52E10SW8547 63.5282 SHOAL LAKE

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ST. JOE CANADA INC.

FINAL REPORT FOR OMEP APPLICATION

OM86-3-C-265

GEOLOGY AND DIAMOND DRILLING

SHOAL LAKE AREA, NORTHWESTERN ONTARIO

TORONTO, APRIL 1988

OM86-3-C-265

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Summary

In October, 1985, St. Joe Canada Inc. entered into an earn-in/joint venture agreement with Kenora Prospectors and Miners Limited on the 33 patented claim Shoal Lake (KPM) property located 60km west of Kenora in northwestern Ontario. Seventy-eight unpatented mining claims on the northeast shore of Shoal Lake now fall under the same agreement.

The property covers a prospective geological environment in which gold is associated with quartz veins hosted by major shear zones. Two former producers, the Mikado Mine (produced 57,813t grading 17 g/t gold) and the Cedar Island Mine (produced 16,997t grading 10 g/t gold) are located on the property.

In 1985, prior to the signing of the St. Joe-KPM agreement, Kenora Prospectors and Mines discovered the mainland along strike extension of the Cedar Island shear zone. The shear zone was trenched over a strike length of 350m and returned significant assays including 20.9 g/t gold over 1.2m along a 30m strike length and 7.1 g/t gold over 1.1m along a 6.1m strike length.

Subsequently, St. Joe has carried out geological mapping and completed 24,860m of diamond drilling in 127 holes. A total of 6796m of drilling in 25 holes were completed under OMEP designation OM86-3-C-265 during the period January 15 - October 31, 1987. The drilling was used to test the gold potential of the Cedar Island mainland shear zone along the strike extension of the Cedar Island Mine. As of October 31, 1987 St. Joe had outlined a drill indicated reserve of 850,000 tonnes grading 7.8 g/t gold using a cut off of 3.0 g/t gold over a 1.5m true width.

A distinctive gold-bearing breccia vein located 100m south of the Main Vein was intersected with drill holes over a strike length of 150m. To date the Breccia Vein has a weighted average grade of 21.2 g/t gold over a average width of 2.18m.

Geological mapping over five unpatented claims on the eastern portion of the property outlined a sequence of north trending mafic volcanic rocks intruded felsic porphyry intrusives. Evidence of faulting was observed in the vicinity of the old Imperial Mine.

A detailed program of diamond drilling is recommended to expand current drill indicated reserves. Follow-up drilling on the Breccia Vein, along strike and down dip step-out drilling on the Cedar Island mainland zone and reconnaissance drilling the vicinity of the Cedar Island Mine working would be the main focus of the program.

Detailed geophysical surveys are warranted to outline additional east-west structures known on the property to be prospective hosts for gold mineralization.

ST. JOE CANADA INC.
FINAL REPORT FOR OMEP APPLICATION
OM86-3-C-265
GEOLOGY AND DIAMOND DRILLING
SHOAL LAKE AREA, NORTHWESTERN ONTARIO

PART I

I INTRODUCTION

This report describes the results obtained from a geological survey and diamond drilling program completed by St. Joe Canada Inc. on the Shoal Lake Property, January 15, 1987 to October 31, 1987 under OMEP project OM86-3-C-265.

The 111 claim property, known as the Shoal Lake (KPM) property is held under a 1985 earn in/joint venture agreement between St. Joe Canada Inc. and Kenora Prospectors and Miners Ltd.

II PROPERTY DESCRIPTION, LOCATION AND ACCESS

The Shoal Lake property consists of 28 patented parcels (33 claims), and 57 unpatented mining claims in the St. Joe-KPM joint venture property and 21 unpatented claims in the Perry Option group. The 78 unpatented claims are peripheral to the original KPM property and were acquired since 1985. Kenora Prospectors and Miners and St. Joe have agreed to their inclusion in the agreement. (Figure 1 and 2)

The property is located 60km west of Kenora and 14km south of the Trans Canada Highway in Glass Township, northwestern Ontario. The property is within NTS Quadrangle 52E/10SW and the claims are recorded on Shoal Lake claim map G2642. (Figure 1)

The property is accessible by float or ski equipped aircraft, and by road and lake travel. The surface route follows the Trans Canada Highway west from Kenora, then the Rush Bay Road to Clytie Bay Landing on the north shore of Shoal Lake. The property can then be reached by a 4 kilometer boat trip from the landing in summer or, by truck or car over ice in the winter. There is barge service on the lake provided by the Shoal Lake Band No. 40 reservation.

III HISTORY OF THE PROPERTY

The Shoal Lake area has been the object of prospecting, exploration and gold mining since 1883.

Two former producing mines are present on the property. The Mikado Mine on claim D148, was first discovered in 1894. Shafts were sunk in 1896 and production from 1896 to 1902 totalled 27,615 ounces of gold from 57,813 tonnes. Several hundred ounces were produced from subsequent work in 1910-11 and 1931 (Figure 3).

The Cedar Island Mine located on claim D212 was first developed in 1897 and 997 ounces of gold were produced. The mine was reopened and deepened in 1935 and 1936 when 4,768 ounces of gold were recovered from 16,997 tonnes of ore.

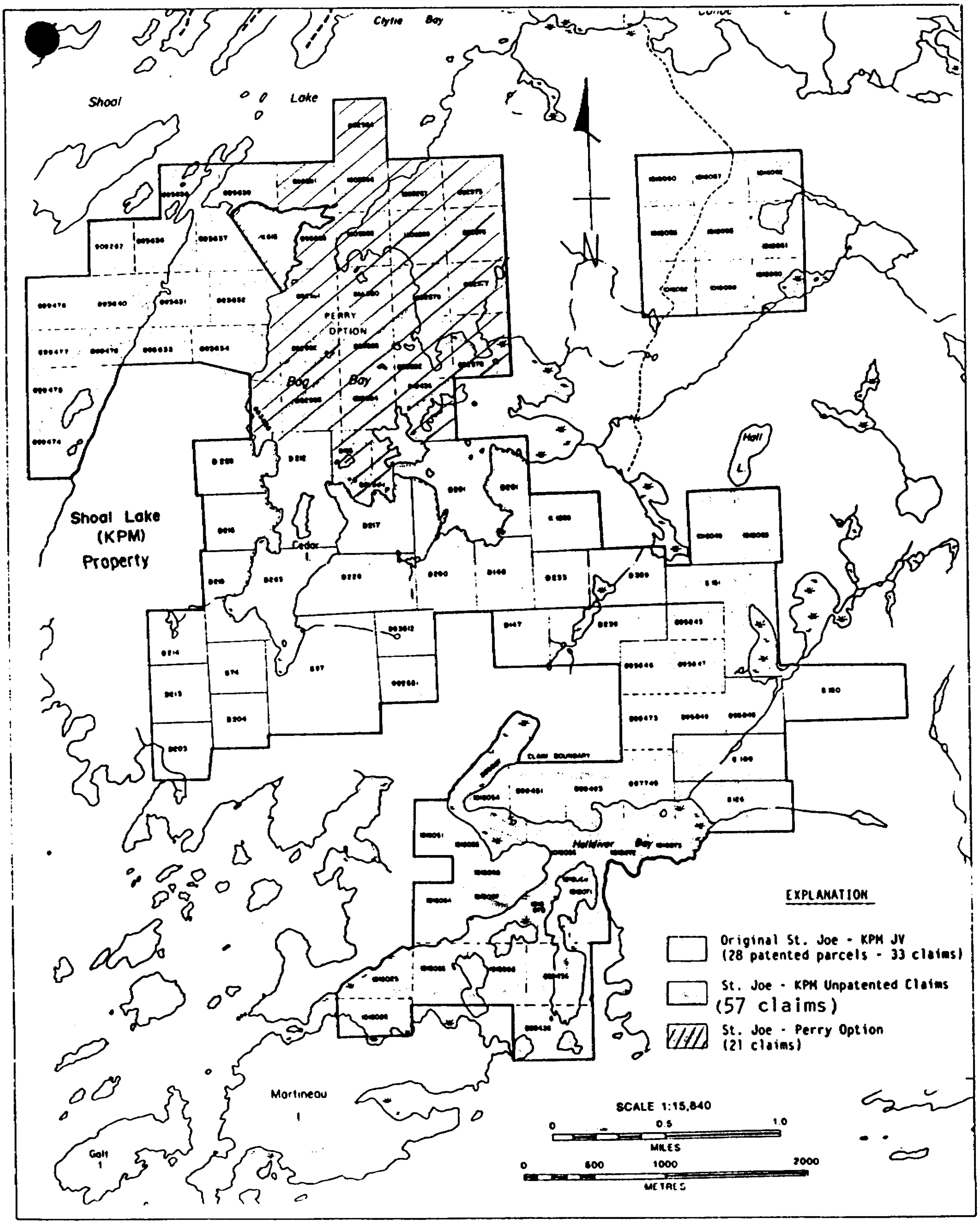


FIGURE 1: Property Claim map.

No exploration was carried out on the property between 1936 and 1980. Denison Mines Ltd. optioned the property in 1980 and completed limited ground geophysics, minor trench sampling and 1318m of diamond drilling. They relinquished their option in 1982. The Granozone mineralized structure, located 60m east and sub-paralleling the Mikado No. 2 Vein was discovered through Denison's diamond drilling in 1981. Drilling returned gold values up to 10.54 g/t gold over 2.4m and 72 g/t gold over 0.9m.

In 1985, Kenora Prospectors and Miners encountered significant gold mineralization from surface trenching and sampling on the mainland east of and along strike from the Cedar Island Mine. The shear was trenched over a strike length of 350m and returned gold values up to 20.9 g/t gold over 1.2 along a 30m strike length and 7.1 g/t gold over 1.1m along a 6.1m strike length.

An earn-in joint venture agreement was executed in October 1985 between St. Joe and KPM to explore the original 33 patented claims. Immediately following this agreement St. Joe initiated a 90 line km geophysical survey (VLF-EM, magnetometer and I.P.) over the known shear zones and parallel shears in order to establish drill targets. To date, five phases of diamond drilling totalling 24,860m in 127 holes has been completed on a variety of targets including the Cedar Island Mainland Zone, Peninsula Zone, Granozone, Ontario Veins and the Breccia Zone (Figure 3). To date St. Joe has outlined a drill indicated reserve of 850,000 grading 7.8 g/t gold using a cut-off of 3.0 g/t over a 1.5m true width.

PART II

VI <u>GEOLOGY AND MINERALIZATION</u>

Archean rocks of the Superior Province of the Precambrian Shield underlie the property, which lies on and near the southwest margin of the Canoe Lake granodiorite stock. The volcanic assemblage consists of an alternating sequence of north-striking, east-dipping, fine to medium-grained pillowed and feldspar phyric basalt flows intercalated with coarse-grained flows of gabbroic composition. The rocks are folded into a northeast trending anticline with the axis trending in close proximity to the Cedar Island Mine.

Gold mineralization on the KPM property is associated with two major directions of shearing. One strikes about 300°, dips 70° to the southeast, and includes the Cedar Island Mainland, Peninsula, Sirdar and Ontario Vein shear zones. The other one strikes about 340°, dips 70° to the northeast and is coincident with the Mikado, Grano and possibly the Breccia Zone (Figure 3).

The shear zones contain abundant fine-grained pyrite, occasional visible gold, chalcopyrite and sphalerite. Pervasive carbonatization and silicification are characterized by grey, glassy, fracture-filled veins, crack and seal veins and brecciated veins.

V <u>DIAMOND DRILLING</u>

Diamond drilling carried out under OMEP designation OM86-3-C-265 consisted of 25 holes totalling 6796m of NQ and BQ core completed on the Cedar Island Mainland Shear Zone.

The main purpose of the program was to test the gold potential of the Cedar Island Mainland shear zone along the strike extension of the Cedar Island Mine.

The holes were drilled by Midwest Drilling of Winnipeg, Manitoba using a Boyles unitized skid mounted drill. Core recovery averaged better than 95 percent and drilling proceeded at a rate of 65m per day per rig including moves.

A total of 1380 core samples were submitted to Custom Fire Assay of Cochenour, Ontario and analyzed for gold.

(i) <u>Metallurgy</u>

Metallurgical tests on diamond drill core samples from five holes completed prior to OMEP project OM86-3-C-265 were performed by Lakefield Research. Amalgamation cyanidation and flotation processes were employed to test gold recovery and results were submitted in a report dated October 7, 1987 (Appendix C).

Overall gold recovery using all three processes was in the 98 to 99 percent range with 10 to 40 percent of the gold reporting in the amalgam, 40 to 60 percent of the gold in cyanide solution, and 10 percent in the flotation concentrate. Combined amalgamation and cyanidation recoveries were less than 90 percent.

(ii) <u>Drill Results</u>

Plans 1 to 20 inclusive show the main lithological features and mineralization that was encountered in the 25 holes. Plan 21 shows the collar locations and surface projections of the drill holes. Table 1 summarizes the drill data.

The dominant rock type intersected in the drill holes is a dark green, fine grained, massive feldspar phyric basalt showing pillowed, and medium to coarse grained phases.

This lithology is very distinctive and is characterized by subhedral to euhedral feldspar phenocrysts up to 5cm in size. The phenocrysts vary in abundance from greater than 35 percent to less than one percent. The presence and distribution of phenocryst bearing sections is highly variable both laterally and with depth. A typical drill hole may show a number of feldspar phenocryst bearing sections of varying thickness alternating with homogenous, occasionally coarser grained equivalents. There is a gradational transition between these compositional and textural phases.

The volcanic rocks are intruded by numerous felsic units which display conformable as well as variable crosscutting relationships with the host rock. The intrusive rocks range in composition from granite to diorite and can be aplitic to pegmatitic in texture. For the most part they are altered, showing some degree of potassium and/or silicic overprinting together with quartz vein intrusion. Lamprophyre dykes have been observed and are correlatable between drill sections. The dykes appear to have been emplaced during the latest stage of volcanic activity.

They are vertically offset in places and feature a shallow southerly dip of about 35 degrees. Their displacement may be related to vertical tectonics resulting from the intrusion of the Canoe Lake stock.

As mentioned previously the purpose of the diamond drill program was to evaluate the potential for gold mineralization in the vicinity and along strike of the Cedar Island Mine, a former gold producer. The majority of drilling tested the eastern strike extension of the shear zone on the mainland located 300m east of Cedar Island.

The shear zone was tested over a total strike length of 1.7km bounded between drill hole K87-89, collared on the lake at L4+00E and K87-94, collared at 20+80E. The zone was tested between a 25m vertical depth in K87-100 and a 310m vertical depth in K87-85.

Holes K87-88 and 89 were collared between L4+00E - L4+50E in the vicinity of Cedar Island, holes K87-82-87, K87-99, 102, 103 and 106 were collared on the mainland between L8+50E - L12+00E, and the remaining holes K87-90-98, K87-100, 101 and 104 were collared along the eastern extension between L12+00E and L20+80E.

The drill data indicate the Cedar Island Mainland shear zone is characterized by numerous quartz veins, and stringers consisting of a continuous, predictable "vein" called the Main Vein. It is flanked up dip and down dip by a series of multiple stringers/veins defined as Hangingwall Veins 1, 2 and 3 and Footwall Veins 1 and 2. The veins are structurally controlled, recognized as fracture infill, crack and seal and breccia veins, related to the late stage emplacement of the Canoe Lake stock. The veins occupy a reactivated fault zone that has undergone multiple episodes of shearing and intrusion.

The veins trend 125 to 140°, dip subvertically to 65° southwest; dips tend to flatten with depth and to the east with a few exceptions. The veins have been traced by drilling for approximately 1.7 km between L4E and L20+80E. They show a degree of sinuosity along strike and down dip and show some dextral offset. Felsic intrusives are spatially associated with the veins and are a strong component of the structural zone(s).

The Main Vein and its associated Hangingwall and Footwall Veins generally have a poorly developed alteration envelope (ie. alteration and pyrite halo extending 0.1-1.0m on either side of veins). The individual veins do not normally exceed 0.90m in width (core length) but the zones on occasion may attain 2.5-3.0m in width.

Where the Main Vein is strongly developed several zones of closely spaced (0.15-0.30m apart) grey-blue coloured, smokey to glassy quartz or silicified material is present with intervening altered sulphide-bearing basalt and/or remnant intrusive material.

Where the Main Vein is more weakly developed one or possibly two narrow discrete veins (0.15-0.30m in width) appear and they may be well mineralized with pyrite.

TABLE I

SHOAL LAKE (KPM) DIAMOND DRILLING

SUMMARY OF SIGNIFICANT ASSAYS

Hole No.	Location	Target	Vertical Depth (m)	Gold Assay/ Core Length g/t/m	Composite Grade/ True Width g/t/m
82	9+08E/3+11S	CIMZ-HWI	-165	6.17/0.72	
		MV	-180	5.49/0.40	
83	10+08E/3+48S	CIMZ-MV	-161	8.91/1.00	8.04/1.23
				6.85/0.74	
84	11+12E/2+97S	BXV	-79	69.64/1.00	
		CIMZ-MV	-156	6.86/1.22	7.2/3.42
				8.91/1.40	
				4.80/1.00	
86	11+67E/3+49S	BXV	-108	106.3/0.85	
		CIMZ-HW3	-135	1.71/0.50	
		HW2	-158	7.54/0.40	
		HW1	-169	6.17/0.40	
89	4+00E/1+61S	CIMZ-HW2	-116	4.80/0.40	
				19.89/0.58	13.76/0.90
92	14+50E/2+98S	CIMZ-MV	-116	23.31/0.40	
				2.74/0.40	11.87/0.63
93	13+84E/2+12S	FW1	-78	14.40/0.40	
95	13+21E/3+01S	CIMZ-HW1	-103	24.68/0.72	
		HW3	-62	21.94/0.40	
97	12+43E/3+09S	CIMZ-HW2	-118	2.06/0.40	3.78/0.65
				5.49/0.40	
98	19+47E/3+51S	CIMZ-HW3	-51	10.29/0.65	
99	12+47E/4+40S	BXV	-128	4.80/1.50	
		VEIN		68.1/0.47	10.60/3.20
				12.1/0.55	
		CIMZ-MV	-220	3.1/1.03	4.36/1.90
				7.2/0.71	
101	12+92E/4+47S	CIMZ-HW2	-203	3.43/0.40	
		MV	-230	6.17/0.40	
				1.37/0.68	3.18/1.00

TABLE I (cont'd)

SHOAL LAKE (KPM) DIAMOND DRILLING

SUMMARY OF SIGNIFICANT ASSAYS

Hole No.	Location	Target	Vertical Depth (m)	Gold Assay/ Core Length g/t/m	Composite Grade/ True Width g/t/m
102	10+63E/4+46S	CIMZ-HW1	-223	7.5/1.50	
		MV	-234	9.94/1.25	
103	9+65E/3+98S	CIMZ-MV	-220	10.29/0.47	
104	14+31E/4+56S	CIMZ-MV	-217	10.97/0.40	
106	8+65E/3+69S	CIMZ-MV	-229	1.37/0.50	
				1.37/0.57	
				11.66/0.66	
				2.06/0.53	4.80/2.10

Explanation

CIMZ	Cedar Island Mainland Zone
HW1	Hangingwall One Vein
HW2	Hangingwall Two Vein
HW3	Hangingwall Three Vein
MV	Main Vein
BXV	Breccia Vein
FWI	Footwall One Vein

Silicified or quartz veined sections generally contain calcite, mafic wallrock inclusions, chloritized partings and sulphides. Two generations of quartz are present: a/ grey to white quartz and, b/ glassy, smokey grey-blue quartz. The latter contains the strongest sulphide concentration and returns the best gold values.

At least two generations of sulphide mineralization are present. The predominant sulphide is fine grained pyrite followed to a much lesser extent by pyrrhotite with only the occasional appearance of sphalerite and chalcopyrite.

Pyrite is variably distributed as laminations, bands, clots or masses and discrete disseminations. The ratio of fine to coarse grained pyrite is 2 to 1 with the former being more conformable along vein contacts and chloritized partings. Coarse grained pyrite can be seen superimposed and surrounded by fine grained pyrite.

The Hangingwall and Footwall Veins are secondary structures to the Main Vein and tend to be narrow, stringered quartz-calcite veins. Several stringers may define one hangingwall or footwall vein zone. They are separated from the Main Vein and each other from between 5m and 25-30m and tend to separate with depth. The veins correlate between drill holes which gives positive evidence as to their continuity but to a lesser degree than the Main Vein.

Massive sulphide (pyrrhotite ± pyrite ± chalcopyrite) horizons (up to 10m wide) occur above and below the Main Vein and in hole K87-102 cross-cut the Main Vein. These horizons may represent interflow sediments and reflect periods of cessation in volcanic activity. The drill holes intersect these horizons at low angles (0°-30°) and they are not definitely correlatable along strike or down dip. The sulphide horizons have returned 10.97 g/t gold over 1.50m and 13.70 g/t gold over 1.25m in hole K87-102. They have been either found on surface or as drill intersections on Cedar Island, the Peninsula Zone and the mainland between L8+50E-L12+50E.

St. Joe drilled 10 holes (ie. K87-82-87, K87-99, K87-102, 103 and K87-106) into the Main Vein between L8+50E and 12+50E. The most significant gold mineralization was encountered in this area with gold values ranging up to 7.2 g/t gold over a 3.42m true width. Vertical vein intercepts ranged between 150m to 225 meters below surface (ie. datum 1323 elevation-Bag Bay). K87-92 collared at 14+30E intercepted the Main Vein at 116m vertical and returned 11.87 g/t gold over a 0.63m true width (Table 1).

Hanging Wall Vein gold mineralization is more erratic than Main Vein mineralization. The best Hangingwall One Vein gold values were intersected in holes K87-82, 95 and 102. K87-95 collared at 13+21E intersected 24.68 g/t gold over 0.72m at a 103m vertical depth.

K87-104 collared at 14+31E intersected the Hangingwall Two Vein which returned 13.71 g/t gold over 0.8m at a vertical depth of 195 meters.

The best gold mineralization intersected in the Hangingwall Three Vein was found in holes K87-95 and 98. K87-98 collared at 19+47E returned 10.29 g/t gold over 0.65 meters at a vertical depth of 51 meters (Table 1).

A very distinctive, carbonatized, brecciated quartz vein mineralized with visible gold, pyrite, cholcopyrite and sphalerite was intersected in three drill holes (K87-84, 86 and 99) over a strike length of 150 meters between L11+00E and 12+50E. The three drill intercepts have a weighted average grade of 21.2 g/t gold over an average width 2.18m. The geometry of the vein is not fully understood however drill data suggests it may be a southeast plunging, flat dipping lenticular high grade gold shoot which trends subparallel to and is located about 100 meters south of the Main Vein.

VI GEOLOGICAL SURVEY

The survey was carried out on unpatented mining claims K895845-849 inclusive between June 15 - June 19, 1987 by:

Kevin Leonard 886 Tanager Avenue Burlington, Ontario L7T 2Y2	Bruce Fagan R.R. #4 Coldwater, Ontario L0K 1E0

Data from the mapping survey have been plotted on Plan 22, located in the accompanying folder.

A grid was established with pickets spaced 25 meters apart. Crosslines were turned off the baseline at 100m intervals and were cut and picketed at 25 meter spacings. The survey was completed at a scale of 1:2500.

(i) Shoal Lake (KPM) Claims Geology

The claims are underlain by a sequence of north-trending mafic volcanic rocks of basaltic and gabbroic composition which are in sharp contact to the west with the Canoe Lake quartz-diorite stock. The volcanic assemblage has been intruded by two prominent east-west trending and several subordinate variably oriented quartz-feldspar-porphyry dykes or sills.

A unit of gabbro occupies the western third of the map area. It is dark green in colour, medium to coarse-grained and contains abundant feldspar phenocrysts up to 1cm in length. The weathered surface exhibits an interstitial salt and pepper texture and is in part "warty" in appearance. The "warts" are raised epidote knots which stand up in relief relative to the surrounding matrix. Outcrops with this texture are located along the 6+00N baseline between L3+00E and L4+00E. Sulphides present include pyrite and pyrrhotite locally distributed along fracture faces and narrow shear bands adjacent the contact with the feldspar phyric basalt.

Feldspar phyric basalt covers the north-central and southern two-thirds of the claims. This unit overlies the gabbro to the west and forms a gradational and locally sheared contact with the former. The rock is dark green, fine to medium-grained, massive to locally pillowed, containing up to 4cm subhedral carbonate-altered plagioclase pseudomorphs (phenocrysts). It's constituent mineralogy comprises interlocking laths of oligoclase and hornblende (80%) with minor quantities of mafic (chlorite and biotite) minerals and trace sulphides.

The Canoe Lake stock covers the northeast corner and southeast edge of the claims. It is in sharp contact with the feldspar phyric basalt flows and forms a heterogenous quartz-diorite intrusive body which is light grey in colour, medium to coarse-grained, equigranular, and porphyritic with abundant quartz phenocrysts up to 2cm in diameter. The stock consists of quartz, oligoclase, sericite, biotite, hornblende and trace pyrite.

Two east-west trending quartz-feldspar-porphyry dykes or sills intrude the volcanic sequence. They contain abundant quartz and feldspar phenocrysts in a medium-grained groundmass. The groundmass consists of quartz, plagioclase, biotite, chlorite and sericite. These units may be late stage crystallization products of the Canoe Lake stock.

The rocks in this area have been regionally metamorphosed to amphibolite facies suggested by a mineral assemblage of quartz-hornblende-oligoclase-magnetite. This grade of metamorphism forms an aureole which can be traced up to 600m encircling the Canoe Lake stock and is a result of emplacement of the stock.

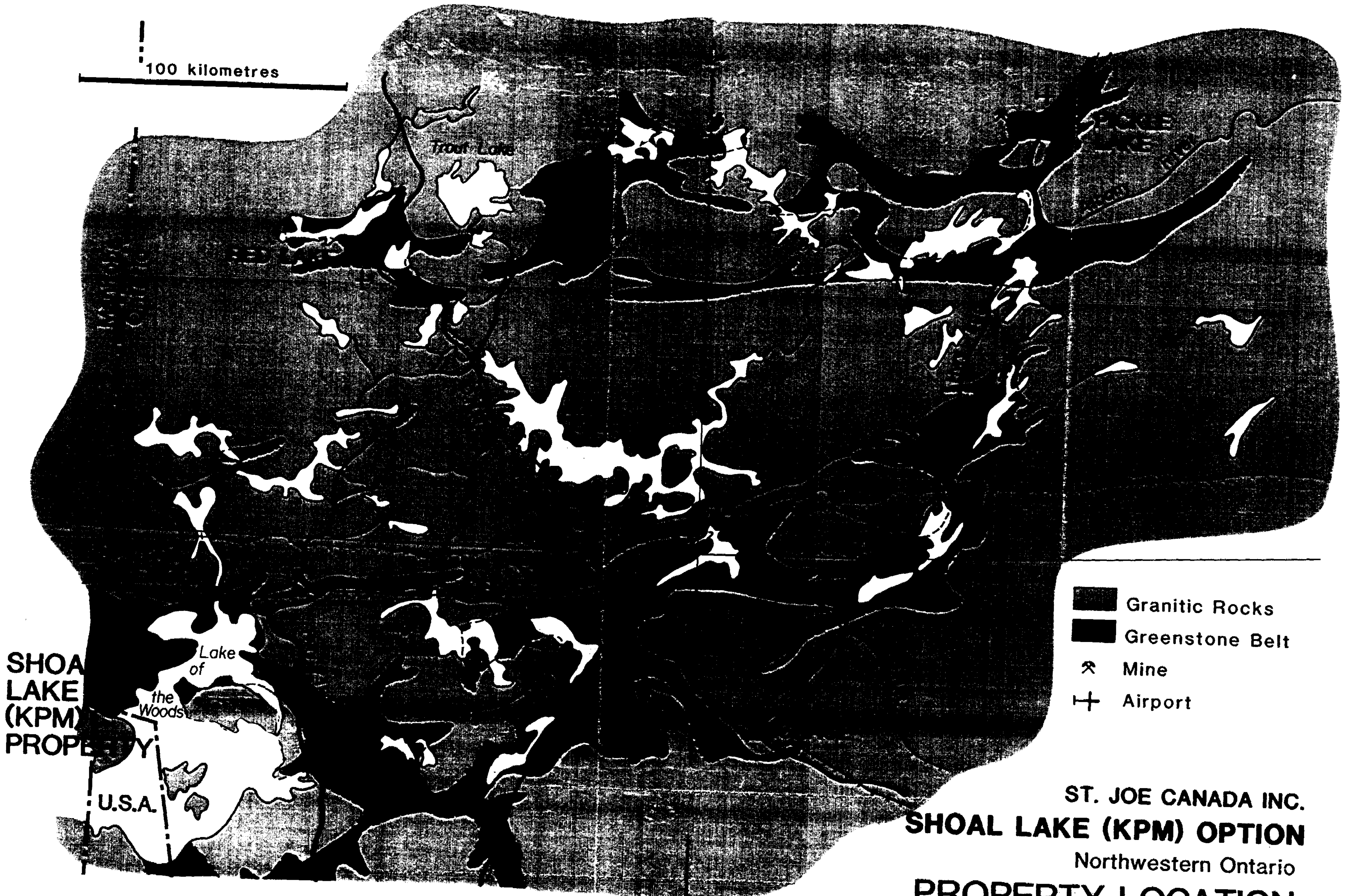
Structurally the area is relatively underformed and stratigraphic contacts strike 160° and dip 70° - 80° northeast. Evidence of faulting was found between L4+00E and L4+50E towards the northwest portion of the claims. This structure strikes 20° and has been traced for 350 meters. The old Imperial Mine pits and trenches are spatially associated with this feature. The Imperial Mine shear zone consists of poorly developed, discontinuous quartz stringers hosted within weakly altered, limonitic feldspar phyric basalt flows. The wallrock contains trace to 1% pyrite in locally distributed disseminations. The zone trends 25° - 35° and dips 75° northeast.

VII <u>RECOMMENDATIONS</u>

A detailed program of diamond drilling is recommended to expand the current drill indicated gold mineralization. Follow-up drilling on the Breccia Vein Zone; along strike and down dip step-out drilling on the Cedar Island Mainland Zone and reconnaissance drilling in the vicinity of the Cedar Island Mine workings should be the main focus of the program.

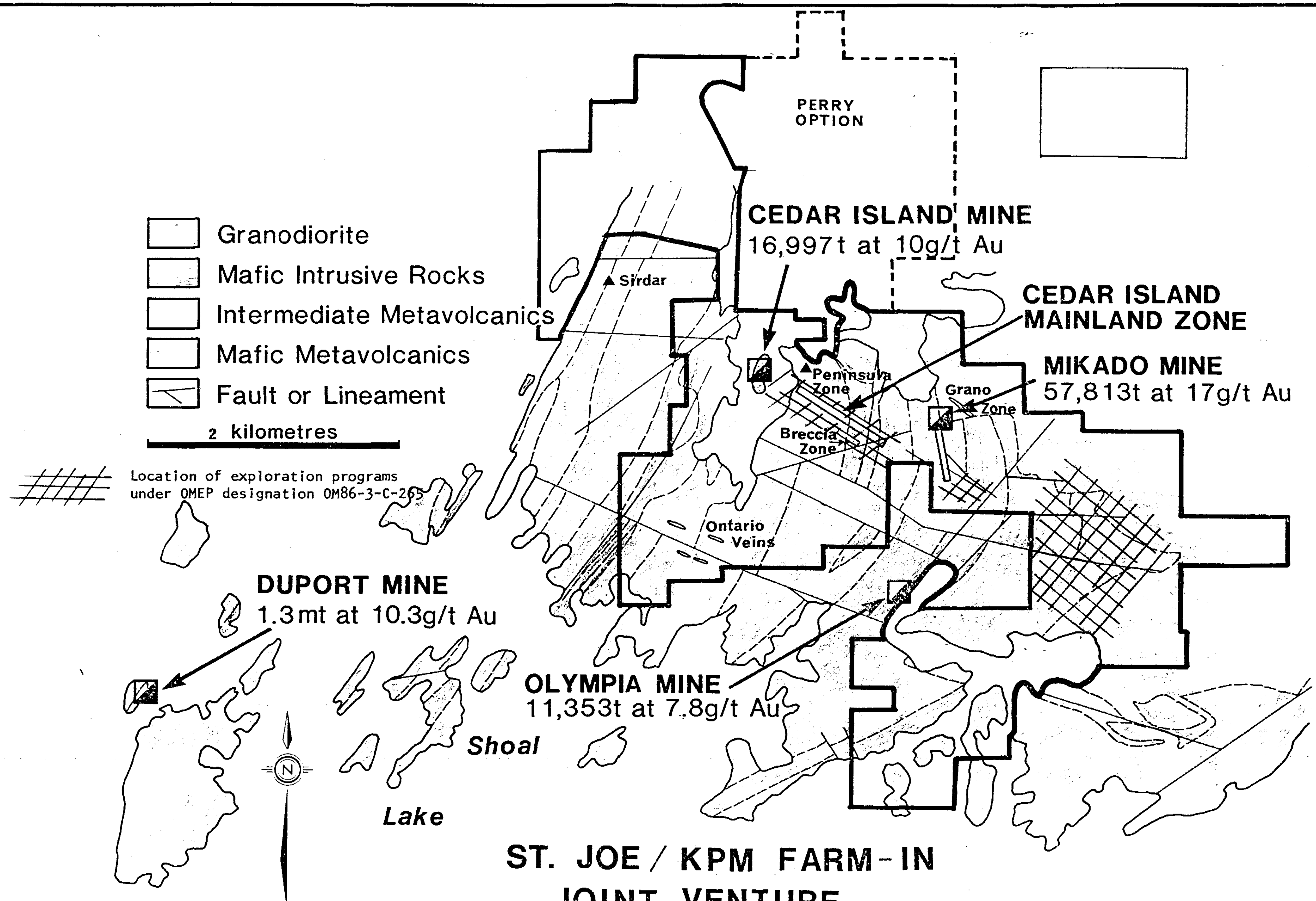
Concomittant with diamond drilling a program of detailed VLF-EM and magnetometer surveys is warranted in order to outline additional east-west structures known on the property to be a prospective host for gold mineralization.

Kevin Leonard



ST. JOE CANADA INC.
SHOAL LAKE (KPM) OPTION
Northwestern Ontario
PROPERTY LOCATION

FIGURE 2



ST. JOE / KPM FARM-IN
JOINT VENTURE
REGIONAL GEOLOGY & LAND HOLDINGS

FIGURE 3

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IX CERTIFICATE

I, Kevin Leonard, of the City of Burlington, Province of Ontario, do hereby certify that:

1. I reside at 886 Tanager Avenue, Burlington, Ontario.
2. I have worked as a geologist for the last 9 years.
3. I am a graduate of McMaster University with an Honours Degrees (1978) in Geology.
4. I am a member of the Prospectors and Developers Assoc. of the Canadian Institute of Mining and Metallurgy, and of the Geological Association of Canada.
5. The diamond drilling, geological mapping were done under my supervision. I have written this OMEP report.

Kevin Leonard

Kevin Leonard

DATED AT TORONTO this 28th day of April, 1988.

APPENDIX A

Diamond Drill Logs
K87-82-104 inclusive
K87-106
(in accompanying folder)

APPENDIX B

Laboratory Result Sheets for Drill Core Assays

PAUL'S CUSTOM FIRE ASSAYING LTD.

Phone: Bus. (807) 662-817
Res. (807) 662-336

PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

Au Ag

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Jan. 26-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-9701	Proj. #232	Trace	
2	02		"	
3	03		.06	
4	04	DM	.26	
5	05		.32	
6	06	JAN 29 1987	.08	
7	07		.01	
8	08		.11	
9	09	ab	Trace	
10	10	mk	.04	
11	11		Trace	
12	12		"	
13	13		.01	
14	11077		Trace	
15	78		"	
16	79		"	
17	80		"	
18	81		.01	
19	82		Trace	
20	83	K-87-82	"	
21	84		.02	
22	85		.04	
23	86		.18	
24	87		.02	
25	88		Trace	

Assayer: [signature]

PAUL'S CUSTOM FIRE ASSAYING LTD.

Phone: Bus. (807) 662-8171
Res. (807) 662-3361

PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Jan. 26-87

Sample No.	Description	oz/ton Au	oz/ton Ag
K-11089	Proj. #232	Trace	
90		"	
91		.06	
92		.08	
93		Trace	
94		"	
95	K-87-82	"	
96		"	
97		.06	
98		.08	
99		.08	
11100		.16	
01		.01	
02		Trace	
03		"	
04		"	
05		"	
06	K-87-83	"	
07		.16	
08		Trace	
09		.11	

Assayer: [illegible signature]

Received Feb 5

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Res. (807) 662-3361

PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Jan. 28-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11110	Proj. #332	Trace	
2	11		.08	
3	12		Trace	
4	13		"	
5	14		"	
6	15		"	
7	16		"	
8	17		"	
9	18		"	
10	19		"	
11	20		"	
12	21	K-87-53	"	
13	22		"	
14	23		"	
15	24		"	
16	25		"	
17	26		.18	
18	27		Trace	
19	28		"	
20	29		"	
21	30		"	
22	31		"	
23	32		.26	
24	33		.20	
25	34		Trace	

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Jan. 31-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11135	Proj. #332	Trace	
2	36	DTM	"	
3	37		"	
4	38		"	
5	39	SB counted	"	
6	40	MK	"	
7	41	ok	"	
8	42		"	
9	43	K-87-84	"	
10	44		"	
11	45		"	
12	46		"	
13	47		"	
14	48		"	
15	49		.01	
16	50		Trace	
17	51		"	
18	52		"	
19	53	K-87-82	"	
20	54		"	
21	55		"	
22	56		"	
23	57		"	
24	58	K-87 83	"	
25	59		"	

Assayer: Paul Okanski

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PAUL OKANSKI, Assayer
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Au Ag

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Jan. 31-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11160	Proj. #332	Trace	
2	61		.01	
3	62		Trace	
4	63		"	
5	64		"	
6	65		"	
7	66		"	
8	67		"	
9	68	K-87-84	"	
10	69		"	
11	70		.14	
12	71		Trace	
13	72		.04	
14	73		Trace	
15	74		1.18	
16	75		Trace	
17	76		"	
18	77		"	
19	78		"	
20	79		"	
21	80		"	
22	81		"	
23	82	K-87-84	"	
24	83		"	
25	84		.01	

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Jan. 31-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11185	Proj. #332 K-87-84	Trace	
2	86		"	
3	87	K-86-75	"	
4	88		"	
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Assayer: Paul Okanski

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 2-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11189	Proj. #332	.24	
2	90		.01	
3	91	DTW	4.12	
4	92	K-87-84	.20	
5	93		.16	
6	94		.20	
7	11201		Trace	
8	02	K-87-85A	"	
9	03		"	
10	04		"	
11	05	K-86-46	"	
12	06		"	
13	11169	Pulp Reruns	"	
14	70		.12	
15	71		Trace	
16	72		.04	
17	73		1.20	
18	74	K-87-84	Trace	
19	75		"	
20	76		"	
21	77		"	
22	78		"	
23	79		"	
24	80		"	
25	81		"	

Assayer: [signature]

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Au Ag

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 2-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11162	Proj. #332 (Pulp Reruns)	Trace	
2	63		"	
3	64		.01	
4	65		Trace	
5	66		"	
6	11169	Rejects	Trace	
7	70		.18	
8	71		Trace	
9	72		.04	
10	73		Trace	
11	74		1.66	
12	75	K-87-84	Trace	
13	76		"	
14	77		"	
15	78		"	
16	79		"	
17	80		"	
18	81		"	
19	82		.32	
20	83		Trace	
21	84		.12	
22	85		Trace	
23	86		"	
24	11191	RERUNS K-87-84	2.94	
25	92		.12	

Assayer [signature]

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 2-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11193	Proj. #332 (Rejects) K-87-84	.03	
2	934		.22	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 12-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	11195	Proj. #332	Trace	
2	96	DM	"	
3	97	K - 87 - 85	"	
4	98	FEB 20	"	
5	99		"	
6	11200	MK	"	
7	11207		"	
8	08		"	
9	09		"	
10	10		.01	
11	11		Trace	
12	12		"	
13	13		"	
14	14		"	
15	15		"	
16	16	K - 87 - 85	"	
17	17		"	
18	18		"	
19	19		"	
20	20		"	
21	21		"	
22	22		"	
23	23		"	
24	24		"	
25	25		"	

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Au Ag

t. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 12-87

Sample No.	Description	oz/ton Au	oz/ton Ag
11226	Proj. #332	Trace	
27		"	
28		"	
29		.04	
30		.08	
31		Trace	
32		"	
33		"	
34		"	
35		"	
36	K-87-85	"	
37		"	
38		.01	
39		Trace	
40		.02	
41		Trace	
42		"	
43		.02	
44		Trace	
45		"	
46		.01	
47		Trace	
48		"	
49		.02	
50		Trace	

Assayer: [signature]

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 12-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	11251	Proj. #332	Trace	
2	52	K-87-85	"	
3	53		"	
4	54		"	
5	55		"	
6	56		"	
7	57		"	
8	58	K-87-86	"	
9	59		"	
10	60		"	
11	61		"	
12	62		"	
13	63		"	
14	11229	Pulp Reruns	.04	
15	30	K-87-85	.10	
16	11229	Rejects	.04	
17	30		.14	
18				
19				
20				
21				
22				
23				
24				
25				

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St. Jo e CAnada Inc.

ASSAY CERTIFICATE

Date: Feb. 16-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11264	Proj. #332	Trace	
2	65		"	
3	66		"	
4	67	DM	"	
5	68		"	
6	69	FEB 23, 1987	"	
7	70		"	
8	71	MK	"	
9	72	OB	"	
10	73		"	
11	74	K-87-86	"	
12	75		"	
13	76		"	
14	77		"	
15	78		"	
16	79		"	
17	80		"	
18	81		"	
19	82		"	
20	83		"	
21	84		"	
22	85		"	
23	86		"	
24	87		"	
25	88		"	

Assayer: [signature]

Au Ag

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PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario POV 1LO

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 16-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11289	Proj. #332	Trace	
2	90		.01	
3	91		.01	
4	92		Trace	
5	93		"	
6	94		"	
7	95		"	
8	96-A		4.46	
9	B		3.44	
10	C		1.40	
11	97		Trace	
12	98	K-87-86	.08	
13	99		Trace	
14	11300		"	
15	01		"	
16	02		"	
17	03		.50	
18	04		Trace	
19	05		"	
20	06		"	
21	07		"	
22	08		"	
23	09		.22	
24	10		Trace	
25	11		"	

~~.08~~
~~Trace~~

Assayer [signature]

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Phone: Bus. (807) 662-8171
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PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

Au Ag

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 16-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11312	Proj. #332	.08	
2	13		Trace	
3	14		"	
4	15		"	
5	16		"	
6	17		"	
7	18		.18	
8	19		Trace	
9	20	K-87-86	"	
10	21		"	
11	22		.01	
12	23		Trace	
13	24		"	
14	25		"	
15	26		"	
16	27		"	
17	28		"	
18	29		"	
19	30		"	
20	31		"	
21	32		"	
22	33		"	
23	34		"	
24	35		"	
25	36		"	

Assayer: [signature]

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 16-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11337	Proj. #332	Trace	
2	38		"	
3	39	K-87-86	"	
4	40		"	
5	41		"	
6	42		"	
7	43		"	
8	44		"	
9	45		"	
10	46		"	
11	47		"	
12	48		"	
13	49		"	
14	50	K-87-87	"	
15	51		"	
16	52		"	
17	53		"	
18	54		"	
19	55		"	
20	56		"	
21	57		"	
22	58		"	
23				
24				
25				

Assayer:

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PAUL OKANSKI, Assayer
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Au Ag

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 20, 1987.

Sample No.	Description	oz/ton Au	oz/ton Ag
11359	Proj.# 332	Trace	
60		"	
61		"	
62		"	
63		.22	
64		Trace	
65		"	
66		"	
67		.01	
68		Trace	
69		"	
70	K-87-87	"	
71		"	
72		"	
73		"	
74		"	
75		"	
76		"	
77		"	
78		"	
79		"	
80		"	
81		"	
82		"	
83		"	

Assayer. ____________

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Res. (807) 662-3361

PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario POV 1L0

St. Joe Canadax Inc.

ASSAY CERTIFICATE

Date: Feb. 20, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	11384	Proj.#332	Trace	
2	85		.02	
3	86		Trace	
4	87		"	
5	88		"	
6	89		"	
7	90		"	
8	91		"	
9	92		.04	
10	93		Trace	
11	94	K-87-87	"	
12	95		.14	
13	96		Trace	
14	97		"	
15	98		"	
16	99		"	
17	11400		"	
18	01		.06	
19	02		Trace	
20	03		"	
21	04		"	
22	05		"	
23	06		"	
24	07		.04	
25	08		Trace	

Assayer [illegible]

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PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 20, 1987.

Sample No.	Description	oz/ton Au	oz/ton Ag
11409	Proj.#332 K-87-87	Trace	
10		"	
11		"	
12		"	
13		.60	
14		Trace	
15		"	
16	K-86-52	"	
17		"	
18		.42	
19		Trace	
20-A		"	
20-B		.20	
21		.80	
22		.16	
23		Trace	

Assayer

received Mar 5

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PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 24-87

Sample No.	Description	oz/ton Au	oz/ton Ag
K-11424	Proj. #332	Trace	
25		"	
26		"	
27	K-86-76	"	
28		"	
29		"	
30		"	
31		"	
32		"	
33		"	
34		"	
35		"	
36	K-87-88	"	
37		"	
38		"	
39		"	
40		"	
41		"	
42		"	
43		"	
44		"	
45		"	
46		.01	
47	K-86-76	Trace	
48	K-87-88	.01	

Assayer Paul Okanski

PAUL'S CUSTOM FIRE ASSAYING LTD.

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PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario POV 1L0

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 24-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11449	Proj. #332	.02	
2	50	K-87-88	Trace	
3	51		"	
4	52		"	

Assayer Paul Okanski

Received Mar 5

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Phone: Bus. (807) 662-8171
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PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

St.Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 28-87

Sample No.	Description	oz/ton Au	oz/ton Ag
K-10501	Proj. #332 K-86-52	Trace	
02		"	
03		"	
04		"	
05	K-86-64	"	
06		"	
07		"	
08		"	
09		"	
10		"	
11		"	
12		"	
13		.14	
14		.58	
15		Trace	
16		"	
17	K-87-89	"	
18		"	
19		"	
20		"	
21		"	
22		"	
23		"	
24		"	
25		"	

Assayer [signature]

PAUL'S CUSTOM FIRE ASSAYING LTD.

PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

Phone: Bus. (807) 662-8171
Res. (807) 662-3361

Au Ag

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 28=87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-10526	Proj. #332	Trace	
2	27		.12	
3	28		Trace	
4	29		"	
5	30		"	
6	31		"	
7	32		"	
8	33	K-87-89	"	
9	34		"	
10	35		"	
11	36		"	
12	37		"	
13	38		"	
14	39		"	
15	40		"	
16	41		"	
17	42		"	
18	43		"	
19	44	K-87-88	"	
20	45		"	
21	X 46 11453		"	
22	54		"	
23	55	K-87-88	"	
24	56		"	
25	57		"	

Assayer [signature]

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 28-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-11458	Proj. #332	Trace	
2	59		"	
3	60		"	
4	61		"	
5	62		"	
6	63		"	
7	64		"	
8	65		"	
9	66		"	
10	67		"	
11	68	K-87-88	"	
12	69		"	
13	70		"	
14	71		"	
15	72		"	
16	73		"	
17	74		"	
18	75		"	
19	76		"	
20	77		"	
21	78		.08	
22	79		Trace	
23	80		"	
24	81		"	
25	82		"	

Assayer [signature]

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Res. (807) 662-3361

PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Feb. 28-87

Sample No.	Description	oz/ton Au	oz/ton Ag
K-11483	Proj. #332	Trace	
84		"	
85		"	
86	K-87-88	"	
87		"	
88		"	
89		"	
90		.30	
91		Trace	
92		"	
93		"	
94		"	
95	K-87-89	"	
96		"	
97		"	
98		"	
99		"	
11500		"	

Assayer Paul Okanski

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Box 253, Cochenour, Ontario P0V 1L0

Au Ag

St. [redacted] Canada Inc.

ASSAY CERTIFICATE

Date: Sept. 30, 1987.

Sample No.	Description	oz/ton Au	oz/ton Ag
2011	Proj. #332 DH 90	Trace	
12		"	
13		"	
14		"	
15		"	
16		"	
17		"	
18		"	
2021	DH 93	"	
22		"	
23		"	
24		"	
25		"	
26		"	
2029		"	
2033		"	
2501	DH 91	"	
02		"	
03		"	
04		"	
05		"	
06		"	
07		"	

Assayer [signature]

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 3, 1987.

Sample No.	Description	oz/ton Au	oz/ton Ag
K-2511	#322 DH 91	Trace	
12		"	
13		"	
14		"	
15		"	
16		"	
17		"	
18		.08	
19		Trace	
2522		"	
23		"	
2527		"	
28		"	

Assayer

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St, Joe Canada Inc,

ASSAY CERTIFICATE

Date: Oct. 3, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2042	#322	Trace	
2	43		"	
	44		"	
4	45		"	
	46		"	
	47		.04	
7	48	DH 92	Trace	
	49		.01	
9	50		Trace	
	51		"	
	52		"	
12	53		"	
	54		"	
14	55		"	
	56		"	
16	57		"	
	58		"	
	59		"	
19	60		"	
	61		"	
21	62		"	
	63		"	
	64		"	
24	65		"	
	66		"	

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Au Ag

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X St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 3, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2001	Proj. #322 DH 90	Trace	
2	02		"	
3	03		"	
4	04		"	
5	05	DH 92	"	
6	06		"	
7	07		"	
8	08		"	
9	09		"	
10	10		"	
11	2019		.01	
12	20		Trace	
13	2027		"	
14	28		"	
15	2030		"	
16	31		.01	
17	32		.01	
18	2034		Trace	
19	35		"	
20	36		"	
21	37		"	
22	38		.01	
23	39		Trace	
24	40		.02	
25	41		.08	

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 3, 1987.

Sample No.	Description	oz/ton Au	oz/ton Ag.
K-2511	#322 DH 91	Trace	
12		"	
13		"	
14		"	
15		"	
16		"	
17		"	
18		.08	
19		Trace	
2522		"	
23		"	
2527		"	
28		"	

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 3, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2067	#322	Trace	
2	68	92	["	
3	69		"	
4	70		"	
5	71		"	
6	72		"	
7	73		"	
8	74		.10	
9	75		Trace	
10	76		"	
11	77		"	
12	78		"	
13	79		"	
14	80		"	
15	81		"	
16	82		"	
17	83		"	
18	84		.68	
19	85		.08	
20	86		Trace	
21	87		"	
22	88		"	
23	K-2508	91	"	
24	09		"	
25	10		"	

xx

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PAUL OKANSKI, Assayer
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Au Ag

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 5, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2546	#332 93	Trace	
2	47		"	
3	48		"	
4	49		"	
5	50		"	
6	51		"	
7	52		"	
8	53		"	
9	54		"	
10	55		.42	
11	56		Trace	
12	57		"	
13	58		"	
14	59		"	
15	60		"	
16	61		"	
17	62		"	
18	63		"	
19	64	95	"	
20	65		.01	
21	66		Trace	
22	67		"	
23	68		"	
24	69		"	
25	70		"	

26XX X71X

Assayer: [signature]

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 5-87

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2571	Proj. #332 95	Trace	
2	2649	96	.08	
3	50		Trace	
4	51		"	
5	52		"	
6	53		.01	
7	54		Trace	
8	55		"	
9	56		"	
10	57		"	
11	58		"	
12	59		"	
13	60		"	
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 6, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2592	#332 95	.01	
2	93		Trace	
3	94		"	
4	95		"	
5	96		.72	
6	97		Trace	
7	98		.02	
8	99		Trace	
9	2600		"	
10	01	95	"	
11	02		"	
12	03		"	
13	04		"	
14	05		"	
15	06		"	
16	07		"	
17	08		"	
18	09		.01	
19	10		Trace	
20	11		"	
21	12		"	
22	13		"	
23	14		"	
24	15		"	
25	16		"	

Assayer:

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PAUL OKANSKI, Assayer
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Au Ag

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 6, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2642	#3232 96	Trace	
2	43		"	
3	44		.01	
4	45		.01	
5	46		Trace	
6	47		"	
7	48		"	
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 6, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2117	Proj. #332 94	Trace	
2	18		"	
3	19		.01	
4	20		.01	
5	21		Trace	
6	22		"	
7	23		"	
8	24	97	"	
9	25		"	
10	26		"	
11	27		"	
12	28		"	
13	29		"	
14	30		"	
15	31		"	
16	32		"	
17	33		"	
18	34		.10	
19	35		Trace	
20	36		"	
21	37		.01	
22	38		.01	
23	39		Trace	
24	40		.06	
25	41		Trace	

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct.5, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2089	Proj. #332 92	Trace	
2	90		"	
3	91		"	
4	92		"	
5	93		"	
6	94		"	
7	95	94	"	
8	96		"	
9	97		"	
10	98		"	
11	99		"	
12	2100		"	
13	01		"	
14	02		"	
15	03		"	
16	04		"	
17	05		"	
18	06		"	
19	07		"	
20	08		"	
21	09		"	
22	10		"	
23	11		"	
24	12		"	
25	13		"	

Assayer: Paul Okanski

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PAUL OKANSKI, Assayer
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Au Ag

St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 5, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2114	#332 94	Trace	
2	15		"	
3	16		"	
4	2520	91	"	
5	21		"	
6	2524		"	
7	25		"	
8	26		"	
9	2529	93	"	
10	30		"	
11	31		"	
12	32		"	
13	33		"	
14	34		"	
15	35		"	
16	36		.01	
17	37		Trace	
18	38		"	
19	39		"	
20	40		"	
21	41		"	
22	42		"	
23	43		"	
24	44		"	
25	45		"	

Assayer: [signature]

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PAUL OKANSKI, Assayer
Box 253, Cochenour, Ontario P0V 1L0

St. Joe Candda Inc.

ASSAY CERTIFICATE

Date: Oct. 6, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2617	#332 95	Trace	
2	18	96	"	
3	19		"	
4	20		.01	
5	21		Trace	
6	22		"	
7	23		"	
8	24		"	
9	25		"	
10	26		"	
11	27		"	
12	28		"	
13	29		"	
14	30		"	
15	31		"	
16	32		"	
17	33		"	
18	34		"	
19	35		"	
20	36		"	
21	37		"	
22	38		"	
23	39		"	
24	40		"	
25	41		"	

Assayer:

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 6, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2142	#332 97	Trace	
2	43		.01	
3	44		Trace	
4	2150		.06	
5	2151		.16	
6	2572	95	Trace	
7	73		"	
8	74		"	
9	75		"	
10	76		"	
11	77		"	
12	78		.04	
13	79		Trace	
14	80		"	
15	81		"	
16	82		"	
17	83		"	
18	84		.64	
19	85		Trace	
20	86		"	
21	87		"	
22	88		"	
23	89		"	
24	90		"	
25	91		"	

Assayer: Paul Okanski

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 8, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	K-2145	Proj. #332 97	Trace	
2	46		"	
3	47		"	
	48		"	
5	49		"	
6	2152		"	
7	53		"	
8	54		"	
9	55		.01	
10	56		.01	
11	57		Trace	
12	58		"	
13	2662	96	"	
14	63		"	
15	2668		~~x~~ .01	
16	69		~~x9x~~ Trace	
17	70		Trace	
18	71		"	
19	72		"	
20	73		"	
21	74		"	
22	75		.01	
23	76		Trace	
24	2682		.01	
25	83		Trace	

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 12, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2159	Proj. #332 97	Trace	
2	60		.01	
3	61		Trace	
4	62		"	
5	63		"	
6	64		"	
7	65		.02	
8	66		Trace	
9	67		"	
10	68		"	
11	69		"	
12	70		"	
13	71		.01	
14	72		Trace	
15	73		"	
16	74		"	
17	75		"	
18	76		"	
19	77		"	
20	78		"	
21	79		"	
22	80		"	
23	81		"	
24	82		"	
25	83		"	

Assayer:

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ASSAY CERTIFICATE

St. Joe Canada Inc.

Date: Oct. 12, 1987.

Sample No.	Description	oz/ton Au	oz/ton Ag
K-2184	Proj. #332 97	Trace	
85		"	
86		"	
87		"	
88		"	
89		"	
90		"	
91		"	
92		"	
93		"	
94		"	
95		"	
96		"	
97		"	
98		"	
99		"	
2200		"	
01		"	
02		"	
03		"	
04		"	
05		"	
06		"	
07		"	
08		"	

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PAUL OKANSKI, Assayer
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Au Ag

ASSAY CERTIFICATE

Date: Oct.12, 1987.

St. Joe Canada Inc.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2209	#332 97	Trace	
2	10		"	
3	11		"	
4	12	99	"	
5	13		"	
6	14		"	
7	15		"	
8	16		"	
9	17		"	
10	18		"	
11	19		"	
12	20		"	
13	21		"	
14	22		"	
15	23		"	
16	24		"	
17	25		"	
18	26		"	
19	2661	96	"	
20	62		"	
21	2664		"	
22	65		"	
23	66		"	
24	67		"	
25	2677		"	

Assayer: Paul Okanski

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 12, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	K-2678	Proj. #332	Trace	
2	79		"	
	80		"	
	81		"	
5	2684		"	
	85		"	
7	86		"	
	87		"	
9	88		"	
10	89		"	
	90		"	
12	91		"	
	92		"	
14	93		"	
	94		"	
16	95		"	
17	96		"	
	97		"	
19	98		"	
	99		"	
21	2700		"	
22	01		"	
23	02		"	
24	03		"	
25	04		.30	

Assayer: [signature]

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ASSAY CERTIFICATE

St. Joe Canada Inc.

Date: Oct.12, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2705	#332	Trace	
2	06		"	
3	07		"	
4	08		"	
5	09		"	
6	10		"	
7	11		"	
8	12		"	
9	13		"	
10	14		"	
11	15		"	
12	16		"	
13	17		"	
14	18		"	
15	19		"	
16	20		"	
17	21		"	
18	22		"	
19	23		"	
20	24		"	
21	25		"	
22	26		"	
23	27		"	
24	28		"	
25	29		"	

Assayer: Paul Okanski

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 12, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	K-2730	#332	Trace	
2	31		"	
3	32		"	
4	33		"	
5	34		"	
6	35		"	
7	36		.01	
8	37		Trace	
9	38		"	
10	39		"	
11	40		"	
12	41		"	
13	42		"	
14	43		"	
15	44		"	
16	45		"	
17	46		"	
18	47		"	
19	2255-A		1.94	
20	B		2.06	
21	C		1.96	
22	56-A		.22	
23	B		.38	
24	C		.46	
25	2840-A		Trace	

Assayer:

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PAUL OKANSKI, Assayer
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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 12, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2840-B	Proj. #332	Trace	
2	41-A		"	
3	B		"	
4	2704-A	Reject Rerun	.22	
5	B		.10	
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Assayer: Paul Okanski

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct 14, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
[illegible]	K-2227	Proj. #332	Trace	
2	28		"	
3	29		"	
4	30		"	
5	31		"	
6	32		"	
7	33		"	
8	34		"	
9	35		"	
10	36		"	
11	37		"	
12	38		"	
13	39		"	
14	40		"	
15	41		"	
16	42		"	
17	43		"	
18	44		.02	
19	45		Trace	
20	46		"	
21	47		"	
22	48		.01	
23	49		.01	
24	50		Trace	
25	51		.20	

Assayer: Paul Okanski

Au	Ag	**PAUL'S CUSTOM FIRE ASSAYING LTD.**	Phone: Bus. (807) 662-8171 Res. (807) 662-3361

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 14, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	[illegible]-2252	Proj. #332	.01	
2	53		Trace	
	54		"	
4	2257		"	
	58		.06	
	59		Trace	
7	60		"	
	61		.01	
9	62		Trace	
	63		"	
	64		"	
12	65		"	
	66		"	
14	67		"	
	68		"	
16	69		"	
	70		"	
	71		"	
19	72		"	
	73		"	
21	74		.12	
	75		.24	
23	76		Trace	
	77		.08	
	78		.01	

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ASSAY CERTIFICATE

Date: Oct. 14, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2279	#3232	.01	
2	80		.01	
3	81		Trace	
4	82		"	
5	83		"	
6	84		.01	
7	85		Trace	
8	86		"	
9	87		.01	
10	88		Trace	
11	2748		"	
12	49		"	
13	50		"	
14	51		"	
15	52		"	
16	53		"	
17	54		"	
18	55		"	
19	56		"	
20	57		"	
21	58		"	
22	59		"	
23	60		"	
24	61		"	
25	62		"	

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ASSAY CERTIFICATE

Date: Oct. 14, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
[illegible]	K-2763	#332	Trace	
2	64		"	
[illegible]	65		"	
4	66		"	
5	67		"	
[illegible]	68		"	
7	69		"	
[illegible]	70		"	
9	71		"	
[illegible]	72		"	
11	73		"	
12	74		"	
[illegible]	75		"	
14	76		"	
[illegible]	77		"	
16	78		"	
[illegible]	79		"	
18	80		"	
19	81		"	
[illegible]	82		"	
21	83		""	
[illegible]	84		"	
23	85		"	
24	86		"	
25	87		"	

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ASSAY CERTIFICATE

Date: Oct. 14, 1987.

Sample No.	Description	oz/ton Au	oz/ton Ag
K-2814	Proj. #332	Trace	
15		"	
16		"	
17		"	
18		"	
19		"	
20		.01	
21		Trace	
22		"	
23		"	
24		"	
25		"	
26		"	
27		"	

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ASSAY CERTIFICATE

Date: Oct. 17, 1987.

Sample No.	Description	oz/ton Au	oz/ton Ag
K-2850	Proj. #332	Trace	
51		"	
52		"	
53		"	
54		"	
55		"	
56		"	
57		"	
58		"	
59		"	
60		"	
61		"	
62		"	
63		"	
K-2865		"	
K-2251	Rejects	.08	
2258	"	.04	
2274	"	.06	
2275	"	.18	
2277	"	.04	
2802	"	.12	
	X	XRX	
	X		

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 17, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2289	Proj. #332	Trace	
2	90		"	
3	91		"	
4	92		"	
5	93		"	
6	K-2828		"	
7	29		"	
8	30		"	
9	31		"	
10	32		"	
11	33		"	
12	34		"	
13	35		"	
14	36		"	
15	37		"	
16	38		"	
17	39		"	
18	K-2842		"	
19	43		"	
20	44		"	
21	45		"	
22	46		.04	
23	47		Trace	
24	48		"	
25	49		"	

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Au Ag

ASSAY CERTIFICATE

St. Joe Canada Inc.

Date: Oct. 22, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2294	Proj. #332	Trace	
2	95		"	
3	96		"	
4	97		"	
5	98		"	
6	99		"	
7	2300		"	
8	01		"	
9	02		.04	
10	03		Trace	
11	04		.06	
12	05		.01	
13	06		Trace	
14	07		"	
15	08		"	
16	09		"	
17	10		"	
18	11		"	
19	12		.01	
20	13		.32	
21	14		Trace	
22	15		"	
23	16		"	
24	17		.04	
25	18		.40	

Assayer: Paul Okanski

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St. Joe Canada Inc/

ASSAY CERTIFICATE

Date: Oct. 22, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2319	Proj. #332	Trace	
2	20		"	
3	21		.10	
4	22		Trace	
5	2323		"	
6	2325		"	
7	K-2864		"	
8	2866		.01	
9	867		Trace	
10	68		"	
11	69		.10	
12	70		Trace	
13	71		"	
14	72		"	
15	73		"	
16	74		"	
17	75		"	
18	76		"	
19	77		"	
20	78		"	
21	79		"	
22	80		"	
23	81		"	
24	82		.18	
25	2885		.04	

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t, Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 22, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	K-2886	Proj. #332	Trace	
2	87		"	
3	88		"	
4	89		.12	
5	90		.01	
6	2893		Trace	
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
20				
21				
22				
23				
24				
25				

Assayer: Paul Okanski

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t. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 23, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
	2313	Proj. #332 (rejects)	.14 .32	
2	2318	"	.18 .40	
3	2321	"	.06 .10	
4	2869	"	.04	
5	2882	"	.04	
6	2889	"	.08	
7	2324		Trace	
8	2326		.01	
9	27		Trace	
10	28		"	
1	29		"	
12	30		"	
13	31		"	
14	32		"	
1	33		"	
16	34		.08	
17	35		.14	
1	36		.01	
19	37		.04	
2	38		Trace	
21	39		"	
2	40		"	
2	41		"	
24	42		"	
2	43		"	

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ASSAY CERTIFICATE

Date: Oct. 23, 1987

Sample No.	Description	oz/ton Au	oz/ton Ag
2344	Proj. #332	Trace	
45		"	
46		"	
47		"	
48		"	
49		"	
50		"	
51		"	
2353		"	
54		"	
55		.01	
56		Trace	
57		"	
58		"	
59		"	
60		"	
61		"	
62		.04	
63		Trace	
64		"	
65		"	
66		.01	
67		.04	
68		Trace	
2370		"	

Assayer: [signature]

Assayer: [signature]

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ASSAY CERTIFICATE

Date: Oct. 23, 1987.

Sample No.	Description	oz/ton Au	oz/ton Ag
3371	Proj. #332	Trace	
72		"	
73		.01	
74		Trace	
75		"	
76		.01	
77		Trace	
78		"	
2883		.04	
84		Trace	
2891		.01	
92		.06	
2894		Trace	
95		.30	
96		Trace	
97		"	
98		"	
99		"	
2900		"	
01		"	
02		"	
03		"	
04		"	
05		"	
06		"	

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ASSAY CERTIFICATE

Date: Oct. 23, 1987.

	Sample No.	Description	oz/ton Au	oz/ton Ag
1	2907	#332	Trace	
2	08		"	
3	09		.02	
4	10		Trace	
5	11		"	
6	12		"	
7	13		"	
8	14		"	
9	15		"	
10	16		.01	
11	17		.02	
12	18		Trace	
13	19		"	
14	20		"	
15	21		.01	
16	22		.01	
17	23		Trace	
18	24		.08	
19	25		Trace	
20	26		"	
21	27		.08	
22	28		Trace	
23	29		"	
24	30		"	
25	31		"	

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St. Joe Canada Inc.

ASSAY CERTIFICATE

Date: Oct. 23, 1987.

Sample No.	Description	oz/ton Au	oz/ton Ag
2932	#332	Trace	
33		"	
34		"	
35		"	
36		"	
37		"	
38		"	
39		"	
40		"	

Assayer:

A P P E N D I X   C

An Investigation of

The Recovery of Gold

Lakefield Research

An Investigation of

THE RECOVERY OF GOLD

from Shoal Lake Property

samples

submitted by

ST. JOE CANADA INC.

Progress Report No. 1

Project No. L.R. 3384

NOTE:

This report refers to the samples as received.

The practice of this Company in issuing reports of this nature is to require the recipient not to publish the report or any part thereof without the written consent of Lakefield Research.

LAKEFIELD RESEARCH
A DIVISION OF FALCONBRIDGE LIMITED
October 7, 1987

INTRODUCTION

This report contains the results of preliminary testwork conducted on Shoal Lake Property samples as requested by Mr. D. Molloy.

The purpose of the testwork was to investigate the recovery of gold by gravity separation, cyanidation and flotation.

The results were discussed with Mr. K. Leonard and Mr. D. Molloy as they became available.

LAKEFIELD RESEARCH

R.S. Salter
General Manager

K.W. Sl[illegible]

for I. Dymov
Project Metallurgist

Experimental work by: C. Payne

SUMMARY

1. Head Analyses

Nineteen individual pulp samples were received, weighed and combined into "Hole" composites as shown in Table No. 1.

A representative fraction from each hole composite was removed and analysed for Au in duplicate.

Table No. 1 - Head Analyses

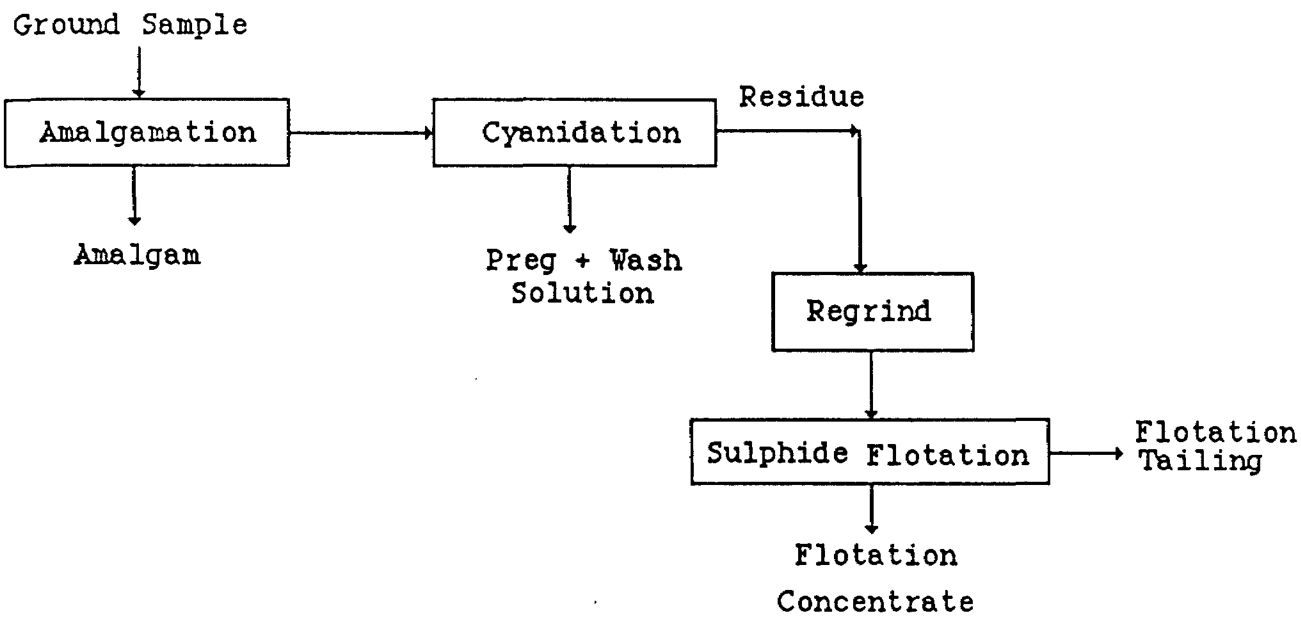
Sample No./ Hole No.	Weight grams	Assay g/t, Au	
5253	158.0		
5254	156.3		
5255	135.2		
5256	201.8		
5257	175.4		
5258	207.9		
5259	149.1		
K-42	1183.7	19.7	17.9
5507	189.9		
5508	224.4		
K-51	414.3	4.96	4.75
5919	194.4		
5920	276.1		
5921	253.3		
5922	182.5		
K-67	905.2	7.62	9.65
10079	252.7		
10080	198.3		
10081	204.6		
10082	228.0		
K-70	883.6	1.76	1.55
10608	197.8		
10609	208.8		
K-78	406.6	1.95	1.78

2. Laboratory Testwork

The recovery of gold from each "Hole" sample was investigated by amalgamation, cyanidation and flotation.

Figure No. 1 illustrates the flowsheet configuration.

Figure No. 1 - Flowsheet



2.1 Amalgamation

The recovery and presence of free gold in each hole sample was investigated by amalgamation. Samples were pulped with water in 4L and 2.5L bottles. Mercury was added to each bottle. Amalgamation was carried out on rolls for 8 hours. After 8 hours of agitation, the amalgam was recovered by elutriation and submitted for gold assay. The results were as follows:

Product/Hole No.		Assay, mg Au	% Au Recovery
Amalgam	K-42	5.360	28.3
	K-51	0.828	46.0
	K-67	2.617	41.7
	K-70	0.132	11.6
	K-78	0.272	33.0

Summary

2.2 Cyanidation

The recovery of gold from the amalgamation tailings was investigated by cyanidation. The tests were performed in bottles on rolls at 33% solids for 48 hours. NaCN concentration was maintained at 0.5 g/L and pH = 10.5-11, controlled with lime additions. 25 mLs pregnant solution samples were taken at 24 hours of agitation. At the end of 48 hours of cyanidation the pulp was filtered and the residue washed with water. The pregnant solutions, the wash solutions and the residues were submitted for gold assay.

The overall results, achieved by amalgamation and cyanidation are presented in Table No. 2.

Table No. 5 - Cyanidation Results

Test No.	Sample No.	Reag.Cons, kg/t NaCN	Reag.Cons, kg/t CaO	% Ext'n. Au 24 hrs.	% Ext'n. Au 48 hrs.	Residue Au g/t	O'all Recovery Amalgam + Cyanidation	O'all Head Au g/t
1	K-42	0.46	0.44	79.8	82.1	2.19	87.2	17.09
2	K-51	0.47	0.18	78.0	80.0	0.57	89.2	5.29
3	K-67	0.52	0.69	67.9	73.3	1.61	84.4	10.36
4	K-70	0.35	0.33	52.2	59.8	0.52	63.7	1.43
5	K-78	0.32	0.41	75.9	79.2	0.34	86.1	1.63

The results indicate that cyanidation wasn't completed after 24-48 hours of agitation.

Additional testwork is recommended to investigate the effect of retention time with possible extension of retention time to 72 hours. The cyanided residue of Sample K-70 (in which the lowest recovery, ~ 60%, was achieved by cyanidation) was submitted for mineralogical examination.

Gold was not identified. Pyrite was the only sulphide mineral identified and 95% or more was present as fine grains.

2.3 Flotation

One flotation test on each cyanided residue was conducted in order to float gold into a sulphide concentrate. Aeroxanthate 350, aerofloat 208 and copper sulphate were applied to recover a sulphide concentrate. MIBC was used as frother.

The results suggest that the gold in the cyanided residues is recoverable by flotation. The flotation results are summarized in Table No. 2.

Table No. - Flotation Test Results

Test No.	Sample No.	Product	Wt %	Assays, g/t, % Au	S	% Distribution Au	S
12	K-42	3 min Rougher Conc.	16.2	13.1	30.2	87.9	92.0
		6 min Rougher Conc.	21.1	10.4	24.0	91.3	95.3
		9 min Rougher Conc.	25.9	8.59	19.9	92.0	96.8
		Rougher Tailing	74.1	0.26	0.23	8.0	3.2
		Head (Calc)	100.0	2.41	5.31	100.0	100.0
13	K-51	3 min Rougher Conc.	32.7	1.34	8.70	81.0	95.8
		6 min Rougher Conc.	41.8	1.10	6.93	84.9	97.6
		9 min Rougher Conc.	48.8	0.96	5.95	86.8	97.9
		Rougher Tailing	51.2	0.14	0.12	13.2	2.1
		Head (Calc)	100.0	0.54	2.97	100.0	100.0
14	K-67	3 min Rougher Conc.	17.3	6.92	19.2	79.6	90.5
		6 min Rougher Conc.	25.2	5.24	13.9	87.9	96.1
		9 min Rougher Conc.	30.9	4.34	11.5	89.4	97.3
		Rougher Tailing	69.1	0.23	0.14	10.6	2.7
		Head (Calc)	100.0	1.50	3.67	100.0	100.0
11	K-70	3 min Rougher Conc.	23.0	8.20	15.3	92.8	96.4
		6 min Rougher Conc.	17.1	6.33	11.9	94.3	98.5
		9 min Rougher Conc.	20.6	5.37	9.96	96.4	99.6
		Rougher Tailing	79.4	0.05	0.01	3.6	0.4
		Head (Calc)	100.0	1.14	2.06	100.0	100.0
15	K-78	3 min Rougher Conc.	21.7	1.99	8.3	93.3	95.8
		6 min Rougher Conc.	31.8	1.39	5.8	95.2	98.3
		9 min Rougher Conc.	38.8	1.14	4.8	96.0	98.8
		Rougher Tailing	61.2	0.03	0.04	4.0	1.2
		Head (Calc)	100.0	0.46	1.87	100.0	100.0

.4 Overall Results

The overall gold recovery achieved by treating each sample by amalgamation-cyanidation-flotation of cyanided residue was:

Sample No.	Overall Recovery %
K-42	99.0
K-51	98.6
K-67	98.3
K-70	98.7
K-78	99.5

Additional testwork is recommended in order to confirm the proposed flowsheet.

SAMPLE PREPARATION

On August 27, 1987, nineteen individual pulp samples were received at Lakefield Research. The weight of each sample was recorded and the samples were combined into five composites. A head sample was cut out from each composite and assayed for Au in duplicate.

DETAILS OF TESTWORK

Test No. 1

Purpose: To investigate the recovery and presence of free gold by amalgamation.

Procedure: The amalgamation was performed in a bottle on rolls for 8 hours. The amalgam was recovered by elutriation and assayed for Au. The tailings were saved for further cyanidation testwork.

Feed: Hole K-42

Metallurgical Results

Product	Amount	Assays,mg, g/t Au	% Distribution Au
1. Amalgam	-	5.361	28.3
2. Amalgam Tail	1107.1 g	12.25	71.7
Head (Calc.)	1107.1 g	17.09	100.0

Test No. 2

Purpose: As for Test 1

Procedure: As in Test 1

Feed: Hole K-51

Metallurgical Results

Product	Amount		Assays,mg, g/t Au	% Distribution Au
1. Amalgam	-	-	0.828	46.0
2. Amalgam Tail	339.6	g	3.86	54.0
Head (Calc.)	339.6	g	5.30	100.0

Test No. 3

Purpose: As for Test 1

Procedure: As in Test 1

Feed: Hole K-67

Metallurgical Results

Product	Amount	Assays,mg, g/t Au	% Distribution Au
1. Amalgam	- -	3.607	41.7
2. Amalgam Tail	834.8 g	6.04	58.3
Head (Calc.)	834.8 g	10.36	100.0

Test No. 4

Purpose: As for Test 1

Procedure: As in Test 1

Feed: Hole K-70

Metallurgical Results

Product	Amount	Assays,mg, g/t Au	% Distribution Au
1. Amalgam	- -	0.132	11.6
2. Amalgam Tail	797.0 g	1.27	88.4
Head (Calc.)	797.0 g	1.43	100.0

Test No. 5

Purpose: As for Test 1

Procedure: As in Test 1

Feed: Hole K-78

Metallurgical Results

Product	Amount	Assays,mg, g/t Au	% Distribution Au
1. Amalgam	- -	0.272	33.0
2. Amalgam Tail	339.2 g	1.63	67.0
Head (Calc.)	339.2 g	2.43	100.0

Test No. 6

CYANIDATION

Purpose: To determine the gold recovery of Comp. 42 amalgam tailings

Procedure: The sample was pulped with water in a 4 liter bottle. NaCN and lime were added and the cyanidation was carried out on rolls in one 45 hour stage. The pulp was filtered and the residue washed three times with water.

Feed: 1115.7 g Comp. K-42

Solution Volume: 2231.4 mL Pulp Density 33 % solids

Solution Composition: 0.5 gpL NaCN

pH Range: 10.5 - 11 with $Ca(OH)_2$

Grind: None

Reagent Balance:

Time Hours	Added, grams				Residual		Consumed		pH
	Actual		Equivalent		Grams		Grams		
	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO	
0-3 1/2	1.18	0.72	1.12	0.55	0.95	-	0.17	-	11.5-10.9
3 1/2-13	0.18	-	0.17	-	1.12	-	0.00	-	10.9-10.7
13-36	-	- -	-	-	1.12	-	0.00	-	10.7-10.7
36-45	-	-	-	-	0.78	0.06	0.34	0.49	10.7-10.7
Total	1.36	0.72	1.29	0.55	0.78	0.06	0.51	0.49	-

Reagent Consumption (kg/t of cyanide feed) NaCN: 0.46 kg/t CaO: 0.44 kg/t

Metallurgical Results

Product	Amount		Assays, g/t,mg/L Au	% Distribution	
				Ind. Au	Overall Au
1. 24 Hour Preg Solution	25	mL	4.85	-	-
2. 48 Hour Preg. Solution	1960	mL	4.99	72.1	51.7
3. 48 Hour Wash Solution	2050	mL	0.66	10.0	7.2
4. CN Residue	1107.1	g	2.19	17.9	12.8
Head (Calc.)	1107.1	g	12.25	100.0	-

Calculated Grades and Recoveries

24 Hour Extraction	-	-	-	79.8	-
48 Hour Extraction	-	-	-	82.1	58.9

Tests No. 1 + 6

Overall Results

Product	Amount		Assays, g/t,mg/L Au	% Distribution	
				O'all Au	Ind. Au
1. Amalgam	-	-	5.361	28.3	-
2. 48 Hour Pregnant Solution	1960	mL	4.99	51.7	72.1
3. 48 Hour Wash Solution	2050	mL	0.66	7.2	10.0
4. CN Residue	1107.1	g	2.19	12.8	17.9
Head (Calc.)	1107.1	g	17.09	-	-

Calculated Grades and Recoveries - Overall Recovery by Amal + Cyn = 87.2

Products 2 + 3	-	-	-	58.9	82.1
Products 2 - 4	-	-	-	71.7	-

Test No. 7

CYANIDATION

Purpose: As for Test 6 but of Comp. 51 amalgam tailings

Procedure: The sample was pulped with water in a 2.5 liter bottle. NaCN and lime were added and the cyanidation was carried out on rolls in one 45 hour stage. The pulp was filtered and the residue washed three times with water.

Feed: 341.7 g Comp. K-51

Solution Volume: 683.4 mL Pulp Density 33 % solids

Solution Composition: 0.5 gpL NaCN

pH Range: 10.5 - 11 with $Ca(OH)_2$

Grind: None

Reagent Balance: Preg V = 570 Wash V = 990

Time Hours	Added, grams				Residual		Consumed		pH
	Actual		Equivalent		Grams		Grams		
	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO	
0-3 1/2	0.36	0.14	0.34	0.11	0.34	-	0.00	-	11.0-10.4
3 1/2-13	-	0.10	-	0.08	0.27	-	0.07	-	10.8-10.7
13-36	0.07	-	0.07	-	0.34	-	0.00	-	10.7-10.6
36-45	-	-	-	-	0.25	0.01	0.09	0.18	10.6-10.5
Total	0.43	0.24	0.41	0.19	0.25	0.01	0.16	0.18	-

Reagent Consumption (kg/t of cyanide feed) NaCN: 0.47 kg/t CaO: 0.53 kg/t

Metallurgical Results

Product	Amount		Assays, g/t,mg/L Au	% Distribution Au
1. 24 Hour Pregnant Solution	25	mL	1.11	-
2. 48 Hour Pregnant Solution	570	mL	1.19	69.8
3. 48 Hour Wash Solution	990	mL	0.10	20.0
4. CN Residue	339.6	g	0.57	20.0
Head (Calc.)	339.6	g	2.86	100.0

Calculated Grades and Recoveries

24 Hour Extraction	-	-	-	78.0
48 Hour Extraction	-	-	-	80.0

Tests No. 2 + 7

Overall Results

Product	Amount		Assays, g/t,mg/L Au	% Distribution O'all Au	% Distribution Ind. Au
1. Amalgam	-	-	0.828	46.0	-
2. 48 Hour Pregnant Solution	510	mL	1.19	37.7	69.8
3. 48 Hour Wash	990	mL	0.10	5.5	10.2
4. CN Residue	339.6	g	0.57	10.8	20.0
Head (Calc.)	339.6	g	5.29	100.0	100.0

Calculated Grades and Recoveries - Overall Recovery by Amal + Cyn = 89.2

Products 2 + 3	-	-	-	43.2	-
Products 2 - 4	-	-	-	54.0	80.0

Test No. 8

CYANIDATION

Purpose: As for Test 6 but of Comp. K-67 amalgam tailings

Procedure: As for Test 6

Feed: 838.5 g Comp. K-67

Solution Volume: 1677 mL Pulp Density 33 % solids

Solution Composition: 0.5 gpL NaCN

pH Range: 10.5 - 11 with $Ca(OH)_2$

Grind: None

Reagent Balance: Preg = 1470 Wash = 1535

Time Hours	Added, grams				Residual		Consumed		pH
	Actual		Equivalent		Grams		Grams		
	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO	
0-3 1/2	0.88	0.28	0.84	0.21	0.71	-	0.13	-	11.0-10.1
3 1/2-13	0.14	0.18	0.13	0.14	0.84	-	0.00	-	10.8-10.1
13-36	-	0.17	-	0.13	0.67	-	0.17	-	10.7-10.2
36-45	0.18	0.17	0.17	0.13	0.71	0.03	0.13	0.58	10.7-10.6
Total	1.20	0.80	1.14	0.61	0.71	0.03	0.43	0.58	-

Reagent Consumption (kg/t of cyanide feed) NaCN: 0.52 kg/t CaO: 0.69 kg/t

Metallurgical Results

Product	Amount		Assays, g/t,mg/L Au	% Distribution Ind. Au	Overall Au
1. 24 Hour Pregnant Solution	25	mL	2.04	-	-
2. 48 Hour Pregnant Solution	1470	mL	2.20	65.2	37.4
3. 48 Hour Wash Solution	1535	mL	0.30	9.1	5.3
4. CN Residue	834.8	g	1.61	26.7	15.6
Head (Calc.)	834.8	g	6.04	100.0	58.3

Calculated Grades and Recoveries - Overall Recovery by Amal + Cyn = 84.4

24 Hour Extraction	-	-	-	67.9	-
48 Hour Extraction	-	-	-	73.3	42.7

Test No. 9

CYANIDATION

Purpose: As for Test 6 but of Comp. K-70 amalgam tailings

Procedure: As for Test 6

Feed: 798.8 g Comp. K-70

Solution Volume: 1597.6 mL Pulp Density 33 % solids

Solution Composition: 0.5 gpL NaCN

pH Range: 10.5 - 11 with $Ca(OH)_2$

Grind: None

Reagent Balance: Preg = 1350 Wash = 1445

Time Hours	Added, grams				Residual		Consumed		pH
	Actual		Equivalent		Grams		Grams		
	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO	
0-3 1/2	0.84	0.28	0.80	0.21	0.72	-	0.08	-	11.1-10.4
3 1/2-13	0.08	0.10	0.08	0.08	0.80	-	0.00	-	10.9-10.8
13-36	-	-	-	-	0.80	-	0.00	-	10.8-10.6
36-45	-	-	-	-	0.60	0.03	0.20	0.26	10.6-10.6
Total	0.92	0.38	0.88	0.29	0.60	0.03	0.28	0.26	-

Reagent Consumption (kg/t of cyanide feed) NaCN: 0.35 kg/t CaO: 0.33 kg/t

Metallurgical Results

Product	Amount		Assays, g/t,mg/L Au	% Distribution Ind. Au	Overall Au
1. 24 Hour Pregnant Solution	25	mL	0.33	-	-
2. 48 Hour Pregnant Solution	1350	mL	0.39	52.2	46.1
3. 48 Hour Wash Solution	1445	mL	0.048	6.8	6.0
4. CN Residue	797.0	g	0.52	41.0	36.2
Head (Calc.)	797.0	g	1.27	100.0	88.4

Calculated Grades and Recoveries - Overall Recovery by Amal + Cyn = 63.7%

24 Hour Extraction	-	-	-	52.2	-
48 Hour Extraction	-	-	-	59.8	52.1

Test No. 10

CYANIDATION

Purpose: As for Test 6 but of Comp. K-78 amalgam tailings

Procedure: As for Test 7

Feed: 343.5 g Comp. K-78

Solution Volume: 687 mL Pulp Density 33 % solids

Solution Composition: 0.5 gpL NaCN

pH Range: 10.5 - 11 with $Ca(OH)_2$

Grind: None

Reagent Balance: Preg = 585 Wash = 720

Time Hours	Added, grams				Residual		Consumed		pH
	Actual		Equivalent		Grams		Grams		
	NaCN	$Ca(OH)_2$	NaCN	CaO	NaCN	CaO	NaCN	CaO	
0-3 1/2	0.36	0.10	0.34	0.08	0.34	-	0.00	-	11.0-10.5
3 1/2-13	-	0.10	-	0.08	0.34	-	0.00	-	10.9-10.9
13-36	-	-	-	-	0.34	-	0.00	-	10.9-10.8
36-45	-	-	-	-	0.23	0.02	0.11	0.14	10.8-10.8
Total	0.36	0.20	0.34	0.16	0.23	0.02	0.11	0.14	-

Reagent Consumption (kg/t of cyanide feed) NaCN: 0.32 kg/t CaO: 0.41 kg/t

Metallurgical Results

Product	Amount		Assays, g/t,mg/L Au	% Distribution Ind. Au	% Distribution Overall Au
1. 24 Hour Pregnant Solution	25	mL	0.61	-	-
2. 48 Hour Pregnant Solution	585	mL	0.67	71.0	47.6
3. 48 Hour Wash Solution	720	mL	0.062	8.2	5.5
4. CN Residue	339.2	g	0.34	20.8	13.9
Head (Calc.)	339.2	g	1.63	100.0	67.0

Calculated Grades and Recoveries - Overall Recovery by Amal + Cyn = 86.1

24 Hour Extraction	-	-	-	75.9	-
48 Hour Extraction	-	-	-	79.2	53.1

Test No. 11

Purpose: To investigate the flotation of gold bearing sulphides from the cyanide leach residue of Test No. 9

Procedure: Regrind, condition and float three rougher concentrates

Feed: 400 g of leach residue from Test No. 9

Grind: 10 minutes at 50% solids in the pebble mill

Conditions:

Stage	Reagents Added, grams per tonne				Time, minutes			pH
	$CuSO_4$	AX 350	R208	MIBC	Grind	Cond.	Froth	
Regrind	-	-	-	-	10	-	-	-
Condition	250	-	-	-	-	3	-	7.5
Ro. Conc. 1	-	20	10	20	-	1	3	-
Ro. Conc. 2	-	10	5	10	-	1	3	-
Ro. Conc. 3	-	10	5	10	-	1	3	-

Stage	Flotation	Regrind
Flotation Cell	500 g D-1	Pebble Mill
Speed: r.p.m.	1300	

Metallurgical Results

Product	Weight	Assays % g/t		% Distribution		
				Au		
	%	Au	S	Ind.	Overall	S
1. Rougher Concentrate 1	12.96	8.20	15.3	92.8	33.6	96.4
2. Rougher Concentrate 2	4.10	0.43	1.06	1.5	0.5	2.1
3. Rougher Concentrate 3	3.51	0.70	0.64	2.1	0.8	1.1
4. Rougher Flotation Tail	79.43	0.05	0.010	3.6	1.3	0.4
Head (Calc)	100.00	1.14	2.06	100.0	36.2	0.4

Calculated Grades and Recoveries - Overall Recovery by Amal + Cyn + Flotation = 98.7

Products 1 + 2	17.06	6.33	11.9	94.3	34.1	98.5
Products 1 to 3	20.57	5.37	9.96	96.4	34.9	99.6

Test No. 12

Purpose: To repeat Test No. 11 on the leach residue from Test 6

Procedure: As for Test No. 11

Feed: 500 g of cyanide leach residue from Test No. 6

Grind: 15 minutes at 50% solids in the pebble mill

Conditions:

Stage	Reagents Added, grams per tonne				Time, minutes			pH
	$CuSO_4$	AX 350	R208	MIBC	Grind	Cond.	Froth	
Regrind	-	-	-	-	15	-	-	-
Condition	250	-	-	-	-	3	-	8.1
Ro. Conc. 1	-	20	10	20	-	1	3	-
Ro. Conc. 2	-	10	5	10	-	1	3	-
Ro. Conc. 3	-	10	5	10	-	1	3	-

Metallurgical Results

Product	Weight %	Assays % g/t		% Distribution		
		Au	S	Au Ind.	Au Overall	S
1. Rougher Concentrate 1	16.19	13.1	30.2	87.9	11.3	92.0
2. Rougher Concentrate 2	4.95	1.65	3.57	3.4	0.4	3.3
3. Rougher Concentrate 3	4.71	0.38	1.66	0.7	0.1	1.5
4. Rougher Flotation Tail	74.15	0.26	0.23	8.0	1.0	3.2
Head (Calc)	100.00	2.41	5.31	100.0	12.8	100.0

Calculated Grades and Recoveries - Overall Recovery by Amal + Cyn + Flotation = 99.0

Products 1 + 2	21.14	10.4	24.0	91.3	11.7	95.3
Products 1 to 3	25.85	8.59	19.9	92.0	11.8	96.8

Test No. 13

Purpose: To repeat Test No. 11 on the leach residue from Test 7

Procedure: As for Test No. 11

Feed: 260 g of cyanide leach residue from Test No. 7

Grind: 8 minutes at 50% solids in the pebble mill

Conditions:

Stage	Reagents Added, grams per tonne				Time, minutes			pH
	$CuSO_4$	AX 350	R208	MIBC	Grind	Cond.	Froth	
Regrind	-	-	-	-	8	-	-	-
Condition	250	-	-	-	-	3	-	8.1
Ro. Conc. 1	-	20	10	20	-	1	3	-
Ro. Conc. 2	-	10	5	10	-	1	3	-
Ro. Conc. 3	-	10	5	10	-	1	3	-

Metallurgical Results

Product	Weight	Assays % g/t		% Distribution		
				Au		
	%	Au	S	Ind.	Overall	S
1. Rougher Concentrate 1	32.20	1.34	8.70	81.0	8.8	95.8
2. Rougher Concentrate 2	9.13	0.23	0.58	3.9	0.4	1.8
3. Rougher Concentrate 3	7.01	0.15	0.13	1.9	0.2	0.3
4. Rougher Flotation Tail	51.16	0.14	0.12	13.2	1.4	2.1
Head (Calc)	100.00	0.54	2.97	100.0	10.8	100.0

Calculated Grades and Recoveries - Overall Recovery by Amal + Cyn + Flotation = 98.6

Products 1 + 2	41.83	1.10	6.93	84.9	9.2	97.6
Products 1 to 3	48.84	0.96	5.95	86.8	9.4	97.9

Test No. 14

Purpose: To repeat Test No. 11 on the leach residue from Test 8

Procedure: As for Test No. 11

Feed: 500 g of cyanide leach residue from Test No. 8

Grind: 15 minutes at 50% solids in the pebble mill

Conditions:

Stage	Reagents Added, grams per tonne				Time, minutes			pH
	$CuSO_4$	AX 350	R208	MIBC	Grind	Cond.	Froth	
Regrind	-	-	-	-	15	-	-	-
Condition	250	-	-	-	-	3	-	7.9
Ro. Conc. 1	-	20	10	20	-	1	3	-
Ro. Conc. 2	-	10	5	10	-	1	3	-
Ro. Conc. 3	-	10	5	10	-	1	3	-

Metallurgical Results

Product	Weight	Assays % g/t		% Distribution		
				Au		
	%	Au	S	Ind.	Overall	S
1. Rougher Concentrate 1	17.29	6.92	19.2	79.6	12.4	90.5
2. Rougher Concentrate 2	7.94	1.58	2.59	8.3	1.3	5.6
3. Rougher Concentrate 3	5.71	0.39	0.80	1.5	0.2	1.2
4. Rougher Flotation Tail	69.06	0.23	0.14	10.6	1.7	2.7
Head (Calc)	100.00	1.50	3.67	10.0	15.6	100.0

Calculated Grades and Recoveries - Overall Recovery by Amal + Cyn + Flotation = 98.3

Products 1 + 2	25.23	5.24	13.9	87.9	13.7	96.1
Products 1 to 3	30.94	4.34	11.54	89.4	13.9	97.3

Test No. 15

Purpose: To repeat Test No. 11 on the leach residue from Test 10

Procedure: As for Test No. 11

Feed: 260 g of cyanide leach residue from Test No. 10

Grind: 8 minutes at 50% solids in the pebble mill

Conditions:

Stage	Reagents Added, grams per tonne				Time, minutes			pH
	$CuSO_4$	AX 350	R208	MIBC	Grind	Cond.	Froth	
Regrind	-	-	-	-	8	-	-	-
Condition	250	-	-	-	-	3	-	7.6
Ro. Conc. 1	-	20	10	-	-	1	3	-
Ro. Conc. 2	-	10	5	-	-	1	3	-
Ro. Conc. 3	-	10	5	-	-	1	3	-

Metallurgical Results

Product	Weight	Assays % g/t		% Distribution		
				Au		
	%	Au	S	Ind.	Overall	S
1. Rougher Concentrate 1	21.66	1.99	8.30	93.3	13.0	95.8
2. Rougher Concentrate 2	10.10	0.09	0.47	1.9	0.3	2.5
3. Rougher Concentrate 3	7.05	0.05	0.13	0.8	0.1	0.5
4. Rougher Flotation Tail	61.19	0.03	0.036	4.0	0.5	1.2
Head (Calc)	100.00	0.46	1.87	100.0	13.9	100.0

Calculated Grades and Recoveries - Overall Recovery by Amal + Cyn + Flotation = 99.5

Products 1 + 2	31.76	1.39	5.81	95.2	13.3	98.3
Products 1 to 3	38.81	1.14	4.78	96.0	13.4	98.8

LAKEFIELD RESEARCH
A Division of Falconbridge Limited
Lakefield, Ontario
October 7, 1987 / jm

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K86.52	Northing	3+20S	Grid Orient	20.00	Started	November 15, 1986
Property	Shoal Lake (KPM)	Easting	11+40E	Grid Azim.	10.00	Finished	November 16, 1986
Section	11+50E	Elevation	333.39	Length (M)	207.00	Drill Co.	Midwest
Claim No.		Survey N.	2+44.2S	Dip-Collar	-45.00	Drill No.	
Target	C.I. Mainland Zone	Survey E.	11+68.47E	Comp Bearing	30.00	Drill For.	

