SUMMARY REPORT

SOUTH FAIRVIEW

UNSURVEYED SECTIONS 6 AND 7, T.15N., R.34E.

FAIRVIEW MINING DISTRICT

CHURCHILL COUNTY, NEVADA.

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SUMMARY

Preliminary geologic mapping and sampling indicated economic mineralization in several quartz-calcite-manganese veins. It also indicated large areas of hydrothermal alteration with anomalous gold and silver values. Due to these facts a drilling program and geochemical survey was conducted.

The drilling program was designed to evaluate the downward extension of mineralization of the most prominent quartz-calcite-manganese veins. It began on December 13, 1977 and was completed on May 24, 1978 consisting of 6 inclined rotary drill holes totalling 2335 feet.

A total of 112 rock chip samples were taken across the most intensely altered areas of the property. The samples were sent to Hunter Mining Laboratory Inc. of Sparks, Nevada where they were analyzed by atomic absorption for gold and silver. Results indicated that anomalous values of gold and silver were mostly restricted to quartz-calcite veins.

Results of drilling and geochemical sampling indicate very little potential for the discovery of a minable ore body.

INTRODUCTION

The following is a summary report covering the exploration by HO&M on the South Fairview group of claims, referred to as Summa Group 4. The investigation consisted of surface and underground sampling, geological mapping and the drilling of six rotary holes.

LOCATION

The South Fairview claims, consisting of 5 patented lode mining claims and 10 unpatented lode claims staked by HO&M, are located in the unsurveyed Sections 6 and 7, T.51N., R.34E., Churchill County, Nevada. (See claim map in pocket). The claims can be reached by proceeding southeast from Fallon, Nevada, along Highway 50 a distance of 32 miles to the Nevada Scheelite mine turnoff, Highway 31, turning south and proceeding 7 miles to the Bell Canyon road; thence, east along a gravel road approximately 6.5 miles to Snyder Gulch. (See location map Figure 1).

The property is located along a north-south trending ridge on the rugged west slope of Fairview Peak approximately 6 miles south of Fairview. Elevations range from 6,529 feet along the ridge to 5,450 feet near the portal of the Gold Coin No. 1 workings.

HISTORY

The property, referred to in literature as Nevada Fairview or Snyder mine, was discovered in 1906 by L. H. Bartholomew. It was soon optioned by Grant Snyder, who with this brother incorporated the property under the Nevada Fairview Mining Company, a subsidiary of the National Development Company of New York City. The company employed 20 men who worked the property for 10 months without interruption. Production is not

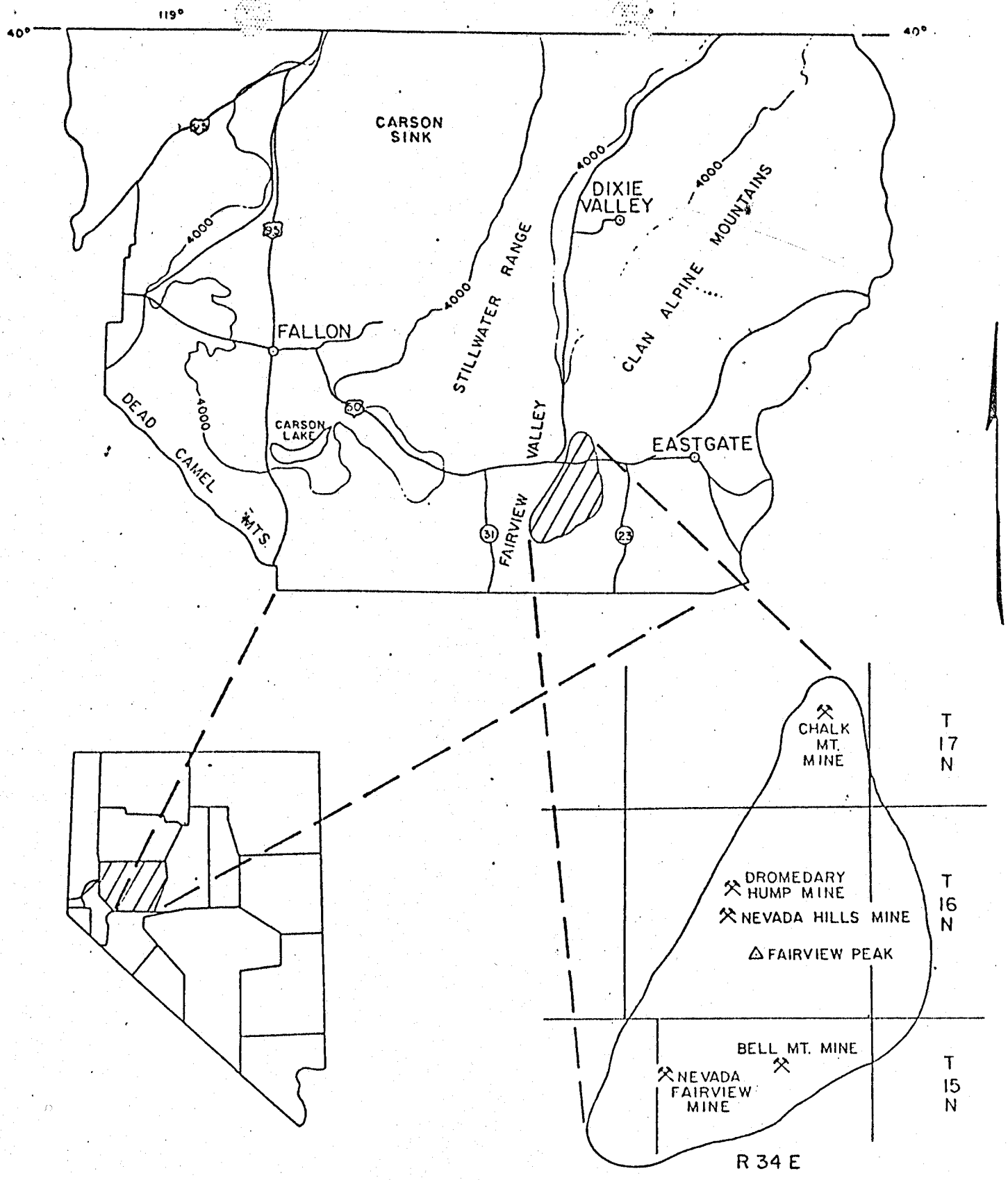

FIGURE 1.

REFERENCE MAP FOR THE FAIRVIEW, SOUTH FAIRVIEW MINING DISTRICT

known, however, the property is said to have made a fair sized shipment in 1910. Most of the developmental work was concentrated in three areas known as the Gold Coin No. 1, Gold Coin No. 2 and No. 4 structure. They contain about 1700 feet of underground workings, mostly in 4 adits.

GEOLOGY

Regional

The Fairview Mountains form a belt about 12 miles long by 5 miles wide, extending from Highway 50 southward to State Mountain. They stand between the Desotoya Mountains on the east and the Stillwater Range on the west. The range is believed to represent a southward continuation of the uplift of the Augusta Range. In the northern part of the range the east slope forms a fault scarp and decends steeply 2000 feet to a plateau of volcanic rocks about 6 miles wide.

The range has a core of quartz monzonite, blanked on the lower west slope and southern end by an overlying complex of Mesozoic sediments and metasediments. These units are overlain by a thick series of Tertiary volcanic and intrusive rocks ranging from rhyolite to basalt in composition (Shrader, 1947, p. 70-71). The volcanic sequence is estimated to be between 3000 and 4000 feet thick.

Property

The South Fairview property is underlain by a series of Tertiary extrusive and intrusive rocks ranging in composition from rhyolite to andesite. These rocks have been dissected by a large basin and range fault striking N10-20^{o}E and dipping 70-80^{o}W.

Three units are exposed on the east side of the fault. These strata, a rhyolite tuff and two dacite tuffs (blue tuff of Saunders, 1978), are best exposed in the area of Snyder Gulch box canyon. The two dacite units underlying the rhyolite tuff are very similar in appearance. The lower dacite is fine grained, massive in appearance, and a light purple color. The upper dacite, which lies conformably on the lower dacite, is fine to medium grained, light green to light purple in color and contains many lithic fragments of the underlying unit. The dacite sequence dips 8-19^{o} northwest to west and strikes N40^{o}E to due north.

Resting unconformably on the eroded surface of the upper dacite tuff is a massive, light tan to pink silicified rhyolite tuff. The lithic content varies from 5 to 25% and is represented by an array of different rock types. Individual fragments range from 1/2 cm to 3 cm in diameter. The basal portion of the unit consists of well rounded boulders of quartz monzonite, subrounded volcanic fragments and subangular metasediment fragments in a fine ash matrix. Thickness of the basal portion ranges from a few feet to as much as 50 feet.

Lithologies on the west side of the basin and range fault have been broken down into five units. The lowest unit, which is exposed in Snyder Gulch, is a light green, massive dacite tuff dipping 55^{o} northeast and striking N45^{o}W.

Lying unconformably above the dacite tuff is a thick series of dacite flows, flow breccias, agglomerates and tuffs. They are light green to tan, in color, thinly bedded to massive and fine grained to porphyritic in appearance. The units dip 22° west and strike N55°E. Hydrothermal alteration affects to varying degrees most of dacite sequence on the property. Calcite, gypsum and quartz veins and veinlets can be found in the most heavily altered areas.

In the northeastern portion of the property, dacite units are overlain by a light purple to pink crystal rich rhyodacite tuff. It is fine grained with abundant sanidine and biotite crystals.

Massive, steel gray to black, lightly jointed andesite overlie the dacite volcanics in many places. The andesite is fine grained to porphyritic with abundant white plagioclase crystals. The outcrops, which form resistant caps, represent erosional remanents of the andesite flow.

A light green dacite dike has been intruded along the hanging wall side of the basin and range fault on the southern end of the property. It varies from fine grained to porphyritic in appearance and contains abundant plagioclase crystals. Silicification affects to varying degrees most of the dike with many areas being shattered and completely replaced by silica.

MINERALIZATION

There are two principal types of mineralization represented on the South Fairview property. They are classified as follows:

1. Fissure vein mineralization - silver rich quartz-calcite-manganese veins occur at the Gold Coin No. 2 workings and Structures No. 2 - No. 5.

2. Replacement-type mineralization-brecciated replacement-type quartz vein occurs at the Gold Coin No. 1 workings.

The fissure veins are found mostly in the rhyolitic tuff, where they occur in high angle faults. They range in width from less than an inch to a maximum of about 16 feet and are typically banded and irregular in shape. Vein material consists of a mixture of manganese dioxide and fine to coarse grained calcite and quartz, which fill and partially replace enclosed fragments of brecciated wall rock. In places the quartz gangue is very vuggy and commonly lined with secondary quartz crystals, some of which are bladed and pseudomorphic after calcite. No distinct ore mineral has been identified, however assay results and geologic mapping indicate a direct relationship between manganese content and silver mineralization. The silver mineral is believed to be argentite. (Saunders, 1978, p.6).

