assistance to better characterize groundwater resources in the Final PEIS within Utah and Wyoming:

- In Utah, the Utah Geologic Survey has collected detailed groundwater information for its Uinta Basin Water Study. The purpose of this study is to better understand and characterize groundwater resources in the Uinta Basin in recognition of the fact that areas of potential oil shale development overlap with natural gas fields in the basin. The study can be found at http://geology.utah.gov/emp/UBwater_study/.

In addition, the Greater Natural Buttes Draft Resource Management Plan (RMP) provides extensive characterization of the three major aquifer systems in the Uinta Basin. This information is provided in Section 3.13.3 of the Draft RMP, and can be found at http://www.blm.gov/ut/st/en/fo/vernal/planning/nepa_/greater_natural_buttes.html.

- In Wyoming, the Water Development Office recently completed the 2010 Green River Basin Plan Update, which presents a basinwide perspective on water resources and includes identification of the major aquifers in the basin and the physical and chemical characteristics of their groundwater. The plan can be found at <http://waterplan.state.wy.us/plan/green/green-plan.html>.

3. Issues Pertaining to Both Groundwater and Surface Water

Baseline Characterization of Drinking Water Sources

In order to accurately assess the potential impacts of the alternatives on drinking water sources, we recommend that all sources of drinking water in the study area be characterized in the Final PEIS. These sources include water in streams, rivers, lakes, springs and aquifers that is used as a supply of drinking water. This can be accomplished by including a discussion in the Final PEIS of each State's source water protection program, and including state-designated surface and groundwater protection zones. The EPA recommends this step so that the reader can fully understand the extent and location of these important resources. We recommend including a map illustrating locations of source water protection zones (both groundwater and surface water) for municipal supply. In addition, we provide the following contacts for assistance obtaining this information for each state:

- John Duggan at the Colorado Department of Public Health and Environment, Water Quality Control Division at (303) 692-3534
- Kate Johnson at the Utah Division of Environmental Quality, Division of Drinking Water at (801) 536-4206
- Kim Medina at the Wyoming Department of Environmental Quality, Water Quality Division

at (307) 473-3476, and Mark Pepper at the Wyoming Association of Rural Water Systems at (307) 436-8636

4. Wetlands

The Draft PEIS indicates that BLM will ensure that impacts to jurisdictional wetlands (those under the regulatory jurisdiction of the Clean Water Act (CWA), Section 404, and the USACE) would be avoided or mitigated. The EPA would like to clarify that the CWA §404(b)(1) guidelines require applicants to avoid, minimize and mitigate for impacts to all waters of the United States. We also note that according to Executive Order (EO) 11990, federal agencies are required to minimize the destruction, loss or degradation of wetlands, and to preserve and enhance the natural and beneficial values of wetlands in carrying out the agency's responsibilities, regardless of the jurisdictional status of the wetlands. To this end, we recommend that the Final PEIS include a commitment from BLM to comply with these requirements for all wetlands, not solely jurisdictional wetlands.

Throughout the Draft PEIS the BLM requires future projects to mitigate for impacts to wetlands and riparian areas. CWA §404(b)(1) requires permit applicants to first avoid impacts to waters of the U.S., then minimize the unavoidable impacts, prior to mitigating the remaining unavoidable impacts. We recommend that the Final PEIS reflect these CWA 404(b)(1) requirements wherever there are anticipated impacts to waters of the U.S. This will ensure that potential applicants are on notice of the full extent of requirements for the protection of waters of the U.S.

C. Air Quality

1. Need for Additional Disclosure of New Clean Air Act Designations

The Draft PEIS is lacking recently published important information regarding two CAA designations that will affect future development in the study area. While not a part of the NEPA requirements that must be included in the PEIS, before finalizing an approval of any project, the CAA requires that the BLM conduct a general conformity analysis for any project emissions occurring in such areas designated as nonattainment or maintenance for the National Ambient Air Quality Standards (NAAQS). The CAA states that in such areas, a determination must be made that the emissions (either direct or indirect) from a federal action will not exceed a *de minimis* threshold level measured in tons per year for the criteria pollutant of concern. If the Action exceeds the *de minimis* level, then a conformity determination is required to document how the federal action will affect implementation of the applicable implement plan to reach attainment.

