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VANCOUVER, B. C.

Ben Ali

P R O S P E C T U S

February 2nd, 1966

A Purchase of the Shares Offered by this Prospectus must be Considered
a speculation.

THE GEOLOGY OF THE DUNWELL MINE,

STEWART, B.C.

by

Dr. A.C. Skerl

INTRODUCTION

At the request of Mr. J. Howard, I mapped the underground geology of the old Dunwell Mine from 17th to 22nd May, 1963.

The help of Mr. W. Gilroy and his surveyor, Mr. T. Doubt, is gratefully acknowledged.

The levels had been washed down so that the geological features could be studied more readily.

SUMMARY

In a distance of 7000 feet from the Sunbeam claim south through the Dunwell Mine, the George E. claim, the Glacier Creek adit and the Portland Canal tunnel, there are occurrences of similar mineralization consisting of pyrite, galena, sphalerite and tetrahedrite associated with significant gold and silver values in veins that dip westerly at 30° to 50°. In addition there are major faults striking northerly and dipping 70° to 90° west that contain much quartz and calcite.

The ore must be treated in a mill to produce lead and zinc concentrates that contain the precious metal.

The only commercial deposit mined so far from this zone has been the Dunwell ore-body that had a strike length of 200 feet and a vertical range of 350 feet. It produced about 50,000 tons worth about \$900,000.00 at present prices. This ore-body was not directly connected with the ore on the surface that was found originally and which is still not mined.

The Dunwell ore-body was controlled by the junction of two faults and a similar condition may have localized other ore-bodies.

The Dunwell was the only deposit in the area that was explored on more than one level. At each of the other occurrences the apparent shortness of the horizontal extent of the mineralization has discouraged investigation at depth.

There are interesting possibilities in the Ben Hur and George E. claims that should be investigated.

HISTORY

Extended accounts of this area appear in a number of B.C. Minister of Mines Reports of which the most useful are those for 1933 and 1937 written by Dr. J. Mandy. It is also described by Hanson in Memoir 175 of the Canadian Geological Survey on the Portland Canal Area.

After several years of development on four levels at the Dunwell Mine, a mill with a capacity of 100 tons per day was built that operated for 8 months in 1926 until the known ore was exhausted.

A total of 27,067 tons was milled averaging:

0.18 oz Au, 3.8 oz Ag per ton, 2.3% Pb and 3.0% Zn.

Prior to this 200 tons were shipped that averaged:

0.60 oz Au, 24.0 oz Ag per ton, 19% Pb and 16% Zn.

Then Lessors mined until 1941 with a production of 23,120 tons averaging 0.21 oz Au, 9.6 oz Ag per ton, 1.1% Pb and 1.7% Zn.

Since then the property has remained idle and the mill no longer exists.

LOCATION

The mine is well situated about 5 miles north of Stewart on the west side of Bear Creek valley, the lowest tunnel being at elevation 1250 feet. It is reached by a winding gravel road from the main highway.

The local topography is characterized by narrow, straight and deep canyons running from north to south that have been excavated along major faults which are also veins.

A plentiful supply of timber is still present on the claims.

Ample water is available in the creeks for mine, mill and camp needs.

The old bunkhouses were well constructed but are now in a poor state of repair.

Only the shell of the old mill building is left down on the main flat of Bear Creek. The old tramway between the mine and the mill has collapsed.

PROPERTY

The Silver Arrow Syndicate has options on Ben Hur, Dunwell, Dunwell

No. 2 Fr., Ben Hur Fr., George E., Ben Ali and Ben Ali No. 2 claims. The first three contain the old mine from which the ore was obtained.

Cassiar Consolidated Mines owns the Sunbeam claim immediately to the north and a large group of claims to the south.

GEOLOGY

According to Hanson's map, the mine is in the sediments of the Hazelton Group immediately east of a small granitic stock known as the Ben Ali intrusive.

Underground the country rock is usually argillite that varies from siliceous to graphitic and from massive to well banded. In general it has a northerly strike and a westerly dip of 30° to 50° but in some places sharp folds were seen. Occasionally there are bands of fine grained quartzite whose shape often suggests folding.

The underground mapping was done on a scale of 1 in. to 20 ft.

There are four adits with portals at elevations of 1724, 1634, 1450 and 1250 feet, according to the recent survey. The accuracy of the survey is not definite since there is no closed traverse. A survey should be run from No. 1 down to No. 4 level via the raise system.

It was found that there is a main fault structure striking $N 15^{\circ}E$ and dipping 40° to $45^{\circ}W$. It has an associated felsitic dyke rock that may be fresh, mineralized or sheared. Along one or both walls of the dyke there are lenses of quartz-calcite that may have a breccia appearance. They contain various amounts of galena, sphalerite and tetrahedrite whilst assaying shows the presence of gold and silver.

The main ore-body is in a structure striking $S 60^{\circ}E$ that branches from the footwall of the main fault for about 100 feet and at its other end it joins another south striking fault zone. The dyke is found in the branch structure and the second fault.

