

Transfer and Transition: Interagency Coordination for Managing Public Lands at UMTRCA Title II Sites in Wyoming – 16614

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ABSTRACT

By the end of fiscal year 2025, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) is anticipating adding 17 sites remediated under Title II of the Uranium Mill Tailings Radiation Control Act (UMTRCA) to the current inventory of 90 sites that it manages. Among the new sites are ones where federal public lands occur within the proposed long-term care boundary, the boundary determined by the Nuclear Regulatory Commission and LM as necessary to maintain site protectiveness for the entombed uranium mill tailings and residual groundwater contamination. For these sites, public land withdrawals for land and minerals will need to be established. LM's primary mission at UMTRCA sites is to protect the public and the environment from exposure to contamination at the sites. For the sites with public lands or federally controlled minerals that will be transferring to LM, the Office will apply to the Department of the Interior (DOI) Bureau of Land Management (BLM) for new, public land and mineral withdrawals. At most current LM UMTRCA sites that involved public lands and minerals, DOI granted DOE "full administrative jurisdiction" and permanent withdrawals. Hence, these withdrawals are, permanently, no longer subject to public land, mining, and mineral-leasing laws and regulations. LM is coordinating with DOI/BLM in Wyoming to permanently withdraw full and partial jurisdiction at future UMTRCA Title II sites in that state. This approach would allow LM to fully administer surface lands and minerals, where necessary, and DOI and LM to administer surface lands and leasable minerals where it would not jeopardize sites' radiological safety and long-term public and environmental protection. This "shared-jurisdiction approach" will meet LM's strategic goal of protecting human health and the environment but also allow BLM to fulfill their mission to "manage and conserve the lands under the mandate of multiple-use and sustained yield." In addition, LM could also fulfill the fourth goal of its Strategic Plan, to optimize land use and assets.

The portions of the sites where LM will ask for full jurisdiction are those that contain the disposal cell and any adjacent lands and minerals required to maintain and protect it. It is anticipated that the shared jurisdiction portion of the withdrawal would largely coincide with land where known or projected contaminated groundwater from the

past ore processing exists or will migrate over time. Examples of BLM-authorized activities on the shared jurisdiction portions of the withdrawals may include livestock grazing, wildlife habitat improvement projects, recreation, and rights of ways for roads, pipelines, utilities, and communication sites. In addition, BLM could authorize subsurface uses such as oil and gas, coal, or geothermal development or groundwater pumping from deeper aquifers if the proposal would not disturb groundwater contamination.

For areas of the withdrawal where the agencies will share jurisdictional authority, DOE LM and BLM will develop an interagency agreement (IA) to define acceptable uses and associated roles and responsibilities. To ensure maximum protection of human health and the environment, each site's IA will include a provision allowing DOE LM the right of first refusal against any action it believes might affect radiological safety at the site.

INTRODUCTION

Since 1988, the U.S. Department of Energy (DOE) has been actively engaged in the post-closure management of numerous sites remediated under various regulatory regimes. In 2003, DOE established the Office of Legacy Management (LM) to address the nation's uranium legacy and to conduct required long-term surveillance and maintenance (LTS&M) at remediated sites that have no continuing defense-related missions. The primary goal for LM since its inception is to protect human health and the environment. This goal is accomplished by complying with all applicable laws and regulations, by continually evaluating and mitigating site risks, and by partnering with other federal agencies to ensure the site remedies are effective. LM also acknowledges its role as a steward of federal land to optimize the use of land and assets under its purview. [1]

LM conducts LTS&M on 27 sites remediated under Uranium Mill Tailings Radiation Control Act (UMTRCA) of 1978 as amended. The legislation identifies both Title I and Title II sites. Title I sites were those former ore-processing sites specifically designated for cleanup by DOE and a state or tribal nation under cooperative agreement, with subsequent LTS&M conducted by either the host state or DOE. Also included under UMTRCA are Title II sites that were remediated by a private entity under license to the U.S. Nuclear Regulatory Commission (NRC) and will be transitioned to DOE-LM for LTS&M. Of the 90 sites in the LM inventory of sites, 27 sites are regulated under UMTRCA, 21 remediated under Title I and 6 under Title II. In addition, LM anticipates taking responsibility for 17 additional Title II sites by fiscal year 2025 (Fig. 1). [2]



