

**JUNE 10 2024**

**SECRETARY, BOARD OF  
OIL, GAS & MINING**

**BEFORE THE BOARD OF OIL, GAS AND MINING  
DEPARTMENT OF NATURAL RESOURCES  
STATE OF UTAH**

IN THE MATTER OF THE REQUEST FOR AGENCY ACTION OF HEAVY SWEET OIL, LLC AND AC OIL, LLC FOR AN ORDER ESTABLISHING THE ASPHALT RIDGE ENHANCED RECOVERY UNIT FOR THE INSITU PRODUCTION OF HEAVY OIL FROM SANDS WITHIN THE RIMROCK AND ASPHALT RIDGE DEPOSITS IN SECTIONS 22 AND 23, TOWNSHIP 4 SOUTH, RANGE 20 EAST, UINTAH COUNTY, UTAH.

**REQUEST FOR AGENCY ACTION**

Docket No. 2024-040

Cause No. 471-04

Heavy Sweet Oil, LLC (“**HSO**”) and AC Oil, LLC (“**AC Oil**”) acting by and through its attorneys, Snell & Wilmer L.L.P., hereby requests that the Board of Oil, Gas and Mining (“**Board**”) establish the Asphalt Ridge Enhanced Recovery Unit and approve a plan of unit operations for enhanced recovery for the in-situ production of heavy oil from sands within the Rimrock and Asphalt Ridge Formations in the following-described lands to be designated the Asphalt Ridge Unit (hereafter the “**Unit**” or the “**Subject Lands**”):

Township 4 South, Range 20 E, SLM, Uintah County, Utah

Section 22: All

Section 23: W½; S½NE¼; N½SE¼.

Petitioners submit this request after consultation with the staff of the Utah Division of Oil, Gas and Mining, having been persuaded that seeking approval of unit operations will facilitate the Division’s analysis, and more closely meet the purposes of the statutory program for development of heavy oil sand resources in Utah. In support of this Request for Agency Action (“**Request**”), Petitioner respectfully states and represents that:

1. The Board has jurisdiction of the parties and of the subject matter of this Request pursuant to Chapter 6 of Title 40, *Utah Code Annotated*.

2. HSO previously requested establishment of an enhanced recovery unit in Cause No. 471-03. After a contested hearing, the Board denied the request without prejudice on August 23, 2023 in Docket No. 2023-022. The Board concluded that in the absence of a producing well drilled to the target formations within the proposed unit, the existence of a hydrocarbon pool constituting a common source of supply had not been established.

3. Petitioner Heavy Sweet Oil, LLC (“**HSO**”) is a Utah limited liability company authorized to do business in Utah. Its address is 2511 Redwood Road, Suite 16, Woods Cross, UT 84087.

4. Petitioner AC Oil, LLC (“**AC Oil**”) is a Utah limited liability company authorized to do business in Utah. Its address is 448 E. Winchester Street, Suite 400, Salt Lake City, Utah 84107.

5. Petitioners jointly seek to establish unit operations and obtain approval of a plan of development and operations for enhanced recovery of hydrocarbons of heavy oil sands in the Subject Lands as set forth in a proposed Unit Agreement for Asphalt Ridge Enhanced Recovery Unit, Uintah County, Utah (“**Unit Agreement**”).

6. Valkor Oil & Gas, LLC (“**Valkor**”) will be designated by the Unit Agreement as the Operator of wells located in Section 22 and the W½ Section 23 (“**Tract 1**”). HSO holds exclusive operating rights in Tract 1 pursuant to a June, 2019 Master Services Agreement with Valkor Energy Holdings, LLC, a Utah limited liability company.

7. Per the Unit Agreement, Working Interest Owners in Tract 1 will be designated as HSO, Valkor Energy Holdings, LLC and TMC Capital, LLC, a Utah limited liability company (subject to exercise of TMC’s rights per Agreement Governing Assignment of Operating Rights, dated October 15, 2022).