In plan the junction of the branch structure and the main fault has a constant strike of $N 60^{\circ}W$. It appears to be the most important structural feature that can be related to the ore.

Originally ore was mined from the footwall side of the dyke and then the lessors discovered richer ore in the hangingwall.

The main stope extends from elevation 1650 down to 1300 feet with an average dip of 42° .

The present survey gives average dips of 35° from the outcrop to No. 1 level, 30° from No. 1 to No. 2, 50° from No. 2 to No. 3 and 45° from No. 3 to No. 4.

The main ore-body appears to have been cut off at half way between Nos. 3 and 2 levels by a flattening of the vein structure from 50° to 30° . No ore was found on No. 1 level but there is very good looking ore outcropping on the surface 50 feet above where the dip is 40° .

Presumably the values are not good on the 4 level since it was not stoped. However, it should be sampled at 5 ft. intervals.

A winze was sunk from 4 level apparently for 50 feet and then a sublevel driven for 120 feet. Apparently the junction was found but there is no record of any sampling.

There should be a favourable length of vein that was not developed extending south from the winze on 4 level for 120 feet and corresponding to the heavingwall stope above.

At about 300 feet below the bottom level the projection of the vein will meet the major fault zone along which Dunwell Creek was excavated. The zone is 35 feet wide where cut by No. 4 level and contains considerable quartz. Minor amounts of pyrite and arsenopyrite are reported to be present. This structure probably forms the root of the ore zone or at least displace it.

In the past a drill hole was put down at -60° to cut the ore zone at 100 feet below the 4 level but the results are not known.

It could be further tested at the same position by a hole at -75° bearing N 20° W for 220 feet to cut the ore zone at 200 feet down.

Another hole at -90° from position 10500 N. for 300 feet would cut the ore zone close to the major fault structure.

There are several other places on the 3rd and 4th levels where short diamond drill holes could be used to test for ore extensions as indicated on the plans.

In the creek below the portal of No. 4 tunnel some mineralization has been found over narrow widths consisting of pyrite, galena and sphalerite containing low values in gold and silver. Its position and extent should be mapped.

The most promising of the other veins encountered in No. 4 cross cut is at position 10,300 E. where there is a quartz vein 30 inches wide, striking N 30° W and dipping 40° W. At 40 feet west of it there is a drift for 40 feet on a strong fault with 6 to 12 inches of quartz. The two veins would intersect at 20 feet ahead of the drift face. There is a dyke at 40 feet to the east of the vein that strikes due north and dips 60° W.

A profile should be run on the line of the tunnel to determine whether sufficient backs are available to warrant the exploration of this

vein by drill holes directed above the level. This vein will probably meet the hangingwall of the main fault structure below the surface in this area.

SAMPLING

Under Mr. Gilroy's direction 77 samples have been taken so far throughout the mine. Of these 17 gave significant values ranging from 0.10 to 0.80 oz Au per ton, 1.20 to 41.55 oz Ag per ton, 8.4% Pb and 30.8% Zn. They mostly correspond to pillars and remnants left by the lessors.

Still to be sampled at 5 ft. intervals for 200 feet is the vein in the possible ore zone on the 4 level. This will give some idea of the value of the block of vein left between the level and the bottom of the old stope above.

GEORGE E.

There are two exploration tunnels, each several hundred feet long, on either side of the canyon of Dunwell Creek in the George E claim at an elevation of about 1000 feet. They had been washed down but were not surveyed at the time of my visit. The creek probably follows along the same fault structure that it does in the Ben Hur claim.

The edit on the west side has explored a zone of faults and veins that dip steeply west. Ore values were apparently found in two cases in cross-cuts into the hangingwall. A winze, now filled with water, was sunk in the first cross-cut for a reported 57 feet. The vein looks promising and should be sampled.

The second cross-cut is at the far end of the edit and drifting was done for about 100 feet on the vein. A lens of ore was stoped from here in 1934 but some still remains because a recent sample over 5 feet assays 0.76 oz Au, 6.4 Ag per ton, 11.55% Pb and 7.75% Zn. This vein corresponds in position to the one intersected in the Dunwell No. 4 edit at 240 feet from the portal and that was drifted on for 40 feet.

It will be interesting to discover by detailed geological mapping whether further ore could be found by diamond drilling from this edit.

On the east side of the canyon there are some old surface cuts from which ore was shipped in the early days. An adit cross-cut about 100 feet below them failed to find any corresponding ore. At the inner end of this cross-cut there is a drift on a wide quartz vein for several hundred feet. It appears barren and is characterized by patches of a fine dissemination of a green mineral - just the same as an exposure of what is probably the same vein in the Glacier Creek main edit.

BEN ALI

I did not see these workings but Mr. Doubt reports obtaining a good gold assay from the face of a drift.

According to the old reports an auriferous quartz vein in the Ben Ali intrusive was found here from which ore was shipped.

When the Dunwell mine ran short of ore in 1926 an effort was made to develop an ore-body on the Ben Ali vein but was unsuccessful.

The workings should be surveyed, geologically mapped and sampled.

