

DIAMOND DRILLING

TOWNSHIP: HORWOOD

REPORT NO: 28

WORK PERFORMED FOR: St. Joe Canada Inc.

RECORDED HOLDER: Same as Above [xx] : Other []

Claim No.	Hole No.	Footage	<u>Date</u>	<u>Note</u>
964032/ 964033	PP-1	806.7'	Dec/87	(1)
964032	PP-2	492.1'	Dec/87	(1)
964033	PP-3	459.2'	Jan/88	(1)
964034	PP-4 PP-5 PP-6	483.9' 396.3' 162.1'	Dec/87-Jan/88 Jan/88 Jan/88	(1) (1) (1)
		2800.3		

Notes: (1) W8806.095, filed in Aug/88

	ST.	JOE	CANADA			DIAMO	OND DRILL	. HOLE R	ECORD				Page #1 of	10	
Hole No. Property Section Claim No. Target	PP-1 Pinecone Point Main Zone	Northing Easting Elevation Survey N. Survey E.	L450E	Grid Orient Grid Azim. Length (M) Dip-Collar Comp Bearing			Azimuth 036	Test	Depth 100.0		Azimuth	Test	Started Finished Drill Co. Drill No. Drill For.	December 10, 1987 December 15, 1987 Falcon Drilling	P. Huxhold P. Huxhold BQ
FROM TB		DESCRIPTION	***************************************		 			SAMPLE	F	RDH	10	WIDTH	Au ppb		

SUMMARY

0.00 5.18 Casing

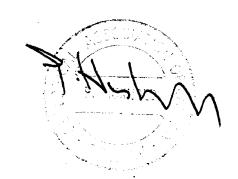
5.18 56.46 Mafic Intrusion

41.60 42.00 Silicified Zone

56.46 59.22 Mafic Intrusive

ONTARIO GEOLOGICAL SURVEY
ASSESSMENT FILES
OFFICE

APR 22 1988



DESCRIPTION

SAMPLE

WIDTH

ppb

5.18 Casing

56.46 Mafic Intrusion

- grey-green, medium-grained (1mm diameter) , massive; 20-25% biotite; trace very finely disseminated pyrite; occasional scattered hairline fracture at low angles to CA with chlorite; gouge, ground core plus yellowy-brown limonitic staining from 5.40-5.65m; 5.78-6.35m; 6.65-7.10m; 7.20-9.26m; 10.15-10.34m.

10.53-10.66m; after approx. 20.00m gradual increase in chloritization of matrix - from 5.18m to approx. 37.00m approx. 20-25% of core is highly broken due to drilling down fracture system at shallow angles to CA; at 10.42m hairline fracture with chlorite; 20 deg. to CA; at 11.42m - hairline fracture with chlorite; approx. 80 deg. to CA; at 12.65m - hairline fracture with chlorite. approx. 15 deq. to CA; at 12.77m - hairline fracture with chlorite; approx;

20 deg. to CA; at 13.70m - hairline fracture with chlorite; approx. 10 deg. to CA: at 144.12m - hairline fracture with chlorite plus trace finely disseminated pyrite; approx. 20 deg. to CA; at 14.75m - hairline fracture with chlorite approx. 15 deq. to CA; at 14.87e - hairline fracture with chlorite; approx. 15 deg. to CA; at 16.40m - 1cm wide epidotized band; approx. 75 deg. to CA; weak carbonatization; at 17.45m - 2cm wide epidotized band; approx. 75 deg. to CA. at 17.75m - hairline fracture with chlorite; approx. 15 deg. to CA; at 19.38a -

Icm wide epidotized band; approx. 75 deq. to CA; weak carbonatization; at 19.80m - hairline fracture with chlorite; approx. 15 deg. to CA; weak carbonatization; at 20.27m - hairline fracture with clorite; approx. 60 deq. to CA; weak carbonatization; at 20.40-21.00m - zone of increased hairline fracturing at shallow angles to EA (15-20 deg.) and crosscutting high angles to CA (60-75 deg.); chlorite; + trace pyrite on fracture planes; weak carbonatization; at 21.57s - hairline fracture with chlorite; approx. 15 deg; to CA; slickensides at 70 deg. to CA; at 21.89s - hairline fracture with chlorite; approx. 20 deg. to CA; slickensides at 70 deg. to CA (as above) at 22.10m - hairline fracture (0.5cm) with quartz vein, chlorite; approx; 20 deg. to CA with slickensides on fracture plane at approx. 70 deg. to CA;

22.255-23.30m - zone of hairline fractures with chlorite; approx. 50 deg. to CA - very weak scattered carbonatization along fractures: at 24.74m -

·		ST.	JOE CANADA	PR0	PERTY ~	Pinecone	Point		HOLE - PP-1	PAGE # 3	
FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb			
			hairline fracture with chlorite; approx. 80 deg. to CA; at 25.12m - hairline								
			fracture with chlorite; approx. 75 deg. to CA; at 26.00m - hairline fracture with chlorite; approx. 15 deg. to CA with crosscutting slickensides (as above); at								
			26.45m - hairline fracture with chlorite; approx. 35 deg. to CA with cross-								
			cutting slickensides approx. 80 deg. to CA; at 27.50m - hairline fracture with chlorite; approx. 20 deg. to CA with crosscutting slickensides approx.								
			75 deg. to CA; moderate carbonatization; at 29.60m - hairline fracture with chlorite; approx. 30 deg. to CA; at 30.30m - hairline fracture with chlorite.								
		-	approx. 45 deg. to CA; at 33.40m - hairline fracture with chlorite; approx.								
			15 deg. to CA; weakly carbonatized; at 34.53m - hairline fracture with chlorite.								
			20 deg. to CA with crosscutting slickensides approx. 80 deg. to CA; at 35.50m - hairline fracture with chlorite; approx. 65 deg. to CA; at 36.60m -								
			hairline fracture with chlorite; approx. 10 deg. to CA with crosscutting								
			slickensides approx. 70 deg. to CA; at 38.09m - hairline fracture with chlorite; approx;								
			45 deg. to CA with moderate carbonatization; at 39.30m - hairline fracture with chlorite; approx. 15 deg. to CA; at 40.07m - felsite dyke; salmon colour. fine-grained, sharp contacts approx. 60 deg. to CA; 1cm wide								
1.60	42.00 Sil	icified Zone	· · · · · · · · · · · · · · · · · · ·								
			- very weak	6601	41.60	42.60	1.00	۵			
	42.	60 - 43.22	- zone of increased fractures with chlorite; + trace pyrite; approx. 30-45 deg; to CA	90/1	71.00	42. DV	1.00	0.			
	47	EA 47 /A	Silicified Zone	6602	42.60	43.30	0.70	10.			
	40.	50 - 43.60	- very weak								
5.46	50 22 Mad	ic Intrusive		6603	43.30	44.30	1.00	0.			
9.70	JI.ZZ nat	ic inclusive	- dark green-grey, fine-grained, massive; upper contact arbitrary; lower contact gradational; massive-looking, little/no brittle deformation;								
			estimated 15-20% biotite						•		
	.	22 - 84.70	Mafic Intrusive (Altered)	6604	59.22	60.00	0.78	0.			
			- dark green-grey, fine-grained; 1-3% (lem diameter) irregular-shaped buff- coloured blotches (chloritized biotite); upper contact gradational; massive	6605 6606	60.00 61.00	61.00 62.00	1.00 1.00	0. 0.			
			to the state of th	0000	AT+AA	07100	1.00	٧.			

	8	T. JOE CANADA	PROI	PERTY -	Pinecone :	Point		HOLE - PP-1	PAGE # 4
)ñ	TO	DESCRIPTION	SAMPLE	FROM	10	WIDTH	Au ppb		
		looking unit except for minor ground sections where shallow—angled fractures	6607	62.00	63.00	1.00	0.		
		were intersected; trace-1% disseminated and "bleby" pyrite throughout (N.B.	6608	63.00	64.00	1.00	0.		
		blotchy nature of unit is a hydrothermal overprint); 1-2% (0.1-0.2mm	6609	64.00	65.00	1.00	0.		
		diameter) biotite; at 61.00m - hairline fracture with chlorite; approx. 15	6610	65.00	66.00	1.00	0.		
		deg. to CA with crosscutting slickensides approx. 55 deg. to CA; at 68.89m -	6611	66.00	67.00	1.00	0.		
		hairline fracture with chlorite; approx. 30 deg. to CA with crosscutting	6612	67.00	68.00	1.00	0.		
		slickensides at approx. 75 deg. to CA; at 69.14m - 4cm long bull quartz "	6613	68.00	69.00	1.00	0.		
		sweat"; at 69.97m -	6614	69.00	70.00	1.00	0.		
		3cm long bull quartz "sweat"; at 83.25m - hairline fracture with chlorite.	6615	70.00	71.00	1.00	0.		
		approx. 50 deg. to CA	6616	71.00	72.00	1.00	0.		
			6617	72.00	73.00	1.00	0.		
			6618	73.00	74.00	1.00	0.		
			6619	74.00	75.00	1.00	0.		
			6620	75.00	76.00	1.00	0.		
			6621	76.00	77.00	1.00	0.		
			6622	77.00	78.00	1.00	0.		
			6623	78.00	79.00	1.00	0.		
			6624	79.00	80.00	1.00	0.		
			6625	80.00	81.00	1.00	0.		
			6626	81.00	82.00	1.00	0.		
			6627	82.00	83.00	1.00	0.		
			6628	83.00	84.00	1.00	0.		
			6629	84.00	84.70	0.70	0.		
	84.70 -	91.68 Feldspar Porphyry	6630	84.70	86.00	1.30	0.		
		- grey-salmon-pink, fine-grained, massive-looking with approx. 2-4% (1mm	6631	86.00	87.00	1.00	0.		
		diameter) irregular shaped feldspar shards; salmon-pink sections due to	6632	87.00	88.00	1.00	0.		
		probable iron-staining of feldspars; trace-12 very finely disseminated	6633	88.00	89.00	1.00	0.		
		pyrite. minor brittle fractures with carbonate-quartz (less 0.5cm wide);	6634	89.00	90.00	1.00	0.		
		upper contact ground; lower contact sharp approx. 40 deg. to CA; salmon-pink "hematized" patches at 84.95-85.45m; 85.70-85.94m; 86.90-87.65m; 89.00-90.65m; carbonate- quartz fractures generally trend approx. 25 deg. to CA	6635	90.00	91.00	1.00	0.		
	91.68 -	91.72 Mafic Flow - fine-grained; grey-green, massive; trace very finely disseminated pyrite. moderately carbonatized; lower contact sharp approx. 40 deg. to CA							
	91.72 -	93.12 Feldspar Porphyry	6636	91.00	92.00	1.00	0.		
	,,,,,	- (as above); grey-salmon-pink; massive looking with approx. 2-5% (1-2mm	6637	92.00		1.12	0.		

	ST.	JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-1	PAGE # 5
H	то	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb		
		diameter) irregular-shaped feldspar shards and chloritized pseudomorphs.							
		salmon-pink coloured sections probably represent hematized zones; trace very							
		finely disseminated pyrite; lower contact sharp approx. 70 deg. to CA; at							
		92.66m - 0.5cm wide quartz-carbonate-chlorite vein; approx. 45 deg. to CA; at							
		92.80m - hairline fracture approx. 10 deg. to CA with weak indications of							
	93.12 - 129.1	slickensides	4470	07 17	94.66	A 00	10.		
	73.12 - 127.1	- dark green, very fine to fine-grained; pillowed?; trace very finely	6638 6639	93.12 94.00	94.00 95.00	0.88 1.00	20.		
		disseminated pyrite; minor scattered brittle fractures; scattered weakly	6640	111.00	112.00	1.00	10.		
		epidotized (0.5-1.0cm wide) zones suggest pillow selvages; dark green colour	6641	112.00	113.00	1.00	10.		
		suggests chloritization; at 96.50m - 2cm wide quartz-carbonate vein; approx;	6642	113.00	114.00	1.00	0.		
		60 deg. to CA; at 94.05m - 1cm wide quartz-carbonate-epidote vein approx. 25	6643	114.00	115.30	1.30	40.		
		deg. to CA; at 94.63m - hairline fracture with carbonate-hematite-quartz.	6644	123.00	124.00	1.00	20.		
		approx. 45 deg. to CA; at 107.55m - hairline fractures with carbonate; early	6645	127.00	128.00	1.00	0.		
		set at 45 deg. to CA and late set at approx. 15 deg. to CA in opposite sense	6646	128.00	129.00	1.00	0.		
	111.00 - 115.3	o - flow becomes increasingly altered; pronounced sections of epidote; increased chloritization; weak to moderate carbonatization along fractures; increased sulphidization associated with epidotized zones (1-2% pyrite); weak development of foliation approx. 45 deg. to CA; minor scattered quartz-carbonate-hematite veinlets/fractures approx. 35-45 deg. to CA; at 112.40m - hairline fracture approx. 15 deg. to CA; at 117.29m - 0.3cm wide quartz vein; contacts approx;							
		35 deg. to CA; at 117.63m - 0.3cm wide quartz vein; contacts approx. 30 deg;							
		to CA; at 123.26m - 4.0cm wide quartz vein; contacts approx. 80 deg. to CA							
	129.00 - 129.1	3 - contact zone; chlorite schist; foliation approx. 65 deg. to CA with wisps							
		of white carbonate and pink ankerite; trace disseminated pyrite			.=		_		
	129.13 - 131.7	4 Feldspar Porphyry	6647	129.00	130.00	1.00	0 .		
		- as above; light grey-salmon-pink; fine-grained with 5-102 (0.1cm diameter) irregular shaped feldspar shards; salmon-pink rich matrix sections due to weak to moderate hematization; trace very finely disseminated pyrite; massive looking with 12 brittle fractures with white carbonate; fractures commonly 20 to 30 deg. to Ca; upper contact 65 deg. to CA; lower contact approx. 45 deg. to CA	66 4 8	130.00	131.00	1.00	0.		
	31.74 - 132.0		6649	131_00	132.00	1.00	10.		
		- dark green, strongly epidotized; 2-52 "bleby" pyrite; weakly carbonatized					-		
	132.00 - 132.7	2 Feldspar Porphyry							
		- as above; salmon-pink (hematized) with 5-7% (0.1cm diameter) irregular-							

