DIAMOND DRILL HOLE

REPORT FOR ASSESSMENT WORK

ON THE

LONE SILVER PROPERTY
(aka Lone Star)

NELSON MINING DISTRICT

BRITISH COLUMBIA

NTS 82 F/3

Latitude 49°03'N
Longitude 117°16'E

June, 1992
Doyle F. Albers

Orvana Resources
Coeur d' Alene, Idaho

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Summary

The Lone Silver Property (aka Lone Star), located 14km south of Salmo, B.C. at Rosebud Lake was optioned as a joint venture project between Corona and Orvana Resources in 1991. The property is considered to be a potential host for large scale structurally controlled Au-Ag mineralization.

Corona completed a soil sampling grid over part of the sturcture in 1988, but failed to delineate any large anomalous areas of mineralization. Very little subsurface data exists for this property; therefore, Orvana decided to test the structure by drilling an angle hole to intersect the plane of the fault at depth.

A diamond drill hole on an azimuth of 310 degrees and an inclination of -60 degrees to a depth of 160m was completed in March 1992. The geochemical results of samples from this hole are still pending, but only minor areas of mineralization were encountered (<1% of core with 0.5% tetrahedrite 1-2% galena, 2-3% sphalerite, 3-5% pyrite). This hole showed an increasing frequency of dykes (sub parallel to bedding) at depth, but failed to penetrate the entire fault zone.

Location and Access

Orvana's Lone Silver (aka Lone Star) property is located in southeastern British Columbia approximately 60km east of Grand Forks (Fig.1) off Highway #3, 14km south of Salmo, at Rosebud Lake. The claim blocks are 2km south of the confluence of the Salmo and South Salmo Rivers in the Nelson Mining District (Fig.2). Access to the claims is by all weather gravel road.

Physiography

The claims are situated in an area of moderate relief around Rosebud Lake with extensive pine, spruce, larch and balsam forest. Some swamps and intermittent creeks are also present.

Claim Status

The Lone Silver Property consists of three consolidated groups of claims (see Fig.2) as described below:

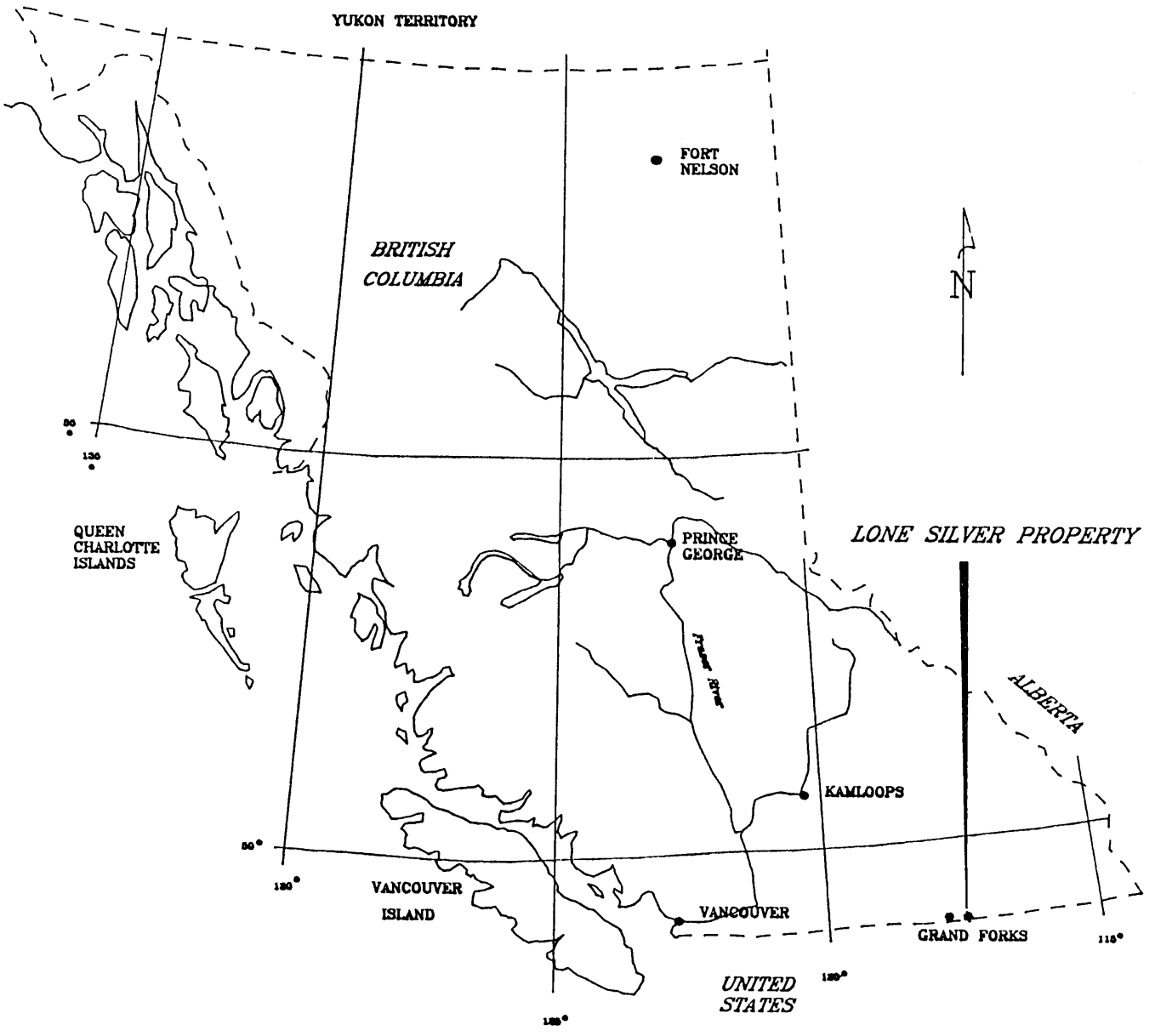
Name	Record #	# Units	Expiry Date
Lone Silver 1	55	1	09/06/93
Lone Silver 2	1331	1	07/11/93
Lone Silver 3	1332	1	07/11/93
Zip 1	4595	20	02/04/93
Zip 2	4596	15	02/04/93
Cat	4890	9	16/11/93