DISCUSSION

At present prices, the total production of 50,387 tons from the Dunwell mine would yield concentrates worth about \$18 per ton of ore - a total of about \$600,000.00.

Within the claims of the present option the two major ore possibilities are on the Dunwell ore-shoot between the 1250 and 950 elevations and in the westerly adit of the George E claim.

To explore and develop worthwhile ore-bodies in these areas could involve expenditures of \$25,000.00 in each case because either shafts or long cross-cuts would be required in each case. If a mill was then warranted, it would cost about \$150,000.00 for a 100 tons per day unit.

Mining, milling and transportation would probably amount to at least \$10.00 per ton, leaving a working profit of \$8.00 per ton for \$18.00 ore. Thus 80,000 tons of such ore would be required to pay back the capital expenditures before any true profit would be earned.

The indications at present are that any ore-bodies found will be relatively small so that it will be necessary to develop several of them.

Once a mill is in operation there will be a number of potential shippers from surrounding properties.

CONCLUSION

The Ben Hur and George E claims contain interesting possibilities of developing ore similar to the original Dunwell ore-body. They should be investigated by further mapping and then diamond drilling.

RECOMMENDATIONS

1. Survey (a) workings just below No. 1 level
 (b) sublevel just below No. 3 level
 (c) a connecting line between Nos. 1 and 4 levels
 via raises
 (d) a profile above the first 400 feet of No. 4 tunnel
 (e) Ben Ali workings.
2. Sample (a) Vein in ore zone on No. 4 level
 (b) surface outcrop of Dunwell vein
 (c) Ben Ali workings
3. Map the geology of (a) George E. edits
 (b) Ben Ali workings.
4. Review the results of the above items to determine where to diamond drill.

CERTIFICATE

This is to certify that:

1. I, Augustus C. Skerl, am a resident of Vancouver, B.C. at the address of 1758 Western Parkway, Vancouver 8, B.C., which is also my office.
2. I am a Professional Engineer of British Columbia and have practised as a Mining Geologist for the past 34 years of which the last 18 years have been in British Columbia.
3. My qualifications consist of B. Sc. and Ph.D. from the University of London, England, and of D.I.C. and A.R.S.M. from the Royal School of Mines, London, England, all in Mining Geology.
4. I have no interest nor do I expect to receive any interest directly or indirectly in the properties of Silver Arrow Mines.
5. This certificate is in reference to my report dated 2nd June, 1963, on the Geology of the Dunwell Mine.
6. I personally examined and mapped the mine workings as described in this report.

Signed: A.C. Skerl, P. Eng.

R E P O R T

"EMPEROR, DUNWELL, BEN ALI, AND GEORGE E"

PROPERTIES

SILVER ARROW MINES LTD. (N.P.L.)

SKEENA MINING DIVISION

STEWART, B. C.

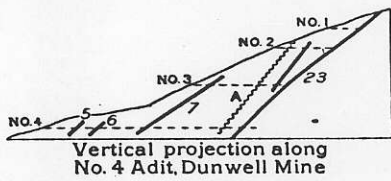
Submitted to: Silver Arrow Mines Ltd. (N.P.L.)
800 Hall Building,
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Vancouver, B. C.

Vancouver, B. C.

