1981-82 ASSESSMENT REPORT

ON TRENCHING, DRILLING AND TEST WORK TO BE APPLICED TO THE PAX, RALPH, CONTACT, SAND AND ACCESS

SILICA CLAIMS

NEAR GOLDEN, B.C.

GOLDEN MINING DIVISION

NTS SHEET 82N/7W

GEOGRAPHIC CO-ORDINATES

OF CENTRE OF CLAIMS

57° 21' 30" N

116° 57' 00" E

OWNER AND OPERATOR:

MOUNTAIN MINERALS CO. LTD.
714 - 5th Avenue South
PO Box 700
Lethbridge, Alberta
T1J 3Z6

MINERAL RESOURCES BRANCH
ASSESSMENT REPORT
10,630

REPORT PREPARED BY:

FRED HUSS, B. Sc

September 3, 1982

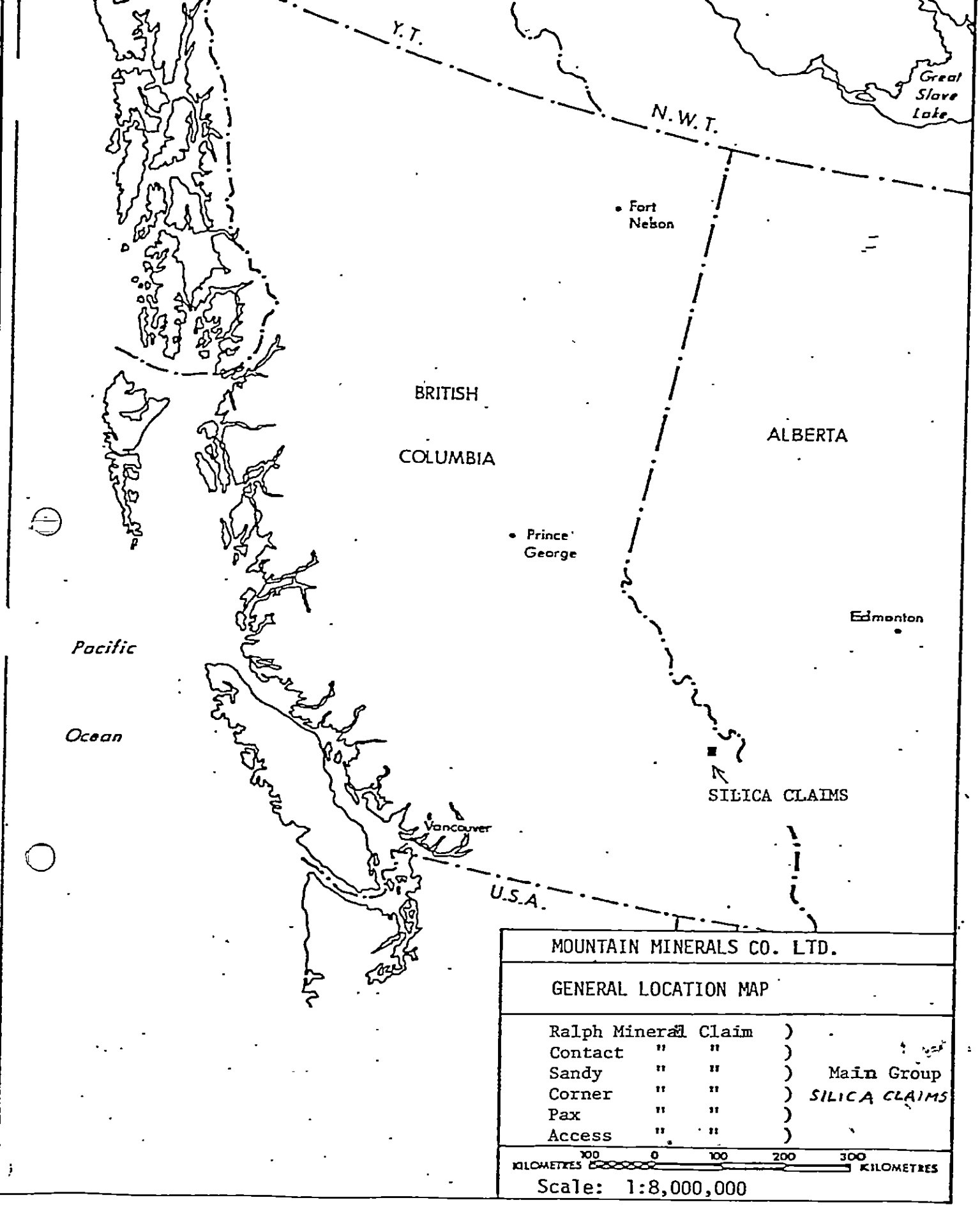
Y.T.
N.W.T.
Great Slave Lake
Fort Nelson
BRITISH COLUMBIA
ALBERTA
Prince George
Edmonton
Pacific Ocean
SILICA CLAIMS
Vancouver
U.S.A.
MOUNTAIN MINERALS CO. LTD.
GENERAL LOCATION MAP
Ralph Mineral Claim)
Contact " ")
Sandy " ") Main Group
Corner " ") SILICA CLAIMS
Pax " ")
Access " ")
100 0 100 200 300
KILOMETRES KILOMETRES
Scale: 1:8,000,000

