

ASSESSMENT REPORT

ST. HELEN GROUP

FORT STEELE M.D.

NTS 82F/8E, 82G/5W

49° 22' N
116° 00' W

Owner: St. Eugene Mining Corporation Ltd.
Operator: St. Eugene Mining Corporation Ltd.

Author: John R. Wilson

Date Submitted: June 2, 1981

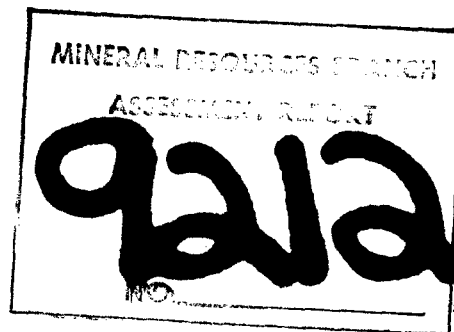


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INTRODUCTION

The St. Helen Group of mineral claims consists of the St. Helen 1 (4 units), St. Helen 2 (16 units), St. Helen 3 (16 units), St. Helen 4 (1 unit), Mar 3 (20 units), Mary 6 (20 units), and Mary 7 (20 units). The claims were staked in 1979 and 1980.

The property is located approximately 23 kilometres southwest of the city of Cranbrook. It is accessible by old logging roads that branch from the Moyie / Lumberton main road.

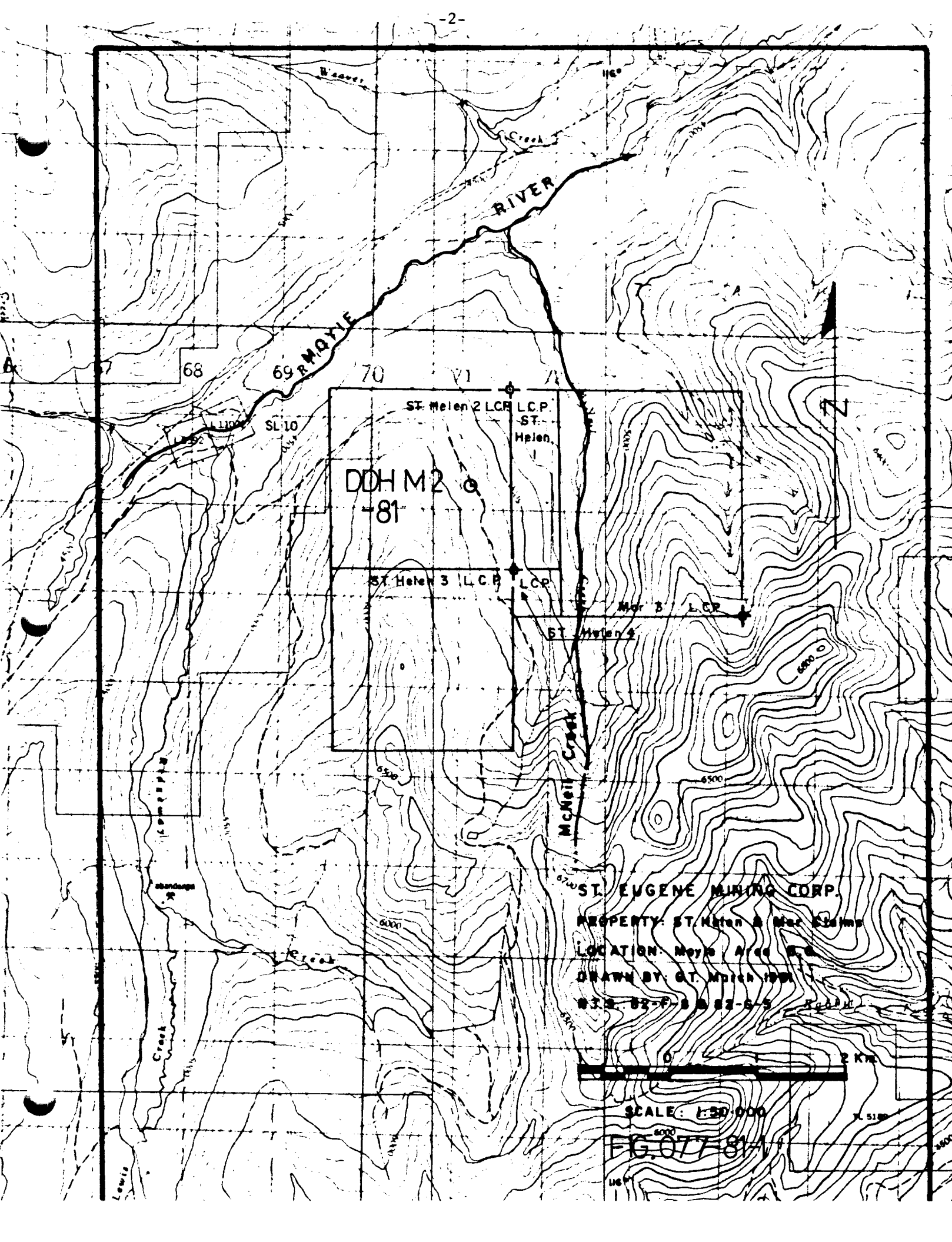
The claims cover a part of the southeastern side of the Moyie River valley centered on McNeil Creek. Elevations range from 1981 metres to 1341 metres. Physical work consisted of providing access to the diamond drill site by plowing snow off an old logging road and repairing washouts on the road (both on the St. Helen 2 claim and approaching it from 1.8 km. away).

