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DAVID LECOUNT EVANS, CONSULTING GEOLOGIST

DELSA MERCURY PROPERTY

White Pine County, Nevada

A PRELIMINARY AMALYBIS

October 23, 1967

Foreword:

The property was examined at the request of Mr. David Obensteine of Mine Organization and Development Company. Field efforts were concentrated at the property's south end, with the thought of trying to establish an immediate economic reserve. Studies, continuing north for 3000 feet, were limited to simple reconnaissance.

Our use of the qualifying "Preliminary" accepts the poss-

Plats, consisting of plans and sections, are affixed to the back of this written text. Their study is urged.

Purpose of Study:

To geologically map and sample in detail the south area has been the primary purpose of this study.

an understanding of the factors controlling mineralizate ion, the use of this knowledge in locating same le sites and, finally, the assaying of samples by a reputable custom assayer, are the three major requirements for reserve calculations.

To hurriedly extend observations to the north, beyond the limits of the above detail, for purposes of an initial impression, only, has been our secondary purpose.

This additional effort has, not only, provided broad regional pelationships, but has, also, indicated that this greater area merits a continuation to the north of detailed mapping and sampling.

Conclusions:

It has been corpluded that:

(1) South-area mercury mineralization is limited to porous beds in an older limestone-dolomite section, two of which have sufficient width to unierwrite a mossibly mineable reserve.

- (2) On the basis of beds, partially opened, using personal sampling, and including reasonable extensions, reserves for open-pit operation do not exceed 21,000 tons, assaying 4.38 pounds of mercury perton.
- (3) The entire trend reflects a structurally-active and geologically-complex area which, with widely distributed shows of mercury and antimony mineralization. Offers continued exploratory and development oppositualty. In short, possibilities need not be limited to the south area.
- (4) work, completed to date at the south end and small reserves cannot, categorically, condemn possibilities.

Recommendations:

It is recommended that:

- (1) Assuming that an equitable arrangement can be made with lessors to forgo approaching payments,
 - (a) additional work be done at the south end, as outlined below under "Continued Development";
 - (b) detailed studies be continued to the north, before winter conditions make such a program an impossibility.
- (2) Under no circumstances, lessess be required to meet the \$30,000 pending payment to lessers, before Recommendation #1 is completed. If lessors insist on payment, continued effort is not advised.

Proceedures:

Three and one half days of actual field study provide the details forthis preliminary analysis. Four and one half days of actual field time include travel. Four days of office effort have gone into the organization and assembling of information and drafting.

South area observations are tied to Brunton compass-taped base points, using Brunton intersections for points not taped. Results are accurate. Contours, on the other hand, are less accurate, but adequate, since they were established, using Brunton-per cent-grade readings and scaled distances.

Progress north from the south area employed Brunton and pacing methods and is subject to adjustment.

Samples were cut, as described below, with analyses provided by Metallurgical Laboratories, 1142 Howard Street, San Francisco. Metallurgical Lab oratories enjoys an excellent reputation and is headed by Mr. Martin Quist, formerly Chief Chem-

ist for Abbot A. Hanks, as well as Chief Assayer, at one time, for the New Idria Quicksilver Company. Samples were shipped to Mr. Quist on October 15, with results received October 19/

locations

With reference to our Plat A, the Delsa property lies in sections 18 ami 19. Township 23 North, Range 58 East, White Pine County, Hevada; northeast of Eureka and northwest of Ely. Nevada. Workings are on Alligator Ridge which flanks Long Valley on the west.

General and Limiting Conditions:

Access; (see Plat A)

There are two road approaches to the Delsa property. From the southeast and Highway 50. 36 miles of all-weather road, gravelled, resches t within 5 miles of the prospect. The remaining five miles, rutted and in soft graund, would present problems in inclement weather. Distance from Ely, a supply point, is 70 miles.

From the southwest, distance from Eureka is 71 miles.

49 miles via paved road to the Warm Springs turn-off, then

85 miles over good gravel to the Mooney Basin road, and.

finally, 75 miles, collowing very narrow, mountain and valley
road to the base of Alligator Ridge, the last two miles

of which is soft and deeply rutted.

For operating purposes, the Ely approach is to be preferred.