FIG 1

B. TABLE OF CONTENTS

LIST OF ILLUSTRATIONS

ANNEXES

C. INTRODUCTION

(i) The Mountain Minerals Co. Ltd. Silica claims cover the SW, S and SE flanks of Moberly Peak (2,400 M) as well as the W. flank of unnammed peaks to the E of Hospital Creek. The centre of the claims is located some 8 km N and 1 km E of Golden, B.C. Elevations range from about 950 m near the bench road in the NW to 2,250 m directly S of Moberly Peak. Slopes except for the tip of the apex formed between Hospital Creek and the "bench road" are in excess of 30°. Most of the area is heavily timbered with spruce and fir predominating. Alder and willow mark avalanche trails.

Access to the property is via the Hospital Creek Road, leading onto the bench road, off the Trans Canada Highway, approximately 1 km NE of Golden. A branch road at Hospital Creek crossing and up the same provides access to the E half of the property. A second branch road turning off some 1.5 km past the Hospital Creek crossing provides access to the W half of the claims (please refer to fig. 2 and 3.

(ii) Six claims composed of 68 units comprise the holdings of Mountain Minerals Co. Ltd. Although Mt. Wilson (Wonah) quartzite outcrops for more than 100 km paralleling the Columbia River to the NE, few are the places where accessibility and physical and chemical characteristics of the quartzite facilitate its mining as a raw material for glass.

The oldest claims staked by Mountain Minerals Co. Ltd. still in good standing date back to 1976. As exploration progressed, additional claims were staked to protect strike extension of the quartzite bands as well as access routes and ground for waste rock disposal.

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Claim History:

Claim Name	Staked	Recorded	By	Units	Claims
Ralph	13/14 Oct. 76	14 Oct. 76	S. Wise	20	1
Sandy	29/31 Oct. 76	1 Nov. 76	S. Wise	15	1
Corner	1 Nov. 76	1 Nov. 76	S. Wise	1	1
Contact	28/29 Oct. 76	1 Nov. 76	S. Wise	6	1
Pax	4 Apr. 78	5 Apr. 78	J. Perston	8	1
Access	10 Oct. 80	21 Oct. 80	H.V. Smith	18	1
		TOTAL		68	6

Application to re-group all aforementioned claims as one group was filed in October, 1981. Mountain Minerals is owner and operator of all the claims.

According to Section 17,1 of the Mineral Act, the Corner claim will be let lapse in October, 1982. This will reduce Mountain Minerals Co. Ltd.'s holdings to 5 claims with 67 units, without affecting the outline of the claimed ground.

Physical preparation for both a processing plant and an open pit began in mid 1980. Though some tons of sand were moved to the plant in late 1980, continuous production only started after break-up, in May 1981.

The quarry centres on friable sandstone, the principal market uses of which are as glass sand and for the manufacture of silicon carbide.

(iii) Work submitted in this report covers the following:

1. D-8 tractor trenching with an aggregated length of about 1300 M.

2(a) Percussion test drilling
36 holes of 3½"diameter, totalling 555 M

2(b) Diamond drilling
4 inclined holes of HQ diameter, totalling 645 M.

3. Topographical survey of 1, 2(a) and 2(b).

4. Testing: attrition scrubbing, acid scrubbing and magnetic seperation on 2 independent samples.

(iv) All work was done on or related to the Ralph claim.