ST.	JOE CANADA	PRO	PERTY -	Pinecone	Point		HDLE - PP-1	PAGE # 6	
TO	DESCRIPTION	SAMPLE	FROM	ŦΟ	WIDTH	Au			
	shaped buff-coloured feldspar shards; massive looking with 1% brittle fractures generally trending approx. 70 deg. to CA; contacts sharp; upper contact approx;								
	55 deg. to CA; lower contact approx. 60 deg. to CA								
132.72 - 145.70	· · · · · · · · · · · · · · · · · · ·	6650	132.00	133.00	1.00	0.			
1021/2 1/01/	- green to dark green; fine-grained; pillowed? with weakly developed	6651	133.00	134.50	1.50	0.			
	epidotized pillow selvages at approx. 20-40cm spaced intervals; pillow margins exhibit weak evidence of vesiculation; trace-1% disseminated and "bleby" pyrite along pillow margins; trace disseminated pyrite along fractures cutting pillows	6652	134.50	136.00	1.50	0.			
133.90 - 134.25	- zone of increased epidotization; 1cm quartz-carbonate veins at 133.90m and 134.06m; contacts of veins approx. 70 deg. to CA; at 138.80m - 2cm wide quartz-carbonate-ankerite-epidote vein; contacts approx. 75 deg. to CA								
139.06 - 139.74	- zone of increased epidotization (as above)								
144.00 - 144.40	- zone of minor scattered hairline fracctures approx. 55-60 deg. to CA with hematite along fracture planes								
145.70 - 146.10	Mafic Intrusive - grey to dark grey, fine to medium-grained; massive looking; biotitic (20-30%) with occasional scattering (.23cm) biotite book; contacts sharp approx. 60 deg. to CA								
146.10 - 160.38	Mafic Flow	6653	148.00	149.00	1.00	0.			
	- dark green, fine-grained, pillowed? with weakly developed 1-3cm wide pillow	6654	149.00	150.00	1.00	0.			
	selvages with epidote development and trace-1% disseminated and "blebby" pyrite; minor scattered crosscutting brittle fractures normally at approx; 30-40 deg. to CA and crosscutting fractures at approx. 15 deg. to CA; N.B low angle fractures are later than higher angle set	6655	159.00	160.00	1.00	0.			
	- zone of increased epidotization								
	- zone of increased epidotization with a 1cm wide carbonate-quartz vein at 149.90m; contacts approx. 80 deg. to CA								
	- 1cm wide carbonate-quartz vein; approx. 70 deg. to CA								
	- fractures contain hematite								
160.38 - 160.72	Feldspar Porphyry - as above; salmon pink (hematized); fine-grained with 5-7% (.1cm) irregular- shaped feldspar shards and pseudomorphs (chloritized); trace finely disseminated pyrite; contacts sharp approx. 60 deq. to CA; minor								
	brittle fractures (white carbonate) at large angles to CA (60-80 deg.)								

	ST. JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-1	PAGE # 7
TO	DESCRIPTION	SAMPLE	FROM	ТО	WIDTH	Au ppb		
160.72	- 165.72 Mafic flow	6656	160.00	161.00	1.00	20.		
100.72	- dark green, fine-grained, pillowed with weakly developed 1-3cm wide pillow	6657	161.00	162.00	1.00	0.		
	margins; trace very finely disseminated pyrite along selvages; weak	6658	162.00	163.00	1.00	40.		
	development of hairline fractures at approx. 70 deg. to CA; at 161.35m - 2cm	6659	163.00	164.00	1.00	0.		
	wide carbonate-hematite band; approx. 70 deg. to CA; trace pyrite	6660	164.00	165.00	1.00	10.		
165, 60	- 165.72 - contact zone; increased epidotization; moderate carbonatization	6661	165.00	165.72	0.72	0.		
	- 166.69 Feldspar Porphyry	6662	165.72	166.69	0.97	o.		
	 as above; salmon-pink (hematized); fine-grained massive-looking with 20-40% (less 0.1mm) buff feldspar shards and chloritized pseudomorphs; contacts sharp approx. 65 deg. to CA; trace finely disseminated pyrite; at 165.88m - 2cm wide quartz-carbonate vein; approx. 65 deg. to CA; at 166.05m - 1cm wide quartz- carbonate-hematite vein; approx. 20 deg. to CA; at 166.30m - 0.5cm wide carbonate-quartz-chlorite vein; approx. 25 deg. to CA 							
166.69	 172.95 Mafic Flow dark green, fine-grained; pillowed with weakly developed 1-3cm pillow selvages with epidote development; trace finely disseminated pyrite 	6663	166.69	168.00	1.31	10.		
166.69	- 167.00 - contact zone of increased epidotization and minor quartz veining							
	- 172.95 - contact zone of increased epidotization and carbonate-quartz banding conformable to contact; trace-1% disseminated pyrite							
172.95	- 173.18 Feldspar Porphyry - as above; grey-salmon-pink (hematized); fine-grained; 5-10% (0.1cm) buff- coloured irregular-shaped feldspar shards; trace very finely disseminated pyrite; contacts sharp approx. 80 deg. to CA; minor hairline fractures with carbonate approx. 45 deg. to CA							
173.18	- 194.93 Mafic Flow	6664	172.50	173.50	1.00	0.		
	- dark green; fine-grained; pillowed with weakly developed pillow selvages	6665	182.00	183.00	1.00	20.		
	characterized by 1-3cm wide moderate epidotization and vesiculation of pillow	6666	183.00	184.00	1.00	0.		
	margins; trace finely disseminated pyrite in selvages; unit weakly fractured	6667	184.00	185.00	1.00	0.		
	as above with 2 sets of fractures approx. 30-40 deg. and 65-80 deg; fractures	6668	185.00	186.00	1.00	0.		
	are hairline and commonly are coated with white carbonate; at 179.95m - 2cm	6669	186.00	187.00	1.00	10.		
	wide carbonate-quartz-chlorite-hematite band; approx. 70 deg. to CA; trace-12 pyrite	66780 6671	187.00 187.80	187.80	0.80 0.54	40.		
182.50	- 183.10 - zone of increased epidotization (pillow margin)	_			-			
	- 185.50 - zone of increased epidotization (pillow margin)							
	185.61 - 1cm wide quartz-carbonate-ankerite band; approx. 70 deg. to CA							
	185.90 - 1cm wide quartz-ankerite band; approx. 75 deg. to CA							

	ST	. JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-1	PAGE # 8
FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au		
	187.80 - 18	B.34 Fault Gouge							
		•	6672	188.34	189.00	0.66	20.		
			6673	189.00	190.00	1.00	0.		
	190.50 - 19	1.50 - ground/broken core	6674	190.00	191.00	1.00	0.		
			6675	191.00	192.00	1.00	0.		
	192.00 - 19	1.93 - slight increase in hairline fractures with carbonate approx. 65-75 deg. to	6676	192.00	193.00	1.00	0.		
		CA - minor hematite-limonite along some of the fractures	6677	193.00	194.00	1.00	0.		
			6678	194.00	194.93	0.93	20.		
	194.93 - 20	2.45 Feldspar Porphyry	6679	194.93	196.00	1.07	10.		
	2	- grey-salmon-pink (hematized) ; fine-grained; massive-looking with 10-15% (6680	196.00	197.00	1.00	0.		
		0.1mm diameter) irregular-shaped feldspar phenocrysts; approx. 30% of dyke	6681	197.00	198.00	1.00	0.		
		is hematized; trace finely disseminated pyrite; minor brittle fractures with	6682	198.00	199.00	1.00	0.		
		carbonate + chlorite + hematite + trace pyrite averaging approx. 60-70 deg.	6683	199.00	200.00	1.00	0.		
		to CA; contacts sharp approx. 50 deg. to CA	6684	200.00	201.00	1.00	0.		
			6685	201.00	202.00	1.00	0.		
	202.45 - 20	7.40 Mafic Flow	6686	202.00	203.00	1.00	10.		
		- dark green, fine-grained, pillowed? with weak development of pillow	6687	203.00	204.00	1.00	0.		
		selvages. weak epidotization along selvages; minor brittle fractures with	6688	204.00	205.00	1.00	0.		
		carbonate + hematite approx. 45 deg. to CA and approx. 20 deg. to CA;	6689	205.00	206.00	1.00	30.		
		trace-1% finely disseminated pyrite	6690	206.00	207.00	1.00	0.		
	207.40 - 20	7.68 Feldspar Porphyry							
		- salmon-pink (hematized); fine-grained, massive-looking with 3-5% (0.1cm diameter) irregular-shaped feldspar shards; trace very finely disseminated							
	207 (0 24)	pyrite; contacts sharp approx. 20 deg. to CA	4404	207.00	200 60	1 00			
	ZV/-08 - Z1	0.76 Mafic Flow	6691	207.00	208.00	1.00	Q.		
		- dark green, fine-grained; pillowed?; very weak epidotization along pillow	6700	208.00		1.00	0.		
		rims; minor 2-3% (0.1-0.2cm diameter) epidote clots (dalmationitic appearance); minor scattered hairline fractures + carbonate + hematite and large angles to CA (i.e. approx. 45-75 deg. to CA); trace finely	6692	207.00	210.00	1.00	100.		
		disseminated pyrite; after approx. 210.00m section becomes dalmationitic with the development of 2-4% (0.1-0.2cm) epidote clots							
	210.76 - 229	7.40 Porphyritic Mafic Intrusive	6693	210.00	211.00	1.00	0.		_
		- grey to salmon-pink (hematized); fine-grained massive-looking with	6694		212.00	1.00	0.		•

	ST.	. JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-1 PAGE # 9	
	то	DESCRIPTION	SAMPLE	FRON	TO	WIDTH	Au ppb		
_		variable (5-10%) buff-coloured irregular-shaped feldspar shards and	6695	212-00	213.00	1.00	0.		
		chloritic pseudomorphs; brittly fractured with minor quartz + carbonate +	6696	213.00	214.00	1.00	0.		
		hematite + pyrite stringers; upper contact sharp approx. 55 deg. to CA	6697	214.00	215.00	1.00	0.		
	210.76 - 212.	10 - pronounced salmon-pink colour; moderately to strongly hematized; minor chlorite; trace-1% disseminated pyrite; minor scattered hairline fractures (approx. 45 deg. to CA) with carbonate + hematite; lower contact pronounced but irregular; chilled margin							
	212-10 - 217-	00 - mottled dark green to yellowy-green section characterized by elongated	6698	215.00	216.00	1.00	10.		
		epidotized feldspar laths (0.2-0.5cm long) exhibiting a preferred orientation (approx. 0-10 deg. to CA); the preferred orientation of the feldspar pseudomorphs may represent a flow feature; trace finely disseminated pyrite. lower contact arbitrary	6699	216.00	217.00	1.00	0.		
	217.00 - 220.	30 - medium grey, fine-grained, phase with 5-7cm wide "apophyses" of mottled	75 01	217.00	218.00	1.00	0.		
	201711	green to yellow-green (212.10-217.00m) material; no apparent flow structure.	7502	218.00	219.00	1.00	0.		
		the "apophyses" may represent differential cooling; trace-1% pyrite "blebs" and disseminations; lower contact gradational; at 220.00m - 10cm wide strongly epidotized section; gradational contacts	7503	219.00	220.00	1.00	10.		
	220.30 - 225.	00 - light grey, fine-grained phase with 8-12% (0.3-0.5cm) buff to light green	7504	220.00	221.00	1.00	0.		
		feldspar pseudomorphs (epidotized) showing a weak alignment subparallel to	7505	221.00	222.00	1.00	0.		
		CA. pseudomorph edges weakly hematized; trace disseminated pyrite 95 - 2cm wide carbonate + hematite band approx. 40 deg. to CA 00 - 10cm wide strongly epidotized section; gradational contacts; minor carbonate + hematite along fractures	7506	222.00	223.00	1.00	0.		
		en anner . Armerer wrand 11 area ca	75 07	223.00	224.00	1.00	0.		
			7508	224.00	225.00	1.00	0.		
	225.00 - 228.	30 - as 220.30-225.00m only moderate salmon-pink hematitic alteration; 10-15%	7509	225.00	226.00	1.00	0.		
		buff coloured feldspar shards weakly aligned subparallel to CA 20 - zone of quartz-carbonate-epidote-hematite brecciation; approx. 10-15 deg. to CA with epidote alteration halo; trace-1% disseminated pyrite in brecciated zone 08 - 1cm wide quartz-carbonate-hematite band; approx. 55 deg. to CA	7510	226.00	227.00	1.00	10.		
	221.	vo tem wive quarte-tai poriate-nematite pano; approx. 35 deg. to CM	7511	227 00	220 00	1 00	٥		
	30 - 229.	40 - grey coloured zone with little/no feldspar phenocrysts; upper contact gradational; zone may form a chilled margin; lower contact sharp approx. 45 deg. to CA	7311	TT1.4V	228.00	1.00	0.		