Regional Geology

The geology of the Salmo area consists of early Paleozoic Pend Oreille sedimentary sequence containing dolomite, limestone, phyllite, argillite and slate. The Middle Cambrian Nelway Formation (limestones and dolomites) is overlain by the Middle Ordovician Active Formation (argillite, slate, and argillaceous limestone) (Fyles et al,1959; Little, O.F 1195). Primary bedding features are present in these rocks, but they are folded, contorted and metamorphosed.

These rocks have been intruded by granites, granodiorites, and syenites of the Jurassic Nelson intrusions, and by quartz monzonites of the Tertiary Coryell intrusions. Minor sills and dykes of felsite, apilite and lamprophyre are also present.

Structurally, the area has undergone complex deformation including primary overturned and isoclinal folds which have undergone secondary deformation to open and isoclinal folds. Bedding and thrust faults are also common.



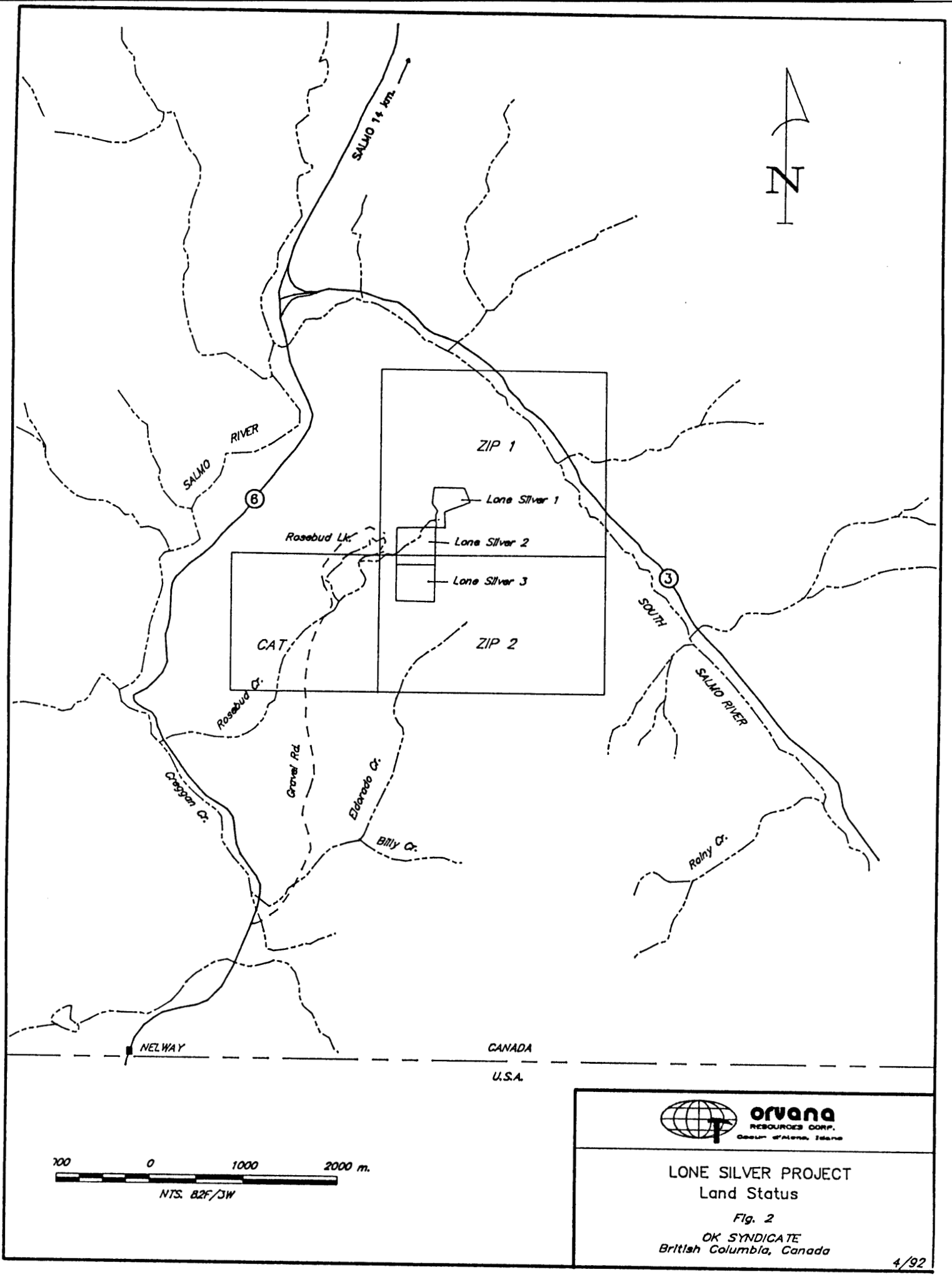
orvana RESOURCES

Fig. 1

LOCATION MAP

OK SYNDICATE
Northeastern Washington and southern British Columbia

Oct. 01


SALMO 14 km.
N
ZIP 1
Lone Silver 1
Rosebud Lk.
Lone Silver 2
Lone Silver 3
CAT
ZIP 2
SALMO RIVER
6
3
SOUTH
SALMO RIVER
Rosebud Cr.
Gravel Rd.
Eldorado Cr.
Billy Cr.
Gregson Cr.
Rainy Cr.
NELWAY
CANADA
U.S.A.
orvana
RESOURCES CORP.
Coeur d'Alene, Idaho
LONE SILVER PROJECT
Land Status
Fig. 2
OK SYNDICATE
British Columbia, Canada
4/92
000 0 1000 2000 m.
NTS. 82F/3W

Property Geology

The Black Bluff Fault (strike 066 degres, dip SE) cuts the property on the south side of Rosebud Lake. The fault brings dolomites of the Nelway Formation to the south into contact with argillites of the Active Formation to the north.