A heavily brecciated replacement type quartz vein was found in the Gold Coin No. 1 workings. It strikes between 20° and 30° east and dips steeply to the northwest. The vein varies from 2 to 6 feet in width and consists largely of quartz, which has replaced brecciated fragments of dacite and calcite. Abundant orange-brown limonite occurs as fracture fillings and staining. A fine grained black sulphide was noted during the sampling done by Fred Saunders. The mineral is believed to be argentite.

UNDERGROUND MAPPING AND SAMPLING

Gold Coin No. 1

The Gold Coin No. 1 adit was mapped and sampled by Fred Saunders and George Kendricks during the summer of 1977. The adit is located at the point of the original discovery and was driven 125 feet into the north side of Snyder Gulch box canyon. It explores a heavily brecciated quartz vein that continues inward from the portal for 60 feet where it is offset by a fault. The vein, which strikes between 20° and 30° east and dips steeply to the northwest, varies in width from 2 to 6 feet. Ore was reported to have run $40 to the ton at 1913 prices (Schrader, 1976, p. 113).

Deeper portions of the vein were explored by a 100 foot shaft and 220 feet of drifts and raises on the 100 foot level (Schrader, 1947, p.113) Lower levels are presently inaccessible.

Six rocks chip samples were taken from the Gold Coin No. 1 adit. Three were taken across the main quartz vein and the other samples were taken from brecciated wallrock and fault gauge. Values of the vein material averaged 7.00 oz/ton silver, while the fault gouge and wallrock averaged less than 0.2 oz/ton silver. (See Gold Coin No. 1 Underground Geology in pocket)

Gold Coin No. 2

The Gold Coin No. 2 workings were mapped and sampled during the summer of 1977. The workings were mapped on a 1 inch = 20 feet scale, and samples were taken approximately every 20 feet. The workings consist of a 420 foot adit level will a 40 foot raise and ore shoot, and a 79 foot winze inclined approximately 80°S.E., with sublevels at 40 and 79 feet. (Saunders, 1978, p.7).

Mineralization occurs in a series of parallel calcite-quartz-manganese veins striking N30-40°E and dipping 70-85°S.E. The veins are very irregular in shape and occur as banded fissure fillings ranging from less than 1 inch to 10 feet in width. (See Gold Coin No. 2 Underground Geology in pocket). Sample assay results have outlined three distinct ore shoots on the adit level, however, they appear to be converging into two shoots on the lower level. Samples taken in the workings indicate an average silver value of 4.88 oz/ton.

Structure No. 4

The workings of Structure No. 4 ore located approximately 1/2 mile north of the portal of Gold Coin No. 2. They consist of a lower adit 211 feet long, an intermediate adit 60 feet long, and an upper adit 40 feet long.

Mineralization occurs in a series of parallel quartz-calcite-manganese veins. The veins strike N 10-20°E and dip steeply to the northwest and occur as banded fissure fillings which are very irregular in nature.

They pinch and swell both laterally and vertically and vary in width from less than 1 inch to 13 feet. (See Structure No. 4 Underground Geology, in pocket).

Assay values indicate the amount of silver is fairly uniform on the lower and intermediate levels. The upper level, which was driven on a single quartz-calcite vein, has much ligher values.

The average values are tabulated below.

Assays in Oz/Ton (Ag)

Level	High	Low	Average
Upper	6.70	1.17	4.62
Intermediate	2.06	0.32	1.03
Lower	3.20	0.14	1.24

DRILLING

General

A total of 6 rotary drill holes were drilled on the South Fairview property by Jim Long of Carlin, Nevada. Five of the holes were drilled on a 45° angle and one hole was drilled on a 60° angle. Drilling commenced on December 13, 1977 and was completed on May 24, 1978 for a combined footage of 2335 feet. Drilling was very difficult and because of problems encountered only 2 holes reached proposed depths.

Cross Sections

Sections along each drill hole were prepared showing lithology and assay results. These sections show the relationship between the holes and the surface and underground geology (See individual cross section in pocket).

SFV-1

This hole was collared S20°W, approximately 220 feet from the portal of the Gold Coin No. 2 adit for the purpose of exploring the southernmost downward extension of mineralization of the Gold Coin No. 2 vein. It was drilled on a S78°E bearing with an inclination of minus 45 degrees. The hole was stopped at 275 feet because of the lack of circulation. The first 120 feet of the hole was alluvium and the remaining portion consisted of silicified rhyolitic tuff with light to moderate calcite veining. Heavy calcite and quartz mineralization was encountered from 205-225 feet. A log of the hole with assays is appended.

SFV-1a

This hole was collared 10 feet due south of SFV-1 for the purpose of exploring the southern most downward extension of mineralization along the Gold Coin No. 2 vein. It was drilled on a S78°E bearing with an

inclination of minus 45 degrees to a depth of 600 feet. The first 115 feet of the hole was alluvium and the remaining portion of the hole consisted of a highly siliceous rhyolite tuff with light to heavy calcite and quartz veining. Very heavy calcite-quartz mineralization occurred from 135 to 140 feet and 180 to 235 feet. A log of the hole with assays is appended.

SFV-2

This hole was located 245 feet north of SFV-1 to test the downward extension of mineralization of the Gold Coin No. 2 vein. It was drilled on a S40°E bearing with an inclination of minus 45 degrees to a depth of 310 feet. The projected depth of 550 feet was not reached because of drilling problems encountered at 310 feet. The upper 145 feet of the hole was alluvium. The remaining portion consisted of silicified rhyolitic tuff from 145 to 280 feet and a highly shattered mixture of rhyolitic tuff and quartz-calcite mineralization from 280-310 feet. A log of the hole with assays is appended.

SFV-3

This hole was located 175 feet north of SFV-2 to test the northerly downward extention of mineralization of the Gold Coin No. 2 vein. It was drilled on a S45°E bearing with an inclination of minus 45 degrees to a depth of 670 feet. The first 35 feet of this hole was alluvium and the remaining portion of the hole consisted of a highly siliceous rhyolitic tuff with light calcite and quartz veining. Five feet of heavy calcite and quartz mineralization was intercepted from 50-55 feet. A log of the hole with assays is appended.

SFV-4

This hole was located 460 feet south of SFV-1 to test the downward extension of mineralization of Structure No. 5. It was drilled on a S30°E bearing with an inclination of minus 60 degrees. Drilling was halted at 150 feet because of stuck rods. The first 55 feet of the hole was alluvium and the remaining portion consisted of a shattered mixture of fine grained dacite and calcite-quartz mineralization. A log of this hole with assays is appended.

SFV-5

This hole was not drilled.

SFV-6

This hole was located 1060 feet north of SFV-3 to test the downward extension of mineralization of Structure No. 3. It was drilled on a S80°E bearing with an inclination of minus 45 degrees. Drilling was halted at a depth of 320 feet because of stuck rods. Green dacitic material was encountered from 0 to 15 feet and from 265-305 feet. It is believed that the dacite from 265-305 feet is a dike where as the

upper occurrence is a flow. The remaining portion of the hole consisted of a white to light green rhyolitic tuff with light quartz veining. A log of the hole with assays is appended.

Sampling

Drill cuttings were split, using a splitter supplied by the drilling contractor, and then sampled. One half of the cuttings were retained for logging and the other half was shipped for sample preparation and fire assay at the Houston Oil and Minerals Tonopah Laboratory. A total of 321 samples were taken and analyzed for gold and silver.

GEOCHEMICAL SAMPLING

Geologic mapping of South Fairview indicated large areas of hydrothermal alteration. It was, therefore, decided that a detailed sampling program should be initiated. The initial sampling was done on 1000 foot centers to check mineralization in rocks varying in degree of alteration. (See Geochemistry Map in pocket). Assay values indicated that anomalous amounts of gold and silver were restricted to the most heavily altered rocks. It was therefore decided to only sample the most intensely altered areas.

A total of 112 samples were collected and sent to Hunter Mining Laboratory Inc. of Sparks, Nevada where they were prepared and analyzed by atomic absorption for gold and silver. They were collected by removing 5 to 10 pounds of material from a 1 foot to 2 foot area on the outcrop surface as a composite rock chip sample. Values of gold varied from -0.1 to 0.9 ppm and values of silver varied from -1 to 71 ppm.

The assay results indicated that anomalous concentrations of gold and silver were mostly restricted to quartz and quartz-calcite veins; with the exception of a heavily brecciated and silicified zone approximately 600 feet x 900 feet located in Bell Canyon. (See Geochemistry map in pocket). Portions of the property showing intense argillic alteration without silicification or quartz calcite veining assayed very low to trace amounts of gold and silver mineralization.

CONCLUSIONS

1) Drill holes, located along the strike of the Gold Coin No. 2 vein did not intercept the zones of mineralization as projected. This is believed to be due to one of two things; the vein diminishes at a shallow depth or the dip of the vein changed drastically.

   Due to the fact that a detailed study of SFV-1a indicated a zone of tiny quartz stringers at the projected intercept, which could represent the roots of the Gold Coin No. 2 vein, and a steady decrease in the amount of alteration with depth it is believed that the vein diminishes at a shallow depth.

2) Structure No. 3 showed encouraging assays on the surface, however, it does not contain enough tonnage or high enough grade to be economical by itself.

3) Surface and subsurface sampling of Structure No. 4 indicates a substantial decrease in grade with depth.

4) Structures No. 2 and No. 5 are to small and lack the tenor to be economic.

5) Geochemical sampling of heavily altered zones have indicated very little potential for an economic discovery of minable size and/or grade.

RECOMMENDATIONS

Due to the unfavorable results obtained from drilling, geological mapping and intensive sampling, it is recommended that no further work be done on the property.

Respectfully submitted,

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Geologist

TLJ/lam

REFERENCES

Schrader, F.C., 1947, Carson Sink Area, Nevada: U.S. Geol. Survey Open File Report; may be consulted at Mackay School of Mines, Univ. of Nevada, Reno.

Wilden, R., and Speed, R.C., 1974, Geology and Mineral Deposits of Churchill County, Nevada; Nevada Bureau of Mines and Geology, Bulletin 83, 95p.

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PRELIMINARY GEOLOGIC EXAMINATION

SOUTH FAIRVIEW

UNSURVEYED SECTIONS 6 AND 7, T. 15 N., R. 34 E.

FAIRVIEW MINING DISTRICT

CHURCHILL COUNTY, NEVADA

By Fred T. Saunders
1978

SUMMARY

The results of the preliminary geologic mapping and sampling program indicate the Gold Coin #2 vein may contain economic silver mineralization. An exploration program designed to test the downdip and lateral extensions of the vein was initiated under the supervision of James Adler and Terry Jennings. Claim staking for preliminary road building and drill site preparation were followed by additional geological mapping and sampling. Rotary drilling began in the middle of December and is proceeding. Results of the drilling will be tabulated by Terry Jennings as soon as the work is completed. Further work on the property will depend on the results of the rotary drilling.

A regional geochemical sampling program has been recommended due to anomalous values of gold and silver obtained (outside the present drilling area) in the district.

INTRODUCTION

The South Fairview property, also referred to as Summa Group 4, consists of 5 patented lode mining claims and 10 unpatented lode claims staked by HO&M on the north end of the property. (See claim map in pocket.) The claims are in the Fairview Mining District, unsurveyed Sections 6 and 7, T. 15 N., R. 34 E., Churchill County, Nevada.

