

Silver Standard Mines Ltd.

REPORT ON STUDY OF PLANS

of

BROWN McDADE MINE

Douglas D. Campbell

January 1959

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INTRODUCTION

A number of geological and assay plans and sections of the underground workings and diamond drill holes in the Brown - McDade Mine were studied. The purpose of the examination was to glean as much information as possible about the nature of the orebody in the Brown-McDade zone in order that some idea could be gained of what type of target should be expected in the exploration of the same zone on Silver Standard claims.

CONCLUSIONS

According to the records made available in this study it is very strongly indicated that the development of the orebody in the Brown-McDade mine was not nearly as thorough as it should have been. It seems safe to conclude that with some careful geological mapping and a few critically placed new crosscuts the ore picture in the underground workings can probably be markedly improved. It is suspected that the ore controls were only vaguely understood with the result that a continuous orebody has been developed to appear like several discontinuous orebodies.

A conservative estimate of the dimensions of the Brown-McDade orebody gives it a length of 1000 feet, a height of 200 feet, and an average width of five feet. There is good evidence that the length and height could be at least 50 percent greater. Using these dimensions it is indicated that the Brown-McDade zone on Silver Standard claims could have one or more orebodies at least 1000 feet in length and extending to a depth of at least 200 feet below surface. This then represents a rough size of the target(s) that exploration should be set up for.

Brown-McDade records indicate that the orebody graded about 0.40 oz. in gold across five feet. Silver is ubiquitous in the orebody but very erratic; however, it would contribute an average of about two dollars a ton. Assuming a length of 1000 feet the Brown-McDade orebody would make about 400 tons per vertical foot. A very conservative figure for depth of proven ore would be 200 feet. Using these dimensions it is calculated that the Brown-McDade workings have outlined about 80,000 tons of ore with a value of about \$16 per ton, or a total value of \$1,280,000. This in a relatively meagre amount of development.

The known size and value of the possible orebodies in the Brown-McDade zone, plus the fact that the sizes could be considerably greater, are encouraging portents when considering exploration of the zone on the Silver Standard claims.

EXTENT OF STUDY

The following material was available for this study:

- | | |
|---|---------|
| 1 Geological plan of about 1000 feet of drift | 1"= 20' |
| 3 Geological and assay plans of 800 feet of drift | 1"= 5' |
| 1 Assay plan of about 800 feet of drift | 1"= 20' |
| 1 Geological plan of crosscut and about 350 feet of drift | 1"= 40' |

Plans and sections of surface work and drilling over mine area. With assays.

In general the data was good but the geological plans of the drifts leave much to be desired.

All the assay data available from surface pits, drill holes and drifting were compiled on a vertical longitudinal section (Figure 1) to deduce an approximate estimate of the size and value of the Brown-McDade orebody.

BROWN - McDADE OREBODY.

CHARACTER:

A careful examination of assay plans and such geological plans as are available confirms the theory professed earlier that the gold and silver occur in a zone that lies in the footwall of the main Brown-McDade shear zone. The shear zone is about 15 feet in width and is comprised principally of hematized fault gouge, sericite and mylonite. The adjacent ore zone is 20 to 30 feet in width, of which about five is good ore. The zone is comprised principally of sheared hematitic and limonitic silica-sericite rock which has been formed by hydrothermal alteration of the granodiorite country rock. (From observations underground last September I feel that this ore zone can be mapped with considerably more definiteness than is depicted on the Brown-McDade plans). The precious metals are apparently associated with arsenopyrite and other sulphides which occur in siliceous lenses in the ore zone.

Much of the drifting in the mine barely skirted and in

places veered completely off the ore zone, probably because of the difficulty of distinguishing the productive zone from the adjacent similar but barren zones.

GRADE:

The channel sampling at Brown-McDade appears to have been well done and the assay plans are probably dependable. Interestingly, the assays of samples from the surface pits, from drill core and from drift channels all fall more or less within the same range despite very intense surface oxidation and very high core loss in the ore zone ($\pm 80\%$). The overall average assay is 0.40 oz. gold across an average width of five feet.

Silver content ranges from 100 ounces to nil within the sampled area but seems to average about three ounces across five feet throughout most of the orebody.

It is of further interest to note that muck samples taken in the crosscut across a width of 25 feet of ore zone averaged 0.38 oz. Au and 3 oz. Ag.