Depth Dip Azimuth Test Depth Dip Azimuth Test

Logged by R. Jones/R. Butler
Checked by K. Leonard
Core BQ
Comments: 2nd drill Feb. 16/87 to Feb. 17/87

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne

SUMMARY

FROM	TO	CODE	DESCRIPTION
0.00	2.00	CASING	Casing
2.00	207.00	BSLT	Basalt
138.08	138.20	GNTC INTV	Granitic Intrusive
147.65	147.93	LMPP DKE	Lamprophyre Dyke
167.14	168.53	DORT INTV	Diorite Intrusive
170.87	171.28	QFPP INTV	Quartz-Feldspar Porphpyry Intrusive
173.06	173.18	GNTC INTV	Granitic Intrusive
179.79	179.87	GNTC INTV	Granitic Intrusive
192.73	192.95	DORT INTV	Diorite Intrusive
197.56	197.74	PGMT INTV	Pegmatitic Intrusive
200.66	200.82	PGMT INTV	Pegmatitic Intrusive
204.19	205.80	FPPP INTV	Feldspar Porphyry Intrusive
207.00	207.00	E.O.H.	End of Hole

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
0.00	2.00	*CASING Casing							
2.00	207.00	*BSLT Basalt	5518	16.06	16.50	0.44	0.005	0.17	
		Massive Fine to Medium-Grained Basalt	5519	16.50	17.16	0.66	0.060	2.06	
		- dark green, moderate hardness	5920	17.16	17.40	0.24	0.180	6.17	
		- massive, unfoliated, unaltered	5521	17.40	18.00	0.60	0.005	0.17	
2.00	7.95	- almost completely unaltered on 1 narrow (1mm) carbonate veinlet per meter or less							
7.95	7.98	- pink granitic dyke at 45 deg. to LCA							
		- fine-grained, mostly potassic feldspar only, trace pyrite							
7.98	10.65	- same as 2.00 - 7.95m							
10.65	10.82	Granitic Dyke							
		- reddish-brown overall colour							
		- mostly feldspars							
		- fine-grained							
		- potassic altered							
10.82	12.60	- same as 2.00 - 7.95m							
12.60	12.90	- increased abundance of carbonate veinlets							
		- veinlets hairline width and random orientations, minor bleaching out from veinlets - netted appearance							
12.90	15.50	- same as 2.00 - 7.95m							
		- 13.49 and 13.64m - fine-grained granitic dykes at 45 deg. to LCA - pinkish-purple colour							
		- aphanitic							
15.50	15.80	- slight increase in carbonate veinlets							
15.80	16.06	- same as 2.00 - 7.95m							
16.06	16.30	Granitic Intrusive							
		- reddish-brown colour							
		- fine-grained							
		- probably potassic alteration							
16.30	16.50	- unaltered basalt							
16.50	16.50	- strongly sheared over 1cm at 20 deg. to CA							
16.50	17.16	$							
		Alteration crbt;							
		- bleached light green, strong pervasive carbonate alteration and abundant bleached light grey veinlets							
		- moderate silicification							
17.16	17.40	$							
		Alteration QV crbt; Sulphide Py=2;							
		- quartz vein and strongly foliated and altered wall rock, foliation at 60 deg; to LCA							
		- white milky quartz vein 17.24 - 17.33m							
		- strong carbonate alteration outside vein							
		- 2% pyrite over interval, trace arsenopyrite (?) in vein, contacts of vein show shearing, chloritic							
17.40	17.40	- relatively unaltered basalt							
18.00	18.00	- 1cm dark pinkish granitic dyke							
19.60	19.80	- dark grey-pink granitic intrusive							
		- carbonate veinlets at margins							
19.80	38.50	- massive basalt, occasional carbonate veinlet or granitic dyke	5522	19.60	20.00	0.40	0.005	0.17	
		- 22.50 and 24.80 - 2cm pink granitic dykes							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
38.50	38.90	- bleached light grey, strong pervasive carbonate alteration, center of zone							
		is a 1cm quartz vein with pyrite at margin (minor pyrite)							
38.90	41.97	- massive unaltered basalt	5523	38.50	39.90	1.40	0.005	0.17	
		- fracture planes at 50 - 60 deg. dominant, commonly chloritic sheared or							
		with skins of pyrite							
		- occasional carbonate veinlet							
41.97	42.20	$	5524	41.97	42.20	0.23	0.010	0.34	
		Alteration crbt;							
		- strong carbonate alteration, minor pyrite							
43.55	43.70	$							
		Alteration crbt;							
		- strong carbonate alteration, minor pyrite							
			5525	43.50	44.00	0.50	0.005	0.17	
51.40	52.00	$	5526	51.40	52.00	0.60	0.005	0.17	
		Alteration crbt;							
		- strong carbonate alteration, minor pyrite							
52.75	52.75	- 2cm pink granitic dyke, chloritic margins, contacts at 45 deg. to LCA							
41.20	55.20	- massive basalt, with occasional carbonate veinlets (with the above							
		exceptions)							
55.20	55.68	- strong pervasive carbonate alteration and abundant carbonate veinlets	5527	54.68	55.68	1.00	0.005	0.17	
		appear to have filled tension fractures (?)							
		- irregular bifricating veinlets							
55.68	55.75	$							
		Structure ftgg;							
		Shear Zone							
		- contacts of zone at 80 to 90 deg. to LCA							
		- 7cm of fault gouge, well recovered in core as crushed fine gravel-sized							
		fragments which are chloritic, strongly foliated and tabular							
55.75	57.00	$Alteration crbt;	5528	55.68	56.18	0.50	0.005	0.17	
		- strong pervasive carbonate alteration, trace pyrite - <1% pyrrhotite,	5529	56.18	57.00	0.82	0.010	0.34	
		pyrrhotite irradically distributed - actinolite needles common							
		- chloritic slickenslides common at 80 - 90 deg. to LCA							
57.00	81.20	- massive basalt, some slightly coarser-grained sections, occasional	5530	71.50	71.80	0.30	0.005	0.17	
		carbonate veinlet	5531	70.50	71.50	1.00	0.005	0.17	
60.90	61.00	- increased carbonate alteration, slight bleaching, no pyrite, irregular							
		white veinlets							
70.50	70.60	- same as above							
			5532	75.40	76.40	1.00	0.005	0.17	
76.70	77.10	- same as above							
70.50	70.60	- slight chloritic shear planes at 70 deg. to LCA							
75.70	76.10	- black needles 3% of zone - hornblende (?)							
71.40	71.40	- two hairline wiggly pyrite healed fractures							
71.80	71.80	- same as above							
81.20	82.20	- foliation at 20 deg. to LCA	5533	81.20	82.20	1.00	0.005	0.17	
		- dark chloritic 4mm bands and white (probably fine aggregates of feldspars)							
		irregular shapes 1-2mm by 1-2cm oriented at 20 deg. to LCA - possible ductile							
		deformation							
		- pyrite and chalcopyrite with carbonate veinlets also at 20 deg. to LCA -							
		fracture planes at 60 - 80 deg. to LCA covered with skins of pyrite							
82.20	84.00	- same as 57.00 - 81.20m							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
84.00	85.43	$	5534	84.00	85.43	1.43	0.010	0.34	
		Alteration crbt qvns; Sulphide Py=1;							
		- strong carbonate alteration							
		- slight bleaching, slightly grey colour							
		- two 0.5cm quartz veins, 1% pyrite over interval							
		- quartz veins and carbonate veinlets at 80 deg. to LCA							
85.43	85.43	- same as 57.00 - 81.20m							
		- massive relatively unaltered							
		- fracture planes at 60 - 80 deg. to core axis							
		- dominant with small chlorite slickenslides common							
98.48	98.67	- minor shear at 40 deg. to LCA with chlorite slickenslides (at 98.48m) -							
		strong carbonate alteration bleached and brecciated, light grey colour -							
		trace pyrite and pyrrhotite - extremely locally magnetic							
			5535	98.00	99.00	1.00	0.005	0.17	
104.40	104.94	- increased carbonate alteration veinlets at 60 deg. to LCA - trace							
		pyrrhotite							
			5536	104.39	105.00	0.61	0.005	0.17	
105.65	106.00	- <1mm feldspar phenocrysts in a dark green matrix							
107.10	107.75	- coarse intergrown quartz-carbonate veinlet							
		- 0.5cm wide parallel to core axis							
		- 107.30 - 107.33m 4% pyrite finely disseminated							
			5537	107.00	108.00	1.00	0.005	0.17	
111.52	112.00	- increased carbonate alteration	5538	111.52	112.00	0.48	0.005	0.17	
112.00	113.00	- relatively unaltered basalt cut by occasional carbonate veinlets	5539	112.00	113.00	1.00	0.005	0.17	
113.00	113.18	- strong carbonate alteration, hairline veinlets with 0.2cm bleached margins,	5540	113.00	113.18	0.18	0.005	0.17	
		trace pyrite							
113.18	113.35	$	5541	113.18	113.35	0.17	0.060	2.06	
		Alteration mnzn; Sulphide Py=7;							
		- mineralized zone							
113.18	113.23	- 7% disseminated pyrite in fine seams and clots							
		- dark green wisps in lighter green background							
		- strongly silicified							
		- highest concentration of pyrite at margin of vein							
113.23	113.30	$Alteration qv; Sulphide Py=4;							
		Grey Quartz Vein							
		- dark grey fractures with abundant pyrite							
		- contacts of vein at 70 deg. to LCA							
		- 4% pyrite, pyrrhotite							
113.30	113.35	- foliated parallel to vein contact							
		- 2-3% pyrite, pyrrhotite finely disseminated							
113.35	116.00	- strong carbonate alteration	5542	113.35	113.85	0.50	0.005	0.17	
			5543	113.85	114.85	1.00	0.005	0.17	
114.90	115.45	- carbonate veinlets subparallel to LCA							
			5544	114.85	116.00	1.15	0.005	0.17	
116.00	132.50	- massive basalt	5545	122.50	123.80	1.30	0.005	0.17	
		- moderate carbonate alteration							
122.80	123.15	- strong carbonate alteration							
123.60	123.80	- same as above							
128.10	128.30	- slightly foliated							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
129.70	130.00	- same as above							
132.50	132.50	- dark green to black basalt with mottled appearance - more mafic basalt							
134.35	134.69	- carbonate alteration strong, fractures chloritic and striated	5546	134.35	134.69	0.34	0.005	0.17	
134.69	134.86	$Alteration QV; Sulphide Py=10;	5547	134.69	134.86	0.17	0.200	6.86	
			5548	133.35	134.35	1.00	0.005	0.17	
		- carbonate veinlets at margin of quartz							
		- quartz vein, strongly foliated at 90 deg. to LCA - vein 10% pyrite over 1cm							
		at top of vein							
134.86	135.86	- strongly carbonate veined, bifricating and irregular	5549	134.86	135.86	1.00	0.005	0.17	
135.86	136.50	- moderate carbonate alteration							
138.08	138.20	*GNTC INTV Granitic Intrusive							
		Granitic Dyke							
		- dark pink, fine-grained							
		- contacts at 50 deg. to LCA							
		- irregular dark hairline fractures							
138.80	139.08	$							
		Alteration clct vn; Structure brcd;							
		- foliated at 50 deg. to LCA							
		- brecciated appearance, yellow <1cm to light grey rounded fragments in dark							
		grey background							
		- strong carbonate veining and alteration							
		- trace pyrite							
139.08	146.00	- massive, moderately carbonate altered basalt	5550	138.50	139.50	1.00	0.020	0.69	
146.10	207.00	Medium to Fine-Grained Massive Basalt	11410	156.58	156.98	0.40	0.005	0.17	
		- varying dark to light green colour	11411	162.60	163.00	0.40	0.005	0.17	
		- abundant wispy convaluted carbonate stringers at many angles, most	11412	163.00	163.50	0.50	0.005	0.17	
		immeasurable	11413	163.50	163.90	0.40	0.600	20.57	
		- locally <1% pyrite associated with carbonate stringers	11414	163.90	164.30	0.40	0.005	0.17	
147.65	147.93	*LMPP DKE Lamprophyre Dyke							
		- 36 deg. to LCA							
		- unaltered coarse-grained biotite in semi-mafic matrix							
156.57	156.97	- zone containing 2% pyrite disseminated and in clots, distributed randomly							
		throughout basalt							
162.68	162.70	$							
		Alteration qc stgr; Sulphide Py=3;							
		- quartz-carbonate stringer 42 deg. to LCA							
		- 3% pyrite							
163.57	163.61	$							
		Alteration qc vnlt; Sulphide Py=2;							
		- milky to blue-grey quartz-carbonate veinlet 55 deg. to LCA							
		- 2% pyrite							
163.73	163.76	$							
		Sulphide Py vnlt;							
		- massive pyrite veinlet 60 deg. to LCA							
		- overgrowth of quartz-carbonate veinlet as quartz-carbonate appear 5%							
164.60	164.76	$Structure brcd;							
		- minor brecciated zone in carbonate veinlet structure							
165.50	165.55	$Alteration QV;							
		- milky quartz vein 67 deg. to LCA							
		- 2% pyrite							
165.55	165.85	$							
		Sulphide Py=5;							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		- sulphide-rich zone - upper contact at preceeding quartz vein - lower contact indsitinct - 5% pyrite > chalcopyrite disseminated and in clots randomly oriented through- out basalt and concentrated to 60% pyrite in blue-grey quartz-carbonate hair- line stringer at 165.56 - 165.57m - 67 deg. to LCA							
			11418	165.40	166.00	0.60	0.420	14.40	
167.14	168.53	*DORT INTV Diorite Intrusive - upper contact sharp, discontinuous approx. 35 deg. to LCA - lower contact sharp, sutured - very strong pervasive potassic alteration - 4% disseminated pyrite							
169.97	170.02	- quartz-feldspar porphyry 50 deg. to LCA - contacts sharp - 15% plagioclase porphyrys, 4% quartz							
170.02	170.12	- pyritized zone - 8% pyrite disseminated and concentrated along vague carbonate stringers - lower contact diffuse							
			11415	169.75	170.25	0.50	0.005	0.17	
170.87	171.28	*QFPP INTV Quartz-Feldspar Porphpyry Intrusive - quartz-feldspar porphyry - contacts diffuse - as above	11416	170.87	171.27	0.40	0.005	0.17	
171.28	171.62	Pyritized Zone - lower contact indistinct - 4% pyrite > chalcopyrite disseminated and concentrated along weakly ductile sheared carbonate stringers - local chlorite alteration							
			11417	171.27	171.67	0.40	0.005	0.17	
173.06	173.18	*GNTC INTV Granitic Intrusive - 72 deg. to LCA							
			11419	179.33	179.73	0.40	0.005	0.17	
179.79	179.87	*GNTC INTV Granitic Intrusive - contacts sharp, sutured - visible gold - 5mm gold flake present in quartz							
			11420	179.73	180.13	0.40	0.200	6.86	
180.14	180.64	$ Alteration alzn qtz; Sulphide Py=5; Alteration Zone (CIMZ) - upper contact not well defined - lower contact sharp 63 deg. to LCA at quartz-carbonate veinlet - pervasive silicification - 50% blue-grey quartz, 35% basalt schist, 10% carbonate - 5% pyrite disseminated alternating along weakly defined sheared planes - 80 deg. to LCA	11421	180.13	180.63	0.50	0.800	27.43	
180.64	181.22	$ Sulphide Py=3; Pyritized Zone - contacts diffuse							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		- 3% disseminated pyrite evenly distributed - occasional blue-grey quartz-carbonate hairline stringer, contorted - zone ends at 7cm silicified zone 73 deg. to LCA - strongly sheared 75 - 80 deg. to LCA							
180.71	180.71	$ Structure flgg; - fault gouge							
180.81	180.81	- very minor broken core							
			11422	180.63	181.23	0.60	0.160	5.49	
			11423	181.23	181.83	0.60	0.005	0.17	
192.73	192.95	*DORT INTV Diorite Intrusive - contacts diffuse							
197.56	197.74	*PGMT INTV Pegmatitic Intrusive - upper contact sharp 53 deg. to LCA - lower contact sharp 42 deg. to LCA - very coarse-grained crystals approx. 1 x 1.5cm - pervasive potassic alteration of plagioclase - 60% quartz, 35% plagioclase, 5% mafics							
200.66	200.82	*PGMT INTV Pegmatitic Intrusive - 55 deg. to LCA - 40% ropy quartz, 20% potassic plagioclase, 35% feldspar (albite, orthoclase) , 5% mafics (mostly acicular tourmaline) - pervasive myrmeketic? texture							
204.19	205.80	*FPPP INTV Feldspar Porphyry Intrusive - upper contact 75 deg. to LCA vague - lower contact 33 deg. to LCA sharp							
207.00	207.00	*E.O.H. End of Hole							

Meterage

From	To	Box
0.00	2.00	Casing
2.00	8.10	1
8.10	14.00	2
14.00	19.90	3
19.90	25.60	4
25.60	31.40	5
31.40	37.30	6
37.30	43.10	7
43.10	49.80	8
49.80	54.80	9
54.80	60.70	10
60.70	66.40	11
66.40	72.30	12
72.30	78.20	13
78.20	84.00	14
84.00	89.66	15
89.66	95.50	16
95.50	101.32	17
101.32	107.20	18
107.20	113.00	19

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne

113.00	118.90	20
118.90	124.60	21
124.60	130.60	22
130.60	136.40	23
136.40	141.90	24
141.90	146.00	25
146.10	151.80	26
151.80	157.61	27
157.61	163.43	28
163.43	168.89	29
168.89	174.59	30
174.59	180.37	31
180.37	186.12	32
186.12	192.00	33
192.00	197.80	34
197.80	203.55	35
203.55	207.00	36
207.00	207.00	EOH

Hole No.	KB6.76	Northing	2+08S	Grid Orient	20.00	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	December 8, 1986	Logged by	C. Beckett/R. Butler
Property	Shoal Lake (KPM)	Easting	6+16E	Grid Azim.	10.00	100.0	- 48			200.0	- 0			Finished	December 12, 1986	Checked by	K. Leonard
Section		Elevation	329.72	Length (M)	349.00	289.0	- 46			349.0	- 44			Drill Co.	Midwest	Core	BQ
Claim No.	D217	Survey N.	2+08.31S	Dip-Collar	-45.00									Drill No.	1184	Comments:	150m vert. intercept
Target	C.I. Mainland Zone	Survey E.	6+47.6E	Comp Bearing	30.00									Drill For.		Feb. 17-18, 1987	

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne

SUMMARY

0.00	3.00	CASING	Casing
3.00	154.50	BLPP	Basalt, Feldspar Porphyritic
11.19	11.28	GNTC INTV	Granitic Intrusive
21.22	21.82	GNTC INTV	Granitic Intrusive
26.76	26.85	GNTC INTV	Granitic Intrusive
27.81	27.84	GNTC INTV	Granitic Intrusive
37.30	37.84	GNTC INTV	Granitic Intrusive
145.65	147.50	LMPP DKE	Lamprophyre Dyke
154.50	265.00	BSLT	Basalt
238.40	241.34	MNZN	Mineralized Zone
265.00	307.40	BLPP	Basalt, Feldspar Porphyritic
289.00	289.00	E.O.H.	End of Hole
289.00	307.40	BLPP	Basalt, Feldspar Porphyritic
307.40	349.00	BSLT	Basalt
349.00	349.00	E.O.H.	End of Hole

FROM	TO	DESCRIPTION
0.00	3.00	*CASING Casing
3.00	154.50	*BLPP Basalt, Feldspar Porphyritic - crowded - up to 5cm cream-coloured to slightly yellow to greenish-yellow subhedral feldspar (altered) phenocrysts - groundmass aphanitic dark green - phenocrysts make up to 60 - 70% of rock - numerous hairline calcite-filled fractures, randomly oriented
5.90	6.80	Silicified Carbonatized Basalt - medium grey-green, massive - phenocrysts have been completely replaced by a siliceous, medium grey material that can only just be scratched - the groundmass is pervasively calcite and sericite-replaced - dense hairline calcite veining permeates the rock with bleached reaction rims around each
6.80	7.10	Quartz-Calcite Vein - 0 - 10 deg. to LCA - white-grey quartz intermixed with fine-grained white calcite, numerous wisps of chlorite caught up in the vein - trace - 1% very fine-grained pyrite within vein
7.10	8.05	Silicified Carbonatized Basalt - same as 5.90 - 6.80m but alteration is more pervasive giving the rock an almost amorphous, medium grey appearance - trace - 1% pyrite along calcite fractures
8.05	8.13	$ Alteration slfd clct stgr; Sulphide Py=2; Silicified Basalt - strongly silicified, medium blue-grey, moderate calcite replacement - 2-3% very fine-grained pyrite along calcite stringers
8.13	8.38	Quartz Vein - light grey to white, mottled, glassy, quartz vein - highly fractured, fractures healed with white calcite - numerous wisps and inclusions of light green sericite - 1-2% pyrite associated with the sericite and calcite - upper and lower contacts at 50 deg. to LCA - lower contact is delineated by a 3mm wide limonite-stained calcite vein that is vuggy
8.38	9.28	Silicified Basalt - dark to medium green-grey, pervasively silicified, no feldspar phenocrysts visible (completely altered by groundmass material) - numerous 1-3mm wide calcite-filled gashes, randomly oriented
11.19	11.28	*GNTC INTV Granitic Intrusive - light pink, massive, fine-grained (1-3mm) - sharp upper and lower contacts at 50 deg. to LCA - predominantly quartz and feldspar with trace hornblende
21.22	21.82	*GNTC INTV Granitic Intrusive - light grey-pink, massive, equigranular, fine-grained (1-2mm) - sharp upper and lower contacts at 55 deg. to LCA
26.76	26.85	*GNTC INTV Granitic Intrusive - same as 11.19 - 11.28m - 10cm wide calcite-replaced medium grey alteration band downhole from

SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
10294	5.90	6.80	0.90	0.001	0.03	
10295	6.80	8.05	1.25	0.001	0.03	
10296	8.05	8.45	0.40	0.020	0.69	
10297	8.38	9.28	0.90	0.001	0.03	
10298	11.00	11.40	0.40	0.001	0.03	
10299	21.22	21.82	0.60	0.001	0.03	
10300	26.60	27.00	0.40	0.001	0.03	

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		intrusive							
27.81	27.84	*GNTC INTV Granitic Intrusive - same as 11.19 - 11.28m							
29.58	30.00	Silicified Sericitized Basalt - medium grey-green, crosscut by a network of veinlets composed of fine-grained (<<1mm) calcite and quartz - these veinlets have bleached the surrounding basalt - in places the veinlets form "clots" of creamy-coloured calcite and quartz - trace pyrite flattened along fracture planes	10301	29.58	30.00	0.42	0.001	0.03	
31.17	31.76	$ Alteration slfd srtd; Sulphide Py=1 Po=1; Silicified Sericitized Basalt - medium grey-green, weakly foliated at 55 deg. to LCA - minor white calcite veins parallel foliation - 1-2% pyrite, trace - 1% pyrrhotite as fine disseminations parallel foliation in wisps	10302	31.17	31.76	0.59	0.280	9.60	
31.30	31.31	- (C17?) 1cm wide blue quartz vein parallels foliation and contains 1% very fine-grained a(<<1mm) pyrite							
31.62	31.70	Granitic Intrusive - same as 11.19 - 11.28m							
33.65	34.95	Foliated Silicified Basalt	10303	33.65	34.95	1.30	0.001	0.03	
33.65	34.06	- weakly foliated at 45 deg. to LCA - weak mineral alignment parallel to foliation - rock is moderately silicified - feldspar phenocrysts are weakly aligned parallel to foliation							
34.06	34.95	- moderate to strong foliation - foliation at 40 - 45 deg. to LCA - feldspars flattened parallel to foliation and for the most part have flattened to the point that they form light, fine (1mm wide) bands paralleling foliation - rock appears very finely (<1mm - 1mm) banded in light creamy-green and dark green bands - highly siliceous, just scratchable - trace pyrite and trace pyrrhotite paralleling foliation							
34.40	34.42	Quartz Vein - light grey quartz vein, irregular in shape, foliation wraps around the quartz vein							
36.21	36.47	$ Alteration slfd; Silicified Basalt - light grey-green, strongly silicified, weakly calcite replaced, massive - feldspar phenocrysts completely replaced by ground mass material and appear as rare faint ghosts - trace pyrite, increasing to 15 pyrite downhole towards quartz vein							
36.47	36.74	$Alteration qv; Sulphide Py=1; Quartz Vein (C17?) - white, glassy quartz, slightly mottled in colour - numerous inclusions of dark green chlorite as 1cm wide blebs and wisps - 1-2% euhedral, fine-grained (<1mm - 1mm) pyrite associated with chlorite blebs and wisps - contacts sharp at 50 deg. to LCA	10304	36.21	36.74	0.53	0.040	1.37	

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
			10305	36.74	37.30	0.56	0.001	0.03	
37.30	37.84	*GNTC INTV Granitic Intrusive - same as 21.22 - 21.82m - weakly fractured at 25 deg. to LCA	10306	37.30	37.84	0.54	0.001	0.03	
43.70	45.70	Carbonatized Basalt - medium green, weakly calcite-replaced, feldspar phenocrysts gradually becoming replaced by groundmass material downhole - minor calcite-filled fractures 1-2mm wide, randomly oriented	10307 10308	43.70 44.70	44.70 45.70	1.00 1.00	0.001 0.001	0.03 0.03	
45.70	47.90	Carbonatized Sericitized Basalt - light green, moderately to strongly calcite-replaced - abundant calcite-filled gashes 2-5mm wide - trace pyrite and pyrrhotite along calcite-filled veinlets - weak to moderate sericite alteration increasing downhole - weak foliation at 30 - 40 deg. to LCA	10309 10310	45.70 46.70	46.70 47.90	1.00 1.20	0.001 0.001	0.03 0.03	
47.90	48.50	Foliated Silicified Basalt (C17?) - strong foliation at 10 - 30 deg. to LCA, foliation gently undulates from 10 - 30 deg.; - strongly silicified, light grey bands of quartz 1mm - 1cm wide parallel foliation - quartz is fractured and healed with calcite	10311	47.90	48.50	0.60	0.001	0.03	
48.50	50.10	Foliated Sericitized Basalt - moderately foliated at 0 - 10 deg., foliation undulates - numerous calcite gashes paralleling foliation - sericite-replaced in places making rock quite soft - feldspar phenocrysts elongated parallel to foliation	10312	48.50	50.10	1.60	0.001	0.03	
50.10	53.54	Foliated Sericitized Basalt - same as 48.50 - 50.10m but foliation at 30 - 40 deg. to LCA	10313 10314 10315	50.10 51.60 52.60	51.60 52.60 53.54	1.50 1.00 0.94	0.001 0.001 0.001	0.03 0.03 0.03	
53.54	54.00	Completely Silicified Basalt - dark blue-grey completely silicified basalt, very hard (cannot be scratched) - highly fractured on cm-scale, fractures healed with calcite	10316	53.54	54.00	0.46	0.001	0.03	
54.00	54.70	Carbonatized Sericitized Basalt - medium to light grey-green, moderately calcite-replaced, and sericite-altered - can easily be scratched	10317	54.00	54.70	0.70	0.010	0.34	
54.40	54.60	Granitic Intrusive - contacts at 30 deg; - light grey-green, strongly silicified which has overprinted most primary textures							
57.15	57.60	Foliated Silicified Basalt - weakly foliated at 30 deg. to LCA - feldspar phenocrysts show elongation parallel to foliation plane - medium grey-green, moderately silicified	10318	57.15	57.60	0.45	0.001	0.03	
57.60	58.12	Strongly Silicified Basalt - dark blue-grey, very hard (cannot be scratched) - 1-2% extremely fine-grained (<<1mm) pyrrhotite, trace - 1% extremely fine-grained pyrite - pervasive fine fracturing (hairline - 3mm) healed with dark blue quartz and sericite (creamy-green) - upper and lower contacts are sharp but irregular, undulating from 10 - 40	10319	57.60	58.12	0.52	0.001	0.03	

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		deg							
58.12	58.43	Foliated Silicified Basalt							
		- same as 57.15 - 57.60m							
58.43	60.10	Silicified Basalt	10320	58.12	58.52	0.40	0.001	0.03	
		- medium grey-green, very hard, can just barely be scratched in some places -	10321	58.52	60.10	1.58	0.001	0.03	
		feldspar phenocrysts only faintly visible, for the most part they are							
		replaced by groundmass material							
		- 1% pyrite and pyrrhotite along fracture planes							
60.10	60.85	Weakly Foliated Basalt							
		- weakly foliated at 35 - 45 deg. to LCA							
		- feldspars show a weak elongation parallel to this foliation							
60.85	62.10	Silicified Basalt	10322	60.85	62.10	1.25	0.001	0.03	
		- weak to moderate silica and sericite alteration							
		- where silicification is strongest rock is fractured and healed with calcite							
		- fracturing is on a mm - 1cm-scale							
61.17	61.20	Quartz Vein							
		- light grey, mottled, glassy quartz rimmed with 2mm-wide band of calcite and							
		1% pyrite							
63.65	63.70	Quartz-Calcite Vein							
		- fine-grained white calcite intermixed with grey quartz - sharp upper and							
		lower contacts at 55 deg. to LCA - trace pyrite along rims of vein							
		- weak, bleached, alteration zone (silica and calcite replacement) extends							
		10cm either side of vein							
			10323	63.50	63.90	0.40	0.001	0.03	
66.56	66.62	Quartz-Calcite Vein							
		- same as 63.65 - 63.70m							
66.50	66.58	Granitic Intrusive							
		- light buff grey colour							
		- completely silicified which has overprinted much of primary texture -							
		predominantly glassy quartz							
		- sharp contacts at 65 deg. to LCA							
			10324	66.40	66.80	0.40	0.001	0.03	
			10325	66.30	66.70	0.40	0.001	0.03	
67.50	68.00	Granitic Intrusive	10326	67.50	68.00	0.50	0.001	0.03	
		- same as 66.50 - 66.58m							
68.00	72.65	Silicified							
		- feldspar phenocrysts appear the same but matrix is medium to light grey,							
		weakly silica and calcite-replaced							
72.65	73.48	Silicified Carbonatized Basalt							
		- same as 68.00 - 72.65m but feldspars are completely replaced by groundmass							
		material and there is moderate calcite replacement							
73.38	73.48	Brecciated Basalt							
		- subangular fragments 2mm - 1cm wide floating freely in a medium green							
		siliceous matrix							
73.48	73.90	Calcite-Quartz Vein	10327	73.38	73.90	0.52	0.001	0.03	
		- fine-grained (<1mm) mixture of white calcite and grey quartz with							
		inclusions of dark green chlorite							
73.90	74.40	Carbonatized Basalt							
		- light green moderately calcite-replaced							
		- faint remnant feldspars visible							
		- grades gradually back into unaltered basalt							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
81.10	81.90	$	10328	81.10	81.90	0.80	0.020	0.69	
		Alteration crbd:							
		Carbonatized Basalt							
		- light green, moderately calcite-replaced, numerous calcite-filled gashes 2mm - 1cm wide							
		- trace pyrite along calcite gashes							
96.87	99.20	Dense Calcite Fracturing	10329	96.87	97.90	1.03	0.001	0.03	
		- dense stockwork of calcite-filled fractures, randomly oriented each with a bleached light green alteration rim around it	10330	97.90	99.20	1.30	0.001	0.03	
		- this gives the rock a mottled light and dark green appearance - along some of the wider calcite-filled fractures (2-4mm) is light grey quartz - occasional trace pyrite							
98.05	98.23	Granitic Intrusive							
		- same as 66.50 - 66.58m							
104.30	115.30	Silicified Basalt	10331	104.30	105.80	1.50	0.001	0.03	
		- medium grey-blue, massive, very hard, cannot be scratched, fine-grained (< 1mm)	10332	105.80	107.30	1.50	0.001	0.03	
			10333	107.30	108.80	1.50	0.001	0.03	
		- this contact is gradational over 30cm, the feldspars gradually get fainter and more silicified until they are completely replaced by groundmass material	10334	108.80	110.30	1.50	0.001	0.03	
			10335	110.30	111.80	1.50	0.001	0.03	
		- this is possibly a contact from a coarse feldspar phenocryst flow to a fine- grained flow and the finer-grained flow has been completely silicified	10336	111.80	113.30	1.50	0.001	0.03	
			10337	113.30	114.80	1.50	0.001	0.03	
		- at the bottom of this unit it grades over 30cm back into the fresh basalt feldspar phenocryst-bearing flow	10338	114.80	115.30	0.50	0.001	0.03	
		- stays uniform in appearance throughout							
118.90	118.95	Quartz-Calcite Vein							
		- fine-grained white calcite mixed with light grey quartz - trace pyrite							
		- contacts sharp at 50 deg. to LCA							
		- 10cm wide light green alteration zone, calcite-altered, either side of vein							
			10339	118.70	119.10	0.40	0.001	0.03	
123.60	125.10	Calcite Veining	10340	123.60	125.10	1.50	0.001	0.03	
		- dense stockwork of calcite-filled hairline fractures - each withh a light green alteration halo producing a mottled light and dark green appearance to the rock where these fractures interfere - trace pyrite and pyrrhotite along some of these fractures							
128.10	129.00	Silicified Basalt	10341	128.10	129.00	0.90	0.001	0.03	
		- feldspar phenocrysts unaltered but matrix is now light green-grey and moderately silicified, hard (can just be scratched)							
128.54	128.63	Calcite Vein							
		- fine-grained (<1mm) white calcite, intermixed with light grey quartz at 45 deg. to LCA							
136.65	136.80	Carbonatized Basalt							
		- light green, moderately calcite-replaced, feldspar phenocrysts replaced by groundmass material							
		- 5mm wide blue-grey quartz-calcite stringer runs through middle at 45 deg. to LCA							
			10342	136.50	136.90	0.40	0.001	0.03	
137.80	138.45	Diorite Intrusive	10343	137.80	138.45	0.65	0.001	0.03	
		- massive, equigranular, medium-grained (4mm) , black and white speckled - black hornblende and white feldspar with quartz							
		- upper and lower contacts are vague and irregular but do show a cooling							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		margin (very fine-grained)							
141.50	142.10	$	10344	141.50	142.10	0.60	0.040	1.37	
		Alteration slfd;							
		Silicified Basalt							
		- light green, hard (can just barely be scratched) , pervasively silicified -							
		has an amorphous appearance to it							
140.80	140.90	Quartz Vein							
		- mottled, white light grey at 45 deg. to LCA							
		- 2-3% very fine-grained pyrite and trace chalcopyrite							
145.65	147.50	*LMPP DKE Lamprophyre Dyke							
		- black fine-grained mixture of biotite and feldspar with biotite phenocrysts							
		4-5mm long							
153.40	154.50	Carbonatized Basalt	10345	153.40	154.50	1.10	0.060	2.06	
		- light green, pervasively calcite-replaced							
		- numerous quartz-calcite-filled gashes							
		- trace - 1% along calcite gashes							
154.50	265.00	*BSLT Basalt	10346	162.20	162.60	0.40	0.001	0.03	
		- fine-grained (1-2mm) , no feldspar phenocrysts, massive, dark green -	10347	164.88	166.30	1.50	0.010	0.34	
		numerous randomly oriented calcite-filled fractures	10348	166.30	167.00	0.70	0.080	2.74	
162.33	162.45	Quartz Vein							
		- contacts at 55 deg. to LCA							
		- light grey, glassy, 2mm wide calcite rim either side - trace pyrite							
164.80	167.00	$							
		Alteration crbd;							
		Carbonatized Basalt							
		- light to medium green, moderately calcite-replaced - calcite-filled							
		fractures run at 0 deg. to LCA							
		- trace - 1% very fine-grained pyrite is associated with these veinlets -							
		minor light blue-grey quartz within these veinlets							
168.17	168.20	Quartz Vein							
		- light grey at 40 deg. to LCA, rimmed with calcitte							
		- 1-2% pyrite, trace chalcopyrite							
		- 5cm wide light green alteration halo around vein moderately							
		calcite-replaced							
			10349	168.00	168.40	0.40	0.001	0.03	
171.88	172.15	Granitic Intrusive							
		- medium pink, massive, equigranular, fine-grained (1-2mm) - predominantly							
		potassic feldspar and quartz							
		- sharp contacts at 40 deg. to LCA							
			10350	171.80	172.20	0.40	0.001	0.03	
177.70	178.16	Granitic Intrusives	10351	177.70	178.16	0.46	0.001	0.03	
		- 4, 2cm wide granitic intrusives same as 171.88 - 172.15m - light green							
		silicified zone around each vein							
179.72	179.83	Quartz Vein							
		- light grey quartz with fine-grained white calcite and ascicular tremolite (							
		light green) noodles within the calcite							
		- 50 deg. to LCA							
			10352	179.60	180.00	0.40	0.001	0.03	
195.28	196.50	Diorite	10353	195.28	196.50	1.22	0.001	0.03	
		- massive, equigranular, fine to medium-grained (3-4mm) - black and white							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		speckled in appearance - contacts sharp at 50 deg. to LCA							
209.05	210.50	Diorite - same as 195.28 - 196.50m	10354	209.05	210.50	1.45	0.001	0.03	
211.50	212.00	Diorite - same as 195.28 - 196.50m	10355	211.50	212.00	0.50	0.001	0.03	
215.60	215.66	Quartz-Calcite Vein - 40 deg. to LCA - light grey quartz with fine-grained white calcite - wisps of sericite within the vein - 5cm wide bleached, carbonatized alteration zone surrounds the vein	10356	215.40	215.80	0.40	0.001	0.03	
222.59	222.67	Quartz-Calcite Vein - 50 deg. to LCA - light grey quartz intermixed with fine-grained white calcite							
223.30	223.80	Foliated - foliation at 50 deg. to LCA - moderately foliated, minerals aligned parallel to foliation - weakly carbonated, altered	10357	223.30	223.80	0.50	0.001	0.03	
225.26	225.56	Foliated - moderately foliated at 45 deg. to LCA, mineral grains aligned parallel to foliation - weakly calcite-replaced giving a medium green colour	10358	225.20	225.60	0.40	0.001	0.03	
226.62	226.66	Calcite Vein - 40 deg. to LCA - fine-grained white calcite intermixed with light grey quartz - bleached 10cm wide calcite-replaced basalt surrounds vein	10359	226.40	226.80	0.40	0.001	0.03	
227.96	228.00	Calcite Vein - same as 226.62 - 226.66m but with trace - 1% pyrite	10360	227.70	228.10	0.40	0.001	0.03	
233.90	236.20	Biotite-Calcite-Rich Flow (?) - dark brown, massive, equigranular, fine-grained (1-2mm) - composed predominantly of biotite and calcite and presumably quartz since the rock is harder than expected (scratches without too much pressure on knife) - 1-2% coarse (2-3mm) euhedral pyrite disseminated randomly throughout - abundant calcite-filled gashes randomly oriented - upper contact is faint but distinct at 25 deg. to LCA - lower contact indistinct, appears to grade into basalt	10361 10362	233.90 235.40	235.40 236.20	1.50 0.80	0.001 0.001	0.03 0.03	
236.20	238.40	Carbonatized Silicified Basalt - moderately calcite-replaced, weakly silicified - medium green, numerous calcite gashes randomly oriented - trace pyrite	10363 10364	236.20 237.20	237.20 238.40	1.00 1.20	0.001 0.001	0.03 0.03	
238.40	241.34	*MNZN Mineralized Zone	10365	238.40	239.65	1.25	0.001	0.03	
238.40	239.65	Foliated Silicified Basalt - weakly to moderately foliated at 70 deg. to LCA - weakly calcite-replaced, moderately silicified - light to medium grey-green							
239.65	240.06	Silicified Foliated Basalt - brittle - ductile deformation, light grey amorphous-looking siliceous " clasts" flattened parallel to foliation at 70 deg; - these clasts are	10366	239.65	240.06	0.41	0.001	0.03	

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		cemented by a medium grey siliceous, amorphous mixture							
		- 1-2% very fine-grained (<<1mm) flattened parallel to foliation							
240.06	241.34	Foliated Silicified Basalt	10367	240.06	241.34	1.28	0.001	0.03	
		- weakly foliated at 70 deg., weakly silicified and calcite-replaced - trace pyrite							
241.34	265.00	Basalt	10368	241.34	242.80	1.46	0.001	0.03	
		- same as 154.50 - 238.40m	10369	242.80	244.30	1.50	0.001	0.03	
241.34	244.30	Carbonatized Basalt							
		- medium to dark green, moderately calcite-replaced - numerous randomly oriented calcite-filled fractures - trace pyrite							
244.30	245.73	Biotite-Calcite-Rich Flow (?)	10370	244.30	245.73	1.43	0.001	0.03	
		- same as 233.90 - 236.20m							
		- contacts are the same as 233.90 - 236.20m							
		- calcite is weathered out to form vuggy cavaties 1-5mm in places							
247.10	248.30	Highly Deformed Basalt	10371	247.10	248.30	1.20	0.001	0.03	
		- light grey, highly fractured but weakly foliated at 70 deg; - strongly calcite and silica-replaced							
		- 2-3% extremely fine (<<1mm)-grained pyrite as wisps							
247.30	247.30	- fault gouge, unconsolidated clay, high angle fault (approx. 70 deg.)							
255.17	255.20	Quartz Vein							
		- light grey quartz vein with 30% white quartz at 70 deg. to LCA							
		- 1-2% very fine pyrite							
			10372	255.00	255.40	0.40	0.001	0.03	
261.70	262.50	Granitic Intrusion	10373	261.70	262.50	0.80	0.001	0.03	
		- aplite (?), fine-grained (<1mm) , light pink, massive, equigranular mixture of quartz and k-spar							
265.00	307.40	*BLPP Basalt, Feldspar Porphyritic	10374	269.80	270.40	0.60	0.001	0.03	
		- crowded	10375	273.00	274.00	1.00	0.001	0.03	
		- same as 3.00 - 154.50m							
269.80	270.40	Granitic Intrusive							
		- same as 261.70 - 262.50m							
273.70	273.90	Granitic Intrusive							
		- same as 261.70 - 262.50m							
289.00	289.00	*E.O.H. End of Hole							
		- Casing left in hole							
		- Acid test done							
		- Continuation of hole February 17, 1987							
289.00	307.40	*BLPP Basalt, Feldspar Porphyritic							
		- typical							
289.75	289.85	Tonalite Intrusive							
		- 51 deg. LCA							
290.18	290.78	Dioritic Intrusive							
		- upper contact sharp 80 deg. LCA							
		- lower contact sharp 60 deg. LCA							
		- strong pervasive potassic alteration of plagioclase							
290.28	290.28	- 5cm zone of high quartz content approx. 90%							
		- light grey							
294.07	294.15	Sericitized Zone							
		- includes 2 blue-grey quartz-carbonate stringers							
		- 43 deg. LCA having uundergone strong sericitic alteration							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
302.70	302.80	Broken Core							
303.70	304.00	- zone including 7 blebs of pyrrhotite and associated chalcopyrite approx; 6 x 2mm apparently overgrowing expanded areas of wispy carbonate stringers - < 1% disseminated pyrite							
306.57	306.65	Dioritic Intrusive							
		- 80 deg. LCA							
		- fine-grained, phaneritic, equigranular 50% plagioclase, 35% quartz, 15% mafics							
		- pervasive potassic alteration except 1cm zone adjacent to contacts							
307.40	349.00	*BSLT Basalt	11424	309.23	309.63	0.40	0.001	0.00	
		- medium to fine-grained massive basalt, typical	11425	309.63	310.33	0.70	0.001	0.00	
		- locally, sericitic alteration of carbonate stringers	11426	310.33	310.87	0.54	0.001	0.00	
308.74	308.94	Dioritic Intrusive							
		- parallel to LCA							
		- never actually crosses core							
		- fractured and healed by carbonate							
309.63	310.63	Strong Shearing							
		- contacts gradual							
		- indicated by basalt fabric and stretching of carbonate veinlets approx. 34 deg. LCA							
		- 1% pyrrhotite > pyrite > chalcopyrite disseminated							
310.63	310.85	Dioritic Intrusive							
		- contacts indistinct							
		- upper contact appears to be following previous shearing - pervasive potassic alteration							
		- 3cm zone in center segregates quartz, potassic alteration plagioclase and mafics into 3 (1cm) layers							
313.73	314.23	Fault							
		- broken core 35 - 40 deg. LCA							
		- gouge noted in 3 areas, two near start of zone, one at end of zone							
314.23	315.28	- minor shearing approx. 40 deg. LCA							
		- pyrite in plates along shear planes							
315.28	315.59	- strong shearing approx. 30 deg. LCA							
			11427	315.14	315.74	0.60	0.001	0.00	
317.06	317.07	- blue-grey quartz-carbonate stringer							
		- 70% quartz, 30% carbonate							
		- 38 deg. LCA							
		- 1% disseminated pyrite							
			11428	316.89	317.29	0.40	0.001	0.00	
318.87	319.04	Granitic Intrusive							
		- 53 deg. LCA							
		- fine-grained, phaneritic, equigranular							
		- 70% k-spar, 20% quartz, 5% plagioclase, 5% mafics - sericitic alteration at upper contact							
320.31	320.39	Tonalitic Intrusive							
		- 45 deg. LCA							
		- minor potassic alteration							
		- occasional large blue-grey quartz grain							
322.60	322.70	Dioritic Intrusive							
		- 65 deg. LCA							
		- pervasive potassic alteration							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
324.47	324.51	- blue-grey quartz veinlet 35 deg. LCA - 2% pyrrhotite > pyrite > chalcopyrite							
			11429	324.32	324.72	0.40	0.001	0.00	
324.72	324.92	Dioritic Intrusive - contacts indistinct, apparently sutured - very dark							
325.14	325.55	Granitic Intrusive - upper contact very vague - lower contact sharp 45 deg. LCA at carbonate stringer - 2% pyrrhotite associated with contacts							
326.62	326.71	Granitic Intrusive - 66 deg. LCA							
334.20	335.42	Dioritic Intrusive - upper contact sharp 41 deg. LCA - lower contact sharp, dislocation approx. 53 deg. LCA - potassic alteration begins at upper contact and increases till zone 334.46 - 334.82m displays intense potassic alteration becoming almost pegmatitic from 334.53 - 334.66m with ropy quartz and pervasive myrmekitic texture - at end of previous zone, potassic alteration disappears sharply 44 deg. LCA until appearing again very weakly from 334.97m to lower contact							
335.42	335.97	Fault - broken core varying widely in size - gouge at 335.50m							
337.54	338.23	Dioritic Intrusive - upper contact sharp, dislocation approx. 48 deg. LCA - lower contact sharp 45 deg. LCA - potassic alteration near contacts - locally sericitic alteration							
342.30	342.40	Lamprophyre Dyke - upper contact diffuse - lower contact indistinct, dislocation, possibly approx. 70 deg. LCA							
342.48	342.55	Breccia Zone - upper contact indistinct - lower contact sharp 72 deg. LCA at quartz-carbonate stringer with 10% pyrite > chalcopyrite							
342.69	342.74	- broken and healed blue-grey quartz vein with numerous basalt fragments included - 75 deg. LCA - 15 disseminated pyrite							
342.90	342.10	Dioritic Intrusive - contacts vague - near 90 deg. LCA							
			11430	342.25	343.00	0.75	0.001	0.00	
343.43	343.48	Granitic Intrusive - 64 deg. LCA							
349.00	349.00	*E.O.H. End of Hole							

Meterage

From	To	Box
3.00	8.80	1
8.80	14.80	2
14.80	20.60	3

ST. JOE CANADA

PROPERTY - Shoal Lake (KPM) HOLE - K86.76 PAGE # 12

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
	20.60	26.50	4						
	26.50	32.30	5						
	32.30	38.20	6						
	38.20	44.00	7						
	44.00	49.70	8						
	49.70	55.60	9						
	55.60	61.10	10						
	61.10	67.10	11						
	67.10	73.00	12						
	73.00	78.80	13						
	78.80	84.70	14						
	84.70	90.50	15						
	90.50	96.50	16						
	96.50	102.45	17						
	102.45	108.20	18						
	108.20	114.20	19						
	114.20	119.90	20						
	119.90	125.80	21						
	125.80	131.70	22						
	131.70	137.50	23						
	137.50	143.50	24						
	143.50	149.40	25						
	149.40	155.30	26						
	155.30	161.20	27						
	161.20	166.90	28						
	166.90	172.70	29						
	172.70	178.50	30						
	178.50	184.20	31						
	184.20	190.10	32						
	190.10	196.00	33						
	196.00	201.80	34						
	201.80	207.80	35						
	207.80	213.80	36						
	213.80	219.70	37						
	219.70	224.80	38						
	224.80	230.20	39						
	230.20	236.20	40						
	236.20	242.10	41						
	242.10	248.00	42						
	248.00	253.80	43						
	253.80	259.70	44						
	259.70	265.60	45						
	265.60	271.40	46						
	271.40	277.30	47						
	277.30	283.20	48						
	283.20	289.00	49						
	289.00	294.92	50						
	294.92	300.76	51						
	300.76	306.48	52						
	306.48	312.44	53						
	312.44	318.10	54						
	318.10	323.90	55						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne

323.90	329.52	56
329.52	335.28	57
335.28	340.82	58
340.82	346.60	59
346.60	349.00	60

ST. JOE CANADA DIAMOND DRILL HOLE RECORD

Hole No.	K87.82	Northing	3+51S	Grid Orient	20.00	Started	January 19, 1987
Property	Shoal Lake (KPM)	Easting	8+53E	Grid Azim.	10.00	Finished	January 22, 1987
Section		Elevation	332.35	Length (M)	309.00	Drill Co.	Midwest
Claim No.		Survey N.	3+11.88S	Dip-Collar	-45.00	Drill No.	
Target	C.I. Mainland Zone	Survey E.	9+07E	Comp Bearing	30.00	Drill For.	

Depth Dip Azimuth Test Depth Dip Azimuth Test

Logged by
Checked by
Core BQ
Comments:

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne

SUMMARY

0.00	7.50	OVERBURDEN
7.50	130.98	PHENOCRYST BEARING FELDSPAR PHYRIC BASALT (1c)
130.98	140.85	PHENOCRYST BEARING FELDSPAR HY BASALT INTRUDED BY FEW SMALL DIORITIC DIKES
255.60	263.43	FELDSPAR PORPHYRY BASALT
263.43	264.29	FELSIC INTRUSIVE
266.47	268.29	CIMZ
268.29	274.18	FINE TO MEDIUM GRAINED BASALT
274.18	307.17	FELDSPAR PHYRIC BASALT
307.17	309.00	FELSIC INTRUSIVE (Granitic composition)
309.00	309.00	E.O.H.

FROM	TO	DESCRIPTION
0.00	7.50	* OVERBURDEN
7.50	130.98	* PHENOCRYST BEARING FELDSPAR PHYRIC BASALT (1c) Contain about 10-15% phenocryst feldspar ranging from 1 mm to 3 cm wide; feldspar are highly sericitized and sometimes epidotized. Rock is generally chloritized with 1-2% of quartz-carbonate veinlets and patches throughout the unit. Sometimes wide chlorite halo surrounding the veinlets. The rock is highly fractured, filled up with quartz-carbonate and quartz - sericite - epidote veinlets in any direction including also fractured phenocryst feldspar. Some evidence of shearing are: 1) fracture at mild angle to core axis (005/010 A/C) strike at 340 degrees / 70 degrees. 2) fracture along S1 lanes at 45 degrees A/C is sub-vertical. Micro shearing with minor displacement of 1 mm to 2 cm indicate that S1 is a later faulting episode (F2) than the NW-SE system.
13.10	15.00	Shear Zone The rock is vuggy,lightly friable with 1-2% pyrite; highly chloritized.
16.50	23.60	Schistose basalt which may contain some sparse and diffuse phenocryst bearing feldspar phyric basalt. The sub-unit is highly chloritized; S1 reading is about sub-vertical. Upper contact is gradual while the lower contact is uncertain over 2 cm.
18.30	19.10	Shear Zone The rock is soft, fairly friable, chloritized and vuggy. The shear band dips at ~70 degrees to the north.
39.66	39.72	Sharp contact with a basalt flow S1 dipping70 degrees to south; quartz-carbonate veinlet at 045/75 degrees
42.06	42.13	same as 39.66-39.72; quartz-carbonate - chlorite - pyrite shear at 285 degrees /30
54.10	54.10	1-2% pyrrhotite - pyrite related with quartz-carbonate chlorite shear at 40 degrees A/C
56.60	58.25	1-2% pyrrhotite - pyrite mostly related with quartz-carbonate chlorite shear at 25 degrees A/C
66.30	72.40	Bleached and strong pervasive carbonate zone with <1% pyrrhotite - pyrite (chalcopyrite); sulphide stringer at 28 degrees A/C. S1 seems to be at 000 degrees A/C. The upper and lower contact are diffuse.
68.35	69.85	1-2% pyrrhotite - pyrite - (chalcopyrite)
71.30	72.75	1% pyrrhotite - pyrite.
119.15	119.38	white grey with a greenish tint, quartz vein with minor tourmaline. Sharp contact at 65 degrees A/C.
119.38	119.52	Chlorite-strong pervasive carbonate.
119.52	120.00	quartz-carbonate vein same as 119.15-119.38, <1% pyrrhotite, trace pyrite. Sharp contact: hanging wall at 65 degrees A/C

SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
11077	56.75	58.25	1.50	0.00	0.17	
11078	68.35	69.85	1.50	0.00	0.17	
11079	71.30	72.25	0.95	0.00	0.17	
11080	119.15	121.15	2.00	0.00	0.17	

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
		footwall at 40 degrees A/C							
130.98	130.98	num narrow quartz veins.							
130.98	140.85	* PHENOCRYST BEARING FELDSPAR HY BASALT INTRUDED BY FEW SMALL DIORITIC DIKES same as above; diorite are medium white grey with a greenish tint; mainly composed of feldspar, calcite, and mafic material.							
131.15	131.25	Dike							
132.63	132.69	Dike							
137.16	137.94	Dike							
138.00	138.07	Dike							
138.17	138.33	Dike							
139.68	140.85	Dike							
140.85	236.75	* FELDSPAR PHYRIC BASALT phenocrysts are becoming much smaller (1mm to 1 cm) and less num (2-3%) as previously. The rock is highly silicified between 156.00-183.00; same as 7.5-130.98m.	11081	164.04	164.50	0.46	0.01	0.34	
			11082	181.22	182.61	1.39	0.00	0.17	
			11083	224.09	224.49	0.40	0.00	0.17	
151.27	152.30	Lamprophyre Dike dark bn to black coloured; mainly composed of biotite; biotite has no preferential direction; sharp contact at 85 degrees to core axis.							
157.40	157.40	4 mm quartz-carbonate veinlet with 20% pyrrhotite - pyrite.							
164.04	164.50	Traces of pyrrhotite related with few quartz-carbonate veinlets.							
164.18	164.21	Vitreous quartz vein with 2% pyrrhotite - pyrite at 70 degrees A/C.							
167.55	167.55	6 mm quartz-carbonate veinlet with 7% pyrrhotite - pyrite at 60 degrees A/C							
172.25	172.25	4 mm quartz-carbonate veinlet with 1-2% pyrrhotite							
176.15	176.15	2 mm quartz-carbonate veinlet with 10-15% p - pyrite at 65 degrees A/C.							
181.22	182.61	Strong pervasive carbonate zone with few calcite veinlet; trace pyrrhotite							
181.44	181.56	quartz-carbonate veins with tourmaline.							
181.71	181.74	Vitreus quartz vein with 7% pyrrhotite, trace chalcopyrite							
183.46	183.46	5 mm quartz veinlet, no sulphides , 55 degrees long core axis.							
193.63	193.94	carbonate alteration seen as wispy bands, trace pyrrhotite							
193.83	193.83	quartz-carbonate band and 3 cm wide.							
193.88	193.88	quartz-carbonate veinlet, 1 cm wide.							
194.94	195.12	Felsic intrusive, granitic-granodioritic in composition; quartz plagioclase k feldspar, biotite + pyrite; capped with 1 cm band of quartz-carbonate 35 degrees long core axis.							
202.00	202.50	1% pyrite seen as disseminated grains.							
205.94	206.25	quartz dioritic intrusion - plagioclase, quartz, biotite, medium grained; upper contact at 35 degrees long core axis; ctcs sharp with carbonate alteration.							
208.02	208.25	quartz dioritic intrusion as above; sharp upper contact 45 degrees long core axis; lower contact at 15 degrees long core axis; lower contact shar marked with a chlorite / quartz-carbonate band 1 cm wide.							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
217.95	217.95	pyrite rich filled fracture 1 mm wide.							
218.60	219.13	quartz dioritic inclusions (xenos ?) seen as veinlets subparallel to core axis; pyrite rich veinlets generally perpendicular to long core axis at 218.75m.							
220.09	220.09	2 mm pyrite veinlet discontinuous, perpendicular to long core axis							
220.09	220.80	sporadic pyrite veinlets, generally perpendicular to long core axis; 1% pyrite over 80 cm							
222.03	222.03	quartz-carbonate veinlet, 3 mm wide, 30 degrees to long core axis							
224.09	224.40	sulphides rich zone, pervasive carbonate alteration generally seen in veinlets oblique to long core axis around 45 degrees; sulphides mineralization in veinlets parallel to structure, 10-15% overall; with pyrrhotite >> pyrite, 1-2% chalcopyrite locally 7-8% pyrrhotite overall.							
224.82	224.86	feldspar porphyry, sbh plagioclase up to 3 mm; groundmass consists of feldspar and biotite; ctcs abrupt but not defined.							
225.28	225.40	feldspar porphyry as above; upper contact at 53 degrees long core axis; lower contact abrupt but not defined.							
229.99	230.03	Dioritic intrusion, upper contact 60 degrees long core axis							
230.65	233.60	Dioritic intrusions, see as small veinlets <1cm wide subparallel to long core axis; carbonate alteration pervasive and in veinlets. 230.80m 60 degrees long core axis 234.84m 40 degrees long core axis							
235.48	236.05	weak sulphide mineralization, pyrite, pyrrhotite in groundmass as well as conc'd in veinlets <1mm; 1% overall; num carbonate veinlets noted; few plagioclase phenocrysts noted in asalt, generally on medium grained basalt.							
236.60	236.75	abundant feldspar porphyry up to 3 cm diameter, 35% phenocrysts							
236.75	255.60	medium - coarse grained basalt (1b); moderate chlorite / carbonate alteration	11152	241.50	243.00	1.50	0.00	0.17	
240.45	240.50	weakly silicified							
242.07	242.49	strongly carbonate alt'd with moderate chlorite alteration.							
242.49	245.70	moderate - strongly silicified basalt; dark bue grey in colour, num bands of	11084	243.00	244.00	1.00	0.02	0.69	
		calcite up to 4 cm wide generally perpendicular to long core axis; pyrite associated with these bands; weak - moderate pyrite mineralization ; overall 1% but locally 3%. between 242.87-243.90m.	11153	244.00	245.00	1.00	0.00	0.17	
245.70	246.85	moderate to weakly silicified basalt same as above bu green in colour du to	11154	245.00	246.08	1.08	0.00	0.17	
		the presence of chlorite; carbonate alteration abundant	11085	246.08	246.85	0.77	0.04	1.37	
245.62	245.65	grey smokey white quartz vein; contact perpendicular long core axis							
246.80	246.85	quartz vein (possibly hanging wall miniaun ?)							
246.09	246.85	sulphide minl'- pyrite / pyrrhotite noted as disseminations in quartz and conc'd in quartz-carbonate veins							
246.92	248.90	pyrite mineralization generally parallel to long core axis; 5% pyrite overall.	11086	246.85	247.57	0.72	0.18	6.17	
246.95	247.05	quartz vein with pyrite rich bands; locally up to 2% pyrite							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
247.05	248.40	disseminated pyrite in laminations parallel to long core axis, 3%	11089	247.57	248.40	0.83	0.00	0.17	
248.40	248.61	quartz vein with disseminated pyrite; disseminated pyrite surrounding quartz in basalt host in laminations parallel to long core axis, 10%.							
			11087	248.40	248.90	0.50	0.02	0.69	
248.90	249.30	weak pyrite mineralization associated with carbonate veinlets, 1% overall	11088	248.90	249.30	0.40	0.00	0.17	
250.05	251.00	biotite / chlorite defining fabric parallel to long core axis	11090	249.30	250.30	1.00	0.00	0.17	
254.19	254.26	quartz vein, upper contact perpendicular to long core axis; lower contact at 50 degrees to long core axis; milky white; pyrite mineralization associated with quartz and in basalt as veinlets parallel to structure; pyrite mineralization from 254.15-254.34m, rich pyrite veinlet 2 mm wide at 254.25m; overall 3-4% pyrite							
			11091	253.95	254.45	0.50	0.06	2.06	
			11155	254.45	254.90	0.45	0.00	0.17	
255.16	255.16	pyrite rich veinlet 1-5mm wide parallel to structure at 35 degrees to long core axis							
			11092	254.90	255.40	0.50	0.08	2.74	
255.60	263.43	* FELDSPAR PORPHYRY BASALT	11156	255.40	256.40	1.00	0.00	0.17	
		1-2% plagioclase phenocrysts; occassionally phenocrysts are strained with long axis parallel to structure at 45 degrees to long core axis.	11093	260.40	260.90	0.50	0.00	0.17	
260.52	260.52	pyrite veinlet ~ 1cm wide associated with carbonate.							
260.65	260.65	pyrite smear associated with carbonate							
263.43	264.29	* FELSIC INTRUSIVE granitic in composition (K fel,plag,qz,py); upper contact at 63 degrees to core axis; alteration halo at upper contact of carbonate / pyrite; lower contact sharp but irregular, perpendicular to long core axis.							
264.40	265.30	phenocrysts of plagioclase in basalt larger (1 cm diameter) and more abundant, 25%.	11094	264.08	265.08	1.00	0.00	0.17	
265.40	265.63	strong pyrite mineralization 15-20%; quartz-carbonate veinlet kinked.							
			11095	265.08	265.78	0.70	0.00	0.17	
266.47	268.29	* CIMZ	11096	265.78	266.48	0.70	0.00	0.17	
		strong pyrite mineralization; quartz veins at 266.47m (4.5cm) and at 267.00 (17cm); pyrite mineralization associated with quartz as well as groundmass averaging 6-7% pyrite, locally up to 25%; quartz blue grey in colour.	11097	266.48	266.98	0.50	0.06	2.06	
			11098	266.98	267.38	0.40	0.08	2.74	
			11099	267.38	267.89	0.51	0.08	2.74	
			11100	267.89	268.29	0.40	0.16	5.49	
268.29	274.18	* FINE TO MEDIUM GRAINED BASALT	11101	268.29	268.79	0.50	0.01	0.34	
		Typical green - black in colour; pervasive chlorite alteration and carbonate alteration; carbonate alteration seen as wispy veinlets with no preferred orientation and as fracture-filling.	11102	268.79	269.49	0.70	0.00	0.17	
271.06	271.24	Granitic intrusion - sharp but irregular upper and lower contact perpendicular to long core axis.							
273.22	273.38	Felsic intrusive - less potassic than above							
274.18	307.17	*FELDSPAR PHYRIC BASALT up to 40 % plagioclase phenocrysts up to 2 cm in diameter.							

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne	Ag g_tonne
286.56	286.63	pyrrhotite mineralization. 5% pyrrhotite with trace chalcopyrite associated with milky white carbonate veinlet.							
297.66	297.70	Dioritic Intrusion - upper contact at 62 degrees to long core axis.							
307.17	309.00	* FELSIC INTRUSIVE (Granitic composition) qz,plag,k feldspar, biotite, and pyrite; diffuse upper contact; paralle to long core axis.	11103	307.17	308.17	1.00	0.00	0.17	
309.00	309.00	*E.O.H.							

ST. JOE CANADA DIAMOND DRILL HOLE RECORD

Hole No.	K87-83	Northing		Grid Orient		Depth Dip Azimuth Test		Depth Dip Azimuth Test		Started	Jan. 23,1987	Logged by	T.W. Bittle
Property	SHOAL LAKE (KPM)	Easting		Grid Azim.						Finished	Jan. 26,1987	Checked by	P.C. Delisle
Location		Elevation	344.65	Length (M)	306.08	100.0 - 41		200.0 - 35		Drill Co.	Midwest	Core	BQ
Claim No.		Departure	3+47.71S	Dip-Collar	-45					Drill No.		Comments:	
Target	CIMZ 200 m vertical	Latitude	10+08.08E	Comp Bearing	30					Drill For.			

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

FROM	TO	DESCRIPTION
0.00	3.75	CASING - OVERBURDEN
3.75	4.11	BROKEN CORE
4.11	209.96	FELDSPAR PHYRIC BASALT
141.00	141.76	BRECCIATED BASALT
170.25	176.55	SHEAR ZONE
209.96	210.55	LAMROPHYRE DIKE
210.55	217.30	FELDSPAR PHYRIC BASALT
217.30	243.00	MEDIUM TO FINE-GRAINED BASALT
257.00	270.88	FELDSPAR PHYRIC BASALT
270.88	276.00	GRANITIC INTRUSIVES / FELDSPAR PHYRIC BASALT
276.00	280.62	GRANITIC INTRUSION
280.62	295.17	FINE TO MEDIUM GRAINED BASALT
295.17	303.69	FELDSPAR PHYRIC BASALT
303.69	306.08	GRANITIC INTRUSION
306.08	306.08	E.O.H.

FROM	TO	DESCRIPTION
0.00	3.75	*CASING - OVERBURDEN
3.75	4.11	*BROKEN CORE
4.11	209.96	*FELDSPAR PHYRIC BASALT basaltic flow with plagioclase penos varying from <1mm to 1cm; locally phenocrysts of biotite are observable; abundant phenocrysts range from trace - 1%, up to 20% locally; phenocrysts are often relict being replaced with carbonate and sericite; carbonate alteration / silicification / chloritization noted locally; carbonate alteration noted as veinlets varying in width from <1mm to 1 cm in width, generally at moderate angles to core axis; quartz veinlets milky white to blue grey, often present varying in width from <1mm to 2 cm; sulphide mineralization seen as disseminated grains in teh basalt as well as concentrated bands associated with quartz-carbonate veinlets; pyrite generally dominate but locally pyrrhotite, chalcopyrite present in appreciable amounts.
26.56	26.59	locally 25-35% pyrite associated with quartz veinlet.
28.98	30.05	4% pyrite associated with carbonate - quartz veinlet
39.10	39.66	Missing core - Fault?
48.20	55.25	pervasive carbonate alteration; trace - 1% plagioclase phenocrysts.
57.60	58.25	euhedral pyrite cubes; up to 5mm, 5% overall, disseminated throughout basalt
64.05	65.53	euhedral pyrite cubes, <1mm to 1 cm, 3% overall.
83.92	84.12	blue - grey quartz vein with 1% pyrite at 45 degrees to long core axis
93.87	94.07	pyrite veinlet at 65 degrees to long core axis
103.40	103.59	blue grey quartz vein 50 degrees to long core axis; disseminated pyrite 5-6%
108.00	108.76	silicified zone, fine-grained pyrite disseminated throughout basalt and concentrated in veinlets; locally 10% pyrite, overall 4-5%.
141.00	141.76	*BRECCIATED BASALT upper contact not defined (some broken core); strongly sheared, fabric at 50 degrees long core axis; silicified with quartz veinlets, pervasive carbonate / chlorite alteration; aphanitic clasts of K feldspar, pyrite, plagioclase in a carbonate matrix; pyrite mineralization 2-3% overall; locally 4-5%.
147.66	147.82	pervasive potassic alteration.
149.15	149.25	Granitic dike; sharp contacts at 55 degrees to long core axis
153.19	153.24	pyrite mineralization associated with carbonate / quartz veinlet; locally up to 60% pyrite seen as euhedral crystals 1-2mm in quartz.
170.25	176.55	* SHEAR ZONE
170.25	170.73	Schistose basalt with schistosity at 15-30 degrees to long core axis; pervasive carbonate alteration; red bn Fron carbonate, possibly ankerite?
170.73	170.82	Fault gouge - upper contact at 25 degrees to long core axis lower contact at 35 degrees to long core axis possible fault orientation 170/50W
170.82	170.96	brecciated basalt
171.66	171.88	2-3% pyrite associated with blue grey quartz-carbonate veins

SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
11104	57.29	58.29	1.00	0.17	0.005
11105	65.03	65.53	1.00	0.17	0.005
11106	103.30	103.70	1.00	0.17	0.005
11107	108.00	108.76	1.00	5.49	0.160
11108	140.95	141.80	0.40	0.17	0.005
11109	153.00	153.40	0.40	4.11	0.120
11110	170.71	171.11	0.40	0.17	0.005
11111	171.55	171.95	1.00	2.74	0.080
11112	204.19	204.59	0.70	0.17	0.005

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
183.42	183.52	pyrrhotite veinlet 60 degrees to long core axis associated with grey quartz-carbonate veinlet						
193.33	193.37	5% pyrrhotite associated with blue grey quartz-carbonate veinlet						
198.95	199.25	3-4% chalcopyrite smears associated with quartz-carbonate veinlet						
204.20	205.30	pyrite mineralization - pyrite concentrated in bands and disseminations of euhedral cubes, 1-2% overall.						
209.96	210.55	* LAMROPHYRE DIKE mafic dike with biotite phenocrysts and clusters; strong carbonate alteration with carbonate pseudomorphs of biotite noted; sharp upper and lower contact, both marked with carbonate band; upper contact at 40 degrees to long core axis; lower contact at 38 degrees to long core axis.						
210.43	210.55	Granodioritic intrusion.						
210.55	217.30	* FELDSPAR PHYRIC BASALT						
217.30	243.00	* MEDIUM TO FINE-GRAINED BASALT	11113	230.54	231.54	1.00	0.17	0.005
		diffuse contact over 3 m; dark green to black in colour; trace plagioclase	11114	231.54	232.04	1.50	0.17	0.005
		phenocrysts present often relict; wispy carbonate veinlets <1mm to 1cm wide,	11115	232.04	232.54	1.50	0.17	0.005
		generally at high angles to the long core axis; sulphides present, pyrite	11116	232.54	233.04	1.50	0.17	0.005
		dominant as disseminated crystals in the basalt; locally pyrite concentrated	11117	233.04	233.44	1.50	0.17	0.005
		within quartz-carbonate veinlets; intrusive granitic to dioritic in composition	11118	233.44	233.90	1.00	0.17	0.005
		are resent; minor broken core.	11119	233.90	234.40	0.60	0.17	0.005
217.90	217.90	Blocky broken core for 60cm						
219.18	219.57	Dioritic intrusive - diffuse upper contact; lower contact at 70 degrees to long core axis.						
221.84	221.84	2cm pyrite rich carbonate veinlet perpendicular to long core axis, 3-4% pyrite.						
231.53	235.32	moderate - strong silicified zone; light green grey in colour; moderate - strongly sheared, 60 degrees to long core axis ; locally intense clay / carbonate / iron carbonate (ankerite?) alteration; pyrite rich bands parallel to shearing, locally 10% pyrite; minor broken core at 232.60 and 233.75m.	11120	234.40	234.90	1.00	0.17	0.005
			11121	234.90	235.40	1.50	0.17	0.005
			11122	235.40	236.40	0.60	0.17	0.005
239.92	240.16	pyrite, chalcopyrite associated with quartz-carbonate veinlets; chalcopyrite at 239.92m, 2-3% locally; 2% pyrite over 30 cm.						
			11123	239.21	240.21	1.00	0.17	0.005
			11124	238.81	239.21	1.00	0.17	0.005
			11125	240.21	240.61	0.70	0.17	0.005
242.55	242.72	disseminated pyrite associated with quartz-carbonate veinlet; 1-2%						
243.00	257.00	Transitional unit between 1a and 1c. Gradual increase of plagioclase	11126	249.41	249.81	1.00	6.17	0.180
		phenocrysts. Rare 1cm plagioclase phenocrysts showing potassic alteration; local silicification and carbonate alteration; pyrite, pyrrhotite mineralization associated with blebs of blue gyy quartz in band at 65 degrees to long core axis; locally up to 15%, 6-7% over 20cm	11127	249.81	250.31	1.00	0.17	0.005
256.93	256.93	pyrrhotite mineralization, trace chalcopyrite, pyrrhotite >>> chalcopyrite; 2-3% sulphides over 10 cm.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
257.00	270.88	* FELDSPAR PHYRIC BASALT						
		same as above						
257.35	257.35	pyrite mineralization associated with quartz veinlets.						
257.70	258.30	moderate - weak shearing; moderate silicification.						
270.88	276.00	* GRANITIC INTRUSIVES / FELDSPAR PHYRIC BASALT						
		A system of granitic intrusions of various thickness within 1c; generally intrusives are potassic rich with pervasive lime green alteration (ser'c / epidotization ?); quartz, K feldspar, and plagioclase are abundant; grn size varies from <1mm to 1 cm in size; phlogopite, graphite and pyrite are common accessories; contacts are sharp; intrusive locations are as follows:						
270.88	271.43	lower contact at 20 degrees to long core axis						
272.20	272.84	upper contact at 40 degrees to long core axis; lower contact at 40 degrees to long core axis.						
273.17	273.46	upper contact at 15 degrees to long core axis; lower contact at 35 degrees to long core axis.						
274.64	274.79	lower contact at 10 degrees to long core axis.						
276.00	280.62	* GRANITIC INTRUSION	11128	215.95	277.45	1.52	0.17	0.005
		same as above; upper contact at 20 degrees to long core axis; lower contact at	11129	277.45	278.95	1.47	0.17	0.005
		30 degrees to long core axis.	11130	278.95	280.45	1.50	0.17	0.005
280.62	295.17	* FINE TO MEDIUM GRAINED BASALT	11131	280.45	281.71	1.50	0.17	0.005
		dark green in colour; pervasive carbonate / silicate alteration; locally	11132	281.71	282.71	1.50	8.91	0.260
		weakly sheared; carbonate noted as wispy bands generally at high core axis	11133	282.71	283.45	1.50	6.86	0.200
		angles but with no preferred orientation; milky white - blue grey quartz veins	11134	283.45	284.95	1.20	0.17	0.005
			11157	169.71	170.71	1.00	0.17	0.005
			11158	170.11	170.55	1.42	0.17	0.005
			11159	170.55	171.55	1.50	0.17	0.005
		with associated pyrite mineralization; rare granitic intrusions with pyrite mineralization.						
281.12	282.76	upper contact at 43 degrees; lower contact at 45 degrees.						
281.71	283.42	pyrite mineralization associated with blue grey quartz veinlets; locally up to 30%; pyrite concentrated in bands within quartz as well as along veinlet contacts.						
281.86	281.91	blue grey quartz veinlet perpendicular to long core axis with 30% pyrite.						
282.79	282.97	clear grey milky white quartz veinlet perpendicular to long core axis with 5% pyrite.						
283.28	283.35	blue grey quartz veinlet with 10-15% pyrite						
294.50	294.69	felsic dike; white to light green in colour with plagioclase phenocrysts; sharp upper contact at 40 degrees to long core axis ; diffuse lower contact at 55 degrees to long core axis.						
295.17	303.69	* FELDSPAR PHYRIC BASALT						
303.69	306.08	* GRANITIC INTRUSION						
		upper contact irregular at high angle to core axis.						
306.08	306.08	* E.O.H.						

Hole No.	K87-84	Northing		Grid Orient		Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	JAN 27,1987	Logged by	T.W. Bittle
Property	SHOAL LAKE (KPM)	Easting		Grid Azim.										Finished	JAN 31,1987	Checked by	P.C. Delisle
Location	CEDAR IS MAINLAND Z	Elevation	339.80	Length (M)	337.0	100.0	- 44			200.0	- 42			Drill Co.	Midwest	Core	BQ
Claim No.		Departure	11+12.18E	Dip-Collar	-45	300.0	- 37			336.0	- 37			Drill No.		Comments:	
Target	200m vertical	Latitude	2+97.34S	Bearing	030									Drill For.			

Kim Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	3.14	CASING
3.14	8.04	SHEAR ZONE
8.04	113.60	MEDIUM FINE-GRAINED BASALT
113.60	119.67	BRECCIATED / ALTERATION ZONE
119.67	131.52	FINE - MEDIUM GRAINED BASALT
131.52	134.45	ALTERATION ZONE
134.75	236.41	MEDIUM - FINE-GRAINED BASALT
236.51	240.03	CIMZ
240.03	253.89	FELDSPAR PHYRIC BASALT
253.89	256.39	FELDSPAR PORPHYRY
256.39	259.82	FELDSPAR PHYRIC BASALT
259.82	291.79	GRANITIC INTRUSION / FELDSPAR PHYRIC BASALT
291.79	293.28	PLAGIOCLASE QUARTZ PORPHYRY
293.28	303.59	MEDIUM - FINE-GRAINED BASALT
303.59	309.63	GRANITIC INTRUSIVE
309.63	312.11	MEDIUM - FINE-GRAINED BASALT
312.11	317.21	FELSIC INTRUSIVE ? / FLOW?
318.02	325.29	MEDIUM - FINE-GRAINED ASALT
325.29	330.89	GRANITIC INTRUSION

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
330.89	333.04	MEDIUM - FINE-GRAINED BASALT						
333.04	334.30	GRANITIC INTRUSION						
334.30	337.00	MEDIUM - FINE-GRAINED BASALT						
337.00	337.00	E.O.H.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	3.14	* CASING						
3.14	8.04	* SHEAR ZONE moderate to weakly sheared basalt with shearing at 30-40 degrees to long core axis; basalt is grey in colour; indurated and with pyrite rich veinlets loc;y along shear planes; rusty brown staining (Fe- staining) is pervasive. seen on broken core surfaces; blocky and broken core.	11135	5.25	6.25	1.00	0.00	
			11136	6.25	7.25	1.00	0.00	
6.57	6.65	Fault gouge; lower contact is ahrp at 35 degrees to long core axis; brecciated with a silicate matrix; limonitic staining.						
7.15	8.02	pervasive pyrite mineralization, 7-8%						
8.04	113.60	* MEDIUM FINE-GRAINED BASALT blue green to grey green in colour; locally moderate - weakly sheared, coarse grained and brecciated; rare plagioclase phenocrysts carbonate and silicate alteration generally seen as random oriented fracture-filling or as veinlets; sulphide mineralization is generally associated with quartz-carbonate veinlets and shear zones with pyrite greater than pyrrhotite greater than chalcopyrite.	11137	7.25	8.25	1.00	0.00	
			11138	8.25	9.25	1.00	0.00	
			11139	10.71	11.11	0.40	0.00	
			11140	11.11	11.51	0.40	0.00	
			11141	11.51	11.91	0.40	0.00	
			11142	48.54	49.54	1.00	0.17	0.005
			11143	49.54	50.24	0.70	0.17	0.005
11.23	11.52	pyrite, chalcopyrite mineralization associated with wispy carbonate veinlet; locally pyrite / chalcopyrite up to 5-6% over 4 cm, with pyrite greater than chalcopyrite; minor amounts of pyrrhotite seen as smears and associated with carbonate veinlets.						
15.78	15.78	pyrrhotite veinlet, 1 mm wide.						
23.20	27.40	pervasive carbonate alteration						
25.29	25.37	blue grey quartz veinlet with occassional fleck of pyrrhotite at 30 degrees to long core axis.						
27.90	28.60	Flecks of chalcopyrite / pyrrhotite in basalt.						
33.13	33.19	Granitic dike, sharp upper and lower contact at 60 degrees to long core axis.						
36.26	36.31	Milky white - glassy quartz veinlet with no sulphide mineralization; contacts are irregular but perpendicular to long core axis.						
48.49	48.52	felsic / carbonate dike at 55 degrees to long core axis.						
49.56	50.24	pervasive carbonate / chlorite alteration with disseminated pyrite, 1-2%.						
			11144	50.24	51.24	1.00	0.17	0.005
			11145	57.40	58.90	1.50	0.17	0.005
59.17	60.26	shear zone - intense silica / carbonate / chlorite alteration; well sheared with shearing at 40 degrees to long core axis; brecciated ? sulphide mineralization consists of fine-grained pyrite, pyrrhotite along shear planes; locally 3-4% sulphides with pyrite greater than pyrrhotite.						
			11146	58.90	60.40	1.50	0.17	0.005
61.86	61.86	1% pyrite associated with grey quartz-carbonate veinlet 1 cm wide.						
			11147	60.40	61.90	1.50	0.17	0.005
			11148	61.90	63.40	1.50	0.17	0.005
			11149	67.54	68.54	1.00	0.17	0.005
68.62	69.02	moderately sheared basalt as above, no bx'n noted; fine-grained pyrite disseminations, 1% over 40 cm.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			11150 11151	68.54 69.14	69.14 70.14	0.60 1.00	0.17 0.17	0.005 0.005
83.80	86.50	weakly sheared basalt with abundant carbonate / chlorite / silicate; locally vuggy; pyrite mineralization associated with carbonate (85.39-85.50m), locally 40-50%; pyrite is generally as smears parallel to shearing at 35 degrees to long core axis.	11160 11161	83.52 85.02	85.02 85.62	1.50 0.60	0.17 0.17	0.005 0.005
			11162	85.62	86.62	1.00	0.17	0.005
90.79	102.00	sparse chloritic alteration.						
			11163	110.18	111.18	1.00	0.17	0.005
111.32	111.75	weakly sheared basalt with anomalous sulphide concentration; silicate / carbonate alteration generally in veinlets ; pyrrhotite greater than pyrite greater than chalcopyrite; 4-5% pyrrhotite, 2-3% pyrite, 1-2% chalcopyrite.						
			11164 11165	111.18 111.88	111.88 112.88	0.70 1.00	0.17 0.17	0.005 0.005
113.60	113.60	sharp contact distinguished by colour/composition change; contact marked with a 2 cm quartz band with local concentration of pyrite, chalcopyrite in upper basalt and within quartz band; contact at 40 degrees to long core axis.						
113.60	119.67	* BRECCIATED / ALTERATION ZONE light grey in colour, appears bleached; local pervasive silicification rel'd to few grey blue quartz blebs and wispy veinlets; locally potassic alteration; carbonatized sulphide mineralization, mainly pyrrhotite, 1% with trace chalcopyrite, pyrite.	11166 11167 11168 11169	112.88 113.88 115.40 116.87	113.88 115.40 116.87 118.37	1.00 1.52 1.47 1.50	0.17 0.17 0.17 0.17	0.005 0.005 0.005 0.005
119.67	119.67	lower contact diffuse, marked with carbonate / quartz band at 60 degrees to long core axis.						
119.67	131.52	* FINE - MEDIUM GRAINED BASALT Typical as above	11170 11171 11172	118.37 119.87 129.88	119.87 121.37 131.38	1.50 1.50 1.50	5.14 0.17 2.91	0.150 0.005 0.085
130.96	130.96	Gradational contact over 56 cm noted by colour/composition change.						
131.52	134.45	* ALTERATION ZONE pervasive silicification, blue grey in colour; appears to be a silicified basalt, pyrrhotite is abundant with lesser pyrite and trace chalcopyrite; pyrrhotite generally as smears in laminations at 30 degrees to long core axis; locally 7-8% pyrrhotite.	11173 11174	131.38 132.58	132.58 133.58	1.20 1.00	0.34 69.94	0.010 2.040
134.45	134.45	lower contact gradational over 30 cm with a noted decrease in silicification and sulphide mineralization.						
134.75	236.41	* MEDIUM - FINE-GRAINED BASALT locally porphyritic as above.	11175 11176 11177	133.58 226.43 227.93	135.00 227.93 229.03	1.42 1.50 1.10	0.17 0.17 0.17	0.005 0.005 0.005
161.36	161.60	Granitic intrusion; shart upper / lower contact at 30 degrees to long core axis.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
167.09	167.19	quartz-carbonate veinlet at 60 degrees to long core axis.						
166.22	171.85	coarse grained basalt?/lamprophyre? dark green to black in colour with phenocrysts of biotite and plagioclase <1mm in size.						
171.85	171.85	Faint contact at 59 degrees to long core axis.						
174.53	174.92	Healed brecciated basalt with a carbonate / silicate matrix; contacts are gradational.						
181.52	181.96	Granitic intrusion; diffuse contacts at 40 degrees to long core axis; pervasive potassic alteration.						
184.20	184.36	Granitic dike as above.						
187.67	189.90	sulphide mineralization associated with quartz-carbonate veinlets.						
187.67	187.67	pyrite associated with white quartz veinlets, 15% pyrite over 1 cm.						
188.12	188.19	pyrite, pyrrhotite mineralization associated with white quartz-carbonate veinlets, pyrite greater than pyrrhotite 7-8% over 7 mm.						
188.89	189.00	pyrite concentrated in carbonate veinlets.						
189.15	189.69	occassional pyrite / pyrrhotite veinlets associated with quartz-carbonate veinlets at 40 degrees to long core axis.						
203.85	204.09	Granitic dike, sharp contacts ata 40 degrees to long core axis.						
216.80	216.87	pyrite mineralization associated with blue grey quartz veinlet at 57 degrees to long core axis; 4-5% pyrite						
228.00	230.49	sulphide mineralization concentrated in quartz-carbonate veinlets.						
228.00	228.00	2 cm quartz-carbonate veinlet with 6-7% pyrite						
228.44	228.44	pyrite associated with grey blue quartz blebs.						
229.27	229.42	blue grey quartz veinlet at 50 degrees to long core axis with 10-15% pyrite locally.						
230.12	230.15	2-3% pyrrhotite associated with blue grey quartz veinlet.						
230.48	230.48	pyrrhotite associated with t mm quartz-carbonate veinlet.						
			11178	229.03	230.53	1.50	0.17	0.005
			11179	230.53	232.03	1.50	0.17	0.005
			11185	232.03	233.53	1.50	0.17	0.005
			11186	233.53	235.02	1.49	0.17	0.005
			11180	235.02	236.45	1.43	0.17	0.005
236.51	240.03	* CIMZ silicified zone with abundant sulphide mineralization; upper contact marked with a white blue grey quartz veinlet, 2 cm wide, at 57 degrees to long core axis; numerous quartz veinlets generally blue grey in colour at 60-90 degrees to long core axis; pyrite noted concentrated in these veinlets as well as disseminated between the veinlets; pyrite concentration up to 25% locally 6-7% over total zone.	11181	236.45	237.67	1.22	6.86	0.200
240.03	253.89	* FELDSPAR PHYRIC BASALT upper contact is gradational; plagioclase phenocrysts <1mm to 1 cm in	11182	238.67	240.07	1.40	8.91	0.260
			11183	240.07	241.49	1.42	0.17	0.005
			11184	237.67	238.67	1.00	4.80	0.140
		diameter, locally 10-15%; occassional granitic intrusions; locally grades into medium grained basalt.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
240.03	240.40	medium grained basalt						
243.43	243.53	Granitic dike with pervasive potassic alteration; sharp contacts at 47 degrees to long core axis.						
253.89	253.89	upper contact of intrusive; contact is sharp at 60 degrees to long core axis.						
253.89	256.39	* FELDSPAR PORPHYRY phenocrysts of plagioclase, biotite and quartz in a dioritic groundmass; local potassic alteration.						
256.39	256.39	lower contact sharp at 32 degrees to long core axis.						
256.39	259.82	* FELDSPAR PHYRIC BASALT same as above						
259.82	259.82	upper contact of granitic intrusion, sharp at 41 degrees to long core axis, marked with a carbonate band.						
259.82	291.79	* GRANITIC INTRUSION / FELDSPAR PHYRIC BASALT alternating sequence of granite and feldspar phyric basalt.						
259.82	262.24	granitic intrusive, upper contact as above, lower contact sharp at 15 degrees to long core axis.						
262.59	263.25	granitic intrusive, sharp contacts; upper contact at 28 degrees to long core axis, lower contact at 57 degrees to long core axis.						
269.32	269.42	Blue grey quartz-carbonate veinlet at 60 degrees to long core axis; pyrrhotite / pyrite concentrated within veinlet; pyrrhotite greater than pyrite, 6-7% total, trace chalcopyrite.						
271.68	271.74	Granitic dike at 70 degrees to long core axis.						
274.54	274.64	Granitic dike at 40 degrees to long core axis.						
278.60	278.87	Granitic dike at 10 degrees to long core axis.						
281.54	281.68	Granitic dike at 55 degrees to long core axis.						
291.00	291.24	Granitic dike at 18 degrees to long core axis.						
291.79	291.79	contact of intrusive sharp at 90 degrees to long core axis.						
291.79	293.28	* PLAGIOCLASE QUARTZ PORPHYRY dark black groundmass with phenocrysts of plagioclase, quartz (blue quartz eyes) and biotite; trace amounts of pyrrhotite, plagioclase often altered to a buff white colour; granitic dikes are occassionally observed.						
293.28	293.28	lower contact distinct but irregular at 68 degrees to long core axis.						
293.28	303.59	* MEDIUM - FINE-GRAINED BASALT Typical; same as above						
300.41	300.53	Granitic dike at 30 degrees to long core axis.						
302.92	303.20	Porphyry (plagioclase, quartz).						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
303.40	303.59	Milky white quartz veinlet with trace chalcopyrite; upper contact at 80 degrees to long core axis.						
303.59	303.59	upper contact of intrusive marked by above quartz veinlet contact at 39 degrees to long core axis.						
303.59	309.63	* GRANITIC INTRUSIVE coarse grained K feldspar, quartz, biotite; trace pyrite; local pervasive ser'c alteration; occassionally intercalated with basaltic flows.						
309.63	309.63	sharp lower contact at 25 degrees to long core axis.						
309.63	312.11	* MEDIUM - FINE-GRAINED BASALT Typical						
312.11	312.11	upper contact marked by a carbonate veinlet at 30 degrees to long core axis; color/compositional change between units.						
312.11	317.21	* FELSIC INTRUSIVE ? / FLOW? light green grey in colour; medium grained consisting of a fine-grained felsic groundmass with phenocrysts of quartz, plagioclase and a soft green mineral (possibly chlorite); locally sericitized; possibly a dacite if a flow, however sharp upper contact suggest an intrusive.						
317.21	317.21	lower contact; abrupt but not well defined.						
317.21	318.07	Transitional unit, coarse grained basalt / gabbro ? lower contact faint, but distinct at 318.02m at 90 degrees to long core axis.						
318.02	325.29	* MEDIUM - FINE-GRAINED ASALT						
325.29	325.29	upper contact distinguished by colour/composition; sharp at 10 degrees to long core axis.						
325.29	330.89	* GRANITIC INTRUSION granodioritic - dioritic in composition; locally porphyritic; lower contact at 330.89 at 35 degrees to long core axis.						
330.89	333.04	* MEDIUM - FINE-GRAINED BASALT						
333.04	333.04	upper contact of intrusion; sharp at 25 degrees to long core axis.						
333.04	334.30	* GRANITIC INTRUSION large grained quartz, K feldspar with lesser amounts of biotite.						
334.30	334.30	lower contact sharp at 30 degrees to long core axis.						
334.30	337.00	* MEDIUM - FINE-GRAINED BASALT						
337.00	337.00	* E.O.H.						

ST. JOE CANADA DIAMOND DRILL HOLE RECORD

Hole No.	K87-85	Northing		Grid Orient		Depth Dip Azimuth Test	Depth Dip Azimuth Test	Started	Feb. 01,1987	Logged by	T. Bittle/R. Butler
Property	SHOAL LAKE (KPM)	Easting		Grid Azim.		0.0 - 0	100.0 - 63	Finished	Feb. 07,1987	Checked by	K. Leonard
Location	CIMZ	Elevation	338.97	Length (M)	417.0	200.0 - 66	255.0 - 67	Drill Co.	Midwest	Core	BQ
Claim No.		Departure	11+15.42E	Dip-Collar	-64.0	279.0 - 66	300.0 - 66	Drill No.		Comments:	
Target	250 m vertical	Latitude	3+54.13S	Bearing	030	350.0 - 67	400.0 - 62	Drill For.			
						417.0 - 61 033					

K. Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton

SUMMARY

0.00	2.62	CASING
2.62	44.65	MEDIUM - FINE-GRAINED MASSIVE BASALT
44.65	49.04	SILICIFIED ZONE
49.04	90.50	MEDIUM - FINE-GRAINED MASSIVE BASALT
90.50	99.48	FELDSPAR PHYRIC BASALT
131.90	227.10	FELDSPAR PHYRIC BASALT
227.10	234.36	ALTERATION ZONE
237.90	274.92	FELDSPAR PHYRIC BASALT
274.52	277.30	LAMPROPHYRE DIKE
277.30	294.10	MEDIUM - COARSE GRAINED BASALT
296.00	304.70	MEDIUM TO FINE-GRAINED BASALT
304.70	307.93	FELDSPAR PHYRIC BASALT
307.93	315.43	MEDIUM - COARSE GRAINED MASSIVE BASALT
315.56	352.13	FELDSPAR PHYRIC BASALT
352.13	353.53	ALTERATION ZONE (CIMZ)
353.53	359.59	MEDIUM - FINE-GRAINED MASSIVE BASALT (typical)
398.59	416.74	FELDSPAR PHYRIC BASALT
416.74	416.74	E.O.H.

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
0.00	2.62	* CASING						
2.62	44.65	* MEDIUM - FINE-GRAINED MASSIVE BASALT dark green in colour; massive; locally pervasive carbonatization with carbonate veinlets, generally at low angles to the long core axis; occassionally silicified with milky white to blue grey quartz; sulphide mineralization often associated with silicification; pyrrhotite / pyrite are generally dominant; occassionally sulphides are disseminated within basalt; minor blocky broken core.	11195	43.15	44.65	1.50	0.17	0.005
14.95	14.95	pyrrhotite veinlet, 1 mm wide with trace chalcopyrite.						
15.27	15.27	pyrite associated with quartz-carbonate veinlets.						
16.48	16.48	pyrrhotite / chalcopyrite associated with arb veinlet at 33 degrees to long core axis.						
24.70	24.89	Blocky, broken core.						
25.17	25.27	Blocky, broken core.						
27.04	27.07	quartz-carbonate veinlet at 42 degrees to long core axis.						
37.78	37.82	Granitic dike at 68 degrees to long core axis.						
44.65	44.65	possibly upper contact of a silicified zone, very faint, marked with a carbonate veinlet, 10 cm wide at 38 degrees to long core axis.						
44.65	49.04	* SILICIFIED ZONE light blue grey in colour, pervasive silicification generally as a quartz rich groundmass; occassional wispy quartz blebs and veinlets; quartz veinlets vary from blue grey to milky white in colour, often contorted, generally at low angles to parallel to long core axis; the zone is well laminated and strongly mineralized; lamina is defined by alternate bands of sulphides, mafics, quartz and felsics; lamina / foliation at 50-70 degrees to long core axis; main sulphide if pyrrhotite in disseminations as well as concentrated within bands or bles; chalcopyrite also is abundant; lesser amounts of a red - brown sulphide, sphalerite ?, (gives off H2S with acid) present; trace pyrite; locally up to 50% pyrrhotite, overall 20-25% pyrrhotite; locally 15% chalcopyrite associated with carbonate blebs, overall 3%; pyrrhotite >>> chalcopyrite greater than sphalerite greater than pyrite; sphalerite is generally very fine-grained, 1% overall, locally 5-6% concentrated within fine laminations; trace pyrite; remobilization of sulphides noted in a hairline fracture which offset laminations of sulphides and has been filled with carbonate and pyrrhotite (45.08m).	11196	44.65	45.65	1.00	0.17	0.005
			11197	45.65	46.68	1.03	0.17	0.005
			11198	46.68	48.00	1.32	0.17	0.005
			11199	48.00	49.04	1.04	0.17	0.005
49.04	49.04	lower contact sharp, at 22 degrees to long core axis marked with a silicified breccia 23 cm wide.						
49.04	90.50	* MEDIUM - FINE-GRAINED MASSIVE BASALT Typical, rare plagioclase phenocrysts.	11200	49.04	50.54	1.50	0.17	0.005
61.46	61.46	quartz-carbonate / chlorite veinlet, 3 cm wide, at 44 degrees to long core axis.						
63.18	63.26	Milky white quartz veinlet at 72 degrees to long core axis.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
88.60	90.50	pervasive carbonate alteration						
90.50	99.48	* FELDSPAR PHYRIC BASALT plagioclase phenocrysts up to 5mm in size, up to 5% phenocrysts.						
99.48	131.90	* MEDIUM - FINE-GRAINED MASSIVE BASALT						
112.10	112.43	pervasive carbonate alteration, pyrite associated with carbonate veinlet at 112.38m at 38 degrees to long core axis.						
131.90	227.10	* FELDSPAR PHYRIC BASALT gradational upper contact; typical with 1-30% plagioclase phenocrysts; rare plagioclase phenocrysts 5 cm in diameter.	11207	225.62	227.10	1.48	0.17	0.005
152.48	153.08	blue grey quartz veinlet with 40% pyrite at 50 degrees to long core axis.						
164.07	164.17	Diorite dike - upper contact at 67 degrees to long core axis; lower contact at 60 degrees to long core axis.						
172.80	172.94	carbonate veinlet at 43 degrees to long core axis with minor grey blue quartz blebs and 1% pyrrhotite.						
179.13	179.13	carbonate veinlet, 1 cm wide with 1% pyrrhotite.						
179.70	179.79	Dioritic dike at 67 degrees to long core axis.						
183.75	183.95	Diorite dike - upper contact at 58 degrees to long core axis; lower contact at 60 degrees to long core axis.						
187.11	187.24	1% pyrite disseminated in carbonate altered basalt.						
190.84	191.00	felsic dike - upper contact abrupt but not defined; lower contact sharp at 50 degrees to long core axis; pervasive sericitized.						
193.64	193.64	Faint contact at 41 degrees to long core axis; colour/compositional change.						
193.64	194.69	Felsic Dike? medium grained, light green in colour (pervasive sericite alteration); locally potassic alteration; above contact suggests an intrusion although it looks like a sericitized basalt.						
194.69	194.69	lower contact marked by a quartz-carbonate veinlets at 52 degrees to long core axis.						
209.42	209.54	carbonatized ph basalt, plagioclase phenocrysts are faint, overprinted.						
218.76	218.76	upper contact of intrusive sharp at 60 degrees to long core axis.						
218.76	219.32	Granitic Dike pervasive sericitization, lower contact at 63 degrees to long core axis.						
221.92	222.06	Granitic dike, 58 degrees to long core axis.						
225.70	227.10	decrease in plagioclase phenocrysts, appears overprinted, weakly silicified.						
227.10	227.10	contact, abrupt but not sharp, irregular, noted by colour/compositional changes, 55 degrees to long core axis.						
227.10	234.36	* ALTERATION ZONE	11208	227.10	228.60	1.50	0.17	0.005
		light grey to beige in colour; pervasive sericitization / silicification;	11209	228.60	230.30	1.70	0.17	0.005
		locally mineralization with pyrite, pyrrhotite; green mica present throughout	11210	230.30	231.72	1.42	0.34	0.010
		zone, generally noted in sheared sections as fine laminations; weakly to	11211	231.72	232.27	0.55	0.17	0.005
		strongly sheared, brecciated; bx'n often masked by intense sericitization; low	11212	233.27	234.36	1.09	0.17	0.005

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
		sulphides, 1% pyrite, generally as disseminated grns;local concentration of pyrite / pyrrhotite with up to 2-3% pyrite associated with strongly sheared sections, pyrrhotite is less abundant.						
228.31	228.49	breccia - ser'c clusters / plagioclase clasts in a silicate matrix.						
228.80	228.93	Sheared breccia, shear planes at 38 degrees to long core axis.						
230.77	233.90	Sheared breccia, moderate - strongly sheared at 53 degrees to long core axis.						
233.55	233.55	Fault Gouge - soft clay / chlorite chlorite composition; Fault at 54 degrees to long core axis.						
233.55	234.36	breccia						
234.36	234.36	lower contact marked by carbonate veinlet at 25 degrees to long core axis.						
234.36	237.90	Transitional zone - weakly silicified, lower contact not well defined, grades into a feldspar phyric basalt; locally appears brecciated but has overprinted with silicification.	11213	234.26	235.76	1.50	0.17	0.005
237.90	274.92	* FELDSPAR PHYRIC BASALT Typical; upper contact gradational; some overprinting of plagioclase phenocrysts.	11214	245.71	246.71	1.00	0.17	0.005
			11215	246.71	247.34	0.63	0.17	0.005
			11216	247.34	248.34	1.00	0.17	0.005
246.71	247.34	Alteration Zone upper and lower ctcs gradational; light grey to beige in colour; pervasive carbonate and chloritic alteration; local ser'c alteration; locally 2-3% green mica; 3-5% pyrite - pyrrhotite disseminated and in stringers 80-90 degrees to long core axis.						
254.43	254.98	Quartz Diorite Dike 70% quartz, 15% plagioclase, 15% mafics; upper contact sharp dislocation ~80 degrees to long core axis; lower contact sharp at 73 degrees to long core axis.						
262.23	270.90	carbonate alteration pervasive.						
262.47	262.85	disseminated pervasive and locally concentrated associated with quartz-carbonate veinlets.						
262.70	262.70	pyrite veinlet 1-3 mm contains 20% pyrrhotite						
266.01	274.52	pyrite and pyrrhotite 1-2% disseminated pervasive and locally concentrated associated with quartz-carbonate veinlets.						
266.07	266.31	brecciated zone 85-90 degrees to long core axis; pervasive chloritization.						
274.52	274.52	sharp upper contact at 38 degrees to long core axis; colour change from grey to brown grey.						
274.52	277.30	* LAMPROPHYRE DIKE large biotite crystals 1-10mm 30-60% in mafic groundmass; disseminated pyrite 3-4%						
277.30	294.10	* MEDIUM - COARSE GRAINED BASALT Rare plagioclase phenocrysts 1-4 mm; biotite present - occassionally as large grains <2mm; carbonate veinlets at varying angles to long core axis.						
282.84	282.86	Granitic intrusion						
288.66	288.68	quartz vein						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
293.49	304.40	carbonate chloritic alteration pervasive; marked incr in quartz-carbonate veinlets, some stretched into wispy bands due to minor shearing.						
294.10	296.00	Transition Zone						
296.00	304.70	* MEDIUM TO FINE-GRAINED BASALT						
294.40	294.45	Granitic intrusion.						
298.44	298.63	coarse grained silicic basalt; ctcs sharp, upper contact at 45 degrees to long core axis; lower contact at 38 degrees to long core axis; section has been displaced 2 cm by carbonate veinlet at 19 degrees to long core axis; 1-2 cm quartz band in centre - indurated						
298.88	299.54	quartz-carbonate zone - coarse grained; local large quartz masses 0.5-2.0cm, indurated						
302.20	302.86	Dioritic Dike - upper contact sharp at 70 degrees to long core axis; lower contact sharp at 54 degrees to long core axis; non uniform fragment of basalt 2-3cm at 6-8 cm above lower contact;						
304.70	307.93	* FELDSPAR PHYRIC BASALT plagioclase phenocrysts very rare >1%, 0.5-4mm; noticeably large chlorite grains.						
304.94	304.96	Dioritic intrusion; ctcs sharp at 55 degrees to long core axis.						
307.30	307.43	Granitic intrusion ctcs sharp; upper contact at 46 degrees to long core axis; lower contact at 42 degrees to long core axis.						
305.21	310.22	pervasive carbonate alteration.						
307.93	315.43	* MEDIUM - COARSE GRAINED MASSIVE BASALT	11217	310.75	311.75	1.00	0.17	0.005
		Local chlorite alteration generally associated with quartz-carbonate veinlets;	11218	311.75	312.15	0.40	0.17	0.005
		extensive minor offsetting of carbonate veinlets; locally heated fracture	11219	312.15	313.15	1.00	0.17	0.005
		zones.	11220	313.15	314.15	1.00	0.17	0.005
310.36	310.44	Granitic intrusion - upper contact sharp at 62 degrees to long core axis; lower contact dislocation ~68 degrees long core axis.						
311.46	315.43	Sheared zone - ductile shearing and minor shearing, pervasive chloritic alteration.						
311.86	315.43	pyrrhotite greater than pyrite 1-2% disseminated, locally to 6-7% associated with carbonate.						
312.56	313.56	Dramatic incr in mafic content.						
314.33	315.43	Potassic, chloritic alteration pervasive						
315.43	315.56	lower contact sharp marked by quartz chlorite dike						
315.56	352.13	* FELDSPAR PHYRIC BASALT	11221	337.30	338.30	1.00	0.17	0.005
		2-3% plagioclase phenocrysts 1-15 mm.	11222	338.30	338.70	0.40	0.17	0.005
			11223	338.70	339.70	1.00	0.17	0.005
315.56	316.52	pervasive potassic chloritic alteration zone; upper contact diffuse; lower contact sharp 32 degrees long core axis.						
316.52	316.60	Granitic intrusion; ctcs sharp 59 degrees to long core axis; upper contact truncated by lower contact at alteration zone showing minor displacement.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
324.43	324.49	Dioritic intrusion - ctcs sharp 35 degrees long core axis; offset 4 mm along carbonate stringers 25 degrees long core axis.						
325.38	325.56	Granitic intrusions - 2 @ 1 cm, 1 @ ecm ~ 72 degrees long core axis; ctcs shar but irregular.						
325.85	327.19	zone of heated frac'g.						
327.97	328.04	Dioritic intrusion sharp ctcs at 73 degrees long core axis; offset 2 mm along carbonate stringers 15 degrees long core axis						
335.06	335.11	quartz diorite intrusion <1% pyrite; upper contact sharp at 90 degrees long core axis; lower contact sharp at 80 degrees long core axis.						
337.68	339.23	disseminated pyrrhotite 1-2% locally 3-4% associated with carbonate veinlets and blebs; local minor shearing.						
338.82	338.89	Granitic intrusion 40 degrees to long core axis.						
347.29	349.79	Sheared zone - strongly defined foliation at approximately 60 degrees long core axis.	11224	346.65	347.65	1.00	0.17	0.005
			11225	347.65	348.65	1.00	0.17	0.005
			11226	348.65	349.65	1.00	0.17	0.005
349.74	349.79	Fault; strong fissile shearing; gouge on lower boundar.						
349.84	349.89	broken core						
			11227	349.65	350.65	1.00	0.17	0.005
351.14	352.04	locally disseminated pyrite 1%.	11228	351.00	352.00	1.00	0.17	0.005
352.13	353.53	* ALTERATION ZONE (CIMZ) pervasive silicification, chloritization; blue grey quartz masses and veins interspersed with wispy carbonate veinlets; indurated ; pyrite greater than pyrrhotite greater than chalcopyrite disseminated and locally concentrated associated with carbonate 2-3% locally concentrated to 7-10%.	11229	352.00	353.00	1.00	1.37	0.040
353.53	359.59	* MEDIUM - FINE-GRAINED MASSIVE BASALT (typical)	11230	353.00	353.60	0.60	2.74	0.080
353.58	262.07	pervasive carbonate alteration.						
353.58	355.58	disseminated pyrite <1%, locally to 2-3%.	11231	353.60	354.60	1.00	0.17	0.005
354.96	355.02	felsic dike - approximately 90 degrees long core axis - light brown						
355.58	356.28	Felsic dike - upper contact sharp at 26 degrees long core axis; same as above; lower contact sharp irregular at approximately 70 degrees to long core axis.	11232	354.60	355.60	1.00	0.17	0.005
			11233	356.31	357.31	1.00	0.17	0.005
			11234	357.31	358.31	1.00	0.17	0.005
359.10	359.28	Granitic intrusion ~55 degrees long core axis.						
359.33	359.40	broken core - pieces 0.5-2.0 cm						
			11235	360.59	361.09	0.50	0.17	0.005
361.24	361.33	silicification white and blue grey quartz; pyrite masses 2-3%; sharp ctcs at 52 degrees long core axis.						
			11236	361.09	361.49	0.40	0.17	0.005
			11237	361.49	361.99	0.50	0.17	0.005
362.07	363.17	quartz feldspar porphyry; ctcs indistinct; 50% plagioclase phenocrysts; noticeable blue quartz 1-2mm, 2-4%.						
363.92	363.93	carbonate veinlet containing 30% pyrite						
			11238	363.73	364.13	0.40	0.17	0.005
364.43	363.73	Quartz Felspar Porphyry - same as above						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
363.71	367.31	locally sheared 45 degrees to long core axis, strong ch'n						
363.91	363.97	Granitic intrusion 41 degrees to long core axis.						
			11239	367.84	368.34	0.50	0.17	0.005
368.54	368.61	silicified zone - blue grey quartz masses and carbonates; 2-4% pyrite.						
			11240	368.34	368.74	0.40	0.69	0.020
			11241	368.74	369.24	0.50	0.17	0.005
			11242	371.58	372.08	0.50	0.17	0.005
372.22	372.29	silicified zone same as above; locally 5-10% pyrite.						
			11243	372.08	372.48	0.40	0.69	0.020
			11244	372.48	372.98	0.50	0.17	0.005
373.07	375.21	Quartz feldspar porphyry - same as above; ctcs indistinct.	11245	374.56	375.06	0.50	0.17	0.005
375.22	375.24	carbonates and blue grey quartz veinlet with approximately 10% pyrite.						
			11246	375.06	375.46	0.40	0.34	0.010
375.60	275.67	quartz diorite dike 70 degrees long core axis, <1% pyrite, conspicuous tourmaline needles.						
			11247	375.46	375.96	0.50	0.17	0.005
376.06	376.19	quartz diorite dike 70 degrees long core axis.						
377.44	377.45	quartz-carbonate veinlet 5% pyrite.						
			11248	379.06	379.46	0.40	0.17	0.005
379.56	379.98	Quartz feldspar porphyry - 5% disseminated pyrite.	11249	379.46	379.96	0.50	6.86	0.200
			11250	379.96	380.36	0.40	0.17	0.005
382.47	382.50	white quartz veinlet 40 degrees long core axis.						
386.68	386.72	Granitic intrusion 55 degrees long core axis.						
			11251	390.88	391.38	0.50	0.17	0.005
391.50	391.54	minor silicified zone 4-6% pyrite.						
391.64	391.67	carbonate blue grey quartz veinlets 70 degrees long core axis.						
			11252	391.38	391.78	0.40	0.17	0.005
392.06	392.20	Lamprophyre - large biotite crystals in mafic matrix						
			11253	391.78	392.28	0.50	0.17	0.005
397.94	398.59	Granitic Dike - upper contact dislocation; lower contact sharp at 45 degrees long core axis.						
398.59	416.74	* FELDSPAR PHYRIC BASALT plagioclase phenocrysts 0.5 - 1.0 cm very rare.						
406.00	406.78	granodiorite dike - sharp ctcs at 40 degrees long core axis.						
409.83	410.10	Granitic dike - upper contact discontinuous at approximately 69 degrees long core axis; lower contact sharp at 59 degrees long core axis.						
414.71	414.91	zone of disseminated pyrite 1-2%.						
415.40	416.74	Granitic dike - upper contact sharp at 80 degrees long core axis.						
416.74	416.74	* E.O.H.						

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87-85A	Northing		Grid Orient		Started	January 30/87
Property	Shoal Lake (KPM)	Easting		Grid Azim.		Finished	January 31/87
Section	11+00E	Elevation	338.97 M	Length (M)	93.46	Drill Co.	
Claim No.		Survey N.	3+53.79S	Dip-Collar		Drill No.	
Target	CIMZ 250m vertical	Survey E.	11+13.17E	Comp Bearing		Drill For.	

Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test

Logged by Terry Bittle
Checked by Kevin Leonard
Core
Comments:

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne

SUMMARY

0.00	3.35	CASING
3.35	3.44	BROKEN GRANITIC BLOCKS
42.19	45.19	SILICIFIED ZONE
45.19	93.46	FINE-MEDIUM GRAINED MASSIVE BASALT
93.46	0.00	END OF HOLE (HOLE ABANDONED)

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
0.00	3.35	CASING						
3.35	3.44	BROKEN GRANITIC BLOCKS						
		3.44 - 42.19 FINE-MEDIUM GRAINED MASSIVE BASALT Dark green in colour; massive to well foliated, foliation being defined by the alignment of biotite, chlorite and carbonate. Locally sheared and brecciated. Cabonation is abundant, generally as carbonate veinlets at low angles to the long core axis. Chloritization is pervasive. Locally silicified. Locally sulphide mineralization present, generally associated with silicified zones. Pyrrhotite, pyrite are main sulphides. Minor broken core.	11201	40.69	42.19	1.50		
		9.54 - 12.68 Moderate to strongly sheared basalt. Foliation/shear planes range from 5-15 degrees to the long core axis						
		12.68 Upper contact of brecciated zone; sharp contact with distinctive colour/ compositional change. Contact at 28 degrees to long core axis						
		12.68 - 13.38 Brecciated zone; clasts vary in size from <1mm to 4cm, irregular shaped, and consist of aggregates of phaneritic to aphaneritic grains of pyroxene, plagioclase, quartz, carbonate and some chlorite. Clasts appear to be bleached matrix is a blue-grey quartz. occasional clasts show elongation at low angles to the long core axis.						
		13.38 Lower contact, abrupt, at 15 degrees to long core axis.						
		16.66 - 17.66 Minor broken core, silicified with quartz veinlets.						
		17.83 - 18.34 Brecciation as above. Some broken, fragmented carbonate veinlets.						
		21.64 Wispy pyrrhotite blebs, 3cm wide with trace chalcopyrite, associated with basalt.						
		38.95 - 39.40 Brecciated basalt with carbonate matrix.						
		42.19 Faint contact at 90 degrees to long core axis, distinguished by colour change.						
42.19	45.19	SILICIFIED ZONE Light grey in colour with pervasive silicification, well laminated, laminations being defined by parallel arrangement of chlorite, biotite and sulphides, generally at 27 degrees to long core axis. The zone appears banded with alternate bands of chlorite, sulphide and quartz. Pyrrhotite/pyrite are dominant, 10-15%, pyrrhotite>pyrite with 1-2% chalcopyrite. Locally chalcopyrite rich veinlets 1mm wide.						
			11202	42.19	43.69	1.50		
			11203	43.69	45.19	1.50		
		45.19 Lower contact is distinct but not sharp, at 42 degrees to the long core axis.						
45.19	93.46	FINE-MEDIUM GRAINED MASSIVE BASALT Typical.						
			11204	45.19	46.69	1.50		
		65.79 - 65.86 Local pervasive silicification, upper contact marked by 5mm milky white quartz veinlet at 65 degrees to long core axis. Sulphide min. Pyrite>>pyrrhotite, 2-3% overall, associated with blue-grey quartz veinlets and blebs.						
		78.00 - 93.46 Pervasive carbonate alteration, seen as wispy veinlets at low angles to long core axis. 91.46-93.46: Blocky core.						
93.46	0.00	END OF HOLE (HOLE ABANDONED)						

ST. JOE CANADA DIAMOND DRILL HOLE RECORD

Hole No.	K87-B6	Northing		Grid Orient		Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	FEBRUARY 8, 1987	Logged by	RON BUTLER
Property	SHOAL LAKE (KPM)	Easting		Grid Azim.										Finished	FEBRUARY 11, 1987	Checked by	K. LEONARD
Location	CEDAR ISLAND MNLAND	Elevation	337.60	Length (M)	342.00									Drill Co.	MIDWEST	Core	B.Q.
Claim No.		Departure	3+48.75E	Dip-Collar	-45 DEG.									Drill No.		Comments:	
Target	C.I.M.Z.	Latitude	11+66.89E	Comp Bearing	30 DEG.									Drill For.			

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton

SUMMARY

0.00	4.66	OVERBURDEN
4.66	4.86	CASING
4.86	172.08	MEDIUM TO FINE GRAINED MASSIVE BASALT
172.08	224.50	FELDSPAR PHYRIC BASALT
224.50	253.24	MEDIUM TO FINE GRAINED MASSIVE BASALT
253.24	295.98	FELDSPAR PHYRIC BASALT
295.98	301.34	FELDSPAR PORPHYRY - upper contact 50 deg. LCA., sharp, marked by 1cm. chlorite
301.34	342.00	FELDSPAR PHYRIC BASALT
342.00	342.00	E.O.H.