One B. Q. hole was drilled to a depth of 157.6 metres on the St. Helen 2 claim for lithologic information.

GENERAL GEOLOGY

Bedrock geology consists of Aldridge formation sedimentary rocks of the Lower Purcell Supergroup (grey quartzites, wackes, siltstones, and argillites) and minor gabbroic sills and dykes.

Outcrops are scarce and usually exhibit a gentle (5° - 15°) northeast dip. Metamorphism and deformation of lithologies are minor.



DDH M2
-81

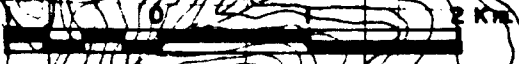
ST. Helen 2 LCP L.C.P.
ST. Helen.

ST. Helen 3 L.C.P. L.C.P.

Mar 3 L.C.P.

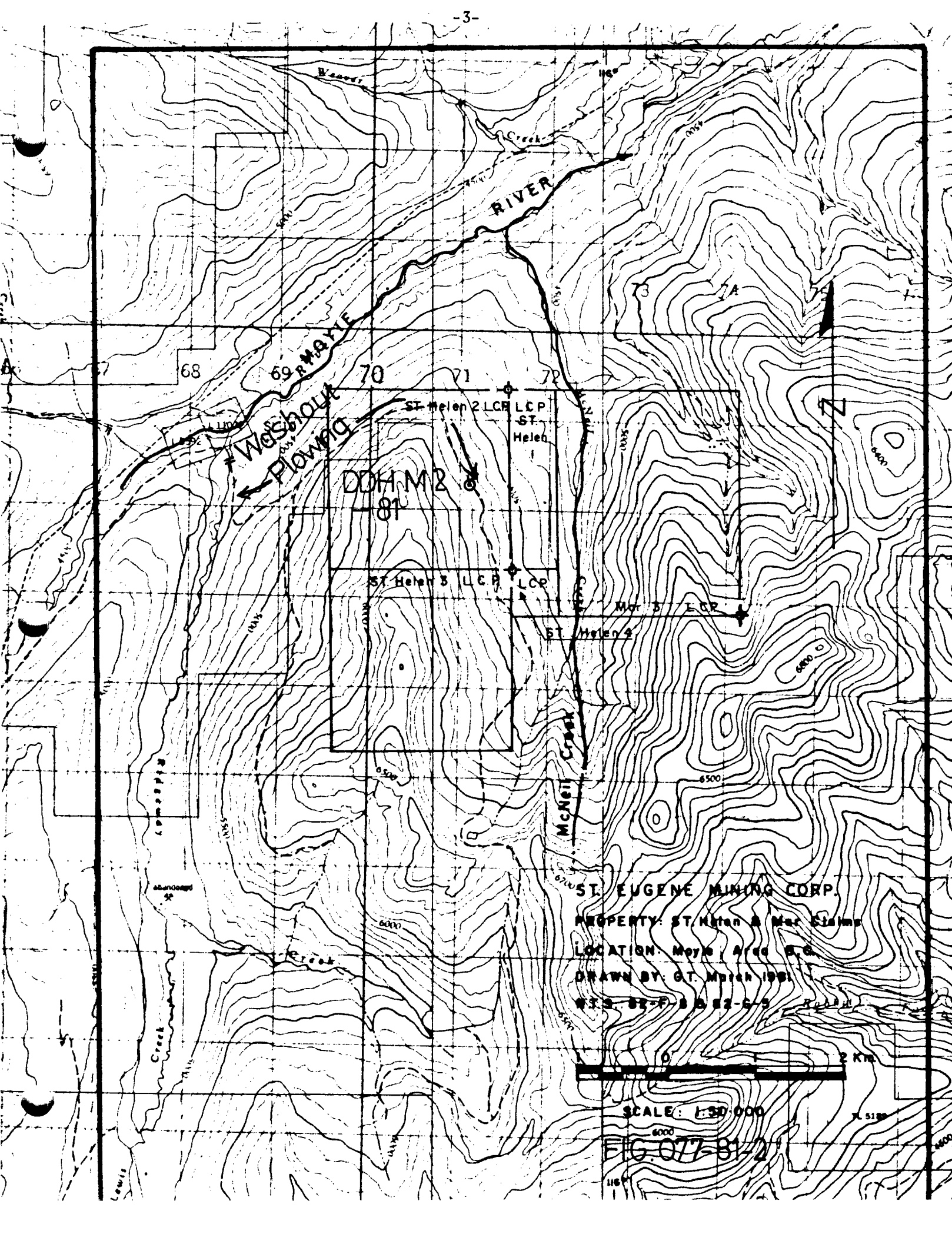
ST. Helen 4

ST. EUGENE MINING CORP.
PROPERTY: ST. Helen & Mar Stamp
LOCATION: Moyle Area B.C.
DRAWN BY: G.T. March 1991.
N.T.S. 02-P-8-82-6-5



SCALE: 1:50,000

FG. 077-81



68

69

70

71

72

DDH M2
81

ST Helen 3 LCP

LCP

Mar 3 LCP

ST Helen 2

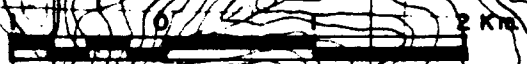
ST. EUGENE MINING CORP.

PROPERTY: ST Helen & Mar Claims

LOCATION: Moyle Area S.G.

DRAWN BY: G.T. March 1991

NS 85-F 8 82-G-5



SCALE: 1:50,000

FIG 077-81-2

T. 5198

116

NORTH _____ STARTED 15 May/81
 EAST _____ COMPLETED 18 May/81
 ELEV. 5210' (1588 m)
 BEARING vertical LENGTH 517' (157.6 m)
 DIP -90° @ collar. Acid test at 157.6 m. -88°

FALCONBRIDGE DIAMOND DRILL RECORD

PROPERTY
MOYIE AREA CLAIMS

PURPOSE For geological information HOLE No. M-2-81