Power Supply:

The area is without power.

Water Supply:

Except for Spring run-off, no surface supply exists. A well, within 19 miles of the property in Mooney Basin, indicates that water can be developed through wells for operating and domestic purposes.

Mill Sites:

Terrain is such that will sites, away from mineralized areas, are plentiful.

Tailings Disposal:

Adequate space exists for the disposal of tailings. Much burned material would go into road improvements.

Labor Supply:

Supply should be adequate from both Ely and Sureka, both mining centers.

Terrains

Mileage figures, shown on Plat A, are in Booney Basin, at the base of Alligator Ridge, at an elevation of about 6800 feet. Elevation on the ridge at the south area of the property is 7050 feet. Approach from Booney Basin is via new, soft road which could be difficult in wet weather.

Climates

Year-round operation is not assured, since winter snows are heavy.

Local Title:

Mr. F. B. Staheli, 279 South 3rd East Street, of Payson, Utah, is locator of some 56 claims, covering mineral possibilities, from the south development area in section 19, north through section 18, across the Mooney Basin road, into the ridge area of sections 8 and 5. Sixteen claims in sections 18 and 19 are of concern in this preliminary study.

Heither have claims been checked, nor is this report accompanied by a claim map. In the event of continued interest, lessess should assure themselves that claims provide complete woverage and are in order.

Mistory of Property and District:

Plat A shows the Bald Mountain Mining District, 8 miles to the northwest from the Delsa property. The district, a very minor producer, lies in the pass between Bald Mountain and South Bald Mountain. Discovered in 1869, one mine shipped \$20,000 in silver chloride ore. Another property produced a little copper carbonate in 1906. Some tungsten has been receomized.

The record shows the existence of no mercury properties or possibilities in White Pine County.

Old pits indicate that others prospected the Delsa area before Staheli interest. Mr. Staheli, seme 7 or 8 years ago, worked the area for antimony. With the price low, he dropped his claims, only to relocate them about two years ago when antimony prices recovered. Working south Mr. Staheli left the hard silica area and enterred the softer limestones and dolomites, carrying encouraging mercury values. I, has been at the south end that efforts of recent years have been concentrated.

Minerals Exploration, an Ely-based exploration company, leased the property, recentley, built roads and drilled the south area, with some holes going as deep as 150 fact; the company then dropped its option. Records have not been made available.

Geologys

Introductions

Three and one half field days account for the sketchiness of description which follows. Improvement in detail
can be expected with continued mapping. On the other hand,
(1) the broad principles of overthrust faulting, (2) the
a finity for cinsabar with those limestone and dolomite
beds having good porosity and permeability and (3) the
general pattern of the brecciated silica mass and its significance north of the south area, appear sound and guides
for continued effort.

Plats B. D. E and F are concerned with geological discussion. Plat B. annotated, explains color schemes and symbols.

General Summary:

Plats B. S and F illustrate the overthrust interpretation referred to under (1) above. Happing suggests the possibility, and it is believed that continued mapping will strengthen the hypothesis, which would not be out of place in the overall area.

In short, the Upper Plate, consisting of a limestone member, associated with pockets of fine silt, and a chert-replaced lower member, has been thrust up and over an underlying member (or lower Flate) of limestone, porous limes and dolomite and dense limestones.

Cinnabar mineralization favors the porous limes and delomites of the lower Plate, as ma ped and shown on Plats B and E2.

Cinnabar also suts the brecciated silica mass, but detail has not been completed. Antimony, as oxide and sulphide, is also widely distributed and deserves future, more detailed consideration.

Petrology:

Lower Plate Members:

Shown in pale blue, light purple and indige blue on Plate B. beds striking Hi7E and with average 80 degree dip to the northwest, differ from the limestone of the overlying plate on the basis of physical appearance and strike and dip. Note on Plat B the lettering A through D, for four beds of good poresity, all characterized by cinnabar in varying amounts. A ami C, in light blue, represent fragmented limestone partially recemented. B ami D are dominantly dolomitic with excellent intercrystalline poresity and permeability. The Indigo blue (with closely spaced lines) is massive, gray limestone, without any helpful poresity.

