FINAL URANIUM LEASING PROGRAM PROGRAMMATIC ENVIRONMENTAL IMPACT STATEMENT

1 INTRODUCTION

The U.S. Department of Energy (DOE) has prepared the Uranium Leasing Program (ULP) Programmatic Environmental Impact Statement (PEIS) pursuant to the National Environmental Policy Act of 1969 (NEPA) (Title 42, Section 4321 and following sections of the *United States Code* [42 USC 4321 *et seq.*]), the Council on Environmental Quality's (CEQ's) NEPA regulations found in Title 40 of the *Code of Federal Regulations* (40 CFR Parts 1500–1508), and DOE's NEPA implementing procedures (10 CFR Part 1021) in order to analyze the reasonably foreseeable environmental impacts, including the site-specific impacts, of the reasonable range of alternatives identified in the ULP PEIS for the management of the ULP. DOE's ULP administers tracts of land located in Mesa, Montrose, and San Miguel Counties in western Colorado for the exploration, mine development and operations, and extraction of uranium and vanadium ores.

1.1 BACKGROUND

Congress authorized DOE's predecessor agency, the U.S. Atomic Energy Commission (AEC), to develop a supply of domestic uranium. In 1948, the Bureau of Land Management (BLM) issued Public Land Order 459, which stated, "Subject to valid existing rights and existing withdrawals, the public lands and the minerals reserved to the United States in the patented lands in the following areas in Colorado are hereby withdrawn from all forms of appropriation under the public-land laws, including the mining laws but not the mineral-leasing laws, and reserved for the use of the United States Atomic Energy Commission." Subsequently, other Public Land Orders increased or decreased the total acreage of the withdrawn lands. In addition, the Federal Government, through the Union Mines Development Corporation, acquired a substantial number of patented and unpatented mining claims, mill[1] and tunnel[2] site claims, and agricultural patents, until the aggregated acreage managed by AEC totaled approximately 25,000 acres (10,000 ha). The areas under consideration are located in western Colorado in Mesa, Montrose, and San Miguel Counties.

Beginning in 1949, the AEC and its successor agencies, the U.S. Energy Research and Development Administration and DOE, administered three separate and distinct leasing

[1] Mill sites are mining claims that may be located in connection with a specific placer or load claim for mining and milling purposes or as an independent/custom mill site. Mill sites are located by metes and bounds or legal subdivision and are up to 5 acres (2 ha) in size.

[2] A tunnel site is a mining claim that involves a tunnel to develop an underground vein or lode. It may also be used for the discovery of unknown veins or lodes. To stake a tunnel site, two stakes are placed up to 3,000 ft (900 m) apart on the line of the proposed tunnel. Recordation is the same as for a lode claim. A tunnel site can be regarded as more of a right of way than a mining claim.

programs during the ensuing 60 years, as summarized in Table 1.1-1. To put the production numbers in Table 1.1-1 in perspective, domestic annual uranium production peaked in 1980 at about 44 million lb (20 million kg), of which lease production that year represented about 2.5% of the total. In addition, today's world market produces approximately 100 million lb (45 million kg) of uranium annually and consumes twice that amount. Table 1.1-2 summarizes production rates between 1974 and 1994 and between 1996 and 2008.

In preparing for the 1974 leasing period, the AEC evaluated the potential environmental and economic impacts related to the leasing program. This evaluation was documented in *Environmental Statement, Leasing of AEC Controlled Uranium Bearing Lands* (AEC 1972). In 1995, DOE again evaluated the potential environmental and economic impacts related to the leasing program and documented its findings in the *Finding of No Significant Impact, Uranium Lease Management Program* (DOE 1995).

When the first leasing program ended in 1962, the AEC directed the lessees to close the mines (to prohibit unauthorized entry), but little was done to reclaim the mine sites. These mine sites became DOE's "legacy mine sites," discussed later in this section.

In 1974, the AEC initiated reclamation bonding requirements in its new lease agreements that ensured that all mine sites would be adequately reclaimed when lease operations ended. During this period, a new lessee could elect to incorporate an existing mine (from the previous leasing program) into its current operation. By so doing, the new lessee accepted the responsibility and liability associated with the ultimate reclamation of that mine site.

In October 1994, DOE initiated a mine-site reconnaissance and reclamation project on the lease tracts. Each lease tract was thoroughly inspected to identify all the abandoned mine sites that resulted from pre-1974 leasing activities. After this identification process, all the mining-related features associated with each site were quantified and assessed for their historic

TABLE 1.1-1 Summary of Three Leasing Programs Administered between 1949 and 2008

Years of Operation	No. of Leases	Lease Production (millions of lb)[a]		Royalties Generated (millions of $)
		U_3O_8	V_2O_5	
1949–1962	48	1.2	6.8	5.9
1974–1994[b]	43	6.5	33.0	53.0
1996–2008	15	0.3	1.4	4.0
Totals		8.0	41.2	62.9

[a] Uranium ore is generated as uranium oxide (U_3O_8) and vanadium ore is generated as vanadium oxide (V_2O_5).

[b] Mining operations peaked in 1980.

TABLE 1.1-2 Summary of Uranium Ore Production from 1974 to 2008

Lease Tract	Dates of Operation 1974–1994	No. and Sizes[a] of Mines in Operation within Lease Tract 1974–1994	Total Production (tons) 1974–1994	Dates of Operation 1996–2008	No. of Mines in Operation within Lease Tract 1996–2008	Total Production (tons) 1996–2008
5	5/77–6/90	1 (L)	100,318	Did not operate	0	Did not operate
5A	Did not operate	0	0	NA[b]	0	NA
6	5/76–8/80	1 (L)	91,859	9/04–2/06	1	14,773
7	7/79–5/81	2 (1 VL, 1 M)	12,441	Did not operate	0	Did not operate
8	Did not operate	0	0	6/05–2/06	1	9,236
8A	Did not operate	0	0	NA	0	NA
9	9/78–9/80	1 (M)	34,056	5/03–2/06	1	20,671
10	5/75–8/90	4 (1 M, 3 S)	66,623	NA	0	NA
11	9/75–12/80	2 (1 M, 1 S)	46,720	Did not operate	0	Did not operate
11A	Did not operate	0	0	NA	0	NA
12	8/77–12/79	1 (S)	7,287	NA	0	NA
13	6/75–10/84	3 (1 L, 2 S)	85,863	Did not operate	0	Did not operate
13A	12/75–10/80	1 (M)	38,158	Did not operate	0	Did not operate
14	Did not operate	0	0	NA	0	NA
15	9/76–4/80	3 (S)	4,646	Did not operate	0	Did not operate
15A	9/79–1/81	2 (S)	8,842	NA	0	NA
16	12/76–6/79	4 (S)	5,709	NA	0	NA
16A	8/75–11/80	3 (S)	3,503	NA	0	NA
17	Did not operate	0	0	NA	0	NA
18	2/80–9/80	1 (M)	6,654	3/05–1/06	1	20,085
19	7/74–7/90	1 (L)	920,018	NA	0	NA
19A	Did not operate	0	0	NA	0	NA
20	Did not operate	0	0	NA	0	NA
21	10/78–12/80	1 (M)	46,542	Did not operate	0	Did not operate
22	3/77–5/82	1 (S)	8,578	NA	0	NA
22A	10/79–7/82	1 (M)	21,369	NA	0	NA
23	5/77–12/81	2 (S)	9,867	NA	0	NA
24	Did not operate	0	0	NA	0	NA

TABLE 1.1-2 (Cont.)

Lease Tract	Dates of Operation 1974–1994	No. of Mines in Operation within Lease Tract 1974–1994	Total Production (tons) 1974–1994	Dates of Operation 1996–2008	No. of Mines in Operation within Lease Tract 1996–2008	Total Production (tons) 1996–2008
25	8/78–8/80	1 (M)	14,135	Did not operate	0	Did not operate
26	12/75–12/80	2 (S)	2,547	NA	0	NA
27	8/75–4/83	4 (S)	15,923	NA	0	NA
Totals		42[c]	1,551,658		4	64,765

[a] The sizes of the mines are noted with the following abbreviations: VL = very large; L = large; M = medium; and S = small.

[b] NA indicates not applicable, meaning the lease tract was not leased, and thus it was not available for operation or production.

[c] The total of 42 mines represents 1 very large mine, 4 large mines, 9 medium mines, and 28 small mines.

importance. In 1995, in the absence of specific guidance pursuant to the reclamation of abandoned uranium mine sites, DOE initiated discussions with BLM officials that culminated in the establishment of a guidance document, *Uranium Closure/Reclamation Guidelines* (BLM 1995) for such sites. DOE's objective in establishing this guidance document was to assure that DOE's lease tracts were reclaimed in a manner that was acceptable to BLM so that the lands could be restored to the public domain and managed by BLM. Subsequently, DOE's "legacy" mine sites were prioritized and systematically reclaimed.

In July 2007, DOE issued a programmatic environmental assessment (PEA) for the ULP, in which it examined three alternatives for the management of the ULP for the next 10 years (DOE 2007). In that same month, DOE issued a Finding of No Significant Impact (FONSI), in which DOE announced its decision to proceed with the Expanded Program Alternative, and also determined that preparation of an environmental impact statement (EIS) was not required. Under the Expanded Program Alternative, DOE would extend the 13 existing leases for a 10-year period and would also expand the ULP to include the competitive offering of up to 25 additional lease tracts to the domestic uranium industry.

In the fall of 2007, DOE, in preparation for the execution of new lease agreements for the active lease tracts and the bid-solicitation process for the inactive lease tracts, reviewed the status of its withdrawn lands to determine how to most efficiently and effectively manage those lands. After an extensive review process, DOE decided to realign the existing lease tract boundaries to incorporate those lands that recently reverted to the withdrawals. Concurrent with that action, DOE also decided to systematically assess, and then reclaim, the abandoned uranium mine sites and associated features located on those lands to mitigate the physical safety and environmental hazards associated with the sites. In 2008, following the execution of the new lease agreements, DOE, in accordance with Article XVI (Good Faith Negotiations), negotiated with its lessees to reclaim the abandoned uranium mine sites and associated features on their respective lease tracts in lieu of annual royalty payments due to the Government. These "reclamation in lieu of royalties" (RILOR) negotiations, executed with up to five lessees in any one year, included abandoned uranium mine sites and associated features on 19 lease tracts and took place over a 3-year period (2009–2011). Some features at some sites were left intact (barring imminent safety hazards) because they were considered historically significant. At the culmination of these activities, DOE determined that all legacy mine sites located on the lease tracts were completely and successfully reclaimed.

In 2008, DOE implemented the Expanded Program Alternative and executed new lease agreements with the existing lessees for their 13 respective lease tracts, effective April 30, 2008. In addition, DOE offered the remaining, inactive lease tracts to industry for lease through a competitive solicitation process. That process culminated in the execution of 18 new lease agreements for the inactive lease tracts, effective June 27, 2008. Since that time, two lease tracts were combined into one and another lease was relinquished back to DOE. Accordingly, there are 29 lease tracts that are actively held under lease and 2 lease tracts that are currently inactive.

Between 2009 and 2011, DOE approved seven exploration plans (one each for Lease Tracts 13A, 15A, 17, 21, 24, 25, and 26). These exploration plans primarily involved the drilling of at least one exploratory hole. To date, the approved exploration plans for Lease Tracts 15A

and 17 have not been implemented. Exploration activities typically resulted in surface disturbance of less than 1 acre (0.4 ha). Disturbed lands were reclaimed by using polyurethane foam to plug holes, and by using surface soils and established seed mixtures. There was also one mine re-entry plan that was approved and implemented for Lease Tract 26. This plan included mine re-entry activities whereby information was collected within an existing mine and the mine was resecured. DOE also approved 20 reclamation plans to reclaim disturbed areas located on Lease Tracts 5, 6, 7, 10, 11, 11A, 12, 13, 16, 16A, 17, 19, 19A, 20, 21, 22, 22A, 23, 26, and 27. All approved reclamation plans have been implemented. Reclamation activities addressed open drill holes and vents, land subsidences, and abandoned mine portals and adits. These exploration and reclamation activities are further discussed and evaluated in the cumulative impacts section (Section 4.7). In addition, for Lease Tract 13, a tamarisk removal activity was performed in lieu of the payment of royalties by the lessee.

1.2 CURRENT STATUS OF THE ULP

Colorado Environmental Coalition and three other plaintiffs filed a complaint against DOE in the U.S. District Court for the District of Colorado on July 31, 2008, in which the plaintiffs alleged, among other things, that DOE's July 2007 PEA and FONSI violated NEPA by failing to consider adequately the environmental impacts of expansion of the ULP, and violated the Endangered Species Act by jeopardizing endangered species. On October 18, 2011, the Court issued an Order in which it held, among other things, that DOE had violated NEPA by issuing its July 2007 PEA and FONSI instead of preparing an EIS. In that Order, the Court invalidated the July 2007 PEA and FONSI; stayed the 31 leases in existence under the ULP; enjoined DOE from issuing any new leases on lands governed by the ULP; enjoined DOE from approving any activities on lands governed by the ULP; and ordered that after DOE conducts an environmental analysis that complies with NEPA, the ESA, all other governing statutes and regulations, and the Court's Order, DOE could then move the Court to dissolve its injunction (Colorado Environmental Coalition v. DOE, No. 08-cv-1624 [D. Colo. Oct. 18, 2011]).

The Court later granted in part DOE's motion for reconsideration of that Order and amended its injunction to allow DOE, other Federal, state, or local governmental agencies, and/or the ULP lessees to conduct only those activities on ULP lands that are absolutely necessary: (1) to conduct DOE's environmental analysis regarding the ULP; (2) to comply with orders from Federal, state, or local government regulatory agencies; (3) to remediate certain dangers to public health, safety, and the environment on ULP lands; or (4) to conduct certain activities to maintain the ULP lease tracts and their existing facilities (Colorado Environmental Coalition v. DOE, No. 08-cv-1624 [D. Colo. Feb. 27, 2012]).

Currently, of the 31 ULP lease tracts, 29 have active leases and two do not; Lease Tracts 8A and 14 (Parcels 14-1, 14-2, and 14-3) are currently not leased. Lease Tract 8A is a small tract that is isolated and may be located entirely below (or outside) the uranium-bearing formation, which could indicate a lack of ore. Lease Tract 14 comprises three parcels (14-1, 14-2, and 14-3). There was some interest in Parcels 14-1 and 14-2 by potential lessees in the past; however, the third parcel (14-3, which lies east of 14-1) is located almost entirely within the Dolores River corridor and was never leased. Section 1.2.1 describes how DOE administers the

ULP; Section 1.2.2 summarizes the requirements in the current leases; and Section 1.2.3 presents site-specific information available on the 31 ULP lease tracts.

On June 21, 2011, DOE published the Notice of Intent (NOI) to prepare the ULP PEIS (see Volume 76, page 36097 of the *Federal Register* [76 FR 36097]). In the NOI, DOE stated that it had determined, in light of the site-specific information that DOE had gathered as a result of the site-specific agency actions proposed and approved pursuant to the July 2007 PEA, that it was appropriate for DOE to prepare a PEIS in order to analyze the reasonably foreseeable environmental impacts, including potential site-specific impacts, of a range of alternatives for the management of the ULP for the remainder of the 10-year period that was covered by the July 2007 PEA. After DOE published the NOI, it notified the ULP lessees that until the PEIS process was completed, DOE would not approve any new exploration and mining plans and would not require any lessees to pay royalties.

1.2.1 DOE ULP Administrative Process

DOE's administration of the ULP includes the actions needed to manage the activities conducted at the 31 lease tracts. Table 1.2-1 lists the 31 lease tracts with applicable acreage, current lessee, and the status of each. Figure 1.2-1 shows the locations of the 31 ULP lease tracts. These actions are undertaken to assure that the program's technical and administrative objectives are accomplished. These actions include the following:

- Offer the lease tracts to the domestic uranium industry through a competitive royalty-bid process that culminates in the award of each lease to the highest qualified bidder.

- Inspect and maintain lease tract boundary markers and monuments on the lease tracts. Establish and maintain records of survey control points for said markers and monuments.

- Review lessees' exploration and mining plans, in coordination with BLM and the Colorado Division of Reclamation, Mining, and Safety (CDRMS), to ensure that they are consistent with Federal, state, and local rules and regulations; existing environmental regulations; lease stipulations; and standard industry practices. Approve or deny each plan as warranted.

- Coordinate with other Federal agencies (e.g., BLM, U.S. Fish and Wildlife Service [USFWS], U.S Environmental Protection Agency [EPA]), state agencies (e.g., CDRMS, Colorado Division of Parks and Wildlife [CPW], Colorado Department of Public Health and the Environment [CDPHE]), local and tribal officials, and private entities as appropriate to address concerns that they may have. Routinely review each Memorandum of Understanding (MOU) established with BLM and CDRMS to ensure that the agreements remain up to date and reflect actual work practices.

TABLE 1.2-1 Summary of the 31 DOE ULP Lease Tracts in 2011

	Lease Tract No.	Acreage	Current Lessee	County	Status[a]
1	10	638	Golden Eagle Uranium, LLC	San Miguel	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
2	11	1,303	Cotter Corporation	San Miguel	One new underground mine permitted and developed; reclamation of previously disturbed areas needed.
3	11A	1,297	Golden Eagle Uranium, LLC	San Miguel	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
4	12	641	Colorado Plateau Partners	San Miguel	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
5	13	1,077	Gold Eagle Mining, Inc.	San Miguel	Three existing, permitted underground mines; reclamation of previously disturbed areas is needed.
6	13A	420	Cotter Corporation	San Miguel	Exploration plan (one hole) approved; drilling and reclamation of the explored area are completed.
7	14 (1, 2, 3)	971	Not applicable	San Miguel	Lease tract not currently leased.
8	15	350	Gold Eagle Mining, Inc.	San Miguel	One existing underground mine; reclamation of previously disturbed areas is needed.
9	15A	172	Golden Eagle Uranium, LLC	San Miguel	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
10	16	1,790	Golden Eagle Uranium, LLC	San Miguel	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
11	16A	585	Energy Fuels Resources Corp.	San Miguel	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
12	5	151	Gold Eagle Mining, Inc.	Montrose	One existing, permitted underground mine; reclamation of previously disturbed areas is needed.

TABLE 1.2-1 (Cont.)

	Lease Tract No.	Acreage	Current Lessee	County	Status[a]
13	5A (1, 2)	25	Golden Eagle Uranium, LLC	Montrose	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
14	6	530	Cotter Corporation	Montrose	One existing permitted underground mine; reclamation of previously disturbed areas is needed.
15	7[b]	493	Cotter Corporation	Montrose	Two existing permitted mines—one underground mine and one large open-pit mine; reclamation of previously disturbed areas is needed.
16	8	955	Cotter Corporation	Montrose	One existing permitted underground mine; reclamation of previously disturbed areas is needed.
17	8A	78	Not applicable	Montrose	Lease tract has not been leased.
18	9	1,037	Cotter Corporation	Montrose	One existing permitted underground mine; reclamation of previously disturbed areas is needed.
19	17 (1, 2)	475	Golden Eagle Uranium, LLC	Montrose and San Miguel	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
20	18	1,181	Cotter Corporation	Montrose	One existing permitted underground mine; reclamation of previously disturbed areas is needed.
21	19	662	Energy Fuels Resources Corp.	Montrose	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
22	19A	1,204	Energy Fuels Resources Corp.	Montrose	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
23	20	627	Energy Fuels Resources Corp.	Montrose	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
24	21	651	Cotter Corporation	Montrose	Exploration plan (two holes) approved; drilling and reclamation of the explored area are completed; no area needs to be reclaimed under current conditions.

TABLE 1.2-1 (Cont.)

