

EXECUTIVE SUMMARY

ES.1 BACKGROUND TO THE PEIS

In September 2008, pursuant to Section 369 of the Energy Policy Act of 2005, the Federal Land Management Policy Act of 1976 (FLPMA), and the National Environmental Policy Act of 1969 (NEPA), the U.S. Department of the Interior (DOI), Bureau of Land Management (BLM), issued a Proposed Plan Amendments/Final Oil Shale and Tar Sands (OSTS) Programmatic Environmental Impact Statement (PEIS) analyzing the environmental and socioeconomic impacts of amending 12 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 (BLM 2008a).¹ The November 17, 2008, ROD that followed this PEIS adopted the proposed land use amendments reflecting the allocation decisions analyzed in the 2008 OSTS PEIS (BLM 2008b). These land allocation decisions, which are currently in effect, were challenged in a lawsuit brought by a coalition of environmental organizations in January 2009. As part of a settlement agreement entered into by the United States to resolve the lawsuit and in light of new information that has emerged since the 2008 OSTS PEIS was prepared, the BLM has decided to take a fresh look at the land allocations analyzed in the 2008 OSTS PEIS, now covered under 10 land use plans after some consolidation, and to consider excluding certain lands from future leasing of oil shale and tar sands resources. Specifically, the BLM, through its planning process, intends to take a hard look at whether it is appropriate for approximately 2,000,000 acres to remain available for potential development of oil shale and approximately 431,000 acres of public land to remain available for potential development of tar sands.

The BLM proposes to amend 10 land use plans in Colorado, Utah, and Wyoming to describe those areas that will be open and those that will be closed to application for commercial leasing, exploration, and development of oil shale and tar sands resources. The analyses in this PEIS have been developed to evaluate the effects of this proposed action and its alternatives. The current land use plans in the study area describe land allocations analyzed in the 2008 OSTS PEIS and approved in the subsequent ROD (BLM 2008a,b).

As noted above, the BLM has decided to reconsider the 2008 allocations. The purpose and need for this proposed planning action is to reassess the appropriate mix of allowable uses with respect to oil shale and tar sands leasing and potential development. Specifically, the BLM will consider amending the applicable Resource Management Plans (RMPs) to specify whether any areas in Colorado, Utah, and Wyoming currently open for application for future leasing and development of oil shale or tar sands should not be available for such application for leasing and development. The phrase “available for application for leasing” is used throughout the PEIS, rather than simply “available for leasing” to highlight that, unlike the BLM’s practice with respect to oil and gas leasing, additional analysis, including but not limited to NEPA, the

¹ While the 2008 Record of Decision (ROD) amended 12 land use plans, some of these plans were subsequently incorporated into revised plans. Therefore, the study area is now covered by 10 land use plans, which are being considered for amendment in this planning process.

1 National Historic Preservation Act of 1966 (NHPA), and the Endangered Species Act of 1973
2 (ESA), would be required prior to the issuance of any lease of oil shale or tar sands.
3

4 This Draft PEIS contains analyses of the direct, indirect, and cumulative environmental,
5 cultural, and socioeconomic impacts of the proposed action and alternatives. Preparation of this
6 PEIS complies with the requirements of FLPMA, NEPA, the President's Council on
7 Environmental Quality's (CEQ's) NEPA implementing regulations, the BLM's land use
8 planning regulations contained in Part 1600 of Title 43 of the *Code of Federal Regulations*
9 (43 CFR Part 1600), the BLM's *Land Use Planning Handbook* (H-1601-1) (BLM 2005), and the
10 BLM's *NEPA Handbook* (H-1790-1) (BLM 2008c).
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13 **ES.2 DESCRIPTION OF THE PLANNING AREA**

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15 The study area for the oil shale resources includes the most geologically prospective area
16 of the Green River Formation located in the Piceance, Uinta, Green River, and Washakie Basins.
17 The BLM identified the most geologically prospective areas for oil shale development on the
18 basis of the grade and thickness of the deposits within the Green River Formation. There are
19 approximately 2.3 million acres of BLM-managed lands within this area that are the subject of
20 this PEIS. For the tar sands resources, the study area, which coincides with the area considered
21 to be the most geologically prospective for tar sands development, includes those locations in
22 Utah previously designated as Special Tar Sand Areas (STSAs) in the geologic reports (minutes)
23 prepared by the U.S. Geological Survey in 1980 (USGS 1980a–k) and formalized by Congress
24 in the Combined Hydrocarbon Leasing Act of 1981 (Public Law 97-78). The STSAs contain
25 approximately 654,000 acres of BLM-managed lands. The PEIS study areas for both oil shale
26 and tar sands include public lands administered by the BLM where the federal government owns
27 both the surface estate and subsurface mineral rights and where the federal government owns the
28 subsurface mineral rights but the surface estate is owned by tribes, states, or private parties
29 (i.e., split estate lands).
30
31