Shales, encountered by drilling through the silica mass and exposed under the silica by dozer, are probably a unit of the Lower Plate.

Upper Plate Hembers:

A gray limestone, with average porosity, is persistently associated with pockets or centers of finally-banded clastics (limey milt or milty lime). The pockets appear militaries, and variations in color are responsible for the local name "picture rock". The unit is shown by lime symbol, scattered "stippling" and medium blue coloration.

The breeciated chert mass (see Plats E and F), sho we in yellow and with triangle symbol, is considered a unit of the Upper Plate member, representing an original bed, replaced by chert. The breedisted character could be attributed to fracturing, associated with the overthrust movement.

Structures

The uniformity of dip and strike for the lower member suggests no minor structural complexities.

But, as suggested above, the difference in physical make-up, the abrupt shift in strike and dip between lime-silt and lime-dolomite sections, and the existence of an oxidized fragmental sone, with considerable crushed and soily material, between members, suggests a fault sone.

Of considerable significance is the existence of silica breccie fluat, in the above described 'rotten' some, at the surface in the south area, 350 feet southeast of the lest silica, mapped in place.

On the basis of distribution, indicating a flat some, and because of the nature of the area, the zone is considered a regional overthrust.

Mineralizations

Gangues

The brecciated chert member indicates that silica ro-

placed at least one member of the Upper Flate, before overthrust movement. One hole cut 40 feet of stlice-breccia thickness.

Metallics

Cimnaber mineralization follows fractures cutting the brecciated chert mass, and enters the porosity and permability of the Lower Flate limestone and dolomite members. Post-everthrust mineralization is suggested.

Antimony mineralization (dominantly the oxide, valentinite) as observed to date, favors the Upper Plate , occurring probably along fractures which cross the member. It was not observed in the Lower Plate limestones and dolomites.

Barite (barium sulphate) was observed at the north emit in section 18. Its control and background can only be determined by continued study.

Application:

Progress to date indicates:

(1) an affinity of cinnabar for the batter porosity and permeability in the Lower Plate rocks.

The geological analysis above suggests the benefits which might accrues from extended study, namely:

- (1) trends of mineralisation (mercury, an timony and possibly barite) associated with fracture somes crossing the unit of breceisted chartification;
- (2) the replacement of still uniiscovered, porous and permeable beds, unierlying the overthrust and close to lines of fracturing which carried mineralisation through the brecciated chert member;
- (3) the approach applying both to mercury and anti-

Development:

Existings

Existing development is limited to bull-dozed roads and a few shallow pits in the south area, the deeper holes drilled by Manerals Exploration, and a great number of shallow, ten to thirty foot holes, in the mineralized area, completed by the present lessee.

It is unierstood that records for the deeper holes exist and such should be acquired and studied as work progresses. The same applies to recent shallow drilling.

Continued:

Immediate continued development is proposed for the south

Considering Plat B-2, shown in blue, cutting beds A and B are a series of tranches, normal to trands, spaced to extend mineralization and to further explore beds C and D.

Samples and Results:

Fourteen samples were taken on the last day of study. Ten represented material, chipped from structural exposures; two utilised broken rock from shallow pits, on structure, the samples the product of quartering; and two were taken from exposures between or removed from structures.

At the beginning it was hoped that the four porous beds would have high values, the intervals between low values (but in excess of 2 pounds), and that the two categories, properly weighted, would give a low but economic average across 135 feet of width.

Our results, tabulated below, indicate that two of the four beds lived up to expectation, with the remaining two, low in grade or two narrow to carry its own weight.

The "between structures" sample \$4639 (0.04 pounds) would contribute nothing to a mining width of 70 feet, including beds A and B; and sample \$4644, 260 feet west of the mineralized area (and 0.04 pounds) failed to duplicate the 2 pounds, reported by owner from the same isolated exposure.