8. Valkor will be the Operator of wells located in the S $\frac{1}{2}$ NE $\frac{1}{4}$  and N $\frac{1}{2}$ SE $\frac{1}{4}$  of Section 23 (“**Tract 2**”).

9. Per the Unit Agreement, Working Interest Owners in Tract 2 will be designated as AC Oil, LLC and Valkor Oil & Gas, LLC.

10. Within Tract 1 all mineral rights (including oil shale and tar sands, plus oil, gas and hydrocarbons) as well as all surface rights are owned by the Utah School and Institutional Trust Lands Administration (“**SITLA**”).

11. Oil sands within Section 22 of Tract 1 are leased from SITLA under Utah State Mineral Lease for Bituminous Asphaltic Sands, ML-53831 subject to operating rights held by Valkor Energy Holdings, LLC and HSO at depths greater than 500 feet below the surface.

12. Oil sands within the W $\frac{1}{2}$  Section 23 of Tract 1 are leased from SITLA under Utah State Lease for Bituminous Asphaltic Sands ML-53832, subject to operating rights held by Valkor Energy Holdings, LLC and HSO at depths greater than 500 feet below the surface.

13. Per the Unit Agreement, SITLA is designated as the Royalty Owner in Tract 1.

14. Tar Sands Holdings II, LLC is the owner of surface and tar-sands mineral rights in Tract 2.

15. Rights to mine tar sands from the Target Formations in the S $\frac{1}{2}$ NE $\frac{1}{4}$ ; N $\frac{1}{2}$ SE $\frac{1}{4}$  of Section 23 are held by AC Oil, LLC pursuant to an oil and mineral lease with Tar Sands Holdings II, LLC dated November 5, 2021.

16. Per the Unit Agreement, Tar Sands Holdings II, LLC is designated as the Royalty Owner in Tract 2.

17. On information and belief, Hoodoo Mining & Production Company, LLC holds the record title and working interests in SITLA Lease ML-53714-OBA covering oil, natural gas and naturally occurring liquid hydrocarbons (but not tar sands) in Section 22 and SITLA Lease ML-53715-OBA in Section 23. ML-53714-OBA and ML-53715-OBA define “Leased

Substances” with respect to oil as including, “all naturally occurring crude petroleum, oil and other hydrocarbons regardless of gravity if produced at the wellhead in liquid form”. Each lease further provides, Hoodoo’s lease expressly excludes “non associated hydrocarbons defined herein as coal, bitumen, asphaltum and other associated heavy hydrocarbons occurring in tar sands, oil shale and gilsonite, all of which must be separately leased from Lessor.” *See* ML-53714-OBA, Sec. 1; ML-53715-OBA, Sec. 1.

18. On January 12, 2024, SITLA issued terms and conditions to HSO and Hoodoo for a Multiple Mineral Development Area (“**MMDA**”) which includes the Subject Lands proposed herein for unitization.

19. On February 2, 2024, Hoodoo contested the MMDA terms and conditions in a Petition of Appeal to the Trust Lands Administration Board. The Board has not determined whether to consider Hoodoo’s appeal. SITLA, HSO and Hoodoo are currently in settlement discussions to revise the MMDA terms and conditions.

20. The Operator sent a true and correct copy of this Request for Agency Action to all operators or owners and surface owners within the Subject Lands via certified mail, return receipt requested. A Certificate of Service is attached hereto.

21. Operator proposes to recover oil from heavy oil sands in the Rimrock and Asphalt Ridge Formations (“**Target Formations**”) by injection of steam to mobilize viscous hydrocarbons bound in the sand formation. Operator is authorized to conduct these enhanced recovery operations within four 40-acre tracts of the Subject Lands, within the Target Formations, pursuant to the Board’s Order in Cause No. 471-02 entered on December 8, 2022.

22. The Subject Lands are currently governed by the general well location and siting rules set forth in the Utah Administrative Code R649-3-2(1), authorizing one well to be drilled for production within a 400-foot square window in the center of every public land survey quarter-quarter section or equivalent lot.