At the Lone Silver workings, the Black Bluff Fault is represented by a broad zone of faulting with a wide variety of attitudes. The fault is marked by brecciated zones in the dolomite and by graphitic schist in the argillite. The Black Bluff Fault is slightly offset by the Styx Creek Fault (striking 350 degrees).

Mineralization occurs in dolomite both along fractures in breccia zones, and associated with quartz veining and quartz lenses. Quartz veins containing fine grained galena, sphalerite, pyrite, tetrahedrite, azurite, and malachite often pinch and swell irregularly with a maximum width of 10cm.

History

The original property known as the Hope, shipped Ag-Au ore from 1909 to 1915. The claims lapsed and the property lay idle until 1935 when it was staked by John and Robert Sapples of Salmo. Ore shipments were made from 1936 to 1941. During this same period (1936), Godfrey Birtsch of Nelson first staked the Lucky Strike and the Davne properties. Ore shipments from these two properties were made from 1936 to 1938, and shipments continued from the Lucky Strike until 1940. The claims eventually lapsed and were restaked by Lou DeKock of Nelson who made additional ore shipments from 1961 to 1963. DeKock later transferred his interest in these claims to O.G.G. Resources in a 1979 B/S agreement. The present Zip claims (including the old workings) were staked in 1986 and are owned by Dolly Johnson of Stewart, B.C. Corona (Lacana Mining) optioned the claims in 1987. Corona also purchased the Cat claim from Knox, Kaufman Inc. of Spokane, WA in 1987. Corona and Orvana Resources entered a joint venture agreement in 1991.

Ore Shipments

Showing	Year	Tons	Au (OPT)	Ag (OPT)
Hope	1909-15	86	0.256	156.5
Hope	1936-41	106	0.603	83.5
Davne	1938	4	2.75	42.5
Lucky Strike	1938-40	51	1.3	38.2
Lucky Strike	1961-63	9	1.3	13.6

1988 Soil Programme

A soil grid was placed over the trace of the Black Bluff fault to try and locate anomalous Au-Ag zones not exposed in outcrop. Thirty-three kilometers of grid lines were surveyed and 1555 "B" horizon soil samples were collected. Lines were established perpendicular to the fault trace with spacings of 100m and station intervals of 25m. All samples were analyzed for 30 elements by ICP and Au values were determined by Atomic Absorption.

Results failed to define a geochemical signature over the fault, but several samples with anomalous metal values were encountered. The highest Au value found was 1103 ppb; the highest Ag value was 6.1 ppm; and the highest Zn value was 1739 ppm. These and other anomalous values were followed up with sampling on 12.5m intervals, but most anomalies were found to be very localized.

The only linear structure defined by the soil survey is a 50m wide zone of anomalous Au, Ag, Zn values trending 024 degrees from L10+00E to L14+00E, and in line with a linear swamp trending 024 degrees from L5+00E to L10+00E. Most of the other anomalous areas are randomly dispersed, and fairly localized. Often, base metal anomalies were low in precious metal values.

Geologic Mapping

Geologic mapping and rock sampling was limited by lack of outcrop on the claim blocks; however, Corona collected 135 rock samples, 4 stream sediment samples and 1 pan concentrate sample. The old adits and trenches were located and sampled, but no effort was made to enter any of the underground workings.

Anomalous results from rock samples collected around the old adits and waste dumps of the Hope, Davne, and Lucky Strike workings are in Table 1. No anomalous results were found in the stream sediment samples or the pan concentrate sample.

TABLE 1

Sample #	Au (ppb)	Ag (ppm)	Zn (ppm)	Location	Comment
1113	290	542.6		Hope	Dol bx
7089	250	27.0		Hope	Qtz
1142	215	2.7	606	Davne	QV
1109	1260	72.6	12691	Lucky Strike	Qtz-gal
1100	3920	182.3	74581	Lucky Strike	Phyllite
1221	43600	175.4	3550	Lucky Strike	HG qtz
1222	3510	189.3	39084	Lucky Strike	QV
20933	5510	216.2	84643	Lucky Strike	QV
20934	5890	9.2	6712	Lucky Strike	QV

1992 Core Drilling

Based on the above information and the lack of subsurface data, a decision was made to test the Black Bluff Fault by drilling an angle hole cross-cutting the plane of the fault at depth. A JKS Boyles 37 core drill was used to drill an NQ2 size hole at an azimuth of 310 degrees and an inclination of -60 degrees to a depth of 160m. A map showing the location of the drill site relative to the claim boundaries can be seen in Figure 3. Work on this property began January 15,1992 and the drilling was completed on March 25, 1992.

Generally, the geology of the core is a thinly bedded phyllitic limestone/dolomite, locally carbonaceous with numerous calcite and quartz veinlets both parallel and cross-cutting bedding; commonly 1-3% disseminated pyrite, with some zones containing 5-7% pyrite both disseminated and along fractures. Some quartz-rich zones (the largest being <0.5m) show minor silicification with 2-3% sphalerite, 1-2% galena, and 0.5% tetrahedrite; however, these account for <1% of the total core. At depth, (below 85m) numerous fine grained greenish brown to grey intermediate dikes appear. These dykes have a distinct schistosity or foliation which is parallel or sub-parallel to bedding. These dykes account for 50% or more of the core below 150m. They are generally less mineralized than the phyllitic limestone/dolomite, but they are commonly slightly more pyritic along their margins. Some minor lamprophyre dykes are also present. A complete copy of the diamond drill hole log can be found in the Appendix.

