GEOLOGICAL, GEOCHEMICAL, AND GEOPHYSICAL REPORT

- on the -

DOME CLAIM GROUPS

CLINTON MINING DIVISION

BRITISH COLUMBIA

- for -

BARRIER REEF RESOURCES LTD. (NPL),

904-675 West Hastings Street,

VANCOUVER, B.C. V6B 1N2.

Covering: Dome #1 (6 units); Dome #2 (12 units);
Dome #3 (12 units); Dome #6 (20 units);
Dome #7 (9 units).

Work Performed: July 30 to December 30, 1978.

Location: (1). 51°~~20~~19'N, 122°~~29~~30'W.

(2). NTS Maps 92O/8W & 92O/7E.

(3). At Black Dome Mountain, 71 km. WNW of Clinton, B. C.

Prepared by:

KERR, DAWSON & ASSOCIATES LTD.,

#1-219 Victoria Street,

KAMLOOPS, B.C.

J. M. Dawson, P. Eng.,
January 4, 1979.

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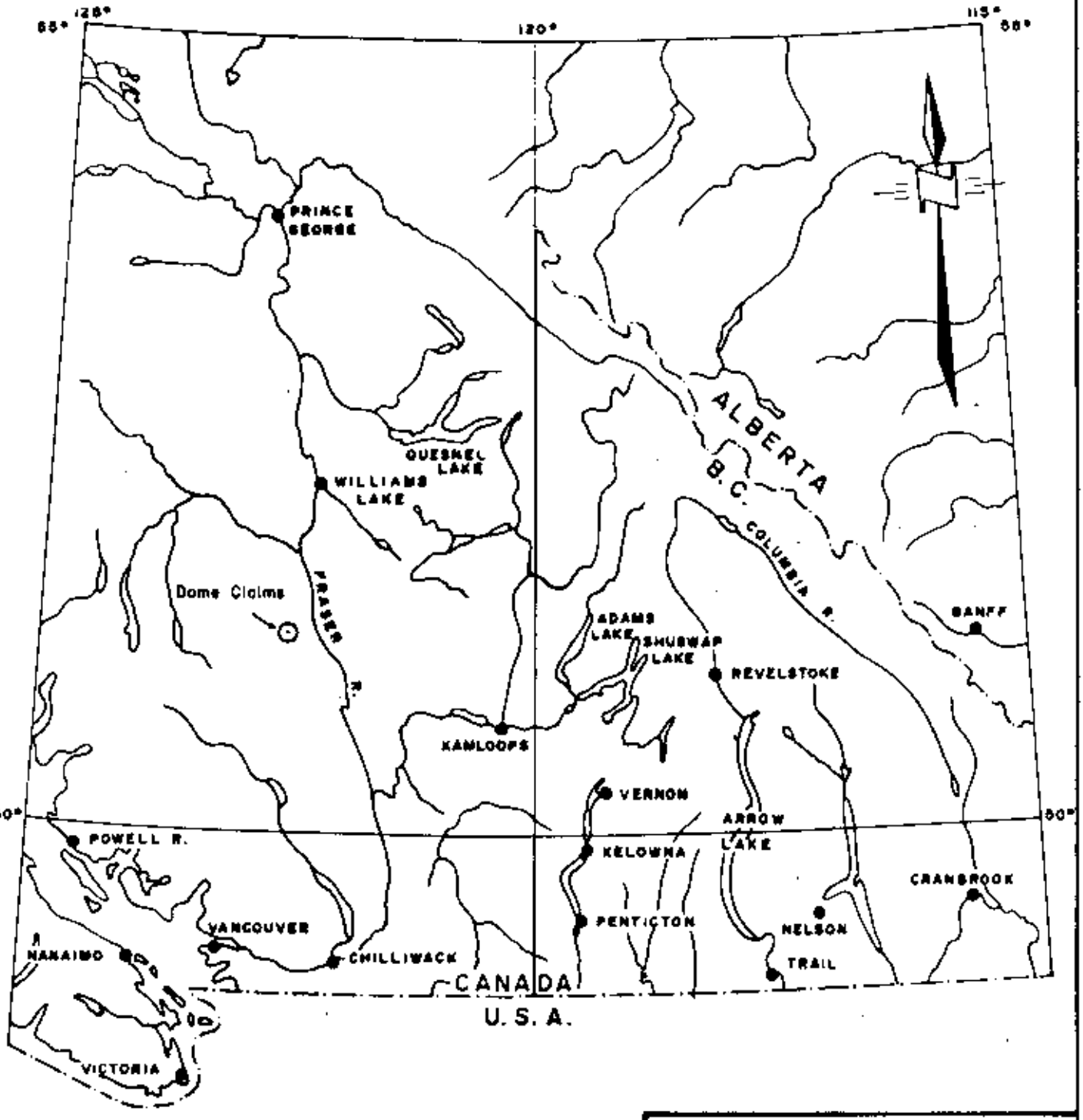


BLACK DOME EXPLORATION LTD.

LOCATION MAP

DOME CLAIMS

CLINTON MINING DIVISION, B.C.

Date: December, 1978	Scale: 1" = 64 Miles
Drawn by: W. G.	Dwg no. 161-1

INTRODUCTION

The Dome claims were acquired in 1977 because of similarities with other districts in western North America where bulk tonnage gold-silver deposits are found in association with Tertiary, subaerial, felsic to andesitic volcanism.

Initial reconnaissance exploration late in 1977 provided sufficient encouragement to warrant a detailed ground exploration programme which was carried out in August and September, 1978.

The current programme consisted of geological mapping, rock and soil geochemistry, a magnetic survey and extensive bulldozer trenching.

Results have been interpreted and are included on a series of maps accompanying this report.

SUMMARY AND CONCLUSIONS

(1). The Dome property consists of 77 units in 7 metric claims, located at Black Dome Mountain, about 70 km. WNW of Clinton, B. C. and is road accessible.

(2). Considerable work was done by junior companies and individuals during the 1940's and 50's in exploration and evaluation of the quartz veins at Black Dome Mountain. Current interest has been revived because of the similarity of this district with other tertiary, subaerial, volcanic environments where low grade, bulk tonnage, "Waterloo-type", precious metal deposits have been developed.

(3). The district is underlain by a succession of Tertiary volcanic rocks which range in composition from rhyolite to basalt. Doming of this succession has produced tension fractures which are the loci of epithermal, gold-silver mineralization.

(4). Previous work established submarginal gold-silver values over narrow widths in quartz veins within the andesite unit. The current programme has established that at least some of the mineralized zones are much wider within the underlying rhyolite unit and that in addition manto type mineralization may occur in rhyolite breccia horizons below the more impervious sediments and andesite.

(5). A potentially economic ore shoot approximately 500 meters long and varying from 4 to 12 meters wide has been outlined in a portion of the southern extension of Number 1 Vein zone.

(6). Soil geochemistry and geology suggests the presence of a new mineralized zone parallel to the Number 1 Vein zone and about 500 - 600 meters to the east.

(7). The potential of the property has been greatly enhanced by the discovery of the higher grade zone in the southern extension of Number 1 Vein,

by the real possibility of manto deposits and by the potential for wider mineralized zones below the other veins and a continuing vigorous exploration programme is certainly warranted.

PROPERTY

The property presently consists of 7 contiguous metric claims totalling 77 units, 4 old, located claims and 10 crown granted claims. The metric claims overlie the other two sets of claims (see figure 161-2). Claim data is as follows:

(1).Metric Claims:

DOME "A" GROUP

Claim Name	Record No.	Tag No.	Expiry Date
Dome #3	119	42762	August 16/79
Dome #6	120	36053	September 13/79

DOME "B" GROUP

Dome #1	117	42615	August 16/79
Dome #2	118	42761	August 16/79
Dome #7	121	36054	September 13/79

UNGROUPED CLAIMS

Dome #8	262	37041	October 27/79
Dome #9	263	37042	October 27/79

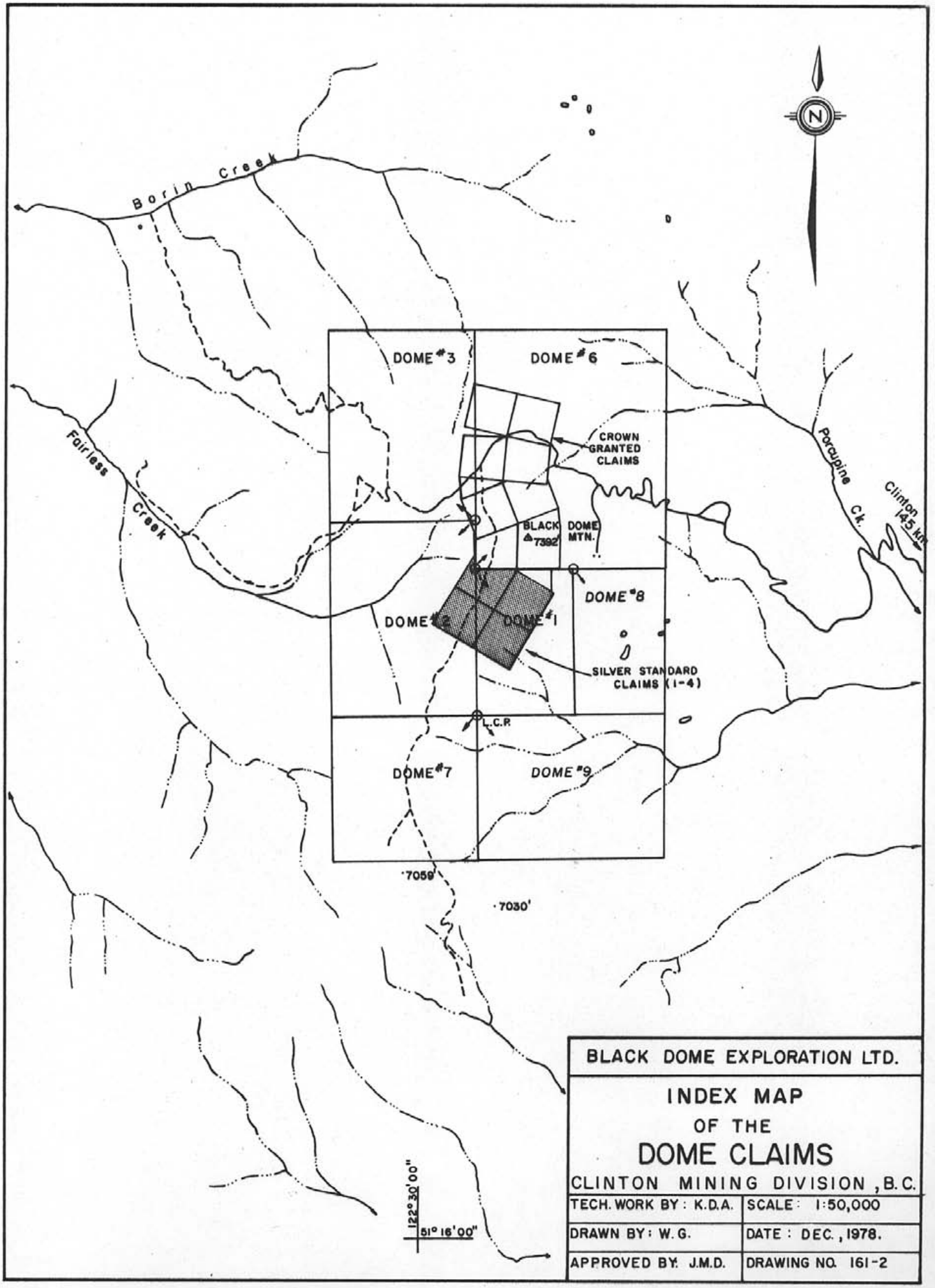
(2). Located Claims:

Claim Name	Record No.	Expiry Date
Black Dome #1	6925	May 15/79
Black Dome #2	6926	May 15/79
Black Dome #3	6927	May 15/79
Black Dome #4	6928	May 15/79

It is proposed that these claims be added to Dome "B" Group.

(c). Crown Granted Claims:

Claim Name	Lot No.	Under Surface Rights No.	Taxes Due
Moosehorn	7871	62224E	July 1/79
Saddle	7872	62227E	July 1/79
Whisky Pack	7873	62222E	July 1/79
Pinion Pine	7874	62223E	July 1/79
Electrum Fraction	7875	62226E	July 1/79
Bonanza	7876	62229E	July 1/79
Eldorado	7877	62228E	July 1/79
Black Dome	7878	62221E	July 1/79
Ptarmigan	7879	62220E	July 1/79
Sugar Bowl Fraction	7880	62225E	July 1/79



BLACK DOME EXPLORATION LTD.

INDEX MAP OF THE DOME CLAIMS

CLINTON MINING DIVISION, B.C.

TECH. WORK BY: K.D.A.	SCALE: 1:50,000
DRAWN BY: W.G.	DATE: DEC., 1978.
APPROVED BY: J.M.D.	DRAWING NO. 161-2

LOCATION AND ACCESS

The property is located in south-central British Columbia about 70 kilometers west-northwest of the village of Clinton. The approximate center of the claim block is at 51°20' north latitude and 122°29' west longitude.

The area is accessible via about 102 kilometers of gravel road which leads west from Route 97 about 18 kilometers north of Clinton. The last 30 kilometers beyond Empire Valley Ranch is deeply rutted in places and a 4 - wheel drive vehicle is required.

Most of the subject property is easily accessible along old cat roads or on foot through the alpine meadows.

PHYSIOGRAPHY AND VEGETATION

The subject claims cover portions of the crest and upper slopes of a prominent north-northeasterly trending ridge which is dominated by the peak of Black Dome Mountain. The topography is gently rolling along the ridgetops to moderately steep in some of the gulleys at the upper reaches of Fairless and Porcupine creeks. However, there are no slopes which cannot be negotiated on foot. Elevations vary from about 2,250 meters a.s.l. at the summit of Black Dome Mountain to about 1,800 meters a.s.l. at the east and west borders of the claim block.

Vegetation varies from bare alpine meadows above 1,950 meters to fairly thick stands of pine and fir on some of the northerly slopes and in creek bottoms.

The general area of the property lies within the interior dry belt so precipitation is relatively light. The property is snow-free from June through September.

HISTORY

In the late 1940's, gold was discovered in a number of quartz veins on Black Dome Mountain by Mr. Laurence Frenier, a local prospector. Mr. Frenier prospected the ground for several years and in 1952 optioned his claims to Empire Valley Gold Mines Ltd.

In 1953, Silver Standard Mines Ltd. optioned a number of claims adjoining the Empire Valley ground to the east and south. Silver Standard concentrated their work on the Black Dome Nos. 1 - 4 claims and carried out extensive stripping, sampling and the drilling of 6 packsack diamond drill holes in 1954. Total footage drilled was 783 feet.

During the period 1954 to 1956, Empire Valley Gold Mines constructed a new road to the property from Empire Valley Ranch, built a permanent camp, stripped and sampled a number of the veins and drove two short tunnels on the Red Bird and Number 14 veins.

In 1958, Silver Standard optioned the Empire Valley Gold Mines ground and did extensive trenching

and sampling of all the vein occurrences on Black Dome Mountain.

In 1972, Silver Standard carried out reconnaissance soil sampling and limited bulldozer trenching on claims located to the west and south of the original crown grants.

In 1973, limited prospecting and trenching was done by J. Skiber on the B. J. claims, located immediately west of the Giant and Redbird veins.

In 1977, the Dome claims were staked by Barrier Reef Resources Ltd. (NPL), and a programme of geological mapping, prospecting, and rock geochemistry was initiated. Results of this programme were sufficiently encouraging to warrant detailed follow-up during the 1978 season.

PRESENT PROGRAMME

The 1978 exploration programme was carried out during August and September. It consisted of 32 kilometers of line cutting, magnetic and soil sampling surveys, construction of 2 km. of new road and repair of about 30 km. of old road, cutting of 1,600 lineal meters of bulldozer trenches, geological mapping, prospecting and rock geochemistry and extensive bedrock sampling of the new trenches. This data and a portion of the older work by Silver Standard was integrated and is presented on a series of maps included with this report.

GEOLOGY

The Black Dome district is underlain by a sequence of Tertiary volcanic rocks which range in composition from basalt to rhyolite. Total thickness of the section is unknown but certainly exceeds 500 meters. The rocks are domed into a shallow, gently north-northeasterly plunging anticline. Zones of tension fractures caused by this doming are the loci for epithermal silver-gold mineralization. Later block faulting has caused considerable dislocation of individual rock units.

The lowermost unit in the exposed section consists of rhyolitic ignimbrites or ash flows and various "cold" fragmentals. Typically, these consist of pale brown to whitish coloured rocks varying from fine grained soft and porous ash beds to silicified, flow banded, ignimbrites. The ignimbrites commonly have a mottled texture due to the presence of rounded, ghost-like, partly resorbed fragments in a fine grained, lighter-coloured matrix. Coarser fragmentals consist of poorly sorted, airfall tuffs with fragments up to 6 cm. across, as well as autobreccias cemented by ignimbrite material. Some of the breccias near the top of the rhyolitic unit may occur in local structural depressions (see figure 161 - 7) over strong fault

zones and may be partly tectonic and partly of depositional origin. Secondary silica as stringers, spherulites, vugs, and thunder eggs is common throughout this sequence.

Much of the rhyolitic material is stained various shades of light yellow to brown, presumably because of originally contained pyrite.

