REPORT OF 1992
DIAMOND DRILL PROGRAM
LONE SILVER PROPERTY

Nelson Mining Division
British Columbia

NTS 82F/3
Latitude 49°03' N
Longitude 117°16' W

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and
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Orvana Minerals Corp.
June 5, 1993

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INTRODUCTION

The Lone Silver property has been explored for silver, zinc, lead, and gold since shortly after the turn of the century. The property is located on a package of Paleozoic sedimentary rocks that host numerous deposits that have been mined in the past. These deposits have produced ores containing Au, Ag, Pb, Zn, Cu, and W. In 1992, Orvana Minerals Corporation drilled one diamond drill hole on the property. This report presents the results of this drilling.

LOCATION AND ACCESS

The Lone Silver property is located 14 Km south of Salmo, in Southeastern British Columbia (Fig. 1). Rosebud Lake, a small lake with public access, lies on the edge of the claims. The property is accessed by the Rosebud Lake Road which joins Highway 6 to the south. From Rosebud Lake there are several old logging, mine, and utility access roads that traverse portions of the property.

PHYSIOGRAPHY AND CLIMATE

The area is one of moderate relief. The South Salmo River on the northeast side of the property is at 670 m elevation; mountains immediately (3 Km) to the south reach 1515 m elevation. The slopes range from gentle to steep, and are largely covered with mixed conifer and deciduous forest.

The climate is relatively temperate. During the winter months snow cover ranges 0.5 - 2 m. The summers are generally warm and dry. Precipitation is moderate, being heaviest in the winter and spring.

PROPERTY

The Lone Silver property consists of three claim groups optioned from Homestake Mining (previously Corona/Lacana). They include three 4-post and three 2-post mineral claims for a total of 47 units. Pertinent claim information is summarized below:

Claim	Record #	# Units	Expiry Date
Lone Silver	55	1	June 9, 1994
Lone Silver #2	1331	1	Nov. 7, 1997
Lone Silver #3	1332	1	Nov. 7, 1997
Zip #1	4595	20	Apr. 2, 1994
Zip #2	4596	15	Apr. 2, 1994
Cat	4890	9	Nov. 16, 1993