	Lease Tract No.	Acreage	Current Lessee	County	Status[a]
25	22	224	Golden Eagle Uranium, LLC	Montrose	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
26	22A	409	Golden Eagle Uranium, LLC	Montrose	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
27	23 (1, 2, 3)	596	Golden Eagle Uranium, LLC	Montrose	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
28	24	201	Energy Fuels Resources Corp.	Montrose	Exploration plan (eight holes) approved; drilling and reclamation of explored area are completed; no area needs to be reclaimed under current conditions.
29	25	639	Cotter Corporation	Montrose	Exploration plan (one hole) approved; drilling and reclamation of explored area are completed; no area needs to be reclaimed under current conditions.
30	26	3,989	Energy Fuels Resources Corp.	Mesa	Exploration plan (six holes) approved; drilling and reclamation of the explored area are completed; mine re-entry plan is approved, bulkhead partially removed, and assessment completed; portal is resecured; reclamation of previously disturbed areas is needed.
31	27	1,766	Energy Fuels Resources Corp.	Mesa	No recent (post-1995) activity conducted; no area needs to be reclaimed under current conditions.
Total		25,137			

[a] On October 18, 2011, a Federal district court stayed the 31 leases, and enjoined DOE from approving any activities on ULP lands. On February 27, 2012, the court amended its injunction to allow DOE, other Federal, state, or local governmental agencies, and the ULP lessees to conduct only those activities on ULP lands that are absolutely necessary, as described in the court's Order. See *Colorado Environmental Coalition v. Office of Legacy Management*, No. 08-cv-01624, 2012 U.S. DIST. LEXIS 24126 (D. Colo. Feb. 27, 2012).

[b] Least Tracts 7 and 7A were combined (February 2011 time frame) into Lease Tract 7.

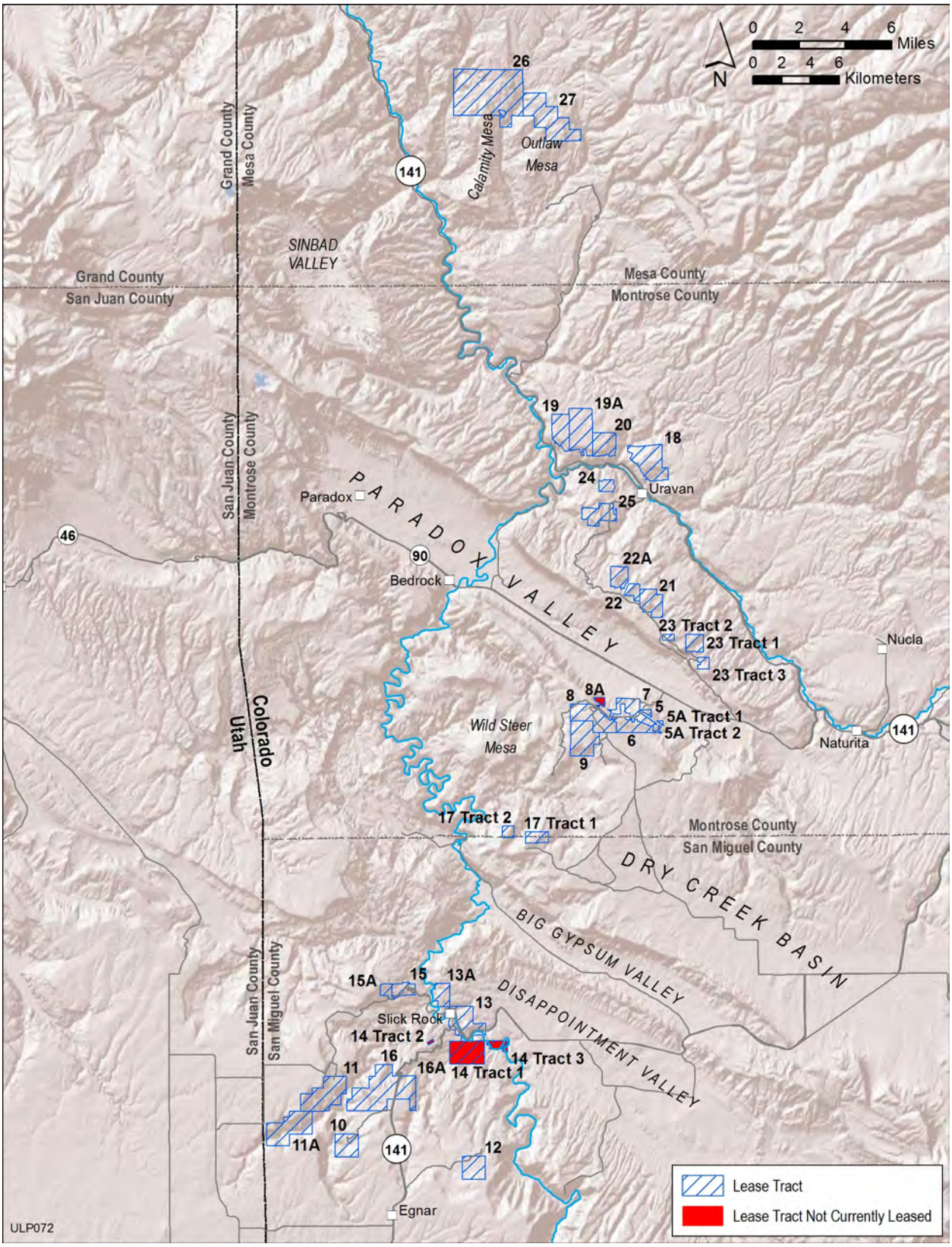

FIGURE 1.2-1 Locations of the 31 ULP Lease Tracts in Colorado

- Establish the amount of reclamation performance bonding appropriate for the amount of environmental disturbance anticipated based on an evaluation of the lessees' proposed activities, including site-specific access routes, exploration drill-hole locations, mine-site support facility locations, and proposed methods of reclamation.

- Monitor lessees' exploration, mine-development, and ore-production activities to ensure compliance with Federal, state, and local environmental regulations and lease stipulations. Identify adverse conditions that need to be addressed and advise the lessees accordingly.

- Review exploration drill-hole logs, drill-hole maps, mine maps, and quarterly reports submitted by the lessees to assess the lessees' progress and verify conditions witnessed during field inspections.

- Review Federal and state mine safety inspection records and reports to identify significant violations or adverse trends and determine whether actions are warranted.

- Monitor and track market prices (spot and long term) for uranium oxide (U_3O_8) and vanadium oxide (V_2O_5) (uranium ore is generated as uranium oxide and vanadium ore is generated as vanadium oxide) and keep abreast of activities occurring within the world uranium and vanadium industries.

- Develop and maintain procedures to process and maintain records of ores produced from the DOE lease tracts and delivered to a mill or other receiving station for processing. Calculate the resulting royalties due and payable to DOE. Ensure that royalty payments are submitted in accordance with the lease agreements. Maintain records associated with the number of miles traveled by ore trucks on Federal, state, and county roadways. Ensure that lessees' pulp ore samples are analyzed in accordance with lease agreement requirements.

- Maintain a record of and provide for the routine surveillance of concurrent surface activities (e.g., activities associated with oil and gas leases and special use permits) that are authorized by other agencies with surface-management jurisdiction.

- Evaluate sample plants to verify that they or other facilities receiving lease tract ores have adequate procedures for weighing, sampling, and assaying said ores and for reporting the results to DOE.

- Monitor lessees' reclamation activities to ensure that they comply with Federal, state, and local environmental regulations and lease stipulations. Ensure that these activities are consistent with existing exploration and mining plans and standard industry practices. Monitor post-reclamation sites for 3 to

5 years to assure that adequate vegetation is successfully re-established at the site.

- Oversee the relinquishment of lease agreements when requested by a lessee or the termination of lease agreements for cause when directed by DOE.

- Determine the eligibility of inactive, reclaimed lease tracts for restoration to the public domain under BLM's management. Prepare a Request to Relinquish Lands and submit it to the BLM Colorado State Officer for processing. Help BLM officials review the Request, and monitor its status until the restoration process is complete.

1.2.2 Lease Requirements

Facsimiles of two generic leases currently utilized for the DOE ULP are shown in Appendix A. (The leases could be modified in the future as a result of this ULP PEIS process.) These two generic leases are the same except for how the royalty payment is determined. Before conducting any exploratory or mining activity, the lessee is required to file a "Notice of Intent to Conduct Prospecting Operations" or "Reclamation Permit Application" with the Colorado Mined Land Reclamation Board for the review and approval of the CDRMS. The lessee is then required to submit three copies of a detailed Exploration Plan or Mining Plan to DOE. This plan must include a site-specific environmental analysis and a description of measures to be taken to assure compliance with all Federal, state, and local laws (including all potential impacts that could result in downstream or off-site environmental and/or resource degradation, and air quality or health-related impacts). In addition, the lessee in coordination with DOE must consult with all pertinent Federal, state, and local agencies—including, but not limited to, the BLM, USFWS, U.S. Army Corps of Engineers (USACE), EPA, CPW, State Historic Preservation Office (SHPO), and Indian tribal governments—to determine the presence and/or location of all endangered, threatened, and sensitive plant and wildlife species; known cultural resources; and floodplain and wetland areas. Plans are reviewed by DOE in coordination with BLM and CDRMS, and upon DOE's approval, the actions described in the plan can commence. DOE and other appropriate agencies must be notified in writing if the lessee wishes to change part of the plan, and no change can take place until approval is given. After the plan is approved, but before any ground-disturbing activity can commence, the lessee must file a performance bond (the amount is established by DOE) in coordination with CDRMS. This coordination is reflected in the MOU between DOE and CDRMS (DOE and CDRMS 2012).

Upon termination of the lease, the lessee has 180 days to reclaim and return the land to DOE, unless other arrangements have been agreed to in advance. The lessee is required to remove all equipment, stockpiles, and evidence of mining, unless the improvement is a structural support needed to maintain the mine.

1.3 SITE-SPECIFIC INFORMATION FOR THE ULP LEASE TRACTS

Information about the 31 lease tracts is presented in Table 1.2-1 (and Figure 1.2-1). Eight of these lease tracts (5, 6, 7, 8, 9, 11, 13, and 18) contain one or more existing mines that operated in the past under DOE's approval and are currently permitted by CDRMS. Please note that three additional lease tracts (13A, 21, and 25) have existing mine sites that have been fully reclaimed in accordance with existing environmental regulations and DOE lease stipulations; however, these mine sites currently remain permitted by CDRMS. Finally, Table 1.3-1 lists the estimated ore reserve that remains at each of the 31 lease tracts.

Site-specific information used as a basis for the ULP PEIS evaluation included mine permit amendment applications for existing mines on Lease Tracts 6, 8, 9,11, 13A, 18, 21, and 25 (Cotter Corp. 2011, 2012a–g). These documents contain site-specific information on climate, soils, and wildlife; wildlife mitigation measures; chemical evaluations; maps; monitoring data; stormwater management plans; environmental protection plans (EPPs); reclamation plans; emergency response plans; and geotechnical stability reports. CDRMS inspection reports were also reviewed for the ULP PEIS evaluation. The inspection reports include information on the conditions and characteristics of the mine sites. For example, inspection reports for several mines located within Lease Tract 13 contain information on observations for contaminants and noxious weeds, the presence and condition of mine facilities and stockpiles, potential erosion and stormwater runoff concerns, and so forth (CDRMS 2012a–c).

Between 2009 and 2011, DOE approved the implementation of various exploration and reclamation activities on several lease tracts. Exploration plans were approved for Lease Tracts 13A, 15A, 17, 21, 24, 25, and 26 and were implemented for all these lease tracts except for 15A and 17 (see Table 4.7-6). Various reclamation plans were submitted for disturbed areas located on Lease Tracts 5, 6, 7, 10, 11, 11A, 12, 13, 16, 16A, 17, 19, 19A, 20, 21, 22, 22A, 23, 26, and 27 (see Table 4.7-7). These plans described reclamation work conducted in lieu of payment of royalties (or RILORs) and included work on mining-related features, such as open drill holes and vents, land subsidence features, and abandoned mine portals and adits.

1.3.1 ULP Lease Tract 5

On Lease Tract 5, the C-JD-5 mine is located in Sections 21 and 22, T 46 N, R 17 W, NMPM, in Montrose County, Colorado (see Figure 1.3-1). The original lease was executed effective June 12, 1974. A royalty bid of 12.00%, payable on ores containing 700,000 lb (318,000 kg) of U_3O_8, secured the lease.

A mining plan was submitted on June 10, 1976, proposing entry by a shaft 16-ft (4.9-m) in diameter and 320-ft (98-m) deep located in the northwest corner of the property. The lessee

TABLE 1.3-1 Estimated Remaining Ore Reserve at the ULP Lease Tracts

ULP Lease Tract	Remaining Ore Reserves[a] (lb U_3O_8)
5	230,000
5A	30,000
6	850,000
7	2,800,000
8	330,000
8A	30,000
9	630,000
10[b]	0
11	740,000
11A	300,000
12	160,000
13	330,000
13A	220,000
14	85,000
15	84,000
15A	250,000
16	44,000
16A	18,000
17	75,000
18	1,200,000
19[b]	0
19A	1,500,000
20	800,000
21	1,000,000
22	140,000
22A[b]	0
23	550,000
24	90,000
25	540,000
26	68,000
27	87,000
Total remaining ore reserves	13,000,000

[a] Amount shown equals the lease "bid quantity" minus the total production to date. Values have been rounded to two significant figures.

[b] The lease "bid quantity" has been produced from this tract; any additional reserves that may exist have not been quantified.

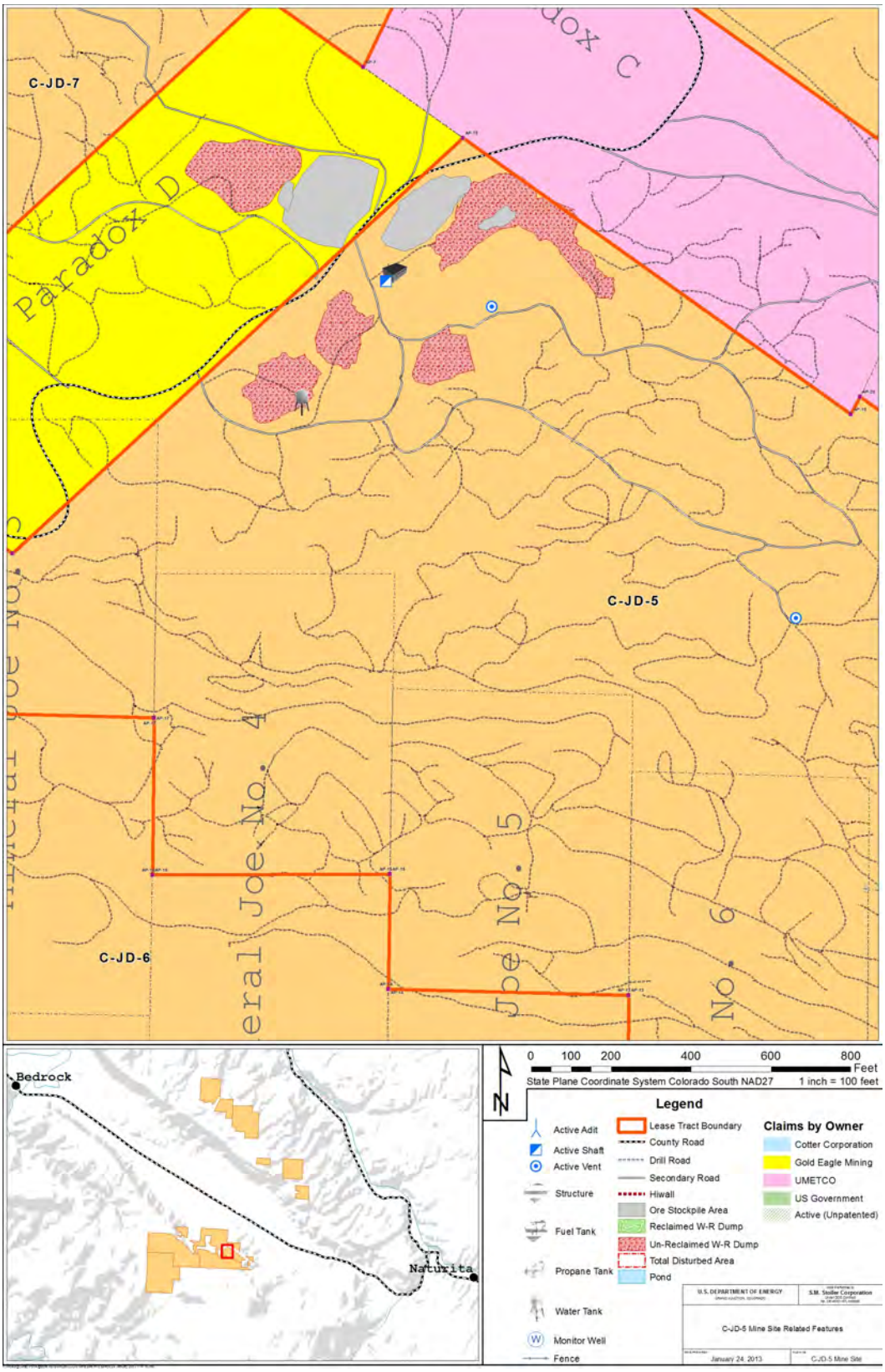

FIGURE 1.3-1 Location of C-JD-5 Mine on Lease Tract 5

began sinking the shaft shortly after the plan was approved, and the shaft was bottomed in early April 1977. The ore zone was encountered almost immediately, and the initial shipment of ore was made on May 26, 1977. As mining continued, a second level was developed that ultimately yielded the bulk of the mine's production. The mine was extended to the west and south and connected with the old Paradox D and Mineral Joe No. 4 mines, respectively; during this time, the mine maintained consistent ore production at approximately 3,000 tons (2,700 metric tons) per month. The mine was shut down in early 1980 due to a lack of economical ore reserves.

Mining resumed briefly in 1989 (as the mine's economics improved), and production continued through June 1990. In March 1998, Gold Eagle Mining, Inc. (GEMI), notified DOE of its intensions to resume operations at the mine. Subsequent to DOE's approval, GEMI upgraded the mine's entire infrastructure to current standards and code. Unfortunately, GEMI could not secure a milling agreement, and no ore production occurred. At that time, the mine was placed on standby status.

A total of 136,000 tons (123,000 metric tons) of ore, containing 466,000 lb (211,000 kg) of U_3O_8 and 1,812,000 lb (822,000 kg) of V_2O_5, have been produced and sold from the mine. Royalties paid for this lease tract (production royalties plus annual royalties) total $2,154,000.

1.3.2 ULP Lease Tract 5A

On Lease Tract 5A, the C-JD-5A mine is located in Section 22, T 46 N, R 17 W, WM, in Montrose County, Colorado. The original lease was executed effective July 23, 1974. A royalty bid of 15.82% payable on ores containing 30,000 lb (14,000 kg) of U_3O_8 secured the lease.

During September two exploration plans were submitted, one for each tract of the unit, proposing 86 and 106 holes, respectively. Both plans were approved, and a total of 56 holes were drilled; 36 holes showed some mineralization. These areas were reclaimed during June 1980.

There have been no mining plans submitted for this lease tract, and consequently, no ore has been produced. Annual royalties paid for this lease tract total $24,700.

1.3.3 ULP Lease Tract 6

On Lease Tract 6, the C-JD-6 mine is located in Sections 21 and 22, T 46 N, R 17 W, NMPM, in Montrose County, Colorado (see Figure 1.3-2). The original lease was executed effective April 18, 1974. A royalty bid of 14.20% payable on ores containing 1,200,000 lb (544,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in September 1975 proposing access through the Duggan Adit, which is located on adjacent, privately held, unpatented claims. The plan was approved, and development work began the following April (1976). The first ore shipment from the mine was made on May 12, 1976; however, the true production cycle did not begin until August 1977.