Figure 1. Current and Future UMTRCA Title II Sites

Before LM acquires UMTRCA sites, the land and/or mineral ownership at the site may be a mix of private, federal, and state. Prior to the sites transferring to LM, it and NRC identify sites boundaries (the “Long-term Care Boundary” [LTCB]) where LM must have adequate control to protect human health and environment in perpetuity. Land ownership within the LTCB may be a mix of private, state, and federal public land. At many sites, the public lands included in the LTCBs constitute a substantial portion of the total land area. When DOE has full jurisdiction over the public lands, these areas are not available for uses that have no impact on site protectiveness. LM is reevaluating the need to restrict all other uses on public land as long as protectiveness is maintained. However, for LM to establish DOE jurisdiction of any type over federal public land, LM must apply to the Secretary of the Department of the Interior (DOI), through BLM, for land and mineral withdrawals. For a series of UMTRCA Title II sites in Wyoming scheduled to transfer to LM, it and BLM are proposing withdrawals with less than full jurisdiction transfer to DOE to have a balance between protection of public health and the environment, allowing for public use and development that will not impact the uranium mill tailing disposal features of the site or create risk of exposure to subsurface contaminants.

METHOD

Background

LM already manages six Title II sites. Before the sites transitioned to DOE, all the land at four of the six sites was privately owned, and DOE acquired it via warranty deeds. The two sites with a combination of private and public land prior to site transition are the Maybell West, Colorado, Disposal Site, and Shirley Basin South Disposal Site in Wyoming. The public land portion of the Maybell West site contains the disposal cell and its associated structures. DOE permanently withdrew full jurisdiction for 160 acres of public lands and minerals at the Maybell West site in April 2008. The Shirley Basin South site transitioned to LM in 2005, and it has approximately 30 acres of public lands and minerals. DOI and LM have not yet withdrawn the public lands and minerals at Shirley Basin South.

Currently, there are four UMTRCA Title II sites in Wyoming that will transition to LM in the near future: the Bear Creek, Gas Hills East (see Fig. 2), Gas Hills North, and Split Rock sites. All four sites have contaminated groundwater beneath them from ore processing that occurred at the sites, and all four have some, or considerable public lands and minerals within their proposed LTCB boundaries. LM is evaluating each site to determine how best to withdraw the public lands and minerals to maintain protectiveness and maximize public use.



Figure 2. Gas Hills East, Wyoming, Disposal Site Showing Disposal Cell and Shared Jurisdiction Land

Proposal for Shared Jurisdiction of Public Lands

LM is proposing and the BLM Wyoming state office is supporting LM applying for public land withdrawals within the LTCBs for UMTRCA Title II sites that define "shared jurisdiction" in areas where protectiveness of the site remedy can be maintained using an Interagency Agreement (IA) that describes activities with acceptable risk to the site remedies. For withdrawals under this proposal, LM would request permanent withdrawal and full jurisdiction over public lands and minerals on land containing a disposal cell and associated erosion control structures and any other areas considered critical for long-term stability and performance of features mandated by regulation. For other public land areas within the LTCB, LM would collaborate with BLM or any other appropriate land management agency with jurisdiction to establish required controls for protectiveness of groundwater or near-surface contamination but would allow BLM jurisdiction over surface and subsurface uses (e.g., oil and gas production or other mineral interests) that do not affect site protectiveness or allow pathways for potential contamination. For those parts of the withdrawal where the only risks are from contaminated groundwater, LM will request permanent withdrawal for

(locatable) mineral entry from the public lands at the sites. In the “mineral-only” withdrawals, BLM would retain surface jurisdiction as well as the right to administer leasable mineral development (Figs. 3 and 4). For the mineral-only withdrawals, LM and BLM offices administering those public lands and minerals will develop IAs detailing each agency’s role in administering public activities and uses on the lands, as well as the leasable minerals beneath those lands. The IAs would give LM advance knowledge of public lands or leasable mineral development proposals in the withdrawals and the ability to coordinate with BLM by supporting them, mitigating them, or rejecting them. By policy, the BLM Wyoming state office will not withdraw leasable minerals within the full jurisdictions parts of the withdrawal, although it is unlikely that LM would concur that these minerals could be developed because of the potential impact to the disposal cell and ancillary remedy features.