The EPA issued a final rule on April 30, 2012, designating Sublette County and portions of Lincoln and Sweetwater counties in Wyoming as a marginal nonattainment area for ozone. Some of the proposed area available for oil shale leasing under the Preferred Alternative in Wyoming overlaps with this designated ozone nonattainment area in Sublette County and Sweetwater County. The final rule also designated Duchesne and Uintah counties in Utah as an ozone unclassifiable area. Some proposed areas for oil shale and tar sands leasing under the Preferred Alternative in Utah overlap with this designated ozone unclassifiable area in both Duchesne and Uintah counties. Given this situation, during the NEPA process for future leasing and project decisions in these areas, it will be important for BLM to fully analyze and disclose impacts and necessary mitigation, including the possibility of no net increase in emissions depending on the extent of the nonattainment problem.

Therefore, the EPA recommends that future oil shale leasing and plan development in the designated ozone nonattainment area in Wyoming describe whether general conformity analysis is required (i.e., whether the relevant emissions exceed *de minimis* thresholds) and how the future proposed actions would comply with the applicable implementation plan. If a general conformity analysis is necessary, the EPA recommends that it be included in the BLM's NEPA analysis.

2. *Power implications of in situ technologies for oil shale development*

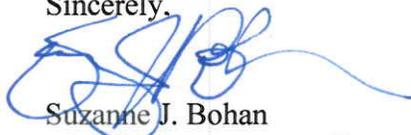
The Draft PEIS assumes future in situ projects would require 600 MW of additional electrical generation capacity when commercial production levels are reached, and that this new electricity capacity would be provided by conventional coal-fired plants. In view of the potential magnitude of this additional energy need and the air quality in the region, it will be essential to fully analyze and be prepared to discuss in future NEPA documents the potential environmental impacts and mitigation measures associated with additional energy sources. We also strongly recommend that BLM commit to analyze a range of power generation options, including natural gas and renewable sources in view of currently development activity and air quality.

The EPA's Rating

Consistent with Section 309 of the CAA, it is the EPA's responsibility to provide an independent review and evaluation of the potential environmental impacts of this project. In accordance with our policies and procedures for reviews under NEPA and Section 309 of the CAA, the EPA is rating this Draft EIS as "Environment Concerns – Insufficient Information" (EC-2). The "EC" rating indicates that our review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts. The "2" rating indicates that the Draft EIS does not contain sufficient information for the EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment. We have enclosed a description of the EPA's rating system for your convenience (Attachment 1).

We appreciate the opportunity to comment on this document, and hope our suggestions for improving it assist you with preparation of the Final PEIS. We would be happy to meet to discuss these comments and our suggested solutions. If you have any questions or requests, please feel free to contact either me at 303-312-6925 or David Fronczak of my staff at 303-312-6096.

Sincerely,



Suzanne J. Bohan
Director, NEPA Compliance and Review Program
Office of Ecosystems Protection and Remediation

Enclosures (1)

ATTACHMENT 1
U.S. Environmental Protection Agency Rating System for
Draft Environmental Impact Statements

Definitions and Follow-Up Action*

Environmental Impact of the Action

LO -- Lack of Objections: The Environmental Protection Agency (EPA) review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC -- Environmental Concerns: The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce these impacts.

EO -- Environmental Objections: The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no-action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU -- Environmentally Unsatisfactory: The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potential unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the Council on Environmental Quality (CEQ).

Adequacy of the Impact Statement

Category 1 -- Adequate: EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis of data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2 -- Insufficient Information: The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new, reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses or discussion should be included in the final EIS.

Category 3 -- Inadequate: EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the National Environmental Policy Act and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

* From EPA Manual 1640 Policy and Procedures for the Review of Federal Actions Impacting the Environment. February, 1987.