

Other Business Arrangement Exploration Agreement with Option to Lease (ML 90039-OBA)

Northern Paradox Basin Brine Project
Grand County, Utah
Utah Energy Minerals LLC (“UEM”)

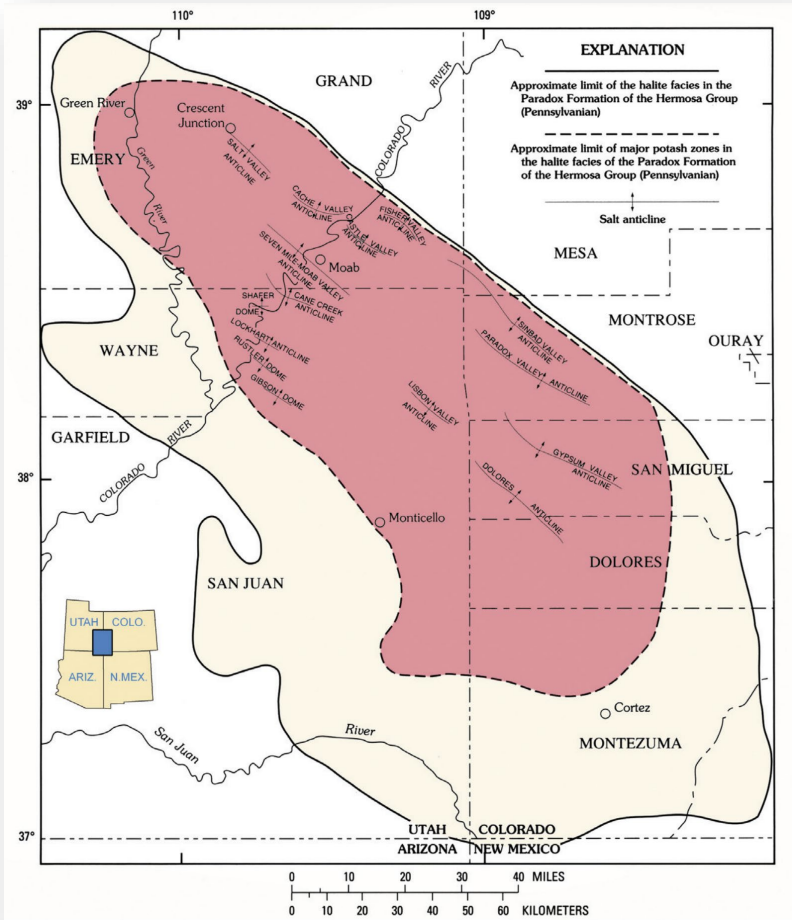
Tyler Wiseman – Lease Manager / Geoscientist



Northern Paradox Basin Brine OBA

Grand County

Geologic Overview



System	Unit	Thickness (feet)	Lithology	
Alluvium - dune sand	Trinity Basin Member	250-500	purple, green, red, yellow, mostly mudstone	
	Salt Wash Mbr	200-400	coarse, cross-bedded sandstone	
	Label member	3-60	medium sandstone	
	Summersville Formation	5-70	medium sandstone	
	Curtis Fm, Moab Member	80-110	medium sandstone	
	Entrada Ss, Slickrock Mbr	60-310	medium sandstone	
	Carmel Fm, Dewey Bridge M	20-80	medium sandstone	
	Navajo Sandstone	80-500	medium sandstone	
	Kayenta Fm	60-360	medium sandstone	
	Wingate Sandstone	220-420	medium sandstone	
TRASSIC	Church Rock Member	240-310	medium sandstone	
	Chinle Fm	70-120	medium sandstone	
	Orin Rock M	50-100	medium sandstone	
	Pinedale Forest M	50-100	medium sandstone	
	Moab Sand Ss M	0-100	medium sandstone	
	Moody Canyon M	40-120	medium sandstone	
	Torrey Member	100-200	medium sandstone	
	Sinclair Ls Mbr	0-20	medium sandstone	
	Black Dragon Mbr	0-20	medium sandstone	
	Hoskmini Sandstone Tongue	0-50	medium sandstone	
PERMIAN	White Kim Ss	0-200	medium sandstone	
	Organ Rock Fm	200-400	medium sandstone	
	Cedar Mesa Sandstone	200-1200	medium sandstone	
	Elephant Canyon and Halgato Fms (see expansion)	0-1500	medium sandstone	
	Honaker Trail Formation	0-3000	medium sandstone	
	PENNSYLVANIAN	Paradox Formation	500-900	medium sandstone
		Pinkerton Trail Formation	200-300	medium sandstone
		Molar Formation	0-100	medium sandstone
		Leadville Limestone	400-600	medium sandstone
		Orury Limestone	100	medium sandstone
Elbert Formation		100	medium sandstone	
Undivided Upper Cambrian dolomitic limestone, & shale		800-900	medium sandstone	
"Bright Angel" Shale		0-200	medium sandstone	
Ignacio Quartzite		100-200	medium sandstone	
Metamorphic rocks		-	medium sandstone	