Implementation

LM is coordinating with the BLM Wyoming State Office in Cheyenne, Wyoming, regarding its current public land and mineral withdrawal applications for the aforementioned UMTRCA Title II sites. LM and the BLM are following the protocol for new public lands and mineral withdrawals in Title 43 *Code of Federal Regulations* Part 2300 (43 CFR 2300). Per the aforementioned withdrawal regulations, to obtain a new public lands and mineral withdrawal, a federal agency applicant such as LM must submit a complete withdrawal application to the appropriate BLM office. Also, to comply with the National Environmental Policy Act of 1969 [42 *United States Code* (USC) 4332 (2) (c)] and per Title 43 CFR Part 2300, Subpart 2310, Section 2310.3-2 (b) (3), the applicant must submit to the BLM appropriate environmental review and studies. For each transitioning UMTRCA Title II site involving public lands and minerals, LM will analyze potential impacts associated with withdrawing the public lands and minerals and impacts associated with alternatives, in an Environmental Assessment (EA). This document will describe the proposed (and alternate) actions, authorities for the actions, the action area, affected resources including air and water, flora, fauna, cultural and historic, mineral, visual, social, and economic effects as well as cumulative effects.

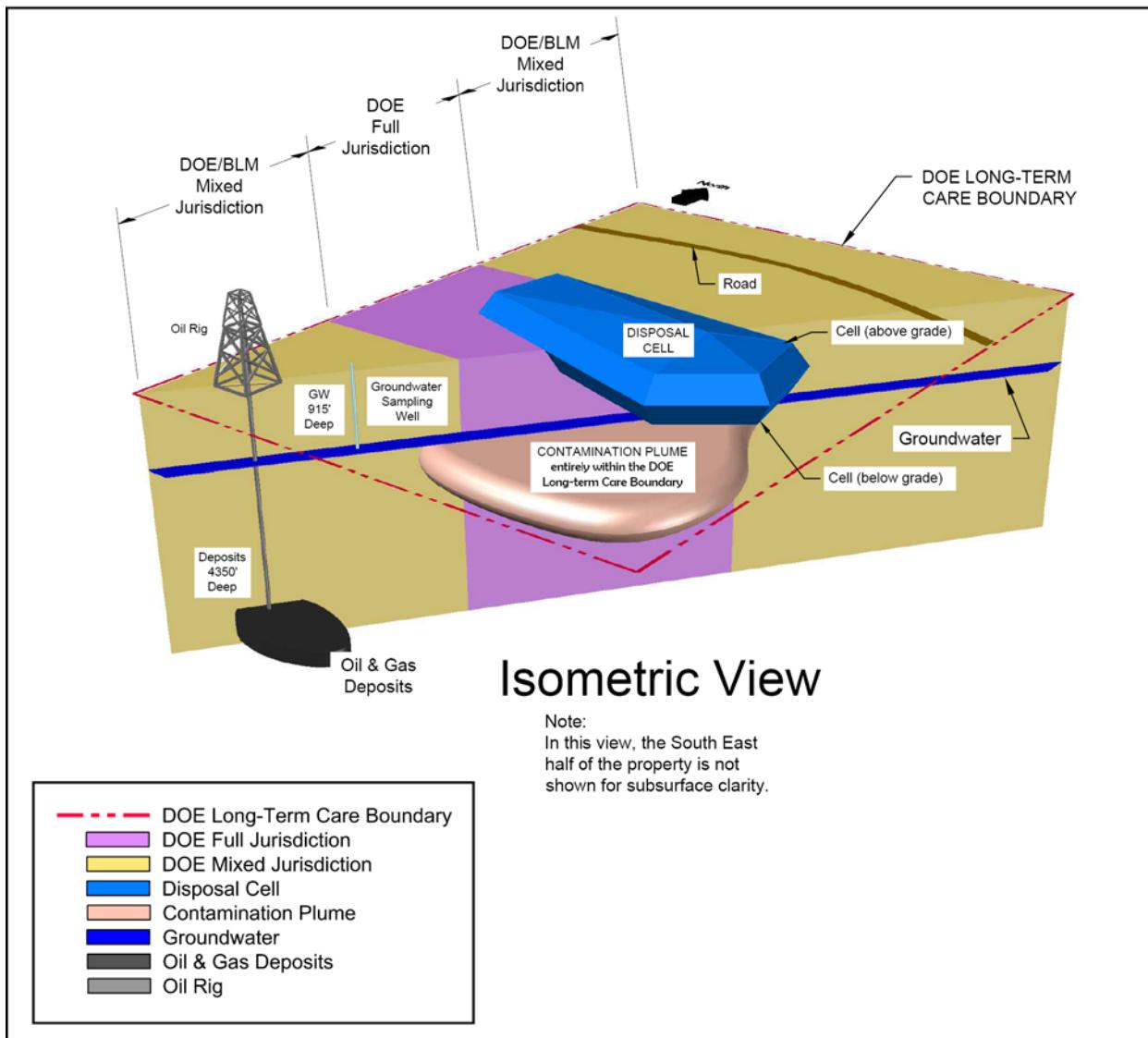


Figure 3. Isometric View of Full and Shared Jurisdiction

To accompany and support the EAs and to satisfy Title 43 CFR Part 2300, Subpart 2310, Section 2310.3-2 (b) (3) (iii), LM is obtaining Mineral Potential Reports (MPRs) for the proposed withdrawals through the BLM Wyoming State Office and the Lander and Casper Field Offices. [3] The MPRs examine known and potential locatable, leasable, and saleable minerals in the areas described in the reports. Examples of locatable minerals include gold, silver, uranium, lead, copper, zinc, certain limestones, and gypsum. The U.S General Mining Laws (30 USC 28 et seq.) govern these and other locatable minerals on federal lands. Leasable minerals and resources include coal, geothermal, and oil and gas and nonenergy leasable, such as phosphate, sodium, and others. The Mineral Leasing Laws govern leasable minerals on federal lands. Saleable nonenergy minerals include sand, gravel, stone, clay, and pumice. [4]