The property is located on the rugged west slope of Fairview Peak approximately 6 miles south of Fairview and 42 miles southeast of Fallon, Nevada. (See location

map Figure 1.)

Access from Fallon, the nearest town, is by going southeast on Highway 50 a distance of 32 miles to the Nevada Scheelite mine turnoff, Highway 31, turning south, and proceeding 7 miles to the Bell Canyon road to Snyder Gulch. The property is located 2.5 miles up Snyder Gulch at the mouth of the box canyon. Access to the property is hindered by the close proximity of the Bernard Naval Bombing Range.

The elevation at the portal of the Gold Coin #2 workings is 5,920 feet. The portal is situated on the range front fault at a point where there is an abrupt change in topography: low dissected foothills to the west and a steep, precipitous mountain to the east.

Two weeks during July, 1977 were spent doing preliminary field mapping and sampling. Results of this work prompted additional underground mapping and sampling conducted in September by James Adler, George Kendricks, and the writer.

HISTORY

The property is referred to in the literature as the Nevada Fairview or Snyder mine. It was originally discovered in 1906 by L. H. Bartholomew. Soon after the discovery, the property was optioned by Grant Snyder, who incorporated the property under the Nevada Fairview Mining Company of New York City. The company employed 20 men who worked the property for 10 months without interruption. Besides the ore produced at this time, the property is said to have made a fair-sized shipment in 1910. The property contains about 1,200 feet of underground workings, mostly in three adits (Schrader, 1947, p. 112).

DISTRICT GEOLOGY

Upper Triassic to Middle Jurassic amphibolite schists, slates, and metavolcanics outcropping one mile southeast of the property represent the basement rocks in the district. These units are generally highly metamorphosed and tightly folded along a north-trending axis (Wilden and Speed, p. 33).

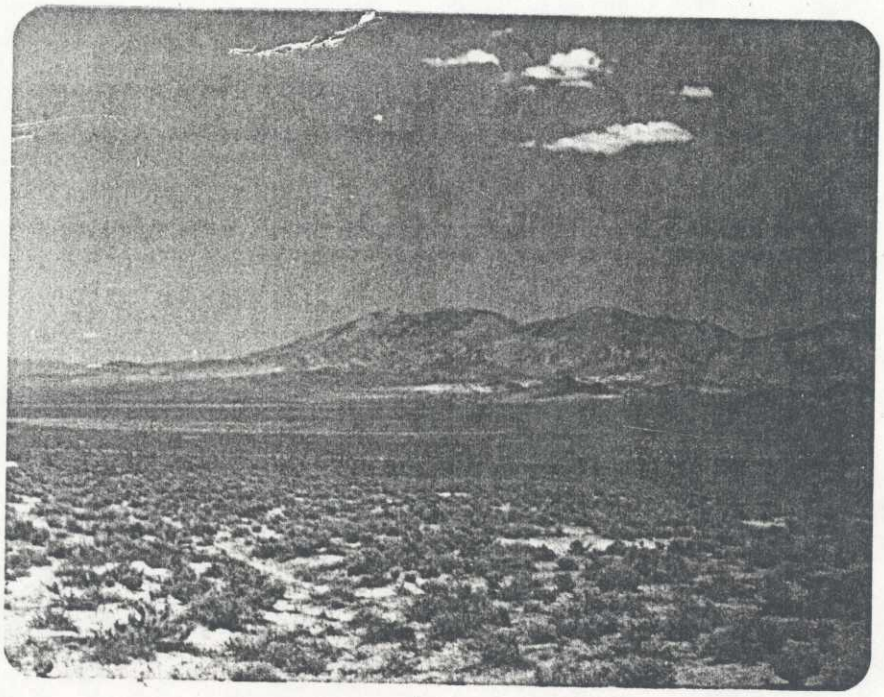

Figure 2: Fairview Peak in background with Fairview (left) and South Fairview (right) in foothills. Photo looking northeast.

Figure 3: Box Canyon at head of Snyder Gulch. Note bold outcropping of silicified dacite dike and Gold Coin #1 dump. Road to drill area now branches to the left at this point.

Cretaceous granodiorite and quartz monzonite intrude the basement complex and are exposed two miles south of the property on the north and west sides of Slate Mountain.

Tertiary volcanic flows and tuffs ranging in composition from andesite to rhyolite cover extensive areas in the district. They have been locally intruded by sills and dikes of dacite porphyry. The volcanic sequence is estimated to be between 3,000 and 4,000 feet thick.

PROPERTY GEOLOGY

Tertiary extrusive and intrusive volcanics are the oldest rocks exposed on the property. These rocks have been dissected by a large basin and range fault. The fault strikes N. 10-20° E. and dips 76° W. across the entire length of the property. Stratigraphic relationships could not be correlated across this fault, but it is believed the rocks on the east side are the oldest exposed units.

Two units are exposed on the east side of the fault--a blue tuff and a rhyolite tuff. The blue tuff, the lower unit, is thin-bedded to massive in appearance, and grades from a fine-grained tuff to a coarse agglomerate. It was designated blue tuff because a large amount of thin-bedded, fine-grained blue tuff exposed in the canyon east of the Gold Coin #1 workings. The unit also contains light tan, green, and purple tuffaceous members. Clasts are mostly volcanics with angular-to-subrounded fragments of tuffs, rhyolite, and andesite predominating. The unit dips 8-19° northwest to west and strikes N. 40° E. to due north.

Lying on the erosional unconformity of the blue tuff is a silicified rhyolite tuff. The tuff clasts are mostly rhyolite, ¼-½ inch in diameter, in a light-colored matrix. The basal unit is a coarse boulder agglomerate made up of 75 percent rounded granodiorite boulders, 15 percent subrounded volcanic fragments, and 10 percent subangular metasedimentary fragments. The unit as a whole has an estimated thickness of over 1,000 feet, with the basal agglomerate being 50 feet thick. No bedding or attitudes were obtained during the field mapping.

Four units were mapped on the west side of the basin and range fault. The lowest

unit exposed to the west is a repeated sequence of the blue tuff. The tuff dips 55° northeast and strikes N. 45° W.

Lying in an angular unconformity above the blue tuff is a light green-to-grey trachyte unit. The trachyte is porphyritic with large 1-2 mm laths of plagioclase and potassic feldspar in a light green matrix. The rock in places is very close compositionally to andesite. The unit is flat lying and has an estimated thickness of 150 feet.

Conformably overlying the trachyte is a steel grey-to-black andesite. The andesite flow is slightly porphyritic with abundant plagioclase phenocrysts. The weathered outcrops appear black in color, but a fresh break of the rock reveals it is blue to grey. The outcrops represent erosional remnants of the flow and form resistant caps on the trachyte. The unit dips 5-10° W. and strikes roughly north-south.

The sequence of flows and tuffs at South Fairview have been intruded by a dike of dacite porphyry, similar to one at North Fairview. The dike intruded along the hanging wall side of the basin and range fault. The dacite is a light green porphyritic rock containing abundant plagioclase laths. It is highly silicified and brecciated and has disseminated pyrite throughout.

MINERALIZATION

Two distinct types of mineralization have been recognized in the veins at South Fairview. Calcite-quartz veins that are highly manganiferous occur at the Gold Coin #2 workings, and a brecciated replacement-type vein occurs at the Gold Coin #1 working.

The calcite-quartz-manganese veins strike N. 30-40° E. and dip 70-85° S.E. for a length of over 1,000 feet on the property. The veins occur as banded fissure fillings and are very irregular in nature. They pinch and swell both laterally and vertically and vary in width from 1 inch to 20 feet. The gangue material occurs in approximately a 1:1 ratio of quartz to calcite with the quartz sometimes displaying a box work structure, probably pseudomorphic after calcite. The veins are typically highly manganiferous with silver mineralization, presumably argentite, related to the manganese.

The brecciated replacement-type quartz vein strikes N. 30° E. and dips steeply to the northwest. The vein appears to be 2-to-6 feet wide and is exposed in the Gold Coin #1 workings for 60 feet. A fine-grained black sulfide, presumably argentite, was noted during the sampling. The vein does not crop out on the surface, but is reflected by a silicified zone containing abundant orange-brown limonite.

UNDERGROUND MAPPING AND SAMPLING, GOLD COIN #2

Results from the preliminary underground sampling in the Gold Coin #2 workings indicated significant mineralization (3-11 oz/ton Ag). It was, therefore, decided that a detailed underground mapping and sampling program should be initiated. The workings were mapped on a 1 inch = 20 feet scale, and samples were taken approximately every 20 feet. The workings consist of a 420-foot adit level with a 40-foot raise and ore chute, and a 79-foot winze inclined approximately 80° S.E., with sublevels at 40 and 79 feet. The underground geology is plotted on plan views for each level. The mapping suggets that a series of parallel calcite-quartz stringers may be converging with the Gold Coin #2 vein at depth. Assays indicate the values on three levels are fairly uniform with a slight increase on the intermediate level. (See individual plan views in pocket.) The average values over vein widths of 2-to-6 feet on each individual level, are tabulated below:

Assays in oz/ton Ag

Level	High	Low	Average
adit level	11.00	.60	4.34
intermediate level	13.00	.70	5.40
lower level	8.60	2.2	4.90

Three ore shoots were defined on the adit level, but appear to be converging into two shoots on the lower level. (See longitudinal section of Gold Coin #2 in pocket.)

GOLD COIN #1

The Gold Coin #1 adit is located at the point of the original discovery. The adit driven 125 feet into the north side of the canyon explores a brecciated quartz vein. The vein continues in from the portal for 60 feet where it is faulted off. The vein

appears to be 2-to-6 feet wide, strikes N. 30° E., and is reported to have run $40 to the ton at 1913 prices--60.4 cents/oz Ag. (Schrader, 1947, p.113) The vein is further explored by a 100-foot shaft, and Schrader (1947, p. 112) reports a 220-foot crosscut on the 100-foot level. The shaft at present is partially filled by talus from the adjacent hillside and is inaccessible.

Assay values from the workings indicate the vein does carry significant values. (See Gold Coin #1 Underground Geology, in pocket.) Three samples taken from the vein ran 10.391, 6.194, and 4.405 oz/ton Ag. Wallrock and fault gouge carried no mineralization.

CONCLUSIONS AND RECOMMENDATIONS

Due to the favorable results of the surface and underground mapping and sampling, an exploration program designed to test the downdip and lateral extensions of the Gold Coin #2 vein was recommended. The program, under the supervision of James Adler and Terry Jennings, consisted of the following:

1) Claim staking to cover extenions of mineralized vein system to the north and east of the present holdings.

2) Road building to gain access to the property.

3) Drill site preparation for a preliminary rotary drilling program.

4) Additional surface geologic mapping and sampling on newly staked ground.

5) Additional underground mapping and sampling on newly staked claims.

6) Rotary drilling of the Gold Coin #2 vein.

The results of this program will be reported by Terry Jennings as soon as the work is completed.

Anomalous silver and gold mineralization have been found throughout the entire district, so it was recommended that a regional geochemical sampling program be conducted to possibly delineate more exploration targets.