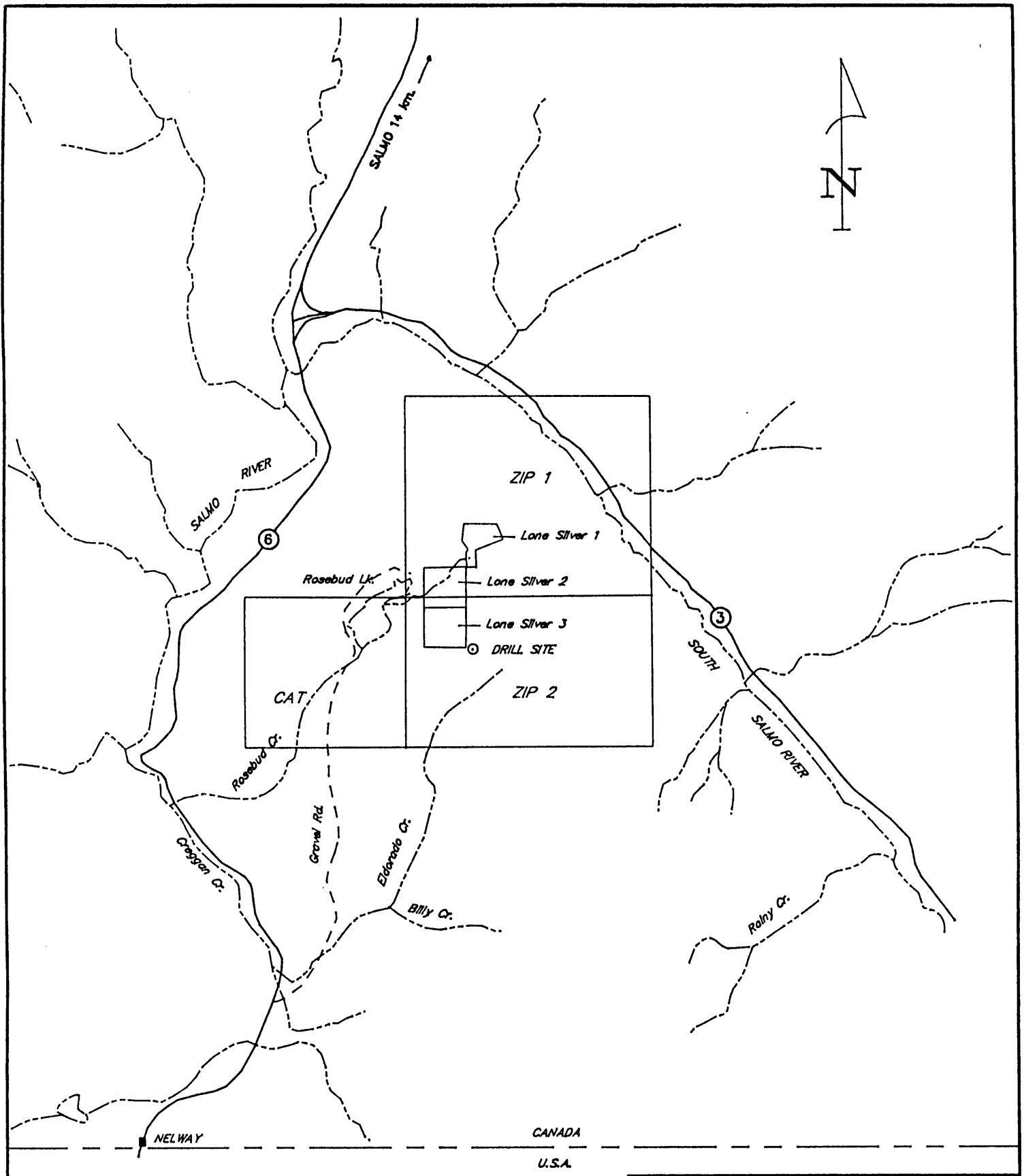
Geochemical analyses of samples taken from this drill hole are still pending at the time of this writing.

Conclusions and Recommendations

The angle hole drilled into the Black Bluff Fault failed to intercept significant mineralization over the 160m of depth; however, the entire fault zone was not penetrated with this single drill hole. It is difficult to determine the total thickness of this structural zone, but an estimate would be that this hole was still in the hanging wall since most of the sedimentary rocks were phyllitic limestones/dolomites (ie Nelway Fm.).

Past efforts of soil sampling have not delineated good potential targets for further exploration, but that may be due to the veneer of till covering bedrock. Drilling may be the best way to test the potential of this structural feature. Past production records indicate that this area has produced some high grade ore; although, relatively low tonnages (~250 tons). A single drill hole is not a sufficient test to discount such an area for potential high tonnage mineralization.

Geochemical results of samples collected from the core may show broader zones of low-grade gold mineralization than visual estimates indicate. Firm conclusions and recommendations cannot be made without such data; however, such a target should be evaluated with more subsurface data.



orvana RESOURCES CORP. Coeur d'Alene, Idaho

LONE SILVER PROJECT
Drill Hole Location

Fig. 3

OK SYNDICATE
British Columbia, Canada

4/92

References

Fyles, James T. and Hewlett, C. G.: Stratigraphy and Structure of the Salmo Lead-Zinc Area, Bulletin No. 41; BCDM, 1959.