32 **ES.3 SCOPING PROCESS**

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34 A Notice of Intent (NOI) to prepare a PEIS and possible land use plan amendments for
35 allocation of oil shale and tar sands resources on lands administered by the BLM in Colorado,
36 Utah, and Wyoming was published in the *Federal Register* on April 14, 2011 (BLM 2011). The
37 NOI articulated a preliminary purpose and need for the proposed action of amending land use
38 plans, identified planning criteria, initiated the public scoping process, and invited interested
39 members of the public to provide comments on the scope and objectives of the PEIS, including
40 identification of issues and alternatives that should be considered in the PEIS analyses.
41

42 The public was provided with three methods for submitting scoping comments or suggestions
43 on potential resource issues that should be discussed in the OSTs PEIS and used to inform
44 consultation activities:
45

- 46 • Via a public Web site,

- 1 • By mail, and
- 2
- 3 • In person at public scoping meetings.
- 4

5 Public scoping meetings were held at seven locations in April and May of 2011: Salt
6 Lake City, Utah (April 26); Price, Utah (April 27); Vernal, Utah (April 28); Rock Springs,
7 Wyoming (April 29); Rifle, Colorado (May 3); Denver, Colorado (May 4); and Cheyenne,
8 Wyoming (May 5). Meetings were held at 1:00 p.m. and 7:00 p.m. at each location, and a court
9 reporter recorded a transcript for each meeting. At each meeting, the BLM presented background
10 information about the OSTIS PEIS and related activities. Presentation materials from these
11 meetings, including slides, are available on the project Web site (<http://ostseis.anl.gov>).

12

13 Approximately 4,663 individuals, organizations, and governmental agencies provided
14 comments or suggestions on the scope of the PEIS. Three of these comments were part of major
15 campaigns, each campaign involving an e-mail attachment containing essentially the same letter
16 for each individual submittal. In total, these campaigns represented an additional
17 23,860 commenters. Approximately 3,061 comment letters were submitted online; 133 were
18 submitted orally at scoping meetings; and 37 comment letters were submitted by mail.
19 Comments were received from 5 state agency divisions (1 from Utah, 2 from Colorado, and
20 2 from Wyoming), 4 federal agency offices (1 from the National Park Service, 1 from the
21 U.S. Fish and Wildlife Service, 1 from the U.S. Environmental Protection Agency, and 1 from
22 the U.S. Congressional Task Force on Unconventional Fuels), 14 local government organizations
23 (Colorado: Garfield, Mesa, Pitkin, and Rio Blanco Counties; City of Rifle; Towns of New
24 Castle, Rangely, and Silt; Utah: Carbon and Uintah Counties; Wyoming: Board of Lincoln
25 County Commissioners; Coalition of Local Governments; Rock Springs City Council; and
26 Sweetwater County Board of Commissioners), and more than 80 other organizations (including
27 environmental groups, interest groups, consulting firms, and industry).

28

29 More than 392 people registered their attendance at the public meetings in April and
30 May 2011; 133 individuals in attendance provided oral or written comments, or both, during the
31 meetings. Of the remaining scoping comments that were submitted, about 0.1% were submitted
32 by mail and 99% were submitted online.

33

34 Comments received by mail originated from five states and the District of Columbia.
35 Approximately 4% of the comments originated from states outside the three-state study area. The
36 comments that originated within the study area were distributed as follows: 81 comments from
37 Colorado, 80 comments from Utah, and 14 comments from Wyoming.