Respectfully submitted,

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Encl.

cc: Paul S. Taylor

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Sept. 12, 1986

Mr. Jeff Wilson
Tenneco Minerals
1802 North Carson
Carson City, Nevada 89701

Dear Mr. Wilson:

The Nevada Bureau of Mines and Geology currently has a contract with the U. S. Navy to conduct a mineral inventory of the Navy's proposed Master Land Withdrawal area located east of Fallon, Nevada. We are in the process of collecting all of the mineral data that we can on the area involved and we are augmenting these data with field sampling and mapping.

Tenneco Minerals holds property in two areas which are either included in the proposed land withdrawal area or are immediately adjacent to it. Your property at Fairview borders the withdrawal on the east and your claims at South Fairview (Gold Coin) are within the proposed withdrawal. The withdrawal, of course, does not affect ownership and rights established prior to the date that the lands were segregated from entry (Oct. 12, 1982).

We would very much like to be allowed access to whatever data you have on the Fairview and South Fairview areas. We are most interested in factual data such as geologic mapping (surface and underground) and geochemical sampling. Any drill information would be very useful. Proprietary data can be held confidential by us.

Our work in the area must be completed by the end of October of this year and our final report to the Navy is due at the end of December. We would appreciate, therefore, your prompt reply to our request. We feel that a thorough presentation of all mineral data available on the lands proposed for withdrawal can only benefit the mineral industry and we hope that your company can help us in this task.

Thank you very much for your assistance.

Sincerely,

Joseph V. Tingley
Principal Investigator

TENNECO

TENNECO MINERALS
(COMPANY)

INTEROFFICE COMMUNICATION

TO: EXPLORATION DEPT. - LAKEWOOD, CO.

DATE: 9/17/86

FOR: NEIL K. MUNCASTER

FROM: JEFFREY L. WILSON

RE: DATA REQUEST: FAIRVIEW & SOUTH FAIRVIEW
CHURCHILL COUNTY, NV

The Nevada Bureau of Mines and Geology is requesting geological data concerning Tenneco's Fairview and South Fairview properties in regards to the U.S. Navy's proposed Master Land Withdrawal. The Bureau's work must be completed by the end of October. Proprietary data can be held confidential.

Neil, I think we should provide whatever data we have as soon as possible. Please give me your comments as soon as possible.

JLW/dc

Attachment

cc: S. Wagner

AN EVALUATION OF THE SOUTH FAIRVIEW DISTRICT

Churchill County, Nevada

-- Five Tenneco patented claims on the Gold Coin mines should be dropped.

-- An open-pit gold prospect was identified on Spectrum Exploration Co. unpatented claims, half a mile west. Donald Strachan, a former Tenneco geologist, is a co-owner.

-- A second large block of Spectrum claims in Bell Canyon is unattractive.

-- Any future mining in this district may be curtailed by expansion of the nearby Navy dive-bombing range. Exploration is presently dangerous because of irresponsible bombing far beyond the range boundary.

for

Tenneco Minerals Co.

Lakewood, Colorado

by

David C. Jonson

Consulting Geologist

Golden, Colorado

October 19, 1986

CONTENTS

Contents (continued)

SUMMARY OF CONCLUSIONS, WITH RECOMMENDATIONS

Five Tenneco Patented Claims - On the Gold Coin Mines

These claims should be dropped. There is no exploration potential for either a vein or open-pit silver-gold mine.

Patented claims are real estate which can be sold. The owners of the surrounding Buff unpatented claims should be contacted first. They may be quite interested in purchasing the Tenneco claims to consolidate their land package.

Two Unpatented Claim Blocks - Staked by Spectrum Exploration Co., Co-owned by D. Strachan and L. Spriggs.

These areas were never previously staked by Tenneco or a predecessor company, although numerous HOM samples were collected in 1977-1978.

Jet Claim Block - West of the Gold Coin Mines

I identified an open-pit gold prospect here, based on very widely spaced Jonson (Tenneco) sampling and Spectrum sampling, which may approximate 1.8 million tons to a depth of 40 feet.

Tenneco is ethically obligated to send the Jonson sample data to Spectrum, because these samples were collected after the Jet claims were staked. Cooperation with Spectrum will ensure that Tenneco will be first in line should the prospect develop into a property worth drilling.

Considerable detailed mapping and much more closely spaced sampling by Spectrum will be required to develop this prospect into an attractive drilling target. If grade continuity between widely spaced samples becomes evident, Tenneco may want to lease the claims at a later date, if Tenneco doesn't mind leasing from Don Strachan, a former employee. The prospect is not sufficiently attractive at present to be immediately leased and sampled by Tenneco.

Leasing may not be feasible if the Navy enlarges their nearby bombing range to the southeast to include most of the relatively low ground in the South Fairview district, which would include the above gold prospect. Even if the bombing range isn't expanded, any further exploration, and certainly a mining operation, will be impossible if the Navy pilots don't confine their dive-bombing to the range, and stop bombing the off-limits South Fairview Mining district two to three miles to the southeast.

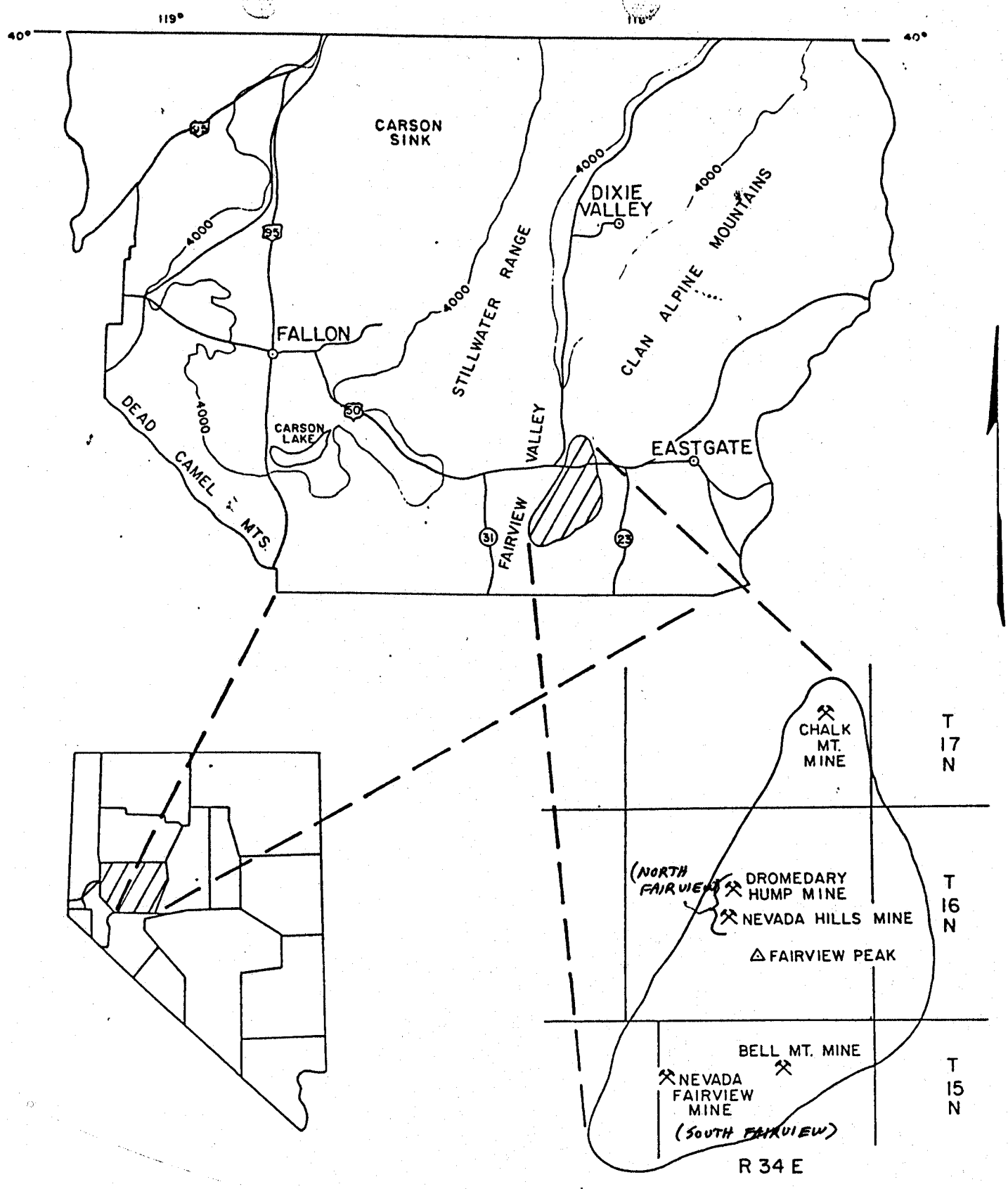

FIGURE 1.

REFERENCE MAP FOR THE FAIRVIEW, SOUTH FAIRVIEW MINING DISTRICT

(AFTER SAUNDERS, 1977)

Rex Claim Block - South of the Gold Coin Mines in Bell Canyon

There is presently no exploration potential here for either a high-grade vein or a low-grade open-pit. The prospect might improve after geological mapping and additional sampling by Spectrum Exploration Co., but I am not optimistic.

INTRODUCTION

Neil Muncaster, Vice President, Exploration, requested that I evaluate this district and recommend whether it warrants further exploration.

Tenneco owns a small block of five patented claims covering the Gold Coin #1, Gold Coin #2 and Bluff vein silver mines, which are collectively known as the Nevada Fairview mine, 42 miles southeast of Fallon, Nevada (Fig. 3, Rex Gold property report; Bell Canyon 7-1/2' topographic quad and Tenneco land map, all attached).

District Geology

South Fairview is a small sub-district within the much larger main or North Fairview District five miles north. The geology of the two districts is similar: Silver with minor gold values was mined from epithermal quartz veins in volcanic rocks. Associated wallrock alteration is the low sulfur, adularia type and not the high-sulfur, alunitic type, as at Tenneco's Borealis Mine, Nevada. As compared to North Fairview there has been much less silver production from South Fairview, where the major veins are not only much narrower but considerably lower grade.

As noted by Saunders (1977) the quartz veins in both the North and South Fairview districts appear to be genetic to dacite porphyry intrusives crossing tuffs and flows. The intrusives are spatially associated with a regional north-northeast striking normal fault which dips steeply west along the rugged west side of Fairview mountain (Saunders' untitled 100-scale geologic map). This fault resembles a range-front fault but is about a mile east of the west side of the range at South Fairview.

In the previously mined portion of the South Fairview district, silicification with minor precious metal mineralization occurs as:

1) a narrow, discontinuous quartz vein along the above fault: the Gold Coin #1 mine;

2) braided quartz-calcite gash veins farther north, striking northeast or east, and erratically distributed along the footwall of the fault: the Gold Coin #2 and other nearby smaller mines;

3) a wide, but essentially barren zone of stockwork quartz veinlets along both walls of the fault, between the Gold Coin #1 and #2 mines.

Previous HOM Exploration Program (1977-1978)

The Gold Coin vein area on the Tenneco claims was very thoroughly mapped, sampled and drilled for mineable veins by Fred

Saunders and Terry Jennings in 1977-1978 for Houston Oil and Minerals Co. with negative results (considerable data attached). HOM dropped their ten unpatented claims, on the north end of the five patented claims, sometime after 1978. Although no ore was discovered, Fred Saunders did an impressive job of mapping the rugged surface without benefit of a topographic map, along with excellent, very detailed underground geologic mapping.