Figure 2. Regional stratigraphic column (from Hintze and Kowallis, 2009; used with permission).

- Northern Paradox Basin
- Thick Pennsylvanian salt deposits
- Supersaturated brines
- Commercial possibilities for the extraction of Mg, K, Br, B, Li, and other minerals

King Oil No. 2 Big Flat, section 11, T. 26 S., R. 19 E., Grand County. Paradox Formation, 6196-6220 feet. Analysis by Chemical and Geological Laboratories.

Ammonia	1,330 ppm
Borate (B ₄ O ₇)	2,922
Bromine	1,150
Calcium	40,742
Chloride	259,106
Lithium	173
Magnesium	47,789
Potassium	41,957
Sodium	25,966
Sulfate	754
Total solids	421,889

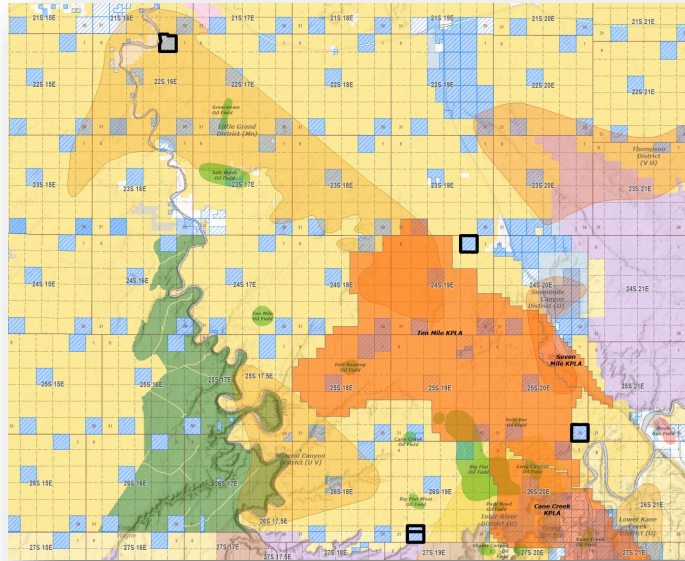
Northern Paradox Basin Brine OBA

T22S, R16E, Section 2, SLB&M

T24S, R19E, Section 2, SLB&M

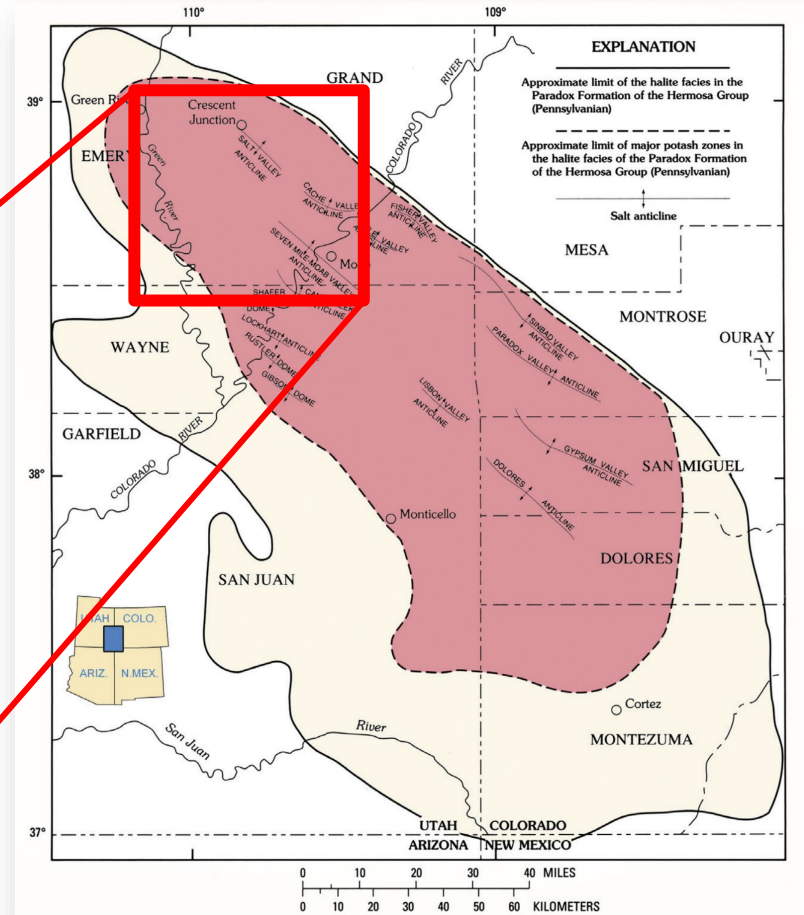
T25S, R20E, Section 36, SLB&M

T26S, R19E, Section 32, SLB&M



~2,480 Total Acres

School (100%)



Northern Paradox Basin Brine OBA

Proposal

• 5-Year Exploration Agreement

☐ Years 1-3

- Drill new well or re-enter existing well in northern prospect area
- Geochemical test formation of interest
- Yearly technical report/update

☐ Years 4-5

- Drill new well or re-enter existing well in southern prospect area
- Geochemical test formation of interest