38

39 A summary of scoping comments is provided in Section J.3 of Appendix J of this
40 document.

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43 **ES.4 COOPERATING AGENCIES**

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45 The scope of the *Programmatic Environmental Impact Statement and Possible Land Use*
46 *Plan Amendments for Allocation of Oil Shale and Tar Sands Resources on Lands Administered*

1 *by the Bureau of Land Management in Colorado, Utah, and Wyoming* is of interest to numerous
2 federal, tribal, state, and local governments. The BLM invited 55 agencies to participate in the
3 preparation of the PEIS as cooperating agencies. Fifteen agencies expressed an interest in
4 participating as cooperating agencies, and Memoranda of Understanding between these agencies
5 and the BLM were established. The following agencies are participating as cooperating agencies
6 in the preparation of this PEIS:

- 7
- 8 • National Park Service (NPS);
- 9
- 10 • U.S. Fish and Wildlife Service (USFWS);
- 11
- 12 • State of Colorado Department of Natural Resources (Colorado DNR) and
13 Department of Public Health and the Environment (CDPHE);
- 14
- 15 • State of Utah;
- 16
- 17 • State of Wyoming;
- 18
- 19 • Garfield County, Colorado;
- 20
- 21 • City of Rifle, Colorado;
- 22
- 23 • Carbon County, Utah;
- 24
- 25 • Duchesne County, Utah;
- 26
- 27 • Grand County, Utah;
- 28
- 29 • Uintah County, Utah;
- 30
- 31 • Lincoln County, Wyoming;
- 32
- 33 • Sweetwater County, Wyoming; and
- 34
- 35 • Coalition of Local Governments.
- 36

37 The roles and responsibilities of these cooperating agencies, and the extent of interactions
38 between them and the BLM, are discussed in Chapter 7.

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41 **ES.5 BLM'S OIL SHALE AND TAR SANDS LEASING PROGRAM**

42

43 Under all programmatic oil shale and tar sands alternatives analyzed in this PEIS, land use
44 plans would continue to (under the No Action Alternative) or be amended to (1) identify the
45 most geologically prospective oil shale or tar sands resources within each planning unit,
46 (2) designate lands within the most geologically prospective areas as available or not available

1 for leasing, and (3) identify any technology restrictions. In addition, the following decisions from
2 the 2008 ROD will be carried forward through this planning process: the requirement for future
3 consultation activities, as well as compliance with all pertinent laws, regulations, and policies,
4 including NEPA, NHPA, and ESA analyses; and the specific decision that the BLM will
5 consider and give priority to the use of land exchanges to facilitate commercial oil shale
6 development pursuant to Section 369(n) of the Energy Policy Act of 2005.

7
8 In summary, the PEIS is analyzing an allocation decision, the amendment of 10 existing
9 land use plans to designate certain public lands as open, and certain other lands as closed for
10 application for future oil shale and tar sands leasing.

11
12 The BLM anticipates that oil shale development would proceed in a three-step
13 decisionmaking process similar to that used for federal onshore oil and gas: (1) land use
14 planning (i.e., amending RMPs), (2) leasing, and (3) project development. In the present
15 experimental stage of the oil shale and tar sands industries, however, the BLM believes that the
16 stages of NEPA compliance will be different from those used in oil and gas.

17
18 If and when applications to lease are received and accepted, the BLM will conduct
19 additional required analyses, including consideration of direct, indirect, and cumulative effects,
20 reasonable alternatives, and possible mitigation measures, as well as assessment of the level
21 of development that may be anticipated. On the basis of that analysis of future lease
22 application(s), the BLM will establish general lease stipulations and best management practices
23 (BMPs) and amend those plans, if necessary. After a lease is authorized, actual development will
24 require additional analysis to address the site-specific conditions of the proposed development
25 and to develop mitigating measures.

26 27 28 **ES.6 ALTERNATIVES**

29 30 31 **ES.6.1 Alternative 1, No Action Alternative, No Change to 2008 Decision, Oil Shale**

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33 Under Alternative 1, the No Action Alternative, no existing land use plans would be
34 amended. In 2008, the BLM designated a total of 2,017,714 acres² as available for application
35 for commercial oil shale leasing and 430,686 acres available for commercial tar sands leasing
36 (see Figures 2.3.2-1, 2.3.2-2, and 2.3.2-3 for Colorado, Utah, and Wyoming, respectively, in
37 Chapter 2 of this document). The lands available for lease under the 2008 land use plan
38 amendment decisions would remain available for future leasing consideration under the No
39 Action Alternative. These public lands comprise the most geologically prospective oil shale and
40 tar sands areas administered by the BLM, including split estate lands where the federal
41 government owns the mineral rights, but excluding lands that are exempted by statute,
42 regulation, or Executive Order.

43

² This amount includes the total potential research, development, and demonstration (RD&D) lease acreage of 30,720 acres.