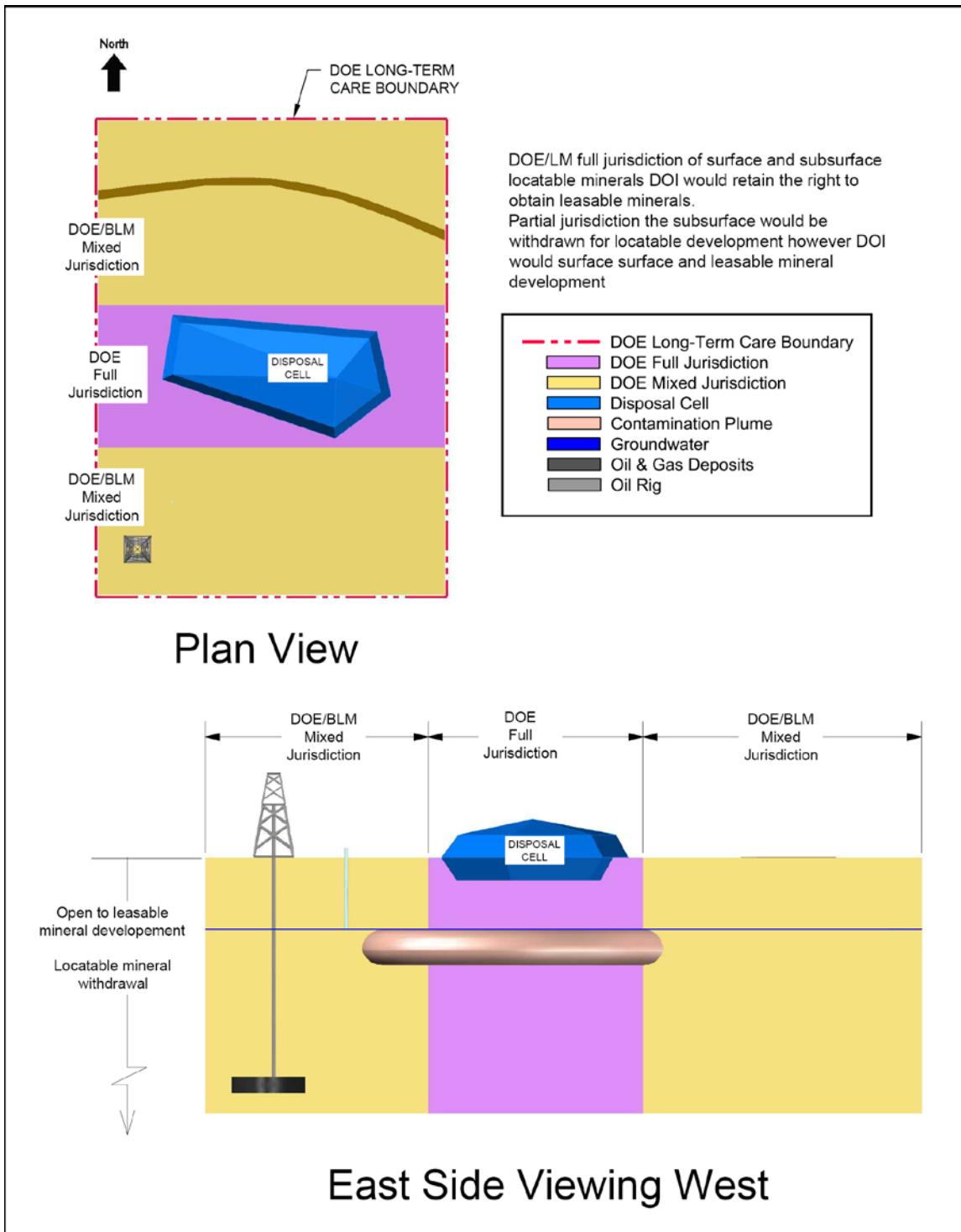


Figure 4. Plan and Side Views of Full and Shared Jurisdiction

CONCLUSIONS

In the near future, the U.S. DOE Office of Legacy Management (LM) is anticipating adding four Wyoming sites remediated under the UMTRCA Title II program to the current inventory of 90 sites that it manages. These new sites will have public lands within their proposed LTCB boundaries, and LM will need to apply for and have established land and mineral withdrawals. A shared-jurisdiction approach to withdrawals is consistent with LM's highest priority, protecting human health and the environment, but also allows BLM to fulfill their mission to "manage and conserve the lands under the mandate of multiple-use and sustained yield." [5] Furthermore, this demonstrates that LM's land stewardship allows for any beneficial use of the site that does not affect site protectiveness, also an expressed goal in LM's strategic plan. This approach complies with regulations at 10 CFR 40.28 to own or to have jurisdiction over the land and interests containing the disposal system, and all remaining land within the LTCB will be under governmental land controls by DOE and BLM through withdrawals using the shared-jurisdiction approach. The withdrawals will be accompanied by an IA that include the institutional controls to protect the site remedies for surface and subsurface contamination, the acceptable uses on the site, and will define of each agency's roles and responsibilities with regard to site administration.

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The DOE Office of Legacy Management will need to establish land and mineral withdrawals for some sites that will transfer to it over the next 10 years.

- LM currently manages 91 sites in 29 states and Puerto Rico. It may manage 38 more sites by FY2025.