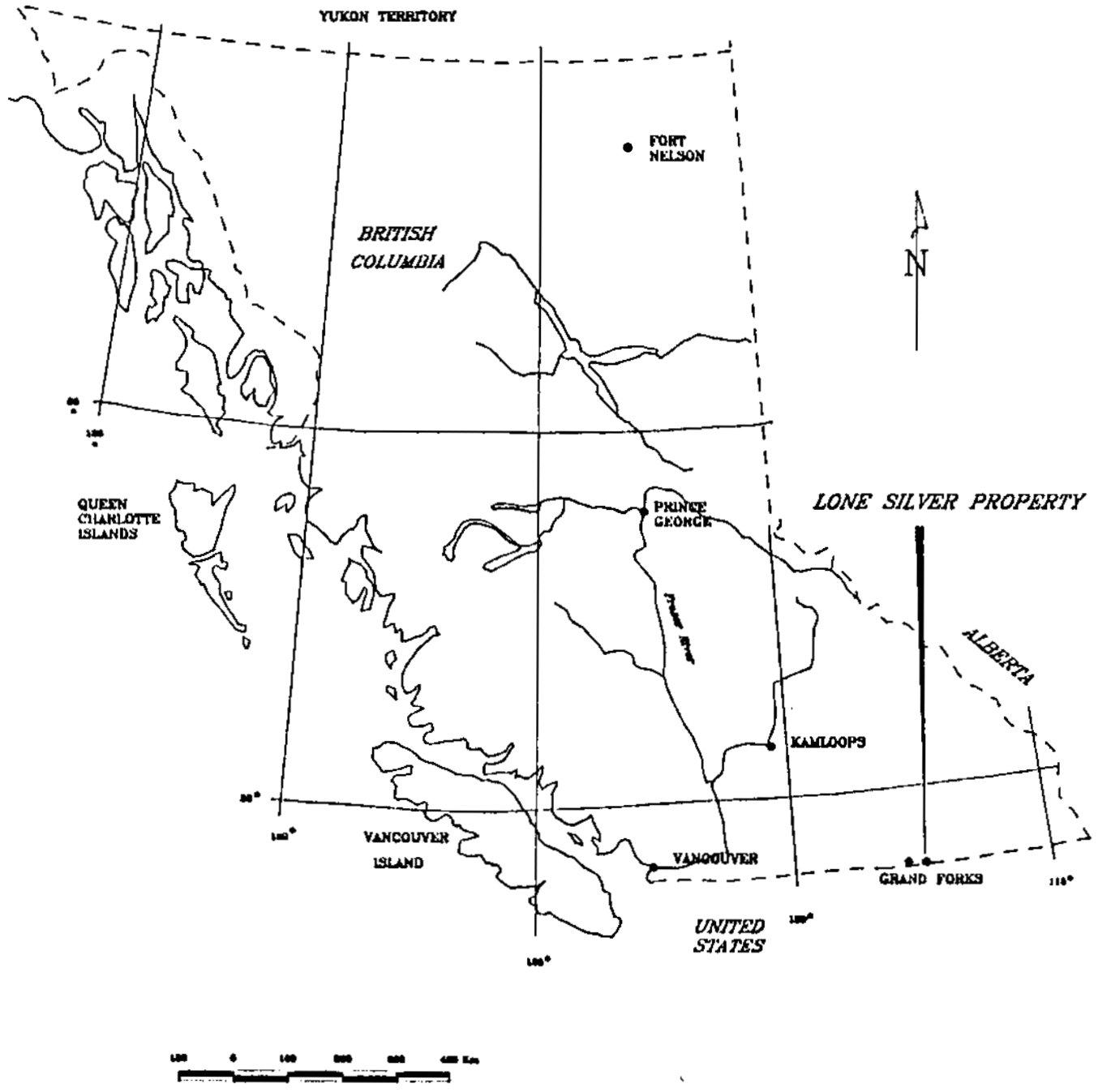

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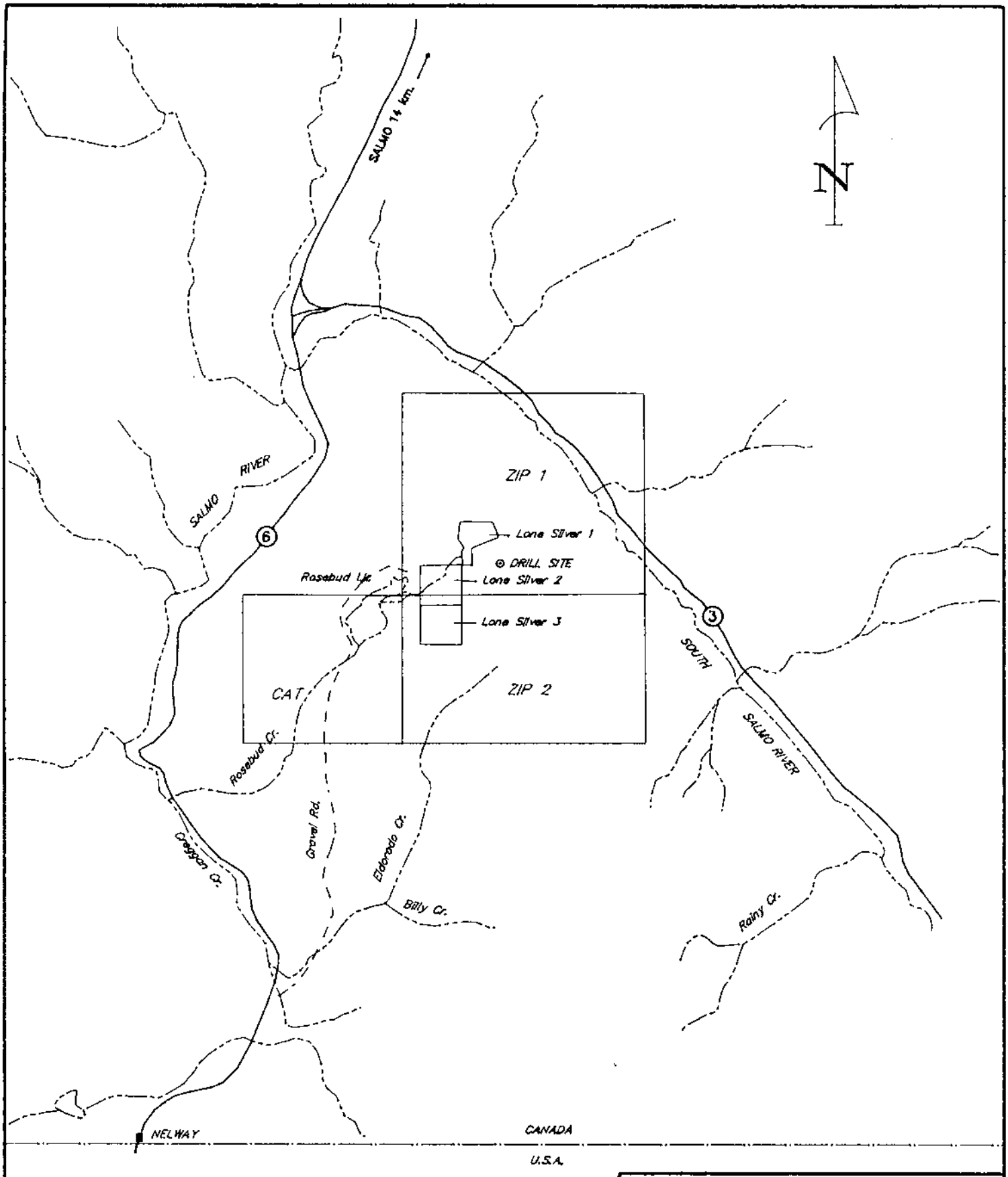
Fig. 1

LOCATION MAP

OK SYNDICATE
Northeastern Washington and southern British Columbia

Oct. 91



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LONE SILVER PROJECT
Land Status

Fig. 2

OK SYNDICATE
British Columbia, Canada

6/93

The original property was know as the Hope, from which Ag-Au ore was shipped 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. Shipment records were as follows:

Claim	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

In 1979, Mr. DeKock transferred his interest in the Lucky Strike claims to O.G.G. Resources. The Zip claims were staked in 1986 by Dolly Johnson of Stewart, B.C. The Cat claim was staked in 1987 by Knox, Kaufman, Inc. of Spokane, Washington. Between 1987 and 1991 Lacana Mining (now Homestake) optioned the properties to assemble the current land position (Fig. 2).

Lacana Mining conducted an exploration program on the property in 1988 consisting of geologic mapping and rock and soil geochemistry. In 1991 Orvana Minerals Corporation entered a joint venture agreement on the property.

REGIONAL GEOLOGY

The geology in the Salmo area includes Paleozoic sedimentary rocks of the Pend d'Oreille sequence and Jurassic to Tertiary age intrusive rocks. The lower unit within the Pend d'Oreille sequence is the Nelway Formation which consists of grey dolomite and limestone; it is middle Cambrian age. Unconformably overlying the Nelway Fm is the Active Formation which is middle Ordovician age. It consists of black argillite, slate, and argillaceous limestone. Both units within the Pend d'Oreille sequence exhibit considerable deformation. They frequently have developed a schistose fabric and are tightly folded.