Results are listed as fallows:

Sample #	Percury 5	Ibs/ton
4631	0.012	0.24
4632	0.002	0.04
4633	0.006	0.12
4634	0.312	6.24
4635	0.015	0.30
4636	0.005	0.10
4637	0.011	0.22
4638	0.269	5.38
4639	0.002	0.04
4640	0.026	0.52
4641	0.002	0.04
4642	0.163	3.26
4643	0.003	0.06
4644	0.002	0.04

Sample 4	Description
4631	b feet, scross D bed show(using willewite screen) at top of slope.
4632	6 feet across possible extension of G bed; lime breedia; much iron oxide; cut six feet up slope from 8" of positive HgS
4633	Above main lower bench; across 12 fact of A bed, fr m west lim- it; solid; partial oxide; vis- ible EgS; remainder of Bed A covered by "rubble
4634	Bed A. on bank west of main lower bench; 20 feet covered with good NgS, but not in place; this cut from 1° definitely in place.
4635	Down trend of Bed A to SW; ex- posure of west limit; sample from broken muck; bed A
4636	Small pit on easterly edge of Bed B; dolomite with scattered small crystalline HgS; muck from pit bottom quartered by shovel to proper sample size.
4637	Small pit, below 4636, east edge of Bed B, at main lower bench; delomite; reported pit had values. Sample by quartering from muck.
4638	Along beach sill from 4637 to 15 feet west; delomite; mixture of good good streaks and waste; sample chipped from solid.
4639	Gap between A and B beds, at face of main lower bench; oxidized broken a limestone; part of exposure panned cimmabar; 15 feet of cut starting at west side
4640	East of main lower bench: Bed C: cut across four feet, but only two feet of good mineralisation; believe sample across 2 feet bears repeating.

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Sample

4641

Bast of 4640 sample; Bed D; 10 feet of very sugary dolomite with traces HgS

Description

46h2

lowest exposure 3 bed at base of slope, below main lower bench; scross 15 fest from west margin; starting in brecciated line, then 10 feet + of sugary dolomite with purplish crystalline MgS

4643

East of 4642; lowest exposure of D bed; across 30° but only good shows appear limited to less than 2 foot, east side; needs further opening up and resamplings

MANA

See Plat B; limestone area 260° west of mineralized area; 6° across lime and delomite, with some reddish exide streaks; owner tack 2°; pound sample from better de waloped exide higher up on exposre; would not repeat, despite fact that some of better exide was added to sample, for experimental reasons.

Roservesi

With the depost appearing unaconomic, on the basis of development to date, "Ore" is not affixed to "Esserves".

Sampling indicates that A and B beds offer the only possibilities, and they have been colored, accordingly, on Plat B2. Therefore, turning to Plat C and Sections A-A* and B-B*, we have the bases for the 21,000 tens @ 4.38 pounds, mentioned under "Conclusions".

Section B-B*

Tonnage of 11,000 tons based in strike extent from just below sample 4642 to 35 feet above sample 4638, and a triangle extension of 80 feet, up slope beneath fault debris. The square area of section times 15 feet of width and a factor of 12,5 cubic feet per ton provides the 11,000 figure.

The grade of 4.32 pounds represents an arithmetic a average of samples 4642 and 4638.

Section A-A9

Tomage of 10,000 tons, starting with same working pit depth as B-B*, with strike extent from sample 4635 (on structure) to 4633 sample, and a triangular extension of 65 feet up slope beneath fault debris. Square area of section, times 20 feet of width and a factor of 12.5 cubic feet per ton, gives tonnage.

Grade: accepting the possibility that samples 4635 and 4633 may be on the low sige, a 2.22 pound average for samples 4633, 4634 and 4635 is presented as the lower limit. Conversely, the 6.24 pounds for sample 4634 is presented as the upper limit. The average of 2.22 and 6.24 amounts to 4.44 pounds.

The average grade for Blocks A-A' and B-B' of 4.38 pounds is by weighting by toenages and grades.

Treatment Methods: Cost Retimetes:

This report cannot recommend any operation based on the tennage and grade listed above. Retails of Treatment and Costs are, therefore, held in aboy nos, pending trenching results, additional samples from new exposures and the possibilities from yet to be explored areas.

Metal Prices:

Pat G graphically presents a monthly record of mercury prices from August 1963 to august 1967. With current prices at \$483 to \$485 per 76 pound flask, an average for the last seven months amounts to \$478 per flask or \$6.30 per pound.

The levelling off of the price (actually since January 1967) may be the result of the establishment of a Mercury Putures Market on the New York Commodity Exchange, with the first market taking place in January.