PROPERTY - Pinecone Point

HOLE - PP-1

PAGE # 10

un tu

TO

DESCRIPTION

SAMPLE

FROM

HIDIH

ppb

228.60 - 6cm wide zone of intense epidotization

229.40 - 230.37 Mafic Flow

 dark green, fine-grained; 1% "bleby" pyrite; minor scattered hairline fractures with quartz-carbonate + pyrite + hematite generally at 45-50 deg. to CA

230.37 - 234.00 Feldspar Porphyry

- grey, fine-grained with minor (less 2%) feldspar phenocrysts; weak epidotization of phenocrysts; moderate brittle fracture (weak brecciation) with carbonate-quartz-hematite (approx. 2-3%); generally random orientation; trace finely disseminated pyrite; contacts sharp; upper contact approx. 20 deg. to CA with 10cm wide zone of brittle fracture parallel to contact with 2-4% "bleby" pyrite; lower contact approx. 30 deg. to CA

234.00 - 245.90 Mafic Flow

- dark green, fine-grained; pillowed? with weak evidence for pillow rims. brittle fractures with trace-12 disseminated pyrite; fractures normally at 45-

60 deg. to CA; after approx. 240.00m pillow rims with weak epidotization becomes more apparent

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	ST.	JOE	CANADA			 DIAMO	ND DRILL	HOLE RE	CORD				Page #1 of	9		
Hole No. Property Section Claim No. Target	Pinecone Point	Northing Easting Elevation Survey N. Survey E.	L375E	Brid Orient Brid Azim. Length (M) Dip-Collar Comp Bearing	-45.00NE		Azimuth 036	Test	Depth 150.0		Azi⊕uth	Test	Started Finished Drill Co. Drill No. Drill For.		Logged by Checked by Core Comments:	
FROM TO	1	DESCRIPTION			*	 		SAMPLE	FR	 Om	TO	WIDTH	Arr ppb	·		
102	1MARY															

0.00 3.20 Casing

3.20 12.30 Mafic Flow

12.30 14.80 Porphyritic Mafic Intrusive

14.80 47.15 Mafic Flow

47.15 48.60 Feldspar Porphyry

48.60 61.59 Mafic Flow

61.59 61.86 Feldspar Porphyry

61.86 74.40 Mafic Flow

74.40 76.70 Porphyritic Mafic Intrusive

76.70 B1.80 Mafic Flow

81.80 83.7 Peldspar Porphypry

83.70 113.46 Mafic Flow

ONTARIO GEOLOGICAL SURVEY

ASSESSMENT FILES

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	ST. JOE CANADA		Point HOLE - PP-2
TO	DESCRIPTION	SAMPLE FROM TO	₩IDTH Au ppb
118.85	Porphyritic Mafic Intrusive		
123.50	Mafic Flow		
123.90	Mafic Intrusive		
127.06	Mafic Flow		
148.90	Porphpyritic Mafic Intrusive		
150.00	Mafic Flow		
150.00	End of Hole		
	118.85 123.50 123.90 127.06 148.90 150.00	TO DESCRIPTION 118.85 Porphyritic Mafic Intrusive	TO DESCRIPTION SAMPLE FROM TO 118.85 Porphyritic Mafic Intrusive 123.50 Mafic Flow 123.90 Mafic Intrusive 127.06 Mafic Flow 148.90 Porphpyritic Mafic Intrusive 150.00 Mafic Flow

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PA6E # 2

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	ST. JOE CANADA				IPERTY -	Pinecone	Point		HOLE - PP-2 PAGE # 3
FROM	10		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb	
0.00 3.20		Casing Mafic Flow	- dark green, fine-grained; pillowed with weak development of pillow selvages.						
			1-2cm wide zones of epidotization + trace-1% pyrite along pillow rims; minor scattered hairline fractures with epidote + pyrite approx. 30-40 deg. to CA						
12.30	14.80	Porphyritic Ma		7520 7521	11.00	12.00	1.00	0.	
14.80	A7 15	Mafic Flow		7522	13.00	14.00	1.00	0.	
11100	77.10	18.12.110	- dark green, fine-grained; pillowed with weak development of pillow selvages. selvages approx. 1-2cm wide with chloritization and trace-1% disseminated pyrite; minor scattered hairline fractures with epidote + carbonate generally at approx. 25-30 deg. to CA and a 2nd crosscutting fracture set at approx. 45 deg. to CA; the shallower set of fractures (25-30 deg. to CA) appear to post- date the earlier system						
				7523	14.00	15.00	1.00	0.	
			0 - zone of brittle cross fractures with chlorite, carbonate and hematite 5 - 0.2cm wide carbonate vein; approx. 30 deg. to CA with 3cm wide zone of epidotization; at 21.80 - carbonate-quartz-pyrite vein; 0.3cm wide; approx; 35 deg. to CA; at 23.70m - 1cm wide carbonate-quartz-hematite veins approx; 20 deg. to CA; at 28.00m - bairline fracture approx. 10 deg. to CA; at 28.56m	7524	17.00	18.00	1.00	10.	
			2cm wide carbonate-quartz-sericite band; approx. 60 deg. to CA; at 30.00m - 1cm wide carbonate-quartz-chlorite-pyrite-hematite band; approx. 45 deg. to CA; at 33.80m - 0.5cm wide carbonate-epidote-chlorite vein (5 deg. to CA) crosscuts						

	ST.	JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-2	PAGE # 4
FROM	TO DE:	CRIPTION	SAMPLE	FROM	10	WIDTH	Au ppb		
	35.00 - 44.00 -	rlier 20 deg. to Ca epidotized hairline fractures flow becomes increasingly chloritized (darker green colour); most tensive chloritization at about 42.00m; at 41.27m - 1cm wide artz-chlorite-carbonate vein; approx. 25 deg. to CA	7525 7526 7527 7528 7529 7530	40.00 41.00 42.00 43.00 44.00 45.00	41.00 42.00 43.00 44.00 45.00 46.00	1.00 1.00 1.00 1.00 1.00	0. 0. 0. 0. 0.		
	11 44 57 qq ey	ntact Zone zone of increased pervasive epidotization and weak matrix carbonatization. crease in hairline fractures approx. 75-80 deg. to Ca with carbonate (prox;); 1-2% "bleby" and cube pyrite disseminated; at 46.40m - 14.0cm wide artz- carbonate-pyrite-epidote-chlorite-hematite vein; contacts approx. 80 g. to CA; vein is zoned with quartz-carbonate core and idote-pyrite-chalcopyrite- arsenopyrite?; chlorite margins	7531	46.00	47.00	1.00	50.		
47.15	wi di po 17 7	grey-green, fine to medium-grained; massive-looking; strongly chloritized th 80-90% chlorite flakes; moderate to strong carbonatization; 2-4% sseminated "bleby" and euhedral pyrite; trace hematite around rphyroblasts. (0.1cm) feldspar porphyroblasts; porphyry is weakly fractured (brittle) generally at 60-70 deg. to CA with carbonate; upper contact sharp approx. deg. to CA; lower contact less distinct approx. 80 deg. to CA; at 47.28m - m with quartz-carbonate-pyrite band; contacts approx. 80 deg. to CA							
48.60		dark green, fine-grained, pillowed with weakly developed pillow selvages	7532	47.00	48.00	1.00	Q.		
	di 48.60 - 49.20 Cc -	aracterized by the presence of 1-2cm wide zones of epidotization + sseminated pyrite; pyrite tenor trace-1% ntact Zone (as above; 46.30-47.15m); zone of increased epidotization, weak to derate carbonatization which decreases in intensity down hole; scattered	7533	48.00	49.00	1.00	0.		
	0.	1-0.2cm wide bands of carbonate (approx. 60-70 deg. to CA) near upper ntact; 1-2% "bleby" pyrite disseminated; weak hematization zone of increased epidotization and minor quartz-carbonate-epidote veining.	7534	49.00	50.00	1.00	0.		

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			ST.	JOE CANADA	PRO	PPERTY -	Pinecone	Point		HOLE - PP-2	PAGE # 5
FRON	T0			DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au dqq		
	*			at 50.07m - 2cm wide carbonate-quartz-epidote veins; contacts approx. 55 deg;							
				to CA; at 50.38m - 2cm wide carbonate-quartz-epidote vein; contacts approx. 55 deg. to CA							
				·	753 5	50.00	51.00	1.00	0.		
					7536	51.00	52.00	1.00	0.		
		55.4		O - zone of increased epidotization; minor hairline fractures with hematite. approx. 65 deg. to CA; trace finely disseminated pyrite; at 56.90m - 1cm wide quartz-carbonate-epidote veins; approx. 20 deg. to CA							
		59.8) - 60.2	20 - zone of increased epidotization with 5% (0.5-1.0cm)							
				quartz-carbonate-pyrite stringers at approx. 50 deg. to CA							
					7537	60.00	61.00	1.00	40.		
61.59	61.86	Feld	spar Porph								
				 - salmon-pink (weakly hematized); fine-grained with minor discrete pink feldspar phenocrysts; 1-2% finely disseminated pyrite; 2-4% chlorite flakes. minor hairline fractures (1-3%) with carbonate approx. 65 deg. to CA; contacts sharp approx. 70 deg. to CA; moderately to strongly carbonatized 							
61.86	74 40	Mafi	. C1	contacts sharp approx. To deg. to the mover attract to strongly carbonatized							
01.00	/4.40	nati(. F10W	 dark green, fine-grained, pillowed with weak development of pillow selvages due to presence of epidote and trace-12 disseminated pyrite on pillow rims. some pillow margins exhibit vesiculation features 							
		61.8	62.5	 o - zone of increased brittle fracture; 2 fracture sets distinguishable; approx; 	7538	61-00	62.00	1.00	0.		
				70 deg. to CA and a second crosscutting set at 40 deg. to CA (later set); at							
				72.72m - 1cm wide quartz-carbonate-epidote vein; approx. 10 deg. to CA	7570	(2.00	47.60	1 00	Λ		
					7539 7540	62.00 73.00	63.00 74.00	1.00	0. 10.		
74 40	74.70	Donal	ili. Wa	fic Intrusive	1240	13.00	14.00	1.00	10.		
74,40	70.70	rorpi	iyritit na	- (as 12.00-14.50m); grey to dark grey-grey-green; fine-grained; unit							
Ē:				appears mafic and may represent a phase of the mafic intrusive; this unit is							
				similar in appearance to the mafic flow with similar grain size; margins of							
				unit appear chilled with little/no development of feldspar phenocrysts; core							
				of unit contains sections with 5-10% weakly epidotized feldspar laths (
		_		randomly oriented) approx. 0.1-0.3cm long with gradational contacts; upper							
				contact approx. 65 deg. to CA; lower contact approx. 80 deg. to CA; (N.B. similar mafic fyke at bottom of PP-1); trace-1% finely disseminated pyrite							

74.40 - 74.70 - chilled margin; 5-7% (0.1-0.3cm) epidote "blotches"

		st.	JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-2 PAGE # 6
FROM	т0		DESCRIPTION	SAMPLE	FROM	10	WIDTH	ppb Au	
			03 — porphyritic section 68 — non-porphyritic section witth a 25cm wide quartz-carbonate-epidote vein at 75.28m; contacts approx. 45 deg. to CA	7541	74.00	75.00	1.00	0.	
71.70	01.00	76.18 - 76.7	18 - porphyritic section 70 - chilled margin (non-porphyritic) ; minor epidote "blotches"	7 54 2	75.00	76.00	1.00	60.	
76.70	81.60	Mafic Flow	 dark green, fine-grained, pillowed; weak development of pillow selvages and 1-2cm wide zones of epidotization along pillow margins; trace-1% finely disseminated pyrite are pillow margins 						
				7543	76.00	77.00	1.00	0.	
				7544	77.00	78.00	1.00	20.	
81.80		Feldspar Porph		7545	80.00	81.00	1.00	0.	
			- grey to light grey, fine-grained, massive-looking with minor (1-2%) 0.1cm diameter irregular-shaped feldspar phenocrysts; weakly hematized; moderately chloritized; moderate to strong pervasive carbonatization; trace finely disseminated pyrite; minor scattered less 0.5cm carbonate-quartz fractures at approx. 45 deg. and 65 deg. to CA; 2cm wide quartz-carbonate-chlorite-pyrite vein along upper contact; upper contact approx. 60 deg. to CA; lower contact approx. 50 deg. to CA; lower contact moderately carbonatized approx. 20cm into mafic flow						
				7546	81.00	82.00	1.00	0.	
83.70	113.46	Mafic Flow		7547	82.00	83.00	1.00	0.	
			- dark green, fine-grained, pillowed; weak development of pillow selvages with 1cm wide zones of epidotization commonly along pillow margins; trace finely disseminated pyrite along margins of pillows; at 109.20m - pyrite band; 50% pyrite blebs; 1cm wide; approx. 85 deg. to CA; at 109.38m - pyrite band; 60% pyrite blebs; 1cm wide; approx. 80 deg. to CA						
				7548 7549	83.00 84.00	84.00 85.00	1.00 1.00	0. 0.	
		3.50 - 113.4	6 — slight increase in intensity of epidotization	7550 7551 7552 7553	109.00 110.00	109.00 110.00 111.00 112.00	1.00 1.00 1.00 1.00	10. 340. 0. 0.	

		ST.	JOE	CANADA			PROPERTY -	Pinecone	Point		HOLE - PP-2	PAGE # 7	
FROM	TO		DESCRIPTION			Sampi	E FROM	10	WIDTH	Au ppb			
						7554	112.00	113.00	1.00	0.			
113.46	118.85	Porphyritic Maf	- grey; fine to 113.46-114.200 (0.1-0.2cm) is grained ground contact approximation conformable questions.	to medium-grained; massive— m and 118.70-118.85m; trace- irregular-shaped feldspar pl dmass; phenocrysts randomly k. 40 deg. to CA with a 10co n (2-3%); lower contact app wartz vein; unit is moderato tures (50-60 deg. to CA) wi	-12 "bleby" disseminated py menocrysts in a grey fine (oriented; contacts sharp; m wide zone of increased prox. 25 deg. to Ca with a pervasively carbonatized;	rite; 3-6% co medium- upper 3.0cm wide							
l			11421 12410 1740	cares too ov beg. to on, w	co car sonate	7555	113.00	114.00	1.00	0.			
						7556	114.00		1.00	30.			
						7557	115.00		1.00	10.			
						7558	116.00		1.00	30.			
						7559	117.00		1.00	10.			
118.85	123.50	Mafic Flow	epidotization weak to modera fracture; perv carbonatizatio	fine-grained; pillowed?; we along pillow margins; trace ately fractured with epidote vasive carbonatization to along fractures; two apparails to CA	=1% dissseminated pyrite; e alteration halos along ha out 120.00m; affter 120.00	unit is cirline ma at 45-50 7560	118.00		1.00	10.			
•						7561	119.00		1.00	0.			
						7562	120.00		1.00	0.			
						7563	121.00		1.00	0.			
		477 66 497 56				7564	122.00	123.00	1.00	θ.			
		125.00 - 125.50		e; ground; abundant carbonat gly chloritized	se veining/stockwork (20%)	; 14							
		Mafic Intrusive	- grey-green;	fine to medium-grained; chi pervasive carbonatization;									
23.90	127.06	Mafic Flow	- dark ocean	fine-organia millowed? to	disconianted envite								