The thickness of the rhyolitic unit is not known; however it is at least 200 meters thick as exposed. It may be much more extensive than this locally and probably varies considerably in thickness over short distances.

P. E. Fox (1978) has noted that the sequence suggests an environment which " . . . . appears to be a series of thick siliceous ash flows filling a broad, volcano-tectonic depression or large caldera".

Overlying the rhyolitic unit is a thin succession of volcaniclastic sediments. This sequence consists of thin bedded but poorly sorted volcanic wackes with a turbidite-like alternation of fine and coarse beds.

Individual beds vary from 2 to 15 cm. thick. Fragments are subrounded, may be as much as 6 cm. across and appear to be predominently of rhyolitic material. Plant fragments and carbonaceous trash are found in some beds.

This unit has been found in several places near the rhyolite - andesite contact and may be as much as 10 meters thick.

Overlying the volcaniclastic sediments is a relatively uniform sequence of fresh, greenish-gray, andesitic flows. These rocks are usually porphyritic with euhedral plagioclase laths up to 30 mm. long. The andesite unit is approximately 300 meters thick near the center of the claim block.

Above the andesitic unit is a distinctive, thin layer of oxidized material which is usually present at the andesite - basalt interface. It consists of fine grained jasper and weathered breccia or regolith cemented by hematite-stained material. This unit is usually less than 4 meters thick but appears to be more extensive because of the irregular relief of the underlying erosion surface.

The youngest rocks on the property are fine grained, dark brown to black basalt flows. This unit is quite fresh and individual flows sometimes exhibit horizontal sheeting or hexagonal jointing. Where this unit is exposed at the crest of Black Dome Mountain, it is approximately 60 meters thick.

The clearly defined section (see figure 161-6) seen near the center of the property becomes more complex to the north and west because of extensive block faulting and probable interfingering and erosion of portions of some units.

Some faults have been positively identified and many are inferred from prominent air photo linears. Near the east edge of Dome #1 claim a normal fault with about 300 meters vertical displacement can be clearly observed. On the southeast or down - dropped side, the basalt - andesite contact is some 50 meters below the rhyolite - andesite contact, seen on the northwest side.

A number of epithermal quartz veins fill northeasterly - trending tension fractures and roughly

coincide with the trend of the ridge dominated by Black Dome Mountain. At least 10 discrete veins are found within an area about 1,500 meters wide and about 4,500 meters long (NE - SW). These veins cut all rock units except the uppermost basalt sequence.

The veins vary from well defined fissure fillings up to 3 meters wide to poorly define "vein zones" of varying width consisting of altered wall rock carrying narrow, irregular stringers of quartz. Most of the wider quartz veins exhibit features typical of epithermal veins; i.e. comb structure, vugs, banding and cockade textures. Fragments of wall rock are commonly included, particularly at the Red Bird Vein.

The character of the veins or vein zones differs depending upon whether the host rock is andesite or rhyolite. Within the andesite, the veins are usually discrete entities which occasionally split or enclose "horses" of wall rock. Such veins are surrounded by a brownish envelope of argillic alteration (as much as 10 - 15 meters wide). There may be minor quartz stringers within this altered zone; however, areas of diffused silica, stockworks, or breccias are rare.

Within the rhyolite, vein zones are usually composite, consisting of one or more rusty gouge zones, andesite dikes, silicified clastic dikes or breccia zones and usually one or more quartz veins. Such zones may be as much as 60 meters wide (as exposed in some of the recent trenches). Of particular interest near the rhyolite - clastic sediment contact (or perhaps the basal part of the volcaniclastic sequence) are irregular areas of silicified rhyolite breccia which appear to fill irregular structural depressions along the vein zones (at least along No. 1 Vein) appearing at times to be lenticular features (clastic dikes) or to be blanket-like.

These breccias may be due in part to repeated faulting along the vein zone or to landslides or rapid deposition into the narrow, tectonic troughs prior to the deposition of the well bedded volcaniclastic sediments. In any event they appear to have been poorly consolidated and porous at the time of the epithermal mineralization and are now partly silicified by vein quartz. It is this horizon which appears to offer most potential for mineralized manto zones below the more impermeable sediments and andesite (see figure 161-7).

MINERALIZATION

Gold and silver values are associated with the epithermal quartz veins over much of their length. A pronounced decrease in values is noticed over the northernmost 500 meters and the southernmost 800 meters of the vein systems. These two areas are taken to represent the most distal portions of the vein systems from the central heat and (?) metal source pluton.

The gold and silver values reportedly occur as very fine grained electrum and free gold associated with pyrite in veins and silicified areas. Many of the earlier workers reported numerous occurrences of free gold along most of the veins; however no free gold or metallic minerals other than pyrite was observed by the writer.

Extensive sampling by Silver Standard in the 1930's outlined persistent but erratic gold and silver values in most of the veins, such that economic grade ore shoots were separated by areas of lower grade material. In addition, narrow mineralized widths in many of the veins precluded their economic extraction. Wallrock in

the areas sampled (exclusively in the andesite unit) appeared to carry no values so that larger tonnage operations could not be contemplated.

Silver Standard's work indicated that the Number 1 Vein had most potential. The company reported that " . . . . the southern and lowest 700 feet of this vein consists of a banded quartz vein averaging 8 feet wide; 420 feet of this 700 feet has an average width of 7.6 feet and assayed 0.282 oz. Au per ton and 1.95 oz. Ag per ton". Most of Silver Standard's data on the Number 1 Vein area is included on a detailed plan (figure 161-14) and six cross sections (figures 161-15 to 161-20 inclusive) appended to this report.

Extensive trenching and sampling of parts of the southern extension of Number 1 Vein in 1978 revealed that the mineralized zones in the rhyolite are more complex and generally much wider than in the overlying andesite. Zones as much as 60 meters wide are intensely altered and brecciated and in addition to containing (usually) a local high grade quartz vein, they also

usually have adjacent, lower grade, mineralized wall rock. This wall rock may be fault gouge, siliceous rhyolite breccia, quartz stockworks in rhyolite and silicified and pyritic andesitic dikes.

Unfortunately, except for obvious areas of quartz veining, there is no way of delineating the better mineralized areas. In addition extensive areas of vein quartz in float and outcrop is essentially barren near the south end of Number 1 Vein system (see figures 161-8 and 161-8A). Minor very fine grained pyrite is occasionally seen.

These factors necessitated extensive chip sampling and rock geochemistry to delineate areas and rock types containing higher silver and gold values. Rock geochem sample locations are plotted on figure 161-8 and silver and gold values are included in Appendix A and partly on figure 161-8A.

A number of conclusions can be drawn from the rock geochem data: (1) quartz vein material except in the extreme SW and NE areas generally carries anomalous to ore grade gold and silver values in Number

1 Vein and in the 5 or 6 veins paralleling Number 1 Vein but lying some distance east and west (see figure 161-8). (2) Two samples of the silicified rhyolite breccia (possible manto material) DJ-21 and DJ-28 respectively located at some distance from Number 1 Vein but near the andesite - rhyolite contact, assayed anomalous to ore grade gold and silver values. (3) Gold values vary from negative to mildly anomalous in some barren-looking andesite and rhyolite, whereas silver values are almost uniformly negative outside of obvious vein zones. (4) Selected samples from gouge zones in some of the trenches vary from background to ore grade material. (5). There appears to be no close correlation between silver and gold content, although in general samples with anomalous gold values will have a high silver content.

Results of chip sampling in trenches are summarized on figure 161-8A. From this data it may be concluded that: (1) in some trenches high grade values are sharply cut off by essentially barren adjacent material (although deep overburden allowed only incomplete sampling in some trenches; e.g. 4,20, and 19) whereas in others like Trench #6, low grade gold values occur over a 50 meter width. (2) The largest

and highest grade shoot lies between trenches 1 and 19 (see figure 161-8A). It is about 500 meters long, is cut by five trenches and the best sections vary from a low of 4 meters @ 2.76 gm. per tonne Au and 41.0 gm. per tonne Ag to a high of 12 meters @ 5.67 gm. per tonne Au and 78.7 gm. per tonne Ag. (3) In the area cut by trenches 11 to 18 inclusive, local areas of higher gold values occur but silver values are consistently much lower than in the previously mentioned shoot (in this area portions of the mineralized zones may not have been sampled because of deep overburden, steep slopes and the irregular nature of the veins and overlying andesite horizon. (4) A marked decrease in values is noted in trenches 8 and 9 even though an intermittently strong vein zone may be traced for a further 600 meters southwest along strike.

SOIL GEOCHEMISTRY

Soil samples were collected at 50 meter intervals on four cross lines (see figure 161-9 and 161-10) in the grid area. The purpose of this survey was to locate additional mineralized zones obscured by overburden and to assess the geochemical responses of the known mineralization.

Samples were collected from the "B" horizon where possible; however at the higher elevations, there is no well developed soil profile. Samples were taken from small pits approximately 15 to 45 cm. deep. Stations were marked with flagging and the appropriate grid co-ordinates. After collection, samples were stored and shipped in waterproof kraft envelopes.

A total of 161 soil samples were collected and analysed for gold, silver and mercury. Analysis was performed by Bondar-Clegg and Company Ltd. at their Vancouver laboratories. Samples were dried and sieved and an aliquot of the -80 mesh fraction obtained.

For silver and gold, extraction was accomplished by hot aqua regia with analysis by atomic absorption spectrophotometry. For mercury, extraction was by controlled aqua regia with analysis by closed cell atomic absorption.

The mean and standard deviation for gold and mercury were computed and the data were classified into the following categories:

Negative	0	-	Mean
Possibly Anomalous	Mean	-	(Mean + 1 Std. Dev.)
Probably Anomalous	(Mean + 1 Std. Dev.)	-	(Mean + 2 Std. Dev.)
Definitely Anomalous	>	(Mean + 2 Std. Dev.)	

The values were plotted on 1:2,500 scale base maps and definitely anomalous, probably anomalous and possibly anomalous areas were outlined (see figures 161-9 and 161-10). Profiles were also drawn for each line with gold and mercury plotted above topography (see figures 161-11 and 161-12).

Silver values were not plotted as they are almost all uniformly low. These data are however included in Appendix B.

Gold values do outline the known mineralized zone around the Number 1 Vein; however mercury values seem more definitive in this regard. More importantly a potentially significant anomaly is indicated by both gold and mercury some 500 - 700 meters east of and parallel with the Number 1 Vein zone. Further evidence for another important mineralized zone is given by the presence of known quartz veins on strike (both to the NE and SW) with the anomalous area (see figures 161-9, 161-10 and 161-8).

Several more limited, coincident gold and mercury anomalies are outlined along the western parts of the sampled grid lines and may indicate possible southward extensions of the Giant or Red Bird mineralized vein zones.

This limited survey has indicated that soil geochemistry is a very useful tool for delineating anomalous areas for more detailed surface work.

MAGNETIC SURVEY

A magnetic survey was carried out over the entire grid area using a McPhar model M-700 fluxgate magnetometer. Readings were taken at 25 meter intervals along cross lines and loop corrections made after each traverse. Individual loop traverses were corrected against a base station traverse made along the base line. The corrected readings were plotted on a 1:2,500 scale base map and contoured at 200 gamma intervals (see figure 161-13).

The magnetic relief is extremely complex; however a number of north-northeasterly trends parallel known vein and fault structures. A series of isolated lows coincide with the north-northeasterly trending ridgetop near the center of the grid area. West of this zone magnetic relief is relatively flat. The topographic lows of the upper tributaries of Fairless Creek are grossly outlined.

Most of the prominent magnetic relief is concentrated in a northeasterly - trending zone coinciding

with the location of Number 1 Vein zone and other known and suspected veins which parallel it. Several weak "lows" overlie the prominent geochemical anomaly paralleling and lying about 600 meters east of the Number 1 Vein zone.

DISCUSSION OF RESULTS

The 1978 field programme has outlined one potentially economic zone and has pointed to several intriguing exploration possibilities on the Black Dome property: (1) along the Number 1 Vein zone gold-silver mineralization has been shown to occur over a strike length of 1,500 meters and a vertical extent of more than 200 meters. Within this area, a potentially economic zone has been outlined over a strike length of about 500 meters between trenches #1 and #19 (see page 21. (2) The change in character of the mineralization (along Number 1 Vein) in the rhyolitic host rock (to wider and more persistent zones) suggests that similar wider composite mineralized zones may exist at depth below the north end of Number 1 vein and below the other veins exposed on the property. (3) The presence of lenticular mineralized mantos lying in the structural depressions above composite vein zones and below the more imperious sediments and andesite seems now to be a definite possibility. (4) Geochemical data and surface geology suggest that a potentially significant mineralized zone

may exist east of and parallel with the Number 1 Vein zone. (5) Several factors eg. presence of persistent gold values, lack of base metal sulphides, upward narrowing and branching of veins, suggest that this is the upper part of an epithermal system and that gold-silver values should go at least several hundred meters to depth before bottoming or increasing in base metal sulphides at the expense of gold and silver. (6) The entire environment at the Black Dome Property has many of the features of similar important epithermal districts in western North American (Sillitoe, 1977) and there is an excellent potential for developing substantial volumes of economic gold-silver bearing material.

Respectfully Submitted by:

KERR, DAWSON & ASSOCIATES LTD.,

James M. Dawson, P. Eng.,
GEOLOGIST

APPENDIX A

ROCK GEOCHEMICAL DATA

ROCK GEOCHEMISTRY DATA

Sample No.	Description	Analysis Au(PPB)	Ag(PPM)	As (PPM)
BD-1	fresh basalt near summit of Black Dome Mountain	30	0.2	2
BD-2	slightly altered, grayish trachyte	170	0.2	11
BD-3	fresh, green gray trachyte	10	0.2	4
BD-4	fresh, green gray trachyte	10	0.2	4
BD-5	fresh, green gray trachyte	10	0.2	4
BD-6	greenish black, fresh basalt	10	0.2	7
BD-7	bleached to rusty and altered trachyte - possible vein zone?	100	0.2	53
BD-8	greenish tuff or siltstone with scattered stringers of quartz	10	0.2	3
BD-9	fine grained to dense tuff?	5	0.2	7
BD-10	altered and bleached trachyte with thin quartz seams - vein zone?	30	0.4	270
BD-11	altered, pale green trachyte	10	0.2	8
BD-12	altered, vuggy trachyte - rusty fracture zones - possible vein zone?	50	1.1	12
BD-13	fresh, green gray porpyyritic trachyte.	20	0.2	6
BD-14	vein zone - altered and bleached trachyte with tiny quartz veins	5	0.2	30
BD-15	vein zone - altered trachyte with many tiny quartz veinlets	800	0.2	110
BD-16	unaltered, green gray trachyte	15	0.2	2

Rock Geochemistry Data (continued)

Sample No.	Description	Analysis Au(PPB)	Ag(PPM)	As (PPM)
BD-17	fine grained, fresh basalt	5	0.2	15
BD-18	fine grained, gresh basalt	5	0.2	6
BD-19	friable, decomposed basalt	5	0.2	11
BD-20	brecciated basalt	5	0.2	6
BD-21	white, porous, clay-like rhyolitic? ash beds	5	0.2	3
BD-22	massive, fresh basalt	5	0.2	6
BD-23	white weathering, clay-like rhyolitic ash bed	5	0.2	3
BD-24	buff coloured, porphyritic trachyte	< 5	0.2	2
BD-25	dense, dark brown basalt	10	0.2	9
BD-26	basaltic agglomerate	5	0.2	6
BD-27	pale, buff weathering, brecciated trachyte.	5	0.2	6
BD-28	fine grained, fresh basalt	< 5	0.2	4
BD-29	fine grained, fresh, colommar basalt	5	0.2	2
BD-30	rusty weathering, altered trachyte, some hematite staining	25	0.2	110
BD-31	rusty weathering, altered trachyte, some hematite staining	10	0.2	13
BD-32	unaltered, porphyritic trachyte	< 5	0.2	2
BD-33	autoclastic trachyte breccia cemented by hematitic material	< 5	0.2	25

Rock Geochemistry Data (continued)

Sample No.	Description	Analysis Au(PPB)	Ag(PPM)	As(PPM)
BD-34	dark brown, sheeted basalt	< 5	0.2	2
BD-35	vesicular, basaltic glass	< 5	0.2	3
BD-36	vesicular, to scoriaceous basalt	< 5	0.2	1
BD-37	glassy to porphyritic dacite or rhyolite	10	0.2	18
BD-38	rusty weathering dacite or rhyolite	5	0.2	5
BD-39	fractured fine grained basalt	5	0.2	6
BD-40	fresh, green gray, porphyritic trachyte	5	0.2	3
BD-41	pale greenish white, friable rhyolitic agglomerate	5	0.2	4
BD-42	pale yellowish brown, clay-like rhyolite tuff	< 5	0.2	2
BD-43	dark brown, fine grained rhyolite	5	0.2	2
BD-44	friable,yellowish brown altered rhyolite	5	0.2	6
BD-45	yellowish brown, rusty rhyolitic agglomerate	< 5	0.2	4
BD-46	greenish gray, kaolinized rhyolite tuff	5	0.2	4
BD-47	glassy to porphyritic, flow banded rhyolite	< 5	0.2	3
BD-48	purplish gray rhyolite agglomerate	< 5	0.2	3
BD-49	porphyritic, flow banded rhyolite	< 5	0.2	4
BD-50	altered rhyolitic ash beds or tuffs	< 5	0.2	2
BD-51	altered rhyolitic ash beds or tuffs	< 5	0.2	5