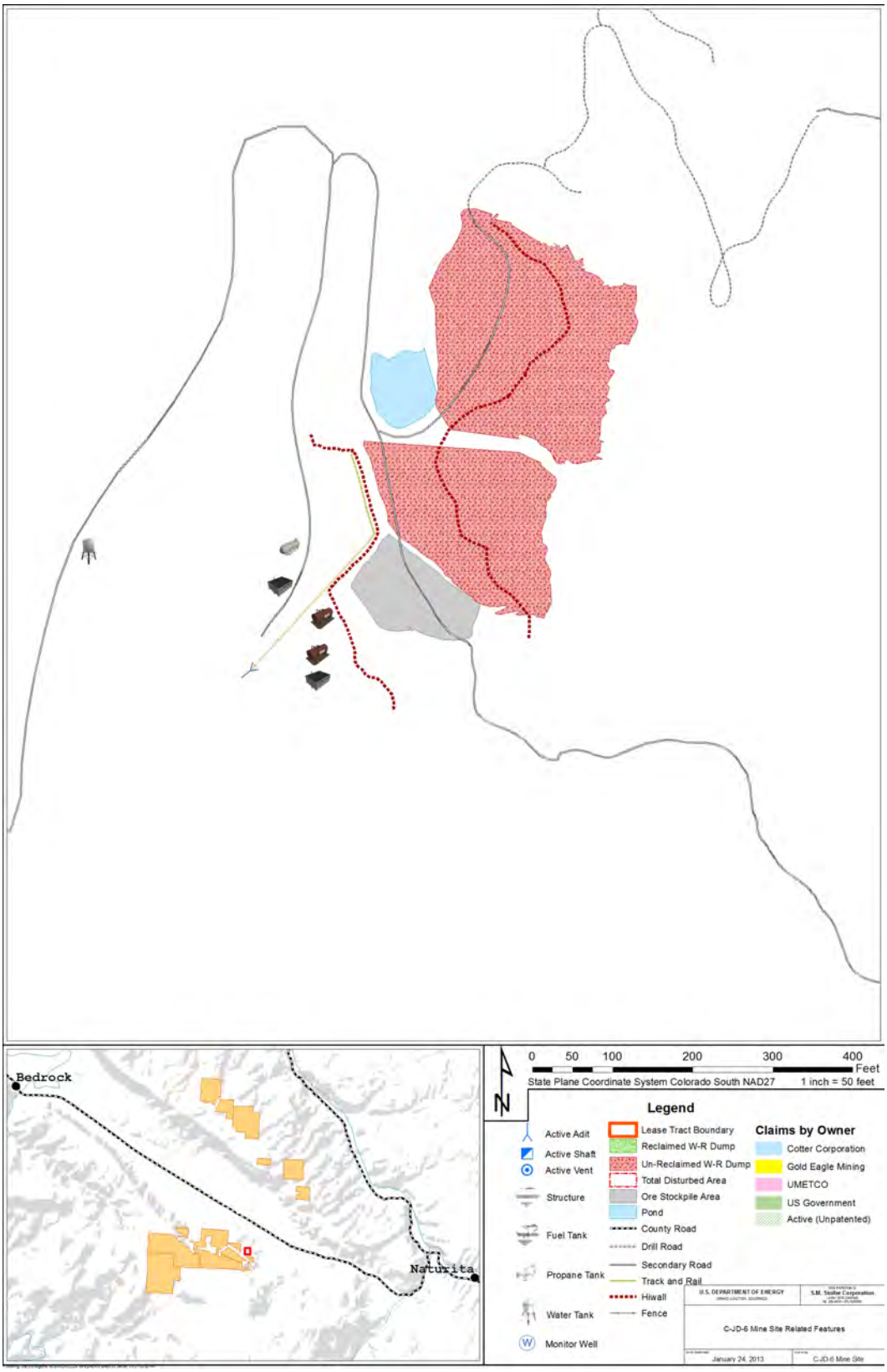

FIGURE 1.3-2 Location of C-JD-6 Mine on Lease Tract 6

Mining continued much the same way until May 1980, at which time Cotter Corporation announced a temporary shutdown of operations effective August 8, 1980.

In May 2004, the lessee, Cotter Corporation, notified DOE of its intentions to resume operations at the mine. Subsequent to DOE's approval and following several weeks of site preparation, Cotter Corporation resumed mining activities on August 2, 2004. Production and/or ore shipments from the mine continued into 2006. In 2008, Cotter Corporation installed a lysimeter downgradient of the mine site to determine whether near-surface soils or rock formations contain moisture that could affect (or be affected by) the mine site. The lysimeter is monitored monthly.

A total of 107,000 tons (97,000 metric tons) of ore, containing 350,000 lb (159,000 kg) of U_3O_8 and 2,248,000 lb (1,020,000 kg) of V_2O_5, have been produced and sold from the mine. Royalties paid for this lease tract (production royalties plus annual royalties) total $2,946,000.

1.3.4 ULP Lease Tract 7

On Lease Tract 7, the C-JD-7 mine is located in Sections 16, 20, 21, and 22, T 46 N, R 17 W, NMPM, in Montrose County, Colorado (see Figure 1.3-3). The original lease was executed effective April 18, 1974. A royalty bid of 27.30% payable on ores containing 2,800,000 lb (1,270,000 kg) of U_3O_8 secured the lease.

An underground mining plan was submitted in November 1976 proposing entry through a 1,600-ft (490-m) decline in the northern portion of the tract. The plan was approved, and development work was initiated the following May. Following numerous delays, including the encountering of sugar sands, which require continuous support, the incline was finally bottomed in December 1978. Water was then encountered in the drift, and two evaporation ponds were constructed to support dewatering activities. The first ore was shipped in July 1979, and production continued through May 1980, at which time Cotter Corporation announced a temporary shutdown of underground mining operations effective May 22, 1980. In June 1980, the water treatment system was redesigned (another pond was built) to bring the mine-water treatment system into compliance with the existing National Pollutant Discharge Elimination System (NPDES) permit. In June 2005, Cotter Corporation notified DOE of its intentions to resume operations at the mine. Subsequent to DOE's approval, Cotter Corporation began rehabilitating the underground mine workings to support future production activities. This work continued through November 2005.

During May 1979, Cotter Corporation submitted an open-pit mining plan for the property that would require the removal of 13 million tons (12 million metric tons) of overburden and affect some 650 acres (260 ha). The plan was approved in November, and Cotter Corporation entertained bids on two separate contracts. The first contract was for the removal of the vegetation; that work was initiated in January 1980. The second contract was for Phase 1 of stripping the overburden, which began in April 1980. Phase 1 activities included utilizing the northern portion of Lease Tract 7A (also a Cotter Corporation lease tract) for the spoils pile. Stripping activities continued at a rate of 1,000,000 yd^3 (765,000 m^3) per month for 13 months,

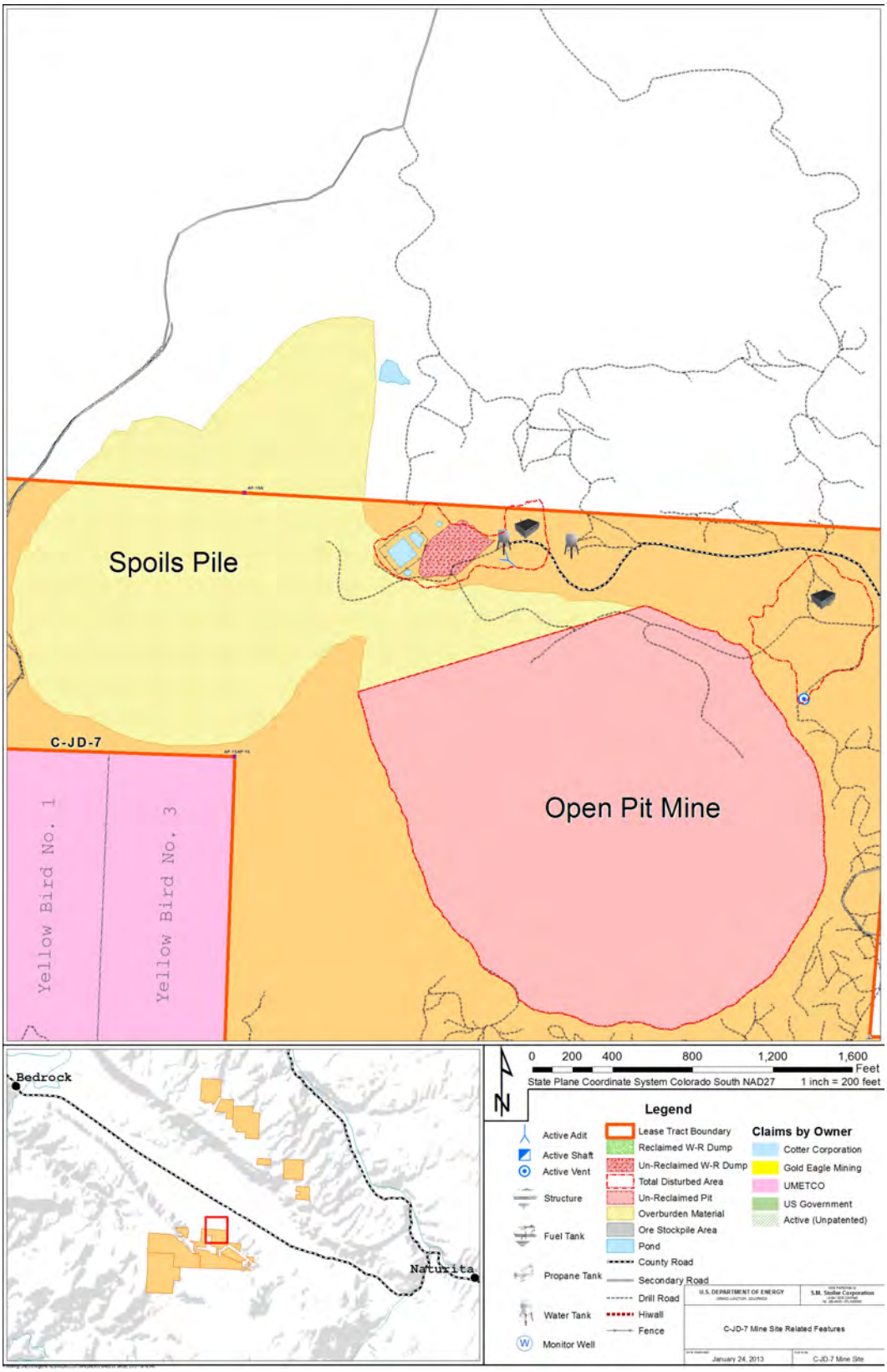

FIGURE 1.3-3 Location of C-JD-7 Mine on Lease Tract 7

until March 31, 1981, at which time the mine was placed on standby status due to declining market conditions. Mining activities subsequently resumed at the mine, which included in-pit development drilling from 1991 through 1993 and from 1996 through 2004 and other activities through the third quarter of 2011. Once in production, the operation was expected to produce 500 tons (450 metric tons) of ore per day, averaging 0.30% U_3O_8.

On February 16, 2011, DOE executed a modification to the lease that incorporated Lease Tract 7A into 7, recognizing that the two lease tracts were inseparable due to the open-pit mining operation.

A total of 12,000 tons (11,000 metric tons) of ore, containing 46,000 lb (21,000 kg) of U_3O_8 and 125,000 lb (57,000 kg) of V_2O_5, have been produced and sold from the mine. Royalties paid for this lease tract (production royalties plus annual royalties) total $1,442,000.

1.3.5 ULP Lease Tract 8

On Lease Tract 8, the C-JD-8 mine is located in Sections 17, 18, 19, and 20, T 46 N, R 17 W, NMPM, in Montrose County, Colorado (see Figure 1.3-4). The original lease was executed effective April 18, 1974. A royalty bid of 36.20% payable on ores containing 375,000 lb (170,000 kg) of U_3O_8 secured the lease.

In January 1984, a mining plan was submitted proposing access through the Opera Box Adit, which is located on an adjacent, privately held, patented claim. This plan was approved on November 18, 1985; however, it was never acted upon. A revised mining plan, updated to meet current requirements, was submitted in December 2004 and was approved January 21, 2005. Cotter Corporation enlarged the existing Opera Box portal and the main haulage drift to accommodate larger, more modern equipment. The first ore shipment was made in June 2005, and production and/or ore shipments continued into 2006. In 2008, Cotter Corporation installed a lysimeter downgradient of the mine site to determine whether near-surface soils or rock formations contain moisture that could affect (or be affected by) the mine site. The lysimeter is monitored monthly.

A total of 9,000 tons (8,000 metric tons) of ore, containing 46,000 lb (21,000 kg) of U_3O_8 and 178,000 lb (81,000 kg) of V_2O_5, have been produced and sold from the mine. Royalties paid for this lease tract (production royalties plus annual royalties) total $1,264,000.

1.3.6 ULP Lease Tract 8A

On Lease Tract 8A, the C-JD-8A mine is located in Section 17, T 46 N, R 17 W, NMPM, in Montrose County, Colorado. The original lease was executed effective July 23, 1974. A royalty bid of 26.22% payable on ores containing 30,000 lb (14,000 kg) of U_3O_8 secured the lease.

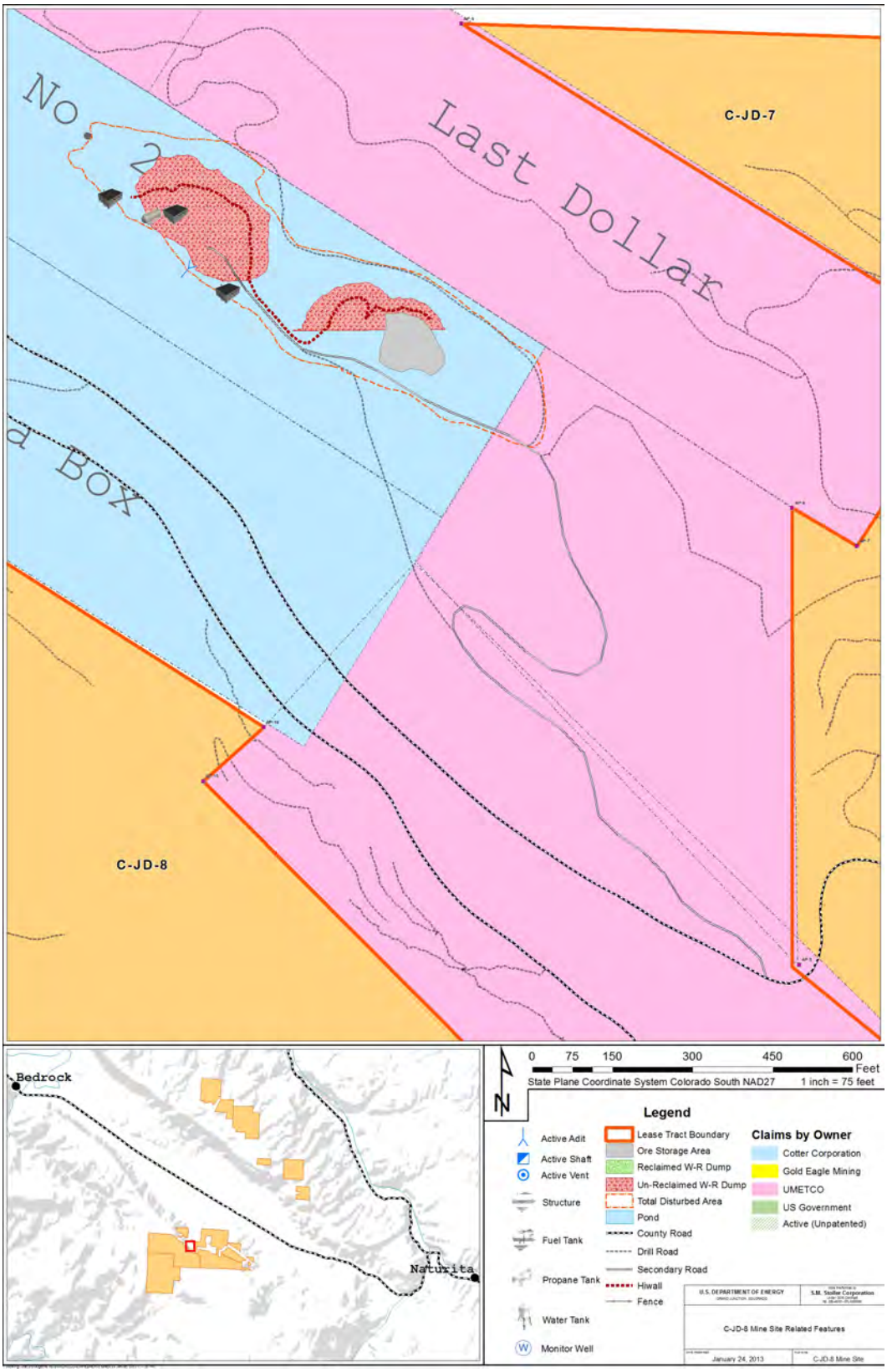

FIGURE 1.3-4 Location of C-JD-8 Mine on Lease Tract 8

In March 2008, DOE initiated a competitive bid process for the inactive tracts. This lease tract was put out to bid; however, there was no interest. Accordingly, this tract remains inactive indefinitely, and consequently, no ore has been produced.

1.3.7 ULP Lease Tract 9

On Lease Tract 9, the C-JD-9 mine is located in Sections 19, 29, and 30, T 46 N, R 17 W, NMPM, in Montrose County, Colorado (see Figure 1.3-5). The original lease was executed effective April 18, 1974. A royalty bid of 24.30% payable on ores containing 850,000 lb (386,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in February 1977 proposing entry through a 1700-ft (520-m) incline of –17.5% in the south-central portion of the tract. The plan was approved, and development work began in May. Numerous delays were encountered while sinking the decline; however, it was finally bottomed in March 1978, and development drift work continued toward different ore bodies. Water was soon encountered, and two evaporation ponds were constructed to support dewatering activities. Some ore was encountered in August 1978, and the initial ore shipment was made. The ore production rate soon increased, and ore shipments were made on a regular basis until May 1980, at which time Cotter Corporation announced a temporary shutdown of operations effective August 8, 1980.

On April 28, 1998, Cotter Corporation submitted a plan to construct two new mine-water treatment ponds and decommission the existing pond system on top of Monogram Mesa. Construction of the ponds was completed, but the ponds were never lined or put into service, and the existing pond system was never decommissioned.

In March 2003, Cotter Corporation advised DOE of its plans to resume mining operations at the site. Following several weeks of site preparation, Cotter Corporation resumed production activities at the mine. The mine continued to produce and/or ship ore into 2006. In 2008, Cotter Corporation installed a lysimeter downgradient of the mine site to determine whether near-surface soils or rock formations contain moisture that could affect (or be affected by) the mine site. In addition, in December 2006, DOE approved the installation of a groundwater monitoring well downgradient of the mine site. The lysimeter and monitoring well are monitored and sampled monthly. In October 2008, Cotter Corporation notified DOE of a rockfall that had occurred at the mine, approximately 100 ft (30 m) down the main haulage drift from the portal. In discussions between DOE and Cotter Corporation, Cotter Corporation concluded that it would assess the situation and options.

A total of 55,000 tons (50,000 metric tons) of ore, containing 223,000 lb (101,000 kg) of U_3O_8 and 1,112,000 lb (504,000 kg) of V_2O_5, have been produced and sold from the mine. Royalties paid for this lease tract (production royalties plus annual royalties) total $2,586,000.

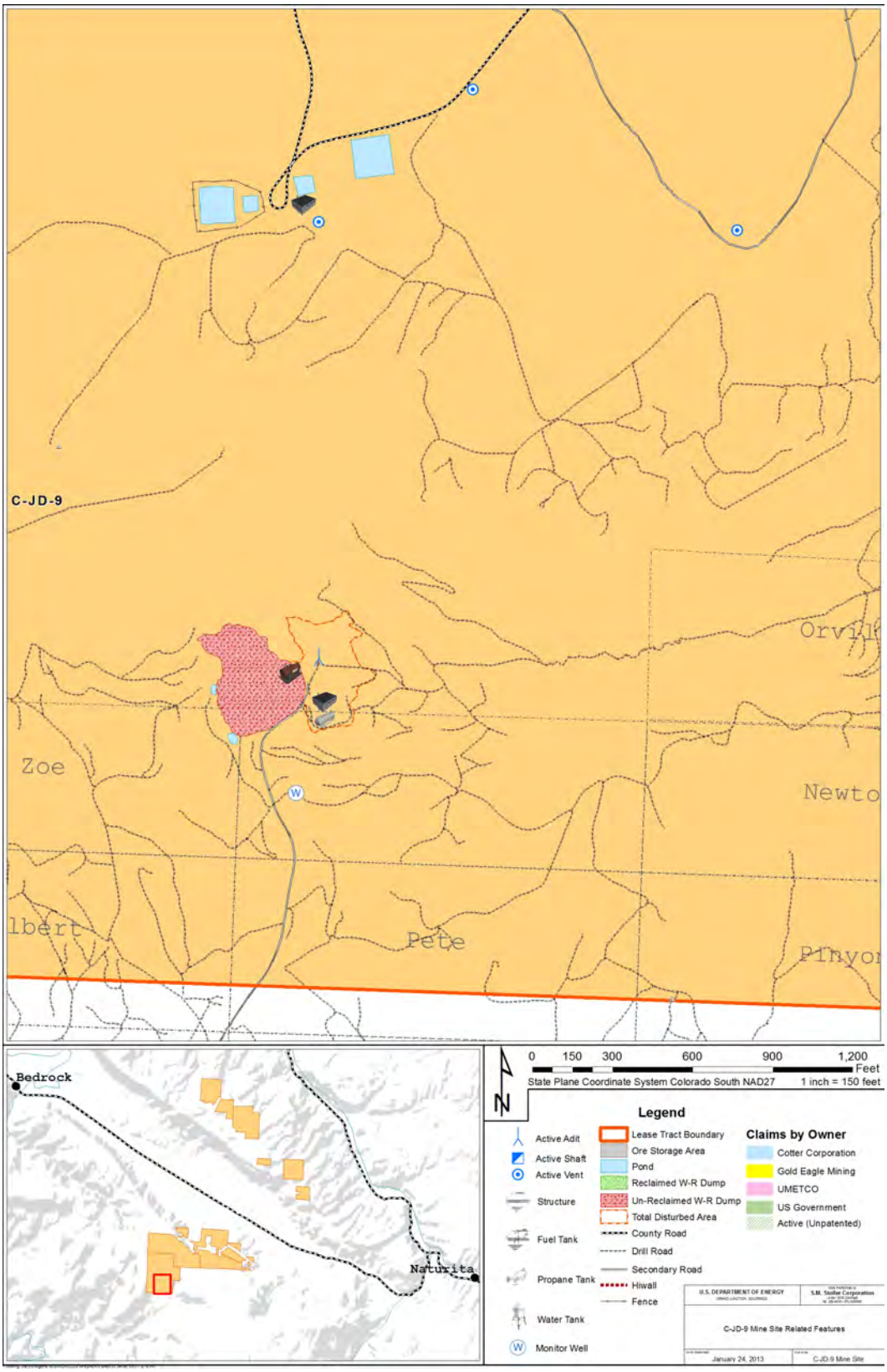

FIGURE 1.3-5 Location of C-JD-9 Mine on Lease Tract 9

1.3.8 ULP Lease Tract 10

On Lease Tract 10, the C-SR-10 mine is located in Sections 28 and 29, T 43 N, R 19 W, WM, San Miguel County, Colorado. The original lease was executed effective June 12, 1974. A royalty bid of 21.76% payable on ores containing 110,000 lb (50,000 kg) of U_3O_8 secured the lease.