It thus appears that an average value of the Brown-McDade ore, as sampled in the workings and drill holes, is about \$16/ton, assuming 0.40 oz. Au and 3 oz. Ag.

DIMENSIONS:

Many of the drill holes and some of the underground work intersected small possible orebodies in the footwall of the main orebody. These sources of ore have not been considered in this study but they should be born in mind if exploration proceeds.

ORE EXPOSURES:

Five surface pits above the Brown McDade mine expose ore of average grade (0.40 oz. Au) and much greater than average width (5 ft.) for a length of 1000 feet. (Fig. 1).

Underground drifts expose discontinuous blocks of ore for a total length of 750 feet at a depth of 100 feet below the surface. The assay plans and the geology strongly indicate that this is actually a continuous block of ore.

BROWN-McDADE OREBODY (cont'd):

Ten diamond drill holes intersected ore of average grade and width along a length of 1000 feet at an average depth of about 140 feet below the surface. One other hole in this series was blank. The length of ore indicated by the drilling corresponds in position to that exposed in the drifts above.

Three diamond drill holes intersected ore of slightly higher than average grade across average widths directly under the crosscut at depths of 160, 260 and 500 feet below the surface. (The deepest hole ended in the ore zone).

EXTRAPOLATIONS:

The southernmost exposure of ore, according to the available records, is in a surface pit (#4); the northernmost exposure is in the drift underground, the distance between the two is 1400 feet. Surface pits, drifts and drill holes indicate a proven depth of ore of 140 feet and three additional holes suggest a possible depth of 500 feet.

Channel samples underground have been averaged to a width of about five feet. Much of the drifting only includes part of the ore zone and the zone in the surface pits is nearly ten feet in average width so it appears that a width of five feet is reliable and possibly conservative.

From the foregoing data it is fairly safe to assume that the Brown-McDade workings have proven an orebody 1000 feet in length, 5 feet in width and 200 feet in depth below the surface. Using a tonnage factor of 13 cu/ft/ton, the tonnage proven is 80,000 tons. Drilling and one surface pit beyond the above dimensions indicate a possible tonnage of about 300,000 tons.

VALUE:

Assuming 80,000 proven tons at \$16/ton, the Brown-McDade orebody is worth \$1,280,000.

A possible orebody of 300,000 tons would be worth \$4,800,000.

RECOMMENDATIONS

Analysis of the Brown-McDade records indicates that there

BROWN-McDADE OREBODY (cont'd):

is a good possibility of one or more worthwhile orebodies occurring in the Brown-McDade zone. If this zone can be found on Silver Standard claims it represents good prospecting area. Surface stripping in the geologically favourable areas appears to be the best bet, especially when the target may have a length of 1000 feet.

Diamond drilling should explore any ore exposures made by surface stripping. A safe depth for intersection appears to be about 150 feet.

Respectfully submitted,

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APPENDIX

APPENDIX

A number of rock specimens from the crosscut through the Brown-McDade zone have been studied in thin section. The results are presently being compiled by Mr. Dave Miller in a thesis at U.B.C. but copies of cursory analyses of each section are included in this report.

In brief the results of this study indicate that the Brown-McDade zone can be classified as follows:

	<u>ZONE</u>	<u>WIDTH</u>	<u>CHARACTER</u>
EAST	FOOTWALL		Fault plane.
	SHEAR ZONE	15 ft.	<u>Clay gouge</u> , hematite, nylonite, sericite, quartz.
	ORE ZONE	±30 ft.	(±10 ft. of footwall is ore) <u>Quartz-sericite rock</u> .
	ALTERATION ZONE	75 ft.	<u>Quartz-feldspar rock</u> , sericitized and limonitized.
WEST	ALTERED GRANODIORITE	±70 ft.	Fractured, silicified, kaolinitized, carbonitized.

Limonite and hematite are ubiquitous.

Mr. Miller's thesis will provide more detail on this subject plus some features on ore associations.

BROWN-McDADE MINE

Specimen SS 3

LOCATION: Face of x-cut plus 65 ft. Northwest wall. Altered granodiorite zone.

MEGASCOPIC: Uniform, massive, pale grayish-cream finely crystalline (almost granular texture) aggregate of altered (rounded) feldspar and/or quartz.