Little, H. W.; Preliminary Geologic Notes and Map of Nelson (N.T.S. 82F West Half) Map Area, B.C. Geological Survey of Canada, O.F. 1195.

Minister of Mines, B.C. Annual Report, 1938, pp. E17-E21.

Weymark, William J.; Preliminary Report on the Lone Silver Mining Property, Nelson Mining Division, B.C. March 28, 1969.

Statement of Costs

Saleries		
7 man days at $ 170/day	$	1190.00
Accommodations		
4 days at $ 50/day	$	200.00
Transportation (2 Trucks)		
883 miles at $ 0.35/mi.	$	309.00
Site Preparation		
4 hours at $90/hr	$	360.00
Drilling Costs		
506 feet at $ 18/foot	$	9108.00
Total	$	11167.00

Dyke Allen

Statement of Qualifications

I, Doyle F. Albers, of Sagle, Idaho 83814 U.S.A. do hereby certify that:

1. I am a graduate of the University of Idaho with a Master of Science in Geology, 1981.

2. I am presently employed as a geologist with Orvana Resources of Coeur d'Alene, Idaho.

3. I have been working as a geologist in the U.S. and Canada since 1976.

Doyle Albers

Appendix I

DIAMOND DRILL HOLE LOG

Company Orvana Resources Corp

Property	Lone Silver
Location	1500 meters on az 084° from N end of Rosebud Lk, @ north end of swamp.
Coord. - Collar N	
E	
Elev. - Collar	
Date started	March 29, 1992
Completed	March 31, 1992
Hole No.	Zip 92-1
Bearing at Collar	310° az
Inclination at Collar	-60°
Length	506 feet
Core Size	NQ2 (2 inch)
	D. Alberts
Logged by	R. Fredericks

LEGEND
- Bedding ☑
- Qtz pods or vns ☐
- Dissem py ☐
- calcite vns ☑
- ☐
- ☑
- ☐
- ☐

SURVEY

Footage	Bearing	Inclination

LITHOLOGY, ALTERATION, MISC.

0 – 50.0 Limestone: Medium grey, thinly bedded phyllitic fissile. Bedding 0.1 – 4.0 cm thick. Well developed micaceous cleavage appears parallel bedding. Some bedding planes / cleavage planes coated with muscovite. Minor folds common; occur singularly or as intensly deformed bedding over sections 0.1 – 1.3 m thick. Folds are tight.

Some minor sericite along bedding planes

25.0 – 34.5 slightly darker, LS with contorted bedding and more abundant calcite veining both parallel and X-cutting bedding

38.0 – 46.5 Med. grey LS with thin, regular, parallel bedding

46.5 – 49.0 Broken, irregular bedding with abundant fracturing and calcite veining

FT.

10 20 30 40 50

GRAPHIC LOG

MINERALIZATION

0 – Calcite veins, minor quartz, disseminated pyrite. Calcite veins are 0.1 – 10 cm thick (mostly in 0.1 – 1.0 cm range). Some contain minor pale grey quartz (up to 30% of vein). Vein mostly parallel bedding, but a few at other angles.

Pyrite occurs as euhedral to subhedral disseminated crystals 0.2 – 10 mm diameter. Larger pyrite crystals and aggregates occur in calcite veins. Smaller crystals are disseminated in limestone, mostly along bedding / cleavage discontinuities.

24.5 3 to 4 sulfide veins parallel to bedding over ~ 1.5 cm of core

28.0 – 34.5 bedding is more contorted with slightly more veining, both parallel + X-cutting bedding. Some quartz rich pods 0.1 – 0.5 cm

44.6 – Several thin py veins parallel to bedding for 1.5 cm of core.
46.5 – 49.0 Abundant calcite veining, both parallel and X-cutting bedding

47.6 – 48.0 massive white calcite vein ~ parallel to bedding.

RECOVERY

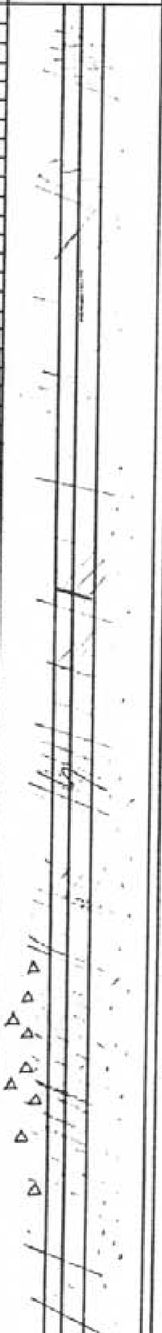
Run	Run length	Core	%
16.0	16.0'	11.6'	72
26	10.0	10.0	100
36	10.0	10.0	100
46	10.0	10.0	100
	10.0	10.0	100

ANALYTICAL

Sample	Interval
19951	10.0 – 10.0
19952	5.0 – 15.0
19953	5.0 – 20.0
19954	5.0 – 25.0
19955	3.0 – 28.0
19956	3.0 – 31.0
19957	3.5 – 34.5
19958	3.5 – 38.0
19959	5.0 – 93.0
19960	3.5 – 46.5
19961	2.5 – 49.0