Rock Geochemistry Data (continued)

Sample No.	Description	Analysis Au(PPB)	Ag(PPM)	As(PPM)
BD-52	kaolinized rhyolic agglomerate	< 5	0.2	3
BD-53	altered rhyolitic agglomerate, frequent botrioidal growths	< 5	0.2	4
BD-54	altered, spherulitic rhyolite	< 5	0.2	5
BD-55	dark brown, fresh basalt	< 5	0.2	6
BD-56	red to buff dacitic tuff	< 5	0.2	7
BD-57	fine grained, fresh basalt	< 5	0.2	2
BD-58	bleached trachyte - alteration envelope surrounding Giant Vein	10	0.2	7
BD-59	stringers of quartz and purplish altered rock within the Giant Vein zone - nests	5	0.2	4
BD-60	porphyritic, greenish gray trachyte with minor hairline quartz veins.	30	0.2	38
BD-61	friable, banded, rhyolitic tuff or ash bed, immediately below the trachyte unit	5	0.2	25
BD-62	bleached dacite with tiny quartz veinlets - may not be in place	70	0.3	9
BD-62A	bleached, yellow-brown, rusty banded rhyolite tuff	20	0.2	6
BD-62B	altered, flow banded rhyolite	15	0.2	11
BD-63	flow banded rhyolite; orange brown limonite on fractures	< 5	0.2	6
BD-64	rusty, flow banded rhyolite with quartz layers and lenses	10	0.2	8
BD-65	rusty, flow banded rhyolite cut by quartz veins.	20	0.2	18
BD-66	rusty, flow banded rhyolite cut by quartz veins	10	0.2	26

Rock Geochemistry Data (continued)

Sample No.	Description	Analysis Au(PPB)	Ag(PPM)	As(PPM)
BD-67	rusty rhyolite with several drusy quartz veins	30	0.2	80
BD-68	rusty rhyolite with several drusy quartz veins	40	0.2	110
BD-69	Rusty weathering rhyolitic tuff with scattered quartz stringers	5	0.2	8
BD-70	rusty, yellowish brown weathering rhyolite with quartz veins	20	0.2	32
BD-71	rusty, yellowish brown weathering rhyolite with quartz veins	< 5	0.2	10
BD-72	rusty, yellowish brown weathering rhyolite with quartz veins	< 5	0.2	16
BD-73	limonite stained rhyolitic tuff, botrioidal growths and thunder eggs.	10	0.2	12
BD-74	rusty weathering rhyolite cut by quartz veins	10	0.2	20
BD-75	rusty rhyolite with quartz stringers	5	0.2	250
BD-76	greenish gray, porphyritic trachyte	5	0.2	5
BD-77	greenish gray, porphyritic trachyte	25	0.2	3
BD-78	rhyolitic breccia	40	0.2	2
BD-79	fresh rhyolitic tuff	5	0.2	4
BD-80	red, porphyritic rhyolite	5	0.2	6

Rock Geochemistry Data (continued)

Sample No.	Description	Analysis Au(PPB)	Ag(PPM)	As(PPM)
BD-81	greenish, porphyritic trachyte	5	0.2	2
BD-82	yellowish-buff friable rhyolitic and beds	5	0.2	7
BD 83	yellowish brown to rusty siliceous, rhyolitic tuff	5	0.2	6
BD-84	greenish gray porphyritic trachyte	5	0.2	13
BD-85	altered wall rock adjacent to Red Bird Vein	30	2.0	90
BD-86	greenish gray, fresh trachyte	10	0.2	15
BD-87	altered, brownish trachyte with minor quartz veinlets, 30 meters west of No. 2 vein	580	0.6	9
BD-88	altered wall rock of No. 1 vein adjacent to sample #15437	175	2.0	115
BD-89	rusty, bleached wall rock east of No. 1 vein @ sample site #15449	165	0.6	100
BD-90	altered brownish trachyte from vein zone (Skiber's vein)	10	0.2	23
BD-91	altered trachyte with several tiny quartz veins in Skiber's vein zone	3000	3.8	110
BD-92	altered trachyte with small quartz veins	900	4.2	60
BD-93	altered, brownish trachyte with minor narrow quartz veins - 50 meters east of Giant Vein	250	3.8	190

Rock Geochemistry Data (continued)

Sample No.	Description	Analysis Au(PPB)	Ag(PPM)	As (PPM)
BD-94	grab from altered trachyte in small vein zone east of Giant Vein	70	1.4	70
BD-95	altered trachyte with small quartz stringers	20	0.2	27
BD-96	brownish altered trachyte adjacent to No. 14 vein at tunnel portal	5	0.2	42
BD-97	altered trachyte with quartz stringers - small vein zone (No. 15 vein?)	160	2.2	70

Rock Geochemistry Data — continued

Sample No.	Description	Analysis Au (PPB)	Ag (PPM)
DJ - 5	Pale brown altered trachyte (andesite) cut by a few tiny, quartz veinlets (No. 2 Vein)	110	0.2
DJ - 6	Fine grained, dense brown basalt.	5	0.2
DJ - 7	Bleached gray brown andesite with minor quartz stringers - Black Shear vein.	300	0.2
DJ - 8	Red, hematitic regolith in the Black Shear vein zone.	25	0.4
DJ - 9	Brown, altered andesite with tiny stringers of vuggy quartz.	239	35.9
DJ - 10	Relatively fresh greenish gray trachyte (andesite)	10	0.3
DJ - 11	Rubble crop of vein zone; quartz stringers and breccia fillings in reddish-buff altered andesite.	105	1.4
DJ - 12	Scattered quartz stringers and breccia fillings in a 3 - 4 meter wide zone of altered red to buff andesite (in No. 2 vein zone).	1,570	30.1
DJ - 13	Stringers of quartz in irregular vein system about 10 meters west of main part of No. 1 Vein.	8,000	30.0
DJ - 14	Rubble crop from small pit on vein zone, quartz stringers in brownish altered andesite.	2,290	7.5

Rock Geochemistry Data — continued

Sample No.	Description	Analysis	
		Au (PPB)	Ag (PPM)
DJ - 15	Purplish grey, fresh but faintly hematitic andesite.	70	0.2
DJ - 16	Rubble crop of vein zone; stringers and quartz veins in reddish buff, silicified andesite.	1,740	31.1
DJ - 17	Pale green gray, porphyritic andesite.	55	0.6
DJ - 18	Rubble crop of quartz vein material.	10,650	50.0
DJ - 19	Rubble of quartz vein material in small hand pit.	3,760	34.9
DJ - 20	Yellowish-brown altered fault gouge in ? vein zone in andesite.	145	1.2
DJ - 21	Rubble crop from old hand pit in volcaniclastic sediments	103	9.6
DJ - 22	Stringers and fillings of chalcedony in altered bleached andesite fragmentals.	10	0.2
DJ - 23	Relatively fresh andesite with minor quartz stringers	< 5	0.2
DJ - 24	Brownish, altered andesite from weak breccia zone in grayish, fresh andesite.	10	0.2
DJ - 25	Fine grained, green-gray, slightly porphyritic, fresh andesite.	< 5	0.2
DJ - 26	Pale green gray, fresh, porphyritic andesite.	< 5	0.2

Rock Geochemistry Data — continued

Sample No.	Description	Analysis	
		Au (PPB)	Ag (PPM)
DJ - 27	Piece of float of quartz vein material in felsic tuff	15	0.2
DJ - 28	Piece of float of unit 2 (volcaniclastic sediments) veined with vuggy quartz carrying minor, scattered, small pyrite grains.	2,740	5.1
DJ - 29	Fine grained, dense, relatively fresh basalt.	40	0.2
DJ - 30	Outcrop of green gray, porphyritic andesite (trachyte)	< 5	0.2
DJ - 31	Rubble crop of quartz vein material in bleached rhyolite.	415	0.9
DJ - 32	Accumulation of veined rhyolite float (near to source?)	8,400	2.2
DJ - 33	Rubble crop of heavily veined bleached and brecciated rhyolite	752	2.74
DJ - 34	Grab of bleached and limonite-stained rhyolite cut by quartz stringers	1,440	1.4
DJ - 35	Selected semimassive, hematite-stained quartz from 5 - 7 meter wide vein zone.	100	0.3
DJ - 36	Selected sample of quartz vein material from large collecting of float boulders of quartz	330	0.8
DJ - 37	Selected sample of quartz vein material from large collection of float boulders	5	0.4

Rock Geochemistry Data — continued

Sample No.	Description	Analysis	
		Au (PPB)	Ag (PPM)
DJ - 38	Selected sample of quartz vein material from large collection of float boulders.	5	0.2
DJ - 39	Grab from rubble of quartz vein material in rhyolite exposed in small hand pit	55	0.8
DJ - 40	Grab from accumulation of vein quartz boulders between trenches 12 and 19.	10,602	47.9
DJ - 42	Grab of yellowish-white, veined and vuggy rhyolite near west end of trench #12.	80	0.8
DJ - 43	Grab from a 1 meter wide zone of rusty fault gouge from near center of Trench #12.	100	0.8
DJ - 44	Grab of yellow-brown fault gouge near west end of Trench #11.	245	1.0
DJ - 45	Grab of yellowish-brown to rusty fault gouge at west end of Trench #13.	239	77.3
DJ - 46	Selected sample from a one meter wide zone of silicified rhyolite and dike rock; narrow quartz stringers and vugs in the bedrock - near west end of Trench #13.	684	9.6
DJ - 47	Grab of the best looking mineralized ? material near the west end of Trench #14; silicified blue gray andesite dike with stringers and vugs of quartz.	1,161	10.9

Rock Geochemistry Data — continued

Sample No.	Description	Analysis	
		Au (PPB)	Ag (PPM)
DJ - 48	Grab from a one meter zone of rusty, yellow-brown fault gouge in Trench #16.	68	5.8
DJ - 49	Selected sample of silicified blue-gray andesitic dike rock with fine grained disseminated pyrite cubes and a few tiny quartz veinlets - Trench #16.	175	1.2
DJ - 50	Selected sample from a 2 m wide silicified zone in rhyolite breccia in Trench #15.	479	20.2
DJ - 51	Grab of green-gray trachyte cut by narrow quartz veinlets.	68	9.6
DJ - 52	Selected sample of quartz veined rhyolite from Trench #18.	2,565	18.1
DJ - 53	Selected sample of silicified rhyolite breccia from vein zone in trench #19.	5,130	197.3
DJ - 54	Sample of altered rhyolite with minor quartz veins in float from west end of Trench #20.	200	1.9
DJ - 55	Grab of greenish, amygdaloidal andesite from east end of Trench #20; may not be in place.	20	0.5
DJ - 56	Selected sample of quartz veined and brecciated rhyolite from Trench #4.	4,450	180.2

APPENDIX B

SOIL GEOCHEMISTRY RESULTS

BONDAR-CLEGG & COMPANY LTD.
1500 PEMBERTON AVE., NORTH VANCOUVER, B.C. PHONE: 985-0681 TELEX: 04-54554

Geochemical Lab Report

Extraction Ag; Hot Aqua Regia / Au; Fire Assay & Hot Aqua Regia — Report No. 28 - 1284

Method Atomic Absorption — From Barrier Reef Resources

Fraction Used — Date September 7 19 78

SAMPLE NO.	Ag ppm	Au ppb			SAMPLE NO.	Ag ppm	Au ppb		
BMS - 7S 5+00E	0.2	10			BMS - 7S 10+50W	0.2	< 5		
4+50E	0.2	15			11+00W	0.2	< 5		
4+00E	0.2	25			11+50W	0.2	< 5		
3+50E	0.2	< 5			12+00W	0.2	< 5		
3+00E	0.2	< 5			12+50W	0.2	< 5		
2+50E	0.2	5			13+00W	0.2	< 5		
2+00E	0.2	10			13+50W	0.2	15		
1+50E	0.2	10			14+00W	0.2	< 5		
1+00E	0.2	10			14+50W	0.2	< 5		
0+50E	0.2	10			15+00W	0.2	10		
0+50W	0.2	5			BMS - 8S 4+75E	0.2	20		
1+00W	0.2	10			4+25E	0.2	25		
1+50W	0.2	10			3+75E	0.2	10		
2+00W	0.2	5			3+25E	0.2	5		
2+50W	0.2	5			2+75E	0.2	5		
3+00W	0.2	5			2+25E	0.2	55		
3+50W	0.2	5			1+75E	0.2	5		
4+00W	0.2	5			1+25E	0.2	5		
4+50W	0.2	< 5			0+75E	0.5	5		
5+00W	0.2	5			0+25E	0.2	10		
5+50W	0.2	5			0+25W	0.2	10		
6+00W	0.2	5			0+75W	0.2	10		
6+50W	0.2	< 5			1+25W	0.2	10		
7+00W	0.2	< 5			1+75W	0.2	15		
7+50W	0.2	15			2+25W	0.2	35		
8+00W	0.2	10			2+75W	0.2	10		
8+50W	0.2	15			3+25W	0.2	10		
9+00W	0.2	5			3+75W	0.2	10		
9+50W	0.2	5			4+25W	0.2	10		
10+00W	0.2	5			4+75W	0.2	10		
					5+25W	0.2	10		

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Geochemical Lab Report

Report No. 28 - 1284

SAMPLE NO.	Ag ppm	Au ppb			SAMPLE NO.	Ag ppm	Au ppb		
BMS - 8S					BMS - 14S				
5+75W	0.2	< 5			3+00W	0.3	< 5		
6+25W	0.2	< 5			3+50W	0.2	270		
6+75W	0.2	< 5			4+00W	0.4	15		
7+25W	0.2	5			4+50W	0.2	10		
7+75W	0.2	< 5			5+00W	0.2	< 5		
8+25W	0.2	< 5			5+50W	0.2	< 5		
8+75W	0.2	< 5			6+00W	0.2	< 5		
9+25W	0.2	< 5			6+50W	0.2	5		
9+75W	0.3	5			7+00W	0.2	< 5		
10+25W	0.3	370			7+50W	0.2	< 5		
10+75W	0.2	30			8+00W	0.2	< 5		
11+25W	0.2	10			8+50W	0.2	40		
11+75W	0.2	10			9+00W	0.2	< 5		
12+25W	0.2	10			9+50W	0.2	< 5		
12+75W	0.2	10			10+00W	0.2	5		
13+25W	0.2	10			10+50W	0.2	< 5		
13+75W	0.2	10			11+00W	0.2	< 5		
14+25W	0.2	10			11+50W	0.2	< 5		
14+75W	0.2	215			12+00W	0.4	< 5		
BMS - 14S									
5+00E	0.2	10			12+50W	0.2	< 5		
4+50E	0.2	35			13+00W	0.2	< 5		
4+00E	0.2	475			13+50W	0.2	< 5		
3+50E	0.2	10			14+00W	0.2	< 5		
3+00E	0.2	30			14+50W	0.2	5		
2+50E	0.4	60			15+00W	0.2	10		
2+00E	0.3	40			BMS - 15S				
1+50E	0.2	35			4+75E	0.2	10		
1+00E	0.2	25			4+25E	0.2	15		
0+50E	0.4	15			3+75E	0.2	310		
0+00E	0.3	15			3+25E	0.2	30		
0+50W	0.3	15			2+75E	0.2	15		
1+00W	0.2	20			2+25E	0.2	15		
1+50W	0.2	150			1+75E	0.8	< 5		
2+00W	0.2	20			1+25E	0.2	60		
2+50W	0.3	50			0+75E	1.1	10		
					0+25E	0.2	25		

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Geochemical Lab Report

Report No. 28 - 1284

SAMPLE NO.	Ag ppm	Au ppb			SAMPLE NO.				
EMS - 155									
0+25W	0.2	35							
0+75W	0.2	35							
1+25W	0.2	45							
1+75W	0.2	10							
2+25W	0.2	25							
2+75W	0.2	75							
3+25W	0.2	115							
3+75W	0.2	10							
4+25W	0.2	5							
4 +75W	0.4	5							
5+25W	0.9	25							
5+75W	0.3	< 5							
6+25W	0.2	5							
6+75W	0.2	5							
7+25W	0.2	20							
7+75W	0.2	10							
8+25W	0.4	5							
8+75W	0.2	5							
9+25W	0.2	10							
9+75W	0.2	5							
10+25W	0.2	5							
10+75W	0.2	< 5							
11+25W	0.2	5							
11+75W	0.2	5							
12+25W	0.2	< 5							
12+75W	0.2	5							
13+25W	0.2	5							
13+75W	0.2	5							
14+25W	0.2	10							
14+75W	0.2	5							
					cc Mr. J. Dawson				

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Geochemical Lab Report

Extraction Hg; Controlled Aqua Regia — Report No. 28 - 1732

Method Hg; Closed Cell Atomic Absorption — From barrier Reef

Fraction Used — Date November 13 19 78

SAMPLE NO.	Hg ppb
BMS-78 5+00 E	45
4+50 E	40
4+00 E	35
3+50 E	55
3+00 E	80
2+50 E	50
2+00 E	45
1+50 E	110
1+00 E	40
0+50 E	55
0+50 W	35
1+00 W	35
1+50 W	30
2+00 W	110
2+50 W	40
3+00 W	35
3+50 W	40
4+00 W	45
4+50 W	45
5+00 W	35
5+50 W	60
6+00 W	50
6+50 W	45
7+00 W	45
7+50 W	40
8+00 W	35
8+50 W	30
9+00 W	25
9+50 W	95
10+00 W	20