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
0.00	4.66	*OVERBURDEN						
4.66	4.86	*CASING						
4.86	172.08	*MEDIUM TO FINE GRAINED MASSIVE BASALT	11254	6.67	7.07	0.40	0.17	0.005
		-dark grey colour, phaneritic grains, numerous carbonate veinlets.	11255	7.07	7.57	0.50	0.17	0.005
		two recurring veinlet axis angles ~27 deg. LCA.,~60 deg. LCA.	11256	7.57	7.97	0.40	0.17	0.005
		- pervasive minor chloritic alteration - locally strong.	11257	17.68	18.08	0.40	0.17	0.005
		- very minor sulphide occurances associated with carbonate veinlets.	11258	44.24	44.64	0.40	0.17	0.005
		- locally minor disseminated Py.=Po.> Cpy.	11259	44.64	45.64	1.00	0.17	0.005
			11260	45.64	46.04	0.40	0.17	0.005
7.26	7.29	Carbonate/blue-grey quartz veinlet at 65 deg. LCA., <1% Po.,Py.						
9.48	9.50	Quartz veinlet, milky white with carbonates at 23 deg. LCA.						
17.85	17.87	Quartz/carb. veinlet at 25 deg. LCA., 1% Py.= Cpy.						
26.10	26.93	Carbonate veinlet at 75 deg. LCA.						
35.78	35.78	Nebulous plagioclase masses along 55 deg. LCA., possible fracture replacement feature.						
39.97	39.99	Qtz./ carb. veinlet , 70 deg. LCA.						
40.45	40.53	Granitic intrusion, 52 deg. LCA.						
44.00	44.04	Granitic intrusion , 37 deg. LCA.						
44.63	44.67	Qtz./ carb. veinlet., 55 deg. LCA.						
44.70	50.05	Zone of very thin (.55 mm.) Py. stringers --- carb. replacement. - very minor disseminated Py.						
44.87	44.92	Py./ chlorite masses in lightly silicified zone. 20% Py.						
45.35	45.44	Milky white qtz. vein and associated carb. stringers. - contacts indistinct ~60 deg. LCA., ~5% Py. in masses.						
50.05	50.32	Pervasive strong carbonate alteration.	11261	49.25	50.25	1.00	0.17	0.005
50.32	50.65	Silicified Zone -upper contact at b-g qtz./ carb. veinlet, 65 deg. LCA. - blue-grey and white quartz interspersed with carbonates and sulphides along preferred orientation 45 deg. LCA. - Py.> Po. 7-10 % , minor shearing. - lower contact gradational.	11262	50.25	50.65	0.40	0.17	0.005
50.65	51.00	20 % carbonate content in form of wispy veinlets. - Disseminated Py.> Po.						
			11263	50.65	51.65	1.00	0.17	0.005
55.69	56.25	pervasive carbonate alteration.						
62.04	62.06	Carb./ qtz. veinlet, both contacts discontinuous.						
			11264	61.90	62.30	0.40	0.17	0.005
66.93	66.99	Carb./ qtz. veinlet 40 deg. LCA.						
68.29	68.63	Carb./ qtz. veinlet, 40 deg. LCA.						
			11265	68.00	69.00	1.00	0.17	0.005
69.99	70.06	Broken, blocky core.						
71.62	74.25	Zone of sporadic plagioclase replacement.						
77.44	79.02	Zone of strong carbonate alteration.	11266	77.60	78.00	0.40	0.17	0.005
77.78	77.80	Qtz./ carb. veinlet, 46 deg. LCA.						
78.89	78.92	Qtz./ carb. veinlet, 14 deg. LCA.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
			11267	78.75	79.15	0.40	0.17	0.005
80.53	80.66	Qtz./ carb. veinlet, 30 deg. LCA.						
			11268	80.36	80.86	0.50	0.17	0.005
87.10	87.14	Carb veinlet, 38 deg. LCA.						
			11269	87.79	88.29	0.50	0.17	0.005
88.46	88.50	Blue-grey qtz./ carb. veinlet, 50 deg. LCA. - disseminated and massive Py.> Po., 2 -3 % - associated Po. stringer (.55) 3cm. preceeding, 50 deg. LCA.						
88.59	88.60	Carb veinlet 20 deg. LCA.						
			11270	88.29	88.69	0.40	0.17	0.005
			11271	88.69	89.19	0.50	0.17	0.005
96.08	96.20	Milky to blue-grey qtz./carb. vein, 45 deg. LCA.						
			11272	95.66	96.66	1.00	0.17	0.005
118.42	120.51	Silicified Zone - blue-grey to milky white qtz. masses and laminations.	11273	117.63	118.63	1.00	0.17	0.005
		- distinctive silica colour laminations 30 deg. LCA. due to t ductile shearing. - Py.> Po.> CPy. in masses following laminations. - sulphides 2-4 % , locally to 25 % .	11274	118.63	119.63	1.00	0.17	0.005
120.13	-120.41	laminations enter core at 50 deg. LCA., run parallel with core and exit at 30 deg. LCA.						
120.51	123.11	Disseminated Py.> Po. ~1% and in masses associated with wispy carb. stringers.	11275	119.63	120.63	1.00	0.17	0.005
			11276	120.63	121.63	1.00	0.17	0.005
121.56	122.06	many carb. stringers, appear broken and offset indicating brittle movement.						
			11277	121.63	122.63	1.00	0.17	0.005
			11278	122.63	123.63	1.00	0.17	0.005
124.92	124.94	blue-grey qtz./ carb. veinlet 64 deg. LCA., 2-3% Py.> CPy.> Po. associated with wispy carb. masses in zone 10cm. preceeding.						
127.52	127.52	Fault gouge, broken core.						
130.97	130.99	blue-grey qtz./ carb. veinlet, 42 deg. LCA.						
			11279	131.18	131.58	0.40	0.17	0.005
148.65	150.77	Bleached Zone - pervasive silification/chloritization, indurated. - white and b-g qtz. present in veinlets with carbs. 60 deg. LCA. Qtz. is granular. - local brecciation. - local sericitic altn. of feldspars. - Py.= Po. 2-3% along carb. stringers and fracture planes. - contacts gradational.	11293	148.50	150.00	1.50	0.17	0.005
150.22	152.09	Pervasive carbonate alteration.	11294	150.00	151.00	1.00	0.17	0.005
152.00	155.11	Indurated Zone - minor silicification.						
155.11	155.14	Granitic intrusion, 51 deg. LCA.						
156.02	156.04	blue-grey qtz. veinlet - minor shearing causing irregularity, 20 deg. LCA. > 1% Py.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
164.52	163.55	blue-grey qtz./ carb. veinlet 85 deg. LCA. 2-3% Py.						
169.13	169.28	blue-grey qtz. included in wispy carb. veinlets. 2-3% Py.						
			11295	170.50	171.00	0.50	0.17	0.005
171.00	172.08	Alteration Zone - strongly silicified - contacts indistinct.	11296	171.00	171.85	0.85	105.94	3.090
		- qtz./ carb. veinlets 45 deg. LCA.						
171.48	171.57	notable anomalous qtz./ carb. groundmass.						
171.48	171.92	brecciated zone.						
		- Py. 3-5% diss. and along carb. filled fractures.						
171.38	171.48	90 % b-g qtz., 10% carb. and Py.						
171.60	171.60	VISIBLE GOLD ~ 1x2 mm.						
172.08	224.50	*FELDSPAR PHYRIC BASALT	11297	171.85	172.35	0.50	0.17	0.005
		- typical.	11298	181.60	182.30	0.70	2.74	0.080
		- plagioclase phenocrysts very rare.	11299	182.30	183.00	0.70	0.17	0.005
		locally bleached, local sericite alteration.	11300	185.10	185.50	0.40	0.17	0.005
			11301	196.90	197.30	0.40	0.17	0.005
173.72	173.92	vuggy, vugs lined with subhedral calcite crystals.						
174.24	175.00	Broken, blocky core - 1mm. euhedral calcite crystals on some surfaces.						
181.87	182.35	Alteration Zone - upper contact discontinuous.						
		- lower contact sharp 40 deg. LCA.						
		- b-g qtz./ carb./ Py. laminations, 15-35 deg. LCA.						
		- qtz. present as coarse oval grains in carb./ chl. matrix,						
		and as shear veinlets.						
		- 5-7% Py. diss. and clustering along carb. filled fractures.						
		- local minor potassic and sericitic alteration.						
185.20	185.30	b-g qtz. vein 85 deg. LCA., 3% Py., minor carbs.						
185.52	185.75	broken, blocky core, - low angle fracturing.						
194.90	194.92	b-g qtz./ carb./ chl. veinlet 15 deg. LCA.						
		- potassic alteration, 1-2% Py.> CPy.						
195.86	195.96	syanogranitic intrusion 47 deg. LCA.						
197.10	197.13	b-g qtz./ carb. veinlet 60 deg. LCA., 2-3% Py.						
197.90	198.00	broken, blocky core.						
200.86	201.33	Alteration Zone - upper contact sharp, 70 deg. LCA.	11302	200.38	200.88	0.50	0.17	0.005
		- lower contact, sharp, 42 deg. LCA.						
		- b-g qtz., carb., chl., Py. in jumbled mixture.						
		- qtz. and carb. stringers in many directions and repeatedly						
		offset. Py. 2-3% .						
		- lower contact marked by 9cm. qtz. vein with carb. and chl.						
			11303	200.88	201.38	0.50	1.71	0.050
			11304	201.38	201.88	0.50	0.17	0.005
205.76	205.86	strong sericitic alteration.						
206.83	206.89	strongly sheared zone.						
			11305	212.75	213.15	0.40	0.17	0.005
215.90	216.65	chl./ carb. laminations, 72 deg. LCA.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
216.63	216.65	srong sericitic alteration.						
221.03	221.90	zone of broken, blocky core, some 10cm. pieces intact.						
		- chlorite slickenslides.						
221.85	221.85	fault gouge.						
224.50	253.24	*MEDIUM TO FINE GRAINED MASSIVE BASALT	11306	226.11	226.51	0.40	0.17	0.005
		- typical.	11307	228.23	228.63	0.40	0.17	0.005
			11308	233.20	233.60	0.40	0.17	0.005
228.40	228.52	b-g qtz./ carb./ chl.vein, 60 deg. LCA., <1% Py.						
232.37	232.39	granitic intrusion, 38 deg. LCA.						
233.62	233.95	Silicified Zone - contacts at 10 deg. LCA.						
		- b-g qtz. in masses and as contorted veinlets alternating with carbs. and chloritically altered basalt.						
		- ~3% Py.						
			11309	233.60	234.00	0.40	7.54	0.220
			11310	234.00	234.45	0.45	0.17	0.005
234.76	235.09	Silicified Zone - as above. - contacts at 33 deg. LCA.						
234.70	235.53	Pervasive carbonate alteration.						
238.56	238.68	granitic intrusion, 48 deg. LCA.						
			11311	238.92	239.32	0.40	0.17	0.005
239.49	240.10	Silicified Zone - as above. - contacts indistinct						
		- lamination angles range from 15-35 deg. LCA.						
		- 5-6% P. disseminated.						
			11312	239.32	240.12	0.80	2.74	0.080
			11313	240.12	240.52	0.40	0.17	0.005
			11314	243.47	243.87	0.40	0.17	0.005
			11315	243.87	244.37	0.50	0.17	0.005
244.52	244.54	b-g qtz. veinlet 50 deg. LCA., 1cm. wide.						
		- directly preceeded by .5cm. Py. veinlet containing 5% sphal.						
			11316	244.37	244.77	0.40	0.17	0.005
			11317	250.18	250.58	0.40	0.17	0.005
			11318	250.58	250.98	0.40	6.17	0.180
			11319	250.98	251.38	0.40	0.17	0.005
252.03	252.31	Silicified Zone - upper contact indistinct.						
		- lower contact marked by 12cm. milky qtz. vein, 58 deg. LCA.						
		- qtz. pervasive in groundmass.						
		- Py. 2-3% diss. , locally concentrated to 5-6 % .						
			11320	252.15	252.95	0.80	0.17	0.005
253.00	253.24	granitic dyke, - upper contact sharp, marked by carb. veinlet 41 deg. LCA.						
		- lower contact sharp, 34 deg. LCA.						
253.24	295.98	*FELDSPAR PHYRIC BASALT	11321	253.43	253.83	0.40	0.17	0.005
		- typical.	11322	253.83	254.23	0.40	0.34	0.010
			11323	254.23	254.63	0.40	0.17	0.005

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
255.05	255.07	b-g qtz./ carb. veinlet. 56 deg. LCA., ~1% Py.						
259.80	259.93	silicified zone - laminations hard to distinguish, approx. 75 deg. LCA. - 5-7% Py.						
264.45	265.12	Zone including three major dioritic dykes, each approx. 15cm. width and spaced 15-5cm. apart consecutively. Dykes have been offset repeatedly along fracture planes obscuring exact measurements. Contacts ~45 deg. LCA.						
268.97	269.27	granitic dyke, coarse grained, 10 deg. LCA.						
269.69	269.73	granitic intrusion, coarse grained, 36 deg. LCA.						
			11280	276.57	277.57	1.00	0.17	0.005
			11281	277.57	278.57	1.00	0.17	0.005
279.47	281.60	Mildly Sheared Zone - locally strong shearing.	11282	278.57	279.57	1.00	0.17	0.005
		- Py. diss. and in blebs assoc. with carb. wisps, 1-2% .	11283	279.57	280.37	0.80	0.17	0.005
			11284	280.37	280.87	0.50	0.17	0.005
280.37	280.62	Silicified Zone - strongly altered , - indistinct contacts. - qtz. blue-grey to milky white. - Py 7-8% diss. and in clots.						
280.67	280.67	Fault Gouge.						
			11285	280.87	281.87	1.00	0.17	0.005
			11286	281.87	282.37	0.50	0.17	0.005
			11287	282.37	283.37	1.00	0.17	0.005
			11288	283.37	284.37	1.00	0.17	0.005
			11289	284.37	285.37	1.00	0.17	0.005
286.34	287.02	Alteration Zone - silicified (C.I.M.Z.) note - split before logged. - contacts indistinct - b-g qtz./ carb./ chl. masses, no preferred orientation. - Py. 2-3% , locally to 5-7%.	11290	285.37	286.37	1.00	0.34	0.010
			11291	286.37	287.37	1.00	0.34	0.010
			11292	287.37	288.23	0.86	0.17	0.005
295.98	301.34	*FELDSPAR PORPHYRY - upper contact 50 deg. LCA., sharp, marked by 1cm. chlorite veinlet. Increase in mafics near contact. - lower contact sharp, sutured. - pervasive silicification as groundmass. - indurated, light grey to yellowish grey. - Py. diss. <1% . - 50 % plagioclase poriphers.						
301.34	342.00	*FELDSPAR PHYRIC BASALT	11324	304.07	304.57	0.50	0.17	0.005
		- typical.	11325	304.57	305.47	0.90	0.17	0.005
			11326	305.47	306.47	1.00	0.17	0.005
302.67	303.00	Altered Feldspar Porphery - upper and lower contacts gradational. - light grey to beige. - pervasive silicification and seritization.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
		- locally chl. altered to chrome green (fushite ?).						
		- locally preferred orient. of feldspars, 36deg.LCA.						
304.14	304.17	b-g qtz. veinlet, 57 deg. LCA.						
304.98	305.01	b-g qtz./carb. veinlet, 31 deg. LCA., 2-3% Py.						
306.49	307.62	Altered Zone - pervasive minor silicification of groundmass.	11327	306.47	307.60	1.13	0.17	0.005
		- pervasive carbonitization.						
		- medium grey to blue-grey.						
307.62	308.27	Zone of moderate silicification - upper contact marked by qtz. veinlet 85 deg.	11328	307.60	308.20	0.60	0.17	0.005
		LCA. and parallel Py. stringer.						
		- lower contact irregular , ~35 deg. LCA.						
		- yellowish - grey colour.						
		- pervasive seritization.						
		- relict intrusive texture.						
308.27	308.74	Feldspar Porphyry - strongly sericitized.	11329	308.20	308.70	0.50	0.17	0.005
		- preferred plagioclase orientation of 45 deg. LCA.						
		- qtz. veinleys intruding at 60 deg. LCA.						
308.74	308.89	Zone of Intense Silicification - upper contact sharp, irregular.						
		- lower contact gradual.						
		- 80-90% blue-grey to milky qtz.						
		- locally healed fractures, 60 deg. LCA.						
		- noted euhedral qtz, crystal growth.						
		- Py. disseminated, 1-2% .						
308.89	309.02	Feldspar Porphyry - as above - rare fushite ?						
309.02	309.59	Zone of Moderate Silicification - as above						
		- upper and lower contacts sharp, sutured.						
309.59	311.08	Quartz / Feldspar Porphyry - upper contact indistinct	11330	308.70	309.70	1.00	0.17	0.005
		- lower contact sharp, irregular.	11331	309.70	310.70	1.00	0.17	0.005
		- med. grey colour.						
		- Py. diss. 1% .						
310.58	310.60	contorted b-g qtz. stringer, ~30 deg. LCA., 5% assoc. Py.						
			11332	310.70	311.50	0.80	0.17	0.005
311.53	313.45	Altered Granitic Intrusive - upper contact sharp, 60 deg. LCA. marked by 1cm.	11333	311.50	311.90	0.40	0.17	0.005
		qtz. stringer.	11334	311.90	312.30	0.40	0.17	0.005
		- lower contact sharp 67 deg. LCA.						
311.53	311.92	moderate silicification overprinting previous structure.						
		- relict inrusive texture.						
		minor sericitation.						
312.50	312.80	local strong potassic alteration.						
			11335	314.60	315.00	0.40	0.17	0.005
			11336	315.00	315.54	0.54	0.17	0.005

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
315.93	318.13	Alteration Zone - contacts gradational.	11337	315.54	315.94	0.40	0.17	0.005
		- pervasive light silicification.	11338	315.94	316.54	0.60	0.17	0.005
		- locally strong silicification at 316.14-316.51 and 317.55-	11339	316.54	316.94	0.40	0.17	0.005
		318.13.	11340	316.94	317.52	0.58	0.17	0.005
		- occasional qtz. veinlets 40-50 deg. LCA.						
		- pervasive diss. Py. ~1%, locally in strong silicified areas						
		to 5-7% .						
		- some narrow (2-4 mm.) qtz. stringers running parallel to						
		long core axis.						
			11341	317.52	318.17	0.65	0.17	0.005
			11342	318.17	318.57	0.40	0.17	0.005
337.18	337.21	granitic intrusion , 26 deg. LCA.						
339.77	340.28	Qtz./ Feldspar Porphyry - as above						
		- upper contact sharp, ~58 deg. LCA.						
		- lower contact sharp, discontinuous, ~80 deg. LCA.						
		- rare blue-grey qtz. eyes.						
342.00	342.00	*E.O.H.						

ST. JOE CANADA DIAMOND DRILL HOLE RECORD

Hole No.	K87-87	Northing		Grid Orient		Started	Feb. 12, 1987.	Logged by	R. Butler
Property	SHOAL LAKE	Easting		Grid Azim.		Finished	Feb. 15, 1987.	Checked by	K. Leonard
Location	CIMZ	Elevation	338.97	Length (M)	342.00	Drill Co.	Midwest	Core	BQ
Claim No.		Departure	3+53.30S	Dip-Collar	-55	Drill No.		Comments:	
Target	CIMZ	Latitude	11+13.14E	Comp Bearing	030	Drill For.			

Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton

SUMMARY

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
0.00	4.20	* CASING						
4.20	89.60	* MEDIUM - FINE-GRAINED MASSIVE BASALT medium grey in colour; local chloritic al causing a more green colour; locally carbonatized; many wispy, contorted veinlets at varying angles to long core axis small amounts pyrite often associated with these features.	11343	7.49	7.89	0.40		trace
			11344	7.89	8.89	1.00		trace
			11345	8.89	9.89	1.00		trace
			11346	9.89	11.19	1.30		trace
			11347	11.19	12.19	1.00		trace
4.20	7.30	fracturing of core at low angles to long core axis.						
5.20	5.30	broken core.						
7.80	9.75	Zone of strong silicification - upper contact sharp, irregular at approximately 30 degrees long core axis; lower contact gradual. blue grey quartz in large irregular masses and fine particles in groundmass; local brecciation; locally very minor alteration of chlorite to chrome green (fuchsite?) translucent quartz vein virtually parallel to long core axis; disseminated pyrite <1%.						
8.95	9.10	broken core.						
9.98	11.15	Zone of strong silicification - increases to intense silicification at 10.38-10.73m where complete alteration - translucent, glassy; locally brecciated near boundaries to intense silicification ; upper contact gradual; lower contact sharp, irregular <5 degrees long core axis extending over 35 cm.						
12.20	12.23	blue grey quartz-carbonate veinlet 25 degrees long core axis.						
12.55	12.58	blue grey quartz-carbonate veinlet at 16 degrees to long core axis.						
			11348	12.19	13.19	1.00		trace
13.33	13.35	broken core (no fault); one piece is blue grey quartz-carbonate.						
			11349	13.19	13.59	0.40		trace
14.27	14.87	Zone of very strong silicification - near complete alteration; upper contact at 22 degrees long core axis; lower contact sharp at 39 degrees long core axis - offset along fracture; quartz blue grey, some carbonates in groundmass.	11350	13.59	14.49	0.90		trace
14.87	15.36	Zone of moderate silicification - lower contact sharp at 38 degrees long core axis; marked by pyrite stringer; blue grey quartz-carbonate chlorite laminations at 38 degrees long core axis; pervasively sheared.	11351	14.49	14.89	0.40		trace
			11352	14.89	15.49	0.60		trace
15.50	23.45	pervasive brown rusty colour - biotite present.	11353	15.49	15.89	0.40		trace
20.50	20.67	broken core; fault gouge at 20.67m						
27.38	28.28	rusty colour same as above.						
36.70	36.74	Granitic intrusion at 68 degrees long core axis.						
			11354	46.53	46.93	0.40		trace
46.99	47.81	silicified zone - upper contact indistinct; lower contact sharp 51 degrees long core axis; milky and blue grey quartz and carbonate non-uniform masses;	11355	46.93	47.78	0.85		trace

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
		approximately 15% chalcopyrite greater than pyrite in similar irregular masses; chalcopyrite commonly associated with fine-grained biotite.						
			11356	47.78	48.18	0.40		trace
52.16	52.16	0.5 cm pyrite veinlet 85 degrees long core axis - overgrowth of carbonate veinlet.						
			11357	51.98	52.38	0.40		trace
66.37	66.39	chlorite veinlet at 43 degrees to long core axis containing 10% pyrrhotite greater than chalcopyrite.						
67.37	67.53	silicified zone - upper contact sharp at 62 degrees long core axis; lower contact sharp at 70 degrees long core axis; quartz mostly milky , some blue grey; 3-4% pyrite disseminations.						
76.56	76.66	broken core blocky - chlorite slickensides.						
84.46	84.48	blue grey quartz-carbonate veinlet at 60 degrees long core axis.						
89.60	95.00	* FELDSPAR PHYRIC BASALT upper contact very gradual; plagioclase phenocrysts very rare (2-15 mm diameter).						
90.44	90.67	Bleached area - to light olive green colour; upper contact sharp at 51 degrees long core axis; lower contact gradual						
94.48	94.49	blue grey quartz hairline stringer at 17 degrees long core axis.						
95.00	149.00	* MEDIUM COARSE GRAINED MASSIVE BASALT - typical; contacts gradual.	11358	99.19	99.59	0.40		trace
			11359	99.97	100.37	0.40		trace
96.18	96.29	Bleached zone - to olive green colour; contacts gradual.						
			11360	100.37	100.77	0.40		trace
			11361	100.77	101.77	1.00		trace
118.06	118.21	Blocky broken core - definite fault.						
123.67	123.68	blue grey quartz hairline stringer at 70 degrees long core axis; <1% chalcopyrite.						
			11362	126.46	126.86	0.40		trace
126.90	126.95	blue grey quartz veinlet at 18 degrees long core axis with approximately 5% pyrite.						
127.16	127.39	zone containing multiple hairline blue grey quartz stringers, contorted and offset repeatedly. 2-3% pyrite and fine-grained biotite clusters; 51 degrees long core axis.						
			11363	126.86	127.86	1.00	7.54	.22
			11364	127.86	128.26	0.40		trace
			11365	128.26	128.81	0.55		trace
149.00	153.23	* TRANSITION ZONE (from massive to feldspar phyric basalt)	11366	152.25	152.65	0.40		trace
152.46	152.47	pyrrhotite >> chalcopyrite hairline stringer at 52 degrees long core axis.						
153.23	283.24	* FELDSPAR PHYRIC BASALT - Typical plagioclase phenocrysts common but small (1-5mm).	11367	164.60	165.00	0.40	0.34	.01
			11368	171.15	171.55	0.40		trace
			11369	176.78	177.18	0.40		trace

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
164.84	164.91	Milky to blue grey quartz-carbonate veinlet at 70 degrees long core axis; approximately 2% pyrite >> pyrrhotite.						
168.10	170.43	Dramatic incr in size and concentration of plagioclase phenocrysts approximately 25%.						
171.27	171.37	blue grey quartz vein at 67 degrees long core axis; 1% pyrite = chalcopyrite						
176.55	176.81	silicified zone - blue grey quartz in anomalous masses; contacts indistinct. lower may be marked by carbonate stringer at 55 degrees to long core axis; strong chlorite alteration locally; <1% pyrite = pyrrhotite						
177.20	177.70	silicified zone - upper contact sharp at 20 degrees long core axis; lower contact irregular at approximately 30 degrees long core axis ? sharp irregular blocks of milky quartz and basalt; possibly brecciation ?						
177.92	178.04	Milky to blue grey quartz veinlet - upper contact sharp at 80 degrees long core axis; lower contact irregular.						
			11370	177.18	178.08	0.90		trace
			11371	178.08	178.48	0.40		trace
178.49	179.30	silicified zone - upper contact sharp at 17 degrees long core axis, lower contact <5 degrees long core axis, over 20 cm; appears to be running parallel to long core axis; irregular masses of milky to blue grey quartz alternating with basalt local strong sericitization.						
			11372	178.48	179.48	1.00		trace
			11373	179.48	179.88	0.40		trace
183.03	183.30	silicified / sericitized zone - upper and lower contact indistinct, poss'y at 65 degrees long core axis; narrow quartz / sericite / carbonate laminations near contacts; large milky quartz masses near center - laminations approximately 75 degrees long core axis.						
			11374	182.97	183.37	0.40		trace
192.78	192.81	blue grey quartz-carbonate veinlet at 55 degrees long core axis; 5-6% pyrite.						
192.32	192.52	Milky quartz vein at 77 degrees long core axis 10 cm with 5 cm alteration haloes; haloes light brown and silicified 1% pyrite.						
			11375	192.52	192.92	0.40		trace
			11376	192.92	193.32	0.40		trace
			11377	193.32	193.72	0.40		trace
			11378	193.72	194.12	0.40		trace
			11379	194.12	194.52	0.40		trace
196.52	196.54	blue grey quartz-carbonate stringer 35 degrees long core axis; 3% pyrite.						
			11380	196.34	196.74	0.40		trace
198.20	198.35	Ductile shearing at 65 - 70 degrees long core axis; pervasive carbonate and chlorite alteration; Fron oxides forming along shear planes.						
			11381	198.08	198.48	0.40		trace
201.18	201.23	Ductile shearing - same as above						
203.49	203.50	quartz-carbonate stringer at 35 degrees long core axis; 3% pyrrhotite greater than pyrite greater than chalcopyrite.						
			11382	203.31	203.71	0.40		trace
			11383	204.39	204.79	0.40		trace
206.14	206.15	Granitic intrusion at 70 degrees long core axis.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
208.90	209.48	Felsic intrusion - upper contact gradational; lower contact sharp at 61 degrees marked by 2 cm quartz stringer; greenish yellow; pervasive silicification and carbonatization; <1% disseminated pyrite.						
211.78	211.85	silicified felsic intrusion at 55 degrees long core axis - same as above						
214.56	214.59	Milky quartz veinlet at 57 degrees long core axis.						
			11384	219.00	219.40	0.40		trace
219.43	220.13	sheared zone - ductile; upper contact gradual, lower contact sharp 5 degrees long core axis; pervasive silicification; alternating laminations of milky to blue grey quartz-carbonate / chloritized bsalt; some large granular quartz with greenish colour - epidotized; 2-3% disseminated pyrite, locally to 10-15%.	11385	219.40	220.10	0.70	0.69	.02
219.76	219.76	Fault gouge.						
220.28	220.33	zone including granular (4-15mm) green altered silica epidote ?						
			11386	220.10	220.60	0.50		trace
232.28	232.85	silicified dioritic intrusion - upper contact discontinuous at approximately 63 degrees long core axis; lower contact indistinct at ~80 degrees long core axis; local potassic alteration; local alteration of quartz causing green blotches in quartz masses.						
233.33	233.86	Quartz Porphyry - upper contact irregular, lower contact sharp at 35 degrees long core axis; locally large angular pieces of basalt present; 10 cm zone near each contact, porphyritic texture obscured due to higher felsic content of matrix.						
237.95	238.32	sheared zone - ductile; upper contact gradual, ct/l sharp at 75 degrees long core axis at quartz vein; preferred orientation of plagioclase phenocrysts at 53 degrees long core axis; 50% of plagioclase phenocrysts altered to light brown colour; z'g often present in altered phenocrysts.						
238.32	238.39	Milky quartz vein at 75 degrees long core axis.						
238.41	238.50	silicified felsic intrusion; upper contact indistinct at ~60 degrees long core axis; lower contact sharp at 45 degrees long core axis; brecciated quartz pieces (1-6mm) in silicified basaltic matrix.						
			11387	237.78	238.58	0.80		trace
250.14	250.56	silicified felsic dike - lower contact sharp sutured, poss'y ~ 65 degrees long core axis; upper contact sharp at 70 degrees long core axis at 1.5 cm milky quartz veinlet; yellowish - green colour - becoming more silicified therefore blue greyish near contacts.	11388	250.14	250.54	0.40		trace
262.28	263.50	sh'dz - preferred orientation of crystals forming laminations at 63 degrees long core axis	11389	262.25	262.65	0.40		trace
262.69	262.99	felsic intrusion - sheared; contacts sharp at approximately 65 degrees long core axis; light yellow; acicular tourmaline preferred orientation with shearing; 1% disseminated pyrite.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
262.99	263.26	silicified section; chlorite alteration to fuchsitic ? minor brecciation; 1% disseminated pyrite.						
263.50	263.57	quartz-carbonate veinlet at 75 degrees long core axis; minor chlorite alteration to fuchsitic ? 1% pyrite disseminations.	11390	262.65	263.55	0.90		trace
			11391	263.55	264.01	0.46		trace
276.05	276.30	weakly silicified zone - contacts indistinct; vague blue grey quartz patches; pervasive carbonate alteration; 2-3% disseminated pyrite.						
			11392	276.00	276.40	0.40	1.37	.04
			11393	276.40	276.90	0.50		trace
277.29	278.36	silicified zone - upper contact sharp 20 degrees long core axis at quartz-carbonate stringers; lower contact indistinct; locally silicification very weak; pervasive carbonate and chlorite alteration; quartz present as blue grey masses and in groundmass; 3-4% pyrite disseminations and 1 cm clots.	11394	276.90	277.30	0.40		trace
			11395	277.30	278.20	0.90	4.80	.14
			11396	278.20	278.60	0.40		trace
			11397	278.60	279.00	0.40		trace
283.24	290.80	*FELS INTRUSION upper contact sharp, sutured; lower contact sharp 27 degrees long core axis; colour range beige to light grey; coarse grained with visible mafic grains; <1% disseminations pyrite.						
292.21	291.78	* LAMPROPHYRE upper contact sharp discontinuous at approximately 36Deg long core axis; lower contact sharp 37 degrees long core axis, local potassic alteration; coarse grained biotite in mafic matrix; greenish - grey colour.						
			11398	292.36	292.76	0.40		trace
297.08	297.13	quartz diorite dike at 40 degrees long core axis.						
			11399	303.28	303.68	0.40		trace
303.74	305.55	silicified zone - upper contact indistinct, poss'y at 20 degrees long core axis; lower contact indistinguishable; milky and blue grey quartz pervasive in irregular masses; pervasive carbonate alteration; 304.38-304.66m silicified felsic intrusion; contacts indistinct; yellowish grey; local chlorite alteration and potassic alteration; 2% pyrrhotite greater than pyrite disseminations.	11400	303.68	304.88	1.20		trace
			11401	304.88	305.28	0.40	2.06	.06
306.50	306.72	silicified mafic intrusion - upper contact sharp at 80 degrees long core axis; lower contact sharp at 72 degrees long core axis; yellowish green colour mottled with blue grey of quartz.						
			11402	307.47	307.87	0.40		trace
			11403	307.87	308.37	0.50		trace
			11404	308.37	308.77	0.40		trace
309.22	309.70	weakly silicified zone - contacts indistinct; vague blue grey quartz patches; pervasive silicification; 1% disseminations pyrrhotite greater than chalcopyrite greater than pyrite.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_Ton	Au Oz_Ton
311.13	312.00	zone including 4 quartz diorite dikes at approximately 10 cm wide and 20 cm apart.						
			11405	314.78	315.18	0.40		trace
315.67	316.33	Alteration Zone (CIMZ) upper contact sharp at 69 degrees long core axis; lower contact sharp at 55 degrees long core axis; pervasive silicification - blue grey quartz masses in silicified basalt; pervasive carbonate alteration; 5% pyrite disseminations and in clots.	11406	315.18	315.68	0.50		trace
			11407	315.68	316.38	0.70	1.37	.04
			11408	316.38	316.78	0.40		trace
317.02	317.08	Milky quartz vein - upper contact discontinuous; lower contact sharp 75 degrees long core axis.						
			11409	317.60	318.00	0.40		trace
318.46	318.59	silicified felsic intrusion at 65 degrees long core axis.						
321.32	321.38	quartz dioritic intrusion at 77 degrees long core axis.						
330.84	331.02	silicified felsic intrusion at 30 degrees long core axis.						
342.00	342.00	E.O.H.						

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.88	Northing	1+25S	Grid Orient	20.00	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	February 20, 1987	Logged by	Ron Butler
Property	Shoal Lake (KPM)	Easting	4+25E	Grid Azim.	10.00	169.0	- 43	010		263.0	- 41	010		Finished	February 22, 1987	Checked by	
Section		Elevation	322.28	Length (M)	264									Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	1+53S	Dip-Collar	-45.00									Drill No.		Comments:	
Target	C.I. Mainland Zone	Survey E.	4+50E	Comp Bearing	30.00									Drill For.			

Kevin Leonard

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	65.14	CASING	CASING
65.14	98.00	BSLT	MEDIUM - FINE-GRAINED MASSIVE BASALT
93.80	95.75	Slfd Intv	
98.00	137.50	BLPP	FELDSPAR PHYRIC BASALT
137.50	138.97	DORT INTV	MEDIUM-GRAINED DIORITIC INTRUSION
138.97	141.51	BLPP	
141.51	142.59	LMPP DKE	LAMPROPHYRE
142.59	152.70	BLPP	
152.70	153.60	DORT INTV	Silicified Dioritic Intrusion
153.60	199.39	BLPP	Same as above;
199.39	199.98	Gntc Intv	Felsic Dyke
199.98	203.94	BLPP	Same as above;
203.94	210.32	MA INTV	Mafic Intrusion
210.32	234.18	BLPP	FELDSPAR PHYRIC BASALT
234.18	237.08	Dort Intv	Doritic Intrusive
237.08	264.00	BLPP	FELDSPAR PHYRIC BASALT
264.00	264.00	END OF HOLE	

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	65.14	CASING	CASING						
65.14	98.00	BSLT	MEDIUM - FINE-GRAINED MASSIVE BASALT - dark greenish-grey - many wispy carbonate stringers at varying angles - locally undergone carbonate alteration - frequently, noticeable large chlorite grains give a speckled appearance 65.60 - 65.75 - syanogranitic intrusion, 70 deg. LCA 67.09 - 67.11 - blue/grey quartz/carbonate stringer, 60 deg. LCA - 5% pyrite	11431	66.89	67.29	0.40	0.17	0.00
			69.82 - 71.58 - pervasive carbonate alteration	11432	69.81	70.21	0.40	0.17	0.00
			70.04 - 70.09 - silicified felsic intrusion, 50 deg. LCA - 3-4% pyrite disseminated 70.48 - 70.72 - felsic intrusion, 52 deg. LCA - 4cm blue/grey quartz veinlet at lower contact - 1% pyrite disseminated 73.85 - 73.87 - blue/grey quartz/carbonate stringer, 42 deg. LCA - chlorite alteration 74.91 - 74.93 - blue/grey quartz stringer, 65 deg. LCA 75.29 - 75.31 - blue/grey quartz/carbonate stringer, 49 deg. LCA 75.55 - 75.60 - felsic intrusion, 20 deg. LCA - potassically altered 80.80 - 80.87 $ Alteration qv; - quartz vein, blue/grey to milky white - contacts measurable - contorted - vein is broken and healed with carbonate and contains fragments of basalt - intense carbonatization at contacts - minor seritization of carbonate stringers near contacts 81.42 - 81.53 - quartz - as above - contacts approximately 45-50 deg. LCA 81.93 - 82.06 - fine-grained granitic intrusion, 70 deg. LCA 82.88 - 82.95 - milky quartz veinlet, 60 deg. LCA 84.68 - 84.93 - fine-grained granitic intrusion, 49 deg. LCA 84.99 - 85.06 - quartz diorite intrusion - upper contact 49 deg. LCA - lower contact 80 deg. LCA - potassically altered 86.11 - 86.13 - milky quartz stringer, 45 deg. LCA 88.07 - 88.12 $ Alteration qc vnlt; Sulphide Po=5; - blue/grey quartz/carbonate veinlet - 5% associated Po, 67 deg. LCA	11433	87.98	88.38	0.40	0.17	0.00
			89.16 - 89.17 - strong sericitic alteration of carbonate in quartz/carbonate veinlet - 46 deg. LCA 89.61 - 89.66 - granitic intrusion, 34 deg. LCA	11434	91.24	91.74	0.50	0.17	0.00
			91.75 - 93.20 $	11435	91.74	93.18	1.44	0.17	0.00

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			Sulphide Py=2 Po=20 Cp=5;						
			- mineralized zone						
			- upper contact gradational						
			- lower contact sharp at quartz vein, 69 deg. LCA						
			- 20% Po >> Cpy > Py disseminated and in clots						
			- massive Py forming near lower contact						
		93.20 - 93.72	$						
			Alteration qv; Sulphide Py=7;						
			- milky quartz vein						
			- upper contact sharp, 69 deg. LCA						
			- fragment of basalt present giving appearance of 2nd contact approximately 30 deg. LCA?						
			- in initial 5cm from contact						
			- 30% massive Py >> Po, vuggy with subhedral Py crystals on vugs						
			- 7-8% Py = Po = Cpy having infilled fractures						
			- local sericitic alteration						
			- lower contact sharp, 75 deg. LCA						
		93.72 - 93.80	- mineralized basalt as above	11436	93.18	93.78	0.60	0.17	0.00
93.80	95.75	Slfd Intv							
		93.80 - 95.75	$						
			Sulphide Po=3 Cp=3;						
			- strongly silicified intrusion						
			- upper contact 41 deg. LCA						
			- colour ranges from light green, a relict from previous intrusive to grey-white where silicification complete						
			- 50% shows relict intrusive texture						
			- 3-4% Po = Cpy in clots						
			- lower contact 15 deg. LCA						
			- possible that this could be a strongly silicified basalt						
		95.75 - 98.00	- lightly silicified zone	11437	93.78	95.78	2.00	0.17	0.00
			- abundant carbonate-healed broken fractures	11438	95.78	96.78	1.00	0.17	0.00
			- 1-2% Po = Cpy in clots	11439	96.78	97.28	0.50	0.17	0.00
			- lower contact gradual						
		96.69 - 96.82	- silicified intrusion - as above, 50 deg. LCA						
			- 7cm carbonate veinlet at upper contact with 4% Py = Cpy						
98.00	137.50	BLPP	FELDSPAR PHYRIC BASALT						
			- upper contact gradual						
			- plagioclase phenocrysts frequent and altered to yellowish-white colour - phenocrysts range in size from .5-3cm in diameter - locally bleached areas						
			- abundant carbonate hairline stringers in many angles - locally Po associated with carbonate hairline stringers						
		102.07 - 102.09	- milky to blue/grey quartz stringer, 20 deg. LCA						
				11440	101.90	102.30	0.40	0.17	0.00
				11441	102.30	102.70	0.40	0.17	0.00
		113.95 - 114.09	- fine-grained dioritic intrusion, 50 deg. LCA						
		115.59 - 115.70	- fine-grained dioritic intrusion, 55 deg. LCA						
		116.86 - 117.18	- fine-grained dioritic intrusion, 30 deg. LCA						
		118.95 - 119.36	- minorly silicified and sericitized zone						
			- contacts diffuse						
			- light grey to yellowish grey mottled appearance						
			- 1% Po associated with blue/grey quartz blebs						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			11442	118.92	119.52	0.60	0.17	0.00
		122.50 - 122.53 - felsic intrusion. 25 deg. LCA						
		- mermyketic texture in quartz/plagioclase mixture						
		126.32 - 126.46 - dioritic intrusion. 20 deg. LCA						
		- 5mm milky quartz layer at contacts						
137.50	138.97	DORT INTV MEDIUM-GRAINED DIORITIC INTRUSION						
		- upper contact 58 deg. LCA						
		- initial 13cm after contact is fine-grained						
		- lower contact 36 deg. LCA						
138.97	141.51	BLPP						
		- same as 98 - 137.50 above						
		139.65 - 139.85 - zone of pervasive sericitic alteration						
		- contacts diffuse						
		140.25 - 140.28 - milky quartz veinlet 41 deg. LCA						
		141.11 - 141.15 - ductile shear zone 70 deg. LCA						
141.51	142.59	LMPP DKE LAMPROPHYRE						
		- upper contact at preceeding shear zone						
		- lower contact sharp 57 deg. LCA						
		- large biotite grains in mafic matrix						
142.59	152.70	BLPP						
		- same as above						
		- zone from 141.55 to 142.38 has 90% of biotite grains altered to chlorite giving it a porphyritic appearance						
		- 143.00 - plagioclase phenocrysts concentration reduces appearance gradually to rare						
		144.25 - 144.57 - felsic intrusion 17 deg. LCA						
		- silicified, 70% quartz, 38% plagioclase, 2% mafics						
152.70	153.60	DORT INTV Silicified Dioritic Intrusion						
		- upper contact 70 deg. LCA						
153.60	199.39	BLPP Same as above;						
		- lower contact vague, approximately 65 deg. LCA						
			11443	156.00	156.40	0.40	0.17	0.00
		156.44 - 160.01 $	11444	156.40	158.05	1.65	0.17	0.00
		Alteration slfn; Sulphide Po=1;	11445	158.05	159.05	1.00	0.17	0.00
		- weakly silicified zone						
		- contacts gradual						
		- locally strong for 10cm segments						
		- light grey colour						
		- plagioclase phenocrysts not present						
		- locally minor Po associated with carbonate stringers						
			11446	159.05	160.05	1.00	0.34	0.01
		168.57 - 168.62 - quartz/feldspar porphyry. 40 deg. LCA						
		169.92 - 169.95 - blue/grey quartz/carbonate veinlet, 90 deg. LCA						
		- 6cm bleached zone on either side						
		180.21 - 180.28 - blue/grey quartz/carbonate veinlet, 65 deg. LCA						
		- complete sericitization of carbonate						
		180.55 - 180.58 - blue/grey quartz/carbonate stringer. 50 deg. LCA as above						
			11453	181.98	182.38	0.40	0.17	0.00
			11454	184.94	185.34	0.40	0.17	0.00
		185.88 - 185.93 - blue/grey quartz/carbonate veinlet 63 deg. LCA						
		- minor sericitic alteration						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- <1% sphalerite						
		- <1% pyrite						
		- 1% pyrite in carbonate-filled fractures near contacts						
			11455	185.34	186.04	0.70	0.17	0.00
		188.60 - 188.65 - blue/grey quartz/carbonate veinlet 68 deg. LCA						
		- as above, no sphalerite						
			11456	188.40	188.80	0.40	0.17	0.00
			11457	189.90	190.30	0.40	0.17	0.00
		190.40 - 190.47 $						
		Alteration qc vnlt; Sulphide Py=25;						
		- blue/grey quartz/carbonate veinlet, 60 deg. LCA						
		- 20-30% massive pyrite						
			11448	190.40	190.80	0.40	0.34	0.01
			11458	190.80	191.20	0.40	0.17	0.00
		192.68 - 193.09 - silicified dioritic intrusion 85 deg. LCA	11459	192.68	193.08	0.40	0.17	0.00
		- approximately 50% complete silicification						
		193.24 - 193.40 $						
		Alteration qcv; Sulphide Py=10;						
		- blue/grey quartz/carbonate vein, minor carbonate 75 deg. LCA - approximately 10% massive pyrite						
		- mineralized 10cm on either side of vein						
		- 2% pyrite disseminated in clots						
			11449	193.10	193.50	0.40	0.69	0.02
			11460	193.50	193.90	0.40	0.17	0.00
			11461	196.15	196.55	0.40	0.17	0.00
			11462	196.55	196.95	0.40	0.17	0.00
199.39	199.98	Gntc Intv Felsic Dyke						
		199.39 - 199.98 $						
		Alteration ptsc;						
		- upper contact 48 deg. LCA						
		- lower contact 59 deg. LCA, disseminated						
		- intense potassium alteration and hematite also						
		- medium-grained, 20-25cm near contacts, merging to very coarse-grained quartz/ plagioclase displaying metmyketic texture, and ranging to 5-7cm irregular milky quartz band in center						
199.98	203.94	BLPP Same as above;						
		200.32 - 200.37 - felsic intrusive 45 deg. LCA						
		- potassium alteration						
		202.61 - 202.91 - zone containing 3% hematite? in irregular blebs, possibly replacing carbonate						
		203.10 - 203.40 - zone with euhedral brownish carbonate crystals on broken fracture planes						
203.94	210.32	MA INTV Mafic Intrusion						
		- upper contact approximately 45 deg. disseminated at 1cm blue/grey quartz/ carbonate stringer						
		- lower contact 36 deg. disseminated at .5cm carbonate stringer - dark grey-green mottled						
		- locally bleached to light green emphasizing mafics - local potassium alteration						
		- locally hematite content high, 5-6%						
		- occassionally injected by coarse-grained milky quartz veinlets approximately						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		40 deg. LCA						
210.32	234.18	BLFP FELDSPAR PHYRIC BASALT						
		- plagioclase phenocrysts rare						
		- locally high concentrations of hematite where altering carbonate - strong pervasive carbonatization						
			11463	210.63	211.03	0.40	0.17	0.00
		211.14 - 211.62 - felsic intrusive						
		- upper contact vague approximately 60 deg. LCA						
		- lower contact sharp approximately 45 deg. LCA						
		- strong potassium alteration						
		- 10% sphalerite						
		- at 211.51 - 211.56 milky quartz vein 44 deg. LCA containing angular basalt fragments						
		211.77 - 212.02 - mineralized zone, concentrations gradual						
		- 6% pyrite in random clots						
			11464	211.93	212.33	0.40	0.17	0.00
		213.43 - 213.87 - zone pervasive, sphalerite replacement of carbonate - occassional contorted blue/grey quartz hairline stringers						
		213.90 - 214.15 - minor shear zone, shearing 68 deg. LCA						
		- 1% pyrite = pyrrhotite						
		214.56 - 214.81 - minor silicified zone 50 deg. LCA	11465	213.43	214.57	1.14	0.17	0.00
		- weakly sheared						
		- blue/grey quartz bands very broken, healed by carbonate						
		- 5% sphalerite						
		- 2% disseminated pyrite						
			11466	214.57	214.97	0.40	0.17	0.00
		215.72 - 216.30 - dioritic intrusive 60 deg. LCA	11467	214.97	215.77	0.80	0.17	0.00
		- medium-grained						
		- pervasive weak carbonatization, locally strong						
		- 1% hematite (carbonate replacement)						
		- 217.48 fault gouge 55 deg. LCA, 1.5cm consolidated						
		Sulphide Py=3; Structure ftgg;						
			11468	217.48	217.88	0.40	0.17	0.00
		217.88 - 220.35 $	11450	217.88	218.88	1.00	0.17	0.00
		- major shear zone - contacts follow shearing at approximately 52 deg. LCA - upper contact fault gouge						
		- contorted laminations of 50% very fissile basalt, 35% carbonate						
		- 10% blue/grey quartz, 5% sulphides						
		- locally pale yellow colour pervasive throughout carbonate - locally very coarse intergrown ct crystals						
		- locally red sphalerite associated with carbonate - locally ct vuggy showing euhedral crystals						
		- locally malachite staining on pyrite						
		- locally small amounts chrome greenstain, large ct crystals - possible copper carbonatization						
		- 5% pyrite > pyrrhotite = chalcopyrite in massive clots						
		- 219.52 fault gouge						
		219.52 - 219.66 - broken core						
		220.15 - 220.20 - unconsolidated fault gouge						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		220.20 - 220.35 - broken core						
		- locally ct vugs with very small crystals						
			11451	218.88	220.38	1.50	0.17	0.00
			11469	220.38	220.88	0.50	0.17	0.00
		221.92 - 221.96 - blue/grey quartz/carbonate stringer 72 deg. LCA						
		- 5% massive pyrite						
			11470	221.65	222.05	0.40	0.17	0.00
			11471	222.05	222.55	0.50	0.17	0.00
			11472	222.55	223.05	0.50	0.17	0.00
		223.24 - 223.28 - as above, 80 deg. LCA						
		- 5% massive pyrite						
		- carbonate has rare vugs						
		223.28 - 223.51 - broken core						
			11473	223.05	223.67	0.62	0.17	0.00
			11474	223.67	224.47	0.80	0.17	0.00
		224.60 - 225.28 - dioritic intrusive 40 deg. LCA						
			11475	225.23	225.63	0.40	0.17	0.00
			11476	225.63	226.13	0.50	0.17	0.00
		226.59 - 227.80 $	11477	226.13	226.63	0.50	0.17	0.00
			11478	226.63	226.03	0.40	2.74	0.08
		Alteration cr vnlts; Sulphide Py=8; Structure bkcr;	11479	226.03	227.03	1.00	0.17	0.00
		- broken core - some pieces contain broken and subsequently healed fragments	11480	227.03	227.43	0.40	0.17	0.00
		- some pieces large (10cm) , most are small rubbly pieces - at 226.96, 2cm						
		carbonate stringer 35 deg. LCA, 8% massive pyrite - lower contact at 2cm						
		carbonate stringer 33 deg. LCA, 8% massive pyrite						
		- 227.25 fine-grained						
		- 227.50 fine-grained						
		- 228.60 5cm pyrite stringer replaced carbonate stringer						
			11481	227.43	227.83	0.40	0.17	0.00
		230.05 - 230.25 - zone containing 5% pyrite in clots						
			11482	229.82	230.32	0.50	0.17	0.00
		231.10 - 231.26 - milky white quartz vein 20 deg. LCA						
		232.99 - 233.11 - dioritic intrusion - 53 deg. LCA - contact broken irregular						
		Alteration slfn; Sulphide Py=6;						
		233.70 - 234.18 $						
		- silicified zone						
		- blue/grey quartz/carbonate/basalt laminations						
		- approximately 75 deg. LCA, contacts indistinct						
		- 507% pyrite disseminated and in clots						
		233.92 - 234.00 - broken core						
		- moderately sheared approximately 75 deg. LCA						
		- red hematite occassionally associated with carbonate						
234.18	237.08	Dort Intv Doritic Intrusive						
		- upper contact sharp 55 deg. LCA						
		- lower contact 55 deg. LCA, offset 1.5cm along carbonage feldspar fragment -						
		pervasively sausseritized						
		- local potassium alteration						
		- locally high sphalerite content						
		- pervasively silicified						
		- hematite alteration						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			10544	223.70	234.20	0.50	0.17	0.00
			11452	223.70	234.20	0.50	0.17	0.00
			11483	223.20	233.70	0.50	0.17	0.00
			11484	234.20	234.60	0.40	0.17	0.00

237.08 264.00 BLPP FELDSPAR PHYRIC BASALT

238.47 - 238.62 $
Structure ftgg;
- minor shear zone 57 deg. LCA shearing at 238.54 fault gouge

238.62 - 239.02 - dioritic intrusion, 30 deg. LCA
- locally sausseritized
- local hematitic alteration
- 239.32 - 3mm hematite stringer approximately 80 deg. LCA, broken by carbonate-filled fractures

245.59 - 246.48 $
Alteration slfn; Sulphide Py=3 Capy=1; Structure ftgg;
- silicified zone
- upper contact 80 deg. LCA, discontinuous - fault gouge - blue/grey quartz/carbonate basalt schists alternating - approximately 3% pyrite > chalcopyrite disseminated - becomes strongly foliated from 246.21 - 246.40

247.46 - 247.61 - feldspar porphyry
- upper contact sharp 39 deg. LCA
- lower contact sharp 65 deg. LCA

252.45 - 252.52 - 5-6% pyrite associated with wispy carbonate

252.63 - 252.69 - blue/grey quartz/carbonate veinlet approximately 80 deg. LCA
- 5% pyrrhotite = chalcopyrite in clots
- minor sericitization

253.03 - 253.05 - milky quartz stringer 43 deg. LCA

255.60 - 255.66 - felsic intrusive 44 deg. LCA
- offset repeatedly by carbonate-filled fracture
- latter 4cm is schistose

255.86 - 255.88 - felsic intrusive 22 deg. LCA
- intense potassium alteration

256.75 - 256.77 - blue/grey quartz stringer 20 deg. LCA

256.86 - 257.14 - felsic intrusive 0 deg. LCA
- begins at offsetting carbonate fracture 65 deg. LCA, runs through core and ends at carbonate fracture 71 deg. LCA

258.66 - 259.03 $
Structure sh;
- sheared zone - local brecciated zones approximately 40 deg. LCA shearing - blue/grey quartz and carbonate present
- minor hematite alteration of carbonate
- last 10cm of zone is consolidated fault gouge, preceeding 5 is broken core

261.03 - 261.10 - quartz/plagioclase pegmatite 45 deg. LCA
- pervasively strong, potassium alteration at plagioclase

261.46 - 261.51 - felsic dyke - as above only more fine-grained

263.37 - 263.39 - felsic dyke - as above

264.00 264.00 END OF HOLE

Meterage Inventory	Box	From	To	Meterage Inventory	From Box	To	
65.14	70.87	5.73	1	169.72	175.60	5.88	19

FROM TO DESCRIPTION SAMPLE FROM TO WIDTH Au g_tonne Au oz_ton

70.87	76.76	5.89	2	175.60	181.43	5.83	20
76.76	82.58	5.82	3	181.43	187.24	5.81	21
82.58	88.37	5.79	4	187.24	193.09	5.85	22
88.37	94.12	5.75	5	193.09	198.99	5.90	23
94.12	100.04	5.92	6	198.99	204.54	5.55	24
100.04	105.89	5.85	7	204.54	210.00	5.46	25
105.89	111.60	5.71	8	210.00	215.81	5.81	26
111.60	117.45	5.75	9	215.81	221.65	5.84	27
117.45	123.28	5.83	10	221.65	227.00	5.35	28
123.28	129.13	5.85	11	227.00	232.62	5.62	29
129.13	135.00	5.87	12	232.62	238.42	5.80	30
135.00	140.71	5.71	13	238.42	244.37	5.95	31
140.71	146.50	5.79	14	244.37	250.32	5.95	32
146.50	152.25	5.75	15	250.32	256.09	5.77	33
152.25	158.03	5.76	16	256.09	261.84	5.75	34
158.03	163.86	5.83	17	261.84	264.00	2.16	35
163.86	169.72	5.86	18				

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87-89	Northing	1+25S	Grid Orient		Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	February 22, 1987	Logged by Ron Butler
Property	Shoal Lake (KPM)	Easting	3+75E	Grid Azim.	10.00	201.0	- 43	010		276.0	- 41	010		Finished	February 24, 1987	Checked by
Section	4+00E	Elevation	322.28	Length (M)	276									Drill Co.	Midwest	Core BQ
Claim No.		Survey N.	1+61S	Dip-Collar	-45.00									Drill No.	1226	Comments:
Target	C.I. Mainland Zone	Survey E.	4+00E	Comp Bearing	30.00									Drill For.		

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	47.20	CASING	CASING
47.20	130.67	BSLT	FINE-MED GR. MASSIVE BASALT
130.46	132.67	Gntc Intv	Felsic Intrusion
132.67	161.57	BSLT	same as above
161.57	162.23	Gntc Intv	felsic intrusive
162.23	163.93	BSLT	
163.93	164.70	Gntc Intv	felsic intrusive
164.70	166.33	BSLT	same as above
167.64	173.63	BSLT	same as 164.70 - 166.33 above
173.63	174.17	Gntc Intv	Felsic Dyke
174.17	180.00	BSLT	intense potassium alteration
180.00	180.67	Gntc Intv	Felsic Intrusive
180.67	193.40	BSLT	
193.40	194.11	Gntc Intv	Felsic Intrusive
193.40	196.05	BSLT	
196.05	197.13	Gntc Intv	Felsic Intrusive
197.13	202.70	BSLT	
202.70	222.36	BLPP	FELDSPAR PHYRIC BASALT
222.36	227.59	BSLT	MEDIUM - FINE-GRAINED MASSIVE BASALT

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
227.59	229.85	BLPD	FELDSPAR PHYRIC BASALT						
229.85	235.94	BSLT	MEDIUM - FINE-GRAINED MASSIVE BASALT						
235.94	239.96	BLPP	FELDSPAR PHYRIC BASALT						
239.96	240.50	Gntc Intv	Felsic Intrusive						
240.50	245.28	BLPP	FELDSPAR PHYRIC BASALT						
245.28	248.20	Intv	Silicified Intrusive						
248.20	253.03	BLPP	Same as units observed above;						
254.03	273.47	BSLT	MEDIUM - FINE-GRAINED MASSIVE BASALT - typical						
273.47	274.88	DORT INTV	Dioritic Intrusive						
274.88	276.00	BSLT	Same as previously described above;						
276.00	276.00	END OF HOLE							

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	47.20	CASING	CASING						
47.20	130.67	BSLT	FINE-MED GR. MASSIVE BASALT						
			- dark green/grey colour						
			- carbonate hairline stringers, some wispy, are abundant at a variety of angles - varying degrees of chlorite content controls colour shades - strong pervasive carbonate						
			- core is extremely blocky						
			- locally, occassional bleb of Py, Cpy or Po associated with carbonate						
			47.20 - 47.64 Syanogranitic Intrusive - lower contact dislocation						
			47.85 - 48.11 $ Structure bkcr;						
			48.87 - 49.02 $ Structure bkcr;						
			50.82 - 50.92 $ Structure bkcr;						
				11490	51.00	51.40	0.40	10.29	0.300
			51.52 - 52.02 $ Structure bkcr;						
			- large pieces broken, blocky core - low angle fracturing						
			52.42 - 52.47 - broken core						
			53.23 - 53.25 - blue/grey quartz-carbonate stringers 48 deg. LCA						
			- 1% Py						
				11491	53.05	53.45	0.40	0.17	0.005
			54.56 - 54.82 $ Structure bkcr;						
			55.00 - 55.29 Zone of Intense Carbonate Alteration						
			- upper contact diffuse						
			- lower contact sharp approx. 29 deg. LCA						
			- 5-6% Py=Cpy disseminated						
				11492	54.95	55.39	0.40	0.17	0.005
				11493	55.92	56.32	0.40	0.17	0.005
			56.93 - 56.98 - two parallel blue/grey quartz/carbonate stringers 1cm apart 47 deg. LCA						
			- 5% pyrite disseminated						
				11494	56.84	57.24	0.40	0.17	0.005
			61.26 - 61.39 - vuggy core, some limonitic staining						
			61.52 - 64.45 $ Structure ftzn;						
			Major Fault Zone						
			- 30% broken rubbly core						
			- 50% 10cm pieces showing healed breakage planes						
			- 20% consolidated fault gauge						
			65.78 - 65.95 - broken core						
			66.28 - 66.35 - broken core						
			67.55 - 67.70 - broken core						
			70.85 - 71.12 - broken core						
			72.55 - 73.00 - broken core						
			73.00 - 73.21 - felsic intrusive						
			- upper contact sharp, dislocated, 48 deg. LCA						
			- lower contact dislocated						
			- hematitic alteration						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		82.53 - 82.59 - felsic intrusive 70 deg. LCA						
		- potassium alteration						
		87.50 - 87.70 - granitic intrusive 61 deg. LCA						
		88.38 - 88.83 - bleached zone - contains 2-3% Py) Po in clots	11495	88.42	88.82	0.40	0.17	0.005
		90.48 - 90.98 - felsic intrusive						
		- upper contact dislocated, broken						
		- lower contact 55 deg. LCA, irregular						
		95.43 - 95.56 - broken core						
		97.60 - 101.05 $						
		Structure ftzn;						
		Major Fault Zone						
		- 50% broken core						
		- 30% consolidated gouge						
		- 20% unconsolidated gouge						
		- shearing appears to be low angle approximately 30 deg. LCA						
		Structure vgy;						
		102.00 - 104.50 $						
		Zone of vuggy core						
		- 50% possibly consolidated, fine-grained						
		102.55 - 102.80 - definitely consolidated, fine-grained						
		- local limonitic and hematitic pervasive alteration - low angle shearing approximately 35 deg. LCA						
		107.40 - 108.25 $						
		Structure ftzn;						
		- fault zone 80% broken rubble						
		- 20% fine-grained often mixed with rubble						
		108.45 - 109.20 - broken core						
		113.61 - 114.20 - felsic intrusive 40 deg. LCA						
		- potassic alteration						
		118.30 - 118.50 - felsic intrusive 49 deg., upper contact, lower contact 63 deg. LCA - potassic alteration						
		122.04 - 122.22 - granitic intrusive 57 deg. LCA						
		124.98 - 125.00 - blue/grey quartz/carbonate stringer 50 deg. LCA						
		- 1% pyrite						
			11496	124.73	125.13	0.40	0.17	0.005
		126.47 - 126.52 - milky quartz vein 69 deg. LCA						
		- 1cm contact aureole at lower contact						
130.46	132.67	Gntc Intv Felsic Intrusion						
		- upper contact sharp 70 deg. LCA, lower contact 67 deg. LCA - lightly silicified, pervasive hematite alteration						
			11497	132.25	132.65	0.40	0.17	0.005
132.67	161.57	BSLT same as above						
		132.40 - 132.67 - zone is strongly silicified, 80% quartz						
		132.67 - 133.10 $						
		Alteration slfn;						
		Silicified Zone						
		- lower contact indistinct						
		- minor blue/grey quartz and carbonate, mostly basalt schist						
		- 5-6% pyrite disseminated and euhedral crystals						
			11498	132.65	133.17	0.52	0.17	0.005
			11499	133.17	133.57	0.40	0.17	0.005
		144.28 - 144.78 $						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		Structure ftgg:						
		- .5cm fault gouge unconsolidated						
		145.83 - 146.40 - broken core						
		146.53 - 147.05 - shear zone						
		- shearing at 35 deg. LCA						
		- 30% blue/grey quartz/carbonate masses						
		149.07 - 153.23 $	11500	152.75	153.15	0.40	0.17	0.005
		Structure sh;						
		Shear Zone						
		- contacts indistinct						
		- shearing at 0-30 deg. LCA						
		- 30% blue/grey quartz/carbonate masses						
		- laminations convoluted						
		- locally <1% Py=Po						
		153.23 - 157.34 $						
		Structure bkcr ftgg;						
		Broken core - rubble						
		- locally fault gouge mixed with basalt fragments						
		155.75 - 158.10 - felsic intrusive						
		- pervasive potassium-hematite alteration						
		158.10 - 159.00 broken core - 158.80 fine-grained						
		159.25 - 159.60 - pegmatic intrusion - orange						
		- blue/grey quartz/carbonate present and broken repeatedly						
		159.70 - 159.76 - milky quartz vein 49 deg. LCA						
		- 7% carbonate and hematite present						
		159.80 - 159.85 - milky quartz/carbonate veinlet						
		- 50% quartz, 50% carbonate 53 deg. LCA						
		159.93 - 160.28 - shear zone at 30 deg. LCA						
		- very strong						
		160.28 - 160.44 - 60% contorted carbonate masses						
		160.44 - 161.49 - felsic intrusive	10510	159.22	160.72	1.50	0.17	0.005
		- upper contact 37 deg. LCA, sharp						
		- pervasive potassium alteration						
		161.49 - 161.57 - broken core						
161.57	162.23	Gntc Intv felsic intrusive						
		- upper contact 58 deg. LCA						
		- lower contact very irregular						
162.23	163.93	BSLT						
		- pervasive potassium alteration						
		- at 161.81 - 161.94 strong silicification						
		- quartz white to blue/grey						
		- same as units above						
			10511	161.95	162.36	0.40	0.17	0.005
163.93	164.70	Gntc Intv felsic intrusive						
		- contacts sharp 50 deg. LCA						
		- pervasive silicification, potassium alteration						
164.70	166.33	BSLT same as above						
		- locally, hematitic alteration						
		- 1% mafic blebs						
			10512	165.13	165.63	0.50	0.17	0.005
		165.64 - 166.00 $						
		Alteration slfn qcvnlts; Sulphide Py=3 Capy=1;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		Silicified Zone						
		- contacts 48 deg. LCA, sharp						
		- 3 blue/grey quartz/carbonate veinlets each 5cm long, in center and at each contact						
		- 3% Py>Cpy disseminated						
			10513	165.63	166.03	0.40	4.80	0.140
		166.33 - 166.46 $Gntc Intv Felsic Intrusive						
		- upper contact 49 deg., sharp						
		- lower contact 90 deg., sharp						
		- pervasive potassium alteration						
			10514	166.03	166.53	0.50	19.89	0.580
		167.40 - 167.64 $LMPP DKE LAMPROPHYRE DYKE						
		- <1% Py						
		- 50 deg. LCA, sharp						
		- minor brecciated zone at lower contact						
		- large biotite crystals altered to chlorite in a mafic matrix						
167.64	173.63	BSLT same as 164.70 - 166.33 above						
		168.58 - 168.66 - blue/grey quartz/carbonate vein 59 deg. LCA						
		- strongly epidotized						
			10515	168.33	168.73	0.40	0.17	0.005
		169.67 - 169.69 - blue/grey quartz/carbonate stringer 20 deg. LCA - contorted						
		- 1% Po>Py						
			10516	169.53	169.93	0.40	0.17	0.005
173.63	174.17	Gntc Intv Felsic Dyke						
		- contacts 35 deg. LCA						
174.17	180.00	BSLT intense potassium alteration						
		174.26 - 174.30 - felsic intrusive 45 deg. LCA						
		174.95 - 176.58 - quartz/feldspar porphyry						
		- upper contact sharp 60 deg. LCA						
		- appears dioritic						
		- lower contact sharp 27 deg. LCA						
		176.75 - 176.95 - felsic intrusive						
		- upper contact 26 deg. LCA						
		- lower contact 32 deg. LCA						
		- 5% Py on carbonate hairline stringer						
			10517	176.60	177.00	0.40	0.17	0.005
		177.00 - 177.12 - felsic intrusive						
		- contacts 40 deg. at opposite angles						
		- upper contact very irregular						
		- lower contact sharp 52 deg. LCA						
180.00	180.67	Gntc Intv Felsic Intrusive						
		- upper contact 65 deg;						
180.67	193.40	BSLT						
		- lower contact 55 deg. LCA						
		- silicified from 180.63 to lower contact with <1% Py						
			10518	180.29	180.69	0.40	0.17	0.005
		181.58 - 181.70 - felsic intrusive						
		- 20 deg. LCA						
		181.85 - 181.93 - silicified felsic intrusive						
		- 35 deg. LCA						
		- 1% Py disseminated 1cm zone in basalt at contacts						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			10519	181.71	182.11	0.40	0.17	0.005
		182.58 - 182.62 - blue/grey quartz/carbonate stringer 90 deg. LCA						
		- <1% Py						
			10520	182.11	182.81	0.70	0.17	0.005
			10521	182.81	183.21	0.40	0.17	0.005
		186.38 - 186.55 - dioritic dyke, 27 deg. LCA						
			10522	187.76	188.16	0.40	0.17	0.005
		190.11 - 190.13 - blue/grey quartz/carbonate stringer						
		- 65 deg. LCA						
		- 4% associated Po						
			10523	189.84	190.34	0.50	0.17	0.005
		192.75 - 192.79 - blue/grey quartz/carbonate stringer						
		- 26 deg. LCA						
		- 3% associated Po						
			10524	192.66	193.06	0.40	0.17	0.005
193.40	194.11	Gntc Intv Felsic Intrusive						
		- upper contact irregular						
		- lower contact 40 deg. LCA						
193.40	196.05	BSLT						
			10525	195.56	195.96	0.40	0.17	0.005
196.05	197.13	Gntc Intv Felsic Intrusive						
		- upper contact 75 deg. LCA						
		- lower contact 65 deg. LCA						
197.13	202.70	BSLT						
		200.23 - 200.26 - blue/grey quartz/carbonate stringer						
		- 68 deg. LCA						
		201.68 - 202.70 Shear Zone						
		- contacts sharp at shearing angle						
		- 21 deg. LCA						
202.70	222.36	BLPP FELDSPAR PHYRIC BASALT						
		- upper contact sharp 21 deg. LCA						
		- dark greenish-grey						
		- plagioclase phenocrysts abundant (15-20%) and range in size from .2 to 1.5cm - numerous carbonate hairline stringers crosscut at varying angles						
		206.00 - 206.02 - blue/grey quartz/carbonate stringer, 68 deg. LCA						
		208.51 - 208.54 - carbonate stringer 61 deg. LCA						
		- 1% blue/grey quartz near upper contact						
			10526	215.50	216.00	0.50	0.17	0.005
		216.00 - 216.35 $						
		Alteration slfn; Sulphide Py=4 Po=2;						
		Silicified Zone						
		- contacts dislocated, approximately 80 deg. LCA						
		- alternating bands of blue/grey quartz, carbonate, basalt schist at 80 deg; LCA						
		- 3-4% Py > Po > Cpy						
			10527	216.00	216.40	0.40	4.11	0.120
			10528	216.40	216.80	0.40	0.17	0.005
		217.27 - 217.38 - silicified felsic intrusive						
		- contacts 48 deg. LCA						
		217.56 - 217.59 - minor carbonate/basalt brecciated zone						
		220.82 - 221.06 - dioritic intrusive						
		- upper contact indistinct						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- lower contact sharp 63 deg. LCA						
222.36	227.59	BSLT	MEDIUM - FINE-GRAINED MASSIVE BASALT						
			- no sharp contacts						
			- dark grey						
			- pervasive carbonatization						
			- numerous carbonate hairline stringers at varying angles						
			223.87 - 223.89 - milky to blue/grey quartz stringer						
			- 20 deg. LCA						
			227.14 - 227.22 - fine-grained dioritic intrusive						
			- 1cm felsic band at contacts, 42 deg. LCA						
227.59	229.85	BLPD	FELDSPAR PHYRIC BASALT						
			- as above						
			- no distinct contacts						
229.85	235.94	BSLT	MEDIUM - FINE-GRAINED MASSIVE BASALT						
			- typical - as above						
				10529	230.00	231.00	1.00	0.17	0.005
			231.10 - 231.33 - very weakly silicified zone - contacts diffuse						
			- one .5cm milky to blue/grey quartz stringer						
			- numerous carbonate stringers						
			- locally chloritic alteration						
			- 2% Py > Cpy						
				10530	231.00	231.40	0.40	0.17	0.005
				10531	231.40	231.90	0.50	0.17	0.005
			234.80 - 234.84 - feldspar porphyry, 45 deg. LCA						
235.94	239.96	BLPP	FELDSPAR PHYRIC BASALT						
			- typical						
239.96	240.50	Gntc Intv	Felsic Intrusive						
			- contacts 45 deg. LCA						
			- silicified for 10cm before lower contact						
			- 1% Po in silicified area and 15cm into basalt beyond lower contact						
240.50	245.28	BLPP	FELDSPAR PHYRIC BASALT						
			- same as 235.94 - 239.96 above						
				10532	240.25	240.65	0.40	0.17	0.005
			242.40 - 242.93 - dioritic intrusive						
			- upper contact 16 deg. LCA						
			- lower contact 80 deg. LCA						
			243.13 - 243.58 dioritic intrusive						
			- contacts 28 deg. LCA						
			245.00 - 245.22 - silicified intrusive						
			- contacts 54 deg. LCA						
245.28	248.20	Intv	Silicified Intrusive						
			245.28 - 248.20 $	10533	246.73	247.13	0.40	0.17	0.005
			Alteration slfn;	10534	247.13	248.13	1.00	0.17	0.005
			- upper contact 60 deg. LCA						
			- lower contact irregular, appears to be approximately 90 deg. LCA - intrusive 50% silicified						
			- sulphides (Py > Cpy > Po)						
			- 1-2% begin at 11cm						
			- milky to blue/grey quartz vein, 56 deg. LCA and extend to lower contact						
248.20	253.03	BLPP	Same as units observed above;						
			248.20 - 249.31 $	10535	248.13	249.13	1.00	0.17	0.005
			Alteration slfn;						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			Silicified Basalt						
			- lower contact 80 deg. LCA at 4cm blue/grey quartz/carbonate stringer						
			- 1-2% Py = Po						
			- last 25cm may be large fragmented breccia zone						
				10536	249.13	249.53	0.40	0.17	0.005
254.03	273.47	BSLT	MEDIUM - FINE-GRAINED MASSIVE BASALT - typical						
				10537	255.83	255.33	0.50	0.17	0.005
			255.96 - 256.31 Silicified Intrusion						
			- 73 deg. LCA						
			- 1% Cpy = Po						
			263.70 - 264.12 - minor shear zone - shearing at 53 deg. LCA						
			- <1% Py						
			264.12 - 265.35 - felsic intrusive, 50 deg. LCA	10538	263.71	264.21	0.50	0.17	0.005
			- very minor silicification	10539	264.21	265.21	1.00	0.17	0.005
			- <1% Py disseminated						
			265.35 - 265.39 silicified zone						
			- contacts broken and dislocated						
			- 3% Py = Cpy						
				10540	265.21	265.61	0.40	0.17	0.005
			265.94 - 266.20 felsic intrusive						
			- 42 deg. LCA						
				10541	265.61	266.21	0.60	0.17	0.005
			266.40 - 266.75 silicified zone						
			- contacts diffuse						
			- 1% Py >> Po						
				10542	266.21	266.81	0.60	0.17	0.005
				10543	266.81	267.31	0.50	0.17	0.005
			271.46 - 271.59 felsic intrusive						
			- 40 deg. LCA						
			- intense potassium alteration						
			- 3-4% hematite present						
273.47	274.88	DORT INTV	Dioritic Intrusive						
			- 60 deg. LCA						
			- locally intense potassium alteration						
			- locally appears pegmatitic						
274.88	276.00	BSLT	Same as previously described above;						
276.00	276.00	END OF HOLE							

Meterage Box	From	To	Inventory	Meterage Box	From	To	Inventory
42.70	53.05	5.85	1	166.18	171.63	5.45	21
53.05	59.10	6.05	2	171.63	177.44	5.81	22
59.10	64.80	5.70	3	177.44	183.37	5.93	23
65.60	71.40	5.80	4	183.37	188.93	5.56	24
71.62	77.50	5.88	5	188.93	194.54	5.61	25
77.90	83.77	5.87	6	194.54	200.47	5.93	26
83.77	89.32	5.55	7	200.47	206.17	5.70	27
89.32	94.86	5.54	8	206.17	211.90	5.73	28
94.86	100.73	5.87	9	211.90	217.77	5.87	29
101.16	106.65	5.49	10	217.77	223.47	5.70	30
107.65	113.25	5.60	11	223.47	229.29	5.82	31

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

113.25	118.98	5.73	12	229.29	235.18	5.89	32
118.98	124.70	5.72	13	235.18	241.10	5.92	33
124.70	130.30	5.60	14	241.10	246.90	5.80	34
130.30	136.08	5.78	15	246.90	252.70	5.80	35
136.08	141.63	5.55	16	252.70	258.57	5.87	36
141.63	147.37	5.74	17	258.57	264.45	5.88	37
147.37	153.15	5.78	18	264.45	270.00	5.55	38
153.15	160.25	7.10	19	270.00	275.70	5.70	39

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.90	Northing	3+24S	Grid Orient	20.00	Depth Dip Azimuth Test	Depth Dip Azimuth Test	Started	September 24, 1987	Logged by	P. Cheung
Property	Shoal Lake (KPM)	Easting	14+35E	Grid Azim.	10.00	135.0 - 43		Finished	September 25, 1987	Checked by	K. Leonard
Section		Elevation	333.98	Length (M)	135.00			Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	2+20.07S	Dip-Collar	-45.00			Drill No.		Comments:	Eastern extension of
Target	C.I. Mainland Zone	Survey E.	14+71.85E	Comp Bearing	30.00			Drill For.			C.I. Mainland Zone

Kevin Leonard

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	14.85	CASING	Casing
14.85	15.27	QFPP	Quartz Feldspar
15.27	51.00	ULMF	Ultramafic Flow
51.00	73.90	BSLT	Basalt
73.90	75.26	GNTC INTV	Granitic Intrusive
75.26	135.00	BSLT	Basalt
80.20	81.30	FPPP INTV	Feldspar Porphyry Intrusive
115.80	117.20	GNTC INTV	Granitic Intrusive
135.00	135.00	E.O.H.	End of Hole

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	14.85	CASING	Casing						
14.85	15.27	QFPP	Quartz Feldspar - quartz-feldspar granitic intrusive - medium-grained - lower contact sharp @ 90 deg. to LCA						
15.27	51.00	ULMF	Ultramafic Flow - ultramafic flow (peridotite?) metamorphosed to phyllite (fine to medium-grained) - strong carbonatization and serpentization - strong ductile deformation - weakly foliated along LCA - soapy - large (2cm) talc crystals in carbonate unit - carbonate veinlets ranging from 2mm to 15cm wide cutting the unit irregularly - also carbonate in amygdule - medium to strong chloritization (mostly along fracture plane) throughout the section - disseminated sulphide (pyrite, pyrrhotite, chalcopyrite) through the section - total sulphide <<<1% - main fractures are 60 deg. to LCA - most fractures are healed by carbonate veinlets						
			28.70 - 29.20 $ Structure falt; - more intensely fractured - fault (?) - core broken up - stronger (clay) alteration						
			29.00 - 30.10 $ Structure falt; - broken core (fault?)	2001	28.40	29.90	1.50	0.17	0.00
			30.50 - 30.70 - carbonate vein with talc (soft, green) crystal of 1-2cm in diameter Sulphide Py=1;						
			38.50 - 42.90 $ - basalt - fine-grained, quartz-feldspar in a mafic matrix - intense chloritization with fine-grained dark green chlorite - lack of carbonate veining except along fracture <2mm - healed by carbonate - carries approx. 1% sulphide (mainly pyrite and pyrrhotite) - minor phenocryst of feldspar - both upper and lower contacts with ultramafics are gradational						
			49.50 - 50.00 - basalt (same as above) - upper contact sharp @ 90 deg. to core axis (long) - lower contact gradational						
51.00	73.90	BSLT	Basalt Massive Basalt						
			51.00 - 51.60 - feldspar porphyritic basalt with euhedral and subhedral feldspar phenocrysts to about 1/2cm in diameter - less prominent carbonate veinings - only along minute fractures - disseminated pyrite along carbonate veins. approx. 2% - this unit gradually graded to massive basalt Massive Basalt - fine-grained to aphanitic - medium-grained - chlorite replacement strong to pervasive - disseminated sulphide (mostly pyrite with minor pyrrhotite) - vary from less than 1% to						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		about 3%						
		55.50 - 60.30 $	2002	55.00	56.50	1.50	0.17	0.00
		Alteration crbn; Sulphide Py=5;	2003	56.50	58.00	1.50	0.17	0.00
		- occurrence of sulphide more abundant approx. 5% pyrite - moderate to strong carbonatization with carbonate veinlets (from 2mm to 1cm) healing fracture at 60 deg. to LCA						
		60.80 $ Alteration q vnlt; - small (approx. 1cm) quartz veinlet associated with carbonate						
73.90	75.26	GNTC INTV Granitic Intrusive - sharp contact at both top and bottom @ 80 deg. to LCA - medium to coarse-grained feldspar and quartz and minor mafic (biotite and hornblende)						
75.26	135.00	BSLT Basalt - massive basalt (same as 51.00 - 74.70m)						
80.20	81.30	FPPP INTV Feldspar Porphyry Intrusive - same as between 51.00 - 51.60m						
			2011	90.75	92.25	1.50	0.17	0.00
			2012	89.25	90.75	1.50	0.17	0.00
			2013	92.25	93.75	1.50	0.17	0.00
			2014	93.75	95.25	1.50	0.17	0.00
		111.85 - 112.10 - granitic vein - pink-orange quuartz-feldspar granite contact gradational						
			2015	111.00	112.50	1.50	0.17	0.00
			2016	112.50	114.00	1.50	0.17	0.00
			2017	108.00	109.50	1.50	0.17	0.00
			2018	109.50	111.00	1.50	0.17	0.00
		114.20 - 115.10 - granitic intrusive with coarse-grained quartz-feldspar and hornblende - top and bottom contacts sharp @ 80 deg. to LCA						
115.80	117.20	GNTC INTV Granitic Intrusive - same as 114.30 - 115.10m						
		128.60 - 129.00 - ultramafic flow same as 15.27 - 51.00m						
135.00	135.00	E.O.H. End of Hole						

Meterage

From	To	Box
11.50	18.50	1
18.50	24.50	2
24.50	30.50	3
30.50	36.50	4
36.50	41.50	5
41.50	47.00	6
47.00	51.50	7
51.50	57.00	8
57.00	62.00	9
62.00	68.00	10
68.00	72.00	11
72.00	79.00	12
79.00	86.00	13
86.00	92.50	14
92.50	99.00	15
99.00	105.00	16

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

105.00	111.00	17
111.00	115.50	18
115.50	120.50	19
120.50	126.50	20
126.50	133.00	21
133.00	135.00	22
135.00	135.00	EOH

ST. JOE CANADA DIAMOND DRILL HOLE RECORD

Hole No.	K87.91	Northing	4+61S	Grid Orient	20.00	Depth Dip Azimuth Test	Depth Dip Azimuth Test	Started	September 25, 1987	Logged by	S. Boyle
Property	Shoal Lake (KPM)	Easting	19+62E	Grid Azim.	10.00	147.0 - 45 030		Finished	September 29, 1987	Checked by	K. Leonard
Section	19+72E	Elevation	350.52	Length (M)	147.00			Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	2+88.57S	Dip-Collar	-45.00			Drill No.		Comments:	75m vert. at 19+60E
Target	C.I. Mainland Zone	Survey E.	20+29.89E	Comp Bearing	30.00			Drill For.			

Kim Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	2.42	CASING	Casing
2.42	12.20	BSLT	Basalt
12.20	12.30	FPPP INTV	Feldspar Porphyry Intrusive
12.30	12.25	BSLT	Basalt
12.35	12.58	FPPP INTV	Feldspar Porphyry Intrusive
12.58	15.46	BSLT	Basalt
15.46	15.86	BSLT	Basalt
15.96	18.99	BSLT	Basalt
19.01	20.50	BSLT	Basalt
20.50	21.18	GNTC INTV	Granitic Intrusive
21.21	22.94	BSLT	Basalt
23.07	23.13	BSLT	Basalt
23.27	24.09	BSLT	Basalt
24.09	24.13	ALTD BSLT	Altered Basalt
24.28	24.53	ALTD BSLT	Altered Basalt
24.53	26.28	FPPP	Feldspar Porphyry Intrusive
26.28	38.13	BSLT	Basalt
39.13	40.70	BSLT	Basalt
40.75	42.51	FPPP INTV	Feldspar Porphyry Intrusive

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
42.51	42.74	BSLT	Basalt						
42.77	51.54	BSLT	Basalt						
51.54	51.79	GNTC INTV	Granitic Intrusive						
51.79	55.37	BSLT	Basalt						
55.37	56.04	QTDR	Quartz Diorite						
56.04	64.63	BSLT	Basalt						
64.73	70.60	BSLT	Basalt						
71.03	89.67	BSLT	Basalt						
89.67	97.15	BSLT	Basalt						
97.15	100.83	FPPP INTV	Feldspar Porphyry Intrusive						
100.83	128.98	BSLT	Basalt						
100.83	128.98	BSLT	Basalt						
130.89	147.00	BSLT	Basalt						
147.00	147.00	E.O.H.	End of Hole						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	2.42	CASING	Casing						
2.42	12.20	BSLT	Basalt - medium to dark green - fine-grained - hornblende (?) phenocrysts; fine to medium-grained needles; 5-10% occasional calcite veinlets - pyrite 0-3%; fine-grained disseminated or in blebs (0.5 - 3mm) - unaltered - some banding (colour)						
			2.42 - 2.80 - calcite veinlets, 7 all with core axis <45 deg; 8.35 - 8.45 - two fractures in basalt filled with massive pyrite						
				2501	8.15	8.55	0.40	0.17	0.00
			9.00 - 9.37 - lighter green basalt; slightly coarser-grained; sharp lower contact with dark green basalt						
12.20	12.30	FPPP INTV	Feldspar Porphyry Intrusive - dark grey, fine-grained - euhedral zoned plagioclase phenocrysts; average 2mm in diameter, 5% - epidote (?) veinlet filling fracture (dark green, doesn't fizz, but soft) chlorite?						
12.30	12.25	BSLT	Basalt - similar to that from 2.42 - 12.20m except grey in colour						
12.35	12.58	FPPP INTV	Feldspar Porphyry Intrusive - similar to 12.20 - 12.30m but with 3% blue-grey quartz eyes 2mm in diameter (average)						
12.58	15.46	BSLT	Basalt - similar to above 12.62 - 12.64 - pyrite-filled fracture; core axis angle 70 deg;						
				2502	12.45	12.85	0.40	0.17	0.00
15.46	15.86	BSLT	Basalt - dark grey, very fine-grained, calcite veinlets, unaltered Alteration qv; 15.86 - 15.96 $ Quartz Vein - 2cm wide cutting through basalt - incorporating altered basalt (chlorite) , hence irregular contact - white quartz and rose quartz (rose quartz possibly potassic instead?) - core axis angle 32 deg;						
15.96	18.99	BSLT	Basalt - similar to above basalt except possible epidote associated with two calcite veinlets (0.5cm width) ; also contained 5% fine-grained disseminated pyrite - <1% fine-grained disseminated pyrite or pyrite in small blebs Alteration qv;						
				2503	15.76	16.26	0.50	0.17	0.00
			18.96 - 19.01 $ Quartz Vein - grey-white; 4cm wide - incorporating some altered basalt; altered to chlorite - however, vein-basalt contact well defined - calcite veinlet cutting through quartz vein - core axis <70 deg;						
19.01	20.50	BSLT	Basalt - similar to 15.46 - 15.86m except slightly less dark grey - pyrite blebs (						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			1mm) no contact with above Quartz Vein						
				2504	18.80	19.26	0.46	0.17	0.00
20.50	21.18	GNTC INTV	Granitic Intrusive - coarse-grained (hornblende medium-grained) - quartz, k-feldspar, less plagioclase, hornblende 25% - anhedral to subhedral grains (hornblende subhedral to euhedral) - trace pyrite - cut by dark grey quartz veinlets; 1mm bleb of chalcopyrite present in one veinlet - core axis angle 65 deg;						
				2505	20.50	21.18	0.68	0.17	0.00
		21.18 - 21.21 $	Alteration qv; Quartz Vein - greenish due to chlorite from altered basalt - recrystallized? interlocking texture - trace chalcopyrite - associated with intrusive?						
21.21	22.94	BSLT	Basalt - similar to 19.01 - 20.50m except calcite veinlets abundant (crosscutting) - trace pyrite						
				2506	21.18	21.63	0.45	0.17	0.00
		22.94 - 23.07 $	Alteration qv; Quartz Vein - massive grey-white quartz; 13cm in width - trace pyrite - core axis <45 deg; - some basalt incorporated into vein near upper contact - contact moderately well defined						
23.07	23.13	BSLT	Basalt - similar to above basalt - minor pyrite						
				2507	22.73	23.13	0.40	0.17	0.00
		23.13 - 23.27 $	Alteration qv; Quartz vein - related to above quartz vein - 14cm wide (not TW) - grey-white quartz - cut by calcite-chlorite veinlets						
		23.13 - 23.20	- mixture of vein material and altered basalt; contacts poorly defined						
		23.20 - 23.27	- massive quartz - core fractured along lower contact; however, contact appears sharp - core axis <45 deg.?						
23.27	24.09	BSLT	Basalt - very fine-grained mafic mineral (10%) in a medium grey-green aphanitic matrix cut by abundant calcite veinlets at various orientations - minor pyrite (often along fracture planes)						
				2508	23.13	23.43	0.30	0.17	0.00
24.09	24.13	ALTD BSLT	Altered Basalt - light green - chloritized, bleached - carbonatized						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- fairly sharp contactt with overlying unaltered basalt; core axis < approx; 40 deg; - pyrite 3% disseminated - related to underlying quartz-calcite vein 24.13 - 24.28 $ Alteration qcv; Quartz-Calcite Vein - calcite occurs as veinlets and as discrete anhedral medium-grained crystals - quartz occurs as medium-sized eyes and larger blebs - altered basalt inclusions partially resorbed - core axis angle 40 deg; - minor pyrite disseminated						
24.28	24.53	ALTD BSLT Altered Basalt - similar to altered basalt in 24.09 - 24.13m						
24.53	26.28	FPPP Feldspar Porphyry Intrusive - dark grey matrix - fine-grained matrix; mafics and plagioclase (?) - subhedral to euhedral plagioclase phenocrysts; average 2mm in size - some zones; 10% minor pyrite and pyrrhotite along fractures and fine-grained disseminated occasional calcite veinlets - lower contact with basalt well defined but highly irregular - <1% blue quartz eyes (1mm diameter)	2509	24.09	24.59	0.50	0.17	0.00
26.28	38.13	BSLT Basalt 26.28 - 31.50 - medium grey-green basalt - 10% fine-grained mafics (amphibole?) in aphanitic matrix; also muscovite? flakes 3% - occasional calcite veinlets - trace sulphides (pyrite) 28.74 - 28.79 - 0.5cm quartz-calcite veinlet through basalt - core axis <15 deg; 31.50 - 33.79 Basalt - similar to above basalt except sericite more abundant (5%) - darker in colour - fine-grained amphibole slightly less abundant 33.79 - 34.68 Basalt - similar to basalt 26.28 - 31.50m except muscovite more abundant (5%) 34.68 - 35.40 Basalt - light grey-green - aphanitic - calcite veinlets 35.40 - 37.46 Basalt - similar to basalt 26.28 - 31.50m 36.02 - 36.03 - quartz-carbonate veinlet (1cm width) 37.46 - 38.13 - abundant calcite veinlets in basalt - various orientations but manyy at core axis <55 deg; - basalt light green; altered? some carbonatization Alteration qcv; Sulphide Py=3; 38.13 - 39.13 $ Quartz-Calcite Vein - 0.97m - mottled reddish-pink, green and grey-white in colour - reddish-pink calcite	2510	38.13	39.13	1.00	0.17	0.00

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

occurs in patches and in veinelts - also apparently later while calcite veinlets
- massive quartz and also interlocking texture composed of medium-sized quartz grains
- partially resorbed basalt inclusions: many of these contain calcite veinlets - fracture-filling quartz "teeth" at upper contact, separated from rest of vein by narrow band of basalt
- minor pyrite 3%, disseminated or in small blebs
- contacts sharp: upper and lower core axis <70 deg;
Alteration fcst;
38.63 - 38.92 $
- fuschite? 5% occurs ad discolouration (bright green, soft) ; however, it is also possible that these are almost wholly resorbed inclusions of altered basalt

39.13 40.70 BSLT Basalt
39.13 - 39.51 - altered basalt
- carbonatized and chloritized to light green colour in areas - minor pyrite in veinlets
- pink calcite-quartz veinlets
- paralleling at core axis <60 deg;
39.41 - 39.51 - some shearing associated with highest population of veinlets; at same orientation
39.51 - 40.70 - less intensely altered basalt
- dark grey-green
- very fine-grained mafics in aphanitic groundmass - cut by quartz white calcite veinlets at core axis <45 deg. (majority) - abundant carbonatized segments
- trace pyrite
40.70 - 40.75 $
Alteration qv;
Quartz Vein
- massive quartz, grey-white and pale brown in colour - cut by some calcite veinlets
- core axis angle 75 deg;

40.75 42.51 FPPP INTV Feldspar Porphyry Intrusive
- similar to feldspar porphyry seen previously except minor pyrite but no pyrrhotite observed
- calcite-chlorite veinlets occasional
40.99 - 40.01 - quartz-calcite vein 2cm width
- silicification and carbonatization of porphyry surrounding this vein and vein at top of unit
- some silicification in bottom of unit

SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
2511	40.70	41.15	0.45	0.17	0.00

42.51 42.74 BSLT Basalt
- dark grey
- very fine-grained mafics in aphanitic matrix
- minor calcite veinlets
42.74 - 42.77 $
Alteration qcv;
Quartz-Calcite Vein
- 2cm width
- grey-white quartz

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- altered basalt inclusions						
			- core axis <70 deg;						
42.77	51.54	BSLT	Basalt						
			- similar to above basalt						
			- massive						
			- somewhat lighter in colour near lower end						
				2512	42.43	42.83	0.40	0.17	0.00
		50.70 -	50.71 Quartz-Calcite Veinlet (1cm)						
			- core axis angle approximately 70 deg;						
		50.71 -	50.75 Granitic Intrusive (?) - 4cm						
			- pink feldspar incorporating partially resorbed basalt some of which has been remobilized into veinlets						
			- contact with overlying quartz-calcite vein sharp, with underlying basalt indistinct ; no lower contact abundant calcite veinlets and carbonatization						
				2513	50.60	51.00	0.40	0.17	0.00
51.54	51.79	GNTC INTV	Granitic Intrusive						
			- pink in colour						
			- very fine-grained						
			- k-feldspar, quartz, mafics						
			- inclusions of carbonatized basalt, contacts well defined - upper and lower contacts sharp, core axis <45 deg;						
51.79	55.37	BSLT	Basalt						
			- similar to above basalt 42.77 - 51.54m						
			- calcite veinlets occasional only						
		51.98 -	52.00 Quartz-Calcite Veinlet (1cm)						
			- core axis <55 deg;						
		54.66 -	54.72 Granitic Intrusive (4cm)						
			- medium-grained						
			- core axis <40 deg;						
			- contacts sharp						
55.37	56.04	QTDR	Quartz Diorite						
			- black and white speckled						
			- approx. 20% plagioclase, 55% quartz, 25% mafics (pyroxene?; <5% very fine-grained phlogopite)						
			- medium-grained; subhedral crystals						
			- minor pyrite						
		55.68 -	55.76 - narrow veinlet of black mineral (H.5) ;						
			- 0.5cm width; core axis <10 deg;						
			- otherwise massive quartz-diorite						
56.04	64.63	BSLT	Basalt						
			- medium grey-green in colour						
			- very fine-grained mafics in aphanitic groundmass - numerous calcite and quartz-calcite veinlets at various orientations						
		57.46 -	57.47 Quartz-Calcite Veinlet (1cm width)						
			- core axis angle 60 deg;						
			- fuschite (?)						
				2514	57.30	57.70	0.40	0.17	0.00
		59.22 -	59.25 Quartz-Calcite Vein (3cm width)						
			- core axis angle 40 deg;						
			- basalt inclusions partially resorbed; minor pyrite						
			Alteration qv; Sulphide Py=3;						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
				2515	59.22	59.62	0.40	0.17	0.00
			64.63 - 64.73 $						
			Quartz Vein with Alteration Halo						
			- white quartz vein (5cm)						
			- incorporating large fragment of altered basalt						
			- calcite veinlets						
			- chloritization and carbonatization surrounding vein - core axis angle 35 deg;						
			- 3% pyrite; trace pyrrhotite						
64.73	70.60	BSLT	Basalt						
			- as above except calcite and quartz-calcite veinlets less abundant - trace pyrite						
				2516	64.48	64.88	0.40	0.17	0.00
			70.60 - 71.03 $	2517	70.60	71.03	0.43	0.17	0.00
			Alteration qv; Sulphide Py=1;						
			Quartz Vein with Alteration Halo						
			70.60 - 70.74 - upper alteration halo in basalt						
			- basalt lighter green in colour						
			- softer (easily scratched with knife)						
			- carbonatized						
			70.74 - 70.95 Quartz Vein Proper						
			- 21cm						
			- grey-white quartz						
			- numerous small inclusions of basalt						
			- core axis angle approx. 70 deg;						
			- upper contact marked by calcite veinlet						
			- slightly below this are 3 paralleling pyrite-chlorite veinlets - trace disseminated pyrite						
			70.95 - 71.03 - lower alteration halo in basalt						
			- slightly darker than above altered basalt						
			- soft, carbonatized						
71.03	89.67	BSLT	Basalt						
			- medium grey-green						
			- very fine-grained mafics in aphanittic groundmass (approx. 5%) - trace pyrite						
			75.16 - 76.71 - basalt somewhat lighter in colour						
			- mafics more abundant (15%) and slightly coarser-grained - mafics greenish rather than black (pyroxene?) ; also muscovite						
			80.93 - 81.05 - broken rock; possible small fault						
			81.19 - 81.21 - quartz-calcite veinlet (1cm)						
			- core axis angle 65 deg;						
			85.76 - 85.78 - quartz-calcite veinlet (1cm)						
			- core axis angle 70 deg;						
			82.61 - 86.03 - basalt similar to 75.16 - 76.71m except mafics fine to medium-grain size						
			86.03 - 86.90 - basalt similar to 75.16 - 76.71m						
			86.90 - 89.27 - basalt mafics less abundant (5%) and very fine-grained						
			Alteration qcv; Sulphide Po=1;						
			89.27 - 89.67 $	2518	89.27	89.67	0.40	2.74	0.08
			Quartz-Calcite Vein with Alteration Halo						
			89.27 - 89.34 - alteration halo in basalt						
			- carbonatization						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- calcite veinlets - 1% pyrrhotite; strongly magnetic; 1mm blebs						
		89.34 - 89.44 Quartz-Calcite Vein Proper (10cm wide) - grey to grey-white quartz - almost wholly resorbed basalt inclusions - lower contact marked by 0.5cm calcite veinlet - core axis angle 47 deg; - pyrite 2%, disseminated and in 1mm blebs						
		89.44 - 89.67 $ Sulphide Py=1 Po=3 Cpy=2; - lower alteration halo in basalt - as above but 1% pyrite dissemianted near contact with vein - 3% pyrrhotite, 2% chalcopyrite - occurr together in elongate blebs up to 2cm in length						
89.67	97.15	BSLT Basalt						
		89.67 - 92.08 - medium grey - 15% mafic phenocrysts (medium-grain size) ; pyroxene? and muscovite aphanitic groundmass						
		91.90 - 91.92 Calcite-Quartz Vein (2cm width) - core axis angle 60 deg;						
		91.92 - 94.08 - basalt grey	2519	91.70	92.10	0.40	0.17	0.00
		- mafics extremely fine-grained 94.08 - rare calcite veinlets						
		94.08 - 97.15 - basalt mafics slightly larger in size (pyroxenite and muscovite) - slightly darker grey						
97.15	100.83	FPPP INTV Feldspar Porphyry Intrusive - dark grey - fine-grained groundmass - euhedral zoned plagioclase; 20%; medium-grained (average 2mm) - 2% disseminated pyrite; trace pyrrhotite						
		97.15 - 97.22 - upper contact marked by quartz-calcite veinlet (0.5cm) - core axis angle 65 deg; - adjacent porphyry altered (carbonatized) - some phenocrysts still discernable - some shearing? faint foliation at 60 deg; - minor pyrite; trace pyrrhotite						
		100.56 - 100.83 - altered porphyry as above but foliation and contact with basalt at core axis angle 45 deg; - 2% pyrite, 1% pyrrhotite	2520	100.43	100.83	0.40	0.17	0.00
100.83	128.98	BSLT Basalt						
		100.83 - 102.00 - light grey-green basalt - 25% fine-grained mafics in aphanitic groundmass						
		102.00 - 104.12 - medium grey-green basalt - 5% very fine-grained mafics in aphanitic groundmass						
		104.12 - 110.85 - dark grey basalt - 10% fine-grained mafics (pyroxenite and muscovite?) ; trace pyrite						
		110.85 - 110.89 Quartz-Calcite Vein (3cm) - elongate basalt inclusions - 2% pyrrhotite; <1% chalcopyrite at contact between two basalt units - core axis angle 70 deg;						
		110.89 - 117.00 - light grey-green basalt - 10% mafics, black (amphibole?) ; fine-grained	2521	110.76	111.06	0.30	0.17	0.00

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		117.00 - 117.50 $	2522	116.85	117.25	0.40	0.17	0.00
		Alteration qv: Sulphide Cpy=3 Po=1;						
		Quartz Vein (4.5cm)						
		- grey-white quartz						
		- 3% chalcopyrite, 1% pyrrhotite						
		- cut by calcite veinlets						
100.83	128.98	BSLT Basalt						
		117.00 - 117.50 Quartz Vein						
		- core axis angle 75 deg;						
		- basalt inclusions						
		117.50 - 122.35 - basalt as above (100.84 - 117.00m)						
		122.35 - 122.37 Calcite-Quartz Veinlet (1cm)						
		- core axis angle 65 deg;						
		122.37 - 123.00 - basalt						
		123.00 - 123.28 - altered basalt						
		- carbonatized; calcite veinlets; lighter in colour - bleached						
		- 2% pyrrhotite; trace pyrite						
		123.28 - 128.58 - basalt as above	2523	122.95	123.35	0.40	0.17	0.00
		128.58 - 128.98 - altered basalt						
		- carbonatized; calcite veinlets						
		- altered due to calcite-quartz vein adjacent (below)						
		Alteration cqv;						
		128.98 - 130.89 $	2524	128.66	129.73	1.07	0.17	0.00
		Calcite-Quartz Vein and Altered Basalt	2525	129.73	130.63	0.90	0.17	0.00
		- vein calcite-rich; spotted with blebs of quartz						
		- altered basalt, some almost wholly resorbed						
		- calcite medium to coarse-grained; white to translucent - some trace pyrite						
		- calcite-lined cavities						
		- core axis angle very low 15 deg.; vein wavers in and out of core - brown staining - alteration product from reaction with basalt?						
		129.17 - 129.71 - altered basalt						
		- carbonatized; chloritized; calcite veinlets; soft						
		130.08 - 130.25 - altered basalt						
		- greener than above						
		130.55 - 130.72 - altered basalt						
		- darker						
		130.72 - 130.76 - independent(?) calcite-quartz vein 3cm						
		- core axis angle 30 deg;						
		- pink and white calcite						
		- remobilizied altered basalt						
		130.76 - 130.89 - altered basalt						
		- dark, carbonatized and calcite veinlets						
130.89	147.00	BSLT Basalt						
		130.89 - 131.87 - mafics 5% very fine-grained; light grey	2526	130.63	131.03	0.40	0.17	0.00
		131.87 - 133.34 - mafics 20% (pyroxenite and muscovite?) , slightly coarser-grained - medium grey						
		133.34 - 136.35 - basalt light grey as 130.89 - 131.897m, mafics gradually coarsen	2527	134.23	134.63	0.40	0.17	0.00
		Alteration qcv;						
		134.43 - 134.46 $						
		Quartz-Calcite Vein (3cm)						
		- core axis angle 70 deg;						
		- partially resorbed basalt						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		136.35 - 136.73 - basalt darker						
		136.73 - 137.25 - basalt carbonatized						
		137.25 - 137.54 - basalt light grey-green. as 133.34 - 136.35m						
		137.54 - 137.82 - basalt darker						
		137.82 - 141.05 - basalt lighter						
		141.04 - 141.07 $						
		Alteration qcvg;						
		Quartz-Calcite Vein 92cm)						
		- core axis angle 75 deg;						
		- trace pyrrhotite						
		141.05 - 142.40 - basalt darker; mafics 25% (pyroxenite and muscovite)	2523	140.84	141.24	0.40	0.17	0.00
		142.40 - 145.98 - basalt lighter; mafics 10%						
		145.98 - 147.00 - very light grey-green basalt; mafics 5% and very fine-grained						
147.00	147.00	E.O.H. End of Hole						

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.92	Northing	3+95S	Grid Orient	20.00	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	September 26, 1987	Logged by	P. Cheung
Property	Shoal Lake (KPM)	Easting	13+82E	Grid Azim.	10.00	148.5	- 46	030		249.0	- 40	030		Finished	September 28, 1987	Checked by	K. Leonard
Section		Elevation	342.83	Length (M)	249.00									Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	2+97.92S	Dip-Collar	-45.00									Drill No.		Comments:	
Target	C.I. Mainland Zone	Survey E.	14+49.52E	Comp Bearing	30.00									Drill For.			

Kevin Leonard

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	3.10	CASING	Casing
3.10	53.70	BSLT	Basalt
53.70	57.20	FPPP	Feldspar Porphyry
57.20	67.70	BSLT	Basalt
71.40	119.00	BSLT	Basalt
102.70	103.30	FPPP	Feldspar Porphyry
104.40	105.10	FPPP	Feldspar Porphyry
119.00	119.80	GRNT	Granitic Intrusive
119.80	143.36	BSLT	Basalt
143.36	144.65	GRNT	Granitic Intrusive
144.65	249.00	BSLT	Basalt
163.10	163.70	GRNT	Granitic Intrusive
179.10	179.17	GRNT	Granitic Intrusive
180.40	181.05	GRNT	Granitic Intrusive
199.23	199.45	GRNT	Granitic Intrusive
249.00	249.00	E.O.H.	End of Hole

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	3.10	CASING Casing						
3.10	53.70	BSLT Basalt						
		Massive Basalt						
		- dark green to black with feldspar and minor quartz in mafic matrix - fine to medium-grained						
		- moderately fractured						
		- fracture plane dominantly @ 30 deg. to 60 deg. to LCA - fractures filled by calcite stringers from 1mm to 1cm wide						
		Alteration qcvs; Structure brcn;						
		11.85 - 12.00 $						
		- network of calcite stringers in all directions - brecciation						
		Alteration qcvs;						
			2049	17.08	17.48	0.40	0.34	0.01
		17.62 - 17.67 $						
		- quartz-calcite veinlets						
		- patches of fine-grained pyrite approx. 5%						
			2048	17.48	18.28	0.80	0.17	0.00
			2050	18.28	18.68	0.40	0.17	0.00
		24.00 - 26.30 $	2021	24.00	25.50	1.50	0.17	0.00
		Alteration qcvs; Sulphide Py=1;						
		- network of quartz-calcite stringers - brecciation						
		- 1% pyrite						
		31.60 - 32.00 $CLRN Chloritization						
		- broken core (massive basalt)						
		- strong chloritization						
			2005	31.60	32.10	0.50	0.17	0.00
			2009	34.56	34.96	0.40	0.17	0.00
		35.17 - 35.34 $						
		Alteration qcvs; Sulphide Py=2;						
		- light greyish quartz stringer associated with calcite stringer - disseminated pyrite appears through section						
		- total 5 - (pyrite = 2%)						
			2006	34.96	35.36	0.40	0.17	0.00
			2051	35.36	35.76	0.40	0.17	0.00
		42.60 $						
		Alteration qcvs; Sulphide Py=1;						
		- quartz-calcite stringer						
		- sharp contacts @ 45 deg. to LCA						
		- 1% pyrite						
		42.70 $						
		Alteration qcvs; Sulphide Py=1;						
		- quartz-calcite stringer						
		- sharp contact @ 85 deg. to LCA						
		- about 5% mafic inclusion						
		- 1% pyrite						
			2052	42.00	43.20	1.20	0.17	0.00
53.70	57.20	FPPP Feldspar Porphyry						
		53.70 - 57.20 $						
		Sulphide Py=1;						
		Feldspar Porphyritic Basalt						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- dark green, fine-grained basalt with approx. 10% feldspar phenocryst -						
			stringer of calcite cut approx. 30 deg. to LCA						
			- disseminated pyrite and chalcopyrite <1% total						
			- contact with massive basalt gradational						
57.20	67.70	BSLT	Basalt						
			Massive Basalt						
			- same as between 3.10 - 53.70m						
		62.70 -	63.20 Felsic Intrusives						
			- mainly potassic feldspar (approx. 80%) , 10% quartz, 10% mafic inclusion -						
			cut by quartz-carbonate stringer (approx. 2cm) @ 30 deg. to LCA						
				2053	66.50	66.90	0.40	0.17	0.00
				2054	66.90	67.30	0.40	0.17	0.00
				2055	67.30	67.70	0.40	0.17	0.00
		67.70 -	71.40 VLBX Volcanic Breccia	2056	67.70	68.10	0.40	0.17	0.00
		67.70 -	71.40 $	2057	68.10	68.50	0.40	0.17	0.00
			Alteration qcvs; Sulphide Py=5;	2058	68.50	68.90	0.40	0.17	0.00
			- angular fragments ranging in size from 2mm to 5cm - fragments are green	2059	68.90	69.30	0.40	0.17	0.00
			coloured (alteration product?) - composed of fine-grained mineral	2060	69.30	69.70	0.40	0.17	0.00
			- dark mafic phenocryst appears in the fragments - ranging from 5% to 30%]-	2061	69.70	70.10	0.40	0.17	0.00
			original character of the fragments is obscured	2062	70.10	70.50	0.40	0.17	0.00
			- fragments set in medium to coarse-grained mafic groundmass -	2063	70.50	70.90	0.40	0.17	0.00
			quartz-carbonate stringers of random orientation throughout the section -	2064	70.90	71.30	0.40	0.17	0.00
			disseminated pyrite (approx. 2%) and locally up to 10% - associated with						
			mafic lamination and quartz-calcite stringer						
71.40	119.00	BSLT	Basalt						
			- massive fine-grained dark green basalt						
			- chloritized; silicified						
			- same as between 3.10 - 53.70m						
				2065	71.30	71.70	0.40	0.17	0.00
				2066	71.70	72.10	0.40	0.17	0.00
				2067	78.20	78.60	0.40	0.17	0.00
			78.70 $						
			Alteration qcvn; Sulphide Py=5;						
			- 4cm blue-grey quartz with carbonate stringer						
			- associate with mafic inclusion						
			- cutting LCA approx. 45 deg;						
			- 5% pyrite						
				2068	78.60	79.00	0.40	0.17	0.00
				2069	79.00	79.90	0.90	0.17	0.00
				2070	79.90	80.30	0.40	0.17	0.00
			80.50 $						
			Alteration qcvn; Sulphide Py=5;						
			- 4cm blue-grey quartz-carbonate stringer						
			- same as at 78.70m						
			- approx. 10% pyrite						
				2071	80.30	80.70	0.40	0.17	0.00
				2072	80.70	81.40	0.70	0.17	0.00
102.70	103.30	FPPP	Feldspar Porphyry						
			Porphyritic Mafic Intrusive						
			- 40% feldspar-quartz phenocrtysts in a fine-grained basaltic matrix - sharp						
			upper and lower contacts @ 70 deg. to LCA						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
104.40	105.10	FPPP	Feldspar Porphyry						
			- same as at 103.00 - 103.56m						
			- top contact at 45 deg. to LCA						
			- bottom contact at 90 deg. to LCA						
119.00	119.80	GRNT	Granitic Intrusive						
			- medium to coarse-grained quarrtz-feldspar + 5% fine to medium-grained mafics - sharp contact approx. 60 deg. to LCA						
			- brecciated						
119.80	143.36	BSLT	Basalt						
			- massive basalt						
			- same as between 3.10 - 53.70m						
			140.20 - 140.60 $SHZN Shear Zone						
			140.20 - 140.60 $						
			Alteration qcvs; Sulphide Py=1;						
			- core intensely sheared						
			- moderate to strong alteration (sericitte)						
			- shear plane approx. 20 deg. to LCA						
			- disseminated pyrite (1%) with trace of chalcopyrite associated with quartz- carbonate stringers along shear fractures						
143.36	144.65	GRNT	Granitic Intrusive						
			- same as between 119.00 - 119.80m						
			144.00 - 144.30 - broken core with angular granitic fragment						
			- top contact sharp @ approx. 45 deg. to LCA (same with bottom contact)						
144.65	249.00	BSLT	Basalt						
			- massive basalt (fine-grained) same as between 3.10 - 53.70m						
			144.65 - 144.95 - broken core						
			147.50 - 148.00 - sparsely porphyritic with 10% feldspar phenocryst						
			Structure sh;						
			148.30 - 148.70 $						
			- shear zone same as between 140.20 - 140.60m						
			- quartz-carbonate stringer (approx. 1cm wide) @ approx. 0 deg. to 5 deg. to LCA						
			152.60 - 153.60 $	2076	152.50	152.90	0.40	0.17	0.00
			Sulphide Py=5; Structure bx;	2077	152.90	153.30	0.40	0.17	0.00
			- more intensely brecciated						
			- quartz-calcite stringers (from hairline to approx. 3mm) are more heavily mineralized						
			- up to 5% pyrite						
				2078	153.30	153.70	0.40	0.17	0.00
			156.20 $						
			Alteration qcvn;						
			- carbonate stringers approx. 0.5cm 90 deg. to LCA						
			Alteration qcvn;						
			155.80 $						
			- carbonate stringer approx. 0.5cm 90 deg. to LCA						
			155.30 - 155.70 $						
			Sulphide Py=1;						
			- 1% disseminated pyrite						
				2079	156.20	156.90	0.70	0.17	0.00
			161.26 - 161.36 - quartz-carbonate veinlet with minor <<1% pyrite						
				2080	161.53	161.93	0.40	0.17	0.00
				2081	161.13	161.53	0.40	0.17	0.00

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
				2082	161.73	162.13	0.40	0.17	0.00
163.10	163.70	GRNT	Granitic Intrusive						
				2083	177.10	177.50	0.40	0.17	0.00
			177.60 - 177.67 $						
			Alteration qcvn; Sulphide Py=1;						
			- quartz veinlet - bluish-grey @ 45 deg. to LCA						
			- minor calcite						
			- 10% pyrite						
				2084	177.50	177.90	0.40	23.31	0.68
			178.70 - 178.75 $						
			Alteration qcvn:						
			- blue-grey quartz veinlet with sharp contact @ 60 deg. to LCA - basalt on both sides appear more strongly silicified - non-sulphide-bearing						
179.10	179.17	GRNT	Granitic Intrusive						
			- granitic intrusive with distinct contact @ 90 deg. to LCA - cut by quartz-carbonate stringer (1cm) @ 20 deg. to LCA						
				2085	177.90	180.30	2.40	2.74	0.08
				2086	178.30	179.00	0.70	0.17	0.00
180.40	181.05	GRNT	Granitic Intrusive						
			- upper contact @ 45 deg. to LCA						
			- lower contact @ 50 deg. to LCA						
			192.86 $						
			Alteration qcvn; Sulphide Py=1;						
			- quartz stringer (1cm wide) approx. 30 deg. to LCA - bounded by calcite stringers (3mm wide) on both sides						
			- 1% pyrite						
				2087	192.70	193.10	0.40	0.17	0.00
199.23	199.45	GRNT	Granitic Intrusive						
			- granitic intrusives cut by dirty quartz stringer - sharp upper and lower contacts at 45 deg;						
				2088	198.70	199.90	1.20	0.17	0.00
			216.78 - 216.85 $						
			Alteration qtvn;						
			- quartz veinlet with calcite and minor mafics						
			- contact at approx. 80 deg. to LCA						
			- non-sulphide-bearing						
				2089	216.60	217.00	0.40	0.17	0.00
				2089	216.60	217.00	0.40	0.17	0.00
			217.94 $						
			Alteration qtvn;						
			- quartz stringer (1cm) @ 45 deg. to LCA						
			222.00 $						
			Alteration qtvn;						
			- quartz stringer (1cm) @ 45 deg. to LCA						
				2091	233.60	234.00	0.40	0.17	0.00
			234.20 - 234.23 $						
			Alteration qcvn; Sulphide Py=1:						
			- quartz-calcite stringer approx. 80 deg. to LCA						
			- approx. 2% pyrite						
				2090	234.00	234.40	0.40	0.17	0.00
				2092	234.40	234.80	0.40	0.17	0.00
			241.58 - 241.63 $						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		Alteration qcvn; - non-sulpide-bearing quartz-calcite stringer - contacts @ 70 deg. to LCA - 60% calcite, 35% quartz, 5% mafics	2093	241.40	241.80	0.40	0.17	0.00
		244.62 - 244.72 $ Alteration qcvn; - quartz stringers with mafic inclusions - contacts @ 70 deg. to LCA						
		244.86 - 244.98 $ Alteration qtvn; - quartz stringer						
		245.40 - 245.70 $ Alteration qcvn; - quartz-calcite stringers - contacts 10 deg. to LCA	2094	244.70	246.20	1.50	0.17	0.00
		248.50 - 248.80 GRNT Granitic Intrusive						
249.00	249.00	E.O.H. End of Hole						

Meterage

From	To	Box
3.10	9.50	1
9.50	16.10	2
16.10	21.20	3
21.20	28.50	4
28.50	32.70	5
32.70	38.40	6
38.40	44.40	7
44.40	49.80	8
49.80	55.70	9
55.70	61.20	10
61.20	67.20	11
67.20	73.90	12
73.90	78.70	13
78.70	84.70	14
84.70	90.60	15
90.60	96.40	16
96.40	102.00	17
102.00	108.20	18
108.20	113.90	19
113.90	119.80	20
119.80	125.70	21
125.70	131.50	22
131.50	137.40	23
137.50	143.00	24
143.00	148.50	25
148.50	154.60	26
154.60	160.10	27
160.10	165.90	28
165.90	171.70	29

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

171.70	177.50	30
177.50	183.10	31
183.10	188.90	32
188.90	194.70	33
194.70	200.70	34
200.70	206.50	35
206.50	212.30	36
212.30	218.20	37
218.20	224.00	38
224.00	230.00	39
230.00	235.90	40
235.90	241.80	41
241.80	247.70	42
247.70	249.00	43
249.00	249.00	EOH

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.93	Northing	2+99S	Grid Orient	20.00	Started	September 28, 1987
Property	Shoal Lake (KPM)	Easting	13+50E	Grid Azim.	10.00	Finished	September 29, 1987
Section	13+60E	Elevation	332.40	Length (M)	144.14	Drill Co.	Midwest
Claim No.		Survey N.	2+11.77S	Dip-Collar	-45.00	Drill No.	
Target	C.I. Mainland Zone	Survey E.	13+83.85E	Comp Bearing	30.00	Drill For.	

Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test
144.1	- 43	030					

Logged by S. Boyle
Checked by K. Leonard
Core BQ
Comments: 75m vert. @ 13+60E

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	9.09	CASING	Casing
9.09	12.46	BLPP	Basalt. Feldspar Porphyritic
12.46	12.69	BSLT	Basalt
12.69	12.91	GNTC INTV	Granitic Intrusive
12.91	13.16	BSLT	Basalt
13.16	17.27	BLPP	Basalt, Feldspar Porphyritic
17.21	17.86	GNTC INTV	Granitic Intrusive
17.86	19.14	BLPP	Basalt, Feldspar Porphyritic
19.14	33.75	BSLT	Basalt
33.75	35.06	FPPP INTV	Feldspar Porphyry Intrusive
35.06	38.50	BSLT	Basalt
38.94	50.21	BSLT	Basalt
50.74	55.44	BSLT	Basalt
55.44	60.58	FPPP INTV	Feldspar Porphyry Intrusive
60.69	61.63	FPPP INTV	Feldspar Porphyry Intrusive
61.63	65.14	FPPP INTV	Feldspar Porphyry Intrusive
65.14	67.56	BSLT	Basalt
67.56	69.25	BSLT	Basalt
69.25	72.55	BSLT	Basalt

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
72.55	75.00	FPPP INTV	Feldspar Porphyry Intrusive						
75.00	89.39	BSLT	Basalt						
89.39	89.92	GNTC INTV	Granitic Intrusive						
89.92	99.00	BSLT	Basalt						
99.00	99.41	GNTC INTV	Granitic Intrusive						
99.41	101.35	ALTD BSLT	Altered Basalt						
101.35	103.40	GNTC INTV	Granitic Intrusive						
103.40	103.64	ALTD BSLT	Altered Basalt						
103.64	119.02	BSLT	Basalt						
119.02	122.00	FPPP INTV	Feldspar Porphyry Intrusive						
122.00	124.65	BSLT	Basalt						
124.73	125.41	SLFD BSLT	Silicified Basalt						
125.41	144.14	BSLT	Basalt						
144.14	144.14	E.O.H.	End of Hole						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	9.09	CASING	Casing						
9.09	12.46	BLPP	Basalt, Feldspar Porphyritic - grey, speckled black - medium-grained, subhedral mafic phenocrysts 30% in fine-grained groundmass of plagioclase (?) and mafics - 5% euhedral medium-grained pyrite; 1% pyrrhotite rock is magnetic due to pyrrhotite - rock has been altered - it is talcose and carbonatized; cut by quartz-calcite veinlets at various orientations - some of the sulphides occur in veinlets - lower contact approx. 90 deg; badly defined						
12.46	12.69	BSLT	Basalt - grey-green - 10% mafic phenocrysts in aphanitic groundmass - broken rock - small fault?						
12.69	12.91	GNTC INTV	Granitic Intrusive - salmon-pink, very fine-grained - k-feldspar and quartz? - cut by chlorite-calcite veinlets at core axis approx. 60 deg; - some quartz eyes present - contacts poorly defined but appear to be at very low core axis angle						
12.91	13.16	BSLT	Basalt - as above - it likewise has broken rock - another fault?						
13.16	17.27	BLPP	Basalt, Feldspar Porphyritic - as above except somewhat less talcose; and many of the mafic phenocrysts have been altered to calcite - pyrite is finer-grained and becomes gradually less abundant (<1%) - pyrrhotite absent - rock non-magnetic - quartz-calcite veins and veinlets more abundant						
		13.63 -	13.80 $ Alteration qcv; Calcite-Quartz Vein (2cm) - core axis angle 15 deg; - trace pyrite						
		15.08 -	15.42 $ Alteration qcv; Calcite-Quartz Vein (approx. 3cm) - core axis angle 10 deg; - resorbing basalt	2529	15.02	15.42	0.40	0.17	0.00
		16.76 -	16.93 - porphyritic basalt phenocrysts less altered to calcite - shearing indicated by foliation - core axis angle 55 deg;						
		16.93 -	17.13 $ Alteration qcv; Calcite-Quartz Vein (approx. 5cm) - abundant fragments of basalt - core axis angle 55 deg;						
		17.13 -	17.21 - highly altered porphyritic basalt? - homogeneous, aphanitic, green (most of phenocrysts obscured) - altered by	2530	16.80	17.20	0.40	0.17	0.00

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			adjacent granitic intrusive						
17.21	17.86	GNTC INTV	Granitic Intrusive - salmon-pink - medium-grained quartz and k-feldspar - occasional large quartz eye staring at you - upper contact near 90 deg. core axis angle - lower contact irregular at approx. 60 deg;						
17.86	19.14	BLPP	Basalt, Feldspar Porphyritic - phenocrysts not as altered - somewhat talcose - trace pyrite 17.86 - 17.90 - near contact with intrusive (upper contact) mafics have been obscured and basalt is homogeneous green 17.90 - 18.20 - immediately below highly altered basalt is porphyritic basalt whose phenocrysts have been altered to calcite						
19.14	33.75	BSLT	Basalt - light grey - 10% mafic phenocrysts in aphanitic groundmass - some of the phenocrysts are similar to that of porphyritic basalt, others are fine-grained and very black - contact with overlying porphyritic basalt is gradational - occasional narrow calcite - quartz vein - trace pyrite 25.47 - 27.14 - larger mafic phenocrysts absent - rock is lighter grey						
33.75	35.06	FPPP INTV	Feldspar Porphyry Intrusive - dark grey speckled with white - 40% euhedral medium-grained plagioclase phenocrysts, some zoned - 5% blue quartz eyes (2mm) - upper contact at core axis <80 deg.; altered basalt - lower contact not as well defined (core axis <approx. 70 deg.) - trace pyrite 34.77 - 34.95 $ Alteration qcv; Quartz-Calcite Vein and Alteration Halo - vein proper 2cm wide - core axis <60 deg; - alteration halo - carbonatized - some of feldspar phenocrysts obscured						
35.06	38.50	BSLT	Basalt						
			35.06 - 36.50 - altered basalt - light green - carbonatized; calcite-quartz veinlets - core axis angle 60 deg. - 30 deg; - many of the phenocrysts appear to be plagioclase rather than mafic - 30%; fine-grained - groundmass phaneritic but very fine-grained 36.50 - 38.50 - unaltered basalt - dark grey - plagioclase phenocrysts as above but approx. 20% - very fine-grained groundmass	2531	35.40	35.90	0.50	0.17	0.00

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			37.97 - 38.50 - basalt weakly foliated at core axis angle 20 deg. - shearing Alteration qv; Sulphide Po=1;						
			38.50 - 38.94 $ Quartz Veining and Altered Basalt - quartz veins paralleling contacts (1-2cm) - upper contact approx. 15 deg; - lower contact 10 deg. sharp - basalt chloritized, carbonatized, green - minor pyrrhotite; magnetic	2532	38.50	38.94	0.44	0.17	0.00
38.94	50.21	BSLT	Basalt						
			38.94 - 40.94 - unaltered basalt - dark grey, feldspar phenocrysts as above - some shearing at upper contact 70 deg. core axis angle - 1 quartz-chloritic vein (1cm)						
			40.94 - 42.72 - altered basalt - blebs of quartz veining - greener, chloritized - carbonatized - minor pyrite, trace pyrrhotite						
			42.72 - 47.59 - medium grey-green basalt - fine-grained - no phenocrysts grading to some						
			47.59 - 48.08 $ Alteration qv; Quartz Veining and Altered Basalt - quartz vein near upper contact - irregular contact approx. 15 deg. core axis angle - grey-white to pinkish-white - basalt carbonatized - altered basalt has 20% pyrrhotite blebs and 3% pyrite	2533	47.49	48.08	0.59	0.17	0.00
			48.08 - 50.21 - basalt; fresh and unaltered - felsic phenocrysts reappearing; trace pyrite						
			50.21 - 50.74 $ Alteration qv; Sulphide Po=3 Py=3; Quartz Veining and Sheared Basalt - foliation at core axis angle 32 deg; - 3% pyrrhotite and 3% pyrite; magnetic - some of basalt silicified proximal to quartz vein - quartz vein parallel shearing and contacts poorly defined (quartz flooding?) - basalt inclusions elongated parallel to shearing - approx. 4cm quartz vein - another quartz vein crosscutting shearing (2cm) at core axis angle 75 deg; - both quartz veins are pinkish-white	2534	50.21	50.74	0.53	0.17	0.00
50.74	55.44	BSLT	Basalt - medium grey - fine-grained homogeneous excepting occasional segments with fine to medium-grained mafic and plagioclase phenocrysts - minor pyrite disseminated (3%) and pyrrhotite in small blebs (1%) - magnetic; occasional quartz-calcite vein or veinlet						
			52.45 - 52.52 Quartz-Calcite Veinlet - quartz-calcite veinlet 1.5cm width; core axis angle 30 deg; - pyrite in veinlets in immediately adjacent basalt (10% pyrite)						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
				2535	52.18	52.58	0.40	0.17	0.00
55.44	60.58	FPPP INTV	Feldspar Porphyry Intrusive						
			- as f.p. described previously (33.75 - 35.06m) except trace pyrrhotite - magnetic						
			- some of plagioclase phenocrysts reoriented into "veinlets" at core axis angle 50 deg;						
		60.33 - 60.38	Granitic Intrusive						
			- very fine-grained						
			- salmon-pink						
			- core axis angle 80 deg.; contacts sharp						
60.69	61.63	FPPP INTV	Feldspar Porphyry Intrusive						
		60.69 - 61.63 $		2536	61.15	61.55	0.40	0.34	0.01
			Alteration qcv;						
			Altered Feldspar Porphyry and Quartz-Calcite Vein						
			- slightly lighter grey in colour						
			- weakly carbonatized						
			- plagioclase phenocrysts obscured but quartz eyes still present indicating that this still is in fact the porphyry						
			- minor pyrite						
		61.22 - 61.53 $							
			Alteration qcv; Structure brcd;						
			Quartz-Calcite Vein and Brecciated Altered Prophyry - large breccia fragments, also small ones (down to 4mm) - minor pyrite 4% and 1% pyrrhotite						
			- occuring in both porphyry and vein						
			- some chloritization of porphyry						
			- core axis angle approx. 65 deg;						
			- contacts irregular						
			- vein bifurcates; approx. 25cm width						
61.63	65.14	FPPP INTV	Feldspar Porphyry Intrusive						
			- as described above						
65.14	67.56	BSLT	Basalt						
			- foliation at core axis angle 15 deg;						
			- fine-grained; slightly coarser-grained mafics express foliation well - minor pyrite and pyrrhotite						
			- trace chalcopyrite						
			- quartz-calcite veinlets, some rich in sulphides, crosscut foliation at various orientations						
			- one of the sulphide ones is parallel to foliation						
		65.58 - 65.61	Granitic Intrusive (?)						
			- very fine-grained						
			- core axis angle 80 deg;						
				2537	66.00	66.40	0.40	0.17	0.00
67.56	69.25	BSLT	Basalt						
			- unfoliated						
			- fine-grained, coarsening slightly with depth						
			- dark grey						
			- 10% pyrrhotite, minor pyrite; both disseminated						
			- gradational with foliated basalt						
69.25	72.55	BSLT	Basalt						
			Foliated Basalt						
			- foliation not quite as intense as from 65.14 - 67.16m except near lower contact (with feldspar porphyry)						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- lower core axis angle approx. 5 deg;						
		- 3% pyrrhotite and 3% pyrite						
		- quartz-calcite veinlets rich in sulphides, various orientations						
			2538	70.52	70.92	0.40	0.17	0.00
72.55	75.00	FPPP INTV Feldspar Porphyry Intrusive						
		- similar to that described previously except only 25% plagioclase						
		phenocrysts - only 2% blue quartz eyes						
		- no orientation of phenocrysts into "veinlets"						
		- minor pyrite and pyrrhotite						
			2539	72.22	72.62	0.40	0.17	0.00
		74.51 - 75.00 $	2540	74.51	75.00	0.49	0.17	0.00
		Alteration qv; Sulphide Po=4 Py=2;						
		Quartz Vein						
		- core angle axis near 0 deg;						
		- wavers in and out of porphyry near lower contact - approx. 3cm wide;						
		contacts not well defined; has incorporated and almost wholly resorbed						
		prophyry fragments (remobilized)						
		- 4% pyrrhotite; 2% pyrite						
		- calcite veinlets						
75.00	89.39	BSLT Basalt						
		- grey, fine-grained						
		- minor pyrrhotite and pyrite						
		77.45 - 79.26 - basalt darker grey; 5% plagioclase phenocrysts						
		78.52 - 79.04 - basalt, silicified and foliated; core axis angle approx. 30 deg; -						
		gradational contacts						
		- rich in pyrrhotite - 10%; occurs in blebs up to 4cm in length - minor						
		pyrite						
		79.04 - 80.32 $						
		Alteration slfd;						
		- highly silicified basalt						
		- minor pyrite, minor pyrrhotite						
		80.21 - 80.24 - narrow granitic intrusive; medium-grained						
		- core axis angle approx. 50 deg;						
		82.88 - 82.92 $						
		Alteration qcv; Sulphide Po=3 Cp=2 Py=1;						
		Quartz-Calcite Veinlet (1.5cm)						
		- core axis angle 45 deg;						
		- quartz bounded by calcite						
			2541	82.68	83.08	0.40	0.17	0.00
		88.18 Altered Basalt and Quartz-Calcite Vein						
		- basalt mottled black and grey						
		- chloritic segments						
		- weakly carbonatized						
		- faint foliation at core axis angle near 0 deg;						
		- 3% pyrrhotite, 2% chalcopyrite; 1% pyrite						
		- vein (approx. 2cm wide) at core axis angle 25 deg; - also sulphide-rich						
			2542	88.18	88.96	0.78	0.17	0.00
89.39	89.92	GNTC INTV Granitic Intrusive						
		- fine-grained						
		- k-feldspar, quartz (feldspar anhedral)						
		- minor mafics (<2%)						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- quartz-calcite-sulphide veinlets (some continuous through to basalt)						
89.92	99.00	BSLT Basalt						
		- grey, fine-grained						
		- very weak foliation in some segments approx. core axis angle 40 deg; - quartz-calcite veinlets						
		- trace pyrrhotite and pyrite						
		90.28 - 90.84 Altered Basalt	2543	90.28	90.84	0.56	0.17	0.00
		- carbonatized; intensely chloritized segments						
		- cut by numerous quartz-calcite veinlets						
		- minor pyrrhotite						
		90.41 - 90.47 Granitic Intrusive (3cm wide)						
		- fine-grained; k-spar and quartz						
		- core axis angle 40 deg;						
		- cut by quartz-calcite veinlet (.5cm) also through basalt						
		98.20 - 98.25 - basalt rich in pyrrhotite and pyrite						
			2544	98.00	98.40	0.40	0.17	0.00
99.00	99.41	GNTC INTV Granitic Intrusive						
		- similar to that of 89.39 - 89.92m						
		- contacts well defined at core axis angle 55 deg. (upper) and 60 deg. (lower)						
99.41	101.35	ALTD BSLT Altered Basalt						
		- carbonatized intensely; some chloritization						
		- cut by numerous quartz-calcite veinlets at various orientations - sericitization?; grey-brown when not wet - towards lower contact - minor pyrrhotite and pyrite						
		100.09 - 100.15 $						
		Alteration qcv; Sulphide Py=2;						
		Quartz-Calcite Vein (approx. 4cm)						
		- core axis angle 30 deg;						
		- remobilized basalt inclusions that have been intensely chloritized						
		- 2% pyrite						
			2545	99.90	100.30	0.40	0.17	0.00
		100.85 - 100.93 $						
		Alteration qv;						
		Quartz Vein						
		- 8cm but contains large discrete fragments of basalt - grey-white quartz, massive (unlike the usual quartz-calcite vein) - core axis angle 75 deg;						
		- both vein and basalt cut by quartz-calcite veinlet - sulphides absent						
			2546	100.62	101.02	0.40	0.17	0.00
101.35	103.40	GNTC INTV Granitic Intrusive						
		- as those previously described in this log; core axis angle 45 deg;						
		101.94 - 101.97 - dirty quartz vein						
		- mafic remobilized inclusions						
		- micaceous mineral present (phlogopite)						
		- core axis angle 17 deg;						
		- vein approx. 1.5cm wide						
			2547	101.60	102.00	0.40	0.17	0.00
103.40	103.64	ALTD BSLT Altered Basalt						
		- chloritized; carbonatized						
		- light green						
		- intruded by quartz and quartz-calcite veinlets up to 0.5cm in width - upper core axis angle 45 deg;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- minor pyrite						
103.64	119.02	BSLT Basalt						
		- fine to very fine-grained; dark grey						
		- much of it cut by numerous quartz-calcite veinlets; trace pyrite - very weakly foliated at core axis angle 40 deg;						
			2548	103.40	103.80	0.40	0.17	0.00
		106.65 - 107.42 - intensely carbonatized basalt	2549	106.65	107.42	0.77	0.17	0.00
		- cut by three 1cm quartz-calcite veinlets all at core axis angle 35 deg; - grey-green						
		111.26 - 111.59 $	2550	111.19	111.59	0.40	0.17	0.00
		Alteration slfd; Sulphide Py=4;						
		- silicified basalt cut by pyrite veinlets						
		- light grey; homogeneous						
		- 4% pyrite; veinlets at various orientations						
		111.59 - 112.19 $	2551	111.59	112.19	0.60	0.17	0.00
		Alteration crbn;						
		Carbonatized Basalt						
		- much softer than overlying silicified basalt						
		- contact at core axis angle approx. 70 deg;						
		- grey-green mottled in colour, grading darker downwards - pyrite veinlets near contact with silicified basalt						
		114.86 - 114.92 Narrow Granitic Intrusive (1cm)						
		- core axis angle 40 deg;						
		116.60 - 117.40 $	2552	116.60	117.40	0.80	0.17	0.00
		Alteration qc vnlts;						
		Quartz-Calcite Veins and Altered Basalt						
		- veins at different orientations						
		- largest one (approx. 2cm) at core axis angle 43 deg; - basalt carbonatized; minor pyrite						
		- most veins are barren of sulphides but one with poorly defined boundaries contains approx. 7% disseminated pyrite						
119.02	122.00	FPPP INTV Feldspar Porphyry Intrusive						
		- as seen previously in this log						
		- 40% plagioclase; 5% blue quartz eyes						
		- minor pyrite; trace pyrrhotite?						
		- plagioclase phenocrysts up to 1cm in length; average medium-grained - upper contact sharp at core axis angle 45 deg; lower contact vague						
		121.32 - 121.51 Altered Porphyry and Narrow Quartz-Calcite Vein						
		- alteration surrounding 1cm quartz-calcite vein at core axis angle 35 deg; - porphyry carbonatized and possibly silicified; phenocrysts are being obscured						
		- minor pyrite						
122.00	124.65	BSLT Basalt						
		122.00 - 122.54 - dark grey, weakly carbonatized, fine-grained basalt						
		Alteration q vnlt;						
		122.35 - 122.37 $						
		Quartz-Calcite Vein (1.5cm)						
		- core axis angle 45 deg;						
		- minor pyrite						
		122.54 - 124.65 Sheared Basalt	2553	123.19	123.59	0.40	0.17	0.00
			2554	122.05	122.45	0.40	0.17	0.00

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- foliation at core axis angle 20 deg;	2555	123.26	123.66	0.40	14.40	0.42
		- carbonatized; medium grey-green						
		123.36 - 123.56 $						
		Alteration qcv; Sulphide Py=15;						
		Quartz-Calcite Vein with Abundant Sulphides						
		- core axis angle 25 deg;						
		- vein 5cm wide?						
		- 15% pyrite blebs; minor chalcopyrite						
		- massive grey-white quartz in centre of vein; dirty quartz-calcite at edges						
		Alteration qv; Sulphide Py=20;						
		124.65 - 124.73 $						
		Quartz Vein with Abundant Pyrite						
		- vein approx. 5cm wide						
		- core axis angle 35 deg;						
		- massive grey-white quartz with small amount of calcite near edges - massive blebs of pyrite 20%; minor chalcopyrite						
124.73	125.41	SLFD BSLT Silicified Basalt						
		- fine-grained; light grey in colour						
		- pyrite veinlets adjacent to quartz vein above						
			2556	124.50	124.90	0.40	0.17	0.00
125.41	144.14	BSLT Basalt						
		125.41 - 129.49 - light grey-green; fine-grained	2557	126.00	126.40	0.40	0.17	0.00
		- mostly unaltered - carbonatized and chloritized						
		- cut by quartz-calcite veins and veinlets						
		126.25 - 126.30 Quartz-Calcite Veinlet (1cm)						
		- minor pyrite; core axis angle 40 deg;						
		129.49 - 130.27 Highly Carbonatized Basalt	2558	129.49	130.27	0.78	0.17	0.00
		- intensively cut by quartz-calcite veins and veinlets - soft to touch with micaceous lustre; sericitized? - chloritized						
		130.27 - 133.78 - basalt light grey; medium-grain size; moderately silicified; uncarbonatized						
		Alteration qcv;						
		133.78 - 134.44 $	2559	133.78	134.44	0.66	0.17	0.00
		Sulphide-Quartz-Calcite Veinlets						
		- occurs in very fine-grained basalt (silicified?) - veinlets up to 1cm width; pyrite, minor pyrrhotite, minor chalcopyrite - core axis angle near 0 deg;						
		134.44 - 135.38 - basalt; as 130.27 - 133.78m						
		135.38 - 136.25 $	2560	135.38	136.25	0.87	0.17	0.00
		Sulphide Py=15 Po=15;						
		Massive Sulphide Veinlets and Blebs						
		- in silicified basalt						
		- pyrite, chalcopyrite, pyrrhotite (very magnetic) - a 3cm by 2cm bleb of pyrrhotite						
		- associated with minor quartz and calcite						
		- discontinuous veinlets; core axis angles 0 deg. - 25 deg; - sulphides comprise approx. 15% of rock						
		136.25 - 136.89 - basalt						
		- fresh, medium grey-green; fine-grained						
		136.89 - 139.34 $	2561	136.89	137.29	0.40	0.17	0.00
		Alteration crbn;						
		Highly Carbonatized Basalt						
		- cut by numerous quartz-calcite veins and veinlets; minor pyrite						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		Alteration qcv;						
		137.03 - 137.09 $						
		Calcite-Quartz Vein (approx. 4cm wide)						
		- core axis angle approx. 40 deg;						
		- large fragments of resorbing basalt						
		137.88 - 137.98 Granitic Intrusive						
		- fine-grained; contacts vague						
		- core axis angle approx. 45 deg;						
		- almost wholly resorbed basalt						
		138.71 - 138.73 - narrow granitic intrusive as above						
		- core axis angle 80 deg;						
		139.02 - 139.05 - narrow granitic intrusive as above						
		- core axis angle 80 deg;						
		139.11 - 139.15 - narrow granitic intrusive as above						
		- core axis angle 80 deg;						
		139.34 - 144.14 - basalt; fresher; darker grey; but quartz-calcite veinlets still present -	2562	142.67	143.17	0.50	0.17	0.00
		most at low core axis angles; some carbonatization	2563	143.42	143.82	0.40	0.17	0.00
		Sulphide Py, Cp, Po=7;						
		142.97 - 143.02 $						
		Sulphide Veinlets						
		- pyrite, pyrrhotite and minor chalcopyrite						
		- discontinuous; core axis angles 30 deg. - 60 deg; - in basalt						
		143.57 - 143.61 $						
		Alteration qv;						
		Quartz Vein (approx. 2cm wide)						
		- core axis angle approx. 35 deg;						
		- grey-white quartz, massive, with basalt fragments and minor calcite near edge						
		- minor pyrite and pyrrhotite						
		- basalt adjacent, highly carbonatized						
144.14	144.14	E.O.H. End of Hole						

Hole No.	K87.94	Northing	4+67S	Grid Orient	20.00	Depth Dip Azimuth Test	Depth Dip Azimuth Test	Started	September 29, 1987	Logged by	S.P. Cheung
Property	Shoal Lake (KPM)	Easting	20+12E	Grid Azim.	10.00	0.0 - 45	147.0 - 41	Finished	October 1, 1987	Checked by	K. Leonard
Section		Elevation	345.99	Length (M)	147.00			Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	2+90.97S	Dip-Collar	-45.00			Drill No.		Comments:	75m vert. at 20+30E
Target	C.I. Mainland Zone	Survey E.	20+78.71E	Comp Bearing	30.00			Drill For.			

Kim Leonard

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

FROM	TO		DESCRIPTION
0.00	7.43	CASING	Casing
7.43	9.00	BSLT	Basalt
9.00	10.70	FPPP INTV	Feldspar Porphyry Intrusive
10.70	31.50	BSLT	Basalt
31.50	32.25	GNTC INTV	Granitic Intrusive
32.88	95.36	BSLT	Basalt
95.36	96.66	DORT INTV	Diorite Intrusive
96.66	106.73	BSLT	Basalt
106.73	110.90	FPPP INTV	Feldspar Porphyry Intrusive
110.90	147.00	BSLT	Basalt
147.00	147.00	E.O.H.	End of Hole

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	7.43	CASING	Casing						
7.43	9.00	BSLT	Basalt						
			- medium-grained						
			- hairline fractures healed by quartz-calcite						
			- minor suulphide on fracture planes						
			- minor sulphide in the groundmass						
9.00	10.70	FPPP INTV	Feldspar Porphyry Intrusive						
			- 30% feldspar phenocryst (<5mm) in fine-grained mafic matrix - hairline fracture healed by quartz-carbonate stringers - minor sulphide - mostly concentrated in quartz-calcite stringers - fractures approx. 20 deg. and 30 deg. to LCA						
10.70	31.50	BSLT	Basalt						
			- same as between 7.43 - 9.00m						
			- fractures at 20 deg. and 45 deg. to LCA are most dominant						
			- 11.93m - quartz-calcite stringer (1/2cm) ; sharp contacts at 30 deg. to LCA.						
			2% pyrite and minor chalcopyrite (laminated) with the same orientation as the quartz-calcite stringer						
			- 16.87m - quartz-calcite stringer (1cm) ; sharp contact at 45 deg. to LCA; non- sulphide-bearing						
			- 24.20m - quartz-calcite stringer (1cm) at 45 deg. to LCA; sharp contacts. trace pyrite						
			- 25.04m - quartz-calcite stringer (0.4cm) ; 50 deg. to LCA; sharp contacts. minor pyrite <1%						
				2095	11.74	12.14	0.40	0.17	0.005
				2096	24.00	24.40	0.40	0.17	0.005
		31.10 - 31.30	- crosscutting of calcite stringer more intensive - minor brecciation						
31.50	32.25	GNTC INTV	Granitic Intrusive						
			- medium-grained, quartz-feldspar						
			- potassic alteration						
			- minor sulphide (pyrite <1%)						
			- upper contact at 45 deg. to LCA						
			- lower contact gradational						
		32.25 - 32.88	$	2097	31.50	32.30	0.80	0.17	0.005
			Alteration qv clct; Sulphide Py=1;						
			- quartz vein with calcite along hairline fractures - greyish						
			- 5-10% mafiic inclusion						
			- 1% pyrite						
			- upper contact gradation, lower contact at 40 deg. to LCA						
32.88	95.36	BSLT	Basalt						
			- fine-grained						
			- dark green						
			- same as between 10.70 - 31.50m						
				2098	32.30	32.90	0.60	0.17	0.005
		32.90 - 33.90	- denser appearance of calcite stringer	2099	32.88	33.28	0.40	0.17	0.005
			- more schistose						
		39.43 - 39.59	- granitic intrusive						
			- upper contact at 80 deg. to LCA						
			- lower contact at 70 deg. to LCA						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
	39.60	- quartz-calcite stringer (1cm) wide with mafic lamination						
41.82 -	41.84	- quartz-calcite stringer at 40 deg. to LCA						
			2100	41.60	42.00	0.40	0.17	0.005
	43.36	- quartz stringer (1cm) - minor calcite - 1% pyrrhotite - contacts at 75 deg. LCA						
			2101	43.16	43.46	0.30	0.17	0.005
	44.53	- 0.3cm wide quartz-calcite stringer at 30 deg. to LCA - non-sulphide-bearing						
			2107	44.35	44.75	0.40	0.17	0.005
			2102	47.60	48.00	0.40	0.17	0.005
48.10 -	48.40	- quartz veinlet associated with 10% calcite - contacts - gradation at 50 deg. to LCA - mafic lamination at 50 deg. to LCA - 5% pyrite - commonly along quartz and mafic lamination contacts - 49.98m - quartz-calcite stringer (0.3cm) at 45 deg. to LCA - 50.52m - quartz-calcite stringer (0.3cm) at 45 deg. to LCA - 50.67m - quartz-calcite stringer (1cm) at 45 deg. to LCA - 51.92m - quartz-calcite stringer (1cm) at 45 deg. to LCA - 60.58m - quartz stringer (1cm) with 10% calcite - 2% pyrrhotite	2103	48.00	48.40	0.40	0.17	0.005
			2104	48.40	48.80	0.40	0.17	0.005
			2105	50.90	52.00	1.10	0.17	0.005
60.68 -	61.50	$ Alteration slfd; - strongly silicified	2106	60.40	60.80	0.40	0.17	0.005
			2108	66.82	67.22	0.40	0.17	0.005
67.22 -	67.63	$ Alteration q stgs; Sulphide Py=2; - zone with numerous quartz stringers ranging from hairline to 7cm wide - stringers dominantly at 50 deg. to LCA - calcite along contact with quartz and basalt - 2% pyrite - 67.25m - stringer 3mm - 67.28m - stringer 3mm - 67.44m - stringer 1cm - 67.47m - stringer 1cm						
67.55 -	67.63	- main quartz stringer 8cm wide						
			2109	67.22	67.67	0.45	0.17	0.005
			2110	67.67	68.07	0.40	0.17	0.005
72.37 -	72.47	- calcite stringer (0.5cm) at 85 deg. to LCA - locally silicified - no visible sulphide						
			2111	72.20	72.60	0.40	0.17	0.005
73.25 -	73.26	- quartz stringer at 45 deg. to LCA (1cm)						
76.32 -	76.39	- two stringers - quartz both approx. 1.5cm - minor calcite - no sulphides						
			2112	76.20	76.60	0.40	0.17	0.005
			2113	79.75	80.15	0.40	0.17	0.005

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			80.23 - 80.53 $						
			Alteration q vnlt: Sulphide Py=1:						
			- dirty quartz veinlet with mafic lamination						
			- weak to moderate carbonatization						
			- 1% pyrite						
			- upper contact approx. 80 deg. to LCA						
			- lower contact approx. 40 deg. to LCA						
			80.37 - 80.40 - pure quartz stringer						
				2114	80.15	80.55	0.40	0.17	0.005
				2115	80.55	80.95	0.40	0.17	0.005
			82.95 - 82.98 - granitic intrusive						
			- contact at 90 deg. to LCA						
			84.04 - 84.28 - multi-quartz-carbonate stringers						
			- main quartz stringer between 84.04 - 84.06m						
			- upper contact at 80 deg. to LCA						
			- lower contact gradational						
			- trace of sulphide <<1%						
			- moderate chloritization						
				2116	83.60	84.60	1.00	0.17	0.005
95.36	96.66	DORT INTV	Diorite Intrusive						
			- medium to coarse-grained quartz and feldspars						
			- 30% mafics						
			- sharp contacts - upper at 25 deg. to LCA, lower at 30 deg. to LCA						
96.66	106.73	BSLT	Basalt						
			- massive basalt						
			- fine-grained						
			- dark green						
			- same as between 10.70 - 31.50m						
			104.45 - 104.48 - granitic intrusives						
			- contacts at 80 deg. to LCA						
			105.10 - 105.23 - granitic intrusives						
			- contacts at approx. 60 deg. to LCA						
106.73	110.90	FPPP INTV	Feldspar Porphyry Intrusive						
			- contacts approx. 90 deg. to LCA						
			- hairline fractures healed by carbonate stringers - feldspar phenocrysts in size ranging from 0.1mm to 0.7mm - increase in phenocrysts contents with depth (from 5% to 30%)						
110.90	147.00	BSLT	Basalt						
			- same as between 10.70 - 31.70m						
			113.00 - 113.25 - slightly higher degree of silicification						
			113.22 - 113.23 - carbonate-quartz stringer at 75 deg. to LCA						
				2117	112.90	113.30	0.40	0.17	0.005
			115.30 - 115.52 - siliceous zone with quartz-carbonate stringers						
			115.40 - 115.42 - quartz veinlet - contacts at 45 deg. to LCA						
				2118	115.20	115.60	0.40	0.17	0.005
			120.74 - 120.96 $						
			Alteration slcs:						
			- siliceous zone						
			- minor brecciation						
			- contacts gradational						
			120.78 - 120.79 - quartz-calcite stringer						
			- non-sulphide-bearing						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2119	120.65	121.05	0.40	0.34	0.010
		122.69 - 122.87 $ Alteration slcs: - siliceous zone - gradational contacts - no prominent stringer - carbonatized						
			2120	122.60	123.00	0.40	0.34	0.010
		125.11 - 125.80 - lense of quartz-calcite vein material 0.5cm wide parallel to LCA - pale green tint (epidote?) - fragments of dark green, soft, fine green mineral (chlorite?) - 1-2% pyrite	2121	124.90	125.30	0.40	0.17	0.005
		125.21 - 125.22 - quartz-calcite stringer with minor pyrite						
		135.80 - 135.96 - moderately silicified with quartz-calcite stringers						
		136.70 - 136.90 - moderately silicified with quartz-calcite stringers						
			2122	135.80	137.00	1.20	0.17	0.005
		142.11 - quartz-calcite stringer 1cm at 45 deg. to LCA						
		142.78 - quartz-calcite stringer 1cm wide at 30 deg. to LCA						
		144.46 - quartz-calcite stringer 0.5cm wide at 45 deg. to LCA						
		144.59 - quartz-calcite stringer 0.5cm wide at 25 deg. to LCA						
147.00	147.00	E.O.H. End of Hole						

Meterage

From	To	Box
7.40	13.20	1
13.20	19.00	2
19.00	24.90	3
24.90	30.80	4
30.80	36.70	5
36.70	42.60	6
42.60	48.40	7
48.40	54.30	8
54.30	60.00	9
60.00	65.80	10
65.80	71.50	11
71.50	77.40	12
77.40	83.30	13
83.30	89.30	14
89.30	95.00	15
95.00	100.90	16
100.90	106.94	17
106.94	112.70	18
112.70	118.60	19
118.60	124.30	20
124.30	130.10	21
130.10	135.80	22
135.80	141.70	23
141.70	147.00	24
147.00	147.00	EOH

Hole No.	KB7.95	Northing	3+70S	Grid Orient	20.00	Depth Dip Azimuth Test	Started	September 29, 1987
Property	Shoal Lake (KPM)	Easting	12+70E	Grid Azim.	10.00	240.0 - 43 030	Finished	October 1, 1987
Section	13+03E	Elevation	328.71	Length (M)	240.00		Drill Co.	Midwest
Claim No.		Survey N.	3+00.63S	Dip-Collar	-45.00		Drill No.	
Target	C.I. Mainland Zone	Survey E.	13+31.22E	Comp Bearing	30.00		Drill For.	

Depth Dip Azimuth Test

Logged by S. Boyle
Checked by K. Leonard
Core BQ
Comments: 150m vert. @ 13+00E

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	5.76	CASING	Casing
5.76	6.29	GNTC INTV	Granitic Intrusive
6.29	58.33	BSLT	Basalt
58.33	73.28	BSLT	Basalt
73.28	75.75	ALTD BSLT	Altered Basalt
75.75	90.67	BSLT	Basalt
90.67	112.54	BSLT	Basalt
112.54	122.04	ALTD BSLT	Altered Basalt
122.04	162.83	BLPP	Basalt, Feldspar Porphyritic
162.83	164.25	FPPP INTV	Feldspar Porphyry Intrusive
164.25	176.94	BSLT	Basalt
176.94	178.62	CLRZ BSLT	Chloritized Basalt
179.34	180.60	GNTC INTV	Granitic Intrusive
180.60	188.11	BLPP	Basalt, Feldspar Porphyritic
188.11	188.41	ALTD BSLT	Altered Basalt
188.41	190.89	GNTC INTV	Granitic Intrusive
190.89	191.23	ALTD BSLT	Altered Basalt
191.23	195.71	BLPP	Basalt, Feldspar Porphyritic
195.71	204.43	ALTD BSLT	Altered Basalt

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
204.43	206.55	BSLT	Basalt						
206.55	207.95	FPPP INTV	Feldspar Porphyry Intrusive						
207.95	221.82	BSLT	Basalt						
221.82	223.92	FPPP INTV	Feldspar Porphyry Intrusive						
223.92	228.04	BSLT	Basalt						
228.04	235.03	FLSC INTV	Felsic Intrusive						
235.02	240.05	BSLT	Basalt						
240.05	240.05	E.O.H.	End of Hole						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	5.76	CASING	Casing						
5.76	6.29	GNTC INTV	Granitic Intrusive - k-feldspar granite - mottled pink and black in colour - 50% k-spar; 25% quartz; 25% biotite - medium-grained - possibly an erratic part of the overburden? however, no material between it and massive basalt, although they are separated						
6.29	58.33	BSLT	Basalt - medium grey in colour - porphyritic; medium to fine-grained mafic phenocrysts (amphibole?) in aphanitic to fine-grained groundmass - 10% phenocrysts - trace pyrite; portions with trace pyrrhotite - cut by quartz-calcite veinlets - weakly to strongly carbonatized						
		9.48 - 10.01	Fault? - basalt broken up						
		12.10 - 12.86	Altered Basalt - highly carbonatized and chloritized - "wavy"; mottled texture - vaguely defined calcite-quartz veins - 1-2% pyrrhotite in blebs, magnetic; 1% pyrite disseminated	2564	12.10	12.86	0.76	0.17	0.005
		15.30 - 15.67	Narrow Calcite-Quartz Vein (up to 2cm) - very low core axis angle (0 - 5 deg.) - resorbing basalt inclusions (chloritized) - minor pyrite	2565	15.30	15.67	0.37	0.17	0.005
		18.52 - 18.75	Calcite-Quartz Vein (approx. 3cm) - low core axis angle (10 deg.) - otherwise as above						
				2566	18.42	18.82	0.40	0.17	0.005
		20.54 - 21.89	3 Calcite-Quartz Veins - all around 3cm width - all at very low core axis angles (approx. 10 deg.) - minor pyrrhotite and pyrite - veins in basalt - veins contain resorbing chloritized basalt inclusions	2567	20.54	21.89	1.35	0.17	0.005
		40.09 - 40.19	Calcite-Quartz Vein (approx. 5cm width) - core axis angle 35 deg; - contacts vague - basalt inclusions resorbing and chloritized - minor pyrite; trace pyrrhotite (magnetic)						
				2568	39.87	40.27	0.40	0.17	0.005
		42.44 - 42.49	Calcite-Quartz Vein (approx. 3cm width) - core axis angle 40 deg; - 3% pyrite; 2% pyrrhotite; 2% chalcopyrite - surrounding basalt somewhat chloritized						
				2568	42.40	42.92	0.52	0.17	0.005
		43.03 - 43.19	Calcite-Quartz Vein (1.5cm width) - core axis angle 20 deg;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2570	42.92	43.32	0.40	0.17	0.005
		51.34 - 51.44 Calcite-Quartz Vein (approx. 2cm width) - core axis angle approx. 30 deg. but weaves in and out of basalt core - trace pyrite; minor pyrrhotite - surrounding basalt carbonatized and chloritized						
			2571	51.24	51.64	0.40	0.17	0.005
58.33	73.28	BSLT Basalt - dark grey-green - very fine-grained; homogeneous; not porphyritic; trace pyrite						
		58.33 - 62.41 Silicified Basalt - moderately silicified; dark grey						
		62.76 - 62.84 Quartz-Calcite Vein (approx. 4cm wide) - core axis angle 60 deg; - basalt inclusions resorbing - somewhat more quartz than seen previously - trace pyrite						
			2572	62.60	63.00	0.40	0.17	0.005
		65.14 - 65.20 Quartz-Calcite Vein (2cm wide) - core axis angle 25 deg; surrounding basalt carbonatized and chloritized						
			2573	65.00	65.40	0.40	0.17	0.005
		66.00 - 66.15 Calcite-Quartz Veining (approx. 2cm?) - very low core axis angle; vein weaves in and out of core - trace pyrite and pyrrhotite - alteration halo (carbonatization) vaguely defined						
		69.48 - 69.64 Moderately Sheared and Silicified Basalt - foliation at core axis angle 25 deg; - some quartz vein material - 3% pyrrhotite; 2% pyrite						
			2574	69.35	69.75	0.40	0.17	0.005
73.28	75.75	ALTD BSLT Altered Basalt - lighter green than basalt previously logged - highly carbonatized and chloritized - cut by numerous calcite veins and veinlets						
		74.37 - 74.67 Calcite Vein (approx. 25cm wide) - white calcite as usual - 35% chlorite occurring in radiating fibrous masses - because of habit may originally havve been trenolite; coarse-grained - upper core axis angle 25 deg.; lower poorly defined... 65 deg.? - trace pyrite, pyrrhotite - basalt inclusions						
			2575	74.32	74.72	0.40	0.17	0.005
75.75	90.67	BSLT Basalt - dark grey, fine-grained - calcite veinlets; trace sulphides						
		76.25 - 76.80 Sulphide Veinlets	2576	76.25	76.80	0.55	0.17	0.005
		- pyrrhotite; chalcopyrite; minor pyrite - veinlets very narrow - sulphides also occur in calcite veinlets - low core axis angles approx. 20 deg; - sulphides comprise 15% of rock						
		81.47 - 81.51 Calcite Veinlet with Abundant Sulphides (0.5cm wide) - core axis angle 45 deg; - veinlet approx. 50% pyrrhotite and pyrite						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2577	81.20	81.60	0.40	0.17	0.005
		86.59 - 86.61 $						
		Alteration qvnlt:						
		Quartz Veinlet (1.5cm)						
		- with 30% pyrite blebs						
		- quartz grey-white						
		- core axis angle 70 deg;						
		- lower contact vague						
		- surrounding basalt highly carbonatized and chloritized						
			2578	86.55	86.95	0.40	1.37	0.040
		87.36 - 89.35 - basalt slightly coarser-grained						
		89.84 - 89.93 Granitic Intrusive (approx. 6cm wide)						
		- pink in colour						
		- core axis angle 40 deg;						
		- fine-grained near contacts (which are sharp) ; corase-grained in the center						
		- k-spar, quartz, resorbing basalt						
		- pyrrhotite in basalt at the intrusive contact						
			2579	89.70	90.10	0.40	0.17	0.005
90.67	112.54	BSLT Basalt						
		- coarser-grained as from 87.36 - 89.35m						
		- fragments of this basalt can be seen in overlying basalt, near the contact						
		93.15 - 93.20 Quartz-Calcite Vein (1.5cm wide)						
		- core axis angle 40 deg;						
		- predominantly massive grey-white quartz						
		- minor pyrrhotite						
			2580	93.00	93.40	0.40	0.17	0.005
		97.35 - 97.40 Calcite-Quartz Vein (3cm)						
		- contacts vague but core axis angle approx. 40 deg; - basalt inclusions						
		- mainly calcite						
			2581	97.20	97.60	0.40	0.17	0.005
		98.38 - 98.44 Quartz Vein (1.5cm)						
		- core axis angle 30 deg;						
		- massive grey-white quartz						
		- contacts irregular						
		- some quartz vein material immediately above						
		- trace pyrite						
			2582	98.20	98.60	0.40	0.17	0.005
		106.16 - 106.26 Quartz Vein (1.5cm)						
		- core axis angle 30 deg;						
		- contacts sharp						
		- basalt inclusions						
		- calcite also present						
			2583	105.96	106.36	0.40	0.17	0.005
112.54	122.04	ALTD BSLT Altered Basalt						
		112.54 - 120.01 Carbonatized and Chloritized Basalt	2584	113.13	113.53	0.40	21.94	0.640
		- light grey-green in colour	2585	116.26	116.72	0.46	0.17	0.005
		- 1% disseminated pyrite; trace chalcopyrite	2586	117.00	117.40	0.40	0.17	0.005
		- pervasive calcite veins and veinlets						
		113.28 - 113.38 $						
		Alteration clct vn; Sulphide Py=7 Po=3;						
		Calcite Vein (approx. 5cm)						
		- contacts very vaguely defined; core axis angle approx. 80 deg; - abundant						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		almost wholly resorbed basalt inclusions (chloritized) - rich in sulphides;						
		approx. 7% pyrite; approx. 3% pyrrhotite: disseminated and in blebs						
		116.26 - 116.29 Quartz-Calcite Vein (2.5cm wide)						
		- core axis angle 45 deg;						
		- contains 10% pyrite blebs						
		- massive grey-white quartz with less abundant calcite						
		116.29 - 116.72 Calcite-Quartz Vein (2cm wide)						
		- very low core axis angle						
		- trace pyrrhotite						
		- mainly calcite						
		117.13 - 117.16 Calcite-Quartz Vein (1.5cm)						
		- core axis angle 30 deg;						
		- 3% disseminated pyrite						
		120.01 - 122.04 Silicified Basalt	2587	121.29	121.69	0.40	0.17	0.005
		- moderate to intense as depth increases						
		- grey in colour						
		121.49 - 121.51 Quartz Vein (approx. 1.5cm wide)						
		- core axis angle 70 deg;						
		- 10% disseminated pyrite						
122.04	162.83	BLPP Basalt, Feldspar Porphyritic						
		- grey in colour						
		- 35% mafic phenocrysts (amphibole?)						
		- mediumm-grained, in fine-grained groundmass						
		- NOTE: groundmass is coarser-grained than the basalts seen previously in this log						
		- minor disseminated pyrite and pyrrhotite (rock is magnetic) - cut by calcite-quartz veins and veinlets						
		124.28 - 124.31 Calcite Vein (2cm)						
		- core axis angle 45 deg;						
		- large basalt inclusion in center						
		- minor pyrite in vicinity						
			2588	124.10	124.50	0.40	0.17	0.005
		126.58 - 126.60 Calcite Vein						
		- poorly defined						
		- up to 0.5cm blebs of pyrite, approx. 15%?						
			2589	126.40	126.80	0.40	0.17	0.005
		129.54 - 129.65 Calcite Vein						
		- very low core axis angle						
		- 1.5cm wide						
		- approx. 7% pyrrhotite blebs						
			2590	129.40	129.80	0.40	0.17	0.005
		135.35 - 135.53 Calcite Vein (1.5cm)						
		- very low core axis angle						
		- contains blebs of soft grey-brown mineral, finely granular with pearly lustre - clay mineral?						
			2591	135.25	135.65	0.40	0.17	0.005
		138.33 - 138.73 $						
		Alteration clct vn;						
		Calcite Vein Material						
		- very low core axis angle						
		- quartz and talc also present						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		141.31 - 141.35 Calcite Vein (approx. 3cm) - core axis angle 75 deg; - minor pyrrhotite - basalt inclusions - platey chlorite	2592	141.11	141.51	0.40	0.34	0.010
		142.55 - 142.58 Calcite Vein (3cm) - core axis angle 65 deg.; sharp contacts - resorbing basalt inclusions - 3% MAGNETITE blebs - trace pyrrhotite	2594	142.35	142.75	0.40	0.17	0.005
		142.87 - 143.37 Calcite Veining - veins vaguely defined - 5% pyrrhotite - disseminated in blebs - 30% vein, 70% basalt	2595	142.87	143.37	0.50	0.17	0.005
		150.50 - 152.05 Basalt - carbonatized and chloritized - lighter green in colour						
		153.64 - 155.05 $ Alteration qv; Sulphide Py=10; Quartz Vein (5cm wide) - core axis angle 25 deg; - quartz massive grey-white - small fault displacing vein approx. 1cm - abundant pyrite in blebs and disseminated in alteration (avg. 10%) - halo surrounding vein (halo extends 0.60m above vein, and 0.15m below vein) - halo intensely chhloritized, very soft; not carbonatized; carbonate? - veining (doesn't fizz though) ; shearing approx. 25 deg. CAA	2596	154.19	155.08	0.89	24.69	0.720
		157.77 - 158.87 - 3% pyrite (+ trace pyrrhotite) in porphyry basalt - disseminated and in blebs						
		162.48 - 162.50 Carbonate Veinlet (0.5cm wide) - carbonate only slightly effervescent in HCL; not calcite? - 5% pyrite in veinlet and surrounding - very low core axis angle	2597	162.30	162.70	0.40	0.17	0.005
162.83	164.25	FPPP INTV Feldspar Porphyry Intrusive - grey, speckled white - 25% medium-grained plagioclase phenocrysts; euhedral - in fine-grained groundmass - minor pyrite - both contacts at core axis angle approx. 80 deg., not sharp						
164.25	176.94	BSLT Basalt - grey in colour; grey-green in some areas where chloritization has occurred - fine-grained; grading to porphyritic in areas - occasional quartz-calcite veins and veinlets - 4% pyrite in small blebs; trace pyrrhotite (or magnetite?) - magnetic						
176.94	178.62	CLRZ BSLT Chloritized Basalt - highly chloritized basalt - green to dark green; soft						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- groundmass more altered than phenocrysts						
			- associated with underlying quartz vein						
		178.62 - 179.34	$	2598	178.62	179.34	0.72	0.69	0.020
			Alteration qv: Sulphide Py=7:						
			Quartz Vein (approx. 15cm) and Quartz Vein Material in Altered Basalt -						
			quartz vein massive grey-white (179.34 - 179.59m) - resorbing basalt						
			inclusions						
			- core axis angle 40 deg; upper contact sharp; lower vague - approx. 7%						
			pyrite blebs in actual vein						
			- basalt with vein material is highly chloritized and soft						
			- 30% pyrite in basalt 20cm below vein						
179.34	180.60	GNTC INTV	Granitic Intrusive						
			- mottleed pink and grey						
			- 20% quartz (blue eyes) ; 60% k-spar; 15% mafics; 5% pyrite (blebs) -						
			medium-grained						
			- seems to be highly silicified within 40cm of upper and lower contacts -						
			dark grey						
			- blue quartz-eyes still present, but k-spar not visible						
				2599	179.34	180.60	1.26	0.17	0.005
180.60	188.11	BLPP	Basalt, Feldspar Porphyritic						
			- grey to grey-green						
			- 20% medium-grained mafic phenocrysts in fine-grained groundmass -						
			quartz-calcite veinlets infrequent						
			- 2% pyrite - medium-grained euhedral or in blebs						
		181.91 - 182.05	Carbonate(?)-Quartz Veinlet (1cm wide)						
			- carbonate (?) light green, hardness approx. 4						
			- not effervescent in HCL						
			- 15% pyrite in vein and associated						
			- trace pyrrhotite						
			- contacts irregular; very low core axis angle						
				2600	181.71	182.11	0.40	0.17	0.005
		184.84 - 184.90	Carbonate-Quartz Veinlet (0.5cm)						
			- core axis angle 30 deg;						
			- 20% pyrite in veinlet						
				2601	184.70	185.10	0.40	0.17	0.005
188.11	188.41	ALTD BSLT	Altered Basalt						
			- dark grey-green						
			- silicified						
			- mafics altered and obscured; but groundmass texture still evident - sharp						
			contact with unaltered basalt at core axis angle 60 deg; - lower contact						
			approx. core axis angle 45 deg;						
			- alteration due to adjacent granitic intrusive						
188.41	190.89	GNTC INTV	Granitic Intrusive						
			- pink and grey mottled						
			- fine-grained						
			- quartz; k-spar; 20% mafics						
			- trace pyrite and chalcopyrite						
			- a few remobilized basalt inclusions						
		188.77 - 188.95	Quartz Vein in Intrusive (approx. 9cm wide)						
			- pure grey-white quartz						
			- sharp contacts but highly irregular; core axis angle roughly 75 deg; -						
			unmineralized with sulphides						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2602	188.60	189.00	0.40	0.17	0.005
190.89	191.23	ALTD BSLT Altered Basalt						
		- as above						
		- upper contact approx. 85 deg. CAA; lower contact 45 deg. CAA						
		- 3% euhedral pyrite (medium-sized)						
			2603	190.83	191.23	0.40	0.17	0.005
191.23	195.71	BLPP Basalt, Feldspar Porphyritic						
		- as from 180.60 - 188.11m						
		- chloritized proximal to upper and lower contacts						
		193.50 - 193.63 Calcite-Quartz Vein (1.5cm)						
		- core axis angle 40 deg;						
		- crosscut by another calcite-quartz veinlet						
		- trace pyrite						
			2604	193.35	193.75	0.40	0.17	0.005
195.71	204.43	ALTD BSLT Altered Basalt						
		195.71 - 196.59 Silicified Basalt	2605	195.71	196.59	0.88	0.17	0.005
		- dark grey						
		- mafic phenocrysts obscured						
		- 3% medium-grained subhedral disseminated pyrite						
		- moderate silicification						
		196.59 - 197.13 Sheared, Carbonatized, and Chloritized Basalt	1606	196.59	197.13	0.54	0.17	0.005
		- moderately sheared at core axis angle 40 deg;						
		- calcite veins and veinlets ubiquitous (!) and parallel to foliation - trace pyrite						
		- mafic phenocrysts relatively unaltered; groundmass highly altered						
		197.13 - 198.30 Chloritized Basalt						
		- weakly carbonatized; minor calcite veinlets						
		198.30 - 200.75 Carbonatized and Chloritized Basalt	2607	198.30	199.05	0.75	0.17	0.005
		- weakly sheared at core axis angle approx. 55 deg. (not sheared throughout)	2608	199.22	199.62	0.40	0.17	0.005
		- calcite veining ubiquitous, one 2cm vein at 198.92 - 198.95m - trace pyrite						
		- slightly talcose						
		199.43 - 199.58 Calcite-Quartz Vein (2cm)						
		- low core axis angle but contacts highly irregular - remobilized basalt						
		- trace pyrite						
		200.75 - 202.24 Basalt						
		- carbonatized and chloritized						
		- medium-grained; trace pyrite; trace chalcopyrite - calcite veinlets only occasional						
		202.24 - 204.42 Weakly Sheared Basalt	2609	203.45	203.85	0.40	0.34	0.010
		- foliation at core axis angle 40 deg;						
		- highly carbonatized; minor pyrite						
		203.64 - 203.70 $						
		Sulphide Py=85 Cpy=15;						
		Massive Sulphide Vein (4cm)						
		- 85% pyrite, 15% chalcopyrite						
		- core axis angle approx. 45 deg;						
		- minor calcite and basalt inclusions						
		- immediately adjacent basalt also rich in sulphides (3cm either side)						
204.43	206.55	BSLT Basalt						
		- light grey-green						
		- weakly carbonatized						
		- fine-grained (no phenocrysts)						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- calcite-quartz veins and veinlets						
206.55	207.95	FPPP INTV	Feldspar Porphyry Intrusive - grey speckled white - 35% feldspar (plagioclase) phenocrysts, medium-grained euhedral - 10% blue quartz-eyes - minor pyrite - similar to feldspar porphyry previously logged in this hole - contacts not sharp						
207.95	221.82	BSLT	Basalt - light green-grey to very light green-grey - fine-grained to very fine-grained - mafic grains slightly coarser than groundmass; not present throughout - trace pyrite - weakly carbonatized; chloritized in areas - calcite-quartz veins only occasional 208.23 - 208.27 Quartz Vein (3cm) - core axis angle 45 deg.; contacts sharp - quartz grey-white to bluish at edges; massive - trace pyrite adjacent - blebs of pink calcite? - minor remobilized basalt						
				2610	208.05	208.45	0.40	0.17	0.005
221.82	223.92	FPPP INTV	Feldspar Porphyry Intrusive - lighter grey than feldspar porphyry seen previously - 25% plagioclase phenocrysts; absent in center of unit - 5% blue quartz-eyes - 3% euhedral pyrite; medium-sized and disseminated - calcite-quartz veins and veinlets infrequent 223.64 - 223.67 Chlorite Veinlet (0.5cm) - approx. 20% pyrite in vein - core axis angle 40 deg.; sharp contacts - cut by 2cm quartz-calcite vein and very low core axis angle						
				2611	223.44	223.84	0.40	0.17	0.005
223.92	228.04	BSLT	Basalt - light green-grey - fine-grained - no calcite-quartz veining - minor pyrite in very small blebs						
228.04	235.03	FLSC INTV	Felsic Intrusive - light grey-brown in colour - highly siliceous - fine-grained, excepting medium-grained subhedral hornblende(?) phenocrysts which comprise approx. 20% of rock - rare inclusions of basalt, indicating that this is in fact an intrusive and not merely silicified basalt - minor disseminated pyrite 229.39 - 229.59 Quartz Vein - approx. 3cm; core axis angle 25 deg. but contacts, although sharp are highly irregular - breccia fragments of intrusive and basalt; trace pyrite - quartz grey-white						
				2612	229.29	229.69	0.40	0.17	0.005
				2613	234.63	235.03	0.40	0.17	0.005

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
				2614	153.19	154.19	1.00	0.17	0.005
				2615	155.68	156.28	0.60	0.17	0.005
				2616	177.62	178.62	1.00	0.17	0.005
				2617	180.60	181.15	0.55	0.17	0.005
			236.22 - 236.27 Quartz Vein (1cm)						
			- core axis angle 35 deg.; contacts sharp						
			- rich in chlorite - remobilized basalt?						
235.02	240.05	BSLT	Basalt						
			- medium grey-green						
			- mafic phenocrysts (30%) fine to medium-grained, slightly coarser-grained than groundmass, thus slightly porphyritic						
			- minor pyrite, disseminated						
			237.33 - 237.41 - 3 isolated blebs of fine-grained granitic material						
240.05	240.05	E.O.H.	End of Hole						

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.96	Northing	5+72S	Grid Orient	20.00	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	October 1, 1987	Logged by	S. Boyce
Property	Shoal Lake (KPM)	Easting	19+12E	Grid Azim.	10.00	221.2	- 45	030						Finished	October 4, 1987	Checked by	K. Leonard
Section	19+42E	Elevation	353.45	Length (M)	221.22									Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	3+46.25S	Dip-Collar	-45.00									Drill No.		Comments:	125m vert. under
Target	C.I. Mainland Zone	Survey E.	20+03.75E	Comp Bearing	30.00									Drill For.			66 @ 19+25E

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

FROM	TO		
0.00	2.31	CASING	Casing
2.31	40.66	BSLT	Basalt
40.66	41.01	FPPP INTV	Feldspar Porphyry Intrusive
41.01	50.05	BSLT	Basalt
50.05	50.55	GNTC INTV	Granitic Intrusive
50.89	56.30	BSLT	Basalt
56.30	60.14	BSLT	Basalt
60.14	61.94	FPPP INTV	Feldspar Porphyry Intrusive
61.94	64.68	BSLT	Basalt
64.68	69.03	FPPP INTV	Feldspar Porphyry Intrusive
69.39	77.42	BSLT	Basalt
77.53	77.93	GNTC INTV	Granitic Intrusive
77.93	96.88	BSLT	Basalt
99.52	135.40	BSLT	Basalt
135.40	136.07	GNTC INTV	Granitic Intrusive
136.07	149.52	BSLT	Basalt
149.52	150.79	FPPP INTV	Feldspar Porphyry Intrusive
150.79	183.02	BSLT	Basalt
183.02	185.70	FPPP INTV	Feldspar Porphyry Intrusive

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
185.70	221.22	BSLT	Basalt						
221.22	221.22	E.O.H.	End of Hole						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	2.31	CASING	Casing						
2.31	40.66	BSLT	Basalt - dark grey - fine-grained - mainly unaltered - cut by occasional quartz-calcite veinlet - minor disseminated pyrite; trace chalcopyrite						
			2.31 - 4.65 Highly Fractured Basalt - near surface fracturing - 3% pyrite disseminated and in blebs; much of it has oxidized	2618	2.69	3.29	0.60	0.17	0.005
			4.65 - 4.68 Calcite-Quartz Vein (1.5cm) - core axis angle approx. 70 deg.; sharp contacts - basalt inclusions - 10% pyrite in vein	2619	4.45	4.85	0.40	0.17	0.005
			5.72 - 5.76 $ Alteration qcv; Sulphide Cpy=6 Py=2; Quartz-Calcite Vein (3cm) - core axis angle approx. 50 deg.; sharp contacts - approx. 8% sulphide blebs; 6% chalcopyrite; 2% pyrite - alteration halo (carbonatization) extending 25cm above and 20cm below vein - 2% pyrite	2620	5.47	5.96	0.49	0.34	0.010
			17.20 - 17.23 Calcite Vein (1.5cm) - core axis angle approx. 40 deg; - abundant basalt inclusions - 4% pyrite	2621	17.00	17.40	0.40	0.17	0.005
			22.74 - 22.85 Quartz-Calcite Vein Material - blebs of quartz-calcite; largest bleb 4cm x 3cm - part of a discontinuous vein? - quartz ranges from grey-white to pink in colour	2622	22.60	23.00	0.40	0.17	0.005
			27.94 - 27.96 Quartz-Calcite Veinlet (1cm) - core axis angle 55 deg.; sharp contacts - pink and grey-white quartz	2623	27.74	28.14	0.40	0.17	0.005
			29.21 - 29.25 Calcite-Quartz Vein (approx. 2cm) - core axis angle 45 deg.; contacts vague - minor pyrite (1%)	2624	29.03	29.43	0.40	0.17	0.005
			36.74 - 36.80 Quartz-Calcite Vein (1.5cm) - core axis angle 35 deg; - grey-white quartz, massive blebs - minor resorbing basalt inclusions - ubiquitous calcite veinlets (all at approx. 35 deg.) for 25cm above vein (plus carbonatization) and carbonatization for 10cm below vein	2625	36.49	36.90	0.41	0.17	0.005
			37.24 - 37.28 Narrow Granitic Intrusive (3cm) - core axis angle 55 deg.; sharp contacts - salmon pink						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- fine-grained						
40.66	41.01	FPPP INTV Feldspar Porphyry Intrusive - dark grey, like the basalt - 15% medium-grained euhedral plagioclase phenocrysts - fine-grained groundmass - 3% disseminated pyrite - weakly foliated at core axis angle approx. 40 deg; - upper contact 35 deg; - lower ill-defined 40.78 - 40.80 Quartz Vein (1cm) - core axis angle 40 deg.; contacts sharp - 5% disseminated pyrite and in blebs						
41.01	50.05	BSLT Basalt - as from 2.31 - 40.55m except quartz-calcite veining somewhat more common - slight increase in grain size in some areas	2626	40.66	41.06	0.40	0.17	0.005
		45.35 - 45.38 Quartz-Calcite Vein (1cm) - core axis angle 50 deg; - rich in resorbing basalt - flakes of chlorite present	2627	45.15	45.55	0.40	0.17	0.005
		46.48 - 46.57 Quartz-Calcite Vein (5cm) - core axis angle 60 deg; - massive quartz (grey-white to pink) , bounded by calcite - resorbing basalt inclusions (remobilizied) with chlorite - note: possibly a granitic intrusive rather than a quartz-calcite vein?	2628	46.38	46.78	0.40	0.17	0.005
		47.18 - 47.20 Quartz-Calcite Vein (1.5cm) - core axis angle 45 deg; - 1% disseminated pyrite - abundant calcite-quartz veinlets and pervasive carbonatization 20cm to either side of vein	2629	46.98	47.40	0.42	0.17	0.005
		49.27 - 49.34 Quartz-Calcite Vein (1cm) - core axis angle 25 deg.; contacts sharp - flakes of chlorite - remobilizied basalt - reddish "stain" along upper contact; siderite?	2630	49.10	49.50	0.40	0.17	0.005
		49.74 - 50.05 Chloritized and Carbonatized Basalt - light green, soft - adjacent to granitic intrusive	2631	49.65	50.05	0.40	0.17	0.005
50.05	50.55	GNTC INTV Granitic Intrusive - salmon pink - fine-grained; homogeneous - siliceous - upper contact not very sharp; contact alteration zone? - lower contact irregular; core axis angle approx. 45 deg. (next to calcite- quartz vein; fragments of intrusive in vein) 50.55 - 50.89 Calcite-Quartz Vein (4cm) and Altered Basalt - core angle axis approx. 45 deg; - inclusions of basalt and intrusive in vein						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- 1% pyrite in vein						
		- vein immediately adjacent to intrusive						
		- basalt altered to a dull grey; looks "cooked" chloritized? weakly carbonatized						
		50.86 - 50.89 Narrow Granitic Intrusive (2cm)						
		- similar and related to above granitic intrusive						
		- core axis angle 80 deg;						
50.89	56.30	BSLT Basalt						
		- dark grey; fine-grained; slightly porphyritic						
		- mafic phenocryst slightly coarser-grained than groundmass - phenocrysts are biotite; 25% of rock						
		- rare calcite veinlets						
			2632	50.55	50.95	0.40	0.17	0.005
		53.69 - 53.74 Calcite-Quartz Vein (2cm)						
		- core axis angle 75 deg;						
		- numerous basalt inclusions						
		- 2 similar veinlets (0.5cm) adjacent, at different orientations						
			2633	53.43	53.83	0.40	0.17	0.005
56.30	60.14	BSLT Basalt						
		- dark grey as above, but phenocrysts absent						
		- massive; calcite veining minimal						
		- very fine-grained						
		- trace pyrite						
		- contact with overlying basalt gradational						
60.14	61.94	FPPP INTV Feldspar Porphyry Intrusive						
		- similar to feldspar porphyry recorded previously in this log - phenocrysts 35%; medium-grained; anhedral						
		- groundmass fine-grained and grey						
		- colour of rock is grey, dotted with white						
		- contacts are sharp, and at very low core axis angles - alteration near upper contact?						
		- plagioclase phenocrysts are discoloured to a pale red, and crystal outlines are blurred						
		- occasional calcite-quartz veins; trace pyrite, trace chalcopyrite						
		61.01 - 61.16 3 Calcite-Quartz Veinlets (0.5cm each) in Feldspar Porphyry - paralleling; core axis angle 50 deg;						
		- sharp contacts						
		- trace pyrite, chalcopyrite						
			2634	60.90	61.30	0.40	0.17	0.005
61.94	64.68	BSLT Basalt						
		- similar to that from 56.30 - 60.14m						
64.68	69.03	FPPP INTV Feldspar Porphyry Intrusive						
		- similar to that from 60.14 - 61.94m						
		- 1% pyrite, disseminated and very fine-grained; 5% blue quartz-eyes						
		64.93 - 64.96 Granitic Intrusive						
		- similar to granitic intrusives recorded previously in this log; e.g. 37.24 - 37.28m						
		- contacts sharp; core axis angle approx. 85 deg;						
		68.42 - 68.83 3 Alteration 'Zones' in Feldspar Porphyry	2635	68.42	68.83	0.41	0.17	0.005
		- largest one 5cm wide						
		- core axis angle 40 deg;						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- 3% pyrite						
			- phenocrysts being altered, obscured						
		68.85 - 69.39	Quartz-Calcite Vein (2cm) and Alteration Zone	2636	68.85	69.39	0.54	0.17	0.005
			- quartz-calcite vein at 69.03 - 69.06m						
			- core axis angle 55 deg;						
			- contacts irregular; basalt inclusions at contact between feldspar porphyry and basalt						
			- altered feldspar porphyry above vein (as from 68.42 - 68.83m) but more carbonatized						
			- altered basalt below, carbonatized, calcite veinlets with pyrite						
69.39	77.42	BSLT	Basalt						
			- similar to that from 56.30 - 60.14m						
		75.21 - 75.27	Granitic Intrusive Bounded by Quartz-Calcite Veins - total width 3cm; pink intrusive 1cm						
			- core axis angle 50 deg.; sharp contacts						
			- some basalt inclusions in the quartz-calcite veins						
		77.09 - 77.42	Calcite-Quartz Veinlets	2637	77.02	77.42	0.40	0.17	0.005
				2638	75.00	75.40	0.40	0.17	0.005
			- largest veinlet 1cm						
			- discrete veinlets through unaltered basalt						
			- occasional "breccia" fragment in veinlet						
			- all at core axis angle 45 deg;						
			- related to underlying vein?						
		77.42 - 77.53	Quartz-Calcite Vein (7cm)						
			- core axis angle 45 deg.; contacts sharp; between basalt and intrusive - upper 3cm of vein is mainly grey-white quartz						
			- lower 4cm is pure calcite with inclusions of altering granitic intrusive and basalt						
			- strong division between quartz and calcite components of vein - granitic intrusive adjacent altered (grey) to 15cm below vein						
77.53	77.93	GNTC INTV	Granitic Intrusive						
			- deep salmon pink (altered grey near vein)						
			- fine-grained but slightly coarser than granitic intrusive previously recorded						
		77.64 - 77.74	$Structure falt; Fault?						
			- broken up rock						
				2639	77.42	77.82	0.40	0.17	0.005
77.93	96.88	BSLT	Basalt						
			- medium grey-green to grey						
			- very fine-grained						
			- quartz-calcite veinlets from abundant to rare						
		78.36 - 78.43	Granitic Intrusive Bounded by Quartz-Calcite Veins - similar to that seen from 75.21 - 75.27m						
			- intrusive 4cm wide; core axis angle 75 deg;						
			- contains k-spar, quartz and a pale green mineral						
				2640	78.20	78.60	0.40	0.17	0.005
		86.73 - 86.83	Calcite-Quartz Vein (4cm)						
			- core axis angle 30 deg.; contacts sharp						
			- abundant remobilizied basalt						
			- 1% disseminated pyrite						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2641	86.58	86.98	0.40	0.17	0.005
		88.84 - 88.86 Calcite-Quartz Vein (1cm)						
		- core axis angle 60 deg.; sharp contacts						
		- contains 20% disseminated pyrite						
			2642	88.65	89.05	0.40	0.17	0.005
		92.85 - 92.89 Quartz-Calcite Vein (2cm)						
		- core axis angle 45 deg.; sharp contacts						
		- minor pyrite in vein and adjacent						
		- remobilized basalt						
			2643	92.67	93.07	0.40	0.17	0.005
			2644	95.88	96.88	1.00	0.34	0.010
		96.88 - 99.52 $	2645	96.88	97.53	0.65	0.34	0.010
		Alteration qv; Sulphide Py=3;	2646	97.53	97.93	0.40	0.17	0.005
		Quartz Vein (19cm) , Quartz Vein Material and Silicified Basalt	2647	97.93	98.52	0.59	0.17	0.005
		96.88 - 96.95 Quartz-Calcite Vein (5cm)						
		- core axis angle 65 deg;						
		- constitutes upper contact of "zone", grey-white quartz						
		- 3% disseminated pyrite						
		- basalt inclusions						
		- some calcite veining to 20cm above						
		96.95 - 97.33 $						
		Alteration slcs; Sulphide Py=3;						
		Quartz Vein Material in Silicified Basalt						
		- 40% white quartz in dark grey, silicified basalt - mottled appearance						
		- 3% pyrite disseminated and in small blebs						
		97.33 - 97.53 $						
		Alteration qv; Sulphide Py=20;						
		Quartgz Vein Proper (19cm)						
		- core axis angle 50 deg;						
		- abundant pyrite concentrated near lower contact; including two blebs both measuring approx. 1.5cm x 1cm						
		- contacts well defined						
		- basalt inclusions						
		97.53 - 97.84 Silicified Basalt						
		- 4% pyrite disseminated and in blebs						
		97.84 - 97.89 Quartz Vein (4cm)						
		- core axis angle 50 deg;						
		- 2% disseminated pyrite						
		- grey-white quartz						
		- some remobilized basalt inclusions						
		97.89 - 98.52 Silicified Basalt						
		- similar to 87.53 - 99.84m except 1% disseminated pyrite						
		98.52 - 99.52 Highly Silicified Basalt	2648	98.52	99.52	1.00	0.17	0.005
		- "glassy grey"						
		- basalt texture obscured						
		- 1% pyrite; 1% pyrrhotite						
99.52	135.40	BSLT Basalt						
		- dark grey; fine-grained; massive; quartz-calcite veining only occasional						
			2649	99.52	100.52	1.00	2.74	0.080
		102.01 - 102.03 Calcite-Quartz Veinlet (0.5cm)						
		- core axis angle 60 deg;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- minor disseminated pyrite						
			2650	102.00	102.40	0.40	0.17	0.005
		118.55 - 118.68 Quartz-Calcite Vein (2cm)						
		- very low core axis angle; trace pyrite						
		- calcite and greenish-yellow carbonate(?)						
			2651	118.41	118.81	0.40	0.17	0.005
		119.17 - 119.19 Quartz-Calcite Vein (1cm)						
		- core axis angle 50 deg;						
		- minor pyrite						
			2652	118.98	119.38	0.40	0.17	0.005
		120.80 - 120.83 $	2653	120.41	120.81	0.40	0.34	0.010
		Alteration qcv;						
		Quartz-Calcite Vein (1.5cm)						
		- core axis angle 55 deg.; minor pyrite						
		123.44 - 123.68 Quartz-Calcite Vein (approx. 16cm)						
		- core axis angle 25 deg;						
		- rich in remobilized chloritized basalt inclusions - greenish-yellow carbonate(?) present (5%)						
		- no sulphides seen						
			2654	123.34	123.74	0.40	0.17	0.005
		126.54 - 126.57 Quartz-Calcite Vein (2cm)						
		- core axis angle 80 deg;						
			2655	126.35	126.75	0.40	0.17	0.005
135.40	136.07	GNTC INTV Granitic Intrusive						
		- mottled salmon pink, green, black and grey-white in colour; very fine to medium-grained; k-spar, quartz, hornblende (? - acicular) - light green, hard mineral seen in intrusive at 78.36 - 78.43m - grey-white quartz bleb in center of unit						
		- contacts sharp at 65 deg. (upper) and 35 deg. (lower) core axis angles						
136.07	149.52	BSLT Basalt						
		- as from 99.52 - 135.40m						
		140.32 - 140.34 Calcite-Quartz Vein (1cm)						
		- core axis angle 55 deg.; minor pyrite						
			2656	140.13	140.53	0.40	0.17	0.005
		145.85 - 146.37 Quartz and Quartz-Calcite Veining in Basalt	2657	145.85	146.37	0.52	0.17	0.005
		- largest 1cm						
		- varying core axis angle						
		- all have minor disseminated pyrite						
149.52	150.79	FPPP INTV Feldspar Porphyry Intrusive						
		- as seen previously in this log; refer to 60.14 - 61.94m - no quartz-eyes seen						
		149.90 - 149.95 Pyrrhotite-Chalcopyrite Veinlet (0.4cm)						
		- discontinuous and irregular						
		- core axis angle very roughly 80 deg;						
		- 90% pyrrhotite; 10% chalcopyrite						
		148.63 - 148.68 Intrusive Material in Basalt (Felsic)						
		- irregular contacts						
		- quartgz with coarse-grained euhedral feldspar (k-spar?) - some of the k-spar has altered pale green						
		- minor pyrite						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- mottled white, grey-white and green						
				2658	149.70	150.10	0.40	0.17	0.005
				2659	148.45	148.85	0.40	0.17	0.005
150.79	183.02	BSLT	Basalt						
			- grey-green; very fine-grained						
			- muscovite/sericite (?), pyroxene (?) grains visible - fresh						
			161.08 - 161.18 Felsic Intrusive (6cm)						
			- low core axis angle; irregular but sharp contacts - similar in appearance to 148.63 - 148.68m but k-spar in unaltered; discrete inclusions of basalt						
			- 3% bright green mineral, possibly fuschite?						
				2660	160.93	161.33	0.40	0.17	0.005
			167.23 - 167.27 Quartz Vein (1cm)						
			- core axis angle 45 deg;						
			- grey-white quartz						
			- large inclusions of basalt						
			- surrounded by carbonatized and chloritized alteration halo (4cm on either side)						
			- trace pyrite						
				2661	167.05	167.45	0.40	0.17	0.005
			171.17 - 171.20 Quartz-Calcite Vein (1cm)						
			- core axis 60 deg.; sharp contacts						
			- 1% pyrite						
				2662	171.00	171.40	0.40	0.17	0.005
			171.63 - 171.65 Quartz-Calcite Vein (1cm)						
			- core axis angle 80 deg;						
				2663	171.40	171.80	0.40	0.00	
			173.76 - 173.78 Quartz-Calcite Vein (1.5cm)						
			- core axis angle 65 deg;						
			- 2% pyrite, disseminated and in blebs						
			- alteration halo (chlorite + carbonate) , 173.74 - 173.84m						
				2664	173.59	173.99	0.40	0.17	0.005
			178.80 - 1778.83 Quartz-Calcite Vein (1.5cm)	2665	178.61	179.01	0.40	0.17	0.005
			- core axis angle 60 deg;	2666	179.21	179.61	0.40	0.17	0.005
			- 1% pyrite, disseminated	2667	179.61	181.07	1.46	0.17	0.005
			- remobilized basalt inclusions	2668	182.75	183.15	0.40	0.34	0.010
			179.35 - 179.48 Quartz-Calcite Vein (11cm)						
			- core axis angle 40 deg;						
			- grey-white quartz in center of vein; calcite concentrated near edges - remobilized basalt inclusions						
			- trace pyrite; trace fuschite						
			179.61 - 181.07 Calcite Veining and Carbonatization						
			- calcite veinlets at various orientations						
			- green carbonate also present in some quartz-calcite vein material - trace pyrite in veinlets						
			- minor pyrite, trace pyrrhotite in basalt						
			182.98 - 183.00 $						
			Alteration qcv:						
			Quartz-Calcite Vein (8cm)						
			- core axis angle 55 deg.; contacts rather vague, as immediately surrounding basalt is silicified						
			- calcite and quartz segregated						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- minor pyrite						
		- near feldspar porphyry; hence silicification?						
183.02	185.70	FPPP INTV Feldspar Porphyry Intrusive						
		- as seen previously in this log; refer to 60.14 - 61.94m						
		- 2% pyrite, disseminated and in veinlets						
		- 1% very fine-grained disseminated pyrrhotite						
		185.51 - 185.57 Altered Prophyry; Weak Shearing						
		- foliation, contacts at core axis angle 50 deg;						
		- plagioclase phenocrysts obscured						
		- minor pyrite; trace pyrrhotite						
185.70	221.22	BSLT Basalt						
		- as from 150.79 - 183.02m except quartz-calcite veining more common						
			2669	185.34	185.74	0.40	0.17	0.005
		187.40 - 187.42 Quartz Vein (1.5cm)						
		- core axis angle 80 deg;						
		- massive grey-white quartz						
		- trace pyrite						
		- 2 other quartz-calcite veins, smaller, nearby						
			2670	187.35	187.87	0.52	0.17	0.005
		190.63 - 190.68 Quartz-Carbonate Vein (4cm)						
		- core axis angle approx. 75 deg.; contacts irregular and vague - quartz has a dull green tint to it (due to resorption of basalt?) - yellow-green carbonate (?)						
		- vein predominantly quartz						
		- 4% non-magnetic pyrrhotite in veinlets						
			2671	190.45	190.85	0.40	0.17	0.005
		191.90 - 191.93 Quartz-Calcite Vein (2cm)						
		- core axis angle 85 deg.; contacts sharp						
		- 1% pyrite						
			2672	191.71	192.11	0.40	0.17	0.005
		193.97 - 194.16 $						
		Alteration qcv; Sulphide Py=1;						
		Quartz-Calcite Vein (16cm)						
		- core axis angle 55 deg;						
		- predominantly massive quartz with basalt inclusions						
		- 1% disseminated pyrite						
		- carbonatization of surrounding basalt (approx. 10cm either side)						
			2673	193.96	194.36	0.40	0.17	0.005
			2674	192.96	193.96	1.00	0.17	0.005
			2675	194.36	195.36	1.00	0.34	0.010
		195.50 - 195.87 Quartz-Carbonate Vein Material						
		- highly irregular pattern						
		- quartz, calcite, yellow-green carbonate, minor feldspar (albite?) - possibly felsic intrusive material?						
		- no sulphides seen						
			2676	195.49	195.89	0.40	0.17	0.005
		200.83 - 201.38 Quartz-Carbonate Vein (2.5cm) and Alteration Halo	2677	200.83	201.38	0.55	0.17	0.005
		- quartz-carbonate vein 201.10 - 201.14m						
		- core axis angle 45 deg;						
		- alteration intense, particularly below the vein						
		- chloritization, carbonatization						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- quartz-calcite stringers - minor pyrite (3% immediately adjacent to vein)						
202.41	202.44	Quartz-Calcite Vein (1.5cm) - core axis angle 50 deg.; contacts sharp - predominantly quartz						
			2678	202.22	202.62	0.40	0.17	0.005
203.86	203.97	Granitic Intrusive - reddish-brown in colour - blebs of quartz surrounded by aphanitic k-feldspar material - calcite veinlets near contacts - basalt immediately adjacent (3cm wither side) "cooked", friable						
204.20	204.23	Narrow Granitic Intrusive - as from 203.86 - 203.97m - core axis angle 65 deg;						
207.95	207.98	Quartz-Calcite Vein (2cm) - core axis angle 65 deg; - moderately carbonatized basalt to 70cm above vein						
			2679	207.28	208.03	0.75	0.17	0.005
210.48	210.68	Granitic Intrusive Material in Basalt - irregular blebs - quartz, k-spar, calcite, altered plagioclase?						
211.04	211.09	Quartz-Calcite Vein (3cm) - core axis angle 55 deg; - 1% disseminated pyrite - very weak shearing immediately above vein?						
			2680	210.86	211.26	0.40	0.17	0.005
211.94	211.99	Calcite-Quartz Vein (3cm) - core axis angle approx. 50 deg; - predominantly calcite - numerous resorbing basalt inclusions - 2% disseminated pyrite - carbonatization and chloritization to 15cm below vein						
			2681	211.76	212.16	0.40	0.17	0.005
213.00	213.31	Driller's Diesel Rock - black - stinks of diesel - oily lustre - basalt inside						
217.94	218.17	Granitic Intrusive - quartz blebs, fine-grained white feldspar (orthoclase?) - irregular contacts						
218.85	218.90	$ Alteration qcv; Sulphide Py=1; Calcite-Quartz Vein (2cm) - core axis angle 55 deg.; contacts not very sharp - abundant remobilizing basalt - 1% disseminated pyrite						
			2682	218.67	219.07	0.40	0.34	0.010
220.78	220.80	Calcite-Quartz Vein (1cm) - core axis angle approx. 80 deg; - trace pyrite						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2683	220.59	220.99	0.40	0.17	0.005
221.22	221.22	E.O.H. End of Hole						

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.97	Northing	3+87S	Grid Orient	20.00	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	October 1, 1987	Logged by	P. Cheung
Property	Shoal Lake (KPM)	Easting	11+91E	Grid Azim.	10.00	294.0	- 42	030		383.0	- 40	030		Finished	October 5, 1987	Checked by	K. Leonard
Section	12+30E	Elevation	331.38	Length (M)	384.00									Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	3+09.02S	Dip-Collar	-45.00									Drill No.		Comments:	150m vert. under
Target	C.I. Mainland Zone	Survey E.	12+43.35E	Comp Bearing	30.00									Drill For.			DH 55 & 32.

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne

SUMMARY

0.00	5.20	CASING	Casing
5.20	36.18	BSLT	Basalt
36.16	45.20	BLPP	Basalt, Feldspar Porphyritic
45.20	54.00	BSLT	Basalt
54.00	60.60	BLPP	Basalt, Feldspar Porphyry
60.60	175.43	BSLT	Basalt
175.43	177.16	FPPP INTV	Feldspar Porphyry Intrusive
177.16	205.69	BSLT	Basalt
205.69	206.96	FPPP INTV	Feldspar Porphyry Intrusive
214.55	215.10	FLSC INTV	Felsic Intrusive
215.10	226.72	BSLT	Basalt
227.72	228.38	GNTC INTV	Granitic Intrusive
228.38	233.42	BSLT	Basalt
233.42	236.50	DORT INTV	Dioritic Intrusive
236.50	250.72	BSLT	Basalt
250.72	254.08	GNTC INTV	Granitic Intrusive
254.08	256.00	BSLT	Basalt
276.80	279.00	FPPP INTV	Feldspar Porphyry Intrusive
279.00	293.10	BSLT	Basalt

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
293.10	295.98	FPPP	Feldspar Porphyry						
295.98	304.90	BSLT	Basalt						
304.90	306.02	DORT INTV	Dioritic Intrusive						
306.02	309.16	BSLT	Basalt						
309.16	311.03	FLSC INTV	Felsic Intrusive						
311.03	318.72	BSLT	Basalt						
320.62	377.12	BSLT	Basalt						
321.65	323.03	DORT	Diorite						
333.12	333.93	FPPP	Feldspar Porphyry						
343.87	344.15	FPPP	Feldspar Porphyry						
347.60	348.21	GNTC INTV	Granitic Intrusive						
349.76	350.94	GNTC INTV	Granitic Intrusive						
377.12	379.95	DORT INTV	Dioritic Intrusive						
379.95	384.00	BSLT	Basalt						
384.00	384.00	E.O.H.	End of Hole						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
0.00	5.20	CASING	Casing						
5.20	36.18	BSLT	Basalt						
			- fine to medium-grained						
			- massive, dark green						
			- trace of pyrite and chalcopyrite						
			- total sulphide <<1%						
			- cut by numerous fractures filled by calcite stringer @ 25 deg. - 35 deg. to LCA						
			13.00 - 13.01 - quartz-calcite stringer at 45 deg. to LCA (1cm wide)						
			13.16 - quartz-calcite stringer at 30 deg. to LCA (0.5cm wide)						
			13.28 - 13.29 - quartz-calcite stringer at 45 deg. to LCA (1cm wide)						
				2124	23.60	24.00	0.40	0.005	0.17
			24.00 - 30.00 - increasing intensity with appearance quartz-calcite stringer	2123	24.00	24.40	0.40	0.005	0.17
			24.00 - 24.36 - silicified and carbonatized zone						
			- laminated						
			- minor sulphide (pyrite) <<1%						
			- two quartz-carbonate (approx. 0.5cm) within the zone at 45 deg. to LCA						
				2125	24.40	24.80	0.40	0.005	0.17
				2126	25.50	25.90	0.40	0.005	0.17
			26.10 - 26.11 - quartz-calcite stringer at 75 deg. to LCA						
			- 1% pyrite						
			26.13 - quartz-calcite stringer at 75 deg. to LCA						
			- 10% pyrite						
				2127	25.90	26.30	0.40	0.005	0.17
				2128	26.30	26.70	0.40	0.005	0.17
36.16	45.20	BLPP	Basalt, Feldspar Porphyritic						
			36.18 - 39.20 - sparsely feldspar porphyritic basalt						
			- medium to fine anhedral feldspar in fine to medium-grained basaltic matrix						
			- feldspar phenocrysts appear pale green (chloritized) - unit cut by carbonate-filled hairline fractures mostly at 45 deg. to LCA - locally minor sulphide (pyrite <<1%)						
			39.20 - 40.65 Feldspar Porphyritic Basalt						
			- same as above except with denser abundance of chloritized feldspar phenocrysts						
			40.65 - 42.32 - sparsely porphyritic feldspar basalt						
			- same as between 36.18 - 39.20m						
			42.32 - 45.20 Porphyritic Feldspar Basalt						
			- same as between 39.20 - 40.65m						
45.20	54.00	BSLT	Basalt						
			- fine to medium-grained						
			- same as 5.20 - 36.18m						
			- slightly silicified						
			- occasionally specks of pyrite						
			- hairline fractures to fractures 0.2cm wide filled by calcite stringer with quartz						
54.00	60.60	BLPP	Basalt, Feldspar Porphyry						
			- coarse-grained						
			- same as between 39.20 - 40.65m						
			- contacts with massive basalt - gradational						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
60.60	175.43	BSLT Basalt						
		- fine to medium-grained basalt						
		- same as between 39.20 - 40.65m						
		65.60 - 65.80 - siliceous zone						
		- three minute (<1/2cm) quartz-calcite stringers at 45 - 50 deg. to LCA - no visible sulphide						
			2129	65.40	66.00	0.60	0.005	0.17
		66.43 - 66.53 - quartz stringer cut by hairline fractures filled with calcite						
		- 5% mafic inclusion						
		- minor carbonate						
		- no visible sulphide						
		- contacts sharp at 30 deg. to LCA						
			2130	66.30	66.70	0.40	0.005	0.17
			2131	72.15	72.55	0.40	0.005	0.17
		72.70 - 72.80 - siliceous zone						
		- 2 quartz-calcite stringers (1cm wide)						
		- sharp contacts at 30 deg. to LCA						
		- foliated with foliation at 30 deg. to LCA						
		- sulphide along foliation						
		- 2% pyrite						
			2132	72.55	72.95	0.40	0.005	0.17
			2133	72.95	73.35	0.40	0.005	0.17
		74.53 - 74.54 - quartz-calcite stringer						
		- sharp contacts at 45 deg. to LCA						
		93.00 - 123.00 - increasing abundance of quartz-calcite stringers - mostly at 30 deg. to LCA	2134	101.10	101.60	0.50	0.100	3.43
		ranging from hairline to 2-3mm	2135	103.20	103.60	0.40	0.005	0.17
		- most stringers do not have visible sulphides	2136	103.60	104.00	0.40	0.005	0.17
		101.16 - 101.17 $						
		Alteration q stgr;						
		- quartz stringer - 45 deg. to LCA						
		- 5% calcite; 5% mafics						
		- non-sulphide-bearing						
		101.46 - 101.47 $						
		Alteration q stgr; Sulphide Py=2;						
		- quartz stringer - 45 deg. to LCA						
		- 5% calcite; 2% pyrite along mafic lamination						
		103.84 - 103.87 - quartz stringer						
		- blue-grey						
		- at 70 deg. to LCA						
		- 2% pyrite						
		- contacts sharp						
			2137	104.00	104.40	0.40	0.010	0.34
		104.90 - 106.40 $	2138	104.90	106.40	1.50	0.010	0.34
		Alteration slcs; Sulphide Py=1;						
		- siliceous zone						
		- extremely siliceous						
		- blue-grey						
		- 1% pyrite						
			2139	120.85	121.25	0.40	0.005	0.17
		121.45 - 121.46 $						
		Alteration qc stgr; Sulphide Py=10;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
		- quartz-calcite stringer - 80 deg. to LCA - 10% pyrite						
			2140	121.25	121.65	0.40	0.060	2.06
			2141	121.65	122.05	0.40	0.005	0.17
			2142	122.45	122.85	0.40	0.005	0.17
		123.00 - 123.10 - 3 quartz-calcite stringers - 1cm wide each at 20 - 30 deg. to LCA - 5% pyrite						
			2143	122.85	123.25	0.40	0.010	0.34
			2144	123.25	123.65	0.40	0.005	0.17
		126.30 - 130.40 - sparsely feldspar porphyritic basalt - minute (approx. 0.1cm to 0.2cm) pale green (hard) anhedral phenocrysts (plagioclase?) disperse in a fine to medium-grained matrix - occasionally the phenocrysts concentrated in patches						
		129.40 - 129.43 Quartz Stringer - sharp contacts - 45 deg. to LCA - minor calcite - no visible sulphides						
		145.35 - 145.61 Felsic Intrusive - light grey; coarse-grained - strongly altered and silicified - upper contact sharp at 30 deg. to LCA - lower contact sharp but irregular approx. 45 deg. to LCA - minor mafic minerals approx. 5%						
		145.61 - 145.81 Altered Basalt - greyish-green; silicified						
		153.20 - 155.90 Moderately Altered Basalt (Chloritized) - carbonatized with intensive calcite veining - generally non-sulphide-bearing						
		155.90 - 155.96 Carbonate-Quartz Stringer - at 45 deg. to LCA - 1% pyrite						
			2145	155.80	156.20	0.40	0.005	0.17
		161.30 - 161.39 Quartz Veinlet - greyish; fractures filled by calcite and mafic - non-sulphide-bearing - sharp contacts at 60 deg. to LCA						
			2146	161.15	161.55	0.40	0.005	0.17
		164.34 - 164.41 Quartz Veinlet - upper contact sharp at 45 deg. to LCA - lower contact gradational - 30% mafic inclusion - no visible sulphides						
			2147	164.20	164.60	0.40	0.005	0.17
175.43	177.16	FPPP INTV Feldspar Porphyry Intrusive - feldspar phenocrysts (approx. 30 - 40%) in a fine to medium-grained mafic groundmass - phenocrysts range in size from 0.1cm to 0.5cm, from anhedral to euhedral - mildly altered - small hairline fractures filled by calcite stringer - upper contact sharp						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
		at 70 deg. to LCA						
		- lower contact approx. 60 deg. to LCA						
		176.20 - 176.72 Basalt						
		- dark green; fine-grained						
177.16	205.69	BSLT Basalt						
		- fine-grained; dark green						
		- same as between 5.20 - 36.18m						
		179.70 - 186.00 Strongly Altered Basalt	2148	180.20	181.20	1.00	0.005	0.17
		- upper contacts gradational	2149	181.20	182.20	1.00	0.005	0.17
		- carbonatized	2150	182.20	182.60	0.40	0.060	2.06
		- silicified; chloritized	2151	182.60	183.00	0.40	0.160	5.49
		180.66 - 181.46 - cut intensively by calcite stringers approx. 2mm wide at approx. 70 - 80 deg; to LCA						
		- minor quartz approx. 5 - 10% associated with calcite						
		181.70 - 181.74 - calcite veinlet						
		- sharp contacts at 45 deg. to LCA						
		182.00 - 182.66 - more siliceous						
		- moderately laminated with lamination at 45 deg. to LCA - minor sulphide <1% pyrite						
		182.66 - 182.90 $						
		Alteration qv; Sulphide Py=10;						
		Mineralized Quartz Vein						
		- upper contact at 45 deg. to LCA						
		- lower contact gradational						
		- blue-grey quartz with 10% pyrite						
		- cut by mafic lamination at 45 deg. to LCA						
		- weakly carbonatized with few calcite-filled hairline fractures						
		182.90 - 185.90 Altered Basalt	2152	183.00	183.40	0.40	0.005	0.17
		- same as between 180.66 - 181.46m	2153	183.40	184.40	1.00	0.005	0.17
			2154	184.40	185.40	1.00	0.005	0.17
		189.00 - 190.90 Porphyritic Feldspar Basalt						
		- pale green chloritized feldspar phenocrysts in a dark green basalt matrix						
		194.63 - 194.67 Quartz Stringer						
		- at 30 deg. to LCA						
		- blue-grey non-sulphide-bearing						
205.69	206.96	FPPP INTV Feldspar Porphyry Intrusive						
		- euhedral to anhedral feldspar (40%) ranging from 0.1cm to 0.5cm - upper contact at 90 deg. to LCA						
		- lower contact at 80 deg. to LCA						
		205.83 - 205.87 Quartz-Calcite stringer						
		- at 10 deg. to LCA						
		206.96 - 214.55 Basalt	2155	213.00	213.40	0.40	0.010	0.34
		- same as between 5.20 - 36.18m	2156	214.15	214.55	0.40	0.010	0.34
		210.22 - 210.27 Quartz Feldspar Intrusive						
		- sharp contacts at 45 deg. to LCA						
		213.26 - 213.27 $						
		Alteration qc stgr; Sulphide Py=5;						
		- quartz-calcite stringer at 45 deg. to LCA						
		- 5% pyrite						
			2157	213.40	214.15	0.75	0.005	0.17
			2158	212.60	213.00	0.40	0.005	0.17
		214.44 - 214.45 $						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
			Alteration q stgr; Sulphide Py=1; - quartz stringer at 90 deg. to LCA - 1% pyrite						
214.55	215.10	FLSC INTV	Felsic Intrusive - mainly quartz-feldspar (medium to coarse-grained) - sharp upper contact at 45 deg. to LCA - lower contact at approx. 80 deg. to LCA						
215.10	226.72	BSLT	Basalt - dark green - fine-grained - intense fractures (from hairline to 0.2cm) filled by calcite - most calcite stringers at 45 - 30 deg. to LCA - same as 5.20 - 36.18m						
				2159	215.80	216.20	0.40	0.005	0.17
	216.44 - 216.32 $		Alteration q vnlt; Quartz Veinlet - upper contact approx. 80 deg; - lower contact approx. 45 deg; - dark bluish-grey - 5 - 10% mafic - 5% pyrite						
	216.52 - 217.00		Basalt	2160	216.20	216.60	0.40	0.010	0.34
			- carbonatized	2161	216.60	217.00	0.40	0.005	0.17
			- numerous hairline fracture-filled by calcite - most calcite replaced by sulphide - 3% pyrite						
				2162	217.00	217.40	0.40	0.005	0.17
	222.30 - 224.60		Intensive Calcite Veining	2163	222.40	222.80	0.40	0.005	0.17
			- most calcite stringers approx. 1/2cm wide	2164	222.80	223.20	0.40	0.005	0.17
			- most stringers at 30 - 45 deg. to LCA	2165	223.20	223.60	0.40	0.020	0.69
	223.00 - 223.60 $		Alteration slcs; Sulphide Py=2; - siliceous zone with minute 2-3mm quartz stringer (blue-grey quartz) - 2% pyrite						
	223.40 - 223.50 $		Alteration q stgr; Sulphide Py=4; Quartz Stringer - contacts gradational - associate with calcite stringers filling hairline fractures - 4% pyrite						
				2166	223.60	224.00	0.40	0.005	0.17
				2167	217.90	218.30	0.40	0.005	0.17
227.72	228.38	GNTC INTV	Granitic Intrusive - coarse-grained feldspar and quartz + 1-% mafic - upper contact at 45 deg. to LCA - lower contact at 30 deg. to LCA						
228.38	233.42	BSLT	Basalt - fine-grained - same as 5.20 - 36.18m						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
		232.67 - 232.93 Granitic Intrusive						
		- same as between 227.72 - 228.38m						
233.42	236.50	DORT INTV Dioritic Intrusive						
		- coarse-grained quartz-feldspar + 10% mafic						
		- upper contact sharp at 15 deg. to LCA						
		- lower contact sharp at 80 deg. to LCA						
236.50	250.72	BSLT Basalt						
		- same as between 5.20 - 36.18m						
		238.10 - 238.11 $						
		Alteration q stgr; Sulphide Py=2;						
		Quartz Stringer						
		- blue-grey quartz						
		- sharp contacts at 10 deg. to LCA						
		- 2% pyrite						
		242.67 - 242.79 $						
		Alteration qc vnlt; Sulphide Py=2;						
		Quartz-Calcite Veinlet						
		- contacts at 30 deg. to LCA						
		- 2% pyrite						
			2168	242.45	243.00	0.55	0.005	0.17
		249.94 - 250.00 Granitic Intrusive						
250.72	254.08	GNTC INTV Granitic Intrusive						
		- medium to coarse-grained quartz-feldspar						
		- weakly altered						
		- upper contact approx. 40 deg. to LCA						
		- lower contact approx. 45 deg. to LCA						
254.08	256.00	BSLT Basalt						
		- dark green, fine-grained basalt						
		- same as between 5.20 - 36.18m						
		253.90 - 256.00 Foliated Basalt	2169	254.00	255.00	1.00	0.005	0.17
		- foliation approx. 10 to 20 deg. to LCA	2170	255.00	256.00	1.00	0.005	0.17
		- moderately silicified						
		254.17 - 254.77 $						
		Sulphide Po=10 Py=10;						
		Mineralized Basalt						
		- 10% pyrrhotite and pyrite combined						
		254.80 Quartz Stringer						
		- dark blue-grey quartz						
		- 20 deg. to LCA						
		- no visible sulphide						
		255.20 - 256.00 $						
		Sulphide Po=10 Py=10;						
		Mineralized Basalt						
		- same as between 254.17 - 254.77m						
			2171	257.10	257.70	0.60	0.010	0.34
			2172	264.10	264.50	0.40	0.005	0.17
		269.50 - 269.83 Granitic Intrusive						
		- coarse-grained quartz feldspar						
		- upper contact 45 deg.; lower contact 70 deg. to LCA						
		271.40 - 272.00 - stronger chloritization						
		- dark green basalt-altered to pale green basalt						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
			273.50 - 273.63 Granitic Intrusive						
			- reddish-pink granite veinlet						
				2173	274.95	275.25	0.30	0.005	0.17
			275.36 - 275.43 - stronger silicification						
			- 2% pyrrhotite along lamination at 10 deg. to LCA						
				2174	275.25	275.65	0.40	0.005	0.17
				2175	275.65	276.05	0.40	0.005	0.17
276.80	279.00	FPPP INTV	Feldspar Porphyry Intrusive						
			- same as 175.43 - 177.16m						
279.00	293.10	BSLT	Basalt						
			- same as between 254.08 - 256.00m						
			- locally mineralized with fine-grained disseminated pyrite approx. 1%						
			279.50 - 279.56 - carbonatized zone with stronger chloritization						
			- 5% pyrite along foliation at 45 deg. to LCA						
			280.06 - 280.12 - same as between 279.50 - 279.56m						
			- 5% pyrite and pyrrhotite combined						
				2176	279.00	280.20	1.20	0.005	0.17
				2177	280.20	281.20	1.00	0.005	0.17
			282.00 - 283.04 - basalt with intensive fracturing filled by calcite veinlets - calcite veinlet crosscut by pyrrhotite veinlets	2178	282.00	283.04	1.04	0.005	0.17
			- approx. 2% pyrrhotite with minor pyrite						
			285.30 - 285.90 Basalt	2179	285.30	285.90	0.60	0.005	0.17
			- same as between 282.00 - 283.04m						
			286.60 - 290.54 $	2180	285.90	287.30	1.40	0.005	0.17
			Alteration slfn clrn crbn; Sulphide Po=50 Py=30;	2181	287.30	288.70	1.40	0.005	0.17
			Mineralized Basalt	2182	288.70	290.20	1.50	0.005	0.17
			- silicification; chloritization - strong chloritization locally - carbonatization						
			- disseminated sulphides mostly pyrrhotite with pyrite throughout and massive sulphides locally						
			- most of the sulphides appear as stringers replacing original calcite-quartz stringers(?)						
			290.54 - 290.59 Granitic Intrusive						
			- sharp contacts at 45 deg. to LCA						
			290.59 - 293.10 Mineralized Basalt	2183	290.60	291.60	1.00	0.005	0.17
			- same as between 286.60 - 290.54m	2184	291.60	293.10	1.50	0.005	0.17
293.10	295.98	FPPP	Feldspar Porphyry						
			- same as between 205.68 - 206.86m						
			- <1% disseminated pyrite and pyrrhotite						
295.98	304.90	BSLT	Basalt						
			295.98 - 304.90 $	2185	296.00	297.50	1.50	0.005	0.17
			Sulphide Po=50 Py=30;	2186	297.50	298.90	1.40	0.005	0.17
			Mineralized Basalt	2187	298.90	300.30	1.40	0.005	0.17
			- same as between 286.60 - 290.54m	2188	300.30	301.50	1.20	0.005	0.17
			300.85 - 300.88 Quartz-Calcite Veinlet						
			- contacts at 75 deg. to LCA						
			- no visible sulphiides						
			301.39 - 301.41 Quartz-Calcite Veinlet						
			- at 60 deg. to LCA						
			- no visible sulphides						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
		301.46 - 301.47 Quartz-Calcite Veinlet						
		- at 60 deg. to LCA						
		- no visible sulphides						
		301.47 - 301.89 Felsic Intrusive						
		- same as 258.33 - 268.30m						
		301.89 - 303.50 Mineralized Basalt	2189	302.00	303.50	1.50	0.005	0.17
		303.50 - 303.75 Granitic Intrusives						
		- sharp contact at 45 deg. to LCA						
		303.75 - 304.90 Mineralized Basalt	2190	303.75	304.90	1.15	0.005	0.17
304.90	306.02	DORT INTV Dioritic Intrusive						
		- coarse-grained quartz-feldspar + 10% mafics						
		- contacts sharp - upper at 60 deg. to LCA; lower at 60 deg. to LCA						
		305.18 - 305.21 Granitic Intrusives						
		- sharp contacts at 60 deg. to LCA						
		305.28 - 305.36 Granitic Intrusive						
		- upper contacts at 45 deg. to LCA						
		- lower contact at 75 deg. to LCA						
306.02	309.16	BSLT Basalt						
		306.02 - 309.16 $	2191	306.10	307.60	1.50	0.005	0.17
		Sulphide Po=15 Py=10;	2192	307.60	309.10	1.50	0.005	0.17
		Mineralized Basalt						
		306.31 - 306.32 Quartz-Calcite Stringer						
		- at 30 deg. to LCA						
		- non-sulphide-bearing						
		306.39 - 306.40 Quartz-Calcite Stringer						
		- contacts at 70 deg. to LCA						
		- no visible sulphide						
		306.98 - 307.00 $						
		Sulphide Po=50;						
		Massive Pyrrhotite Stringer						
		- sharp contacts at 60 deg. to LCA						
		- 50% pyrrhotite						
		- probably replacement of quartz-calcite vein material by sulphide						
309.16	311.03	FLSC INTV Felsic Intrusive						
		309.16 - 309.26 - coarse-grained granitic intrusive with minor mafics - upper contact at approx. 60 deg. to LCA						
		- lower contact gradational						
		309.26 - 309.62 Dioritic Intrusives						
		- medium to coarse-grained quartz-feldspar and 20% medium to fine-grained mafics						
		309.62 - 309.74 - fine-grained basalt						
		- upper contact approx. 45 deg. to LCA						
		- lower contact approx. 80 deg. to LCA						
		309.74 - 310.13 Diorite						
		- higher degree of alteration						
		- most minerals appear to be re-crystallized						
		- lower contact approx. 60 deg. to LCA						
		310.13 - 310.59 Granitic Intrusive						
		- medium to coarse-grained quartz-feldspar with distinct pinkish granitic colour						
		310.59 - 310.77 Diorite Intrusive						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
			310.77 - 310.83 - fine-grained basalt						
			310.83 - 311.03 Diorite Intrusive						
			- lower contact sharp approx. 30 deg. to LCA						
311.03	318.72	BSLT	Basalt						
			- fine-grained						
			- locally strong chloritization						
			- disseminated sulphide throughout						
			- patches of pyrrhotite appear randomly						
				2193	311.00	312.00	1.00	0.005	0.17
				2194	312.00	313.50	1.50	0.005	0.17
			316.68 - 316.76 Quartz Veinlet						
			- blue-grey						
			- upper contact 30 deg. to LCA						
			- lower contact 70 deg. to LCA						
			- 5% sulphide mostly pyrrhotite						
				2195	316.50	316.90	0.40	0.005	0.17
			318.00 - 318.72 - strong sulphide mineralization	2196	318.00	318.72	0.72	0.005	0.17
			- 10% pyrrhotite and minor pyrite						
			318.72 - 320.62 Granitic Intrusive						
			- medium to coarse-grained quartz-feldspar granite - upper contact 50 deg. to LCA						
			- lower contact 60 deg. to LCA						
320.62	377.12	BSLT	Basalt						
			- fine-grained						
			320.65 - 320.72 Granite						
			- sharp contacts 45 deg. to LCA						
321.65	323.03	DORT	Diorite						
			- quartz-feldspar diorite						
			- upper contact 15 deg. to LCA						
			- lower contact 30 deg. to LCA						
				2197	329.00	330.50	1.50	0.005	0.17
				2198	330.80	332.30	1.50	0.005	0.17
				2199	332.30	333.10	0.80	0.005	0.17
333.12	333.93	FPPP	Feldspar Porphyry						
			- feldspar crystals approx. 0.5cm (approx. 20%) in a fine to medium-grained dark matrix						
			333.93 - 334.01 Granitic Intrusive						
				2200	339.00	340.50	1.50	0.005	0.17
343.87	344.15	FPPP	Feldspar Porphyry						
			- same as between 333.12 - 333.93m						
			- locally stronger alteration						
				2201	345.20	346.70	1.50	0.005	0.17
				2202	346.70	347.60	0.90	0.005	0.17
347.60	348.21	GNTC INTV	Granitic Intrusive						
			- upper contact 70 deg. to LCA						
			- lower contact 45 deg. to LCA						
349.76	350.94	GNTC INTV	Granitic Intrusive						
			- upper contact 80 deg. to LCA						
			- lower contact approx. 60 deg. to LCA						
			351.00 - 357.00 $	2203	351.00	352.50	1.50	0.005	0.17
			Sulphide Po=7;	2204	352.50	354.00	1.50	0.005	0.17

