

5160 0004

*Lyon Co. - general*

*Item 18*

Walker Planning Unit

LANDS PROSPECTIVELY VALUABLE FOR LEASABLE  
MINERALS

GENERAL BACKGROUND

The only leasable minerals for which there is potential in the Walker Planning Unit are coal and sodium and potassium. The U.S. Geological Survey has indicated three areas prospectively valuable for potassium and sodium minerals and one area prospectively valuable for coal. These are shown on the Mineral Inventory Overlay. In general the sodium and potassium minerals are associated with basin deposits and playas in Smith, Mason, and Alkali Valleys and the coal with Tertiary lake and stream deposits in the East Walker River area.

The only sodium and potassium production has occurred in the northern end of the Mason Valley prospectively valuable area at Wabuska salt marsh north of the planning unit. In the early 1930's sodium sulfate was extracted and shipped by the American Sodium Company to Washington and Oregon for use in paper production (Archbold, in Moore, 1969). There has been no production since that time.

Coal was produced from the Lewis coal mine in the northwest corner of Section 2, T. 7 N., R. 27 E., and southwest corner of Section 35, T. 8 N., R. 27 E., in 1919 by the Nevada Coal and Oil Company. This company also drilled unsuccessfully for oil on the property. There has been no production since 1919 mainly because the coal is generally low rank and is remote from users (Archbold, in Moore, 1969).

Oil and gas are not considered by the U.S. Geological Survey to be prospectively valuable in the Walker Planning Unit.

GEOLOGY AND TECHNICAL DATA

The Wabuska sodium sulfate deposits lie in hot and cold springs in a flat saline valley. Archbold (after Russell (1885), in Moore, 1969) gives the following sequence of deposits near the surface of the salt marsh:



## Walker Planning Unit

White, hard crust of sodium sulfate, sodium chloride, calcium carbonate, and other deposits...1-2 inches

soft, clayey sodium sulfate, calcium sulfate, calcium carbonate and other deposits...2-7 inches

clear crystals of sodium sulfate with some earthy impurities resting on saline clay...6-8 feet

Surface samples of mixed sodium chloride and sodium sulfate from the Wabuska salt marsh show minor amounts of potash but no lithium, rubidium, cesium, nitrate, phosphate, or borate salts.

Coal from the Lewis mine lies in a Miocene and Pliocene sequence of tuffs, conglomerates, sandstones, and shales. A six foot thick outcrop of coaly material strikes N 15° E for a distance of about 4000 feet and dips 20° - 40° W. The coaly material in outcrop looks like thin-bedded, lignitic shale with thin, coaly layers and numerous veinlets and seams of gypsum.

Workings consist of two sites about 2000 feet apart along the strike of the seam. The northerly site contains an incline driven 400 feet down the dip of the seam with some short lateral exploratory drifts. The southerly site contains two adits 700 and 900 feet long driven along the strike of the seam.

In deeper parts of the adits the coaly material improves in quality becoming layers of shale, "bone", and subbituminous or lignitic coal up to a foot thick. Reported analyses of air-dried samples give the following ranges: moisture, 15-25 percent; volatiles, 24-30 percent; fixed carbon, 15-40 percent; ash, 16-44 percent; and sulfur, 3-5 percent (Archbold, in Moore, 1969).

### CURRENT ACTIVITY

There are no leases issued in the Walker Planning Unit for sodium and potassium. The only activity regarding these leasable minerals is a pending prospect permit application from Earth Sciences Inc. of Golden, Colorado to conduct exploration for alunite with by-product potassium minerals.



## Walker Planning Unit

The lands are in the "Elbow" of the East Walker River and are described in the East Walker mineral area of this report.

No coal leases or prospecting permits are issued or pending.

Despite the planning units lacking prospectively valuable oil and gas there are presently two issued leases for oil and gas. The lessee is Velko Milinich and the leases are described as:

E 1/2, Section 36, T. 8 N., R. 27 E.

All of Section 31, T. 8 N., R. 28 E.

No known drilling has occurred or is planned on these leases.

### ACCESS

Since practically all of the leasable mineral occurrences are in the valleys, access via light-duty roads is readily available from Yerington and Hawthorne.