HOM also sampled a sporadically silicified area in Bell Canyon, a mile farther south, along with a large argillized area west of the Gold Coin mines (attached Geochemical Survey Map). The exploration objective in both locations was a large open-pit silver/gold deposit. But sampling results were negative and neither area was staked nor drilled.

New Unpatented Claims

Two companies have recently staked three blocks of unpatented claims at South Fairview, which are outlined in red on Figure 3, Spectrum Exploration Co. Rex Gold property report and the HOM geochemical map:

Buff Claims

A large block of claims was staked by Hal Jenson of Eureka, Nevada, overlapping and surrounding the Tenneco patented claims. Jenson also owns the Mt. Hope molybdenum property, Nevada, which was leased to EXXON.

Spectrum Exploration Co.

Leroy Spriggs, a prospector and surveyor, is president and the sole employee. He jointly owns these claims with Donald Strachan, formerly a Tenneco geologist. Their addresses and phone numbers are on the title page of Strachan's attached report on the Rex Gold property.

Spectrum owns the Jet claims west of the Tenneco claim block and the Rex claims farther south in Bell Canyon. The two claim blocks were recently staked in July, 1986.

I met Leroy Spriggs in Hawthorne, and he gave me a copy of Strachan's report describing the Rex claims.

Jonson Samples

I collected 23 samples in areas on the Jet claims where argillized rock was also silicified. These samples are labelled DJF 79 through 91 and 95 through 106, for Dave Jonson, Fairview. All samples are marked in the field with numbered aluminum tags and red flagging. I collected no samples in the Rex claim group in Bell Canyon.

The Navy Dive-Bombing Range

The southern boundary of the bombing range effectively forms the northern boundary of the South Fairview district (Bell Canyon 7-1/2' quad). However, the main portion of the district is two miles south of the southern range boundary. And so it's rather disconcerting to observe occasional bomb craters, shell fragments, burned-out parachute flares, and either unarmed practice bombs, or unexploded live bombs, so far from where they should be.

Leroy Spriggs told me that he found ten unexploded 100-pound to 500-pound live bombs on his claims. A large practice bomb recently dropped within a foot of his unoccupied van, parked on the flat ground just west of the Tenneco claims. Even though the bomb didn't explode, the concussion broke all the windows and shrapnel-like gravel thrown up from the crater put a lot of holes in the van body. Spriggs said that a live bomb was deliberately dropped down the Dromedary Hump shaft recently in the North Fairview district. The mine owner is now suing the Navy.

The owner of Frenchmen's bar and motel, on the bombing range on highway 50, told me recently that:

1) The Navy is expanding the range to include land north of the highway. The expansion may not extend farther east to include more of the North and South Fairview mining district, but he really didn't know;

2) The Navy bought his business and he will be soon moving his family to safety in Fallon whenever he receives his cash payment. He is pleased with the money settlement and says he will "never have to work again"; he's about 40 years old.

3) Regardless of the so-called boundaries drawn on topographic maps, the bombing range boundary has never been accurately surveyed.

CONCLUSIONS

Tenneco Patented Claims - on the Gold Coin #1, Gold Coin #2 and Bluff mines

Lack of Vein Ore

Previous Mining

Narrow quartz veins, averaging only two to six feet wide, contain small lensy ore shoots. Previous production was small. Based on an HOM long-section along the Gold Coin #2 vein, the largest stope in any of the South Fairview district mines measured only 30 feet along strike and 20 feet down the dip.

Grade was occasionally high in the early days (66 oz/ton silver in 1913). But this figure probably represents hand-sorted ore. Hand-sorting, or very selective vein mining using the resuing method, is not economic today unless the grade is exceptionally high, which isn't the case at South Fairview.

HOM Sampling (1977)

At today's very high capital and operating costs for a narrow vein not suitable for mechanized trackless mining, such as Gold Coin #2, I estimate that such a vein should have an unmined value of at least $150 per ton to be economic (.36 oz/ton gold equivalent, gold plus silver at $420 gold).

The HOM samples along unmined portions of the vein, on four levels on the Gold Coin #2 mine, are compiled in the following table. None of the samples approach $150 per ton. Three underlined samples approximate $100 per ton over a minimum mining width of three feet.* The other much lower grade samples could be considered as waste rock between marginally mineable ore shoots. But ore shoots in this mine are very small, as previously noted.

The HOM sampling on smaller mines and prospects (Gold Coin #1 and Structures #2 through #5) is no higher grade and in most cases is considerably lower grade.

There is no evidence that grade will increase at depth. The grade decreased at depth at North Fairview, based on considerable down-dip mining below the near-surface enriched

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*Sample #2439 reduces from $98.11 over two feet to only $32.70 over three feet, with the reasonable assumption that vein wallrock will contain very low gold-silver values, or may even be barren, based on vein experience elsewhere.

zone. In addition, HOM drilling in 1978 showed that the Gold Coin #2 vein dies-out at shallow depth.*

We must therefore conclude that the Gold Coin veins are not economic. The veins will also continue to be sub-economic, even with a considerable future increase in gold-silver prices, because of the probable limited size of undiscovered ore shoots, coupled with a disappearance of ore shoots at shallow depth, as shown by the drilling. There is no geologic incentive for Tenneco to begin an exploration program for vein silver-gold ore at South Fairview.

Lack of Open-pit Stockwork Ore Adjacent to the Range-front Fault

A quartz veinlet stockwork in the walls of the Gold Coin #2 vein, locally ranging up to 200 feet wide, was sampled underground by the 1978 HOM drilling. The stockwork essentially contains no gold, and silver values are less than an ounce per ton.

On the surface, visually barren steep white quartz veinlets range up to two inches wide and are spaced three inches to a foot apart. I collected seven 10-foot channel-chip samples from outcrop above the Gold Coin #2 adit (DJF 100 through 106). A forty-foot stockwork interval was sampled on the first traverse and thirty feet on a second traverse 240 feet south. The highest gold and silver values were .003 opt gold and .45 opt silver.

Leroy Spriggs of Spectrum Exploration Co. collected nine stockwork samples north of the Tenneco (claim block located on Fig. 3, Rex Gold property report). Although there are no sample results listed, Spriggs told me that all samples were barren except some weak mineralization along the range-front fault.

In summary, there is no indication of a wide zone of mineralized wallrock which would average at least .03 opt equivalent gold or 6 opt equivalent silver, a necessary grade for an open-pit mine.

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*In 1978, it was assumed that three of the six inclined rotary holes did not intersect the Gold Coin #2 vein. However, the drill hole assays show a relatively high grade zone west of the presumed down-dip vein projection which is either 1) a second, more westerly vein not mapped on the surface where it is covered by alluvium, or 2) the Gold Coin #2 vein which rolls into a westerly dip at depth from a steep easterly dip at the surface. If the latter possibility is correct, then all six holes were indeed drilled through the Gold Coin #2 vein at depth.

A Large Argillized Area (1-1/4 mi^2) with Very Local Stockwork Silicification, West of the Gold Coin Mines - Includes the Jet Claim Area

Geology

Argillization is generally weak to moderate, but locally strong, in volcanic tuffs and flows. The argillization, along with moderate to strong iron oxides, presumably after pyrite, appears to be separated from the Gold Coin vein by a band of very weakly altered rock approximately half a mile wide.

Some siliceous sinter is spatially associated with a rhyolite plug along the west edge of the altered area (vicinity of Jonson field note 16)

Stockwork quartz veinlets are associated with intense argillization and goethite along the crest of a low ridge just west of the road ("Jeep Trail") to the Gold Coin mine. The stockwork is either a) a thin discontinuous layer, about 40 feet thick, underlain by moderately argillized rock, or b) a steep but narrow zone which strikes down the ridge crest. In either case the upper part of the stockwork was removed by erosion and is now capped by a thin veneer of alluvium along the top of a dissected pediment which forms the ridge crest. If the stockwork is a horizontal layer it may once have been overlain by a silicified opalite blanket, as at the Idaho Almaden mercury-gold mine near Weiser, Idaho.

Sample results

Extreme Western Rhyolite/Sinter Area

All the 27 geologically undescribed HOM samples are barren. I collected six samples from local small silicified areas, but all but one are barren; sample DJF-89 contains weakly anomalous gold (.01 ppm) near the east side of this zone.

Silicified Zone on a Ridge Crest on the Jet Claims

HOM sample N4-10043, on a local small knoll just west of the road with strong goethite and a few quartz veinlets in tuff, contains .026 opt gold. My check sample here, DJF-79, contains only .004 opt, although I probably didn't sample the exact same location as HOM sampled seven years ago.

Nine of my ten samples, from discontinuous stockwork areas with intense geothite and argillization on the ridge crest, contain anomalous gold. And two of the nine areas are ore grade with .02 and .229 opt gold. The former sample location, along with a Spectrum sample which runs .024 opt gold, form the present northeast end of the sampled zone which is still open in that direction.

Spectrum Exploration collected 24 samples in the ridgetop zone, of which eleven are above background (5 ppb Au). Three of the eleven contain .006 opt Au, and one sample runs .024 gold, as noted above.

The ridge crest silicified zone justifies some detailed geologic mapping and much more closely spaced sampling to attempt to develop an open-pit drilling target. But the work will have to be completed by Spectrum because the anomaly is on their ground.

If there is areal continuity between the silicified areas on surface, and also areal continuity between ore grade zones within these areas, there might possibly be about 1.8 million tons of ore to a depth of 40 feet:

2000' long x 300' wide x 40' thick divided by 13 = 1,846,154 tons.

(To be conserviative, the 300' and 2000' dimensions are less extensive than outlined in blue on the HOM geochemical map. The zone on the map measures about 400' x 3000' as drawn around widely spaced plus-.02 opt gold assays).

A Locally Silicified Area in Bell Canyon, 1-1/2 miles south of the Gold Coin #1 mine - Spectrum Rex claims

West Side of the Rex Claims, Heavily Sampled by HOM

Weakly argillized tuffs and flows are crossed by irregular silicified zones which appear to occur along the southern extension of the north-northeast range-front fault which hosts the gold Coin #1 vein farther north.

This area was extensively sampled by HOM with negative results. Of 29 HOM samples collected here none contains more than .1 ppm Au and 8 ppm Ag (or .003 opt Au and .23 opt Ag).

Northeastern Portion of the Rex Claims Sampled by Spectrum Exploration Co.

Geology

Don Strachan, co-owner of these claims and a former Tenneco geologist, wrote a report promoting this area (Rex Gold property, attached). Strachan has never mapped the claim area, and since there is no geologic map included with his report, described geologic features cannot be located in the field.

Strachan stresses a chloritic macrobreccia, which is inferred to be a detachment fault, although this isn't directly stated. After wandering all over the claims trying to find the

macrobreccia without a geologic map, I finally located it just north of the access road in the canyon, about 1000 feet west of the "C: in "Canyon" (HOM Geochemical Survey Map).