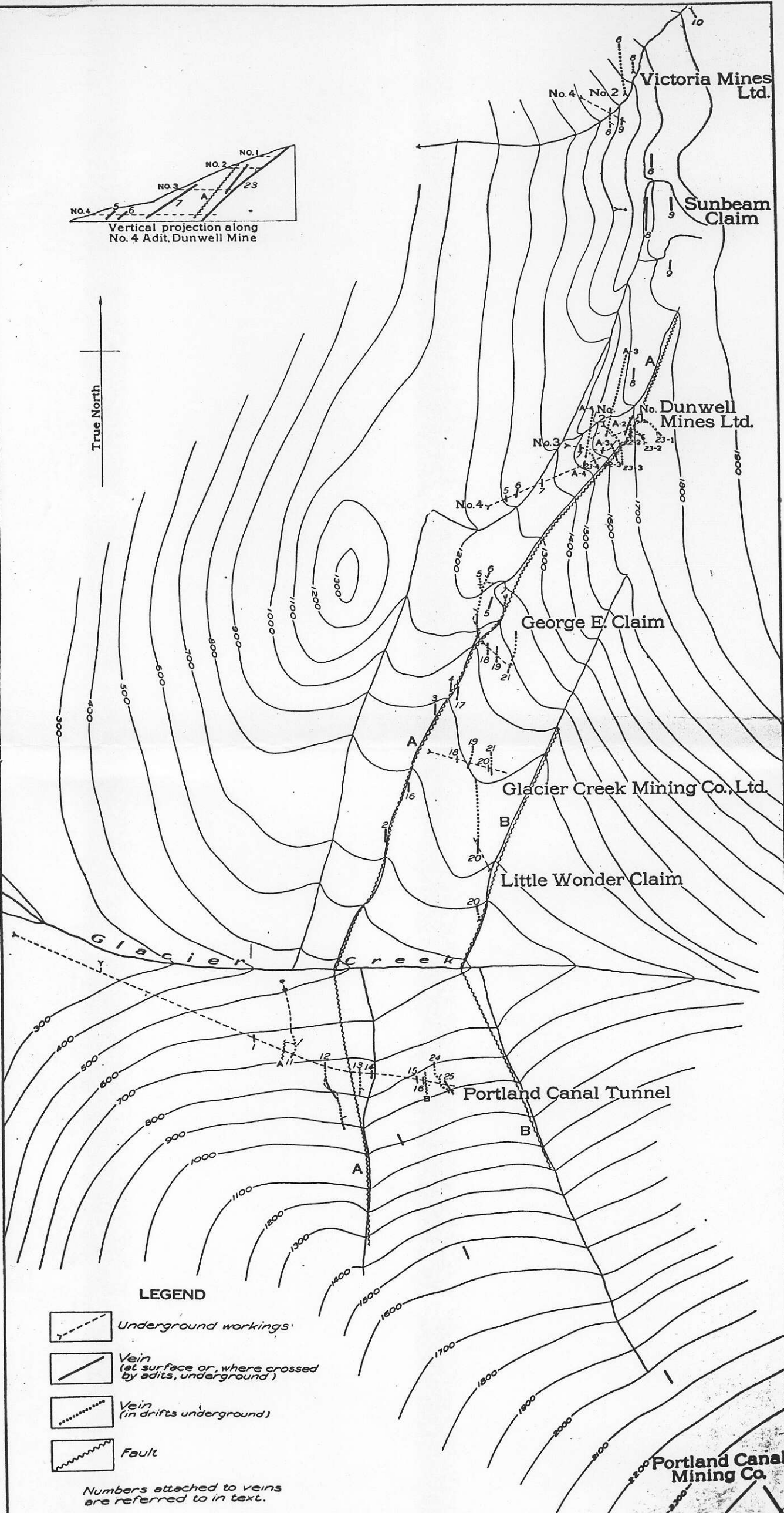
October 9, 1965

L. G. White, P. Eng.

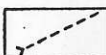


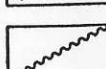
Consulting Mining Engineer



True North



LEGEND

-  Underground workings
-  Vein (at surface or, where crossed by adits, underground)
-  Vein (in drifts underground)
-  Fault

Numbers attached to veins are referred to in text.

Scale of Feet

Portland Canal Mining Co.

C O N T E N T S

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APPENDIX:

1. PROPERTY PLAN - Dunwell
 Glacier Creek
 George "E"
2. DUNWELL MINE - Plan - Proposed drilling
 - Plan - Surface & Underground
 - Longitudinal Section
3. CLAIM PLAN - In Pocket

INTRODUCTION

Mr. S. J. Hunter, Associate Mining Engineer of my firm, completed a preliminary examination of the "Emperor, Dunwell, Ben Ali, and George E" properties held by Silver Arrow Mines Ltd., near Stewart, B. C., from September 21st to 23rd inclusive, 1965. Messrs. Howard and Fraser, principals of the Company, assisted in the examination.

The properties have been consolidated under option agreements or held outright by Silver Arrow Mines Ltd. and are situated along the East side of the Bear Creek valley about four miles by good gravelled road North of the town of Stewart. Intermittent exploration and development of the properties have been carried out over the past 40 years. Some production has been recorded.

Extended periods of dry weather during the past season have afforded better than normal opportunities for the Company to explore various creek valleys on the claims and adjacent areas for geological correlation of fault structures believed to exert control on the known mineralized zones on the properties.

Prime purpose of our examination was to substantiate results obtained through new exploratory work conducted during the past season and to recommend a continuing programme designed to locate extensions of mineralized zones within the present mine workings and possible new zones. Eventual outcome of the programme aimed toward a productive phase of operations.

Extensive reference was made to Government publications chronologically recording previous work on the properties and to a summary report prepared for the Company by Dr. A. C. Skerl on the Dunwell Mine. Information used in this report taken from the above is acknowledged herewith.

SUMMARY AND RECOMMENDATIONS

The properties held by Silver Arrow Mines Ltd., at elevations ranging from 500 to 3100 feet above sea level on the East side of the Bear River valley, are easily accessible by about four miles of gravelled road from the deepsea port of Stewart, B. C.

A former producer, the Dunwell, forms the nucleus of a contiguous group of properties including the Emperor, Ben Ali and George "E" held by the Company. Average tenor of mineralization from the Dunwell which produced briefly in 1926 and later operated by lease through 1941, was \$28.50 per ton at present prices for base and precious metals. Gross production recorded from the property totalled \$1,427,000.

Development of the Dunwell vein system was carried out through four adits over a vertical range of approximately 450 feet. Extraction of some 50,000 tons was recovered from foot and hanging wall shoots above the 4 level.

Possibilities exist for extending known vein systems in the Dunwell Mine by a systematic drill programme laid out from the existing levels. Discovery of the creek vein on the surface South of the main zone provides encouragement that parallel or faulted segments of the main vein system exist.