SAMPLE NO.	Hg ppb
BMS-78 10+50 W	25
11+00 W	45
11+50 W	60
12+00 W	35
12+50 W	50
13+00 W	30
13+50 W	45
14+00 W	35
14+50 W	55
15+00 W	280
BMB-83 4+75 E	60
4+25 E	40
3+75 E	55
3+25 E	40
2+75 E	45
2+25 E	30
1+75 E	50
1+25 E	35
0+75 E	55
0+25 E	55
0+25 W	40
0+75 W	30
1+25 W	35
1+75 W	30
2+25 W	25
2+75 W	35
3+25 W	40
3+75 W	65
4+25 W	40
4+75 W	45

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Geochemical Lab Report

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SAMPLE NO	Hg ppb
BMS-88 5+25 W	25
5+75 W	55
6+25 W	40
6+75 W	35
7+25 W	30
7+75 W	35
8+25 W	25
8+75 W	25
9+25 W	40
9+75 W	70
10+25 W	65
10+75 W	35
11+25 W	20
11+75 W	50
12+25 W	40
12+75 W	35
13+25 W	80
13+75 W	30
14+25 W	45
14+75 W	30
BMS-148 5+00 E	65
4+50 E	50
4+00 E	60
3+50 E	25
3+00 E	20
2+50 E	45
2+00 E	60
1+50 E	35
1+00 E	25
0+50 E	30
0+00 E	25
0+50 W	65
1+00 W	50
1+50 W	40
2+00 W	35

SAMPLE NO.	Hg ppb
BMS-148 2+50 W	60
3+00 W	30
3+50 W	35
4+00 W	50
4+50 W	35
5+00 W	30
5+50 W	40
6+00 W	60
6+50 W	55
7+00 W	65
7+50 W	50
8+00 W	75
8+50 W	55
9+00 W	75
9+50 W	65
10+00 W	35
10+50 W	25
11+00 W	55
11+50 W	35
12+00 W	30
12+50 W	35
13+00 W	30
13+50 W	65
14+00 W	60
14+50 W	25
15+00 W	70
BMS-158 4+75 E	115
4+25 E	40
3+75 E	30
3+25 E	30
2+75 E	50
2+25 E	75
1+75 E	235
1+25 E	35
0+75 E	60

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Geochemical Lab Report

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SAMPLE NO.	Hg ppb					SAMPLE NO.				
MSB-15S 0+25 E	50									
0+25 W	50									
0+75 W	55									
1+25 W	30									
1+75 W	65									
2+25 W	45									
2+75 W	40									
3+25 W	50									
3+75 W	50									
4+25 W	70									
4+75 W	50									
5+25 W	75									
5+75 W	60									
6+25 W	40									
6+75 W	65									
7+25 W	40									
7+75 W	90									
8+25 W	70									
8+75 W	140									
9+25 W	25									
9+75 W	30									
10+25 W	50									
10+75 W	40									
11+25 W	50									
11+75 W	25									
12+25 W	55									
12+75 W	50									
13+25 W	20									
13+75 W	45									
14+25 W	50									
14+75 W	40									
						cc Mr. Jim Dawson				

APPENDIX C

PERSONNEL

PERSONNEL

J. M. Dawson, P. Eng.	Geologist	- August 15-30; Sept. 6-15; Sept. 18-20; Nov. 7-8,14,17, 23,24,26,28; Dec. 5,6,11,12, 13,14,15,18,19,21,22,30.
		- 49 days
A. F. Reeve, P. Eng.	Geologist	- August 18,19,23; Sept. 7,8,9; November 14,15; Dec. 5,6.
		- 10 days
W. Gruenwald, B. Sc.	Geologist	- Nov. 17, 18, 22, 27, 28, 30; Dec. 1, 2, 3, 4, 8, 9, 10, 11, 12, 13, 19.
		- 17 days
L. P. Duquette	Prospector	- August 15 - 31; Sept. 1 - 26.
		- 43 days
J. Milligan	Cook	- August 15 - 31; Sept. 1 - 24.
		- 41 days
M. Dawson	Fieldman	- August 15 - 31.
		- 17 days
G. Mountford	Fieldman	- August 15 - 25.
		- 11 days
S. Williams	Fieldman	- August 27 - 31.
		- 5 days

APPENDIX D

STATEMENT OF EXPENDITURES

STATEMENT OF EXPENDITURES

(1).	Labour:		
	J. M. Dawson, P. Eng., 49 days @ $175.00/day	$ 8,575.00	
	A. F. Reeve, P. Eng., 10 days @ $175.00/day	1,750.00	
	W. Gruenwald, B. Sc., 17 days @ $110.00/day	1,870.00	
	L. P. Duquette, 43 days @ $75.00/day	3,225.00	
	J. Milligan, 41 days @ $45.00/day	1,845.00	
	M. Dawson, 17 days @ $40.00/day	680.00	
	G. Mountford, 11 days @ $40.00/day	440.00	
	S. Williams, 5 days @ $40.00/day	200.00	$18,585.00
(2).	Expenses and Disbursements:		
	(a). Contract Bulldozer Costs	$10,936.60	
	(b). Assays and Geochemical Analysis	4,564.40	
	(c). Photogrammetry and Base Map preparation	3,515.00	
	(d). Magnetometer rental	315.00	
	(e). Food	2,221.86	
	(f). Truck Rental	2,761.60	
	(g). Camp supplies and equipment purchases	3,953.03	
	(h). Travel	1,422.58	
	(i). Maps, air photos, reports, xerox, blue printing	526.40	
	(j). Telephone, secretarial, postage, etc.	686.65	
	(k). Freight and storage	1,641.91	32,545.03
	TOTAL HEREIN		$51,130.03

APPENDIX E

REFERENCES

REFERENCES

Dawson, J. M. (1978): - Geological and Geochemical Report on the Dome Claims, Clinton Mining Division, British Columbia; Private REport to Barrier Reef Resources Ltd. (NPL).

Skiber, A. J. (1973): - Report on BJ #1-6 claims, Black Dome Dome Mountain; Assessment Report for province of B. C.

Watson, B. N. (1977): - Large Low Grade Silver Deposits in North America; World Mining, Vol. 30, No. 3.

Knox, J. A. and Weitz,T.(1976): - Geology and Mineralization at Delamar Silver Mine, Owyhee Co. Idaho; Paper given at Annual Meeting of Northwest Mining Assn., Spokane, December, 1976.

Sillitoe, R. H. (1977): - Metallic Mineralization affiliated to to Subaerial Volcanism; a review; in Special Publication #7 of Geological Society of London; Volcanic Processes in Ore Genesis.

Fox, P. E. (1978): - Private Report on Black Dome Prospect to Barrier Reef Resources Ltd. (NPL).

Various Annual Reports of the B. C. Minister of Mines.

Various private files of Silver Standard Mines Ltd.

Steven, T.A. & Gordon, P. E. (1975): - Environment of Ore Deposition in the Creede Mining District, San Juan Mountains, Colorado: (1) Geologic, Hydrologic, and Geophysical Setting; Econ. Geol. Vol. #70, No. 6,p. 1,023.

APPENDIX F

WRITER'S CERTIFICATE

JAMES M. DAWSON, P. ENG.
GEOLOGIST

SUITE 1 - 219 VICTORIA STREET
KAMLOOPS, B.C.

PHONE (604) 374-6427

CERTIFICATE

I, JAMES M. DAWSON, OF KAMLOOPS, BRITISH COLUMBIA, DO HEREBY CERTIFY THAT:

(1). I am a geologist employed by Kerr, Dawson & Associates Ltd. of Suite #1, 219 Victoria Street, Kamloops, B. C.

(2). I am a graduate of the Memorial University of Newfoundland B. Sc. (1960), M. Sc. (1963), a fellow of the Geological Association of Canada and a Member of the Association of Professional Engineers of British Columbia. I have practiced my profession for 15 years.

(3). I am the author of this report which is based on an exploration programme carried out under my supervision.

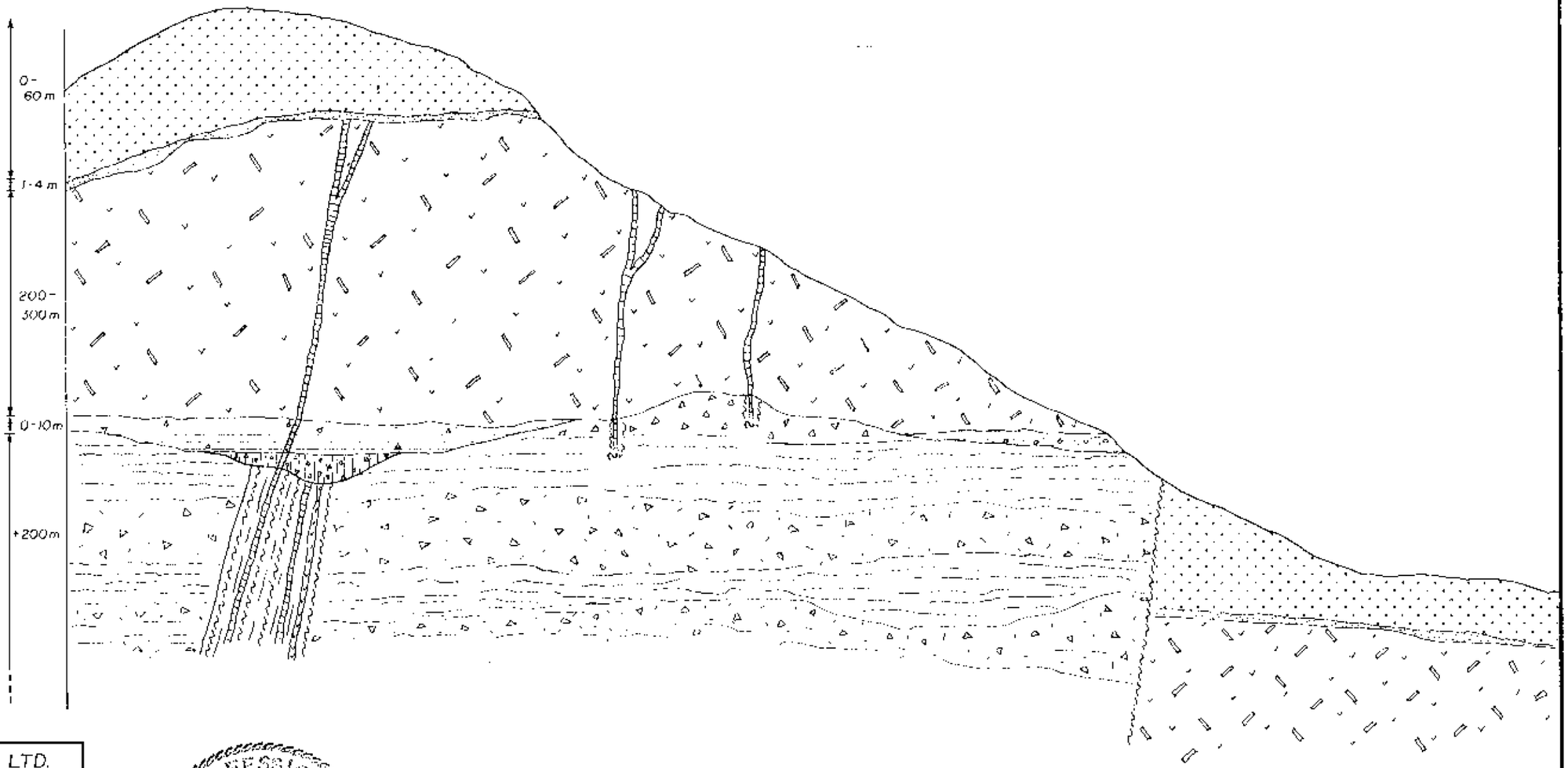
PROFESSIONAL ENGINEER
PROVINCE OF
J. M. DAWSON
BRITISH COLUMBIA

KERR, DAWSON & ASSOCIATES LTD.,

James M. Dawson

James M. Dawson, M. Sc., P. Eng.,
GEOLOGIST

January 4th., 1979,
KAMLOOPS, B. C.

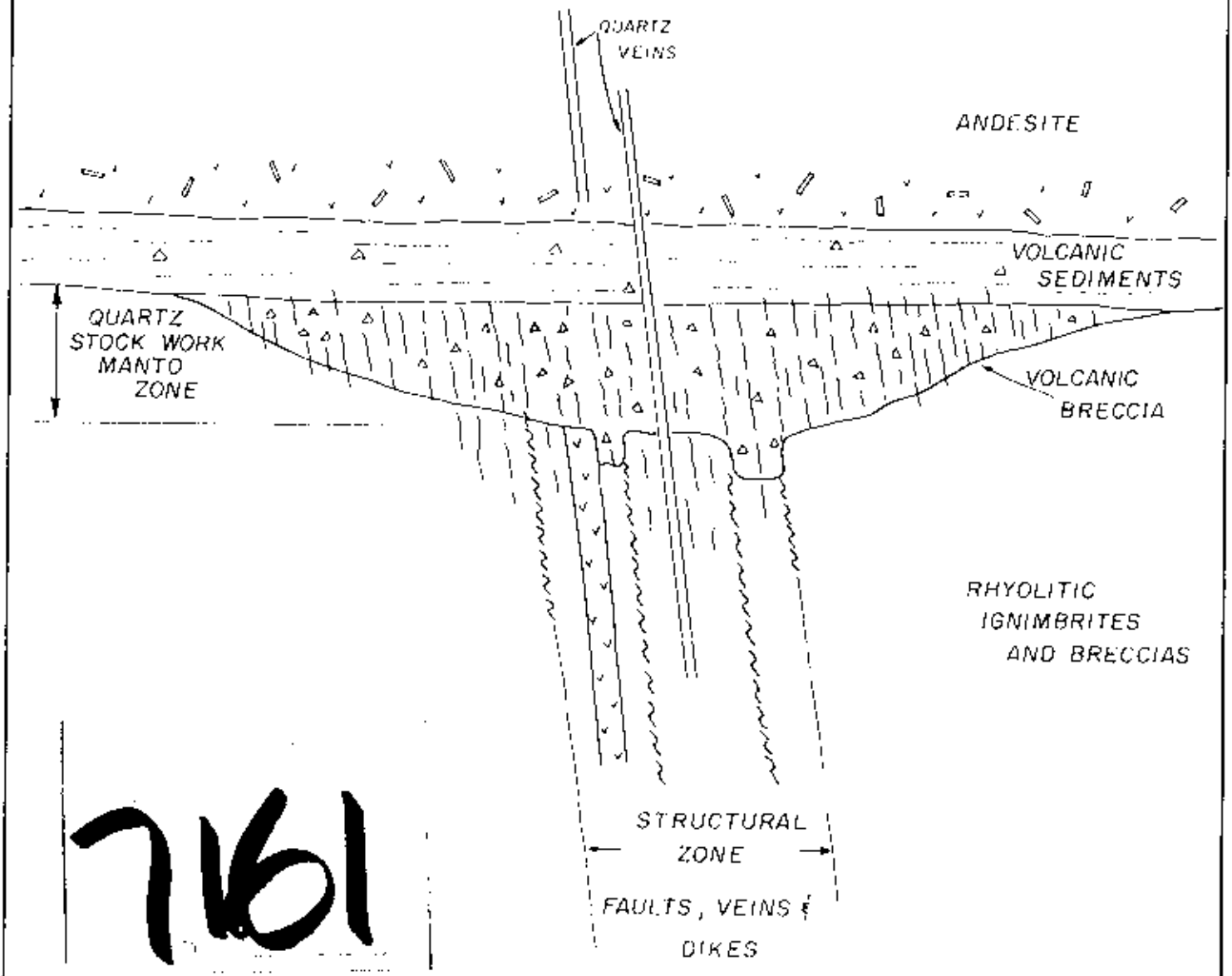


BLACK DOME EXPLORATION LTD.	
IDEALIZED GEOLOGIC SECTION of BLACK DOME MOUNTAIN (LOOKING NORTH) DOME CLAIMS CLINTON MINING DIVISION, BRITISH COLUMBIA.	
Technical Work By: Kerr, Dawson and Assoc Ltd.	Scale: Hypothetical
Drawn By: W.G.	Date: December, 1978.
Approved By: J.M Dawson.	Drawing No. 161-6.

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA J. M. DAWSON

To accompany a report by J.M. Dawson, P.Eng.

7161



761

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. M. DAWSON

BLACK DOME EXPLORATION LTD.

SCHEMATIC CROSS SECTIONAL DIAGRAM SHOWING

PROSPECTIVE GOLD-SILVER BEARING MANTO

DOME CLAIMS

CLINTON MINING DIVISION, BRITISH COLUMBIA

Tech Work By Kerr, Dawson & Associates Ltd	Scale - Hypothetical
Drawn By W S	Date Dec 1978
Approved By J M Dawson, P Eng	Drawing No. 161-7

To accompany a report by J M Dawson, P Eng

GRID AREA COVERED BY DETAILED MAPS.

LEGEND

- 4 — Fine grained, dark brown to black basalt. Sometimes glassy and vesicular and sometimes with sheeting or columnar jointing.
- 3 — Fine grained to medium grained, gray to greenish gray andesite; frequently porphyritic.
- 2 — Thin bedded, poorly sorted volcaniclastic sediments
- 1 — White to buff and yellowish brown, frequently pyritic, flow banded rhyolitic ignimbrite, with interlayered breccia and pluty ash and tuff beds.