 CLAIM St. Helen 2
 SECTION _____
 LOGGED BY J. Wilson OFFSET _____
 PLOTTED _____

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.				
	BQ core BBS 1 drill. D. J. Drilling Company.							
	Core stored at St. Eugene Mine's Moyie Lake Camp.							
0 - 3.7 m.	Overburden							
3.7 - 13.3	Broken (2-15 cm. pieces) of dark tan to grey-green soft siltstone & argillite. Mottled - patchy colour changes. 1 mm chlorite (?) grains in tan zones. Brecciated in places - possible flat fault zone (?) 80° bedding. Chloritic, finely laminated argillite layers. To 1% diss. py. in some fresh siltstone. Lower contact changes gradually by interlaying.							
13.3 - 31.8	Massive, hard, argillic quartzite and quartzite with minor graded siltstone to argillite tops, tops often chloritic? Dark grey colour with occasional pale green and tan zones (altered to pale green along flat faults (?). Lower contact grades down to mainly pale green zone.							
	13.3 - 15.6: usually argillite and siltstone tops to 15 cm. grading down to thick massive argillic quartzite to 1 m. Trace diss. py. throughout 77° bedding in siltstone. Irregular alteration of argillic quartzites produce breccia-like appearance with fresh cores to 10 cm. surrounded by green chloritic (?) zone. Tabular white crystals 2 mm X 5 mm with dark centers (feldspar?) in chloritic (?) argillite/siltstone @ 14.5 m.							

