5/60 0001

(186)

Item 1

SW-1-2
(U, Alunite,
Clay)

AREA: EAST WALKER (Part of Washington District)
(uranium, alunite, montmorillonite clay)

T. 6, 7, N., R. 26, 27 E.
Lyon and Mineral Counties, Nevada
U.S.G.S. Aurora and Bridgeport, Nevada-California
quadrangles 1:62,000

GENERAL BACKGROUND

The East Walker area encompasses that portion of the East Walker River known as the "Elbow", the East Walker River Valley north from the "Elbow" to just north of Raccoon Beach, and east almost to the road to Fletcher.

No significant mining has taken place in the East Walker area itself but several small deposits of silver chloride, gold, and copper were discovered and worked in the late 1800's just north of the area. No production was recorded, however, prior to 1940 (Moore, 1969). These small mines and prospects were organized into the Washington mining district of which the East Walker area is the southern extension.

In 1950 uranium minerals were discovered in the Washington district. Although prospected heavily, the district has yielded only a small production. Prospecting continues to date.

GEOLOGY AND TECHNICAL DATA

Little about the detailed geology has been published. Moore (1969) describes the area as being underlain by porphyritic quartz monzonite plutonic rocks which crop out in the East Walker River canyon and the hills to the west. Staatz and Baur (1953) further characterize the igneous geology of the area by saying that numerous aplite and a few perthite dikes cut the host plutonic rocks. Most of the aplite dikes follow northeast-trending joints. To the east of the area the plutonic rocks are overlain by Tertiary sediments. Tertiary andesitic volcanics composed of flows, flow breccias and agglomerates with interbedded sediments crop out to the east and south.

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These volcanics are altered and silicified as shown by outcrops in the canyon near the "Elbow" of the East Walker River.

Uranium mineralization occurs in four types of deposits:

1) Quartz veins in association with lead, copper, and silver minerals; 2) Iron-stained and partly argillized granite adjacent to the quartz veins; 3) Fault gouge zones; and 4) Hot springs. Uranium occurs as minute, disseminated grains of pitchblende in the quartz vein deposits and as small scattered grains of torbernite in the altered granitic and fault gouge deposits. The radioactivity of hot springs such as Grant View Hot Springs in E 1/2 SW 1/4 Section 4, T. 7 N., R. 27 E., is thought to be due to one of the short-lived daughter products of uranium, such as radon. This is indicated by the fact that upon standing, water from the spring rapidly loses its radioactivity (Staatz and Baur, 1953).

Two other uranium prospects that occur in the East Walker area are the Boerlin Ranch prospect in Section 18, T. 7 N., R. 27 E., and the Snowball No. 1 prospect in Section 22 (?), T. 7 N., R. 27 E. Uranium occurs in the former prospect in an altered, iron-stained fault zone in granodiorite. The zone is about 80 feet long a maximum of 25 feet wide and trends N 65° E. At the latter prospect an unidentified radioactive mineral occurs in a highly altered; varicolored rhyolite volcanic host rock (Garside, 1973).

CURRENT ACTIVITY

This is one of the most active areas in the Walker Planning Unit at present.

A new block of reportedly uranium lode claims has been located in the Grant View Hot Springs area in Sections 3, 4, 8-11, and 14-21, T. 7 N., R. 27 E. Some drilling by an unknown major company has reportedly taken place.

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Earth Sciences Inc. has recently applied for a prospecting permit to explore for suspected alunite deposits in the altered volcanic rocks in the "Elbow" of the East Walker River canyon. The permit applications cover 5519.11 acres of which about 40% is on national resource lands. The prospective permits cover the following lands:

T. 6 N., R. 26 E.
Section 1 - Lots 3 and 4, S 1/2 NW 1/4, N 1/2 SW 1/4
Section 2 - Lots 1-4, S 1/2 N 1/2, N 1/2 S 1/2
Section 3 - Lots 1-4, S 1/2 N 1/2, SW 1/4, N 1/2 SE 1/4
Section 4 - All
Section 9 - N 1/2 NE 1/4
Section 10 - N 1/2 NW 1/4

T. 7 N., R. 26 E.
Section 25 - Lot 4, S 1/2 SW 1/4, SW 1/4 SE 1/4
Section 26 - S 1/2 SW 1/4, SE 1/4 SE 1/4
Section 27 - SE 1/4 SW 1/4, S 1/2 SE 1/4
Section 33 - S 1/2 S 1/2
Section 34 - E 1/2, E 1/2 W 1/2, SW 1/4 SW 1/4
Section 35 - NE 1/4 NE 1/4, SW 1/4 NE 1/4, W 1/2, SE 1/4
Section 36 - NE 1/4, SE 1/4 NW 1/4, SW 1/4, W 1/2 SE 1/4

T. 7 N., R. 27 E.
Section 20 - S 1/2 S 1/2
Section 21 - S 1/2 SW 1/4
Section 28 - NW 1/4
Section 29 - N 1/2, N 1/2 SW 1/4
Section 30 - Lot 4, S 1/2 NE 1/4, SE 1/4
Section 31 - Lots 1-5, S 1/2 NE 1/4. SE 1/4 NW 1/4

Earth Sciences suspects that alunite, a hydrous sulfate of aluminum and potassium, occurs in a 5 to 6 mile long northeast-trending linear zone of solfateric alteration in Tertiary volcanics. Possible yield may be as much as 100 million tons of ore containing 20 to 30 percent alunite. The alunite would be mined for alumina and associated kaolinite. Exploration for the alunite is expected to follow a four stage program with each succeeding stage being dependent on favorable results from the preceding stage. The first stage is to be detailed field mapping and hand sampling. Stage two will employ small diameter (2 3/4 inch) rotary percussion drilling.