23. The Target Formations do not constitute an Underground Source of Drinking Water as defined by R649-1-1.

24. HSO and AC Oil have agreed that the Subject Lands will be operated as a unit to prevent waste, increase the ultimate recovery of heavy oil, and protect the correlative rights of all owners.

25. HSO and AC Oil have further agreed that production from Tract 1 and Tract 2 will be allocated solely to the respective working owners of each tract, subject to production royalty as designated in the Unit Agreement.

26. HSO and AC Oil have also agreed that each will be solely responsible for the costs of developing and operating the wells within its respective tract.

27. On December 8, 2022 the Board in Cause No. 471-02 authorized Petitioners to conduct enhanced recovery operations for heavy oil recovery in four wells within the Subject Lands (subject to approval of underground injection permits.)

28. In May, 2024 petitioners drilled the HSO 2-4 and HSO 8-4 wells to the Target Formations at locations specified in the Board approved enhanced recovery project. Drilling of the HSO 8-4 well demonstrated the existence of the heavily bitumen-saturated Rimrock Sandstone of 126' gross thickness, and HSO 2-4 demonstrated the existence of 152' gross thickness of Asphalt Ridge Sandstone, the top 74' of which is heavily bitumen-saturated. HSO 2-4 also intersected a gross thickness of 180' of heavily bitumen saturated Rimrock Sandstone. Petitioners' exhibits to be submitted for the record will illustrate the HSO 2-4 and 8-4 well logs in cross section with the Tom Brown wells 5 and 6 demonstrating common source of supply of tar sands.

29. The well logs and core samples obtained from these wells demonstrate that the Target Formations are a common source of supply of tar sands within in the proposed unit area.

30. SITLA's terms and conditions for the MMDA issued on January 12, 2024 further defined bituminous-asphaltic sands under SITLA leases ML-53831 and ML-53832 as a hydrocarbon resource measured at reservoir temperature with a viscosity greater than 10,000 centipoise ("cP").

31. Petitioners' recent drilling results show that the Target Formations conclusively consist of tar sands because the viscosity of the bitumen contained in the rock, when measured at reservoir conditions, was significantly higher than 10,000 cP.

32. Each of the Target Formations in the proposed Unit Area separately constitutes a pool (or part of a pool) as defined by Utah Code 40-6-2(21) ("Pool" means an underground reservoir containing a common accumulation of oil or gas or both. Each zone of a general structure that is completely separated from any other zone in the structure is a separate pool. "Common source of supply" and "reservoir" are synonymous with "pool.")

33. Pursuant to Utah Code 40-6-2(13)(c), tar sands are to be considered "oil" for purposes of administering the Utah Oil and Gas Conservation Act when enhanced recovery operations designed to produce tar sands at the wellhead in liquid form have been approved by the Board per Utah Code 40-6-5(3)(c). Such enhanced recovery operations by Petitioners were initially approved by the Board in Cause No. 471-02.

34. The Target Formations are known to exist throughout the proposed unit area.

35. Petitioners therefore allege and will demonstrate at the hearing that the Asphalt Ridge and Rimrock Formations, consisting of tar sands to be recovered at the wellhead in liquid form by approved enhanced recovery, are each a common accumulation of oil within the proposed unit area in satisfaction of Utah Code 40-6-8.

36. Efficient ultimate drainage of the Target Formations using the enhanced recovery technology presented to the Board in Cause No. 471-02 requires a pattern of injection and production wells at a well-to-well distance of a range of 200 – 400 feet.

37. As required by Utah Code Ann. § 40-6-6, Petitioner will establish in its technical exhibits to be filed hereafter according to the Board's rules, and through testimony at the Board hearing that the Target Formations within the Subject Lands constitute a common source of supply for heavy oil sands. Petitioners will present documentary evidence and oral testimony in support of these conclusions.