The first mining plan was submitted in January 1975 proposing entry through the Summit No. 21 incline controlled by Atlas. The plan was approved, and Russell Henderson mined continuously through November 1975. Then Charles W. Martin took over the operation and continued to mine through August 1976. The first ore was shipped from this operation to the Atlas mill in Moab, Utah, on May 1, 1975.

Energy Fuels Nuclear, Inc., submitted a mining plan during February 1979 proposing access through the Sam incline. This plan was approved, and development began in April and continued into June, when some unexpected ore was encountered and 400 tons were stockpiled for later shipment. The initial shipment of ore from this operation to the Energy Fuels mill near Blanding, Utah, was made during the summer of 1979, and production continued through October 1980, at which time the operation became uneconomical and was shut down. Mining resumed in January 1982 and continued throughout the year. Ore was stockpiled on the site until early December, when ore shipments resumed to the Blanding mill. Ore shipments continued through February 1983, at which time the 110,000th pound of U_3O_8 was shipped, thereby surpassing the bid quantity and making C-SR-10 the fourth lease tract to produce the bid pounds. In 2000, DOE acknowledged its satisfaction with the reclamation activities. The Colorado Division of Minerals and Geology (now known as the Colorado Division of Reclamation, Mining, and Safety or CDRMS), inspected the site and determined that Energy Fuels Nuclear, Inc., had met its obligations under Permit No. M–1979–027 and released it from further responsibility.

A total of 67,000 tons (61,000 metric tons) of ore, containing 273,000 lb (124,000 kg) of U_3O_8 and 2,324,000 lb (1,054,000 kg) of V_2O_5 had been produced and sold from the lease tract mines. Royalties paid for this lease tract (production royalties plus annual royalties) total $1,720,000.

1.3.9 ULP Lease Tract 11

On Lease Tract 11, the C-SR-11 mine is located in Sections 8, 17, and 18, T 43 N, R 19 W, NMPM, in San Miguel County, Colorado (see Figure 1.3-6). The original lease was executed effective June 12, 1974. A royalty bid of 11.67% payable on ores containing 900,000 lb (408,000 kg) of U_3O_8 secured the lease.

A number of different mining plans were submitted and approved for the lease tract, proposing re-entry into existing mines and resumption of mining activities through existing mine workings. However, only two operations have any significant bearing: the Brighton and Ike mines. The Brighton mine, located along the rim of Summit Canyon, was in production from

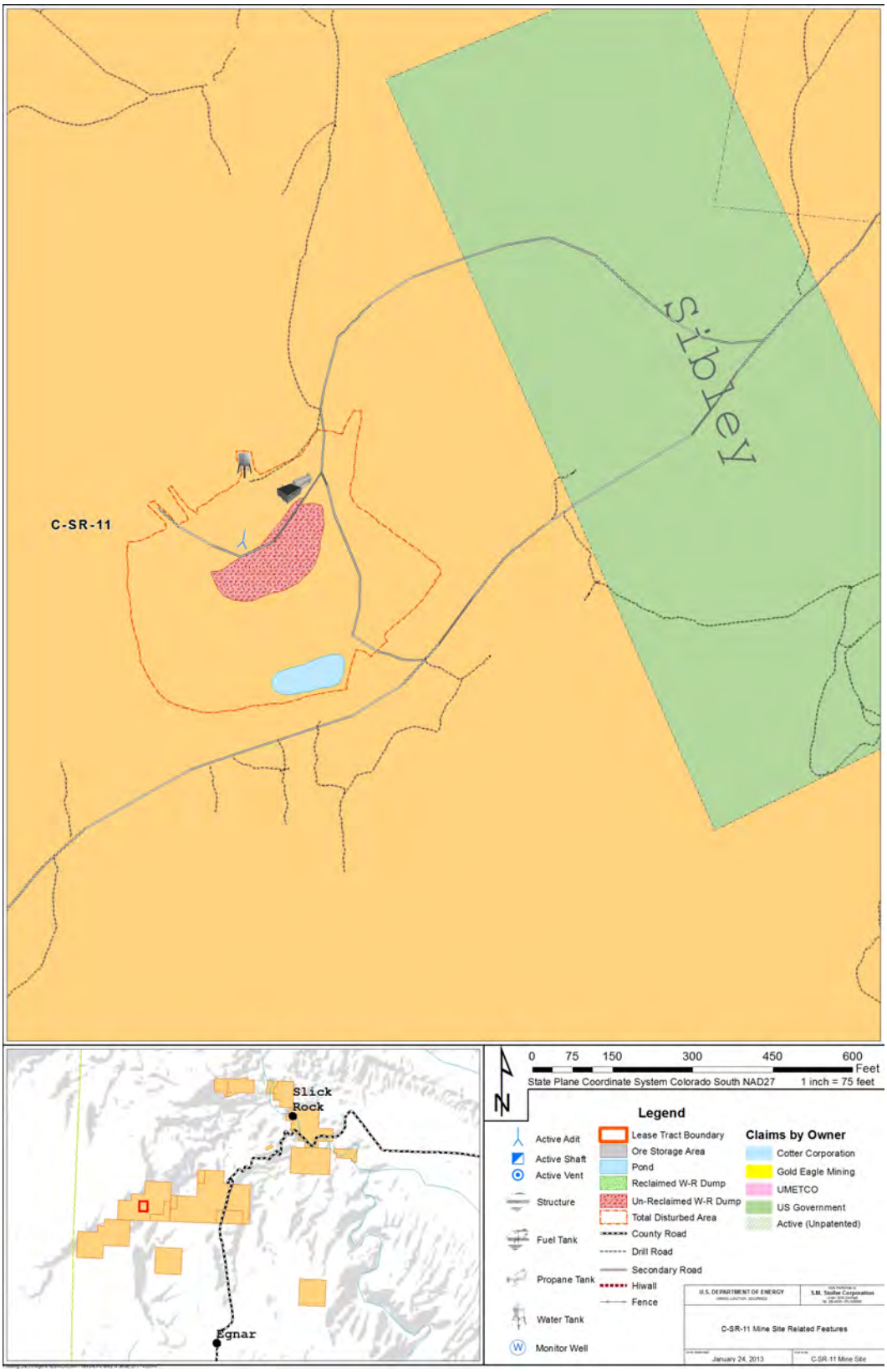

FIGURE 1.3-6 Location of C-SR-11 Mine on Lease Tract 11

December 1975 through April 1977. The Ike mine complex, mined through the Dawson incline, was in production from August 1975 through mid-December 1980. This operation included some initial work in the existing Ike No. 2 mine, in addition to development of and production from a nearby incline on the Radium No. 8 claim adjacent to the lease tract along the northeast corner. In December 1980, mining activities on the lease tract were suspended and the mines were placed on standby status. In 1999, Cotter Corporation initiated reclamation activities at the Brighton and Ike mines, as well as on legacy mine sites located on the lease tract. The mine portals and ventilation shafts were permanently sealed and closed; the mine waste-rock dumps were recontoured to blend in with the surrounding natural topography; and the disturbed areas were reseeded. These activities were completed in the fall of 2000.

In February 2005, Cotter Corporation proposed a new mine for the lease tract located in the south-central portion of the property. Entry was to be gained from a 1,300-ft (400-m) decline, and DOE approved the plan in June 2005. Mine development work began almost immediately and continued through November 2005. At that time, the decline had been advanced approximately 300 ft (90 m).

A total of 47,000 tons (43,000 metric tons) of ore, containing 162,000 lb (73,000 kg) of U_3O_8 and 925,000 lb (420,000 kg) of V_2O_5, have been produced and sold from the lease tract mines. Royalties paid for this lease tract (production royalties plus annual royalties) total $1,200,000.

1.3.10 ULP Lease Tract 11A

On Lease Tract 11A, the C-SR-11A mine is located in Section 19, T 43 N, R 19 W and Sections 23, 24, 25 and 26, T 46 N, R 20 W, NMPM, in San Miguel County, Colorado. The original lease was executed effective July 23, 1974. A bid royalty of 36.20% payable on ores containing 300,000 lb (136,000 kg) of U_3O_8 secured the lease.

The initial exploration plan was submitted in October 1977 proposing a total of 68 holes to be drilled. A supplemental plan followed in August 1979 proposing 41 additional holes. Both plans were approved, and at least 87 holes were drilled during the program; only six holes showed any mineralization. Reclamation of drill sites has been completed.

There have been no mining plans submitted for this lease tract, and consequently, no ore has been produced. Annual royalties paid for this lease tract total $70,600.

1.3.11 ULP Lease Tract 12

On Lease Tract 12, the C-SR-12 mine is located in Section 32, T 43 N, R 18 W, NMPM, in San Miguel County, Colorado. The original lease was executed effective June 12, 1974. A royalty bid of 11.74% payable on ores containing 180,000 lb (82,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in June 1976 proposing entry through an 1,170-ft (360-m) decline at 8% grade, located in the north-central portion of the tract. The plan was approved, and development began in October 1976. The incline was bottomed in ore in early August 1977, and the initial shipment of ore (93 tons [42 metric tons] at 0.18% U_3O_8) was made on August 30, 1977. Production continued through November 1979. Operations were ended on December 3, 1979. Reclamation of the SR-12 Mine was undertaken and was satisfactorily completed by May 29, 1986.

A total of 7,000 tons (6,000 metric tons) of ore, containing 24,000 lb (11,000 kg) of U_3O_8 and 233,000 lb (106,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $191,000.

1.3.12 ULP Lease Tract 13

On Lease Tract 13, the C-SR-13 mine is located in Sections 29, 30, 31, 32, and 33, T 44 N, R 18 W, NMPM, in San Miguel County, Colorado (see Figure 1.3-7). The original lease was executed effective May 24, 1974. A royalty bid of 20.60% payable on ores containing 700,000 lb (318,000 kg) of U_3O_8 secured the lease.

The initial mining plan submitted in January 1975 proposed entry through the Burro Tunnel Mine. The mine portal and a portion of the main haulage drift are located on the lease tract but provide access to the Burro Mine complex, which is located immediately north of the lease tract on the privately held unpatented Burro claims. The plan was approved, and production began from an area along the northern boundary of the lease tract in an area of the Burro Mine complex where ore was showing in the heading. Production continued from there and extended southward toward the Ellison Mine. The initial shipment of ore was made in June 1975, and production continued through 1981, at which time the mine was placed on standby status. A second mining plan (the new Ellison Mine) was submitted in November 1978 proposing entry through a new decline into the area northeast of the existing Ellison Mine, with which it would connect for ventilation. The plan was approved, and development began in May 1979. The incline was bottomed in August 1980, and development continued through December of that year. Although ore is showing in several headings, the operation was limited to development, and no ore was produced. In March 1981, the mine was expanded to connect with the existing Ellison Mine, establishing a ventilation pathway and a secondary escapeway. Shortly afterward, operations ceased, and this mine was also placed on standby status. Other operations were conducted sporadically during this time and included mines such as Hawkeye and Herbert. However, ore shipments from these operations were small and relatively insignificant when compared with those from the operation at the Burro Mine complex. These smaller mine sites have since been reclaimed. The mine portals were gated to conserve bat habitat, or they were permanently sealed and closed; the mine-waste-rock dumps were recontoured to blend in with the surrounding, natural topography; and the disturbed areas were reseeded.

A total of 86,000 tons (78,000 metric tons) of ore, containing 323,000 lb (147,000 kg) of U_3O_8 and 2,766,000 lb (1,255,000 kg) of V_2O_5, have been produced and sold from the lease

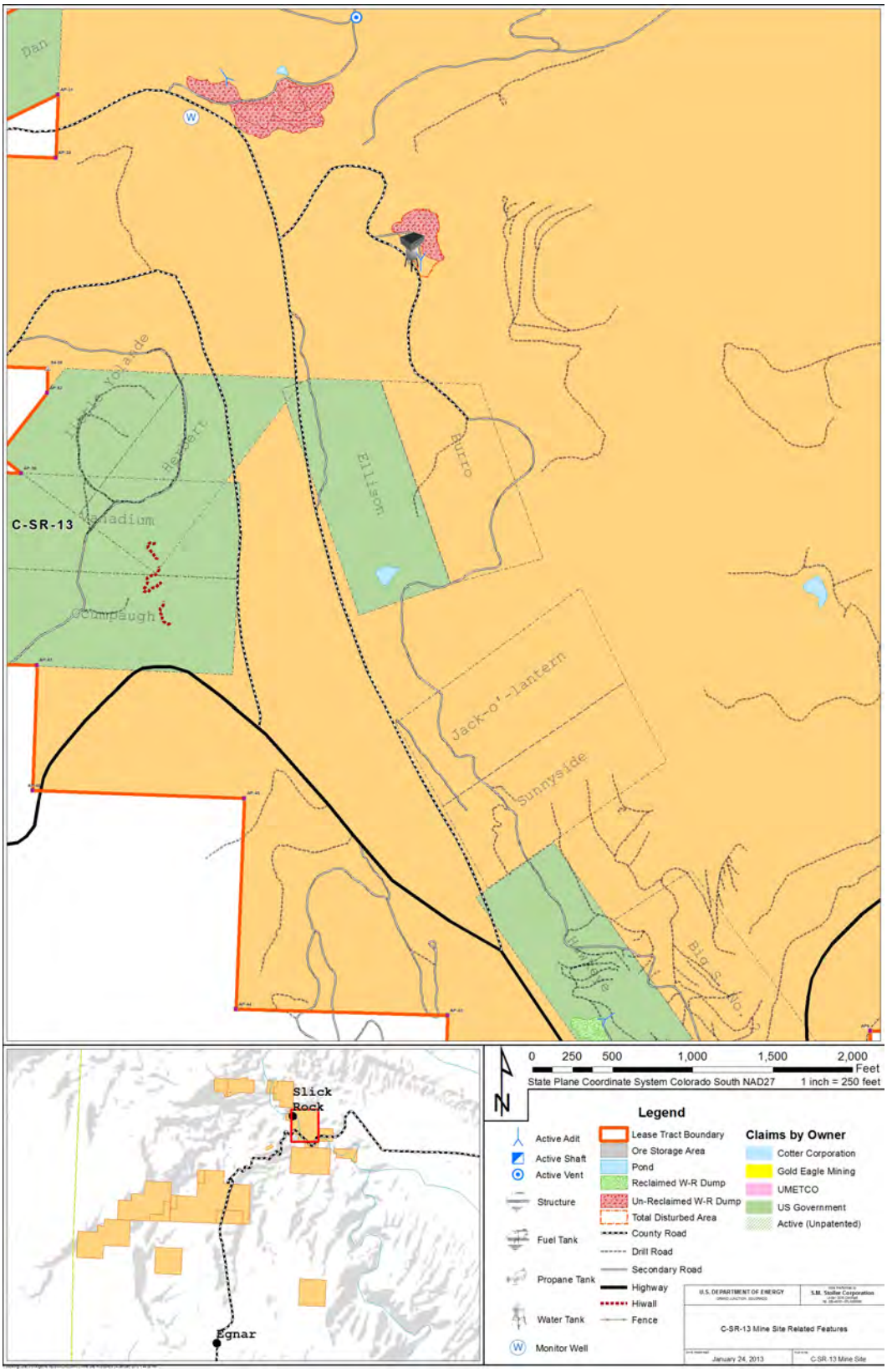

FIGURE 1.3-7 Location of C-SR-13 Mine on Lease Tract 13

tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $4,047,000.

1.3.13 ULP Lease Tract 13A

On Lease Tract 13A, the C-SR-13A mine is located in Sections 19 and 30, T 44 N, R 18 W and Sections 24 and 25, T 44 N, R 19 W, NMPM, in San Miguel County, Colorado. The original lease was executed effective July 23, 1974. This tract differs from other DOE lease tracts in that a portion of the tract is patented land with surface rights held by other interests. A royalty bid of 36.20% payable on ores containing 350,000 lb (159,000 kg) of U_3O_8 secured the lease.

Early in 1975, Cotter Corporation submitted a tentative evaluation plan in which it proposed to revamp a portion of the Veta Mad Mine. This plan was approved, and Blake Mining Company (mining contractor for Cotter Corporation) began work in May. By November, the main haulage was widened and brought to a constant slope, and mining was ready to begin. The initial mining plan was submitted in April 1976 proposing entry through the Veta Mad Mine. The plan was approved; development work began in May and continued through December, during which time all ore encountered was stockpiled until the initial shipment of ore; the shipment was made to the Cotter Mill at Canon City, Colorado, on December 15, 1976. Production continued until May 1980, when Cotter Corporation announced a temporary shutdown of operations effective August 8, 1980. The mine was reclaimed in 2003, and bat gates were installed in the Georgetto and Veta Mad portals.

In 2008, in accordance with Colorado law, CDRMS reclassified all uranium mines within the state as designated mining operations, requiring the submittal of an environmental protection plan (EPP) and a much more rigorous environmental review. Cotter Corporation has submitted its EPP to CDRMS.

A total of 38,000 tons (34,000 metric tons) of ore, containing 129,000 lb (59,000 kg) of U_3O_8 and 744,000 lb (337,000 kg) of V_2O_5, had been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) totaled $2,010,000.

1.3.14 ULP Lease Tract 14

On Lease Tract 14, the C-SR-14 mine is located in Sections 5 and 6, T 43 N, R 18 W, NMPM, in San Miguel County, Colorado. The original lease was executed effective June 12, 1974. That portion of Tract 14 located in Section 4, T 43 N, R 18 W, NMPM (Tract 2), was not leased in 1974 (and has not been leased since) due to its proximity to the Dolores River corridor. A royalty bid of 26.00% payable on ores containing 55,000 lb (25,000 kg) of U_3O_8 secured the lease.

The preliminary exploration plan was submitted in October 1977. The plan was approved, and some 140 holes were drilled. Reclamation of drill sites has been completed.

There has been no mining conducted on this lease tract, and no ore has been produced. Annual royalties paid for this lease tract total $26,000.

1.3.15 ULP Lease Tract 15

On Lease Tract 15, the C-SR-15 mine is located in Sections 23 and 26, T 44 N, R 19 W, NMPM, in San Miguel County, Colorado. The original lease was executed effective June 12, 1974. A royalty bid of 18.60% payable on ores containing 100,000 lb (45,000 kg) of U_3O_8 secured the lease.

