



42A05NE0102 30 TURNBULL

010

DIAMOND DRILLING

TOWNSHIP: TURNBULL TWP.

REPORT NO: 30

WORK PERFORMED FOR: Granges Exploration Ltd.

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

<u>Claim No.</u>	<u>Hole No.</u>	<u>Footage</u>	<u>Date</u>	<u>Note</u>
700702	FC-1	125m	May/88	(1)
700703	FC-2	167m	June/88	(1)
700703	FC-3	119m	June/88	(1)
700703	FC-4	153m	June/88	(1)
757366	FC-5	122m	June/88	(1)
757365	FC-6	38m	June/88	(1)

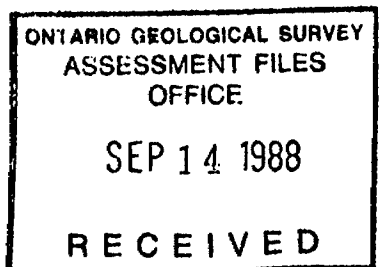
724

Notes: (1) #W8806.256 , filed in Jan/89

DIAMOND DRILLING REPORT
ON
CLAIM NOS. 700702, 700703, 757365 & 757366
SITUATED IN THE
TURNBULL TOWNSHIP
PORCUPINE SOUTH MINING DIVISION
MAP NO. G-3250

HELD BY:
GRANGES EXPLORATION LTD.

885 WEST GEORGIA ST.
23RD FLOOR
VANCOUVER, B.C.
V6C 3E8



July 20, 1988

G.W. Zbitnoff
(A.L. Laite)



42A05NE0102 30 TURNBULL

010C

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HORIZONTAL LOOP & EM SURVEY MAP SHOWING DRILL HOLE LOCATIONS
FOR DDH # FC-1, FC-2, FC-3 AND FC-4

PLAN OF DIAMOND DRILLING FOR DDH # FC-5 AND FC-6, SCALE 1:5000

PLAN OF DIAMOND DRILLING FOR DDH # FC-5 AND FC-6, SCALE 1:500

DIAMOND DRILL LOGS FOR DDH FC-1, FC-2, FC-3, FC-4, FC-5 AND FC-6

INTRODUCTION

The Four Corners property is situated in Turnbull Township, District of Cochrane, Porcupine South Mining Division.

The claims are held by Granges Exploration Ltd. of Vancouver, B.C. under option from Mr. Robert Rousseau of Timmins, Ontario.

DIAMOND DRILLING

Diamond drill holes no. FC-1 to FC-6, total depth 724 m (2375.33 ft), were drilled from May 25 to June 17, 1988. The drilling was done by Bradley Bros. Limited of Timmins, Ontario and the work was supervised by D. Gaboury, B. Gaboury and P. Lutynski, geologists for Granges Exploration Ltd. Assaying on drill hole samples was done by Min-En Laboratories of Timmins, Ontario.

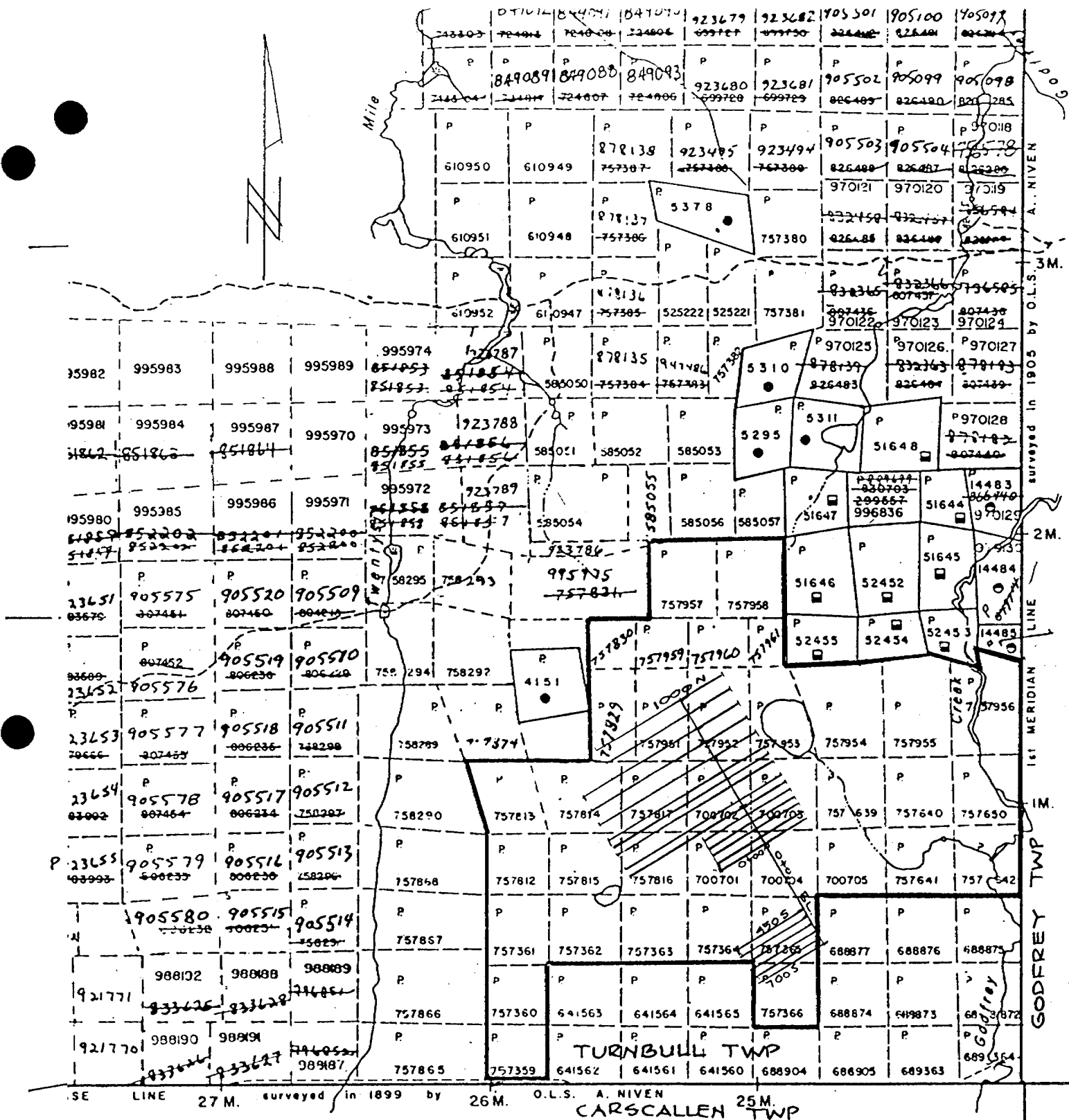
The following is a summary of results, but for more information please contact Granges Exploration Ltd. in order to see appended logs and record sheets and to view core.

SUMMARY OF DIAMOND DRILLING RESULTS

A horizontal loop electromagnetic survey conducted on the Four Corners claims revealed one anomaly truncated by a fault. This anomaly was further investigated by drill holes FC-1, FC-2, FC-3 and FC-4. No significant mineralization was revealed by drilling and no further work on this anomaly is anticipated.

Drill holes FC-5 and FC-6 were drilled to investigate a quartz vein surface showing located on claims 757365 and 757366. No significant mineralization was found and no further work is anticipated on this showing.

<u>Claim No</u>	<u>Hole No.</u>	<u># of Assays:</u>
700702	FC-1	40
700703	FC-2	62
700703	FC-3	38
700703	FC-4	46
757366	FC-5	89
757365	FC-6	24



GRANGES EXPLORATION LTD.
 GRID LOCATION PLAN
 FOUR CORNERS OPTION
 TURNBULL TWP, ONT

SCALE 1:31,680

PROJECT N° 521
 M.P. JULY 1988

P-700701

P-700704

P-700705

P-757364

P-757365

P-688877

P-641565

P-757366

P-688874

LINE 450'S

LINE 500'S

LINE 550'S

LINE 600'S

LINE 650'S

LINE 675'S

LINE 700'S

D.D.H
FC-6
(-65°)

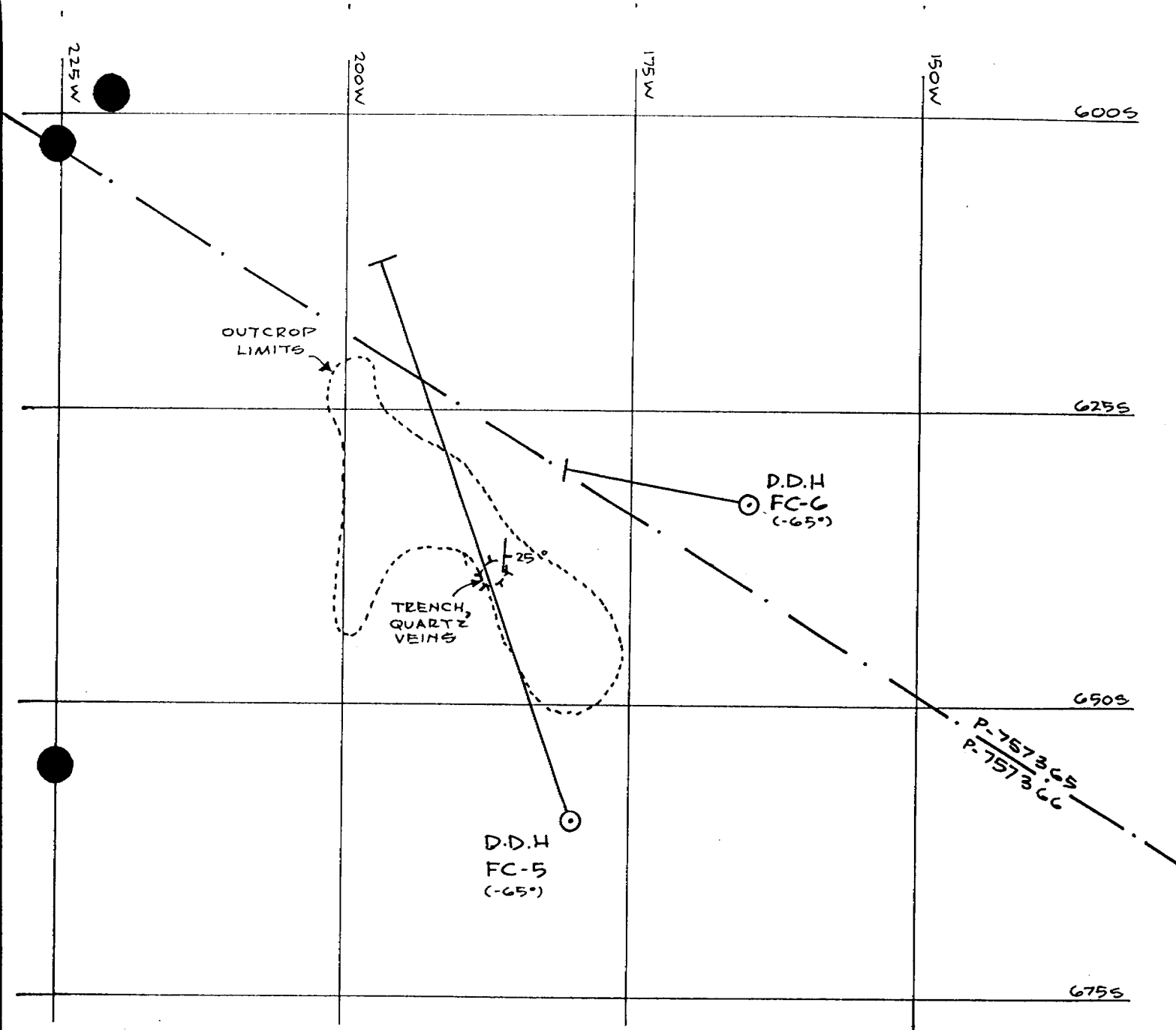
D.D.H
FC-5
(-65°)

GRANGES EXPLORATION LTD.
 — PLAN OF DIAMOND DRILLING —
 ON
 CLAIMS P-753765 & P-757366
 (FOUR CORNERS OPTION)
 TURNBULL TWP, ONT.
 HOLES FC-5 & FC-6

SCALE: 1:5000

PROJECT N: 521
M.P. JULY 1988





GRANGES EXPLORATION LTD.
 — PLAN OF DIAMOND DRILLING —
 ON
 CLAIMS P-753765 & P-757366
 (FOUR CORNERS OPTION)
 TURNBULL TWP, ONT

SCALE 1:500

PROJECT NO 521
 M.P. JULY 1988

STATEMENT OF QUALIFICATIONS
GEORGE W. ZBITNOFF
5160 CLIFF PLACE
DELTA, B.C.