Profit or Loss:

Not to be considered at this time.

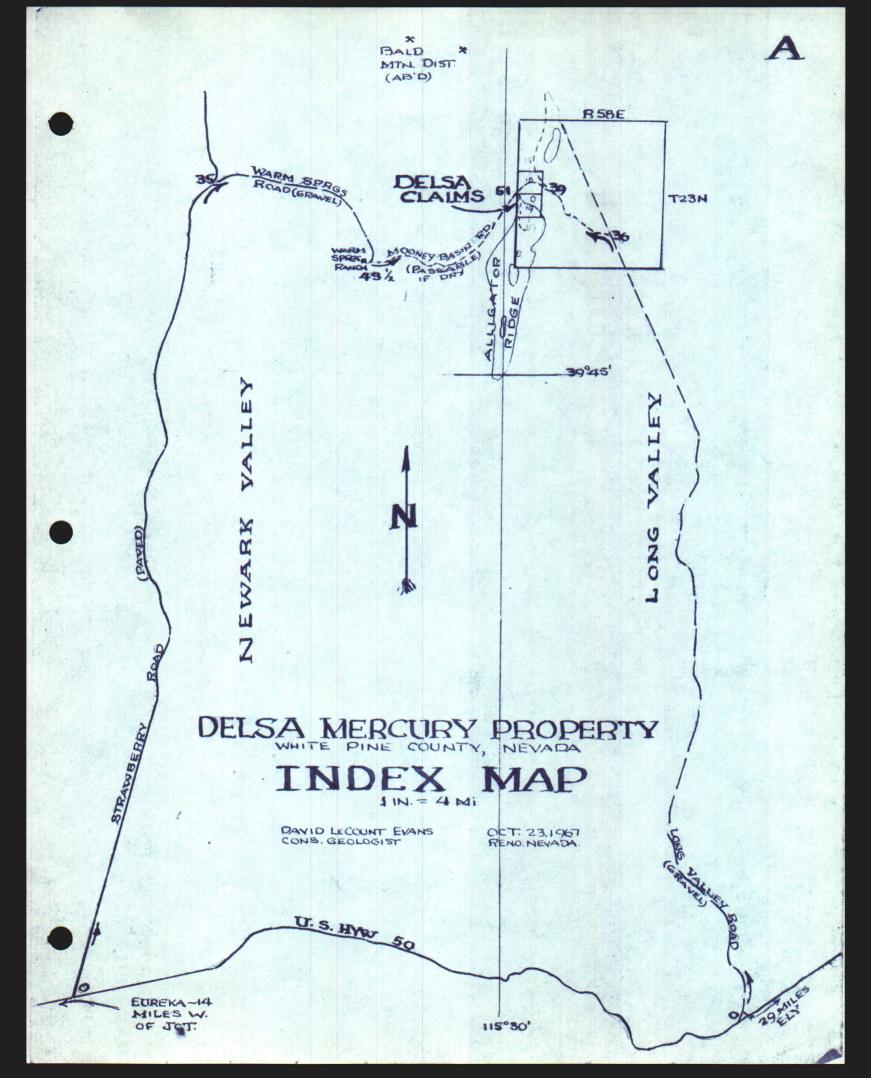
Recapitulations

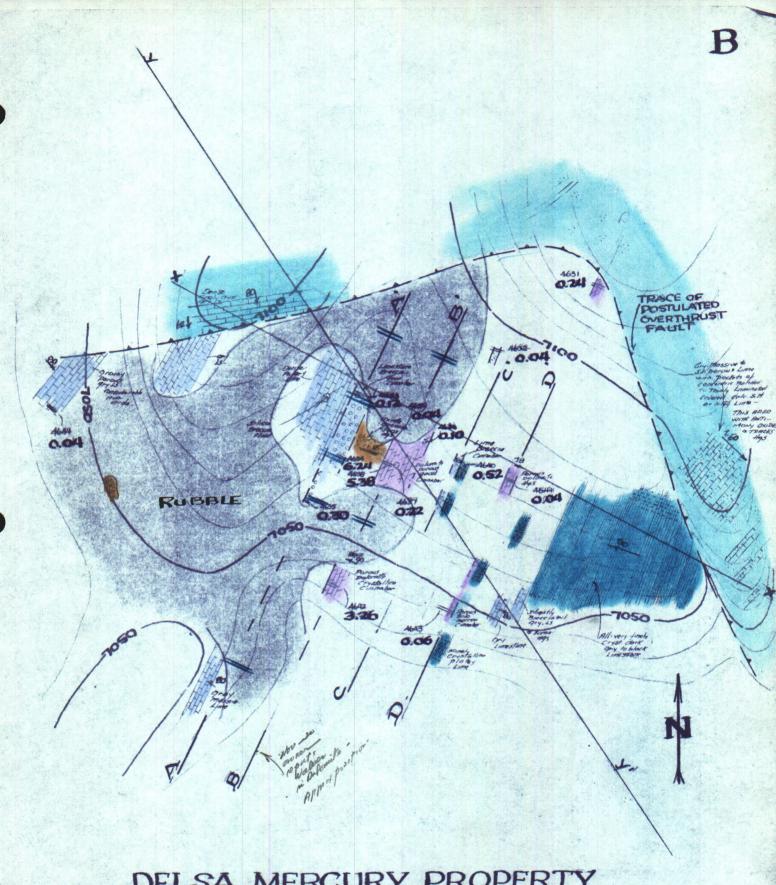
Reference is again made to the Conclusions