- Geological contact
- Quartz vein or vein zone
- Fault
- Outcrop area
- Adit
- X 80-22 — Location of rock geochemical sample taken in 1977.
- X DJ-16 — Location of rock geochemical sample taken in 1978
- ⊙ — Diamond drill hole location

- 100 — Topographic contour in meters (a.s.l.) (contour interval = 10 meters)
- Creek
- Pond or lake
- Road
- Trench outline
- Claim boundary with Legal Corner Post (L.C.P.)

To accompany a report by J.M. Dawson, P.Eng.

MINERAL RESOURCES DIVISION ASSESSMENT REPORT 7161

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA J.M. DAWSON

BLACK DOME EXPLORATION LTD.

PROPERTY GEOLOGY & ROCK SAMPLE LOCATIONS DOME CLAIMS

CLINTON MINING DIVISION, B.C.

TECHNICAL WORK BY: KERR, DAWSON AND ASSOCIATES LTD.	SCALE: 1:5,000 (100 0 100 200 Metres)
DRAWN BY: W.G.	DATE: DECEMBER, 1978.
APPROVED BY: J.M. DAWSON, P.ENG.	DRAWING NO. 161-8

TRENCH ASSAY DATA

TRENCH NO.	SAMPLED LENGTH(m)	SAMPLE INTERVAL(m)	Au (in gm/tonne)	Ag (in gm/tonne)	BEST SECTION
TRENCH 1	36 meters	0-4	0.005	0.2	
		4-8	0.04	0.2	
		8-12	0.068	4.8	
		12-16	1.197	28.4	12 m @ 5.67 g/tonne Au, 78.67 " " Ag
		16-20	15.39	197.3	
		20-24	0.410	10.3	
		24-28	0.075	1.3	
		28-32	0.215	0.7	
		32-36	0.000	0.7	
TRENCH 2	28 m	0-4	0.010	0.2	
		4-8	0.015	0.9	
		8-12	0.105	0.2	
		12-16	10.26	101.9	8m @ 5.26 g/tonne Au, 53.25 " " Ag
		16-20	0.273	4.6	
		20-24	0.070	0.9	
		24-28	0.060	0.3	
TRENCH 3	20 m	0-4	0.095	0.2	
		4-8	0.080	0.5	
		8-12	0.090	1.1	
		12-16	0.045	0.6	
		16-20	0.020	0.3	
TRENCH 4	16 m	0-4	0.155	0.9	
		4-8	1.026	56.4	8m @ 1.11 g/tonne Au, 64.1 " " Ag
		8-12	1.194	71.8	
		12-16	0.080	1.8	
TRENCH 5	24 m	0-4	0.030	0.4	
		4-8	0.010	0.3	
		8-12	0.040	0.4	
		12-16	0.015	0.9	
		16-20	2.76	41.0	4 m @ 2.76 g/tonne Au, 41.0 " " Ag
		20-24	0.120	1.4	
TRENCH 6	60 m	0-4	0.103	3.1	
		4-8	1.710	4.5	4 m @ 1.7 g/tonne Au, 4.5 " " Ag
		8-12	0.305	0.8	
		12-16	0.215	0.4	
		16-20	0.255	0.3	
		20-24	0.720	0.3	
		24-28	0.325	0.5	
		28-32	0.445	0.7	
		32-36	0.120	0.3	
		36-40	0.320	1.3	
		40-44	0.205	1.7	
		44-48	0.273	3.1	
		48-52	0.445	6.5	
		52-56	0.090	0.6	
		56-60	0.055	0.4	
TRENCH 7	52 m	0-4	0.010	1.8	
		4-8	0.240	0.6	
		8-12	0.315	1.5	
		12-16	0.335	1.9	
		16-20	5.130	88.9	16 m @ 2.04 g/tonne Au, 35.9 " " Ag
		20-24	1.368	34.2	
		24-28	0.855	17.1	
		28-32	0.787	3.4	
		32-36	0.068	4.8	
		36-40	0.030	0.3	
		40-44	0.010	0.2	
		44-48	0.005	0.2	
		48-52	0.005	0.2	
TRENCH 8	60 m	0-4	<0.005	0.2	
		4-8	<0.005	0.2	
		8-12	0.095	0.2	
		12-16	0.025	0.2	
		16-20	<0.005	0.2	
		20-24	0.165	0.2	4m @ 0.165 g/tonne Au, 0.2 " " Ag
		24-28	0.030	0.2	
		28-32	0.015	0.2	
		32-36	0.020	0.2	
		36-40	0.010	0.6	
		40-44	0.010	0.6	
		44-48	0.005	0.2	
		48-52	0.005	0.4	
		52-56	<0.005	0.2	
		56-60	0.005	0.2	
TRENCH 9	68 m	0-4	0.020	0.2	
		4-8	0.170	0.6	
		8-12	0.220	0.5	
		12-16	0.375	0.7	4 m @ 0.375 g/tonne Au, 0.7 " " Ag
		16-20	0.115	0.4	
		20-24	0.195	0.7	
		24-28	0.065	0.2	
		28-32	0.010	0.2	
		32-36	0.005	0.2	
		36-40	0.015	0.2	
		40-44	0.010	0.2	
		44-48	0.010	0.3	
		48-52	0.005	0.3	
		52-56	<0.005	0.2	
		56-60	<0.005	0.3	
		60-64	<0.005	0.3	
		64-68	0.005	0.3	
TRENCH 10	NO SAMPLES				
TRENCH 11	NO SAMPLES				
TRENCH 12	28 m	0-4	0.055	1.4	
		4-8	0.137	3.1	
		8-12	0.080	1.5	
		12-16	0.095	1.4	
		16-20	0.090	0.9	
		20-24	0.215	0.6	4m 0.215 g/tonne Au, 0.6 g/tonne Ag
		24-28	0.055	0.4	
TRENCH 13	24 m	0-4	0.445	6.8	8 m @ 1.248 g/tonne Au, 4.6 " " Ag
		4-8	2.052	2.4	
		8-12	0.110	1.3	
		12-16	0.410	1.0	
		16-20	0.540	0.4	
		20-24	0.175	0.5	
TRENCH 14	36 m	0-4	NO SAMPLE		
		4-8	0.115	0.5	
		8-12	0.342	15.1	8 m @ 0.359 g/tonne Au, 15.3 " " Ag
		12-16	0.376	15.4	
		16-20	0.335	1.0	
		20-24	0.110	0.6	
		24-28	0.220	0.6	
		28-32	0.280	0.4	
		32-36	0.160	0.4	
		36-40	0.075	0.6	
TRENCH 15	36 m	0-4	0.095	0.7	
		4-8	0.045	0.5	
		8-12	0.225	1.5	
		12-16	0.137	3.1	
		16-20	0.485	1.0	4m @ 0.485 g/tonne Au, 1.0 " " Ag
		20-24	0.265	0.6	
		24-28	0.155	0.7	
		28-32	0.280	0.9	
		32-36	0.285	0.8	
TRENCH 16	32 m	0-4	0.270	0.6	
		4-8	0.055	0.6	
		8-12	0.090	0.6	
		12-16	0.090	0.8	
		16-20	2.907	3.4	4 m @ 2.907 g/tonne Au, 3.4 " " Ag
		20-24	0.075	1.0	
		24-28	0.310	1.2	
		28-32	0.640	0.6	
TRENCH 17	32 m	0-4	0.035	0.8	
		4-8	0.285	0.8	
		9-12	1.436	2.1	4m @ 1.436 g/tonne Au, 2.1 " " Ag
		12-16	0.195	0.8	
		16-20	0.515	5.1	
		20-24	0.085	0.7	
		24-28	0.240	0.6	
		28-32	0.210	1.1	
TRENCH 18	40 m	0-4	0.020	0.6	
		4-8	0.045	0.8	
		8-12	0.080	0.5	
		12-16	0.105	0.9	
		16-20	0.479	10.3	8m @ 0.377 g/tonne Au, 6.7 " " Ag
		20-24	0.274	3.1	
		24-28	0.068	2.7	
		28-32	0.410	8.9	
		32-36	0.445	8.9	
		36-40	0.115	1.5	
TRENCH 19	35 m	0-4	0.005	0.4	
		4-8	0.010	0.5	
		8-12	0.005	0.3	
		12-16	3.078	130.0	8m @ 3.20 g/tonne Au, 138.8 " " Ag
		16-20	3.326	147.7	
		20-24	0.068	2.7	
		24-28	0.095	1.5	
		28-32	0.040	1.1	
		32-35	1.026	1.4	

LEGEND

- 4 — Fine grained, dark brown to black basalt.
- 3 — Fine to medium grained, greenish gray, commonly porphyritic andesite.
- 2 — Thin bedded, poorly sorted, volcaniclastic sediments.
- 1 — White to buff and yellowish brown, frequently pyritic rhyolitic ignimbrite with interlayered breccia and platy ash and tuff beds.
- Geological contact
- Quartz vein or vein zone
- Outcrop area
- Trench with length sample location.
- Diamond drill hole location.
- X 0.6/500 Location of rock geochem sample with Ag(ppm) values / Au(ppb)

NOTE: grams/tonne X 0.029 = Troy oz./short ton
troy oz./short ton X 34.2 = grams/tonne

7161

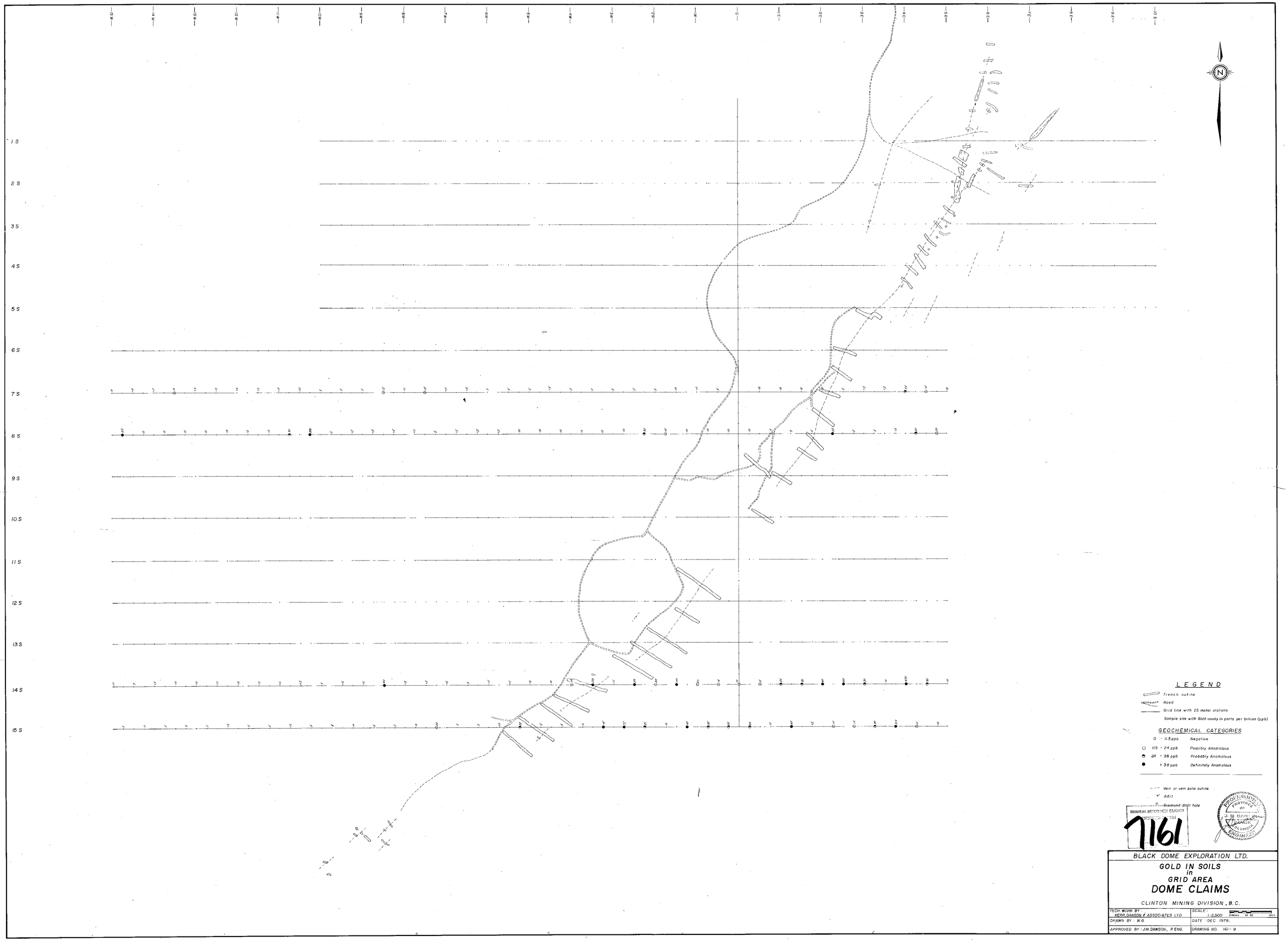
To accompany a report by J.M. Dawson, P.Eng.

BLACK DOME EXPLORATION LTD.

ASSAY AND GEOLOGICAL PLAN GRID AREA DOME CLAIMS

CLINTON MINING DIVISION, B.C.

TECH. WORK BY: KERR, DAWSON & ASSOCIATES LTD.	SCALE: 1:2,500 (0 Meters 40 50 100m.)
DRAWN BY: W.G.	DATE: DEC. 1978.
APPROVED BY: J.M. DAWSON, P.ENG.	DRAWING NO. 161-8 A



LEGEND

- Trench outline
- Road
- Grid line with 25 meter stations
- Sample site with Gold assay in parts per billion (ppb)

GEOCHEMICAL CATEGORIES

0	- 11.5 ppb	Negative
○	11.5 - 24 ppb	Possibly Anomalous
◓	24 - 38 ppb	Probably Anomalous
●	> 38 ppb	Definitely Anomalous

- Vein or vein zone outline
- Adit
- Diamond drill hole

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
7161

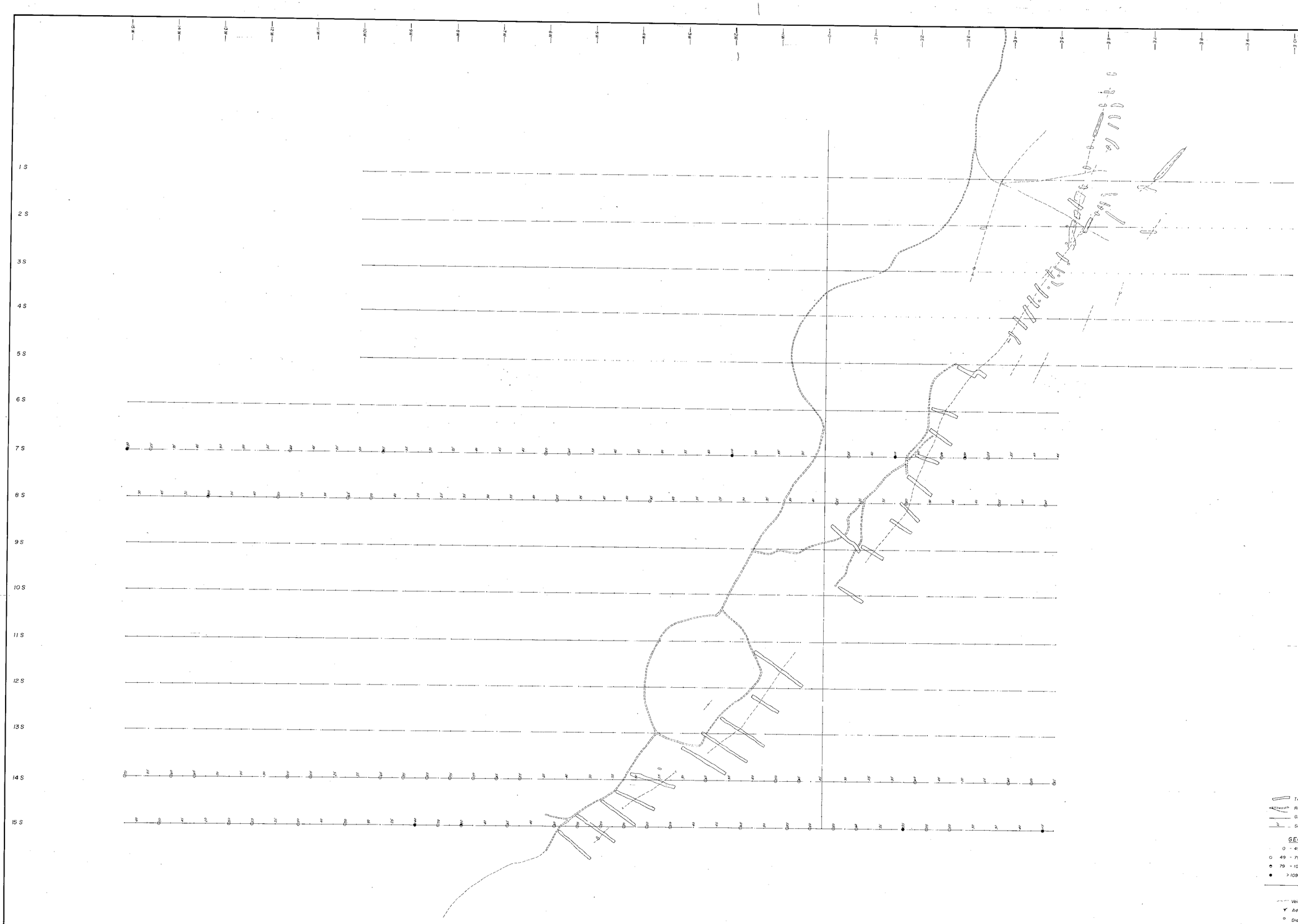
PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. M. DAWSON

BLACK DOME EXPLORATION LTD.