Resampling of the Nos. 1 and 2 level sills plus dewatering and sampling of the 6 level are recommended as a check to ascertain whether ore shoot remnants exist in quantity and grade sufficient to consider as additions to a possible ore reserve potential.

In conjunction with a re-assessment of the Dunwell ore possibilities from existing underground openings, a comprehensive exploration programme is required on the Ben Ali, Emperor and George "E" properties. Limited underground and surface development of vein systems on these properties has provided sufficient positive encouragement toward development of potential ore shoots justifying additional work.

Examination of vein structures and related geological environment in addition to type and grade of mineralization on all of the properties showed a marked similarity and a regional structural contact associated with the major East and West fault system shown by Government geological mapping.

It is proposed that an extensive geophysical and geochemical mapping programme be instituted to provide a general coverage of the several properties. Anomalous areas indicated by this work should then be carefully prospected for possible surface expressions of vein extensions or new vein systems.

In conjunction with the above surface programme, systematic underground drilling of accessible vein systems should be commenced to tie in with the overall exploration project and outline sufficient vein material of ore grade to justify considerations for production planning.

To provide for the comprehensive exploratory programme recommended above and ensure continuity of the work, total financial requirements are estimated to be \$200,000.00.

The possible combined potential of the above properties justifies that the recommended exploration and development programme be proceeded with forthwith.

Vancouver, B. C.
October 9, 1965.

"L. G. White"
L. G. White, P. Eng.
Consulting Mining Engineer.

GENERAL CONDITIONS

1. LOCATION

Properties held by Silver Arrow Mines Ltd. are located on the East side of the Bear River Valley four and one half miles North of Stewart, B. C. The Stewart-Cassiar road passes through the claims.

2. Accessibility

Stewart has weekly boat service and daily plane service from Vancouver and Prince Rupert.

Access to the properties can be made by car or truck along the Stewart-Cassiar road thence by graded tote road to the main workings.

3. TOPOGRAPHY & SURFACE FEATURES

The area of the claims is covered by dense growth of typical coastal foliage and timber. The valley walls are steep, rising from sea level to elevations of 3800 feet.

The several creek valleys cutting the claim group have steep gradients.

4. CLIMATE

The climate is humid and coastal in character. Precipitation is heavy both summer and winter.

Surface operations during the winter months are restricted due to heavy snow conditions. Underground work can be conducted year-round.

5. WATER AND TIMBER

Timber supplies and water are readily available on the property.

6. FACILITIES

Camp facilities are available at the Dunwell property to accommodate a 20-man crew. The original mill building on the property has been flooded with gravel and has no salvage value.

Proximity to Stewart makes it advantageous for crew facilities to be placed in town.

BRIEF HISTORY OF THE AREA

The general area in the vicinity of Stewart has had several sporadic periods of production including both precious and base metals.

Such mines as the Premier, Big Missouri, Porter-Idaho, etc., all have extensive records of profitable production in addition to several smaller properties which have been worked since the early 1900's.

The Dunwell, Emperor, Lakeview, Ben Ali and George "E", have all had extensive surface and underground exploratory work done on them.

In the group under review, the Dunwell Mine was explored as early as 1912 by the Stewart Mining and Development Company. The property was placed in production during 1927 and ceased operations the following year after treating about 50,000 tons.

The adjacent properties in the present group were also explored and developed during the late 20's.

PROPERTIES AND OWNERSHIP

Silver Arrow Mines Ltd. holds title to a total of 71 mineral claims in the area. Of the group, 4 Crown Granted claims are owned outright, 3 under option and 64 held by location.

Distribution of holdings is as follows:

<u>Claim Names</u>	<u>Property</u>	<u>Status</u>
Ben Hur, Dunwell, Dunwell #2 Fraction Ben Hur Fraction	Dunwell	Ownership
<u>Ben Ali, Ben Ali 1 & 2</u> Gloria 1 - 24	Ben Ali Emperor	Under Option Staked & Recorded
Day 1 - 40	East of Emperor	" " "

GENERAL GEOLOGICAL FEATURES

The properties are situated within the sedimentary group of the Hazelton Series immediately east of a granitic stock associated with the Coast Range intrusives.

The main rock type on the claims consists of argillite which, in places, has been highly silicified to grade locally into a quartzite. The beds are both thin and massive with a general northerly strike and dip from 30 to 50 degrees westerly. Steeply dipping dykes and faults cut the argillite formations.

Creek valleys appear to define several of the faults on surface.

The vein structure on the Ben Ali property occurs in the granite as a quartz-filled fault fissure.

DESCRIPTION OF PROPERTIES & MINERALIZED ZONES

DUNWELL

The Dunwell Mine has been developed by four adits at elevations 1250, 1450, 1634 and 1724 feet A.S.L.

The main structural feature in the mine consists of a strong fault zone striking N 15° E and dipping 40° west. A felsitic dyke associated with the fault has quartz-calcite lenses along the walls mineralized with galena, sphalerite and tetrahedrite. The ore body occurs in a cross-structure striking S 60° E from the footwall of the main fault for an approximate distance of 100 feet to join a parallel southerly striking fault. The dyke is also located along the branch structure and the parallel fault zone.