Alteration is generally interstitial lacework of limonite, clay and black sulphide (?).

MICROSCOPIC: Intricately intergrown granulated aggregate of irregular grains, 0.5 mm. to 2 mm. in size, which are comprised of very fine (< 0.1 mm.) anhedral crystals. The principal components are: quartz, clay and carbonate.

The original rock was probably granitic but the feldspar has been 95% replaced by clay, the quartz has been recrystallized and added to, and the ferromag. minerals destroyed. The original texture has been destroyed by granulation recrystallization and replacement.

The whole mass is interlaced along fractures and grain boundaries by limonite.

NOTE: All the principal minerals present, with the exception of some of the quartz, are products of hydrothermal alteration.

PRINCIPAL MINERALS:

CLAY - (Kaolin or Montmorillonite) - 30% - Mostly pseudomorphous after broken (granulated) feldspar crystals (± 0.5 mm.). Ultra fine grained felted masses. Very early alteration.

QUARTZ - - $\pm 40\%$ - Fairly large formless masses (> 2 mm.) of intergrown lobate grains, locally sutured. Replaces clay-feldspar locally and is apparently contemporaneous with carbonate.

CARBONATE - - $\pm 20\%$ - Anhedral grains ($\pm 0.10-0.20$ mm.) and veinlets forming tightly packed groundmass. Extensively replacing clay-felds. Apparently contemp. with qtz.

MINOR MINERALS:

BIOTITE-AMPHIBOLE - $\pm 2\%$ - Few splintery relicts scattered in aggregate. Mostly replaced by limonite + carb. Possibly a later age of biotite.

GARNET - < 1% - Scattered hexagonal grains (± 0.10 mm.) probably relict from original rock. Replaced (rarely) by biotite and quartz.

ARSENOPYRITE - $\pm 1\%$ - Scattered crudely diamond-shaped crystals (< 0.1 mm.) later than all minerals (except limonite?).

Specimen SS 3 - (cont'd)

- LEMONITE - 3-4% - Yellow brown streaks, patches and laceworks replacing all other minerals but mostly as filling in intergranular spaces. Extensively pseudomorphous after arsenop.
- APATITE - TR - Few grains associated with and replaced by biotite.
- (SPHENE) - < 1% - Elongate diamond-shaped crystals converted to leucoxene (or limonite?).
- FELDSPAR - Tr - Twinned relicts in clay.

ROCK IS IGNEOUS rock that has been dynamically and thermally altered so that the texture has been converted from a granitoid to a granular and all original minerals nearly destroyed or recrystallized.

Argillic alteration has replaced the feldspar and possibly the ferromags.

Carbonate and silica have then extensively replaced the clay. Much of the silica may be from the original quartz and silicates.

Sulphide alteration has then introduced arsenopyrite.

Limonite has then lightly altered and veined the rock.

BROWN McDADE MINE

Specimen NS 4

LOCATION: Face of x-cut plus 75 ft. Northwest wall. Alteration zone.

MEGASCOPIC: Mottled reddish brown and cream coloured massive medium crystalline aggregate of very soft hematite and crumbly quartz and feldspar.

One corner of specimen cut by quartz veinlet ($\frac{1}{4}$ ") and several hairlines of sulphides cross the specimen.

Clay alteration of the feldspars, etc., has destroyed intergranular cohesion and the rock is crumbly.

MICROSCOPIC: Granulated and altered granitoid rock. Bulk of rock was feldspar, quartz and ferromag. minerals in grains ≈ 2 mm. in size. Now the feldspars are everywhere shattered, veined and comminuted as well as heavily replaced by sericite, etc. The quartz and some feldspar has been crushed and possibly rexed to grains 0.05 to 0.50 mm. in size and aligned in bands cutting across the rock. The ferromags were probably amphibole but have been mostly replaced by fine grained aggregates of hematite-magnetite and pyrite-chlorite etc.

The whole rock is veined by at least two ages of carbonate and fine network of hematite. The hematite replacing the ferromags give the rock the mottled red colour.] ?

PRINCIPAL MINERALS: The original principal minerals were orthoclase ($\approx 80\%$), quartz ($\approx 5-10\%$) and hornblende ($\approx 10\%$) but selective alteration has introduced many new minerals and destroyed the original proportions and texture.