 - Among sites that will transfer to LM will be 17 more sites closed under Title II of the Uranium Mill Tailings Radiation Control Act (UMTRCA).
 - Among the “Title II” sites are 4 in Wyoming that are at least in part of federal public lands managed by the Forest Service or the Bureau of Land Management (BLM).
- Land and mineral withdrawals will need to be established for UMTRCA Title II sites with public lands within their boundaries.

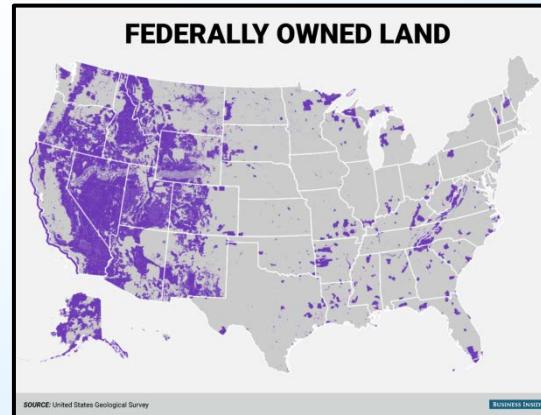


Current and future UMTRCA Title II Sites to be managed by DOE LM



LM already manages a number of UMTRCA and other categories of sites that have withdrawals and some major continuing mission sites are actually withdrawals too. What are withdrawals?

- Public land withdrawals designate federal lands for a specific purpose.
 - For UMTRCA sites, it is for uranium mill tailings disposal and for radiological protection of public health and the environment.
 - Some or all of the general land and mining laws no longer apply that could damage a remedy or potentially create a pathway to exposure.
- LM has inherited other types of sites where land and mineral withdrawals were established such as for many of the Nevada Offsite Test Areas.
- Some major continuing missions sites (e.g., Nevada National Security Site) are actually on withdrawals granted to DOE.
- The Department of the Interior (DOI) through BLM is responsible for creating land withdrawals.



DOE has already established land withdrawals for UMTRCA Title I sites*

Site	Year	Acres Withdrawn
Crescent Junction, UT, Disposal (EM Moab Project)	2008	500**
Maybell, CO, Disposal	1995	140
Slick Rock, CO, Disposal	1995	61
Gunnison, CO, Disposal	1992	115
Rifle, CO, Disposal (Estes Gulch)	1991	205
Grand Junction, CO, Disposal	1990	360
Spook, WY, Disposal	1990	80***

*Unless otherwise stated, these withdrawals were permanent, full jurisdiction. Transfers from DOI to DOE. DOI retained administration of previously authorized uses.