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.				
	15.2 - 15.5: 1 cm iron stained qz. vein @ 10°							
	15.6 - 15.7: soft, fine, grey and white laminations and white micro-rip up clasts. Slumping streaking, possible cross-bedding. Load cast base, sharp upper contact. 78° bedding.							
	15.7 - 19.0: usual argillaceous quartzites with chloritic (?) argillite/siltstone graded tops. Scoured bases. Occasional argillite rounded chips near center or top of quartzite part. Rare whitish quartzite grades in and out of argillaceous quartzite (eg. 17.7 - 18.0).							
	18.6 - 18.7: closely spaced (1-5 mm) subparallel & truncating set of dark tan streaks each 2-5 mm wide, dipping 70°. Centered in a 25 cm pale green quartzite (altered from grey argillic quartzite) and carrying traces of diss. pyrite. Possible fracture or fault zone exhibiting two alteration effects (widespread pale green and narrow dark tan).							
	18.7 - 19.2: argillaceous quartzite and argillite/siltstone with loadcasts. Clear 65° bedding.							
	19.2 - 20.3: a.Q. and Q. with 1% diss. py. and occ. S. chips.							
	23.5 - 23.8: a.Q. with S. chips and tr. diss. py.							
	23.9 - 24.2: pale green bleached and tan altered irregular zones with 1% diss. py. in arg. Q.							
	24.7 : A. chips in arg. Q.							

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.				
	25.0 : S. with A. chips grades down to arg. Q.							
	25.0 - 31.8: usual massive arg. Q with graded A./S. tops. Beds are 25 to 100 cm. thick. Some nearly white Q. zones. Purplish tinge in places.							
	30.0 White tabular crystals to 2X5 mm. in size scattered randomly in soft, chloritic(?) arg. Q. Occ. 3 cm. biotitic concretion.							
31.8 - 38.9	Mostly pale green, some light to dark grey arg. Q. moderately soft, chloritic(?). Banded, laminated, wedges. Occ. Hard, massive Q. Top 30 cm. of zone is gradation from above. Pale green due to alteration(?) of mafics. Diss. py. stronger (to 5%) throughout green zone. Several platy 1 cm. chips of S. Several 70° dark tan bands as above and a single 40° band. 70° indistinct, parallel and irregular bedding planes.							
	32.5: apparent alteration from grey arg. Q to pale green following vertical fracture giving breccia-like appearance.							
	also here: (3) 2 mm 70° qz. V. with 25% py. crystals to 2 mm. dia. Parallel, 1-5 mm. layers of py. & py. qz. (10 - 100% py) are throughout (10-30 cm spacing @ 70° - 80°).							
	Occ. barren calcite veinlets at all angles.							
	32.9 - 33.0: Streaky mylonitic(?) appearance @ 72°. Occ. Chloritic grains and rounded 1 cm. A pebbles. Bedding is usually parallel but some is irregular and wedged. Minor displacements (primary ?) in bedding and in a pyrite layer.							
	34.8: 20° 3mm irregular py. vein.							
	35.5: patch of 2 mm. chloritic crystals in soft medium green arg. Q.							
	36.7: 70° 1 cm. brecciated qz. v. with 1% diss. py. and chips of black, hard v.f.g. rock.							
	37.8 - 38.4: irregular bedding in arg. Q. with tinge of purple color (biotite?) and discontinuous							

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.				
	layers of po. (total po = 1%) Tr. py. in blebs, fractures, and diss.							
38.4 - 38.9	Parallel layers of pale green and darker green soft S. as above, distinct bedding @ 75°. To 1% Py. as layers and diss. (and rarest) soft blackish layers (tops of graded beds).							
38.9 - 71.0	Light to dark grey arg. Q. (with purplish tinges 41.8 - 71.0) and streaky appearance due to f.g. white tabular crystals in massive sections. Some varve-like sections (1-3 mm. layers) over 5 to 30 cm. Usually moderately hard, occasionally very hard. Rare pale green softer sections ad above.							
	38.9 - 41.0: Distinct 70° bedding. Diss. py. on some contacts. Varve zones have occ. minor displacements (primary feature?) and slumping giving slightly contorted bands.							
	41.0 - 41.2: Broken section.							
	41.4 - 41.7: Stockworks of 2 mm. 92 V. and rotated finely laminated bedding (30°) Tr. py. in 4mm 92. v.							
	41.7 - 42.4: Very hard, streaky, smeared appearance in dark grey Q. with qz. stockworks and 2% total py. diss. and in qz. v.							
	42.1 - 42.4: 50° breccia / qz. v.							
	Minor displacement of bed on 65° plane. 5% diss. py. in occ. 4 cm. chloritic soft dark green/grey streaky argillic bands. Rare py. in lighter grey (S?) or in varve-like zones of S and A. Minor displacement (eg. 2 mm @ 10°).							
	45.5: 25° 1 cm. qz. v. 10% diss. py. extending 2 cm into country rock from vein edge.							
	45.5 - 46.0: Minor displacement @ 10°; warping of laminations; cross bedding; po and py along bedding planes and diss. in darker, harder arg. Q.							
	46.0 - 47.5: 1% total diss. py & po in indistinctly layered dark & light grey A, S.							
	Patches of 1-5% diss. po. as 1 mm. blebs elongate parallel to bedding and confined to darker bands.							
	Py on bedding planes as continuous 1-2 mm. layers.							