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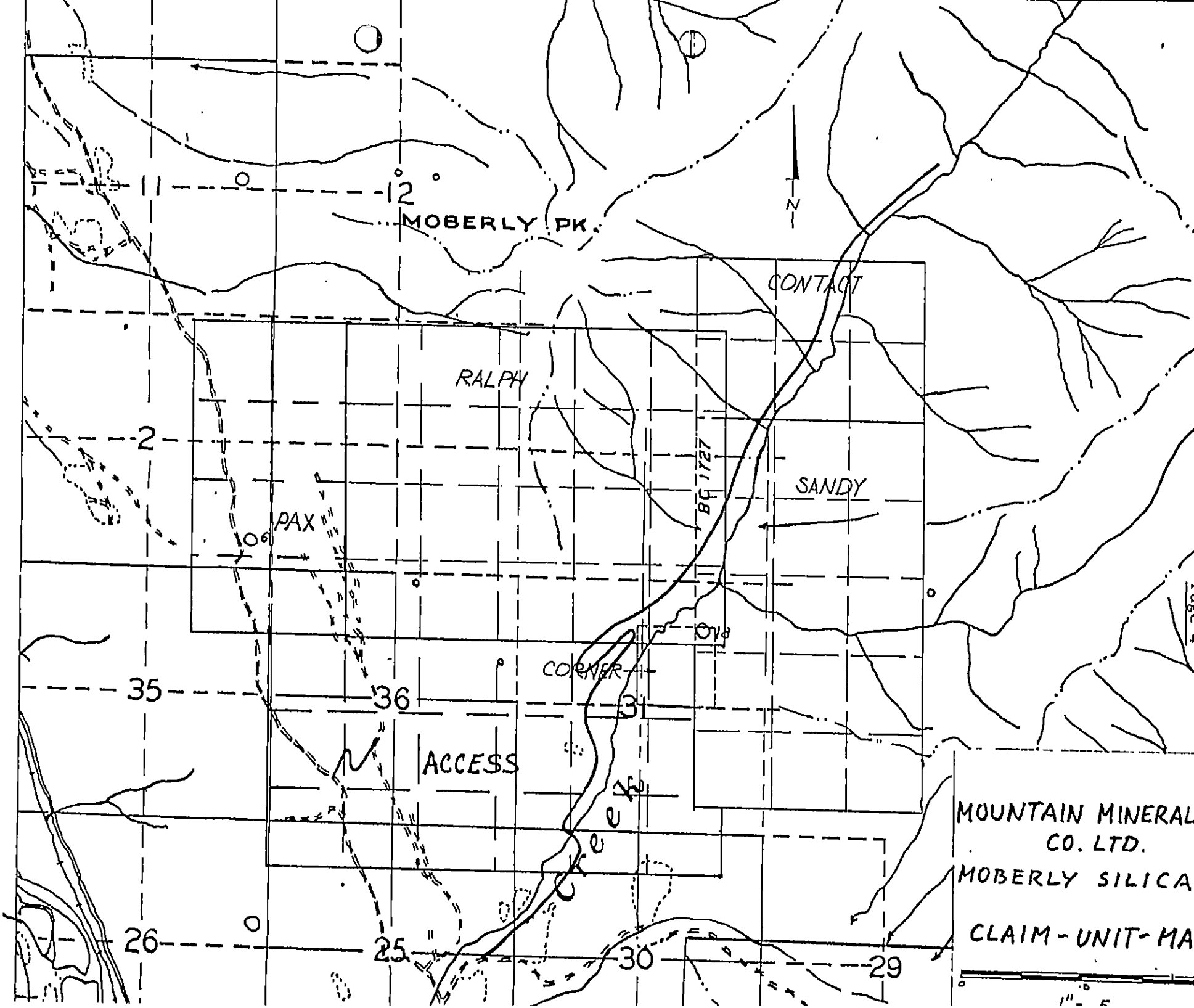

MOBERLY PK.
CONTACT
RALPH
SANDY
PAX
BG 1727
CORNER
ACCESS
MOUNTAIN MINERAL
CO. LTD.
MOBERLY SILICA
CLAIM - UNIT - MA
11
12
2
10
35
36
31
26
25
30
29
N