The sedimentary rocks have been intruded by two broad groups of intrusive rocks. The oldest are the Jurassic to Cretaceous age Nelson plutonic rocks. They include granite, granodiorite, and syenite. Tertiary age intrusives are grouped with those rocks of the Coryell intrusives. They are principally quartz monzonitic in this area.

Structural geology within the region is complex. At least two episodes of folding have been reported in the Paleozoic rocks. Fold axis trend north to northeast. Low-angle thrust faults are common.

PROPERTY GEOLOGY

The Lone Silver property in underlain by dolomite and limestone of the Nelway Fm. and argillite and phyllite of the Active Fm. Extensive glacial and colluvial cover exists over much of the terrain. The property is transected by the Black Bluff thrust fault which strikes 066° and dips SE. This fault brings the Nelway Fm. over the Active Fm. Fold axes in the Nelway Fm strike NE.

Mineralization occurs both along the thrust plane and in the hanging wall of the Black Bluff fault. The Lone Silver workings, approximately 600 m east of Rosebud Lake, are along the thrust fault zone. They expose quartz veins with sulphides and sulphide fracture fillings, principally in brecciated dolomite. Sulphides include galena, pyrite, tetrahedrite, and sphalerite. The Lucky Strike workings are located 1100 m ENE of the Lone Silver workings. These are on quartz-sulphide veins within phyllitic dolomite and breccia of the Nelway Fm.

1992 DRILL PROGRAM

A model involving a large tonnage, lower grade gold deposit was developed for the Lone Silver property. This model involves auriferous stockwork quartz veins and breccia in Nelway Formation carbonate rocks in the hangwall of the Black Bluff fault. This model was based on interpretation of geologic mapping and surface geochemistry conducted by the previous operators and on site examination.

In March, 1992, a drill hole was collared over a zone of anomalous soil and rock geochemistry between the Davne and Lucky Strike workings (Fig. 3). Outcrop at the site consists of Nelway Fm dolomitic limestone with common calcite and quartz-calcite veinlets. A 160 m deep hole bearing 310° az and dipping -60° was drilled to test this zone and to penetrate through the hanging wall into the Black Bluff fault zone. A JKS Boyles 37 drill was used to drill NQ2 size core. This work was conducted under permit #NEL92-0500313-652.

RESULTS

An initial, on-site examination of the core indicated that the hole failed to penetrate the Black Bluff fault zone and that the work did not prove or disprove the proposed model. However, after a delay during which further consideration was given to the potential significance of the information that

could be gained from the drill hole, the core was transported to a facility for systematic logging and sampling. A summary log is presented in Fig. 4, a detailed log is included in Appendix 1.

The hole intersected grey, thinly-bedded limestone and dolomitic limestone along its entire length. At a depth of 50 m, medium to dark grey fine-grained felsic sills appear, constituting approximately 20% of the section. The sills are 0.3-2 m thick. They have developed a weakly schistose fabric and appear chloritized. At a depth of 135 m, the sills become more common, constituting 50% of the section from there to the bottom of the hole.

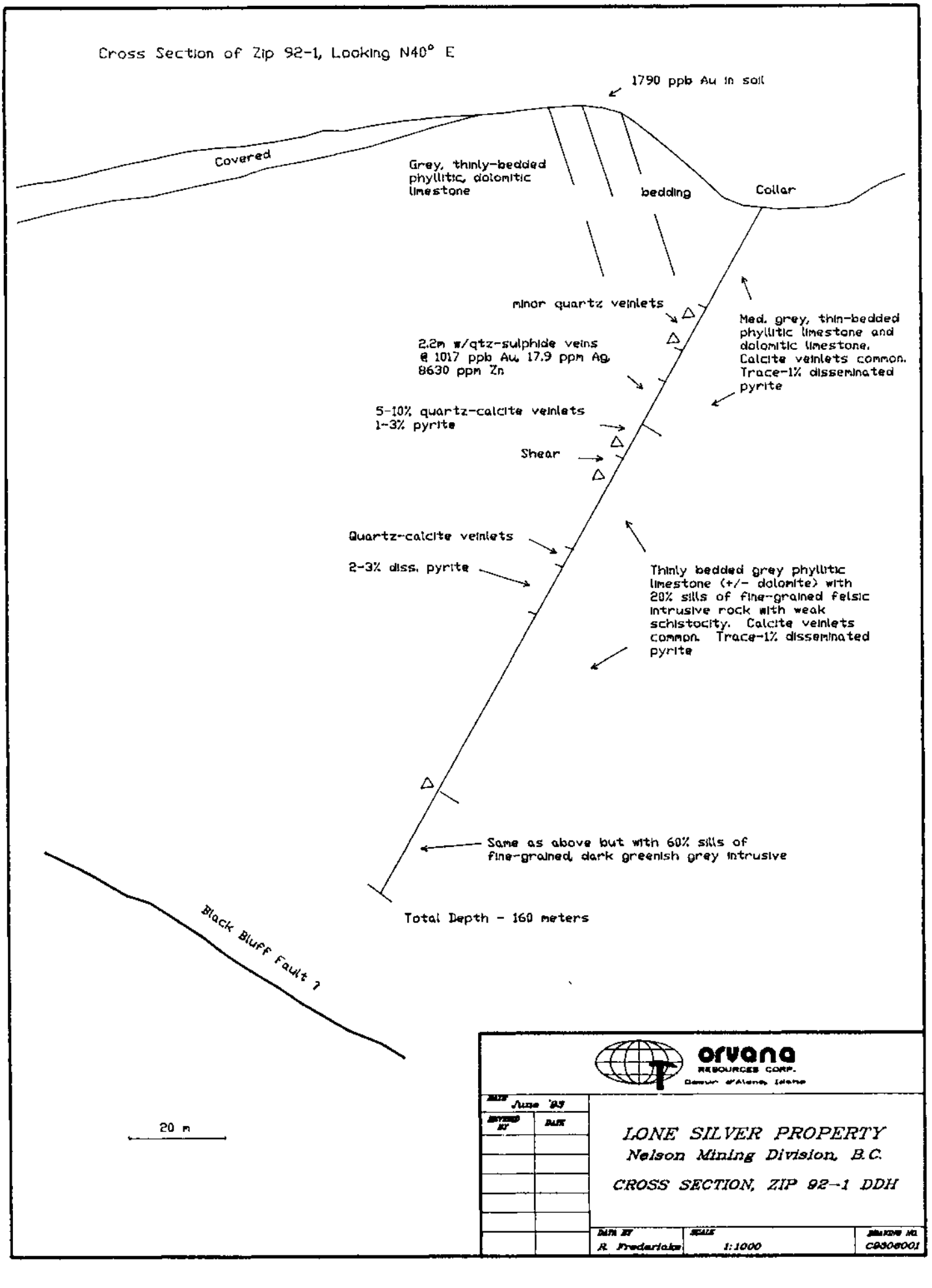
Several zones of shearing and brecciation were logged. Some of these zones are accompanied by quartz-calcite stringer veinlets and weak to moderate silicification of the country rock. Pyrite, which is present as trace-1% disseminations in most of the hole, is more common in these brecciated, siliceous zones, ranging 2-3%. Sulphides (pyrite, sphalerite, tetrahedrite) occur in quartz veinlets in a few places in the core, generally over a relatively narrow width. This mineralization in largely restricted to the top 95 m of the hole.