The original minerals are listed below, each followed by its principal alteration products.

1. ORTHOCLASE - 35% - Mostly large (≈ 2 mm.) clouded, intricately fractured, and locally comminuted anhedral grains extensively impregnated and replaced by sericite.

MICROCLINE & ALBITE - Included in above figure for orthoclase. Minor but important (large scattered grains).

SERICITE - $\approx 25\%$ - Almost exclusively very fine grained replacement of feldspars.

2. QUARTZ - $\approx 20\%$ - Two varieties, (1) Relict large fractured rounded grains (≈ 1 mm.), veined by carbonate and limonite and (2) Small (≈ 0.1 mm.) clear subround locally sutured grains in bands or "streams" which cut across rock, mostly via grain boundaries. Probably some new silica - not all from original quartz. Late bands are pre carbonate-limonite-hematite.

3. AMPHIBOLE - $< 1\%$ - Few scattered relicts of original grains. Original type may have been actinolite but alteration has made determination doubtful.

Specimen SS 4 - (cont'd).

- CHLORITE - +5% - Extensive patches replacing amphiboles and feldspar as well.
- HEMATITE - ±10% - Very fine grained pseudomorphic replacement of amphibole, generally with chlor. and limonite.
- LIMONITE - ±2% - Patches with hematite and veinlets cutting all original minerals.
- LEUCOXENE - ±1% - Scattered altn. of amphiboles.
- PYRITE - +1% - Scattered clusters of subhedral grains (< 0.5 mm) generally in the quartz "streams" or highly fractured areas.
- CARBONATE - ±5% - 2 ages of veinlets cutting all other rocks and one cuts the other.

BROWN McDADE MINE

Specimen SS 5

LOCATION: As SS 4.

MEGASCOPIC: Yellow and white, coarsely crystalline aggregate of quartz and feldspar and/or limonitic quartz or feldspar.

Fine fractures in both quartz and feldspar are filled with very fine grained sulphides (Py, Cp, Po?).

NB The slide is heavily coated with impregnating material.

MICROSCOPIC: Primarily only two minerals: Quartz and plagioclase. Both minerals are in elongate anhedral grains oriented in a common strain (?) direction. The quartz is in intricately sutured (rexxd) clear grains (~1 mm.) that appear to "flow" around the feldspar grains (~5 mm).

The feldspar is densely clouded by sericite, (carbonate) and minor limonite.

QUARTZ - 60% - Oriented sutured grains. Locally partially replaces the feldspar and appears to "flow" around it.

PLAGIOCLASE - ±28% - Very large elongate grains that are broken (ALBITE?) and locally twisted and extensively impregnated by sericite.

The feldspar originally was 40% of the slide.

SERICITE - ±10% - Exclusive fine grained alteration of feldspar along lattice directions. Comprises about 30% of feldspar.

CARBONATE - < 1% - Very narrow veinlets cutting both quartz and feldspar but best developed in the feldspar. Also isolated patches throughout the feldspar.

LIMONITE - ±2% - Veinlets and patches very definitely concentrated in the feldspar. Gives yellowish colour to feldspars in rock.

ROCK: - Apparently the original rock has been completely replaced by albitization and (or slightly later) by silicification.

The silicifying solutions have probably preceded the sericitization of the feldspar. (See SS 6).

Some carbonate then veined the rock and later, along the same sets of fractures, limonite veined the feldspar and replaced it somewhat in patches.

BROWN McDADE MINE

Specimen SS 6

LOCATION: - Face of x-cut plus 100 ft. Northwest wall. Alteration zone.

MEGASCOPIC: - Relatively hard, but scratchable, uniformly massive medium crystalline aggregate of watery quartz and (limonitic?) tan to cream-gray coloured feldspar (?).

Scattered tiny flocks of sulphides are common, mostly in the feldspar.

MICROSCOPIC: - Essentially same rock as SS 5 but more feldspar than quartz and feldspar very heavily replaced by sericite and limonite.

Sulphide (Py-Arsenopy.??) grains are common and almost exclusively in the feldspar and ringed by limonite.

Scattered grains of leucoxene are not uncommon.

QUARTZ - ±35%

FELDSPAR - ±8% - Practically completely replaced. Originally (ALBITE?) 65% of slide.