The Lewis coal mine is reached by unimproved dirt road leading south about 3 miles from the East Walker Ranches Road at a point about one mile south of the Morgan Ranch.

### PRODUCTION STATISTICS

No known record of leasable minerals production at either the Wabuska salt marsh or the Lewis coal mine has been published.

### POTENTIAL FOR DEVELOPMENT

The potential for sodium and potassium minerals is considered minor in the Walker Planning Unit except for possible by-product potassium in association with alunite. Although present in the planning unit sodium and potassium minerals are not considered of sufficient quality and quantity to compete with more extensive deposits elsewhere in the district.



As stated before, the coal in the area of the Lewis mine is probably too low grade and too remote from users to be competitive with other western coals.

#### MANAGEMENT OPPORTUNITIES

The opportunities exist for sodium and potassium minerals and coal to firstly identify and define the types and amounts of mineral resources by allowing industry field work and modern exploration methods to be utilized. Secondly, the opportunity exists to protect prospectively valuable lands for sodium, potassium, and coal from any actions that might hinder or prevent exploration for these minerals.

#### COMPANIES AND CLAIMANTS ACTIVE IN THE AREA

1. Earth Sciences, Inc.  
Highway 93 North - Golden, Colorado 80401  
(prospecting permit for 5519.11 acres)
2. Milinich, Velko  
736 N. Thurman Street - Porterville, California 93257  
(oil and gas leases for 963.68 acres)

#### SELECTED REFERENCES

Moore, J.G., 1969, Geology and mineral deposits of Lyon, Douglas, and Ormsby Counties, Nevada: Nevada Bur. Mines Bull. 75.

Stoddard, C. and Carpenter, J.A., 1959, Mineral resources of Storey and Lyon Counties, Nevada: Nevada Univ. Bull., v. 44, no. 1, Geol. and Min. Ser. no. 49.



Walker Planning Unit

AREA: BLM COMMUNITY PITS  
(sand, gravel)

GENERAL BACKGROUND

Two community pits for sand and gravel are located in the Walker Planning Unit. The names are listed below:

<u>NAME</u>	<u>LOCATION</u>
Upper Smith Valley	T. 13 N., R. 24 E. W 1/2 SW 1/4 Section 16 and E 1/2 SE 1/4 Section 17
Wassuk	T. 14 N., R. 26 E. SE 1/4 NE 1/4 Section 36

Only the Wassuk pit is presently under contract for material. Upper Smith Valley has been inactive for at least five years.

GEOLOGY AND TECHNICAL DATA

Abundant sand and gravel deposits are found throughout the Walker Planning Unit in the alluvial valleys and pediment surfaces mainly on the west flanks of the Singatse and Wassuk Ranges. Thick local accumulations may be found in torrential alluvial fans at the mouths of major canyons.

POTENTIAL FOR DEVELOPMENT

As growth continues in the planning unit the need for construction and maintenance materials will steadily increase. The size and location of new materials sites will depend largely on volume needed and proximity to construction sites. Due to the high haulage costs materials sites must be reasonably close to the use area. For this reason, consideration of potential community pit sites near developing areas is a vital factor in any planning for orderly community growth.



MANAGEMENT OPPORTUNITIES

Since the needs and sites for sand and gravel can be so use-specific while the many alluvial deposits in the planning unit are so varied as to content, amount of material, and physical characteristics, it is difficult to anticipate what type of deposits will be needed and where they should be planned for.

Management opportunities for sand and gravel therefore appear to be primarily to protect from disposal or restriction any lands in the planning unit which may have potentially valuable deposits of sand and gravel.

There is also the opportunity to define and delineate through detailed geologic studies the types and amounts of the different sand and gravel materials that may conceivably be used in the future.

The opportunity also exists to continue to allow development of the sand and gravel at the the two community pits and to protect the lands involved from actions which might hinder or prevent exploitation of material by the general public.



Taken from :

.42 Minerals

Inventory and Analysis  
of the  
Walker Planning Unit

Carson City District  
Nevada and California

by

J. R. Gilbert  
1976

see Lyon County - general  
file, Item 13 for general  
pre face remarks.