**DOI retained administration of oil and gas leasing.

***Mineral only.



There are UMTRCA Title II sites in Wyoming, Colorado, and Utah where withdrawals will be needed or have been established.

Site	Proposed Withdrawal Area (acres)	Year to Transfer to LM
Shirley Basin South, WY, Disposal**	25	FY2005
Maybell West, CO, Disposal (full jurisdiction)	160	FY2008
Bear Creek, WY, Disposal*	25	FY2016
Gas Hills North, WY, Disposal	620	FY2018
Uravan, CO, Disposal Site	TBD	FY2018
Gas Hills East, WY, Disposal	1,320	FY2019
Split Rock, WY, Disposal	750 of surface and mineral, and 2,560 mineral only	FY2019
Lisbon Valley, UT, Disposal	TBD	FY2019

*Fee land at site already transferred to DOE LM.

**Site already transferred to DOE LM for Long-Term Surveillance and Maintenance (LTS&M).



Historically, land withdrawals for UMTRCA sites were for “full jurisdiction.” Why change?

- Many UMTRCA Title I sites are processing sites where along major rivers.
 - River water was used for ore processing.
 - Tailings located along river after site abandonment posed long-term risk.
 - Additional impacts on water quality.
 - Erosion during floods or spring runoff.
- For these cases, disposal sites established away from river, often on public land
 - Withdrawals for disposal sites incorporated just the area for the cell; low potential for other uses.



Historically, land withdrawals for UMTRCA sites were for “full jurisdiction.” Why change?

- For UMTRCA Title II sites in Wyoming, large parts of site are only for areas of groundwater contamination.
 - Groundwater used for ore processing. Ore processing and disposal site co-located on public land.
- BLM under pressure to support multiple uses of land.
 - Population growth in the western U.S. where sites are located.
 - Subsurface sources exist today that were not previously envisioned.
 - In site recovery of uranium
 - “Fracking” for oil and gas
- DOE LM wants to support other beneficial uses of sites as part of its Goal 4.



“Traditional Reuse”: rancher who grazes sheep at the Beak Creek, WY Site



“New uses”: an in situ uranium recovery field adjacent to the Highlands WY Site



What is the process for establishing the land withdrawals for the Wyoming UMTRCA Title II sites?

- DOE LM and the Nuclear Regulatory Commission (NRC) must agree on the “Long-Term Care Boundary” (LTCB) for the site.
 - Application for the withdrawal must include all public land within the LTCB.
- BLM is preparing “Mineral Potential Reports (MPR)” for each of the sites.
- LM must submit a land withdrawal application to the BLM State Office; BLM is requiring DOE LM to prepare a Environmental Assessment under NEPA for the withdrawal.
- The withdrawal will be established as a Public Land Order (PLO) and published in the Federal Register.
- If BLM and DOE share jurisdictions for the withdrawal, an Inter-Agency Agreement will be developed that outlines responsibilities.
 - Language has been drafted that would require BLM to consult with DOE LM on any new proposed uses on the withdrawal.



The BLM uses *mineral* to refer broadly to *energy and mineral resources*, rather than the more narrow, scientific definition.

By this definition, *minerals* can include:

- “Locatable minerals” such as gold and uranium (U), including in situ recovery of U.
- “Leasable” including oil and gas, and geothermal.
- “Salable” such as sand and gravel.

Another important subsurface resource is water.

- Ore processing at UMTRCA sites usually contaminated only shallow groundwater aquifers.
- Wells for consumptive use of groundwater aquifers *below* shallow or surficial aquifers impacted by ore processing is already occurring at some of the sites.