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.				
	47.5 - 47.8: qz - calc. stockworks py. in some 15° fractures. 15° 2 cm po-calc-qz vein/breccia zone. Green ascicular vein mineral (amphibole?)							
	48.2: Reddish tinge adjacent to calc-qz vein (hematite?) Bedding is mainly indistinct and thin (1-10 cm), @ 85°. Some cross-bedding. Equal widths of arg. Q and S/A.							
	55.5 - 55.8: Pale green soft S with 3% diss. py. and a 2 cm. qz. breccia zone.							
	60.0: 70° bedding.							
	60.3: 85° bedding, occ. cross beds.							
	60.8 - 61.0: Disrupted zone. Either cross-cutting channels with ripup clasts or fault breccias. 30° trend of 1 mm qz. v. set. 77° bedding.							
	64.4 - 65.1: 85° bedding 2 mm. po. layers and diss. po. to 2% from 64.3-67.0.							
	67.7: 5 mm. calc. v. with po. blebs.							
	68.0: 1-2 mm diss. po/calcite blebs.							
	69.3: 2 mm. po. band at 80° with trace cpy (?) and Tr. qz. truncates/caps weak po-qz veinlets.							
	70.1: 5 mm. po. layer at 85° contains brecciated wall rock.							
	70.2: A. chip.							
	70.2 - 70.6: arg. Q. bed with graded, 5% diss. po (coarser and more volume near base of bed). 1 cm. po. blebs nearby. Wedged bedding.							
71.0 - 96.9	Mainly hard arg. Q. (usually unmineralized). Occasional soft A or S with minor diss. po.							
	71.3: Black 2 cm A fragment with diss. po on outer 5 mm fringe occurring as tabular grains less than 1 mm. long.							
	71 - 72: Medium grey Q. Top grades to A/S.							
	72 - 72.5: ditto. contacts are indistinct, cross beds and rock chips occur. 85° bedding.							
	77.6 - 77.7: Rip-up clasts of Q, arg. Q.							

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.				
	80.3 - 80.6: S/A with diss. and banded po. grading down to massive arg. Q.							
	81.1 - 81.4: soft, laminated, arg. Q/arg. S. with tr. po. grades down over 10 cm. to massive Q or arg. Q.							
	Occ. pink garnets (?) in 1-3 cm. bleached Q zone (concretion?).							
	82.3 - 88.4: Occ. pebbles in Q. zones.							
	88.4 - 94.8: A, some S is very indistinct bands and contorted. Some arg. Q. To 2% po. diss. in patch.							
	94.8 - 96.1: Q							
	96.1 - 96.2: Laminated S and A with tr. diss. po. Channelling. Grades down to arg. Q.							
	96.2 - 96.4: arg. Q. Occ. pebbles to 1 cm.							
96.9 - 131.2	Mainly soft A and S. Occ. Hard arg. Q. Po and Py more common, grading from Q to S still.							
	98.9: 80° 2 mm vein of po. Tr cpy (?) Laminated beds are irregular, seldom parallel, contacts are indistinct.							
	102.4 - 103.6: Purplish tinge.							
	103.6 - 112.0: Several graded beds to 20 cm. A and S tops are laminated, distorted, slumped. Grade down to arg. Q. Po, py blebs often in top part. A pebbles often in Q.							
	107 - 107.3: 1-3 mm 10° po. vein. 80° bedding indistinct and irregular in S/A. Rip-up clasts, wedging, cross-bedding. Occ. rounded pebbles.							
	108.4: 20° 1-3 mm py-qz vein							
	108.7: shear, @ 70°, broken core.							
	108.7 - 109.1: 1 mm to 5 cm subparallel and irregular bands of hard purplish and hard whitish Q @ 10°. 3% diss. py and po concentrations parallel bedding.							
	109.1 - 109.7: 5% v.f.g. py or po in hard dark purplish black Q.							
	109.7 - 110: Hard purplish and whitish laminae with 2% f.g. diss. po or py.							