Ore bodies have been mined on both the hanging and footwall sides of the dyke. Leasors found the higher grade material in the hanging wall section.

The main stoping area in the mine extended from the 1300 to the 1650 foot elevation. Average dip of the ore shoot was 42 degrees.

The main ore body appears to have been cut off midway between 2 and 3 levels by a roll in the vein. No mineralization of consequence was located on the 1 level although a strong vein was exposed on surface some 40 feet above the level having the usual 40° dip.

Stoping on 4 level appeared to be limited probably due to low values.

Work completed below 4 level consisted of a 100 foot winze and sub-level drifting for 120 feet. There was no record of sampling kept on this work. It appears there should be a favourable length of vein structure extending south from the winze on 4 level and corresponding to the hanging wall stope above the level.

By theoretical projection the vein should intersect the major fault zone 200 feet below 4 level. The zone is 35 feet wide as exposed on 4 level and contains appreciable quartz lenses.

Results of a drill hole put down at -60° to cut the mineralized zone 100' below 4 level were not recorded.

In the creek below 4 level portal some mineralization consisting of pyrite, galena and sphalerite has been uncovered over narrow widths carrying fair gold and silver values.

Subsidiary veining to the main structure was exposed on the 4 level cross-cut on which minor development did not expose any material of commercial

DESCRIPTION OF PROPERTIES & MINERALIZED ZONES (cont'd.)

grade. Further investigation of these quartz veins and the associated dyke is warranted.

GEORGE "E"

The vein on the above claim was developed by two adits driven on opposite sides of the Dunwell Creek Canyon at about 1,000 feet elevation.

The west adit explored a fault zone and subsidiary veining for several hundred feet. The structure has a general N-S strike and dips steeply to the west. Stub cross-cuts driven across the vein at selected locations exposed vein material of fair grade. A winze was sunk for 57 feet on the vein exposed in the first cross-cut. The vein material exposed in the winze shows fair mineralization and should be carefully sampled.

At the end of the west adit the main vein was drifted for 100 feet and partially stoped. Assays of samples taken along a section of this vein over average width of 5.0 feet gave the following average:

<u>GOLD</u> Ozs./T	<u>SILVER</u> Ozs./T	<u>LEAD</u> %	<u>ZINC</u> %
0.76	6.4	11.55	7.75

By projection the above vein appears to correspond with the subsidiary veining intersected in the Dunwell No. 4 level cross-cut some 240 feet from the portal. Further exploratory work is required to substantiate this.

The east adit failed to locate the down dip extension of a mineralized vein on surface which yielded shipping grade material. Exploratory drifting on a barren looking quartz vein which was exposed in the adit did not expose anything of interest.

EMPEROR

Two surface outcrops have been exposed on the Emperor claim about 300 feet apart at the 3130 foot elevation. Trenching across the mineralized vein structure exposed in silicified argillite showed widths up to 7.0 feet carrying fair quantities of lead-zinc sulphides yielding the following average assays:

<u>Location</u>	<u>Width</u>	<u>A S S A Y S</u>			
		<u>Au-Ozs./T.</u>	<u>Ag. Ozs./T</u>	<u>%Pb.</u>	<u>%Zn.</u>
North Pit	7.0'	0.06	5.20	3.45	0.05
	7.0'	0.01	4.95	7.10	0.30
South Pit	7.0'	0.03	0.00	3.25	0.80

DESCRIPTION OF PROPERTIES & MINERALIZED ZONES (Cont'd.)

The apparent strike of the structure is N 10° E and dips 55° to the west.

The vein structure has been explored underground by two cross-cuts from surface at elevation 85 and 335 feet vertically below the surface outcrop.

The number 1 cross-cut intersected the vein at 120 feet from the portal exposing a 13.0 foot width of mineralized zone material. A total of 65 feet of drifting was done north and south along the hanging wall of the zone. No sample records were filed on this work.

Number 2 cross-cut intersected the vein structure at a distance of 470 feet from the collar. The drive continued through mineralized vein material for about 21.0 feet. Subsequent drifting was done north and south along the vein from which no sample records are available.

BEN ALI

A quartz vein occurs on the above claim in intrusive rocks striking N 40° W and dipping 80° to the southwest.

Extensive underground workings on the upper levels over an area 350 feet long and 250 feet vertically show on the original mine plans. These sections are now inaccessible. The material extracted from this section graded about 1/2 ounce in gold and 1.0 ounce in silver.

The lowest adit some 630 feet above the Bear Creek Valley was examined and showed a length of 375 feet of brecciated quartz vein varying from 20 to 48 inches in width. Cross-veining off the main structure had been opened for stoping and extracted above the sill for some 50 feet. Values of this material were purported to grade about 1.0 ounce of gold per ton.

PREVIOUS PRODUCTION

As indicated on the plans and sections included in the appendix of this report, the Dunwell Mine provided the greatest tonnage for milling operations of the several properties included in the current Company holdings.