ES.6.2 Alternative 1, No Action Alternative, No Change to 2008 Decision, Tar Sands

Under this alternative, no existing land use plans would be amended. In 2008, the BLM designated a total of 430,686 acres as available for applications for commercial tar sands leasing. The lands available for lease under the 2008 land use plan amendment decisions would remain available for future leasing consideration under Alternative 1, no action.

ES.6.3 Alternative 2, Oil Shale Conservation Focus Alternative (2a), and with RD&D First Requirement (2b), Oil Shale

Under this alternative, 10 land use plans in Colorado, Utah, and Wyoming would be amended to designate less than 830,000 acres (acreage opened under Alternative C in the 2008 OSTs PEIS) as available for future commercial oil shale leasing. This alternative would exclude from commercial oil shale leasing the following categories or groups of categories of public lands and/or their resource values that may warrant protection from potential oil shale leasing and development:

1. All areas that the BLM has identified or may identify as a result of inventories conducted during this planning process, as lands having wilderness characteristics (LWC);
2. The whole of the Adobe Town “Very Rare or Uncommon” area, as designated by the Wyoming Environment Quality Council on April 10, 2008 (180,910 acres total; 167,517 acres of public land, of which 10,920 acres are already a BLM Wilderness Study Area [WSA]);
3. Core or priority sage-grouse habitat, as defined by such guidance as the BLM or the DOI may issue;
4. All Areas of Critical Environmental Concern (ACECs) located within the areas analyzed in the 2008 OSTs PEIS (76,666 acres in existing ACECs in the 2008 OSTs PEIS plus additional ACEC acreages as a result of Utah and Wyoming planning efforts recently completed);³ and
5. All areas identified as excluded from commercial oil shale and tar sands leasing in Alternative C of the September 2008 OSTs PEIS (Alternative C made 830,296 acres available for potential commercial oil shale leasing and 229,038 acres available for potential commercial tar sands leasing).

RD&D First Requirement (2b). Under this alternative, the lands open for future leasing consideration would be the same as those in Alternative 2(a), but only for RD&D leases. The

³ This would include analysis of excluding from future oil shale and tar sands leasing not only all ACECs, but also areas that had been under consideration for designation as ACECs in the applicable plans undergoing revision or amendment at the time, but which were eventually not designated.

1 BLM would issue a commercial lease only when a lessee satisfies the conditions of its RD&D
2 lease and the regulations at 43 CFR Subpart 3926 for conversion to a commercial lease. The
3 preference right acreage, if any, which would be included in the converted lease, would be
4 specified in the RD&D lease.
5

6 The environmental impacts of Alternative 2(b) would be analytically indistinguishable
7 from those of Alternative 2(a). Only the method of obtaining a lease would be different.
8 Accordingly, the analysis in this PEIS of Alternative 2 applies fully and equally to both
9 alternatives. To the extent there may be differences in environmental consequences between
10 Alternative 2(a) and 2(b), these would be related to the timing of the commencement of impacts,
11 as well as, possibly, length of disturbance. However, these issues are best addressed in the lease
12 and/or project-specific analysis.
13
14

15 **ES.6.4 Alternative 2, Conservation Focus Alternative, Tar Sands**

16

17 Under this alternative, six land use plans in Utah would be amended to designate less
18 than 229,000 acres (acreage opened under Alternative C of the 2008 plan amendment) as
19 available for future commercial tar sands leasing. This alternative would exclude from
20 commercial oil shale leasing the same categories or groups of categories of public lands and/or
21 their resource values as listed above under Alternative 2, Oil Shale.
22
23

24 **ES.6.5 Alternative 3, Oil Shale Research Lands Focus (RD&D with PRLA only), Oil Shale**

25

26 Under Alternative 3, 10 land use plans would be amended such that public lands for
27 commercial leasing would be available only where there were existing RD&D leases at the time
28 the ROD for the 2012 Final OSTs PEIS is signed. The six current RD&D leases contain terms
29 and conditions that could allow commercial development of the original leases and the
30 associated preference right lease area (PRLA) totaling 30,720 acres. Another three potential
31 RD&D leases (two in Colorado and one in Utah) are currently undergoing NEPA analysis.
32 Maximum acreage of these three leases, if approved, would be 1,920 acres, bringing the total
33 acreage to 32,640 acres as available for potential oil shale leasing under this alternative.
34
35