SERICITE - ±30% - Replacing feldspar.

LIMONITE - ±23% - Replacing sericitized feldspar.

SULPHIDE - ±2% - Arsenopy. Almost always in felds.

LEUCOXENE - ±1% - With limonite.

ROCK: Same sequence as SS 5 only more feldspar and followed by more intense sericitization - most quartz.

Sulphides came in later than albite, sericite and quartz and before limonite.

Specimen SS 7

LOCATION: - Face of x-cut plus 125 feet. Northwest wall. Alteration zone.

MEGASCOPIC: - Massive, fairly hard, med.-fine crystalline aggregate of cream feldspar and pale brown limonite.

MICROSCOPIC: Essentially same as SS 6 with more quartz and sulphide.

Feldspar and quartz are much finer grained and more intimately intergrown. Sericite invades quartz extensively.

Late cracks across the rock are healed by quartz where they cross quartz, fresh feldspar (?) where they cross the sericite-felds and hematite where they cross limonite.

Limonite and sulphides, while concentrated in feldspar, extensively get to quartz as well.

BROWN McDADE MINE

Specimen SS 8

- LOCATION: Face of x-cut plus 135 ft. Northwest wall.
Alteration zone.
- MEGASCOPIC: Fairly uniform, pale brown and cream (mottled), fairly soft, fine to med. xn. aggregate of quartz (?), feldspar (?) and limonite with large grains of hematite.
Scattered grains of sulphides (Py + ?) are common.
- MICROSCOPIC: As SS 7 but: (1) Finer grained (2) Less quartz (3) More limonite (4) Pyrite is coarse xn and extensively fractured (important) (5) Cut by veins of hematite and clay.

The clay vein appears to be kaolinite and represents a new phase in the alteration cycle, as compared to SS 5-6-7.

Specimen SS 9

- LOCATION: Face of x-cut plus 150 ft. Northwest wall. Ore zone.
- MEGASCOPIC: Heavy, watery white coarsely xn mineral (qtz ?) that is locally replaced by limonite and very local patches of finely xn black sulphide (?) surrounded by clear (unaltered) quartz.
- MICROSCOPIC: Extreme end product of SS 5 - 8 series with all the feldspar completely replaced by sericite and all the quartz rexd. to saturated fresh fine (< 0.25 mm.) grains that occur throughout the sericitized masses. About 50% sericite and 50% qtz.
This assemblage has been limonitized, mostly in the sericite, so that about 15% is replaced. This limonite has also replaced all the sulphides (pyr.).
Probably surface oxidation.
About 1/3 of the slide is occupied by a rel. coarse xn (1 mm.) clear quartz vein made up of subhedral comb. xls. This vein and branches of it cut the quartz-sericite rock.
The quartz veins and the qtz.-sericite rock are both cut by veinlets of argillic mn. (kaolin?) and limonite. Same age as the argillic veins in slide SS 8. Therefore, between (4) and (5) of the sequence in SS 8 should be inserted a stage of fracturing and extensive veining by quartz.
The limonite of the argillic veins may be formed as oxidation waters coursed through the cracks.
- ROCK: Quartz-sericite rock. (Derived from quartz-albite rock).
Extensively veined by quartz and kaolin.
Extensively limonitized.

BROWN McDADE MINE

Specimen SS 10

LOCATION: As SS 9.

MEGASCOPIC: Massive, very fine grained, very soft, yellowish (pale) clay alteration of med. xm. quartz (?) and feldspar (?), now visible as pseudomorphs.

MICROSCOPIC: Fine grained quartz-sericite rock as in SS 9 but intensely and finely brecciated and laced by intricate shearing (grains are crumbled, not just fractured) along which limonite, (with some leucoxene and hematite), has penetrated to occupy cracks and form patches replacing about 15-20% of the rock.

Kaolin occurs in scattered veinlets and patches and is pseudomorphous after pyrite.

All pyrite is replaced by limonite and or clay.

ROCK: Brecciated and limonitized quartz-sericite rock.

Specimen SS 11

LOCATION: Face of x-cut plus 160 ft. Northwest wall. Ore zone.

MEGASCOPIC: Brownish-yellow and gray-white, massive, fairly compact, medium crystalline, irregular aggregate of watery quartz, cream feldspar and yellow-brown limonite. Cut by clear carbonate veinlets.