BOX

1 | 23.0 | 2 | 41.5 | 3 | 50.0

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
50.0 - Medium gray thinly bedded phyllitic Ls. Numerous thin (<0.1-0.3cm) micaceous interbeds with cleavage parallel (within 5°?) to bedding. Bedding sometimes contorted, but generally 60-80° to core axis. Abundant calcite veining, generally 0.1-1.5cm thick and parallel to bedding, but also x-cut beds at steep angles. Occasional massive calcite veins with some intermittent quartz	50		50.0-69.0 Abundant calcite veining, generally coincident with bedding, and numerous x-cutting calcite veins, subvertical to subhorizontal. Py (<0.5%) with grains 0.1-2.0 mm.
	60		64.0-66.5 Calcite veining parallel to core axis with signs of vertical movement along that axis.
68.0-95.0 Generally more fissile phyllitic Ls v. thinly bedded (0.1-1.0cm)	70		68.0-69.0 Minor FeOx parallel to bedding in the more fissile, thinly bedded Ls.
82.0-95.0 Slightly darker gray color than above Ls (carbonaceous?)	80		80.0 - Boudinaged? calcite vein (w/ minor qtz) 0.5-4cm thick.
	90		91.0-98.0 More pyrite, approx 1% as euhedral grains and anhedral wisps + clots parallel bedding
98.2-102.5 Laminations colored red org-brown ≈ 20% of rock. Appears to be weathering/oxidation feature.			95-98.1 Calcite veining const. 35% of rock, ranges <0.1cm - 20cm thick; mostly parallel bedding but some crosscutting. Minor qtz.
101.0-103.5 Strong ductile deformation of laminations	100		100.5-112.5 Intensified calcite veining fills brecciated rock. Breccia fragments lack rotation, and are very angular.
104.0-121.0 Pronounced brittle deformation - rock forms calcite-cemented crackle breccia. Clasts are not rotated much.	110		104.0-115.5 More pyritic (≈2%). Py is along bedding plane boundaries.
	120		

RECOVERY				ANALYTICAL							BOX
Run	Run length	Core	%	Sample	Interval						
	10.0	10.0	100	19962	5.0 54.0						
56				19963	5.0 59.0						3
	10.0	10.0	100	19964	4.2 63.2						60.5
66				19965	5.0 68.2						
	10.0	10.0	100	19966	4.8 73.0						4
76											79.1
	10.0	10.0	100	19967	80.0-85.0						
86											5
	10.0	10.0	100	19968	90.0-95.0						
96				19969	95.0-98.1						98.1
	10.0	9.8	98%	19970	98.1-102.5						
106				19971	102.5-106.0						
	10.0	10.0	100	19972	106.0-111.0						6
				19973	111.0-116.0						
116											117.6

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	BOX
120 - 190 Generally med. gray, thinly bedded Ls similar to above, but somewhat less fissile. Continued micaceous interbeds + foliation parallel to bedding, generally thin (0.1-0.3cm). Overall 0.5-1.0% euhedral-subhedral disseminated py grains up to 0.5 cm in size. Locally some more enriched zones.	120		120 - 124 + 130 - 136 minor shearing; numerous discontinuous calcite vns X-cut bedding (70-90°). 0.5 - 1.0% py, mostly as euhedral - subhedral xls up to 0.5 cm throughout.	126	10.0	10.0	100			
130.5 - 132 Small shear sub parallel to core axis (15°/20°) shown as kinked bedding	130		130 - 136 minor qtz pods within some of the thicker calcite vns (generally 1-3 cm)	136	10.0	10.0	100	19974	132.0 4.0 136.0	136
136.5 - 139 Some minor Folding + shearing with calc. vns X-cutting beds.	140		141 - 150 Intermittent qtz + calc vns both parallel & X-cut bedding. X-cutting vns most intense, 143-149. Generally 1-2% py both dissem + as broken vns.	146	10.0	10.0	100	19975	143.0 4.0 147.0	
150.7 - 152.7 Broken core, probable zone of Lower Recovery (≈ 55%); some calc. vns 0.5 - 1.0% euhedral py (dissem.)	150		147.8 - 149.7 Abundant fy and qtz vns with 2-3% py and up to 0.5% tetrahed.? Also 2-3% sph. 1-2% gal	156	10.0	9.1	91	19976	3.0 150.0 156.0	156.0
156.0 - 161 Several qtz + calc vns @ ~ 5° to core axis with increased py content (1-3%)	160		157.5 - 159 3-5% py in open frac. 0.2cm wide @ ~ 5° to core axis. Py is eu-subhedral + generally < 0.1cm in size. 159 - 160.5 0.5cm wide qtz vn @ 5° to core axis. 1-2% py in and along vn.	166	10.0	10.0	100	19977	5.0 161.0	
166.9 - 167.2 Lt green fine grained, intermed. dike-like Rock X-cuts core at irreg. angles. Some bleaching (≈ 1" wide) in Ls along margins. Qtz-rich vein X-cuts dike RX.	170		166.9 - 167.2 Dike RX @ 3-4% f.g. dissem py. 169.0 - 167.8 0.4cm wide qtz vn @ 20° to core axis. This vn contains 0.1-0.3% sph	176	10.0	10.0	100	19978	166.0 2.0 168.0	174
182 - 190 Some brecciation, mostly angular slightly deformed, unrotated Ls frags with white xline calcite fill.	180		175 - 185 Occasional thick 1.0 - 2.0 cm, calc + qtz veins sub parallel to bedding.	186	10.0	10.0	100	19979	182.0 4.0 186.0	
	190							19980	4.8	

LITHOLOGY, ALTERATION, MISC.

190-224.3 - med gray thinly bedded Ls similar to above.

190.8-192.7 Gray-Green fine grained intermed dike dominantly plag (60-70%) with 20-25% bio partly alt to chl (10%). Rx has a distinct foliation (70° to core axis) with 1-2% f.g. py dissem along foliation planes. Bleaching extends ~1' into wall Rx either side of dike.

198.6-204 Partly brecciated zone with some folding + shearing and much calc. fill.

224.3-227.1 Greenish-brown fine grained dike, dominantly plag (~60%) and bio (30%) partly alt to chl. (10%), with ~0.5% f.g. dissem py. Dike has a distinct foliation parallel to bedding. Bleached zones in wall Rx extend 3"-4" from margins of dike.