Sections of the core selected for geochemical analysis were marked and sawed in half. One half was sent to Silver Valley Laboratories in Kellogg, Idaho; the other half was retained for reference and/or further work.

The samples were analyzed at Silver Valley Laboratories, Kellogg, Idaho, for Au, Ag, Cu, Co, Pb, Zn, Bi, Te, Mo. Sample preparation was accomplished by first crushing the sample to 1/8 inch, then rolling to -10 mesh, splitting the sample and pulverizing to -140 mesh. For Au and Ag, a 30 gram aliquot was ignited using standard fire assay procedure. At the cupelation stage the bead was dissolved in aqua regia and the resulting solution was analyzed by flame atomic absorption. The remaining elements were determined by digesting (incompletely) a 1 gram aliquot in aqua regia and then analyzing the solution by ICP emission spectroscopy.

Detection limits for elements using the above listed techniques are as follows:

Element	Lower Limit	Upper Limit
Au	<5 ppb	None
Ag	<0.1 ppm	>25 ppm
Pb, As	<5 ppm	>25000 ppm
Zn, Cu	<1 ppm	>10000 ppm
Co	<2 ppm	>50000 ppm
Bi, Mo	<2 ppm	>10000 ppm
Te	<5 ppm	None


Cross Section of Zip 92-1, Looking N40° E
1790 ppb Au in soil
Covered
Grey, thinly-bedded phyllitic, dolomitic limestone
bedding
Collar
minor quartz veinlets
Med. grey, thin-bedded phyllitic limestone and dolomitic limestone. Calcite veinlets common. Trace-1% disseminated pyrite
2.2m w/qtz-sulphide veins @ 1017 ppb Au, 17.9 ppm Ag, 8630 ppm Zn
5-10% quartz-calcite veinlets 1-3% pyrite
Shear
Quartz-calcite veinlets
2-3% diss. pyrite
Thinly bedded grey phyllitic limestone (+/- dolomite) with 20% sills of fine-grained felsic intrusive rock with weak schistocity. Calcite veinlets common. Trace-1% disseminated pyrite
Same as above but with 60% sills of fine-grained, dark greenish grey intrusive
Total Depth - 160 meters
Black Bluff Fault ?
20 m
orvana RESOURCES CORP. Coeur d'Alene, Idaho
DATE June '93
DRAWN BY R. Fredericks
SCALE 1:1000
DRAWING NO. C930601
LONE SILVER PROPERTY
Nelson Mining Division, B.C.
CROSS SECTION, ZIP 92-1 DDH

Copies of the analytical results are presented in Appendix 2.

A total of 63 samples were selected. The sample lengths vary from 0.75 m to 3.0 m; most are 1.5 m long. Four zones of anomalous gold values were defined, though not completely, as the core was sampled selectively, not continuously. These zones are outlined below:

Interval (m)	Length (m)	% Sampled	Range Au (ppb)	Range Ag (ppm)
33.6- 35.1	1.5	100	42	0.1
43.3- 48.8	5.5	66	161-2158	2.8-23.0
77.4- 94.5	17.1	100	<5 - 156	0.1- 1.1
135.2-136.7	1.5	100	80	0.3

The zones of anomalous gold typically exhibit elevated base metal geochemistry as well.

CONCLUSIONS

The drill hole was successful in testing at depth the zone of carbonate-hosted quartz-calcite stringers with anomalous surface gold geochemistry. However, it failed to penetrate through the Black Bluff fault zone. Weakly to moderately anomalous gold values were obtained over brecciated zones of quartz-calcite +/- sulphide stringer veinlets in the core. These zones also contain elevated Ag, Pb, An, and Cu values, characteristic of the know showings on the property. The zones identified do not represent economic ore grades. They do, however, confirm the potential for the presence of moderate to large tonnage, low grade gold deposits on the property.