☐ \$11.00/acre while in exploration agreement period

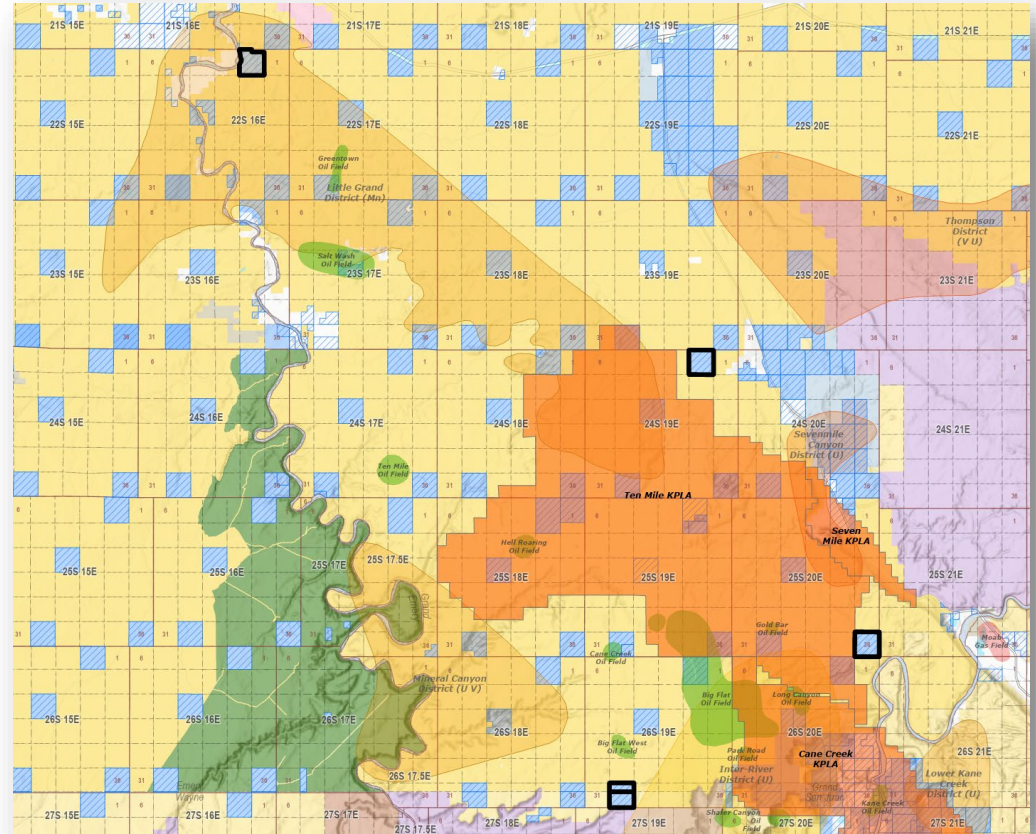
• Option to Lease All Commodities

☐ 10-year primary “Other” Minerals Lease

- lithium-rich brines, potash, mineral salts, metalliferous minerals
- \$8.00/acre per annum
- 5% royalty

☐ 5-year primary Oil, Gas, & Assoc. Hydrocarbons Lease

- including helium
- \$2.00/acre per annum
- 1/6th (16 2/3%) royalty