FOOTAGE	DESCRIPTION	SAMPLE	FOOTAGE	C.L.				
	110 - 110.6: A and S with 2% diss. po or py.							
	110.6 - 110.9: vertical 1mm qz. vein centering a 1 cm greenish alteration zone and branching out to alter some laminae of hard arg. Q with purplish - brown tinge.							
	110.9 - 121.8: Dark grey silty argillite with S. layers, minor load casts . Bedding distinct and indistinct @ 80°.							
	113.4: Minor displacement of bedding @ 10°							
	121.8 - 126.6: Several 20 cm arg. Q beds, purplish tinged. Some with A/S tops indistinct bedding planes.							
	124.5: 1-3 mm. po-cpy vein @ 15°							
	125.0: 1 cm. qz-biotite-po vein @ 5°.							
	126.6 - 130.1: arg. Q, S, A. Poor bedding, pebble clasts.							
	128.1: 4 cm qz. v. @ 40°							
	129.5: 1 cm qz. v. @ 15°							
	130.1: 2 cm qz. v. @ 30°							
	130.4: 3 cm qz. v. @ 45°							
	130.1 - 131.2: arg. Q.							
	131.2 - 131.5: Broken contact with diorite.							
	131.5 - 133.1: f.g. diorite							
	133.1 - 133.8: m.g. diorite							
	133.8 - 143.2: c.g. diorite							
	143.2 - 143.9: m.g. diorite							
	143.9 - 157.6: c.g. diorite.							
	Traces of po throughout diorite as disseminations on fractures, and in quartz veins. Also occ. cpy (eg. bleb at 138.9).							
	<u>Core Recovery</u>							
	3.6 to 9.1 m 80%							
	9.1 to 12.2 m. 95%							
	12.2 to end 100%							

ABBREVIATIONS

arg. Q (a.Q.)	argillaceous quartzite
Q	quartzite
A	argillite
S	siltstone
diss.	disseminated
qz. v.	quartz vein
py	pyrite
occ.	occasional
Tr.	trace
dia.	diameter
qz.	quartz
v.f.g.	very fine grained
po.	pyrrhotite
f.g.	fine grained
calc.	calcite
cpy.	chalcopyrite
m.g.	med. grained
c.g.	coarse grained



FALCONBRIDGE NICKEL MINES LIMITED

6415 - 64th Street, Delta, B.C., Canada V4K 3N3

Tel. (604) 946-0441

Telex 04-53245

June 11, 1981

Gold Commissioner
Ministry of Energy, Mines and
Petroleum Resources
Victoria, B. C.
V8V 1X4

Dear Sir:

Enclosed are 2 copies of an assessment report on the
St. Helen Group in the Fort Steele Mining Division.

A statement of Exploration and Development was submitted
to the Fort Steele gold commissioner in Cranbrook on June 1, 1981
with a note that the assessment report was to follow. Please note
that, due to subsequent invoices being rendered we have altered the total
costs incurred.

Yours truly,

John R. Wilson

JRW:ik

STATEMENT OF COSTS

Physical Work

Plowing snow with Trojan Loader 4 hours May 8 and 4 hours May 9 @ \$46.00/hour	\$368.00
Preparing washouts with Case Backhoe 4 hours May 12 @ \$35.00/hour	140.00
Preparing washouts by sandbagging, shovelling, courderoying May 12 and 14 - one may @ \$110/day	<u>220.00</u>
TOTAL	<u>\$728.00</u>

Diamond Drilling (May 14-18) #M-2-81

Mobilizing drill from Midway (56 hrs. @ \$19.00/hr)	556.00
Moving drill to site:	
4 ton truck, May 14, 6 hrs. @ \$20.00/hr	120.00
D7 cat, May 14 & 15, 15hrs. @ \$50.00/hr	750.00
Drilling	
Casing 0-16' @ \$21.00/ft	336.00
Core 10-500' @ \$19.50/ft	9,555.00
Core 500-517' @ \$21.45/ft	364.65
Mobilization, Demobilization, Downtime (4 drillers - 122 hrs @ \$19.00/hr)	2,318.00
Room (Tri-Way Motel, Cranbrook) 10 mandays @ \$27.56/day	275.60
Board 20 mandays @ \$20.00/day	400.00
Drill Fuel, grease, oil etc.	103.30
<u>Logging core and Supervision May 15 - 18</u>	
John R. Wilson, 4 days @ \$110.00/day	440.00
Room & Board (J.R.Wilson) 4 days @ \$20.00/day	80.00
Truck Expenses - 4 days @ \$30.00/day	120.00
Report writing (1 day @ \$110.00/day)	110.00
Report typing , (1 day @ \$80.00/day)	80.00