RECOMMENDATIONS

The relation between anomalous gold and quartz-calcite stringer veinlets in brittley deformed rocks can be used to guide further exploration. Efforts should be directed toward defining zones of brittle deformation within the Nelway Formation hanging wall of the Black Bluff fault. Where these zones contain quartz-calcite +/- sulphide veinlets, extensive surface geochemistry should be conducted, if possible. Encouraging surface geochemistry should be followed up with drilling.

STATEMENT OF COSTS

Salaries (16 man days, logging, sawing sampling compilation)	$3709.10
Room and Board	70.00
Vehicles/Transportation	169.08
Core saw/storage facilities	485.68
Assays	1218.89
Computer/Drafting	25.17
Total	$5677.92

STATEMENT OF QUALIFICATIONS

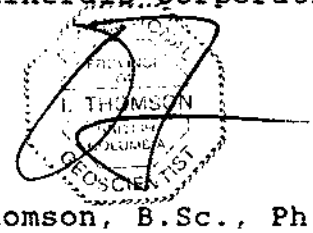
I, Ian Thomson, of 1628 West 66 Avenue, Vancouver, British Columbia, V6P 2S2, do hereby certify that:

1. I am a graduate (1967) of the University of London, England, with a Bachelor of Science degree in Geology and a graduate (1971) of the University of London, England, with a Doctor of Philosophy degree in Applied Geochemistry.

2. I am a registered Professional Geologist in the Province of British Columbia.

3. I have been continuously employed as a geologist-geochemist involved with mineral exploration for 21 years.

4. I hold the position of Chief Geologist with Orvana Minerals Corporation.



Ian Thomson, B.Sc., Ph.D., P. Geo.
Chief Geologist

STATEMENT OF QUALIFICATIONS

I, Robert T. Fredericks, of Moscow, Idaho, U.S.A., certify that:

1. I am a geologist employed by Orvana Minerals Corporation, 710 - 1177 West Hastings Street, Vancouver, B.C., V6E 2K3, at their offices located at 2005 Ironwood Parkway, Suite 222, Coeur d'Alene, Idaho 83814 U.S.A.

2. I am a graduate of the University of Idaho, Moscow, Idaho, and hold a B.Sc. degree in Geology.

3. I have been practicing my profession for the past six years.

4. I am registered as a Geologist in Training (GIT) with the Idaho State Board of Registration for Professional Geologists.

Robert T. Fredericks
Geologist

REFERENCES

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

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Little, H.W.: Preliminary Geologic Notes and Map of Nelson (NTS 82F West Half) Map Area, B.C. Geologic Survey of Canada, O.F. 1195

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

APPENDIX 1

ZIP 92-1 Drill Hole Log

DIAMOND DRILL HOLE LOG

Company Orvana Resources Corp

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

LEGEND

- Bedding
- Qtz pods or vns
- Dissem py
- calcite vns
- Intermediate dike
- Lamprophyre dike

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. gray Ls with thin, regular, parallel bedding

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

FT. / GRAPHIC LOG

10
20
30
40
50

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). Veins 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

ANALYTICAL

Sample	Interval	Au ppb
19951	10.0	7
	10.0	
19952	5.0	5
	15.0	
19953	5.0	5
	20.0	
19954	5.0	12
	25.0	
19955	3.0	<5
	28.0	
19956	3.0	6
	31.0	
19957	3.5	11
	34.5	
19958	3.5	5
	38.0	
19959	5.0	<5
	93.0	
19960	3.5	<5
	46.5	
19961	2.5	<5
	49.0	

BOX

1
23.0
2
41.5
3
50.0

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au ppb	BOX
50.0 – Medium gray thinly bedded phyllitic Ls. Numerous thin (<0.1-0.3cm) micaceous inter beds with cleavage parallel (within 5-10°) to bedding. Bedding occassionally contorted, but generally 60-70° to core axis Abundant calcite veining, generally 0.1-0.5cm thick and parallel to bedding, but also x-cut beds at steep angles. occassional massive calcite veins with some intermitent quartz	50		50.0-68.0 Abundant calcite veining, generally contorted with bedding, and numerous x-cutting calcite veins. Euhedral to subhedral dissem. py (<0.5%) with grains 0.1-2.0 mm.		10.0	10.0	100	19962	5.0 54.0	<5	
				56				19963	5.0 59.0	<5	3
	60				10.0	10.0	100	19964	4.2 63.2	<5	60.5
			64.0-66.5 Calcite veining parallel to core axis with signs of vertical movement along that axis.	66				19965	5.0 68.2	<5	
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.		10.0	10.0	100	19966	4.8 73.0	<5	4
				76							79.1
	80		80.0 – Boudinaged? calcite vein (w/ minor qtz) 0.5-4cm thick.		10.0	10.0	100	19967	80.0-85.0	<5	
82.0-95.0 Slightly darker gray color than above Ls (carbonaceous?)				86							5
	90		91.0-98.0 More pyrite approx 1% as euhedral grains and euhedral whisps + clots parallel bedding		10.0	10.0	100	19968	90.0-95.0	8	
			95-98.1 Calcite veining const. 35% of rock, ranges <0.1cm 20cm thick; mostly parallel bedding but some crosscutting. Minor qtz.	96				19969	95.0-98.1	<5	98.1
98.2-102.5 Laminations colored red org-brown ≈ 20% of rock. Appears to be weathering/oxidation feature.	100		100.5-112.5 Intensified calcite veining fills brecciated rock. Breccia fragments lack rotation, and are very angular.		10.0	9.8	98%	19970	98.1-102.5	7	
101.0-103.5 Strong ductile deformation of laminations								19971	102.5-106.0	5	
104.0-121.0 Pronounced brittle deformation — rock forms calcite-cemented crackle breccia. Clasts are not rotated much.			104.0-115.5 More pyritic (≈2%) Py is along bedding plane boundaries	106				19972	106.0-111.0	<5	6
	110				10.0	10.0	100				
								19973	111.0-116.0	42	
				116							117.6
	120										