and Recommendations of pages 1 and 2.

(Respectfully Submitted.

David LeC unt Evans

October 23, 1967





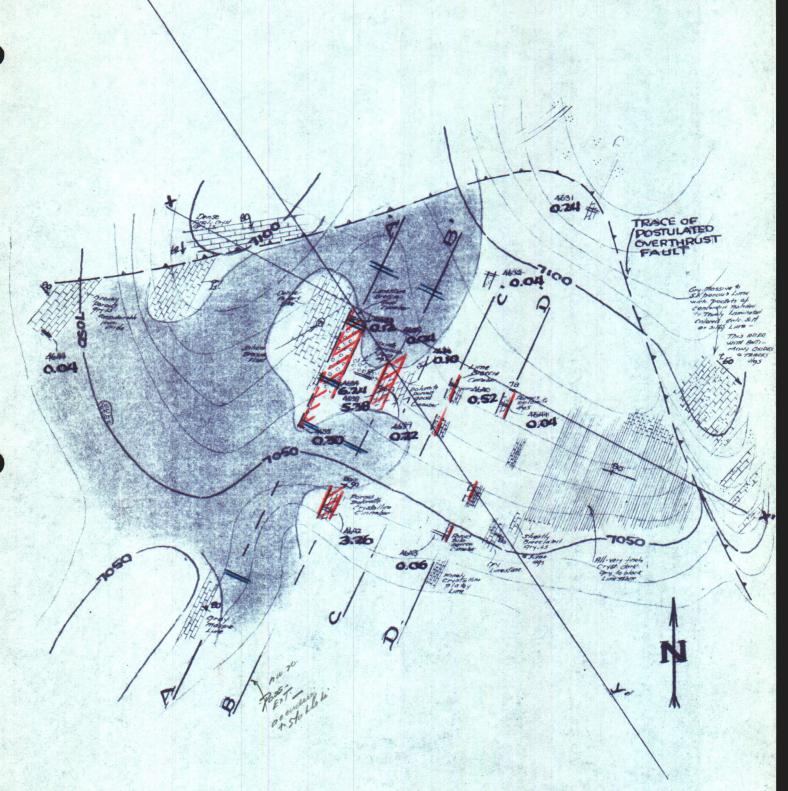
DELSA MERCURY PROPERTY
WHITE PINE COUNTY, NEVADA