A mining plan submitted in October 1975 proposed to screen any remaining ore from the waste dumps around the Cougar mining area. The plan also proposed that existing mines be reopened for examination and evaluation. A second mining plan was submitted in April 1976 proposing to mine through existing portals. Both plans were approved; however, it was not until August 1976 that operations started on the Alice claim and the initial shipment of ore was made to the Union Carbide mill at Uravan, Colorado. In September, a second operation located in the Cougar mining area went into production. Both mines operated until May 1977; they produced some 2,450 tons (2,200 metric tons) of ore for shipment to Uravan, including 240 tons (220 metric tons) of material screened from the dumps.

Activity resumed in August 1979 when two contract miners began mining again on the Alice claim. Production continued through April 1980, involving shipments from first one mine and then another as ore reserves were depleted from the different workings. Efforts to locate further reserves failed, and in April 1980, the mines were shut down. DOE approved reclamation activities which were completed in June 2001.

A total of 4,600 tons (4,200 metric tons) of ore, containing 16,000 lb (7,000 kg) of U_3O_8 and 93,000 lb (42,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid to date for this lease tract (production royalties plus annual royalties) total $183,000.

1.3.16 ULP Lease Tract 15A

On Lease Tract 15A, the C-SR-15A mine is located in Sections 17 and 22, T 44 N, R 19 W, NMPM, in San Miguel County, Colorado. The original lease was executed effective July 23, 1974. A royalty bid of 23.00% payable on ores containing 275,000 lb (125,000 kg) of U_3O_8 secured the lease.

During September 1975, Walter Buchanan submitted the initial mining plan proposing entry through an incline just north of Angle Points 13 and 14. The plan was approved, with development work beginning in November and continuing until March 1976. A second mining plan was submitted by Buchanan in December 1976 proposing another incline located near the center of the Mildred F. claim. The plan was approved; however, only a small amount of disturbance occurred before operations ceased for a second time.

Early in 1979, Union Carbide Corporation (UCC) gave notice of its intent to repair and mine from the 1975 incline, and work began in April. It also submitted a revised plan for the 1976 incline, which abandoned the initial site in lieu of a site located on DOE Lease Tract C-SR-15, which adjoins the property on the east. The revised plan was approved, and development began in June. The abandoned site was reclaimed.

The initial shipment of ore was made in September 1979 when 368 tons was shipped to the UCC mill at Uravan, Colorado. Production from this incline continued through most of 1980, during which time the 1975 incline connected with the old DeLuxe workings and then the two inclines were also connected. Mining at the DeLuxe Mine (1975 incline, 1976/1979 incline, and the Old DeLuxe Mine) was terminated during December 1980 as uranium prices dropped. On September 1, 1993, Umetco Minerals Corporation (successor to UCC) began reclaiming lands disturbed by permitted mining operations on this lease tract. Reclamation consisted of backfilling the DeLuxe shaft by removing the collar and backfilling the opening with available waste-rock materials. The incline on the Mildred F. Claim and the 1975 incline portals were backfilled 25 ft (8 m) with available waste-rock material. The dumps were recontoured and seeded. All reclamation on this tract was completed on October 6, 1993.

A total of 8,800 tons (8,000 metric tons) of ore, containing 28,000 lb (13,000 kg) of U_3O_8 and 156,000 lb (71,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $351,000.

1.3.17 ULP Lease Tract 16

On Lease Tract 16, the C-SR-16 mine is located in Sections 10, 15 and 16, T 43 N, R 19 W, NMPM, in San Miguel County, Colorado. The original lease was executed effective June 12, 1974. A royalty bid of 23.60% payable on ores containing 70,000 lb (32,000 kg) of U_3O_8 secured the lease.

The initial mining plan was submitted by Willis R. Kelly, DBA Skyline Mining Company (mining contractor for the lessee), in October 1976, proposing entry through an incline near the southwest corner of the Ann No. 1 claim. The plan was approved, and development began later that month. Production began in December and continued through the fall of 1977, at which time the mine was shut down for lack of ore.

A second mining plan was submitted in June 1977 proposing entry through an adit along the rim of Summit Canyon on the Nucles claim. This plan was approved, and C.L. Starks (contractor for the lessee) began development work immediately. Production began in August and continued sporadically through May 1979, at which time Anschutz chose to cease operations.

A third plan was submitted in October 1977 proposing entry through an incline near the southwest corner of the Easton B claim. This plan was approved, and Sickles and Farmer (contractors for the lessee) began development work in December. Production started in January 1978 and continued into 1979, when the mine was closed down for lack of ore.

A fourth plan was submitted in July 1979 proposing to reopen and mine from the old Michael Bray workings. This plan was approved, and the mine was reopened in August. Production began almost immediately and continued through February 1979, when the miners were moved to the Sheila Mine on DOE Lease Tract C-SR-12.

The fifth plan was also submitted in July 1978; it proposed to reopen and mine from the old Frankie Mine. This plan was approved, and the mine was reopened in August. Production began in September and continued through May 1979, at which time Anschutz chose to cease operations and reclaim the various mining operations. The reclamation was approved, and the bond was returned in May 1985.

A total of 5,700 tons (5,200 metric tons) of ore, containing 26,000 lb (12,000 kg) of U_3O_8 and 156,000 lb (71,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $255,000.

1.3.18 ULP Lease Tract 16A

On Lease Tract 16A, the C-SR-16A mine is located in Sections 11 and 14, T 43 N, R 19 W, NMPM, in San Miguel County, Colorado. The original lease was executed effective July 23, 1974. A royalty bid of 27.37% payable on ores containing 30,000 lb (14,000 kg) of U_3O_8 secured the lease.

The initial mining plan was submitted in April 1975 proposing a small open-pit operation just north of the Keystone claim. The plan was approved, and development began in June. The initial shipment of ore was made to the General Electric ore-buying station near Naturita in August, and production continued for the next few months until the small ore body was mined out.

A second mining plan was submitted by S and Z Associates in October 1976 proposing two operations. The first operation would utilize an entry through an existing pit, and the second operation would gain entry through a new incline located east of the pit. The plan was approved, and development began in early November. Both mines continued in operation through September 1977, when production ceased due to a lack of developed ore reserves, and the mines were shut down. After Dynove Ltd. gained control, activities resumed from July to September 1978 and then again in October and November 1980.

A total of 3,500 tons (3,200 metric tons) of ore, containing 12,000 lb (5,400 kg) of U_3O_8 and 103,000 lb (47,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $138,000.

1.3.19 ULP Lease Tract 17

On Lease Tract 17, the C-WM-17 mine is located in Section 14, T 45 N, R 18 W, NMPM, in San Miguel and Montrose Counties, Colorado. The original lease was executed

effective July 23, 1974. A royalty bid of 36.20% payable on ore containing 30,000 lb (14,000 kg) of U_3O_8 secured the lease.

The initial exploration plan was submitted in November 1976 proposing a total of 44 drill holes. Three supplemental plans followed, proposing 102 additional holes. All plans were approved, and each project was essentially completed. Reclamation of drill sites has been completed. In April 2010, DOE received an exploration plan proposing a single exploratory drill hole in the north-central portion of the lease tract. DOE approved the plan, but drilling activities have been suspended until after the ULP PEIS is completed.

There have been no mining plans submitted for this lease tract, and no ore has been produced. Annual royalties paid for this lease tract total $35,000.

1.3.20 ULP Lease Tract 18

On Lease Tract 18, the C-SM-18 mine is located in Sections 21, 22, 26, 27, and 28, T 48 N, R 17 W, NMPM, Montrose County, Colorado (Figure 1.3-8). The original lease was executed effective April 18, 1974. A royalty bid of 15.60% payable on ores containing 1,300,000 lb (590,000 kg) U_3O_8 secured the lease.

A mining plan was submitted in March 1978 proposing entry through a 1,540-ft (470-m) decline in the northwestern portion of the lease. The plan was approved, and development began in late May. After numerous delays, the incline was bottomed in September 1979, and production began in December of that year. The initial shipment of ore was made in February 1980. Production continued until May, when Cotter Corporation announced a temporary shutdown of operations effective May 22, 1980. The mine was placed on standby status and remained so until 1990 when its permit status was revised to be intermittently active. In October 2000, Cotter Corporation submitted a reclamation plan for a portion of its mining operations on Lease Tract 18. The plan was approved by DOE in January 2001, and reclamation activities were completed in February. The mine portal and ventilation shaft were permanently sealed and closed; the dump for mine waste rock was recontoured to blend in with the surrounding, natural topography; and the disturbed areas were reseeded. The maintenance shop building was left intact to support Cotter Corporation's continuing operations on the lease tract.

In September 2004, Cotter Corporation submitted a new mining plan, proposing entry into the southern portion of the lease tract through the Wright Mine located on an adjacent, privately held, patented claim. DOE approved the plan in October 2004, and site preparation activities began almost immediately. Mining was initiated in the first quarter of 2005, and shipments of lease tract ore began in March. These shipments of lease tract ore from the mine continued into 2006. In 2008, Cotter Corporation installed a lysimeter downgradient of the mine site to determine whether near-surface soils or rock formations contain moisture that could affect (or be affected by) the mine site. The lysimeter is monitored monthly.

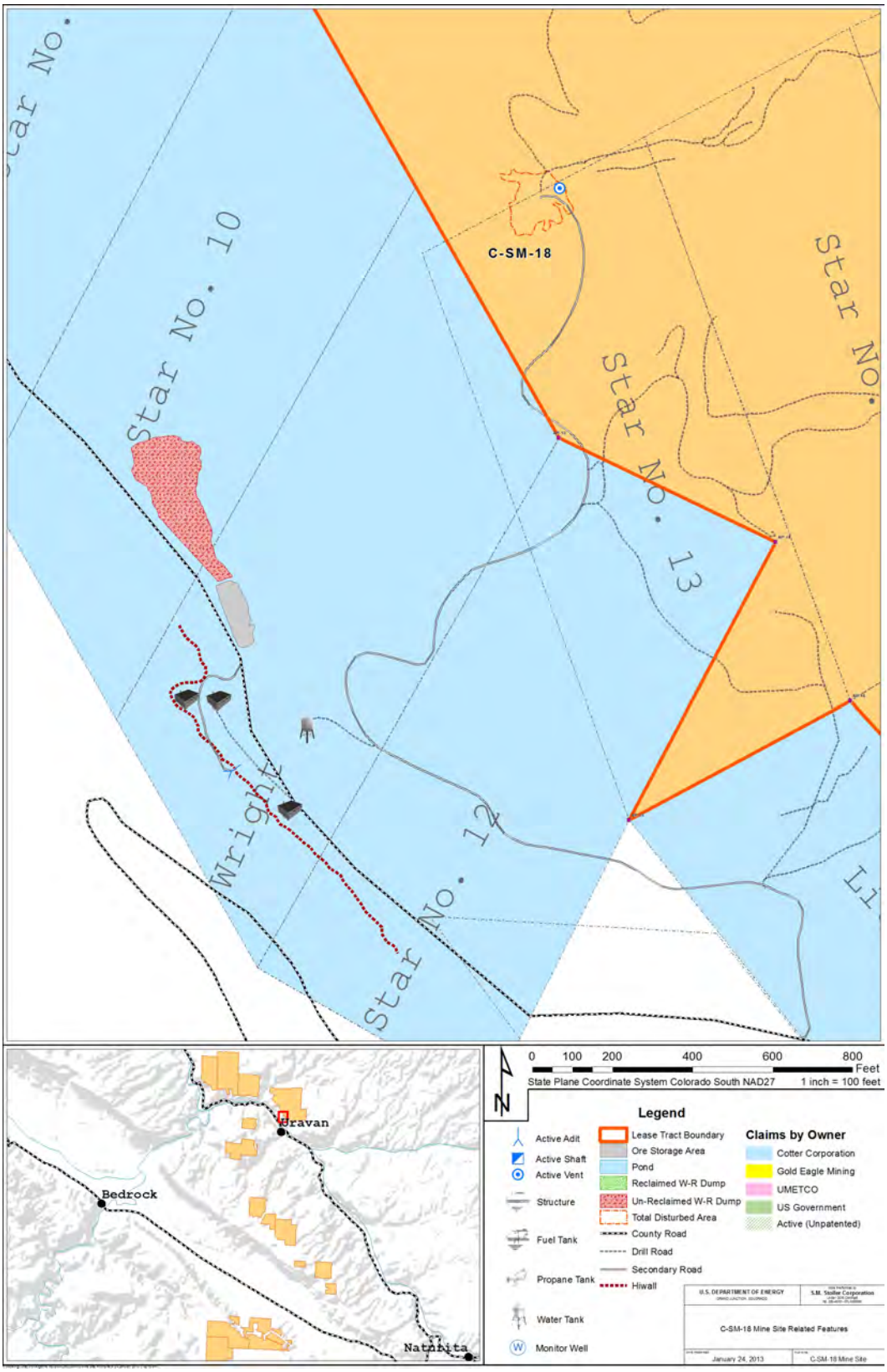

FIGURE 1.3-8 Location of C-SM-18 Mine on Lease Tract 18

A total of 27,000 tons (24,000 metric tons) of ore, containing 136,000 lb (62,000 kg) of U_3O_8 and 1,163,000 lb (528,000 kg) of V_2O_5, have been produced and sold from the mine. Royalties paid for this lease tract (production royalties plus annual royalties) total $1,950,000.

1.3.21 ULP Lease Tract 19

On Lease Tract 19, the C-AM-19 mine is located in Sections 13 and 24, T 48 N, R 18 W, NMPM, in Montrose County, Colorado. The original lease was executed effective April 8, 1974. A royalty bid of 27.76% payable on ores containing 2,800,000 lb (1,270,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in December 1974 proposing entry through a 1,200-ft (370-m) decline at 12%, located just within the southern boundary of the lease tract. The plan was approved, and development began in February 1975. The incline was bottomed in August 1976, and an escapeway was driven from the workings on the Fourth of July claim to the bottoming point. The new mine was called the King Solomon Mine. During 1977, the mine development to the north and west connected with the Worcester Mine and Cliff Dweller Mine, which lie adjacent to the unit on the southwest side.

Development work continued at the mine, as they drifted northward through the middle of the tract and along each side toward known ore bodies. Due to the vast area incorporated within the mine, 10 shafts that were 7 ft (2 m) in diameter were needed to provide adequate ventilation. Production continued uninterrupted through 1981. During 1982, production was reduced somewhat, while development continued on toward the north. Production continued sporadically through July 1990, at which time, mining ceased.

Following the termination of underground mining activities at the King Solomon Mine, two portals and 15 surface vent features associated with the mine complex were backfilled with waste rock and fully reclaimed during October and November 1997. In 1999, final reclamation and recontouring of waste-rock dumps associated with the King Solomon mine complex were completed. In April 2002, portions of the King Solomon Mine and Cliff Dweller Mine sites were reworked, pocked, and seeded. On August 11, 2005, final reclamation of the lease tract was approved by DOE, and the reclamation bond was returned in full.

A total of 920,000 tons (835,000 metric tons) of ore, containing 3,610,000 lb (1,640,000 kg) of U_3O_8 and 18,000,000 lb (8,200,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) totaled $30,000,000.

1.3.22 ULP Lease Tract 19A

On Lease Tract 19A, the C-AM-19A mine is located in Sections 18 and 19, T 48 N, R 17 W, NMPM, in Montrose County, Colorado. The original lease was executed effective

April 18, 1974. A royalty bid of 18.10% payable on ores containing 1,500,000 lb (680,000 kg) of U_3O_8 secured the lease.

The initial exploration plan was submitted in December 1975 proposing to drill a total of 144 holes. Two supplemental plans followed, proposing 90 additional holes. All plans were approved, and some 190 holes were drilled during the period from April 1976 to June 1979. Reclamation of drill sites has been completed.

There have been no mining plans submitted for this lease tract, and no ore has been produced. Annual royalties paid for this lease tract total $312,400.

1.3.23 ULP Lease Tract 20

On Lease Tract 20, the C-AM-20 mine is located in Section 20, T 48 N, R 17 W, NMPM, in Montrose County, Colorado. The original lease was executed effective April 18, 1974. A royalty bid of 19.60% payable on ores containing 800,000 lb (363,000 kg) of U_3O_8 secured the lease.

The initial exploration plan was submitted in August 1976 proposing a total of 157 holes to be drilled. Three supplemental plans followed, proposing 173 additional holes. All plans were approved, and some 177 holes were drilled during the period September 1976 through June 1980. Reclamation of drill sites has been completed.

There have been no mining plans submitted for this lease tract, and no ore has been produced. Annual royalties paid for this lease tract total $181,800.

1.3.24 ULP Lease Tract 21

On Lease Tract 21, the C-LP-21 mine is located in Sections 22 and 27, T 47 N, R 17 W, NMPM, in Montrose County, Colorado. The original lease was executed effective April 18, 1974. A royalty bid of 18.40% payable on ores containing 1,200,000 lb (544,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in March 1976 proposing entry through an 1,800-ft (550-m) incline at –15.5% located in the southwestern portion of the lease tract. The plan was approved, and Blake Mining Company (mining contractor for Cotter Corporation) began development in late May. The incline was bottomed in December 1977, with development continuing through August 1978. During this time, the mine workings were connected with workings on the Guadalcanal claim adjacent to the southern boundary line of the lease tract. The first ore was encountered in this area. The initial shipment of ore was made to Cotter Corporation's sample plant at Whitewater, Colorado, in October 1978. Production continued until May 1980, when Cotter Corporation announced a temporary shutdown of operations effective August 8, 1980. Blake Mining Company then increased production to ship all available ore.

In accordance with the terms of the lease, Cotter Corporation agreed to reclaim all pre-existing undesirable conditions resulting from activities conducted during prior leases. Cleanup work on the Virgin Shaft area was completed in December 1980.

In December 2002, Cotter Corporation submitted a reclamation plan for the C-LP-21 mine, which was approved with minor stipulations. Reclamation was completed the following year. On June 21, 2005, Cotter Corporation submitted a mining plan for Lease Tract C-LP-21, proposing to reopen the existing C-LP-21 mine. The plan was approved on August 1, 2005, and DOE established the reclamation performance bond for the operation at $48,000. To date, Cotter Corporation has taken no action on this proposal.

In 2008, in accordance with Colorado law, CDRMS reclassified all uranium mines within the state as designated mining operations, requiring the submittal of an EPP and a much more rigorous environmental review. Cotter Corporation submitted its EPP to CDRMS, and the document is currently being reviewed.

A total of 45,000 tons (41,000 metric tons) of ore, containing 176,000 lb (80,000 kg) of U_3O_8 and 1,236,000 lb (561,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $2,315,000.

1.3.25 ULP Lease Tract 22

On Lease Tract 22, the C-LP-22 mine is located in Sections 21 and 28, T 47 N, R 17 W, NMPM, in Montrose County, Colorado. The original lease was executed effective June 12, 1974. A royalty bid of 15.301% payable on ores containing 180,000 lb (82,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in September 1976 proposing entry through a 700-ft (210-m) incline at –7% located in the northwestern portion of the tract. The plan was approved, and development began in December. The incline was bottomed in March 1977, and a drift was advanced into the ore body. The initial ore shipment was made to the Atlas mill near Moab, Utah, on March 10, 1977. Mining continued through 1980, and the mine was connected with the First National Bank workings adjacent to the lease tract on the southwest side. Production continued as mine development progressed eastward toward other small ore bodies, but these were quickly depleted. The lack of ore reserves caused operations to cease on August 14, 1981. The C-LP-22 mine site was reclaimed later that year.

A total of 8,600 tons (7,800 metric tons) of ore, containing 40,000 lb (18,000 kg) of U_3O_8 and 203,000 lb (92,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $298,000.

1.3.26 ULP Lease Tract 22A

On Lease Tract 22A, the C-LP-22A mine is located in Sections 16, 17, 20, and 21, T 47 N, R 17 W, NMPM, in Montrose County, Colorado. The original lease was executed effective July 23, 1974. A royalty bid of 19.90% payable on ores containing 50,000 lb (23,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in July 1978 proposing entry through a 1000-ft (300-m) incline, collared in the northeast corner of the lease tract. The plan was approved, and Lark Washburn (mining contractor for Cotter Corporation) began development work in September. The incline was bottomed in January 1979, and development continued. The initial shipment was not made until October 1979 the ore was shipped to Cotter Corporation's sample plant at Whitewater, Colorado. Mining continued through May 1980, at which time Cotter Corporation announced a temporary shutdown of operations effective August 8, 1980.