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne
		- strongly foliated and mineralized basalt	2205	354.00	355.50	1.50	0.005	0.17
		- foliation approx. 45 deg. to LCA	2206	355.50	357.00	1.50	0.005	0.17
		- pyrrhotite along foliation						
		- 5-10% pyrrhotite, minor pyrite						
			2207	357.00	358.50	1.50	0.005	0.17
		361.31 - 361.42 Granitic Intrusive						
		365.09 - 365.14 $						
		Sulphide Po=65 Py=4;						
		Massive Sulphide						
		- sharp contact at 70 deg. to LCA						
		- 60-70% sulphides - mostly pyrrhotite (magnetic) ; minor pyrite (cubic)						
		Sulphide Po=65 Py=4;						
			2208	364.50	365.50	1.00	0.005	0.17
		365.63 - 365.80 $						
		Massive Sulphide						
		- same as between 365.09 - 365.14m						
			2209	365.50	365.90	0.40	0.005	0.17
		366.19 - 366.22 $						
		Sulphide Po=20 Py=2;						
		Massive Sulphide						
		- sharp contacts apprrox. 70 - 80 deg. to LCA						
			2210	365.90	366.90	1.00	0.005	0.17
			2211	375.00	375.40	0.40	0.005	0.17
		376.25 - 376.44 Dioritic Intrusive						
		- coarse-grained quartz-feldspar diorite						
		- sharp contacts 30 - 40 deg;						
377.12	379.95	DORT INTV Dioritic Intrusive						
		- same as between 376.25 - 276.44m						
		377.68 - 377.84 Basalt						
		- fine-grained						
		- upper contact 75 deg. to LCA						
		- lower contact 30 deg. to LCA						
		377.92 - 377.94 $						
		Alteration q stgr;						
		Quartz Stringer						
		- clear quartz						
		- no visible sulphides						
		- contacts 20 deg. to LCA						
379.95	384.00	BSLT Basalt						
		- fine-grained						
		- upper contact 30 deg. to LCA						
		380.91 - 381.19 Granitic Intrusive						
		- contacts approx. 30 deg. to LCA						
		382.26 - 382.54 Granitic Intrusives						
384.00	384.00	E.O.H. End of Hole						

Meterage

From	To	Box
5.20	10.60	1
10.60	16.60	2
16.60	22.30	3

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne

22.30	28.10	4
28.10	33.80	5
33.80	39.60	6
39.60	45.40	7
45.40	51.50	8
51.50	57.50	9
57.50	63.20	10
63.20	69.10	11
69.10	75.00	12
75.00	80.75	13
80.75	86.50	14
86.50	92.40	15
92.40	98.20	16
98.20	104.10	17
104.10	109.80	18
109.80	115.60	19
115.60	121.40	20
121.40	127.30	21
127.30	133.10	22
133.10	139.00	23
139.00	144.70	24
144.70	150.70	25
150.70	156.70	26
156.70	162.50	27
162.50	168.30	28
168.30	174.10	29
174.10	180.00	30
180.00	185.90	31
185.90	191.60	32
191.60	197.30	33
197.30	203.20	34
203.20	209.00	35
209.00	214.70	36
214.70	220.70	37
220.70	226.40	38
226.40	232.30	39
232.30	238.20	40
238.20	243.90	41
243.90	249.70	42
249.70	255.50	43
255.50	261.30	44
261.30	268.40	45
268.40	272.20	46
272.20	278.70	47
278.70	284.50	48
284.50	290.20	49
290.20	296.10	50
296.10	301.80	51
301.80	307.60	52
307.60	313.50	53
313.50	319.20	54
319.20	325.00	55

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au oz_ton	Au g_tonne

325.00	330.80	56
330.80	336.60	57
336.60	342.30	58
342.30	348.10	59
348.10	354.00	60
354.00	360.00	61
360.00	365.90	62
365.90	371.40	63
371.40	377.30	64
377.30	382.90	65
382.90	384.00	66
384.00	384.00	EOH

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.98	Northing	5+06S	Grid Orient	20.00	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	October 4, 1987	Logged by	S. Boyle
Property	Shoal Lake (KPM)	Easting	18+64E	Grid Azim.	10.00	234.7	- 45	030						Finished	October 7, 1987	Checked by	K. Leonard
Section	18+88E	Elevation	349.12	Length (M)	234.70									Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	3+51.47S	Dip-Collar	-45.00									Drill No.		Comments:	125m vert. under
Target	C.I. Mainland Zone	Survey E.	19+47.03E	Comp Bearing	30.00									Drill For.		DH63 & 18+94E	

Kevin Leonard

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	7.10	CASING	Casing
7.10	10.69	FRCD BSLT	Fractured Basalt
10.69	12.17	BSLT	Basalt
12.17	13.63	SH BSLT	Sheared Basalt
13.63	21.27	BSLT	Basalt
21.27	23.21	SLFD BSLT	Silicified Basalt
23.58	26.34	SLFD BSLT	Silicified Basalt
26.34	30.73	BSLT	Basalt
30.73	31.15	GNTC INTV	Granitic Intrusive
31.15	82.20	BSLT	Basalt
82.20	86.19	FPPP INTV	Basalt, Feldspar Porphyritic
86.19	89.18	BSLT	Basalt
89.18	92.80	BSLT	Basalt
92.80	102.33	BSLT	Basalt
102.71	135.84	BSLT	Basalt
135.84	141.74	BSLT	Basalt
141.74	142.01	GNTC INTV	Granitic Intrusive
142.01	144.79	BSLT	Basalt
144.79	184.19	BSLT	Basalt

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
189.19	189.35	BSLT	Basalt						
189.72	195.60	FLSC INTV	Felsic Intrusive						
195.55	196.25	ALTD BSLT	Altered Basalt						
196.50	199.37	BSLT	Basalt						
199.52	227.42	BSLT	Basalt						
227.42	228.26	QTDR INTV	Quartz-Diorite Intrusive						
228.26	231.41	BSLT	Basalt						
231.41	233.76	QTDR INTV	Quartz-Diorite Intrusive						
231.41	233.76	QTDR INTV	Quartz-Diorite Intrusive						
233.76	234.72	SH BSLT	Sheared Basalt						
234.72	234.72	E.O.H.	End of Hole						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	7.10	CASING	Casing						
7.10	10.69	FRCD BSLT	Fractured Basalt - sheared, foliation at core axis angle approx. 30 deg; - profusely cut by quartz-calcite veinlets, some of which crosscut the foliation; some of the veinlets have weathered to limonite, indicating the rock is carbonatized and chloritized - presence of iron sulphides - basalt is fine-grained - granitic intrusive material is also present, the largest dyke being from 10.04 - 10.13m - creamy-white, fine-grained - moderate shearing	2684	7.07	8.07	1.00	0.17	0.005
10.69	12.17	BSLT	Basalt - fine-grained - dark grey-green - cut by quartz-calcite veinlets - calcite is pink - moderately carbonatized						
12.17	13.63	SH BSLT	Sheared Basalt - moderately sheared, foliation at core axis angle approx. 20 deg; - carbonatized, chloritized - numerous calcite-quartz veining, generally parallel to shearing - both white and pink calcite present - also some very narrow granitic intrusives	2685	12.17	13.63	1.46	0.17	0.005
13.63	21.27	BSLT	Basalt - fine-grained; dark grey-green - less numerous quartz-calcite veinlets than 10.69 - 12.17m - calcite predominantly white - weak to no carbonatization						
		13.67 -	13.82 Quartz-Calcite Vein Material - highly irregular in pattern - mixed with basalt (chloritized) - 2% pyrite in blebs	2686	13.63	14.03	0.40	0.17	0.005
		16.37 -	16.40 Quartz-Calcite Vein (1.5cm) - core axis angle 55 deg; - chloritized basalt inclusions (remobilizing) - trace disseminated pyrite	2687	16.18	16.58	0.40	0.17	0.005
		17.33 -	17.38 Quartz-Calcite Vein (2cm) - core axis angle 45 deg; - similar to above quartz-calcite vein (16.37 - 16.40m)	2688	17.15	17.55	0.40	0.17	0.005
21.27	23.21	SLFD BSLT	Silicified Basalt - "glassy" grey - original texture obscured - cut by extremely narrow quartz-calcite veinlets - related to granitic intrusive - trace pyrite						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			21.88 - 21.96 Granitic Intrusive						
			- mottled salmon-pink and green						
			- fine-grained, siliceous						
			- quartz k-spar, altered plagioclase? (green)						
			- contacts sharp						
			23.21 - 23.58 Granitic Intrusive						
			- as from 21.88 - 21.96m except with 10% medium-grained phenocrysts of k-spar						
			- contacts sharp, at core axis angle 85 deg. (upper) and 80 deg. (lower)						
23.58	26.34	SLFD BSLT	Silicified Basalt						
			- as from 21.27 - 23.21m						
			- adjacent to granitic intrusive						
			- contact with underlying basalt gradational						
			26.05 - 26.07 Quartz-Calcite Vein (1.5cm)						
			- core axis angle 65 deg. contacts sharp						
			- basalt inclusions chloritized and remobilized into veinlets - vein contains trace pyrite						
			- 5cm basalt either side of vein has 5% sulphides: 3% pyrrhotite, 2% pyrite, trace chalcopyrite						
				2689	25.86	26.26	0.40	0.17	0.005
26.34	30.73	BSLT	Basalt						
			- dark grey						
			- fine-grained with medium to fine-grained anhedral plagioclase phenocrysts - rare quartz-calcite veinlets						
			- trace pyrite						
			29.90 - 30.15 Quartz-Calcite-Pyrite Veinlets						
			- very narrow, at various core axis angles						
			- whole rock - 4% pyrite						
				2690	29.80	30.20	0.40	0.17	0.005
30.73	31.15	GNTC INTV	Granitic Intrusive						
			- more uniformly green than intrusives seen previously in this log - very fine-grained to aphanitic						
			- siliceous						
			- altered feldspar, hence green?						
			- cut by quartz-calcite veinlets						
			- 4% sulphides, but distribution not uniform						
			- 2% chalcopyrite, 25 pyrite, Possible visible gold? or is it just smeared chalcopyrite in a groove?						
			Silicified Basalt						
			- as seen from 21.27 - 23.21m						
			- 2% pyrite in blebs						
31.15	82.20	BSLT	Basalt						
			- as from 26.34 - 30.73m						
			- except plagioclase phenocrysts absent						
				2691	30.78	31.29	0.51	0.17	0.005
			31.70 - 32.30 Silicified Basalt	2692	31.70	32.30	0.60	0.17	0.005
			- silicification moderate						
			- quartz-calcite veinlets, also "blebs" of vein material - carbonatized						
			- 10% pyrite in veinlets and blebs						
			36.64 - 36.69 Calcite-Quartz Vein (2cm)						
			- core axis angle 60 deg;						
			- numerous basalt inclusions, remobilized						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- minor pyrite						
			2693	36.46	36.86	0.40	0.17	0.005
40.06 -	40.09	Calcite-Quartz Vein (1cm)						
		- core axis angle 45 deg;						
			2694	39.87	40.27	0.40	0.17	0.005
41.60 -	41.64	Calcite-Quartz Vein (3cm)						
		- core axis angle 80 deg;						
		- numerous remobilized basalt inclusions						
		- trace pyrite						
			2965	41.42	41.82	0.40	0.17	0.005
46.10 -	46.15	Quartz Vein (3cm)						
		- upper contact core axis angle 80 deg.; lower 35 deg; - massive grey-white quartz with remobilizing basalt inclusion near edges - trace pyrite						
			2696	45.93	46.33	0.40	0.17	0.005
53.95 -	53.98	Quartz-Calcite Vein (2cm)						
		- core axis angle 75 deg;						
		- remobilizing basalt inclusions						
		- approx. 7% pyrite (blebs) , 1% chalcopyrite						
		- 3% pale green carbonate (?)						
			2697	53.76	54.16	0.40	0.17	0.005
56.33 -	56.42	Quartz-Calcite Vein (7cm)						
		- corre axis angle 50 deg;						
		- quartz, calcie and remobilized basalt somewhat segregated						
		- 1% disseminated pyrite						
			2698	56.18	56.58	0.40	0.17	0.005
59.78 -	59.83	Narrow Granitic Intrusive						
		- contacts at core axis angle approx. 65 deg;						
		- creamy-white, mottled with dark green inclusions of basalt (irregular in shape)						
		- very fine-grained						
		- feldspar (plagioclase?) and quartz, minor calcite (as an alteration mineral?) - plagioclase? has a slight greenish tint						
60.26 -	60.35	Granitic Intrusive Material						
		- blebs of material in the basalt						
		- similar to 59.78 - 59.83m but k-spar also present						
63.42 -	63.61	Porphyritic Basalt						
		- 15% medium-grained subhedral plagioclase phenocrysts present in basalt						
65.92 -	66.06	$Alteration qcv; Sulphide Py=2;						
		Quartz-Calcite Vein 912cm)						
		- core axis angle 45 deg;						
		- remobilized basalt inclusions						
		- 2% disseminated pyrite; trace chalcopyrite						
		- chloritized, carbonatized basalt 35cm above vein, 20cm below						
			2699	65.57	66.26	0.69	0.17	0.005
70.46 -	70.57	Calcite-Quartz Vein (1.5cm)						
		- core axis angle approx. 30 deg;						
		- bifurcates around large inclusion of basalt						
		- trace pyrite, chalcopyrite at vein - host rock contact						
			2700	70.31	70.71	0.40	0.17	0.005
80.75 -	80.77	Calcite-Quartz Veinlet (0.7cm)						
		- core axis angle 55 deg;						
		- 1% disseminated pyrite						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2701	80.56	80.96	0.40	0.17	0.005
		82.05 - 82.08 Calcite-Quartz Vein (1cm)						
		- core axis angle 45 deg;						
		- trace pyrite						
		- surrounded by granitic intrusive material (82.01 - 82.09m)						
82.20	86.19	FPPP INTV Basalt, Feldspar Porphyritic						
		- dark grey, speckled white						
		- 35% medium-grained subhedral plagioclase phenocrysts in a fine-grained groundmass						
		- 5% blue quartz-eyes						
		- 4% pyrite; trace pyrrhotite (rock slightly magnetic) - occasional quartz-calcite veinlet						
			2702	81.86	82.26	0.40	0.17	0.005
			2703	85.77	86.17	0.40	0.17	0.005
86.19	89.18	BSLT Basalt						
		- medium grey-green						
		- very fine-grained						
		- fresh; quartz-calcite veinlets only occasional						
89.18	92.80	BSLT Basalt						
		- weakly to intensely altered (carbonatized, chloritized) - quartz-calcite veining much more extensive than in overlying basalt - trace pyrite						
		89.92 - 90.00 $						
		Alteration qv;						
		Quartz Vein (approx. 7cm)						
		- core axis angle vague approx. 85 deg;						
		- grey-white quartz						
		- remobilizing chloritized basalt inclusions						
		- trace pyrite						
		- highly altered basalt to 45cm above vein, with last 12cm rich in quartz-calcite matterial and pyrite (10%)						
		- below vein alteration extends for 10cm						
			2704	89.45	90.10	0.65	10.29	0.300
			2705	88.45	89.45	1.00	0.17	0.005
			2706	90.10	92.10	2.00	0.17	0.005
		92.27 - 92.32 Quartz-Calcite Vein (3cm)						
		- core axis angle 80 deg;						
		- numerous basalt inclusions (remobilizing)						
		- 5% yellow-green carbonate						
		- 1% disseminated pyrite						
			2707	92.10	92.50	0.40	0.17	0.005
		92.74 - 92.77 Quartz-Calcite Vein (2cm)						
		- core axis angle 85 deg;						
		- quartz vein material to 5cm above vein						
		- altered basalt between this vein and vein above contains 15 pyrite						
92.80	102.33	BSLT Basalt						
		- as from 89.18 - 92.80m						
			2708	92.50	92.90	0.40	0.17	0.005
		94.36 - 95.16 Altered Basalt	2709	94.36	95.16	0.80	0.17	0.005
		- carbonatized and chloritized						
		- cut by numerous quartz-calcite veins, the largest width being 2cm at varying core axis angles						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- trace pyrite						
		102.33 - 102.71 $	2710	102.33	102.71	0.38	0.17	0.005
			2711	101.33	102.33	1.00	0.17	0.005
		Alteration qv: Sulphide Py=4;						
		Quartz Vein (20cm)						
		- core axis angle 35 deg;						
		- large discrete basalt inclusions, silicified and altered to a light green - some of the calcite occurs as medium-sized rhombohedrons						
		- 4% pyrite, disseminated and in blebs, contorted within the basalt inclusions						
102.71	135.84	BSLT Basalt						
		- as from 89.18 - 92.80m						
			2712	102.71	103.71	1.00	0.17	0.005
		104.94 - 105.00 Quartz-Calcite Vein (4cm)						
		- core axis angle 55 deg;						
		- 2% pyrite						
		- predominantly quartz						
			2713	104.77	105.17	0.40	0.17	0.005
		105.75 - 105.77 Quartz-Calcite Vein (1.5cm)						
		- core axis angle 75 deg;						
		- 1% pyrite						
			2714	105.56	105.96	0.40	0.17	0.005
		109.20 - 109.25 Calcite-Quartz Vein (3cm)						
		- core axis angle 50 deg;						
		- predominantly coarsely crystalline clear calcite						
			2715	109.03	109.43	0.40	0.17	0.005
		109.74 - 109.78 Calcite-Quartz Vein (2cm)						
		- core axis angle 50 deg;						
		- coarsely crystalline calcite, as above, predominant						
		- 2% pyrite in adjacent basalt						
			2716	109.56	109.96	0.40	0.17	0.005
		121.33 - 121.36 Quartz Vein 91cm)						
		- core axis angle 45 deg.; contacts sharp						
		- grey-white quartz						
			2717	121.15	121.55	0.40	0.17	0.005
		122.25 - 122.40 $						
		Alteration qv;						
		Quartz Vein (6cm)						
		- core axis angle 20 deg;						
		- massive grey-white quartz with resorbed basalt inclusions - a 2cm quartz-calcite vein 4cm above quartz vein, at a similar core axis angle						
		- trace pyrite in the immediately adjacent basalt						
			2718	122.10	122.50	0.40	0.17	0.005
		122.59 - 125.62 Basalt						
		- somewhat lighter and greener in colour						
		- 25% chlorite needles, medium-grained						
		135.41 - 135.45 $						
		Alteration qv;						
		Quartz Vein (4cm)						
		- core axis angle 80 deg;						
		- massive grey-white quartz with dark streaks of resorbed basalt - trace chalcopyrite						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- quartz-calcite veinlets at. or in the basalt close to the basalt - vein contacts						
				2719	135.23	135.63	0.40	0.17	0.005
			136.63 - 136.65 Quartz-Calcite Vein (1cm)						
			- core axis angle 55 deg;						
			- 1% pyrite in basalt immediately adjacent						
135.84	141.74	BSLT	Basalt						
			- as from 122.59						
			Alteration 125.62;						
				2720	136.44	136.84	0.40	0.17	0.005
			141.59 - 141.66 $						
			Alteration qv;						
			Quartz Vein (5cm)						
			- core axis angle 65 deg;						
			- quartz-calcite at edges						
			- predominantly dirty grey-white quartz						
			- trace pyrite in immediately adjacent basalt						
				2721	141.34	141.74	0.40	0.17	0.005
141.74	142.01	GNTC INTV	Granitic Intrusive						
			- mottled red, salmon-pink, grey-white, dark green - grain size ranges from aphanitic to medium						
			- trace pyrite, disseminated						
142.01	144.79	BSLT	Basalt						
			- as from 122.59 - 125.62m						
			142.01 - 142.03 Quartz-Calcite Vein (1cm)						
			- core axis angle 55 deg;						
			- 1% disseminated pyrite; concentrated at lower contact - vein forms contact between basalt and granitic intrusive (above)						
				2722	142.01	142.41	0.40	0.17	0.005
			143.52 - 143.56 Calcite-Quartz Vein (2cm)						
			- core axis angle approx. 75 deg. (contacts vague) - "dirty"-looking, resorbing basalt inclusions irregular in shape - trace chalcopyrite						
			- trace pyrite in immediately surrounding basalt						
			- 2 other 0.5cm veinlets in vicinity						
				2723	143.52	144.00	0.48	0.17	0.005
144.79	184.19	BSLT	Basalt						
			- dark grey						
			- fine-grained; chlorite needles absent except for occasional sections - trace pyrite to 2% pyrite						
			- quartz-calcite veining occasional						
			146.60 - 147.00 Carbonatized Basalt	2724	146.60	147.00	0.40	0.17	0.005
			- dark to pale grey in colour						
			- cut by numerous quartz-calcite stringers at various orientations - medium-grained chlorite needles in some of the veinlets - trace pyrite in the basalt						
			148.23 - 148.40 Calcite-Quartz Veins						
			- 3 in number, the widest 0.7cmm						
			- all at very low core axis angles						
				2725	148.11	148.51	0.40	0.17	0.005
				2726	148.31	148.71	0.40	0.17	0.005
			152.49 - 152.53 Calcite-Quartz Vein (2cm)						
			- core axis angle approx. 35 deg;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- predominantly calcite - trace pyrite						
155.17 -	155.18	Quartz-Calcite Vein (1cm) - core axis angle 75 deg; - 4% disseminated pyrite, concentrated near the contacts						
155.56 -	155.59	Quartz-Calcite Vein (1.5cm) - core axis angle 75 deg; - 5% greenish-yellow carbonate - 2% disseminated pyrite						
			2727	155.10	155.65	0.55	0.17	0.005
159.19 -	159.26	\$ Alteration ocv; Sulphide Py=1; Quartz-Calcite Vein (6cm) - core axis angle 60 deg; - quartz and calcite segregated; upper 3cm calcite, lower 2cm quartz - quartz grey-white; calcite off-white with flakes of chlorite - basalt inclusions - 1% pyrite in quartz-half (i.e. 0.5% in vein)						
			2728	159.09	159.60	0.51	0.17	0.005
164.04 -	164.11	Granitic Intrusive Material in Basalt - pale green in colour - irregular in shape - fine-grained, quartz and plagioclase - trace pyrite						
164.66 -	165.36	Weakly Sheared and Altered Basalt - foliation at core axis angle 45 deg; - moderately chloritized and carbonatized - occasional "blebs" of granitic intrusive material, similar to 164.04-164.11m - 1% pyrite in discontinuous veinlets	2729	164.66	165.36	0.70	0.17	0.005
165.44 -	165.88	Granitic Intrusive Material(?) in Basalt - occurs in blebs, many of which are roughly circular - comprises approx. 20% of rock - similar to 164.04 - 164.11m						
166.74 -	166.77	Quartz-Calcite Vein 91cm) - core axis angle 50 deg; - 1% pyrite - basalt inclusions						
167.23 -	167.25	Quartz-Calcite Vein (1cm) - core axis angle 55 deg; - 2% pyrite, concentrated along contacts						
			2730	166.70	167.30	0.60	0.17	0.005
167.53 -	167.70	Quartz-Calcite Vein (1cm) - core axis angle 15 deg; - vein bordered on eithher side by yellow-green carbonate(?) , 3cm wide						
			2731	167.41	167.81	0.40	0.17	0.005
169.34 -	169.37	Quartz-Calcite Vein (1.5cm) - core axis angle 50 deg; - 3% pyrite (in blebs) - minor pyrite in surrounding basalt						
			2732	169.18	169.58	0.40	0.17	0.005
172.25 -	172.28	Quartz-Calcite Vein (2cm) - core axis angle 60 deg;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- 5% pyrite, disseminated and in blebs						
		- abundant chloritized and remobilized basalt inclusions						
			2733	172.05	172.45	0.40	0.17	0.005
173.00 -	173.18	2 Quartz-Calcite Veins (4cm and 1cm)						
		- core axis angles both approx. 30 deg;						
		- quartz concentrated near centers of veins, the calcite at the edges						
		- 15% medium-grained chlorite; alteration product of basalt - trace pyrite						
		- surrounding basalt carbonatized						
			2734	173.95	173.45	-0.50	0.17	0.005
174.94 -	175.00	Quartz-Calcite-Pyritte Veinlet (0.3cm)						
		- core axis angle 50 deg;						
		- 40% pyrite						
175.08 -	175.23	Quartz Vein (5cm?)						
		- wavy; very low core axis angle						
		- basalt inclusions, resorbing						
		- minor pyrite						
			2735	174.90	175.30	0.40	0.17	0.005
176.32 -	176.78	$	2736	176.32	176.78	0.46	0.34	0.010
		Sulphide Py vns Py=5;						
		Pyrite Veinlets						
		- 5% or rock						
		- at various core axis angles						
		- also pyrite associated with a 1cm quartz vein, core axis angle 50 deg;						
		- 30% pyrite						
		- discontinuous veinlets, very narrow						
180.64 -	184.19	Silicified Basalt	2737	183.30	183.70	0.40	0.17	0.005
		- dark grey to black						
		- original texture of basalt still discernable						
		- 1% pyrite disseminated and in veinlets						
183.25 -	184.19	Silicified and Carbonatized Basalt						
		- light grey in colour - chloritized? bleached?						
		- alteration halo of 2 quartz-calcite veins?						
183.33 -	183.38	Quartz-Calcite Vein (3cm)						
		- core axis angle 80 deg;						
		- approx. 60% breccia fragments of basalt						
		- 5% pyrite in blebs, concentrated in the basalt inclusions and along the contacts						
183.58 -	183.62	Calcite-Quartz Vein (2cm)						
		- core axis angle 65 deg;						
		- resorbing basalt inclusions						
		- 1% pyrite, disseminated						
185.48 -	185.78	$						
		Alteration qcv; Sulphide Py=4;						
		Quuartz-Calcite Vein (approx. 10cm)						
		- core axis angle 25 deg;						
		- portions of grey-white quartz						
		- resorbing basalt inclusions						
		- up to 1cm long flakes of chlorite						
		- 4% disseminated pyrite, concentrated in the basalt, along the contacts and in the calcite						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
				2738	185.38	185.83	0.45	0.17	0.005
				2739	184.38	185.38	1.00	0.17	0.005
				2740	185.83	186.66	0.83	0.17	0.005
			186.91 - 186.92 Quartz-Calcite Veinlet (0.7cm)						
			- core axis angle 75 deg;						
			- 5% pyrite in blebs						
			- 3% pyrite in basalt surrounding (20cm up and down)						
				2741	186.66	187.06	0.40	0.17	0.005
189.19	189.35	BSLT	Basalt						
			- medium grey						
			- fine-grained						
			- 3% pyrite in small blebs and veinlets; carbonatized						
			189.35 - 189.72 $Alteration qcv; Sulphide Py=4;	2742	189.32	189.72	0.40	0.17	0.005
			Quartz-Calcite Vein (approx. 2cm)						
			- core axis angle 20 deg;						
			- intermixed quartz, calcite, highly chloritic remoblized basalt(?)						
			- 4% pyrite, disseminated and in small blebs, much of it close to the contacts - very close to basalt - intrusive contact, however, it is within the intrusive						
189.72	195.60	FLSC INTV	Felsic Intrusive						
			- brown-grey, speckled dark green-grey						
			- 30% medium-grained anhedral mafic phenocrysts in aphanitic highly siliceous groundmass						
			- euhedral medium-grained plagioclase phenocrysts also occur occasionally - trace pyrrhotite; rock is magnetic						
			- near contacts, the intrusive is browner and the mafic phenocrysts less abundant						
			- both upper and lower contacts marked by quartz-calcite veins						
			195.45 - 195.65 Quartz-Calcite Vein (approx. 2cm)						
			- core axis angle 5 deg;						
			- parallels lower contact of felsic intrusive						
			- felsic intrusive inclusion(?)						
			- 1% pyrite near contacts						
195.55	196.25	ALTD BSLT	Altered Basalt						
			- highly carbonatized, chloritized						
			- very weakly sheared; foliation at core axis angle 10 deg; - appears somewhat brecciated by numerous quartz-calcite veinlets - trace pyrite; large bleb (2cm x 0.5cm) of chalcopyrite-pyrrhotite						
				2743	195.45	196.35	0.90	0.17	0.005
196.50	199.37	BSLT	Basalt						
			- medium grey-green						
			- fine-grained, but slightly coarse-grained than most of the basalt seen in this hole						
			196.50 - 196.53 Quartz-Calcite Vein (2cm)						
			- core axis angle 50 deg;						
			- trace pyrite						
				2744	196.35	196.75	0.40	0.17	0.005
			198.05 - 198.15 Quartz-Calcite Vein (2cm)						
			- core axis angle 25 deg;						
			- trace pyrite in adjacent basalt						
				2745	198.00	198.40	0.40	0.17	0.005

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			199.37 - 199.52 $ Alteration qv: Quartz Vein (approx. 9cm) - core axis angle 45 deg; - massive grey-white quartz - sulphides, calcite, inclusions absent to 40cm above vein, basalt is carbonatized, chloritized, lighter in colour, very weakly sheared approx. 40 deg; - cut by calcite veinlets containing blebs of yellow-green carbonate	2746	198.97	199.52	0.55	0.17	0.005
199.52	227.42	BSLT	Basalt - medium grey-green to dark grey-green - fine-grained, more so than 196.50 - 199.37m - moderately carbonatized in areas						
			202.59 - 202.63 Quartz-Calcite Vein (2cm) - core axis angle 60 deg; - basalt inclusions - 5% pyrite; concentrated mainly in the inclusions - alteration halo 3cm either side						
				2747	202.30	202.70	0.40	0.17	0.005
			205.88 - 206.03 $ Sulphide Py=5 Po=4 Cpy=1; Sulphide Veinlets - narrow, discontinuous - all around core axis angle 45 deg; - approx. 10% of rock - approx. 5% pyrite; 4% pyrrhotite; 1% chalcopyrite						
				2748	205.78	206.18	0.40	0.17	0.005
			209.74 - 209.85 Quartz-Calcite Vein (1.5cm) - core axis angle 45 deg; - trace pyrite, near contacts						
				2749	209.62	210.02	0.40	0.17	0.005
			210.37 - 210.40 Quartz-Calcite Vein (2cm) - core axis anngle 65 deg; - upper contact marked by yellow-green carbonate - 2 other .5cm veinlets nearby						
				2750	210.35	210.85	0.50	0.17	0.005
			212.35 - 212.37 Quartz-Calcite Vein (1.5cm) - core axis angle 70 deg; - yellow-green carbonate marks contacts - trace pyrite						
				2751	212.16	212.56	0.40	0.17	0.005
			214.15 - 214.18 Quartz-Calcite Vein (2cm) - core axis angle 60 deg; - narrow alteration halo						
				2752	214.00	214.40	0.40	0.17	0.005
			217.32 - 217.34 Quartz-Calcite Vein (1.5cm) - core axis angle 75 deg; - narrow alteration halo						
			217.64 - 217.67 Quartz-Calcite Vein (3cm) - core axis angle 80 deg; - trace pyrite - alteration halo						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			217.73 - 217.75 Quartz-Calcite Vein (1.5cm)						
			- core axis angle 50 deg;						
			- 1% pyrite						
			- narrrow alteration halo						
				2753	217.25	217.85	0.60	0.17	0.005
			219.00 - 219.07 $						
			Alteration ov;						
			Quartz Vein (2cm)						
			- core axis angle 45 deg;						
			- trace pyrite						
			- alteration halo 36cm above vein, and 20cm below: intense carbonatization, chloritization; basalt almost a breccia due to quartz-calcite veinlets						
				2754	218.64	219.30	0.66	0.17	0.005
			221.61 - 221.63 Quartz-Calcite Vein (1.5cm)						
			- core axis angle 75 deg;						
			- trace pyrite						
			- narrow alteration halo						
				2755	221.42	221.82	0.40	0.17	0.005
			223.37 - 223.42 Quartz-Calcite Vein (2cm)						
			- core axis angle 75 deg;						
			- large bleb of grey-white quartz in predominantly calcite (+ chlorite) - trace chalcopyrite						
			223.44 - 223.46 Quartz-Calcite Vein (1cm)						
			- core axis angle 75 deg;						
			- 1% pyrite						
			- basalt highly altered to 15cm below						
				2756	223.20	223.60	0.40	0.17	0.005
227.42	228.26	QTDR INTV	Quartz-Diorite Intrusive						
			- white peppered with black						
			- average grain size medium						
			- 20% mafics: 10% medium-grained hornblende(?) and 10% fine-grained biotite						
			- rock contains approx. 5% large unaltered fragments of basalt						
228.26	231.41	BSLT	Basalt						
			- dark grey						
			- very fine-grained						
			- moderate quartz-calcite veining						
231.41	233.76	QTDR INTV	Quartz-Diorite Intrusive						
			- similar to 227.42 - 228.26 except plagioclase phenocrysts altering to a brown colour						
			- crystal edges less discrete						
			- cut by two 0.5cm quartz veins						
231.41	233.76	QTDR INTV	Quartz-Diorite Intrusive						
			- similar to 231.41 - 233.76m						
			- occasional fragment of basalt						
233.76	234.72	SH BSLT	Sheared Basalt						
			- dark green						
			- foliation at core axis angle 45 deg;						
			- somewhat silicified near contact with quartz-diorite - cut by quartz-calcite veinlets						
				2757	233.76	234.32	0.56	0.17	0.005
			234.42 - 234.58 Quartz-Calcite Vein (approx. 12cm)						
			- core axis angle 35 deg;						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- dirty-looking vein; numerous resorbing basalt inclusions - yellow-green carbonate present						
			- surrounding basalt carbonatized (20cm above)						
			- 1% pyrrhotite, trace pyrite						
			234.67 - 234.72 Quartz-Calcite Vein (2cm)	2758	234.32	234.72	0.40	0.17	0.005
			- core axis angle 45 deg;						
			- similar to 234.42 - 234.58m						
234.72	234.72	E.O.H.	End of Hole						

pppppppppppppp

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.99	Northing	5+18S	Grid Orient	20.00	Started	October 5, 1987
Property	Shoal Lake (KPM)	Easting	11+70E	Grid Azim.	10.00	Finished	October 10, 1987
Section		Elevation	336.78	Length (M)	435.00	Drill Co.	Midwest
Claim No.		Survey N.	4+39.73S	Dip-Collar	-45.00	Drill No.	
Target	C.I. Mainland Zone	Survey E.	12+47.63E	Comp Bearing	30.00	Drill For.	

Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test
141.0	- 42			312.0	- 41		
435.0	- 43	022					

Logged by S.P. Cheung
Checked by K. Leonard
Core BQ
Comments:

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	5.10	CASING	Casing
5.10	29.20	BSLT	Basalt
12.00	14.55	BLPP	Basalt, Feldspar Porphyritic
29.20	41.40	BLPP	Basalt, Feldspar Porphyritic
41.40	104.37	BSLT	Basalt
104.37	113.22	FLSC INTV	Felsic Intrusive
113.22	217.67	BSLT	Basalt
217.67	221.65	FLSC INTV	Felsic Intrusive
221.65	224.06	BSLT	Basalt
224.06	225.74	FLSC INTV	Felsic Intrusive
225.74	227.28	BSLT	Basalt
227.28	230.92	FLSC INTV	Felsic Intrusive
230.92	238.50	BLPP	Basalt, Feldspar Porphyritic
241.50	241.63	GNTC INTV	Granitic Intrusive
294.71	294.84	GRNT INTV	Granite Intrusive
339.50	359.60	BSLT	Basalt
338.68	338.80	GNTC INTV	Granitic Intrusive
343.11	343.23	FPPP	Feldspar Porphyry
347.90	347.70	FPPP	Feldspar Porphyry

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
356.74	356.76	GNTC INTV	Granitic Intrusive						
356.88	356.92	GNTC INTV	Granitic Intrusive						
359.60	361.07	FPPP	Feldspar Porphyry						
361.07	381.00	BLPP	Basalt, Feldspar Porphyritic						
381.00	388.33	BSLT	Basalt						
382.50	383.13	GNTC INTV	Granitic Intrusive						
383.13	383.46	FLSC INTV	Felsic Intrusive						
383.46	384.74	FPPP	Feldspar Porphyry						
388.33	420.00	BLPP	Basalt, Feldspar Porphyritic						
396.78	397.12	GNTC INTV	Granitic Intrusive						
399.84	400.00	FLSC INTV	Felsic Intrusive						
406.44	407.58	GNTC INTV	Granitic Intrusive						
417.87	418.48	QTDR	Quartz Diorite						
419.10	419.80	QTDR	Quartz Diorite						
420.00	421.70	BSLT	Basalt						
421.70	423.23	FPPP	Feldspar Porphyry						
423.23	435.00	BSLT	Basalt						
426.41	426.47	GNTC INTV	Granitic Intrusive						
426.55	426.65	FPPP	Feldspar Porphyry						
426.68	427.11	GNTC INTV	Granitic Intrusive						
435.00	435.00	E.O.H.	End of Hole						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	5.10	CASING	Casing						
5.10	29.20	BSLT	Basalt						
			- massive; fine to medium-grained; dark green - chloritized; disseminated sulphide; cut by calcite stringers; fractures filled by calcite						
			5.00 - 5.85 Oxidized Zone						
			- original rock (basalt?) metamorphosed to schist; schistocity well developed at 45 deg. to 50 deg. to LCA; strongly oxidized with intensive limonitic staining						
			- approx. 1% disseminated pyrite						
				2212	5.10	6.00	0.90	0.17	0.005
				2213	6.00	7.00	1.00	0.17	0.005
12.00	14.55	BLPP	Basalt, Feldspar Porphyritic						
			- medium-grained basalt with 10-15% feldspar (anhedral) phenocrysts; feldspar appeared chloritized with green colour; no visible sulphides						
				2214	24.10	24.50	0.40	0.17	0.005
			24.68 - 24.69 $Alteration q stgr; Sulphide Py=1;						
			Quartz Stringer						
			- 90 deg. to LCA; greyish-white; minor calcite - along contacts with basalt. 1% pyrite						
			24.92 - 24.94 Quartz Stringer						
			- same as between 24.68 - 24.69m; 1% pyrite; contacts at 45 deg. to LCA						
				2215	24.50	25.00	0.50	0.17	0.005
				2216	25.00	25.40	0.40	0.17	0.005
29.20	41.40	BLPP	Basalt, Feldspar Porphyritic						
			- large anhedral feldspar (approx. 1cm) in a medium to coarse-grained mafic groundmass; contacts gradational; some calcite stringers and veinlets (1cm wide cutting LCA approx. 30 deg. - 45 deg;						
41.40	104.37	BSLT	Basalt						
			- medium-grained; same as between 5.10 - 29.20m						
			44.27 - 44.68 $	2217	44.27	44.68	0.41	0.17	0.005
			Alteration slcs;						
			Siliceous Zone						
			- stronger silicification; stronger sericitic alteration						
			47.57 - 47.58 Quartz Stringer						
			- 60 deg. to LCA; milky clear quartz; no sulphide						
			48.76 - 48.79 $						
			Alteration qc vnlt; Sulphide Py=1;						
			Quartz Veinlet						
			- sharp contacts at 30 deg. to LCA; contacts between vein and wallrock lined by calcite stringer 2mm wide; light greyish quartz; minor pyrite <1%						
				2218	48.60	49.00	0.40	0.17	0.005
			52.70 $Structure shzn;						
			Shear Zone						
			- strongly altered (sericitic) ; shear plane approx. 20 deg. to LCA; non-mineralized						
				2219	52.00	53.00	1.00	0.17	0.005
			58.73 - 58.77 $						
			Alteration alzn;						
			Alteration Zone						
			- contacts approx. 45 deg. to LCA; carbonatized; silicified; greyish quartz stringer (0.5cm) at 45 deg. to LCA; minor sulphides - few fine-grained						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		pyrite <<1%						
			2220	58.50	58.90	0.40	0.17	0.005
60.42 -	60.43	$						
		Alteration qc stgr:						
		Quartz-Calcite Stringer						
		- approx. 45 deg. to LCA; minor pyrite <1%						
			2221	60.20	60.60	0.40	0.17	0.005
61.17 -	61.18	$						
		Alteration qc stgr;						
		Quartz-Calcite Stringer						
		- at 45 deg. to LCA; 1/2cm blue-grey quartz stringer lined by calcite at both sides; alteration halo 1cm on both sides; minor disseminated pyrite <1%						
			2222	61.00	61.40	0.40	0.17	0.005
61.65 -	61.79	$Alteration slcs crbd;						
		Siliceous Zone						
		- carbonatized; 2 quartz-calcite stringers (1/2cm) wide approx. 45 deg. to LCA. minor disseminated pyrite <<1%						
			2223	61.55	61.95	0.40	0.17	0.005
	62.14	- quartz-calcite stringer 1/2cm wide at 60 deg. to LCA						
	62.33	- quartz-calcite stringer 1cm wide at 50 deg. to LCA						
			2224	62.05	62.45	0.40	0.17	0.005
72.58 -	72.62	Quartz-Calcite Stringer						
		- 45 deg. to LCA; non-mineralized						
			2225	72.40	72.80	0.40	0.17	0.005
74.07 -	74.09	$						
		Alteration q stgr; Sulphide Py=1;						
		Quartz Stringer						
		- white clear quartz; weak alteration halo extended to approx. 5cm upward. contacts approx. 45 deg. to LCA; minor sulphide approx. 1% pyrite						
			2226	73.85	74.25	0.40	0.17	0.005
74.81 -	74.83	Quartz-Calcite Stringer						
		- approx. 45 deg. to LCA; no sulphide						
			2227	74.60	75.00	0.40	0.17	0.005
77.80 -	77.82	Quartz-Calcite Stringer						
		- approx. 20 deg. to LCA; no sulphides						
			2228	77.60	78.00	0.40	0.17	0.005
80.79 -	80.80	Quartz Stringer						
		- 45 deg. to LCA; no sulphides						
82.00 -	82.10	Quartz-Calcite Stringer						
		- foliation approx. 45 deg. to LCA; contacts 45 deg. to LCA						
84.52 -	84.55	Quartz-Calcite Stringer						
		- 45 deg. to LCA; no sulphides						
			2229	100.77	101.37	0.60	0.17	0.005
101.37 -	104.37	$	2230	101.37	101.87	0.50	0.17	0.005
		Alteration slcs; Sulphide Py=2 Po=4;	2231	101.87	102.37	0.50	0.17	0.005
		Siliceous Zone (cherty)_	2232	102.37	102.87	0.50	0.17	0.005
		- foliated - foliation approx. 40 deg. to LCA; strongly silicified and	2233	102.87	103.37	0.50	0.17	0.005
		carbonatized; intensive veiny with quartz-calcite stringer - mostly at	2234	103.37	103.87	0.50	0.17	0.005
		approx:	2235	103.87	104.37	0.50	0.17	0.005
		40 deg. to LCA; strongly magnetic; approx. 4% pyrrhotite, 2% pyrite (approx; 20% pyrrhotite + 5% pyrite + 2% chalcopyrite between 103.70 - 104.00m)						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
104.37	113.22	FLSC INTV Felsic Intrusive - upper contacts approx. 45 deg. to LCA; light greyish-green; appear bleached. fine to medium-grained quartz groundmass with feldspar phenocrysts						
113.22	217.67	BSLT Basalt - very fine-grained; strong silicification; cherty	2236	113.22	114.00	0.78	0.17	0.005
		114.00 - 116.80 $Sulphide Po=4 Py=1; - strong mineralization; 5% combined pyrrhotite and pyrite (mostly pyrrhotite) ;disseminated throughout but locally massive. foliated approx. 10 - 20 deg. to LCA	2237	114.00	115.00	1.00	0.17	0.005
			2238	116.00	117.00	1.00	0.17	0.005
			2240	117.00	118.00	1.00	0.17	0.005
		144.91 - 144.94 Quartz Stringer - 30 deg. to LCA; blue-grey; no sulphides	2241	144.75	145.15	0.40	0.17	0.005
		153.38 - 153.43 Quartz-Calcite Stringers - approx. 80 deg. to LCA; laminated quartz, calcite and mafic stringers approx; 80 deg. to LCA	2242	153.20	153.60	0.40	0.17	0.005
			2243	155.60	156.00	0.40	0.17	0.005
		156.00 - 156.60 $ Alteration slcs; Siliceous Zone - sulphide-bearing; silicified; carbonatized with intensive hairline fractures filled by calcite	2244	156.00	156.60	0.60	0.69	0.020
		156.16 - 156.22 $ Alteration qc vnlt; Sulphide Py=5; Quartz Veinlet - 70 deg. to LCA; grey to milky-grey quartz; minor mafic inclusion approx. 5%. patches of fine-grained pyrite approx. 5% pyrite						
		156.41 - 156.44 $ Alteration qc vnlt; Sulphide Py=2; Quartz Veinlet - same as above; lessor pyrite approx. 2%; at 45 deg. to LCA						
		156.48 - 156.55 $Alteration qc vnlt; Sulphide Py=3; Quartz Veinlet - same as above; 45 deg. to LCA; 3% pyrite	2245	156.60	157.00	0.40	0.17	0.005
		159.82 - 159.83 Quartz Stringer - 60 deg. to LCA; milky-grey; line with calcite stringer (0.2cm) at contacts with basalt; 5% pyrite	2246	159.60	160.00	0.40	0.17	0.005
		182.00 - 217.60 - increased intensity of quartz-calcite stringer; from 45 deg. to LCA to parallel to LCA	2247	204.80	205.20	0.40	0.17	0.005
			2248	205.20	206.20	1.00	0.34	0.010
		205.04 $ Alteration qc stgr; Sulphide Py=10; Structure fltd; Quartz-Calcite Stringer - 20 deg. to LCA; foliated; 10% pyrite						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		206.43 - 206.44 $ Alteration qc stgr; Sulphide Py=5; Quartz-Calcite Stringer - 45 deg. to LCA; 5% pyrite						
			2249	206.20	206.60	0.40	0.34	0.010
			2250	206.60	207.00	0.40	0.17	0.005
		207.87 - 208.66 - silicified and bleached zone - intrusives; grey-greey (lighter than surrounding basalt) ; chloritized? - contacts approx. 45 deg. to LCA; 1% disseminated pyrite	2253	207.87	208.66	0.79	0.17	0.005
		209.20 - 209.21 $ Alteration qc stgr; Sulphide Py=4; Quartz-Calcite Stringer - 45 deg. to LCA; 4% pyrite						
		210.12 - 210.13 $ Alteration qc stgr; Sulphide Py=4; Quartz-Calcite Stringer - 45 deg. to LCA; 4% pyrite						
			2251	209.00	210.50	1.50	6.86	0.200
			2252	210.50	211.93	1.43	0.34	0.010
		211.93 - 214.04 $	2254	211.93	212.37	0.44	0.17	0.005
		Alteration slfd; Structure brcd;	2255	212.37	212.84	0.47	66.51	1.940
				0.00	0.00	0.00	70.63	2.060
				0.00	0.00	0.00	67.20	1.960
		Silicified Breccias	2256	212.84	213.39	0.55	7.54	0.220
				0.00	0.00	0.00	13.03	0.380
				0.00	0.00	0.00	15.77	0.460
		- upper contact approx. 15 deg. to LCA; greyish; strong silicification. moderate carbonatization - medium to coarse-grained; 5-10% disseminated pyrite; few hairline fractures filled by calcite; appears non-brecciated; probably altered basalted wallrock Sulphide Py=10 Po=1 Sp=1; Structure brcd;	2257	213.39	214.04	0.65	0.17	0.005
		212.37 - 213.20 $ Brecciated Zone with (Visible Gold) - light greyish; angular rock fragments appear replaced by quartz; 10% pyrite. some pyrrhotite (1%) ; minor sphalerite (<1%) ; 1cm wide quartz stringers at 212.68m; 212.75m; 212.95m; 213.05m; quartz stringers cut at 45 - 80 deg. to LCA; 6 specks of possible gold grains; lower contact at 30 deg. to LCA						
			2258	214.04	215.04	1.00	2.06	0.060
217.67	221.65	FLSC INTV Felsic Intrusive - same as between 104.37 - 113.22m; both contacts at 45 deg. to LCA						
221.65	224.06	BSLT Basalt - fine to medium-grained; cut by calcite-filled fractures at 30 - 45 deg. to LCA						
224.06	225.74	FLSC INTV Felsic Intrusive - same as 104.37 - 113.22m; upper contact 45 deg.; lower contact gradational						
225.74	227.28	BSLT Basalt - same as 221.65 - 224.06m						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
227.28	230.92	FLSC INTV Felsic Intrusive - same as 104.37 - 113.22m; upper contacts gradational; lower contact approx; 45 deg. to LCA						
230.92	238.50	BLPP Basalt, Feldspar Porphyritic - fine-grained dark basalt with anhedral round feldspar phenocrysts (approx: 5%) : minor disseminated sulphides; cut by calcite-filled fractures						
241.50	241.63	GNTC INTV Granitic Intrusive - sharp contacts approx. 60 deg. to LCA						
		242.70 - 242.74 $ Alteration qc stgr: Sulphide Py=3; Quartz-Calcite Stringer - 80 deg. to LCA; 60% blue-grey quartz; 40% calcite; 3% pyrite	2259	242.60	243.00	0.40	0.17	0.005
		249.20 - 249.40 $Alteration slcs zn: Sulphide Po=5 Py=1; Siliceous Zone - stronger silicification; calcite-filled fractures replaced by sulphide; 5% pyrrhotite; 1% pyrite	2260	248.50	249.50	1.00	0.17	0.005
		250.86 - 250.84 $ Alteration qc stgr: Sulphide Py=10; Quartz-Calcite Stringer - contacts approx. 75 deg. to LCA; blue-grey quartz with 30% carbonate; 10% fine-grained pyrite	2261	250.67	251.07	0.40	0.34	0.010
		274.23 - 274.60 $ Structure brcd zn; Brecciated Zone - angular basalt fragment healed by calcite stringers	2262	274.20	274.70	0.50	0.17	0.005
		283.90 - 284.00 $Alteration slcs zn; Sulphide Py=3; Silicified Zone - silicified basalt cut by quartz-calcite stringer approx. 60-75 deg. to LCA - 3% pyrite	2263	283.75	284.15	0.40	0.17	0.005
		285.00 - 285.30 Broken Core 293.10 - 293.30 Broken Core - quartz-calcite veinlet approx. 80 deg. to LCA; 2% pyrite in calcite-filled hairline fractures	2264	293.00	293.40	0.40	0.17	0.005
294.71	294.84	GRNT INTV Granite Intrusive - upper contact 45 deg. to LCA; lower contact 80 deg. to LCA						
		309.36 - 309.39 $Alteration qc stgr: Sulphide Py=1; Quartz-Calcite Stringer - 80 deg. to LCA; 10% calcite; 10% mafic inclusions; blue-grey quartz 80%; 1-2% pyrite						
		309.64 - 309.65 $ Alteration qc stgr; Quartz-Calcite Stringer - 75 deg. to LCA; minor sulphide <1%						
		309.76 - 309.77 $ Alteration qc stgr; Sulphide Py=2; Quartz-Calcite Stringer						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- approx. 75 deg. to LCA: approx. 2% pyrite						
				2265	309.20	310.00	0.80	0.17	0.005
			310.14 - 310.16 $						
			Alteration oc stor:						
			Quartz-Calcite Stringer						
			- 45 deg. to LCA: minor sulphide						
				2266	310.00	310.40	0.40	0.17	0.005
			311.90 - 317.58 $	2267	311.90	313.00	1.10	0.17	0.005
			Alteration slcs zn:	2268	313.00	314.13	1.13	0.17	0.005
			Altered Siliceous Zone	2269	314.13	314.53	0.40	0.17	0.005
			- greyish; bleached; strong silicification; upper contact approx. 70 deg. to 1.00 LCA	2270	314.53	316.00	1.47	0.17	0.005
			311.90 - 312.20 - bleached basalt; 30% feldspar phenocryst						
			312.20 - 312.37 - foliated zone						
			312.37 - 312.50 $						
			Alteration q vnlt; Sulphide Py=2;						
			- quartz veinlet; greyish-white; contacts at 45 deg. to LCA; disseminated pyrite along upper and lower contacts; 2% pyrite						
			312.50 - 313.00 $						
			Alteration slfd bslt; Sulphide Py=3;						
			- silicified and bleached basalt (porphyritic) ; 20-30% feldspar phenocrysts. cut by quartz (blue-grey) stringers <0.5cm wide; 3% pyrite						
			312.00 - 314.13 $Alteration slfd zn; Sulphide Py=5;						
			Strongly Silicified Zone						
			- 70-80% quartz (blue-grey) ; 10-15% mafic; 5% calcite; 5% disseminated pyrite						
			314.13 - 314.47 $Alteration crbn; Sulphide Py=5;						
			- zone with intensive ductile deformation; stronger carbonatization; 5% pyrite						
			314.47 - 315.90 - bleached basalt with feldspar phenocryst						
			315.90 - 316.20 - slightly silicified fine-grained basalt						
			316.20 - 316.63 - bleached basalt with feldspar phenocryst	2271	316.00	316.60	0.60	0.17	0.005
			316.63 - 317.51 - silicified basalt; same as between 312.00 - 313.13m						
			317.50 - 317.58 Quartz-Calcite Veinlet	2272	316.60	317.58	0.98	0.17	0.005
			- sharp contacts approx. 45 deg. to LCA; laminated with lamination at 45 deg..						
			5% disseminated pyrite along lamination						
			326.37 - 326.63 Granitic Intrusives						
			- contacts approx. 45 deg. to LCA						
			328.80 - 328.83 Quartz-Calcite Stringer						
			- contact approx. 75 deg. to LCA; 5% pyrite						
				2273	328.60	329.00	0.40	0.17	0.005
			335.38 - 335.43 Granitic Intrusives						
			- 45 deg. to LCA						
339.50	359.60	BSLT	Basalt						
			- fine to medium-grained with disseminated sulphide (1%; cut by intensive calcite-filled fractures; silicified						
338.68	338.80	GNTC INTV	Granitic Intrusive						
			- upper contact 60 deg.; lower contact 60 deg;						
343.11	343.23	FPPP	Feldspar Porphyry						
			- bleached grey; contacts at 45 deg. to LCA; feldspar phenocryst approx.						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			0.5cm						
			346.00 - 347.90 $Alteration slcs zn; Sulphide Po=5 Py=2;	2274	346.00	347.03	1.03	4.11	0.120
			Siliceous Zone	2275	347.19	347.90	0.71	8.23	0.240
			- light grey; bleached; strong silicification; cut by quartz-calcite stringers.						
			5% pyrrhotite; approx. 2% pyrite						
			347.03 - 347.19 Granitic Intrusive						
			- upper contact approx. 80 deg. to LCA; lower contact approx. 45 deg. to LCA						
347.90	347.70	FPPP	Feldspar Porphyry						
			- same as 343.11 - 343.23m						
356.74	356.76	GNTC INTV	Granitic Intrusive						
			- contacts approx. 70 deg. to LCA						
356.88	356.92	GNTC INTV	Granitic Intrusive						
			- contacts approx. 70 deg. to LCA						
				2276	357.20	357.60	0.40	0.17	0.005
			357.61 - 359.00 $	2277	357.60	359.00	1.40	2.74	0.080
			Alteration slcs zn; Sulphide Py=2;						
			Siliceous Zone						
			- fine-grained basalt; strongly silicified and carbonatized; cut by numerous calcite-quartz stringers from hairline to 3cm wide; 2% disseminated pyrite to approx. 10% locally; quartz stringers cut the zone approx. 60 deg. to LCA						
				2278	359.00	359.40	0.40	0.34	0.010
359.60	361.07	FPPP	Feldspar Porphyry						
			- upper contact approx. 75-80 deg. to LCA; lower contact approx. 80 deg. to LCA; fine-grained dark groundmass with 30% feldspar (0.5cm) phenocrysts; cut by calcite-filled hairline fractures						
361.07	381.00	BLPP	Basalt, Feldspar Porphyritic						
			- same as between 359.60 - 361.07m; upper contact approx. 50 deg. to LCA. lower contact approx. 60 deg. to LCA						
			367.23 - 367.43 $						
			Alteration slcs zn; Sulphide Py=3;						
			Siliceous Zone						
			- contacts gradational; cut by calcite-quartz veinlets approx. 45 deg. to LCA.						
			30% quartz; 30% calcite; 40% mafics; approx. 3% pyrite						
			368.01 - 368.14 $Alteration slcs zn;						
			Siliceous Zone						
			- same as 367.23 - 367.43m; less silicification						
				2279	367.00	368.20	1.20	0.34	0.010
381.00	388.33	BSLT	Basalt						
			- fine-grained						
			382.30 - 382.50 $	2280	382.10	382.50	0.40	0.34	0.010
			Alteration slcs zn; Sulphide Py=4;						
			Siliceous Zone						
			- blue-grey quartz and calcite in basalt; laminated at 45 deg. to LCA; 3-5% pyrite						
			382.44 - 382.50 - milky grey quartz veinlet; non-sulphide-bearing						
382.50	383.13	GNTC INTV	Granitic Intrusive						
			- coarse-grained quartz-feldspar; contacts approx. 45 deg. to LCA						
383.13	383.46	FLSC INTV	Felsic Intrusive						
			Altered Felsic Intrusive						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- intruded by quartz veinlet; original rock cannot be recognized - probably granite; contacts gradational						
383.46	384.74	FPPP	Feldspar Porphyry - quartz-feldspar phenocrysts in an intermediate to mafic groundmass						
388.33	420.00	BLPP	Basalt, Feldspar Porphyritic - same as between 361.07 - 381.00m: contacts gradational						
396.78	397.12	GNTC INTV	Granitic Intrusive - contacts approx. 30 deg. to LCA: altered quartz-feldspar granite; 10% mafic inclusion						
399.84	400.00	FLSC INTV	Felsic Intrusive - medium-grained almost 90% quartz; 5-10% mafics; contacts approx. 30 deg. to LCA; slight yellowish tint						
406.44	407.58	GNTC INTV	Granitic Intrusive - contacts at 50 deg. to LCA 408.40 - 408.70 Broken Core - (Fault?) - fractures at 10 deg. to LCA 416.70 - 417.50 Broken Core - fractures at 40 deg. to LCA; weakly altered; minor sulphide; mostly pyrite with chalcopyrite - <<1%						
417.87	418.48	QTDR	Quartz Diorite - upper contact sharp at 60 deg. to LCA; medium-grained quartz-feldspar and mafic; lower contact gradational grade into quartz 418.48 - 419.10 $Alteration qv; Quartz Vein - 70% of the quartz material has a yellow tint; remaining 30% appear greyish (light) ; contacts gradational						
419.10	419.80	QTDR	Quartz Diorite - same as between 417.87 - 418.48m; lower contact approx. 45 deg. to LCA						
420.00	421.70	BSLT	Basalt - fine-grained; carbonatized; chloritized; locally porphyritic						
421.70	423.23	FPPP	Feldspar Porphyry - anhedral to euhedral feldspar phenocryst in a fine-grained dark groundmass. upper contact approx. 70 deg. to LCA; lower contact approx. 60 deg. to LCA						
423.23	435.00	BSLT	Basalt - same as between 420.00 - 421.70m 425.11 - 425.28 Granitic Intrusive - sharp contacts approx. 80 deg. to LCA						
426.41	426.47	GNTC INTV	Granitic Intrusive - contacts approx. 75 deg. to LCA						
426.55	426.65	FPPP	Feldspar Porphyry - contacts at 75 deg. to LCA						
426.68	427.11	GNTC INTV	Granitic Intrusive - contacts approx. 75 deg. to LCA 429.73 - 429.79 $ Alteration qc stgr; Sulphide Py=2; Quartz-Calcite Stringers - 2 stringers 1cm apart; contacts approx. 80 deg. to LCA: grey quartz with disseminated pyrite (approx. 2%) along calcite-filled fractures	2281	429.55	429.95	0.40	0.17	0.005
435.00	435.00	E.O.H.	End of Hole Meterage						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

From	To	Box
5.10	10.75	1
10.75	17.60	2
17.60	22.40	3
22.40	28.30	4
28.30	34.10	5
34.10	39.90	6
39.90	45.50	7
45.50	51.30	8
51.30	57.00	9
57.00	62.95	10
62.95	68.70	11
68.70	74.60	12
74.60	80.30	13
80.30	86.30	14
86.30	92.00	15
92.00	97.70	16
97.70	103.50	17
103.50	109.30	18
109.30	115.10	19
115.10	120.90	20
120.90	126.60	21
126.60	132.40	22
132.40	138.20	23
138.20	144.00	24
144.00	149.90	25
149.90	155.70	26
155.70	161.70	27
161.70	167.40	28
167.40	173.20	29
173.20	178.90	30
178.90	184.70	31
184.70	190.50	32
190.50	196.00	33
196.00	201.90	34
201.90	207.60	35
207.60	213.50	36
213.50	219.10	37
219.10	225.00	38
225.00	230.80	39
230.80	236.50	40
236.50	242.30	41
242.30	248.00	42
248.00	254.90	43
254.90	260.80	44
260.80	266.70	45
266.70	272.50	46
272.50	278.50	47
278.50	284.20	48
284.20	289.90	49
289.90	295.50	50

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

295.50	301.10	51
301.10	307.00	52
307.00	313.00	53
313.00	318.70	54
318.70	324.50	55
324.50	330.30	56
330.30	336.20	57
336.20	342.00	58
342.00	347.80	59
347.80	353.50	60
353.50	359.40	61
359.40	365.30	62
365.30	371.10	63
371.10	376.90	64
376.90	382.50	65
382.50	388.30	66
388.30	394.10	67
394.10	400.00	68
400.00	405.90	69
405.90	411.30	70
411.30	417.10	71
417.10	421.80	72
421.80	427.50	73
427.50	433.40	74
433.40	435.00	75
435.00	435.00	EOH

ST. JOE CANADA — DIAMOND DRILL HOLE RECORD — Page #1 of

Hole No.	K87.100	Northing	3+215	Grid Orient	20.00	Depth Dip Azimuth Test	Depth Dip Azimuth Test	Started	October 7. 1987	Logged by	S. Boyle
Property	Shoal Lake (KPM)	Easting	15+50E	Grid Azim.	10.00	137.9 - 45 030		Finished	October 8. 1987	Checked by	K. Leonard
Section	15+57E	Elevation	350.46	Length (M)	137.94			Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	2+05.40S	Dip-Collar	-45.00			Drill No.		Comments:	50m vert. @ 15+60E
Target	C.I. Mainland Zone	Survey E.	15+84.64E	Comp Bearing	30.00			Drill For.			

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	2.91	CASING	Casing
2.91	23.15	BSLT	Basalt
23.15	23.72	FLSC INTV	Felsic Intrusive
23.72	29.18	BSLT	Basalt
29.18	30.91	FLSC INTR	Felsic Intrusive
30.91	32.11	BSLT	Basalt
32.11	38.38	BLPP	Basalt, Feldspar Porphyritic
51.69	51.87	FPPP INTV	Feldspar Porphyry Intrusive
51.87	64.86	BSLT	Basalt
55.98	56.85	ALTD BSLT	Altered Basalt
64.86	67.51	FPPP INTV	Feldspar Porphyry Intrusive
67.51	72.10	GNTC INTV	Granitic Intrusive
68.55	70.26	PGMT GRNT	Pegmatitic Granite
72.10	79.21	BSLT	Basalt
79.21	79.77	GNTC INTV	Granitic Intrusive
79.77	101.64	BSLT	Basalt
97.52	99.45	ALTD BSLT	Altered Basalt
101.64	104.28	FLSC INTV	Felsic Intrusive
104.28	106.30	ALTD BSLT	Altered Basalt

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
106.30	133.69	BSLT	Basalt						
133.80	135.22	ALTD BSLT	Altered Basalt						
135.48	137.94	ALTD BSLT	Altered Basalt						
137.94	137.94	E.O.H.	End of Hole						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	2.91	CASING	Casing						
2.91	23.15	BSLT	Basalt - porphyritic in areas - medium grey-green, slightly mottled appearance - medium-grained - hornblende(?) grains, subhedral, slightly larger than groundmass - coarse-grained anhedral plagioclase phenocrysts, 5%, not ubiquitous - round quartz-calcite veins and veinlets occasional - trace pyrite						
			2.91 - 12.16 Plagioclase-Altered - dark-green mafic mineral, anhedral, hardness approx. 4						
			16.42 - 16.45 Quartz-Calcite Vein (1.5cm) - core axis angle 45 deg; - alteration halo 5cm wither side (carbonatization) - light green						
			16.97 - 16.99 Quartz-Calcite Vein (1cm) - core axis angle 65 deg; - trace pyrite - narrow alteration halo						
				2759	16.35	17.05	0.70	0.17	0.005
			18.30 - 18.36 $ Alteration qcv; Quartz-Calcite Vein (6cm) - core axis angle 85 deg; - 20% medium-grained chlorite - basalt inclusions - trace pyrite - altered to 4cm below vein						
			18.57 - 18.62 Quartz-Calcite Vein (3cm) - core axis angle 65 deg; - 10% yellow-green carbonate - carbonatization; light green - 2cm above - 12cm below vein, calcite "blebs", small						
				2760	18.30	18.85	0.55	0.17	0.005
			19.71 - 19.74 Quartz-Calcite Vein (3cm) - core axis angle 80 deg;						
				2761	19.52	19.92	0.40	0.17	0.005
			21.00 - 21.28 Four Quartz-Calcite Veins - largest one 1.5cm - core axis angle 55 deg; - calcite very white, segregated from quartz - chalcopyrite bleb in basalt (1cm x 0.1cm)						
				2762	20.90	21.30	0.40	0.17	0.005
23.15	23.72	FLSC INTV	Felsic Intrusive - light brown, homogeneous - very fine-grained - very siliceous - contacts sharp						
23.72	29.18	BSLT	Basalt - similar to 2.91 - 23.15m, but only 3% plagioclase phenocrysts						
			25.43 - 26.18 Altered Basalt - light green-grey	2763	25.43	26.18	0.75	0.17	0.005

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- carbonatized, highly; slightly talcose						
		- calcite-quartz veins up to 3cm wide						
		- core axis angle 50 deg. for all of them						
		- 5% very fine-grained yellow-green carbonate in basalt						
29.18	30.91	FLSC INTR Felsic Intrusive						
		- related to 23.72 - 29.18m, but slightly lighter brown in colour, less homogeneous						
		- ranging in grain size from very fine to large blebs, e.g. quartz blebs - mafics 5%						
		30.41 - 30.59 - inclusion (?)						
		- as from 23.72 - 29.18m						
30.91	32.11	BSLT Basalt						
		- as from 23.72 - 29.18m						
32.11	38.38	BLPP Basalt, Feldspar Porphyritic						
		- as from 2.91 - 23.15m except 10% plagioclase phenocrysts - quartz-calcite veinlets rare						
		- contact with BASALT gradational						
		38.38 - 41.55 Basalt						
		- phenocrysts <1%						
		44.28 - 44.34 Quartz-Carbonate Vein (6cm)						
		- core axis angle 85 deg;						
		- calcite minor; 60% yellow-green carbonate; 5% chlorite						
			2764	44.10	44.50	0.40	0.17	0.005
51.69	51.87	FPPP INTV Feldspar Porphyry Intrusive						
		- black, speckled with white						
		- 10% subhedral medium-grained plagioclase phenocrysts in a very fine-grained groundmass						
		- 2% blue quartz-eyes						
		- 2% fine-grained disseminated pyrite						
		- siliceous						
51.87	64.86	BSLT Basalt						
		- as from 23.72 - 29.18m						
		- grading to porphyritic in some sections						
			2765	51.57	51.97	0.40	0.17	0.005
		54.77 - 54.80 Quartz-Calcite Vein (2.5cm)						
		- core axis angle 80 deg;						
		- trace pyrite						
		- narrow alteration halo						
			2766	54.62	55.02	0.40	0.17	0.005
55.98	56.85	ALTD BSLT Altered Basalt						
		- light grey-green						
		- highly carbonatized						
		- quartz-calcite veining ubiquitous						
		- many of the veins bordered by yellow-green carbonate - trace pyrrhotite						
			2767	55.98	56.85	0.87	0.17	0.005
64.86	67.51	FPPP INTV Feldspar Porphyry Intrusive						
		- similar to 51.69 - 51.87m except 30% plagioclase phenocrysts						
		- 10% blue quartz-eyes						
		- trace sulphides						
		- upper and lower contacts marked by narrow alteration bands - upper, adjacent basalt is carbonatized; lower, feldspar porphyry phenocrysts are obscured						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
67.51	72.10	GNTC INTV Granitic Intrusive						
		- light green-brown						
		- medium-grained except for pegmatitic core						
		- k-spar (30%) , plagioclase (15%) , quartz (50%) , mafics (5%)						
68.55	70.26	PGMT GRNT Pegmatitic Granite						
		- grains up to 3cm x 3cm						
		- graphic granite texture						
		- some of these crystals display a radiating texture as well - plagioclase is often interstitial between the larger k-spar and quartz						
72.10	79.21	BSLT Basalt						
		- as from 51.87 - 64.86m						
		76.46 - 76.48 $						
		Alteration qcv; Sulphide Py=1;						
		Quartz-Calcite Vein (1cm)						
		- core axis angle 50 deg;						
		- 1% disseminated pyrite						
		- narrow alteration halo						
			2768	76.27	76.67	0.40	0.17	0.005
		77.97 - 78.03 $						
		Alteration qv;						
		Quartz Vein (5cm)						
		- core axis angle 70 deg;						
		- massive grey quartz						
		- alteration halo 35cm above vein; 10cm below						
			2769	77.62	78.13	0.51	0.17	0.005
79.21	79.77	GNTC INTV Granitic Intrusive						
		- similar to 67.51 - 72.10m						
		- medium-grained with 10% large blebs of quartz						
		- one large inclusion of basalt						
79.77	101.64	BSLT Basalt						
		- as from 51.87 - 64.86m						
		80.10 - 80.14 Quartz-Calcite Vein (2.5cm)						
		- core axis angle 70 deg. (upper) ; 85 deg. (lower)						
			2770	79.92	80.32	0.40	0.17	0.005
		81.23 - 81.24 Quartz Vein (1cm)						
		- core axis angle 55 deg;						
		- milk-white quartz						
		82.96 - 83.34 Feldspar Porphyry						
		- as from 51.69 - 51.87m						
		- basalt inclusion, 8cm wide in center of unit						
		87.25 - 87.62 Altered Basalt						
		- light green						
		- carbonatized						
		- quartz-calcite veinlets (up to 1.5cm)						
			2771	87.23	87.63	0.40	0.17	0.005
		92.59 - 92.61 Calcite-Quartz Vein (1cm)						
		- core axis angle 70 deg;						
		- intense alteration halo 3cm either side						
			2772	92.40	92.80	0.40	0.17	0.005
		93.59 - 94.04 $	2773	93.59	94.04	0.45	0.17	0.005
		Alteration qc vnlts;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		Four Calcite-Quartz Veins						
		- largest one 2cm						
		- all with high core axis angles						
		- alteration halos						
		94.98 - 95.01 $						
		Alteration qcv;						
		Quartz-Calcite Vein (2.5cm)						
		- core axis angle 85 deg;						
		- 2cm of alteration either side						
			2774	94.79	95.09	0.30	0.17	0.005
		96.31 - 97.20 Altered Basalt	2775	96.31	97.20	0.89	0.17	0.005
		- light green-grey						
		- carbonatization						
		- quartz-calcite vein at 96.64 - 96.67m						
		- core axis angle 45 deg. (2cm)						
		97.20 - 97.52 $						
		Alteration clct vn;						
		Calcite Vein (30cm)						
		- core axis angle approx. 65 deg. (contacts irregular) - massive off-white calcite						
		- 1% quartz near contact (lower)						
		- some discrete inclusions of basalt (15%)						
97.52	99.45	ALTD BSLT Altered Basalt						
		- as from 96.31 - 97.20m						
			2776	97.20	97.60	0.40	0.17	0.005
		98.06 - 98.10 Calcite-Quartz Vein (2.5cm)						
		- core axis angle 90 deg;						
		98.37 - 98.42 $						
		Alteration qcv;						
		Calcite-Quartz Vein (3cm)						
		- core axis angle 75 deg;						
		- discrete basalt inclusion						
		- 5% medium-grained chlorite needles						
			2777	97.52	99.00	1.48	0.17	0.005
		99.17 - 99.21 $						
		Alteration qcv;						
		Quartz-Calcite Vein (4cm)						
		- core axis angle 70 deg;						
		- quartz and calcite strongly segregated						
		- very sharp contacts						
			2778	99.00	99.45	0.45	0.17	0.005
		100.06 - 100.08 Quartz-Carbonate Vein (1cm)						
		- core axis angle approx. 60 deg;						
		- 50% yellow-green carbonate						
		- white calcite blebs in narrow alteration halo						
			2779	99.87	100.27	0.40	0.17	0.005
101.64	104.28	FLSC INTV Felsic Intrusive						
		- related to felsic intrusives previously recorded in this log? - light green-brown						
		- very fine-grained with 10% quartz blebs up to 1cm in diameter						
		- 1cm quartz vein at upper contact (core axis angle 50 deg.)						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		102.40 - 102.43 Quartz-Calcite Vein (2cm) - core axis angle 45 deg; - alteration halo 10cm above vein and 12cm below - quartz unaltered in a groundmass of grey and yellow-green material - not carbonatized - hardness approx. 4						
			2780	102.25	102.65	0.40	0.17	0.005
104.28	106.30	ALTD BSLT Altered Basalt - ranging from pervasive to alteration halo's around the abundant quartz-calcite veinlets						
			2781	105.00	106.30	1.30	0.17	0.005
106.30	133.68	BSLT Basalt - as from 51.87 - 64.86m 107.15 - 107.17 Quartz-Calcite Vein (1cm) - corre axis angle 65 deg;						
			2782	107.00	107.40	0.40	0.17	0.005
		110.07 - 110.09 Quartz-Calcite Vein (1.5cm) - core axis angle 45 deg; - alteration halo 3cm either side						
			2783	109.88	110.28	0.40	0.17	0.005
		111.88 - 112.18 Altered Basalt						
			2784	111.83	112.23	0.40	0.17	0.005
		112.38 - 112.58 Felsic Intrusive - as from 101.64 - 104.68m but not as green 117.00 - 117.01 Quartz-Calcite Vein (1cm) - core axis angle 55 deg; - crosscuts alteration zone where groundmass of basalt altered to calcite - hornblende(?) grains left intact - zone 5cm wide - (also, at 116.40 - 116.50m very low core axis angle 2cm quartz-calcite vein)						
			2785	116.40	117.20	0.80	0.17	0.005
		117.84 - 117.90 Felsic Intrusive - related to 112.38 - 112.58m - light brown, homogeneous - very fine-grained - siliceous 118.97 - 119.06 Felsic Intrusive - more grey than brown, mottled - siliceous - very fine-grained to medium-grained - plagioclase?; quartz; 5% mafics 119.14 - 119.21 Felsic Intrusive - as above: 118.97 - 119.06m 119.78 - 119.96 $ Alteration qc vnlts: Two Quartz-Calcite Veins (approx. 1.5cm and 1cm) - low core axis angles, 25 deg. and 30 deg. respectively						
			2786	119.60	120.00	0.40	0.17	0.005
		120.01 - 120.09 Felsic Intrusive - as from 118.97 - 119.06m						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		121.03 - 121.23 Felsic Intrusive						
		- light brown						
		- very fine-grained to large blebs (of quartz)						
		122.07 - 122.14 Felsic Intrusive						
		- grey						
		- as from 118.97 - 119.06m						
		122.24 - 122.30 Felsic Intrusive						
		- as above						
		126.03 - 126.53 Altered Basalt	2787	126.03	126.53	0.50	0.17	0.005
		- "patchy" alteration						
		- groundmass of basalt has altered to calcite						
		- mafic phenocrysts (hornblende?) left intact						
		127.95 - 128.25 Altered Basalt						
		- light green						
		- highly carbonatized						
		- groundmass altered to calcite but some mafics left intact						
		Alteration qv; Sulphide Py=1 Po=1;						
			2788	127.90	128.30	0.40	0.17	0.005
		133.68 - 133.80 $						
		Quartz Vein						
		- highly mixed with resorbing basalt inclusions						
		- core axis angle approx. 50 deg;						
		- grey-white quartz						
		- 1% pyrite; 1% pyrrhotite						
133.80	135.22	ALTD BSLT Altered Basalt						
		- carbonatized, chloritized						
		- medium grey-green						
		- cut by quartz-calcite veinlets with their own alteration halos - trace pyrite						
			2789	133.68	134.08	0.40	0.17	0.005
		134.30 - 134.33 $						
		Alteration qv; Sulphide Py=1;						
		Quartz Vein (2.5cm)						
		- core axis angle 85 deg;						
		- massive grey-white quartz						
		- 1% disseminated pyrite						
			2790	134.08	134.48	0.40	0.17	0.005
			2791	134.48	135.15	0.67	0.17	0.005
		135.22 - 135.27 $						
		Alteration qv;						
		Quartz Vein (4cm)						
		- core axis angle, near vertical						
		- massive grey-white quartz but lower contact marked by 0.5cm calcite						
		Alteration qv; Sulphide Py=25;						
		135.31 - 135.36 $						
		Quartz Vein (5cm)						
		- core axis angle near vertical						
		- grey-white quartz						
		- 20% resorbing basalt inclusions						
		- 25% pyrite blebs						
		135.46 - 135.48 $						
		Alteration qv; Sulphide Py=5;						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			Quartz Vein (1.5cm)						
			- core axis angle 80 deg:						
			- grey-white quartz						
			- 5% pyrite in small blebs						
135.48	137.94	ALTD BSLT	Altered Basalt						
			- light green						
			- highly carbonatized: chloritized						
			- 1% disseminated pyrite						
				2792	135.15	135.55	0.40	0.17	0.005
				2793	135.55	136.55	1.00	0.17	0.005
				2794	136.55	137.34	0.79	0.00	
			137.74 - 137.94 Chloritized Basalt	2795	137.34	137.94	0.60	0.17	0.005
			- uncarbonatized						
			- 1% pyrite						
137.94	137.94	E.O.H.	End of Hole						

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.101	Northing	5+23S	Grid Orient	20.00	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	October 8, 1987	Logged by	S. Boyce
Property	Shoal Lake (KPM)	Easting	12+27E	Grid Azim.	10.00	0.0	- 45	030		150.0	- 45	030		Finished	October 14, 1987	Checked by	K. Leonard
Section	12+74E	Elevation	339.66	Length (M)	420.00	420.0	- 40	029.						Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	4+41.72S	Dip-Collar	-45.00									Drill No.		Comments:	250m vert. @ 12+74E
Target	C.I. Mainland Zone	Survey E.	12+91.62E	Comp Bearing	30.00									Drill For.			29m W of K87.95

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	3.30	CASING	Casing
3.30	5.60	BSLT	Basalt
5.60	24.40	BSLT	Basalt
22.54	22.57	GNTC INTV	Granitic Intrusive
24.61	25.91	BSLT	Basalt
25.91	27.79	BSLT	Basalt
27.79	40.06	BSLT	Basalt
40.06	44.25	BSLT	Basalt
44.25	51.58	BSLT	Basalt
51.58	52.25	ALTD BSLT	Altered Basalt
52.34	52.87	ALTD BSLT	Altered Basalt
52.87	55.07	BSLT	Basalt
55.07	75.65	BSLT	Basalt
75.65	98.96	BSLT	Basalt
98.96	108.93	ALTD BSLT	Altered Basalt
108.93	126.33	BSLT	Basalt
126.33	131.25	BSLT	Basalt
131.25	132.00	BSLT	Basalt
132.00	132.65	BSLT	Basalt

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
132.65	135.46	BSLT	Basalt						
135.46	136.81	BSLT	Basalt						
136.81	140.88	BSLT	Basalt						
140.88	141.58	BSLT	Basalt						
141.58	143.26	BSLT	Basalt						
143.26	156.05	FPPP	Feldspar Porphyry						
156.05	159.00	BSLT	Basalt						
159.00	161.08	BSLT	Basalt						
161.05	162.45	BSLT	Basalt						
162.45	163.80	BSLT	Basalt						
163.80	170.74	BSLT	Basalt						
170.74	192.05	BSLT	Basalt						
192.05	192.55	BSLT	Basalt						
192.55	193.25	BSLT	Basalt						
193.25	194.83	BSLT	Basalt						
194.83	274.84	BSLT	Basalt						
274.84	299.80	BLPP	Basalt, Feldspar Porphyritic						
299.80	301.58	BSLT	Basalt						
301.58	315.77	BLPP	Basalt, Feldspar Porphyritic						
315.77	318.21	FPPP	Feldspar Porphyritic						
318.74	320.85	BSLT	Basalt						
320.85	328.95	BSLT	Basalt						
328.95	338.29	BLPP	Basalt, Feldspar Porphyritic						
338.29	338.66	BLPP	Basalt. Feldspar Porphyritic						
338.66	339.28	FPPP	Feldspar Porphyry						
339.28	342.22	BLPP	Basalt. Feldspar Porphyritic						

FROM	TO		DESCRIPTION
342.22	342.90	BLPP	Basalt, Feldspar Porphyritic
342.90	346.39	BLPP	Basalt, Feldspar Porphyritic
346.39	359.58	BSLT	Basalt
359.57	360.47	BSLT	Basalt
360.47	363.55	BSLT	Basalt
363.55	364.52	FLPP	Feldspar Porphyry
364.52	367.57	BSLT	Basalt
367.57	369.54	FLPP	Feldspar Porphyry
369.54	384.73	BSLT	Basalt
384.73	387.30	FLPP	Feldspar Porphyry
387.49	388.27	BSLT	Basalt
388.27	388.41	FLSC INTV	Felsic Intrusive
388.41	410.96	BLPP	Basalt, Feldspar Porphyritic
411.23	411.73	GNTC INTV	Granitic Intrusive
411.73	419.96	BLPP	Basalt, Feldspar Porphyritic
419.96	419.96	E.O.H.	End of Hole

SAMPLE FROM TO WIDTH Au g_tonne Au oz_ton

FROM	TO		DESCRIPTION
0.00	3.30	CASING	Casing
3.30	5.60	BSLT	Basalt

3.30 - 5.60 $
Sulphide Po=2;
- medium grey-green; fine-grained; cut by occasional calcite-quartz veins/ veinlets; carbonatized; moderately to strong; 2% fine-grained disseminated pyrrhotite; trace pyrite

5.44 - 5.47 $
Alteration qcv; Sulphide Py=7;
Calcite-Quartz Vein (2cm)
- core axis angle approx. 65 deg.; contacts irregular and poorly defined; 30% resorbing basalt inclusions; approx. 7% fine-grained disseminated pyrite. much of it has altered to limonite immediately above highly fractured rock. pieces are moderately well-rounded (fault?)

FROM	TO		DESCRIPTION
5.60	24.40	BSLT	Basalt

5.60 - 24.40 $
Sulphide Py=1;
- medium grey-green; fine-grained; sometimes almost medium-grained; cut by occasional calcite-quartz veins/veinlets; weakly to moderately carbonatized. 1% pyrite in blebs and veinlets; trace pyrrhotite

11.57 - 11.60 $
Alteration qcv; Sulphide Py=10;
Calcite-Quartz Vein (1.5cm)
- core axis angle approx. 70 deg.; contacts vague; 10% pyrite; concentrated close to contacts

11.63 - 14.25 $
Alteration slfd;
Silicified Basalt
- dark grey; moderately silicified; occasional calcite-quartz veins (up to 1cm)

14.25 - 14.27 $Alteration qcv; Sulphide Py=5;
Calcite-Quartz Vein
- core axis angle 60 deg.; 5% pyrite near contacts

14.75 - 14.79 $Alteration qcv; Sulphide Py=5;
Calcite-Quartz Vein
- core axis angle 55 deg.; large inclusion of basalt; 5% pyrite along contacts with basalt

22.47 - 22.48 $
Alteration qcv; Sulphide Po=3;
Quartz-Calcite Vein (1cm)
- core axis vertical; 3% pyrrhotite along contacts; alteration halo (carbonatization) 5cm above vein; 6cm below

FROM	TO		DESCRIPTION
22.54	22.57	GNTC INTV	Granitic Intrusive

- granular (fine-grained) ; siliceous; medium-grained black mafics; some of k-spar medium-grained carbonatization to 20cm below (groundmass alteration) ; possibly due to above quartz-calcite vein?

24.07 - 24.40 $
Alteration qcvs;
Basalt cut by Calcite-Quartz Veins (up to 1cm)
- most at core axis angle 65 deg.; 20% of rock calcite-quartz veining; very weak shearing in basalt at 65 deg.; minor pyrite in veins, and trace

SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
2796	5.20	5.60	0.40	0.17	0.005
2797	11.23	11.63	0.40	0.17	0.005
2798	12.12	13.02	0.90	0.17	0.005
2799	14.25	14.80	0.55	0.17	0.005
2800	22.45	22.85	0.40	0.17	0.005
2801	23.30	24.30	1.00	0.17	0.005

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			pyrrhotite; carbonatization moderate to high (high at lower contact, adjacent to quartz vein)						
			24.40 - 24.61 $ Alteration qv; Sulphide Py=5; Quartz Vein (approx. 17cm) - core axis angle 65 deg.; grey-white quartz 65%; calcite, mainly near contacts, 10%; resorbing basalt inclusions, 18%; pyrite in blebs and " veinlets" 7%						
24.61	25.91	BSLT	Basalt - light green; highly carbonatized						
				2802	24.30	24.70	0.40	3.43	0.100
			25.89 - 25.91 Quartz Vein (1.5cm) - core axis angle 70 deg.; 5% pyrite in immediately adjacent basalt (4cm above) - grey-white quartz	2803	24.70	25.91	1.21	0.17	0.005
25.91	27.79	BSLT	Basalt - medium grey-green; fine-grained; weakly carbonatized; quartz-calcite veining						
			26.25 - 26.27 Quartz-Calcite Vein (1.5cm) - core axis angle 70 deg.; 1% pyrite						
				2804	26.06	26.46	0.40	0.17	0.005
27.79	40.06	BSLT	Basalt - porphyritic; medium grey-green with greenish-white "stars"; fine to medium-grained; 20% coarse-grained (up to 1cm in diameter) highly anhedral plagioclase phenocrysts; plagioclase phenocrysts star-shaped; altered to a greenish-white colour; not as hard as they should be; partially altered to calcite?; some of this alteration also affects the groundmass; calcite-quartz veining only occasional; rock is weakly carbonatized						
			32.77 - 32.83 $ Alteration qcv; Quartz-Calcite Vein (5cm) - core axis angle 65 deg.; abundant basalt inclusions; trace pyrite; alteration halo 5cm either side						
				2805	32.60	33.00	0.40	0.17	0.005
			37.55 - 37.56 $ Alteration qcv; Sulphide Py=10; Quartz-Calcite Veinlet (0.5cm) - core axis angle 70 deg.; 10% pyrite						
				2806	37.35	37.75	0.40	0.17	0.005
			39.38 - 40.06 Basalt - phenocrysts absent; medium-grained; carbonatized						
40.06	44.25	BSLT	Basalt - light grey-green; weakly sheared at core axis angle 30 deg.; highly carbonatized; 25% calcite-quartz veining; trace sulphides						
			43.76 - 43.80 $Alteration qcv; Sulphide Py=4; Quartz-Calcite Vein (2cm) - core axis angle 50 deg.; predominantly quartz; 4% pyrite blebs in vein; 10% pyrite, 5% pyrrhotite in basalt to 4cm below vein						
			43.92 - 43.96 $ Alteration qcv; Sulphide Py=5 Po=7; Quartz-Calcite Vein (3cm)						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- core axis angle 45 deg.; well-defined quartz vein, with calcite blebs within vein end along the contacts; 5% pyrite blebs in vein; 7% pyrrhotite in blebs and 1% pyrite in basalt to 29cm below vein						
				2807	43.75	44.25	0.50	0.17	0.005
44.25	51.58	BSLT	Basalt						
			- medium grey-green to dark grey-green; fine-grained; last meter somewhat carbonatized; quartz-calcite veining more common						
			49.73 - 49.75 Calcite-Quartz-Pyrite Vein (approx. 1.5cm)						
			- core axis angle approx. 70 deg.; contacts gradational; approx. 40% pyrite in vein; basalt sheared (core axis angle 70 deg.) 3cm either side of vein						
				2808	49.70	50.15	0.45	0.17	0.005
51.58	52.25	ALTD BSLT	Altered Basalt						
			- light grey-green; carbonatized; 10% quartz-calcite veining; trace sulphides						
				2809	51.58	52.05	0.47	0.17	0.005
			52.12 - 52.15 Quartz-Calcite Vein (1.5cm)						
			- core axis angle 45 deg.; 5% pyrrhotite, 3% chalcopyrite, 1% pyrite in vein and in immediately adjacent basalt						
			52.25 - 52.34 $						
			Alteration qv; Sulphide Py=2 Po=2;						
			Quartz Vein (9cm)						
			- core axis angle 85 deg.; massive grey-white quartz; 5% resorbing basalt inclusions; 3% calcite in blebs with chlorite inclusions; 2% pyrite blebs in vein; 8% pyrite in adjacent basalt (4cm either side) ; 2% pyrrhotite						
52.34	52.87	ALTD BSLT	Altered Basalt						
			- as from 51.58 - 52.25m						
			52.49 - 52.51 Quartz-Calcite Vein (1.5cm)	2810	52.05	52.51	0.46	0.17	0.005
			- core axis angle 70 deg.; 1% pyrrhotite in vein; 5% in basalt to 4cm above						
52.87	55.07	BSLT	Basalt						
			- medium grey-green; fine-grained; quartz-calcite veining occasional						
				2811	52.51	52.91	0.40	0.17	0.005
			54.50 - 54.51 Quartz-Calcite Vein (1cm)						
			- core axis angle 75 deg.; 5% pyrite and pyrrhotite						
			54.78 - 54.79 Quartz-Calcite Vein (1cm)						
			- core axis angle 70 deg.; 5% pyrite and pyrrhotite						
				2812	54.40	54.80	0.40	0.17	0.005
55.07	75.65	BSLT	Basalt						
			- porphyritic; as from 27.79 - 40.06m						
			55.65 - 56.22 Quartz-Calcite Veining (up to 2cm)	2813	55.62	56.22	0.60	0.17	0.005
				2814	53.00	53.50	0.50	0.17	0.005
			- 3 veins at various orientations; carbonatized basalt						
			57.95 - 59.20 - phenocrysts rare						
			63.34 - 63.47 Quartz-Actinolite? Vein (2cm)						
			- low core axis angle approx. 10 deg.; approx. 10% calcite, 25% quartz, 65% actinolite (radiating needles, light green, glassy lustre) groundmass of surrounding basalt altered						
			71.72 - 71.79 Quartz-Calcite Vein (5cm)						
			- core axis angle 60 deg.; 30% resorbing basalt inclusions; contacts of vein marked by 0.5cm calcite; trace pyrrhotite						
				2815	71.30	71.90	0.60	0.17	0.005
			72.87 - 72.88 Quartz Vein (1cm)						
			- core axis angle 70 deg.; trace pyrite						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2816	72.68	73.08	0.40	0.17	0.005
75.65	98.96	BSLT Basalt - dark grey; fine-grained; not porphyritic; quartz-calcite veining rare; fresh, except somewhat talcose in areas						
		84.04 - 84.07 Quartz-Calcite Vein (1.5cm) - core axis angle 55 deg.; carbonatized basalt to 23cm below; trace pyrite in basalt						
			2817	84.00	84.40	0.40	0.17	0.005
		85.72 - 85.78 Calcite Vein (2cm) - core axis angle 35 deg.; minor quartz; white calcite						
		69.07 - 69.19 Quartz Vein and Quartz Vein Material - quartz vein 3cm; grey-white; core axis angle 80 deg.; 2% pyrite and trace pyrrhotite - quartz vein material to 9cm above vein; 50% of rock; remainder basalt; 10% calcite also present; 1% sulphides in vein material; 2% pyrite, 2% pyrrhotite in basalt (blebs) ; carbonatization extends 20cm above quartz and 5cm below						
			2818	85.55	85.95	0.40	0.17	0.005
			2819	88.87	89.27	0.40	0.17	0.005
		92.22 - 92.28 Quartz-Calcite Vein (approx. 5cm) - highly irregular in shape; 20% small basalt inclusions						
			2820	92.05	92.45	0.40	0.34	0.010
98.96	108.93	ALTD BSLT Altered Basalt - medium grey-green; highly carbonatized; approx. 20% calcite-quartz veining (mostly at core axis angle 30 deg.) ; rock very talcose						
		99.32 - 99.40 $Alteration qv; Sulphide Po=2 Py=2; Quartz Vein (approx. 4cm) - core axis angle approx. 40 deg.; approx. 40% resorbing basalt; vein contacts difficult to determine; approx. 2% pyrrhotite, 2% pyrite, trace chalcopyrite, concentrated in the basalt; calcite vein material 10cm above and below vein. surrounding basalt very soft - Fault Gouge?; basalt carbonatized 15cm above and below						
			2821	99.16	99.56	0.40	0.17	0.005
		104.55 - 104.85 Weakly Sheared Basalt - foliation at approx. 30 deg. core axis angle; calcite veining parallel to foliation; basalt highly carbonatized						
			2822	104.50	104.90	0.40	0.17	0.005
			2823	106.54	107.54	1.00	0.17	0.005
			2824	105.70	106.10	0.40	0.17	0.005
		108.43 - 108.93 - 40% calcite veining	2825	108.43	108.93	0.50	0.17	0.005
108.93	126.33	BSLT Basalt - dark grey-green; fine-grained; calcite veining occasional						
		109.96 - 110.00 Calcite-Quartz Vein (3cm) - core axis angle 70 deg.; 5% chlorite; 5% resorbing basalt; trace pyrite						
		110.51 - 110.53 Quartz-Calcite Vein (2cm) - core axis angle 50 deg;						
			2826	109.95	110.55	0.60	0.17	0.005
		114.27 - 114.32 Quartz-Calcite Vein (approx. 3cm) - core axis angle approx. 45 deg. (contacts irregular) ; quartz center, surrounded by calcite						
			2827	114.10	114.50	0.40	0.17	0.005
126.33	131.25	BSLT Basalt						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- medium grey-green; dark green mafics. pale green altered(?) felsics; fine to medium-grained; cut by hair-like carbonate veinlets and quartz-calcite veins up to 1.5cm width; weakly carbonatized						
			128.63 - 128.66 Quartz-Calcite Vein (1.5cm)						
			- core axis angle 50 deg.; 2cm either side altered to a pale green but not carbonatized; 20cm above vein intensively cut by carbonate veinlets (carbonate is not calcite) ; also cut by off-shoots of vein which post-date the carbonate veinlets						
				2828	128.33	128.73	0.40	0.17	0.005
131.25	132.00	BSLT	Basalt						
			Highly Altered Basalt						
			- mottled different shades of green; highly carbonatized; cut by narrow fractures that are now filled with calcite-quartz or sulphides; 10% pyrrhotite in blebs and very fine-grained disseminated, and 50% pyrite in large blebs (up to 2cm diameter)						
				2829	131.25	132.00	0.75	0.17	0.005
132.00	132.65	BSLT	Basalt						
			132.00 - 132.65 $	2830	132.00	132.65	0.65	0.17	0.005
			Alteration slfd; Sulphide Po=15 Py=5;						
			- light grey; exhibits a wavy foliation at core axis angle approx. 25 deg.. vein material - calcite, chlorite, yellow-green carbonate, sulphides, generally aligned parallel to foliation; original texture of basalt still visible; 15% pyrrhotite, fine-grained disseminated in "veinlets"; 5% pyrite in "veinlets" and blebs; 1% chalcopyrite in "veinlets"						
132.65	135.46	BSLT	Basalt						
			- as from 126.33 - 131.25m except moderately carbonatized						
				2831	134.06	135.06	1.00	0.17	0.005
			135.20 - 135.30 Calcite Vein (1cm)						
			- core axis angle 20 deg.; 7% disseminated pyrrhotite; trace pyrite						
				2832	135.06	135.46	0.40	0.17	0.005
135.46	136.81	BSLT	Basalt						
			135.46 - 136.81 $	2833	135.46	136.81	1.35	0.17	0.005
			Alteration slfd;						
			Highly Silicified Basalt						
			- light grey; original texture of basalt obliterated; slightly wavy; mottled texture; from approx. 136.00 - 136.81m is a foliation at core axis angle 30 deg.; 10% pyrrhotite, in blebs; 2% chalcopyrite and 2% pyrite in blebs dissolving calcite vein (vuggy) with associated large blebs of chalcopyrite and pyrite (vein 1cm in width) ; contact with basalt fairly sharp						
136.81	140.88	BSLT	Basalt						
			- as from 126.33 - 131.25m except hair-like veinlets only occasional; highly carbonatized to 45cm above lower contact						
				2834	136.81	137.81	1.00	0.17	0.005
			139.71 - 139.76 Quartz-Calcite Vein (1.5cm)						
			- core axis angle 45 deg.; 5% yellow-green carbonate						
				2835	139.88	140.88	1.00	0.17	0.005
				2836	139.58	139.88	0.30	0.17	0.005
140.88	141.58	BSLT	Basalt						
			140.88 - 141.58 $	2837	140.88	141.58	0.70	0.17	0.005
			Alteration slfd; Sulphide Po=6 Cpy=2;						
			Silicified Basalt						
			- light grey; original texture of basalt vaguely discernable; similar to						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			132.00 to 132.65m except calcite more abundant (5%) ; faint foliation at core axis angle 35 deg.; 6% pyrrhotite; 2% chalcopyrite; trace pyrite						
141.58	143.26	BSLT	Basalt - light green; highly carbonatized; 10% calcite veins (up to 2cm and at various orientations) ; contact with above silicified basalt gradational; 8% pyrrhotite in blebs and very fine-grained disseminated; trace chalcopyrite; trace pyrite. very faint foliation visible near lower contact, at core axis angle 30 deg.. 3cm quartz vein, core axis angle 55 deg., with discrete basalt inclusions at 143.09 - 143.13m	2838	141.58	142.58	1.00	0.17	0.005
				2839	142.58	143.26	0.68	0.17	0.005
143.26	156.05	FPPP	Feldspar Porphyry - light grey speckled white; 30% medium-grained subhedral plagioclase phenocrysts in a fine-grained highly siliceous groundmass; 5% fine-grained black mafics; trace pyrite						
156.05	159.00	BSLT	Basalt - medium grey; very fine-grained; highly carbonatized; occasional calcite-quartz veining						
159.00	161.08	BSLT	Basalt - light grey-green; highly carbonatized; chloritized; 20% calcite veining at various orientations; talcose; 3% pyrrhotite in blebs and finely disseminated. 1% chalcopyrite associated with pyrrhotite blebs; trace pyrite						
161.05	162.45	BSLT	Basalt 161.05 - 162.45 $	2840	161.05	162.45	1.40	0.17	0.005
			Alteration slfd; Sulphide Py=5 Po=2; - light grey; original basalt texture still vaguely discernable; brecciated. fractures filled with quartz, along with some calcite and sulphides; 5% pyrite in blebs and "veinlets"; 2% pyrrhotite in similar form both upper and lower contacts gradational						
162.45	163.80	BSLT	Basalt 162.45 - 163.80 $	2841	162.45	163.80	1.35	0.17	0.005
				2842	160.05	161.05	1.00	0.17	0.005
			Structure defd; Deformed Basalt - dark green; brecciated; highly altered - carbonatized, chloritized; Shear Zone?; quartz-calcite veining between basalt fragments (25%) ; 3% pyrite, 1% pyrrhotite in blebs and "veinlets"; trace chalcopyrite]						
163.80	170.74	BSLT	Basalt - medium to light grey-green; basalt fine-grained; moderately carbonatized. 10% quartz-calcite veining; minor hair-like carbonate veinlets; trace pyrite, pyrrhotite 165.27 - 165.31 Narrow Granitic Intrusive - salmon-pink; quartz and k-spar; granular; core axis angle approx. 65 deg;						
			166.65 - 167.15 Weakly Sheared Basalt - core axis angle 20 deg. (foliation) ; calcite vein at 166.50 - 166.56m; 2cm core axis angle 30 deg.; 3% pyrrhotite	2843	165.95	167.15	1.20	0.17	0.005
170.74	192.05	BSLT	Basalt - dark grey-green; fine-grained; weakly carbonatized in places; 3% hair-like carbonate veinlets; quartz-calcite veining occasional; <1% plagioclase phenocrysts, subhedral; trace pyrite, pyrrhotite						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			176.60 - 176.62 Quartz-Calcite Veinlet (0.5cm) - core axis angle approx. 55 deg.; carbonatized halo 10cm either side	2844	176.40	176.80	0.40	0.17	0.005
			183.76 - 193.77 Large Bleb of Pyrrhotite	2845	183.35	183.80	0.45	0.17	0.005
			- 1cm x 3cm; minor pyrite within bleb; associated with narrow quartz-calcite	2846	184.62	185.59	0.97	1.37	0.040
			veinlet approx. 40 deg. core axis angle	2847	187.08	187.48	0.40	0.17	0.005
			184.62 - 185.59 Highly Carbonatized Basalt - light green; sharp upper and lower contacts, both at core axis angle 70 deg;						
			187.26 - 187.30 Quartz-Calcite Vein Material - highly irregular in shape; quartz-calcite; yellow-green carbonate vein; 1cm. low core axis angle adjacent						
192.05	192.55	BSLT	Basalt - light grey-green; highly carbonatized; 20% quartz-calcite veining	2848	192.05	192.55	0.50	0.17	0.005
192.55	193.25	BSLT	Basalt						
			192.55 - 193.25 $	2849	192.55	193.25	0.70	0.17	0.005
			Sulphide Po=2; Structure brcd; light dull grey; basalt highly fractured; fractures filled with quartz, quartz- calcite and sulphides; very highly carbonatized; soft; 2% pyrrhotite in "veinlets" and finely disseminated; trace pyrite; contacts gradational						
193.25	194.83	BSLT	Basalt - light grey-green to medium grey-green; moderately to highly carbonatized; 15% hair-like carbonate veinlets (quartz-calcite?) ; 5% quartz-calcite veins, up to 1cm	2850	193.25	194.25	1.00	0.17	0.005
194.83	274.84	BSLT	Basalt - from 170.74 - 192.05m; veinlets up to 30%						
			197.59 - 197.63 Pyrrhotite-Pyrite Veinlet (0.3cm) - core axis angle 45 deg.; 70% pyrrhotite, 30% pyrite; veinlet changes to quartz-calcite after 7cm	2851	197.40	197.80	0.40	0.17	0.005
			203.33 - 203.38 Quartz-Calcite Vein - core axis angle 60 deg.; 40% basalt inclusions; 1% pyrite	2852	203.15	203.55	0.40	0.17	0.005
			207.00 - 207.06 Calcite-Quartz Vein (6cm) - core axis angle 65 deg.; 50% basalt inclusions; 1% pyrrhotite	2853	206.80	207.20	0.40	0.17	0.005
			208.18 - 208.25 Quartz Vein Material - 40% of rock; grey-white quartz; 1% pyrrhotite blebs in quartz	2854	208.01	208.41	0.40	0.17	0.005
			213.26 - 213.30 Quartz-Calcite Vein (4cm) - core axis angle 70 deg.; 35% basalt inclusions, chloritic; quartz - highly silicified basalt?; browner, not as glassy a lustre; 2% pyrrhotite; trace pyrite	2855	213.08	213.48	0.40	0.17	0.005
			213.86 - 213.90 Pyrrhotite Vein (1cm) - core axis angle 50 deg.; 95% pyrrhotite; 5% pyrite	2856	213.60	214.00	0.40	0.17	0.005
			214.80 - 215.49 Carbonatized Basalt						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- lighter green in colour						
			216.39 - 216.42 Quartz-Calcite Vein (2cm)						
			- core axis angle 75 deg.; 10% basalt inclusions; light green carbonatized halo 4cm						
				2857	216.20	216.60	0.40	0.17	0.005
			224.26 - 224.89 Altered Basalt	2858	224.26	224.89	0.63	0.17	0.005
			- light green; carbonatized; 1% pyrrhotite in blebs and finely disseminated. bounded by quartz-calcite veins; chlorite-rich; 2cm x 4cm; core axis angles low						
			229.58 - 230.55 Carbonatized Basalt						
			234.72 - 246.00 Basalt	2859	236.42	236.82	0.40	0.17	0.005
			- with 3% medium-grained subhedral plagioclase phenocrysts						
			236.59 - 236.66 Calcite-Quartz Vein (1.5cm)						
			- core axis angle 35 deg.; 10% chlorite; carbonatized halo 3cm either side						
			246.71 - 246.73 Quartz-Calcite Vein (2cm)						
			- core axis angle 75 deg.; 60% quartz; 2cm alteration halo either side; 2% pyrite						
				2860	246.52	246.92	0.40	0.17	0.005
			256.23 - 256.44 Granitic Intrusive						
			- pink; aphanitic to fine-grained; siliceous; 5% fine-grained black mafics - hornblende?; contacts at 50 deg. core axis angle						
			260.06 - 260.08 Quartz-Calcite Vein (1cm)						
			- core axis angle 70 deg.; 10% basalt inclusions; 1% pyrite; trace pyrrhotite. surrounding basalt weakly sheared at core axis angle 70 deg.; also carbonatized (3cm above, and to vein 8cm below)						
			260.15 - 260.17 Quartz-Calcite Vein (1cm)						
			- very similar to vein described above; carbonatization of basalt to 3cm below vein						
				2861	259.90	260.30	0.40	0.17	0.005
			267.75 - 270.70 Basalt	2862	269.70	270.10	0.40	0.17	0.005
			- 2-10% medium to coarse-grained subhedral feldspar phenocrysts						
			269.90 - 269.93 Quartz Vein (2.5cm)						
			- core axis angle 80 deg.; grey-white quartz; 3% pyrite in small blebs. contacts marked by calcite; carbonatized basalt 6cm either side of vein						
			274.06 - 274.27 Quartz Vein (1.5cm)						
			- core axis angle 15 deg.; contacts marked by calcite						
				2863	273.95	274.35	0.40	0.17	0.005
274.84	299.80	BLPP	Basalt. Feldspar Porphyritic						
			- dark grey; 5-10% subhedral feldspar phenocrysts in a fine-grained groundmass. phenocrysts coarse-grained, up to 3cm in diameter; upper contact gradational. trace pyrite, disseminated and in blebs; quartz-calcite veining occasional						
			286.29 - 287.26 Altered Basalt	2864	286.29	287.26	0.97	0.17	0.005
			- light green; highly carbonatized; feldspar phenocrysts obscured						
			286.45 - 286.49 Calcite Vein (4cm)						
			- core axis vertical; alteration halo (carbonatization) and calcite vein material 16cm above vein and extending 24cm below vein						
			289.31 - 289.44 Calcite-Quartz Vein (6cm)						
			- core axis angle 45 deg.; intermixed calcite and quartz; 20% basalt inclusions - carbonatized halo 30cm above and 13cm below						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
				2865	289.01	289.57	0.56	0.17	0.005
			297.20 - 297.40 Quartz Vein (1cm) - core axis angle 10 deg.; grey-white quartz; calcite marking the contacts. 10% pyrite in large blebs within the quartz, and in smaller blebs along the contacts						
			297.45 - 297.49 $ Alteration qv; Sulphide Py=5; Quartz Vein (3cm) - core axis angle 65 deg.; grey-white quartz; 10% resorbing basalt inclusions. 5% calcite, near contacts; 5% pyrite in elongate blebs; basalt carbonatized between this vein and vein above, and 15cm below this vein						
				2866	297.20	297.65	0.45	0.34	0.010
			299.06 - 299.25 Granitic Intrusive - core axis angle 80 deg.; medium-grained to pegmatite?; individual grains difficult to discern, but graphic granite texture can be seen in the k-spar. large quartz bleb 2cm x 2cm; buff-brown to yellow in colour; quartz-calcite vein (1.5cm, core axis angle 45 deg.) cutting through intrusive						
				2867	298.95	299.35	0.40	0.17	0.005
			299.90 - 300.00 Granitic Intrusive - similar to above, 299.06 - 299.25m						
299.80	301.58	BSLT	Basalt - medium green to light green; highly carbonatized; feldspar phenocrysts obscured						
				2868	299.80	301.18	1.38	0.17	0.005
			301.34 - 301.37 Quartz-Calcite Vein (2cm) - core axis angle 65 deg.; 10% pyrite in blebs predominantly witin the calcite; another vein 3cm below, 1cm width; core axis angle approx. vertical. 15% pyrite						
				2869	301.18	301.58	0.40	3.43	0.100
301.58	315.77	BLPP	Basalt, Feldspar Porphyritic - as from 274.84 - 299.80m 304.67 - 304.76 Narrow Granitic Intrusive - similar to that from 299.06 - 299.25m 310.94 - 311.08 Quartz-Calcite-Actinolite Vein (approx. 13cm) - upper core axis angle 60 deg.; lower core axis angle 85 deg.; 50% grey-white quartz; 30% actinolite in medium-grained radiating prisms; 15% calcite; 5% basalt inclusions, chloritic						
				2870	310.80	311.20	0.40	0.17	0.005
315.77	318.21	FPPP	Feldspar Porphyritic - black, speckled with pale green; 40% pale green, medium-grained euhedral plagioclase phenocrysts; these are rimmed with calcite and poilciloblastic, containing tiny black mafics and calcite - groundmass fine-grained with approx. 70% mafics (hornblende? glassy lustre) and 30% felsics (plagioclase + quartz?) - altered in arreas such that the phenocrysts are obscured; shearing has occurred at the top of such an alteration zone (foliation core axis angle 75 deg. 316.58 - 316.68m) - entire rock is carbonatized; upper and lower contacts not sharp, but distinct						
				2871	316.31	317.81	1.50	0.17	0.005

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			317.82 - 318.21 Quartz-Feldspar Porphyry, Altered - quartz eyes now in the feldspar porphyry; 20% medium-sized brownish quartz eyes; plagioclase phenocrysts less abundant approx. 20%; phenocrysts oriented parallel to a weak foliation at approx. 80 deg; - rock is light green; immediately adjacent to quartz vein, which marks the upper contact of breccia zone	2872	317.81	318.21	0.40	0.17	0.005
			318.21 - 318.37 $ Alteration qv; Sulphide Py=1; Quartz Vein (approx. 7cm) - upper contact irregular; lower contact at core axis angle 55 deg.; grey-white quartz; 30% inclusions of quartz-feldspar porphyry, large and highly irregular in shape; 1% pyrite, predominantly finely disseminated throughout the inclusions						
			318.37 - 318.74 $ Alteration brcc zn; Sulphide Py=10; Structure brcd; Breccia Zone - light grey-green; mottled appearance; highly brecciated by quartz veins, up to 0.7cm in width; 3 components in the zone: - approx. 25% - 1. Quartz Veins, grey-white - approx. 40% - 2. Highly chloritized, carbonatized wallrock material. This has been remobilized to a large extent; light green, soft; - approx. 25% - 3. Siliceous angular fragments, dark grey-green in colour; More common at lower end of zone. Much of the pyrite is within these fragments Not carbonatized; - coult the carbonatized, remobilized material be quartz-feldspar porphyry and the siliceous angular fragments basalt? Contact would be around 318.55m - 10% pyrite, disseminated and in small blebs, predominantly within the wallrock material; lower contact gradational	2873	318.31	318.74	0.43	0.17	0.005
318.74	320.85	BSLT	Basalt - medium grey-green; highly carbonatized; 15% calcite-quartz veining (up to 1cm width) ; intensive veining near upper contact						
				2874	318.74	320.24	1.50	0.17	0.005
320.85	328.95	BSLT	Basalt - dark grey, almost black; fine-grained; locally, 10% medium-grained anhedral feldspar phenocrysts; quartz-calcite veining; 5%; trace pyrite in isolated blebs						
			322.31 - 322.47 Granitic Intrusive - brown-grey, speckled; medium-grained; quartz and feldspar, equigranular. upper contact marked by quartz-calcite vein, core axis angle 60 deg., 2cm. lower contact marked by quartz vein (see below) ; intrusive cut by 1.5cm grey- white quartz vein, core axis angle 60 deg;						
			322.47 - 322.52 Quartz Vein (4cm) - core axis angle 55 deg.; massive grey-white quartz with 10% calcite in " bands"; <1% disseminated pyrite						
				2875	322.20	322.60	0.40	0.17	0.005
			324.68 - 325.00 Weak Shearing, Quartz-Calcite Veining - foliation at 70 deg.; veining approx. parallel to foliation; 1% pyrite in blebs						
			325.18 - 325.22 Quartz-Calcite Vein (2cm) - core axis angle 75 deg.; 2% disseminated pyrite						
				2876	324.64	325.26	0.62	0.17	0.005
				2877	326.70	326.20	-0.50	0.17	0.005
			326.74 - 327.17 3 Quartz-Calcite Veins (all approx. 1.5cm) in Basalt - all with high core						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			axis angles and 2%						
			328.40 - 328.47 Quartz-Calcite Vein (6cm)						
			- core axis angle 50 deg.; 5% chlorite needles; trace pyrite						
				2878	328.20	328.60	0.40	0.17	0.005
328.95	338.29	BLPP	Basalt. Feldspar Porphyritic						
			- dark grey-green, with white specks; 10-20% coarse-grained subhedral feldspar phenocrysts (up to 3cm in diameter) ; groundmass fine-grained; quartz-calcite veining moderate to intense; hair-like veinlets common; carbonatization weak to moderate; trace pyrite in blebs						
			331.04 - 331.08 Quartz-Calcite Vein (1cm)						
			- core axis angle 55 deg.; light green chloritic alteration halo 2cm either side						
			331.30 - 331.37 Quartz-Calcite Veinlet (0.5cm)						
			- core axis angle 45 deg.; 15% pyrite						
				2879	331.00	331.40	0.40	0.17	0.005
			333.50 - 333.52 Quartz-Calcite Vein (2cm)						
			- core axis angle 85 deg.; 20% pyrite						
				2880	333.30	333.70	0.40	0.17	0.005
			334.20 - 335.10 Feldspar Phenocrysts Absent						
			335.60 - 335.86 Granitic Intrusive						
			- buff, grey-white, black; mottled; pegmatitic? graphic granite texture visible						
338.29	338.66	BLPP	Basalt, Feldspar Porphyritic						
			- light green; highly carbonatized						
338.66	339.28	FPPP	Feldspar Porphyry						
			- medium grey with grey-white specks; 20% feldspar phenocrysts, somewhat obscured, medium-sized; groundmass fine-grained and siliceous; contacts sharp, upper at 50 deg.; lower at 70 deg;						
			338.80 - 338.87 Felsic Intrusive						
			- brownish-white; aplitic; contacts at 65 deg. core axis angle						
339.28	342.22	BLPP	Basalt, Feldspar Porphyritic						
			- light to dark green; carbonatized; where alteration less intense, phenocrysts are still visible						
				2881	340.82	341.82	1.00	0.17	0.005
			341.98 - 342.03 Quartz-Calcite-Pyrite Bleb						
			- approx. 1cm by 5cm; 30% pyrite in small blebs						
			342.03 - 342.22 Sheared Basalt	2882	341.82	342.22	0.40	6.17	0.180
			- foliation at core axis angle 50 deg;						
342.22	342.90	BLPP	Basalt, Feldspar Porphyritic						
			342.22 - 342.90 $	2883	342.22	342.90	0.68	1.37	0.040
			Sulphide Py=2; Structure brcd;						
			- mottled light grey and off-white in colour; many of the breccia fragments are highly resorbed and are only vaguely distinguishable; other fragments are more discrete, occuring closer to the "contacts"; fractures filled with calcite-quartz veins; due to the high alteration, there are abundant blebs of calcite-quartz meterial; moderately silicified, highly carbonatized; 1% pyrite (locally 3%) ; finely disseminated and in small blebs; trace chalcopyrite, pyrrhotite; 15% grey-white quartz vein material in top 25cm; contacts gradational						
342.90	346.39	BLPP	Basalt, Feldspar Porphyritic						
			342.90 - 346.39 $	2884	342.90	344.40	1.50	0.17	0.005
			Sulphide Py=6 Po=2; Structure sh;	2885	344.40	345.90	1.50	1.37	0.040

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- foliation at core axis angle 70 deg.; very light grey-green to off-white to medium grey-green in colour; highly carbonatized; chloritized(?) ; very bleached in places; weakly silicified near upper contact; some brecciation due to calcite-quartz veining; some feldspar phenocrysts still visible. sulphides locally, pyrite up to 6%, pyrrhotite 2%, trace chalcopyrite	2886	345.90	346.39	0.49	0.17	0.005
			343.72 - 343.81 Felsic Intrusive - off-white, yellow hue; aplitic						
			345.85 - 346.39 $ Structure falt; Fault(?) - basalt fractured into "discs" at 60 deg. core axis angle; two 1cm quartz veins (10% pyrite) with fracture lines across them						
346.39	359.58	BSLT	Basalt - dark grey-green to medium grey-green; fine-grained; phenocrysts absent. local carbonatization; 15% calcite-quartz veins and veinlets; trace pyrite						
			347.74 - 347.77 Quartz Vein (1.5cm) - core axis angle 60 deg.; dark grey quartz; 3% medium-grained disseminated pyrite; another "bleb" of similar vein material at 347.87 - 347.89m						
				2887	347.60	348.00	0.40	0.17	0.005
			349.06 - 349.09 Quartz Vein (2cm) - core axis angle 55 deg.; massive grey-white quartz; calcite, marking contacts; 1% pyrite along contacts						
				2888	348.85	349.25	0.40	0.17	0.005
			352.14 - 352.19 Granitic Intrusive - grey-brown; core axis angle 70 deg.; fine-grained, 10% mafics						
			352.40 - 352.59 Granitic Intrusive - as above, 352.14 - 352.19m; trace pyrite, disseminated						
			352.59 - 352.74 $Alteration slfd; Sulphide Py=7; - moderately silicified; 25% granitic intrusive material; no upper contact. 7% pyrite, finely disseminated						
				2889	352.59	353.19	0.60	4.11	0.120
			353.31 - 353.42 Granitic Intrusive - as from 352.14 - 352.19m						
				2890	358.57	359.57	1.00	0.34	0.010
359.57	360.47	BSLT	Basalt						
			359.57 - 360.47 $	2891	359.57	360.30	0.73	0.34	0.010
			Structure sh; - light green to off-white; foliation at 70 deg. core axis angle; highly carbonatized; 1% pyrrhotite in blebs; trace pyrite						
			359.57 - 359.60 Quartz Vein (3cm) - core axis angle near vertical; 2% pyrite in blebs; surface of vein pitted and filled with light brown semi-translucent mineral: vein forms upper contact of shear zone						
			360.21 - 360.23 Pyrite Vein (2cm) - parallel to foliation (70 deg.) : 7% pyrite 3cm either side of vein, trace chalcopyrite						
			360.30 - 360.47 $ Alteration cv; Sulphide Py=4; Quartz Vein (approx. 15cm) Main Vein - core axis angle 70 deg.; 360.36 - 360.42m massive grey-white quartz; massive quartz surrounded by quartz-calcite with 35% resorbing basalt inclusions.						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			4% pyrite in blebs and disseminated. concentrated in the basalt inclusions. lower contact of shear zone						
360.47	363.55	BSLT	Basalt - as from 346.39 - 359.58m						
				2892	360.30	360.70	0.40	2.06	0.060
				2893	360.70	361.70	1.00	0.17	0.005
363.55	364.52	FLPP	Feldspar Porphyry - dark grey speckled white: 35% euhedral medium-grained feldspar phenocrysts. 5% blue quartz eyes; fine-grained groundmass; a portion of the porphyry has been altered such that the feldspar phenocrysts are almost obscured						
364.52	367.57	BSLT	Basalt - as from 346.39 - 359.58m; trace pyrrhotite						
367.57	369.54	FLPP	Feldspar Porphyry - as from 363.55 - 364.52m, except it has apparently been altered such that the phenocrysts are somewhat obscured						
369.54	384.73	BSLT	Basalt - as from 334.52 - 367.57m except 0-5% subhedral coarse-grained feldspar phenocrysts (localized occurrrences) 384.45 - 384.49 $ Alteration qv; Sulphide Py=1; Quartz Vein (3cm) - core axis angle 70 deg.; 20% remobilizing basalt; basalt carbonatized to 45cm above vein; separated by underlying quartz vein by 6cm of basalt (carbonatized) with 1% pyrite; grey-white quartz; 1% pyrite in small blebs in vein 384.55 - 384.64 $ Alteration qv; Quartz Vein (7cm) - core axis angle 70 deg.; quartz whiter than vein above; barren of sulphides. 5% highly chloritized basalt; near contact with feldspar porphyry						
				2894	384.00	384.73	0.73	0.17	0.005
384.73	387.30	FLPP	Feldspar Porphyry - as from 363.39 - 364.52 387.30 - 387.49 $ Alteration qv; Sulphide Po=65 Cpy=35; Quartz Vein (approx. 16cm) - core axis angle 65 deg.; at contact between feldspar porphyry and basalt. massive grey-white quartz 387.30 - 387.40 - 50% quartz; 50% basalt inclusions (parallel to core axis angle) 387.40 - 387.49 - 50% quartz; 50% massive sulphide approximately 65% pyrrhotite; 35% chalcopyrite						
387.49	388.27	BSLT	Basalt - weakly sheared and altered basalt; foliation at 65 deg.; carbonatized						
				2895	387.30	387.70	0.40	10.29	0.300
388.27	388.41	FLSC INTV	Felsic Intrusive - white with 5% mafic specks; very fine-grained; siliceous; 1/% pyrite in small blebs						
388.41	410.96	BLPP	Basalt, Feldspar Porphyritic - dark green, white spots; fine-grained; approx. 10% coarse-grained subhedral feldspar phenocrysts; calcite-quartz veining occasional; locally carbonatized						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			391.60 - 391.68 Quartz Vein (3cm) - core axis angle 40 deg.; 30% basalt inclusions; trace pyrite						
			391.92 - 392.01 Quartz-Calcite Vein (approx. 8cm) - irregular contacts; 35% basalt inclusions; trace pyrrhotite; basalt between this vein and vein above carbonatized						
				2896	391.55	392.05	0.50	0.17	0.005
			396.52 - 396.54 Quartz-Calcite Vein (2cm) - core axis angle 80 deg.; alteration halo 3cm either side						
				2897	396.33	396.73	0.40	0.17	0.005
			403.03 - 403.19 Granitic Intrusive - pale pink; very fine-grained(?) ; graphic granite texture seen						
			406.03 - 406.14 Granitic Intrusive - pale pink; fine-grained						
			408.01 - 408.60 Granitic Intrusive - similar to above intrusives, but ranging to coarse-grained locally; 5% pale greenish-yellow mineral, occurring in vague blebs; pale pinkish-brown in colour						
			410.96 - 411.19 $ Alteration qv; Sulphide Py=1; Quartz Vein (approx. 20cm) - core axis angle 60 deg.; grey-white quartz; 30% highly chloritized basalt inclusions; 20% calcite surrounding the inclusion; 1% pyrrhotite, finely disseminated; narrow alteration halo - chloritization, carbonatization; 5% yellow-green carbonate						
				2898	410.83	411.23	0.40	0.17	0.005
411.23	411.73	GNTC INTV	Granitic Intrusive - pinkish-brown; fine to medium-grained; core axis angle 50 deg.; narrow band of basalt separating intrusive from quartz vein above						
411.73	419.96	BLPP	Basalt, Feldspar Porphyritic - as from 388.41 - 410.96m						
			413.84 - 413.96 Quartz Vein (0.5 - 1.0cm) - core axis angle low, but highly irregular in pattern; 5% pyrite in small blebs; surrounded 3cm either side by 70% fine-grained yellow-green carbonate. two other similar veins (0.7cm) in vicinity						
				2899	413.40	414.15	0.75	0.17	0.005
			414.24 - 414.38 Granitic Intrusive - as from 411.23 - 411.73m						
			416.35 - 416.55 - 10% pyrrhotite in basalt; occuring in large blebs highly irregular in shape						
				2900	416.25	416.65	0.40	0.17	0.005
			416.80 - 418.10 - 4 granitic intrusives in basalt; 5-7cm in width; various core axis angles. pale pink; 10% black mafics; fine to medium-grained	2901	417.51	417.91	0.40	0.17	0.005
			417.70 - 417.73 Quartz-Calcite Vein (3cm) - core axis angle 80 deg.; 1% pyrite; carbonatization 3cm above and 6cm below vein						
419.96	419.96	E.O.H.	End of Hole						

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.102	Northing	4+85S	Grid Orient	20.00	Started	October 10, 1987
Property	Shoal Lake (KPM)	Easting	9+88E	Grid Azim.	10.00	Finished	October 14, 1987
Section		Elevation	337.41	Length (M)	432.00	Drill Co.	Midwest
Claim No.		Survey N.	4+46.61S	Dip-Collar	-45.00	Drill No.	
Target	C.I. Mainland Zone	Survey E.	10+62.81E	Comp Bearing	30.00	Drill For.	

Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test
150.0	- 44			300.0	- 43		
432.0	- 46	013					

Logged by S.P. Cheung
Checked by K. Leonard
Core BQ
Comments:

Kevin Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	3.40	CASING	Casing
3.40	51.50	BSLT	Basalt
51.50	88.50	BLPP	Basalt, Feldspar Porphyritic
88.50	99.50	BSLT	Basalt
99.50	127.50	ULMF VLCC	Ultramafic Volcanic (Schist)
127.50	136.15	BSLT	Basalt
129.06	129.70	BLPP	Basalt, Feldspar Porphyritic
136.16	247.96	BLPP	Basalt, Feldspar Porphyritic
214.22	221.40	LMPP	Lamprophyre (Biotite) Dyke
229.50	230.42	FLSC INTV	Felsic Intrusive
239.90	240.05	FLSC INTV	Felsic Intrusive
247.96	303.80	BSLT	Basalt
283.55	283.90	GNTC INTV	Granitic Intrusive
302.25	302.27	GNTC INTV	Granitic Intrusive
302.29	302.33		
303.80	306.00	ULMF	Ultramafic (?)
306.00	309.10	BLPP	Basalt, Feldspar Porphyritic
309.10	312.10	BSLT	Basalt
309.75	309.87	GNTC INTV	Granitic Intrusive

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
312.10	320.20	FLSC INTV	Felsic Intrusive (Feldspar Porphyry?)						
320.20	351.18	BSLT	Basalt						
331.60	335.10	BLPP	Basalt, Feldspar Porphyritic						
347.81	347.90	GNTC INTV	Granitic Intrusive						
348.57	348.80	Q DORT	Quartz Diorite						
351.18	352.30	GNTC INTV	Granitic Intrusive						
352.30	366.00	BLPP	Basalt, Feldspar Porphyritic						
353.14	353.22	GNTC INTV	Granitic Intrusive						
366.00	401.15	BSLT	Basalt						
368.21	369.19	FLSC INTV	Felsic Intrusive						
375.48	375.97	GNTC INTV	Granitic Intrusive						
377.39	377.64	FPPP	Feldspar Porphyry						
387.31	387.56	FPPP	Feldspar Porphpyry						
396.72	396.99	GNTC INTV	Granitic Intrusive						
401.15	402.61	GNTC INTV	Granitic Intrusive						
402.61	432.00	BSLT	Basalt						
409.67	410.45	DORT	Diorite						
411.00	411.02	DORT	Diorite						
419.14	419.29	GNTC INTV	Granitic Intrusive						
419.66	419.82	GNTC INTV	Granitic Intrusive						
423.30	423.69	GNTC INTV	Granitic Intrusive						
426.25	426.27	GNTC INTV	Granitic Intrusive						
426.77	426.85	GNTC INTV	Granitic Intrusive						
432.00	432.00	E.O.H.	End of Hole						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	3.40	CASING	Casing						
3.40	51.50	BSLT	Basalt - massive; fine-grained; dark coloured - very fractured with fractures filled by calcite						
			3.40 - 7.00 Oxidized Zone - yellow-rusty stains on fractures - 2% pyrite						
			8.29 - 8.31 $ Alteration qc stgr; Sulphide Py=5; Calcite-Quartz Stringer - 60 deg. to LCA - 5% pyrite	2282	8.15	8.55	0.40	0.17	0.005
			38.83 - 38.84 $ Alteration qc stgr; Sulphide Po=15 Py=5; Calcite-Quartz Stringer - 30 deg. to LCA - 15% pyrrhotite; 5% pyrite	2283	38.60	39.00	0.40	0.17	0.005
51.50	88.50	BLPP	Basalt, Feldspar Porphyritic - fine to medium-grained - weakly chloritized - carbonatized with calcite-filled fractures - anhedral feldspar porphyroblasts (5%) range in size from 0.2cm to 1.5cm	2284	71.35	71.75	0.40	0.34	0.010
			71.86 - 72.04 $Alteration slcs zn; Sulphide Py=3; Siliceous Zone in Massive Basalt - non-porphyritic - upper contact approx. 80 deg. to LCA - lower contact approx. 70 deg. to LCA - basalt intruded by quarrtz-calcite stringers - minor brecciation - 3% pyrite	2285	71.75	72.15	0.40	0.17	0.005
				2286	72.15	72.55	0.40	0.17	0.005
			74.70 - 74.75 $ Alteration qc stgr; Quartz-Calcite Stringer - contacts approx. 75 deg. to LCA - greyish quartz stringer (1cm wide) with calcite-quartz stringer around	2287	74.53	74.93	0.40	0.34	0.010
			79.38 - 79.51 $Alteration slcs zn; Siliceous Zone - contacts approx. 30 deg. to LCA - carbonatized - 30% quartz; 10% calcite; 60% original basalt - non-sulphide-bearing						
			79.61 - 79.88 $ Alteration slcs zn; Siliceous Zone - 30 deg. to LCA						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- quartz-calcite stringers (<1cm wide) cutting basalt mostly approx. 30 deg; to LCA - non-sulphide-bearing						
				2288	79.00	80.20	1.20	0.17	0.005
88.50	99.50	BSLT	Basalt - dark; medium to fine-grained - fractures filled by calcite						
99.50	127.50	ULMF VLCC	Ultramafic Volcanic (Schist) - upper contact gradational - fine to medium-grained - metamorphosed to schist with schistocity from approx. 80 deg. to parallel to LCA - talcose give core a soapy feel - strong carbonatization with numerous calcite stringing from 30 deg. to 0 deg; to LCA - minor sulphide <<1%						
		113.09 - 113.12	$ Alteration q vnlt; Sulphide Py=1; Quartz Veinlet - contacts at approx. 70 deg. to LCA - minor calcite stringers - 1% pyrite						
				2289	113.00	113.40	0.40	0.17	0.005
		113.56 - 113.76	Porphyroblastic Schist (Ultramafic Volcanic) - plagioclase porphyroblast (approx. 1cm in diameter) approx. 20% - no preferred orientation for the porphyroblast						
		115.50 - 117.80	Porphyroblastic Schist (Ultrmafic Volcanic) - plagioclase porphyroblast align along the schistosity, i.e. approx. 5 deg; to LCA						
		115.70 - 126.40	Porphyroblastic Schist - same as between 115.50 - 117.80m						
		123.23 - 124.20	Porphyroblastic Schist - same as between 115.50 - 117.80m						
		125.44 - 127.48	Porphyroblastic Schist - same as between 115.50 - 117.80m						
127.50	136.15	BSLT	Basalt - fine to medium-grained - fractures filled by calcite - locally porphyroblastic						
129.06	129.70	BLPP	Basalt, Feldspar Porphyritic - 30% feldspar phenocryst (approx. 0.2cm to 1cm)						
136.16	247.96	BLPP	Basalt, Feldspar Porphyritic - same as between 129.06 - 129.70m - phenocryst (feldspar) made up approx. 30% of the composition - calcite-filled fractures cutting at 20 - 30 deg. to LCA						
		144.93 - 144.94	$Alteration qc stgr; Sulphide Po=30; Calcite-Quartz Stringer - approx. 30 deg. to LCA - minor quartz - 30% pyrrhotite						
				2290	144.70	145.10	0.40	0.17	0.005

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			150.00 - 150.54 Basalt - fine to medium-grained - non-porphyritic	2291	150.15	150.45	0.30	0.17	0.005
			150.30 - 150.33 $ Alteration q stgr; Quartz Stringer - blue-grey - 30 deg. to LCA - non-sulphide-bearing						
			152.93 - 152.94 $ Alteration qc stgr; Sulphide Py=1; Quartz-Calcite Stringer - 30 deg. to LCA - minor pyrite <1%						
			153.25 - 153.26 $ Alteration q stgr; Quartz Stringer - milky-white - minor sulphide <<1%						
				2292	152.50	153.50	1.00	0.17	0.005
			194.35 - 194.45 $ Alteration alzn crbd slfd; Altered Zone - carbonatized; silicified - calcite-quartz stringers cutting at approx. 60 deg. to LCA - <<1% pyrite						
				2293	194.00	195.00	1.00	0.17	0.005
214.22	221.40	LMPP	Lamprophyre (Biotite) Dyke - upper contact 15 deg. to LCA - dark aphanitic dyke with small (0.1cm) biotite phenocryst - minor disseminated sulphide - lower contact approx. 45 deg. to LCA						
			221.40 - 221.50 $ Structure sh zn; Shear Zone - Fault? - fault gouge (with clay) - broken core - shear plane approx. 30 deg. to LCA						
			221.50 - 222.00 $ Alteration alzn; Altered Zone - carbonatized with calcite stringers parallel to LCA - silicified with grey quartz eyes (approx. 1cm) in calcite - non-sulphide-bearing	2294	221.00	222.00	1.00	0.17	0.005
229.50	230.42	FLSC INTV	Felsic Intrusive - upper contact approx. 30 deg. to LCA - aphanitic with sugary texture - light greyish - composed mainly of quartz and feldspar - hairline fractures filled by calcite - lower contact approx. 30 deg. to LCA						
239.90	240.05	FLSC INTV	Felsic Intrusive - same as between 229.50 - 230.42m - contacts approx. 30 deg. to LCA						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		246.14 - 246.16 $						
		Alteration qc stgr; Sulphide Py=1;						
		- quartz stringer with minor calcite						
		- 80 deg. to LCA						
		- 1% pyrite						
			2295	246.00	246.40	0.40	0.17	0.005
247.96	303.80	BSLT Basalt						
		- fine to medium-grained						
		- grey to dark						
		- cut by calcite-filled fractures						
		- locally sparsely porphyritic						
		251.54 - 253.00 - sparsely porphyritic basalt						
		- 5% feldspar phenocrysts in basaltic groundmass						
			2296	260.55	261.15	0.60	0.17	0.005
		261.25 - 261.40 $						
		Alteration slcs zn; Sulphide Po=3 Py=3;						
		Siliceous Zone						
		- altered; silicified						
		- cut by quartz stringers (<1cm wide) approx. 60 deg. to LCA - blue-grey - carbonatized with calcite stringers between quartz and basalt						
		- 3% pyrrhotite; 3% pyrite						
			2297	261.15	261.55	0.40	0.17	0.005
			2298	261.55	262.15	0.60	0.17	0.005
		279.78 - 279.82 $						
		Alteration q vnlt;						
		Quartz Veinlet						
		- approx. 30 deg. to LCA						
		- greyish-white						
		- no sulphide						
			2299	279.60	280.00	0.40	0.17	0.005
283.55	283.90	GNTC INTV Granitic Intrusive						
		- pinkish-grey granite with approx. 20% mafics						
		- contacts: upper 30 deg. to LCA; lower 20 deg. to LCA						
		292.30 - 293.20 $Alteration cq stgr;						
		Calcite-Quartz Stringer						
		- 1cm wide, 5 deg. to parallel to the LCA						
		- 10% grey quartz eyes in the calcite						
		- minor disseminated sulphide <<1% pyrite						
			2300	292.20	293.30	1.10	0.17	0.005
		300.34 - 300.90 $						
		Alteration mnzn slfd crbd; Sulphide Po=8 Py=2; Structure fltd;						
		Mineralized Zone (weakly siliceous)						
		- upper contact approx. 45 deg. (following foliation) - strongly foliated with foliation at 45 deg. to LCA - carbonatized						
		- 8% pyrrhotite; 2% pyrite						
			2301	300.00	301.20	1.20	0.17	0.005
		301.35 - 301.37 $						
		Alteration qc stgr;						
		Calcite-Quartz Stringer						
		- 60 deg. to LCA						
		- blue-grey						
		- minor sulphide (chalcopyrite approx. 1%; pyrite <1%)						

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FROM    TO                DESCRIPTION                                            SAMPLE   FROM     TO      WIDTH    Au       Au
                                                                                                                    g_tonne  oz_ton

          301.60 - 301.68 $Alteration clct stgr; Sulphide Py=1;
                          Calcite Stringer
                          - 45 deg. to LCA
                          - vuggy, 1cm wide
                          - pyrite approx. 1% in vug
          301.68 - 301.69 $
                          Alteration qc stgr; Sulphide Py=1;
                          Quartz-Calcite Stringer
                          - 45 deg. to LCA
                          - blue-grey
                          - 1% pyrite
                                                                                 2302     301.20   302.00  0.80     1.37     0.040
302.25  302.27  GNTC INTV Granitic Intrusive
302.29  302.33
                          Structure ftgg;
                          Fault Gouge
                          - fractures at 45 deg. to LCA
                          - clay-filled fracture
                                                                                 2303     303.40   303.80  0.40     0.17     0.005
303.80  306.00  ULMF      Ultramafic (?)
                          - strongly foliated approx. 45 deg. to LCA
                          - greyish-green
                          - talcose (soapy with green talc)
                          - silicified with grey-blue quartz eye approx. 1-2cm in diameter
                          - 2% pyrite between 303.80 - 304.00m
                          - <<1% pyrite between 304.00 - 304.37m
                          - 4% pyrite between 304.37 - 304.43m
                          - <<1% pyrite between 304.43 - 304.70m
                          - 8% pyrite between 304.70 - 305.03m
                                                                                 2304     303.80   305.00  1.20     2.06     0.060
                                                                                 2305     305.00   305.40  0.40     0.34     0.010
306.00  309.10  BLPP      Basalt, Feldspar Porphyritic
                          - contacts gradational
                          - approx. 10% feldspar phenocrystal from 0.2cm - 1.5cm
309.10  312.10  BSLT      Basalt
                          - fine-grained; dark green
                          - siliceous
          309.42 - 309.53 $
                          Alteration alzn; Sulphide Py=3;
                          Altered Zone
                          - moderate carbonatization
                          - contacts approx. 60 deg. to LCA
                          - 10% blue-grey quartz
                          - 3% pyrite
                          - strong chloritization (fine-grained green mineral)
                                                                                 2306     309.00   309.75  0.75     0.17     0.005
309.75  309.87  GNTC INTV Granitic Intrusive
                          - contacts approx. 60 deg. to LCA
          310.85 - 310.92 $
                          Alteration alzn; Sulphide Py=3;
                          Altered Zone
                          - strong carbonatization with calcite stringers (<1cm wide) running at 50
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FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			deg: to LCA - calcite stringers are vuggy with cubic pyrite crystals - 10% blue-grey quartz - 3% pyrite						
			311.15 - 311.19 $ Alteration alzn; Altered Zone - same as between 310.85 - 310.92m						
				2307	310.50	312.00	1.50	0.17	0.005
312.10	320.20	FLSC INTV	Felsic Intrusive (Feldspar Porphyry?) - upper contact 45 deg. to LCA - fine-grained; massive; sugary; mostly quartz - light greyish-green - sparsely porphyritic with approx. 5% feldspar phenocrysts approx. 0.3cm - lower contact approx. 45 deg. to LCA						
320.20	351.18	BSLT	Basalt - dark, fine-grained, massive - foliated with foliation from 0 - 5 deg. to LCA - strongly mineralized with sulphide along the foliation						
			320.20 - 321.65 $Alteration mssl; Sulphide Po=16 Py=3 Cpy=1; Massive Sulphide Zone - 20% sulphide, mostly pyrrhotite, 1% chalcopyrite and 3% pyrite	2308	320.20	321.65	1.45	0.17	0.005
			321.65 - 325.25 $Sulphide Po=5; - lighter grey	2309	321.65	323.04	1.39	0.17	0.005
			- appear bleached - fine-grained basalt; approx. 5% pyrrhotite locally up to 20%	2310	323.04	324.50	1.46	0.17	0.005
			325.25 - 330.40 $Alteration mssl zn; Sulphide Po=40 Py=4 Cpy=1;	2311	324.50	326.00	1.50	0.17	0.005
			- Massive Sulphide	2312	326.00	327.40	1.40	0.34	0.010
			- 40% pyrrhotite - minor chalcopyrite and pyrite (Cpy + py <5%)	2313	327.40	328.90	1.50	10.97	0.320
			329.50 - 331.00 Alteration alzn slfn; Structure brcd; Bleached Zone - more stronger silicification - more strongly bleached - brecciated between 330.65 - 330.87m	2314	328.90	330.40	1.50	0.17	0.005
				2315	330.40	331.40	1.00	0.17	0.005
331.60	335.10	BLPP	Basalt, Feldspar Porphyritic						
			331.60 - 335.10 $ Sulphide Py=2; Bleached Porphyritic Feldspar Basalt - bleached to lighter grey - 5% anhedral feldspar porphyroblast - 1-2% disseminated pyrite - strong foliation with foliation approx. 30 deg. to LCA	2316	331.40	332.90	1.50	0.17	0.005
			338.28 - 338.34 $Alteration q vnlt; Quartz Veinlet - approx. 50 deg. to LCA - blue-grey quartz with 30% calcite - non-mineralized						
				2317	338.10	338.50	0.40	1.37	0.040
			345.30 - 345.60 $ Alteration qc stgr; Sulphide Po=15 Py=5; Quartz-Calcite Stringer						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- approx. 1cm wide at 0 deg. to LCA						
		- blue-grey quartz						
		- approx. 30% calcite						
		- 15% pyrrhotite, 5% pyrite						
		345.60 - 346.07 $						
		Sulphide Po=10;						
		- 10% pyrrhotite along calcite stringer approx. 20 deg. to LCA						
		346.07 - 346.28 $Sulphide Po=20;						
		- 20% pyrrhotite in a siliceous basalt with blue-grey quartz						
		346.28 - 347.40 $Sulphide Po=10;	2318	345.30	346.55	1.25	13.71	0.400
		- 10% pyrrhotite along quartz-calcite stringer (approx. 0.2cm wide) at 0 - 10 deg. along LCA						
			2319	346.55	347.45	0.90	0.17	0.005
347.81	347.90	GNTC INTV Granitic Intrusive						
		- coarse-grained quartz and feldspar						
		- upper contact approx. 30 deg. to LCA						
		- lower contact 45 deg. to LCA						
348.57	348.80	Q DORT Quartz Diorite						
		- contacts approx. 60 deg. to LCA						
		- medium-grained quartz and minor feldspar plus 10% fine-grained biotite						
351.18	352.30	GNTC INTV Granitic Intrusive						
		- upper contact approx. 75 deg. to LCA						
		- lower contact approx. 45 deg. to LCA						
		- pinkish quartz feldspar granite with <5% mafics						
352.30	366.00	BLPP Basalt, Feldspar Porphyritic						
		- dark; fine-grained						
		- porphyritic in approx. 10% feldspar porphyroblast (from 0.5cm - approx. 2cm in diameter)						
		- cut by calcite-filled fractures from 0.1cm - 0.5cm at 0 - 60 deg. to LCA						
353.14	353.22	GNTC INTV Granitic Intrusive						
		- contacts approx. 60 deg. to LCA						
		- same as between 351.18 - 352.30m						
366.00	401.15	BSLT Basalt						
		- dark, fine-grained, massive						
		- strong carbonatization with numerous calcite stringers (usually associated with minor quartz)						
		- calcite stringers run at 5 - 20 deg. to LCA						
368.21	369.19	FLSC INTV Felsic Intrusive						
		- pinkish-grey, fine-grained quartz and feldspar						
		- contacts approx. 20 deg. to LCA						
		371.57 - 371.63 $						
		Alteration q stgr;						
		Quartz Stringer						
		- milky-white with approx. 10% calcite						
		- upper contact approx. 45 deg. to LCA						
		- lower contact approx. 90 deg. to LCA						
			2320	371.40	371.80	0.40	0.17	0.005
		372.82 - 372.83 $						
		Alteration q stgr;						
		Quartz Stringer						
		- blue-grey quartz approx. 20 deg. to LCA						
		- no sulphides						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			372.94 - 372.95 $						
			Alteration q stgr;						
			Quartz Stringer						
			- blue-grey quartz approx. 45 deg. to LCA						
			- no sulphides						
				2321	372.70	373.30	0.60	3.43	0.100
			374.46 - 374.47 $						
			Alteration qc stgr; Sulphide Py=5;						
			Quartz-Calcite Stringer						
			- blue-grey quartz with 30% calcite						
			- contacts approx. 45 deg. to LCA						
			- 5% pyrite						
			374.55 - 377.39 $	2322	374.25	374.65	0.40	0.17	0.005
			Structure fltd bslt;						
			Foliated Basalt						
			- fine-grained basalt						
			- foliation approx. 70 deg. to LCA						
375.48	375.97	GNTC INTV	Granitic Intrusive						
			- greyish-pink; medium to coarse-grained						
			- upper contact 45 deg. to LCA						
			- lower contact approx. 70 deg. to LCA						
377.39	377.64	FPPP	Feldspar Porphyry						
			- upper contact gradational						
			- lower contact approx. 60 deg. to LCA						
			- 30% feldspar phenocrysts (<0.5cm) in a fine-grained dark matrix						
				2323	380.30	380.90	0.60	0.17	0.005
			380.92 - 381.32 $Alteration slcs zn; Sulphide Py=3;						
			Siliceous Zone						
			- strong silicification with 30% of the basalt replaced by quartz - blue-grey quartz stringer up to 2cm wide cut at 80 deg. to LCA						
			- 3% pyrite with mineralization along contact between quartz and mafic and along hairline filled calcite stringers						
				2324	380.90	381.35	0.45	0.17	0.005
				2325	381.35	381.95	0.60	0.17	0.005
387.31	387.56	FPPP	Feldspar Porphyry						
			- upper contact approx. 60 deg;						
			- lower contact approx. 45 deg;						
			- similar as between 377.39 - 377.64m but more strongly bleached to a lighter grey						
396.72	396.99	GNTC INTV	Granitic Intrusive						
			- medium to coarse-grained granite						
			- upper contact approx. 75 deg;						
			- lower contact approx. 60 deg;						
401.15	402.61	GNTC INTV	Granitic Intrusive						
			- upper contact approx. 60 deg. to LCA						
			- lower contact approx. 45 deg. to LCA						
			- medium-grained quartz-feldspar + 15% mafics						
402.61	432.00	BSLT	Basalt						
			- dark; fine-grained with minor disseminated sulphides - cut by calcite-filled fractures commonly approx. 30 deg. to LCA - locally porphyritic with <5% feldspar porphyroblasts						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			406.42 - 406.43 $Alteration silc zn: Sulphide Py=1;						
			Weakly Siliceous Zone						
			- weakly silicified with blue-grey quartz						
			- 30% calcite: 1% pyrite						
			- contacts gradational						
				2326	406.20	406.60	0.40	0.34	0.010
				2327	408.60	409.00	0.40	0.17	0.005
			409.07 - 409.08 $						
			Alteration q stgr; Sulphide Py=2;						
			Quartz Stringer						
			- 45 deg. to LCA						
			- milky grey						
			- contacts with basalt lined by calcite stringer approx. 0.1cm wide						
			- 2% pyrite (replacing calcite)						
			409.12 - 409.13 $						
			Alteration qc stgr; Sulphide Py=5;						
			Quartz-Calcite Stringer						
			- 45 deg. to LCA						
			- grey-blue						
			- 5% pyrite						
			409.16 $						
			Alteration qc stgr; Sulphide Py=2;						
			Quartz-Calcite Stringer (0.5cm wide)						
			- 45 deg. to LCA						
			- blue-grey						
			- 2% pyrite						
			409.34 - 409.35 $						
			Alteration q stgr; Sulphide Py=2;						
			Quartz Stringer						
			- 30 deg. to LCA						
			- milky with calcite lining contacts between quartz and basalt						
			- 2% pyrite						
				2328	409.00	409.40	0.40	0.17	0.005
409.67	410.45	DORT	Diorite						
			- quartz-feldspar diorite						
			- bluish-grey; coarse-grained						
			- contacts approx. 10 deg. to LCA						
				2329	409.40	409.80	0.40	0.17	0.005
411.00	411.02	DORT	Diorite						
			- quartz-feldspar diorite						
			- contacts approx. 60 deg. to LCA						
			- same as between 396.72 - 396.99m						
			412.58 - 412.60 $						
			Alteration q stgr: Sulphide Py=4;						
			Quartz Stringer						
			- blue-grey: 10% calcite						
			- 50 deg. to LCA						
			- 4% pyrite						
				2330	412.40	412.80	0.40	0.17	0.005
				2331	412.80	413.20	0.40	0.17	0.005
			413.38 - 413.40 $						
			Alteration q stgr: Sulphide Py=5;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		Quartz Stringer - blue-grey approx. 80 deg. to LCA - minor sulphide in the vein - 5% sulphide in surrounding basalt						
		413.44 - 413.45 $ Alteration q stgr: Sulphide Py=5: Quartz Stringer - blue-grey approx. 75 deg. to LCA - 5% sulphides (pyrite) in surrounding basalt						
			2332	413.20	413.60	0.40	0.17	0.005
419.14	419.29	GNTC INTV Granitic Intrusive - upper contact approx. 50 deg. to LCA - lower contact approx. 80 deg. to LCA - coarse-grained; pinkish granite						
419.66	419.82	GNTC INTV Granitic Intrusive - contacts at 60 deg. to LCA - same as 419.14 - 419.29m						
423.30	423.69	GNTC INTV Granitic Intrusive - medium-grained granite - contacts approx. 60 deg. to LCA - 15% mafics						
426.25	426.27	GNTC INTV Granitic Intrusive - same as 423.30 - 423.69m - 50 deg. to LCA						
426.77	426.85	GNTC INTV Granitic Intrusive - 75 deg. to LCA - same as 423.30 - 423.69m						
		428.80 - 429.53 $ Structure fltd; Foliated Basalt (Sheared?) - contacts gradational - fine-grained basalt with foliation approx. 75 deg. to LCA						
			2333	429.50	429.90	0.40	0.17	0.005
		429.97 - 430.20 $Alteration slcs zn crbd; Sulphide Py=4; Siliceous Zone - weak to moderate silicification - 2 prominent blue-grey quartz stringers - carbonatized - 4% pyrite						
			2334	429.90	430.30	0.40	2.74	0.080
			2335	430.30	430.70	0.40	4.80	0.140
432.00	432.00	E.O.H. End of Hole						

Meterage

From	To	Box
3.40	9.10	1
9.10	14.90	2
14.90	20.70	3
20.70	26.50	4
26.50	32.30	5
32.30	38.00	6

FROM	TO	DESCRIPTION			SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		38.00	43.80	7						
		43.80	49.50	8						
		49.50	55.40	9						
		55.40	61.10	10						
		61.10	66.90	11						
		66.90	72.70	12						
		72.70	78.50	13						
		78.50	84.10	14						
		84.10	90.00	15						
		90.00	95.70	16						
		95.70	101.40	17						
		101.40	107.20	18						
		107.20	113.00	19						
		113.00	118.90	20						
		118.90	124.70	21						
		124.70	130.50	22						
		130.50	136.30	23						
		136.30	142.10	24						
		142.10	147.90	25						
		147.90	153.70	26						
		153.70	159.60	27						
		159.60	165.30	28						
		165.30	171.20	29						
		171.20	177.10	30						
		177.10	183.00	31						
		183.00	189.00	32						
		189.00	194.80	33						
		194.80	200.70	34						
		200.70	206.50	35						
		206.50	212.50	36						
		212.50	218.00	37						
		218.00	223.75	38						
		223.75	229.50	39						
		229.50	235.20	40						
		235.20	241.10	41						
		241.10	246.80	42						
		246.80	252.60	43						
		252.60	258.40	44						
		258.40	264.20	45						
		264.20	270.10	46						
		270.10	276.00	47						
		276.00	281.80	48						
		281.80	287.40	49						
		287.40	293.10	50						
		293.10	299.00	51						
		299.00	304.60	52						
		304.60	310.20	53						
		310.20	315.90	54						
		315.90	321.60	55						
		321.60	327.40	56						
		327.40	333.30	57						
		333.30	339.20	58						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

339.20	345.00	59
345.00	350.80	60
350.80	356.60	61
356.60	362.40	62
362.40	368.30	63
368.30	374.10	64
374.10	379.80	65
379.80	385.60	66
385.60	391.30	67
391.30	396.10	68
396.10	402.90	69
402.90	408.70	70
408.70	414.60	71
414.60	420.20	72
420.20	426.00	73
426.00	431.80	74
431.80	432.00	75
432.00	432.00	EOH

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.103	Northing		Grid Orient	20.00	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	October 15, 1987	Logged by S.P. Cheung
Property	Shoal Lake (KPM)	Easting		Grid Azim.	10.00	150.0	- 42			300.0	- 41			Finished	October 19, 1987	Checked by K. Leonard
Section	9+50E	Elevation	340.90	Length (M)	426.00	426.0	- 40	034						Drill Co.	Midwest	Core BQ
Claim No.		Survey N.	3+98.26S	Dip-Collar	-45.00									Drill No.		Comments: 250m vert. @ 9+50E
Target	C.I. Mainland Zone	Survey E.	9+65.29E	Comp Bearing	30.00									Drill For.		

Kris Leonard

FROM	TO	DESCRIPTION		SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	3.65	CASING	Casing
3.65	113.38	BLPP	Basalt, Feldspar Porphyritic
113.38	118.80	BSLT	Basalt
118.80	127.70	BLPP	Basalt, Feldspar Porphyritic
127.70	187.10	BSLT	Basalt
148.11	148.27	FLSC INTV	Felsic Intrusive
148.49	148.64	FLSC INTV	Felsic Intrusive
164.55	164.67	GNTC INTV	Granitic Intrusive
178.80	178.92	FLSC INTV	Felsic Intrusive
187.10	213.00	BLPP	Basalt, Feldspar Porphyritic
213.00	253.70	BSLT	Basalt
236.85	237.22	GNTC INTV	Granitic Intrusive
240.61	240.63	GNTC INTV	Granitic Intrusive
253.70	285.00	BLPP	Basalt, Feldspar Porphyritic
269.92	270.00	LMPP	Lamprophyre Dyke
285.00	317.50	BSLT	Basalt
302.81	303.00	ALTD INTV	Altered Intrusive
303.14	303.24	ALTD INTV	Altered Intrusive
312.76	312.85	GNTC INTV	Granitic Intrusive

ST. JOE CANADA

PROPERTY - Shoal Lake (KPM) HOLE - K87.103 PAGE # 2

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
317.50	329.60	BLPP	Basalt, Feldspar Porphyritic						
319.64	319.90	GNTC INTV	Granitic Intrusive						
329.60	341.66	BSLT	Basalt						
338.52	339.90	LMPP	Lamprophyre Dyke(?)						
341.66	344.13	FLSC INTV	Felsic Intrusive						
344.13	426.00	BSLT	Basalt						
348.55	348.67	GNTC INTV	Granitic Intrusive						
353.50	354.34	GNTC INTV	Granitic Intrusive						
377.16	377.33	GNTC INTV	Granitic Intrusive						
378.15	378.27	GNTC INTV	Granitic Intrusive						
384.30	384.61	ALTD BSLT	Altered Basalt						
388.77	388.80	GNTC INTV	Granitic Intrusive						
389.03	389.50	GNTC INTV	Granitic Intrusive						
402.60	402.72	FLSC INTV	Felsic Intrusive						
404.60	404.66	ALTD BSLT	Altered Basalt						
415.50	415.80	GNTC INTV	Granitic Intrusive						
417.84	418.02	GNTC INTV	Granitic Intrusive						
422.49	422.84	FLSC INTV	Felsic Intrusive						
426.00	426.00	E.O.H.	End of Hole						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	3.65	CASING	Casing						
3.65	113.38	BLPP	Basalt, Feldspar Porphyritic - dark; fine to medium-grained; 20% anhedral to euhedral feldspar porphyro-blasts ranging from 0.1cm to 2cm in diameter; numerous fractures filled by calcite; mostly from 20 to 50 deg. to LCA; minor disseminated sulphide (<1% Alteration q2 stgr; Sulphide Po=2 Py=1;						
				2336	35.30	35.70	0.40	0.34	0.010
	35.92 -	35.94 $	Quartz Stringer - grey; at 60 deg. to LCA; siliceous halo approx. 8cm on both ends of the veinlet; vein carries approx. 4% pyrrhotite and 2% pyrite; siliceous halo approx. 2% pyrrhotite and 1% pyrite						
				2337	35.70	36.10	0.40	1.37	0.040
				2338	36.10	36.50	0.40	0.17	0.005
	37.50 -	46.00	Basalt - contacts gradational; massive; dark fine to medium-grained; cut by numerous calcite-filled fractures						
	67.95 -	71.10	Basalt - same as between 37.50 - 46.00m; greyish dark						
				2339	71.50	72.10	0.60	0.17	0.005
	72.28 -	72.29 $	Alteration q stgr; Sulphide Py=10; Quartz Stringer - 75 deg. to LCA; line by calcite on contact with basalt; 10% pyrite Alteration crbd; Structure ft zn;						
				2340	72.10	72.50	0.40	0.17	0.005
				2341	72.50	73.10	0.60	0.17	0.005
	97.50 -	105.00 $		2342	96.90	98.40	1.50	0.17	0.005
			Fault Zone	2343	98.40	99.70	1.30	0.17	0.005
			- 10 deg. to LCA; clay-filled fracture; strong alteration and bleached.	2344	99.70	101.20	1.50	0.17	0.005
			foliated with foliation approx. 10 deg. to LCA; carbonatized; intrude by	2345	101.20	102.60	1.40	0.17	0.005
			quartz stringers approx. 1cm wide between 97.60 - 97.95m (10 deg. to LCA) ; 99.00 - 99.46m (30 deg. to LCA) ; 101.43 - 101.84m (5 deg. to LCA) ; 103.25 - 103.33 (20 deg. to LCA)	2346	102.60	104.10	1.50	0.17	0.005
				2347	104.10	105.50	1.40	0.17	0.005
	106.46 -	106.76	Fracture Plane - approx. 10 deg. to LCA; line with reddish-brown siderite						
				2348	105.50	107.00	1.50	0.17	0.005
113.38	118.80	BSLT	Basalt - dark, fine to medium-grained; cut intensely by calcite stringers (<1cm wide) ;sparsely (approx. 5%) porphyritic with feldspar porphyroblast (<1cm)						
	114.29 -	114.31	Quartz Stringer - 60 deg. to LCA; blue-grey; non-mineralized						
				2349	114.10	114.50	0.40	0.17	0.005
	114.92 -	115.00 $	Structure ft gvg; Fault Gouge - broken core; clay-filled fractures						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
				2350	117.80	118.20	0.40	0.17	0.005
			118.37 - 118.39 $						
			Alteration q stgr; Sulphide Py=5;						
			Quartz Stringer						
			- 30 deg. to LCA; blue-grey; 5% pyrite						
			118.45 - 118.46 $						
			Alteration q stgr; Sulphide Py=3;						
			Quartz Stringer						
			- 30 deg. to LCA; 3% pyrite						
			118.51 - 118.52 $						
			Alteration q stgr; Sulphide Py=3;						
			Quartz Stringer						
			- 30 deg. to LCA; 3% pyrite						
118.80	127.70	BLPP	Basalt, Feldspar Porphyritic						
			- same as between 3.65 - 113.38m						
				2351	118.20	119.00	0.80	0.17	0.005
				2352	0.00	0.00	0.00	0.00	
			124.30 - 126.00 Basalt	2353	124.75	125.35	0.60	0.17	0.005
			- same as 113.38 - 118.80m						
			124.94 - 124.96 $						
			Alteration q vnlt; Sulphide Py=2;						
			Quartz Veinlet						
			- 45 deg. to LCA; blue-grey associated with 10% calcite; 2% pyrite						
			Alteration qc vnlets; Sulphide Py=2;						
			125.15 - 125.20 $						
			- four quartz-calcite stringers (approx. 0.5cm wide each) ; 30 deg. to LCA. blue-grey; 2% pyrite						
127.70	187.10	BSLT	Basalt						
			- same as 113.38 - 118.80m; locally porphyritic						
				2354	127.60	128.00	0.40	0.17	0.005
			128.07 - 128.25 $						
			Alteration slcs zn; Sulphide Py=2;						
			- siliceous zone with quartz stringers; quartgz stringer approx. 1cm wide 20 deg. to LCA; 2% pyrite						
			128.30 - 128.32 $						
			Alteration q stgr;						
			Quartz Stringer						
			- blue-grey; 20 deg. to LCA; non-mineralized						
				2355	128.00	128.40	0.40	0.34	0.010
				2356	128.40	128.80	0.40	0.17	0.005
			132.19 - 132.66 $						
			Structure ft gg;						
			Fault Gouge						
			- 45 deg. to LCA; clay-filled fractures						
148.11	148.27	FLSC INTV	Felsic Intrusive						
			- upper contact 45 deg.; lower contact 30 deg.; green, sugary, fine to medium- grained; siliceous						
148.49	148.64	FLSC INTV	Felsic Intrusive						
			- same as section 148.11 - 148.27m; sharp contacts at 30 deg. to LCA						
			148.75 - 148.95 Felsic Intrusive						
			- same as section 148.11 - 148.27m						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
164.55	164.67	GNTC INTV Granitic Intrusive - upper contact 60 deg. to LCA; lower contact 45 deg. to LCA						
			2357	167.60	168.00	0.40	0.17	0.005
		168.12 - 168.16 Quartz Veinlet - 50 deg. to LCA; blue-grey; non-mineralized						
		168.16 - 168.20 Granitic Intrusive - upper contact 50 deg.; lower contact 45 deg;						
		168.34 - 168.55 $ Alteration slcs zn q stgrs; Sulphide Py=3; Siliceous Zone with Quartz Stringers - a number of blue-grey quartz stringers (0.5cm wide) at 45 deg. to LCA. brecciated with angular basaltic frfagments (1/2cm in diameter; 3% pyrite						
			2358	168.00	168.60	0.60	0.17	0.005
			2359	168.00	168.40	0.40	0.17	0.005
		178.37 - 178.44 Felsic Intrusive - contacts sharp at 30 deg. to LCA; fine-grained, cut by calcite stringer. light grey						
178.80	178.92	FLSC INTV Felsic Intrusive - contacts approx. 30 deg. to LCA; same as between 178.37 - 178.92m						
		179.79 - 179.86 Felsic Intrusive - contacts approx. 30 deg. to LCA; same as between 178.377 - 178.92m						
		180.10 - 180.17 Felsic Intrusive - contacts approx. 45 deg. to LCA; same as between 178.37 - 178.92m						
187.10	213.00	BLPP Basalt, Feldspar Porphyritic - same as 3.65 - 113.38m; 10-30% porphyroblastic feldspar from 0.2 - 1.5cm						
		202.59 - 202.63 Felsic Intrusive - contacts approx. 30 deg. to LCA; grey; fine-grained						
		206.00 - 209.40 Basalt	2360	206.00	206.40	0.40	0.17	0.005
		- fine to medium-grained; non-porphyritic; cut by calcite stringers Alteration qc stgrs;	2361	208.80	209.20	0.40	0.17	0.005
		206.18 - 206.22 $ Quartz Stringers - 2 stringers, 1cm wide each; grey; 30 deg. to LCA; non-mineralized						
		209.03 - 209.04 Quartz-Calcite Stringer - approx. 1cm wide; blue-grey; 75 deg. to LCA						
		210.32 - 210.42 Felsic Intrusive - contacts approx. 30 deg. to LCA; fine to medium-grained quartz feldspar						
213.00	253.70	BSLT Basalt - dark; fine to medium-grained; locally porphyritic with less than 5% feldspar porphyroblasts; cut by calcite stringers and calcite-filled fractures Alteration q stgr; Sulphide Py=1;						
		229.68 - 229.70 $ Quartz Stringer - blue-grey; 45 deg. to LCA; 1% pyrite						
			2362	229.50	229.90	0.40	1.37	0.040
		236.50 - 236.55 $ Alteration q vnlt; Sulphide Py=1; Quartz Veinlet - milky white; bounded by calcite at contacts with basalt; 60 deg. to LCA. 1% sulphide (pyrite) in calcite						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
236.85	237.22	GNTC INTV Granitic Intrusive						
		- contacts approx. 40 deg. to LCA; pink quartz feldspar granite						
			2363	236.00	237.00	1.00	0.17	0.005
240.61	240.63	GNTC INTV Granitic Intrusive						
		- contacts approx. 30 deg. to LCA						
		240.95 - 241.02 Granitic Intrusive						
		- contacts approx. 45 deg. to LCA						
		241.57 - 241.60 Granitic Intrusive						
		- 45 deg. to LCA						
		241.65 - 241.66 Quartz-Calcite Veinlet						
		- 50 deg. to LCA; non-mineralized						
		251.40 - 253.70 Foliated Basalt	2364	250.80	252.20	1.40	0.17	0.005
		- fine-grained basalt; foliation approx. 30 deg. to LCA	2365	252.20	253.70	1.50	0.17	0.005
		Alteration mssl; Sulphide Po=20;						
		251.48 - 251.79 $						
		Massive Sulphide						
		- mineralization along foliation, i.e. approx. 30 deg. to LCA; 20% pyrrhotite (fine-grained)						
253.70	285.00	BLPP Basalt, Feldspar Porphyritic						
		- same as between 3.65 - 113.38m; weakly laminated; lamination approx. 30 deg..						
		10% porphyroblasts						
		258.72 - 258.74 $						
		Alteration q stgr; Sulphide Py=2 Po=2;						
		Quartz Stringer						
		- 45 deg. to LCA; blue-grey; 2% pyrite; 2% pyrrhotite						
			2366	258.50	258.90	0.40	0.34	0.010
		267.86 - 267.87 Quartz Stringer						
		- non-mineralized; 60 deg. to LCA						
269.92	270.00	LMPP Lamprophyre Dyke						
		- sharp contacts approx. 75 deg. to LCA; dark with mafic phenocrysts						
		277.34 - 277.42 Granitic Intrusive						
		- contacts approx. 30 deg. to LCA; pinkish-grey granite						
285.00	317.50	BSLT Basalt						
		- fine to medium-grained; cut by calcite-filled fractures; locally sparsely porphyritic with <5% feldspar porphyroblasts						
		288.69 - 288.73 $						
		Alteration q stgr; Sulphide Py=2;						
		Quartz Stringers						
		- 3 blue-grey quartz stringers (1cm wide each) ; 60 deg. to LCA; 2% pyrite. locally carbonatized						
			2367	288.50	288.90	0.40	1.37	0.040
		295.07 - 295.11 $						
		Alteration q stgr; Sulphide Py=5;						
		Quartz Lens						
		- parallel to LCA; blue-grey; 5% pyrite						
		295.41 - 295.45 $						
		Alteration q stgr; Sulphide Py=5;						
		Quartz Lens						
		- parallel to LCA; blue-grey; 5% pyrite						
			2368	295.00	295.50	0.50	0.17	0.005
302.81	303.00	ALTD INTV Altered Intrusive						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		302.81 - 303.00	$						
			Structure brcd;						
			Altered Intrusive (original rock cannot be identified) - upper contact 45 deg.; lower contact 30 deg.; brecciated; fine-grained, green almost cherty						
303.14	303.24	ALTD INTV	Altered Intrusive						
			- same as 302.81 - 303.00m; upper contact 60 deg.; lower contact 45 deg;						
			Alteration q stgr; Sulphide Py=5;						
				2369	305.10	305.50	0.40	0.17	0.005
		305.67 - 305.70	$						
			Quartz Stringers						
			- 2 stringers 1cm wide each; 80 deg. to LCA; 5% pyrite; 1% pyrite in basalt						
			Alteration qv; Sulphide Py=5;						
				2370	305.50	306.00	0.50	0.17	0.005
		306.29 - 306.46	$						
			Quartz Vein						
			- contact approx. 60 deg. to LCA; 30% blue-grey quartz; 45% basalt; 20% calcite						
			- 5% pyrite; foliated (60 deg. to LCA)						
				2371	306.00	306.50	0.50	0.17	0.005
				2372	306.50	307.00	0.50	0.17	0.005
		312.60 - 312.68	Granitic Intrusive						
			- contacts approx. 90 deg. to LCA; pale yellow quartz feldspar						
312.76	312.85	GNTC INTV	Granitic Intrusive						
			- 85 deg. to LCA						
		312.86 - 314.60	$	2373	311.80	313.20	1.40	0.34	0.010
			Alteration slfd; Sulphide Py=2; Structure sh;	2374	313.20	314.60	1.40	0.17	0.005
			Sheared Basalt (Silicified)						
			- strongly foliated; foliation approx. 50 deg. to LCA; bleach to light blue-grey; silicified; fine-grained cherty; 20% quartz vein material; 25 pyrite						
		312.17 - 312.20	Granitic Intrusive						
			- 45 deg. to LCA						
		313.01 - 313.05	Granitic Intrusive						
			- 60 deg. to LCA						
				2375	314.60	315.00	0.40	0.17	0.005
		315.09 - 315.14	$						
			Structure brcd;						
			Brecciated Basalt						
			- basalt with angular green fragments						
		315.43 - 315.48	Brecciated Altered Basalt						
			- contacts vague; brecciated with green angular fragments (probably felsic intrusive) ; fine to medium-grained; sugary texture						
		315.78 - 316.00	Brecciated Altered Basalt						
			- same as 315.09 - 315.14m						
		316.72 - 317.09	Brecciated Altered Basalt						
			- same as 315.09 - 315.14m						
317.50	329.60	BLPP	Basalt, Feldspar Porphyritic						
			- fine to medium-grained; 5-10% feldspar porphyroblast; cut by calcite veinlet, locally altered to give a medium green colour						
319.64	319.90	GNTC INTV	Granitic Intrusive						
			- pinkish quartz feldspar granite; upper contact 45 deg. to LCA; lower contact 20 deg. to LCA						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			321.73 - 321.80 Granitic Intrusive						
			- contacts at 40 deg. to LCA						
			323.28 - 323.48 Granitic Intrusive						
			- contacts approx. 20 deg. to LCA						
329.60	341.66	BSLT	Basalt						
			- fine-grained; same as 213.00 - 257.70m						
				2376	329.40	329.80	0.40	0.34	0.010
			329.80 - 333.00 $	2377	329.80	330.20	0.40	0.17	0.005
			Alteration slcs zn; Sulphide Py=3 Po=2;	2378	320.20	330.60	10.40	0.17	0.005
			Siliceous Zone						
			- moderate silicification and carbonatization; 5% disseminated sulphide; 3% pyrite; 2% pyrrhotite						
				2379	333.20	333.60	0.40	0.17	0.005
			333.75 - 333.83 $						
			Sulphide Py=2;						
			Bleached Basalt						
			- lighter grey; weakly silicified; 2% pyrite						
			334.25 - 334.65 $	2380	333.60	334.60	1.00	0.17	0.005
			Sulphide Py=2;						
			Bleached Basalt						
			- same as 333.75 - 337.83m; 2% pyrite						
				2381	334.60	335.00	0.40	0.17	0.005
			336.11 - 338.52 Foliated Basalt	2382	337.20	337.60	0.40	0.17	0.005
			- fine-grained; foliation approx. 40 deg. to LCA; cut by pale yellow feldspar veinlets between 337.62 - 337.66m; possibly local remelting	2383	337.60	338.40	0.80	0.17	0.005
			Alteration slfd; Sulphide Py=1; Structure brcd;						
			337.67 - 338.30 $						
			Silicified Basalt (Brecciated)						
			- greyish-blue; 10% quartz material; 1% disseminated pyrite; brecciated with angular rock fragments						
338.52	339.90	LMPP	Lamprophyre Dyke(?)						
			- dark green; fine to medium-grained with biotite phenocrysts; upper contact approx. 20 deg. to LCA; lower contact cannot be identified (broken core)						
				2384	338.40	338.80	0.40	0.17	0.005
			339.90 - 340.06 Weakly Mineralized Basalt						
			- fine-grained basalt with approx. 2% pyrite along calcite-filled hairline fractures						
				2385	339.80	340.20	0.40	0.17	0.005
341.66	344.13	FLSC INTV	Felsic Intrusive						
			- upper contact gradational and brecciated; light grey, appear bleached, strongly siliceous composed of almost 100% sugary quartz; trace of disseminated pyrite; lower contact at 80 deg. to LCA						
				2386	341.80	343.30	1.50	0.17	0.005
				2387	343.73	344.13	0.40	0.17	0.005
344.13	426.00	BSLT	Basalt						
			- same as between 213.00 - 257.70m						
			344.13 - 346.00 $	2388	344.13	344.60	0.47	10.29	0.300
			Structure sh;	2389	344.60	345.00	0.40	0.17	0.005
			Sheared(?) Basalt	2390	345.00	345.80	0.80	0.17	0.005
			- silicified, bleached; foliated with strongest foliation shown between						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		345.30 - 345.90m; foliation approx. 50 deg. to LCA						
		Alteration slfd; Sulphide Py=5;						
		344.20 - 344.60 $						
		Strongly Silicified Basalt						
		- intruded by numerous quartz veinlets; 40% blue-grey quartz; 5% pyrite (locally up to 30% pyrite) ; minor pyrrhotite; carbonatized						
		344.60 - 344.88 Strongly Carbonatized Basalt						
		- numerous calcite stringers at 80 deg. to LCA; weakly mineralized with trace of pyrite (<1%						
		345.80 - 346.50 $	2391	345.80	346.50	0.70	0.69	0.020
		Alteration slfd; Sulphide Py=3; Structure brcd zn;						
		Brecciated Zone						
		- angular rock fragment healed by silicification; 30% blue-grey quartz; 3% pyrite						
			2392	346.50	347.50	1.00	0.17	0.005
		347.73 - 347.75 Granitic Intrusive						
		- 75 deg. to LCA						
		347.93 - 348.01 Granitic Intrusive						
		- 75 deg. to LCA						
348.55	348.67	GNTC INTV Granitic Intrusive						
		- upper contact 75 deg. to LCA; lower contact 90 deg. to LCA						
		350.84 - 351.07 Granitic Intrusive						
		- upper contact 45 deg. to LCA; lower contact 50 deg. to LCA						
		351.35 - 351.39 Granitic Intrusive						
		- 45 deg. to LCA						
		353.14 - 353.34 Granitic Intrusive						
		- contacts at 45 deg. to LCA						
353.50	354.34	GNTC INTV Granitic Intrusive						
		- contacts at 45 deg. to LCA						
		356.24 - 356.50 $						
		Sulphide Py=3; Structure fltd;						
		Foliated Basalt						
		- light greyish; carbonatized; foliation approx. 45 deg. to LCA; weakly silicified; 3% fine-grained disseminated pyrite						
			2393	356.15	356.55	0.40	0.17	0.005
			2394	356.55	357.00	0.45	0.17	0.005
		357.14 - 357.17 $						
		Alteration q stgr; Sulphide Py=5;						
		Quartz Stringer						
		- blue-grey; 80 deg. to LCA; associated with 20% calcite; 5% pyrite						
		Sulphide Py=3; Structure fltd;						
		357.17 - 358.35 $	2395	357.00	357.40	0.40	2.74	0.080
		Foliated Basalt	2396	357.40	358.35	0.95	11.66	0.340
		- strong carbonatization with calcite stringer along foliation; foliation approx. 40 deg. to LCA; silicified, providing blue-grey colour and quartz stringer; 3% disseminated pyrite						
		358.35 - 358.43 Granitic Intrusive						
		- 45 deg. to LCA						
		358.43 - 358.48 $						
		Alteration q stgr; Sulphide Py=2;						
		Quartz Stringer						
		- blue-grey; associated with 30% calcite; 2% pyrite						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2397	358.35	358.75	0.40	0.17	0.005
			2398	358.75	359.15	0.40	0.17	0.005
		363.61 - 363.17 Granitic Intrusive						
		- upper contact 45 deg. to LCA; lower contact 75 deg. to LCA						
		Alteration cv; Sulphide Py=8 Cpy=1;						
			2399	363.60	364.60	1.00	0.17	0.005
		364.75 - 364.92 $						
		Quartz Veinlet						
		- upper contact 30 deg. to LCA; lower contact 30 deg. to LCA; blue-grey						
		quartz. brecciated; 8% pyrite; 1% chalcopyrite						
			2400	364.60	365.10	0.50	0.17	0.005
			2401	365.10	366.10	1.00	0.17	0.005
		368.67 - 368.76 Granitic Intrusive						
		- 35 deg. to LCA; medium to coarse-grained granite						
		Alteration alzn slfn crbn;						
		369.94 - 369.98 $						
		Alteration Zone						
		- moderate alteration; silicification; carbonatization; grey; quartz stringer						
		(1/2cm) blue-grey at 45 deg. to LCA; trace of pyrite <<1%						
			2402	369.80	370.20	0.40	0.17	0.005
		375.12 - 375.21 Granitic Intrusive						
		- 30 deg. to LCA; contacts sharp; medium-grained quartz-feldspar + 5% mafics						
377.16	377.33	GNTC INTV Granitic Intrusive						
		- sharp contacts upper at 45 deg.; lower at 30 deg.; coarse-grained quartz-						
		feldspar + 5% mafics						
378.15	378.27	GNTC INTV Granitic Intrusive						
		- contacts at 20 deg. to LCA						
		384.10 - 384.14 Granitic Intrusive						
		- contacts at 60 deg. to LCA						
			2403	383.80	384.20	0.40	0.17	0.005
384.30	384.61	ALTD BSLT Altered Basalt						
		384.30 - 384.61 $						
		Alteration slfd crbd; Sulphide Py=1;						
		- carbonatized; silicified; cut by calcite stringers and blue-grey quartz						
		stringers (<1/2cm wide) at 75 deg. - 85 deg. to LCA - trace of pyrite <1%						
			2404	384.20	384.70	0.50	0.17	0.005
			2405	384.70	385.10	0.40	0.17	0.005
		388.34 - 388.45 Granitic Intrusive						
		- 10 deg. to LCA						
		388.69 - 388.70 Granitic Intrusive						
		- 20 deg. to LCA						
388.77	388.80	GNTC INTV Granitic Intrusive						
		- 20 deg. to LCA						
389.03	389.50	GNTC INTV Granitic Intrusive						
		- 5 deg. to LCA; 2cm wide						
		396.75 - 396.80 Granitic Intrusive						
		- 15 deg. to LCA; coarse-grained						
		399.82 - 399.84 Granitic Intrusive						
		- 90 deg. to LCA						
402.60	402.72	FLSC INTV Felsic Intrusive						
		- siliceous; greyish; 30 deg. to LCA; contacts sharp						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		403.29 - 403.99 Felsic intrusive						
		- 30 deg. to LCA; contacts sharp; same as 402.60 - 402.72m						
			2409	404.00	404.40	0.40	0.17	0.005
404.60	404.66	ALTD BSLT Altered Basalt						
		404.60 - 404.66 $						
		Alteration slfd crbd; Sulphide Py=5;						
		- cut by quartz stringer (1cm wide) at 45 deg. to LCA; carbonatized with calcite stringers at 45 deg. to LCA; 5% pyrite						
			2410	404.40	404.80	0.40	3.43	0.100
			2411	404.80	405.20	0.40	0.17	0.005
		407.45 - 407.47 $						
		Alteration q stgr; Sulphide Py=1;						
		Quartz Stringer						
		- 90 deg. to LCA; blue-grey; 1% pyrite; associated with calcite stringer (1/2 cm wide) at lower contact with basalt						
			2412	407.30	407.70	0.40	0.17	0.005
			2413	408.40	408.80	0.40	0.17	0.005
		408.81 - 408.94 Felsic Intrusive						
		- fine-grained siliceous intrusive; upper contact at 20 deg. to LCA; lower contact at 80 deg;						
		408.94 - 408.97 $						
		Alteration q stgr; Sulphide Py=3;						
		Quartz Stringer						
		- 80 deg. to LCA; blue-grey; carbonatized; 3% pyrite						
		409.14 - 409.19 Felsic Intrusive						
		- 60 deg. to LCA; same as 408.81 - 408.97m						
		409.19 - 409.23 $						
		Alteration q stgr; Sulphide Py=3;						
		Quartz Stringer						
		- blue-grey; 60 deg. to LCA; 3% pyrite						
			2414	408.80	409.40	0.60	0.17	0.005
			2415	409.40	409.80	0.40	0.17	0.005
		415.26 - 415.28 $						
		Alteration q stgr; Sulphide Py=2;						
		Quartz-Calcite Stringer						
		- 80 deg. to LCA; 50% quartz; 50% calcite; greyish; 2% pyrite						
			2416	415.10	415.50	0.40	0.17	0.005
415.50	415.80	GNTC INTV Granitic Intrusive						
		- sharp contacts at 20 deg. to LCA						
		415.99 - 416.03 Granitic Intrusive						
		- 30 deg. to LCA						
		416.82 - 417.00 Granitic Intrusive						
		- 30 de g. to LCA						
			2417	417.40	417.80	0.40	0.17	0.005
417.84	418.02	GNTC INTV Granitic Intrusive						
		- upper contact 30 deg.; lower contact 75 deg;						
		418.02 - 418.05 $						
		Alteration qc stgr; Sulphide Py=5;						
		Quartz-Calcite Stringer						
		- 70% quartz; blue-grey; 25% calcite; 5% pyrite; 75 deg. to LCA						
			2418	417.80	418.20	0.40	0.17	0.005
			2419	418.20	418.60	0.40	0.17	0.005

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		419.82 - 419.89 Felsic Intrusive - 30 deg. to LCA; grey; fine-grained; siliceous 422.02 - 422.10 Felsic Intrusive - 30 deg. to LCA@						
422.49	422.84	FLSC INTV Felsic Intrusive - 20 deg. to LCA; 1% pyrite						
			2420	422.35	422.75	0.40	0.17	0.005
		423.04 - 423.06 $ Alteration qc stgr; Sulphide Py=3; Quartz-Calcite Stringer - 35 deg. to LCA; blue-grey quartz and 20% calcite; 3% pyrite Alteration qc stgr;						
			2421	422.75	423.15	0.40	0.17	0.005
			2422	423.15	423.55	0.40	0.17	0.005
			2423	423.90	424.30	0.40	0.17	0.005
		424.44 - 424.47 $ Quartz-Calcite Stringer - 60% calcite; 40% blue-grey quartz; 20 deg. to LCA; no sulphides Alteration qc stgr; Sulphide Py=1; 424.58 - 424.59 $ Quartz-Calcite Stringer - blue-grey; 40 deg. to LCA; 1% pyrite						
			2424	424.30	424.70	0.40	0.17	0.005
			2425	424.70	425.10	0.40	0.17	0.005
426.00	426.00	E.O.H. End of Hole						

Meterage

From	To	Box
3.65	9.00	1
9.00	14.70	2
14.70	20.40	3
20.40	26.10	4
26.10	31.90	5
31.90	37.40	6
37.40	43.40	7
43.40	49.20	8
49.20	55.00	9
55.00	60.70	10
60.70	66.50	11
66.50	72.20	12
72.20	78.00	13
78.00	83.80	14
83.80	89.70	15
89.70	95.40	16
95.40	101.20	17
101.20	107.00	18
107.00	112.80	19
112.80	118.50	20
118.50	124.50	21
124.50	130.10	22
130.10	135.90	23

FROM   TO   DESCRIPTION   SAMPLE   FROM   TO   WIDTH   Au g_tonne   Au oz_ton

135.90	141.70	24
141.70	147.20	25
147.20	152.80	26
152.80	158.60	27
158.60	164.50	28
164.50	170.10	29
170.10	175.80	30
175.80	181.50	31
181.50	187.30	32
187.30	192.90	33
192.90	198.80	34
198.80	204.60	35
204.60	210.30	36
210.30	216.30	37
216.30	222.00	38
222.00	227.90	39
227.90	234.20	40
234.20	239.50	41
239.50	245.50	42
245.50	250.80	43
250.80	256.70	44
256.70	262.40	45
262.40	268.20	46
268.20	273.80	47
273.80	279.60	48
279.60	285.40	49
285.40	291.30	50
291.30	297.10	51
297.10	303.00	52
303.00	308.90	53
308.90	314.60	54
314.60	320.30	55
320.30	326.10	56
326.10	331.90	57
331.90	337.70	58
337.70	343.30	59
343.30	349.00	60
349.00	354.80	61
354.80	360.40	62
360.40	366.30	63
366.30	372.20	64
372.20	377.80	65
377.80	383.50	66
383.50	389.20	67
389.20	395.10	68
395.10	400.80	69
400.80	406.60	70
406.60	412.50	71
412.50	418.50	72
418.50	424.20	73
424.20	426.00	74
426.00	426.00	EOH

ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.104	Northing	5+55S	Grid Orient	20.00	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started	October 14, 1987	Logged by	S. Boyce
Property	Shoal Lake (KPM)	Easting	13+40E	Grid Azim.	10.00	0.0	- 45	030		171.0	- 44	030		Finished	October 19, 1987	Checked by	K. Leonard
Section	14+00E	Elevation	339.46	Length (M)	403.80	300.0	- 41	030		400.0	- 39	030.		Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	4+55.89S	Dip-Collar	-45.00									Drill No.		Comments:	200m vert. @ 14+00E
Target	C.I. Mainland Zone	Survey E.	14+30.60E	Comp Bearing	30.00									Drill For.			

Kevin Leonard

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

FROM	TO		DESCRIPTION
0.00	3.76	CASING	Casing
3.76	48.42	BSLT	Basalt
48.42	49.39	BRCC ZINC	Breccia Zone
49.39	87.46	BSLT	Basalt
87.46	97.15	FLSC INTV	Felsic Intrusive
97.15	102.40	BSLT	Basalt
102.40	113.70	BSLT	Basalt
120.00	151.85	BSLT	Basalt
152.05	153.93	FLSC INTV	Felsic Intrusive
153.93	161.80	BSLT	Basalt
161.80	170.63	FLSC INTV	Felsic Intrusive
170.63	171.57	BSLT	Basalt
171.57	174.21	FLSC INTV	Felsic Intrusive
174.21	181.35	BSLT	Basalt
181.35	194.16	BLPP	Basalt, Feldspar Porphyritic
194.16	199.17	FLSC INTV	Felsic Intrusive
200.55	203.72	CRBD BSLT	Carbonatized Basalt
203.72	205.80	FLSC INTV	Felsic Intrusive
205.80	206.45	CRBD BSLT	Carbonatized Basalt

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
206.45	211.52	FLSC INTV	Felsic Intrusive						
211.52	247.45	BSLT	Basalt						
247.45	247.79	FLPP INTV	Feldspar Porphyry Intrusive						
265.39	266.86	BRCD FLST	Altered, Sheared and Brecciated Felsite - bright yellow-green;						
266.86	268.16	FLSC INTV	Felsic Intrusive						
269.50	296.51	BSLT	Basalt						
296.51	299.79	FLPP INTV	Feldspar Porphyry Intrusive						
298.39	298.56	FLPP INTV	Feldspar Porphyry Intrusive						
299.79	302.26	BSLT	Basalt						
302.26	302.89	FLPP INTV	Feldspar Porphyry Intrusive						
302.89	306.38	BSLT	Basalt						
306.38	309.94	FLPP INTV	Feldspar Porphyry Intrusive						
309.94	318.24	BSLT	Basalt						
318.24	322.03	FLPP INTV	Feldspar Porphyry Intrusive						
322.03	351.57	BSLT	Basalt						
351.37	351.94	GNTC INTV	Granitic Intrusive						
351.94	355.57	BSLT	Basalt						
355.57	357.14	FLSC INTV	Felsic Intrusive						
357.14	379.45	BSLT	Basalt						
379.45	380.62	GNTC INTV	Granitic Intrusive						
380.62	403.80	BSLT	Basalt						
403.80	403.80	E.O.H.	End of Hole						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	3.76	CASING Casing						
3.76	48.42	BSLT Basalt						
		- dark grey-green; fine-grained; approx. 2% calcite-quartz veining; locally carbonatized						
		15.01 - 15.09 Calcite-Quartz Vein (3.5cm)						
		- CAA 50 deg.; <1% pyrite, finely disseminated						
			2902	14.85	15.25	0.40	0.17	0.005
		27.55 - 36.22 Basalt Weakly to Highly Carbonatized	2903	29.50	29.90	0.40	0.17	0.005
		- lighter green in colour; 10% calcite-quartz veining	2904	33.62	34.02	0.40	0.17	0.005
		29.65 - 29.73 Calcite-Quartz Vein (6cm)						
		- CAA 60 deg.; 2% pyrite in "veinlets"; trace pyrrhotite						
		33.76 - 33.87 Quartz-Calcite Vein (2cm)						
		- CAA 20 deg.; 2% pyrrhotite in small blebs along contacts and in remobilizing basalt inclusions						
		45.31 - 45.33 Quartz-Calcite Vein (1cm)						
		- CAA 65 deg.; quartz and calcite segregated; calcite along contacts; 2% pyrite in calcite						
			2905	45.12	45.52	0.40	0.17	0.005
		45.88 - 48.42 Basalt Highly Carbonatized	2906	46.55	46.95	0.40	0.17	0.005
		- light green; but altered to a brownish colour from 46.18 - 46.78m	2907	47.58	47.98	0.40	0.17	0.005
		46.83 - 46.92 Calcite-Quartz Vein (5cm)						
		- CAA 50 deg.; trace pyrite						
		47.76 - 47.80 Quartz-Calcite Vein (4cm)						
		- CAA 85 deg.; 1% pyrite, disseminated and in small blebs						
			2908	47.98	48.42	0.44	0.17	0.005
48.42	49.39	BRCC ZINC Breccia Zone						
		48.42 - 49.39 $	2909	48.42	49.39	0.97	0.07	0.002
		Alteration slfd; Sulphide Py=3 Po=1;						
		- upper contact CAA 60 deg.; lower contact CAA 65 deg.; mottled pale green, pale grey, pale brown; high degree of brecciation; approx. 60% vein material (quartz and minor calcite) ; 40% altered basalt fragments are silicified and moderately carbonatized, bleached (chloritized) ; the fragments range in size from 0.1cm to several centimeters across; quartz is grey-white; 3% pyrite; 1% pyrrhotite; both sulphides occur in small blebs and trains; trace fuschite						
		48.69 - 48.77 Quartz Vein (6cm)						
		- CAA 60 deg. (paralleling zone) ; massive grey-white quartz, whiter than in the zone proper; 3% pyrite in 0.5cm blebs						
		49.22 - 49.39 Alteration More Chloritic and Carbonatized						
		- fragments range from pale brown to dark green (chloritized) in colour; not as silicified; more calcite in vein material; sulphides not as abundant; quartz- calcite vein at lower contact; 2cm; CAA 65 deg;						
49.39	87.46	BSLT Basalt						
		- as from 3.78 - 48.42m						
		49.39 - 50.80 Carbonatized Basalt Adjacent to Breccia Zone	2910	49.39	50.39	1.00	0.17	0.005
		66.84 - 67.47 Calcite-Quartz-Sulphide Vein (approx. 2cm)	2911	66.84	67.47	0.63	0.17	0.005
		- parallel to core axis; contacts vague, sulphides also in surrounding basalt. approx. 5% pyrite, 5% pyrrhotite, trace chalcopyrite in whole rock						
		68.38 - 68.58 Sulphides in Basalt	2912	67.85	68.58	0.73	0.17	0.005
		- approx. 25% sulphides: 15% pyrrhotite, 10% pyrite; highly irregular blebs.						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		minor blebs of calcite-quartz associated						
		72.10 - 72.43 Sulphides in Basalt - approx. 15% sulphides: 8% pyrrhotite, 5% pyrite, 2% chalcopyrite in " trains" paralleling the core axis; minor blebs of calcite-quartz associated	2913	72.05	72.45	0.40	0.17	0.005
		75.00 - 78.12 Highly Carbonatized Basalt - mottled light green, brown; 20% calcite-quartz veining at various orientations; minor pyrrhotite, pyrite locally	2914	76.23	76.63	0.40	0.17	0.005
		84.00 - 87.02 Highly Carbonatized Basalt - as above, 75.00 - 78.12m						
		87.02 - 87.46 Brecciated and Altered Basalt	2915	87.02	87.46	0.44	0.17	0.005
		87.02 - 87.03 - basalt brecciated by quartz-calcite veins up to 1.5cm wide; basalt highly carbonatized, soft, fragments large (up to 5cm) ; 2% pyrite in small blebs						
		87.30 - 87.46 - basalt fragments lighter green, silicified but still carbonatized; veinlets narrower (0.3cm) with abundant chlorite; fragments smaller; separated from Feldspar Porphyry by quartz-calcite vein (2cm, CAA 30 deg.) ; <1% pyrite. * 87.30 - 87.46m may be altered Feldspar Porphyry						
87.46	97.15	FLSC INTV Felsic Intrusive - light grey-brown, speckled; approx. 25% fine to medium-grained subhedral feldspar phenocrysts in a very fine-grained felsic matrix; minor fine to medium-grained mafics (hornblende?) ; lower contact CAA 55 deg.; highly siliceous						
		97.15 - 97.27 $ Alteration qtz; Sulphide Py=10; Quartz Vein Material in Basalt - 35% grey-white quartz in silicified, chloritized, carbonatized basalt; 10% pyrite in blebs up to 0.7cm in diameter						
97.15	102.40	BSLT Basalt - medium grey-green; moderately carbonatized; approx. 7% calcite-quartz veining	2916	97.15	97.55	0.40	0.17	0.005
		97.76 - 97.80 Quartz Vein (3cm) - CAA 75 deg.; white quartz, <10% basalt inclusions; trace pyrite, disseminated	2917	97.55	97.95	0.40	0.17	0.005
		100.49 - 100.78 Weakly Sheared and Silicified Basalt - foliation at CAA 45 deg.; 5% pyrrhotite, 5% chalcopyrite in veinlets, brecciating the basalt; chlorite-calcite-quartz veining present	2918	100.23	100.78	0.55	0.17	0.005
102.40	113.70	BSLT Basalt - dark grey-green; very fine-grained; cut by approx. 5% hair-like calcite-quartz veinlets at various orientations; 2% quartz-calcite veins; locally carbonatized; trace sulphides; contacts very gradational						
		111.31 - 113.20 Weakly Silicified Basalt - very dark grey-green						
		113.70 - 120.00 $ Alteration crbd; Carbonatized Basalt - green-brown, ranging to homogenous grey; slightly coarser-grained than above basalt	2919	115.54	116.24	0.70	0.17	0.005

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			115.22 - 116.24 Moderately Sheared Basalt - foliation at 30 deg.: calcite-quartz veining. 15% up to 2cm. parallel to foliation; 115.21 - 115.24m: 2cm calcite-quartz vein; 3% pyrrhotite. 3% pyrite in blebs						
120.00	151.85	BSLT	Basalt - medium grey-green; fine-grained; hair-like calcite-quartz veinlets infrequent - 2% q2uartz-calcite veins: weakly carbonatized: trace sulphides, localized 120.00 - 123.27 - 20% black mafics in basalt; fine-grained; hornblende?; trace chalcopyrite 124.26 - 124.29 Calcite-Quartz Vein (3cm) - CAA 85 deg.: 2% pyrite in small blebs						
				2920	124.08	124.48	0.40	0.17	0.005
			124.88 - 124.94 Granitic Intrusive - salmon-pink, homogeous; very fine-grained 125.15 - 125.40 Granitic Intrusive - CAA 60 deg.; similar to above, 124.88 - 124.94m; one large basalt inclusion 138.60 - 138.65 Calcite-Quartz Vein (2cm) - CAA 40 deg.; 1% pyrite in small blebs; carbonatized halo 3cm either side						
				2921	138.42	138.82	0.40	0.17	0.005
			138.85 - 147.40 Feldspar Phenocrysts in Basalt - approx. 10% highly anhedral, fine to medium-grained, feldspar grains occur in clusters; "bird's foot texture"						
				2923	150.80	151.80	1.00	0.17	0.005
			151.85 - 152.05 $ Alteration qv; Sulphide Po=10 Cpy=1; - CAA 30 deg.; massive grey-white quartz; 10% pyrrhotite, 1% chalcopyrite occuring at the contacts within the basalt; 10% basalt inclusions highly altered to chlorite and calcite; calcite-rich halo of sheared material extending 3cm above vein and 17cm below vein (foliation at CAA 30 deg.) ; near basalt - felsic intrusive contact						
152.05	153.93	FLSC INTV	Felsic Intrusive - pale yellow (does not resemble that of 87.46 - 97.15m) ; fine-grained, siliceous; trace pyrite in small blebs; minor brecciation with quartz veining, occuring locally 152.41 - 152.49 $ Alteration qv; Quartz Vein (6cm) - CAA 50 deg.; 15% inclusions of felsic intrusive; 10% pyrrhotite, massive along lower contact, trace chalcopyrite; carbonatized, bleached to 6cm below vein; grey-white quartz						
				2922	151.80	152.55	0.75	0.17	0.005
				2924	152.55	153.55	1.00	2.74	0.080
153.93	161.80	BSLT	Basalt - as from 120.00 - 151.85m						
			160.90 - 161.32 $	2925	160.90	161.32	0.42	0.17	0.005
			Structure bcdk; Brecciated Basalt - approx. 40% basalt fragments predominantly sub-angular in a matrix of quartz- calcite veining (60%) ; some fragments highly chloritized and carbonatized, dark green; other fragments highly silicified, light brownish-grey; weak shearing; foliation at core axis angle 40 deg.; no sulphides						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		161.71 - 161.80 Pyrrhotite - 3% pyrrhotite in basalt. adjacent to contact with feldspar porphyry. associated with 3 vaguely defined calcite-quartz veinlets at CAA 60 deg;						
161.80	170.63	FLSC INTV Felsic Intrusive - as from 87.46 - 97.27m; <1% disseminated pyrite in small blebs; upper contact CAA 60 deg.; lower contact CAA irregular, approx. 40 deg;						
			2926	161.32	161.82	0.50	0.17	0.005
170.63	171.57	BSLT Basalt - as from 120.00 - 151.85m; moderately carbonatized						
171.57	174.21	FLSC INTV Felsic Intrusive - as from 161.80 - 170.63m; phenocrysts sometimes but not that much larger than groundmass; upper contact CAA 50 deg.; lower contact CAA 30 deg;						
174.21	181.35	BSLT Basalt - as from 170.63 - 171.57m						
		174.57 - 174.64 Quartz-Calcite Vein (7cm) - CAA 85 deg.; 40% resorbing basalt inclusions; 1% pyrrhotite, 1% pyrite in small blebs						
			2927	174.25	174.70	0.45	2.74	0.080
181.35	194.16	BLPP Basalt, Feldspar Porphyritic - gradational from above basalt; dark grey-green; medium-grained, pyroxene(?)- rich; 5-20% coarse-grained feldspar phenocrysts; highly anhedral more like blebs						
		188.76 - 188.80 Quartz-Calcite Vein (3cm) - CAA 50 deg.; 35% grey-white quartz, somewhat segregated from calcite-basalt inclusions; 2% pyrite, small blebs, predominantly within calcite-basalt						
			2928	188.60	189.00	0.40	0.17	0.005
		194.06 - 194.07 Quartz-Calcite Vein (2cm) - CAA 70 deg.; minor pyrite in offshoot of this vein						
		193.61 - 194.16 Feldspar Phenocrysts Absent in Basalt - adjacent to feldspar porphyry	2929	193.76	194.16	0.40	0.17	0.005
194.16	199.17	FLSC INTV Felsic Intrusive - similar to 161.80 - 170.63m; phenocrysts ranging in size and abundance. occasional quartz vein (up to 1cm width)						
			2930	198.17	199.17	1.00	0.17	0.005
		199.17 - 200.55 $ Structure brcc zn; Breccia Zone - occuring around contact between feldspar porphyry and basalt	2931	199.17	200.55	1.38	0.17	0.005
		199.17 - 200.12 Brecciated Feldspar Porphyry - approx. 70% large discrete angular fragments (usually several centimeters across) ; fragments are siliceous, carbonatized and bright green; fuschite present?; approx. 30% veining: grey-white quartz with minor calcite, up to 1.5 cm in width; <1% pyrite, finely disseminated often along vein - fragment contacts						
		200.12 - 200.55 $ Structure brcd; Brecciated Basalt - approx. 75% basalt fragments, not as discrete as feldspar porphyry fragments. fragments are carbonatized (some highly altered to calcite) and pale green to dark green; approx. 25% veining: grey-white quartz and calcite-quartz veins present, not as well defined as in feldspar porphyry; <						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		1% pyrite, <1% pyrrhotite, much of it in "trains" near contact with feldspar porphyry - quartz-calcite vein (3cm, CAA approx. 45 deg.) ; 2% pyrite, marking lower contact of breccia zone						
200.55	203.72	CRBD BSLT Carbonatized Basalt - medium to light green; fine-grained; 10% calcite-quartz veins (up to 1cm)	2932	200.55	201.55	1.00	0.17	0.005
		201.99 - 202.12 - slice of feldspar porphyry; as from 161.80 - 170.63m; except altered to a dull grey colour (contact alteration)						
		202.23 - 202.40 Feldspar Porphyry(?) - as above, 201.99 - 202.12m; mafic phenocrysts 15%; 1% disseminated pyrite	2933	202.10	202.50	0.40	0.17	0.005
203.72	205.80	FLSC INTV Felsic Intrusive - as from 161.80 - 170.63m; contacts altered grey; upper contact angle 55 deg., lower contact angle no vertical						
205.80	206.45	CRBD BSLT Carbonatized Basalt - as from 200.55 - 203.72m; slices of feldspar porphyry						
206.45	211.52	FLSC INTV Felsic Intrusive - as from 161.80 - 170.63m; contacts altered grey; fragments of basalt in feldspar porphyry near both contacts; 1% pyrite; <1% pyrrhotite; <1% chalcopyrite in small blebs; upper contact CAA approx. 50 deg.; lower CAA 25 deg;						
211.52	247.45	BSLT Basalt - dark grey-green to medium grey-green; fine-grained; locally carbonatized, approx. 5% calcite-quartz veining	2934	211.22	211.72	0.50	0.17	0.005
		216.25 - 216.29 Quartz-Calcite Vein (4cm) - CAA 80 deg.; contacts vague; 1% pyrite	2935	216.10	216.50	0.40	0.17	0.005
		216.50 - 222.43 Calcite-Quartz Veining Rare - massivve basalt						
		216.84 - 216.94 Granitic Intrusive - CAA of contacts 30 deg.; salmon-pink; fine-grained; sliver of basalt dividing intrusive in two						
		222.98 - 223.02 Quartz-Calcite Vein (2.5cm) - CAA 60 deg.; 2% pyrite in trains						
		223.48 - 223.51 Quartz-Calcite Vein (3cm) - CAA 85 deg.; 1% disseminated pyrite in basalt near contacts						
		Alteration qcv:						
		223.37 - 223.58 $ Quartz-Calcite Vein (approx. 10cm) - CAA 30 deg.; approx. 45% grey-white quartz; 35% calcite; 20% basalt (chloritized and remobilizing) ; minor pyrrhotite in immediately adjacent basalt	2936	222.95	223.55	0.60	0.17	0.005
			2937	233.25	233.65	0.40	0.17	0.005
247.45	247.79	FLPP INTV Feldspar Porphyry Intrusive - dark grey with white specks; approx. 35% medium-grained euhedral feldspar phenocrysts; 3% blue quartz eyes; 62% fine-grained groundmass						
		247.79 - 262.30 Basalt	2938	250.35	250.75	0.40	0.17	0.005
		- as from 211.52 - 247.45m	2939	250.75	251.15	0.40	0.17	0.005
		250.48 - 250.59 $ Alteration qcv: Quartz-Calcite Vein (approx. 5cm)						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- CAA 35 deg.; 15% basalt inclusions; fairly discrete; 1% pyrrhotite,						
		disseminated; trace pyrite						
		251.04 - 251.07 Quartz-Calcite Vein (2cm)						
		- CAA 60 deg.; 55 euhedral, medium-grained chlorite; 20% basalt inclusions.						
		2% disseminated pyrite in the basalt inclusions						
		252.71 - 252.73 Quartz-Calcite Vein (2cm)						
		- CAA 65 deg.; 1% pyrite						
			2940	252.52	252.92	0.40	0.17	0.005
			2941	261.30	262.30	1.00	0.17	0.005
		262.30 - 268.86 Alteration Zone	2942	262.30	263.40	1.10	0.17	0.005
		- upper contact at CAA 60 deg.; lower contact at 75 deg.; associated with	2943	263.40	264.53	1.13	0.17	0.005
		felsite	2944	264.53	265.39	0.86	0.69	0.020
		262.30 - 264.53 $						
		Alteration altd; Sulphide Po=1; Structure brcd sh;						
		Altered, Sheared and Brecciated Basalt						
		- mottled grey, light grey-green; highly carbonatized, moderately silicified (						
		highly silicified near upper contact) ; foliation faint at CAA approx. 50						
		deg.. - brecciation moderate to high; many of the fragments are highly						
		resorbed. quartz-calcite veining; 1% pyrrhotite, in trains and disseminated;						
		trace chalcopyrite, pyrite						
		264.53 - 264.90 $						
		Alteration qv; Sulphide Po=2;						
		Quartz Vein (approx. 37 cm)						
		- contacts at 60 deg. CAA; grey-white quartz; approx. 15% highly chloritized						
		and resorbing basalt inclusions; vein itself brecciated by narrow calcite						
		veinlets; approx. 2% pyrrhotite in blebs, localized; <1% pyrite, trace						
		chalcopyrite						
		264.90 - 265.05 Altered, Etc., Basalt						
		- as from 262.30 - 264.53m except 2% pyrite, trace pyrrhotite						
		Alteration qv; Sulphide Po=5 Cpy=1 Py=1;						
		265.06 - 265.39 $						
		Quartz Vein (approx. 20cm)						
		- upper contact 40 deg. CAA; lower contact 70 deg. CAA; grey-white quartz; 5%						
		wallrock inclusions (felsite?) ; one large resorbing inclusion brecciated by						
		narrow calcite veins; 5% pyrrhotite in blebs and trains; 1% chalcopyrite,						
		associated with the pyrrhotite; 1% pyrite in small blebs						
265.39	266.86	BRCD FLST Altered, Sheared and Brecciated Felsite - bright yellow-green;						
		highly carbonatized, bleached, minor fuschite; minor brecciation; large						
		discrete fragments, quartz-calcite veining (up to 0.7cm) ;weak to moderate						
		shearing; foliation at 40 deg. CAA; highly siliceous						
			2945	265.39	266.86	1.47	0.17	0.005
266.86	268.16	FLSC INTV Felsic Intrusive						
		- light grey-brown; 25% fine-grained phenocrysts (feldspar?) in aphanitic						
		groundmass; highly siliceous; cut by minor quartz veins; contacts vague, but						
		lower contact around 65 deg. CAA						
		268.01 - 268.07 Quartz Vein (3cm)						
		- 45 deg. CAA; grey-white quartz cut by calcite veinlets; 10% pyrite in blebs						
		and disseminated; trace chalcopyrite in felsite immediately adjacent						
		Alteration alzn;						
			2946	266.86	268.16	1.30	0.17	0.005

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			268.16 - 269.50 $	2947	268.16	268.94	0.78	0.17	0.005
			Alteration Zone	2948	268.94	269.50	0.56	0.17	0.005
			268.16 - 268.94 Altered, Sheared and Brecciated Felsite - as from 265.39 - 266.86m, except brecciation somewhat more intense; faint foliation at 65 deg. CAA; fuschite trace; lower contact with altered basalt, not well defined; minor pyrrhotite near lower contact Alteration altd sh bslt;						
			268.94 - 269.50 $ Altered, Sheared Basalt - highly carbonatized; foliation at 45 deg. CAA; trace pyrrhotite in small blebs						
269.50	296.51	BSLT	Basalt - medium grey-green; fine-grained; weakly to moderately carbonatized; 5-10% calcite-quartz veining						
			270.25 - 270.39 Silicified Basalt - grey; moderate silicification; basalt texture still visible						
				2949	269.50	270.50	1.00	0.17	0.005
			276.06 - 276.56 Calcite Vein Material in Basalt - slices of 2(?) calcite veins with very low CAA; one vein approx. 4cm wide, with medium-grained euhedral calcite; 1% pyrite in small blebs, in basalt immediately adjacent	2950	276.06	276.56	0.50	0.17	0.005
			295.19 - 295.28 $ Alteration qv; Quartz Vein (5cm) - 55 deg. CAA; approx. 60% large basalt inclusions; grey-white quartz; minor calcite marking vein contacts; 5% pyrite, disseminated and in small blebs, predominantly within the inclusions						
			295.60 - 295.64 Quartz Vein (approx. 2.5cm) - 60 deg. CAA; as above quartz vein, 295.19 - 295.28m						
			295.64 - 295.51 Silicified Basalt - moderately silicified; adjacent to contact with feldspar porphyry; <1% pyrite in trains						
				2951	295.15	295.70	0.55	0.17	0.005
			296.43 - 296.46 Quartz Vein (3cm) - approx. 60 deg. CAA; contacts irregular; 10% basalt inclusions, resorbing and chloritized; 5% pyrite within vein and immediately adjacent; basalt bleached to 12cm above vein						
				2952	295.70	296.51	0.81	13.71	0.400
296.51	299.79	FLPP INTV	Feldspar Porphyry Intrusive - dark grey-brown with white specks; approx. 20% anhedral, medium to coarse-grained feldspar phenocrysts in a fine-grained groundmass; predominantly altered						
			296.51 - 296.98 Pheocrysts Obscured - dark grey colour, almost black; most of the phenocrysts altered; silicified?	2953	296.51	296.98	0.47	0.17	0.005
			296.98 - 297.77 Sheared Feldspar Porphyry - phenocrysts elongated in the palne of foliation, some of them partially obscured; foliation at 70 deg. CAA						
			297.77 - 298.34 - same as above	2954	296.98	298.34	1.36	0.17	0.005

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		298.34 - 298.39 Quartz Vein (5cm)						
		- 60 deg. CAA: approx. 40% feldspar porphyry inclusions (large discrete fragments) ; minor calcite; 1% pyrite in feldspar porphyry fragments						
298.39	298.56	FLPP INTV Feldspar Porphyry Intrusive						
		298.39 - 298.56 $						
		Alteration slfd; Sulphide Py=7;						
		- also somewhat bleached and brecciated (quartz-filled fractures) ; 7% pyrite, disseminated						
		298.47 - 298.52 Quartz Vein (2cm)						
		- approx. 65 deg. CAA; contacts vague; 2% pyrite						
		298.56 - 299.79 Bleached Feldspar Porphyry	2955	298.34	298.74	0.40	0.17	0.005
		- ligh grey-brown; many of the phenocrysts obscured; carbonatized; occasional "float" of unbleached feldspar porphyry; <1% pyrite	2956	298.74	299.79	1.05	0.17	0.005
299.79	302.26	BSLT Basalt						
		- medium grey-green; fine-grained; approx. 5% calcite-quartz veining. moderately carbonatized						
		300.68 - 300.81 $						
		Alteration qv; Sulphide Py=2;						
		Quartz Vein (approx. 10cm)						
		- 65 deg. CAA; 35% basalt inclusions, large and discrete; 25 pyrite, disseminated within the basalt						
			2958	300.55	300.95	0.40	0.17	0.005
302.26	302.89	FLPP INTV Feldspar Porphyry Intrusive						
		- dark grey, white specks; approx. 35% subhedral feldspar phenocrysts, medium- grained; some of them partially obscured due to alteration; contacts at 70 and 80 deg. CAA; upper and lower; trace pyrite						
302.89	306.38	BSLT Basalt						
		- as from 296.51 - 302.26m						
306.38	309.94	FLPP INTV Feldspar Porphyry Intrusive						
		- as from 302.26 - 302.89m; 3% blue quartz eyes						
		306.55 - 306.67 Granitic Intrusive						
		- high CAA; pale pink, speckled black; approx. 30% mafics						
		Sulphide Po=50 Py=20;						
		309.36 - 309.88 $	2957	309.36	309.88	0.52	0.17	0.005
		Massive Sulphide						
		- approx. 70% sulphides, 30% highly siliceous material (within the feldspar porphyry) ; approx. 50% pyrrhotite, finely disseminated and in laminations. approx. 20% pyrite in laminations ranging from 0 to 40 deg. CAA						
309.94	318.24	BSLT Basalt						
		- medium grey-green; fine to medium-grained; occasional quartz-calcite veining						
		315.55 - 315.58 Quartz Vein (2cm)						
		- 60 deg. CAA; 3% pyrite in vein and in basalt immediately adjacent						
		Alteration cv;						
			2959	315.50	315.90	0.40	5.49	0.160
		316.16 - 316.26 $						
		Calcite Vein (8cm)						
		- 60 deg. CAA; massive white calcite						
		316.80 - 316.87 $						
		Alteration qcv;						
		Quartz-Calcite Vein (4cm)						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			- 45 deg. CAA; 1% pyrrhotite						
				2960	316.70	317.10	0.40	0.17	0.005
318.24	322.03	FLPP INTV	Feldspar Porphyry Intrusive - as from 302.26 - 302.89m						
322.03	351.57	BSLT	Basalt - dark grey to medium grey-green; fine-grained; locally carbonatized						
			326.98 - 327.04 Quartz-Carbonate Veinlet - yellowish carbonate present; minor calcite; approx. 25% basalt inclusions highly resorbed; 25cm above vein, 15cm below; brecciated by quartz-carbonate veining; <1% disseminated pyrite in vein						
				2961	326.78	327.20	0.42	0.17	0.005
			328.10 - 328.35 Quartz-Calcite Vein (approx. 2cm) - very low core axis angle; 5% pyrite; small blebs; near contacts and within inclusions						
				2962	328.00	328.40	0.40	10.97	0.320
			328.50 - 342.39 $	2963	331.08	331.48	0.40	0.17	0.005
			Alteration crbd bslt;	2964	335.57	336.50	0.93	0.17	0.005
			Basalt Highly Carbonatized	2965	339.00	339.60	0.60	0.17	0.005
			- mottled light to dark grey-green; minor pyrite locally						
			331.23 - 331.27 Quartz-Calcite Vein (2.5cm) - 40 deg. CAA; 1% pyrite in basalt 15cm above and 20cm below vein; as well as weak shearing at 40 deg. CAA; pyrite medium-grained; subhedral, disseminated Alteration qcv;						
			335.92 - 336.46 $ Quartz-Calcite Vein (3cm) - approx. parallel to core axis, contacts irregular; 2% chlorite in " veinlets" within the vein; basalt inclusions minor; large bleb of quartz at 336.38 - 1336.46m; 7% graphite inclusions; host rock bleached, brecciated, carbonatized, moderately silicified, contains minor graphite and <1% pyrite; from 335.57 - 336.50m						
			339.36 - 339.39 Quartz Vein (2cm) - CAA high, contact irregular; creamy-white quartz, trace fuschite; vein has been faulted slightly; weak shearing of adjacent basalt (55 deg. CAA) ; trace pyrite; a calcite-quartz vein cutting across quartz vein						
			343.54 - 343.57 Calcite-Quartz Vein (2cm) - approx. 70 deg. CAA (contacts vague) ; abundant chlorite in vein and adjacent in lenses; 1% pyrite in immediately adjacent basalt Alteration qcv;						
				2966	343.36	343.76	0.40	0.17	0.005
			345.91 - 345.94 $ Calcite-Quartz Vein (2.5cm) - 70 deg. CAA; 35% basalt inclusions, discrete; 1% pyrite within the inclusions Alteration qcv;						
				2967	345.72	346.12	0.40	0.17	0.005
			347.64 - 347.81 $ Quartz-Calcite Vein (approx. 6cm) - 30 deg. CAA; 45% basalt inclusions; calcite vuggy, euhedral; minor graphite.						

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			1% pyrite, finely disseminated; <1% pyrrhotite						
				2968	347.50	347.90	0.40	0.17	0.005
			349.04 - 349.06 Quartz-Calcite Vein (1.5cm)						
			- 80 deg. CAA; 1% pyrite						
				2969	348.85	349.25	0.40	0.17	0.005
351.37	351.94	GNTC INTV	Granitic Intrusive						
			- salmon-pink, speckled and black mafics; fine to medium-grained; upper contact						
			55 deg. CAA; lower 60 deg. CAA						
351.94	355.57	BSLT	Basalt						
			- as from 322.03 - 351.37m						
			353.78 - 353.99 Feldspar Porphyry						
			- contacts vague but high CAA as from 302.26 - 302.89m						
355.57	357.14	FLSC INTV	Felsic Intrusive						
			- light grey-brown; highly siliceous; medium-grained - quartz and feldspar(?) ;many of the grains rimmed by calcite; upper contact 60 deg. CAA; lower contact approx. 25 deg. CAA; some blebs of intrusive material within adjacent basalt. occasional inclusion of basalt within intrusive						
			356.16 - 356.29 $						
			Alteration qv;						
			Quartz Vein (approx. 8cm)						
			- CAA varies; contacts very irregular; massive grey quartz						
357.14	379.45	BSLT	Basalt						
			- as from 322.03 - 351.37m; but somewhat more massive and very fine-grained						
				2970	356.10	357.40	1.30	0.17	0.005
			358.30 - 358.33 Quartz Vein (1.5cm)						
			- 65 deg. CAA; grey-white quartz, contacts marked by calcite; 2% pyrite in small blebs; bleached and carbonatized basalt 3cm either side; similar quartz vein (0.5cm) 2cm below this vein						
				2971	358.11	358.51	0.40	0.17	0.005
			366.89 - 366.94 Calcite-Quartz Vein (2.5cm)						
			- 55 deg. CAA; <1% chalcopyrite, <1% pyrrhotite in vein and adjacent basalt. basalt carbonatized 7cm above vein, 2cm below						
				2972	366.70	367.10	0.40	0.17	0.005
			368.32 - 368.34 - bleb of pyrrhotite-chalcopyrite in basalt; approx. 5% of rock; 65% pyrrhotite						
			- 35% chalcopyrite						
				2973	368.13	368.53	0.40	0.17	0.005
			369.21 - 369.25 Calcite-Quartz Vein (3cm)						
			- 70 deg. CAA; trace pyrite; immediately adjacent basalt carbonatized						
				2974	369.00	369.40	0.40	0.17	0.005
			375.11 - 375.13 Narrow Granitic Intrusive						
			- 45 deg. CAA						
			376.08 - 376.16 $						
			Alteration qtz;						
			Quartz Vein Material (approx. 5cm wide)						
			- irregular in shape; basalt inclusions; minor yellow carbonate; cut by calcite veinlet (0.5cm) ; 1% pyrite						
				2975	375.92	376.32	0.40	0.17	0.005
			379.15 - 379.21 Narrow Granitic Intrusive						
			- 65 deg. CAA						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
379.45	380.62	GNTC INTV Granitic Intrusive - salmon-pink; very fine to very coarse-grained; k-spar and quartz. minor mafics: two large discrete basalt inclusions; upper contact 30 deg. CAA; lower contact 75 deg. CAA						
380.62	403.80	BSLT Basalt - as from 357.14 - 379.45, but somewhat coarser-grained in areas						
		382.21 - 382.25 Narrow Granitic Intrusive - 65 deg. CAA						
		386.61 - 386.63 Quartz-Calcite Vein (1.5cm) - 75 deg. CAA; narrow alteration halo						
			2976	386.42	386.82	0.40	0.17	0.005
		387.34 - 387.41 Narrow Granitic Intrusive - pale salmon-pink; 55 deg. CAA; basalt to 6cm below carbonatized						
		388.88 - 388.91 Quartz-Calcite Vein (2cm) - 40 deg. CAA; quartz confined to center of vein; narrow alteration halo						
		388.65 - 388.99 Feldspar Porphyry - as from 302.26 - 302.89m; contacts at 65 deg. CAA						
			2977	388.67	389.07	0.40	0.17	0.005
		390.01 - 390.06 Calcite-Quartz Vein (approx. 3cm) - approx. 25 deg. CAA; 1% pyrite						
		390.21 - 390.52 Granitic Intrusive - mottled white, pale grey, pale pink; fine-grained, quartz and feldspar; minor mafics; upper CAA 45 deg., lower CAA 70 deg;	2978	390.00	390.52	0.52	0.17	0.005
		390.94 - 391.03 $ Alteration qv; Quartz Vein (9cm) - core axis vertical; 30% basalt inclusions, resorbing; grey-white quartz. 15% calcite; 2% pyrrhotite, 1% chalcopyrite; trains within the inclusions. narrow alteration halo (3cm either side)						
			2979	390.80	391.20	0.40	0.17	0.005
		391.49 - 391.63 Granitic Intrusive - salmon-pink; 65 deg. CAA; coarse-grained; basalt inclusions Alteration qcv;						
		396.42 - 396.56 $ Quartz-Calcite Vein (8cm) - 65 deg. CAA; approx. 65% highly chloritized resorbing basalt inclusions. minor yellow carbonate present; <1% pyrrhotite						
			2980	396.30	396.70	0.40	0.17	0.005
		402.50 - 402.53 Quartz-Calcite Vein (1cm) - 30 deg. CAA; 1% pyrrhotite; narrow carbonatized halo						
			10911	402.30	402.70	0.40	0.17	0.005
403.80	403.80	E.O.H. End of Hole						

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ST. JOE CANADA

DIAMOND DRILL HOLE RECORD

Hole No.	K87.106	Northing	3+94S	Grid Orient	20.00	Depth Dip Azimuth Test	Depth Dip Azimuth Test	Started	October 19, 1987	Logged by	P. Cheung
Property	Shoal Lake (KPM)	Easting	7+89E	Grid Azim.	10.00	150.0 - 44	300.0 - 44	Finished	October 24, 1987	Checked by	K. Leonard
Section		Elevation	327.00	Length (M)	405.00	405.0 - 42 030		Drill Co.	Midwest	Core	BQ
Claim No.		Survey N.	0+52S	Dip-Collar	-47.00			Drill No.		Comments:	
Target	C.I. Mainland Zone	Survey E.	8+62E	Comp Bearing	30.00			Drill For.			