36 **ES.6.6 Alternative 3, Pending Commercial Lease, Tar Sands**

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38 Because there is no specific “RD&D” program for tar sands, this alternative would also
39 analyze foregoing the leasing of tar sands for the commercial development of fluid mineral
40 resources, entirely, except for one tar sands lease currently under consideration. The Asphalt
41 Ridge tar sands lease application is located approximately 11 mi south of Vernal, Utah, and the
42 expression of commercial leasing interest that forms its basis was submitted on November 16,
43 2009. This prospective lease is for a commercial tar sands project and covers approximately
44 2,100 acres.
45
46

1 **ES.6.7 Alternative 4, 2008 Moderate Development Alternative (2008 OSTs PEIS ROD**
2 **minus Adobe Town and ACECs) (4a), and with RD&D First Requirement (4b), Oil**
3 **Shale**
4

5 Under Alternative 4, the BLM would amend 10 land use plans in Colorado, Utah, and
6 Wyoming to designate acreage less than 2,017,714 acres as available for future consideration for
7 leasing for commercial oil shale leasing and less than 430,686 acres as available for application
8 for commercial tar sands leasing.⁴ This alternative would exclude from commercial oil shale or
9 tar sands leasing:

- 10
- 11 1. The whole of the Adobe Town “Very Rare or Uncommon” area, as designated
12 by the Wyoming Environment Quality Council on April 10, 2008
13 (180,910 acres total; 167,517 acres of public land, of which 10,920 acres are
14 already a BLM WSA).
15
 - 16 2. All ACECs located within the areas analyzed in the 2008 OSTs PEIS
17 (76,666 acres in existing ACECs in 2008 OSTs PEIS plus additional ACEC
18 acreages as a result of Colorado, Utah, and Wyoming planning efforts recently
19 completed).⁵
20

21 *RD&D First Requirement (4b)*. Under this alternative, the lands open for future leasing
22 consideration would be the same as those in Alternative 4(a) but only for RD&D leases. The
23 BLM would issue a commercial lease only when a lessee satisfies the conditions of its RD&D
24 lease and the regulations at 43 CFR Subpart 3926 for conversion to a commercial lease. The
25 preference right acreage, if any, which would be included in the converted lease, would be
26 specified in the RD&D lease.
27

28 The environmental impacts of Alternative 4(b) would be analytically indistinguishable
29 from those of Alternative 4(a). Only the method of obtaining a lease would be different.
30 Accordingly, the analysis in this PEIS of Alternative 4 applies fully and equally to both
31 alternatives. To the extent there may be differences in environmental consequences between
32 Alternative 4(a) and 4(b), these would be related to the timing of commencement of impacts, as
33 well as, possibly, length of disturbance. However, these issues are best addressed in the lease
34 and/or project-specific analysis.
35
36

37 **ES.6.8 Alternative 4, Tar Sands Moderate Development Alternative (2008 OSTs PEIS**
38 **ROD minus Adobe Town and ACECs), Tar Sands**
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40 Under Alternative 4, the BLM would amend four land use plans in Utah to designate
41 acreage less than 430,686 acres as available for application for commercial tar sands leasing.

⁴ This alternative satisfies the settlement agreement to exclude some, but not all, lands from the application of oil shale and tar sands leasing, in comparison to Alternative 2.

⁵ This would only include those ACECs that are formally designated in those plans. ACECs that were proposed but not formally designated in the applicable plans undergoing revision/amendment at that time would be excluded.

1 This alternative satisfies the settlement agreement to exclude some, but not all, lands from the
2 application of oil shale and tar sands leasing,⁶ in comparison to Alternative 2. This alternative
3 would exclude from commercial oil shale or tar sands leasing the same two categories of lands
4 listed above for oil shale Alternative 4. However, no prospective tar sands areas fall with the
5 excluded Adobe Town “Very Rare or Uncommon” area.
6
7

8 **ES.7 PREFERRED ALTERNATIVE**

9

10 At this stage in the planning and NEPA process, the BLM has chosen Alternative 2(b) as
11 the preferred alternative for oil shale, and Alternative 2 as the preferred alternative for tar sands.
12 With respect to oil shale, the BLM would like to maintain focus on RD&D projects, so as to
13 obtain more information about the technological requirements for development of this resource,
14 as well as the environmental implications, before committing to broad-scale commercial
15 development. For instance, the BLM looks forward to gaining a clearer understanding of the
16 implications of development of oil shale for water quality and quantity.
17
18