In April 1981, following the approval of the sublease by DOE, Mendisco Mining Company reopened the mine. Production began almost at once; however, all ore was stockpiled at the mine until arrangements were made to toll the ore through the Energy Fuels mill at Blanding, Utah. The ore was shipped in December 1981, and mining continued through June 1982, when the mining contract was terminated.

Cotter Corporation officials assessed the lease tract operations to determine what actions, if any, were warranted. On the basis of that assessment, they decided to abandon several of the company's lease tract operations. A reclamation plan for the C–LP–22A mine was submitted in preparation for relinquishment of the lease. The plan was approved, and reclamation activities were completed in September 2000.

A total of 21,000 tons (19,000 metric tons) of ore, containing 84,000 lb (38,000 kg) of U_3O_8 and 532,000 lb (241,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $768,000.

1.3.27 ULP Lease Tract 23

On Lease Tract 23, the C-LP-23 mine is located in Section 36, T 47 N, R 17 W, NMPM, in Montrose County, Colorado. The original lease was executed effective June 12, 1974. A royalty bid of 33.51% payable on ores containing 375,000 lb (170,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in September 1976 proposing entry through a 1,070-ft (330-m) incline of –14% collared in the east-central portion of the lease tract. The plan was approved, and development began in October. The incline was bottomed in February 1977, and production began almost at once. The initial shipment of ore was made to the Atlas mill near Moab, Utah, on May 5, 1977.

Production continued through June 1978. Then the miners were moved to another mine controlled by the lessee to do development work. During the next few weeks, a portion of the incline caved in, and it was not until October that the damage was repaired. In December 1978, the mine was shut down altogether for economic reasons. Some contract miners resumed production in early 1980, but after 3 months, it was found to be too costly to continue, and the mine was shut down for the second and final time.

Reclamation of the C-LP-23 mine site was undertaken by DOE as part of the 1994 hazard mitigation activities. The snow shed within the decline was burned, and the decline was subsequently backfilled with available materials. The site was recontoured, covered with available surface soil materials, and reseeded.

A total of 8,100 tons (7,300 metric tons) of ore, containing 24,000 lb (11,000 kg) of U_3O_8 and 117,000 lb (53,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $665,000.

1.3.28 ULP Lease Tract 24

On Lease Tract 24, the C-CM-24 mine is located in Section 32, T 48 N, R 17 W, NMPM, in Montrose County, Colorado. The original lease was executed effective June 12, 1974. A royalty bid of 11.13% payable on ores containing 90,000 lb (41,000 kg) of U_3O_8 secured the lease.

The initial exploration plan was submitted in January 1977. The plan was approved, and a total of 39 holes were drilled. In April 2009, Energy Fuels Resources submitted an exploration plan to DOE proposing eight exploratory drill holes: three in the central portion and five in the southwest corner of the lease tract. DOE approved the plan on August 17, 2009, and the holes were drilled later that month. Down-hole logging results indicated that in two holes, the mineralization was of sufficient grade and thickness for them to be considered ore holes; one hole was mineralized; and the other five holes were blank (contained no mineralization). Reclamation of drill sites has been completed.

In March 1979, a mining plan proposing entry through a vertical shaft some 260 ft (80 m) deep was submitted, but the plan was deemed incomplete, and no action was taken, and consequently, no ore has been produced. No further activity has occurred on the lease tract.

Annual royalties paid for this lease tract total $52,000.

1.3.29 ULP Lease Tract 25

On Lease Tract 25, the C-CM-25 mine is located in Sections 5 and 6, T 47 N, R 17 W, NMPM, in Montrose County, Colorado. The original lease was executed effective July 23, 1974. A royalty bid of 25.10% payable on ores containing 600,000 lb (272,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in March 1978 proposing entry through an incline located east of the lease tract on the Surprise No. 1 claim controlled by Union Carbide. The incline would connect with the existing workings on Union Carbide's Mill No. 2 and Mill No. 4 claims. These workings are connected to existing workings on the lease tract that resulted from mining under ML-11. The plan was approved, and Robert Taylor, DBA Taminco, Inc. (mining contractor for Cotter Corporation), began sinking the incline in March 1978. The development drift crossed the boundary line of C-CM-25, Lease Tract 2, in July. Some ore was encountered immediately. The initial ore shipment was made to the Cotter Corporation sample plant at Whitewater, Colorado, on July 28, 1978. Cleanup work on the Barkley Mine area was done in October 1977, and work on the Shattuck Denn Mine area was done in June 1980.

Production continued intermittently with development for the next two years, during which time the mine was expanded to connect with the existing LaSalle workings in the east-central portion of Lease Tract 1. In May 1980, Cotter Corporation announced a temporary shutdown of operations effective August 8, 1980. Following this announcement, Robert Taylor (DBA Taminco, Inc.) increased production to ship all available ore before the deadline.

In December 2002, Cotter Corporation submitted a reclamation plan for the C-LP-21 mine, which was approved with minor stipulations. Reclamation was completed the following year.

In 2008, in accordance with Colorado law, CDRMS reclassified all uranium mines within the state as designated mining operations, requiring the submittal of an EPP and a much more rigorous environmental review. Cotter Corporation submitted its EPP to CDRMS, and the document is currently being reviewed.

A total of 14,000 tons (13,000 metric tons) of ore, containing 62,000 lb (28,000 kg) of U_3O_8 and 256,000 lb (116,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $863,000.

1.3.30 ULP Lease Tract 26

On Lease Tract 26, the C-G-26 mine is located in Sections 5 and 6, T 47 N, R 17 W, NMPM, in Montrose County, Colorado. The original lease was executed effective July 23, 1974. A royalty bid of 25.10% payable on ores containing 600,000 lb (272,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in May 1975 proposing entry through an adit located just up the draw from the New Verde Mine area. The plan was approved, and development began in June. Production began some time thereafter, and the initial shipment of ore was made to the Union Carbide Mill at Uravan, Colorado, on December 1, 1975.

During 1976 a drift was driven from a portion of the old New Verde Mine toward two ore holes drilled during the previous exploration program. The drift crossed the boundary line onto the lease tract in October, but production was delayed by surveying errors. Production from this

area began in July 1977 and continued through September, when operations ceased because of the lack of ore.

In September 2004, DOE completed the reclamation of the New Verde Mine site. The metal ore-bins were left intact, and the dump for mine waste rock was excavated back uphill out of the drainage (as much as practicable); recontoured to blend in with the surrounding natural topography; and then covered with surface soil materials and reseeded with a native seed mixture.

In September 2009, Energy Fuels Resources (EFR) submitted a reentry plan for the New Verde Mine to DOE, proposing entry through the small, northernmost portal. DOE approved the plan on October 9, 2009. On November 10, 2009, EFR personnel removed a small portion of the cinderblock bulkhead securing the portal, collected air-quality measurements for radon, and visually inspected the near-portal workings. In early August 2010, EFR submitted the Phase II reentry plan for the New Verde Mine to DOE for approval. DOE approved the plan on August 11, 2010. Later that month, EFR personnel removed a portion of the cinderblock bulkhead, securing the portal, and they visually inspected the applicable mine workings. EFR reported that the workings appeared to be in good condition. The portal was secured immediately after the assessment to preclude unauthorized entry.

When mining operations ceased on this lease tract, 1,231 tons (1,100 metric tons) of ore, containing 4,220 lb (1,900 kg) of U_3O_8 and 18,846 lb (8,600 kg) of V_2O_5, had been produced and sold from the lease tract mines. Royalties paid for this lease tract (production royalties plus annual royalties) totaled $12,878.

1.3.31 ULP Lease Tract 27

On Lease Tract 27, the C-G-27 mine is located in Sections 7 and 18, T 50 N, R 17 W, and Sections 12 and 13, T 50 N, R 18 W, NMPM, in Mesa County, Colorado. The original lease was executed effective June 12, 1974. A royalty bid of 10.231% payable on ores containing 140,000 lb (64,000 kg) of U_3O_8 secured the lease.

A mining plan was submitted in April 1975 proposing entry through the existing Mesa No. 5 Mine. Mining would be from the area west of the Mesa No. 5 and Ronnie No. 1 Mines, which were connected during previous operations. The plan was approved, and development began in mid-June. Production began in late June, and the initial shipment of ore was made to the General Electric ore buying station near Naturita, Colorado, on August 29, 1975. Production continued intermittently through July 1982.

A mining plan was submitted in September 1975 proposing to reopen and mine from the G-1 incline. The plan was approved, and the mine was reopened in early 1976. At that time, it was decided that the walls were too badly caved in to be of any use, and the project was terminated.

A mining plan for the area adjacent to the existing G-3 mine was submitted in July 1978. Entry was to be gained by a 700-ft (210-m) incline located northwest of the mine. The plan was approved, and development began in August. Following numerous delays, the incline was bottomed in ore during September 1980. Production began immediately and continued for the remainder of the year. During 1981 and 1982, production was sporadic, with development limited by the close proximity of the existing G-3 mine. In June 1982, the two mines were connected through a small opening; however, there was no production from the old mine because the grade of the ore was lower than expected.

A mining plan was submitted in July 1979 proposing to mine across the boundary from the Mineral Channel No. 12 claim located adjacent to the lease tract and controlled by the lessee. The plan was approved, and some production from this mine was noted in September.

In accordance with the terms of the lease, the lessee agreed to reclaim all pre-existing undesirable conditions resulting from the activities conducted. The contract included the G-1, 6-3, G-4, Ronnie No. 1, Ronnie No. 2, Calamity No. 14, Calamity No. 15, and Neglected Mine areas. Some cleanup work was performed during the summer of 1980.

A total of 16,000 tons (15,000 metric tons) of ore, containing 83,000 lb (38,000 kg) of U_3O_8 and 351,000 lb (159,000 kg) of V_2O_5, have been produced and sold from the lease tract. Royalties paid for this lease tract (production royalties plus annual royalties) total $490,000.

1.4 PURPOSE AND NEED FOR AGENCY ACTION

The underlying purpose and need for agency action is to support the implementation of the Atomic Energy Act (AEA), which authorized and directed DOE, among other things, to develop a supply of domestic uranium (42 U.S.C. § 2096), and "to issue leases or permits for prospecting for, exploration for, mining of, or removal of deposits of source material in lands belonging to the United States" to the extent that DOE deems it necessary to effectuate the provisions of the AEA (42 U.S.C. § 2097). Congress further recognized the importance of developing a supply of domestic uranium and other source material when it stated in the AEA, in its Congressional findings, that the processing of source material must be regulated "in order to provide for the common defense and security" (42 U.S.C. § 2012(d)). In addition, the Energy Policy Act of 2005 (Public Law [P.L.] 109-58) (EPAct) expressed a continued commitment to "decreasing the dependence of the United States on foreign energy supplies" (42 U.S.C. 16181(a)(3)); and to "[e]nhancing nuclear power's viability as part of the United States energy portfolio" (42 U.S.C. § 16271(a)(1)). The ULP contributes to the development of a supply of domestic uranium consistent with the provisions of the AEA and EPAct. In support of these statutes, DOE needs to determine the future course of the ULP, including whether to continue leasing some or all of the withdrawn lands and other claims (referred to as "DOE-managed lands") for the exploration and production of uranium and vanadium ores.

1.5 PROPOSED ACTION

DOE's proposed action is to decide whether to continue the ULP and, if it decides to continue the ULP, to determine which alternative to adopt in order to manage the ULP. DOE developed the range of alternatives by carefully considering DOE's underlying need for action and comments received during the public scoping period for the ULP PEIS.

1.6 SCOPE OF THE ULP PEIS

This ULP PEIS evaluates five alternatives for managing the ULP, for which there are 31 lease tracts located in Mesa, Montrose, and San Miguel Counties in western Colorado. These alternatives address the range of reasonable options, which involve (1) terminating the leases and conducting reclamation where needed, with DOE continuing to maintain oversight of the lands without uranium leasing; (2) terminating the leases and conducting reclamation where needed, relinquishing the lands for potential management by BLM and public domain lands, and terminating the DOE ULP; and (3) continuing the ULP with associated exploration, mine development and operations, and reclamation at some or all of the 31 lease tracts. At the time that the ULP PEIS was being prepared, 29 of the 31 lease tracts were actively held under lease, and the remaining 2 tracts had not been leased.

Of the 31 lease tracts, 11 are located in San Miguel County, 17 are located in Montrose County, 2 are located in Mesa County, and 1 is located in both San Miguel and Montrose Counties. The lease tracts vary in size from as small as 25 acres (10 ha) to as large as about 4,000 acres (1,600 ha).

The 29 active leases are held by five companies: (1) Golden Eagle Uranium, LLC; (2) Cotter Corporation; (3) Gold Eagle Mining, Inc.; (4) Colorado Plateau Partners; and (5) Energy Fuels Resources Corporation.

The ULP PEIS evaluates the three mining phases associated with the underground and surface open-pit mining methods. These phases are the exploration phase, mine development and operations phase, and reclamation phase. Resource areas evaluated are discussed in Chapter 2. The evaluation discussed in the ULP PEIS incorporates site-specific information available regarding the ULP lease tracts (e.g., current status, previous mining operations that occurred, and other environmental information). In addition, as of now, there have been no new mine plans (i.e., for exploration, mine development and operations, or reclamation) submitted to DOE by the lessees; the location of where new, future, potential mining would take place and other associated details are not currently known. Hence, the evaluation conducted in the ULP PEIS also incorporates assumptions for developing a reasonable scenario that could represent an upper bound level of possible future mining activity for each of the alternatives, as appropriate. These assumptions are discussed in Chapter 2.

1.7 NEPA PROCESS FOR THE ULP PEIS

During the preparation of the ULP PEIS, opportunities for public participation have been and are being provided (see Figure 1.7-1). After the ULP PEIS is completed and at least 30 days after the EPA issues a notice of availability of the Final ULP PEIS, DOE may issue a Record of Decision (ROD) announcing DOE's selection of an alternative for the continued management of the ULP. Section 2.6 of the ULP PEIS identifies DOE's preferred alternative (Alternative 4, to continue with exploration, mine development and operations, and reclamation on the 31 DOE ULP lease tracts for 10 years or another reasonable time period). After the ROD is issued, as plans (for exploration, mine development and operation, or reclamation) are submitted by the lessees to DOE for approval, further NEPA review for a given action would be conducted. The level of follow-on NEPA review to be done (e.g., categorical exclusion determination, environmental assessment, or environmental impact statement) would depend on the action being proposed by the lessees, as indicated in the plans submitted. For mining plans to be submitted for approval, DOE will require, at a minimum, an environmental assessment (EA) with appropriate public involvement to be prepared to further evaluate potential site impacts. This NEPA review would be conducted to inform DOE's decision on approval of the plans, including the conditions DOE would require to mitigate potential impacts. As discussed in Section 1.2.1 (where requirements of current leases are summarized), no activity can be undertaken by the lessees until DOE has approved the plans or otherwise acted on the plans. DOE's review would be conducted in consultation with Federal, state, local agencies, and tribal entities for site-specific actions, as appropriate. Public participation on the follow-on NEPA review would occur in a manner consistent with the level of review conducted and with DOE and CEQ regulations. Section 1.7.1 discusses the public scoping process for the ULP PEIS. Section 1.7.2 discusses the public comment process for the ULP PEIS.

FIGURE 1.7-1 NEPA Process for the ULP PEIS

1.7.1 Public Scoping Process

Consistent with CEQ requirements (40 CFR 1501.7) and DOE NEPA implementation procedures (10 CFR 1021.311), an early and open scoping process was carried out to determine the scope of the PEIS and identify significant issues related to the proposed action. An NOI was issued for public review, and a public scoping process was conducted. Public participation was also solicited for the review of the Draft ULP PEIS during the public comment period. NEPA requires that comments on the Draft PEIS be evaluated and considered during the preparation of the Final PEIS and that a response to comments be provided.

The NOI (76 FR 36097) to prepare the ULP PEIS was issued on June 21, 2011, and a supplemental notice (76 FR 43678) was issued on July 21, 2011, to announce the four public scoping meetings and their locations and to announce the extension of the public scoping period to September 9, 2011. Public scoping meetings were held in Montrose, Telluride, and Naturita in Colorado and in Monticello, Utah.

In addition to presenting comments at the scoping meetings, stakeholders were also able to mail comments directly to DOE or submit comments through the project web site (http://ulpeis.anl.gov/). A total of 287 unique "comment documents" were submitted by individuals, organizations, and government agencies to provide comments on the scope of the PEIS. A comment document is a written document, an e-mail submission, or an oral presentation given during a scoping meeting that provides comments on the scope of a PEIS. A single comment document may contain multiple comments on one or more issues. There were 61 comment documents provided at the scoping meetings; 164 were mailed to DOE (counting both e-mails and regular mail), and 62 were submitted electronically through the project web site. Of these comment documents, 8 were received from Federal, state, or local government agencies, with the remainder being from individuals or other organizations. Comment documents were received from 13 states; of the 262 comments for which a state of origin was identified, approximately 88% were from Colorado within the potentially affected areas.

Comments received during the public scoping period focused on whether or not the ULP or uranium mining at the lease tracts should be continued. Representative comments and DOE responses are provided as follows. The first set of comments (Section 1.6.2) consists of those comments determined to be within the PEIS scope, and the second set (Section 1.6.3) consists of those determined to be outside the scope of the ULP PEIS. A detailed discussion on the comments received is presented in Appendix B.

1.7.1.1 Comments Considered Within the ULP PEIS Scope

- *The current leases should be terminated and reclamation conducted, after which uranium mining should not be conducted on the lands. The lands could be restored to the public domain under BLM oversight and the DOE ULP terminated.*

  Alternatives 1 and 2 evaluated in the ULP PEIS address this comment. Under Alternative 1, all leases on the 31 lease tracts would be terminated, and reclamation would be conducted where needed. The lands would then be maintained per DOE oversight without leasing for uranium mining. Alternative 2 evaluated in the ULP PEIS is similar to Alternative 1, except once reclamation was completed by lessees, DOE's jurisdiction would return to BLM, if approved by the U.S. Department of the Interior (DOI)/BLM (in accordance with 43 CFR § 2372.3). If approved, the land would be managed by BLM under its multiple use policies. DOE's uranium leasing program would end.

- *DOE should continue with the ULP and continue to make the 31 lease tracts available for exploration, mine development and operations, and reclamation, as was the case before the preparation of the PEIS was initiated.*

  Alternatives 4 and 5 evaluated in the ULP PEIS address this comment. Under Alternative 4, DOE would continue the ULP with the 31 lease tracts for the next 10-year period or for another reasonable period. Alternative 5 is similar to Alternative 4 except that the lease period is limited to the remainder of the current 10-year lease period, and the leases would continue exactly as they were issued in 2008.

- *DOE should prohibit any further mining or exploration until reclamation has been completed on existing or old leases.*

  As mentioned above, reclamation would be conducted where needed as part of the alternatives evaluated in the ULP PEIS. In addition, all legacy mine sites located on the DOE lease tracts have already been reclaimed.

- *DOE should stipulate protection of the Dolores and San Miguel River watersheds.*

  The preferred alternative includes a requirement for future mines to be at least 0.25 mi (0.40 km) from the Dolores River. The San Miguel River is about 0.3 mi (0.54 km) from the closest lease tracts. The evaluation for water quality discussed in the ULP PEIS (as summarized in Section 2.4) considers both the Dolores and San Miguel Rivers.

- *Potential impacts from uranium mining at the DOE ULP lease tracts on air quality, water quality, human health, socioeconomics, transportation, views from sensitive areas, and cultural resources should be evaluated.*

  Chapter 4 of the ULP PEIS analyzes the potential impacts associated with human health and environmental resource areas listed. Potential impacts on noise, soil resources, land use, ecology, environmental justice, and waste management are also analyzed.

- *DOE should undertake its duties under Section 7 of the ESA.*

  DOE engaged in consultation with the USFWS pursuant to Section 7 of the ESA. Both a biological assessment (BA) and a biological opinion (BO) have been completed and are presented in Appendix E. Chapter 6 of the ULP PEIS presents a summary of this consultation.

- *DOE should collaborate with other agencies, including the CDRMS, BLM, and EPA.*

  DOE is collaborating with various agencies, including CDRMS, BLM, and EPA, on this PEIS process. Section 1.10 presents a list of the cooperating agencies and the commenting agencies.

- *The review and approval process must include a site-specific NEPA review for each proposed mining operation.*

  The ULP PEIS utilizes site-specific data that are available and contains in Section 1.7 a discussion of the NEPA process that would be conducted once site-specific and project-specific mine plans were submitted by the lessees to DOE for review and approval.