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	ppb Au	ppm Ag	ppm Pb	ppm Zn	ppm Cu	BOX
120 - 190 Generally med. gray, thinly bedded Ls similar to above, but somewhat less fissile. Continued micaceous interbeds w foliation parallel to bedding, generally thin (0.1-0.3cm). Overall 0.5-1.0% euhedral-subhedral dissem py grains up to 0.5 cm in size. Locally some more enriched zones.	120		120-124 + 130-136 Minor shearing; numerous, discontinuous calcite vnlts x-cut bedding (70°-90°), 0.5-1.0% py, mostly as euhedral-subhedral x's up to 0.5cm throughout.		10.0	10.0	100								7
	130			126											
130.5-132 Small shear sub parallel to core axis (15°-20°) shown as kinked bedding			130-136 minor qtz pods within some of the thicker calcite vns (generally 1-3 cm)		10.0	10.0	100		132.0						
								19974	4.0	<5					
				136					136.0						136.6
136.5-139 Some minor folding + shearing with calc. vns x-cutting beds.	140														
			141-150 Intermitent qtz + calc vns both parallel + x-cut bedding. X-cutting vns most intense, 143-149. Generally 1-2% py both dissem + as broken vns.		10.0	10.0	100		143.0						
				146				19975	4.0	161	23	600	3700	150	
									147.0						8
			147.8-149.7 Abundant fx and qtz vns with 2-3% py and up to 0.5% tetrahed.? Also 2-3% sph. 1-2% gal					19976	3.0	2158	11	1700	15200	120	
150.7-152.7 Broken core, probable zone of lower recovery (≈55%); some calc. vns 0.5-1.0% euhedral py (dissem.)	150				10.0	9.1	91		150.0						
				156					156.0						156.0
156.0-161 Several qtz + calc vns @ ≈5° to core axis with increased py content (1-3%)			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.					19977	5.0	330	2.8	1100	3300	71	
	160		159-160.5 0.5cm wide qtz vn @ 5° to core axis. 1-2% py in and along vn.		10.0	10.0	100		161.0						
				166					166.0						
166.9-167.2 Lt green fine grained, interval dike-like rock x-cuts core at irreg. angles. Some bleaching (≈1" wide) in Ls along margins. Qtz-rich vein x-cuts dike rx.			166.9-167.2 Dike rx w 3-4% f.g. dissem py.					19978	2.0	<5	0.3	100	270	16	9
	170		169.0-169.8 0.4cm wide qtz vn @ 20° to core axis. This vn contains 0.1-0.3% sph						168.0						
					10.0	10.0	100								174.2
			175-185 Occassional, thick 1.0-2.0 cm calc + qtz veins sub parallel to bedding.	176											
	180														
					10.0	10.0	100		182.0						
182-190 Some brecciation, mostly angular slightly deformed, unrotated Ls frags with white xlline calcite fill.								19979	4.0	<5					
				186					186.0						
								19980	4.8	<5					
	190														

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	ppb Au	ppm Ag	ppm Pb	ppm Zn	ppm Cu	BOX
190-224.3 - med gray thinly bedded Ls similar to above.	190		190-224.3 Generally 0.5-1.0% py up to 0.5cm, dissem thruout						190.8						10
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% fg. py dissem along foliation planes. Bleaching extends ~2" into wall Rx either side of dike					10.0	10.0	100	19981	5.2	<5					193.0
				196					196.0						
198.6-204 Partly brecciated zone with some folding + shearing and much calc. fill.	200							19982	5.0	<5					
									201.0						
			201-206 contains slightly more py (1-2%) still occurring as large ea-subhedral x/s up to 0.5cm in size.		10.0	10.0	100	19983	5.0	6					11
				206					206.0						
	210		206-224 several calc vnlts @ 10°-30° to core axis; generally 0.5-1.0% py dissem thruout.												211.5
					10.0	10.0	100								
				216											
	220														12
224.3-227.1 Greenish-brown fine grained dike, dominantly plag (~40%) and bio (30%) partly alt to chl. (10%), with ~0.5% fg. dissem py. Dike has a distinct foliation parallel to bedding. Bleached zones in wall Rx extend 3"-4" from margins of dike.					10.0	10.0	100		223.0						
				226				19984	5.0	<5					
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.	230		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.						223.0						
					10.0	10.0	100								
				236					236.0						229.5
	240							19985	5.0	<5					
					10.0	10.0	100		241.0						13
								19986	4.0	6					
245.0-249.9 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)			245-260 - Dikes contain trace of sulfides? py, pyh? and the Ls x-cut by these dikes contain 1-2% py, generally finer grained (<0.2mm) than previously noted	246					245.0						248.0
	250				10.0	10.0	100								14
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 parallel to bedding; minor alt along margins				256					255.3						
	260				10.0	10.0	100	19987	4.7	12					
									260.0						

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	ppb Au	ppm Ag	ppm Pb	ppm Zn	ppm Cu	BOX
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. (several small) 265.9 - 279.3 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)	260 270		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 and fractures. Some of the sulfides along these fxs is lightly colored + maybe arseno py. (<1%)	246.0 276.0	10.0 10.0	10.0 10.0	100 100	19988 19989 19990	260.0 5.0 265.0 5.5 270.5 5.5 276.0	31 106 68	0.3	35	70	34	14 266.5 15
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 - 6.2 cm) but less frequent (1-3/inch of core)	280 290		279.3 - 298 Abundant calcite vning, but generally 0.5 - 1.0% dissem py.	286.0 296.0	10.0 10.0	10.0 10.0	100 100	19991 19992 19993 19994	3.3 279.3 5.7 285.0 5.0 290.0 5.0 295.0	156 11 8 <5	0.9	21 61 31	94 140 220 180	73	285.4 16
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).	300 310		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.	306.0	10.0	10.0	100	19995 19996	5.0 300.0 6.0 306.0	59 118	1.1 0.5	280 58	260 220	10 19	303.5
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.	320		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.	316.0 326.0	10.0	10.0	100	19997 19998 19999	6.0 312.0 5.0 317.0 329.0	83 <5	0.2	10	70	16	17 322.3 18
	330														