GOLD IN SOILS in GRID AREA DOME CLAIMS

CLINTON MINING DIVISION, B.C.

TECH. WORK BY: KERR, DAWSON & ASSOCIATES LTD.	SCALE: 1:2,500 (0 Meters 50 50 100+)
DRAWN BY: W.G.	DATE: DEC. 1978.
APPROVED BY: J.M. DAWSON, P.ENG.	DRAWING NO. 161-9



LEGEND

- Trench outline
- Road
- Grid line with 25 meter stations
- Sample site with Mercury assay in parts per billion (ppb)

GEOCHEMICAL CATEGORIES

○	0 - 49 ppb	Negative
◎	49 - 79 ppb	Possibly Anomalous
◉	79 - 109 ppb	Probably Anomalous
●	> 109 ppb	Definitely Anomalous

- Vein or vein zone outline
- Adit
- Diamond drill hole

PROFESSIONAL ENGINEER PROVINCE OF BRITISH COLUMBIA J. M. DAWSON

7161

BLACK DOME EXPLORATION LTD.

MERCURY IN SOILS in GRID AREA DOME CLAIMS

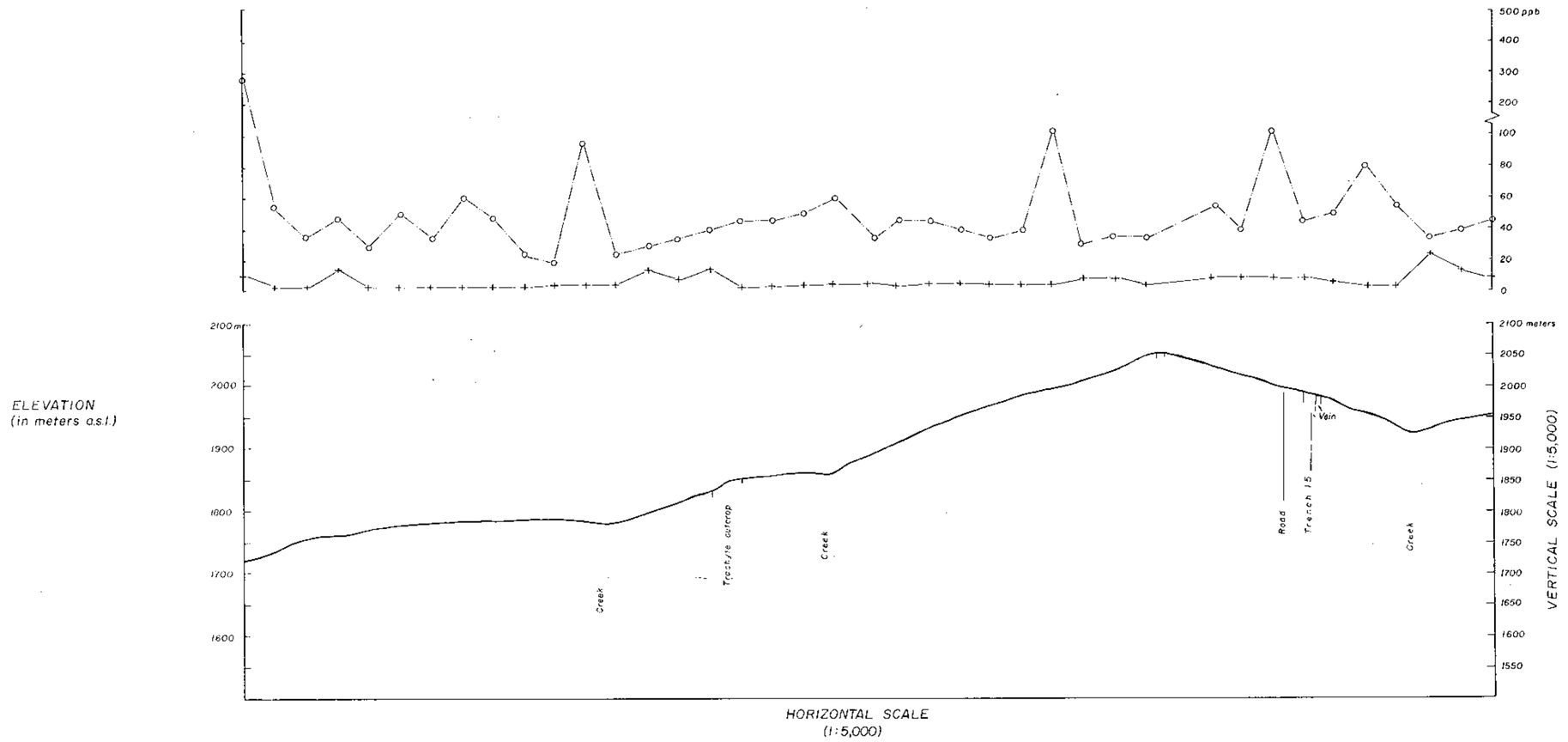
CLINTON MINING DIVISION, B.C.

TECH. WORK BY: KERR, DAWSON & ASSOCIATES LTD.	SCALE: 1:2,500 (0 Metres 40 80 120 m)
DRAWN BY: W.G.	DATE: DEC. 1978.
APPROVED BY: J.M. DAWSON, P.ENG.	DRAWING NO. 161-10

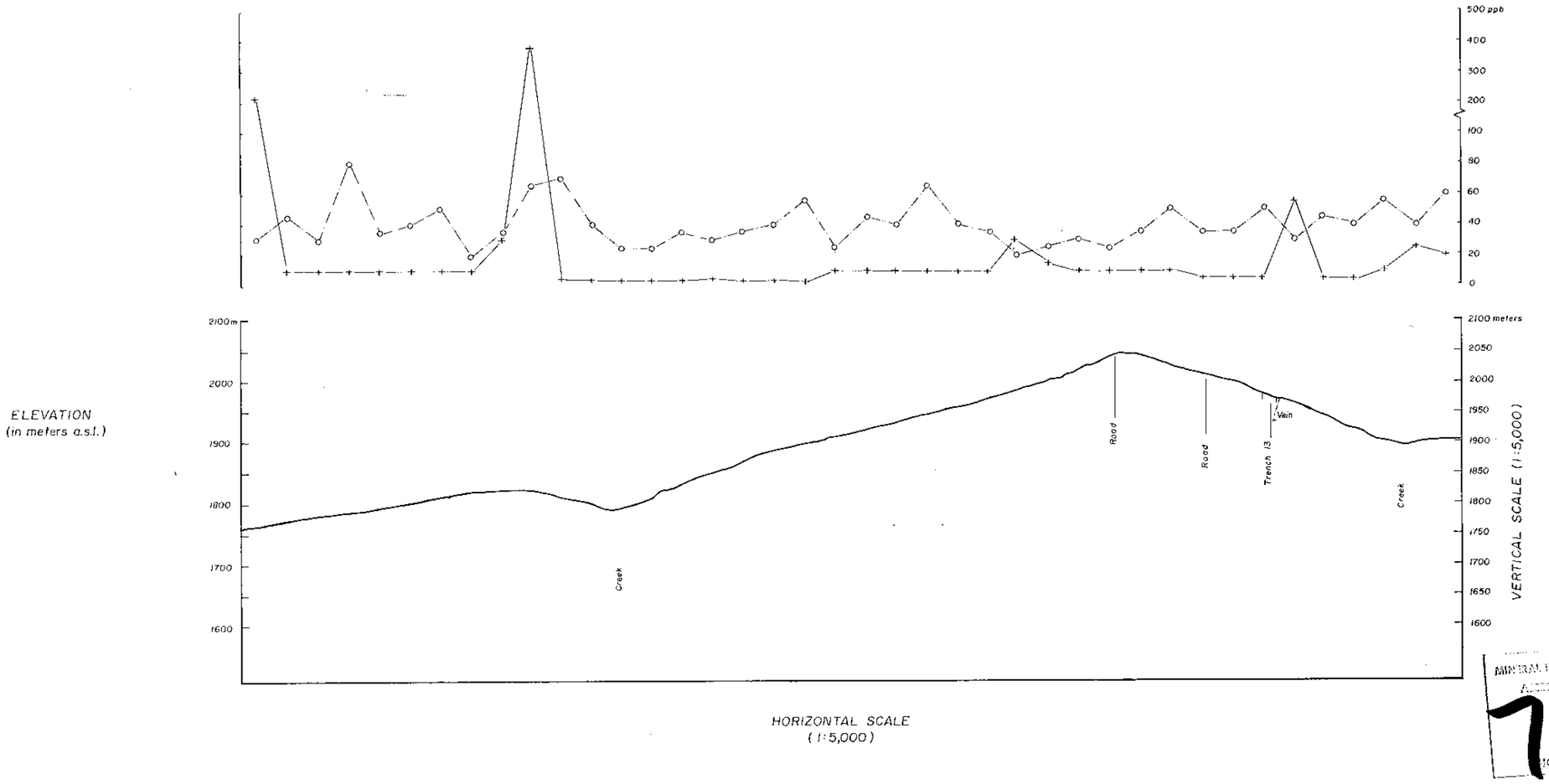
LINE 7S

WEST

EAST



LINE 8S



MINERAL [illegible]

7161

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. M. DAWSON

To accompany a report by J. M. Dawson, P.Eng.

BLACK DOME EXPLORATION LTD.

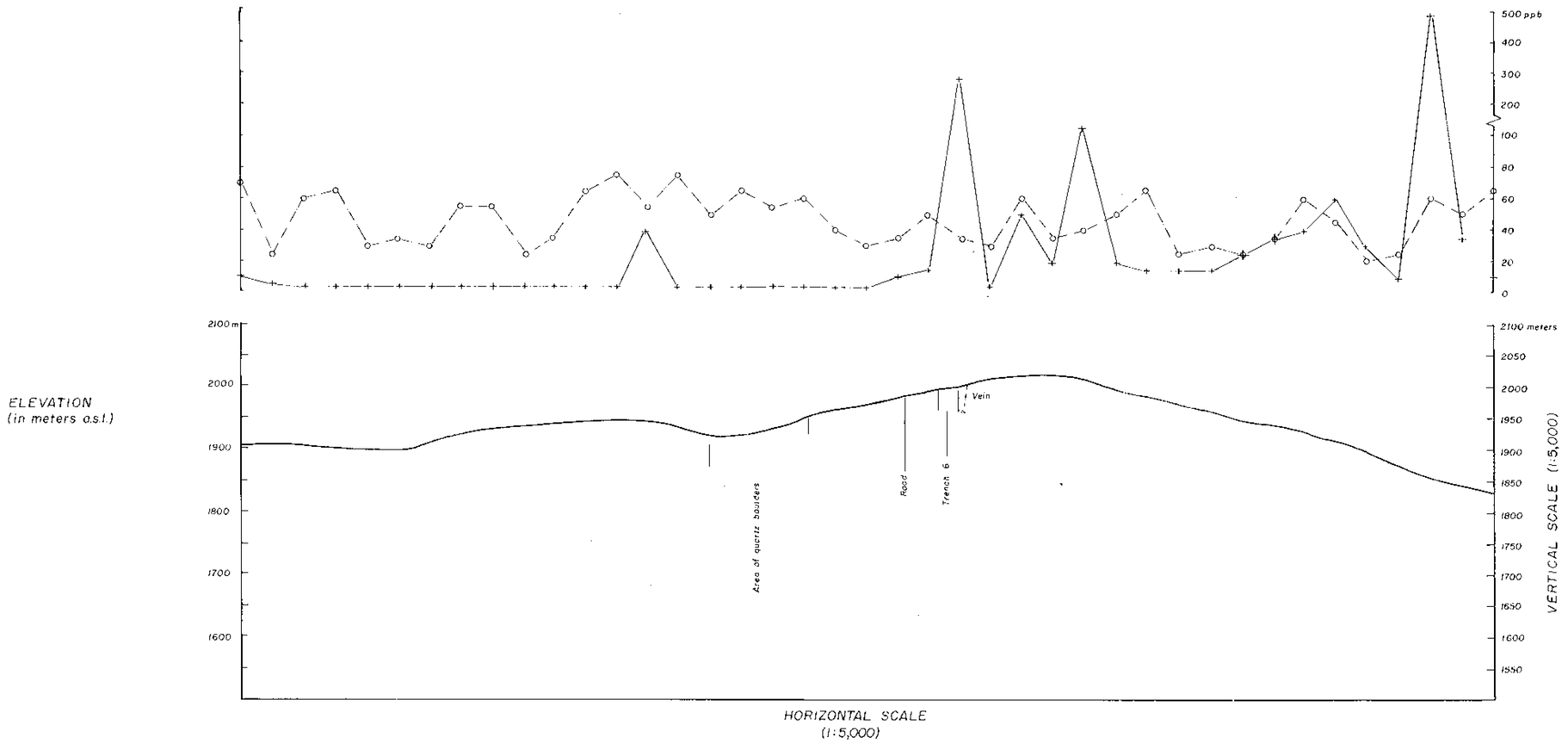
GOLD AND MERCURY PROFILES
- FOR -
LINES 7S & 8S
(INCLUDING TOPOGRAPHY AND GEOLOGY)
DOME CLAIMS
CLINTON MINING DIVISION, B.C.

TECH. WORK BY : KERR, DAWSON AND ASSOCIATES LTD.	SCALE : HORIZ. 1:5,000 VERT. 1:5,000
DRAWN BY W.G.	DATE : DEC 1978.
APPROVED BY : J.M. DAWSON, P.ENG.	DRAWING NO. 161 - 11