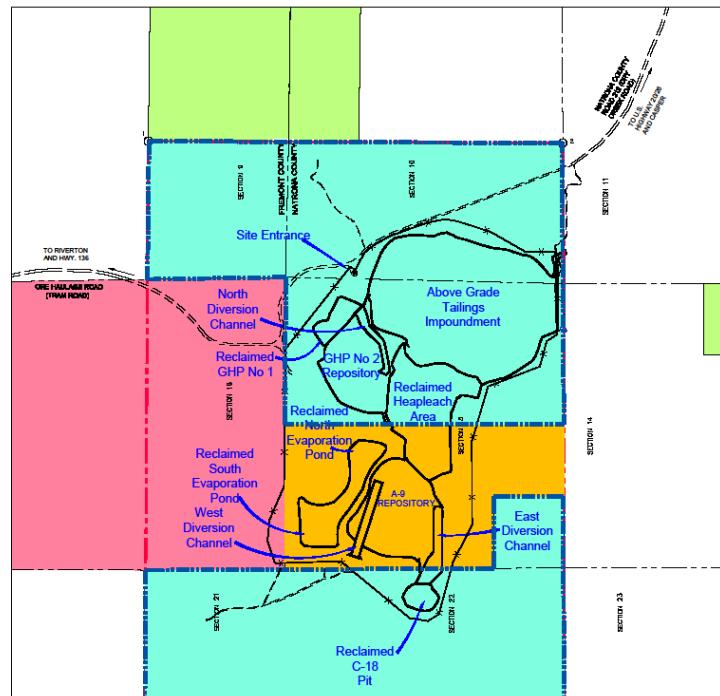
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Why are the results of the Mineral Potential Reports important?

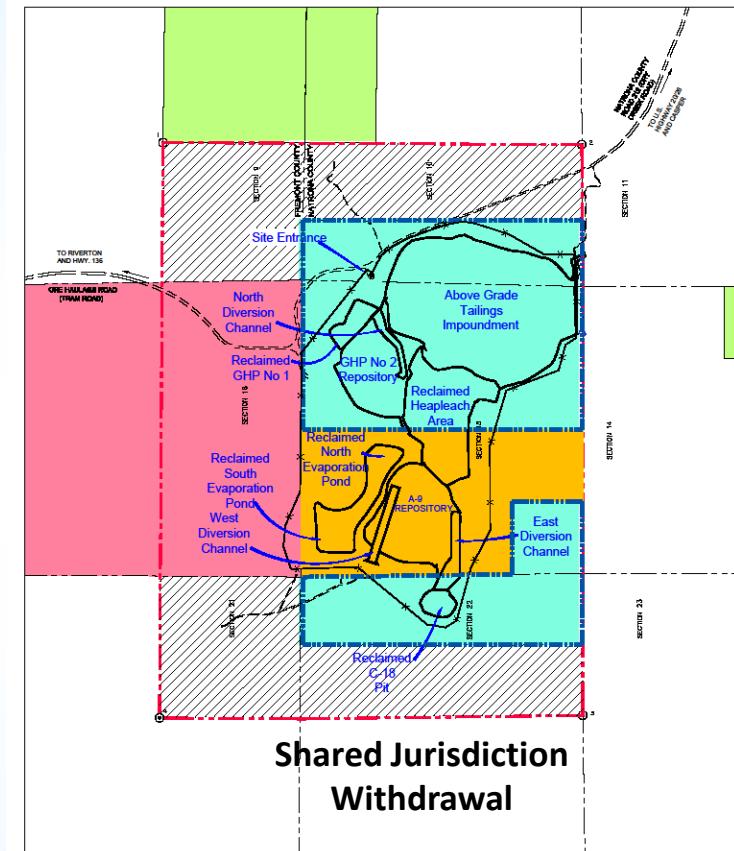
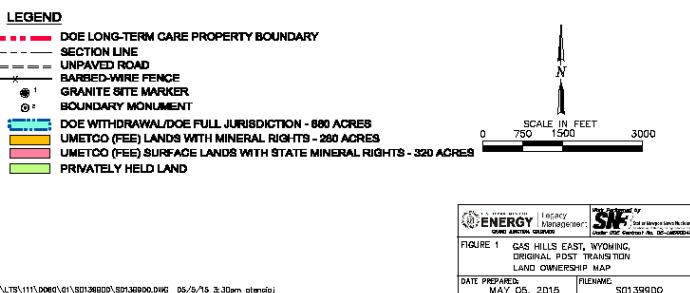
- If there are potentially valuable minerals, the withdrawal could have negative economic impacts that will need to be evaluated under NEPA.
- It may be necessary to “retire” resources whose recovery could affect radiological safety if mineral claims are valid.
- Results are important for DOE & BLM to determine what jurisdictions they need as part of the shared jurisdiction approach.