Name: Zbitnoff, George William

Birth Date: August 15, 1938

Birthplace: Saskatoon, Saskatchewan

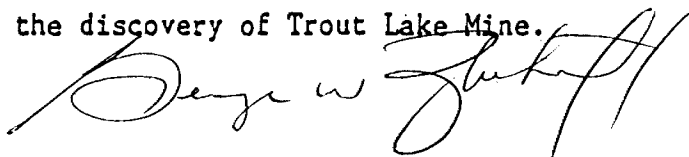
Graduated with Grade 12 matriculation from
Blaine Lake High School in 1955.

Graduated from University of Saskatchewan with a
B.A. (Geology and chemistry majors) in 1963.

Professional

- Associations:
- Member of the Association of Professional Engineers of the Province of Manitoba.
 - Member of the Association of Professional Engineers of the Province of British Columbia since 1973.
 - Member of the Canadian Institute of Mining and Metallurgy.

- Experience:
- Pre-graduation experience in geology with the Department of Mineral Resources of Saskatchewan.
 - May 1962 - Two and one half years, field geologist with Hudson Bay Exploration and Development, Flin Flon area.
 - January 1965 - Six years, field and resident geologist with Noranda Exploration Ltd., Flin Flon area.
 - February 1971 - Twelve and one half years, Assistant Manager, Granges Exploration Aktiebolag in Vancouver, B.C.
 - November 1983 to present - Vice President Exploration, Granges Exploration Ltd. in Vancouver, B.C.
 - Active geological experience in all provinces of Canada and parts of the United States and Mexico.
 - Participated in the discovery of Trout Lake Mine.





GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

ANOMALY:

Page 1 of 3

Property Four Corners Project No. 521 Depth 125.0 M Date Began MAY 25
 Hole No. PC-1 Co ord. S+50 N Horizontal Length 73 M Date Completed MAY 27
 Claim No. 700702 0+05 E Core Size B_g Drilled By BRADLEY Bros.
 Grid No. _____ Angle & Grid Direction -55°/Grid W. Elevation _____ Logged By B. GABOURY

INTERVAL FEET / METRES	DESCRIPTION	CORE SAMPLE RECORD				Au G/T	Ag PPM	Cu PPM	Zn PPM
		FROM	TO	SAMPLE	WIDTH				
0 - 31.0	Casing	0	31.0	Casing	31.0				
		31.0	54.05	WASTE	23.05				
31.0 - 48.63	Massive Andesite	54.05	54.37	21751	.32	.01	1.5	450	110
		54.37	54.93	21752	.56	.01	1.6	95	54
		54.93	55.40	21753	.47	.02	2.0	118	190
	green, medium fine to medium grained; generally contains < 3% po + py (mainly po) as disseminations, blebs and fine discontinuous stringers, overall < 5% qtz veinlets at various orientations; minor localized brecciation; minor feldspar phytic sections:	55.40	55.90	21754	.50	.01	1.4	132	117
		55.90	92.08	WASTE	36.18				
		92.08	92.58	21755	.50	.01	1.1	74	175
		92.58	93.03	21756	.45	.02	1.2	1640	57
		93.03	93.53	21757	.50	.01	1.2	385	126
		93.53	112.80	WASTE	19.27				
	38.0 - 40.4 : moderately brecciated section (some silicious grey fragments up to several cm dia) ~ 15-20% qtz-chl veins, ~ 3% po + py (po predominates)	112.80	113.30	21758	.50	.01	.8	140	37
		113.30	113.70	21759	.40	.04	2.2	445	27
		113.70	114.25	21760	.55	.02	.8	45	44
		114.25	125.00	WASTE	10.75				
		125.0		E.O.H.					
48.63 - 60.4	Andesite Ash Tuff								
	weakly laminated grey green to green, medium fine grained, mildly contorted; laminae vary from mm thickness to ~ 1cm thick; minor brecciation; Overall ~ 3% po as fine fracture fillings or as thin laminae concordant with banding:								
	54.37 - 54.93 : Qtz-carb vein contains ~ 30% wallrock inclusions, ~ 30% cream to beige colored medium grained carb CA's ~ 35-40°								
	54.93 - 55.31 : Minor Fault blocky, rubble andesite plus ~ 1cm of clayey gouge								
60. 92.58	Andesite with minor feldspar phytic sections								
	medium fine to medium grained; generally weakly to moderately brecciated; minor occasional cherty felsic blocks								

GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

ANOMALY:

Page 2 of 3

Property Four Corners Project No. 521 Depth Date Began
 Hole No. FC-1 Co ord Horizontal Length Date Completed
 Claim No. Core Size Drilled By
 Grid No. Angle & Grid Direction Elevation Logged By

INTERVAL FEET / METRES	DESCRIPTION	SLUDGE SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
	or bands (usually associated with areas of more intense brecciation; these areas also exhibit some bleaching to lighter greyish-green colors); contains $\leq 5\%$ fine white qtz-filled fractures, 1-2% po as elliptical blebs or as fine discontinuous stringers;	35	38	22251	3	.03			
		38	41	52	3	.01			
		41	44	53	3	.01			
		44	47	54	3	.03			
		47	50	22255	3	.02			
		50	53	56	3	.02			
	63.0 - 64.6 ; glomeroporphyritic andesite ; contains abundant clusters of radiating fine white needle-like plagioclase crystals ≤ 3 mm long.	53	56	57	3	.01			
		56	59	58	3	.01			
		59	62	59	3	.01			
		62	65	22260	3	.01			
		65	68	61	3	.01			
		68	71	62	3	.01			
92.58 - 122.9	Andesitic Tuff Breccia or Explosion Breccia.	71	74	63	3	.01			
		74	77	64	3	.02			
	brecciated, coarse intermediate fragmental volcanic rock containing occasional large (up to several tens of cm in dia.) greyish fine grained felsic volcanic fragments in a somewhat chloritized medium fine grained groundmass; contains 1-3% py as euhedral cubes and tr po as irregular blebs;	77	80	22265	3	.01			
		80	83	66	3	.01			
		83	86	67	3	.01			
		86	89	68	3	.01			
		89	92	69	3	.02			
		92	95	22270	3	.01			
		95	98	71	3	.02			
	92.58 - 93.03 ; contorted well-laminated cherty greyish band with $\sim 15\%$ po as large irregular blocks & semi-massive bands up to 10 cm wide, $\leq 1\%$ py + cp. CA's of banding generally trend 0-20°.	98	101	72	3	.04			
	* (conductor)	101	104	73	3	.01			
		104	107	74	3	.01			
		107	110	22275	3	.01			
		110	113	76	3	.01			
		113	116	77	3	.02			
		116	119	78	3	.01			
		119	122	79	3	.02			
	96.34 - 96.50 ; dacitic band ; grey green fine grained, silicious Upper CA $\sim 40^\circ$ lower CA $\sim 45^\circ$	122	125	22280	3	.01			
	101.4 - 101.85 ; Dacitic block or band similar to 96.34-96.50 Upper CA $\sim 28^\circ$ lower CA $\sim 25^\circ$								



GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

ANOMALY:

Page 3 of 3

Property FOUR CORNER Project No. 521 Depth Date Began

Hole No. FC-1 Co. ord. Horizontal Length Date Completed

Claim No. Core Size Drilled By

Grid No. Angle & Grid Direction Elevation Logged By

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
110.90 - 111.45	: Dacitic to rhyolitic block or band (very fine grained, grey) Upper CA ~ 20° Lower CA ~ 13°								
112.80 - 113.75	: Brecciated banded chert; greyish green, finely laminated, some thin po laminae								
	113.30 - 113.70 : massive po with 20-30% felsic wallrock inclusions, tr cpy								
	* 114.25 - 122.9 : Altered Andesitic Tuff Breccia :								
	mottled grey, green & cream colored; consists of larger irregular greyish felsic fragments plus smaller rounded po-rich chloritic fragments (generally ≤ 1cm dia) in a bleached greyish green homogeneous silicious ground- mass, patchy carbonatization (cream colored irregular masses); contains 3-5% po as irregular blebs & fine disseminations plus ~ 1% py as blebs and fine discontinuous stringers; sulfide mineralization decreases to 1-2% po & tr py below 120.0 m. Possible Explosion Breccia.								
122.9 - 125.0	Massive Andesite green, medium fine grained, minor qtz veining, ≤ 1% sulfides.								
125.0	End of Hole Hole uncemented, casing pulled								
	Acid test 125 m : 54°(corr)								

FC-1
- 55° W

E.M
⊕

Casing

Massive
Andesite

Andesite Ash Tuff

to fault

Andesite

massive form-massive
pp tr 97

Andesitic
Tuff
Breccia

massive pp, tr 97

Massive Andesite
125.0 m

GRANGES EXPLORATION LTD
FOUR CORNERS OPTION
TURNBULL TWP - TIMMINS ONT
0+05 E / Section 5+50 N
Looking Grid S
Scale 1:500


**GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG**
ANOMALY:

 Page 1 of 4

 Property FOUR CORNERS OPTION Project No. 521 Depth 16.7 m Date Began MAY 30/88
 Hole No. FC 2 Co ord. 4+00N Horizontal Length 96.5 M Date Completed JUNE 2/88
 Claim No. 700703 0+32 E Core Size Bq Drilled By BRADLEY BROS
 Grid No. _____ Angle & Grid Direction -55° Grid W Elevation _____ Logged By B. GABOURY

INTERVAL FEET (METRES)	DESCRIPTION	CORE SAMPLE RECORD				Au G/T PPM	Ag G/T PPM	Cu % PPM	Zn % PPM
		FROM	TO	SAMPLE	WIDTH				
0 - 16.0	Casing	0	16.0	casing	16.0				
		16.0	117.80	waste	101.80				
		117.80	118.30	21761	.50	2	1.1	230	2800
		118.30	119.00	21762	.70	5	0.3	210	161
16.0 - 54.70	Diabase	119.00	119.46	21763	.46	1	1.0	158	106
		119.46	119.96	21764	.50	3	0.3	74	78
		119.96	120.26	21765	.30	2	0.4	103	98
	medium grained, dark green, ophitic texture with abundant thin needle-like felted clusters of feldspar lathes up to 3 mm long in a dark green chloritized groundmass with some remnant hornblende crystals up to several mm in dia. Occasional larger subhedral feldspar phenocrysts; Contains <5% qtz-carb-(py-po) veinlets up to ~5cm wide as well as thin chloritic shears at ~40-45° to core axis. Chilling at rhyolite contacts; <1% sulfides;	120.26	120.49	21766	.23	2	1.3	820	122
		120.49	120.75	21767	.26	1	1.9	215	195
		120.75	121.10	21768	.35	1	1.4	335	84
		121.10	121.375	21769	.275	5	1.8	445	66
		121.375	121.70	21770	.325	3	1.5	280	103
		121.70	121.84	21771	.14	3	0.6	410	52
		121.84	122.26	21772	.42	6	2.7	510	120
		122.26	122.86	21773	.60	9	3.8	148	44
	24.73-26.97 : Rhyolite	122.86	123.36	21774	.50	4	2.2	126	99
	mottled grey (bleached) somewhat qtz phytic, brecciated; ≤1% fine dissem po.	123.36	123.86	21775	.50	2	0.6	31	96
	upper CA : 45°	123.86	167.00	waste	43.14				
	lower CA : 30-35°	167.00		E.O.H.					
	40.25 - 44.32 : Rhyolitic to Dacitic Tuff								
	40.25-42.91 : lapilli Tuff ; mottled grey, 1-2% dissem po.								
	42.91-44.32 : Ash Tuff ; well-banded, grey, fine grained ; ~2% po as fine disseminations & laminae ; upper CA : 30° (poor) CA 44.0m ; 15° (banding) lower CA : 5-10° (irregular)								
54.70-66.10	Rhyolitic to Dacitic Ash Tuff								
	mottled beige to grey silicious fine grained volcanic with variable quantities of ash sized felsic rock & feldspar crystal fragments. Contains minor occasional very irregular thin								


**GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG**
ANOMALY:

 Page **2 of 4**

 Property **FOUR CORNERS OPTION** Project No. **521** Depth Date Began
 Hole No. **FC-2** Co ord. Horizontal Length Date Completed
 Claim No. Core Size Drilled By
 Grid No. Angle & Grid Direction Elevation Logged By