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The third stage will be large-diameter deep drilling (5 1/2 inch diameter with maximum 1000 foot depth) using a standard, truck-mounted, rotary drill. The final phase will involve additional drilling and testing of large volumes of material.

The prospective mining of montmorillonite clays for use as soil conditioner and cattle feed has very recently commanded attention in the East Walker area. A group of mining claims located in Section 20, T. 7 N., R. 27 E., is proposed to be mined for clay within the next month. The clay occurs as a steeply-dipping sedimentary interbed in Tertiary andesitic volcanic rocks and according to the claimant possesses types and concentrations of trace elements which make it extremely valuable as a soil and cattle feed additive. Some extraction for testing purposes has taken place on the claims but production mining is not known to have commenced.

ACCESS

The "Elbow" of the East Walker River is reached by a light-duty, unpaved road leading east from Route 22 and west from Fletcher cross roads. Access to the canyon north of the "Elbow" and the northern half of the area is gained from the East Walker Ranches Road which extends north from Fletcher to its intersection with Route 3 just east of Wilson Canyon. An unimproved road intersects the East Walker Ranches Road about five miles north of Fletcher and leads west into the canyon. Several subsidiary roads lead from this road to various parts of the East Walker area.

PRODUCTION STATISTICS

No production has been recorded from the East Walker area.

POTENTIAL FOR DEVELOPMENT

The mineral potential for the East Walker area is virtually an unknown quantity at present. The area has never yielded base metal ores. Uranium prospects have been small and sporadic and no appreciable production of uranium has occurred in the past.

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Since the uranium occurs in localized veins and alteration zones and not as bedded sedimentary deposits, future discoveries are not expected to reveal economically significant uranium reserves.

Demand for various nonmetallic minerals has, however, dramatically increased in the past years so the seemingly barren East Walker area may become increasingly important from the stand point of nonmetallic mineral resources.

Alunite is viewed as an important new source of aluminum a vital raw material to the United States and one which is almost entirely imported. If sufficient alunite reserves are located in the East Walker area to sustain an economic operation the area may command some importance as a domestic source of aluminum.

Montmorillonite clays have a good market as soil conditioner and cattle feed additive. If the clays of the East Walker area are indeed possessed of unique qualities that enable legal extraction under the general mining laws the area may develop into a major montmorillonite clay source.

MANAGEMENT OPPORTUNITIES

The opportunity exists to further identify and define potential alunite deposits in the East Walker area. Much additional field work and exploration is needed to delineate and measure the reserves of this potentially valuable source of aluminum.

An additional opportunity exists to protect these lands from any restrictions which might appreciably affect the search and definition of the alunite resources.

The opportunity also exists to protect all the lands within the East Walker area from exclusion from location under the general mining laws so that potentially valuable minerals may be discovered and defined.

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COMPANIES AND CLAIMANTS IN THE AREA

1. Earth Sciences, Inc.
   Earth Sciences Road - Golden, Colorado 80401
   Claims: FMR Lodes Nos. 61-64 and 84-87
   (8 lode claims and 5519.11 acres under prospecting permit application)

2. Miller, Kent D.
   12431 N. 65th Street - Scottsdale, Arizona 85254
   Claims: Chet Lode Claim Group
   (144+ claims)

3. Palosky, Kenneth
   Box 345 - Babbitt, Nevada
   Claims: Whitehot Lode Claim Group
   (85 claims)

4. Tuttle, James and Alice,
   C. Lucus
   Box 956 - Hawthorne, Nevada
   James Johnson Jr.
   10 State Street - Reno, Nevada
   Claims: Billy Boy Nos. 1-9, 16-49, and 50-55;
   T and E Nos. 2-6
   (total 54 lode claims)

SELECTED REFERENCES

Baur, Charles W., 1974, Preliminary report FMR alunite property Lyon and Mineral Counties, Nevada, unpublished report Earth Sciences Inc., Golden, CO.

Couch, B.F. and Carpenter, J.A., 1943, Nevada's metal and mineral production (1859-1940,inclusive): Nevada Univ..Bull. v. 37, no. 4, Geol. and Min. Ser. no. 38.

Garside, L.J., 1973, Radioactive mineral occurrences in Nevada: Nevada Bur. Mines and Geol. Bull. 81.

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

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Staatz, M.H. and Baur, H.L., Jr., 1953, Uranium in the East Walker River area, Lyon County, Nevada: U.S. Geol. Survey Bull. 988-C.

Partial field examination J.R. Gilbert April, May, June 1976.

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R26E
R27E
Planning Unit Boundary
Speculative Area SW-1-2
T7N
T6N
LYON CO
MINERAL CO
Ravenel Ranch
The Elbow
Nonemile Ranch
BM 6754
BM 6432
BM 6326
BM 6306
BM 6302
BM 6217
BM 6163
BM 6120
BM 5625
BM 5857
BM 5943
BRIDGEPORT QUADRANGLE
CALIFORNIA—NEVADA
15 MINUTE SERIES (TOPOGRAPHIC)
AURORA QUADRANGLE
NEVADA—CALIFORNIA
15 MINUTE SERIES (TOPOGRAPHIC)

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 preface remarks.