K. Leonard

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

SUMMARY

0.00	5.86	CASING	Casing
5.86	88.00	BLPP	Basalt, Feldspar Porphyritic
88.00	143.10	BSLT	Basalt
124.91	125.32	GNTC INTV	Granitic Intrusive
143.10	156.00	BLPP	Basalt, Feldspar Porphyritic
156.00	216.00	BSLT	Basalt
216.00	325.00	BLPP	Basalt, Feldspar Porphyritic
262.83	263.14	GNTC INTV	Granitic Intrusive
290.05	290.67	GNTC INTV	Granitic Intrusive
295.60	296.10	GNTC INTV	Granitic Intrusive
325.00	336.50	BSLT	Basalt
336.50	385.30	BLPP	Basalt, Feldspar Porphyritic
385.30	405.00	QTDR	Quartz Diorite
405.00	405.00	E.O.H.	End of Hole

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
0.00	5.86	CASING	Casing						
5.86	88.00	BLPP	Basalt, Feldspar Porphyritic - dark grey; fine to medium-grained; 5-30% feldspar phenocrysts (anhedral to euhedral) ranging in size from 0.1cm to approx. 2cm; cut by calcite stringers and calcite-filled fractures; trace of pyrite						
			32.50 - 38.00 - weak to moderate altered zone; sparsely porphyritic with <5% feldspar	2406	34.00	35.00	1.00	0.17	0.005
			phenocryst; moderately bleached to ligher grey	2407	35.00	35.40	0.40	0.34	0.010
			35.03 - 35.36 $ Alteration altr zn; Sulphide Py=5; Altered Basalt - more stronger alteration with more intensive quartz-carbonate veinings; blue- grey quartz stringers and calcite stringer at 75 deg. to LCA; 5% pyrite	2408	35.40	36.40	1.00	0.17	0.005
			59.00 - 60.60 Basalt - fine to medium-grained; stronger carbonatization; non-mineralized						
			72.92 - 72.93 Quartz Stringer - 85 deg. to LCA; non-mineralized						
88.00	143.10	BSLT	Basalt - fine to medium-grained, dark coloured; carbonatized; cut by calcite stringers - trace of sulphides <<1%						
			88.85 - 88.86 $ Alteration qc stgr; Sulphide Py=1; Quartz-Calcite Stringer - 30 deg. to LCA; blue-grey; trace of pyrite <1%	2426	88.60	89.00	0.40	0.17	0.005
			91.90 - 92.00 $ Structure ftgg; Fault Gouge - broken core; clay-filled fractures at 20 deg. to LCA						
			92.50 - 92.63 $Alteration altr bslt; Sulphide Py=1; Altered Basalt - grey (lighter than surrounding basalt) ; cut by quartz-calcite stringers (< 1cm wide) ; trace of pyrite <1%	2427	92.00	93.00	1.00	0.17	0.005
				2428	98.70	99.10	0.40	0.17	0.005
			99.84 - 99.86 $ Alteration qc stgr; Sulphide Py=1; Quartz-Calcite Stringer - 40 deg. to LCA; blue-grey; 1% pyrite	2429	103.90	104.30	0.40	0.17	0.005
			104.40 - 104.90 $ Alteration altr bslt; Sulphide Py=2; Altered Basalt - fine-grained, lighter grey, appear bleached; carbonatized and sericitized; 2% disseminated						
			104.48 - 104.51 Quartz Stringer - blue-grey; 30 deg. to LCA; 2% pyrite	2430	104.30	105.00	0.70	0.17	0.005
				2431	105.00	105.40	0.40	0.17	0.005
			109.75 - 109.93 Felsic Intrusive - fine-grained, siliceous; green; contacts at 45 deg. to LCA						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		110.46 - 110.48 $Alteration qc stgr; Sulphide Py=2; Quartz-Calcite Stringer - 45 deg. to LCA; blue-grey; 30% calcite; 2% pyrite	2432	110.30	110.70	0.40	0.17	0.005
		112.50 - 116.80 - basalt with 30% anhedral dark phenocryst (biotite) of approx. 0.1-0.2cm in diameter	2433	113.60	114.00	0.40	0.17	0.005
			2434	114.00	115.00	1.00	0.17	0.005
		114.26 - 114.28 Calcite Stringer - 10 deg. to LCA; 1% pyrite						
		114.43 - 114.47 $ Alteration qc stgr; Sulphide Py=4; Structure sh; - sheared basalt with quartz-calcite stringer; 20 deg. to LCA; blue-grey quartz associated with calcite; 4% pyrite						
		114.88 - 114.90 $ Alteration qc stgr; Sulphide Py=4; Quartz-Calcite Stringer - blue-grey; 4% pyrite; 40 deg. to LCA	2435	115.00	115.40	0.40	0.17	0.005
		117.25 - 117.26 $ Alteration qc stgr; Sulphide Py=10; Quartz-Calcite Stringer - at 45 deg. to LCA; blue-grey quartz with 10% calcite; no mineralization	2436	117.15	117.45	0.30	0.17	0.005
		118.27 - 118.33 Granitic Intrusive - 40 deg. to LCA; light greyish-white, minor (2%) mafic						
		120.49 - 120.52 Granitic Intrusive - 50 deg. to LCA; greyish with 5% mafic; coarse-grained						
		124.26 - 124.28 Quartz Stringer - 80 deg. to LCA; blue-grey; 2% pyrite						
		124.69 - 124.85 $ Alteration qc vnlt; Sulphide Py=2; Quartz-Calcite Veinlet - 40 deg. to LCA; blue-grey; 40% quartz; 30% calcite; 20% actinolite - primatic - dark green; 2% pyrite						
124.91	125.32	GNTC INTV Granitic Intrusive - contacts at 45 deg. to LCA; fine to coarse-grained quartz-feldspar and minor (5%) mafic	2437	124.00	125.00	1.00	0.17	0.005
		125.36 - 125.41 Granitic Intrusive - 45 deg. to LCA						
		125.45 - 125.52 Granitic Intrusive - 30 deg. to LCA						
		132.00 - 132.06 Felsic Intrusive - 50 deg. to LCA; siliceous, fine-grained; light greyish						
		138.78 - 138.88 $Alteration qc stgr; Sulphide Py=1 Po=1; Quartz-Calcite Veinlet - 30 deg. to LCA; greyish; 30% basalt; 30% calcite; 2% sulphide; pyrite 1%, pyrrhotite 1%	2438	138.00	138.88	0.88	0.17	0.005
		138.88 - 140.48 $ Alteration fltd bslt; Sulphide Po=25 Py=5; Foliated Basalt (Strongly Mineralized) - carbonatized with intensive calcite stringer; 30% sulphide; 25% pyrrhotite,	2439	138.88	139.88	1.00	0.17	0.005

FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			5% pyrite with mineralization along foliation at approx. 35 deg. to LCA						
			140.48 - 141.85 $Alteration altr bslt c stgr; Sulphide Po=5;	2440	139.88	140.50	0.62	0.17	0.005
			Altered Basalt						
			- greyish; cut by numerous calcite stringers approx. 30 deg. to LCA; 5% pyrrhotite						
			141.85 - 142.60 $	2441	140.50	141.90	1.40	0.17	0.005
			Alteration fltd bslt; Sulphide Po=25 Py=5;						
			Foliated Basalt (Mineralized)						
			- same as 138.88 - 140.48m; 25% pyrrhotite; 5% pyrite						
			Alteration altr bslt; Sulphide Po=8 Py=2;						
			142.60 - 143.10 $	2442	141.90	143.10	1.20	0.17	0.005
			Altered Basalt						
			- same as 140.48 - 141.85m; 8% pyrrhotite; 2% pyrite						
143.10	156.00	BLPP	Basalt, Feldspar Porphyritic						
			- same as 5.86 - 88.00m; 5-10% feldspar porphyroblast from 0.1cm - 2cm						
				2443	143.10	143.50	0.40	0.17	0.005
				2444	149.20	149.60	0.40	0.17	0.005
				2445	149.60	150.00	0.40	97.37	2.840
			150.10 - 150.13 Granitic Intrusive						
			- pink granite; 65 deg. to LCA						
			148.60 - 151.70 Basalt	2446	150.00	151.00	1.00	0.17	0.005
			- fine-grained; carbonatized	2447	151.00	151.40	0.40	0.17	0.005
			149.76 - 149.79 $						
			Alteration qc stgr; Sulphide Cpy=2 Py=2;						
			Quartz-Calcite Stringer						
			- blue-grey; 40% calcite; 2% chalcopyrite; 2% pyrite; 40 deg. to LCA						
			150.13 - 150.15 Granitic Intrusive						
			- upper contact 30 deg. to LCA; lower contact 45 deg. to LCA						
			150.15 - 150.29 $Alteration qc stgr; Sulphide Py=5; Structure brcd bslt;						
			Brecciated Basalt						
			- angular fragment healed by quartz-calcite stringer; blue-grey; silicified. 5% pyrite						
				2448	151.40	151.80	0.40	0.17	0.005
156.00	216.00	BSLT	Basalt						
			- same as 88.00 - 143.10m; locally porphyritic with feldspar porphyroblast						
			159.60 - 160.00 Porphyritic Feldspar Basalt						
			- 5% feldspar porphyroblast ranging from 0.2 - 1cm						
			169.14 - 170.45 $Alteration altr bslt;						
			Altered Basalt						
			- bleached, appear sheared. fracture plane at 15 deg.; calcite stringer at 5 deg. to 0 deg. to LCA (1cm wide) ; trace of pyrite <<1%						
				2449	169.00	170.50	1.50	0.17	0.005
			175.10 - 180.00 Porphyritic Feldspar Basalt						
			- 10% feldspar phenocrysts ranging in size from 0.2 - 1.5cm						
				2450	180.00	180.50	0.50	0.17	0.005
			180.62 - 180.77 $Alteration altr bslt c stgrs; Sulphide Po=5 Py=1;						
			Altered Basalt						
			- cut by crosscutting calcite-filled hairline fractures; minor blue-grey quartz						
			- 5% pyrrhotite and 1% pyrite						
				2451	180.50	181.00	0.50	0.17	0.005
				2452	181.00	181.50	0.50	0.17	0.005

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2453	182.50	183.00	0.50	0.17	0.005
183.10 -	183.14	$ Alteration q vnlt; Sulphide Py=3; Quartz Veinlet - 30 deg. to LCA; blue-grey quartz with 20% calcite; 3% pyrite						
183.19 -	183.28	$Alteration qc stgr; Sulphide Py=5; Multi-Quartz Veinlets in Basalt - blue-grey quartz veinlets (< 1/2 cm wide) at 60 deg. to LCA cutting dark basalt; 5% disseminated pyrite						
			2454	183.00	183.50	0.50	0.17	0.005
			2455	183.50	184.00	0.50	0.17	0.005
			2456	184.60	185.00	0.40	0.17	0.005
185.06 -	185.07	$ Alteration q stgr; Sulphide Py=10; Quartz Stringer - 80 deg. to LCA; blue-grey; 10% pyrite						
185.07 -	185.16	$ Alteration q vnlt; Sulphide Py=3; Quartz Veinlet - milky white; 80 deg. to LCA; 10% mafic; 3% pyrite						
185.16 -	185.25	$Alteration q vnlt; Sulphide Py=5; Quartz Veinlet - blue-grey; 80 deg. to LCA; 5% pyrite						
			2457	185.00	185.40	0.40	0.17	0.005
185.49 -	185.64	Granitic Intrusive - pink granite; upper contact 60 deg.; lower contact 70 deg;						
			2458	185.40	185.90	0.50	0.17	0.005
			2459	188.60	189.00	0.40	0.17	0.005
189.16 -	189.23	$Alteration q vnlt; Sulphide Py=3; Quartz Veinlet - contact approx. 70 deg. to LCA; blue-grey; 3% pyrite						
			2460	189.00	189.40	0.40	0.17	0.005
			2461	189.40	189.80	0.40	0.17	0.005
190.48 -	190.67	Granitic Intrusive - pink granite; 60 deg. to LCA; sharp contacts						
192.25 -	192.36	Granitic Intrusive - pink granite; 75 deg. to LCA						
192.70 -	193.10	$ Alteration c stgr; Sulphide Py=2; Structure sh zn; Shear Zone - intensive fracturings healed by calcite stringers at 20 deg. to LCA. silicified; basalt appears cherty; 2% pyrite in calcite stringers						
			2862	192.60	193.20	0.60	0.17	0.005
195.40 -	195.54	Granitic Intrusive - contacts sharp at 60 deg. to LCA						
196.20 -	205.30	Porphyritic Feldspar Basalt - 10% feldspar phenocrysts in a basaltic matrix; appear chloritized with pale green colouring						
200.79 -	201.02	Granitic Intrusive - upper contact at 30 deg. to LCA; lower contact at 50 deg. to LCA						
209.80 -	209.90	$Alteration q vnlt; Sulphide Py=0; Quartz Veinlet						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- white; parallel to LCA; non-mineralized						
			2683	211.30	211.70	0.40	0.17	0.005
		211.90 - 211.93 $ Alteration qc stgr; Sulphide Py=5; Quartz-Calcite Stringer - blue-grey; 30% calcite; 65 deg. to LCA; 5% pyrite						
			2684	211.70	212.10	0.40	0.17	0.005
			2685	212.10	212.50	0.40	0.17	0.005
		212.74 - 212.77 Granitic Intrusive - 45 deg. to LCA						
216.00	325.00	BLPP Basalt, Feldspar Porphyritic - same as 5.86 - 88.00m; range from 5% feldspar phenocrysts to 20% phenocrysts. size of phenocrysts range from 0.2cm to 2cm						
		221.91 - 221.95 Granitic Intrusive - upper contact 60 deg. to LCA; lower contact 80 deg. to LCA						
		225.18 - 226.16 Felsic Intrusive - pale yellowish to grey; upper contact 80 deg. to LCA; lower contact 60 deg; to LCA; strongly altered, original rock texture cannot be recognized; highly siliceous with 60% quartz and 30% altered k-feldspar						
		227.40 - 227.80 $Alteration altr bslt crbd; Sulphide Py=1; Structure sh; Altered Basalt - sheared with foliation approx. 20 deg. to LCA; strong carbonatization; 1% pyrite; clay alteration						
			2466	227.00	228.20	1.20	0.17	0.005
		232.07 - 232.16 Felsic Intrusive - same as 225.18 - 226.16m; contacts at 45 deg. to LCA						
			2467	239.45	239.85	0.40	0.17	0.005
		240.06 - 240.10 $Alteration q vnlt; Sulphide Py=4; Quartz Veinlet - blue-grey; almost smokey; 75 deg. to LCA; 4% pyrite; vein cutting a weakly altered non-porphyritic basalt from 239.90 - 240.30m						
			2468	239.85	240.25	0.40	0.34	0.010
			2469	240.25	240.60	0.35	0.17	0.005
		251.56 - 251.72 Altered Felsic Intrusive (?) - upper contact vague; lower contact 40 deg.; strongly altered, fine-grained, pale green and cherty; origin rock texture non-distinguishable						
		261.11 - 262.63 Lamprophyre Dyke - upper contact 15 deg.; lower contact 45 deg.; dark brownish-grey with biotite phenocrysts						
		262.64 - 262.69 Granitic Intrusive - 45 deg. to LCA						
262.83	263.14	GNTC INTV Granitic Intrusive - upper contact 25 deg. to LCA; lower contact 40 deg. to LCA						
		267.72 - 268.41 Granitic Intrusive - upper contact 75 deg. to LCA; lower contact 75 deg. to LCA; fine to medium-grained						
		269.36 - 270.60 Granitic Intrusive - upper contact 60 deg. to LCA; lower contact 50 deg. to LCA; coarse-grained quartz-feldspar and 20% mafics						
		279.32 - 279.67 Granitic Intrusive - upper contact 45 deg. to LCA; lower contact 45 deg. to LCA; strongly altered appears to have been remelted						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		280.09 - 280.18 Felsic Intrusive						
		- altered, fine-grained, pale green; contacts at 45 deg. to LCA						
		282.10 - 282.14 Felsic Intrusive						
		- contacts sharp at 35 deg. to LCA; pale yellow with feldspar phenocryst						
		282.87 - 282.89 $Alteration qc stgr; Sulphide Py=1;						
		Quartz-Calcite Stringer						
		- 15 deg. to LCA; blue-grey quartz with 40% calcite; 1% pyrite						
			2470	282.40	283.40	1.00	0.17	0.005
		285.86 - 286.75 Basalt	2471	285.80	286.20	0.40	0.17	0.005
		- non-porphyritic; fine-grained, dark						
		285.94 - 286.00 $						
		Alteration qc stgr;						
		Basalt with milti quartz-calcite stringers; quartz-calcite stringers <0.3cm						
		wide at 30 deg. to LCA; blue-grey; no visible sulphides						
		286.83 - 287.78 Granitic Intrusive						
		- upper contact at 45 deg.; lower contact at 15 deg.; pink coarse-grained						
		quartz feldspar with 10% mafics						
			2472	288.00	288.40	0.40	0.17	0.005
		288.57 - 288.59 $						
		Alteration qc stgr; Sulphide Py=2;						
		Quartz-Calcite Stringer						
		- 70 deg. to LCA; blue-grey quartz with 20% calcite; 2% pyrite						
		288.95 - 289.00 $Alteration qc stgr; Sulphide Py=5;						
		Quartz-Calcite Stringers in Basalt						
		- blue-grey quartz with 30% calcite; 5% pyrite; 60 deg. to LCA						
			2473	288.40	289.20	0.80	0.34	0.010
			2474	289.20	289.60	0.40	0.17	0.005
290.05	290.67	GNTC INTV Granitic Intrusive						
		- fine to medium-grained, pink; upper contact 60 deg.; lower contact 45 deg;						
		291.45 - 291.46 Granitic Intrusive						
		- 60 deg. to LCA						
		291.46 - 291.62 Granitic Intrusive						
		- 60 deg. to LCA						
		291.76 - 291.90 Granitic Intrusive						
		- 40 deg. to LCA						
		292.63 - 292.71 Granitic Intrusive						
		- upper contact 25 deg. to LCA; lower contact 90 deg. to LCA						
		293.26 - 293.32 Granitic Intrusive						
		- 25 deg. to LCA						
		293.90 - 294.05 $						
		Structure brcd bslt;						
		Brecciated Basalt						
		- intensely brecciated healed by hairline calcite stringers; silicified						
		293.43 - 293.44 $Alteration q stgr; Sulphide Po=30;						
		Quartz Stringer						
		- 80 deg. to LCA; blue-grey quartz; 30% pyrrhotite						
		293.46 - 293.49 $Alteration q stgr; Sulphide Po=5;						
		Quartz Stringer						
		- 60 deg. to LCA; blue-grey quartz; 5% pyrrhotite						
		294.06 - 294.43 $	2475	293.70	294.10	0.40	0.17	0.005
		Alteration qc stgrs; Sulphide Po=5 Py=3; Structure fltd bslt;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		Foliated Basalt						
		- foliation at 30 deg. to LCA; cut by quartz-calcite stringer (<0.2cm wide) ;						
		5% pyrrhotite; 3% pyrite						
			2476	294.10	294.60	0.50	1.37	0.040
			2477	294.60	295.00	0.40	0.17	0.005
			2478	295.00	295.60	0.60	0.17	0.005
295.60	296.10	GNTC INTV Granitic Intrusive						
		- contacts at 45 deg. to LCA						
		296.50 - 296.54 Granitic Intrusive						
		- contact at 45 deg. to LCA						
		297.31 - 297.39 Granitic Intrusive						
		- 30 deg. to LCA						
		298.94 - 298.96 $						
		Alteration qc stgr; Sulphide Py=3;						
		Quartz-Calcite Stringer						
		- 80 deg. to LCA; blue-grey quartz with 3% pyrite in non-porphyritic basalt						
			2479	298.80	299.20	0.40	1.37	0.040
		299.42 - 300.27 Granitic Intrusive						
		- altered, greyish, appears bleached; upper contact 30 deg. to LCA; lower contact 45 deg. to LCA						
		305.80 - 308.70 Basalt	2480	307.30	308.30	1.00	0.34	0.010
		- non-porphyritic basalt						
		307.79 - 308.70 $						
		Alteration qc stgr; Sulphide Py=3;						
		Quartz-Calcite Stringer						
		- blue-grey; 40 deg. to LCA; 3% pyrite						
			2481	320.70	321.10	0.40	0.17	0.005
		321.89 - 321.94 Calcite Stringer						
		- 10% blue-grey quartz; no visible sulphides; 45 deg. to LCA						
		324.36 - 325.20 $Alteration sil; Sulphide Py=1; Structure brcd bslt;						
		Brecciated Basalt						
		- silicified basalt; green siliceous (cherty-like) angular brecciated fragment.						
		1% pyrite disseminated in groundmass						
325.00	336.50	BSLT Basalt						
		- fine-grained; dark; carbonatized and cut by numerous calcite stringers						
			2482	324.20	325.30	1.10	0.17	0.005
			2483	325.30	326.20	0.90	0.17	0.005
		326.40 - 326.48 $Alteration c stgrs; Sulphide Py=2; Structure sh;						
		Sheared Basalt						
		- strong foliation at 40 deg. to LCA; cut by hairline calcite stringers along foliation; 2% pyrite						
		326.48 - 326.63 Granitic Intrusive						
		- 40 deg. to LCA						
		326.63 - 326.73 $						
		Alteration qc vnlt; Sulphide Py=1;						
		Quartz Veinlet						
		- 40 deg. to LCA; white; 1% pyrite along fracture plane at 20 deg. to LCA						
		326.73 - 326.77 Granitic Intrusive						
		- 40 deg. to LCA						
		326.77 - 326.81 Quartz Veinlet						
		- 40 deg. to LCA; white; non-sulphide-bearing						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
			2484	326.20	327.20	1.00	0.17	0.005
		327.70 - 337.75 $	2485	327.20	328.20	1.00	0.17	0.005
		Structure fltd bslt:	2486	328.20	328.70	0.50	1.37	0.040
		Foliated Basalt	2487	328.70	329.27	0.57	1.37	0.040
		- strong carbonatization. numerous calcite stringers at 60 deg. to LCA.	2488	329.27	329.93	0.66	11.66	0.340
		foliated with foliation at 60 deg. to LCA	2489	329.93	330.46	0.53	2.06	0.060
		328.20 - 328.51 $						
		Alteration q stgr; Sulphide Py=5;						
		- basalt with 30% blue-grey quartz stringers; quartz stringers at 80 deg. to LCA; 5% pyrite						
		328.51 - 328.70 $						
		Alteration q vn; Sulphide Py=1;						
		Quartz Vein						
		- greyish-white; 80 deg. to LCA; 1% pyrite						
		328.70 - 329.27 $						
		Alteration q vn; Sulphide Py=7;						
		Quartz Vein						
		- blue-grey; 10% basaltic inclusion; 5-10% sulphides; non-distinctive contacts						
		329.27 - 329.93 $Sulphide Py=15; Structure fltd bslt;						
		Foliated Basalt with Strong Mineralization						
		- foliation approx. 60 deg. to LCA; 20% blue-grey quartz; 15% pyrite						
		329.93 - 330.46 $Sulphide Py=5; Structure brcd bslt;						
		Brecciated Basalt						
		- strongly siliceous; 30% blue-grey quartz material; angular brecciated rock fragment; 5% pyrite						
		330.46 - 331.75 $	2490	330.46	331.75	1.29	0.17	0.005
		Alteration q stgr; Sulphide Py=5;						
		- basalt with blue-grey quartz stringer; same as 328.20 - 328.51m; 5% pyrite						
			2491	331.75	332.75	1.00	0.17	0.005
		333.16 - 333.29 Granitic Intrusive						
		- 50 deg. to LCA; 333.22 - 333.23m white quartz stringer at 80 deg. to LCA						
			2492	332.75	333.60	0.85	0.34	0.010
		333.61 - 333.68 Granitic Intrusive						
		- 75 deg. to LCA						
		333.68 - 333.73 $						
		Alteration q vnlt:						
		Quartz Veinlet						
		- blue-grey quartz; trace of pyrite						
		333.73 - 333.88 Granitic Intrusive						
		- 75 deg. to LCA						
		333.88 - 333.93 - basalt cut by blue-grey quartz stringers (<1/2cm wide) ; at 60 deg. to LCA. 5% pyrite						
			2493	333.60	334.00	0.40	0.17	0.005
			2994	334.00	335.00	1.00	0.17	0.005
		335.80 - 335.83 Quartz Stringer						
		- 60 deg. to LCA; non-sulphide-bearing; blue-grey						
			2495	335.60	336.00	0.40	0.17	0.005
336.50	385.30	BLPP Basalt, Feldspar Porphyritic						
		- same as 5.86 - 88.00m						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
340.35 -	340.38	$						
		Alteration qc stgr; Sulphide Py=1;						
		Quartz-Calcite stringer						
		- 60 deg. to LCA; blue-grey; 1% pyrite						
340.95 -	340.96	$						
		Alteration qc stgr; Sulphide Py=1;						
		Quartz-Calcite Stringer						
		- 75 deg. to LCA; blue-grey; 1% pyrite						
			2496	340.20	341.10	0.90	0.17	0.005
350.78 -	350.82	$	2497	350.40	350.80	0.40	0.17	0.005
		Alteration qc stgr; Sulphide Po=20 Py=2;						
		Quartz-Calcite Stringer						
		- 60 deg. to LCA; blue-grey; 20% pyrrhotite; 2% pyrite						
			2498	350.80	351.20	0.40	0.34	0.010
			2499	351.20	351.60	0.40	0.17	0.005
			2500	352.60	353.00	0.40	0.17	0.005
353.02 -	353.35	$Alteration q stgrs; Sulphide Py=5; Structure fltd bslt;						
		Foliated Basalt						
		- non-porphyritic; foliation approx. 60 deg. to LCA; cut by numerous blue-grey quartz stringers (<1/2cm wide) as well as calcite stringers; 5% disseminated pyrite						
			9901	353.00	353.40	0.40	0.17	0.005
			9902	353.40	353.80	0.40	0.17	0.005
			9903	360.00	360.60	0.60	0.17	0.005
360.60 -	361.15	$						
		Alteration q stgr; Sulphide Py=1;						
		Basalt with Quartz Stringer						
		- blue-grey quartz stringer associated with calcite (1/2cm to 1cm wide) run 0 deg. to 5 deg. along LCA; 1-2% pyrite						
			9904	360.60	361.20	0.60	0.17	0.005
			9905	361.20	361.80	0.60	0.17	0.005
			9906	306.70	307.10	0.40	0.17	0.005
366.89 -	366.92	$						
		Alteration q stgr; Sulphide Py=10;						
		Quartz-Calcite Stringer						
		- blue-grey quartz with 40% calcite; 75 deg. to LCA; 1% pyrite						
367.17 -	367.66	Felsic Intrusive						
		- 30 deg. to LCA; fine-grained						
			9907	373.00	374.00	1.00	0.17	0.005
374.06 -	374.07	$						
		Alteration qc stgrs; Sulphide Py=10;						
		Quartz-Calcite Stringer						
		- blue-grey; 70 deg. to LCA						
374.17 -	374.21	$						
		Alteration q vnlt; Sulphide Py=3;						
		Quartz Veinlet						
		- 30 deg. to LCA; blue-grey; 3% pyrite						
			9908	374.00	374.40	0.40	0.17	0.005
			9909	374.40	375.40	1.00	0.17	0.005
375.44 -	375.16	$						
		Alteration q vnlt; Sulphide Py=2;						

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
		- blue-grey at 45 deg. to LCA; 20% calcite; 2% pyrite						
			9910	375.40	375.80	0.40	7.54	0.220
			9911	375.80	376.20	0.40	0.17	0.005
			9912	377.20	377.60	0.40	0.17	0.005
		377.77 - 378.89 $Alteration altd bslt q stgrs; Sulphide Py=5;	9913	377.60	378.00	0.40	2.06	0.060
		Altered Basalt	9914	378.00	378.40	0.40	0.17	0.005
		- cut by blue-grey quartz stringers (1/2cm wide) at 75 deg. to LCA; 5% pyrite. brecciated; silicified						
		382.20 - 382.22 $ Sulphide Py=1; Structure fltd bslt; Foliated Basalt - foliation at 60 deg. to LCA; cut by small (<0.1cm) quartz-calcite stringer. 1% pyrite						
385.30	405.00	QTDR Quartz Diorite - upper contact 45 deg.; lower contact not reached; coarse-grained quartz feldspar and 20% mafics						
		386.06 - 386.56 Porphyritic Feldspar Basalt - contacts at 45 deg. to LCA						
		392.90 - 393.80 $ Structure sh bslt; Sheared Basalt (Fault) - broken core; strongly foliated at 40 deg. to LCA; cut by milky-white quartz vein between 393.00 - 393.40m						
		393.80 - 397.43 Granitic Intrusive	9916	392.90	393.90	1.00	0.17	0.005
		- contacts gradational; medium-grained, pink granite						
		401.00 - 402.64 Basalt - upper contact 60 deg.; lower contact 30 deg.; fine-grained basalt						
405.00	405.00	E.O.H. End of Hole						

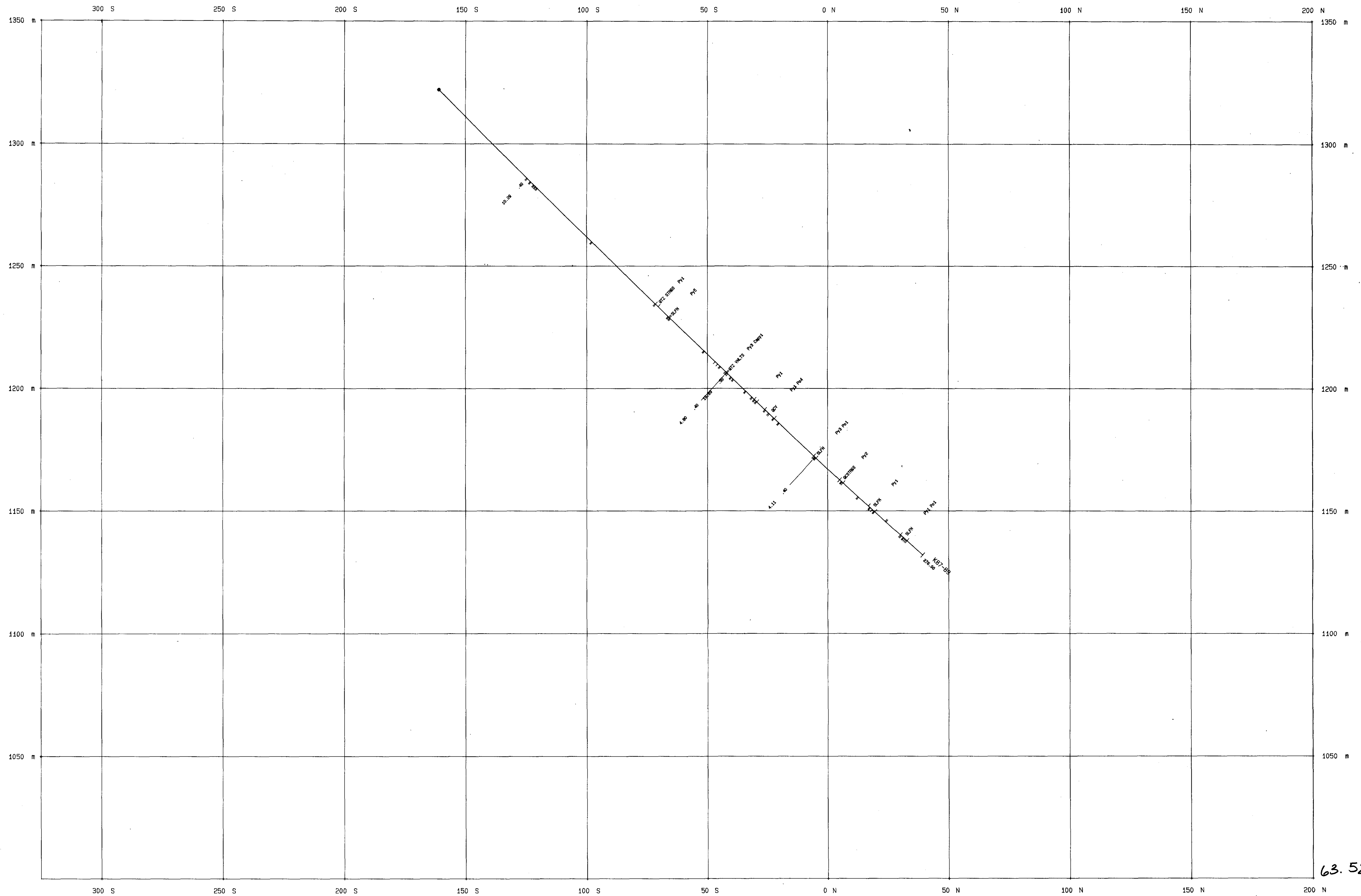
Meterage

From	To	Box
5.00	10.50	1
10.50	16.20	2
16.20	21.90	3
21.90	27.60	4
27.60	33.50	5
33.50	39.00	6
39.00	44.90	7
44.90	50.60	8
50.60	56.50	9
56.50	62.00	10
62.00	67.80	11
67.80	73.70	12
73.70	79.50	13
79.50	85.10	14
85.10	90.80	15
90.80	96.60	16
96.60	102.40	17
102.40	108.10	18

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton

108.10	113.90	19
113.90	119.80	20
119.80	125.50	21
125.50	131.20	22
131.20	137.00	23
137.00	142.80	24
142.80	148.60	25
148.60	154.50	26
154.50	160.30	27
160.30	165.90	28
165.90	172.00	29
172.00	177.50	30
177.50	183.20	31
183.20	189.00	32
189.00	194.80	33
194.80	200.50	34
200.50	206.30	35
206.30	212.10	36
212.10	217.90	37
217.90	223.70	38
223.70	229.60	39
229.60	235.20	40
235.20	240.80	41
240.80	246.60	42
246.60	252.50	43
252.50	257.90	44
257.90	263.30	45
263.30	269.00	46
269.00	274.80	47
274.80	280.60	48
280.60	286.40	49
286.40	292.30	50
292.30	298.10	51
298.10	303.80	52
303.80	309.70	53
309.70	315.70	54
315.70	321.50	55
321.50	327.20	56
327.20	333.10	57
333.10	339.00	58
339.00	344.90	59
334.90	350.80	60
350.80	356.50	61
356.50	362.30	62
362.30	368.20	63
368.20	373.90	64
373.90	381.80	65
381.80	385.70	66
385.70	391.50	67
391.50	397.40	68
397.40	402.90	69
402.90	405.00	70

FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au g_tonne	Au oz_ton
405.00	405.00	EOH						



63. 5282

			ALTERATION
QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	6.00/0.40	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 4+00 E DDH K87-89
DWG 1		AU (g/tonne) | WIDTH / ALTN | SULPHIDE

GSII SECT V5.03 DATE 1 /4 /1980 TIME 0 : 19

52E10SW8547 63.5282 SHOAL LAKE

200

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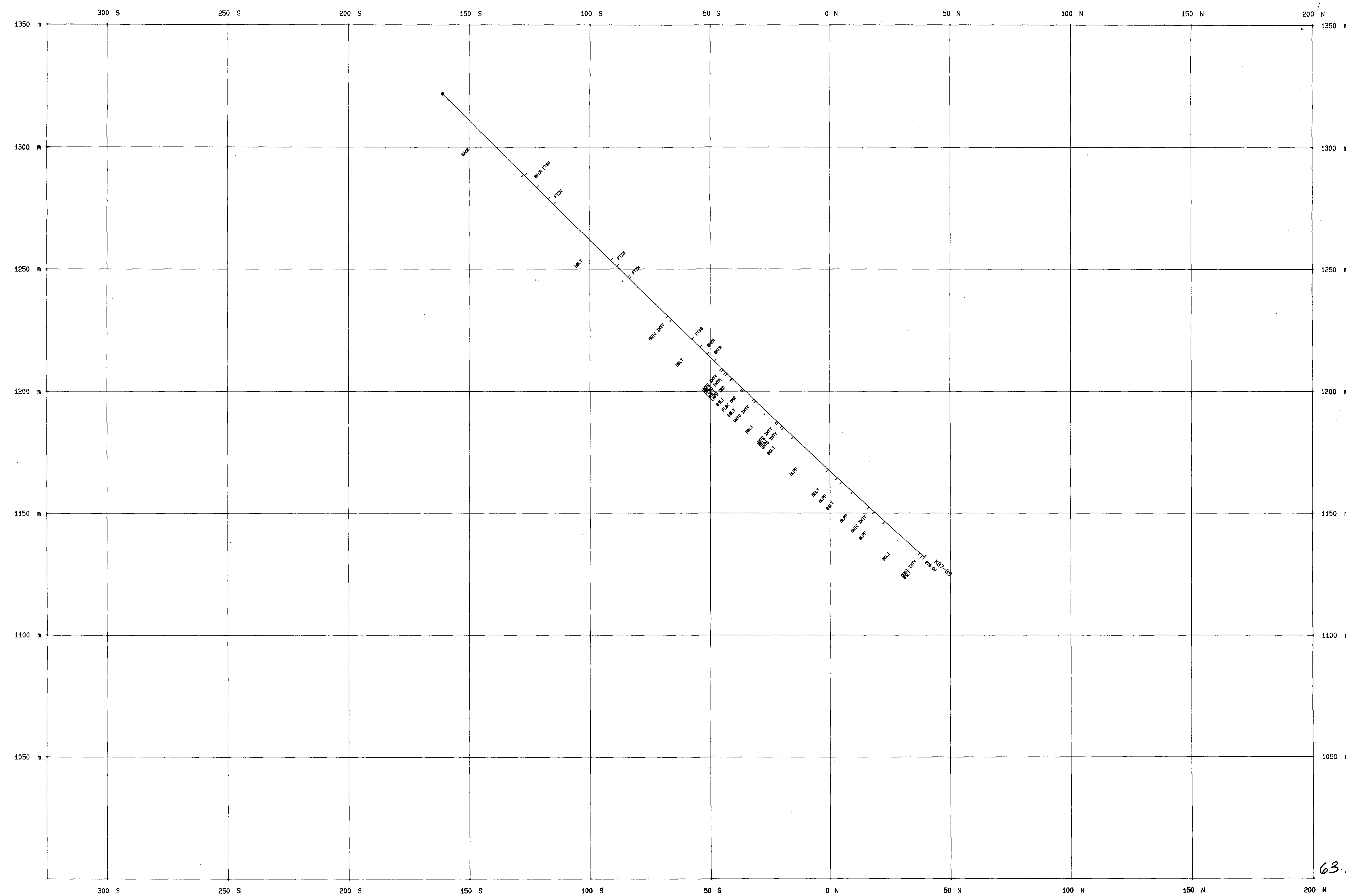


63.5282

LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BSLT	Fine/Medium Grained Basalt
INTV	Intrusives
GNTC	Granitic
DORT	Diorite
LMPP DKE	Lamprophyre Dyke
QFPP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRD	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic
	Sample Interval
6.80/0.40	Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy
	Sample Interval
6.80/0.40	Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 1A 1A

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

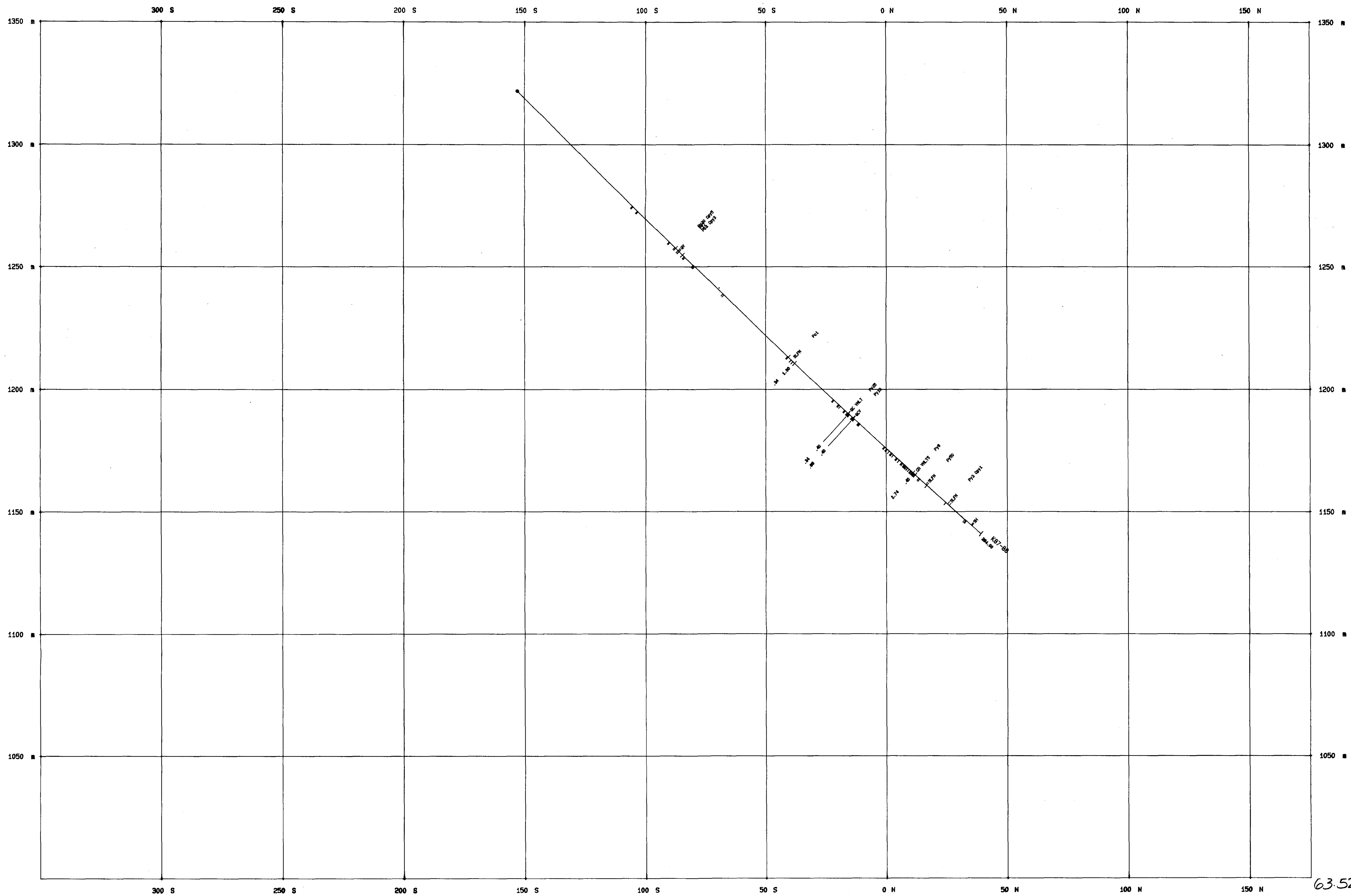
CEDAR ISLAND MAINLAND ZONE
SECTION 4+00E
DDH K87-89
LITHOLOGY / STRUCTURE

GSII SECT V5.03 DATE 4 /26/1988 TIME 0 :44

52E10SW8547 63.5282 SHOAL LAKE

210

OM 86-3-C-265



63.5282

ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	6.00/0.40	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 4+50E DDH K87-88 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG 2		

52E10SW8547 63.5282 SHOAL LAKE

220

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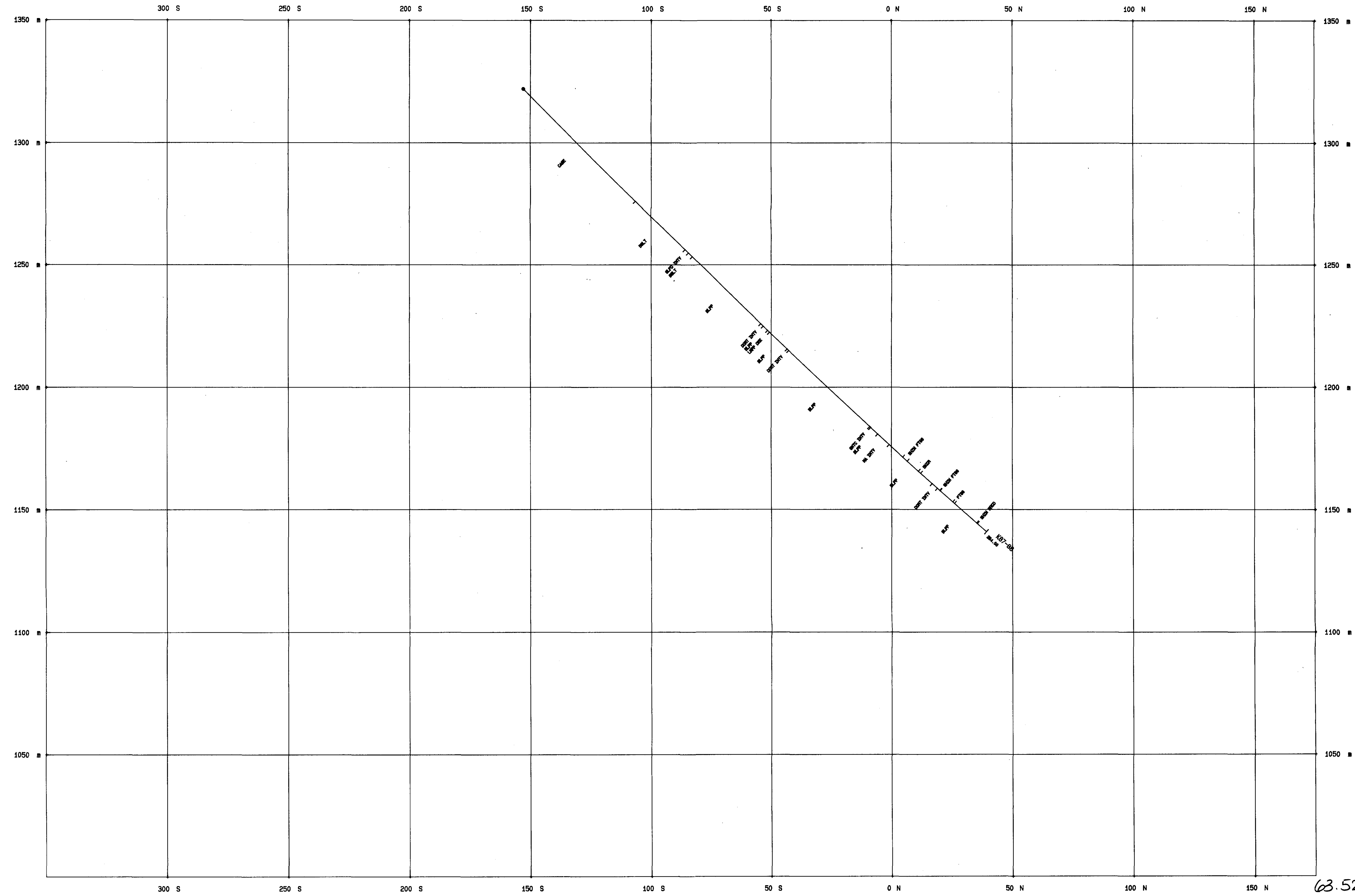


63.5282

LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BSLT	Fine/Medium Grained Basalt
INTV	Intrusives
GNTC	Granitic
DORT	Diorite
LMPP DKE	Lamprophyre Dyke
QFPP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRD	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic

Sample Interval

6.00/0.40 Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy

Sample Interval

6.00/0.40 Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 2A 2A

ST. JOE CANADA INC.

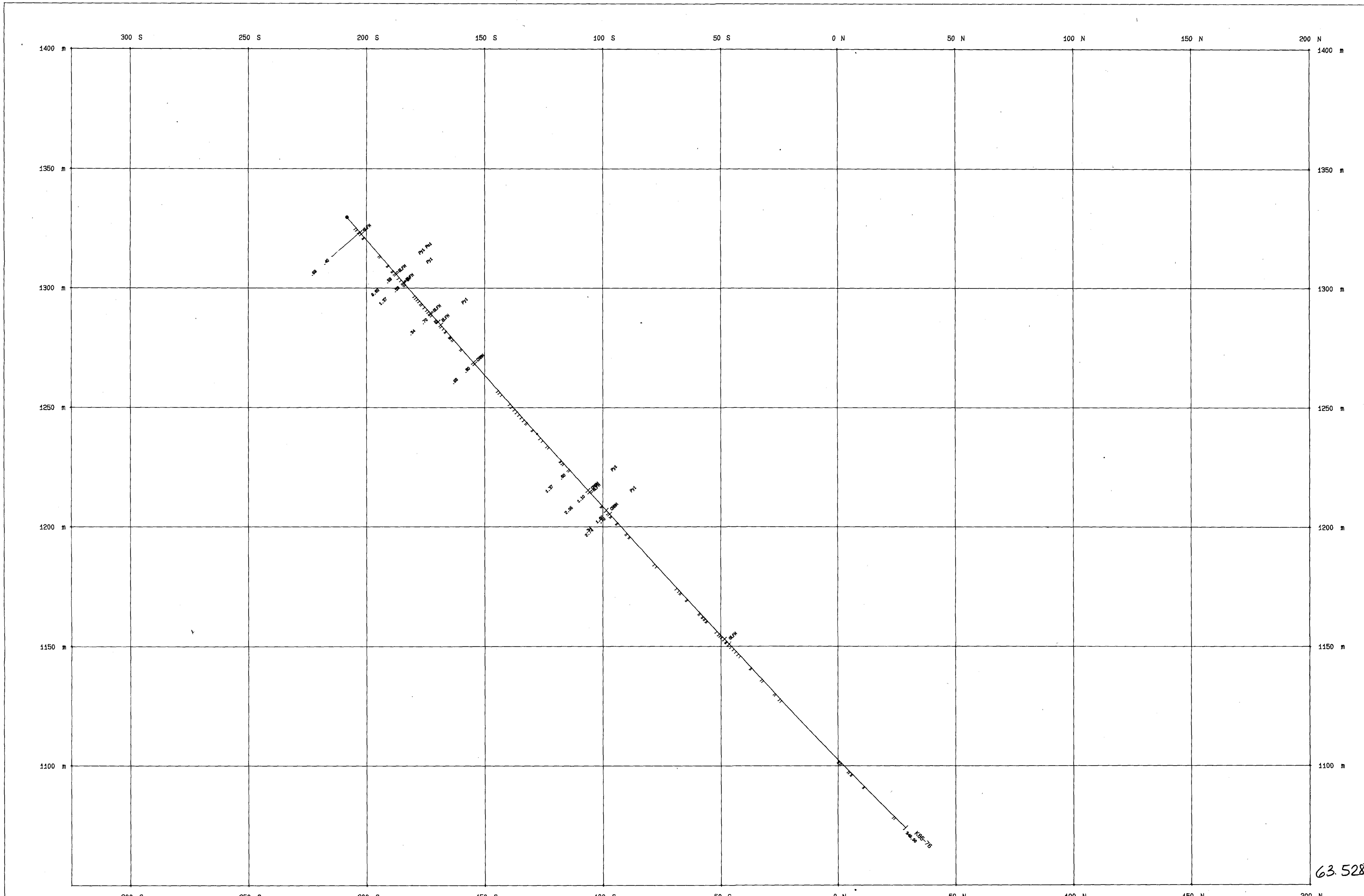
KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 4+50E
DDH K87-88
LITHOLOGY / STRUCTURE

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

230



ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	2.30/0.40	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE
SCALE 1: 750	
DWG 3	

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

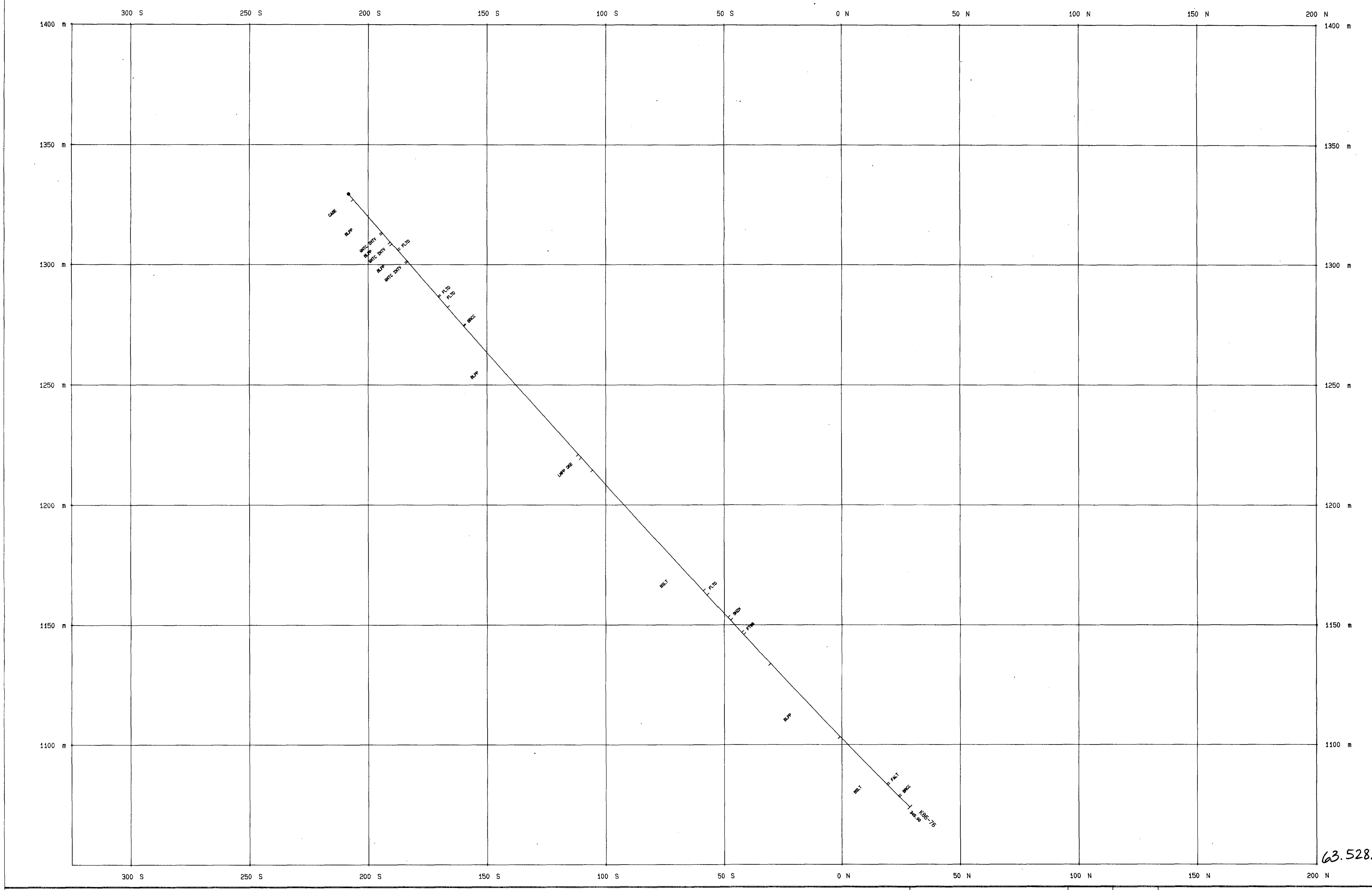
CEDAR ISLAND MAINLAND ZONE
SECTION 6+50 E
DDH K86-76
AU (g/tonne) | WIDTH / ALTN | SULPHIDE

Kevin Leonard

0M86-3-C-265

DATE 4 /28/1986 TIME 1:0

240



LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BBLT	Fine/Medium Grained Basalt
INTV	Intrusives
GRTC	Granitic
DORT	Diorite
LMPP DKE	Lamprophyre Dyke
QFPP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRO	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic
	Sample Interval
	Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy
	Sample Interval
	Gold Value g/t over metres

DRAWN BY	DATE
REVISED BY	DATE

15.0 0 15.0 30.0 m

SCALE 1: 750

DWG 3A 3A

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

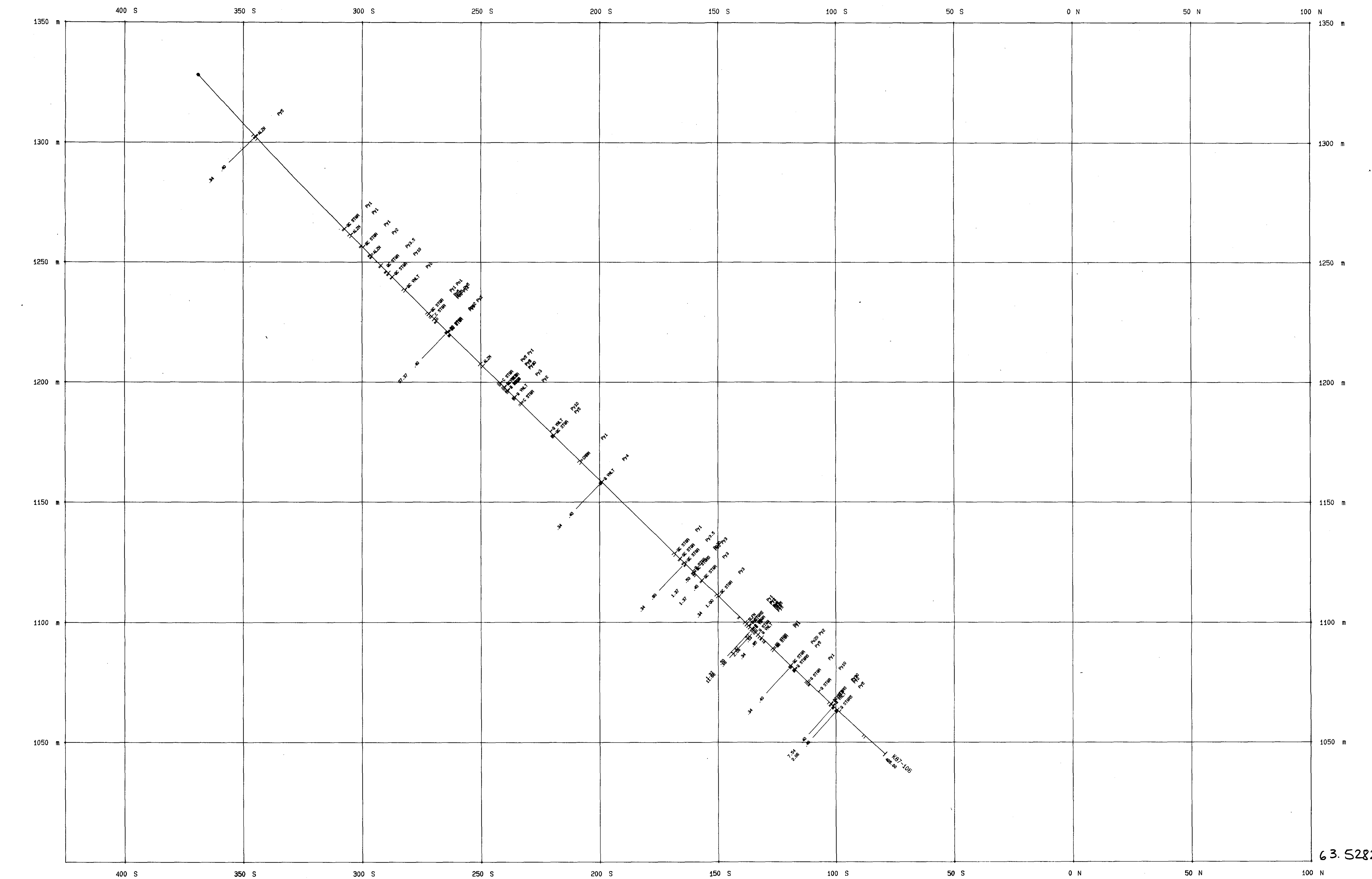
CEDAR ISLAND MAINLAND ZONE
SECTION 6+50E
DDH K86-76
LITHOLOGY / STRUCTURE

DATE 4 /28/1988 TIME 1:32

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

250



63.5282

ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	6.00/0.00	Gold Value g/t over metres
MSSL	Massive Sulphide		

SCALE 1: 750

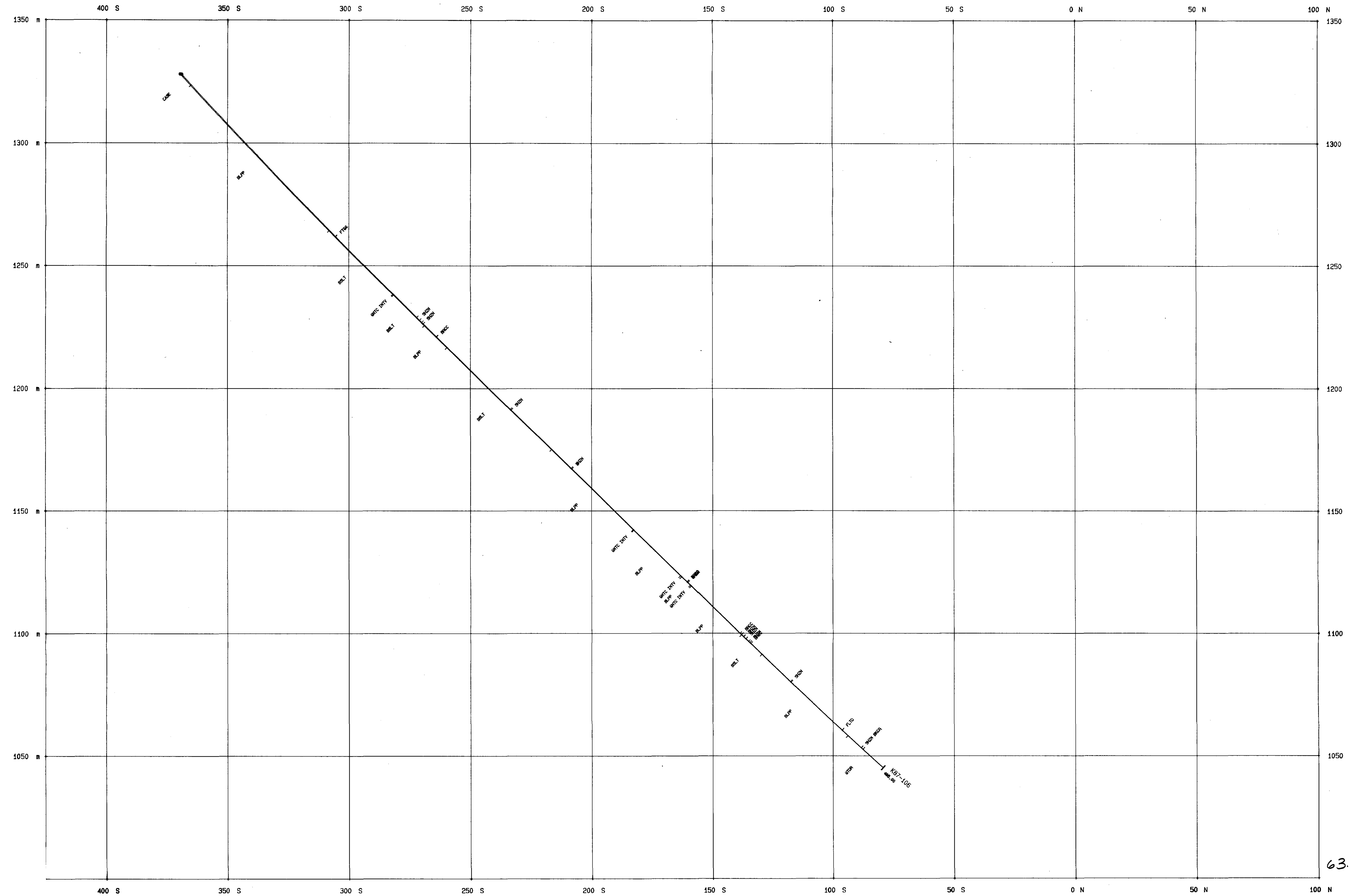
15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 8+50 E DDH K87-106 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG 4	4	

OM86-3-C-265

52E10SW0547 63.5282 SHOAL LAKE

260



63.5282

LITHOLOGY

CASE	Casing	FPPP	Feldspar Porphyry
BLPP	Porphyritic Feldspar Basalt	FLSC	Felsic
BSLT	Fine/Medium Grained Basalt	GDRO	Granodiorite
INTV	Intrusives	UMF	Ultramafic
GNTC	Granitic	VLCC	Volcanic
DORT	Diorite	ALTD	Altered
LMPP DKE	Lamprophyre Dyke	RDCC	Rhyodacitic
QFPP	Quartz - Feldspar Porphyry		Sample Interval
		6.80/0.40	Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated	FTZN	Fault Zone
FALT/FT	Fault	BRCC ZN	Brecciated Zone
SHZN	Shear Zone	FRCD	Fractured
FTGG	Fault Gouge	FLTD	Foliated
BKCR	Broken Core	VGY	Vuggy
DCTC	Ductile		Sample Interval
DEFM	Deformation	6.80/0.40	Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 4A 4A

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

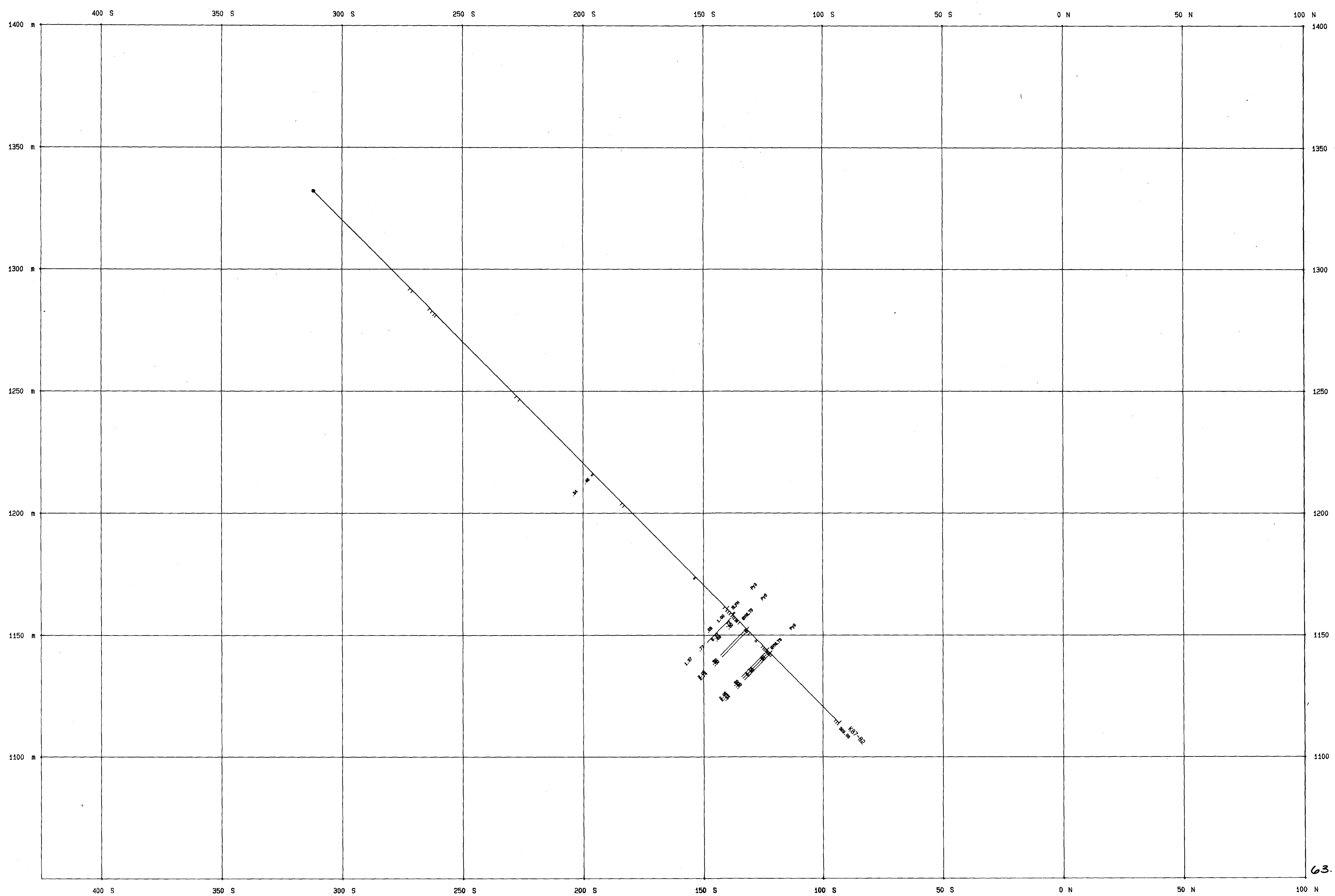
CEDAR ISLAND MAINLAND ZONE
SECTION 8+50E
DDH K87-106
LITHOLOGY / STRUCTURE

DATE 4 /28/1988 TIME 0 : 37

0M86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

270



63.5282

ALTERATION

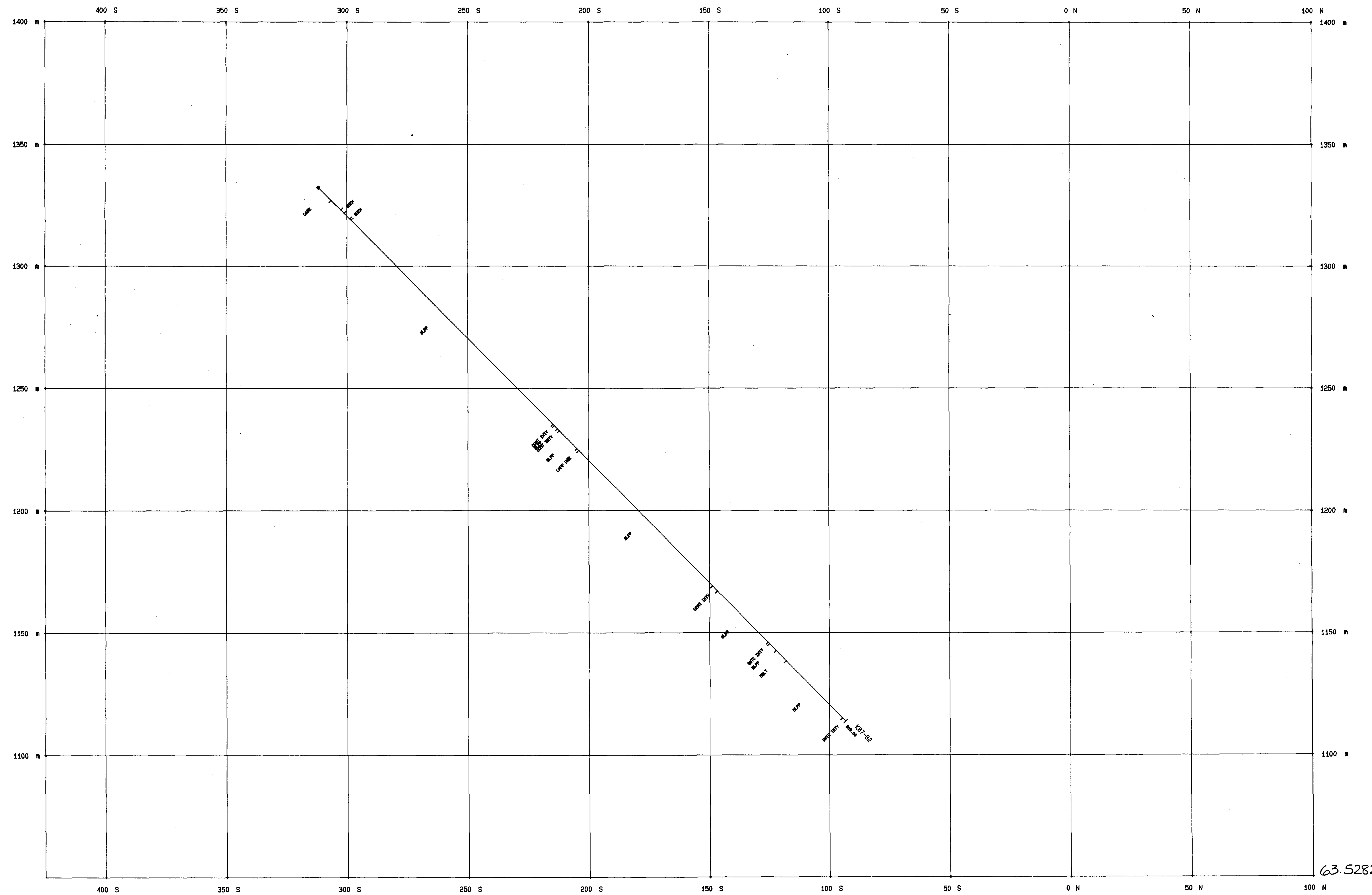
QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	6.00/0.40	Gold Value g/t over metres
MSSL	Massive Sulphide		

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 9+00E DDH K87-82 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG 5 5		

15.0 0 15.0 30.0 m

0M86-3-C-265

52E10SW0547 63.5282 SHOAL LAKE 280



LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BSLT	Fine/Medium Grained Basalt
INTV	Intrusives
GNTC	Granitic
DORT	Diorite
LMPP DKE	Lamprophyre Dyke
QFPP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRD	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic
	Sample Interval
6.00/0.40	Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy
	Sample Interval
6.00/0.40	Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 5A

ST. JOE CANADA INC.

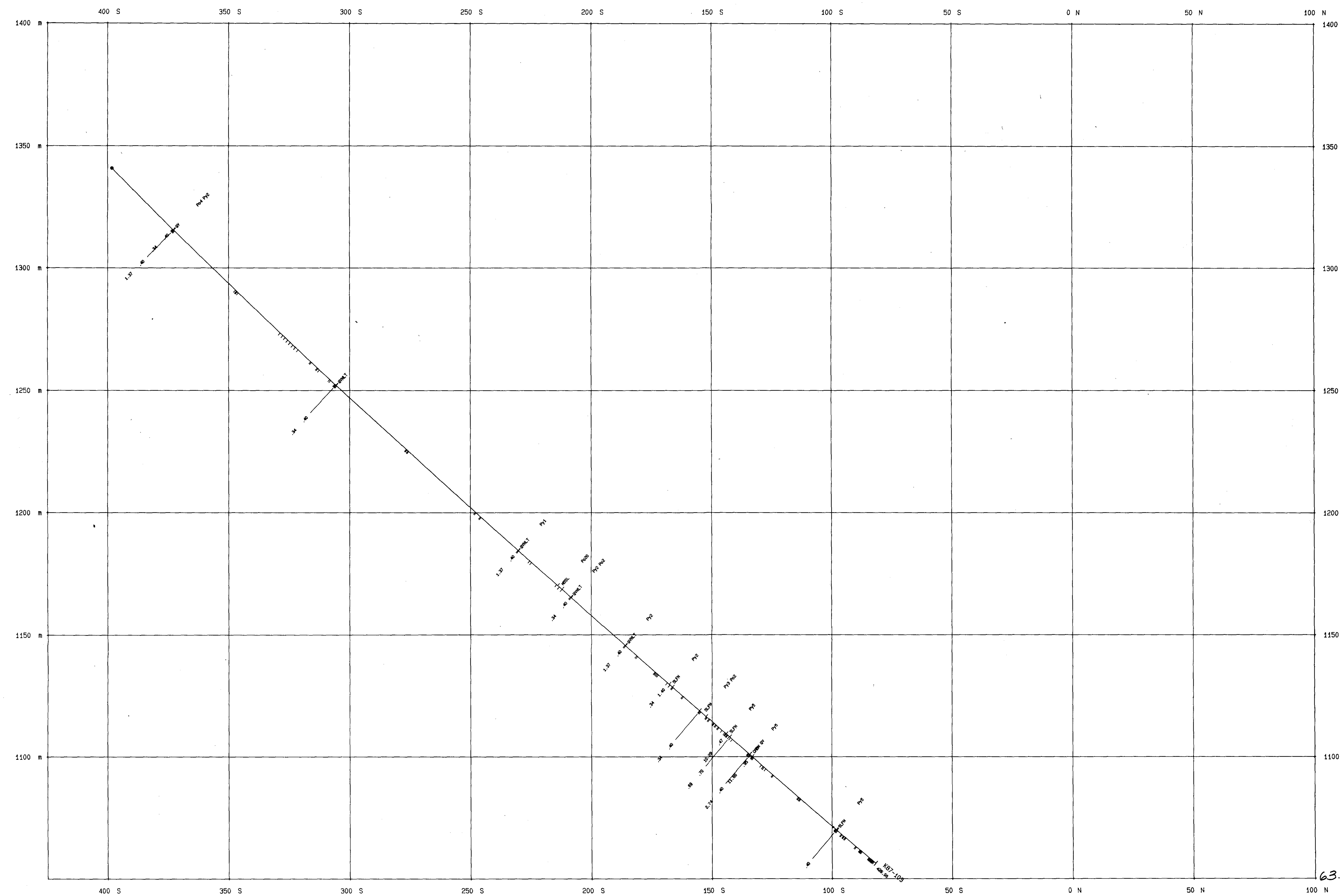
KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 9+00E
DDH K87-82
LITHOLOGY / STRUCTURE

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

290



63.5282

ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	0.00/0.00	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 9+50 E DDH K87-103 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG 6	6	

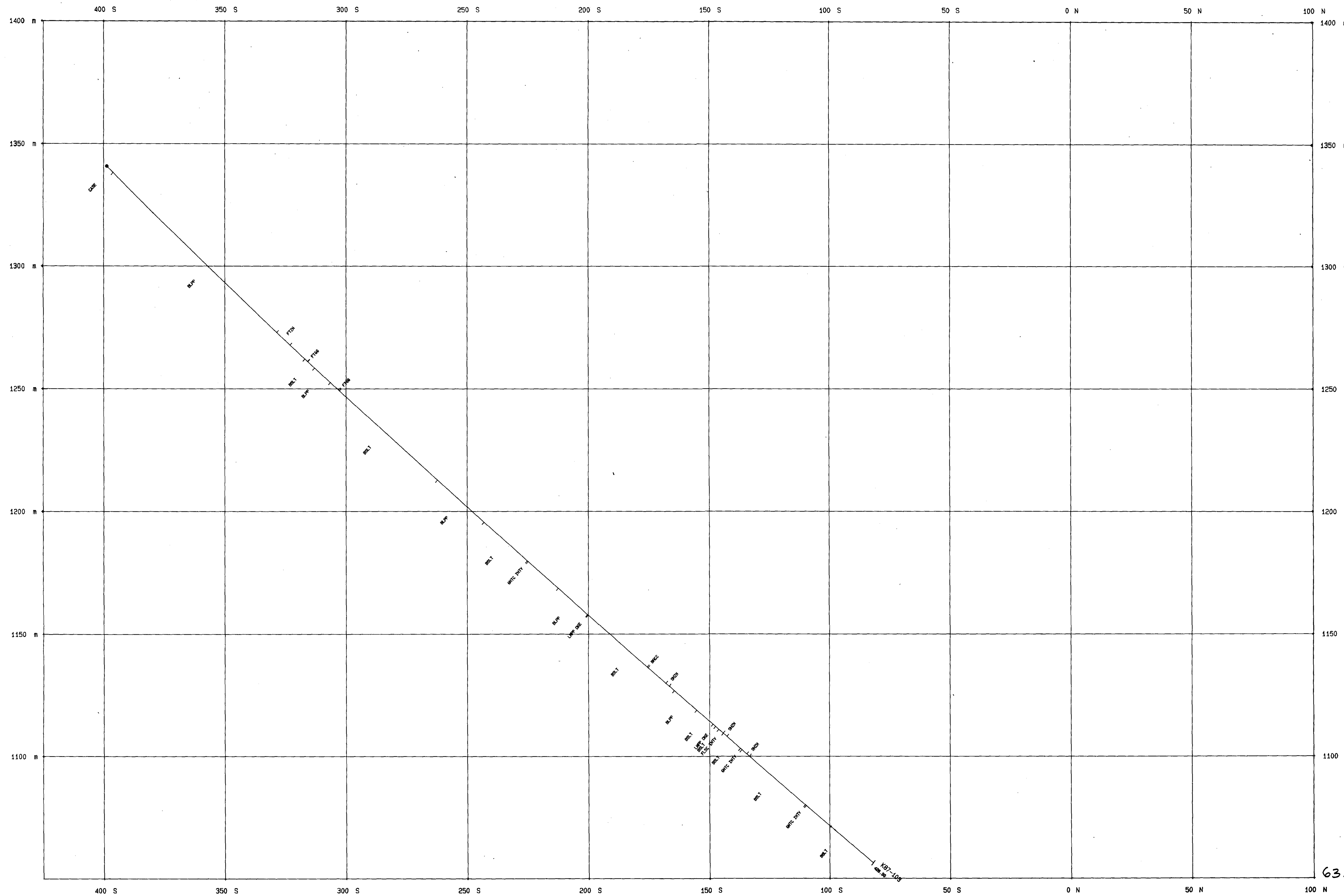
Kevin Leonard

GSII SECT V5.03 DATE 4 /26/1988 TIME 2 :3

OM86-3-C-265

52E10SW0547 63.5282 SHOAL LAKE

300



63.5282

LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BSLT	Fine/Medium Grained Basalt
INTV	Intrusives
GNTC	Granitic
[illegible]	[illegible]
LAMP DKE	Lamprophyre Dyke
QFPP QFP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRO	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic
	Sample Interval
0.00/0.00	Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy
	Sample Interval
0.00/0.00	Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 6A

ST. JOE CANADA INC.

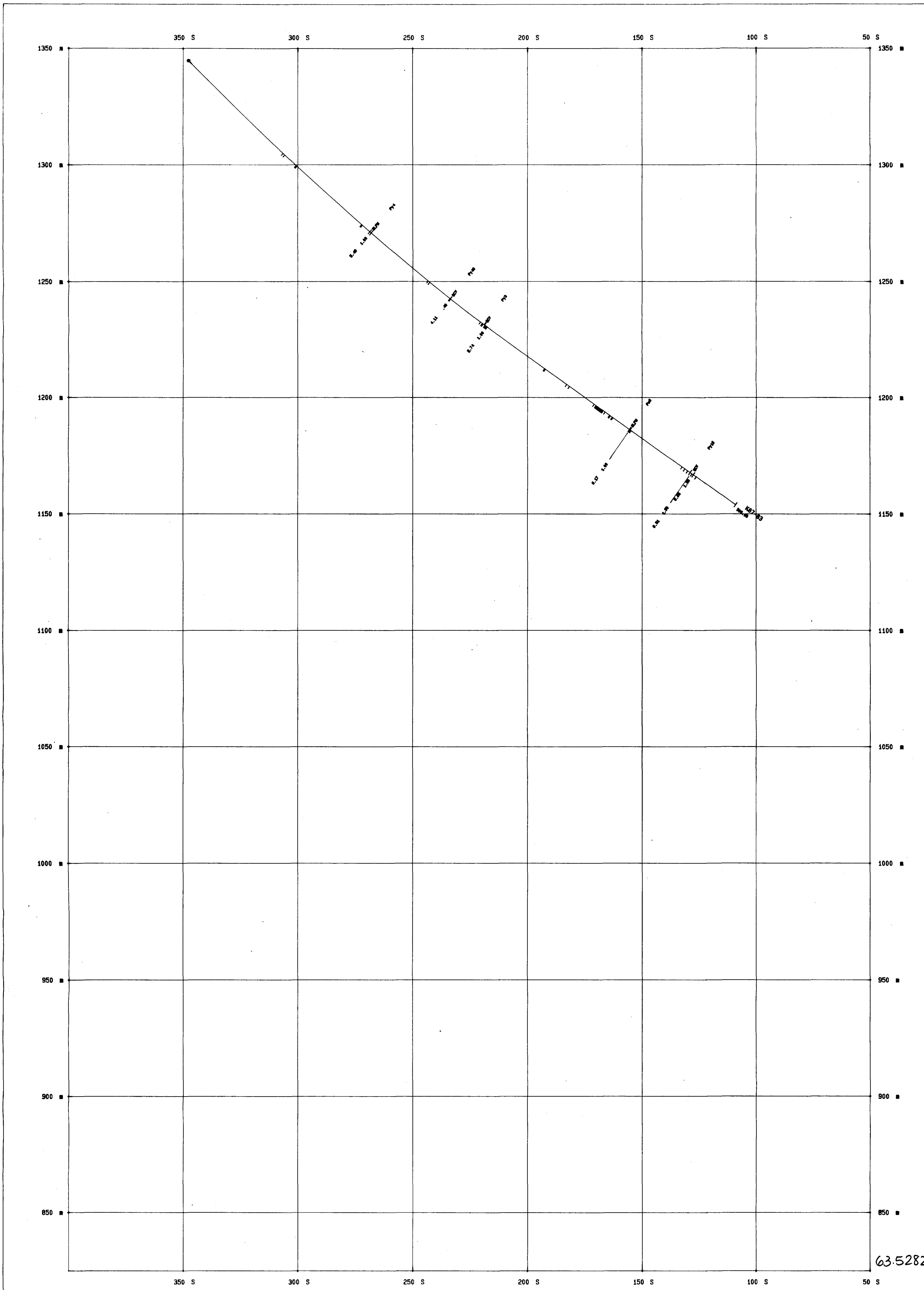
KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 9+50E
DDH K87-103
LITHOLOGY / STRUCTURE

6A

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE 310



ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	6.00/0.40	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 7

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

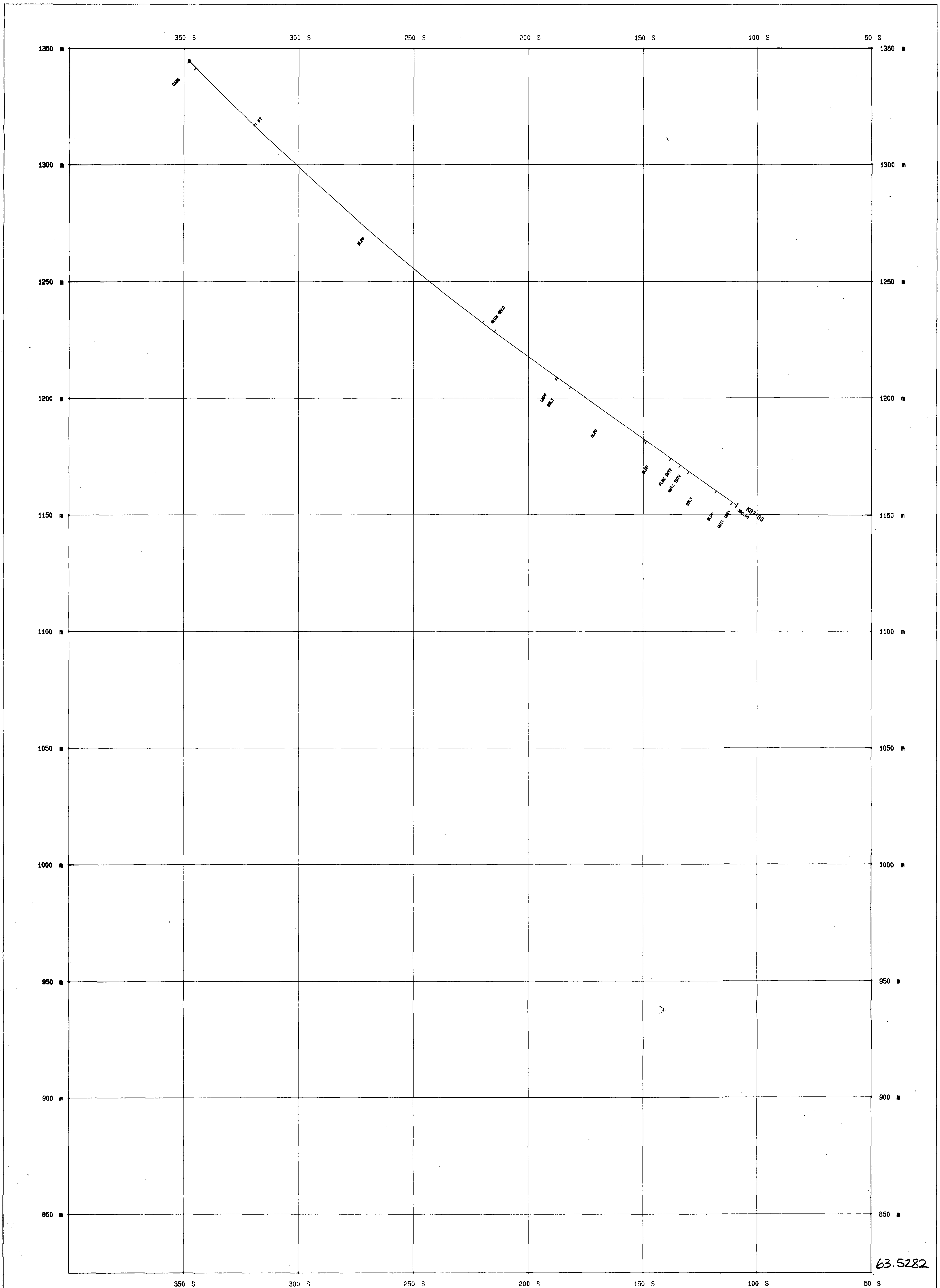
CEDAR ISLAND MAINLAND ZONE
SECTION 10+00 E
DDH K87-83
AU (g/tonne) | WIDTH / ALTN | SULPHIDE

Kevin Leonard

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

320



63.5282

LITHOLOGY

CASE	Casing	FPPP	Feldspar Porphyry
BLPP	Porphyritic Feldspar Basalt	FLSC	Felsic
BSLT	Fine/Medium Grained Basalt	GDRD	Granodiorite
INTV	Intrusive	ULMF	Ultramafic
GNTC	Granitic	VLCC	Volcanic
DIRT	Diorite	ALTD	Altered
LAPP DIKE	Lamprophyre Dyke	RDCC	Rhyodacitic
QFPP	Quartz + Feldspar Porphyry		Sample Interval
		6.00/0.40	Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated	FTZN	Fault Zone
FALT/FT	Fault	BRCC ZN	Brecciated Zone
SHZN	Shear Zone	FRCD	Fractured
FTGG	Fault Gouge	FLTD	Foliated
BKCR	Broken Core	VGY	Vuggy
DCTC	Ductile		Sample Interval
DEFM	Deformation	6.00/0.40	Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE
SCALE 1: 750	
DWG 7A	7A

ST. JOE CANADA INC.

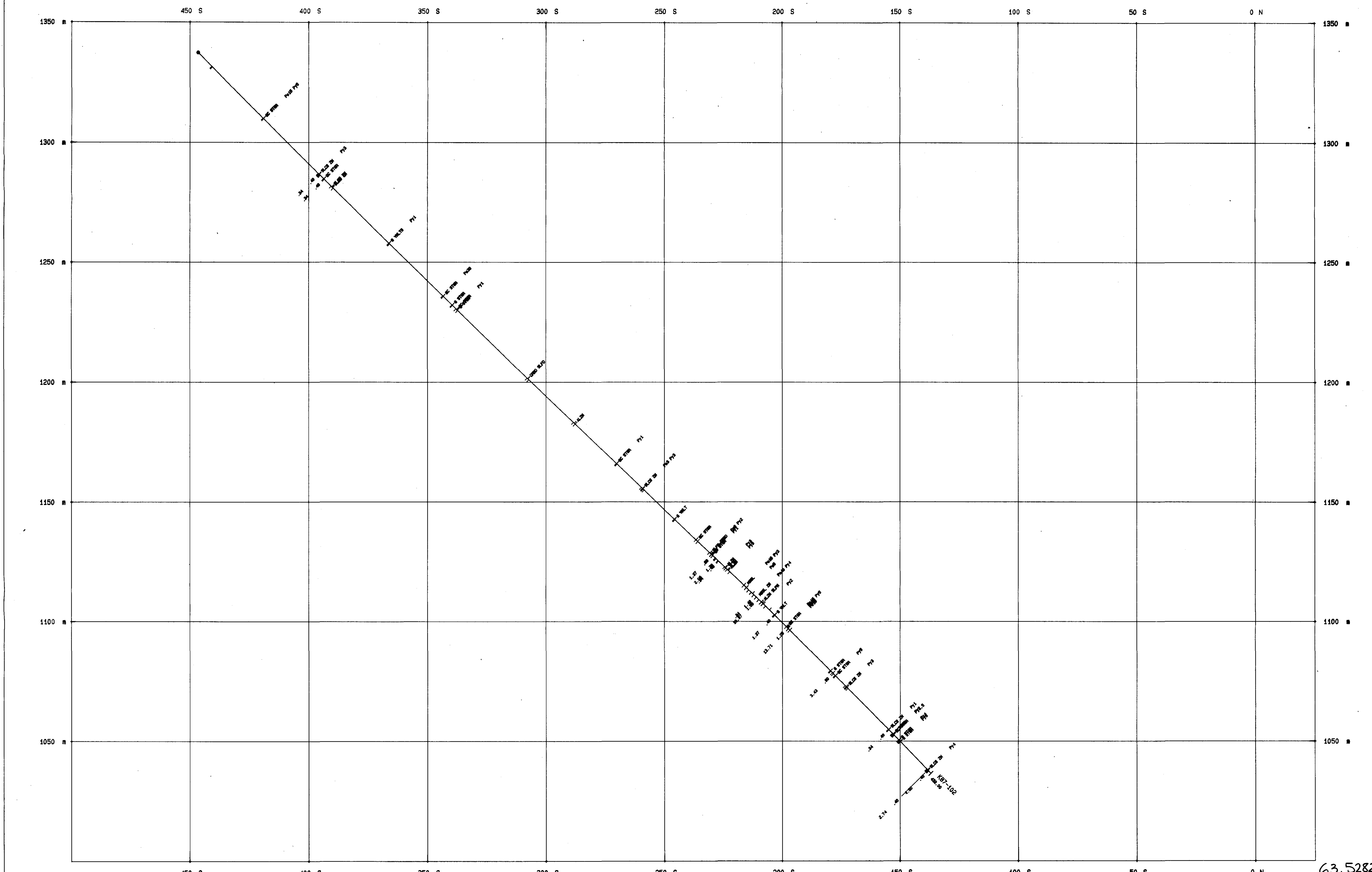
KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 10+00 E
DDH K87-83
LITHOLOGY / STRUCTURE

52E10SW8547 63.5282 SHOAL LAKE

330

OM86-3-C-265



63.5282

ALTERATION

QV	Quartz Vein/Veinlet	CLRR	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification		Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 10+50E DDH K87-102 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG 8		

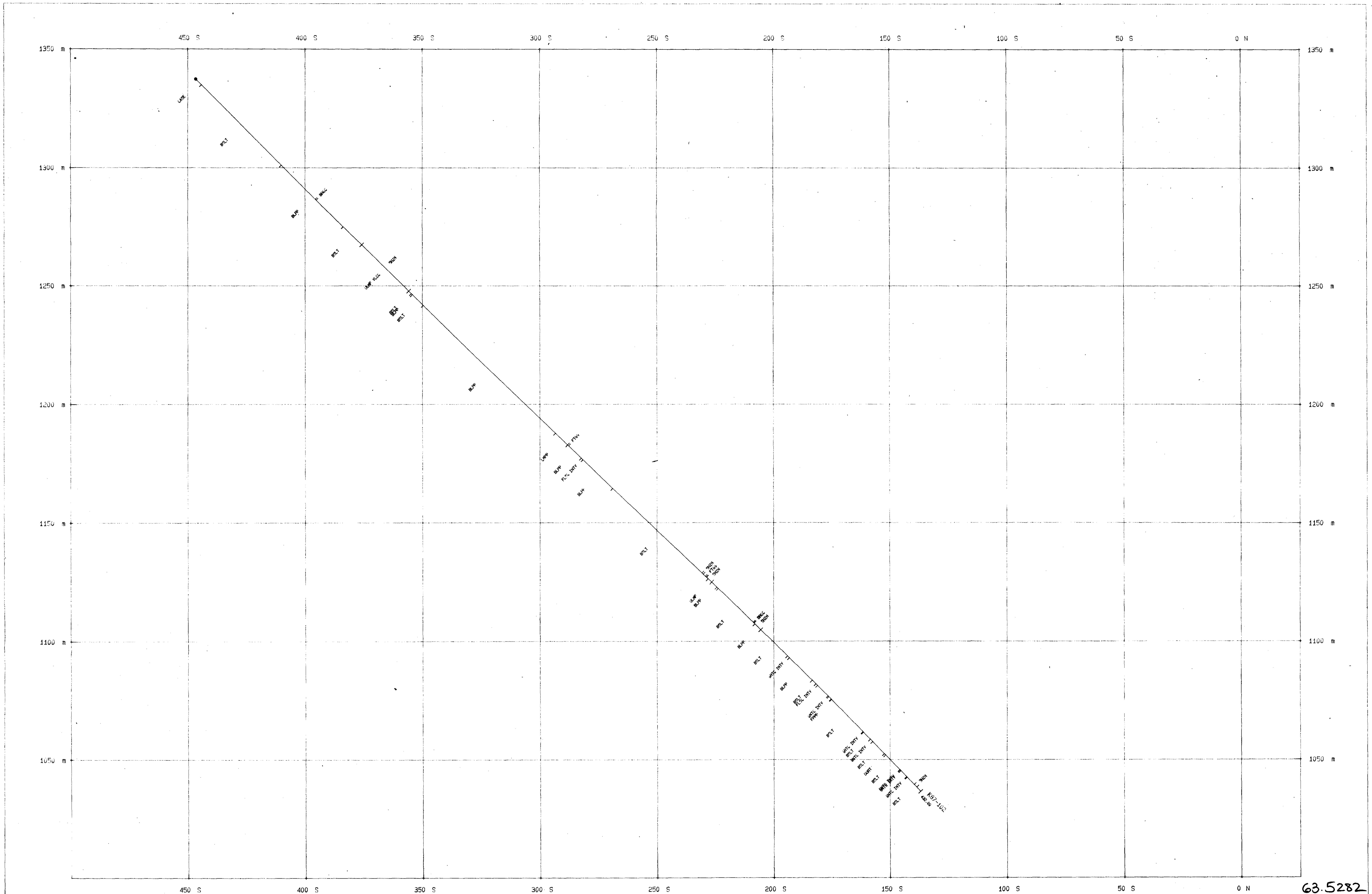
Kevin Leonard

8

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

340



63.5282

LITHOLOGY

CASE	Casing	FPPP	Feldspar Porphyry
BLPP	Porphyritic Feldspar Basalt	FLSC	Felsic
BSLT	Fine/Medium Grained Basalt	GDRD	Granodiorite
INTV	Intrusives	ULMF	Ultramafic
[illegible]	[illegible]	VLCC	Volcanic
[illegible]	[illegible]	ALTD	Altered
[illegible]	[illegible]	RHDC	Rhyodacitic
[illegible]	[illegible] Porphyry		Sample Interval
			Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated	FTZN	Fault Zone
FALT/FT	Fault	BRCC ZN	Brecciated Zone
SHZN	Shear Zone	FRCD	Fractured
FTGG	Fault Gouge	FLTD	Foliated
BRCR	Broken Core	VGY	Vuggy
DCTC	Ductile		Sample Interval
DEFM	Deformation		Gold Value g/t over metres

DRAWN BY	DATE
REVISED BY	DATE

15.0 0 15.0 30.0 m

SCALE 1: 750

DWG 8A

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 10+50E
DDH K87-102
LITHOLOGY / STRUCTURE

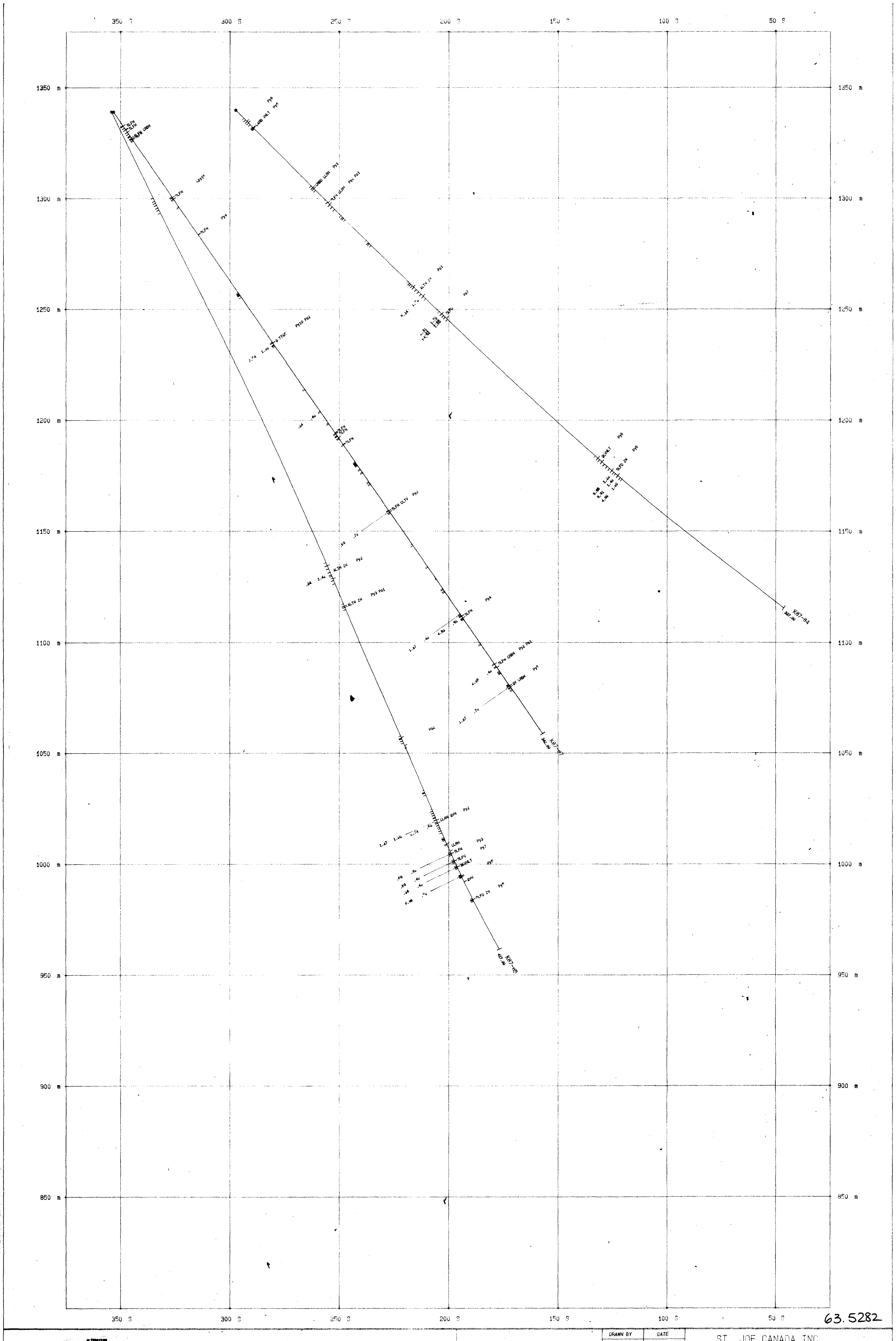
8A

OM86-3-C-265

GSII SECT V5.03 DATE 4 /26/1988 TIME 2 :59

52E10SE8547 63.5282 SHOAL LAKE

350



63.5282

ALTERATION

CLRN Chloritization
ALTN Altered Zone
MNRL Mineralized Zone
STGR Stringer
SLCS ZN Siliceous Zone
Sample Interval
Gold Value g/t over metres

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 9

15.0 0 15.0 30.0 m

ST. JOE CANADA INC.