INTERVAL FEET (METRES)	DESCRIPTION	Sludge SAMPLE RECORD				Au PT PPB	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
	apophyses of diabase, variable degrees of brecciation, < 1% very fine disseminated po py.	26	29	22281	3	5			
		29	32	22282	3	2			
		32	35	22283	3	3			
	upper CA : 35-40°	35	38	22284	3	1			
	CA 64.18m : 25° contact between two tuff beds	38	41	22285	3	2			
	lower CA : very irregular	41	44	22286	3	2			
		44	47	22287	3	1			
		47	50	22288	3	3			
66.10 - 72.99	Diabase	50	53	22289	3	2			
		53	56	22290	3	2			
	as before; finer grained, still somewhat ophitic texture, porphyritic.	56	59	22291	3	1			
		59	62	22292	3	9			
		62	65	22293	3	2			
72.99 - 98.28	Rhyolite	65	68	22294	3	1			
		68	71	22295	3	3			
		71	74	22296	3	3			
	very silicic, greyish to beige, very fine grained; contains minor short fragmental sections with ash-sized fragments, generally brecciated throughout; chloritization along some fractures, < 1% fine disseminated po.	74	77	22297	3	2			
		77	80	22298	3	3			
		80	83	22299	3	1			
		83	86	22300	3	1			
		86	89	22301	3	2			
	78.80 - 79.10; blocky, rubbly	89	92	22302	3	1			
		92	95	22303	3	3			
	85.19 - 86.45; well brecciated section with carb-filled fractures at generally low core angles (0-15°)	95	98	22304	3	2			
		98	101	22305	3	2			
		101	104	22306	3	1			
		104	107	22307	3	3			
	86.45 - 88.56; blocky, rubbly numerous low angle (~15°) fractures.	107	110	22308	3	2			
		110	113	22309	3	4			
		113	116	22310	3	1			
98.28 - 120.26	Andesitic Tuff Breccia or Explosion Breccia	116	119	22311	3	2			
		119	122	22312	3	3			
		122	125	22313	3	16			
	coarse volcanoclastic of andesitic composition with minor occasional bands, blocks and smaller fragments of cherty greyish silicious very fine grained rhyolite; occasional bleaching silicification & epidotization; some amygdaloidal sections, ≈ 1% fine py, ≈ 5% fine qtz vnlts and silicified healed fractures at various core angles.	125	128	22314	3	3			
		128	131	22315	3	2			
		131	134	22316	3	2			
		134	137	22317	3	1			
		137	140	22318	3	3			
		140	143	22319	3	2			


GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG
ANOMALY:

 Page 3 of 4

 Property Four Corners OPTI.ON Project No. 521 Depth Date Began
 Hole No. FC-2 Co ord. Horizontal Length Date Completed
 Claim No. Core Size Drilled By
 Grid No. Angle & Grid Direction Elevation Logged By

INTERVAL FEET / METRES	DESCRIPTION	SLUDGE SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
* 120.26 - 123.36	Massive & Disseminated Sulfide Zones	143	146	22320		1			
	- dark green, medium fine grained, chlorite-rich hostrock; contains ~15% po, 1-2% py & tr cpy overall:	146	149	22321		2			
		149	152	22322		3			
		152	155	22323		2			
		155	158	22324		3			
		158	161	22325		1			
	120.75 - 121.375 : Breccia composed of ~70% rock fragments plus 30% interstitial sulfides.	161	164	22326		1			
		164	167	22327		2			
	122.26 - 122.86 : several narrow grey silicious, well carbonatized po-rich exhalative bands at ~20° to core axis; these contain ~20% medium fine grained interconnecting po blebs; hosted by a dark green chlorite-rich rock. There are also bands of very fine grained dark, dense, brown material and chert (dark material may be sphalerite)								
123.36 - 167.00	Feldspar Phyric Andesite Explosion Breccia								
	dark grey moderately well brecciated & silicified rock containing ~10% slightly fractured euhedral to subhedral plagioclase lathes; contains numerous thin hairlike fractures (healed) which sometimes have peripheral bleaching; patchy epidotization and chloritization;								
	135.27 - 142.03 : silicious dark grey fragmental interval (rhyolitic to dacitic composition)								
	143.0 - 151.07 : well developed breccia (resembles Chevron's "Hyaloclastite"); degree of brecciation drops off noticeably towards bottom of this interval.								



GRANGES EXPLORATION LTD. DIAMOND DRILL LOG

ANOMALY:

Page 4 of 4

Property FOUR CORNERS OPTION Project No. 521 Depth

Date Began

Hole No. FC-2 Co ord.

Horizontal Length

Date Completed

Claim No.

Core Size

Drilled By

Grid No.

Angle & Grid Direction

Elevation

Logged By

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
151.07 - 167.00	<p>numerous light-colored healed silicic fractures (many of which trend 40-50° to core axis) as well as numerous thin veinlets of medium grained to coarse carbonate, overall 1-2% disseminated po; rock still maintains its bleached mottled nature; degree of brecciation, however, becomes very minor below 164.00 m, below which the rock has the appearance of a feldspar phyric andesitic flowrock:</p> <p>156.93 - 158.50 ; mildly to moderately sheared interval with core angles varying from 65° near the top of the interval to ~ 30° at the bottom</p>								
167.00	<p>End of Hole Acid test 167.00 m : 54°</p> <p>Hole un cemented , casing pulled.</p>								

FC-2
-55°W

EM
⊙

casing

Diabase

Rhyolite-Dacite
Ash Tuff

Diabase

Rhyolite

Andesite Tuff Breccia

Massive & dissem. po. w tr py-ory

Feldspar
Tuff

Phyric
Breccia

Andesite

167.0m

GRANGES EXPLORATION LTD

FOUR CORNERS OPTION

TURNBULL TWP - TIMMINS ONT.

0+32 E / Section 4+00 N

Looking Grid S

Scale 1:1000

GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

ANOMALY:

Page 1 of 5

Property **Four Corners** Option **OPTION** Project No. **521** Depth **119.0 m.** Date Began **June 2/88**
 Hole No. **FC-3** Co ord. **3+00 N** Horizontal Length **69 M** Date Completed **June 7/88**
 Claim No. **700703** **0+20 E** Core Size **Bq** Drilled By **Bradley Bros.**
 Grid No. _____ Angle & Grid Direction **-55° Grid W** Elevation _____ Logged By **B. GABOURY**

INTERVAL FEET / METRES	DESCRIPTION	CORE SAMPLE RECORD				Au ppb	Ag ppm	Cu ppm	Zn ppm
		FROM	TO	SAMPLE	WIDTH				
0 - 21.0	Casing	0	21.0	casing	21.0				
		21.0	96.13	waste	75.13				
		96.13	96.63	21776	.50	1	1.2	9	100
		96.63	97.00	21777	.37	5	2.0	560	245
21.0 - 25.30	Massive Andesite	97.00	97.50	21778	.50	18	2.3	35	184
		97.50	98.00	21779	.50	31	2.7	245	43
	- fine grained, dark green, occasional light colored thin healed silicic fractures at various orientations; overall 1-3% dissem. po.	98.00	98.20	21780	.20	10	1.8	169	48
		98.20	98.70	21781	.50	4	0.7	162	76
		98.70	99.20	21782	.50	14	1.0	156	77
		99.20	99.70	21783	.50	10	1.1	158	107
		99.70	100.30	21784	.40	8	0.6	450	63
25.30 - 26.15	Feldspar Phyric Intermediate Dike.	100.30	100.70	21785	.40	3	0.8	315	49
		100.70	101.10	21786	.40	2	2.2	515	34
	- medium fine to medium grained, contains 10-20% subhedral fractured feldspar phenocrysts, slightly bleached	101.10	101.60	21787	.50	9	1.3	230	62
		101.60	102.10	21788	.50	8	0.8	127	78
		102.10	102.60	21789	.50	3	0.6	43	127
		102.60	119.0	waste	16.40				
26.15 - 28.75	Rhyolite ↔ Rhyodacite	119.0		E.O.H.					
	very fine grained to aphanitic mottled grey; contains streaks of light or dark grey healed silicic fractures; occasional spherical chloritic blotches up to several mm in dia (may contain dissem po).								
28.75 - 54.4	Spotted Rhyolite Tuff								
	with beige colored, very fine grained to aphanitic rock with up to 20% light colored felsic fragments up to several mm in diameter (weak fabric due to orientation of fragments & greyish silicic laminae); also contains 10-15% irregular to roughly spherical chloritic blotches up to ~4mm in diameter; rock is well silicified; density of chlorite spotting varies through the section but decreases to zero between 48.5m & 50.0 m:								
	CA 35.0 m : 20° lamination								
	42.5 m : 17° lamination								
	48.0 m : 20° lamination								



GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

ANOMALY:

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Property... FOUR CORNERS OPTION Project No. 521 Depth..... Date Began.....
 Hole No. FC-3 Co ord..... Horizontal Length..... Date Completed.....
 Claim No..... Core Size..... Drilled By.....
 Grid No..... Angle & Grid Direction..... Elevation..... Logged By.....

INTERVAL FEET / METRES	DESCRIPTION	Sludge SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
	CA 51.5 m : 15° lamination/banding.	20	23	22328	2	ppb 20			
	lower contact CA (54.4M) : 15°	23	26	22329	3	1			
		26	29	22330	3	2			
		29	32	22331	3	1			
54.4 - 61.5	Andesite	32	35	22332	3	3			
		35	38	22333	3	2			
	grey, medium fine to medium grained, mildly to moderately brecciated; contains minor felsic bands and blocks; lower contact CA ≈ 20°	38	41	22334	3	3			
		41	44	22335	3	2			
		44	47	22336	3	7			
		47	50	22337	3	4			
61.5 - 64.9	Rhyolite Tuff	50	53	22338	3	2			
		53	56	22339	3	2			
		56	59	22340	3	1			
	cream colored to beige, very fine grained to aphanitic, minor chloritic blotches as observed between 28.75 - 54.4 m, occasional coarse ash sized felsic clasts; numerous fractures with grey peripheral bleaching at various core angles;	59	62	22341	3	10			
		62	65	22342	3	2			
		65	68	22343	3	3			
		68	95	no sludge		—			
		95	98	22344	3	2			
		98	101	22345	3	5			
	64.3 - 64.7 : andesite band similar to 54.4 - 61.5 m; ~3-5% dissem. po + py.	101	104	22346	3	2			
		104	107	22347	3	4			
		107	110	22348	3	8			
		110	113	22349	3	1			
64.9 - 81.1	Rhyolite	113	116	22350	3	2			
		116	119	22351	3	1			
	cream to beige colored, very fine grained to aphanitic, locally banded, occasional light colored or grey bleached healed fracture at any possible core angle, minor thin calcite veinlets with tr py & cpy; locally brecciated;								
	CA 77.75 : 25° (banding)								
	79.70 - 79.90 : several thin calcite/sulfide vnlts & fractures up to 5 mm wide at ~60° to core axis.								
	79.90 - 80.30 : 3-5 mm wide sulfide lined fracture (mainly py) at 11° to core axis.								



GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

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Property FOUR CORNERS OPTION Project No. 521 Depth Date Began

Hole No. FC-3 Co ord. Horizontal Length Date Completed

Claim No. Core Size Drilled By

Grid No. Angle & Grid Direction Elevation Logged By

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
	80.63 : 1 cm wide carb-po-cpy vnl't at ~60° to core axis								
81.1 - 82.0	Intermediate Feldspar Porphyritic Dike - similar to 25.30 - 26.15 m, upper & lower CA's = 12°								
82.0 - 88.9	Spotted Rhyolite Tuff - same as 28.75 - 54.3 m.								
	82.5 - 83.0 : .5 - 1 cm wide chloritic shear with py & tr cpy; CA = 0°								
	83.0 : .5 - 1 cm wide carb-chl-py vein at 60° to core axis.								
	84.0 : chloritic fracture with py + cpy; CA = 15°								
	86.5 - 87.06 : very light colored band with no chloritic spotting CA 87.06 m : 25° contact // banding								
	88.40 - 88.87 : very light colored, non-spotted band upper contact CA = 20° (// banding) lower contact CA = 25° (// banding)								
88.9 - 89.6	Andesite Ash - Lapilli Tuff grey volcanic fragments composed chiefly of ash-sized volcanic fragments plus some minor lapilli-sized ones; lower contact CA 20° (// banding)								



GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

ANOMALY:

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Property Four Corners Option Project No. 521 Depth Date Began
 Hole No. FC-3 Co ord. Horizontal Length Date Completed
 Claim No. Core Size Drilled By
 Grid No. Angle & Grid Direction Elevation Logged By

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
89.6 - 90.6	Spotted Rhyolite Tuff same as 82.0 - 88.9 m; well-banded, some andesite ash-lapilli tuff intercalations CA 90.0 m : 20° banding								
90.6 - 92.8	Andesite Ash - Lapilli Tuff same as 88.9 - 89.6 m.								
92.8 - 96.63	Tuff Breccia or Explosion Breccia coarse grey volcanic fragmental rock composed of angular to subangular andesite fragments up to several cm in diameter in a matrix similar in composition & texture to the Andesite Ash-Lapilli Tuff encountered between 88.9 - 89.6 m. The larger fragments have a characteristic peripheral bleaching, crudely banded (eg. at 93.0 m there is a 5 cm wide band of tuff with contacts at 20° to core axis, containing abundant light grey angular lapilli-sized felsic volcanic fragments); overall ~1% py as euhedral crystals up to ~2mm diameter.								
96.63 - 97.00	Interlaminated Fine Ash Tuff & Cherty Sulfide-Bearing Exhalite dark grey, fine grained to aphanitic, well-laminated; contains 5-10% po as disseminations, blebs & fine laminae								
* 97.00 - 98.20	Massive & Semi-Massive Sulfide Zone consists of ~50% silicious, grey volcanic fragments (rounded) in a sulfide groundmass of po and 5-10% py;								



GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

ANOMALY:

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Property Four Corners Option Project No. 521 Depth Date Began
 Hole No. FC-3 Co ord. Horizontal Length Date Completed
 Claim No. Core Size Drilled By
 Grid No. Angle & Grid Direction Elevation Logged By

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
	98.00 - 98.20 : massive po with 10-20% irregular py blebs up to 15 mm in diameter.								
98.20 - 119.0	Altered Tuff Breccia or Explosion Breccia (Andesitic Compos.) similar to that encountered earlier but is generally more chloritized & silicified. Less brecciated sections show a feldspar porphyritic texture. There is a gradation, overall decrease in degree of breccia, alteration & sulfide mineralization downhole:								
	98.20 - 100.30 : 3-5% py & 5-10% po as short discontinuous stringers, blebs & fine disseminations								
*	100.30 - 101.10 : Semi-Massive Sulfide Zone - ~5% py & ~15% po as interconnecting stringers.								
	101.10 - 102.10 : 7-10% po & 3-5% py as short discontinuous stringers, blebs & fine disseminations.								
	102.10 - 110.0 : 5-7% po+py (po dominant sulfide)								
	110.0 - 115.0 : Breccia not as well-developed, less chloritization; 3-5% po+py.								
	115.0 - 119.0 : Very minimal brecciation of Feldspar Phyric Andesite, almost no chloritization, < 3% sulfides.								
119.0	End of Hole Acid Test 119.0 m : 54° (corr.)								
	Hole uncemented, casing pulled.								

FC-3
-85° W

EM
⊕

Casing

Massive Andesite
Feldspar Phyric
Rhyolite → Dacite

Intermediate Dike

Spotted Rhyolite Tuff

Andesite Ash-Lapilli Tuff
Andesite Tuff Breccia
Fine Ash Tuff & cherty
massive & semi-massive po/py
Altered Tuff Breccia

Altered Feldspar Phyric
Andesite Tuff Breccia
sulfide chalite

GRANGES EXPLORATION LTD

FOUR CORNERS OPTION

TURNBULL TWP - TIMMINS ONTARIO

0+20 E / SECTION 3+00 N

Looking Grid S

Scale 1:500


**GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG**
ANOMALY:

 Page 1

 Property Four Corners Project No. 521 Depth 153.0m Date Began 8.06.88
 Hole No. FC-4 Co. ord. 4+56N, 0+20E Horizontal Length Date Completed 10.06.88
 Claim No. 700703 Core Size BQ Drilled By Bradley Bros. Limited
 Grid No. Angle & Grid Direction -65° W Elevation Logged By P. Lutynski

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
0-16.0	Casing								
16.0-19.90	Andesite, M/F grain, grey (greenish), from 16.0-17.0 mixed with ash interm. tuff, core angle 25° 18.0-18.45 rock brecciated On the contact of two generations of andesite flows core angle 10° Mineralization: $\leq 1\%$ Pyrrhotite, trace-chalcopyrite.								
19.90-23.30	And. Ash tuff, upper contact with andesite 15°. Well seen phenocrystal - probably mainly of feldspar. Core angle at 20.5 m is 10°. Mineralization: $< 1\%$ pyrrhotite + pyrite. Often mineralization follows 10-15° direction. 21.75-22.25 zone with two quartz + calcite veins up to 1 cm wide with pyrrhotite + chalcopyrite ~1% From 22.25 felsic angular clasts often mineralized with pyrrhotite								
23.30-40.50	Diabase, upper contact 50-60° c.a. Rock brit of plagioclase mass with phenocrystals (usually white) some plagioclase in matrix are up to 3-4 mm long. From 32.50 size of phenocrystals increase, they are up to 1 cm ϕ max (they are probably orthoclase) 30.75-30.95 clasts (?) of probable dacite / rhyolite Mineralization: of pyrite $< 1\%$, tr. of chalcopyrite, associated with pyrrhotite in 1 cm wide interbedded felsic section - core angle 70° (25, 25m). Other felsic section 1 cm wide with chalcop. tr. and pyrrhotite at 32.0m - core angle 70°. - 1-2% chalcop. + pyrrhotite.								
40.50-41.70	Rhyolite/Dacite, cream-grey, ash tuff. with well seen phenocrystals, the rock is probably brecciated. Mineralization: Pyrrhotite ~ 1%, tr. of chalcopyrite 40.99-41.0, 1 cm - 0.8 mm vein of massive pyrrhotite + 1% of chalcopyrite								
41.70-42.10	Rhyolite Ash tuff, light grey little greenish, phenocrystals are not well seen. Last 5 cm to the bottom rock is brecciated								
42.10-42.45	Andesite M/F grain, grey little greenish.								



GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

ANOMALY:

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Property Four Corners Project No. 521 Depth 153.0 m Date Began

Hole No. FC-4 Co ord. Horizontal Length Date Completed

Claim No. Core Size Drilled By

Grid No. Angle & Grid Direction Elevation Logged By

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
42.45 - 42.90	Rhyolite/Dacite, upper contact ^(c.a.) 50°. Rock looks like unilaminated ash tuff Mineralization: < 1% pyrrhotite								
42.90 - 47.40	Andesite, M/F grain From 44.5 plagioclase in matrix are well seen. Amount of phenocrystals is increasing towards bottom (white, grey not over 2 mm φ) 43.30 - 43.60 zone of flow contact (irregular/vertical) with dacitic type of flow. Mineralization: < 1% pyrrhotite.								
47.40 - 49.35	Rhyolite, spotted, cream/beige, to the bottom grey black spots in cream rhyolite. Upper contact sharp but irregular								
49.35 - 55.70	Andesite M/F gr, upper contact ^{c.a.} 70° on the contact, parallel to it mineralization of pyrite. 51.45 Contact between different flows. On the contact parallel to it 4 cm zone with pyrrhotite, 5-7% contact angle of flows 15° + pyrite 51.65 - 0.5-1cm zone with 5% pyrrhotite in the angle of 40°, zone is very rhyolitic From 52.80 rock is partly brecciated mixed with grey spotted rhyolite. It looks like rhyolite filled cracks in andesite Mineralization is < 1% pyrite + pyrrhotite + trace of chalcocopyrite.								
55.70 - 56.10	Spotted Rhyolite (Tuff), grey-cream-beige, with black spots up to 2-3 mm φ. Upper contact 40° c.a. Fragments of above rock in rhyolite, 5 cm from the contact Mineralization: < 1% pyrrhotite, less pyrite and trace chalcocopyrite								
56.10 - 56.50	Rhyolite/Dacite brecciated 56.30 - quartz vein, white quartz with some calcite veinlets. 1.5 cm wide - one spot of chalcocopyrite.								
56.90 - 56.90	Spotted Rhyolite (Tuff) as above, grey-cream-beige, with black spots.								
56.90 - 58.14	Andesite, F. grain, phenocrystals better seen in the upper								


**GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG**
ANOMALY:

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Grid No.

Angle & Grid Direction

 Property Four Corners

 Project No. 521

 Depth 153.0m

Date Began

 Hole No. FC-4

Co ord.

Horizontal Length

Date Completed

Claim No.

Core Size

Drilled By

Elevation

Logged By

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
	section, towards bottom spotted rhyolite infiltrations - irregular shape intrusions in Andesite. (ameboidal shape)								
58.14 - 60.08	Spotted Rhyolite, upper contact ^{c.a.} 30°, beige with black spots. Micro lineation in rhyolite, lineation angle 20° Towards bottom a colour change to grey-beige. Last 30 cm no spots (towards bottom)								
60.08 - 60.80	Dacite (Andesite) Ash Tuff, upper contact ^{c.a.} 25° (not very clear). Dark grey rock with white phenocrystals								
60.80 - 65.30	Rhyolite/Dacite (Tuff) with well seen phenocrystals (white, beige) of probably quartz and feldspat.								
65.30 - 89.45	Rhyolite, grey-cream with black spots, upper contact ^{c.a.} 20° (15°). Microstructure (bedding) 15° parallel to the upper contact. From 70.0m more white. 72.60 - 72.90 Rhyolite looks like ash tuff where phenocrystals are better seen. 72.90 sharp (flat-1?) contact with spotted white-grey rhyolite as before From 83.80 - 84.80 system of directions (joints) in angle 45° From 83.50 rock again is more cream-grey + black spots From 87.15 colour change to grey and there is less black spots								
89.45 - 91.75	Rhyolite/Dacite Tuff, dark grey, various core angles, almost no spots								
91.75 - 104.40	Andesite F. grain on top towards bottom M. grain. One quartz vein 1 cm wide with calcite veinlets. In the vein ≤ 1% pyrrhotite + pyrite, and tr. of chalcopyrite Rhyolite veins with black dots - core angle 35° 100.50 - 100.80 Rhyolitic vein dipping in ^{c.a.} angle 45° (irregular contact). In the vein clasts of andesite. Other irregular in shape Rhyolitic intrusions in Andesite. (ameboidal shape)								
104.40 - 109.20	Spotted Rhyolite, upper contact ^{c.a.} 40°, grey-cream with black spots 105.70 change of colour to beige, less dark dots From 106.40 - 106.60 Andesite F. grain, bottom contact ^{c.a.} 20° with Rhyolite.								


GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG
ANOMALY:

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 Property Four Corners Project No. 521 Depth 153.0m Date Begun
 Hole No. FC-4 Co ord. Horizontal Length Date Completed
 Claim No. Core Size Drilled By
 Grid No. Angle & Grid Direction Elevation Logged By

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM m	TO	SAMPLE	WIDTH m				
	106.60 - mineralization of pyrite and pyrrhotite in 1cm zone around bottom contact, total mineralization 1-2%								
109.20-109.80	Andesite, F. grain (as above 106.40-106.60). Fine mass of plagioclase almost aphanitic, a few praeformals (2-3mm ϕ) are seen (in plagioclase-aphanitic mass)								
109.80-110.80	Rhyolite / Dacite, top contact is not very clear, probably $\sim 50^\circ$ bottom contact 15° , white-grey rock.								
110.80-116.15	Andesite, grey (greenish), as above. Greenish colour is probably given by chlorite (some parts are much softer) Quartz vein 0.5cm wide with calcite veinlets. Mineralization is in Quartz vein - pyrite up to 3%, in all rock $< 1\%$ of pyrite.								
116.15-118.0	Rhyolite / Dacite, white-grey rock, calcite veinlets - some up to 4mm wide. Bottom contact not very clear but probably 30°								
118.0-118.95	Andesite Tuff brecciated and interbedded with Dacite / Rhyolite. Mineralization is 1-2% Pyrite, trace of chalcopyrite in felsic interbeds.								
118.95-119.55	Rhyolite, white-grey, without dots changing smoothly in to andesite rock below with well seen bedding on the contact. Bedding angle 15°								
119.55-120.0	Andesite, F. grain (tuff) with well seen bedding on the top, bedding angle 15° . The same bedding angle is seen on the bottom								
120.0-120.15	Rhyolite breccia, angular blocks of rhyolite are mixed with andesite. The majority of rock is rhyolite, less andesite. Mineralization is $\leq 1\%$ pyrite								
120.15-120.70	Andesite, F. grain (tuff), Quartz vein 1cm wide in c. angle 70°			SLUDGE					
120.70-122.25	Dacite / Rhyolite, from 121.50 Rhyolite, direction (bedding?)	0.0	16.0		15.0	Casing			
		16.0	17.0		1.0	Waste			

Use Black Pen Only


GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG
ANOMALY:

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 Property Four Corners Project No. 521 Depth 153.0m Date Began
 Hole No. FC-4 Co ord. Horizontal Length Date Completed
 Claim No. Core Size Drilled By
 Grid No. Angle & Grid Direction Elevation Logged By