19 **ES.8 ANALYSIS OF THE IMPACTS OF THE PROPOSED PLAN AMENDMENT** 20 **FOR OIL SHALE AND TAR SANDS**

21

22 As was the case with the 2008 OSTs PEIS, the scope of the decisionmaking to be
23 supported by the development of this PEIS is limited to an allocation decision. The analysis of
24 potential impacts associated with oil shale and tar sands development in Chapters 4, 5, and 6 is
25 programmatic in character and designed to disclose the potential impacts from future leasing and
26 development, in order to provide the decision maker the available, essential information for
27 making the allocation decision.
28
29

30 **ES.9 REFERENCES**

31

32 *Note to Reader:* This list of references identifies Web pages and associated URLs where
33 reference data were obtained. It is likely that at the time of publication of this PEIS, some of
34 these Web pages may no longer be available or their URL addresses may have changed.
35

36 BLM (Bureau of Land Management), 2005, *Land Use Planning Handbook*, BLM Handbook
37 H-1601-1, Washington, D.C., March.
38

39 BLM, 2008a, *Proposed Oil Shale and Tar Sands Resource Management Plan Amendments to*
40 *Address Land Use Allocation in Colorado, Utah, and Wyoming and Final Programmatic*
41 *Environmental Impact Statement*, FES 08-32, Sept. Available at <http://ostseis.anl.gov/>.
42

⁶ This alternative satisfies the settlement agreement to exclude some, but not all, lands from the application of oil shale and tar sands leasing, in comparison to Alternative 2.

- 1 BLM, 2008b, *Record of Decision for the Oil Shale and Tar Sands Resources Resource*
2 *Management Plan Amendments*, Nov. 17.
3
- 4 BLM, 2008c, *National Environmental Policy Act Handbook*, BLM Handbook H-1790-1,
5 Washington, D.C., Jan.
6
- 7 BLM, 2011, “Notice of Intent To Prepare a Programmatic Environmental Impact Statement
8 (EIS) and Possible Land Use Plan Amendments for Allocation of Oil Shale and Tar Sands
9 Resources on Lands Administered by the Bureau of Land Management in Colorado, Utah, and
10 Wyoming,” *Federal Register* 76:21003–21005.
11
- 12 USGS (U.S. Geological Survey), 1980a, *Argyle Canyon–Willow Creek, Utah Tar Sand Leasing*
13 *Minutes No. 9*, Minutes of the Mineral Land Evaluation Committee, Nov. 10.
14
- 15 USGS, 1980b, *Asphalt Ridge–Whiterocks and Vicinity, Utah Tar Sand Leasing Minutes No. 3*,
16 Minutes of the Mineral Land Evaluation Committee, Sept. 23.
17
- 18 USGS, 1980c, *Circle Cliffs East and West Flanks, Utah Tar Sand Leasing Minutes No. 5*,
19 Minutes of the Mineral Land Evaluation Committee, Sept. 23.
20
- 21 USGS, 1980d, *Hill Creek, Utah Tar Sand Leasing Minutes No. 6*, Minutes of the Mineral Land
22 Evaluation Committee, Nov. 10.
23
- 24 USGS, 1980e, *Pariette, Utah Tar Sand Leasing Minutes*, Minutes of the Mineral Land
25 Evaluation Committee, Nov. 10.
26
- 27 USGS, 1980f, *P.R. Spring, Utah Tar Sand Leasing Minutes*, Minutes of the Mineral Land
28 Evaluation Committee, Sept. 23.
29
- 30 USGS, 1980g, *Raven Ridge–Rim Rock and Vicinity, Utah Tar Sand Leasing Minutes No. 8*,
31 Minutes of the Mineral Land Evaluation Committee, Nov. 10
32
- 33 USGS, 1980h, *San Rafael Swell, Utah Tar Sand Leasing Minutes No. 7*, Minutes of the Mineral
34 Land Evaluation Committee, Nov. 10.
35
- 36 USGS, 1980i, *Sunnyside and Vicinity, Utah Tar Sand Leasing Minutes No. 4*, Minutes of the
37 Mineral Land Evaluation Committee, Sept. 23.
38
- 39 USGS, 1980j, *Tar Sand Triangle, Utah Tar Sand Leasing Minutes No. 2*, Minutes of the Mineral
40 Land Evaluation Committee, Sept. 23.
41
- 42 USGS, 1980k, *White Canyon, Utah Tar Sand Leasing Minutes No. 11*, Minutes of the Mineral
43 Land Evaluation Committee, Nov. 10.
44