SURFACE GEOLOGY AND VALUES*

11N = 100 FT

DAVID LE COUNT EVANS

OCT. 23, 1967 RENO, NEVADA HIT PER TON

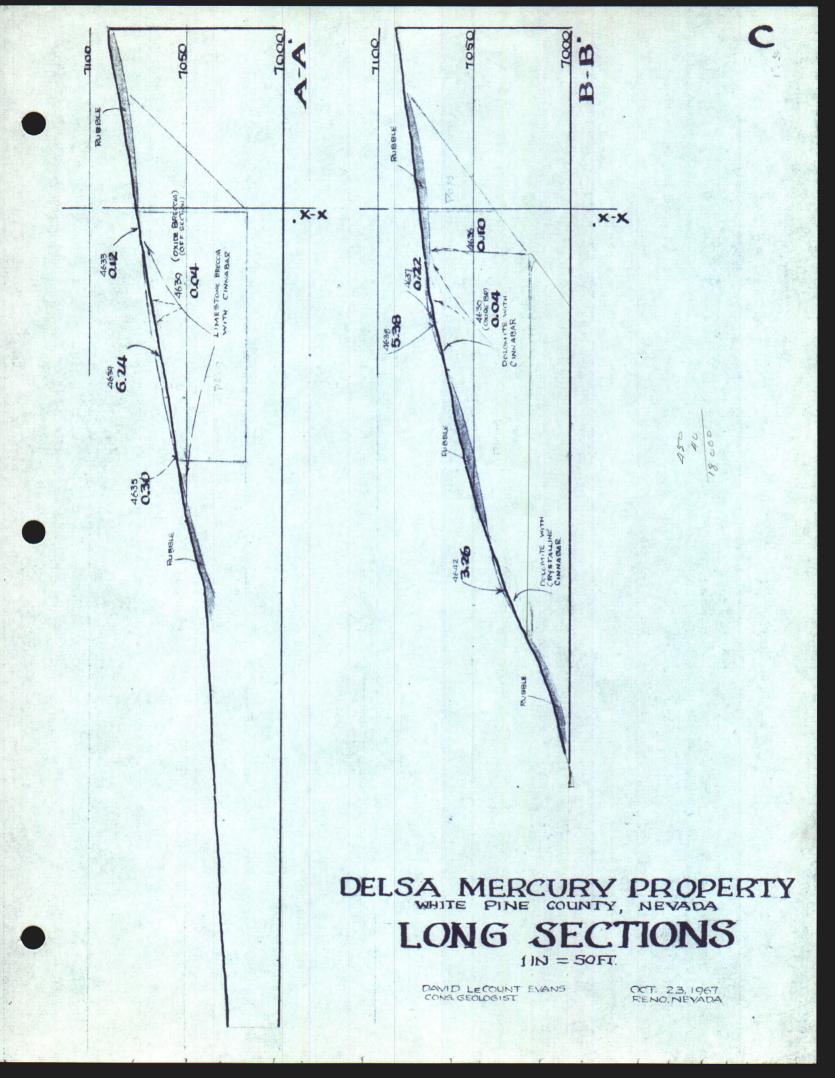


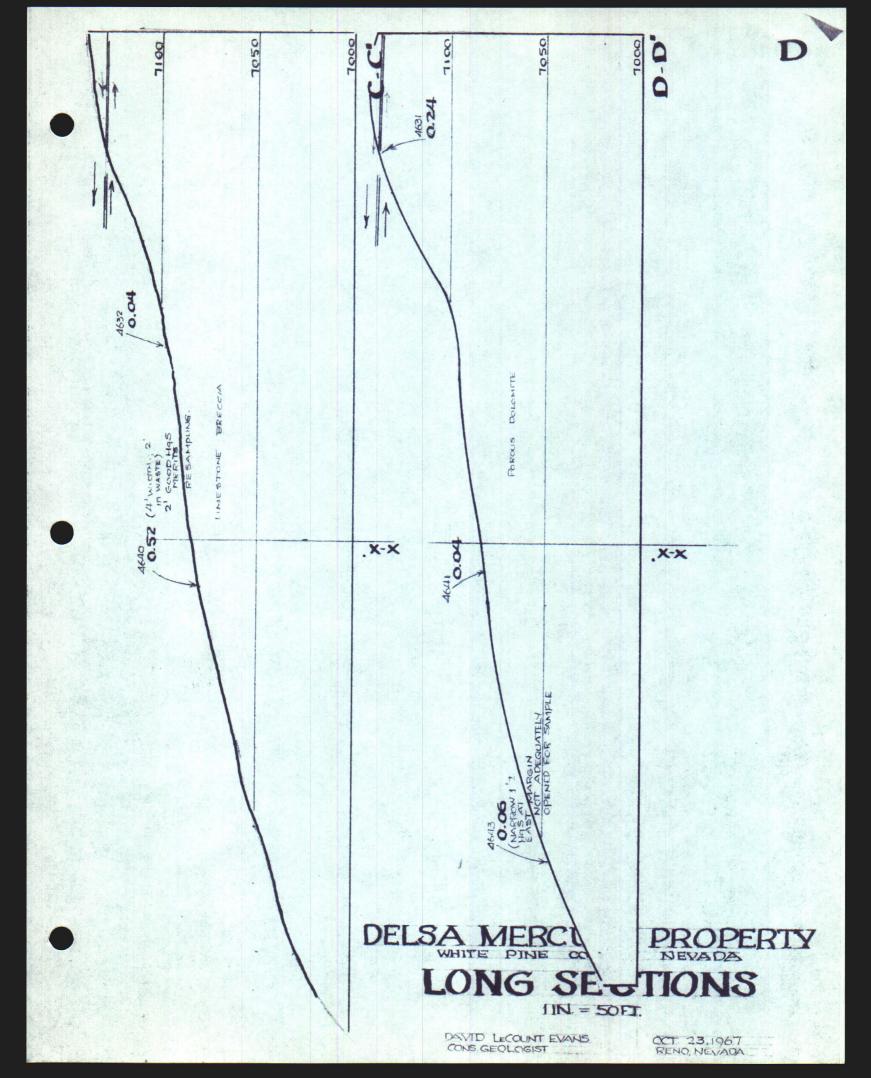
DELSA MERCURY PROPERTY WHITE PINE COUNTY, NEVADA

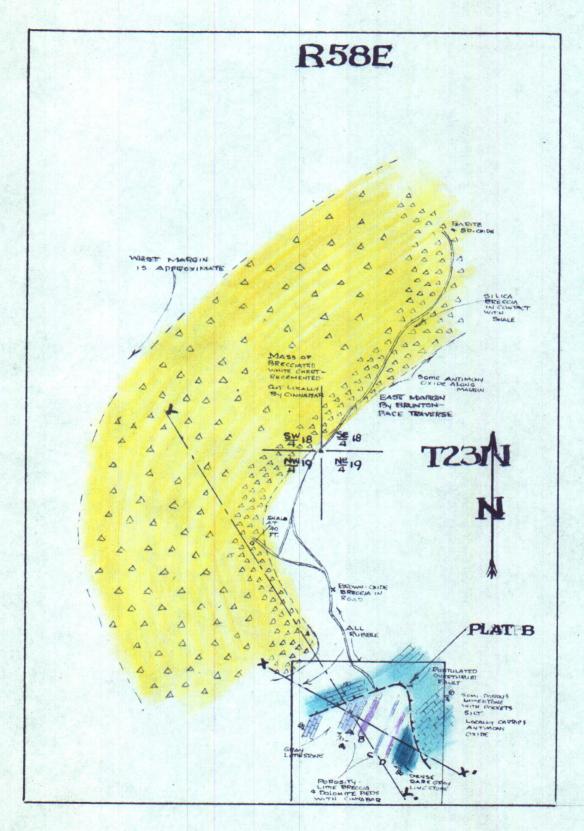
SURFACE GEOLOGY AND VALUES*

1JN = 100 FT

DAVID LE COUNT EVANS CONS. GEOLOGIST OCT. 23, 1967 RENO, NEVADA MIN POUNDS OF HIS PER TON







DELSA MERCURY PROPERTY

RECONNAISSANCE-NORTH

DAVID LECOUNT EVANS

OCT. 23, 1967 RENO NEVADA

REPORTED REPORTED BELOW SILICA CHERT MASS BLACK SHALE WITH SILT POCKETS DEI REGIONAL SECTION Y-Y' CONS. GEOLOGIST SUBJECT TO ADJUSTMENT WITH CONTINUED DETAILED MAPPING M-X' GRAY LIMESTONE
WITH POROSITY
IN BEEDS OF LIME
PRECGIATED LIME
AND DOLOMITE 1 IN = 200 FT RENO, NEVADA DARK GRAY 6900