Available records show that approximately 50,000 tons were extracted from a main stoping area above 4 level covering a vertical range of 350 feet and an average length of 200 feet. Recorded average grade of this tonnage was as follows:

Gold.	0.19 ounces per ton
Silver.	6.50 " " "
Lead.	1.73 percent.
Zinc.	2.40 "

PREVIOUS PRODUCTION (Cont'd)

At present metal prices the gross value of production would be \$1,427,000.00.

On the other three properties, namely George "E", Ben Ali and Emperor, the most evident producer from studying original records was the Ben Ali. Extensive stoping was done from upper levels which are now caved and inaccessible. No tonnage figures could be located for this property.

At the Ben Ali, examination of the lowest adit level indicated a 180 foot length of vein material in place with enough visible mineralization to warrant a comprehensive sampling job to assess the average grade. No previous stoping had been done on this level.

Minor extraction was done on the vein system at the George "E" property along a shoot length of 100 feet. Again, no production records were available for the property.

Similarly, in the underground workings of the Emperor about 100 feet of vein development shows fair mineralization but no stoping.

EXPLORATION AND DEVELOPMENT POSSIBILITIES

DUNWELL

From careful observations and check sampling of the various levels in the Dunwell Mine, consideration can be given to a detailed reassessment of ore possibilities left along the sills showing un-stoped sections of vein and pillar remnants.

2 LEVEL TO SURFACE

It was apparent from the longitudinal section of the mine that a fair sized area exists above 2 level for further exploratory work and possible raise development to open up a new stoping areas.

3 LEVEL - NORTH & SOUTH

Level plans indicate that the extreme ends of the North and South drifts on 3 level were driven off the main ore bearing structure. Test holes will be required to substantiate this theory. If successful, new ore lengths could be developed from the existing level.

BELOW 4 LEVEL

Exploratory development by 100 feet of winze, 120 feet of sub-level and one drill hole at -60° to probe the extension of the known ore shoot below 4 level does not preclude possibilities for developing new ore at this horizon. De-watering has been recommended and a complete mapping and resampling of the winze and sub-level completed.

HANGING WALL - FOOTWALL STRUCTURES

Subsidiary veining intersected by the entry cross-cuts known as the hanging and footwall structures offer possibilities for further exploration by drilling and potential ore bearing sections.

GEORGE "E"

The two exposed vein structures in the west adit of the George "E" property have possibilities of projection to depth and should be explored by drilling.

EMPEROR

Possibilities for extending the exposed vein structure on the above property are considered good. A reconnaissance type geo-chemical survey should be done to the west of the known exposure followed by detailed prospecting and drilling from both cross-cuts and the surface.

BEN ALI

The Ben Ali vein can be explored along strike to the west by stripping down the slope of the hill and dependent on sampling results provides a good drilling situation.

DUNWELL SOUTH - NEW WORK

The vein structure classified as - South Dunwell - discovered by recent surface work lies approximately 500 feet southwest of the main ore zone. The zone requires a systematic trenching and sampling followed by possible surface diamond drilling.

GENERAL AREA

Close prospecting in conjunction with extensive geo-chemical coverage is required on the entire property. Anomalous areas can be stripped and possible drill targets uncovered.

One possible drill target which already exists lies between the Dunwell and George "E" properties.

RECOMMENDED PROGRAMME

DUNWELL

1. Sample numbers 1 and 2 levels (1724' & 1634' elev.) at 10 foot centres. Carefully map the accessible sections of the levels for any possible branch vein structures.
2. Sample number 4 level sill at 10 foot centres. Check sample the hanging wall veins intersections in the main cross-cut on 4 level.
3. Diamond drill below 4 level from the stub cross-cut at -75° and bearing N 20° W. This hole to ckeck unknown results on the original -60° hole from the same set-up. Follow-up holes by fanning north and N.E. from this location if results warrant.

Drill a flat hole N 75° E for 1500 feet at the end of No. 4 level cross-cut.

Drill a flat hole at S 45° E for 1500 feet from a location opposite the original -60° hole.

Drill a series of inclined holes from 4 level to test the up-dip area of the two hanging wall veins.

4. Dewater the winze, map and sample.
5. Rehabilitate the drift extremities of 3 level and test hole walls for offset or parallel veining. Alternately, diamond drill from surface.

Subject to results from the above preliminary programme on the Dunwell property, the following phase will involve extension of the present winze and a cross-cut to possible vein projections at the 950 foot elevation.

GEORGE "E"

1. Resample and map accessible underground workings and surface.
2. Test both vein structures by a systematic diamond drilling programme.

BEN ALI

1. Conduct a geo-chemical survey from a North-South base line at 100 foot grid centres.

2. Systematically trench the extension of the main vein structure by bulldozer cuts at 100 foot vertical spacing.
3. Follow-up the above by a series of diamond drill holes drilled from South to North along the structure to intersect the vein 100 and 200 feet vertically below the present lowest level. Estimate about 1500 feet of drilling.
4. Remap and sample exposed vein structures on the underground levels.