MICROSCOPIC: Very coarsely xm intricately brecciated quartz-sericite rock with most of the sericite and much of the quartz replaced by masses and laceworks of limonite and hematite. All the sulphides are completely limonitized.

Clay mineral clearly fills cracks in quartz (all brecciated) and locally replaces sericite. Also, the hematite-limonite clearly replaces the clay minerals. This suggests another age of oxidation after the veining by clay.

Quartz appears to re-crystallize after each disturbance and come out sutured and clear. In this slide much of it is in the form of clear rounded relicts in the limonite.

Specimen SS 13

LOCATION: Face of x-cut plus 180 ft. Northwest wall. Fault zone.

MEGASCOPIC: Massive, patchily creamy-tan coloured, finely crystalline aggregate of quartz (clear) and feldspar (?) (limonitic). Scattered flecks of pyrite are common throughout.

The area of the slide is highly limonitized.

Specimen SS 13 (cont'd)

BROWN McDADE MINE

MICROSCOPIC: Fragments (< 1 mm.) of sutured quartz scattered evenly in a uniform matrix of sericite. The sericite matrix is extensively limonitized by isolated fine xn. patchy impregnations.

Pyrite xls. are common and generally fractured and partially limonitized.

Considerable leucoxene assoc. with the limonite.

Considerable apatite xls assoc. with the quartz.

ROCK: Quartz-sericite mylonite. Limonitized.

Specimen SS 15

LOCATION: Drift near x-cut.

MEGASCOPIIC: Dark watery gray (quartz) ? finely crystalline hard vein mineral impregnated with pyrite in patches and veined by acrid transparent blue-green mineral.

MICROSCOPIC: Mylonitized very fine-grained aggregate (< 0.05 mm. av.) of quartz and considerable clay (50/50?). Abundant brecciated pyrite and other sulphides. (Exploded cubes) clearly brecciated with the groundmass and healed by it.

Cut by late chlor-clay veinlets. Very little limonite.

Acrid green mineral nearly opaque.

ROCK: Pyritic quartz-clay mylonite.

Specimen SS 16

LOCATION: Drift near x-cut.

MEGASCOPIIC: Hard, smoky gray vein quartz impregnated with fine cubes of pyrite and veins of black material (Mu?).

MICROSCOPIC: As SS 15 with perhaps more clay than quartz in the groundmass and a very appreciable amount of sericite.

There is also more, and coarser xn, pyrite which is clearly brecciated and veined by groundmass minerals but principally quartz (roxed).

Also, considerable late carbonate (?).

ROCK: Pyritic quartz-sericite-clay mylonite.

Mylonitization of these rocks is probably associated with the replacement by clay and fits into the sequence as stage 5 in SS 8. Further away from the zone of principal shearing the rock is only fractured and the fractures filled by clay (SS 8); in the main zone the rock is completely mylonitized.

BROWN McDADE MINE

Specimen SS 17

LOCATION: Drift near x-cut.

MEGASCOPIC: Hard, mottled cream and gray coloured, somewhat vuggy aggregate of what appears to be translucent quartz and white to brown-cream feldspar. This piece is rather abundantly (10-15%) impregnated with fine grained pyrite.

Specimen is encrusted with soft (-3), transparent emerald green mineral with violently bitter taste.

MICROSCOPIC:

TEXTURE: Coarse aggregate of fine grained (± 0.10 mm.) sutured quartz pyrite, and intimately intermixed and very fine grained clay and sericite. (Patches of these two minerals are lightly clouded and apparently are the "feldspar" of the megascopic description.)