TOTAL \$15,608.55

Drilling done by: D. J. Drilling Company Ltd.
13135 - 20th Ave.
Surrey, B. C.
V4A 1Z1
#531-4134



Province of British Columbia
Ministry of Mines and Petroleum Resources

REVISED STATEMENT JUNE 11, 1981

MINERAL ACT

Statement of Exploration and Development

I, B.W. Downing (Name) 6415 64th Street (Address) Delta, B.C., V4K 4E2 Valid subsisting F.M.C. No. 209119 Agent for St. Eugene Mining Corp. Ltd. (Name) 6415 64th Street (Address) Delta, B.C., V4K 4E2 Valid subsisting F.M.C. No. 207526

STATE THAT

1. I have done, or caused to be done, work on the St. Helen 1, 2, 3 & 4, Mar 3, Mary 6 & 7 Mineral Claim(s) Record No.(s) 932, 933, 934, 1172, 765, 1178, 1179 Situate at McNeil Creek in the Fort Steele Mining Division, to the value of at least 16,336.55 dollars. Work was done from the 6th day of May 1981, to the 20th day of May 1981

2. The following work was done in the 12 months in which such work is required to be done:

(COMPLETE APPROPRIATE SECTION(S) A, B, C, D, FOLLOWING)

A. PHYSICAL (Trenches, open cuts, adits, pits, shafts, reclamation, and construction of roads and trails)

(Give details as required by section 13 of regulations.)

Table with 2 columns: Description of work and COST. Includes entries for plowing snow off drill road, repairing washouts, and corderoing.

B. PROSPECTING (Details in report submitted as per section 9 of regulations. (The itemized cost statement must be part of the report.)

Table for Prospecting with a COST column and a TOTAL PHYSICAL AND PROSPECTING row.

I wish to apply \$ 700.00 of this work to the claims listed below.

(State number of years to be applied to each claim and its month of record.)

St. Helen 2 933(6)

C. DRILLING (Details in report submitted as per section 8 of regulations.)
 (The itemized cost statement must be part of the report.)

COST
15,608.55

D. GEOLOGICAL, GEOPHYSICAL, GEOCHEMICAL
 (Details in report submitted as per section 5, 6, or 7 of regulations.)
 (The itemized cost statement must be part of the report.)
 (State type of work in space below.)

.....

TOTAL OF C AND D	15,608.55
------------------	-----------

Who paid for the above-described work? Name St. Eugene Mining Corp. Ltd.
 Address 6415 64th Street
 Delta, B.C., V4K 4E2

Portable Assessment Credits (PAC) Withdrawal Request		AMOUNT
Amount to be withdrawn from owner(s) account(s):		
Name of Owner		
(May be no more than 30 per cent of value of the approved work submitted as assessment work in C and (or) D.)	1. St. Eugene Mining Corp. Ltd.	1,091.45
	2.	
	3.	
	4.	
TOTAL WITHDRAWAL		1,091.45
TOTAL OF C AND (OR) D PLUS PAC WITHDRAWAL		16,700.00

plus \$700.00 from physical work

I wish to apply \$ 16,700.00 of this work to the claims listed below.
 (State number of years to be applied to each claim and its month of record.)

St. Helen	1	932(6)	2 years
"	2	933(6)	2 years
"	3	934(6)	2 years
"	4	1172(11)	2 years
Mar	3	765(9)	1 year
Mary	6	1178(11)	2 years
Mary	7	1179(11)	2 years

Value of work to be credited to portable assessment credit (PAC) account(s).
 (May only be credited from the approved value of C and (or) D not applied to claims.)

Name		AMOUNT
In owner(s) name.	1.	
	2.	
	3.	
In operator(s) name (person paying for the work).	1.	
	2.	
	3.	