- *Include impacts from the release of radioactive and other toxic materials into the atmosphere from mining and milling operations.*

  Chapter 4 of the ULP PEIS addresses the potential impacts from the release of material associated with the ore production. Although potential impacts of milling operations are outside the scope of the proposed action, the transportation of ore generated from the ULP lease tracts to the mills and the cumulative impacts from the mills are evaluated in Chapter 4.

- *Address the long-term impacts on human health, livestock, and wildlife, including food sources, both locally and regionally, due to mining and milling activities. The PEIS must consider health effects of mining and milling, including cancer incidence, on the human population in towns neighboring the mining operation, workers, and local residents.*

  The analyses of impacts on human health and ecological resources (on livestock and wildlife) address the concern about potential impacts from mining operations. The analysis of human health impacts in Chapter 4 considers the population within a 50-mi (80-km) radius of the lease tract. This region of influence (ROI) was selected to assess the potential impact on the population as a whole (i.e., for collective dose evaluation). At this distance, the individual doses would have dropped to negligible levels (<0.1–0.2 mrem/yr), which supports that the selection of 50 mi (80 km) as the ROI is conservative. The analysis for potential impacts on ecological resources addresses resources in the three counties that encompass the 31 lease tracts. The cumulative impacts evaluated in the ULP PEIS (see Section 4.7) address a 50-mi (80-km) radius of the lease tracts and include the White Mesa and Piñon Ridge Mills.

1.7.1.2 Comments Considered Outside the ULP PEIS Scope

- *Because of unstable uranium markets and the uncertainty of future commercial development of nuclear power facilities, uranium should be preserved for the future use by the American people until it becomes critical for national strategic energy purposes.*

  Analyses of future uranium markets, and the future commercial development of nuclear power facilities, are not within the scope of the purpose and need for DOE's action (described in Section 1.4 of the ULP PEIS). See also Section 1.7.3.6.

- *Analyze a No Action Alternative that would allow the leases to lapse with no reclamation conducted.*

  The option of not performing reclamation when leases lapse or are terminated is not consistent with the requirements of the leases, the ULP, and applicable laws and is therefore not considered a reasonable alternative to evaluate in the ULP PEIS.

- *Analyze the economic benefits of fully reclaiming and rehabilitating all Federal and state lands in the Uravan Mineral Belt and compare that to the economic benefit of maintaining the existing uranium leases over the next 5 years.*

  The economic study suggested is not relevant and is considered outside the scope of the ULP PEIS. It does not meet the purpose and need for DOE's action (described in Section 1.4 of the ULP PEIS).

- *Include an alternative that requires old, inactive, and/or abandoned mines to be reclaimed before new leases are granted or any new mines are established.*

  DOE has reclaimed all abandoned mines within its purview. The 29 leases that currently exist have been in place since 2008, and all mining activities are currently on hold until the completion of this PEIS process.

1.7.2 Public Comment Process

A Notice of Availability (NOA) for the Draft ULP PEIS was published in the *Federal Register* on March 15, 2013 (78 FR 16483), and this began a 60-day public comment period that was to end on May 16, 2013. This comment period was later extended to May 31, 2013 (78 FR 23926), and it was subsequently re-opened on June 3, 2013 (78 FR 33090), with a closing date of July 1, 2013. The public comment period, including the extension and the re-opening, lasted 109 days. All comments received on the Draft ULP PEIS were considered in the preparation of the ULP PEIS and are presented in Section I.4 of Appendix I.

An important part of the NEPA process involves giving the public the opportunity to provide input and comments on a Draft PEIS for consideration in the preparation of a Final PEIS. DOE issued the Draft ULP PEIS for review and comment by other Federal agencies, states, American Indian tribal governments, local governments, and the public. DOE distributed copies to those organizations and government officials known to have an interest in the PEIS and to those organizations and individuals who requested a copy. Copies were also made available on the project web site (http://www.ulpeis.anl.gov/), the DOE NEPA web site (http://energy.gov/nepa/), and in regional DOE public document reading rooms and public libraries. Announcements indicating the availability of the Draft ULP PEIS and the dates and times of the public hearings were published in local newspapers (see Table 1.7-1).

Each of the public hearings started with an open house that lasted about half an hour, with posters that explained the NEPA process and the alternatives and evaluations presented in the ULP PEIS. Copies of the Summary document and presentation were also made available to the public. Subject matter experts were on hand to answer any questions the public may have had as they viewed the poster display.

After the open house, DOE gave an overview of the Draft ULP PEIS, and attendees were given an opportunity to provide oral and written comments. Each oral comment presentation, recorded by a court reporter as part of the hearing transcript, was considered as a comment document. Written comments submitted by individuals during the hearings were likewise considered to be comment documents. The transcripts for the four hearings are posted on the project web site.

DOE received a total of 258 comment documents, which accounted for approximately 1,200 individual comments. Of the 258 comment records received, 18 were from organizations or Federal or state agencies and 240 were from private citizens. Written comments were received via letter, email, or through submission of a comment form provided at the public hearings or on the project web site. Oral comments are included in transcripts documenting each of the public hearings held on the Draft ULP PEIS. DOE has identified nine topics of interest based on the comments that were most frequently received and/or the comments that indicated a broad public concern. These topics are summarized in Section 1.7.3. See Appendix I for the complete comment response document.

TABLE 1.7-1 Draft ULP PEIS Public Hearing Locations in Colorado, Dates, and Attendance

Location	Date	Attendance
Grand Junction	April 22, 2013	52
Montrose	April 23, 2013	40
Telluride	April 24, 2013	54
Naturita	April 25, 2013	22

1.7.3 Nine Topics of Interest Based on Public Comments Received

The order in which topics are presented and discussed here does not indicate importance of one topic over another.

1.7.3.1 PEIS analyses need to be more site-specific and more robust in scope. Assumptions used need to be supported with citations.

Topic Summary: Commenters said that the analyses performed in the PEIS to estimate the impacts of the program were inadequate. Many commenters asserted that the assumptions made to support the analysis are arbitrary and not supported by citations. Commenters requested that more site-specific data be included and evaluated so that conclusions presented can better support site-specific decisions.

Many commenters were specifically concerned about the adequacy of the evaluations of the impacts on human health, air quality, noise, water quality and water supply, endangered species, socioeconomics, and transportation. Specifically, the concerns expressed were the following: (1) human health impacts from exposure to potentially uranium-contaminated "red-colored" dust some 50 or so mi (about 80 km) away from the ULP lease tracts; (2) climate change impacts; (3) the Colorado River Basin and the impacts of the proposed action on water quantity, water quality, and endangered Colorado River fish species; and (4) impacts on the recreational activities that many people in the area enjoy, and the effects from a boom-and-bust economy that might be created by the proposed action.

Discussion: The evaluations conducted for the PEIS were based on site-specific information (see Section 1.3 for a summary of this information). The information is adequate to support the alternatives evaluated and for making fully informed decisions relative to any of the alternatives. Although site-specific information for future mines is not available until the lessees submit specific mine plans, information is available from past mining activities (e.g., cultural resources, threatened and endangered species, waste-rock and ore characteristics, and transportation practices and routes) and is sufficient for supporting the analyses of potential impacts from future mining activities for the five alternatives, including a thorough cumulative effects analysis.

The results of the evaluation (which incorporate site-specific information) are discussed in detail in Chapter 4 and summarized in Sections 2.4.2 to 2.4.13 and Tables 2.4-4 to 2.4-9). The PEIS was revised to add citations where necessary to indicate the sources for information used in the PEIS analyses, including the sources consulted for developing the assumptions that were used.

The human health analysis of the inhalation of dust pathway addressed potential impacts from dust that could originate from the lease tracts. The analysis took into account the emission potential and wind direction. This analysis (discussed in Section 4.3.5.3) indicates that inhalation of dust is not a significant pathway and does not pose a health concern; that is, the potential

cancer risk to an individual in Telluride would be much lower than 1×10^{-6}/yr, based on the estimates of risks presented in the PEIS, at a distance of 3.1 mi (5,000 m) from the lease tracts and the much longer distance (greater than 3.1 mi [5,000 m]) from the lease tracts to Telluride.

Climate change was evaluated in the PEIS (see Sections 4.1.1, 4.2.1, 4.3.1, 4.4.1, and 4.5.1) in terms of greenhouse gases (GHGs) generated by the ULP proposed action for the five alternatives, respectively. The results indicate that under all alternatives, the maximum potential GHG emissions attributable to the ULP would be small. For perspective, ULP GHG emissions would comprise a very small percentage of both Colorado and U.S. GHGs generated (up to 0.03% and 0.0005%, respectively). U.S. GHG emissions account for about one-fifth of global GHG emissions, and GHG emissions from the ULP proposed action would contribute up to about 0.0001% more. The amount of GHGs generated is generally used as a measure of the potential impacts on climate change. ULP operations followed by power generation at nuclear power plants would result in considerably smaller amounts of criteria and toxic air pollutants and GHG emissions than would otherwise be released from fossil power plants. The text in the PEIS has been revised (see the same sections mentioned previously) to explain further how potential impacts from climate change were determined for the PEIS and what the results mean.

The evaluation of potential transportation impacts presented in this PEIS was done in consultation with the Colorado Department of Transportations as reflected in Chapter 4 (see Section 4.3.10 and Table 4.6-1).

The potential impacts to water depletion in the Upper Colorado watershed are evaluated in this PEIS; and DOE has consulted with the USFWS with regards to how this water depletion would potentially impact the Colorado four endangered fish species. PEIS text has been revised to be consistent with the BA and BO (see Appendix E and Section 4.3.6.4).

DOE has initiated programmatic consultation, in compliance with Section 106 of the NHPA, concerning DOE's management of the ULP. Section 106 of the NHPA requires Federal agencies to consider the effect of their undertakings on historic properties and to consult with the appropriate SHPO, American Council on Historic Preservation (ACHP), and other parties that have an interest in the effects of the undertaking on historic properties. For the ULP, per the procedure that has historically been and is currently still being carried out, DOE has addressed consultation through the BLM and the lessees on specific undertakings when ULP activities/plans have been proposed. However, since the NHPA allows for the utilization of a programmatic agreement (PA) to govern large or complex projects, and since PAs can be used when effects on historic properties are expected to be similar and repetitive or regional in scope or when these effects cannot be fully determined prior to approval of an undertaking, DOE has initiated the development of a PA for the ULP. DOE initiated discussion with the BLM and the Colorado SHPO on May 30, 2013. The PA will be revised to address input and review from the consulting parties, and then routed to the responsive parties for concurrence. DOE-LM plans to have the PA in place before issuance of the ULP PEIS ROD.

See also Section 1.7.3.2 for an additional discussion regarding the potential for creating a boom-and-bust economy from uranium mining in the area.

1.7.3.2 Support Alternative 1, which states that DOE would terminate all leases, and all operations would be reclaimed by lessees. DOE would continue to manage the withdrawn lands, without uranium leasing, in accordance with applicable requirements.

Topic Summary: Commenters requested that the ULP be terminated and that lessees be required to reclaim their operations on their respective lease tracts. Commenters cited concerns over natural resources, cultural resources, human health, transportation, and visual impacts of uranium mining in Colorado for Alternatives 3, 4, and 5.

Many commenters noted that uranium mining is hazardous for human health and the environment. They identified concerns about the radioactivity of waste rock piles and the safety of workers and nearby residents. They also noted that mining is harmful to the environment, likely to adversely affect air and water quality, and may disturb cultural resources. A few commenters also noted that mining conflicted with multiple use policies and should not take place on public lands.

They also noted that mining for uranium creates a boom-and-bust economic cycle and that it would be preferable to promote economic growth based on more sustainable resources (e.g., encourage tourism-based economic growth by promoting natural resources and aesthetics). Some other commenters expressed concerns about potential increases in traffic, noise, dust, and the carbon footprint.

Finally, some commenters asserted that additional uranium mining was unnecessary because the United States already has a robust supply of uranium and is able to import inexpensive uranium from countries like Canada and Australia.

Discussion: DOE has evaluated the range of reasonable alternatives to meet the purpose and need discussed in Section 1.4. After carefully considering all public comments and the results of the PEIS evaluation, DOE has retained Alternative 4 as the preferred alternative in this PEIS. See the detailed discussion regarding the purpose and need in Section 1.7.3.4 that follows.

The PEIS evaluation for potential impacts from the five alternatives as discussed in Chapter 4 (the impacts are also summarized in Section 2.4) concludes that potential impacts on the resource areas (including natural resources, cultural resources, human health, transportation, and visual impacts) evaluated for the five alternatives generally would be negligible to moderate and could be further minimized by implementing the compliance and mitigation measures and/or best management practices (BMPs) described in Section 4.6 and Table 4.6-1. All three phases of mining (exploration, mine development and operations, and reclamation) were evaluated for Alternatives 3, 4, and 5, while only reclamation was evaluated for Alternatives 1 and 2, since these two alternatives do not include continued future uranium mining. See also discussion in Section 1.7.3.1.

With regard to concerns about boom-and-bust economic cycles, the large-scale development of uranium resources in the three-county area could mean the in-migration of workers and their families from outside the region, producing a boom-and-bust scenario with rapid growth in the population and economy, followed by equally rapid economic contraction, unemployment, and out-migration. However, it is likely that all workers required for the mining and reclamation activities analyzed in the PEIS would come from within the three-county area. Thus, with no demographic impacts likely to occur, given the relatively small scale of development under each of the alternatives, no boom-and-bust scenario would be likely to affect either low-income and minority populations or the general population. In addition there is no evidence to suggest that activities under the proposed ULP would have a negative effect on recreation tourism.

1.7.3.3 Support Alternative 4, which is DOE's preferred alternative identified in the ULP PEIS. Under Alternative 4, DOE would continue the ULP with the 31 lease tracts for the next 10-year period or for another reasonable period.

Topic Summary: Many commenters voiced support for Alternative 4, under which DOE would continue the ULP with the 31 lease tracts for the next 10-year period or for another reasonable period. DOE identified Alternative 4 as its preferred alternative. Commenters cited their support of uranium mining and the need to secure uranium resources. They also said that the jobs created by the mining industry were beneficial to the region and its inhabitants. They noted their support for the PEIS procedures and noted that the environmental impact analysis was robust. These commenters said that the uranium mining was safe and had a low environmental impact and that the lessees were good stewards of the environment. They mentioned that it would be preferable to mine uranium in the United States, where environmental regulations are stringent and enforced. Finally, they noted that nuclear energy is an important source of domestic energy production.

Discussion: DOE has carefully considered all public comments and the results of the ULP PEIS evaluation and has identified Alternative 4 as its preferred alternative in this ULP PEIS. The potential impacts discussed in Chapter 4 are summarized in Sections 2.4.1 to 2.4.13 and in Tables 2.4-4 to 2.4-9. See also the discussion in Section 1.7.3.1. DOE believes that uranium mining activities at the ULP lease tracts can continue to be conducted in a manner protective of the environment and public health, as supported by the ULP PEIS analyses and results obtained. For Alternative 4, mine development and operations could create about 229 direct jobs and 152 indirect jobs, generating about $14.8 million in income. Average unemployment for Mesa, Montrose, and San Miguel Counties for 2011 was reported to be about 10.3%, 11%, and 7.6%, respectively (see Section 3.8.1.1). See also the discussion in Section 1.7.3.4 that follows regarding concerns about the purpose and need discussed in Section 1.4 of the ULP PEIS.

1.7.3.4 Concern for NEPA-related issues, such as the appropriateness and adequacy of the purpose and need described in the ULP PEIS; the adequacy of the range of alternatives presented and evaluated; and the need for more specific information to assure that appropriate follow-on NEPA reviews will be conducted as specific mine plans are submitted for DOE approval.

Topic Summary: Many commenters identified NEPA issues in their submissions. Many commenters said that the purpose and need as identified in the PEIS was inadequate. For example, some commenters noted that DOE had oversimplified the Purpose and Need Statement, and, as such, the alternatives identified in the PEIS were not in compliance with Congressional legislation. Some commenters stated that the purpose and need requires an expansion of the scope of the PEIS. Other commenters noted that the alternatives identified in the PEIS did not support the Purpose and Need Statement or that the Purpose and Need Statement was inappropriate. For example, one commenter noted that the Purpose and Need Statement inappropriately focuses on the need to develop these reserves rather than on an analysis of whether it is the prudent time to develop these reserves. Commenters requested that the Purpose and Need Statement be clarified in the Final ULP PEIS.

Many other commenters mentioned that the alternatives identified in the ULP PEIS were inadequate. For example, some commenters requested that a reclamation alternative, in which the ULP is terminated and all disturbed areas are reclaimed, be added to the ULP PEIS. Other commenters requested that an alternative that would keep the uranium ore in place until demand is evident be included in the ULP PEIS. This alternative would call for current uranium demand and prices, as well as projections of future uranium demand and prices, to be considered in determining the number of lease tracts that are developed. Commenters requested that these alternatives be included in the Final ULP PEIS.

Some commenters said that the ULP PEIS fails to satisfy NEPA because additional follow-on NEPA review will not be required for future actions on the ULP lease tracts due to the categorical exclusions provided under the program. To protect Federal lands, these commenters requested that further NEPA reviews, or, at a minimum, an environmental assessment (EA), be performed for future action on the lease tracts. Commenters said that that site-specific data should be used to document the condition of the sites and the cumulative impacts of the program and that future NEPA reviews consider a detailed analysis of the site-specific conditions and foreseeable activities.

Other commenters voiced concerns about public participation in the ULP PEIS process. Some commenters said that the public was not given sufficient time to comment on the PEIS documents. Many commenters requested that the PEIS be re-done and re-released with these issues addressed.

Discussion: DOE does not agree with the comments alleging that the purpose and need for the proposed action requires expansion of the scope of the PEIS. As explained in PEIS Section 1.4, “Purpose and Need for Agency Action,” the underlying purpose and need for agency action was

established by the U.S. Congress in two provisions of the Atomic Energy Act (AEA): 42 U.S.C. § 2096, which authorized and directed DOE, among other things, to develop a supply of domestic uranium; and 42 U.S.C. § 2097, which authorized DOE "to issue leases or permits for prospecting for, exploration for, mining of, or removal of deposits of source material [including uranium ore] in lands belonging to the United States to the extent DOE deems necessary to effectuate the provisions of the AEA."

The purpose and need for agency action, as described in PEIS Section 1.4, is to support the implementation of those two AEA provisions. Section 1.4 recognizes that in order to support those provisions, "DOE needs to determine the future course of the ULP, including whether to continue leasing some or all of DOE's withdrawn lands and other claims . . . for the exploration and production of uranium and vanadium ores." PEIS Section 1.6, "Scope of the ULP PEIS," therefore describes the scope of its analysis as the evaluation of the five alternatives for managing the ULP, and the evaluation of "the three mining phases associated with the underground and surface open-pit mining methods," which "are the exploration phase, mine development and operations phase, and reclamation phase." Therefore, the AEA provisions are consistent with the present scope of the ULP PEIS, and do not require that the scope be expanded beyond the ULP to analyze the entire nuclear fuel cycle. Further, no DOE decision to be based on this PEIS would change the nation's use of nuclear fuels, including use of nuclear power reactors and management of associated radioactive materials. These and other aspects of the back end of the nuclear fuel cycle are the subject of numerous other NEPA reviews, including many EISs prepared by the Nuclear Regulatory Commission.

The DPEIS's Purpose and Need section, in addition to citing the AEA, also cited the Energy Policy Act of 2005, Public Law 109-58 (EPACT), and stated that EPACT "emphasized the reestablishment of nuclear power (Sections 601 through 657)." Comments alleged that the DPEIS thereby expanded the purpose of the proposed action "through a suggestion that the 2005 Energy Policy Act calls for more nuclear energy," and that the scope should be expanded to include the nuclear fuel cycle for that reason. It was not DOE's intent to make that suggestion in the DPEIS. The cited EPACT sections 601 through 657 constitute EPACT's Title VI, entitled "Nuclear Matters," which addressed various nuclear matters and amended several sections of the AEA. However, EPACT's Title VI did not "call for more nuclear energy," or amend the two provisions of the AEA that the DPEIS cited in the beginning of its Purpose and Need Section: 42 U.S.C. §§ 2096–2097. In order to avoid any confusion regarding the interpretation of the DPEIS's references to EPAct, DOE has amended the Purpose and Need section of this PEIS, in Section 1.4, to explain that Congress expressed, in EPAct, a continued commitment to "decreasing the dependence of the United States on foreign energy supplies" (42 U.S.C. 16181(a)(3)); and to "[e]nhancing nuclear power's viability as part of the United States energy portfolio" (42 U.S.C. §16271 (a)(1). The development of a supply of domestic uranium supports the provisions of the AEA and the EPAct. However, the development of a supply of domestic uranium is separate and distinct from the future utilization of nuclear energy during the entire nuclear fuel cycle. The ULP is related to uranium supply, rather than to future use, which is dependent upon the exact level of future demand for nuclear energy and is therefore uncertain and speculative. The development of a domestic uranium supply, as authorized and directed by Congress in the AEA, enables DOE to support future demand that is uncertain at the present time, whatever its exact level may turn out to be in the future.