I am unconvinced that the breccia, at least in this location, is a fault breccia. In one location it appears to be a stratabound monolithic volcanic tuff-breccia (i.e. an ashflow tuff with large clasts of only one rock type). At another location the above rock grades into a lahar (mudflow). The breccia should be mapped in some detail before making any definite conclusions.

Several near-vertical silica-cemented fault zones strike N50W to N60W. White, visually barren quartz occurs as stockwork veinlets and as a cement for fault breccia. These silicified zones are apparently Strachan's "quartz microbreccias with clasts of sugary mylonitic quartz in a chalcedonic to porous macrocrystalline quartz matrix" or, more simply, quartz veins with two ages of silicification.

The silicified zones are narrow (2' to 15' wide) and are much too widely spaced (100' to 800' apart) to be collectively mined open-pit. There will also be no mineral contribution from the weakly argillized/propylitic to fresh volcanic rock between the quartz veins.

Spectrum Sampling

According to Strachan's report, Roy Spriggs collected 46 rock chip samples. Roy may be a competent prospector but it would have been far better for Strachan to collect the samples and include some geologic description.

The sample locations are almost illegibly hand-printed on a poor Xerox copy of a very small-scale topo map and are therefore quite difficult to find in the field.

As far as I can determine, all the Spriggs samples are from quartz veins and sometimes from adjacent strongly iron-stained wallrock. There is an occasional old prospect pit on the veins and one long adit (large dump) caved at the portal; the latter vein was sampled on the surface.

None of the samples are from the highly touted macrobreccia. I phoned Strachan and told him that if he feels the macrobreccia is an important feature he should demonstrate that it contains gold mineralization by collecting some samples. He plans to map the property sometime this winter.

The quartz veins are essentially barren, as shown by the Spectrum sampling (Rex North prospect samples, attached to the Rex Gold report). Only two of the 25 samples contain possibly economic gold values: .034 and .048 opt gold. These low values

would be mineable open-pit but much higher grade will be required for vein mining - at least .3 opt gold, as previously noted. And there is no open-pit potential here because the veins are much too widely spaced in barren wallrock.

In summary, the Rex claims, including the HOM-sampled area farther west, represent a poor gold/silver prospect.

Respectfully submitted,

David C. Jonson

David C. Jonson
Consulting Geologist

HOM Sample Data, Gold Coin #2 Mine (1977)

Computed by D. Jonson, 10/86

A Sample	B Width (feet)	C Gold (opt)	D Silver (opt)	E Present 1986 Value* Per Ton
Main Level				
3299	3	.09	10.72	97.83
2409	4.5	.004	.62	5.15
2337	2	.032	3.87	35.11
2436	3	.02	2.81	24.14
2407	1	.014	1.81	16.01
N3497	1(?)**	.026	.53	13.88
	3.8**	.032	1.87	23.91
2408	3.9	.035	4.88	42.03
2439	2	.09	10.77	98.11
2438	1	.024	2.75	25.48
2410	2.5	.019	2.06	19.52
Middle Level (44' below main level)				
2406	6	.034	4.45	39.20
2435	2.5	.068	10.46	86.09
2434	6	.085	12.97	108.33
Lower Level (79' below main level)				
2432	4	.058	8.62	72.63
2430	4.5	.012	2.07	16.63
2433	1	.035	5.37	44.70
2431	4	.053	7.36	63.48
2429	6	.025	3.65	30.94
2427	5	.01	2.21	16.58
Surface				
2416	5.5	.11	11.0	107.80
2411	4	.037	4.55	41.02
2412	3	Nil	Nil	---

*Gold @ $420/oz, silver @ $5.60/oz ---- Current prices

** Sampled by Lutz, 1976

APPENDIX - Sample descriptions and assay results (See Bell Canyon and Drumm Summit 7½' topo maps, plus HOM 500-scale geochem map)

Field Note	Sample	Remarks	Au(ppb)	Ag (p
1		Location notice, Jet claims, staked by Spectrum Exploration Co., Box 610, Hawthorne, NV 89415; claims staked by R. Spriggs, agent, July 17, 1986		
2		Location of sample which supposedly runs .6 ppm Au and 71 ppm Ag, near edge of bombing range. Rhyolite with occasional rare quartz veinlet; rock fresh to bleached; rock very poorly altered compared to similar rock near the Gold Coin mines. Can see no reason why the rock contains that much mineral - a possible lab or labelling area, as there is certainly no possibility for a large open pit mine here.		
3		These two prospects, just inside the bombing range, must be very small because they cannot be located.		
4		Portal, Gold Coin #1 mine. I observed that Fred Saunders, assisted by George Kendricks, did an excellent job of geologic mapping and sampling; sample sites in red spray paint are still visible on wall (1977) Recent sampling by Donald G. Strachan, consultant, who left his card in a crack on the wall: Box 1597 Hawthorne, NV 89475; phone 702-945-2852.		
5		Gold Coin #2 mine. I toured the main level with Fred Saunders' geologic map in hand. I am very impressed with his excellent geologic mapping and attention to detail. His samples still very legible on the walls.		
6		On the cliffs east above and east of Gold Coin #2 mine, a weak silicified zone is 75' or less wide, with only an occasional quartz vein. The zone was not sampled but it is obvious the grade would be far less than 5 oz/t silver which would be required for an open pit.		
7		A second traverse into the wallrock next to the Gold Coin mineralization - about .2 miles north of the traverse at (6). Abundant quartz veinlets over a width of 70' next to the covered vein, and then very weak veinlets to 180'. Again, no chance for an open pit mine because of very low grade to barren veinlets.		
8	DJF-79	Intensely goethite-stained tuff with a few quartz veinlets on an iron-stained knoll, immediately west of the access road. However, the altered zone is less than 20' across, surrounded by fresh tuff. Same location as sample N4-10043 by HOM which ran .9 ppm Au, 1 ppm Ag	135 (.004 opt)	.1
9	DJF-80	Volcanic flow rock crossed by stockwork quartz veinlets with strong goethite, many leached cavities. The combination of silica and strong FeOx is attractive. Badlands-type terrain west of access road.	55	.1

Field Note	Sample	Remarks	Au(ppb)	Au (r
10	DJF-81	Strongly hematite stained volcanic; no silica; FeOx may only be propylitic after FeMag in the flow rock. The altered patch here is only about 20' across, surrounded by fresher though argillized volcanics.	<5	.1
11	DJF-82	Stockwork quartz veinlets, each about 1/8" thick and about 6" apart, with strong goethite and strong bleaching, on a ledge near the top of the ridge.	7850 (.229 opt)	3.8 (.11(opt)
12	DJF-83	Also stockwork silica with strong goethite; local strong leaching, near ridge crest.	60 (.002 opt)	.1
13	DJF-84	Possible ferricrete (FeOx-cemented conglomerate). An apparent conglomerate but matrix cemented with silica as well as FeOx (strong goehtite in matrix). Some clasts 8" across.	45	.1
14	DJF-85	The hill here is intensely argillized and bleached white with a short 20' adit. This sample from very local but weak silica veinlets with strong goethite on the wall of the adit.	15	.1
15	DJF-86	A small resistant outcrop on the low western nose of this ridge: strongly pervasively silicified volcanic with strong FeOx(both limonite and hematite). The SiO2 is opal with conchoidal fracture surfaces, brecciated. Sampled the strongest FeOx. The opalized outcrop is about 50' across, but covered by Qal to the west. Argillized rock up-slope.	<5	.1
16	DJF-87	Opalized rhyolite, 250' east of DJF-86. White, with weak FeOx. Rhyolite flow banding nearly vertical.	<5	.1
17	DJF-88	Strongly argillized volcanic - rhyolite? - with quartz-goethite veinlets, 1/8" to 1/2" wide, about 6" apart, which form resistant ribs in the soft wallrock. Veinlets form a rectinlinear pattern: N30E, vertical, and N50W, 20N. The stockwork zone only 60' x 150'. Sample high-graded the veinlets.	<5	.1
18	DJF-89	Sample 100' east of DJF-88, near end of the stockwork, near the top of a very steep slope. Same description as DJF-88.	10	.1
19	DJF-90	Prospect pit on the ridge crest. Local silicified volcanics with intense argillization and goethite. Previous sampling by others - probably Spectrum. The pervasive silica is locally strong, cellular and leached. Two shallow hand-dug trenches, 60' apart.	<5	.1
20	DJF-91	Ferricrete in the next gully northeast from 90 with intense goethite matrix. About 8' thick, 80' long. Also previously sampled, probably by Spectrum.	5	.1
21	DJF-92	Pediment north of North Fairview.. Shaft with a concrete hoist base, fenced off. Strong silicification,	160 (.005 opt)	>100 (>2. opt

NORTH FAIRVIEW/CHALK MTN.

Field Note	Sample	Remarks	Au(ppb)	Ag(pp
		both pervasive and as veinlets, with strong goethite after pyrite. Also some black sulfide, very fine-grained, possibly argentite. Probably a vein.		
22	DJF-93	Prospect pit with silicified and brecciated rock with strong goethite on dump. Probably a vein, about 6' wide, which probably connects with DJF-92; if so, strike N70W across the pediment.	55 (.002 opt)	24 (.7 op
23		Claims staked here by AMSELCO, Jeff Nichols, agent, 80 W. Grove St., suite 100, Reno, NV 89509; Nov. 30, 1985.		
		Mostly weakly altered (argillized) volcanics. A 1' quartz vein here, N80W, vertical; 200' farther uphill to the east the vein now 3' wide with coxcomb outcrop. 50' farther uphill, vein only 1' wide in a prospect pit.		
24		Adit here explores very local, very strongly argillized rock; no quartz vein; some pyritized/argillized rock on the dump.		
25	DJF-94	Two prospect pits and a shaft on a train of vein quartz boulders which is probably a vein, about 6' wide in the west pit. The silicification here probholds up the small knoll. Sample from the middle pit dump. Some fine-grained but weak pyrite.	50 (.001 opt)	16 (.47 opt)
26		The numerous prospect pits shown on map here are backhoe trenches put in for assessment work. No bedrock exposed in alluvium.		
27		The few prospect pits here are in barren andesite.		
28	DJF-95	Sandy tuff crossed by drusy quartz veinlets in subcrop with intense goethite. High graded the veinlets. As with location 11 nearby, the quartz veinlet zone appears to be less than 50' thick and underlies alluvium at the crest of the hill. The silicified zone overlies argillized rock farther down slope.	<5	.1
29	DJF-96	Tuff breccia, intensely argillized and goethite stained with some silica ribs. On an outcrop spine projecting outward from ridge crest. Large vugs with gypsum. Silia veinlets N30W, 30E.	15	.4
30	DJF-97	Tuff(?) crossed by drusy quartz veins, to 2", mostly trending N20E, some N70W, intense dark goethite. High graded the veinlets.	25	.1
31	DJF-98	Gossany, vuggy, leached tuff with pervasive and hairline drusy quartz vnlts in vugs, with intense goethite Zone about 6' thick, overlain by fresh volcanic flow, underlain by argillized tuff with weak, drusy quartz veinletsin float; some quartz, euhedral, to 1½" long.	675 (.02 opt)	.6

Field Note	Sample	Remarks	Au (ppb)	Ag (ppm
32	DJF-99	Local(?) silicified zone with intense geothite, vuggy, leached; pervasive drusy silica. Alluvium above and outcrop covered by alluvium areally beyond 15'	20	.1
33	DJF-100	Gold Coin #2 area: stockwork quartz veining on cliff face above the adit. Dacite with about 50% white, barren quartz veinlets. From base of cliff going up steep gully immediately above the G.C. adit, 0' to 10' up.	100 (.003 opt)	25
	DJF-101	Same location as DJF-101; 10' to 20' up gully; dacite with 40% barren white quartz veinlets.	85	15.5 (.45 o
	DJF-102	Same location as DJF-102, 20' to 30' up gully; about 20% quartz veinlets, and stockwork dies out at about 26'.	10	6.8 (.2 op
34	DJF-103	240' south of location 33. Another sample traverse going up a steep gully on the side of the rock wall. 0' to 10' going up gully, base of cliff. About 30% white quartz veinlets.	<5	.6
	DJF-104	Same location as 103; 10' to 20' up the gully; about 30% barren white quartz veinlets.	<5	.4
	DJF-105	Same location as 104; 20' to 30' up the gully; about 20% white quartz veinlets.	<5	.7
	DJF-106	Same location as 105; 30' to 40' up the gully; about 40% barren white quartz veinlets, many parallel the traverse. Veinlets die-out shortly above.	<5	1.5

Chemex Labs Ltd.