EMPEROR

1. Lay out a grid for a geo-chemical survey 2000 feet along strike of the vein and 1000 feet East and West of the base line. Sample at 100 foot centres on 200 foot line intervals.
2. Trench the main vein on surface on a Southerly extension.
3. Complete a general surface plan of the property by proper survey, tying in all former pits and underground workings. Prepare sections and profiles accordingly.
4. Channel sample the vein structure in both adits at 2.0 foot intervals.
5. Follow-up by diamond drilling the down-dip projection of the veins when proper engineering data available from above.
6. Test drill possible target areas from geo-chemical survey work.

DUNWELL SOUTH VEIN

1. Test pit at 100 foot centres along strike and sample.
2. Possible 1200 feet of drilling subject to results of 1. from 3 setups in 6 holes to test vein extension at -100 and -200 vertical intervals.

Dependent on the success of the above geo-chemical work an additional geophysical survey should be considered as an overlay to see if any coincident conditions occur to tie in the target areas.

Preliminary to the above programme it will be necessary to properly rehabilitate existing roads on the property and construct access tote trails to the various properties.

ESTIMATED REQUIREMENTS AND COST ESTIMATE

CONDITIONS OF ESTIMATE

1. Programme to commence immediately and scheduled according to weather conditions. Winter work restricted to underground.
2. Company supervision, engineering and general help - contract crews for bulldozer work, geo-chemical and geophysical surveys, diamond drilling, etc.
3. Rental equipment.

TIME PERIOD - 10 months

PERSONNEL REQUIRED - Company

- 1 - Engineer in Charge
- 1 - Geologist
- 1 - Surveyor-draftsman
- 2 - General help

EQUIPMENT (MAJOR)

- 1 - Underground diamond drill & accessory equipment (rental)
- 1 - 600 c.f.m. compressor
- 1 - 4-wheel drive vehicle (owned)
- 1 - D-7 Bulldozer (rental)
- 1 - Water pump
- 1 - 10 K.W. electric generating set (rental)

Miscellaneous underground tools and equipment, pipe, hose, etc.

Cost Estimate - 10 months

	<u>Month</u>	<u>Total</u>
<u>Supervision & Labour</u>		
Engineer in charge	\$ 900	
Geologist	750	
Surveyor-draftsman	600	
2 - General help @ \$500	<u>1,000</u>	
	3,250	
Fringes - Camp, U.I.C., etc. @ 18%	<u>550</u>	
	3,800	\$ 38,000

Month

Total

Equipment Rentals

Underground drill, rods & accessories	\$ 600	
Compressor	800	
D-7 Bulldozer - say 70 @ 20	1,400	
Light plant	200	
Miscellaneous	150	
	<u>3,150</u>	\$ 31,500

Contract Work

1. Camp & underground rehabilitation		15,000
2. Diamond drilling -		
Underground 6500 feet @ \$4.00		26,000
Surface 5000 " " 6.50		32,500

Surveys

1. Geo-chemical		
Line cutting	3,500	
Survey	<u>2,000</u>	5,500
2. Geophysical		3,500

General Expenses

Local transportation	300	
Board subsidy	600	
Fuel Costs - compressor, light plant		
Est.200 gals./day at 4500 gals./		
Month @ 30¢	1,350	
General supplies, small tools, greases,		
spares, etc.	250	
Assays	200	
Casual labour	<u>300</u>	
	3,000	30,000

Administration

Head office costs	400	
Consultant's fees & expenses	250	
Travel expenses	200	
Tel & tel	<u>100</u>	
	950	<u>9,500</u>

Total Estimated Costs \$ 191,500

With contingencies - say \$200,000

GENERAL STATEMENT AND CONCLUSION

In the writer's opinion, the group of properties described in this report offer very favourable opportunities from an exploration basis to develop extensions of known vein structures containing shoots of commercial ore grade at present prices for base and precious metals.

Also, the multiple vein systems as partially explored to date on the various claims plus the new discoveries make the area attractive for application of modern prospecting techniques utilizing geo-chemical and geophysical methods. Topographically, development of any discoveries can be achieved by reasonably short adits.

Structurally, the vein systems as exposed by previous development and extraction show good continuity both horizontally and vertically.

The major exploration expenditures recommended herein are required to provide the necessary information for a detailed feasibility study toward planning for systematic development of the properties and eventual production.

C E R T I F I C A T I O N

I, Leonard George White, of the City of West Vancouver, in the Province of British Columbia hereby certify as follows:

1. That I am a Registered Professional Engineer of the Provinces of British Columbia and Ontario and reside at 704 Parkside Road, West Vancouver, B. C.
2. That I am a graduate of Washington State University with a Bachelor of Science in Mining Engineering having practiced my profession for twenty-three years.
3. That I have no interest either directly or indirectly in the properties held by Silver Arrow Mines Ltd. (N.P.L.).
4. That my report is based on an examination by Mr. S.J. Hunter, an associate Mining Engineer, on September 21 - 23, 1965 inclusive, and reference to the various Government publications.

"L. G. White,"

L.G. White, P. Eng.

Vancouver, B. C.
October 9, 1965.