- dark green, fine-grained, pillowed?; trace disseminated pyrite

_		8	т.	JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-2	PAGE # 8
ROM	то			DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb		
	. 	123.90 -	126.00	- zone of weak to moderate alteration; chloritized; carbonatized along	7565	123.00	124.00	1.00	0.		
				fractures; moderately to strongly fractured (one set approx. 45 deg. to C		124.00	125.00	1.00	0.		
				late set approx. 5-10 deg. to CA)	7567	125.00	126.00	1.00	0.		
		123.90 -	124.10	- dark grey-black weakly silicified zone							
				- zone of intense pervasive carbonatization							
				- zone of brittle fracture (random) with carbonate-pyrite							
				- zone of intense chloritization which minor 0.2cm wide							
				quartz-carbonate-pyrite stringers approx. 45 deg. to CA							
		126-80 -	127.06	Contact Zone	7568	126.00	127.00	1.00	0.		
		••••		- moderate pervasive carbonatization							
-06	148.90	Porphove	itic Ha	fic Intrusive							
•-				- grey, fine to medium-grained; massive-looking; 5-10% chloritic-biotite							
				books.							
				5-7% (0.1-0.2cm) irregular-shaped and lath-shaped feldspar phenocrysts;							
				trace-							
				1% "bleby" pyrite disseminated; units become increasingly darker grey with	h						
				depth (i.e. after approx. 130.30m); colour change due to increased							
				chloritiza- tion; moderate to strong pervasive carbonatization; mimor							
				hairline brittle fractures at high angles to CA (50-85 deg.) with carbon	ste.						
				lower contact approx. 35 deg. to CA	acc,						
				Tanci cantact approve or ords to an	7589	127.00	128.00	1.00	0.		
					7570	128.00		1.00	0.		
					7571	129.00		1.00	0.		
					7571 7592	130.00		1.00	0.		
					7572 7593	131.00		1.00	0.		
					7594	132.00		1.00	0.		
					7571	133.00		1.00	ν.		
					7571 7572				۷.		
					1917	134.00	133.00	1.00	0.		
		135.45 -	136.00	- moderately silicified zone (1-2% disseminated pyrite); gradational contacts	7573	135.00	136.00	1.00	0.		
					7574	136.00	137.00	1.00	0.		
		50 -	143.00	- moderately silicified zone (trace-12 disseminated pyrite); gradational	7575	137.00	138.00	1.00	0.		
				contacts; no carbonatization; at 138.35m - 3cm wide pyrite-carbonate band.		138.00		1.00	0.		
				approx. 70 deg. to CA			140.00	1.00	0.		
				THE THE STATE OF T		******	2	****	**		

		SI. JUE CHNADA	PKU	PEKIT -	rinecone	roint		HULE - PY-Z	PAGE # 9	
FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb			
			7578	140.00	141.00	1.00	0.			
			7579	141.00	142.00	1.00	0.			
in the second			7580	142.00	143.00	1.00	0.			
		143.00 - 144.20 - moderate pervasive carbonatization; contacts gradational; at 148.23m - 3cm wide silicified zone	7581	143.00	144.00	1.00	0.		,	
-			7582	144.00	145.00	1.00	0.			
			7583	145.00	146.00	1.00	0.			
48.90	150.00	00 Mafic Flow								
		 dark green, fine-grained, pillowed; trace disseminated pyrite 								

50.00 150.00 End of Hole

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****	ST.	JOE	CANADA		 	DIAMO	ND DRILL	HOLE RE	ECORD				Page #1 of	7	
Hole No. Property Section Claim No. Target	Pinecone Point	Northing Easting Elevation Survey N. Survey E.	5+00E	Grid Orient Grid Azim. Length (M) Dip-Collar Comp Bearing			Azimuth 036	Test	Depth 140.0	-	Azimuth	Test	Finished	January 12, 1988 January 14, 1988 Falcon Drilling	Lynn Broughton P. Huxhold BQ
FROM TO		ESCRIPTION			 			SAMPLE		ROM	TO	WIDTH	Au ppb		

SUMMARY

0.00 4.60 Casing

4.60 139.98 Mafic Intrusive

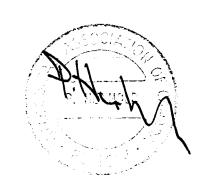
139.98 139.98 End of Hole

ONTARIO GEOLOGICAL SURVEY

1: ASSESSMENT FILES

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		st	JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-3	PAGE # 2
FROH	10		DESCRIPTION	SAMPLE	FROM	то	WIDTH	Au ppb		
0.00 4.60		Casing Mafic Intro	usive							
			- dark grey-green; medium-grained (approx. 1mm diameter); massive; 5-102 fine-grained biotite; minor (<<12) scattered hairline fractures at 0-10 deg; to CA; fractures contain dark to bright green chlorite + carbonate and have 0.4-4m wide darker grey-green, speckled halos containing 15-202, 0.5-1mm chlorite (possibly altered biotite) grains; trace fine-grained disseminated pyrite; at 5.91m - a 0.5-4cm wide very coarse-grained (up to 1.2cm) pegmatitic texture; similar composition; nil pyrite; at 8.87m - hairline fracture with chlorite at approx. 40 deg. to CA witth crosscutting slickensides at approx; 55 deg. to CA; at 14.80m - hairline fracture with chlorite at approx. 20 deg;							
			to CA with crosscutting slickensides at approx. 75 deg. to CA							
		16.19 - 1	19.22 - increase in brittle fracturing to approx. 3%; all chlorite +	7660	16.40	17.40	1.00	0.		
		16.75 - 1	carbonate-filled and with speckled halos 16.78 - medium-grained felsic dyke with approx. Imm lath-like feldspar grains. contains at approx. 70 deg. to CA; very weakly chloritized; fine-grained chloritic "baked" zone 4cm above and 8cm below dyke; trace pyrite; at 19.22m - slight decrease in fracturing to approx. 1-2%; at 20.68m - hairline fracture with chlorite-carbonate at approx. 45 deg. to CA with crosscutting slickensides at approx. 65 deg. to CA	7661	17.40	18.40	1.00	0.		
				7662	18.40	19.40	1.00	0.		
		21.00 - 2	24.80 - gradual increase in chloritization of matrix; at 24.38m - hairline fracture at approx. 35 deg. to CA; crosscutting slickensides at approx. 55 deg. to CA. at 24.80m - weakly altered; slightly lighter dark to medium grey-green (white when dry); medium-grained (approx. 1mm diameter); massive; approx. 20% fine- grained to medium-grained biotite; 1-2% hairline fractures with chlorite (no carbonate), same "speckled" halos; weak matrix chloritization; weak sericitization of plagioclase; trace fine-grained disseminated pyrite; at 24.59 - 2cm wide quartz vein with minor carbonate, chlorite at approx. 35 deg. to CA; trace fine-grained pyrite at contacts; 3cm wide speckled chlorite halo on either side; at 25.40m - hairline fracture at approx. 20 deg. to CA; cross-							

	87	T. JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-3	PAGE # 3
FROM	TO	DESCRIPTION	SAMPLE	FROM	то	WIDTH	Au ppb		
			7663	24.00	25.00	1.00	0.		
			7664	25.00	26.00	1.00	0.		
			7665	26.00	27.00	1.00	0.		
	27.15 -	27.50 - broken rock due to drilling subparallel to a fracture system; crosscutting slickensides at 55-60 deg. to CA; some pieces contain streaky quartz up to 1.5 cm wide; trace pyrite; at approx. 29.00m - no change in abundance of fractures but fewer fractures have the dark speckled halos; still predominantly chlorite- filled; gradational change; at 35.66m - hairline fracture at approx. 35 deg. to CA; crosscutting slickensides at approx. 65 deg. to CA; at 36.90m - 1cm wide quartz-chlorite vein at approx. 45 deg. to CA; 15% chlorite; crosscutting slickensides at approx. 55 deg. to CA; nil pyrite							
		•	7666	27.00	28.00	1.00	0.		
			7667	36.50	37.50	1.00	0.		
	39.60 -	39.82 - abundant chlorite-filled fractures with overlapping "speckled" halos directly above a 6cm wide chloritized pegmatic (up to 1.3cm lath-like feldspar) zone; trace pyrite; irregular but abrupt change in grain size from pegmatitic to medium-grained, doesn't appear to be fracture-controlled at lower contact. at 40.58m - hairline fracture at approx. 25 deg. to Ca; crosscutting slicken- sides at approx. 75 deg. to CA; at 41.12m - 7cm wide weakly chloritized pegmatitic zone at 70-90 deg. to CA; cut by a hairline fracture at approx. 25 deg. to CA with a narrow "speckled" halo; trace pyrite; at 41.28m - 4cm wide irregular pegmatitic zone; fracture at approx. 25 deg. to CA; at 41.49m - 4cm wide irregular pegmatitic zone at 60-85 deg. to CA; cut by hairline fracture at approx. 30 deg. to CA; at 42.00m - hairline fracture at approx. 25 deg. to CA; crosscutting slickensides at approx. 45 deg. to CA; at 45.37m - hairline fracture at approx. 20 deg. to CA; crosscutting slickensides at approx. 70 deg. to CA; at 49.61m - 2cm wide quartz- chlorite vein at approx. 45 deg. to CA; 25Z chlorite; crosscutting slicken- sides at approx. 70 deg. to CA; nil pyrite; at 51.61m - hairline fracture at approx. 25 deg. to CA; crosscutting slickensides at approx. 70 deg. t	7668	37.50	39.00	1.50	0.		
		•	7669	39.00	40.00	1.00	0.		
			7670	40.00	41.00	1.00	0.		

7671

41.00

42.00

1.00

	:	BT. JOE CANADA	PRO	iperty -	Pinecone	Point		HOLE - PP	7-3 PAGE # 4
FROH	то	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb		
***************************************			7672	42.00	43.00	1.00	0.		
			7673	49.00	50.00	1.00	o.		
	52.91 ·	- 53.14 - irregular 5cm wide pegmatitic band; no fracturing; nil pyrite; at 55.00m - irregular 0.2-0.9cm wide "streaky" quartz-chlorite-filled fracture with minor carbonate at approx. 5-20 deg. to CA; also a 2cm wispy "sweat" of quartz-carbonate; 6cm wide "speckled" alteration halo; nil pyrite; at 56.29m - 7cm wide pegmatitic zone subparallel and roughly centered about 2 hairline fractures at approx. 30 deg. to CA; trace pyrite; at 56.80m - 2-4cm wide pegmatitic zone at approx. 40 deg. to CA; crosscutting fracture at approx; 35 deg. (different direction); pegmatitic zone seems to also follow the fracture to a small extent; nil pyrite; at 57.35m - 0.5cm wide chlorite-filled fracture at approx. 25 deg. to CA; crosscutting slickensides at approx. 80 deg; to CA			<u></u>	••••	•		
i		0. App. 2.1. 0. 1.3, 10 di.	7674	52.50	53.50	1.00	0.		
Ì			7675	56.00	57.10	1.10	0.		
			7676	57.10	58.50	1.40	0.		
			7677	58.50	59.50	1.00	0.		
	59. 72 -	61.60 — alteration a little stronger; weak to moderate sericitization,	7678	59.50	60.50	1.00	20.		
	69.23 -	chloritization - 20-25% biotite; a little finer-grained; nil to trace pyrite; at 61.75m - hairline fracture at approx. 40 deg. to CA; crosscutting slickensides at approx. 80 deg. to CA; at 63.86m - hairline fracture at approx. 25 deg. to CA. crosscutting slickensides at approx. 75 deg. to CA; at 64.72m - hairline fracture at approx. 20 deg. to CA; crosscutting slickensides at approx. 50 deg. to CA; at approx. 65.75m - grain size gradually decreasing in size from approx. 1mm diameter to approx. 0.5mm diameter at approx. 71m; speckled medium- grained (approx. 1mm diameter) halos about some of the fractures; at 68.76m - hairline fracture at approx. 50 deg. to CA; crosscutting slickensides at approx. 55 deg. to CA. 69.58 - sevveral hairline to 0.5cm wide chlorite-filled fractures at approx. 30 deg; and approx. 75-85 deg. to CA; all with 2-6cm wide "speckled" medium-grained to coarse-grained (up to 3mm diameter) halos which overlap; trace pyrite; at 69.88m - hairline fracture at approx. 45 deg. to CA; crosscutting slickensides at approx. 70 deg. to CA	7679	60.50	61.60	1.10	0.		

•		9	T. JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-3	PAGE # 5
FROH	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb		
				7680	69.00	70.00	1.00	0.		
		74.78 -	74.90 - broken up rock; nil pyrite; possibly a small fault; at 76.44m - hairline fracture at approx. 50 deg. to CA; crosscutting slickensides at approx. 65 deg. to CA; at 77.10m - hairline fracture at approx. 20 deg. to CA; crosscutting slickensides at approx. 55 deg. to CA	7681	70.00	71.00	1.00	0.		
			cutting Stickensioes at approx. 33 deg. to th	7682	74.50	75.50	1.00	0.		
		79.82 -	79.93 - 17cm wide fine-grained interval; grain size approx. 0.2-0.5mm; similar composition and alteration; contacts at approx. 45 deg. to CA are vague (not sharp); nil pyrite; at approx. 80.00m - slow, very gradational (over 15m) change in rock; becomes slightly darker with a slightly higher mafic content. matrix chloritization increasing; sericitization decreasing; biotite content remains fairly constant at approx. 20%; trace pyrite; grain size gradually increasing back to approx. 1mm diameter							
				7683	79.40	80.40	1.00	0.		
				7684 7685	80.40 82.00	82.00 83.00	1.60 1.00	0. 0.		
		84.00 -	85.88 - altered zone about 4 individual quartz-carbonate veins; moderate chloritiza- tion; weak epidotization; minor sericitization; trace pyrite; up	7686 7687	83.00 84.30	84.30 85.00	1.30 0.70	0. 0.		
			to 12 pyrite at/near vein contacts; weak matrix hematization from 84.42-84.98m; all 4 veins have a 2-6cm wide (on either side) chloritized-epidotized-hematite-stained halo with coarse (up to 3mm) interlocking grains; at 84.51m - 3cm wide quartz-carbonate vein at 55 deg. to CA; contains the most carbonate (approx; 25-35%) of the 4 veins; trace to 0.5% fine-grained pyrite at contacts; at 84.67m - 2cm wide quartz-carbonate vein at 45 deg. to CA; minor carbonate. trace to 0.5% fine-grained pyrite at contacts; at 84.85m - 1.5cm wide quartz-carbonate vein at 50 deg. to CA; approx. 10-20% carbonate; 0.5% fine-grained pyrite at contacts; at 85.47m - 2.5cm wide quartz-carbonate vein at 50 deg; to CA; approx. 10-20% carbonate; 1% fine-grained "bleby" pyrite at contacts. moderately carbonatized halo from 85.34-85.55m; at 89.80m - hairline chlorite- filled fracture at approx. 20 deg. to Ca; crosscutting slickensides at approx; 50 deg. to CA; at 92.92m - hairline chlorite-filled fracture at approx. 25	7 68 8	85.00	85.80	0.80	0.		
			deg; to CA; crosscutting slickensides at approx. 80 deg. to CA; 2cm wide altered "speckled" halo; at approx. 97.45m — gradational (over 2m) change in							

(

TD FROM

DESCRIPTION

SAMPLE FROM TO

HIDTH

Au 999

rock, grain size increases from medium-grained (approx. Imm diameter) to coarse- grained (approx. 103mm diameter); becomes slightly lighter with a slightly lower mafic content; matrix chloritization continues; no sericitization; trace pyrite; fractures may contain minor carbonate; at 98.11m - hairline fracture at a 15 deg. to CA; crosscutting slickensides at approx. 55 deg. to CA; 3cm wide "speckled" halo; at 101.63m - 6cm wide very coarse-grained zone (approx;