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	Au ppb	BOX
329.1-332.2; 333.3-333.8; 337.7-342.1 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	<5	18
	340							20000	5.0 339.0	<5	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 xline mica (musc, ser, + graph).			342-372 Moderate calcite vning; generally along bedding, but occassional calcite vn x-cuts bedding (20°-30° to core axis). Overall, 1-3% py, generally dissem with some clots + isolated vnlts.	346.0	10.0	10.0	100	20001	5.0 344.0		
	350			356.0	10.0	10.0	100		355.0		19
	360							20002	5.0 360.0	<5	360.3
				366.0	10.0	10.0	100				
	370		370-390 Interm dikes with qtz + ser along margins and up to 5% py locally. Generally, 2-3% py both dissem and as clots + minor vnlts.						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 wallrock. Py is also slightly more abundant (3-5%) along the margins of these dikes.				376.0	10.0	10.0	100	20003	5.0 375.0	5	20
	380				10.0	10.0	100	20004	5.0 380.0	<5	379.0
				386.0				20005	5.0 385.0	<5	
386-400 Med-dk gry thinly bedded Ls similar to above; slightly less calcite vining								20006	5.0 390.0	<5	21
	390		390-400 Less vining, generally 1-2% py, mostly dissem.	396.0	10.0	10.0	100				
	400										398.0

LITHOLOGY, ALTERATION, MISC.	FT.	GRAPHIC LOG	MINERALIZATION	RECOVERY Run	Run length	Core	%	ANALYTICAL Sample	Interval	ppb Au	ppm Ag	ppm Pb	ppm Zn	ppm Cu	BOX
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		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 (<0.1 cm wide) x-cutting bedding @ 20-30° to core axis.						400.0						
					10.0	10.0	100	20007	5.0	<5					
									405.0						
	406.0														
	410														22
					10.0	10.0	100								
	416.0														417.2
									418.0						
	420														
					10.0	10.0	100	20008	5.0	<5					
									423.0						
	426.0														23
	430														
					10.0	10.0	100								
	436.0								435.5						436.0
								20009	5.0	<5					
	440								440.5						
					10.0	10.0	100								
	446.0								446.2						24
446.5 - 451 Small shear zone, minor bxn 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 (<0.1 cm wide) possibly minor pyh. sulfides assoc w qtz vnlts.					20010	5.0	80	0.3	54	140	21	
	450				10.0	10.0	100		451.2						
	456.0														455.2
	460				10.0	10.0	100								
									465.0						25
	466.0														
								20011	5.0	5					
	470								470.0						

470 - 506

Several. DK greenish gray intermed. Fine-med grained dikes X-cut. 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 1-2% 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 pyh).

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, w 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				ANALYTICAL								BOX
Run	Run length	Core	%	Sample	Interval	Au ppb						
476.0	10.0	10.0	100									473.3
					480.0							
486.0	10.0	10.0	100	20012	5.0	<5						26
					485.0							
496.0	10.0	10.0	100									491.6
					500.0							27
506.0	10.0	10.0	100	20013	3.3	5						
					503.3							506.0

506.0 Foot of Hole

APPENDIX 2

Core Sample Assay Results

OK - 23 v8
Lone Silver

SVL ANALYTICAL, INC.
REPORT OF ANALYTICAL RESULTS

SVL Job Number :X20179
Sample Receipt : 6/15/92
Date of Report : 6/30/92
No. of Samples : 63 Core

Client: PAUL DIRCKSEN
ORVANA RESOURCES
2005 IRONWOOD PKWY #222
COEUR D'ALENE ID 83814

RECEIVED
JUL 1 1992
ORVANA RESOURCES
COEUR OFFICE

RE: STANDARD PACKAGE

CLIENT SAMPLE ID	Test : Units : Method:	Au ppb FA+AA	Ag ppm FA+AA	Pb ppm ICP	Zn ppm ICP	Cu ppm ICP	As ppm ICP	Sb ppm ICP	Mo ppm ICP
19951		7	<.1	<5	7	6	<10	<10	<2
19952		5	<.1	<5	9	5	<10	<10	<2
19953		5	.2	<5	8	4	<10	<10	<2
19954		12	<.1	<5	9	6	<10	<10	<2
19955		<5	<.1	<5	9	6	<10	<10	<2
19956		6	<.1	<5	8	5	<10	<10	<2
19957		11	.1	<5	10	9	<10	<10	<2
19958		5	.1	<5	7	9	<10	<10	<2
19959		<5	.1	<5	7	5	<10	<10	<2
19960		<5	<.1	<5	6	4	<10	<10	<2
19961		<5	.1	<5	10	6	<10	<10	<2
19962		<5	<.1	<5	7	3	<10	<10	<2
19963		<5	<.1	<5	6	3	<10	<10	<2
19964		<5	<.1	<5	7	4	<10	<10	<2
19965		<5	.1	<5	9	5	<10	<10	<2
19966		<5	<.1	<5	10	5	<10	<10	<2
19967		<5	<.1	<5	7	4	<10	<10	<2
19968		8	.1	<5	9	6	<10	<10	<2
19969		<5	.1	<5	12	4	<10	<10	<2
19970		7	.1	<5	23	6	<10	<10	<2
19971		5	<.1	<5	13	6	<10	<10	<2
19972		<5	<.1	<5	15	28	<10	<10	<2
19973		42	.1	<5	18	6	<10	<10	<2
19974		<5	<.1	<5	12	4	<10	<10	<2
19975		161	23	600	3700	150	18	38	<2
19976		2158	11	1700	15200	120	31	<10	<2
19977		330	2.8	1100	3300	71	13	<10	<2
19978		<5	.3	100	270	16	<10	<10	<2
19979		<5	<.1	<5	19	5	<10	<10	<2
19980		<5	.1	6	21	8	<10	<10	<2
19981		<5	.1	<5	26	19	<10	<10	<2
19982		<5	.1	<5	13	5	<10	<10	<2
19983		6	.2	<5	14	6	<10	<10	<2
19984		<5	.2	5	36	32	<10	<10	<2
19985		<5	.1	<5	5	5	<10	<10	<2
19986		6	.1	34	30	9	<10	<10	<2
19987		12	.2	7	22	7	<10	<10	<2
19988		31	.3	11	29	21	<10	<10	<2
19989		106	.3	35	70	34	<10	<10	<2
19990		68	.3	7	42	18	<10	<10	<2