227.1-245.0 Generally Light-med gray thinly bedded Ls; less fissile than upper zones. Several calc. vnlts x-cut bedding @ 10°-30° to core axis.

245.0-249.7 Dark green fine grained intermed dike 10-15% bio; 10-15% plag laths in a f.g. groundmass 60-70%; bio partly alt to chl. (5%) Also some minor discontinuous calc. vnlts generally 10-30% to core axis trace sulfides. Contacts are sharp, x-cut bedding; No bleaching @ margins, but slightly argillized (2-5 cm)

253.0-255.3 Dark green f.g. intermed. dike similar to above. These dikes x-cut thinly bedded med. gray Ls with minor calc vnlts.
259.4-259.6 Greenish brown f.g. dike with distinct foliation para' to bedding; minor alt along margins.

FT. / GRAPHIC LOG

190, 200, 210, 220, 230, 240, 250, 260

MINERALIZATION

190-224.3 Generally 0.5-1.0% py up to 0.5cm, dissem thruout

201-206 contains slightly more py (1-2%) still occurring as large eu-subhedral xls up to 0.5cm in size.

206-224 several calc vnlts @ 10°-30° to core axis; generally 0.5-1.0% py dissem thruout.

227.1-245 Several calc vnlts x-cut bedding @ 10°-30° to core axis, but generally <0.5% py. minor bxn + calc fill 237-240.

245-260 - Dikes contain trace of sulfides ? py, pyh? and the Ls x-cut by these dikes contain 1-2% py, generally finer grained (<0.2cm) than previously noted

RECOVERY

Run	Run length	Core	%
196	10.0	10.0	100
206	10.0	10.0	100
216	10.0	10.0	100
226	10.0	10.0	100
236	10.0	10.0	100
246	10.0	10.0	100
256	10.0	10.0	100
	10.0	10.0	100

ANALYTICAL

Sample	Interval
	190.8
19981	5.2
	196.0
19982	5.0
	201.0
19983	5.0
	206.0
	223.0
19984	5.0
	228.0
	236.0
19985	5.0
	241.0
19986	4.0
	245.0
	255.3
19987	4.7
	260.0

BO[X]

10, 193.0, 11, 211.5, 12, 229.5, 13, 248.5, 14

LITHOLOGY, ALTERATION, MISC.

260 - 261.3 Med gry thinly bedded Ls
261.3 - 265.9 Olive green bleached Ls w some qtz vns nearly parallel to relict bedding. 2-3% py both dissem + as brkn vnlts.

265.9 - 279.3 several small x Greenish brown fine grained intermediate dikes approx 60% plag 30-35% bio, partly alt to chl (5-10%) and 2-3% dissem py. These dikes have a distinct foliation parallel to bedding. They x-cut the thinly bedded Ls along bedding and at sharp angles to bedding. Contacts are fairly sharp and the Ls is often bleach near the margins. These dikes are cut by qtz+calc. vns 0.1-0.5 cm wide (20°-30° to core axis)

279.3 - 298.7 Dominantly, medium gray thinly bedded Ls with interlayered graphitic clays (0.1-0.3 cm). Numerous calcite vnlts x-cut bedding (20-30° to core axis) (3-5/inch of core) and several calcite vnlts parallel to bedding, similar in size (0.02-0.2 cm) but less frequent (1-3/inch of core)

298.7 - 306.0 Med gray thinly bedded Ls x-cut by greenish gray fine grained intermediate dikes. These dikes have a distinct foliation which closely parallels bedding. These dikes are mostly aphanitic with ~5% plag up to 0.2 cm and ~5% py. These dikes are x-cut by qtz + calc. vnlts both parallel to bedding and x-cutting bedding (30° to core axis) Some of the qtz vns contain minor amts of galena and tetrahed. The Ls shows some bleaching along the contacts with the dikes (1-3" wide).

306 - 330 Generally med. gray thinly bedded Ls with minor x-cutting greenish gray intermediate dikes. These dikes contain 25-30% bio partly alt to chl (10%); 60% plag; 2-3% py and tr sphl.

FT.

260
270
280
290
300
310
320
330

GRAPHIC LOG

MINERALIZATION

260 - 279.3 Generally 2-3% py both dissem and as broken vnlts, nearly parallel to bedding. up to 5+6% py along some vnlts & fractures. Some of the sulfides along these fxs is lightly colored + maybe arsenopy (<1%)

279.3 - 298 Abundant calcite vning, but generally 0.5-1.0% dissem py.

298 - 311. Considerably higher levels of dissem py assoc w intermediate dikes and qtz vning. Generally 3-5% dissem py; locally 5-7% py both within the dikes and along assoc qtz vns, py both dissem and in broken vnlts parallel to bedding.

308-310 Qtz-Rich vn w 3-5% py, ~1% sph + tr gal. nearly parallels core axis. Ls shows enriched py along bedding near contact w vn (3-5%)

312 - 330 Minor calcite vning; generally parallel to bedding, little to no qtz vns. 0.5-1.0% py w 2-3% py and tr sphl in intermed dikes

RECOVERY

Run	Run length	Core	%
	10.0	10.0	100
266.0			
	10.0	10.0	100
276.0			
	10.0	10.0	100
286.0			
	10.0	10.0	100
296.0			
	10.0	10.0	100
306.0			
	10.0	10.0	100
316.0			
	10.0	10.0	100
326.0			

ANALYTICAL

Sample	Interval
	260.0
19988	5.0
	265.0
19989	5.5
	270.5
19990	5.5
	276.0
19991	3.3
	279.3
19992	5.7
	285.0
19993	5.0
	290.0
19994	5.0
	295.0
19995	5.0
	300.0
19996	6.0
	306.0
19997	6.0
	312.0
19998	5.0
	317.0
	329.0
19999	