See lath-like grains) crosscut by a chlorite-filled hairline fracture at approx

25 deq. to CA; at 102.85m - 1cm wide vuggy carbonate-chlorite band at approx; 50 deg. to CA; trace pyrite; at 104.28m - hairline fracture at approx. 20 deg; to CA; crosscutting slickensides at approx. 70 deg. to CA; at approx. 107.40m - gradational decrease in grain size from coarse-grained (approx. 1-3am) to medium-grained (approx. 1mm diameter); fractures contain chlorite + carbonate. mil to trace pyrite; matrix chloritization decreasing; at 108.24m - 0.5cm wide quartz-chlorite vein at approx. 40 deg. to CA; nil pyrite; 6cm wide "speckled" halo; at 110.22m - 6cm wide coarse-grained pegmatitic (approx. O.Bme diameter) bband, centered about and subparallel to a hairline fracture at approx. 50 deg; to CA with crosscutting slickensides at approx. 75 deg. to CA

7689 85.80 87.00 1.20 7690 88.00 1.00 87.00 ٥. 7691 101.00 1.00 100.00 10. 102.00 7692 101.00 1.00 0. 7693 102.50 102.00 0.50 ٥. 7694 102.50 103.50 1.00 0. 7695 109.00 108.00 1.00 0. 7696 107.00 110.00 1.00 ٥. 7697 111.00 1.00 110.00

111.10 - 111.20 - broken up rock; pieces contain quartz-rich band, a minimum of 1cm wide; trace pyrite; at 112.80m - chlorite-carbonate fracture at approx. 10 deg. to CA. crosscutting slickensides at approx. 65 deg. to CA; at approx. 113.60m gradational decrease in grain size from medium-grained (approx. 1mm diameter) to fine to medium-grained (approx. 0.5mm diameter); fractures contain chlorite + carbonate; nil to trace pyrite; very weak matrix chloritization; some fractures have a narrow "speckled" halo with 15-20%, 0.5-imm chlorite grains. at 114.25m - hairline fracture at approx. 10 deg. to CA; crosscutting

_		ST.	JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-3	PAGE # 7
FROM	TO		DESCRIPTION	SAMPLE	FRON	то	WIDTH	Au ppb		
			slicken- sides at approx. 80 deg. to CA; at 117.30m - 0.5mm chlorite-carbonate-filled fracture at approx. 40 deg. to CA; crosscutting slickensides at approx. 70 deg; to CA; at 121.53m - 4cm wide pegmatitic band at approx. 30 deg. to CA. truncated by a hairline fracture parallel to CA; nil pyrite							
			()	7698	111.00	112.00	1.00	0.		
		122.42 - 123.	45 - fine-grained (<0.5mm diameter); fairly abrupt change in grain size at fracture-controlled "contacts"; nil pyrite							
		123.45 - 127.	52 - coarse-grained (2-4mm diameter); weak mottled appearance; no matrix	7699	122.30	123.50	1.20	0.		
			chloritization; most fractures have a 2-8mm wide "speckled" alteration halo	7700	123.50	124.50	1.00	10.		
			with 2-4mm chlorite blebs	7 59 5	124.50	125.50	1.00	0.		
				7596	125.50	126.50	1.00	30.		
				75 9 7	126.50	127.50	1.00	0.		
		127.52 - 130.	50 - medium-grained (approx. 1mm diameter); mil pyrite							
		130.50 - 139.	98 - fine to medium-grained ((0.5mm diameter); 2-6cm wide medium-grained " speckled" alteration halos about most fractures; at 131.28m - 6cm wide pegmatitic zone between 2 subparallel chlorite-filled fractures at approx. 50 deg. to CA; at 133.25m - hairline fracture at approx. 20 deg. to CA; cross- cutting slickensides at approx. 60 deg. to CA; at 135.11m - 4-7cm wide pegmatitic zone subparallel and roughly centered about a chlorite-filled fracture at approx. 15 deg. to CA	7598	134.50	135.50	1.00	10.		
139.98	139.98	End of Hole								

	ST.	JOE	CANADA			 DIAMO	ND DRILL	HOLE R	ECOR D				Page #1 of	8		
Hole No. Property Section Claim No. Target	PP-4 Pinecone Point	Northing Easting Elevation Survey N. Survey E.	L3+85E	Grid Drient Grid Azim. Length (M) Dip-Collar Comp Bearing	-45.00NE		Azimuth 075		Depth 147.5		Azimuth	Test	Finished	December 18, 1987 January 8, 1988 Falcon Drilling	Logged by Checked by Core Comments:	P. Huxhold P. Huxhold BQ
FROM TO		DESCRIPTION				 		SAMPLE	 : Fi	 R oh	T O	WIDTH	Au ppb			

SUMMARY

0.00 1.40 Casing

1.40 31.40 Mafic Intrusive

31.40 31.96 Mafic Intrusive Dyke

31.96 54.07 Mafic Intrusive

54.07 57.90 Feldspar Porphyry

57.90 89.06 Mafic Intrusive

87.06 89.69 Mafic Intrusive Dyke

89.69 91.01 Hafic Intrusive

91.01 91.25 Mafic Intrusive Dyke

91.25 114.70 Mafic Intrusive

14.70 115. Mafic Intrusive Dyke

5.71 147.50 Mafic Intrusive

ONTARIO GEOLOGICAL SURVEY A ASSESSMENT FILES OFFICE

APR 22 1988



ST. JOE CANADA

PROPERTY - Pinecone Point HOLE - PP-4 PAGE © 2

FROM TO DESCRIPTION

SAMPLE FROM TO WIDTH Au ppb

147.50 147.50 End of Hole

		ST.	JOE	CANADA			PROF	PERTY -	Pinecone 1	Point		HOLE - PP-4	PAGE # 3	
FROM	TO		DESCRIPTION				SAMPLE	FROM	TO	WIDTH	Au ppb			
0,00 1,40		Casing Mafic Intrusiv	 dark green (c mottled appeara disseminated py carbonate + pyr 	hloritic); fine to medi nce with epidotized amph rite; minor scattered ha ite; early set approx. 6 to CA (approx. 1-2cm of res)	ibole crystals; trace-1% irline fractures with ep O deg. to CA; late cross	finely pidote + scut set at								
							7584	15.50	16.40	0.90	20.			
			scattered wisps 45 deg. to CA;	tion Zone foliation and weak to mo of buff-coloured carbon trace-12 "bleby" pyrite; mottled appearance	ate conform to foliation	approx. 40 -	7585	16.40	17.86	1.46	30.			
		17.86 - 19.7	70 - zone of strom chloritic; stro EA; strong sulp colour); at 18 conform to folio	g foliation and intense on pervasive carbonatiza hidization; 2-4% ewhedra 36m - 16cm wide quartz-ation approx. 45 deg. to e vein; conform to folia	tion; foliation approx. l pyrite; moderate hemat carbonate-chlorite-pyrit CA; at 18.60m - 12cm wi	40-45 deg. to cization (mauve ce (5%) vein de quartz-	7586 7587	17.86 18.80	18.80 19.70		320. 780.			
			approx. 55 deg.	-carbonate-chlorite-pyri to CA; at 19.60m - 15cm arbonate-chlorite-pyrite	wide zone of 5% dissemi	nated pyrite								
		19.70 - 21.5	50 - zone of weak buff-coloured ca	foliation, weak pervasive arbonate conformable to teration/deformation deci	e carbonatization and mi foliation approx. 45 deg	nor wispy	7588 7589	19.70 20.70	20.70 21.50	1.00 0.80	20. 10.			
31.40	31.96	Mafic Intrusiv	 dark grey-gree shaped feldspar pyrite; contacts 	en; fine-grained; strong porphppyroblasts at cen s sharp; upper contact a to CA; Ica wide zone of	tre of dyke; chilled mar oprox. 35 deg. to CA; lo	gins; trace wer contact	75 9 0	21.50	22.50	1.00	20.			

		9	т.	JOE CANADA	PRO	PERTY -	- Pinecone Point			HOLE - PP-4	PAGE # 4
KOH .	TO			DESCRIPTION	SAMPLE	FROM	то	WIDTH	Au ppb		
96	54.07	Mafic In	itrusi ve	- as above (1.40-31.40m); dark green, chloritized, fine to medium-grained. massive-looking with mottled-looking epidotized amphibole needles; trace disseminated pyrite							
					501	39.00	40.00	1.00	20.		
		40.90 -	48.85	Altered Zone	502	40.00	41.00	1.00	0.		
				- pale grey-green colouur; weakly carbonatized; lower contact is arbitrary	503	41.00	42.00	1.00	0.		
		40.90 -	45.92	High Strain Zone	504	42.00	43.00	1.00	0.		
				- zone of moderately developed foliation approx. 60-65 deg. to CA; weak to	505	43.00	44.00	1.00	30.		
				moderate matrix carbonatization and 2-3% wispy buff-coloured carbonate bands. 1-3% "bleby" pyrite associated with the wispy carbonate	506	44.00	45.00	1.00	20.		
		45.92 -	48.85	- zone of minor hairline fractures with buff-coloured carbonate generally at	507	45.00	46.00	1.00	0.		
				moderate to high angles to CA (25-65 deg. to CA) ; at 47.90m - cm long	508	46.00	47.00	1.00	0.		
				section of two 2-3cm wide quartz-carbonate-chlorite-pyrite-chalcopyrite veins; veins approx. 20-25 deg. to CA with intervening area sulphidized (1-32 pyrite)	50 9	47.00	48.00	1.00	20.		
					510	48.00	49.00	1.00	0.		
					511	49.00	50.00	1.00	0.		
		50.00 -	54.07	Altered Zone	512	50.00	51.00	1.00	0.		
				- zone of 1-5% (0.2-0.4cm); irregular-shaped chlorite clots; (dalmationitic	513	51.00	52.00	1.00	0.		
				appearance); occasional minor scattered hairline carbonate-pyrite stringers	514	52.00	53.00	1.00	0.		
				generally at 45-60 deg. to CA and 10-15 deg. to CA in opposite direction. trace finely disseminated pyrite	515	53.00	54.00	1.00	0.		
)7	57.90	Fel dspar	Porphy								
				- grey to light grey, fine-grained, masive with 1-2% (0.1-0.3cm(irregular-shaped and lath-shaped buff-coloured feldspar phenocrysts; trace-1% disseminated pyrite; weakly altered 1-2% (0.1-03cm) biotite books/flakes. minor scattered hairline fractures with carbonate + pyrite at moderate angles							
)		to CA (40-65 deg.); upper contact sharp approx. 30 deg. to CA with an Bcm wide zone of chlorite-epidote-pyrite alteration in mafic intrusive; lower contact sharp approx. 40 deg. to CA with 1-2cm size mafic intrusive apophyses in the feldspar porphyry							
		•			516	54.00	55.00	1.00	0.		
					517	55.00	56.00	1.00	0.		
					518	56.00		1.00	0.		

		9	BT. JOE CANADA	PRO	PERTY -	Pinecone Point			HOLE - PP-4	PAGE # 5		
FRON	TO		DESCRIPTION	SAMPLE	FROM	то	WIDTH	Au ppb				
 -90	89.06	Mafic Is	ntrusive									
	•		 dark green, medium-grained, massive-looking; weakly dalmationitic with 5-72 (0.2-0.3cm) chlorite clots; trace very finely disseminated pyrite; minor scattered hairline fractures (less 12) with carbonate + pyrite; contacts 45-60 deg. to CA 									
				519	57.00	58.00	1.00	0.				
				520	58.00	59.00	1.00	20.				
				521	69.00	70.00	1.00	0.				
		70.30 -	71.00 Altered Zone - green to pale green colour; weak pervasive carbonatization; contacts gradational; at 70.65m - 2cm wide zone of carbonate-quartz-pyrite veining contacts approx. 50 deg. to CA; at 79.00m - 2cm wide quartz-carbonate bband. contacts approx. 45 deg. to CA; at 80.88m - two crosscutting 0.5cm wide quartz- carbonate-filled fractures; contacts approx. 40 deg. to CA; trace fine-grained pyrite, one vein contained 3mm wide bleb of anhedral chalcopyrite-pyrite	522	70.00	71.00	1.00	0.				
		81.30 -		523	71.00	72.00	1.00	0.				
		83.00 -	86.50 - dalmationite texture gradually decreasing; rock develops a coarse-grained salt and pepper appearance; approx. 87.00m - EDH - rock has a glassy, smooth scratch resistent surface; possibly very meakly silicified; non-silicified at fracture contacts; at 87.76m - 3cm wide quartz-carbonate band; contacts approx;									
			45 deg. to CA; contains 2-3% mm-scale chlorite clots, trace fine-grained pyrite — at 88.84m — 1.5-2cm wide irregular quartz vein; contacts approx. 55-65 deg; to CA; contains several discontinuous thin chlorite wisps/bands possibly indicating a multiple event fracture; up to 10% fine-grained sulphides (pyrite with minor chalcopyrite and pyrrhotite) predominantly along contacts; weak finer-grained alteration/baked zone, 5-7cm either side									
				534	87.50	88.25	0.75	0.				
.,	on #		Accessor Walter	535	88.25	89.00	0.75	10.				
) 6	87.	matic in	ntrusive Dyke - dark grey-green; fine-grained; chloritic; sharp but irregular contacts. upper contact at 20-30 deg. to CA; lower contact at 35-40 deg. to CA; {12									

very finely disseminated, euhedral pyrite

_		ST.	JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-4	PAGE # 6	
FROM	10		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb			
89.69	91.01	Mafic Intrusiv	e								
			- dark green with salt and pepper appearance; coarse-grained; trace very finely disseminated pyrite; minor scattered hairline fractures (<1%) with carbonate + pyrite								
			Consumer Pyrate	536	89.00	90.00	1.00	0.			
		90.54 - 91.0	1 - slight increase in mafic constituents; several 0.5-1.5cm wide fracture- controlled chlorite-rich bands; fractures contain minor epidote, carbonate and are at 45-65 deg. to CA; trace pyrite	537	90.00	91.00	1.00	0.			
91.01	91.25	Mafic Intrusiv									
			- same as 89.06-89.69m; contacts sharp and even; upper contact at 75-80 deg; to CA; lower contact at 80-85 deg. to CA; <1% very finely disseminated, uniformly distributed, euhedral pyrite; numerous carbonate-filled fractures								
			at 45–80 deg;								
91.25	114.70	Mafic Intrusiv	•••								
	******	14112 1111 1321	~ same as 89.96-91.01m								
		91.25 - 91.6	5 - similar to 90.54-91.01m but lacking chlorite bands; lower contact gradational; at 91.42m - 1cm wide quartz-carbonate-filled fracture at 50-60 deg.; weak finer-grained "baked" zone 3cm either side								
			The state of the s	538	91.00	92.00	1.00	0.			
				539	92.00	93.00	1.00	10.		•	
		94.00 - 96.2	O - carbonate-filled hairline fracture subparallel to CA; contains medium-grained ewhedral pyrite								
		98.40 - 112.0	0 - noteable increase in hairline fractures (5% locally up to 15% as swarms)	540	98.00	99.00	1.00	10.			
			with carbonate + pyrite; contacts 5-20 deg. and 40-60 deg. to CA;	541	101.00	102.00	1.00	10.			
		in the second	crosscutting common; gradual decrease in fractures at 112.00m	542	102.00	103.00	1.00	0.			
		98.64 - 98.8	7 - zone of very weak fracture-controlled epidotization; trace pyrite; at 101.06m - carbonate-filled hairline fracture at 15 deg. with a 2-3cm wide								
			epidotized alteration halo								
		102.08 - 103.6	S Altered Jone - dark green; fine-grained; weak generally pervasive chloritization; minor bleby slightly less altered zones with remnant salt and pepper texture; trace pyrite; gradational contacts								
	•	103.63 - 112.5		543	103.00	104.00	1.00	0.			
			- discontinuous, patchy, weak chlorite alteration; predominantly fracture-	544	104.00	105.00	1.00	0.			
			controlled; trace pyrite; occasional <1cm quartz and quartz-carbonate-filled	545	105.00	106.00	1.00	0.			