38. The well-documented geologic characteristics, supported by Petitioners drilling data, show that the heavy oil contained in the oils sands within the Target Formations is completely immobile in its natural and undisturbed state and will not flow unless heated. Drill cores were cut for the Rimrock Sandstone in the HSO 8-4 well and the Asphalt Ridge Sandstone in the HSO 2-4 well. The cores were collected by a Corelab designate, preserved according to Corelab specifications and transported to Calgary for viscosity analysis. Viscosity of the Rimrock Sandstone bitumen in the HSO 8-4 core was estimated by Corelab at greater than 1,000,000 cP at reservoir temperature and viscosity of the Asphalt Ridge bitumen in the HSO 2-4 core was estimated by Corelab at 599,000 cP at reservoir temperature. The viscosity of the hydrocarbons are greater than 10,000 cP at reservoir temperature therefore classifying them as bitumen and satisfying the definition of "Leased Substances" under SITLA's lease nos. ML-53831 and ML- M3832 and SITLA's MMDA terms and conditions issued January 12, 2024. Temperature logs of the reservoir are illustrated in Petitioners' exhibits to be submitted for the record.

39. There is no recoverable natural gas or naturally occurring liquid hydrocarbons within the Target Formations.

40. The Target Formations are not under pressure relative to the surface.

41. The engineering characteristics of the approved enhanced recovery project show that application of heat to the Target Formations from injection of steam or other media will

support heavy oil recovery within a 100-foot radius of the injection site after approximately 30 years.

42. Operation of the Subject Lands as a Unit will increase, not decrease, the ultimate recovery of heavy oil from the reservoir, and therefore facilitate the greatest practical ultimate recovery of the heavy oil resource.

43. Petitioners request approval to begin Unit operations when they have obtained the written approval of 70% of the owners of the production or proceeds that will be credited to interests which are free of cost, such as royalties, overriding royalties, and production payments, and the Board has made a finding, either in the order providing for unit operations or in a supplemental order, that the plan for unit operations has been so approved.

44. Petitioners request that unit operations may continue so long as heavy oil is produced from the Unit.

45. As part of this Request, Petitioner has included in its Certificate of Service a list of all persons known to Petitioner after diligent search whose legally protected interests in the Subject Lands will be affected by this Request, together with their last known address.

WHEREFORE, Petitioner respectfully asks that this Request be set for hearing at the scheduled meeting of the Board on July 31, 2024, that due notice be given as required by law, and that, following the hearing, the Board enter an order:

1. Establishing and approving a plan of unit operations for enhanced recovery drilling, completion and production of wells in the Subject Lands and Target Formations as specified herein pursuant to Utah Code §§ 40-6-7 and 40-6-8;

2. Finding that the pattern of injection and production wells proposed by Petitioners affecting the Subject Lands and Target Formations satisfies the purposes of the general well location and siting rules R649-3-2 and 649-3-3 and suspending such rules to the extent they are inconsistent with the proposed plan of unit operations;



3. Designating the Unit Operator and providing for allocation of costs and proceeds to separate tracts in the Unit as specified herein;

4. Making such findings and orders in connection with this Request as it deems necessary; and

5. Providing for such other and further relief as may be just and equitable under the circumstances.

Respectfully submitted this 10th day of June 2024.

SNELL & WILMER L.L.P.



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## CERTIFICATE OF SERVICE

I hereby certify that on the 10th day of June, 2024, I e-mailed and/or mailed via certified mail, return receipt requested, a true and correct copy of the foregoing REQUEST FOR AGENCY ACTION OF HEAVY SWEET OIL, LLC AND AC OIL, LLC FOR AN ORDER ESTABLISHING THE ASPHALT RIDGE ENHANCED RECOVERY UNIT FOR THE INSITU PRODUCTION OF HEAVY OIL FROM SANDS WITHIN THE RIMROCK AND ASPHALT RIDGE DEPOSITS IN SECTIONS 22 AND 23, TOWNSHIP 4 SOUTH, RANGE 20 EAST, Uintah County, Utah., to the following:

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