BOX

14
266.5
15
285.5
16
303.5
17
322.3
18

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	BOX
329.1 - 332.2; 333.3 - 333.8; 339.7 - 342.1 Greenish-gray fine grained intermediate dikes which x-cut core parallel to bedding. These dikes have a foliation which also parallels bedding. Dikes contain 50-60% plag; 30-35% bio partly alt to chl (5%); 1-3% py generally dissem with some clots + broken vnlts. Ls shows bleaching along contacts with dikes (1-3" wide). These dikes x-cut the med-gray thinly bedded Ls. Several calcite vns x-cut the Ls (0.1-0.5 cm thick + generally parallel to bedding).	330		330 - 342 Moderate calcite vning, generally restricted to Ls and mostly parallel to bedding. Ls shows 1-2% dissem py, while dikes show 1-3% py both dissem, + as broken vnlts.	336.0	10.0	10.0	100	19999	5.0 334.0	18
								20000	5.0 339.0	
	340				10.0	10.0	100	20001	5.0 344.0	341.5
342 - 372 Grading to a med-dk gray thinly bedded Ls: slightly more graphitic (20-30%) than the upper Ls. These graphitic zones are 0.05 - 0.3 cm thick and show xl line mica (musc, ser, + graph).			342 - 372 Moderate calcite vning; generally along bedding, but occasional calcite vn x-cuts bedding (20°-30° to core axis). Overall, 1-3% py, generally dissem with some clots + isolated vnlts.	346.0						
	350				10.0	10.0	100			19
				356.0					355.0	
								20002	5.0 360.0	
	360				10.0	10.0	100			360.3
				366.0					370.0	
372 - 386 Greenish-gray fine grained intermediate dikes x-cutting med gray thinly bedded Ls, roughly parallel to bedding. The dikes contain 50-60% plag; 30-35% bio, partly alt to chl (5%); 2-3% py both dissem. and along a distinct foliation which mimics bedding. There is generally a 0.5-1.0" qtz-ser zone along the margins of the dike, and bleaching extends 3-6" into the Ls wall rock. Py is also slightly more abundant (3-5%) along the margins of these dikes.	370		370 - 390 Intermed dikes with qtz + ser along margins and up to 5% py locally. Generally, 2-3% py both dissem and as clots + minor vnlts.	376.0	10.0	10.0	100	20003	5.0 375.0	20
								20004	5.0 380.0	379.0
	380				10.0	10.0	100	20005	5.0 385.0	
				386.0						
386 - 400 med-dk gry thinly bedded Ls, similar to above, slightly less calcite veining								20006	5.0 390.0	21
	390		390 - 400 Less veining, generally 1-2% py, mostly dissem.		10.0	10.0	100			
				396.0						398.6
	400									

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION
400-470 Generally med gray thinly bedded phyllitic Ls. with several greenish gray fine grained intermediate dikes X-cutting the Ls very nearly parallel to bedding. (contacts vary <10°) These dikes are 50-60% plag; 30-35% bio, partly alt to chl (5%) & a foliation which parallels bedding. The margins of these dikes generally show sharp contacts, and commonly bleach the Ls to a lt. greenish gray color for 3-4 inches from the contact.	400, 410, 420, 430, 440, 450, 460, 470		400-470 Generally 0.5-1.0% dissem py w occassional vnlts where noted. minor calc. vns generally parallel to bedding with some thin vnlts (<0.1cm wide) X-cutting bedding @ 20-30° to core axis.
446.5-451 Small shear zone minor oxn w qtz + calc vn fill and assoc py both dissem + as vnlts.			446.5-451 small shear with 2-3% py both dissem and as vnlts (<0.1cm wide) possibly minor pyh. sulfides assoc w qtz vnlts.

RECOVERY			
Run	Run length	Core	%
406.0	10.0	10.0	100
416.0	10.0	10.0	100
426.0	10.0	10.0	100
436.0	10.0	10.0	100
446.0	10.0	10.0	100
456.0	10.0	10.0	100
466.0			

ANALYTICAL		BOX
Sample	Interval	
	400.0	
20007	5.0	
	405.0	
	418.0	22
20008	5.0	
	423.0	
	435.5	23
20009	5.0	
	440.5	
	446.2	24
20010	5.0	
	451.2	
	465.0	25
20011	5.0	
	470.0	

417.2
436.0
455.2

LITHOLOGY, ALTERATION, MISC.

470 - 506

several DK greenish gray intermed. fine-med grained dikes X-cutting med gray thinly bedded Ls along bedding or very nearly so. Dikes contain 50-55% plag, 35-40% bio, wkly alt to chl (3%) and <1% dissem py. The dikes show a foliation which mimics bedding in the Ls.

The Ls is phyllitic and contains some calc bands OR vns which parallel bedding (0.1-0.5 cm thick.) These Ls are commonly bleached near the contacts with the dikes and contain slightly more sulfides in these zone (3-4" zone w ~1% py + possible py^h).

FT.

470
480
490
500
506.0

GRAPHIC LOG

Foot of Hole

MINERALIZATION

470 - 506. Overall minor calc veining generally parallel to beds with a few vnlts X-cutting bedding @ 20-30° to core axis. Generally 0.5-1.0% dissem py & up to 1% along margins of dikes (occurring as spotty vnlts).

502-503. minor qtz + calc veining with 1-2% py and possibly some sph. (<1%)

RECOVERY

Run	Run length	Core	%
476.0	10.0	10.0	100
486.0	10.0	10.0	100
496.0	10.0	10.0	100
506.0	10.0	10.0	100

ANALYTICAL

Sample	Interval
	480.0
20012	5.0
	485.0
	500.0
20013	3.3
	503.3

BOX

473.3
26
491.6
27
506.0