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		ST.	JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-4	PAGE # 7
FROM	TO		DESCRIPTION	SAMPLE	FRON	то	WIDTH	Au ppb		
			fractures at 35-50 deg. to CA; gradational upper and lower contacts; from	546	106.00	107.00	1.00	0.		
			109.23m to 109.61m chloritization is slightly more pervasive, less patchy.	547	107.00		1.00	0.		
			grain size slightly coarser throughout zone	548	108.00	109.00	1.00	0.		
				549	109.00	110.00	1.00	0.		
				550	110.00	111.00	1.00	0.		
	1	111.00 - 122.00	- weak dalmationitic texture with 5-10% (0.2-0.4cm) chlorite clots develops.	551	111.00	112.00	1.00	0.		
			salt and pepper appearance continues; at approx. 114.00m - grain size in salt	552	112.00	113.00	1.00	0.		
			and pepper appearance gradually decreases to a finer but still coarse grain	553	113.00	114.00	1.00	0.		
				554	114.00	114.70	0.70	0.		
114.70	115.71	Mafic Intrusive	Dyke	555	114.70	115.70	1.00	0.		
			- dark green; fine-grained; chloritic; sharp contacts; upper contact at 30-50 deg. to CA (broken up); lower contact sharp at 50-55 deg. to CA; 1-2% fine to medium-grained, enhedral, disseminated pyrite; 0.5cm wide chilled margins. below lower contact a 10cm wide weakly "baked" finer-grained zone in mafic intrusive	556	115.70	117.00	1.30	0.		
115.71	147.50	Mafic Intrusive								
	1	116.45 - 116.76	 - same as from 89.69-91.01m - zone of weak epidotization and chloritization alteration due to a swarm of carbonate-filled hairline fractures at 30-50 deg. to CA; 0.5% fracture-controlled very fine-grained pyrite 							
	1	121.85 - 121.96	- same as above							
•	1	122.00 - 142.90	- noteable increase in hairline fractures (5-10%, locally up to 15% as	557	122.00	123.00	1.00	10.		
			swarms) with carbonate; fracture contacts at 20-50 deg. to CA	558	123.00	124.00	1.00	0.		
	1	122.00 - 134.45	Altered Zone	55 7	124.00	125.00	1.00	0.		
			- discontinuous, patchy, weak chloritization, predominantly	560	125.00	126.00	1.00	0.		
			fracture-controlled - gradational upper and lower contacts; trace pyrite	561	126.00	127.00	1.00	0.		
•	1	124.05 - 130.72	- similar overall appearance but a slightly paler colour; felsic constituents	562	127.00	128.00	1.00	0.		
			very weakly sausseritized; occasional irregular {1cm wide quartz-carbonate-	563	128.00	129.00	1.00	0.		
			filled fractures at 40-60 deg. to CA	564		130.00	1.00	0.		
			 weak dalmationitic texture re-appears broken up, blocky core due to intense fracturing; slickensides at approx; 45 deg. to CA on some fracture surfaces 	565	130.00	131.00	1.00	0.		
		_		566	131.00	132.00	1.00	0.		
				567			1.00	0.		
				568		134.00		0.		

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FROM	10	D DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb	
		134.45 - 136.30 Altered Zone'	569	134.00	135.00	1.00	0.	
		 medium green; weak pervasive chloritization, doesn't completely obscure the salt and pepper appearance or dalmationitic (approx. 5% chlorite clots) texture; gradational contacts; minor epidote; trace fine-grained disseminated pyrite 	570	135.00	136.00	1.00	0.	
		136.30 - 140.03 - same as from 122.00-134.45m with weak dalmationitic texture	571	136.00	137.00	1.00	0.	
			572	137.00	138.00	1.00	0.	
			573	138.00	139.00	1.00	0.	
			574	139.00	140.00	1.00	0.	
		140.03 - 142.69 Altered Zone	575	140.00	140.60	0.60	0.	
		- medium green; weak pervasive chloritization, doesn't completely obscure	576	140.60	141.10	0.50	0.	
		salt and pepper appearance or dalmationitic texture; gradational contacts. minor epidote; trace to 0.5% disseminated "bleby" pyrite	577	141.10	142.00	0.90	0.	
		140.63 - 141.07 - a mottled quartz-carbonate-rich zone; meakly chloritized and epidotized. quartz-carbonate occurs as wisps, mm-scale irregular blebs and fracture filling						
		 1-2% pyrite with minor pyrrhotite as fine-grained bleby disseminations and fracture-controlled; at 141.32m - 1.5-2.5cm wide quartz-carbonate band at 60-65 deg. to CA; two 0.6cm wide quartz-carbonate bands parallel to and 3cm 						
		· · · · · · · · · · · · · · · · · · ·						
		below wider band; trace pyrite along contacts	E78	142 00	147 66	4 66	Δ.	
		142.69 - 147.00 - mottled coarse-grained salt and pepper appearance gradually decreasing.	578 570	142.00	143.00	1.00	0.	
		becoming massive-looking; fine to medium-grained; dark green; at approx;	579	143.00	144.00	1.00	0.	
		142.80m — dalmationitic texture disappears	580	144.00	145.00	1.00	0.	
			581 503	145.00	146.00	1.00	0.	
*	447 ==	70 F. J. J. H. J.	582	146.00	147.50	1.50	0.	•
1.30	14/*20	50 End of Hole						

PROPERTY - Pinecone Point

PAGE # 8

HOLE - PP-4

ST. JOE CANADA

	ST.	JOE	CANADA				DIAMO	OND DRILL	. HOLE R	ECORD				Page #1 of	7		
Hole No. Property Section Claim No. Target	PP-5 Pinecone Point	Northing Easting Elevation Survey N. Survey E.	4+70E	Grid Orient Grid Azim. Length (M) Dip-Collar Comp Bearing	-45.00	Depth	Dip	Azimuth	Test	Depth	Dip	Azimuth	Test	Started Finished Drill Co. Drill No. Drill For.	•	Checked by Core	B. Paterson P. Huxhold BQ Approx. 1m above
FROM TO	······································	DESCRIPTION							SAMPLE	FF	 RDM	TO	WIDTH	Au ppb			

SUMMARY

0.00 1.51 Casing

1.51 3.10 Overburden

3.10 12.85 Mafic Intrusive

12.85 120.80 Mafic Intrusive

120.80 120.80 End of Hole

ONTARIO GEOLOGICAL SURVEY ASSESSMENT FILES OFFICE

APR 22 1988



•		ST.	JOE CANADA	PROF	PERTY - 1	Pinecone (Point	HOL	E - PP-5	PA6E # 2	
FROM	TO		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb			
0.00 1.51		Casing Overburden									ŧ
	40.05	M /	- limonite-stained								
3.10	12.85	Mafic Intrusiv	ve - dark grey-green; fine-grained; massivve; 1-2% scattered carbonate-chlorite- filled hairline fractures at 5-20 deg. and 35-55 deg. to CA; 5-10% fine-grained biotite; 1-2% euhedral disseminated pyrite, predominantly fine-grained, local coarse grains (up to 5mm)								:
			11 - very weak, rust red hematization, predominantly as staining within fractures. minor hematite content in matrix; 1-22 finely disseminated, euhedral pyrite. common hairline carbonate-chlorite-filled fractures with crosscutting slicken- sides: at 3.87m - fracture approx. 70 deg. to CA; slickensides approx. 75 deg; to CA; at 4.28m - fracture approx. 20 deg. to CA; slickensides approx. 60 deg; to CA; at 5.00m - fracture approx. 20 deg. to CA; slickensides approx. 60 deg; to CA; at 5.58m - fracture approx. 30 deg. to CA; slickensides approx. 60 deg; to CA; at 6.48m - fracture approx. 65 deg. to CA; slickensides approx. 80 deg; to CA; at 7.84m - fracture approx. 10 deg. to CA; slickensides approx. 50 deg; to CA; at 8.19m - fracture approx. 70 deg. to Ca; slickensides approx. 80 deg; to CA; at 9.27m - fracture approx. 50 deg. to Ca; slickensides approx. 90 deg; to CA; at 10.72m - fracture approx. 20 deg. to CA; slickensides approx. 50 deg; to CA at 10.72m - fracture approx. 20 deg. to CA; slickensides approx. 50 deg; to CA several 2-7mm wide carbonate-chlorite-filled fractures at 10-15 deg. to CA several euhedral 3-5mm pyrite grains; at 11.92m - carbonate-chlorite-filled hairline fracture at <10 deg. to CA with crosscutting slickensides at 90 deg; to CA								•
		12.21 - 12.5	59 - broken up core along low angle (<10 deg.) fractures								•
12.85	120.80	Mafic Intrusiv	re - dark to medium grey-green; medium to coarse-grained; massive; 2-3% scattered carbonate + chlorite + epidote + pyrite-filled fractures at 0-25 deg; and 40-70 deg. to CA; <1% fine-grained disseminated pyrite; upper contact gradational								•
		12.85 - 26.7	79 — a few fractures have a thin ((3mm) weakly epidotized halo; 2-3% pyrite as fine-grained sub to euhedral disseminations, local anhedral blebs (up to 7mm) and fine-grained anhedral fracture-controlled aggregates; at 14.27m — 0.5-1cm	583 584 585 586 587	13.00 14.00 15.00 16.00 17.00	14.00 15.00 16.00 17.00 18.00	1.00 1.00 1.00 1.00 1.00	0. 0. 0. 0.			

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	ST.	JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-5	PAGE # 3
FRON	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb		
		slickensides at approx. 70 deg. to CA; at 16.60m - very low angle multiple	588	18.00	19.00	1.00	0.		
		event fracture.	589	19.00	20.00	1.00	0.		
		2 stages of infilling with chlorite and carbonate respectively; nil pyrite	590	20.00	21.00	1.00	0.		
	19.00 - 24.	00 - slightly higher pyrite content, up to 5%; predominantly as anhedral blebs	591	21.00	22.00	1.00	0.		
		and fracture-controlled aggregates; at 20.04m - 1.5cm wide quartz-carbonate-	592	22.00	23.00	1.00	0.		
		pyrite vein at approx. 40-50 deg. to CA; contains 50-60% euhedral 0.5-2mm pyrite grains	593	23.00	24.00	1.00	0.		
			594	24.00	25.00	1.00	0.		
			495	25.00	26.00	1.00	0.		
	26.79 - 31.	36 Altered Zone	596	26.00	26.80	0.80	0.		
		 slightly paler grey-green; fine-grained; weak to moderately pervasive, 	59 7	26.80	28.00	1.20	0.		
		matrix carbonatization; local cm-scale intervals are weakly foliated;	598	28.00	29.00	1.00	0.		
		foliation defined by elongated felsics and chlorite; wisps of carbonate aligned sub- parallel to foliation; 1-2% carbonate-filled fractures in non-foliated zones, 5-7% in foliated zones; 1% (locally up to 3%) fine-grained pyrite as euhedral disseminations, anhedral blebs (up to 3mm) and minor fracture-controlled; at 27.13m - weak foliation at 40-50 deg. to CA; at 29.53m - weak foliation at 50-55 deg. to CA; at 30.65m - weak foliation at 50-55 deg. to CA	599	29.00	30.00	1.00	20.		
	31.34 - 34.1	86 ~ few fractures have a thin (<3mm) weakly epidotized halo; trace to 1% fine-	600	30.00	31.40	1.40	0.		
		grained pyrite; at 32.94m - 0.3-0.5cm wide weakly epidotized fracture at	7601	31.40	32.60	1.20	10.		
		approx. 35 deg. to CA; a 6-7cm wide fine-grained halo surrounds the fracture.	7602	32.60	33.60	1.00	0.		
		at 34.61m - 7cm wide swarm of hairline fractures at 60-70 deg. to CA	7603	33.60	34.60	1.00	o.		
		containing carbonate-epidote + pyrite; pyrite occurs as very fine sub to euhedral grains, up to 2% of fractures							
	AF - AR AF	42 Altered Zone	7604	34.60	35.60	1.00	60.		
	J1.00 30.	 similar appearance as 26.79-31.36m but no carbonatization; paler grey-green. fine-grained; weak pervasive chloritization; 12 fine-grained disseminated ewhedral pyrite and anhedral blebs occurring throughout matrix and fractures (locally up to 10%); contacts gradational; at 35.78m - 11cm wide weakly foliated zones; foliations at 60-80 deg. to CA; at 35.92m - 9cm 	1007	₽74. GV	90. OV	1.00	ov.		
	_	wide auguste, mich some pasteinies atlanibu.contempts.comite, comete and							

wide quartz- rich zone containing chlorite-carbonate-pyrite; quartz and pyrite major constituents; 10% pyrite as fine to coarse disseminated euhedral grains and large (up to 4mm) anhedral, predominantly fracture-controlled,