Analytical Chemists • Geochemists • Registered Assayers

155 Glendale Ave. No. 7
Sparks, Nevada
U.S.A. 89431

Phone: (702) 356-5395

CERTIFICATE OF ANALYSIS

TO : TENNECO MINERALS COMPANY

#226-1802 NORTH CARSON
CARSON CITY, NEVADA
89701

CERT. # : A8612853-001
INVOICE # : I8612853
DATE : 27-MAY-86
P.O. # :

ATTN: J. WILSON CC: DAVE JONSON

Sample description	Prep code	Ag ppm Aqua R	Au ppb FA+AA
DJF 01	205	11.0	70
DJF 02	205	4.9	50
DJF 03	205	2.7	20
DJF 04	205	14.0	130
DJF 05	205	50.0	785
DJF 06	205	2.0	20
DJF 07	205	1.7	25
DJF 08	205	1.4	15
DJF 09	205	3.3	20
DJF 10	205	2.9	20
DJF 11	205	2.6	5
DJF 12	205	7.3	90
DJF 13	205	3.2	40
DJF 14	205	2.4	35
DJF 15	205	0.7	35
DJF 16	205	0.7	30
DJF 17	205	2.2	50
DJF 18	205	1.2	25
DJF 30	205	1.7	20
DJF 31	205	0.3	<5
DJF 32	205	1.5	5
DJF 33	205	0.4	<5
DJF 34	205	0.7	<5
DJF 35	205	0.5	<5
DJF 36	205	1.2	10
DJF 37	205	2.2	20
DJF 38	205	4.3	40
DJF 39	205	2.4	50
DJF 40	205	27.0	135
DJF 41	205	10.0	110
DJF 42	205	4.7	35
DJF 43	205	1.3	10
DJF 44	205	1.4	<5
DJF 45	205	0.8	10
DJF 46	205	1.2	10
DJF 47	205	0.1	<5
DJF 48	205	13.0	115
DJF 49	205	0.8	<5
DJF 50	205	2.1	10
DJF 51	205	7.3	20

North and South
Fairview assays

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Phone: (702) 356-5395

CERTIFICATE OF ANALYSIS

TO : TENNECO MINERALS COMPANY

#226-1802 NORTH CARSON
CARSON CITY, NEVADA
89701

ATTN: J. WILSON CC: DAVE JONSON

CERT# : A8612853-002-
INVOICE # : I8612853
DATE : 27-MAY-86
P.O. # :

Sample description	Prep code	Ag ppm Aqua R	Au ppb FA+AA
DJF 52	205	76.0	1150
DJF 53	205	0.1	15
DJF 54	205	1.8	5
DJF 55	205	0.9	10
DJF 56	205	7.2	45
DJF 57	205	4.1	30
DJF 58	205	0.1	<5
DJF 59	205	2.5	30
DJF 60	205	1.2	30
DJF 61	205	14.0	75
DJF 62	205	1.4	5
DJF 63	205	1.1	<5
DJF 64	205	0.7	10
DJF 65	205	0.4	<5
DJF 66	205	0.1	<5
DJF 67	205	0.2	<5
DJF 68	205	0.1	<5
DJF 69	205	1.2	15
DJF 70	205	1.6	35
DJF 71	205	0.1	<5
DJF 72	205	1.4	<5
DJF 73	205	1.0	75
DJF 74	205	0.7	<5
DJF 75	205	0.8	5
DJF 76	205	70.0	5900
DJF 77	205	1.6	30

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Sparks,
U.S.A.

Analytical Chemists • Geochemists • Registered Assayers

Phone: (702) 35(

CERTIFICATE OF ANALYSIS

TO : TENNECO MINERALS COMPANY

#226 - 1802 NORTH CARSON
CARSON CITY, NEVADA
89701

CERT.# : A8616134-
INVOICE # : I8616134
DATE : 18-AUG-86
P.O. # :

ATTN: JEFF WILSON CC: DAVID JOHNSON

Sample description	Prep code	Ag ppm Aqua R	Au ppb FA+AA
DJF-79	205	0.1	135
DJF-80	205	0.1	55
DJF-81	205	0.1	<5
DJF-82	205	3.8	7850
DJF-83	205	0.1	60
DJF-84	205	0.1	45
DJF-85	205	0.1	15
DJF-86	205	0.1	<5
DJF-87	205	0.1	<5
DJF-88	205	0.1	<5
DJF-89	205	0.1	10
DJF-90	205	0.1	<5
DJF-91	205	0.1	5
DJF-92	205	>100.0	160
DJF-93	205	24.0	55
DJF-94	205	16.0	50

Chemex Labs Ltd.

212 Brooksbank Ave.
North Vancouver, B.C.
Canada V7J 2C1
Phone: (604) 984-0221
Telex: 043-52597

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CERTIFICATE OF ANALYSIS

TO : TENNECO MINERALS COMPANY

#226 - 1802 NORTH CARSON
CARSON CITY, NEVADA
89701

1530 Alkire St.
Golden, CO
80401

CERT.# : A8616134-001-A
INVOICE # : I8616134
DATE : 17-AUG-86
P.O. # :

ATTN: JEFF WILSON CC: DAVID JOHNSON

Sample description	Prep code	Ag ppm Aqua R	Au ppb FA+AA				
DJF-79	205	0.1	135	--	--	--	--
DJF-80	205	0.1	55	--	--	--	--
DJF-81	205	0.1	<5	--	--	--	--
DJF-82	205	3.8	7850	--	--	--	--
DJF-83	205	0.1	60	--	--	--	--
DJF-84	205	0.1	45	--	--	--	--
DJF-85	205	0.1	15	--	--	--	--
DJF-86	205	0.1	<5	--	--	--	--
DJF-87	205	0.1	<5	--	--	--	--
DJF-88	205	0.1	<5	--	--	--	--
DJF-89	205	0.1	10	--	--	--	--
DJF-90	205	0.1	<5	--	--	--	--
DJF-91	205	0.1	5	--	--	--	--
DJF-92	205	>100.0	160	--	--	--	--
DJF-93	205	24.0	55	--	--	--	--
DJF-94	205	16.0	50	--	--	--	--

VOI rev. 4/85

Certified by Hart Bichler .....

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155 Glendale Ave. No. 7
Sparks, Nevada
U.S.A. 89431

Phone: (702) 356-5395

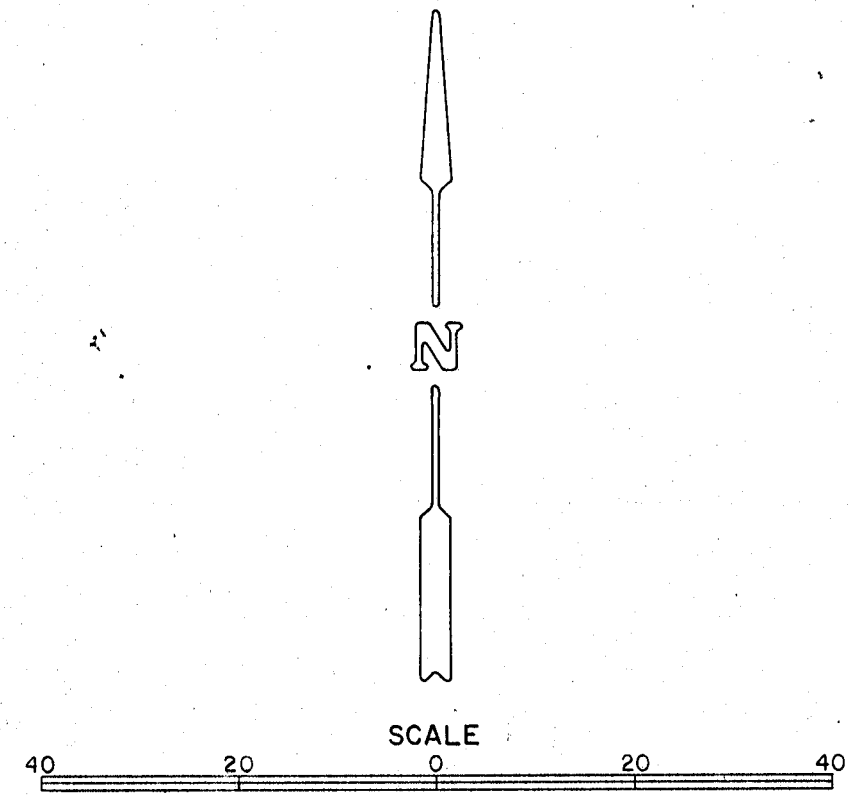
CERTIFICATE OF ANALYSIS

TO : TENNECO MINERALS COMPANY
ATTN: GEOCHEMIST
300 UNION BOULEVARD, P.O.BOX 27F
LAKEWOOD, COLORADO
U.S.A. 80227

CERT. # : A8619009-001
INVOICE # : I8619009
DATE : 15-OCT-86
P.O. # :

ATTN: N. MUNCASTER CC: D.C. JONSON

Sample description	Prep code	Ag ppm Aqua R	Au ppb FA+AA
DJF-095	205	0.1	<5
DJF-096	205	0.4	15
DJF-097	205	0.1	25
DJF-098	205	0.6	675
DJF-099	205	0.1	20
DJF-100	205	25.0	100
DJF-101	205	15.5	85
DJF-102	205	6.8	10
DJF-103	205	0.6	<5
DJF-104	205	0.4	<5
DJF-105	205	0.7	<5
DJF-106	205	1.5	<5



HOUSTON OIL & MINERALS CORPORATION
MINERALS DIVISION

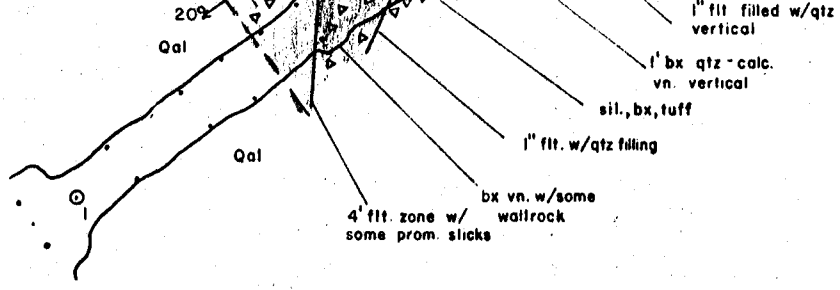
COMPILED	DATE	DRAFTED	DATE
F.S.	11/77	K.A.	11/77
REVISED	DATE	REVISED	DATE

Fairview Mining Dist., Churchill Co., Nevada

SOUTH FAIRVIEW PROPERTY
GOLD COIN NO. 2
UNDERGROUND GEOLOGY

DATE 11/23/77 SCALE 1" = 20' DWG. NO.