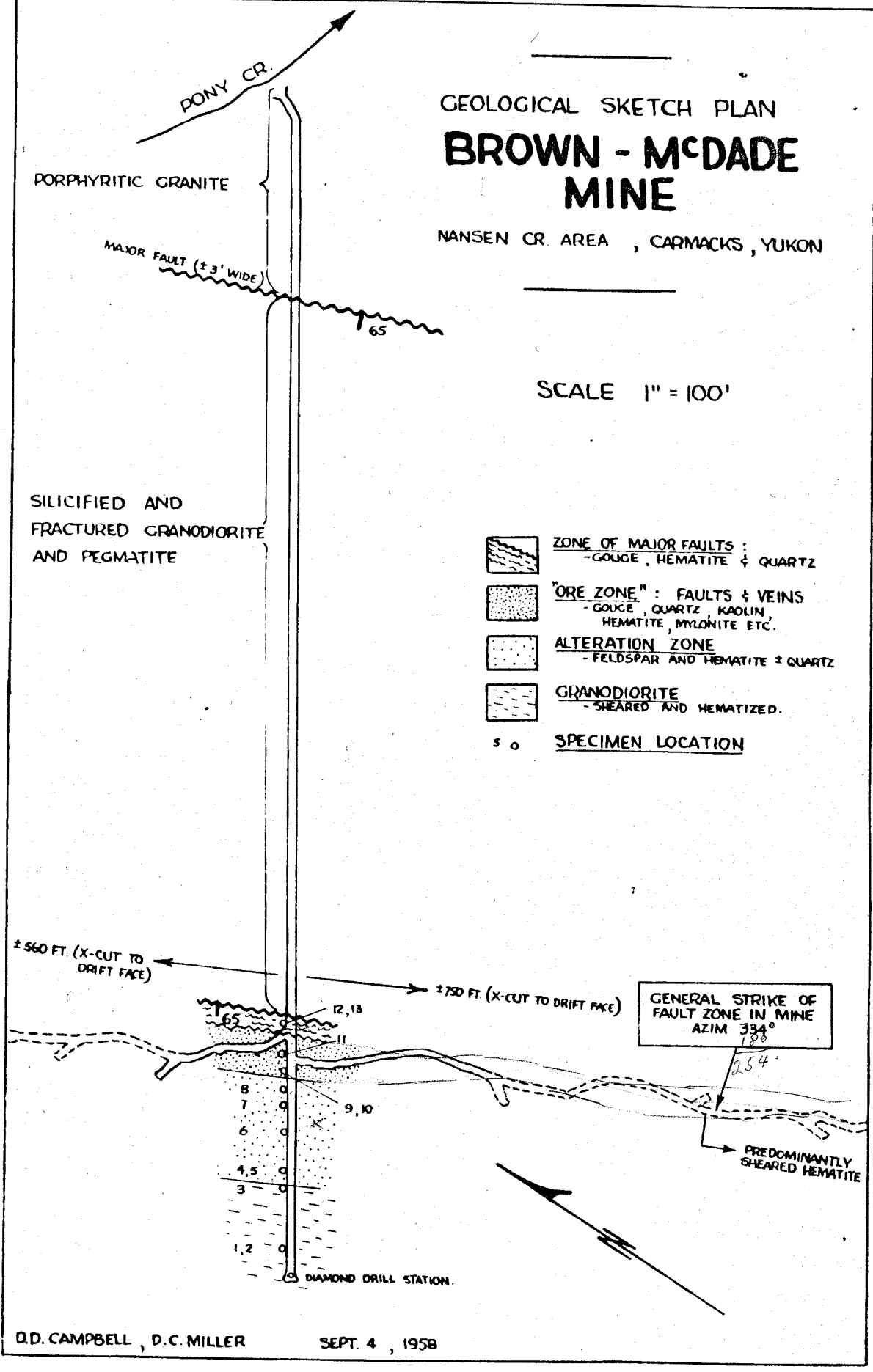
ROCK: Somewhat recrystallized quartz-sericite-clay pyritic mylonite.

GEOLOGICAL SKETCH PLAN

BROWN - McDADE MINE

NANSEN CR. AREA , CARMACKS , YUKON






SCALE 1" = 100'



PORPHYRITIC GRANITE

MAJOR FAULT (±3' WIDE)

SILICIFIED AND FRACTURED GRANODIORITE AND PEGMATITE

-  **ZONE OF MAJOR FAULTS :**
- GOUGE , HEMATITE & QUARTZ
-  **"ORE ZONE" : FAULTS & VEINS**
- GOUGE , QUARTZ , KAOLIN , HEMATITE , MYLONITE ETC.
-  **ALTERATION ZONE**
- FELDSPAR AND HEMATITE ± QUARTZ
-  **GRANODIORITE**
- SHEARED AND HEMATIZED.
-  **SPECIMEN LOCATION**

±560 FT. (X-CUT TO DRIFT FACE)

±750 FT. (X-CUT TO DRIFT FACE)

GENERAL STRIKE OF FAULT ZONE IN MINE
AZIM 334°

PREDOMINANTLY SHEARED HEMATITE

DIAMOND DRILL STATION.