**	9	T. JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-5	PAGE # 4
FROM	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	ppb Au		
		blebs; weak fracturing at 70-80 deg. to CA							
	36.42 -	36.83 - a few fractures have a thin (<3mm) weakly epidotized halo; trace-1% fine- grained pyrite	7605	35.60	36.60	1.00	90.		
	36.83 -	38.57 Altered Zone — dark grey-green; medium-grained; massive; weakly silicified; <1% hairline fractures at 15-20 deg. and 30-45 deg. to CA; 1-2% pyrite occuring generally as fine to coarse (up to 3mm) grained enhedral disseminations, minor pyrite on fracture surfaces; contacts gradational	7606	36.60	37.60	1.00	0.		
	38.57 -	41.03 - <1% carbonate + epidote-filled hairline fractures; trace-1% fine-grained	7607	37.60	38.60	1.00	0.		
	00107	pyrite; at 40.29m - 0.3cm wide carbonate-epidote-filled fracture at 35 deg.	7608	38.60	39.90	1.30	20.		
		to CA with 3cm fine-grained halo; at 40.63m - 0.5-15cm wide quartz-carbonate vein at 20 deg. to CA; trace pyrite	7609	39.90	40.90	1.00	0.		
	41.03 -	45.69 Altered Zone	7610	40.90	41.60	0.70	٥.		
		- weakly silicified; same as 36.83-38.57m	7611	41.60	43.00	1.40	100.		
	41.53 -	45.34 - weak silicification continues but appearance changes; medium grey-green;	7612	43.00	44.00	1.00	0.		
		fine to medium-grained (variable); 1-2% carbonate-epidote-pyrite-filled fractures. lighter colour possibly due to a higher epidote content; 1-2% pyrite; at 41.96m - 0.5-1.5cm wide pyrite-carbonate vein at 60-80 deg. to CA; 70-80% very fine-grained, subhedral pyrite; at 42.12m - 1cm wide pyrite-carbonate vein at approx 90 deg. to Ca; 70-80% very fine-grained, sub to euhedral, bleby pyrite; at 42.93m - 4cm wide zone with sevveral epidote-carbonate + pyrite fractures at approx. 70-85 deg. to CA; at 43.86m - 7cm wide quartz-rich zone containing minor carbonate, chlorite; 3-4% fine-grained bleby pyrite in neighbouring mafic intrusive; mafic intrusive below (for 10cm) zone is highly chloritic and weakly foliated at 40-65 deg. to CA	7613 7614	45.00 45.00	45.00	1.00	0.		
	46.09 -	47.56 - very broken up, blocky core; possibly a fault zone							
		49.53 - 1-2% carbonate + pyrite hairline fractures weakly epidotized; <1% fine-	7599	46.00	47.60	1.60	0.		
		grained disseminated pyrite	7615	47.60	49.00	1.40	0.		
	49.53 -	49.71 - very weak dalmationitic texture with <5% chlorite clots (<2mm wide)							
		50.77 - same as from 47.56-49.53m; at 49.83m - 2-3cm wide carbonate-quartz-pyrite-filled fracture at 30-40 deg. to CA; 7-10% fine to medium-grained sub to euhedral pyrite	7616	49.00	50.00	1.00	0.		
	50.77 -	62.90 Altered Zone	7617	50.00	51.00	1.00	0.		
		- dark to medium grey-green; medium-grained to coarse-grained; weak to	7618	51.00	52.00	1.00	0.		

	8	T. JOE CANADA	PRO	PERTY -	Pinecone	Point		HOLE - PP-5	PAGE # 5
OH 1	10	DESCRIPTION	SAMPLE	FROM	10	WIDTH	Au ppb		
		moderate dalmationitic chloritization; 5-10% (0.1-0.4cm) chlorite clots; 1%	7619	52.00	53.00	1.00	0.		
		carbonate + epidote + pyrite-filled hairline fractures at 10-25 deg. and 40-60 deg. to CA; minor epidote in matrix; trace to 1% very finely disseminated pyrite	7620	61.00	62.00	1.00	0.		
	57.11 -	57.24 - weakly carbonatized interval centered about a 3mm wide quartz-carbonate- filled fracture at 15 deg. to CA; 0.5% very fine-grained pyrite							
		60.62 - more pervasive chloritization; less dalmationitic; finer-grained							
	62.90 -	65.04 Altered Strain Zone	7621	62.00	62.00	1.00	0.		
		 dark to medium grey-green; fine to medium-grained; weak to moderately 	7622	63.00	64.00	1.00	0.		
		developed foliation at 50-60 deg. to CA; moderate pervasive, matrix carbonatization; 2% carbonate-filled hairline to 0.5cm wide fractures; trace to 1% fine-grained ewhedral disseminated pyrite; gradational contacts	7623	64.00	65.00	1.00	0.		
	63.56 -	64.30 - zone of strongest strain; moderately foliated; abundant white to buff carbonate wisps and chlorite-rich bands (<2mm) define foliation; 1-3% bleby pyrite predominantly associated with carbonate; at 64.80m - 1-3cm wide quartz- carbonate-rich zone at 50-60 deg. to CA; 1% bleby pyrite at contact							
	65.04 ~	69.36 - dalmationitic chloritization; same as 50.77-62.90m; at 65.31m - 2 parallel 1cm wide quartz veins at 60 deg. to CA; 0.4cm apart; 5% very fine-grained pyrite concentrated along contacts	7624	65.00	66.00	1.00	40.		
	65.44 -	65.68 - more pervasive chloritization; less dalmationitic; finer-grained; fractures contain a little more epidote; 2% fine-grained fracture-controlled pyrite; at 68.50m - 0.5cm wide epidotized fracture subparallel to CA with a 3cm wide, chlorite-rich halo; trace pyrite; at 69.00m - 0.1-0.5cm wide, erratic, epidotized fracture subparallel to CA; 3-5% fracture-controlled; fine-grained pyrite-pyrrhotite							
	69.36 -	93.29 Altered Zone	7625	69.00	70.00	1.00	0.		
		 weak to moderate dalmationitic chloritization and very weak silicification. 	7626	70.00	71.00	1.00	0.		
		1-2% quartz-carbonate and carbonate-fitled hairline fractures; trace to 0.5%	7627	71.00	72.00	1.00	10.		
		very fine-grained predominantly fracture-controlled pyrite; contacts	7628	72.00	73.00	1.00	10.		
		gradational; fractures typically have a narrow (1-5em) unsilicified, often	7629	73.00	74.00	1.00	0.		
		weakly carbonatized halo	7630	74.00	74.60	0.60	0.		
	_	75.64 - zone of strongest silicification (weak); darker grey-green; only minor fracturing; trace pyrite	7631	74.60	75.60	1.00	0.		
	88 -	77.04 - darker grey-green; weak silicification; same as above; at approx. 78.00m - dalmationitic chloritization weakens; chlorite clots are fewer, smaller and less evident	7632	75. 60	77.00	1.40	0.		

m 1	TO	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb	
	70.44	70.00	7633	77.00	78.00	1.00	0.	
	78.60 -	78.85 - darker grey-green; weak silicification	7634	78.00	79.00	1.00	10.	
			7635	79.00	80.00	1.00	0.	
	80.11 -	80.33 - non-silicified; moderately carbonatized zone centered about two 0.5cm wide carbonate-filled fractures at 40-45 deg. tto CA; trace pyrite	7000	77.00	00.00	1144	٧.	
	90.22 -	90.50 - non-silicified; moderately carbonatized zone centered about a 4cm wide quartz-rich zone; quartz occurs at irregular fracture-filling and as mm-scale "sweats"; quartz-filled fractures at 50-60 deg. to CA; contain carbonate, chlorite and 1% fine-grained bleby pyrite; at 91.33m - 0.5cm quartz vein at approx. 75 deg. to CA	7636	89.50	90.50	1.00	0.	
		•	7637	90.50	91.50	1.00	0.	
			7638	91.50	92.50	1.00	0.	
	92.70 ~	93.29 - non-silicified; moderately carbonatized zone centered about; at 92.86m - 4cm wide quartz-rich band at approx. 80 deg. to CA; 3% fine-grained pyrite-pyrrhotite; at 93.06m - 7cm wide quartz vein (sharp contacts, only minor inclusions of host rock) at approx. 80 deg. to Ca; 3% fine-grained bleby pyrite-pyrrhotite, predominantly at contact; at 93.16m - 1cm wide quartz-carbonate vein at approx. 70 deg. to CA; trace pyrite						
	93.29 -	96.00 - coarse-grained; weakly sausseritized; 2% weakly epidotized hairline	7639	92.50	93.50	1.00	0.	
		fractures	7640	93.50	94.50	1.00	0.	
		 0.5% fine-grained, fracture-controlled pyrite; non-silicified; at 94.30m - 2-3cm wide quartz-rich zone with minor epidote, carbonate at 20 deg. to CA. trace pyrite 	7641	94.50	96.00	1.50	0.	
	96.00 - 1	20.80 Altered Zone	7642	96.00	97.00	1.00	0.	
		- discontinuous, patchy, weak chlorite alteration; 1-22 quartz-carbonate +	7643	97.00	98.00	1.00	0.	
		chlorite + epidote + pyrite-filled fractures at 0-10 deg., 30-50 deg. and	7644	98.00	99.00	1.00	0.	
		70-80 deg, to CA; trace pyrite; a few local pyrite-pyrrhotite-rich hairline	7645	99.00	100.00	1.00	0.	
		fractures - gradational contacts; chloritization is slightly more pervasive (7 <i>6</i> 46	107.00	108.00	1.00	0.	
		less patchy) and stronger (weak to moderate) at 96.17-97.05m, 98.04-98.27m,	7647	108.00	109.00	1.00	0.	
		100.69-101.03m,	7648	109.00	109.70	0.70	0.	
		106.04-106.39m; very weak silicification continues giving a glassy, smooth	7649	109.70	110.90	1.20	0.	
	_	surface; non-silicified at carbonatized intervals and along fractures; at	7650	110.90	111.90	1.00	20.	
		106.80m - patchy chloritization weakens to very weak and predominantly	7651		112.90	1.00	0.	
	•	fracture-controlled; minor, very weak dalmationitic chloritization; fractures	7652	112.90	114.00	1.10	0.	
		contain less chlorite-epidote	7653	114.00	115.00	1.00	0.	

PROPERTY - Pinecone Point

PAGE # 6

HOLE - PP-5

ST. JOE CANADA

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FROM	то	DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb	
	107.10 - 108	.75 - weak chloritization, predominantly dalmationitic, minor fracture-controlled patchy chloritization						
		.73 - weak to moderate carbonatization; trace very fine-grained pyrite; weakly foliated interval from 110.16-110.71m contains abundant carbonate wisps subparallel to foliation at 40-60 deg. to CA; at 110.48m - 1cm wide quartz fracture with minor carbonate and chlorite at approx. 70 deg. to CA; nil pyrite; at 110.65m - 3cm wide quartz fracture with minor carbonate and chlorite at approx. 55 deg. to CA; trace pyrrhotite; at 113.15m - 1.5cm wide quartz fracture with minor carbonate at approx. 45 deg. to CA; 6cm wide weakly chloritized-epidotized halo; nil pyrite; at 115.12m - increase in hairline fracturing, up to 5-7Z; trace pyrite .46 - weakly epidotized zone; predominantly fracture-controlled; 10% hairline fractures; trace pyrite; at 116.24m - 0.5-1.5cm wide carbonate fracture with						
		minor quartz at approx. 60 deg. to CA; trace pyrite	7/64	445 00	447.00	4 00	•	
			7654 7655	115.00 116.00	116.00 116.50	1.00 0.50	0. 0.	
	116-69 - 117.	.35 - moderate carbonatization, centered about an irregular, 0.3-1.5cm wide quartz- carbonate-chlorite-filled fracture, subparallel to CA, from 116.87-117.30m; 2% fine-grained fracture-controlled (up to 60% in hairline fractures) "bleby" pyrite; at 117.91m - several irregular, 1-4mm quartz " sweats"; trace fine- grained pyrite	7000		110.00	V.50	••	
		•	76 56	116.50	117.50	1.00	0.	
	118.33 - 118.	.82 - more pervasive, slightly stronger chloritization; 0.5% fine-grained disseminated pyrite	7657	117.50	118.50	1.00	0.	
	118.90 - 119.	.18 — weakly epidotized; very weak deformation; weak irregular alignment of chlorite and chlorite "flow" about felsic grains; trace pyrite						
	119.18 - 120.	.80 - patchy chloritization increases from very weak (at 106.80m) to weak;	7658	118.50	119.50	1.00	0.	
		similar to 96.00-106.80m; trace to 0.5% fine-grained pyrite, predominantly fracture- controlled; abundance of fractures decreases (from 5-7% at 115.12m) to 1-2%	7659	119.50	120.80	1.30	0.	

PROPERTY - Pinecone Point

PA6E # 7

HOLE - PP-5

ST. JOE CANADA

20.80 120.80 End of Hole

	st.	JOE	CANADA			 DIAM	OND DRIL	L HOLE RE	ECORD				Page #1 of	5			
Hole No. PP-6 Property Pine Section Claim No. Target		Northing Easting Elevation Survey N. Survey E.	4+33E	Grid Orient Grid Azim. Length (M) Dip-Collar Comp Bearing	-45.00	Dip - 45				Dip - 48	Azimuth	Test		January 15, January 16, Falcon Dril	1988 Checked by	B. Paterson P. Huxhold BQ	
FROM TO		DESCRIPTION				 		SAMPLE	FI	 R on	TO	HTDIW	Au ppb				
SUMMA						 									ONTARIO GEOLO ASSESSME OFFI	NT FILES	

2.10 Casing

2.26 Overburden

41.40 Mafic Intrusive

43.43 Feldspar Porphyry

49.40 Mafic Intrusive

49.40 End of Hole

SSOCIATION OF THE PROPERTY OF

APR 22 1988

RECEIVED

****		вт.	JOE CANADA	PR01	PERTY -	Pinecone	Point		HOLE - PP-6	PAGE # 2
FRON	10		DESCRIPTION	SAMPLE	FROM	TO	WIDTH	Au ppb		
0.00 2.10 2.26	41.40	Overburden Mafic Intrusive	- dark to medium grey-green; varying medium-grained; massive; approx. 12 scattered hairline fractures at 5-20 deg. and 35-65 deg. to CA; occasional fracture at approx. 75-80 deg. to CA; fractures contain carbonate + minor quartz + epidote + pyrite; 12 pyrite as scattered blebs and fracture-controlled - minor amounts as coarse (up to 2mm) euhedral grains; minor pyrrhotite - 20-25% of fractures have weak to moderate limonitic staining decreasing in intensity and frequency with depth - slightly darker coloured and finer-grained; 1-2% pyrite occurring as scattered small blebs and minor disseminated fine grains; minor pyrrhotite. lower contact gradational	48751 48752 48753	2.30 3.00	3.00 4.00	0.70 1.00	0. 0.		
	1	10.62 - 11.18	- zone of intense fracturing and epidotization; 10-20% hairline to 7mm wide fractures; no visible increase in sulphides; at 10.77m - 4cm wide zone of brecciated material within a fracture; contains in order of abundance: brecciated mafic intrusive (pieces up to 2.5cm long; majority are 2-5mm), epidote, carbonate, pyrite	48754	10.00	11.00	1.00	10.		
		12.18 - 12.57	Altered Zone - slightly lighter grey-green; fine to medium-grained; weak to moderate matrix carbonatization; 1-2% wispy to 5mm carbonate fractures at 10-15 deg. and 35-60 deg. to EA; 5-7% pyrite as small blebs and fracture-controlled, minor finely disseminated; contacts gradational; at 14.11m - 2cm wide fracture of carbonate, pyrite and quartz; 40-50% pyrite as fine to coarse (up to 3mm) sub to euhedral grains throughout fracture; 5-10% euhedral grains of pyrite (approx. 0.5mm) extending 1-2cm either side of fracture; contacts are uneven and masked by pyrite; appear to be sub-perpendicular to EA; at 17.20m - 1cm wide carbonate, quartz and chlorite-filled fracture at approx. 20 deg. to CA; no visible sulphides in fracture; 3cm wide zone of epidotization and very weak carbonatization on footwall	48755 48756 48757	12.00 13.00	13.00 14.00	1.00 1.00 1.00	0. 0.		