Map 3-

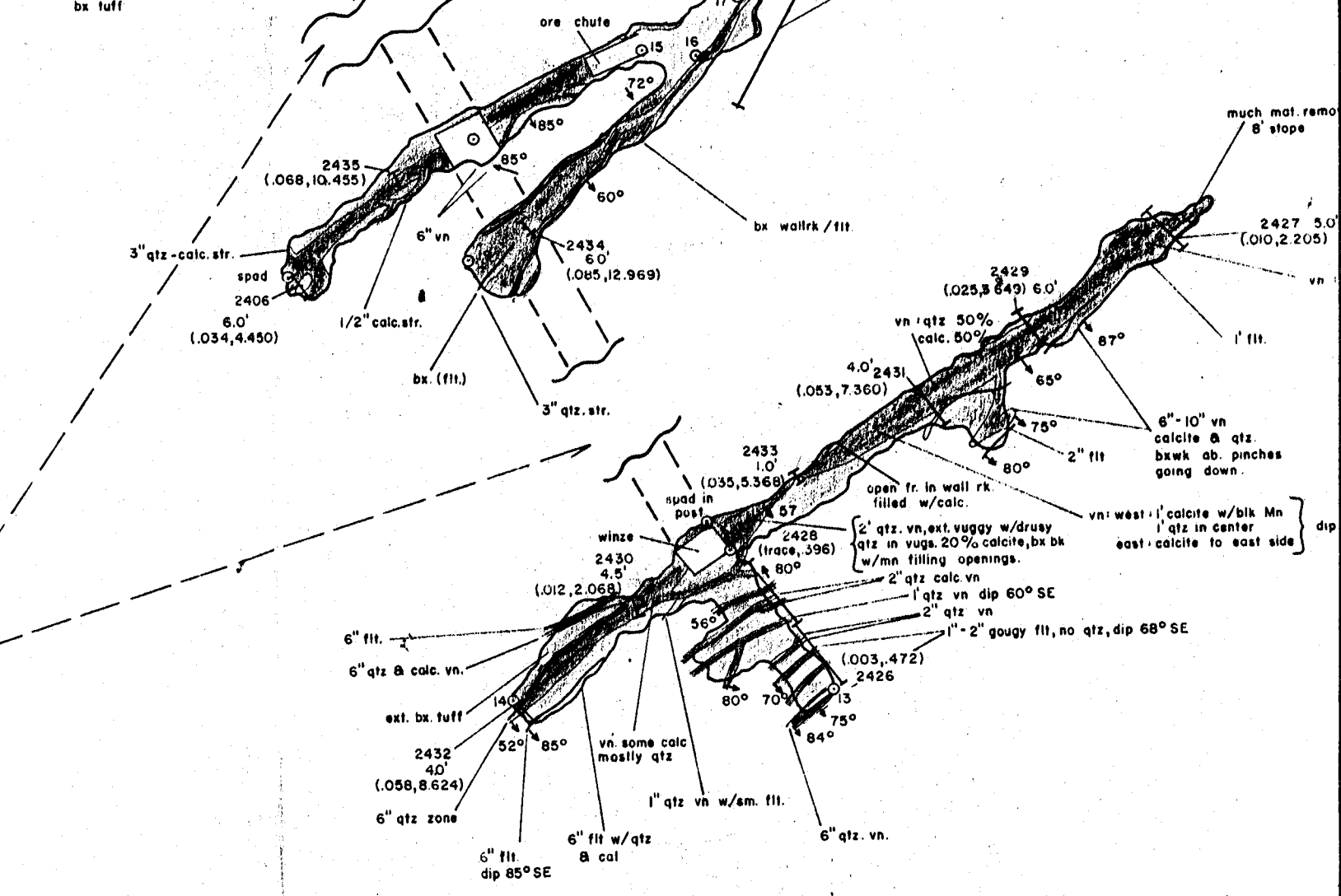


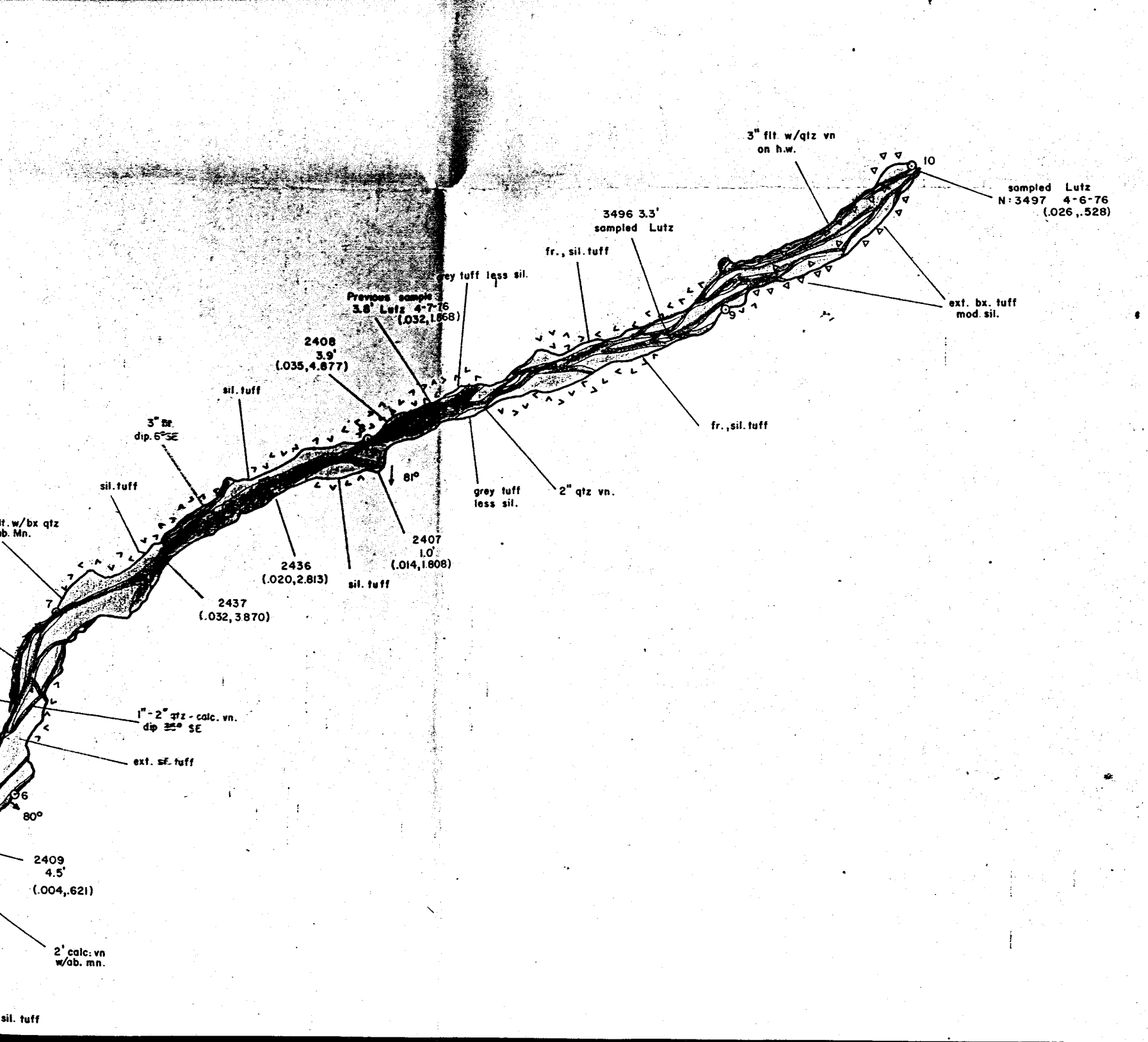
35

3'

NOTE:

Levels are superimposed over each other.
These plan views are expanded for illustrative purpose and are not in correct horizontal relation.


bx tuff
ore chute
15
16
72°
85°
85°
2435
(.068,10.455)
60°
bx wallrk / flt.
6" vn
2434
6.0'
(.085,12.969)
3" qtz - calc. str.
spad
2406
6.0'
(.034,4.450)
1/2" calc. str.
bx. (flt.)
3" qtz. str.
much mat. remo
8' slope
2427 5.0'
(.010,2.205)
vn
2429
(.025,5.649) 6.0'
vn: qtz 50%
calc. 50%
87°
1' flt.
4.0'
2431
(.053,7.360)
65°
75°
6"-10" vn
calcite & qtz.
bxwk ab. pinches
going down.
2" flt
80°
2433
1.0'
(.035,5.368)
spad in
post
57
open fr. in wall rk
filled w/calc.
vn: west - 1' calcite w/blk Mn
1' qtz in center
east - calcite to east side
dip
winze
2428
(trace,.396)
2' qtz. vn, ext. vuggy w/drusy
qtz in vugs. 20% calcite, bx bk
w/mn filling openings.
2430
4.5'
(.012,2.068)
80°
2" qtz calc. vn
1' qtz vn dip 60° SE
2" qtz vn
1"-2" gougy flt, no qtz, dip 68° SE
56°
6" flt.
6" qtz & calc. vn.
(.003,.472)
2426
14
80°
70°
13
75°
84°
ext. bx. tuff
52°
85°
2432
40'
(.058,8.624)
vn. some calc
mostly qtz
1" qtz vn w/sm. flt.
6" qtz zone
6" flt w/qtz
& cal
6" flt.
dip 85° SE
6" qtz. vn.


3" flt. w/qtz vn
on h.w.
10
sampled Lutz
N: 3497 4-6-76
(.026, .528)
3496 3.3'
sampled Lutz
fr., sil. tuff
grey tuff less sil.
Previous sample
3.8' Lutz 4-7-76
(.032, 1.868)
ext. bx. tuff
mod. sil.
9
2408
3.9'
(.035, 4.877)
sil. tuff
3" flt.
dip 6° SE
fr., sil. tuff
81°
sil. tuff
grey tuff
less sil.
2" qtz vn.
2407
1.0'
(.014, 1.808)
2436
(.020, 2.813)
sil. tuff
2437
(.032, 3.870)
1" - 2" qtz - calc. vn.
dip 35° SE
ext. sil. tuff
6
80°
2409
4.5'
(.004, .621)
2' calc. vn
w/ab. mn.
sil. tuff