INTERVAL FEET / METRES	DESCRIPTION	SLUDGE SAMPLE RECORD				Au G/T PP 6	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
	^(c.a.) seen in Rhyolite is 35° Upper contact 150 c.a.	17	20	22352	3				
	Bottom contact very sharp and well seen, core angle of the	20	23	22353	3				
	contact 20° c.a.	23	26	22354	3				
	In dacite angular mafic clasts up to 1-1.5 cm Ø	26	29	22355	3				
		29	32	22356	3				
122.25-124.15	Dacite M/F grain (intrusion or ash tuff) 0.5-1mm size of grains, probably	32	35	22357	3				
	mainly quartz & feldspar composition, grey green	35	38	22358	3				
	Mineralization is pyrite < 1% + trace of chalcopyrite in quartz	38	41	22359	3				
	vein 1 cm wide.	41	44	22360	3				
	Dark (mafic) angular clasts are present	44	47	22361	3				
		47	50	22362	3				
124.15-135.70	Dacite / Rhyolite, dark grey, some black spots occur	50	53	22363	3				
	as well as mafic angular clasts 1-1.5 cm Ø max.	53	56	22364	3				
	From 126.60 - 127.15 Dacite M/F grain (as 122.25-124.15) changing	56	59	22365	3				
	sharply in to the Dacite / Rhyolite	59	62	22366	3				
	lineation (bedding?) in Dacite / Rhyolite at 129m - 15° c.a.	62	65	22367	3				
	at 132.8m - 25° c.a.	65	68	22368	3				
		68	71	22369	3				
135.70-138.80	Dacite M/F grain (intrusion or tuff) as 122.25-124.15 with weakly seen	71	74	22370	3				
	bedding 10° c.a. Mainly quartz and feldspar.	74	77	22371	3				
	Big amount of angular clasts, clasts are bigger towards	77	80	22372	3				
	bottom.	80	83	22373	3				
		83	86	22374	3				
138.80-142.05	Rhyolite, cream beige, upper contact not well seen, probably	86	89	22375	3				
	25°-30° core angle. Some dark-mafic angular clasts.	89	92	22376	3				
	Smooth bottom contact	92	95	22377	3				
		95	98	22378	3				
142.05-142.25	Dacite M/F grain as 122.25-124.15. (intrusion or tuff)	98	101	22379	3				
	Black-mafic angular clasts Bottom contact 20° (25°)	101	104	22380	3				
		104	107	22381	3				
142.25-142.80	Rhyolite, white grey	107	110	22382	3				
		110	113	22383	3				
142.70-144.25	Andesite Tuff grey (greenish)	113	116	22384	3				
	Mineralization is < 1% pyrite, tr. of chalcopyrite.	116	119	22385	3				
	Partly brecciated, dark mafic angular clasts	119	122	22386	3				
		122	125	22387	3				
144.25-149.0	Andesite Ash Tuff, grey (greenish). Mineralization of pyrite < 1%	125	128	22388	3				
	well developed phenocrysts - mainly probably feldspar & quartz	128	131	22389	3				
	well seen mafic angular clasts up to 1.5 cm Ø max	131	134	22390	3				

GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

ANOMALY:

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Property Four Corners

Project No. 521

Depth 153.0m

Date Began

Hole No. FC-4

Co ord.

Horizontal Length

Date Completed

Claim No.

Core Size

Drilled By

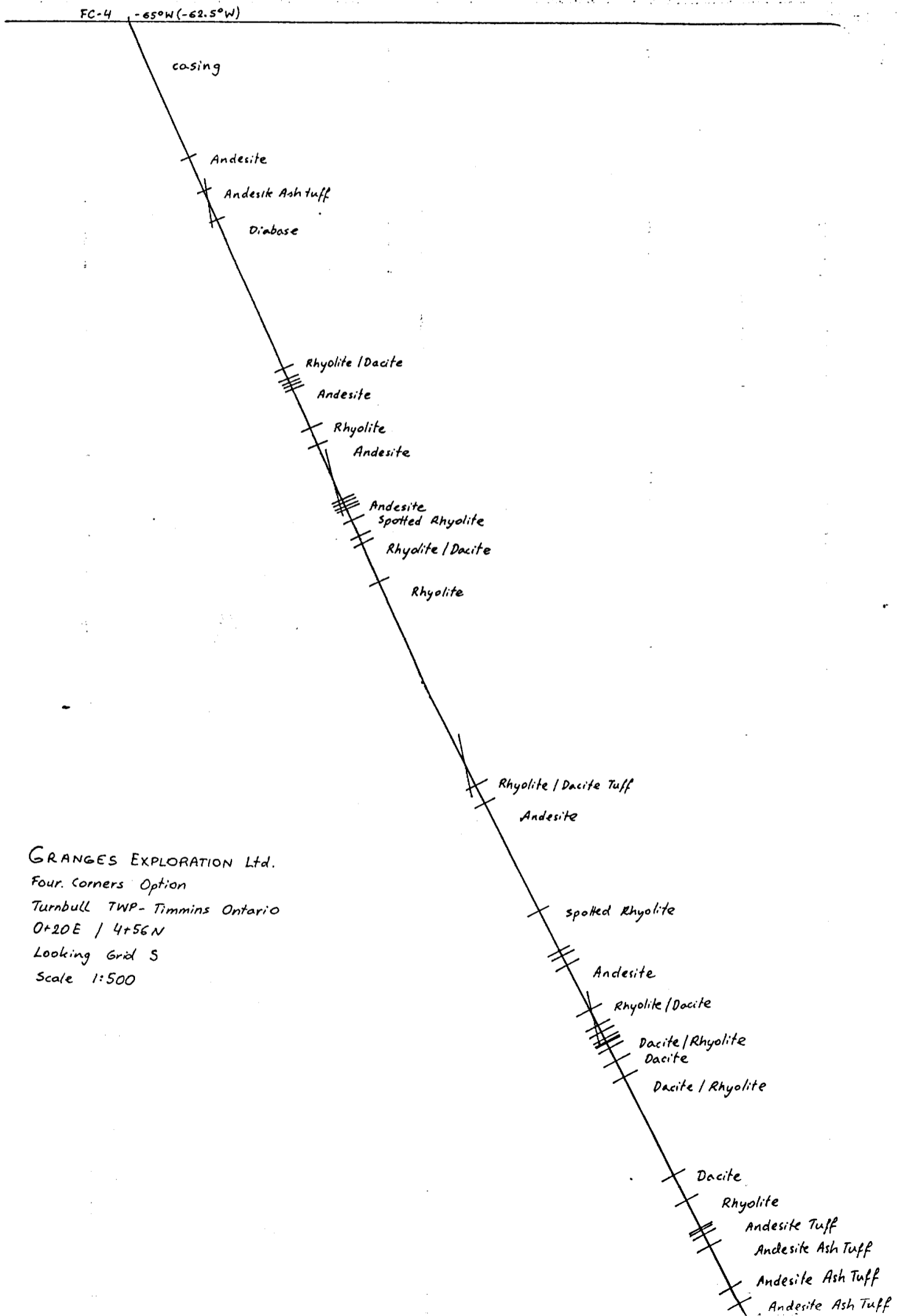
Grid No.

Angle & Grid Direction

Elevation

Logged By

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD				Au G/T	Ag G/T	Cu %	Zn %
		FROM	TO	SAMPLE	WIDTH				
149.0 - 151.10	Andesite Ash Tuff finer grains than above	134	137	22391	3	20			
	Dark-mafic angular clasts are present but they are not very well seen.	137	140	22392	3	10			
		140	143	22392	3	10			
	Mineralization: very fine pyrite distributed in the rock ≤ 1%	143	146	22394	3	10			
	Pyrrhotite often occurs in mafic clasts.	146	149	22395	3	240			
	Phenocrystals are not well developed	149	152	22396	3	20			
151.10 - 153.0	152	153	22397	1	40				
	(Andesite) Intermediate Ash Tuff (Ash-Lapilli Tuff) - same as Ash tuff 144.25-149.0. Grey/greenish								
	Rocks with mainly of phenocrystals probably feldspar and some quartz (pyroclastic origin). From 152.0 more Ash/Lapilli Tuff.								
	In all the rock mafic angular clasts occur								
	Mineralization: Pyrite + pyrrhotite mineralization mainly in mafic clasts ~ 1%								
153.0	End of Hole								
	Acid test 153.0m: 62.5° (corr.)								
	Hole uncemented, casing left								



GRANGES EXPLORATION Ltd.
 Four Corners Option
 Turnbull TWP - Timmins Ontario
 0+20E / 4+56N
 Looking Grid S
 Scale 1:500


**GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG**

Property Four Corners Project No. 521 Depth 122.0m Date Began 15.06.88
 Hole No. FC-5 Co. ord. 1+80W, 6+60S Horizontal Length 51.5M Date Completed 17.06.88
 Claim No. 757366 Core Size B.Q. Drilled By Bradley Br. Ltd.
 Grid No. 1. Angle & Director -65° N, 20° W Elevation 6212 312. Logged By P. Lutynski

INTERVAL FEET/METRES	DESCRIPTION	SAMPLE RECORD							
		FROM	TO	WIDTH	SAMPLE	Au.	Ag.	Cu.	Zn.
0-4.0m	Casing.								
4.0-6.3	F. gr. Intr. felsite (Q.F.P(?)), grey (little beige), 70° c.a. pyrite < 1%								
4.8-4.87	Carbonate desiminated in rock, HCl+, top c.a. 50°(60°) Rhyolitic type of rock. (brown-beige)								
4.87-4.93	Quartz vein (+CaCO ₃) + green clasts (lenses) of greenish Rhyolite. Some chlorite in vein Mineralization pyrite 2-3%, top. c.a. 45(50°)								
4.93-5.0	Rhyolite light green (little beige). Parallel to the top contact idiomorphic pyrite crystals 1-2% Bottom contact not clear, probably 40° c.a.								
5.75-5.85	Rhyolite, light green (beige) zone. 0.3cm Q vein 80° c.a. (20°) 2mm CaCO ₃ + Q vein (+feldspar(?)), 35° c.a.								
6.80-6.85	Rhyolite unit, 6.13m - Q vein 0.5cm wide c.a. 70° pyrite < 1%								
7.25-7.35	Q vein + CaCO ₃ c.a. 45° vein 0.6cm. Rhyolitic zone								
7.70	c.a. 60°								
8.3-10.10	F. gr. Intr., felsite / F. gr. Q. F. P								
8.40	0.3cm Q vein pyrite < 1%, bottom contact 35° c.a.								
8.57-8.65	Rhyolitic beige zone, pyrite 2-3%, c.a. 55° 8.61. - Q vein 0.3cm wide, mineralization around the vein								
8.94-9.04	Rhyolitic unit with Q vein, 90° c.a.								
9.15-9.27	Rhyolite unite (beige), Q - veins 35°, 60° and 40° c.a.								
10.10-22.10	M/F gr. Q(F) Porphyry, very dark grey.								