τo	DESCRIPTION	SAMPLE	FROM	то	WIDTH	Au ppb
		48758	14.00	15.00	1.00	0.
		48759	15.00	16.00	1.00	0.
		48760	16.00	17.00	1.00	0.
		48761	17.00	18.00	1.00	0.
18.23 -	20.09 Altered Zone	48762	18.00	19.00	1.00	20.
	- lighter grey-green; fine-grained; massive to foliated in mid-section; 1-2% hairline fractures at 10-15 deg. and 35-50 deg. to CA; fractures contain predominantly carbonate; some quartz, minor chlorite and epidote; matrix carbonatization moderate; approx. 0.5% pyrite predominantly fracture and foliation-controlled, minor scattered blebs of 1-2mm in size; contacts gradational	48763	19.00	20.00	1.00	10.
18.64 -	19.59 Foliated Zone - lighter still grey-green; moderately foliated at 40-60 deg. to CA; light colour due to wisps of carbonate; upper and lower contacts seem to be defined by 0.5 to 1.5cm quartz-carbonate fractures at 40-60 deg. to CA; at 18.89m - a 19cm well foliated zone centered about a quartz-carbonate fracture at 50-60 deg. to CA; also an irregular 3-4mm crosscutting quartz fracture at 30-40 deg; to CA; weak epidotization in the zone; 1-2% pyrite occurs within the foliations as finely disseminated euhedral grains and small elongated blebs; at 20.79m -					
	4 carbonate-filled hairline fractures at 50-60 deg. to CA; 11cm weakly matrix carbonatized zone surrounds fractures; at 22.74m - 1.5cm wide carbonate, epidote, pyrite, minor chlorite and pyrrhotite-filled fracture at approx. 85 deg. to CA; 102 pyrite + pyrrhotite occuring as very fine to fine euhedral grains disseminated along contacts, some medium-grained euhedral pyrite occurs as well; at 24.07m - large 1.8cm pyrite bleb mixed with carbonate; at 24.30m - a 1-1.5cm wide quartz + carbonate + epidote-filled fracture at 15-20 deg. to CA - epidote occurs as needles showing a preferred orientation parallel with fracture					
		48764	20.00	21.00	1.00	0.
		48766	25.50	26.50	1.00	0.
8 - 27.05 -	32.17 - hairline fractures increase in abundance to 3-5%; become weakly epidotized 27.22 - very weakly carbonatized zone about a sub-perpendicular to CA; ica carbonate + pyrite vein at 27.10m; 10% fine-grained finely disseminated	48765	26.50	27.70	1.20	0.

ST. JOE CANADA

pyrite; contacts gradational; at 27.60m - a 2.5cm wide very weakly foliated

PROPERTY - Pinecone Point

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PASE # 3

HOLE - PP-6

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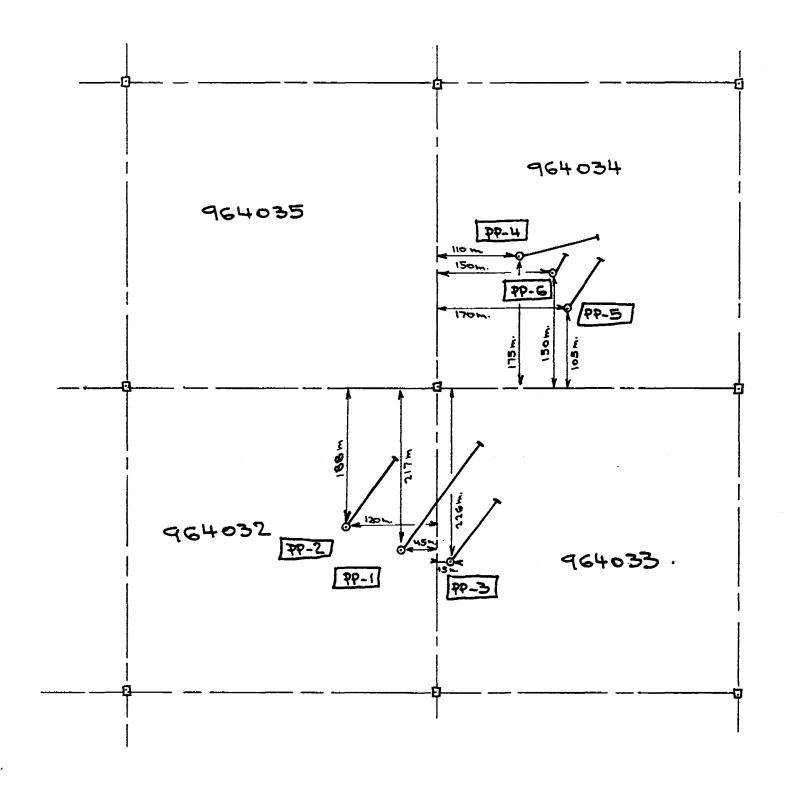
		8	T.	JOE	CANADA		PRO	PERTY -	Pinecone	Point		HOLE ~ PP-6	PAGE # 4
FROM	TO			DESCRIPTION			SAMPLE	FRON	TO	WIDTH	Au ppb		
				zone; foliati	ons at								
				•	•	Some carbonate fractures at 50–60 deg. to bonate + pyrite-filled fracture at							
				approx	s 5-107 line-seriesd sur	te occurs mostly along fracture edges.							
				-	; J-tox vine-grained pyr: :7cm wide zone of weakly								
				quartz-carbon	ate-filled fractures at	10-50 deg. to CA; at 31.29m - a 2-3cm							
					-	showing cleavage; fracture at approx.					=		
				70 deg. to CH	; very weakly epidotized		48767	27.70	29.00	1.30	0.		
							48768	29.00	30.00	1.00	0.		
							48769	30.00	31.00	1.00	0.		
							48770	31.00	32.00	1.00	0.		
		32.17 -	34.30	- noteable de	crease in hairline fracti	res to <1%; epidotization not evident	48771	32.00	33.00	1.00	0.		
				Altered Zone		, ,	48772	33.00	34.00	1.00	0.		
					•	ed chlorite clots (dalmationitic);	48773	34.00	35.00	1.00	0.		
				abundance of	fractures back to origina	1 17	48774	35.00	36.00	1.00	0.		
							48775	36.00	36.75	0.75	0.		
							48776	36.75	37.50	0.75	0.		
		37.56 -	39.95	fine-grained; texture masked at 15-30 deg.	moderate to strong matri d; approx. 1% hairline ca	ry-green; weakly to moderately foliated. x carbonatization; dalmationitic rbonate and quartz-carbonate fractures CA; foliation is weak at 50-70 deg. to	48777	37.50	38.75	1.25	0.		
		38-33 -	39.36	- moderately chlorite; 5-10 approx. 60-80	foliated zone; contains OZ pyrite; zone is quite deg. to CA; pyrite is mo	10-50% quartz; 20-30% carbonate; 20-30% deformed but foliations appear to be stly fine-grained and disseminated ewhedral grains up to 3mm							
				•			48778	38.75	40.00	1.25	20.		
		- 1.	a . •				48779	40.00	41.40	1.40	0.		
1.40	43.43	Feldspar	Porphy	•	ht negus lipp_essionds	seivas anneas 17 (S.S.a.) isonaul							
	(and lath-shape	ed cream-coloured phenocr	ssive; approx. 12 (.5-5mm) irregular systs of feldspar; approx. 12 finely strolled; <12 hairline to 3mm fractures							

		ST.	JOE	CANAD	A				PROPERTY - Pinecone Point			HOLE - PP-6	PAGE # 5			
FRON	TO		DESCRIPTION					SA	MPLE	FROM	TO	WIDTH	Au ppb			
			to CA; altera chloritizatio feldspar porp contact is sh weakly epidot is approx. 0. with quartz, 42.92m - 0.7-	tion in mafic int n and large (up t hyry includes 2—3 arp at 60—70 deg. ized but lacking 7cm and includes pyrite and pyrrho	rusive includes 12mm) quar 2 biotite ali to CA; 3cm a the quartz of trace biotite and mino with carbona	es weak epidoti tz sweats; a 1. gned parallel t litered zone in the upper cont ; at 42.67m - 0 r carbonate at	Scm chilled zone	in is yin re		41.40 42.40	42.40 43.40	1.00 1.00	0. 0.			
43.4 3	49.40 Maf	ic Intrusiv								120 11						
			- altered zon	e; as above (33.2	?1-41.40m) ; a	pprox. 2% hairl	ine fractures	487 487 487 487 487 487	83 84 85 86	43.40 44.40 45.40 46.40 47.40 48.40	44.40 45.40 46.40 47.40 48.40 49.40	1.00 1.00 1.00 1.00 1.00 1.00	0. 0. 0. 0.			
49.40	49.40 End	of Hole														

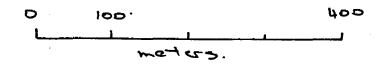
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ST. JOE CANADA INC.
FINECONE POINT PROPERTY
HORLOOD TD., ONTARIO.

DRILL HOLE LOCATION PLAN.

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Ministry of Natural Resources

Report of Work DOCUMENT No.

Type of equipment and amount expended. Note: Proof of actual cost must be submitted

Signed core log showing; footage, diameter of

Name and address of Ontario land surveyer.

within 30 days of recording.

core, number and angles of holes.

Minin



Names and addresses of owner or operator together with dates when drilling/stripping

Nii

Work Sketch (as above) in duplicate

NII

done.

900

Name and ST.	Address of Re							7	3698	•
				3014	57.	٥٠, ٦٥	POUTO	MS	C 27	6
Summary of Wo		ance and D	istribution of	Credits						
Total Work Days		<u> </u>	Mining Claim	Work		lining Claim	Work		ing Claim	Work
<i>J</i> 80	ວ.	Prefix	Numbe	r Days Cr.	Prefix	Number	Days Cr.	Prefix	Number	Days Cr.
for Performance of work. (Check one		ng								
Manual Wo	• •		SEF							1
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Compressed Power drive	d Air, other		1	300	in the second	OFFI	UE.		,	
mechanical			7		r de la	APR 22	1988			J
Power Strip	ping		· · · · · · · · · · · · · · · · · · ·							
Diamond o	r other Core					RECEL	VED			_
							VED			
Land Surve	Y				4					l
All the work was				64032,			4034.	·	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
Required Inform	nation eg:	type of equ	uipment, Nan	nes, Addresses,	etc. (Sec	Table Below)				
HOLE	ST W	wen	DIP	CORE	LE	LITON	TATE	CET	FINISI	HED.
PP-1	० ३	C°	- 45°	<i>86</i>	80	ر ۲۰۵۰	DEC. 10	18/0	DEC. 15	5 187.
48-5	030		-422	89	40	12-11	DEC.		DEC. 19	
PP-3	030	-	-45°	858	140	59.2'	JAN.1	3/88	JAW.1	4/88
36-rt	פרס		- H23	8Q	14	83.91	DEC.	8/87	Jan. 8/88.	
PP-5	030		-420	82.	3	qc. 3'	JAN.	1/88	JAN. 1	2/88
PP-C	034	5	-42°	ક્લ.	١,	62.1'	240.	5/88	JAU.	16/88
		PED)	Br.	P.D.	BD	DRILLING STOR	R (ζ.	older or Agent	(Nigneture)
	and the second second second second					FEB. 2	3/88	7.8	المشاشة	7
Certification Vo										
				owledge of the fac nd the annexed re			f Work annex	ed hereto, ha	ving performed	the work
PETER				00/1 3T	, , 3	OADEL	AIDE	5 T.	E .	
TORDY	, ar	97T.	, M	5c 2T	۷.	Date Certified	188	Certified by	(Signature)	W
Table of Inform	nation/Atta	chments R	equired by th	e Mining Recor	der			· · · · · · · · · · · · · · · · · · ·	XY	
Type of	Work	s	pecific Informa	ition per type	0	ther information	Common to	or more typ	es) Attac	chments
Manual Work										
Shaft Sinking, Dother Lateral We			Ni		j r	lames and address nanual work/oper vith dates and how		are required		
Compressed air, driven or mecha		Type of ea	quipment			100			relation t	f work in to the
Power Stripping				mount expended.			MAR U	1 1988	nearest c	laim post.

768 (81/3)

drilling

Land Survey

Power Stripping

Diamond or other core

SCHEDULE 'A' HORWOOD TWP

PREFIX	CLAIM NUMBER	WORK DAYS CR.	
P	964032	75	
P	964033	75	
P	964034	7 5	
P	964035	75	
P	964036	. · · · · · · · · · · · · · · · · · · ·	
P	964037	75	
P	964038	75	
P	964039	75	
P	964040	75	
P	964041	75	
P	964042	75	
P	964043	75	
P	964044	75	
P	964045	75	
P	964046	75	
P	964047	75	
P	964048	75	
P	964049	75	
P	964050	75	
P	964151	75	
P	964152	. 75	
P	964153	75	
P	964154	75	
P	964155	75	
P	964156	75	
P	972647	75	
P	972648	75	
P	972649	75	
P	972650	75	
P	972651	7 5	
P	972652	75	
P	972653	75	
P	972654	75	
P	972655	75	
P	972656	75	•
P	972662	75	
P	<u>972663</u>	<u>100</u>	
	TOTAL 37	TOTAL 2800	