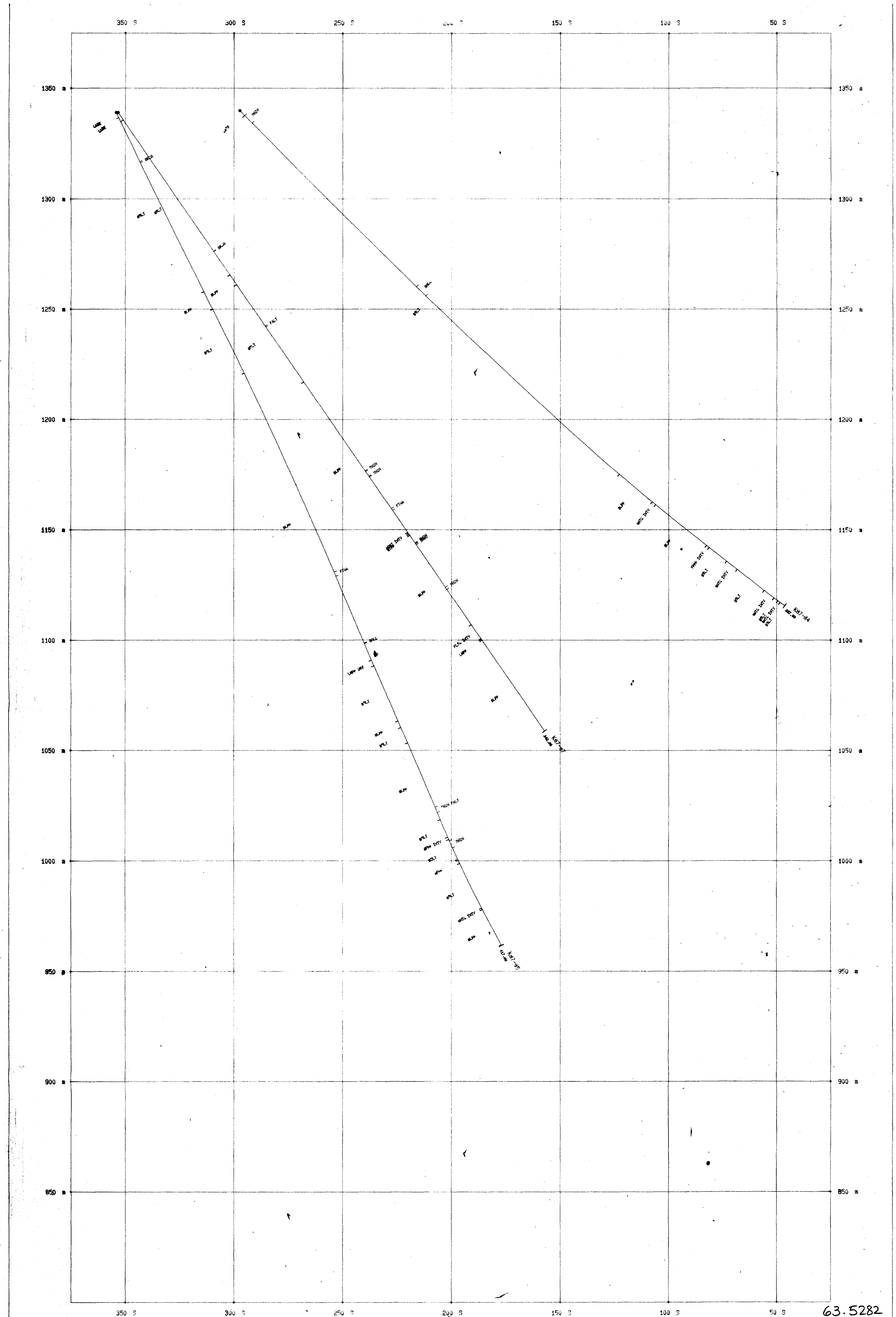
KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 11+00E
DDH K87-84, 85, 87
AU (g/tonne) | WIDTH / ALTN | SULPHIDE

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

360



63.5282

LITHOLOGY

FPPR	Feldspar Porphyry
FLSC	Felsic
GRND	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
AMGC	Amygdaloidal

Sample Interval

Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy

Sample Interval

Gold Value g/t over metres

DRAWN BY	DATE
REVISED BY	DATE

15.0 0 15.0 30.0 m

SCALE 1: 750

DWG 9A

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 11+00E
DDH K87-84, 85, 87
LITHOLOGY / STRUCTURE

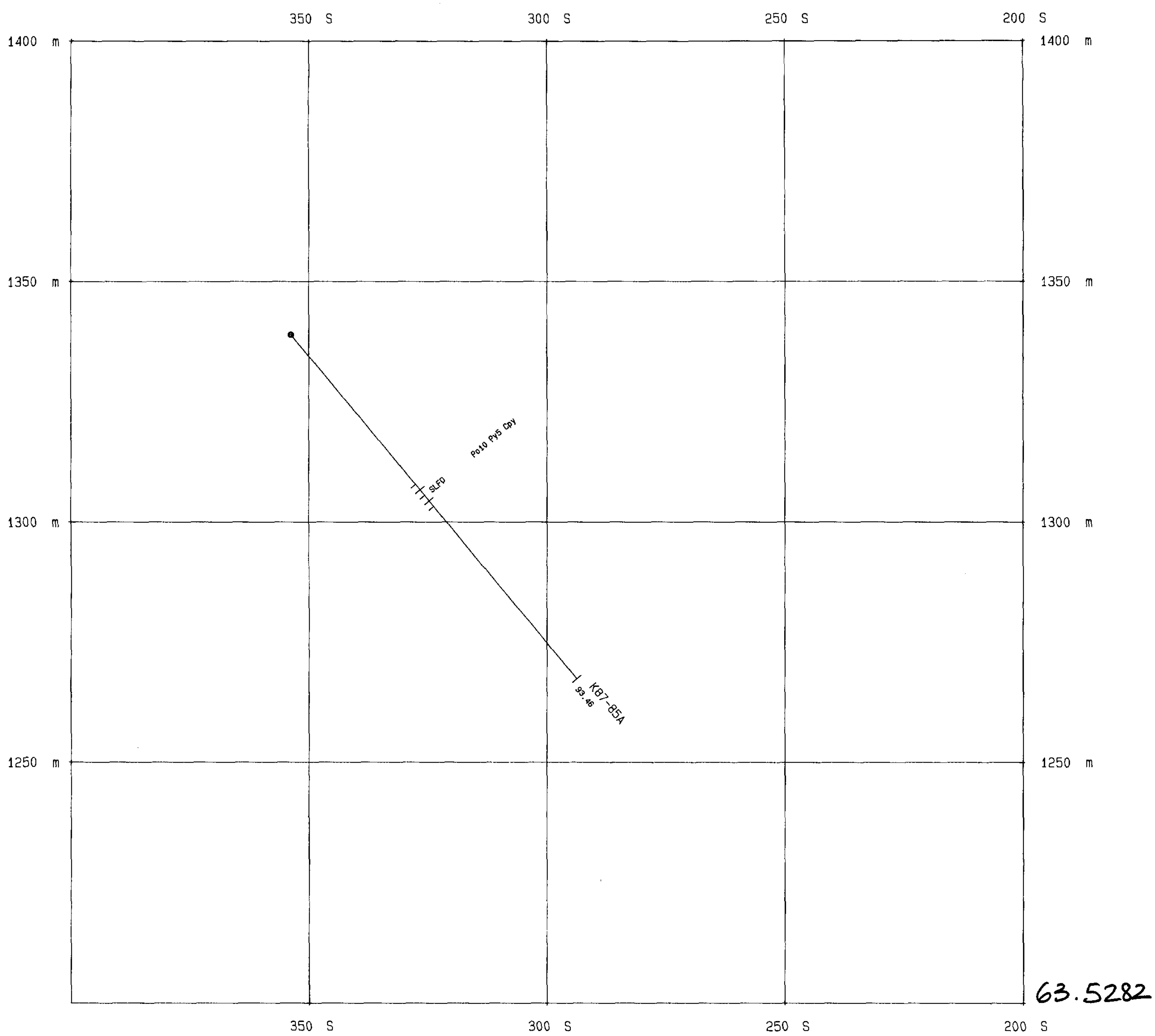
Kevin Leonard

GSII SECT V5.03 DATE 4 /26/1988 TIME 4:25

52E10SW8547 63.5282 SHOAL LAKE

370

OM86-3-C-265



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REVISED BY	DATE

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 11+00E
DDH K87-85A
AU (g/tonne) | WIDTH / ALTN | SULPHIDE

15.0 0 15.0 30.0 m

SCALE 1: 750

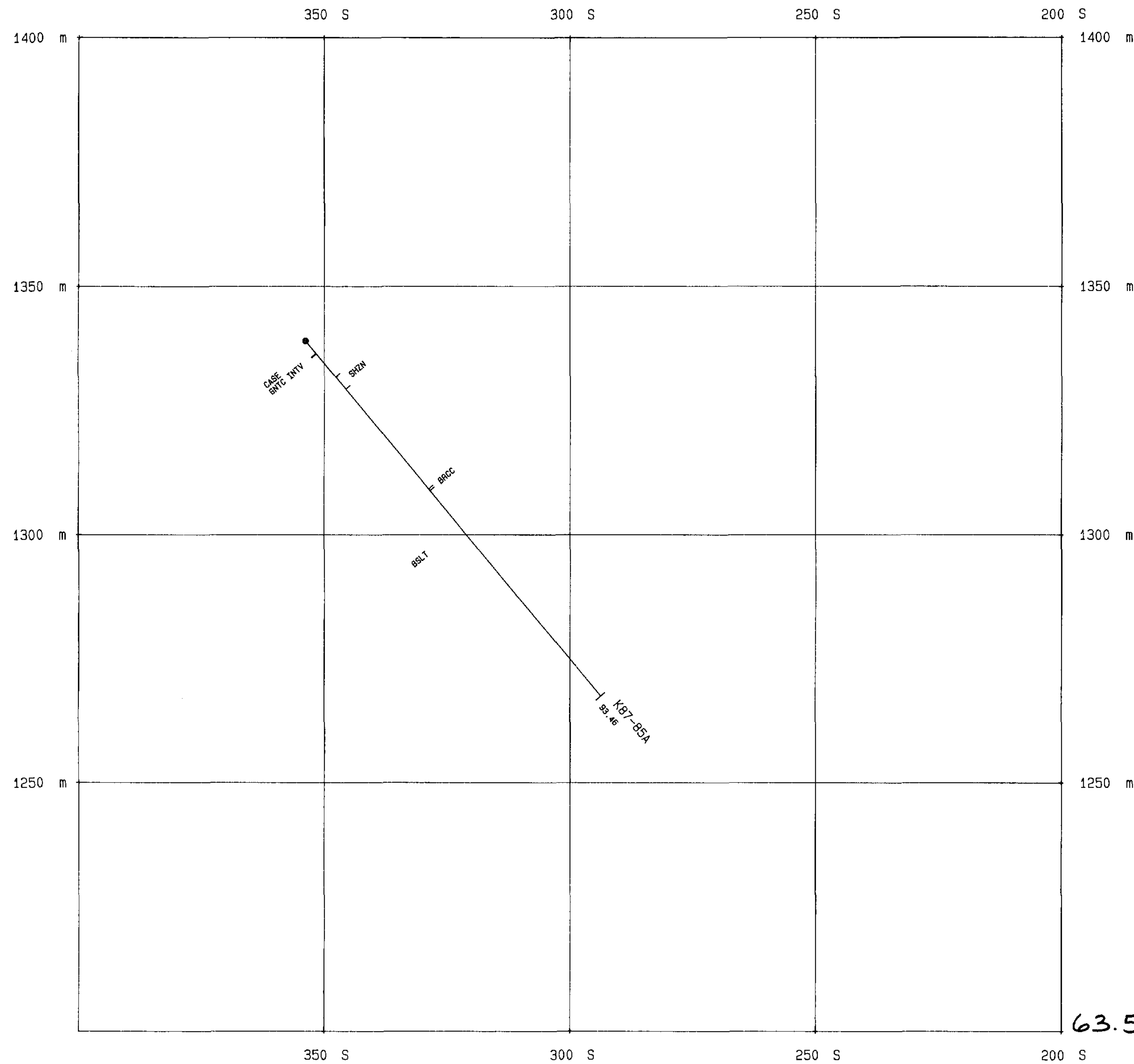
DWG 9B

GSII SECT V5.03 DATE 4 /28/1988 TIME 2 : 11

52E10SW8547 63.5282 SHOAL LAKE

380

OM86-3-C-265



63.5282

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 9C

15.0 0 15.0 30.0 m

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 11+00E
DDH K87-85A
LITHOLOGY / STRUCTURE

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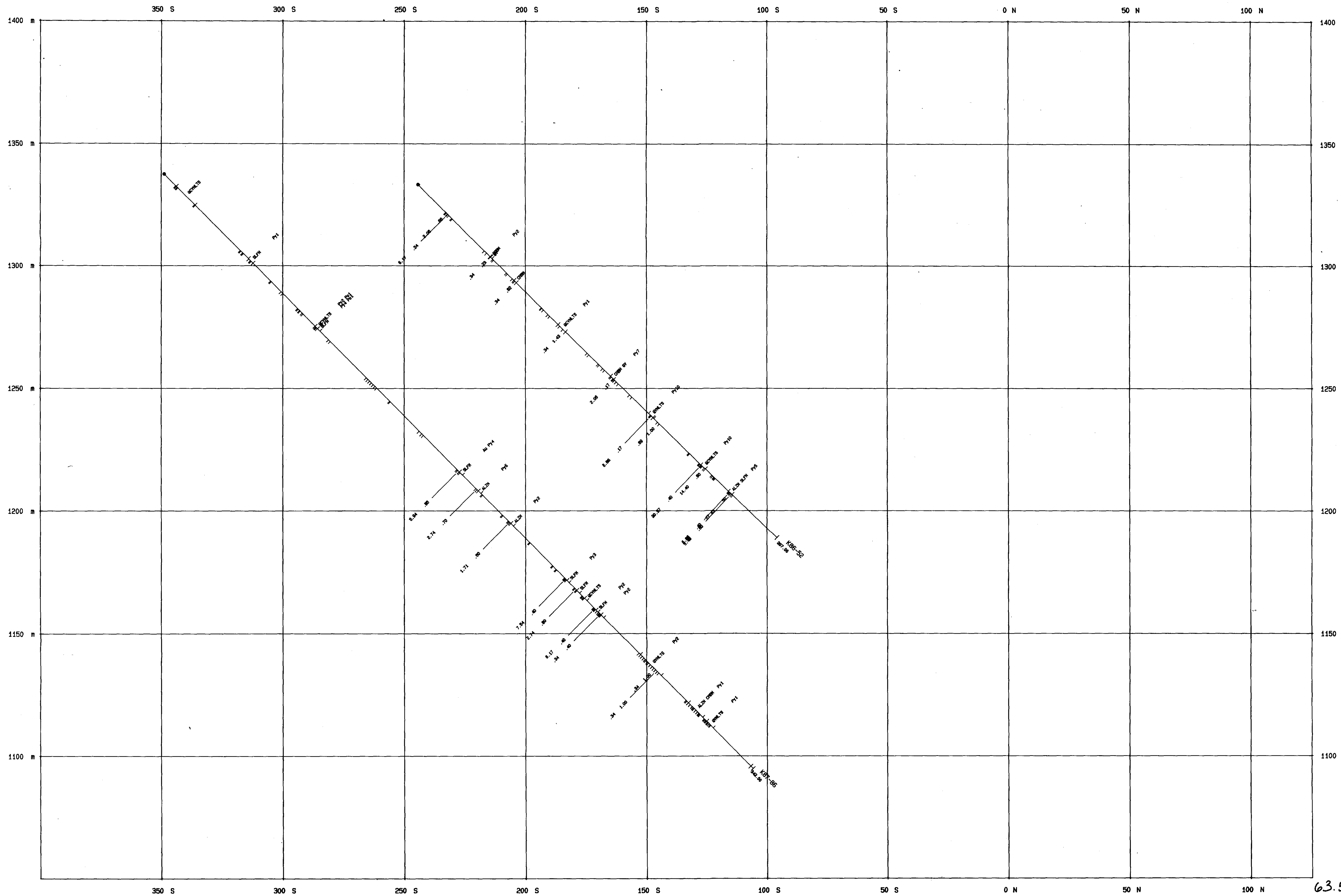
GSII SECT V5.03 DATE 4 /28/1988 TIME 1 :51

52E10SW8547 63.5282 SHOAL LAKE

390

OM86-3-C-265



63.5282

ALTERATION

Quartz Vein/Veinlet
Silicified
Carbonatization
Veins
Veinlets
Silicification
Massive Sulphide
Chloritization
Altered Zone
Mineralized Zone
Stringer

DRAWN BY	DATE
REVISED BY	DATE

15.0 0 15.0 30.0 m

SCALE 1: 750

DWG 10

ST. JOE CANADA INC.

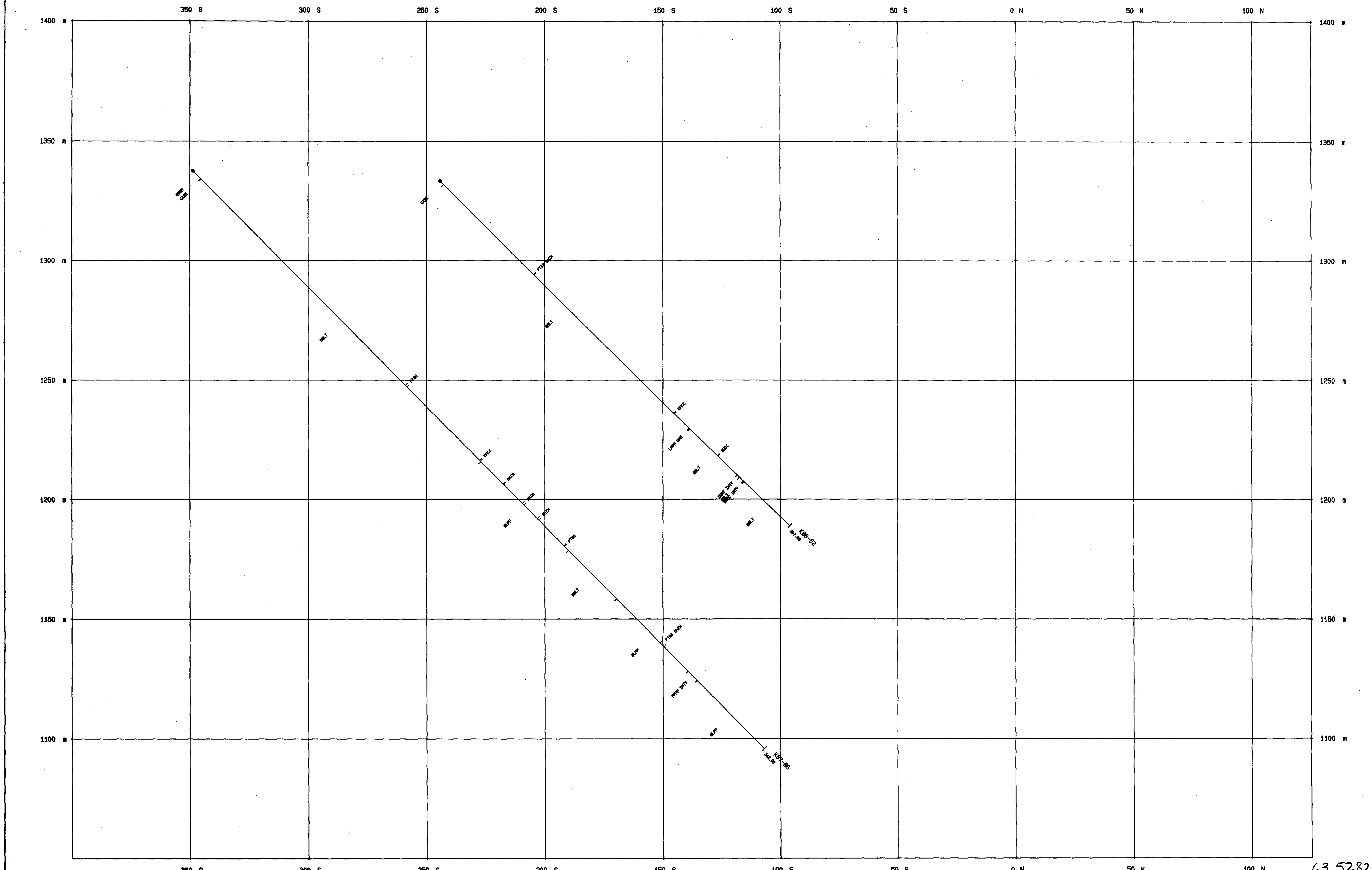
KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 11+70E
DDH K86-52, K87-86,
AU (g/tonne) | WIDTH / ALTN | SULPHIDE

10
DM86-3-C-265

400

52E10SW0547 63.5282 SHOAL LAKE



63.5282

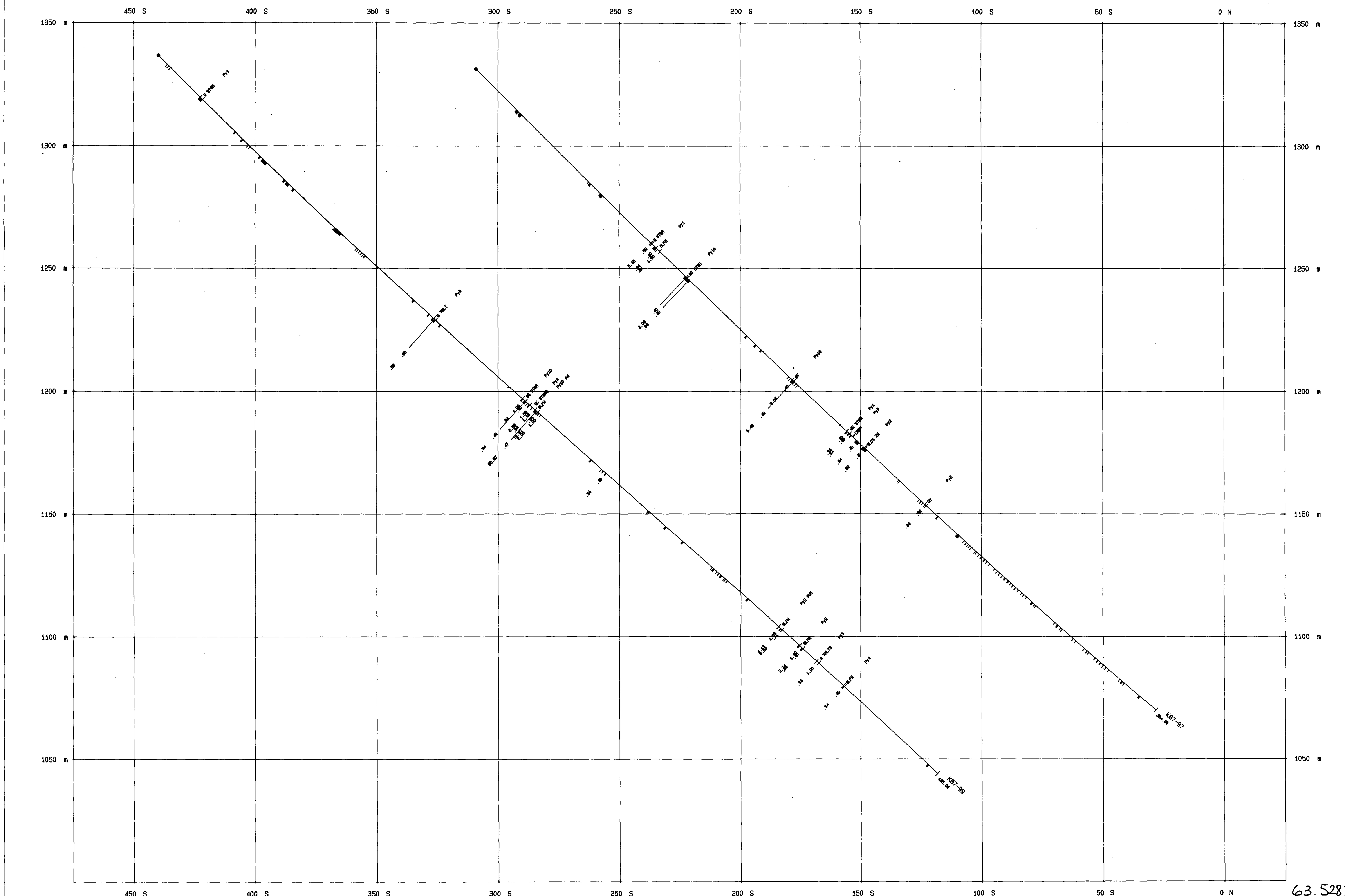
DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 11+70E DDH K86-52 K87-86 LITHOLOGY / STRUCTURE
DWG 10A		

15.0 0 15.0 30.0 m

10A

OM86-3-C-265

52E10SW0547 63.5282 SHOAL LAKE 410



63.5282

ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	0.00/0.00	Gold Value g/t over metres
MSSL	Massive Sulphide		

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 12+50E DDH KK87-97, 99 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG 11	11	

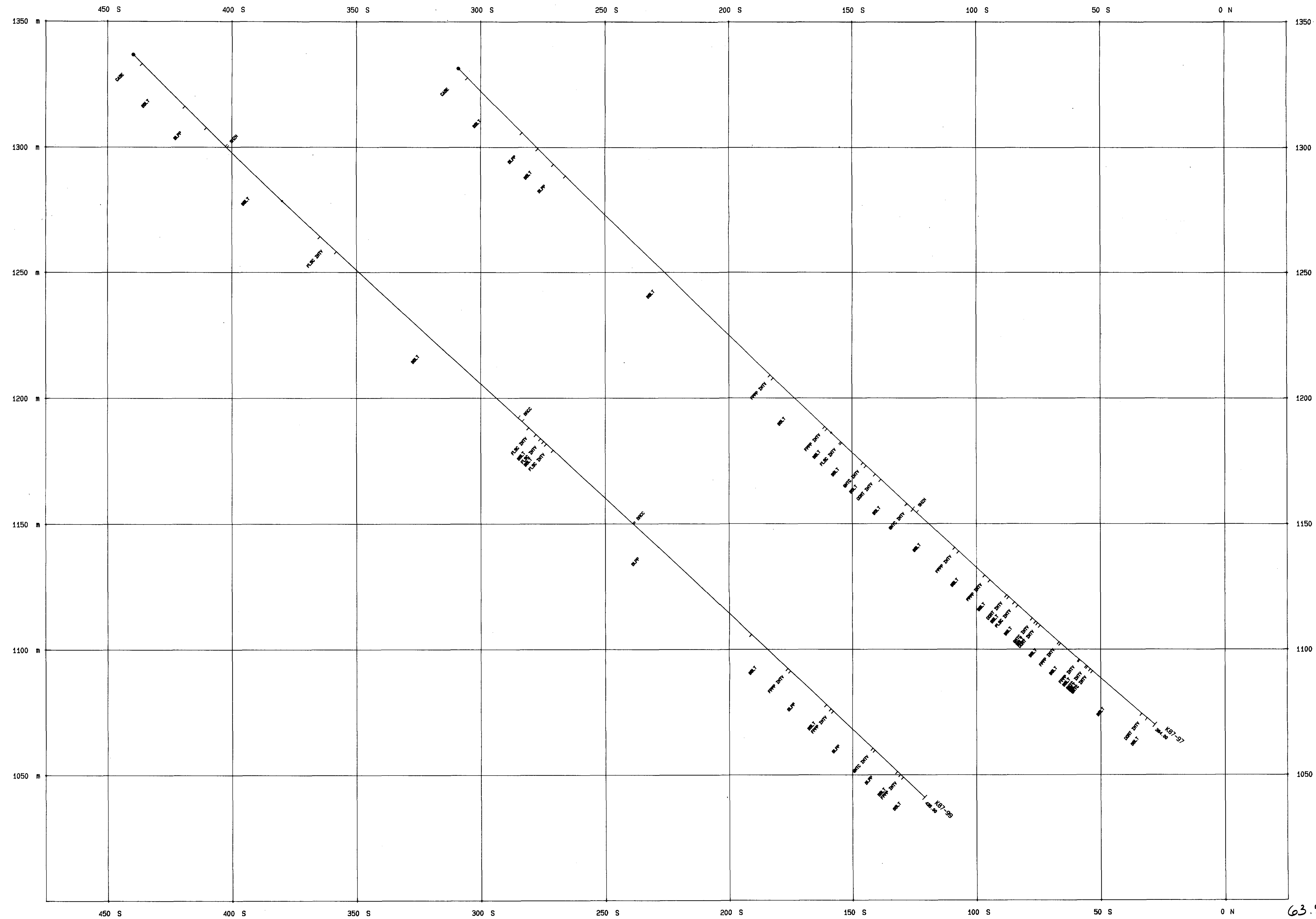
15.0 0 15.0 30.0 m

Kevin Leonard

DATE 4/27/1988 TIME 0:38

420

DM86-3-C-265



63.5282

LITHOLOGY			
CASE	Casing	FPPP	Feldspar Porphyry
BLPP	Porphyritic Feldspar Basalt	FLSC	Felsic
BSLT	Fine/Medium Grained Basalt	GDRD	Granodiorite
INTV	Intrusives	ULMF	Ultramafic
GNTC	Granitic	VLCC	Volcanic
DORT	Diorite	ALTD	Altered
LMPP DKE	Lamprophyre Dyke	RDCC	Rhyodacitic
QFPP	Quartz - Feldspar Porphyry		Sample Interval
			Gold Value g/t over metres

STRUCTURE			
BRCC	Brecciated	FTZN	Fault Zone
FALT/FT	Fault	BRCC ZN	Brecciated Zone
SHZN	Shear Zone	FRCD	Fractured
FTGG	Fault Gouge	FLTD	Foliated
BKCR	Broken Core	VGY	Vuggy
DCTC	Ductile		Sample Interval
DEFM	Deformation		Gold Value g/t over metres

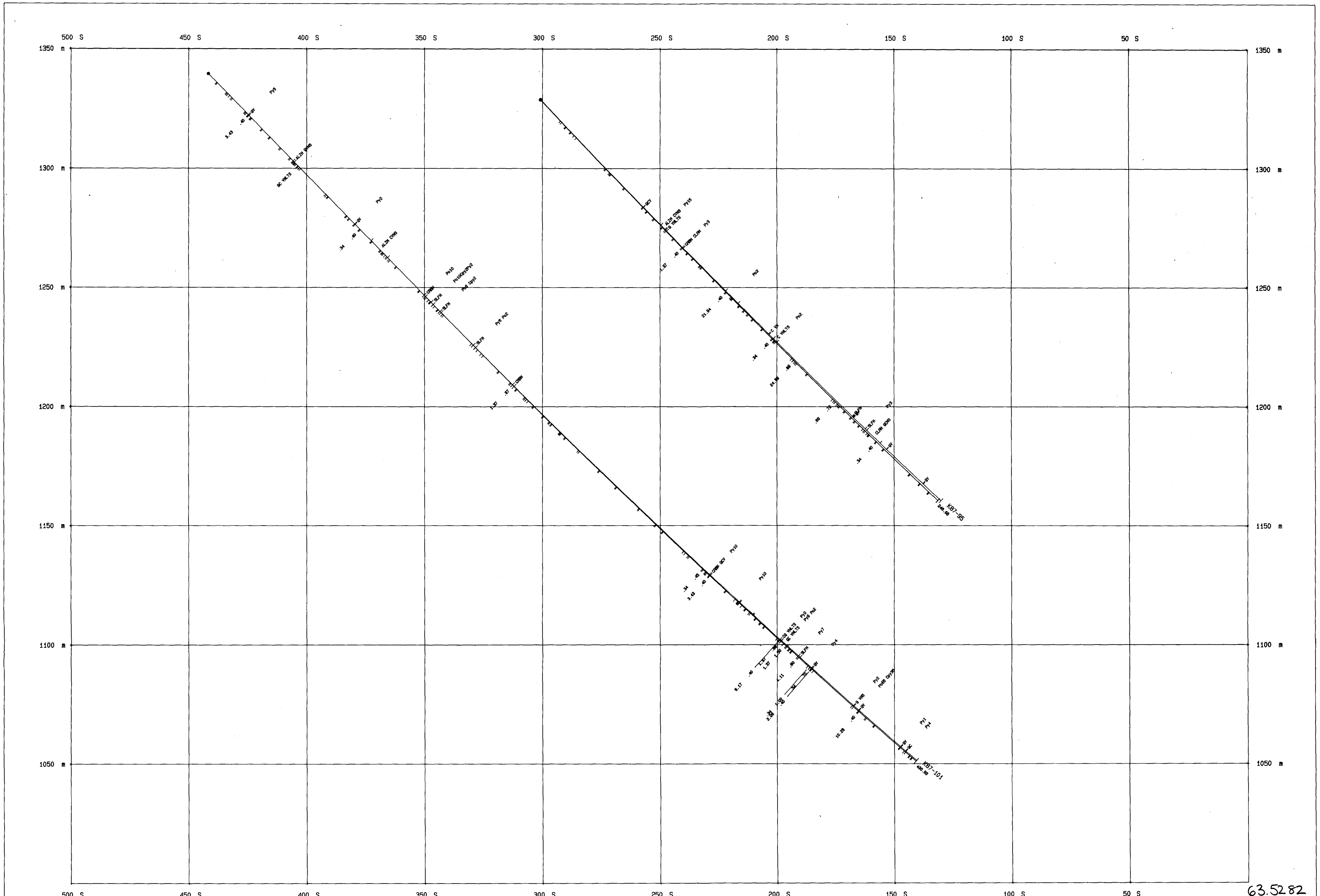
15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 12+50E DDH K87-97, 99
DWG 11A	11A	LITHOLOGY / STRUCTURE

52E10SW8547 63.5282 SHOAL LAKE

430

OM86-3-C-265



63.5282

ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification		Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 33
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 13+00 E DDH K87-95, 101
DWG 12		AU (g/tonne) | WIDTH / ALTN | SULPHIDE

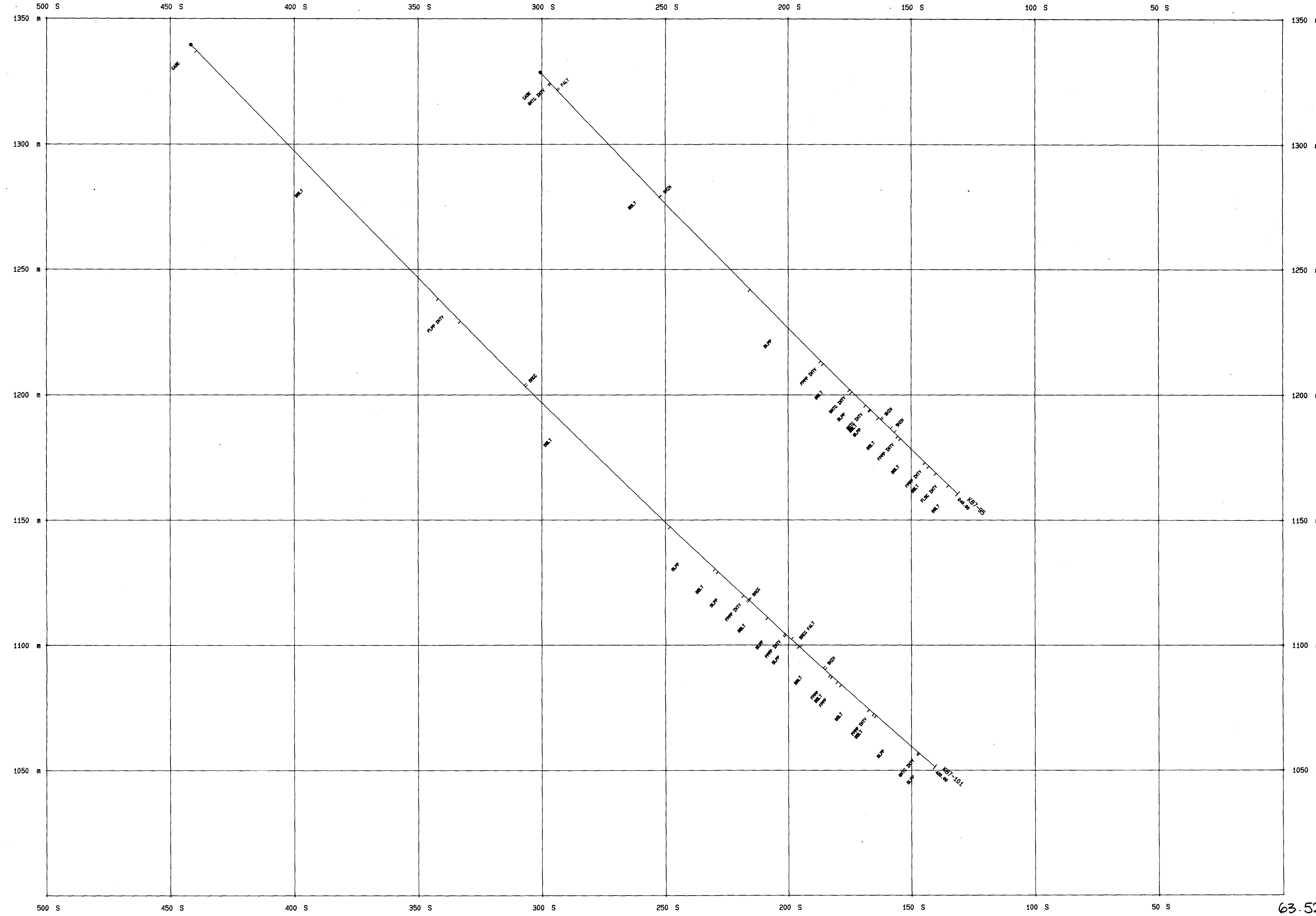
12

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

440

GSII SECT V5.03 DATE 4 /27/1988 TIME 1 : 46



63.5282

LITHOLOGY

CASE	Casing	FPPP	Feldspar Porphyry
BLPP	Porphyritic Feldspar Basalt	FLSC	Felsic
BSLT	Fine/Medium Grained Basalt	GORD	Granodiorite
INTV	Intrusives	ULMF	Ultramafic
GNTC	Granitic	VLCC	Volcanic
DORT	Diorite	ALTD	Altered
LMPR DKE	Lamprophyre Dyke	RDCC	Rhyodacitic
QFPP	Quartz - Feldspar Porphyry		Sample Interval
		6.00/0.40	Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated	FTZN	Fault Zone
FALT/FT	Fault	BRCC ZN	Brecciated Zone
SHZN	Shear Zone	FRCD	Fractured
FTGG	Fault Gouge	FLTD	Foliated
BKCR	Broken Core	VGY	Vuggy
DCTC	Ductile		Sample Interval
DEFM	Deformation	6.00/0.40	Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 12A

ST. JOE CANADA INC.

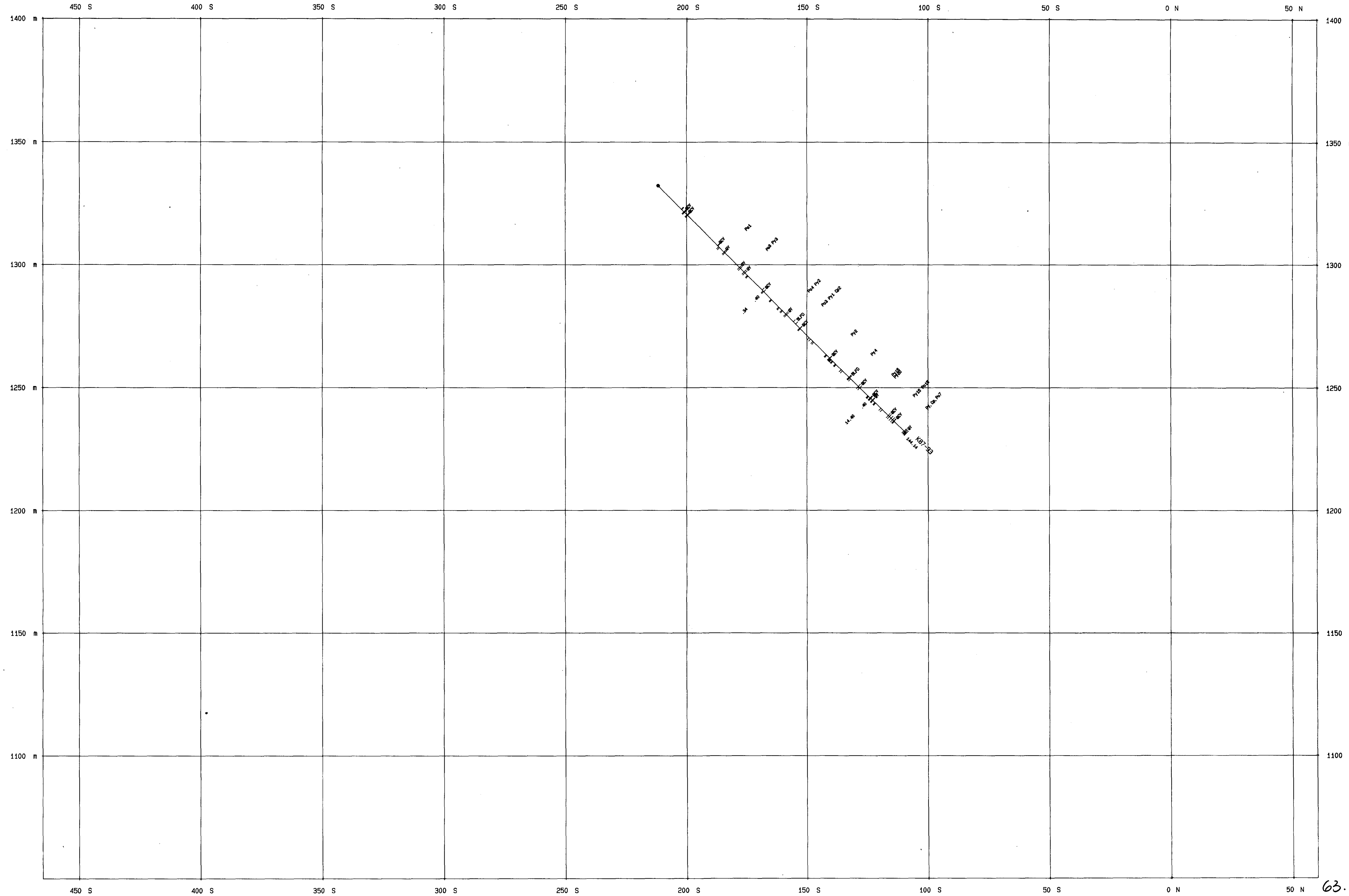
KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 13+00 E
DDH KB7-95, 101
LITHOLOGY / STRUCTURE

12A

OM86-3-C-265

52E10SW0547 63.5282 SHOAL LAKE 450



63.5282

ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	6.00/0.40	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 33
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 13+80 E DDH K87-93 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG 13		

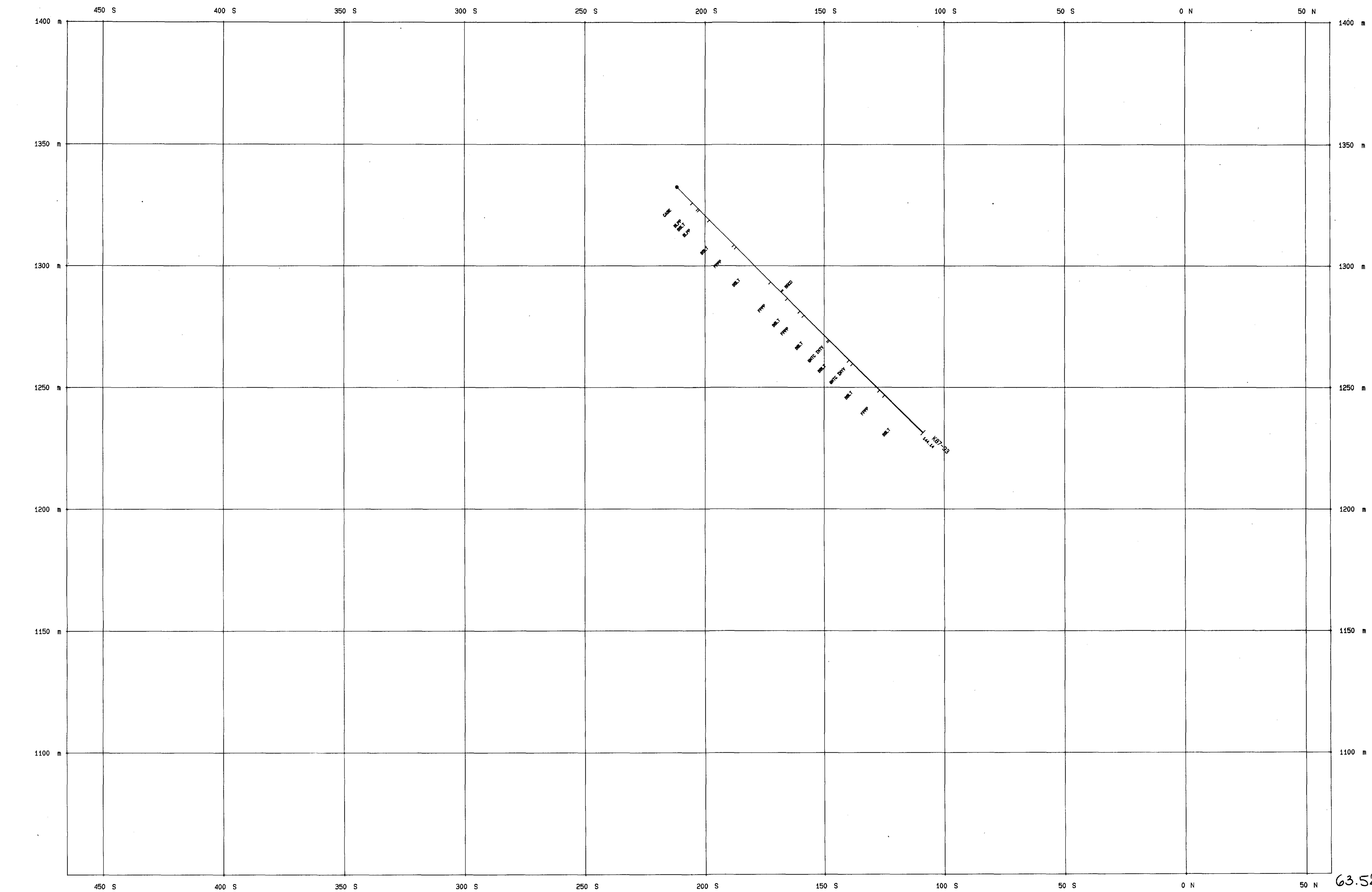
Kevin Leonard

GSII SECT V5.03 DATE 4 /27/1988 TIME 13:31

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

460



63.5282

LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BSLT	Fine/Medium Grained Basalt
INTV	Intrusives
GNTC	Granitic
DORT	Diorite
LMPP DKE	Lamprophyre Dyke
QFPP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRD	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic

Sample Interval

6.80/0.40 Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy

Sample Interval

6.80/0.40 Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 13A 13A

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 13+80 E
DDH K87-93
LITHOLOGY / STRUCTURE

Kevin Leonard

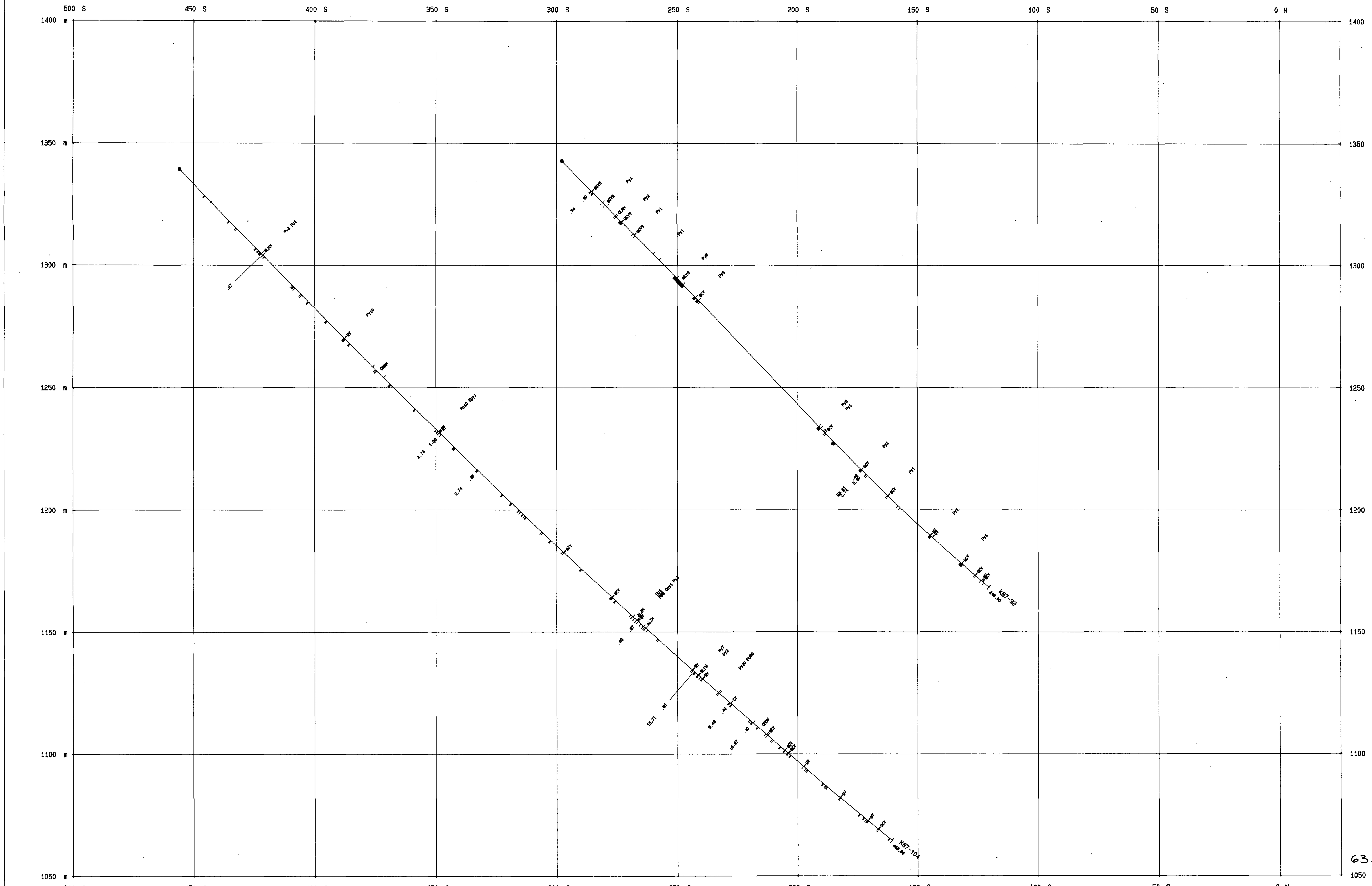
DATE 4 /27/1988 TIME 2 : 24

GBIT SECT V5.03

OM86-3-C-265

52E10SW0547 63.5282 SHOAL LAKE

470



63. 5282

ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFX	Silicification	6.00/0.40	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

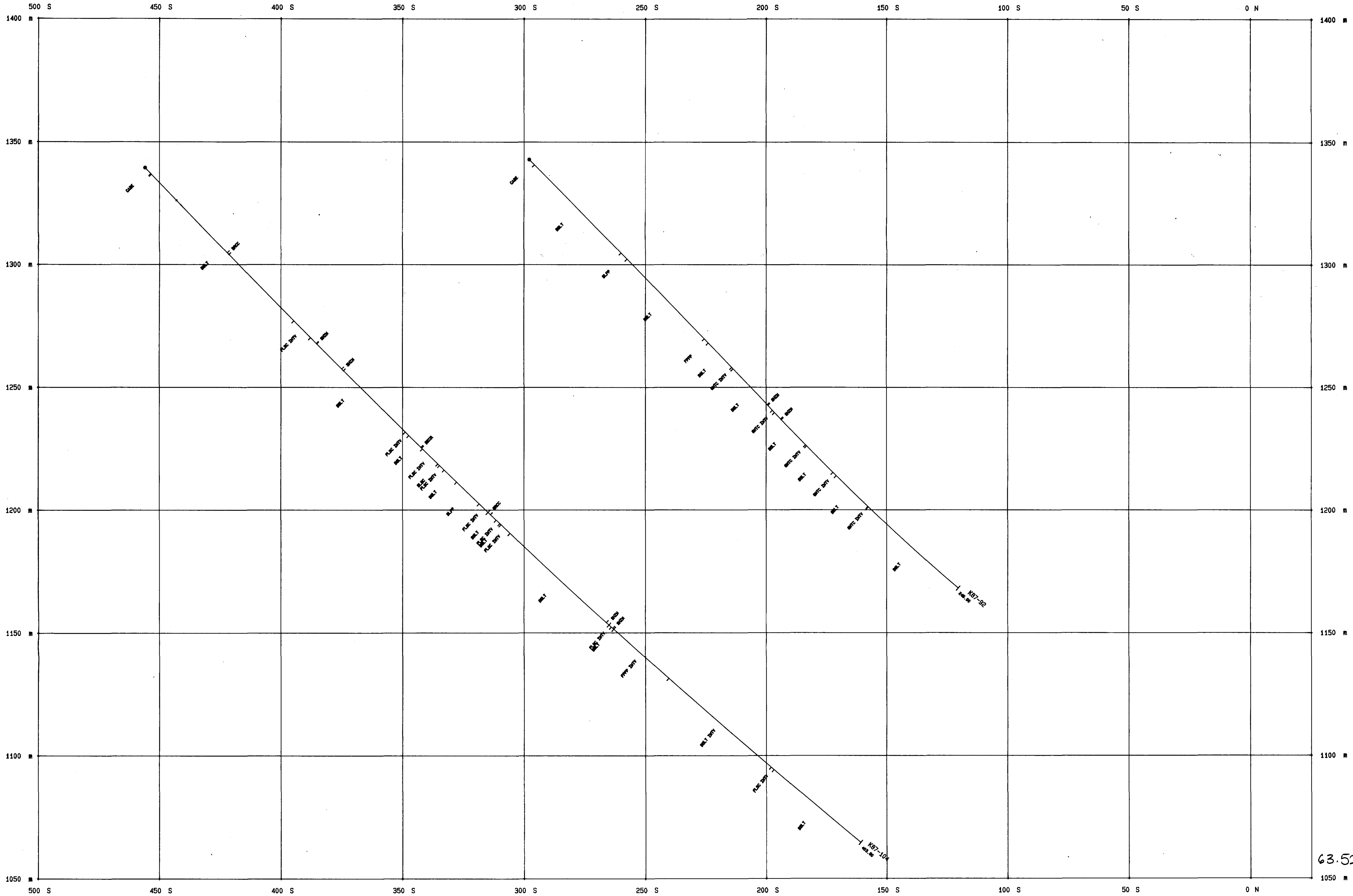
DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 14+30E DDH K87-92, 104 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG 14	14	

GSII SECT V5.00 DATE 4 /27/1988 TIME 1 :59

OM 86-3-C-265

52E10SW0547 63.5262 SHOAL LAKE

480



63.5282

LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BSLT	Fine/Medium Grained Basalt
INTV	Intrusives
GNTC	Granitic
DORT	Diorite
LMPP DKE	Lamprophyre Dyke
QFPP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRD	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic

Sample Interval
6.80/0.40 Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy

Sample Interval
6.80/0.40 Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750
DWG 14A 14A

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

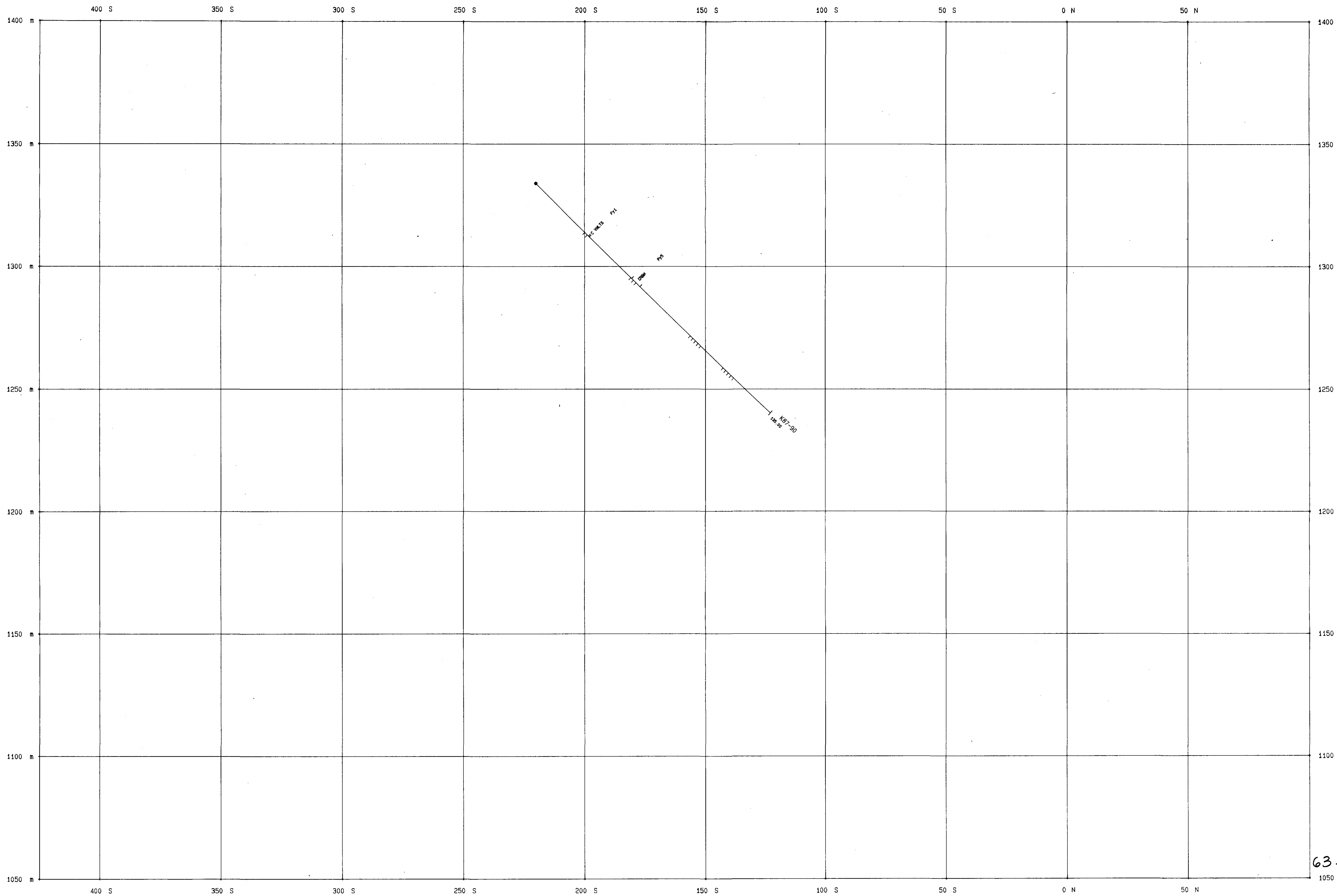
CEDAR ISLAND MAINLAND ZONE
SECTION 14+30E
DDH K87-92, 104
LITHOLOGY / STRUCTURE

GEMS SECT V6.03 DATE 4 /27/1988 TIME 2 : 1

52E10SW8547 63.5282 SHOAL LAKE

490

OM86-3-C-265



63.5282

ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	0.00/0.00	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 14+75E DDH K87-90 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG 15 15		

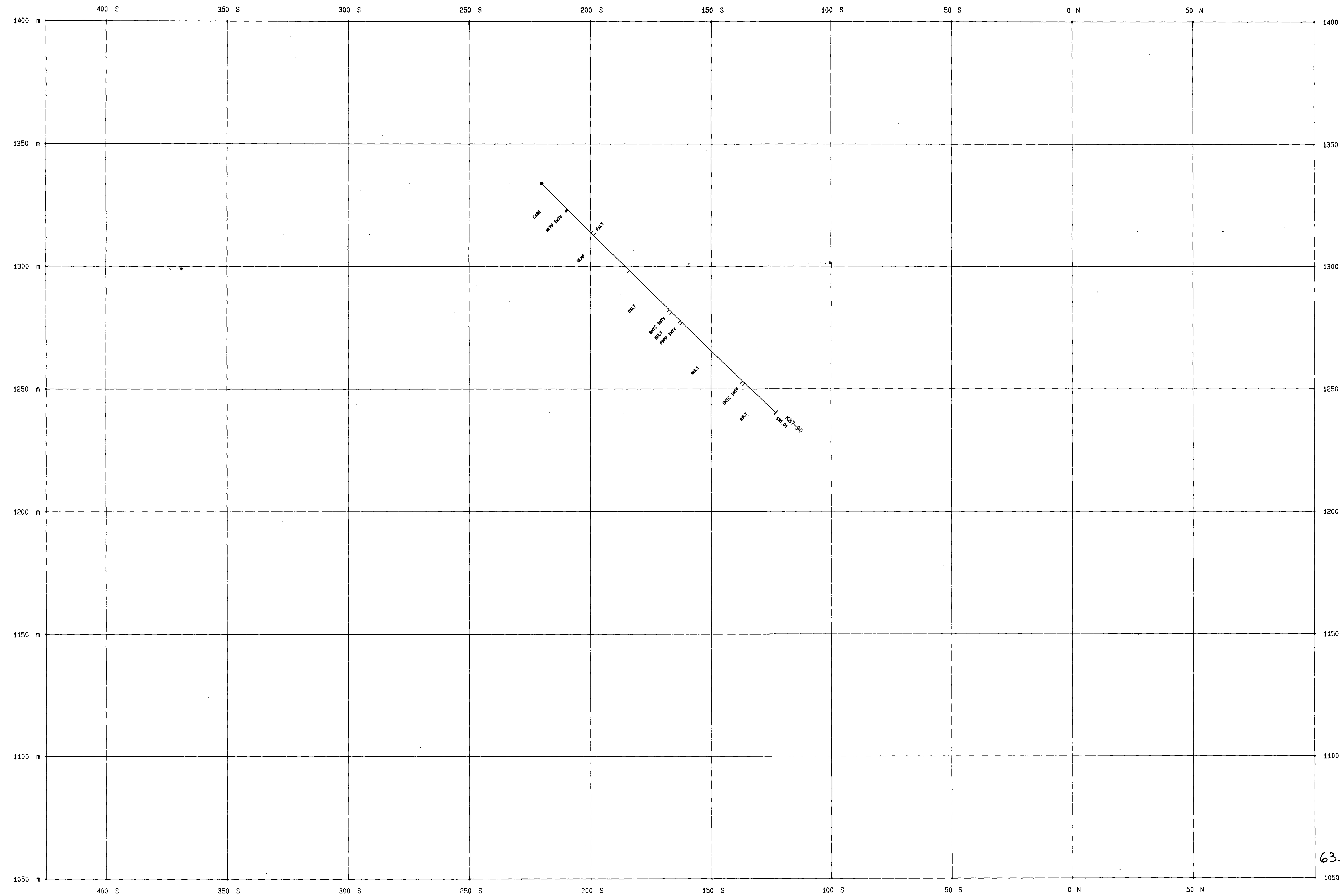
DATE 4 /27/1988 TIME 2 :27

DDII SECT V5.03

52E10SW8547 63.5282 SHOAL LAKE

500

OM86-3-C-265



63.5282

LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BSLT	Fine/Medium Grained Basalt
INTV	Intrusives
GNTC	Granitic
DORT	Diorite
LMPP DKE	Lamprophyre Dyke
QFPP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRD	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic
	Sample Interval
6.00/0.40	Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy
	Sample Interval
6.00/0.00	Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 15A 15A

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 14+75E
DDH K87-90
LITHOLOGY / STRUCTURE

Kevin Leonard

GEIT SECT V5.03 DATE 4 /27/1988 TIME 2:44

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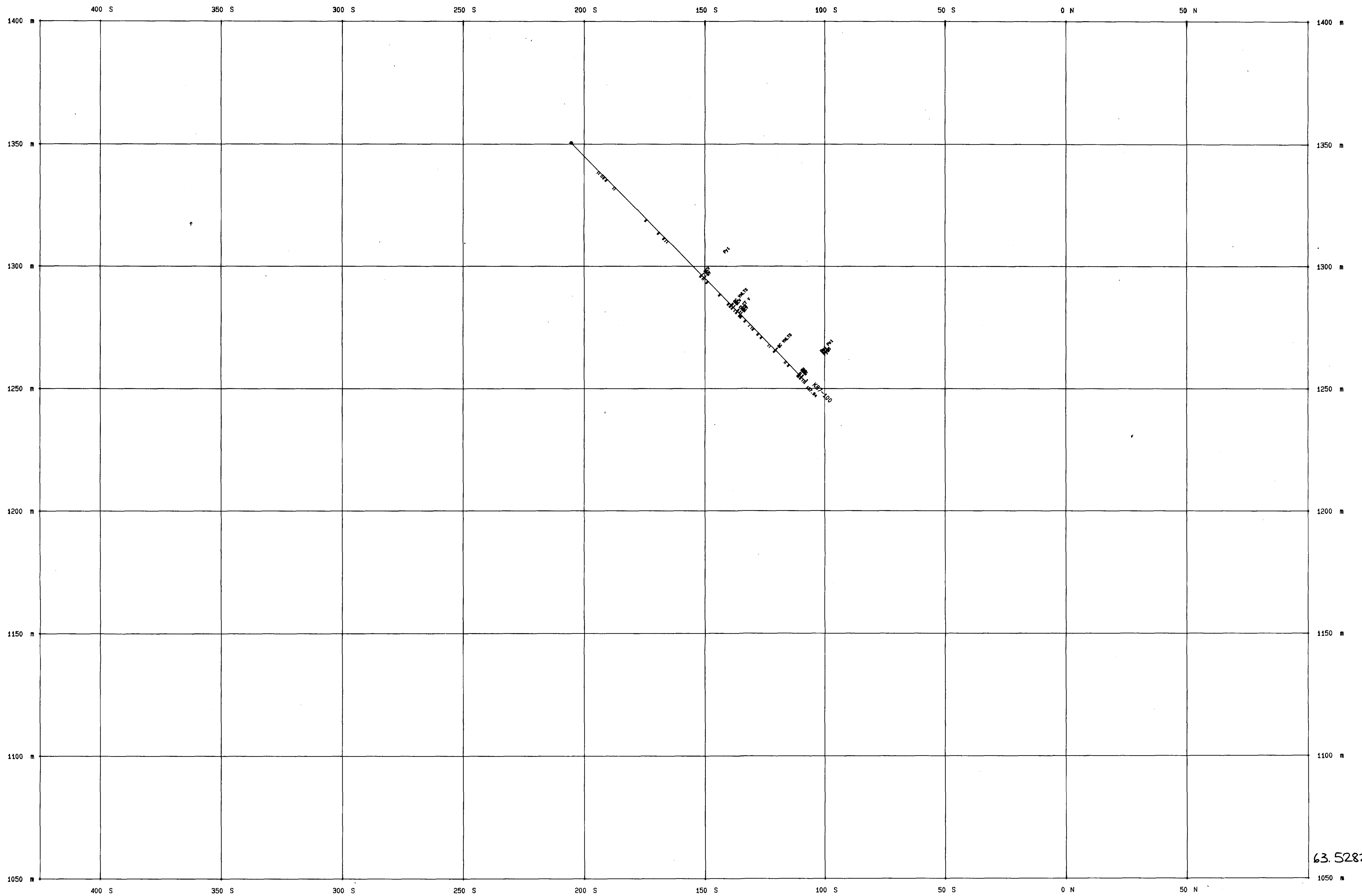
52E10SW8547 63.5282 SHOAL LAKE

510



ALTERATION

QV	Quartz Vein/Veinlet	CLZN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	6.00/0.00	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 15+85E DDH K87-100
DWG 16	16	AU (g/tonne) | WIDTH / ALTN | SULPHIDE

Kevin Leonard

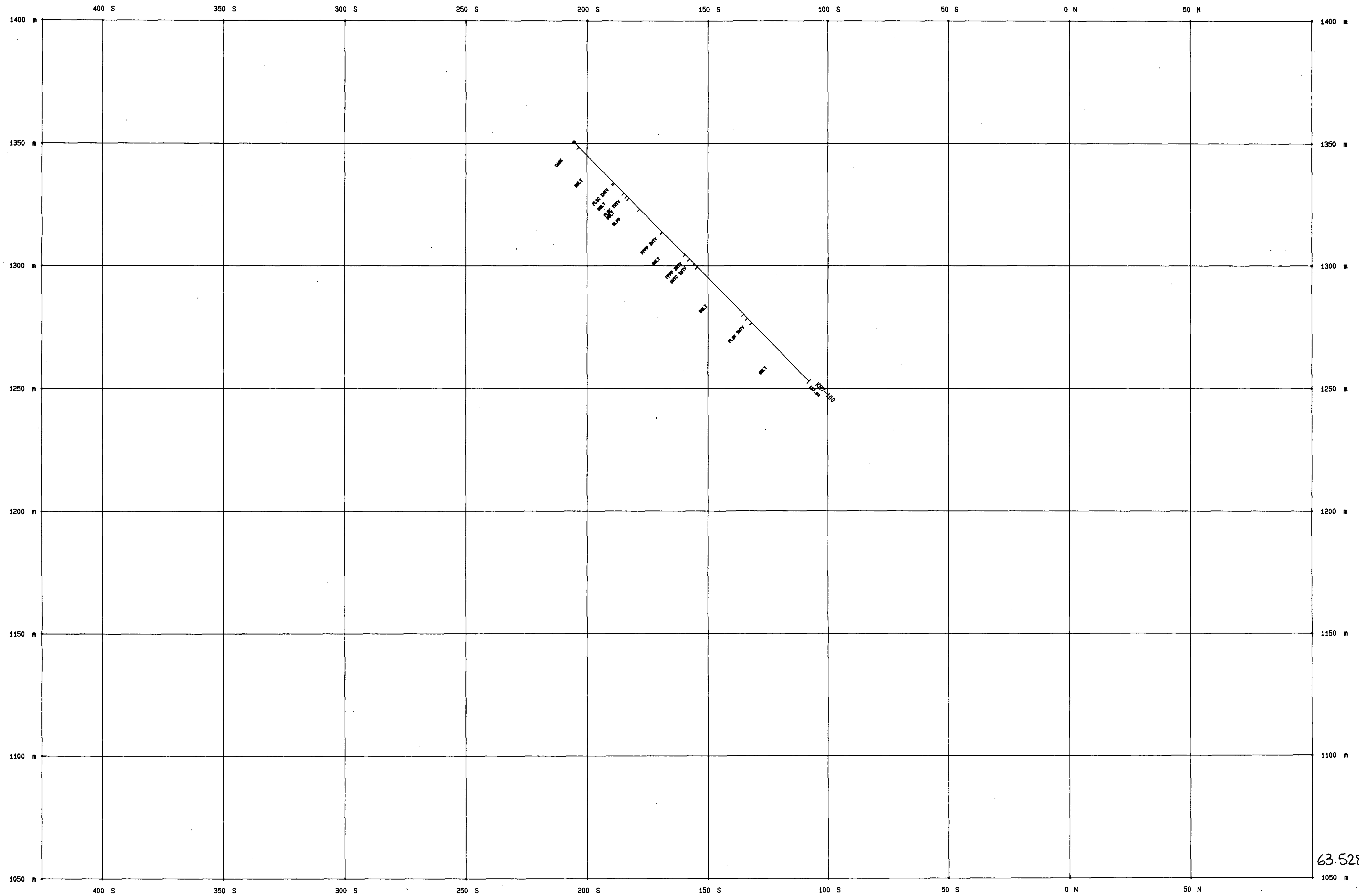
DATE 4 /27/1988 TIME 2 : 52

OSII SECT V5.03

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

520



LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BSLT	Fine/Medium Grained Basalt
INTV	Intrusives
GNTC	Granitic
DORT	Diorite
LMPP DKE	Lamprophyre Dyke
QFPP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRO	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic
	Sample Interval
	Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
YGY	Yuggy
	Sample Interval
6.00/0.40	Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE
SCALE 1: 750	
DWG 16A	16A

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 15+85E
DDH K87-100
LITHOLOGY / STRUCTURE

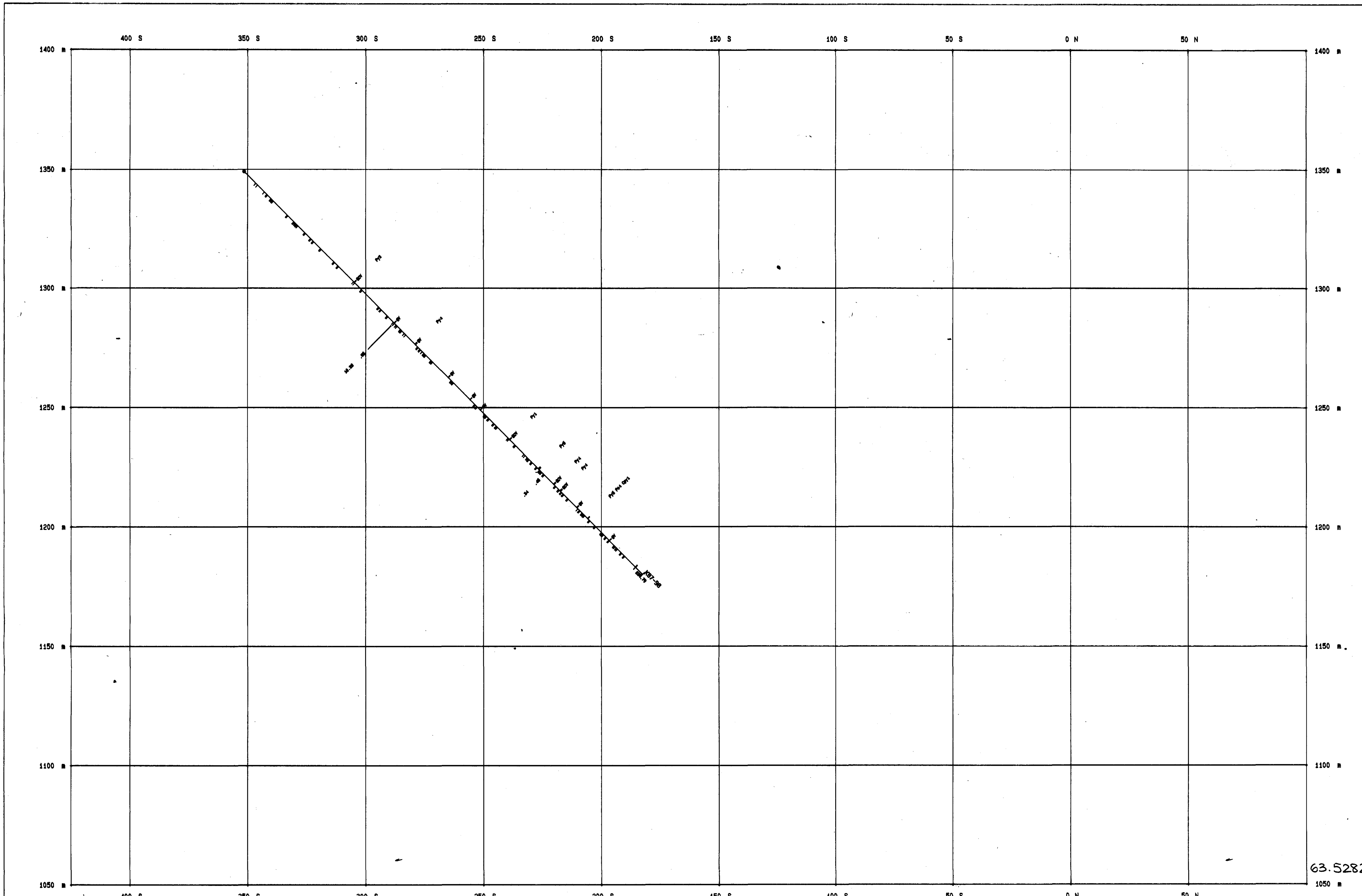
DATE 4 /27/1988 TIME 3 : 2

GEII SECT V5.03

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

530



ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification		Gold Value g/t over metres
MSSL	Massive Sulphide		

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 19+50E DDH K87-98
DWG 17		AU (g/tonne) | WIDTH / ALTN | SULPHIDE

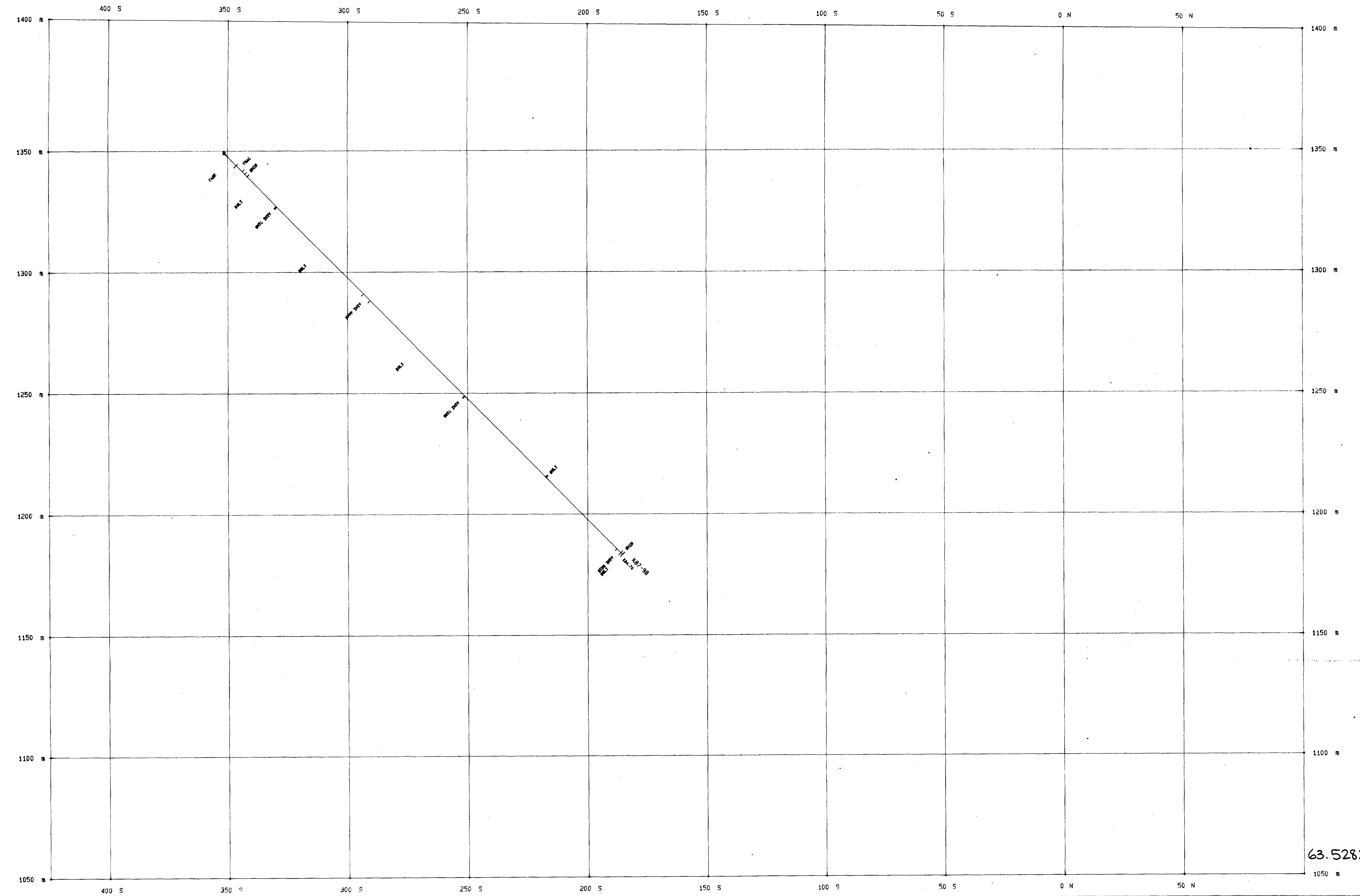
15.0 0 15.0 30.0 m

52E10SW8547 63.5282 SHOAL LAKE

540

OM86-3-C-265

17



63.5282

LITHOLOGY

CASE	Casing	FPPP	Feldspar Porphyry
BLPP	Porphyritic Feldspar Basalt	FLSC	Felsic
BSLT	Fine/Medium Grained Basalt	GDRD	Granodiorite
INTV	Intrusives	ULMF	Ultramafic
GNTC	Granitic	VLCC	Volcanic
DORT	Diorite	ALTD	Altered
LMPP DKE	Lamprophyre Dyke	RDCC	Rhyodacitic
QFPP	Quartz - Feldspar Porphyry		Sample Interval
		6.80/0.40	Gold Value g/t over metres

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 17A

15.0 0 15.0 30.0 m

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

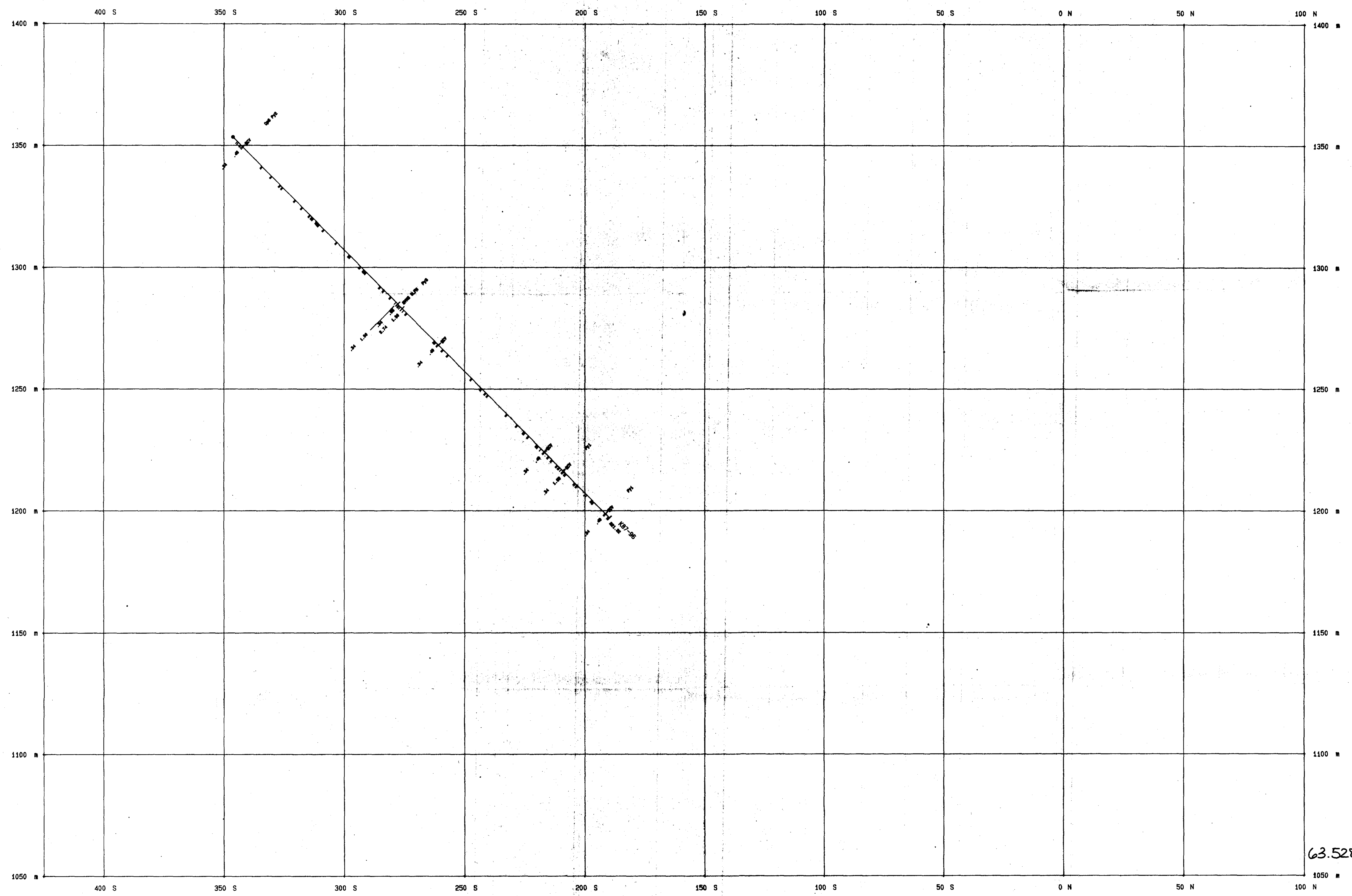
CEDAR ISLAND MAINLAND ZONE
SECTION 19+50E
DDH K87-98
LITHOLOGY / STRUCTURE

Kevin Leonard

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

550



63.5282

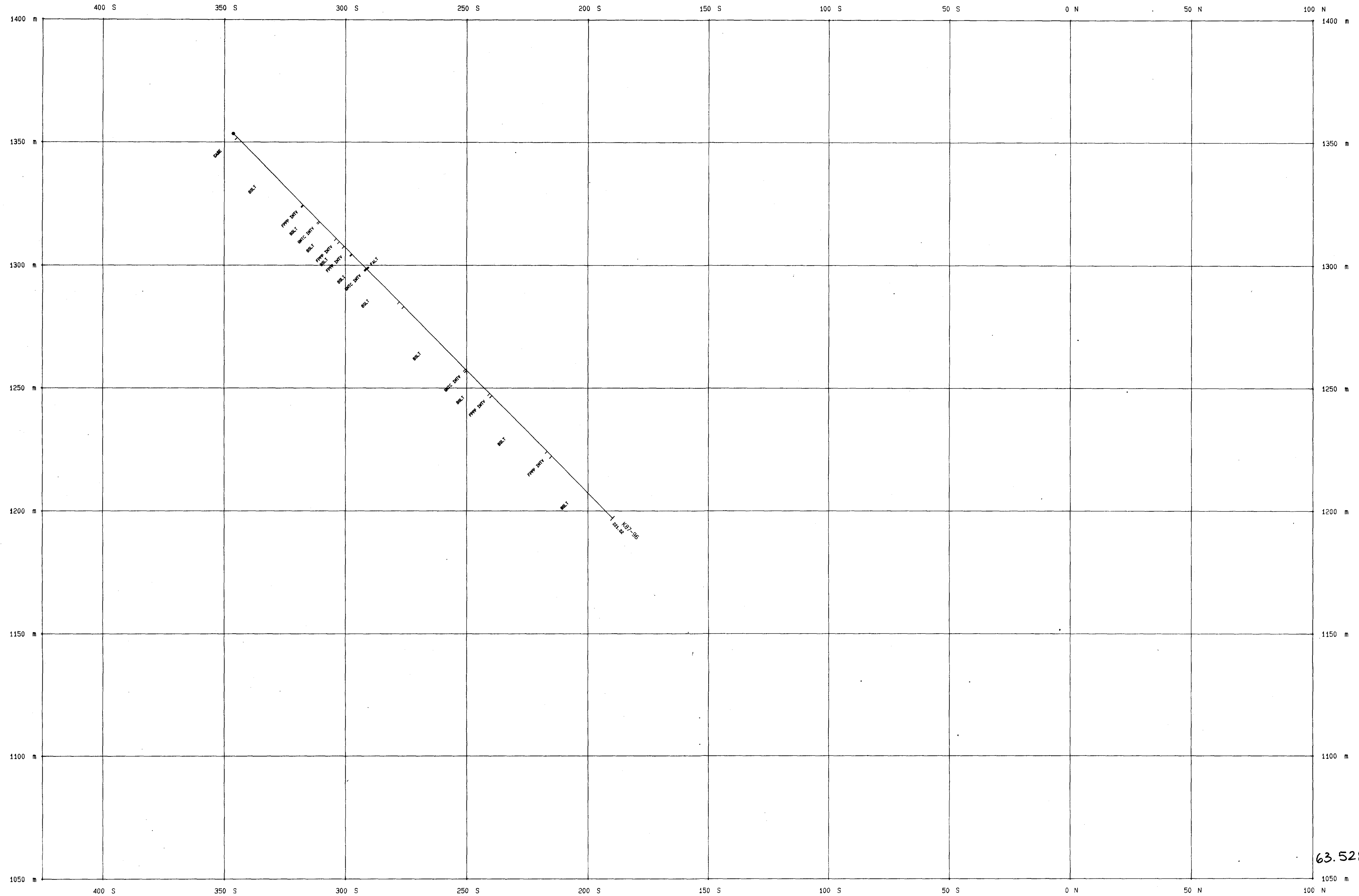
DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 20+00E DDH K87-96 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG. 18		

15.0 0 15.0 30.0 m

52E10SW0547 63.5282 SHOAL LAKE

560

OM86-3-C-265



63.5282

STRUCTURE

BRCC	Brecciated	FTZN	Fault Zone
FALT/FT	Fault	BRCC ZN	Brecciated Zone
SHZN	Shear Zone	FRCD	Fractured
FTGG	Fault Gouge	FLTD	Foliated
BKCR	Broken Core	VGY	Vuggy
DCTC	Ductile		Sample Interval
DEFM	Deformation		Gold Value g/t over metres

DRAWN BY	DATE
REVISED BY	DATE

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

15.0 0 15.0 30.0 m

SCALE 1: 750

DWG 18A

CEDAR ISLAND MAINLAND ZONE
SECTION 20+00E
DDH K87-96
LITHOLOGY / STRUCTURE

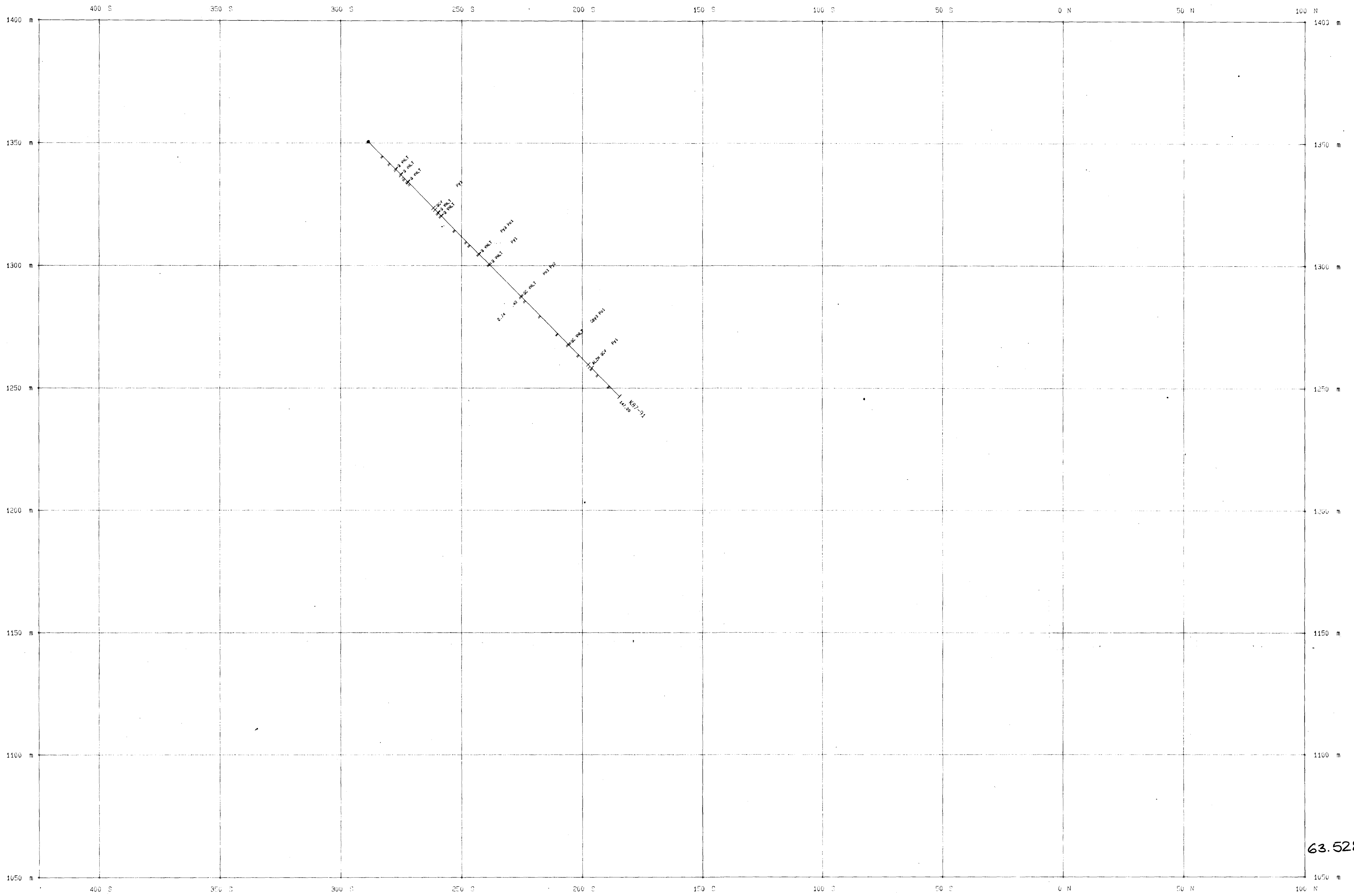
DATE 4 /29/1988 TIME 13:15

GSII SECT V5.03

52E10SW0547 63.5282 SHOAL LAKE

570

OM86-3-C-265



63.5282

ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCY	Quartz Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	6.80/0.40	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 20+25E DDH K87-91 AU (g/tonne) | WIDTH / ALTN | SULPHIDE
DWG 19		

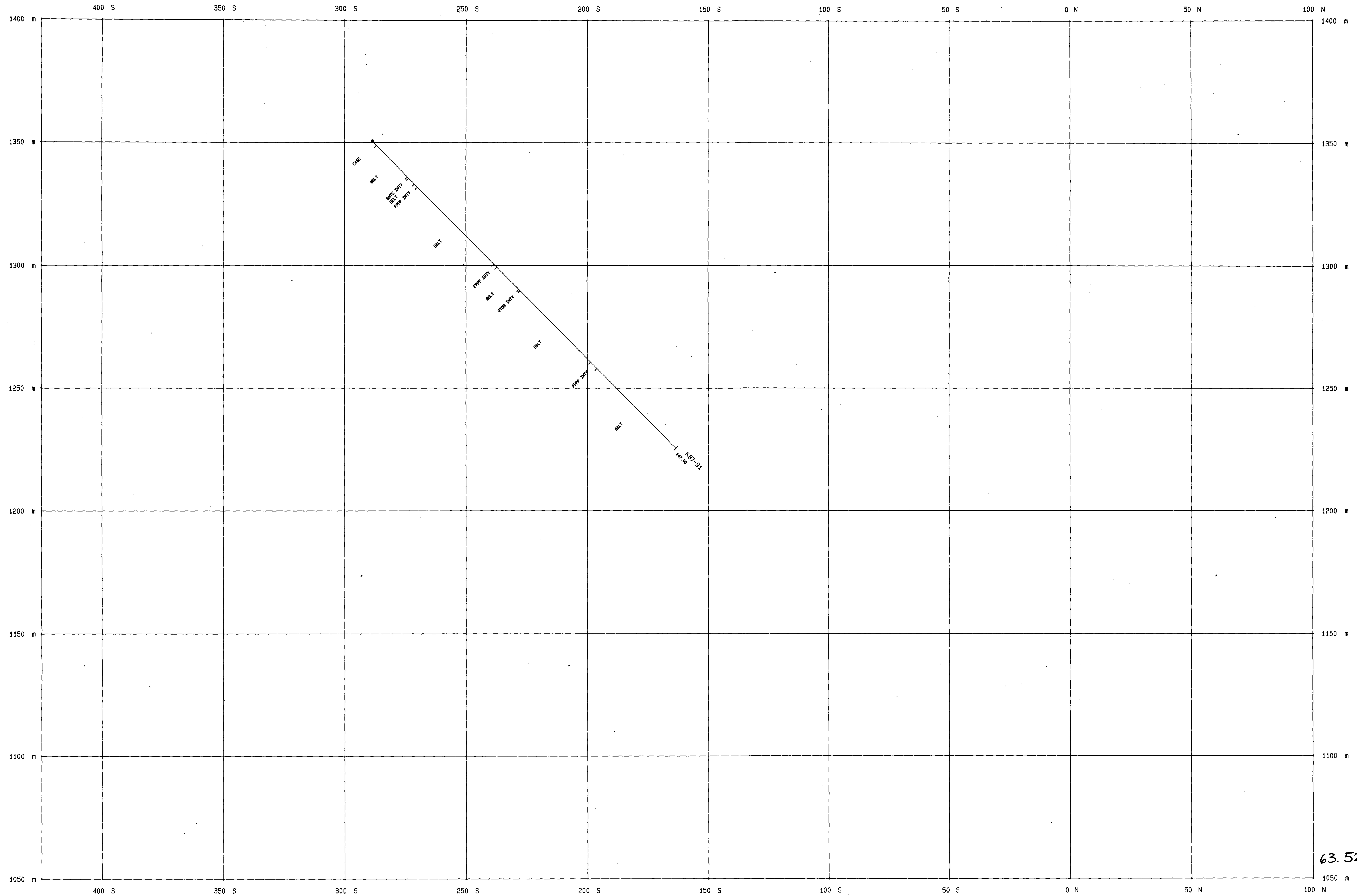
Kevin Leonard

GSII SECT V5.03 DATE 4 /27/1988 TIME 4 : 12

52E10SW8547 63.5282 SHOAL LAKE

580

OM86-3-C-265



63.5282

LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BSLT	Fine/Medium Grained Basalt
INTV	Intrusives
GNTC	Granitic
DORT	Diorite
LMPP DKE	Lamprophyre Dyke
QFPP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRD	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic

Sample Interval
6.80/0.40 Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy

Sample Interval
6.80/0.40 Gold Value g/t over metres

15.0 0 15.0 30.0 m

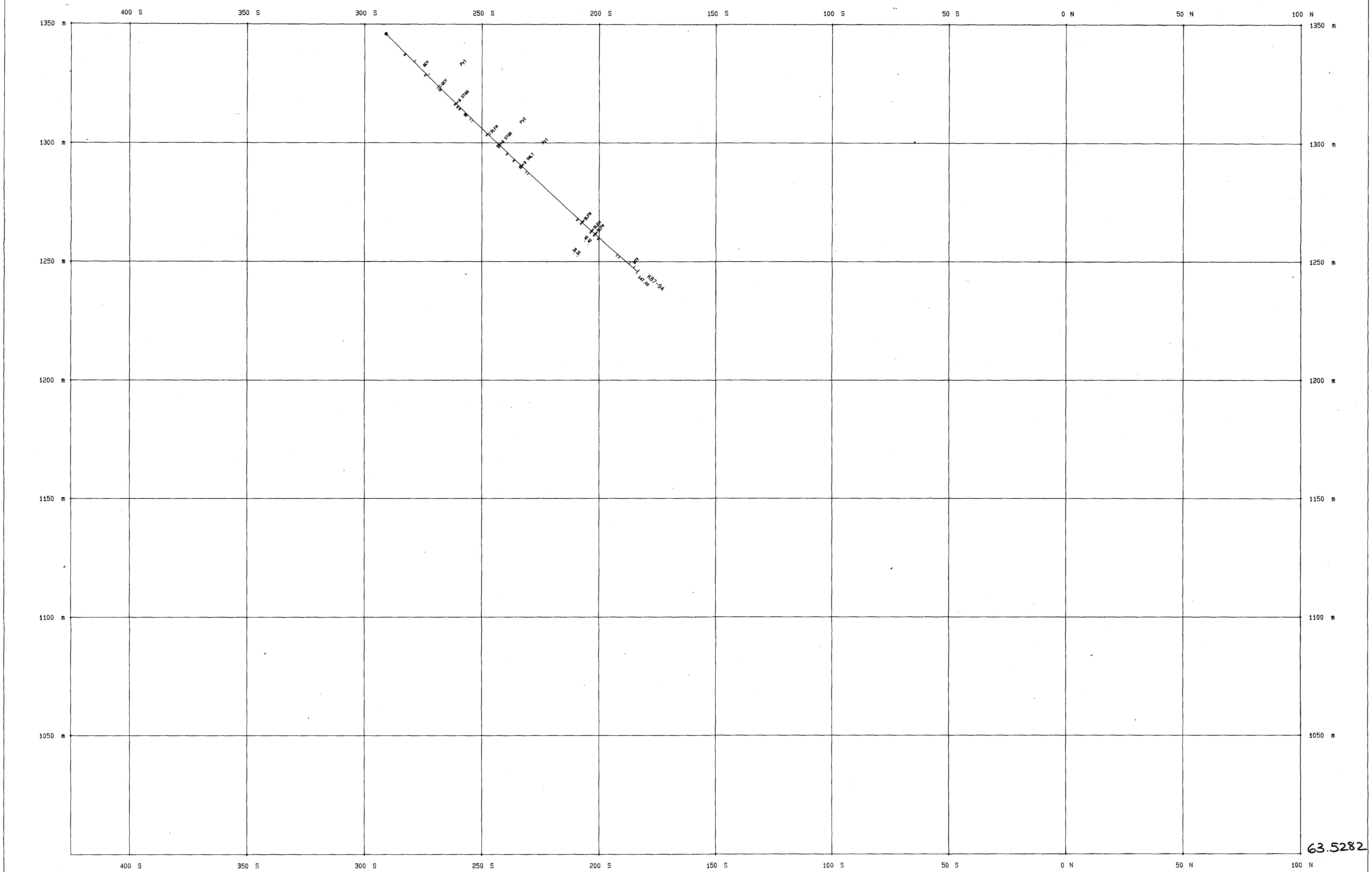
DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 750		CEDAR ISLAND MAINLAND ZONE SECTION 20+25E DDH K87-91 LITHOLOGY / STRUCTURE
DWG 19A		

GSII SECT V5.03 DATE 4 /27/1988 TIME 4 : 15

52E10SW8547 63.5282 SHOAL LAKE

590

OM86-3-C-265



ALTERATION

QV	Quartz Vein/Veinlet	CLRN	Chloritization
QCV	Quartz-Calcite Vein/Veinlet	ALZN	Altered Zone
SLFD	Silicified	MNZN	Mineralized Zone
CRBN	Carbonization	STGR	Stringer
VNS	Veins	SLCS ZN	Siliceous Zone
VNLTS	Veinlets		Sample Interval
SLFN	Silicification	6.80/0.40	Gold Value g/t over metres
MSSL	Massive Sulphide		

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE
SCALE 1: 750	
DWG 20	

ST. JOE CANADA INC.

KPM (SHOAL LAKE) PROJECT 332

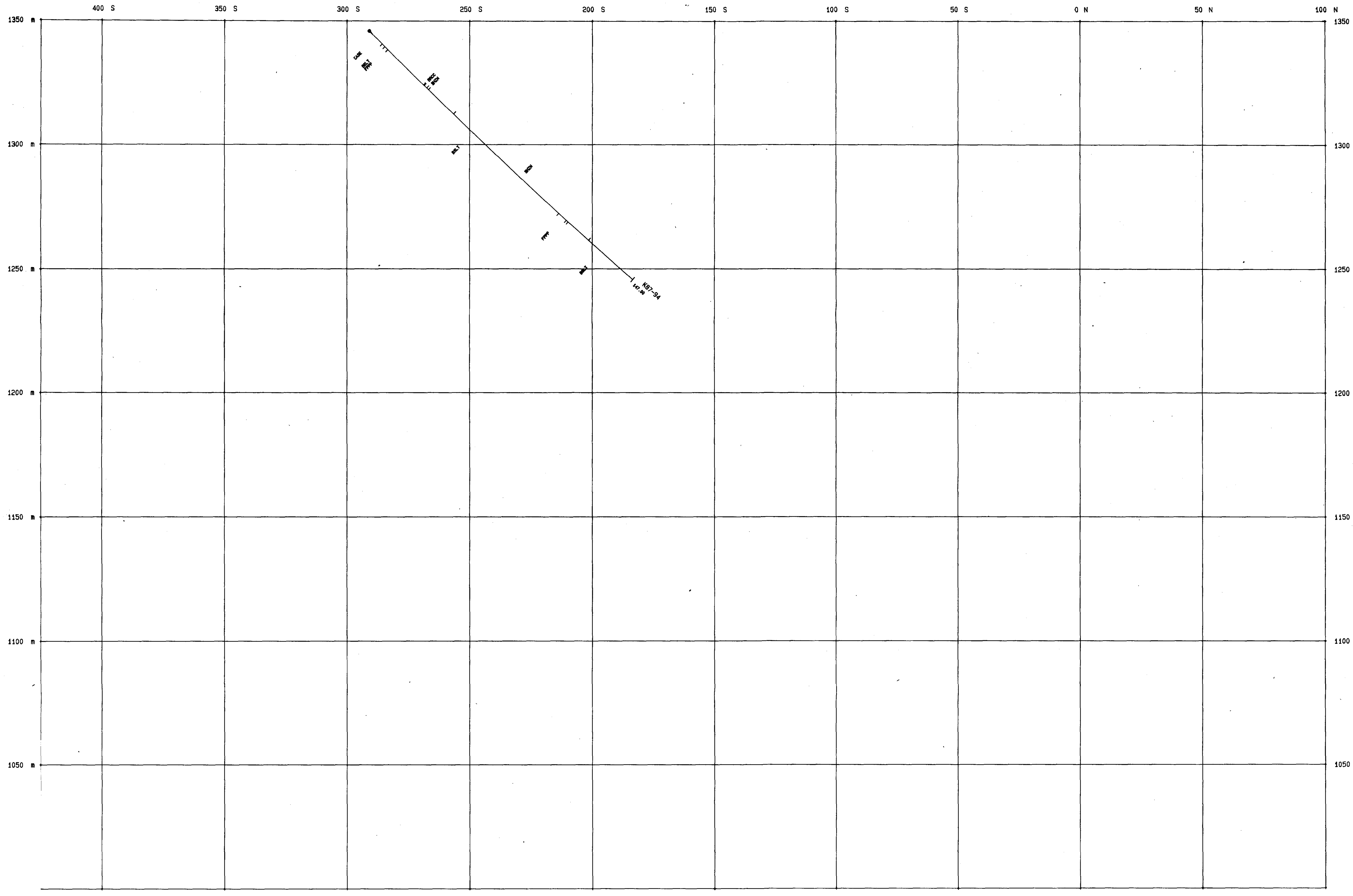
CEDAR ISLAND MAINLAND ZONE
SECTION 20+80 E
DDH K87-94
AU (g/tonne) | WIDTH / ALTN | SULPHIDE

OSII SECT V5.03 DATE 4 /27/1988 TIME 4 : 16

52E10SW8547 63.5282 SHOAL LAKE

600

OM86-3-C-265



63.5282

LITHOLOGY

CASE	Casing
BLPP	Porphyritic Feldspar Basalt
BSLT	Fine/Medium Grained Basalt
INTV	Intrusives
GNTC	Granitic
DORT	Diorite
LMPP DKE	Lamprophyre Dyke
QFPP	Quartz - Feldspar Porphyry
FPPP	Feldspar Porphyry
FLSC	Felsic
GDRD	Granodiorite
ULMF	Ultramafic
VLCC	Volcanic
ALTD	Altered
RDCC	Rhyodacitic
	Sample Interval
6.80/0.40	Gold Value g/t over metres

STRUCTURE

BRCC	Brecciated
FALT/FT	Fault
SHZN	Shear Zone
FTGG	Fault Gouge
BKCR	Broken Core
DCTC	Ductile
DEFM	Deformation
FTZN	Fault Zone
BRCC ZN	Brecciated Zone
FRCD	Fractured
FLTD	Foliated
VGY	Vuggy
	Sample Interval
6.80/0.40	Gold Value g/t over metres

15.0 0 15.0 30.0 m

DRAWN BY	DATE
REVISED BY	DATE

SCALE 1: 750

DWG 20A

ST. JOE CANADA INC.

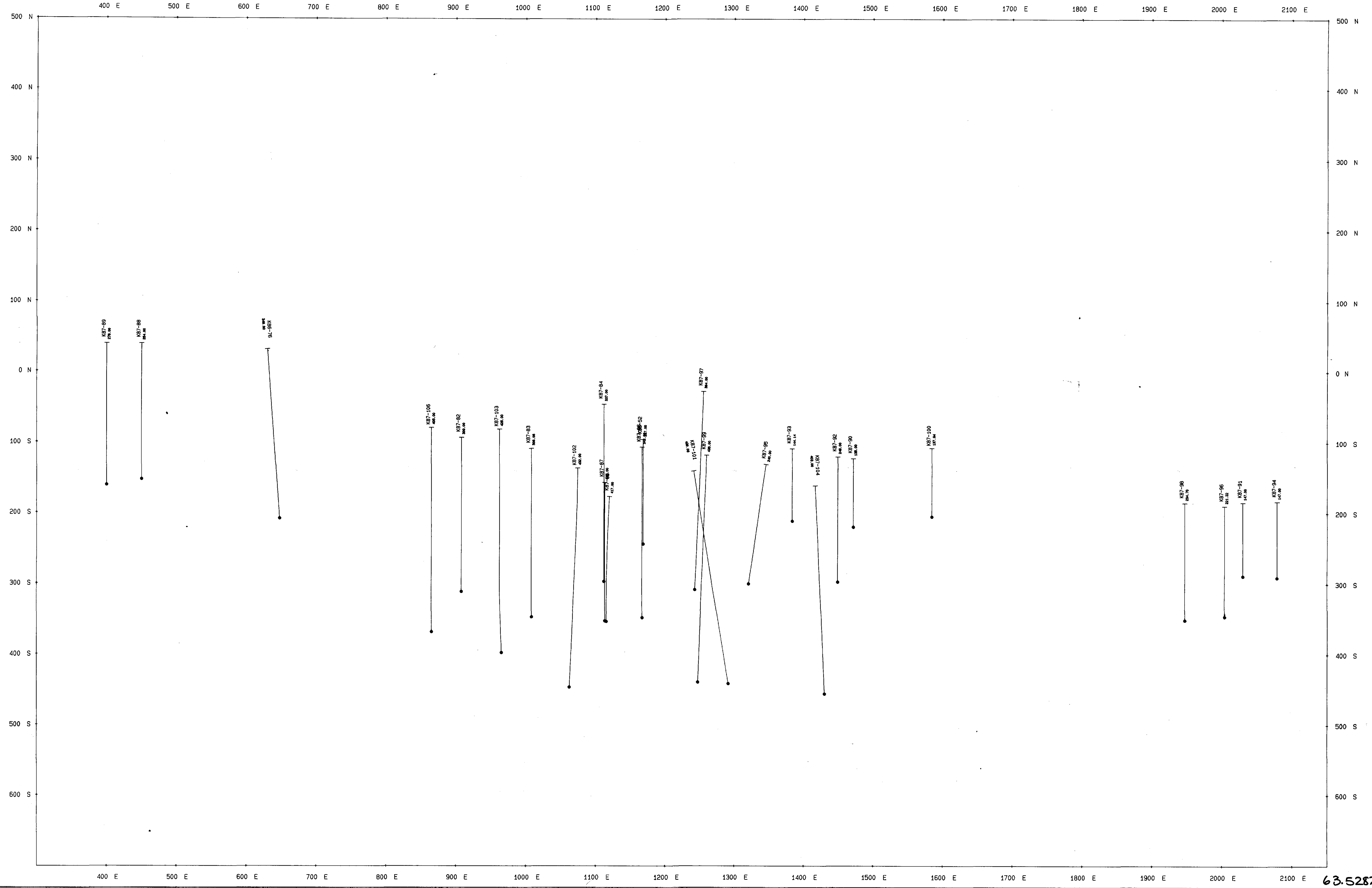
KPM (SHOAL LAKE) PROJECT 332

CEDAR ISLAND MAINLAND ZONE
SECTION 20+65E
DDH K87-94
LITHOLOGY / STRUCTURE

OM86-3-C-265

52E10SW8547 63.5282 SHOAL LAKE

610



63.5282

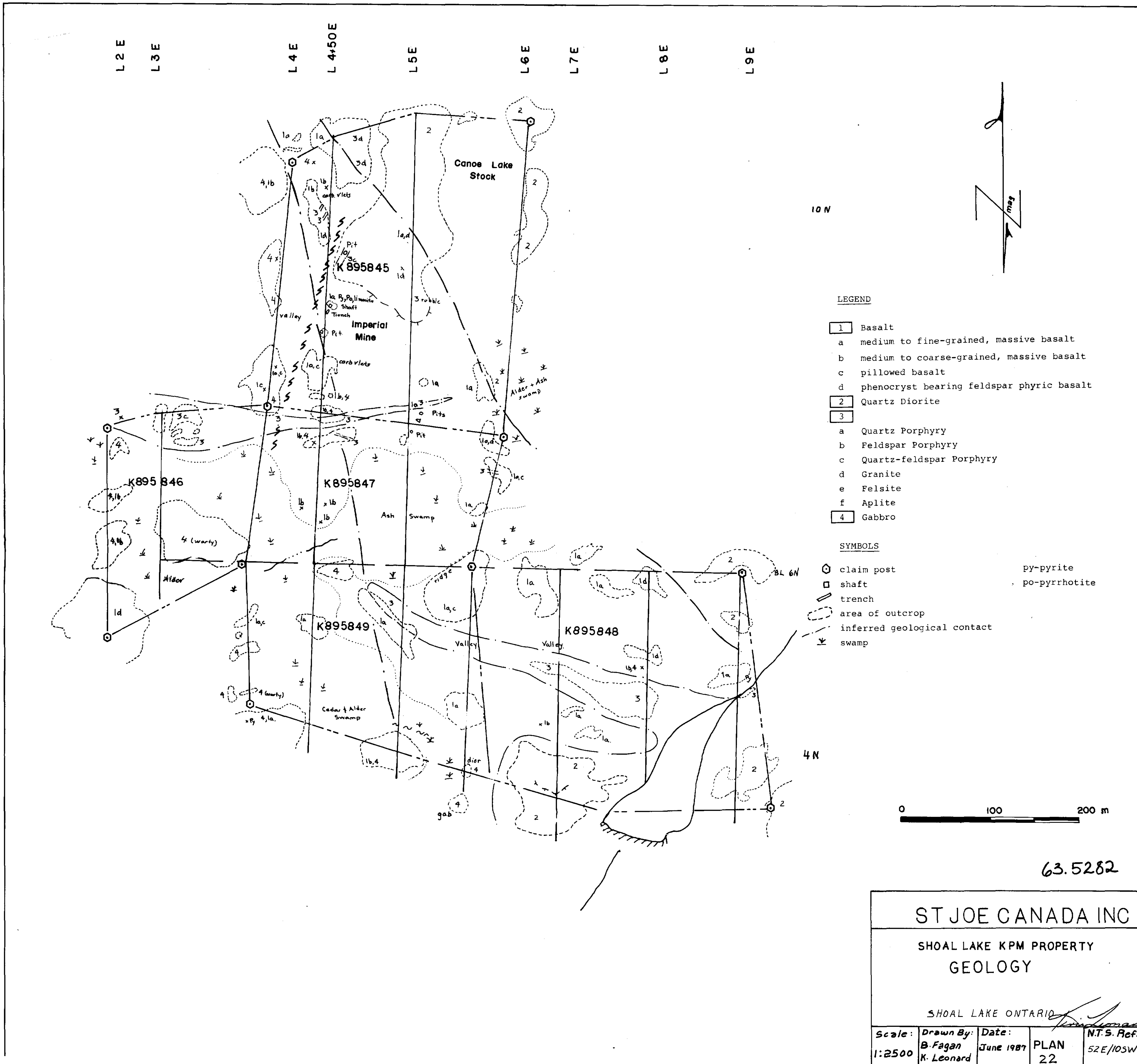
DRAWN BY	DATE	ST. JOE CANADA INC.
REVISED BY	DATE	KPM (SHOAL LAKE) PROJECT 332
SCALE 1: 2500		CEDAR ISLAND MAINLAND ZONE DRILL HOLE LOCATION & SURFACE PROJECTION DDH K86-52, 76, K87-82 TO 104, 106
DWG 21		

50.0 0 50.0 100.0 m

52E10SW8547 63.5282 SHOAL LAKE

620

OM86-3-C-265



52E10SW8547 63.5282 SHOAL LAKE

630

OM86-3-C-265