D.D. CAMPBELL , D.C. MILLER

SEPT. 4 , 1958

FIG. 2

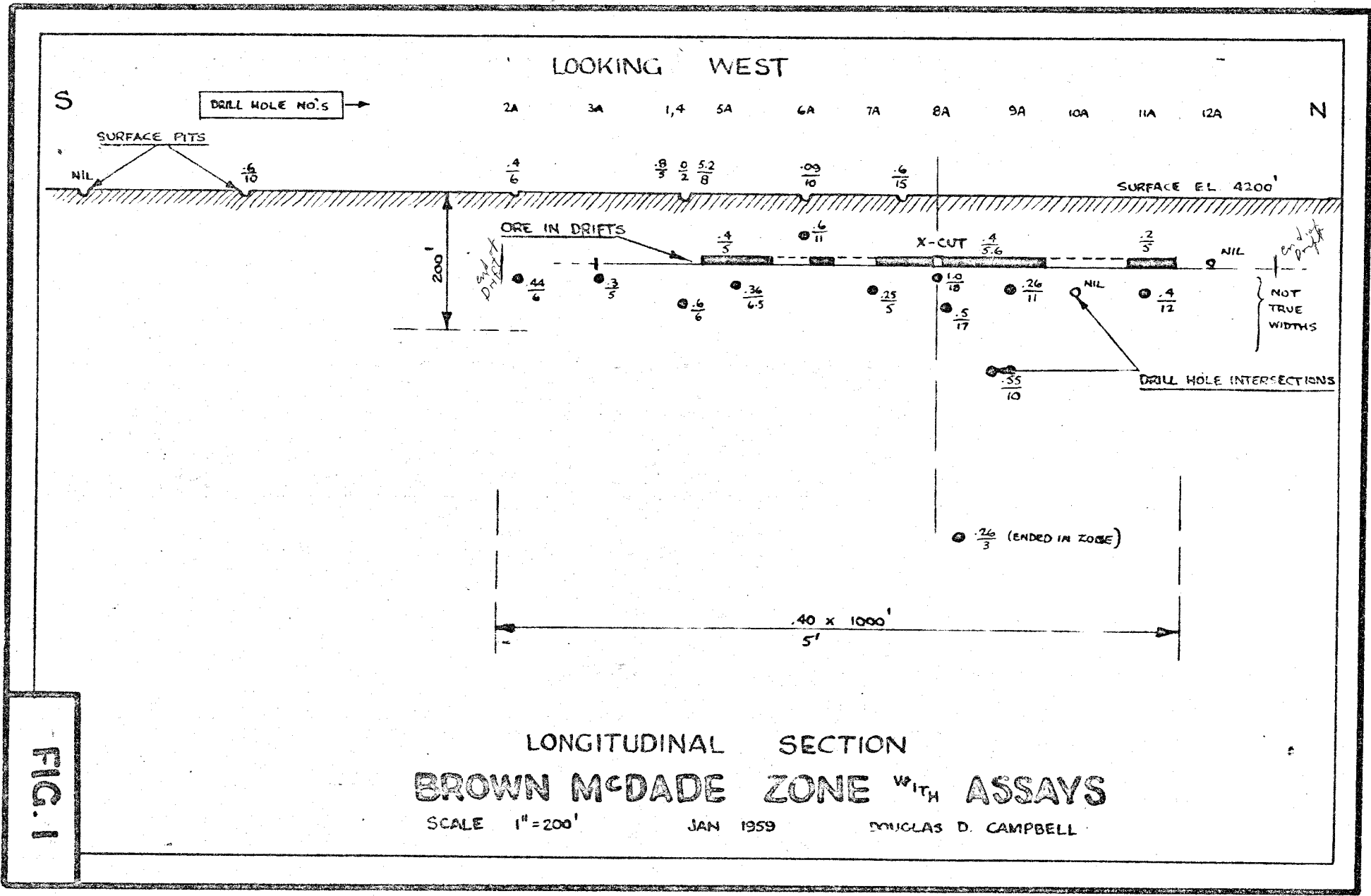


FIG. 1