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Client: PAUL DIRCKSEN
ORVANA RESOURCES
2005 IRONWOOD PKWY #222
COEUR D'ALENE ID 83814

RE: STANDARD PACKAGE

CLIENT SAMPLE ID	Test : / Units : / Method:	Au ppb FA+AA	Ag ppm FA+AA	Pb ppm ICP	Zn ppm ICP	Cu ppm ICP	As ppm ICP	Sb ppm ICP	Mo ppm ICP
19991		156	.9	21	94	73	37	<10	<2
19992		11	.1	<5	140	4	<10	<10	<2
19993		8	.5	61	220	7	<10	<10	<2
19994		<5	.2	31	180	3	<10	<10	<2
19995		59	1.1	280	260	10	24	<10	<2
19996		118	.5	58	220	19	29	<10	<2
19997		83	.2	10	70	16	75	<10	<2
19998		<5	<.1	<5	34	15	<10	<10	<2
19999		<5	<.1	13	48	17	<10	<10	<2
20000		<5	<.1	<5	27	12	<10	<10	<2
20001		N/S	N/S	N/S	N/S	N/S	N/S	N/S	N/S
20002		<5	.1	5	24	13	<10	<10	<2
20003		5	<.1	<5	51	29	<10	<10	<2
20004		<5	.1	<5	42	18	<10	<10	<2
20005		<5	<.1	10	38	18	<10	<10	<2
20006		<5	<.1	<5	38	17	<10	<10	<2
20007		<5	.1	<5	39	23	<10	<10	<2
20008		<5	.1	<5	37	25	<10	<10	<2
20009		<5	.1	<5	35	14	<10	<10	<2
20010		80	.3	54	140	21	29	<10	<2
20011		5	<.1	<5	20	12	<10	<10	<2
20012		<5	.1	12	64	31	<10	<10	<2
20013		5	<.1	<5	22	13	<10	<10	<2

SVL ANALYTICAL, INC.
REPORT OF ANALYTICAL RESULTS

SVL Job Number :X20179
Sample Receipt : 6/15/92
Date of Report : 6/30/92
No. of Samples : 63 Core

Client: PAUL DIRCKSEN
ORVANA RESOURCES
2005 IRONWOOD PKWY #222
COEUR D'ALENE ID 83814

RE: STANDARD PACKAGE

CLIENT SAMPLE ID	Test : K	Ba
	Units : %	ppm
	Method: ICP	ICP
19951	0.02	6
19952	0.03	6
19953	0.03	6
19954	0.02	5
19955	0.03	6
19956	0.03	11
19957	0.03	7
19958	0.04	7
19959	0.02	6
19960	0.03	6
19961	0.02	10
19962	<.02	9
19963	<.02	5
19964	<.02	6
19965	0.02	8
19966	0.03	6
19967	0.02	7
19968	0.04	9
19969	0.03	7
19970	0.03	11
19971	0.04	17
19972	0.04	11
19973	0.04	11
19974	0.02	8
19975	0.03	7
19976	0.03	8
19977	0.04	9
19978	0.06	12
19979	0.03	10
19980	0.06	15
19981	0.06	16
19982	0.04	15
19983	0.04	14
19984	0.59	84
19985	0.02	8
19986	0.03	8
19987	0.04	6
19988	0.10	20
19989	0.16	22
19990	0.11	18

SVL ANALYTICAL, INC.
REPORT OF ANALYTICAL RESULTS

SVL Job Number :X20179
Sample Receipt : 6/15/92
Date of Report : 6/30/92
No. of Samples : 63 Core

Client: PAUL DIRCKSEN
ORVANA RESOURCES
2005 IRONWOOD PKWY #222
COEUR D'ALENE ID 83814

RE: STANDARD PACKAGE

CLIENT SAMPLE ID	Test : K	Units : %	Method: ICP	Ba ppm ICP
19991		0.39		61
19992		<.02		5
19993		<.02		2
19994		<.02		3
19995		0.03		8
19996		0.07		11
19997		0.09		10
19998		0.08		11
19999		0.53		77
20000		0.08		12
20001		N/S		N/S
20002		0.06		8
20003		0.31		43
20004		0.14		21
20005		0.25		31
20006		0.23		41
20007		0.28		36
20008		0.50		60
20009		0.23		24
20010		0.07		8
20011		0.15		19
20012		1.5		160
20013		0.33		22

This report has been reviewed and is certified to be accurate.

Reviewed By: C. Meyers Date: 6-30-92 Charges : $1,016.80