B. W. Paving
 (Signature of Applicant)



FALCONBRIDGE NICKEL MINES LIMITED

6415 - 64th Street, Delta, B.C., Canada V4K 3N3

Tel. (604) 946-0441

Telex 04-53245

STATEMENT OF QUALIFICATIONS

Mining Recorder

Department of Energy, Mines and
Petroleum Resources
411, Douglas Building
Victoria, B. C.
V8V 1X4

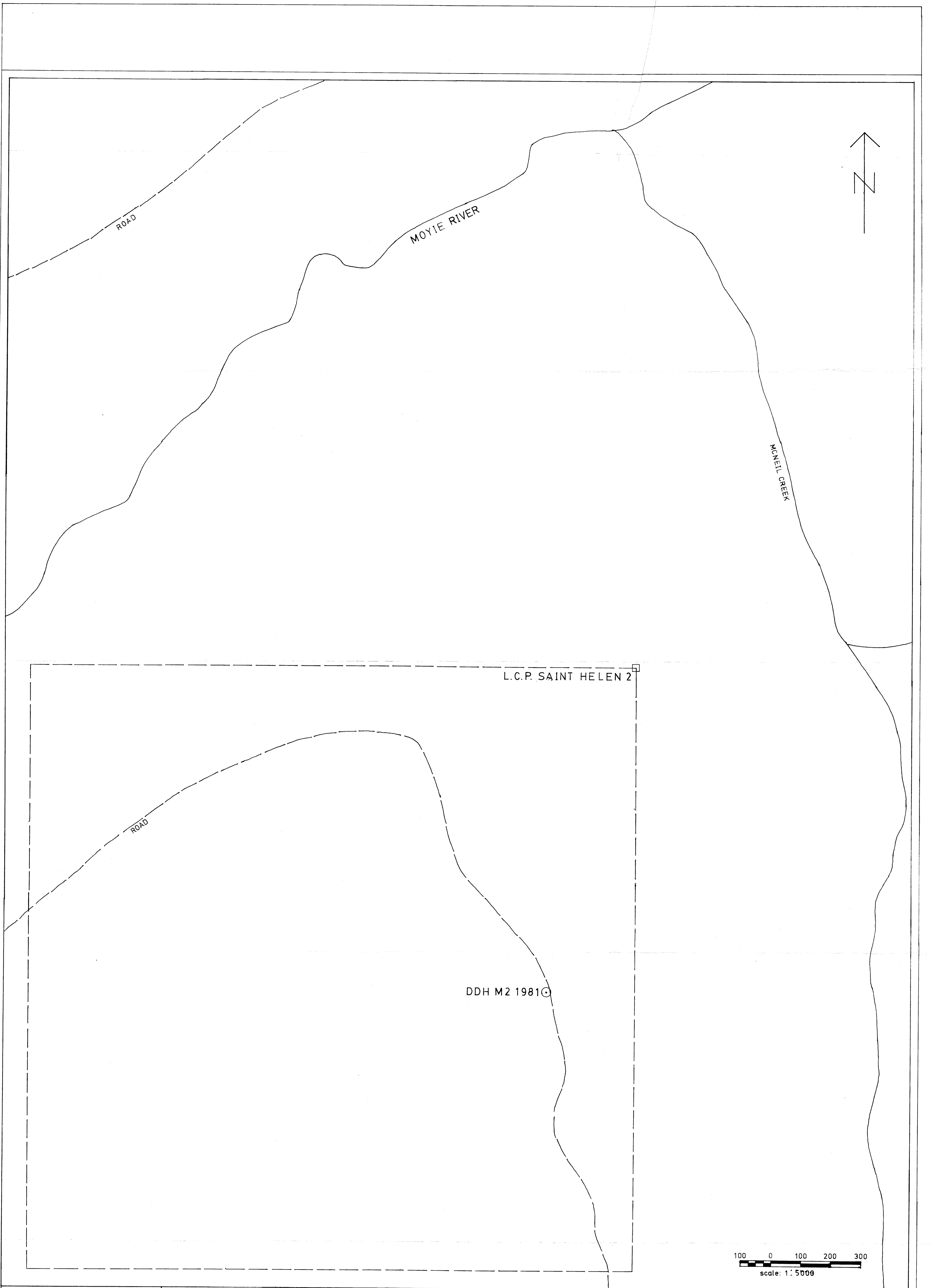
Dear Sir:

Mr. John R. Wilson graduated from the University
of British Columbia in 1972 with a B. Sc. (honours geology) and
has worked for Falconbridge Nickel Mines Limited since graduation
as an exploration geologist.

Yours truly,

B. W. Downing

BWD:ik



POSTS & CLAIM LINES LOCATED BY CHAIN & COMPASS

ST. EUGENE MINING CORPORATION LTD.

ST. HELEN 2

MOYIE AREA, B.C.

DRILL HOLE LOCATION

date of work: summer 81	MAP REF. NO.: NTS	FIG. NO.:
DRAWN BY: AIO	82 F/8 E; 82 G/5 W	077-81-3
DATE: JUNE 10, 1981		

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
9212
NO.