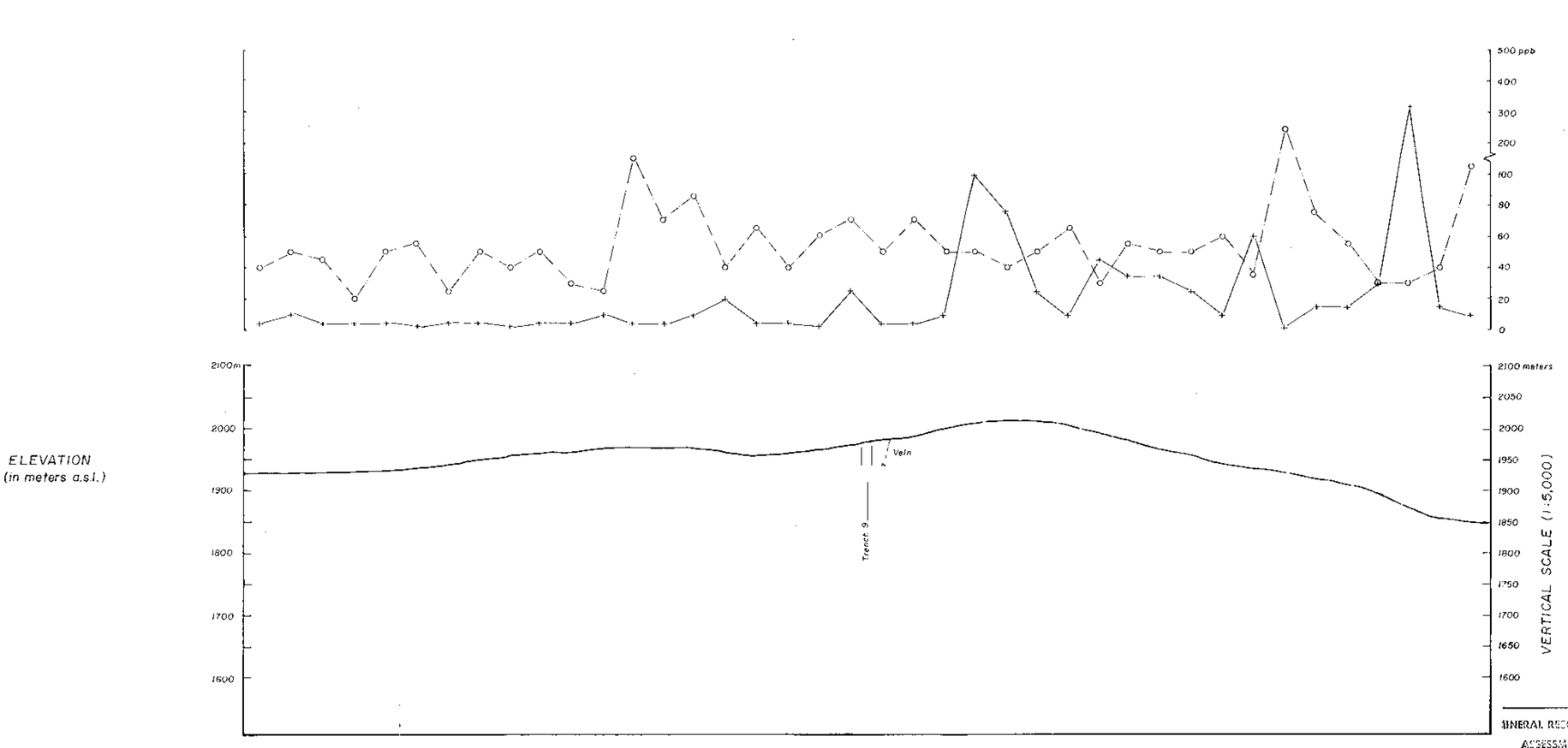
LINE 14S

WEST

EAST



LINE 15S



To accompany a report by J M Dawson, P Eng

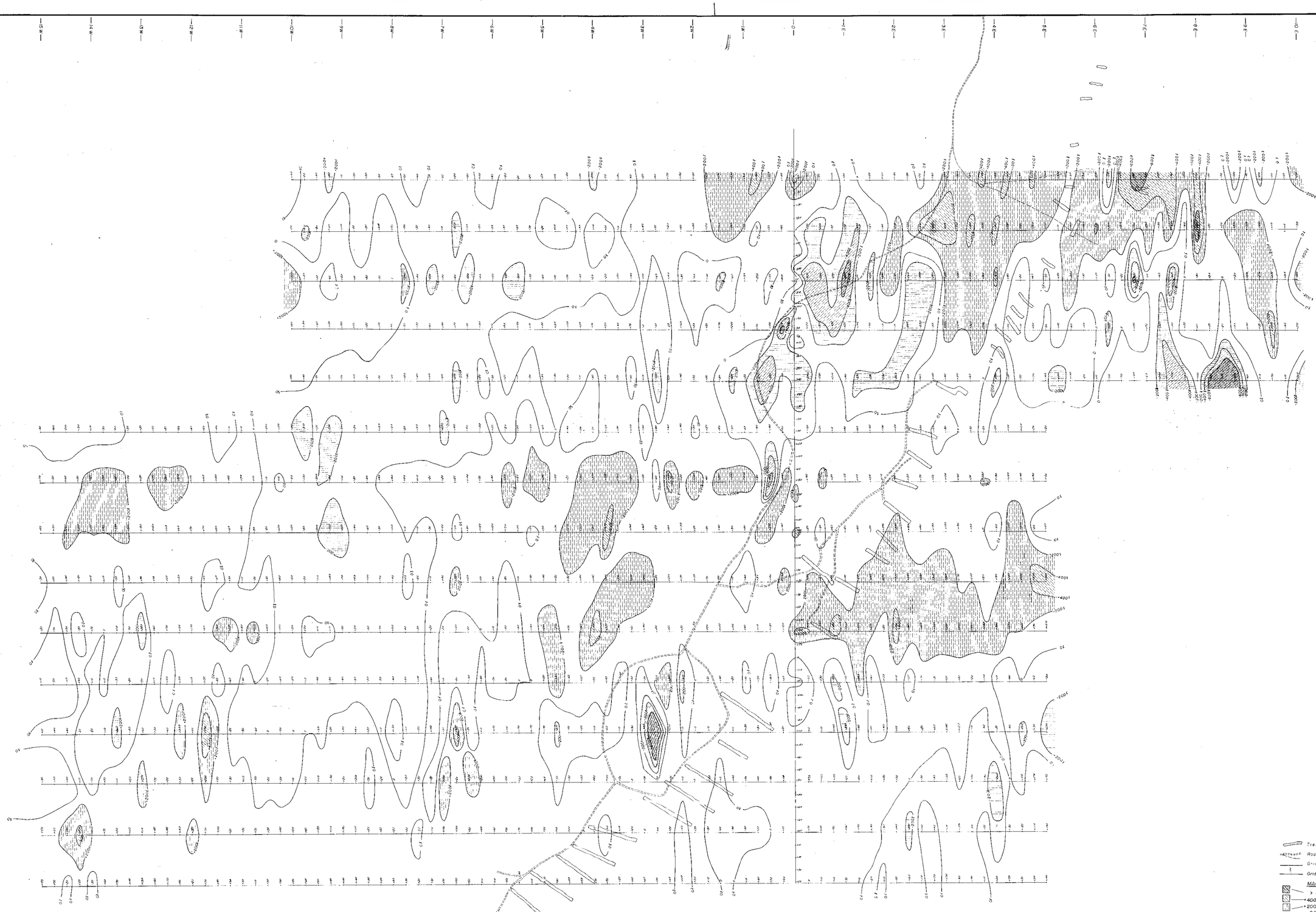
BLACK DOME EXPLORATION LTD.

GOLD AND MERCURY PROFILES
- FOR -
LINES 14S & 15S
(INCLUDING TOPOGRAPHY AND GEOLOGY)

DOME CLAIMS

CLINTON MINING DIVISION, B.C.

TECH WORK BY : KERR, DAWSON AND ASSOCIATES LTD.	SCALE HORIZ. 1:5,000 VERT. 1:5,000
DRAWN BY W.G	DATE DEC 1978.
APPROVED BY : J M DAWSON, P ENG	DRAWING NO 161-12



LEGEND

- Trench outline
- Road
- Grid line with 25 meter stations
- Grid station with magnetic readings in gammas (γ).

MAGNETIC CONTOUR INTERVALS

- > +600 γ
- +400 γ to +600 γ
- +200 γ to +400 γ
- 0 γ to +200 γ — Approximate mean
- 0 γ to -200 γ — Approximate mean
- -200 γ to -400 γ
- -400 γ to -600 γ
- < -600 γ

MINERAL RESOURCES BRANCH
GEOLOGICAL SURVEY BRANCH
7161

ENGINEERS
PROVINCE OF
J. M. DAWSON
BRITISH
COLUMBIA

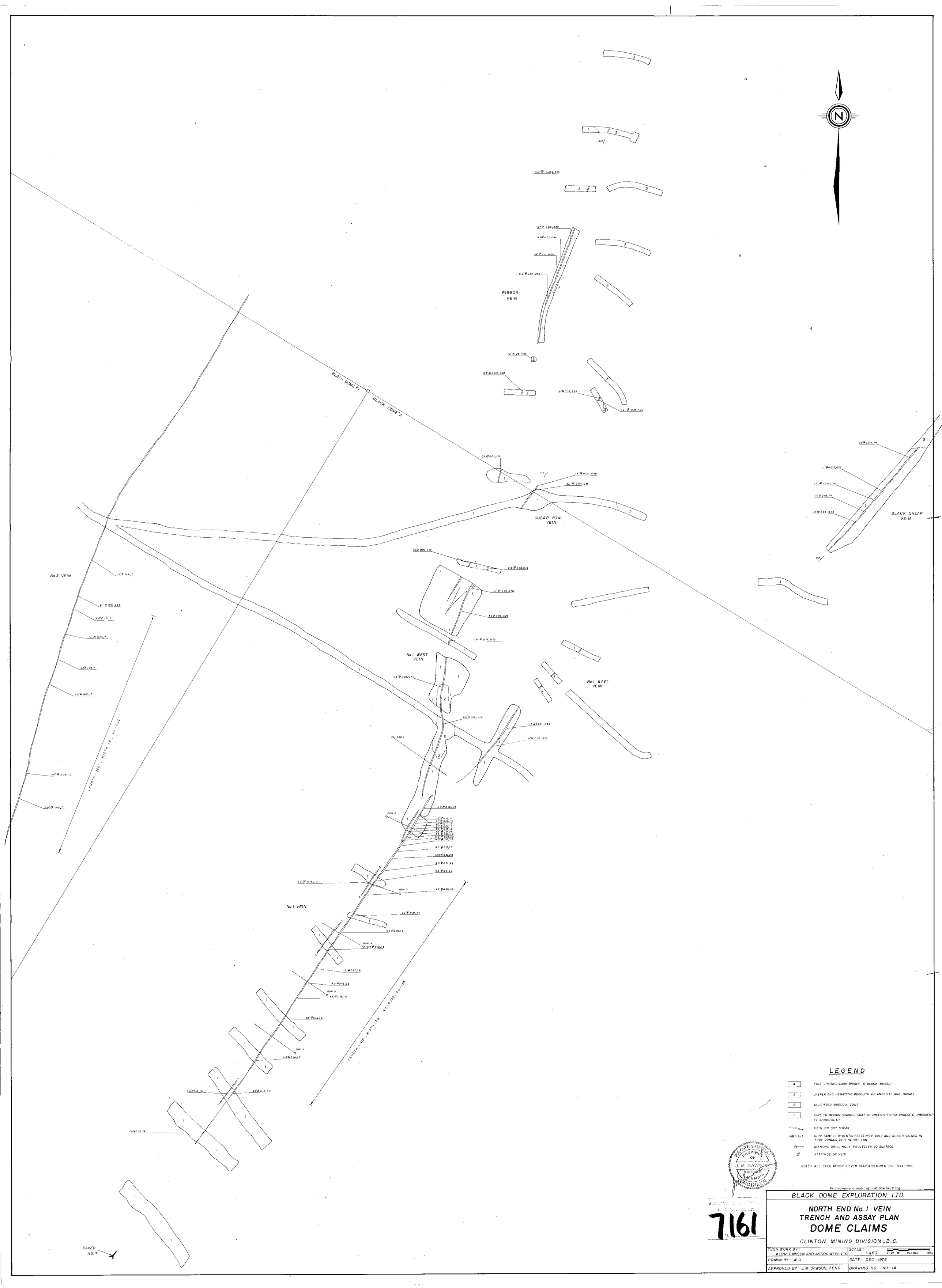
BLACK DOME EXPLORATION LTD.

MAGNETOMETER SURVEY IN GRID AREA

DOME CLAIMS

CLINTON MINING DIVISION, B.C.

TECH. WORK BY: KERR, DAWSON & ASSOCIATES LTD	SCALE: 1:2,500 (0 Meters 40 to 100)
DRAWN BY: W.G.	DATE: DEC. 1978.
APPROVED BY: J.M. DAWSON, P.ENG.	DRAWING NO. 161-13



LEGEND

- 4 — FINE GRAINED, DARK BROWN TO BLACK BASALT
- 3 — JASPER AND HEMATITIC REGOLITH OF ANDESITE AND BASALT
- 2 — SILICIFIED BRECCIA ZONE
- 1 — FINE TO MEDIUM GRAINED, GRAY TO GREENISH GRAY ANDESITE, FREQUENTLY PORPHYRITIC
- VEIN OR DRY SHEAR
- #@ 0.15, 1.7 — CHIP SAMPLE WIDTH (IN FEET) WITH GOLD AND SILVER VALUES IN THOUSANDS OF OUNCES PER SHORT TON
- DIAMOND DRILL HOLE PROJECTED TO SURFACE
- 71° — ATTITUDE OF VEIN

NOTE: ALL DATA AFTER SILVER STANDARD MINES LTD. 1954-1958

PROFESSIONAL ENGINEER
PROVINCE OF BRITISH COLUMBIA
J. M. DAWSON

To accompany a report by J.M. Dawson, P.Eng.

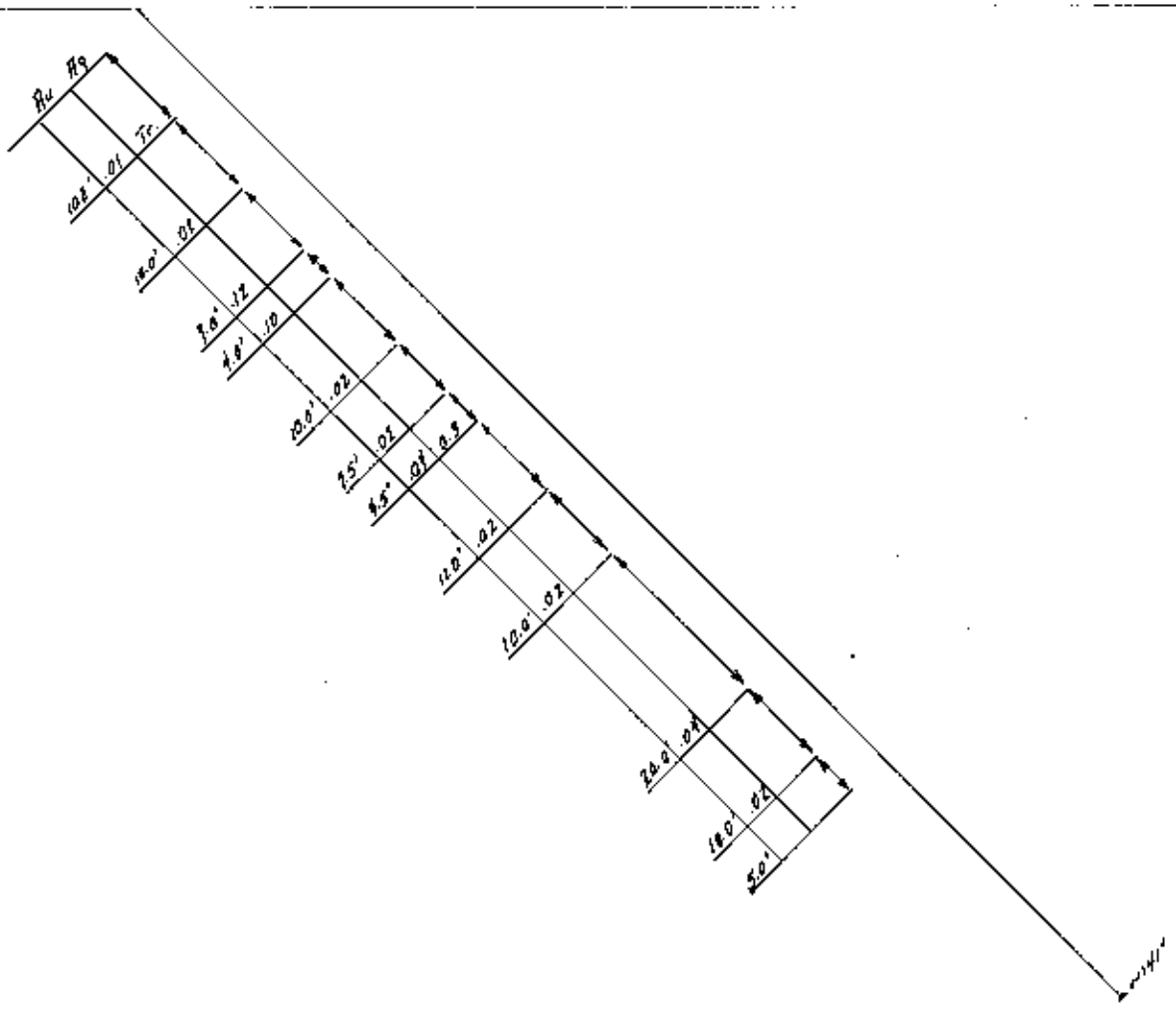
ASSESSMENT REPORT
7161

BLACK DOME EXPLORATION LTD.

NORTH END No. 1 VEIN TRENCH AND ASSAY PLAN DOME CLAIMS

CLINTON MINING DIVISION, B.C.

TECH. WORK BY: KERR, DAWSON AND ASSOCIATES LTD	SCALE: 1:480 (0 24 48 96 meters 192m)
DRAWN BY: W.G.	DATE: DEC., 1978
APPROVED BY: J.M. DAWSON, P.ENG.	DRAWING NO. 161-14



7161

BLACK DOME PROPERTY

Section through DDH #1

STRIKE S 55° E

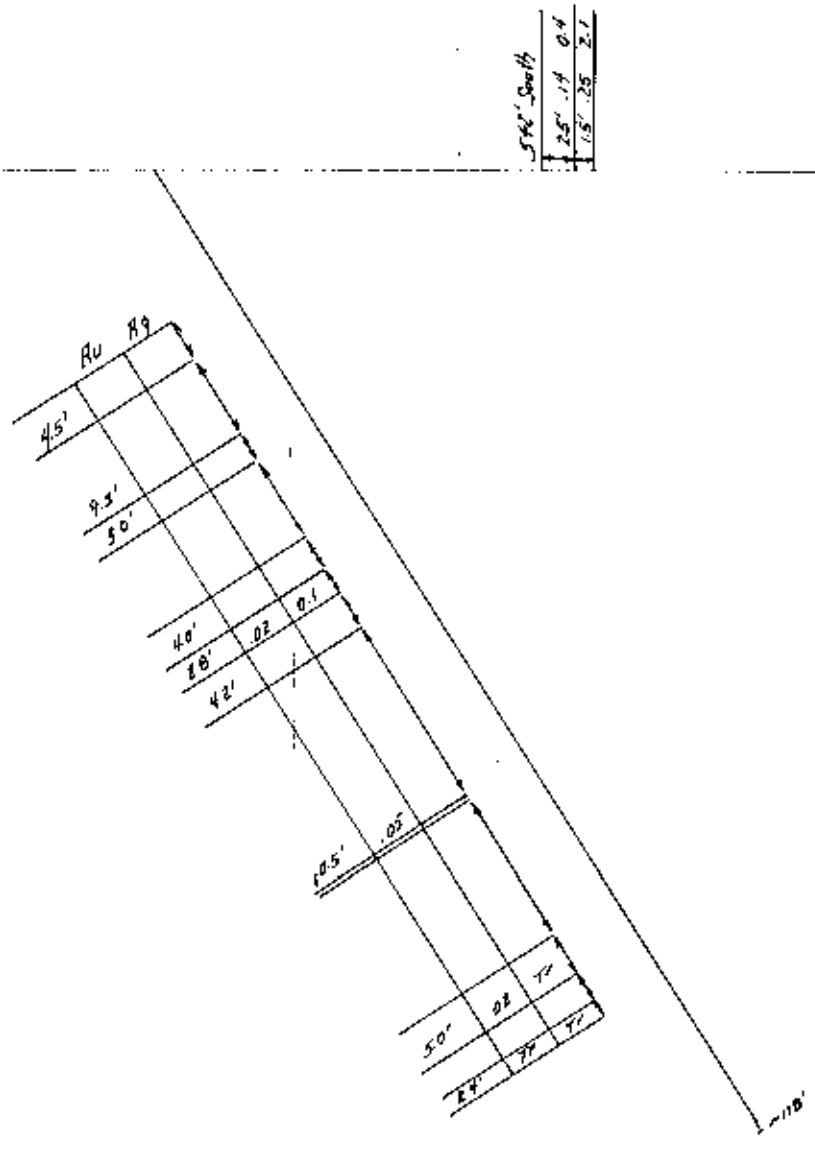
DIP -45°

SCALE 1" = 20'

DATE JULY, 1954

NOTE : DATA AFTER SILVER STANDARD MINES, 1954.