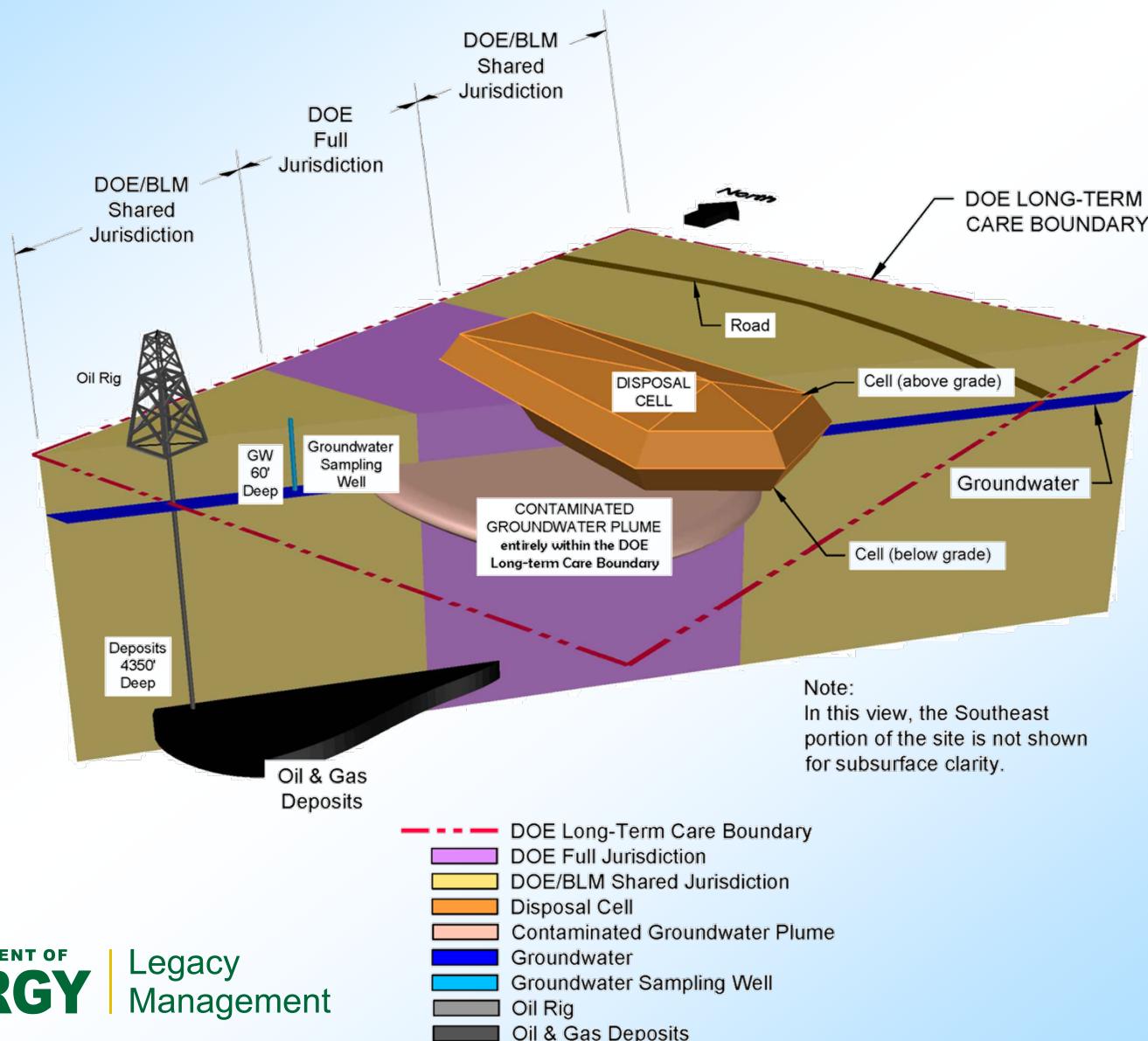
A traditional planar view of a full and potential partial jurisdiction withdrawals for the Gas Hills East Site hides much of the complexity.



Full Jurisdiction Withdrawal



A three-dimensional perspective of how DOE LM and BLM have discussed managing this site



Shared jurisdiction approach to withdrawals balances need for institutional controls with opportunities to have other beneficial uses.

- Historic approach—full jurisdiction withdrawals—is simpler and provides the greatest level of protection. However....
 - Shared jurisdictions allows for “beneficial use” in DOE LM terminology and supports “multiple use” mission of BLM.
 - Activities can occur on portions of site that will pose minimal risk to the remedy
- Shared jurisdiction, official or unofficial, is already occurring at other LM sites, and at sites such as Hanford (Hanford Reach National Monument).
- Shared jurisdiction requires partnership over time between agencies.
 - Changes in land use around sites, and the discovery of new resources necessitates that partnerships occur in any event.