Alternative 1 evaluated in the Draft PEIS does provide a localized, in depth analysis—this alternative involves the termination of the leases with reclamation at any areas requiring such. DOE's land withdrawal relates to the extraction of uranium and vanadium resources from the ULP lease tracts. As such, developing alternative energy is outside the scope of the ULP.

DOE does not agree with comments that the Purpose and Need Statement must specify the lessees' mitigation requirements; however, the PEIS does contain a robust discussion of mitigation requirements (see Section 4.6).

Regarding comments about follow-on NEPA reviews, the Draft PEIS stated in Section 1.7: "After the ROD [Record of Decision] is issued, as plans (for exploration, mine development and operation, and reclamation) are submitted by the lessees to DOE for approval, further NEPA review for a given action would be conducted. The level of follow-on NEPA review to be done (e.g., categorical exclusion determination, environmental assessment, or environmental impact statement) would depend on the action being proposed by the lessees, as indicated in the plans submitted. This NEPA review would be conducted to inform DOE's decision on approval of the specific plans, including the conditions DOE would require to mitigate potential impacts." Based on the comments received, Section 1.7 has been revised to state that for all future mining plans submitted for approval, DOE will require, at a minimum, an EA with appropriate public involvement to be prepared to further evaluate potential site-specific impacts. DOE will issue categorical exclusion determinations for classes of actions such as routine maintenance activities that DOE has determined by regulation do not have the potential to result in significant environmental impacts. DOE makes its categorical exclusion determinations publicly available on the internet.

Although some commenters said the public was not given sufficient time to comment on the Draft PEIS, DOE provided over twice the mandatory duration. The 60-day comment period initially provided exceeded the required 45-day comment period. The comment period was extended twice, so that the final comment period lasted for 109 days.

After deliberation, DOE determined that re-issuing of the ULP PEIS is not necessary. DOE has adequately evaluated the range of reasonable alternatives, and the information and analysis in the PEIS are adequate for all of the alternatives (see Chapter 4). DOE has reviewed the public comments and, while DOE has made revisions to the document in response to comments, DOE has not made substantial changes to the proposed action and no new significant information has been discovered so as to warrant issuing a revised Draft ULP PEIS.

1.7.3.5 Reclaim and clean up previously mined sites; conduct reclamation of mined locations during long periods of inactivity.

Topic Summary: Many commenters said that previously disturbed mining sites should be reclaimed before any new mining moves forward. Commenters said that cleanup would provide the region with many more jobs and lead to higher economic growth than that realized from

uranium mining. Some commenters voiced a preference for these types of jobs over jobs from the mining industry.

Discussion: Reclamation of all legacy mines under DOE's oversight within the ULP has been completed. There are currently 12 existing mines on eight lease tracts that will ultimately be reclaimed under the ULP. Other mines in the region are not under the ULP and not under DOE's oversight or authority to reclaim. With regard to the number of jobs that could be generated from the reclamation of the currently 12 existing mines on the ULP lease tracts, the estimates provided in Alternative 1 (which evaluates reclamation of these 12 existing mines) indicate that up to 29 direct jobs and 16 indirect jobs could be generated.

Reclamation is required by Federal and state law and by provisions of the lease. Consistent with state requirements, one lease holder has filed environmental protection plans (EPPs), and another lease holder has submitted reclamation plans. State law requires lease holders to enter Temporary Cessation (TC) if inactive for more than 180 days for an initial period of 5 years. A second 5-year TC may be granted by the state. However, under no circumstances shall the TC period be longer than 10 consecutive years. If TC reaches the 10-year maximum, or a second 5-year period is not granted, an operator is required to either reactivate for a year or fully comply with reclamation and EPP requirements.

1.7.3.6 Maintain mined uranium ore from the ULP lease tracts as a domestic supply.

Topic Summary: Many commenters noted in their submissions that they would prefer that uranium mined in the United States not be exported to foreign governments. Some commenters voiced concerns over national security interests, saying that uranium should not be sold to foreign governments to prevent them from engaging in uranium enrichment activities as part of a program to develop nuclear weapons. Other commenters voiced concerns over energy policy interests, saying that uranium should not be exported to foreign governments because domestic nuclear energy needs take precedence.

Other commenters requested that the uranium supply be maintained in the ground. These commenters explained that there is no need to generate additional uranium supply because there are already sufficient supplies of uranium stockpiled for domestic use. Few commenters said that there was no market for uranium and others noted that this country already has a robust supply of uranium. Commenters said that uranium ores should be kept in the ground until the time comes when the stockpiled domestic supply needs to be augmented.

Discussion: DOE's proposed action in the PEIS does not address uranium ore exports, over which the NRC, not DOE, has authority; and the scope of analysis in the PEIS does not analyze the possibility that uranium ore from the ULP may be subject to export. The possibility that uranium or uranium ore from the ULP may be subject to being exported does not undermine the

PEIS's stated purpose and need, and does not require that the PEIS's scope be expanded to analyze the export of uranium or uranium ore. Any export of domestic uranium or uranium ore from any source within the United States, including the ULP lease tracts, is strictly regulated by the NRC under the terms of the AEA and the NRC regulations, which impose requirements that must be satisfied before the NRC will grant a license to export any domestic uranium or uranium ore. See AEA, 42 U.S.C. §§ 2099, 2151–2160d; NRC regulations, 10 C.F.R. §§ 110.19–110.46. For example, 42 U.S.C. § 2099 forbids the NRC from licensing any person to export from the United States any uranium ore, or other source material, if the issuance of such a license "would be inimical to the common defense and security" or the health and safety of the public; 42 U.S.C. § 2155 gives the Executive Branch the authority to veto any export of uranium ore. Many more specific requirements are imposed in the other above-cited provisions of the AEA and the NRC regulations.

In addition, the possibility that uranium ore from the ULP may be subject to export, after a prospective exporter goes through the process of applying for and receiving the necessary permission from the NRC, does not undermine the stated purpose and need for agency action: to support the AEA provisions which authorized and directed DOE to develop a supply of domestic uranium, and to issue leases or permits for prospecting, exploration, mining, or removal of deposits of uranium ore in lands belonging to the United States to the extent DOE deems necessary to effectuate the provisions of the AEA (42 U.S.C. §§ 2096–2097). An active ULP program will be more successful in meeting that need than would an inactive program.

1.7.3.7 Use the ULP lease tracts for generating renewable energy instead of uranium ore production.

Topic Summary: Some commenters said they would prefer that the land within the ULP lease tracts be used to generate renewable energy. They noted that solar or wind resources were plentiful in the region and that DOE should be doing more to promote renewables over nuclear energy. Commenters noted that renewable energy resources such as solar and wind have less of an impact on the region's environment and the health of area residents.

Discussion: The evaluation of the use of the ULP land for development of solar energy or renewable energy is outside the scope of the PEIS; and is not consistent with the "Purpose and Need" discussed in Section 1.4 of the PEIS. However, surface use of a majority of the ULP land for such purposes is not excluded by the ULP Program. Although out of scope in this PEIS, DOE oversees numerous programs that are investigating and supporting a wide variety of energy production technologies, including many based on renewable sources.

1.7.3.8 Although a long list of mitigation measures is presented in the ULP PEIS, some are inadequate, and additional measures need to be included. The ULP PEIS lacks a discussion on the effectiveness of the measures presented. It is also not clear if some of these measures would be required and how they would be implemented.

Topic Summary: Commenters pointed out that mitigation measures identified in the ULP PEIS were inadequate or requested that additional mitigation measures be added to the ULP PEIS. Several commenters said that the buffer zone around the Dolores River was inadequate and requested that it be expanded. Commenters noted several other mitigation measures that needed to be strengthened or modified. For example, one commenter noted that to mitigate radionuclides from blowing onto residences, it would be necessary not only to cover the waste rock piles with soil but also to spray the soil with water or some other barrier. Commenters were also concerned about the enforceability of the mitigation measures. They noted that resources would best be protected if lessees were required to undertake the identified mitigation measures.

Discussion: As indicated in Section 4.6, measures that are identified as compliance and mitigation measures would be implemented because they are required by law (compliance measures) or have been identified to minimize potential impacts (mitigation measures) as included in the leases. The ULP PEIS also indicates that mitigation measures that are currently not in the leases would be included as leases are modified. Implementation of the compliance and mitigation measures would be under the oversight of the corresponding oversight agencies. DOE is responsible for assuring that lease requirements are met and thus would enforce mitigation measures in leases.

1.7.3.9 The cumulative impacts analysis does not cover enough area and does not address some projects in the region of cumulative impacts, such as the oil and gas wells present in the area. The conclusions or determinations of negligible to minor potential cumulative impacts need to be re-evaluated.

Topic Summary: Many commenters said that the cumulative impacts analysis was inadequate. Commenters noted that some information was not included in the cumulative impacts analysis, such as the impacts that could result from climate change and oil and gas activities. Other commenters noted that the cumulative impacts analysis did not address the impacts from the Piñon Ridge Mill. Commenters said the ULP PEIS lacked a detailed cumulative impacts study; excluded an investigation of long-term economic development, transportation corridors, and public health; and failed to consider the combined impacts of all past and present uranium activities in this region. Commenters requested that these analyses be performed for the final issuance of the ULP PEIS.

Discussion: DOE has reviewed the analysis of cumulative impacts in light of these comments to ensure that it is adequately comprehensive to provide a basis for informed, environmentally sound decision making.

GHG emissions would be small (see discussion in 1.7.3.1).

Oil and gas projects within the 50-mi (80-km) ROI considered in the PEIS are discussed and evaluated in Section 4.7.2.4. A total of 3,121 wells are located within the ROI studied, as shown in Figure 4.7.2. Table 4.7-8 summarizes potential impacts in the ROI during exploration and future development of oil and gas lease parcels. The cumulative impacts evaluation in Section 4.7.2.2 did analyze all past and present uranium activities within the 50-mi (80-km) ROI. The proposed Piñon Ridge Mill is also evaluated relative to cumulative impacts, since it is within the 50-mi (80-km) ROI addressed in this PEIS. Section 4.7.1.1 describes the Piñon Ridge Mill project and its potential impacts on the environment and human health as discussed in reports prepared by Energy Fuels. This information was then incorporated into Section 4.7.4 to determine the cumulative impacts for this ULP PEIS.

Studies on long-term economic development, transportation corridors, and public health as suggested by these commenters are not within the scope of this ULP PEIS. However, this ULP PEIS does conservatively analyze the time frame for addressing the life-cycle of the proposed action (i.e., considered the 10-year or longer time that mining activities could occur under the lease terms), and it considers cumulative impacts from all reasonably foreseeable future actions with the 50-mi (80-km) ROI under cumulative impacts.

1.8 OTHER RELATED, SIMILAR, CONNECTED, OR CUMULATIVE ACTIONS

Consistent with NEPA requirements, the identification of related, similar, connected, or cumulative actions to the ULP proposed action was conducted. There are other uranium mining projects planned by other entities for areas near the ULP lease tracts (e.g., Sunday Mines [see Section 4.7.2.2.5]). Although these actions are similar in type of activities conducted and potential impacts on the environment and human health, they are not considered connected to the ULP proposed action, because these other uranium mining projects could or would occur regardless of the ULP proposed action. These projects are, however, included in the cumulative impacts evaluation discussed in Section 4.7 of the ULP PEIS, because they could occur within the ROI for cumulative effects and at the same time frame considered for the ULP proposed action.

The proposed or ongoing uranium ore milling activities at the proposed Piñon Ridge Mill and at the existing White Mesa Mill could be considered related but not connected to the ULP proposed action. That is, the ore generated from the ULP proposed action could be processed at these nearby mills; however, the White Mesa Mill can continue operating as it currently does and the proposed Piñon Ridge Mill can be constructed and operated regardless of the ULP proposed action. Similar to the uranium mining projects discussed above, the impacts or potential impacts from these two mills are also included in the cumulative impacts evaluation discussed in Section 4.7 of the ULP PEIS.

In its capacity as a cooperating agency for the ULP PEIS process, CPW provided the following information on an activity that could be related to the ULP proposed action and alternatives evaluated. CPW has been participating in the Dolores River Dialogue (DRD), a coalition of diverse interests whose purpose is to explore management opportunities and build support for and take action to improve the ecological conditions downstream of McPhee Reservoir on the Dolores River. The DRD also seeks to honor water rights, protect agricultural and municipal water supplies, and facilitate the continued enjoyment of rafting and fishing on the Dolores River. A subcommittee of the DRD is the Lower Dolores River Working Group (LDWG), a group that was formed specifically to explore alternatives to the National Wild and Scenic River Act (WSRA) designation. This group identified a "National Conservation Area" (NCA) as its alternative to the current Federal identification of the Dolores River as suitable for WSRA designation. Establishment of an NCA requires Congressional action. Since July of 2010, a legislative subcommittee appointed by the LDWG has been working to define the parameters and goals of the legislation while ensuring the protection of identified Outstandingly Remarkable Values under the WSRA. Part of this effort has contemplated a Federal mineral withdrawal within 0.25 mi (0.4 km) of the Dolores River that could affect the DOE ULP and the ULP PEIS.

1.9 CONSULTATION

DOE is complying with Executive Order (E.O.) 13175, Section 7 of the ESA, and Section 106 of the National Historic Preservation Act (NHPA) by engaging in consultations with respective tribes, government agencies, and local historical groups. Sections 6.1, 6.2, and 6.3 describe the consultation efforts undertaken to date.

The government-to-government relationship with Indian tribes was formally recognized by the Federal Government with E.O. 13175 on November 6, 2000, and DOE is coordinating and consulting with Indian tribal governments, Indian tribal communities, and tribal individuals whose interests might be directly and substantially affected by activities on the ULP lands. As part of this consultation, DOE has contacted 25 Indian tribal governments to communicate the opportunities for government-to-government consultations by participating in the planning and resource management decision-making throughout the ULP PEIS process. Five are participating as cooperating agencies, and four are participating as commenting agencies (see Section 1.10).

In the NOI (76 FR 36097) to prepare the ULP PEIS, DOE stated that it is preparing to enter into consultation with the USFWS, in compliance with Section 7 of the Endangered Species Act, concerning DOE's management of the ULP. Section 7 requires Federal agencies to consider the effect of their undertakings on species listed under the Act and to consult with the USFWS to ensure that the action or actions that they fund, authorize, or permit are not likely to jeopardize the continued existence of any listed species or result in the destruction or adverse modification of the critical habitat of such species. DOE and the USFWS initiated the informal consultation, and DOE submitted the Final BA to the USFWS on May 14, 2013. The USFWS issued a BO on August 19, 2013. Details are discussed in Section 6.2 of the ULP PEIS.

DOE has initiated programmatic consultation, in compliance with Section 106 of the NHPA, concerning DOE's management of the ULP. Section 106 of the NHPA requires Federal

agencies to consider the effect of their undertakings on historic properties and to consult with the appropriate SHPO, American Council on Historic Preservation (ACHP), and other parties that have an interest in the effects of the undertaking on historic properties. For the ULP, per the procedure that has historically been and is currently still being carried out, DOE has addressed consultation through the BLM and the lessees on specific undertakings when ULP activities/plans have been proposed. However, since the NHPA allows for the utilization of a programmatic agreement (PA) to govern large or complex projects, and since PAs can be used when effects on historic properties are expected to be similar and repetitive or regional in scope or when these effects cannot be fully determined prior to approval of an undertaking, DOE has initiated the development of a PA for the ULP. Details are discussed in Section 6.3.

1.10 COOPERATING AND COMMENTING AGENCIES

DOE invited various Federal, state, and county agencies and tribal nations to participate either as a cooperating agency or commenting agency in the preparation of the ULP PEIS. Since January 2012, monthly, as appropriate, telephone conferences have been held between DOE and the cooperating agencies to develop the ULP PEIS. The following government agencies and tribal groups are participating as cooperating agencies by providing their expertise and required knowledge:

1. *BLM:* Jurisdictional responsibilities in land use planning, designations, or restrictions on and surrounding DOE-withdrawn lands; and an understanding of the potential impacts from increased mining and oil and gas exploration and development. An MOU between the BLM and DOE (BLM and DOE 2010a) is currently in place that identifies the individual and shared roles and responsibilities of DOE and the BLM with respect to the DOE ULP (see Section 5.4 for a summary of this MOU).

2. *EPA:* Expertise in addressing the protection of human health and the environment (e.g., water quality, air quality, and radiation protection).

3. *Colorado Department of Transportation (CDOT):* Knowledge of local and regional transportation systems including primary and secondary highways.

4. *CDRMS:* Expertise in mining and reclamation and the safety requirements attendant to these activities. An MOU between DOE and CDRMS (DOE and CDRMS 2012) is currently in place for the purpose of promoting coordination between DOE and CDRMS to result in efficient and effective oversight of uranium and vanadium mining on the DOE ULP lease tracts (see Section 5.4 for a summary of this MOU).

5. *CPW:* Expertise in addressing the protection of wildlife.

6. *Mesa County Commission:* Expertise in identifying limits to mitigate potential impacts that energy development activities, such as uranium mining, would

have on the county's economy, residents, and the environment, including its primary and secondary roadways.

7. *Montrose County Commissioners:* Expertise in socioeconomic, transportation, and water quality issues related to the county.

8. *San Juan County Commission:* Expertise in identifying limits to mitigate potential impacts that energy development activities, such as uranium mining, would have on the county's economy, residents, and the environment, including its primary and secondary roadways.

9. *San Miguel County Board of Commissioners:* Expertise in identifying limits to mitigate potential impacts that energy development activities, such as uranium mining, would have on the county's economy, residents, and the environment, including its primary and secondary roadways and land use and planning.

10. *Navajo Nation:* Knowledge of cultural resources in the area.

11. *Pueblo of Acoma*: Knowledge of cultural resources in the area.

12. *Pueblo de Cochiti*: Knowledge of cultural resources in the area.

13. *Pueblo de Isleta*: Knowledge of cultural resources in the area.

14. *Southern Ute Indian Tribe:* Knowledge of cultural resources in the area.

The following agencies and tribal groups chose to participate as commenting agencies, and they were included in the project distribution list and received the Draft ULP PEIS for review and comment:

1. USFWS,

2. U.S. Nuclear Regulatory Commission (NRC),

3. CDPHE,

4. Utah Department of Transportation (UDOT),

5. Hopi Nation,

6. Ute Indian Tribe,

7. Ute Mountain Ute Tribe, and

8. White Mesa Ute Community.

1.11 ORGANIZATION OF THE ULP PEIS

The remainder of the ULP PEIS is composed of the following chapters and appendices:

- Chapter 2 describes the alternatives evaluated in the ULP PEIS and compares them with regard to their potential environmental and human health impacts.
- Chapter 3 presents a discussion of the affected environment for each of the resource areas analyzed in the ULP PEIS utilizing site-specific information.
- Chapter 4 provides the results of the evaluation of potential environmental and human health impacts based on site-specific information and assumptions, as appropriate.
- Chapter 5 summarizes applicable requirements relative to the proposed action.
- Chapter 6 summarizes all consultation activities conducted for the proposed action.
- Chapter 7 presents an index for the ULP PEIS.
- Chapter 8 lists references cited in the preparation of the ULP PEIS.
- Appendix A provides examples of leases.
- Appendix B provides a summary of comments received during the public scoping period.
- Appendix C describes the assumptions for the impacts analyses.
- Appendix D describes the methodology used for the impacts analyses.
- Appendix E contains the correspondence between DOE and the USFWS regarding the Endangered Species Act (ESA, Section 7) consultation and (provides the BA and BO for the ULP).
- Appendix F contains the letters of consultation.
- Appendix G provides the list of preparers for the ULP PEIS.
- Appendix H provides the contractor disclosure statement.
- Appendix I presents the comment response document.

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