DWG. NO. 161-15



BLACK DOME PROPERTY

Section through DDH #2

STRIKE S 65° E

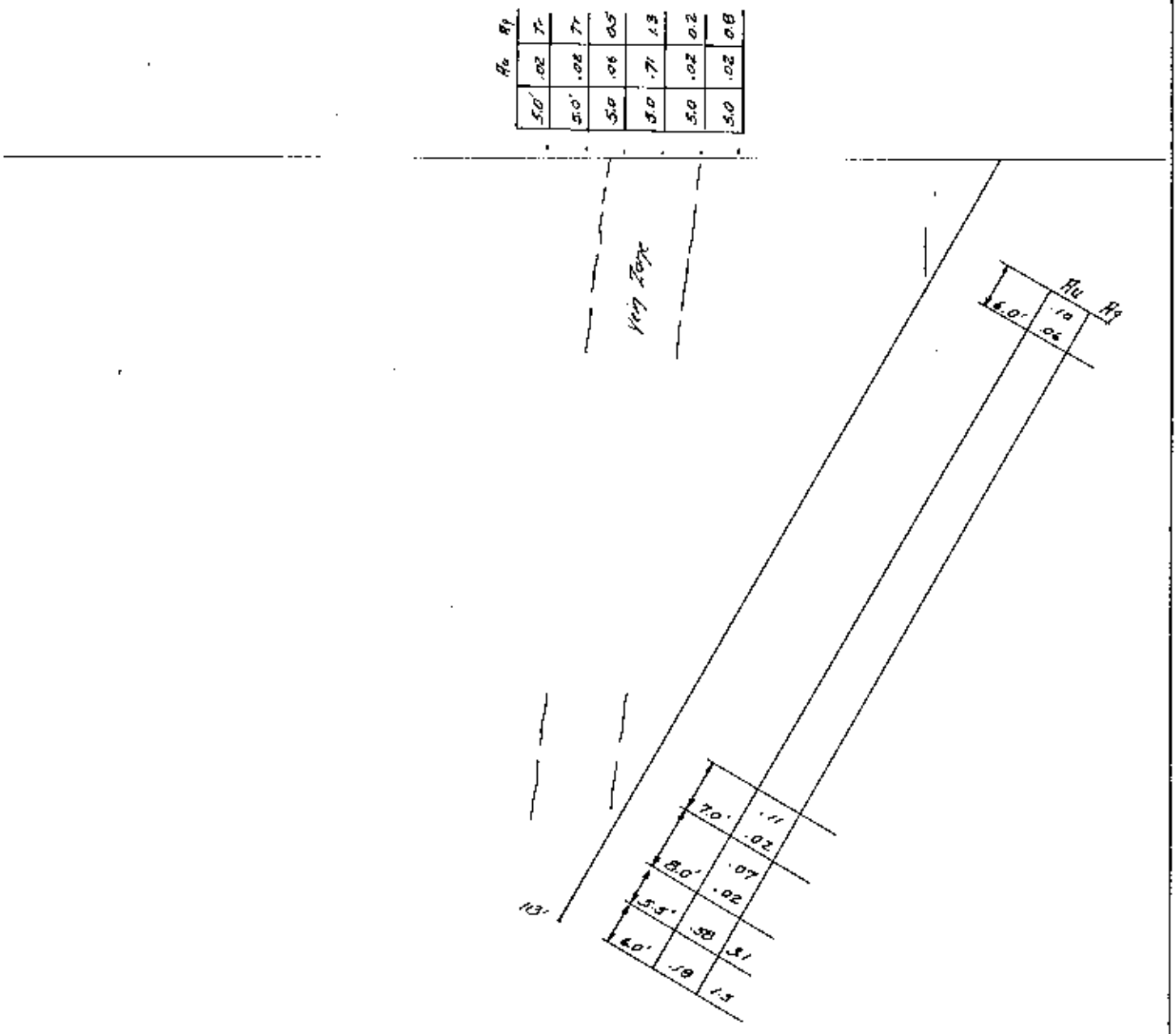
DIP -59°

SCALE 1" = 20'

DATE JULY, 1954

NOTE : DATA AFTER SILVER STANDARD MINES, 1954.

DWG. NO. 161-16



BLACK DOME PROPERTY

Section through DDH #3

STRIKE S 70° E

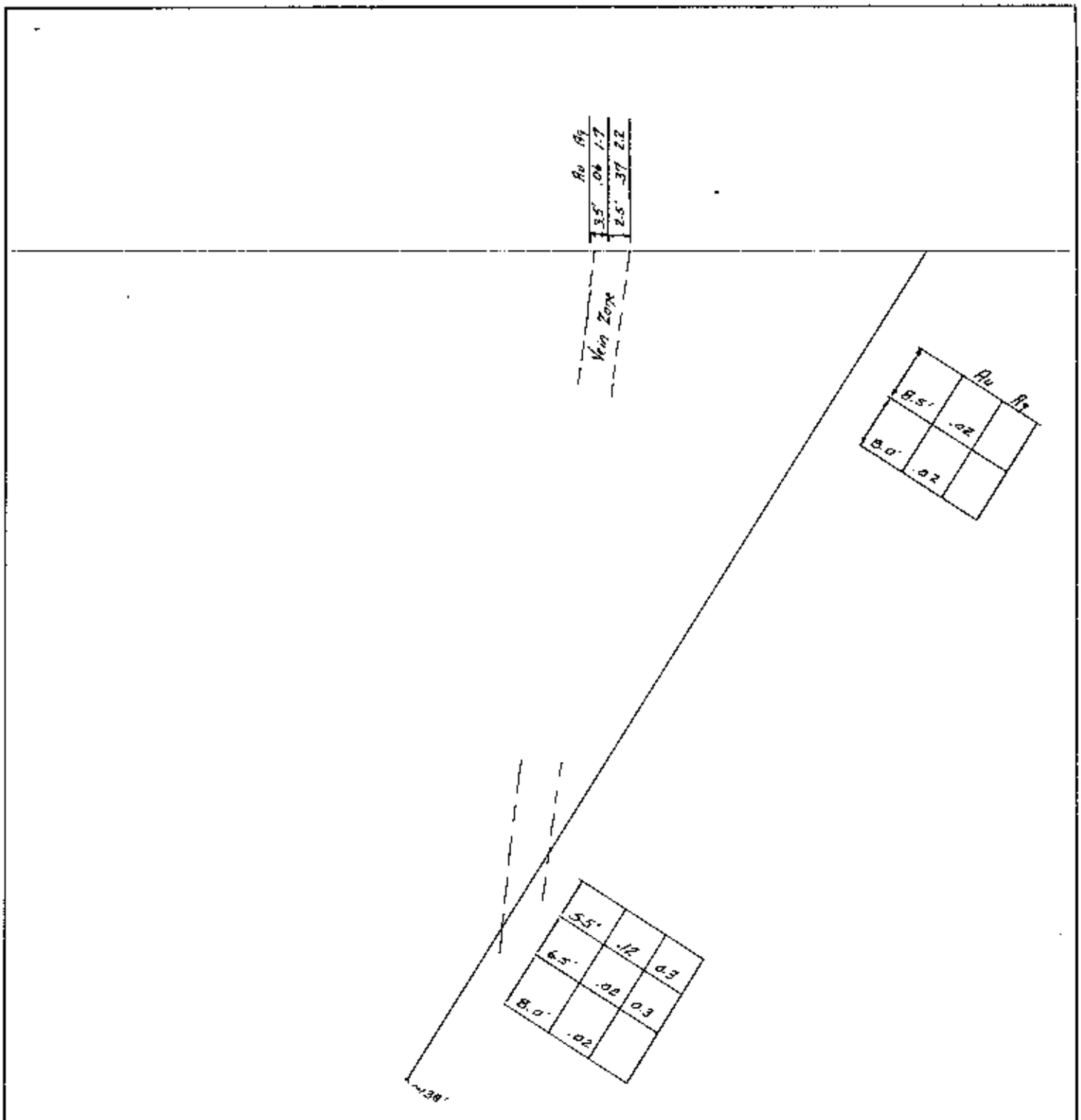
DIP -60°

SCALE 1" = 20'

DATE JULY, 1954

NOTE : DATA AFTER SILVER STANDARD MINES, 1954.

DWG NO. 161-17



7161

BLACK DOME PROPERTY

Section through DDH #4

STRIKE S 60° E

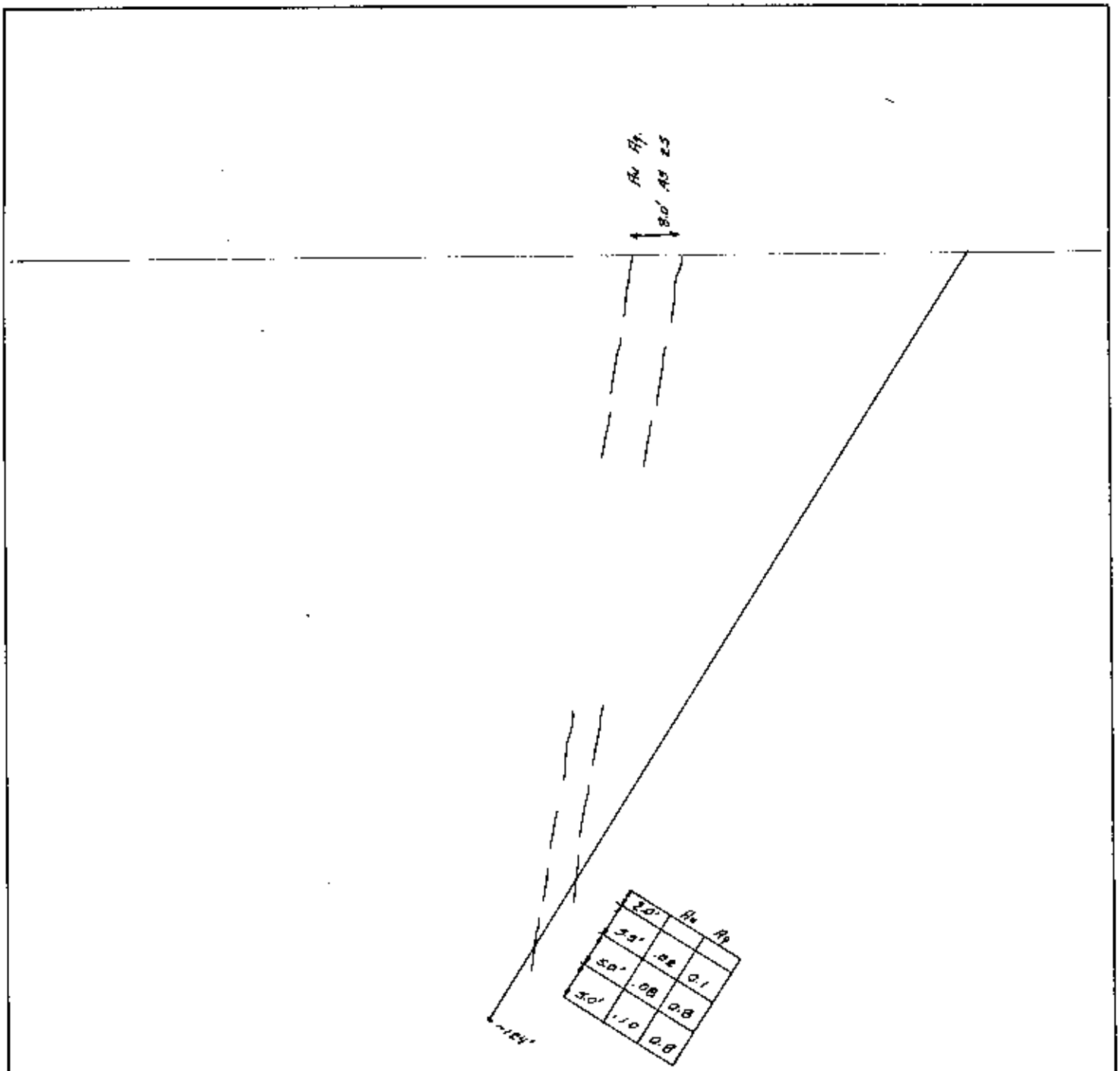
DIP -58°

SCALE 1" = 20'

DATE JULY, 1954

NOTE . DATA AS TO SILVER STANDARD MINES, 1954.

DWG. NO. 161-18



BLACK DOME PROPERTY

Section through DDH #5

STRIKE N 55°W

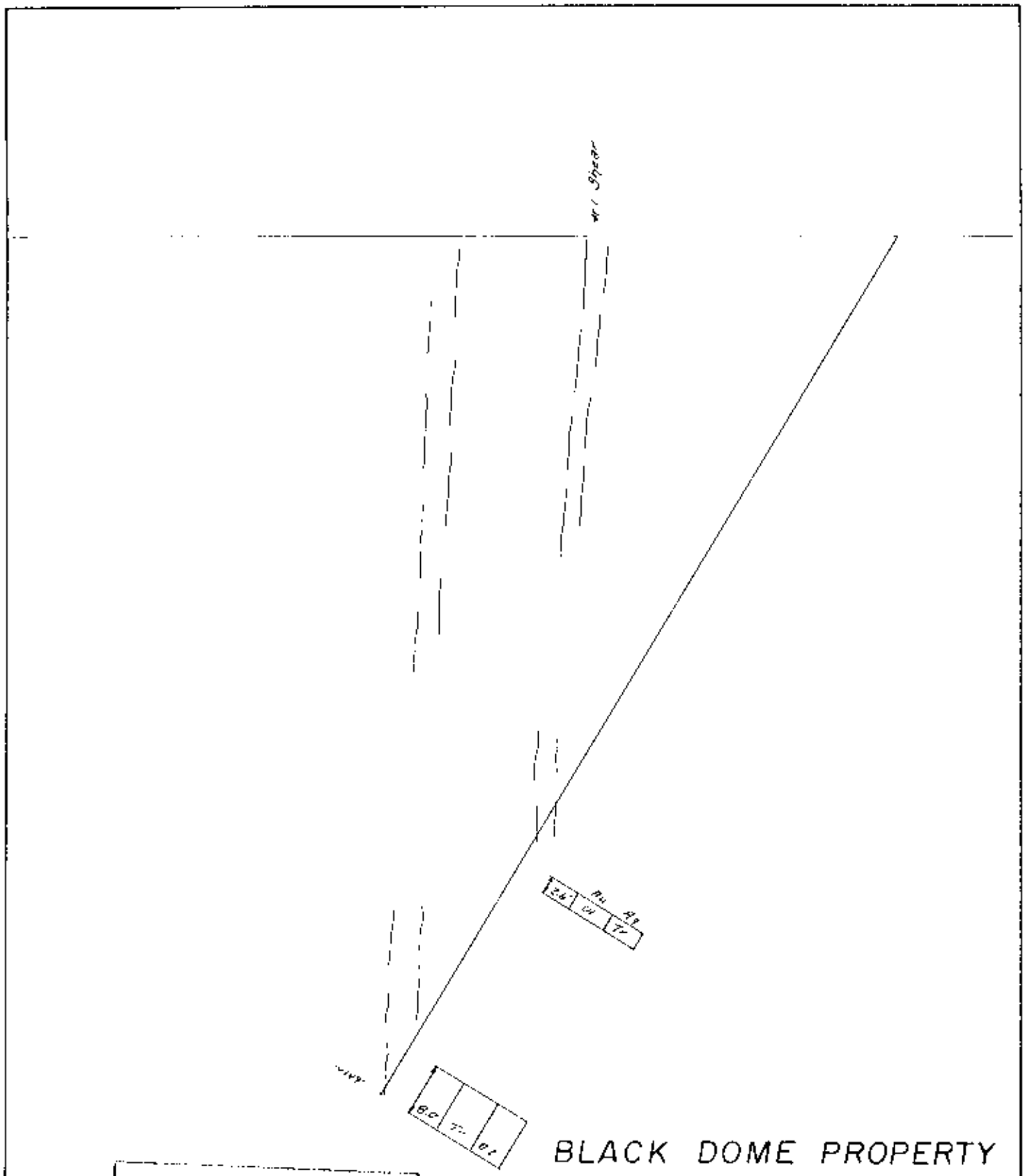
DIP -58°

SCALE 1" = 20'

DATE JULY, 1954

NOTE : DATA AFTER SILVER STANDARD MINES, 1954.

DWG. NO. 161-19



BLACK DOME PROPERTY

Section through DDH #6

STRIKE

DIP -58°

SCALE 1" = 20'

DATE JULY, 1954

NOTE DATA AFTER SILVER STANDARD MINES, 1954.

DWG NO 161-20