Property Four Corners Project No. _____ Depth _____ Date Began _____
 Hole No. FC-5 Co ord. _____ Horizontal Length _____ Date Completed _____
 Claim No. _____ Core Size _____ Drilled By _____
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INTERVAL FEET/METRES	DESCRIPTION	CORE			SAMPLE RECORD				
		FROM	TO	WIDTH	SAMPLE	Au. <u>116</u>	Ag.	Cu.	Zn.
	11.07-11.16 Rhyolitic zone (beige) with \varnothing vein 0.8cm wide, 30° c.a. and 90° c.a., pyrite 1% (2%) in Rhyolite	0.	4.5	4.5	Waste				
		4.5	4.8	0.3	21801	5			
		4.8	5.0	0.2	21802	1980			
	13.00-13.36 Rhyolite beige zone, top contact c.a. 75°, 1.3cm-quartz vein at 13.06. Mineralization 2-3%, 13.32-very fine disseminated pyrite parallel to 65° c.a. in 0.3cm zone.	5.0	5.3	0.3	21803	4			
		5.3	5.7	0.4	21853	1			
		5.7	5.9	0.2	21804	1			
		5.9	6.2	0.3	21854	3			
	14.61- 1.5cm \varnothing vein + CaCO ₃ , 60° c.a.	6.2	6.92	0.3	21805	2			
		6.92	8.20	1.28	Waste				
	15.30 1.5cm \varnothing vein + CaCO ₃ , 60° c.a.	8.20	8.50	0.3	21806	1			
		8.50	8.80	0.3	21807	1			
	18.44-18.54 Rhyolitic light green rock, top c.a. 70°	8.80	9.10	0.3	21808	1			
		9.10	9.50	0.4	21809	1			
	19.55 0.8cm wide \varnothing vein, in Rhyolitic zone, 30° c.a., 8cm above vein pyrite \leq 1%	9.50	11.0	1.5	Waste				
22.10-29.50	F. gr. Intr. Felsite (porphyry texture in parts), grey (greenish)	11.0	11.25	0.25	21852	479			
		11.25	12.71	1.46	Waste				
		12.71	13.01	0.30	21811	3			
	25.65-25.69 White quartz vein, c.a. 60°, 0.7cm wide	13.01	13.16	0.15	21812	483			
		13.16	13.40	0.24	21813	24			
	25.95-25.98 Rhyolitic unit with \varnothing vein 45° c.a.	13.40	13.70	0.30	21851	7			
		13.70	18.04	4.34	Waste				
	27.35-27.80 Rhyolitic unit beige (with fault), \varnothing + CaCO ₃ vein, 0.5cm wide, c.a. 50°, pyrite 1% (-5%)	18.04	18.34	0.30	21850	2			
		18.34	18.64	0.30	21849	2			
		18.64	18.94	0.30	21848	1			
	28.55 0.5cm \varnothing vein, c.a. 45°/50°	18.94	19.15	0.21	Waste				
		19.15	19.45	0.30	21847	2			
29.50-31.50	F. gr. Q. F. Porphyry	19.45	19.65	0.20	21810	1000			
		19.65	19.92	0.27	21846	13			
31.50-55.18	M. gr. Quartz Feldspar Porphyry, in some places F. gr. Q. F. P (also F. gr. Intr. Felsite in parts)	19.92	27.12	7.2	Waste				
		27.12	27.40	0.28	21814	2			
		27.40	27.84	0.44	21815	5			
	36.10-36.15 Fault, c.a. 15° (brown carbonates on fault surface)	27.84	28.10	0.26	21816	1			
		28.10	45.35	17.25	Waste				
	41.95 \varnothing + CaCO ₃ vein 0.4cm wide, 70° c.a. \leq 1% pyrite around vein	45.35	45.65	0.30	21817	4			
		45.65	46.03	0.28	21818	1			
	44.28 Fault 15°	46.03	55.38	9.35	Waste				
		55.38	55.58	0.20	21819	7			
	45.40-45.90 Rhyolitic (beige-brown) Top c.a. 45°	55.58	70.85	15.27	Waste				
		70.85	71.12	0.27	21820	1			
	52.38-52.42 Fault (52.40), c.a. 35°/40° brown carbonates on both.	71.12	72.95	1.83	Waste				


**GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG**

Property Four Corners Project No. _____ Depth 122.0m. Date Began _____
 Hole No. FC-5 Co ord. _____ Horizontal Length _____ Date Completed _____
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3.

INTERVAL FEET/METRES	DESCRIPTION	SAMPLE RECORD							
		FROM	TO	WIDTH	SAMPLE	Au. ppb	Ag.	Cu.	Zn.
	sides of fault.	72.95	73.25	0.30	21843	3			
55.18 - 72.30	F. gr. Intr, Felsite grey (greenish), some F. gr. Q. F. Porphyry, pyrite usually idiomorphic shape < 1%	73.25	73.60	0.35	21844	1			
		73.60	73.90	0.30	21845	2			
		73.90	75.16	1.26	Waste				
		75.16	75.45	0.29	21821	3			
55.42 - 55.48	Rhyolite beige zone, fine pyrite-dissiminated 2-3%	75.45	76.55	1.10	Waste				
55.495	Fault (?), c. a. 60°	76.55	77.0	0.45	21822	10			
		77.0	91.85	14.85	Waste				
58.16 - 58.18	Rhyolitic zone, Q + CaCO ₃ ven 0.5cm, c. a. 70°	91.85	92.15	0.30	21842	4			
		92.15	92.40	0.25	21823	11			
58.41 - 58.43	Rhyolitic brownish zone, Q + dilute + CaCO ₃ 0.5cm, side, c. a. 40°	92.40	92.90	0.50	21824	6			
		92.90	93.25	0.35	21825	5			
59.40	Fault, 30° c. a., brown carbonates on sides of Fault.	93.25	93.75	0.50	21826	2			
		93.75	94.15	0.40	21827	1			
60.0	Fault, 5° c. a.	94.15	94.67	0.52	21828	10			
		94.67	95.30	0.53	21829	62			
61.0 - 61.95	Fault parallel to core axis, < 5° c. a.	95.30	97.65	2.35	Waste				
		97.65	97.95	0.30	21840	89			
66.30 - 66.43	broken core F. gr. Intr, Felsite	97.95	98.20	0.25	21839	75			
		98.20	98.70	0.50	21838	2			
66.43 - 66.48	breccia, angular clasts of Rhyolitic rock fine up to 1cm φ. 98% clasts, 2% cement (1 off dash).	98.70	102.0	3.30	Waste				
		102.0	102.3	0.30	21837	3			
		102.3	102.6	0.30	21836	2			
69.0 - 69.02	Q rein c. a. 40°, no mineralisation	102.6	102.9	0.30	21835	4			
		102.9	106.1	3.20	Waste				
70.0 - 70.05	F. gr. Intr, Felsite - cracked.	106.1	106.4	0.30	21841	9			
		106.4	110.65	0.30	21830	14			
70.90 - 71.10	Rhyolite light green-grey, Q ven 0.8cm wide (71.0). Top contact 60° c. a., bottom 50° c. a.	110.65	119.89	9.24	Waste				
		119.89	120.40	0.51	21800	6			
		120.40	122.0	1.60	Waste				
71.22 - 71.25	F. gr. Intr. brecciated - rock little Rhyolitic	122.0	End of Hole						
71.25 - 71.53	F. gr. Intr. cracked								
72.22	Fault 20° c. a. (Fault cut Q ven, Fault is younger than Q ven)								
72.30 - 80.10	F/M gr. Intr. Felsite (in some places rock looks like Q. F. P.)								
73.0	Fault 5° c. a.								


**GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG**

Property Four Corners Project No. _____ Depth 122.0m Date Began _____
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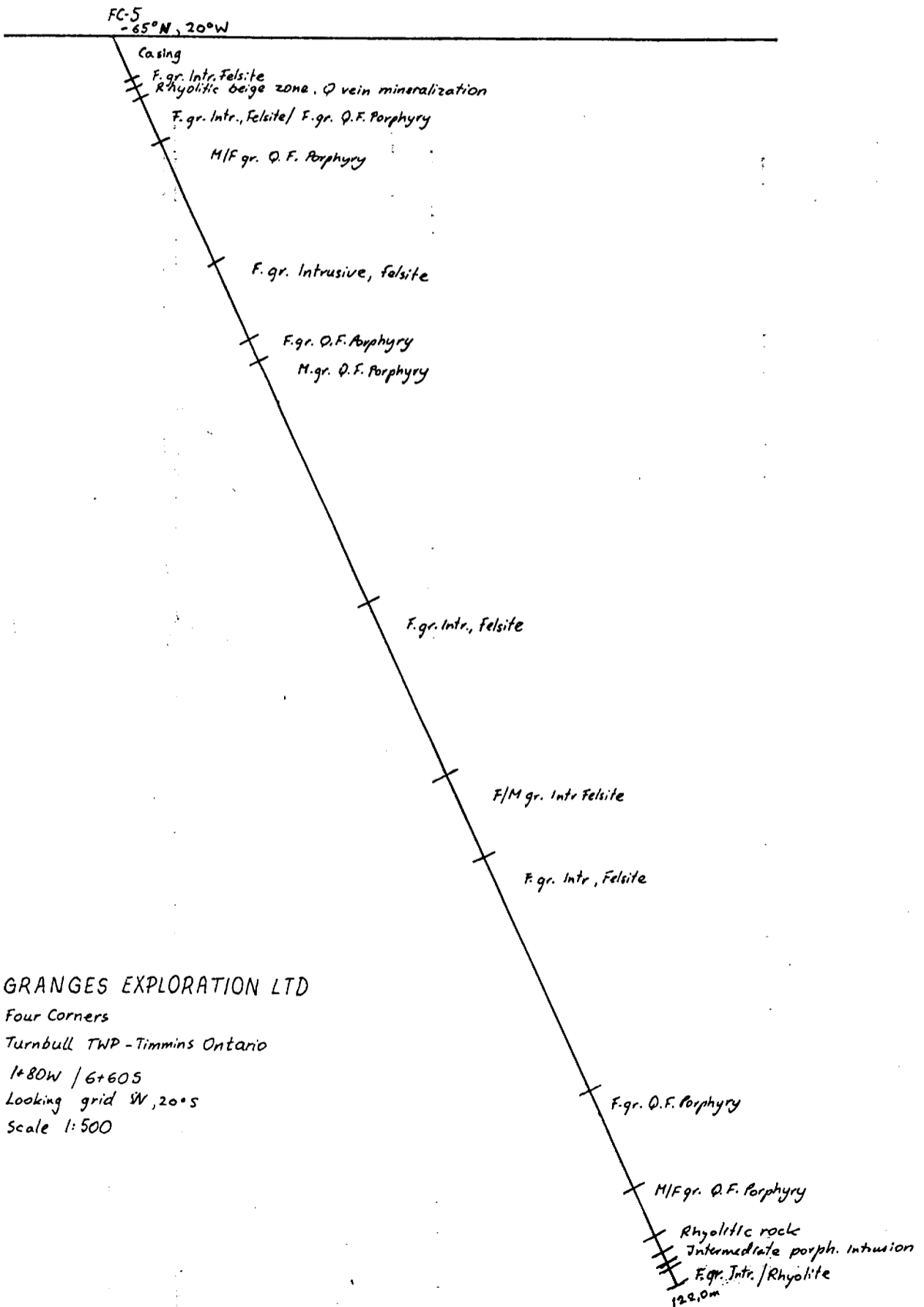
INTERVAL FEET / METRES	DESCRIPTION	SLUDGE			SAMPLE RECORD				
		FROM	TO	WIDTH m	SAMPLE	Au. g/t	Ag.	Cu.	Zn.
		0.0	4.0	4.0	casing				
	73.38-73.60 Fault, rock brecciated (F.gr. Intr. Felsite - little Rhyolitic), some CaCO ₃ . c.a. 15° of fault. direction in rock probably 50°(?)	4.0	8.0	4.0	22398	0.68			
		8.0	11.0	3.0	22399	0.01			
		11.0	14.0	3.0	22400	0.33			
		14.0	17.0	3.0	22401	0.04			
	74.5 Fault, 20° c.a.	17.0	20.0	3.0	22402	0.27			
	74.65 Q+CaCO ₃ , 0.3cm wide vein 70° c.a.	20.0	23.0	3.0	22403	0.02			
		23.0	26.0	3.0	22404	0.01			
	75.16-75.45 Rhyolitic zone at 75.36 1cm wide Q vein 57° c.a.	26.0	29.0	3.0	22405	0.01			
		29.0	32.0	3.0	22406	0.04			
	76.55-77.0 Rhyolitic grey beige section with Q+CaCO ₃ vein 2cm wide, 40° c.a., pyrite <1%	32.0	35.0	3.0	22407				
		35.0	38.0	3.0	22408	0.03			
		38.0	41.0	3.0	22409	0.01			
	77.80 Q+CaCO ₃ , 0.3cm vein, 75-80° c.a.	41.0	44.0	3.0	22410	0.02			
		44.0	47.0	3.0	22411	0.07			
80.10 - 80.50	F.gr. Intr. Felsite, grey beige, disseminated pyrite <1%	47.0	50.0	3.0	22412	0.05			
		50.0	53.0	3.0	22413	0.02			
		53.0	56.0	3.0	22414	0.01			
	81.15 Q vein 1cm wide, <1% pyrite	56.0	59.0	3.0	22415	0.01			
	81.25. Q vein + CaCO ₃ , 1cm wide, <1% pyrite, c.a. 80°	59.0	62.0	3.0	22416	0.04			
	80.50-103.0 F.gr. Intr. Felsite, grey (greenish)	62.0	65.0	3.0	22417	0.02			
		65.0	68.0	3.0	22418	0.10			
		68.0	71.0	3.0	22419	0.09			
	83.72 Q + CaCO ₃ + chlorite vein, 0.5cm wide, 40° c.a. <1% pyrite.	71.0	74.0	3.0	22420	0.13			
	89.04, Q+CaCO ₃ , 0.8cm wide, 60° c.a.	74.0	77.0	3.0	22421	0.02			
		77.0	80.0	3.0	22422	0.09			
	89.55, Q + chlorite vein 0.8cm wide, 30° c.a.	80.0	83.0	3.0	22423	0.03			
		83.0	86.0	3.0	22424	0.06			
	92.20-95.30 Rhyolitic pink-beige (altered) rock with Q vein at 92.25m, 0.5cm wide, pyrite around vein 1-2%	86.0	89.0	3.0	22425	0.04			
		89.0	92.0	3.0	22426	0.10			
		92.0	95.0	3.0	22427	0.08			
		95.0	98.0	3.0	22428	0.38			
		98.0	101.0	3.0	22429	0.29			
	96.95 Fault, 25° c.a. (broken core)	101.0	104.0	3.0	22430	0.03			
	97.95-98.20 breccia, ang. clasts of rhyolitic rock, probably Fault c.a. 30-40° (not clear)	104.0	107.0	3.0	22431	0.40			
		107.0	110.0	3.0	22432	0.02			
		110.0	113.0	3.0	22433	0.03			
103.0-112.40	F.gr. Q.F. Porphyry (in some places F.gr. Intr. Felsite)	113.0	116.0	3.0	22434	0.01			
		116.0	119.0	3.0	22435	0.01			
		119.0	122.0	3.0	22436	0.02			

GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

Property Four Corners Project No. _____ Depth 122.0m Date Began _____
 Hole No. FC-5 Co ord. _____ Horizontal Length _____ Date Completed _____
 Claim No. _____ Core Size _____ Drilled By _____
 Grid No. _____ Angle & Direction _____ Elevation _____ Logged By _____

5.