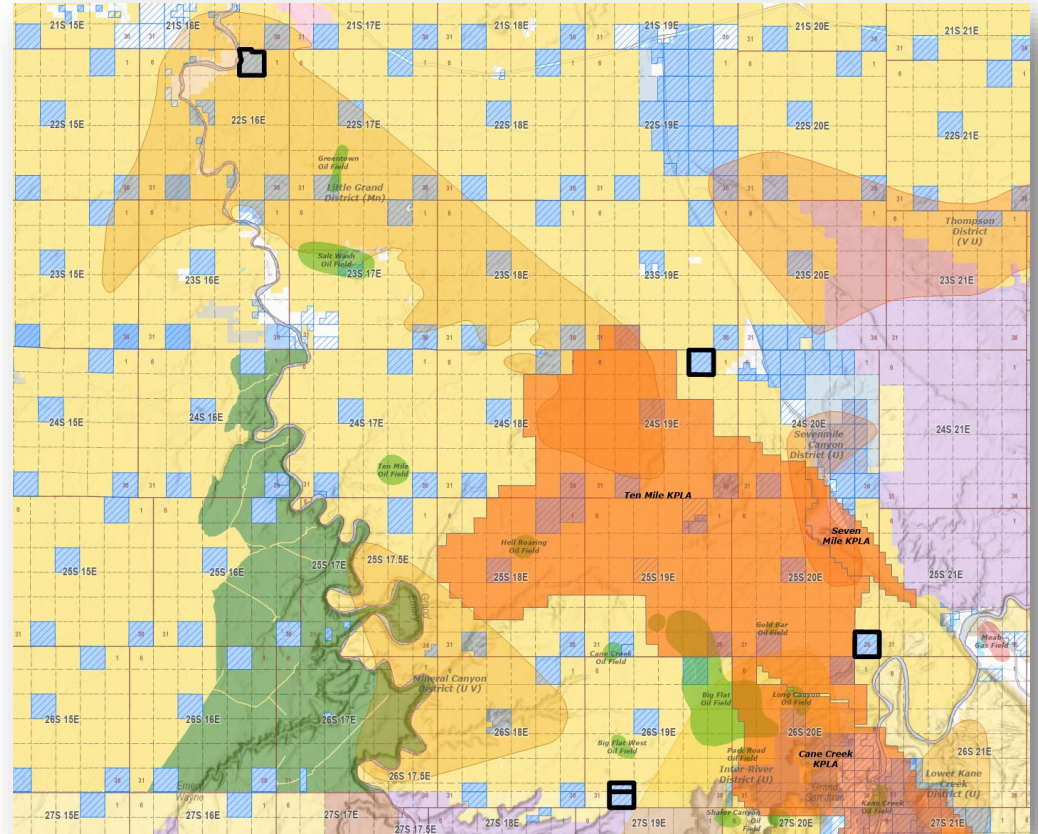
Northern Paradox Basin Brine OBA

Rationale & Recommendation

- Known (but unproven) brine resource
- 2,500-acre focused exploration
- 5-Year work commitment

This OBA proposal was reviewed by the Energy & Minerals Committee.

The Energy & Minerals group requests the Board approve the Northern Paradox Basin Brine OBA.



Questions?

Thank You

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