INTERVAL FEET / METRES	DESCRIPTION	SAMPLE RECORD							
		FROM	TO	WIDTH	SAMPLE	Au.	Ag.	Cu.	Zn.
	102.35-102.50 Breccia, Fault, 30-40° c.a. (not clear)								
	109.88-110.05 Rhyolitic zone, Q+CaCO ₃ vein, 0.5cm wide, 60° c.a.								
	110.65-110.95 Rhyolitic zone, Q+CaCO ₃ vein, pyrite ≤ 1%								
	111.60 Q vein 1cm wide, 40° c.a.								
112.40-117.21	M/F. gr. Q.F. Porphyry dark grey (darker than above)								
	113.7-114.0 Rhyolitic zone (porphyry structure is seen) On top 1cm wide CaCO ₃ + Q vein, c.a. 25° on bottom 0.5cm Q + CaCO ₃ + chlorite vein, c.a. 30°								
	115.10 Q + CaCO ₃ + some chlorite vein, 1cm wide, 40° c.a.								
117.21-118.84	Rhyolitic (brown going down reddish) rock, probably altered from below dyke. Mineralization < 1%								
118.84-118.92	Q-Porphyry Top c.a. 55°, bottom 75°, pyrite < 1%								
118.92-119.89	Inter ^(porphyry) intrusion, light greenish with 30-40% matrix and 60-70% phenocrystals probably plagioclase that were replaced by CaCO ₃ (MCI ⁺⁺). Single pink, angular clasts (probably from rock above or below) pyrite < 1% Phenocrystals < 0.4mm φ Top contact c.a. 75°								
119.89-120.40	Rhyolitic brown reddish (pink) rock. Some chlorite spots. Pyrite mineralization 1-2% (3%) fine disseminated								
120.40-122.0	F. Gr. Intr/Rhyolite, little brown, going towards top more reddish pigment is present. Chlorite clasts (?) - angular. Very small bits of phenocrystals (probably) < 0.3mm φ								
122.0	End of Hole. Acid test 122.0m = 65°								
	Hole uncemented								



GRANGES EXPLORATION LTD

Four Corners

Turnbull TWP - Timmins Ontario

1+80W / 6+60S

Looking grid SW, 20°S

Scale 1:500


**GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG**

Property Four Corners Project No. 521 Depth 38.0 m Date Began 17.06.88
 Hole No. FC-6 Co. ord. 6+335, 1+65 W Horizontal Length 16.5 M Date Completed 17.06.88
 Claim No. 757365 Core Size B. Q. Drilled By Bradley Br. Ltd
 Grid No. _____ Angle & Direction -65° N, 80° W Elevation _____ Logged By P. Dutynski
 (GRID DIR)

INTERVAL FEET/METRES	DESCRIPTION	CORE			SAMPLE RECORD				
		FROM	TO	WIDTH	SAMPLE	Au _{ppb}	Ag	Cu	Zn
0 - 1.0	Casing	0.0	11.15	11.15	Waste				
1.0 - 2.20	F. gr. Intrusive (Rhyolitic porphyry?) Felsite light-grey (greenish) In silica matrix grey-greenish dots of probably phenocrystals ~0.3 mm Ø. Matrix (mainly silica) > 65% phenocrystals < 30% ~5% dark chloritic dots	11.15	11.55	0.40	21798	2			
		11.55	18.95	7.40	Waste				
		18.95	19.25	0.30	21831	3			
		19.25	19.92	0.67	21799	8			
		19.92	20.22	0.30	21832	5			
		20.22	23.45	2.23	Waste				
		23.45	23.75	0.30	21833	2			
	1.53 - Fault, brown carbonate on the surface of the fault, 45° c.a.	23.75	24.05	0.30	21798	1			
		24.05	24.43	0.38	21794	36			
		24.43	24.70	0.27	21795	81			
	1.63. - Fault, brown carbonate on the surface of the fault, 20° c.a.	24.70	24.95	0.25	21796	12			
		24.95	25.25	0.30	21797	22			
	1.66. - Single idiomorphic crystals of pyrite - 3 mm Ø	25.25	25.55	0.30	21834	20			
2.20 - 3.72	F. gr. Intrusive (as above). More phenocrystals 40-60% less matrix, same amount of chlorite, grey-greenish	25.55	32.20	6.65	Waste				
		32.20	32.50	0.30	21792	3			
	2.90 - Fault, 27° c.a.								
	2.93 - Single idiomorphic pyrite crystals								
	3.0-3.30 broken core (but rock is the same)								
	3.70 - 0.4 cm wide Ø + some chlorite vein c.a. 60°								
3.72 - 5.20	F. gr. Intrusive, more chlorite (?) dark dots are very fine.								
	3.87 - 3.90 Silica vein/zon + carbonate (CaCO ₃), no mineralization Top contact 75° c.a., bottom contact smooth with F. gr. Intr.								
	4.0-4.75 broken core, probably there is some tourmaline in F. gr. Intr. (4.74)								
	4.75-4.80, idiomorphic pyrite < 1% in F. gr. Intr.								
	4.90 - core broken in 15° c.a. (fault)								
5.20 - 6.70	F. gr. Intr. (Rhyolitic porphyry?), Felsite								


GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

Property Four Corners Project No. 531 Depth 38.0m Date Began

Hole No. FC-6 Co ord. Horizontal Length Date Completed

Claim No. Core Size Drilled By

2. Grid No. Angle & Direction Elevation Logged By

INTERVAL FEET/METRES	DESCRIPTION	SLUDGE SAMPLE RECORD							
		FROM	TO	WIDTH m	SAMPLE	Ag/t	Ag.	Cu.	Zn.
	grey (darker than before)								
	5.20 - broken core, c.a 10-13° (probably fault), single pyrite cubes								
	5.75 - \varnothing + CaCO ₃ vein, 65° c.a., no mineralization								
	6.50 - Fault (brownish colouring on sides in 1cm zone on both sides of fault, probably carbonates (sydenite)), 15° c.a.								
	6.53 - \varnothing vein with 40% brown carbonates (HCl ⁺⁺ after powdering) 70° c.a.								
6.70 - 11.50	F. gr. Quartz (Feldspar) Porphyry, c.a. 60-65° (F.gr. Intr)								
	7.68 \varnothing - calcite vein 80° c.a. - bottom contact								
	7.68-7.90 a lot of \varnothing vein + calcite, cutting each other in mainly ~40° c.a., ≤ 1% pyrite.	0.0	1.0	1.0	Casing				
		1.0	5.0	4.0	22437	0.04			
		5.0	8.0	3.0	22438	0.06			
	8.25 \varnothing - calcite veinlet 0.5cm wide, ~70° c.a.	8.0	11.0	3.0	22439	0.03			
		11.0	14.0	3.0	22440	0.01			
	8.87. 0.3cm Quartz - calcite (HCl ⁺⁺ after powdering - as dolomite) vein ~60° c.a.	14.0	17.0	3.0	22441	0.06			
	3cm below vein pyrite single cubes	17.0	20.0	3.0	22442	0.12			
		20.0	23.0	3.0	22443	0.01			
		23.0	26.0	3.0	22444	0.20			
	9.80 \varnothing vein (+ feldspar?) vein, no mineralization, 70° c.a.	26.0	29.0	3.0	22445	0.05			
		29.0	32.0	3.0	22446	0.01			
	10.35 Quartz + calcite (+ feldspar) vein 0.5cm wide, 50° c.a.	32.0	35.0	3.0	22447	0.03			
		35.0	38.0	3.0	22448	0.06			
	10.80 Quartz + calcite (+ feldspar?) vein 0.4cm wide, 25° c.a.								
	10.85 Fault, 15° c.a.								
	11.21 - 11.25 Brown carbonate disseminated in rock (F.gr. \varnothing (F).P.)								
	11.25 - 11.255 - Quartz + brown carbonates (HCl ⁺⁺ after powdering) in very mafic rock (a lot of chlorite), c.a. 40°								
	11.255 - 11.28 Brown carbonate disseminated in rock (as above)								


GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

Property Four Corners Project No. 521 Depth 38.0m Date Began

Hole No. FC-6 Co ord. Horizontal Length Date Completed

Claim No. Core Size Drilled By

3. Grid No. Angle & Direction Elevation Logged By

INTERVAL FEET/METRES	DESCRIPTION	SAMPLE RECORD							
		FROM	TO	WIDTH	SAMPLE	Au.	Ag.	Cu.	Zn.
11.36 - 11.40	Quartz vein + CaCO ₃ some clasts (leaves) of wall rock, pyrite mineralization ≤ 1%								
11.40 - 11.415	F.(M)gr. Q. (F). P.								
11.415 - 11.42	Brown carbonate drops in F.gr. Q. P. pyrite ~ 1%								
11.42 - 11.424	Q vein, no mineralization.								
11.424 - 11.43	Brown drops of carbonate in F.gr. Q. P., top contact 70° (75°) c.a. pyrite ≤ 1%								
11.50 - 23.80	F.gr. Q. F. Porphyry (porphyritic texture well developed as in hole FC-5). In some parts looks like F.gr. Intr. until - 15.10m Q veinlets in 50° c.a. and 80° c.a. Porphyric texture specially well seen. From 23.0 - 29.0m.								
13.35	Fault 15° c.a.								
14.78	Rhyolitic unit, 1 cm wide, big up to 4mm pyrite cubes 5-8% 60-65° c.a. Mineralization in Rhyolitic zone.								
17.50	Quartz + some chlorite vein, 2 cm wide, pyrite ≤ 1% on both sides of the vein. - disseminated. c.a. 65°								
15.80	single pyrite in F.gr. Q. F. P.								
17.0	Fault 5-10° c.a.								
17.18 - 17.20	Rhyolitic section with Q-calcite vein on top 0.5 cm wide, ≤ 1% pyrite, < 1% of pyrite 2 cm above vein.								
17.89	Q-calcite vein 0.3 cm wide, c.a. 60°								
17.95	Q-calcite vein, 0.2 & 0.5 cm wide cutting each other c.a. 35° and 80° single pyrite mineralization < 1%								
18.60 - 18.65	Rhyolitic zone, grey beige (still porphyritic), small drops (phenocrystals) < 0.3 mm are seen. at 18.62 Q-calcite vein 0.5 cm wide, no mineralization.								

GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG

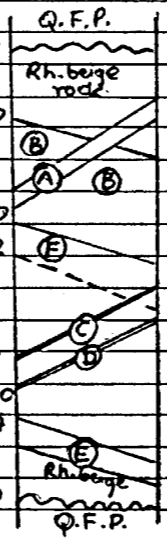
Property Four Corners Project No. 521 Depth 38.0m Date Began

Hole No. FC-6 Co ord. Horizontal Length Date Completed

Claim No. Core Size Drilled By

5. Grid No. Angle & Direction Elevation Logged By

INTERVAL FEET/METRES	DESCRIPTION	SAMPLE RECORD																
		FROM	TO	WIDTH	SAMPLE	Au.	Ag.	Cu.	Zn.									
	(F) 24.20-24.22 - 2cm zone parallel to Q vein with pyrite 4-7%																	
	(C) Small Q vein 70° c.a. - 24.25																	
	(D) 24.30 Calcite + Q vein, 70° c.a.																	
	(E) 24.37 Q vein 2.4cm wide, probably some tourmaline in Q 75° c.a. below vein pyrite mineralization 1-2%																	
24.50-24.70	Quartz Feldspar Porphyry, (M)F. grain.																	
24.70-25.25	Rhyolitic breccia zone, Some disseminated pyrite <1% below 24.85 (last vein)																	
	24.90- 24.90-25.25 more dark than above (above no black spots just brown-buff rock) Top contact 80° c.a. (75°) on contact with Q-calcite vein.																	
	24.75 Quartz-calcite vein, 1cm wide, single pyrite mineralization <1%																	
	24.85 Quartz-calcite vein 0.8cm wide c.a. 12° Mineralization of pyrite 1-3% in vein and parallel to the contact in wall rock.																	
25.25-25.60	Q.F.P. F(M)gr.																	
	25.35 Q + CaCO ₃ vein, no mineralization, 65° c.a., 0.5cm wide below single pyrite cubes.																	
	26.13-26.25 disseminated pyrite in Q.F.P. small Q + CaCO ₃ veinlets																	
25.60-30.00.	Mgr. Q.F. Porphyry dark grey very well developed.																	
	28.0 Quartz + some CaCO ₃ vein 0.5cm wide, 15° c.a., mineralization of pyrite <1% (calcite)																	
30.00-30.70	F. gr. dark rock (almost black) andesite (?) contact smooth.																	




**GRANGES EXPLORATION LTD.
DIAMOND DRILL LOG**

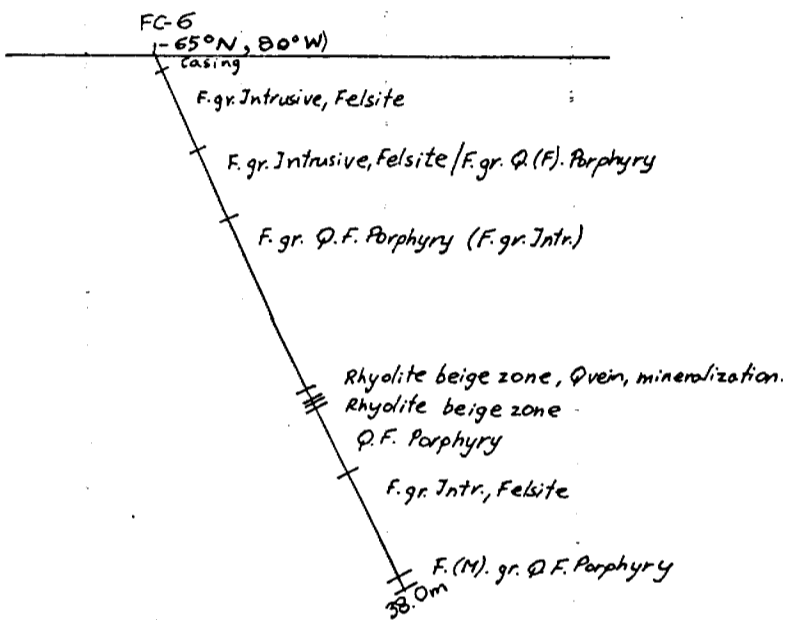
Property Four Corners Project No. 521 Depth 38.0m Date Began

Hole No. FC-6 Co ord. Horizontal Length Date Completed 17.06.88

Claim No. Core Size Drilled By

6. Grid No. Angle & Direction Elevation Logged By

INTERVAL FEET/METRES	DESCRIPTION	SAMPLE RECORD							
		FROM	TO	WIDTH	SAMPLE	Au.	Ag.	Cu.	Zn.
	with Q.F.P. 10 may be just altered rock.								
30.70 - 37.50	30.92 - 75° c.a. Fault F.gr. Intr. (can be Q.F.P. but altered and porphyritic structure is not seen), dark grey-greenish. From 32.00 - 32 rocks grey-black-greenish.								
	30.92 Fault 75° c.a.								
	32.28 - 32.40 Brown colouring (carbonates) 32.36 - Q vein + CaCO ₃ + brown carbonate, Pyrite mineralization of the top of vein in 1cm zone and in Q vein ~ 7% , c.a. 75° of the vein.								
	32.85 Fault ~ 10° c.a., brown carbonates on sides of fault								
	34.14 Quartz in various lenses, ~ 40° c.a.								
	34.40 Q vein, 0.8cm wide, 62° c.a.								
	34.35 - 34.55 zone with some fine pyrite. In zone small Q veinlets, ~ 8 1/2% pyrite in single veinlet but in the total < 1% of pyrite. 34.45 Q vein + calcite (?), 0.8cm wide 48° c.a.								
	35.0 calcite veins c.a. 20° some pyrite < 1% around vein may be that is all pyrite on the surface of fault.								
	36.55 - 36.5 zone with carbonate (brown) dots, no Quartz vein no Fault (?)								
37.50 - 38.0	F.(M) gr. Q.F.P. - porphyritic texture is seen again. Rock is very dark almost black - (black-grey)								
38.0	End of Hole Acid test 38.0m : 63° Hole uncemented								



GRANGES EXPLORATION LTD

Four Corners Option

Turnbull TWP - Timmins Ontario

1+65W / 6+33S

Looking grid S-10°W

Scale 1:500



Name and Postal Address of Recorded Holder
CHANGES EXPLORATION LTD. | 1970
 2300-885 WEST GEORGIA ST., VANC, BC V6C 3C5

Summary of Work Performance and Distribution of Credits

Total Work Days Cr. claimed 1440	Mining Claim			Mining Claim			Mining Claim		
	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.	Prefix	Number	Work Days Cr.
For Performance of the following work. (Check one only) <input type="checkbox"/> Manual Work <input type="checkbox"/> Shaft Sinking Drifting or other Lateral Work. <input type="checkbox"/> Compressed Air, other Power driven or mechanical equip. <input type="checkbox"/> Power Stripping <input checked="" type="checkbox"/> Diamond or other Core drilling <input type="checkbox"/> Land Survey		700703	62		757956	100		757960	60
		757817	38		757955	100		757961	60
		700705	60		757953	60		757958	100
		757641	100		757952	60		757957	100
		757642	100		757951	60			
		757630	100		757829	60			
		757640	100		757830	60			
		757650	100		757959	60			

All the work was performed on Mining Claim(s): 700703

Required Information eg: type of equipment, Names, Addresses, etc. (See Table Below)

DDH# FC-2
 FC-3
 FC-4
 Bradley Bros. Ltd. drilling

ONTARIO GEOLOGICAL SURVEY
 ASSESSMENT FILES
 OFFICE
 SEP 14 1988
 RECEIVED

RECORDED
 JUL 25 1988
 RB

RECEIVED
 JUL 25 1988

Date of Report: July 6/88
 Recorded Holder or Agent (Signature): *[Signature]*

Certification Verifying Report of Work

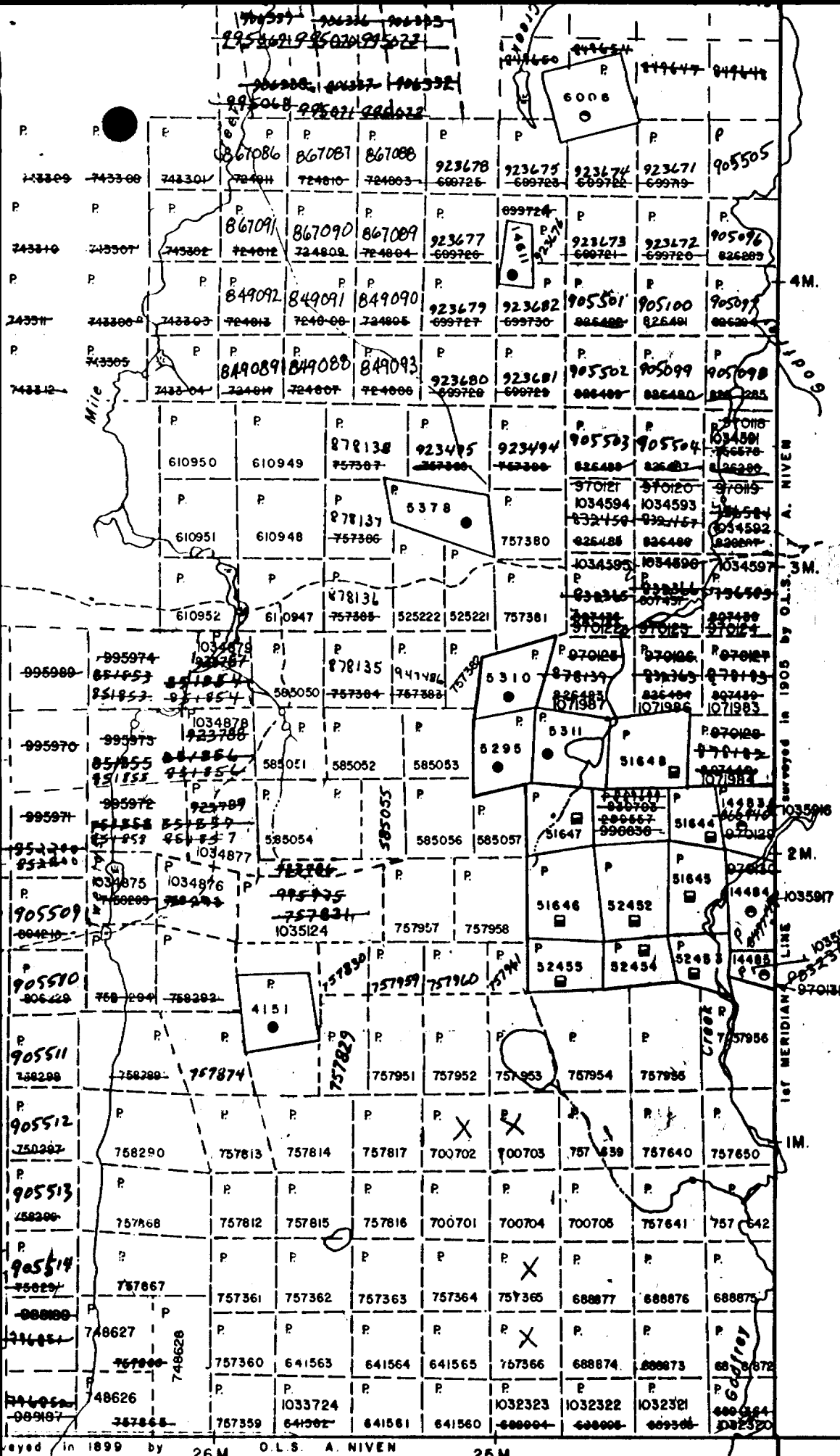
I hereby certify that I have a personal and intimate knowledge of the facts set forth in the Report of Work annexed hereto, having performed the work or witnessed same during and/or after its completion and the annexed report is true.

Name and Postal Address of Person Certifying
GEORGE ZBITNOFF, Vice-President Exploration (as above)

Date Certified: July 6/88
 Certified by (Signature): *[Signature]*

Table of Information/Attachments Required by the Mining Recorder

Type of Work	Specific Information per type	Other Information (Common to 2 or more types)	Attachments
Manual Work	Nil	Names and addresses of men who performed manual work /operated equipment, together with dates and hours of employment.	Work Sketch: these are required to show the location and extent of work in relation to the nearest claim post.
Shaft Sinking, Drifting or other Lateral Work			
Compressed air, other power driven or mechanical equip.	Type of equipment	Names and addresses of owner or operator together with dates when drilling/stripping done.	Work Sketch (as
Power Stripping	Type of equipment and amount expended. Note: Proof of actual cost must be submitted within 30 days of recording.		
Diamond or other core	Signed core log showing; footage, diameter of		

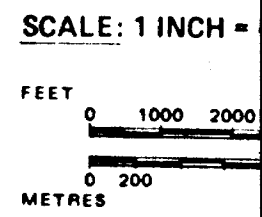


Godfrey TP.

ORIGINAL SHORE
MARSH OR MUSKE
MINES
TRAVERSE MONU

DISPOSITI

- TYPE OF DOCUM**
- PATENT, SURFACE
 - " , SURFACE
 - " , MINING R
 - LEASE, SURFACE &
 - " , SURFACE R
 - " , MINING RIC
 - LICENCE OF OCCU
 - ORDER-IN-COUNCI
 - RESERVATION
 - CANCELLED
 - SAND & GRAVEL
- NOTE: MINING RIGHT**
1913, VESTED
LANDS ACT, R



TOWNSHIP

TURN

M.N.R. ADMINIS

TIMMINS

MINING DIVISIO

PORCUP

LAND TITLES / R

COCHRA



urveyed in 1899 by 26M. O.L.S. A. NIVEN 25M.