FIG 3

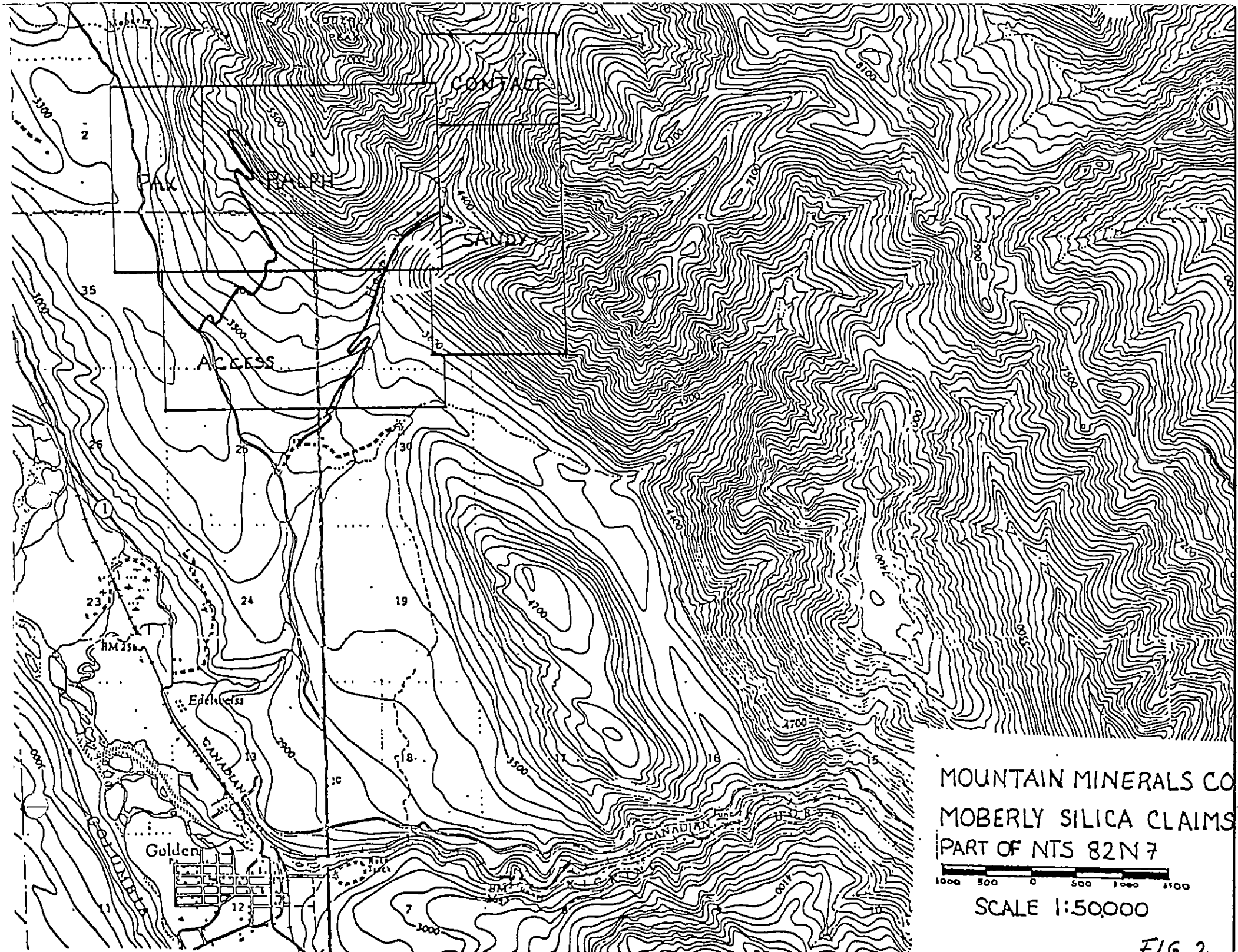

CONTACT
PAX
RALPH
SANDY
ACCESS
Golden
Edelweiss
CANADIAN
COLUMBIA
MOUNTAIN MINERALS CO
MOBERLY SILICA CLAIMS
PART OF NTS 82N 7
1000 500 0 500 1000 1500
SCALE 1:50,000

FIG. 2

E. ITEMIZED COST STATEMENT

A) Physical

63 Hrs. of D-8 Tractor @ $101.75/hr. (Barr Contracting invoice)	$ 6,410.25

B) Drilling

1) Percurrion Test Drilling

1821' (555 M) @ $5.00/ft. (Mountain Minerals Co. Ltd.with rented drill)	9,105.00

2) Diamond Drilling (May 29-June 23)

a) 645.65 M:footage rate $28.50/ft. + mud + ancilliaries (Tonto Drilling invoice)	92,200.00
b) Water truck rental for drill support (June 13 - 23) (Roy Broadfoot invoice)	1,800
c) Site Geologist (May 29-June 23)	
$125/day x 25	3,125.00
Food & Lodging @ $45/day x 25	1,125.00
4-Wheel Drive vehicle @ $25/day x 25	625.00
d) Assays	
(i) 93 iron assays @ $7.00/assay (Mountain Minerals' Lab)	651.00
(ii) 106 Fe, Mg, Ca, Al, Si assays @ $9.50, $12.00, $11,50, $12.00, $11.50 (Loring Laboratories)	1,195.00
e) Surveying (2 days June 24-25)	
Surveyor @ $150/day x 2	300.00
Helper @ $100/day x 2	200.00

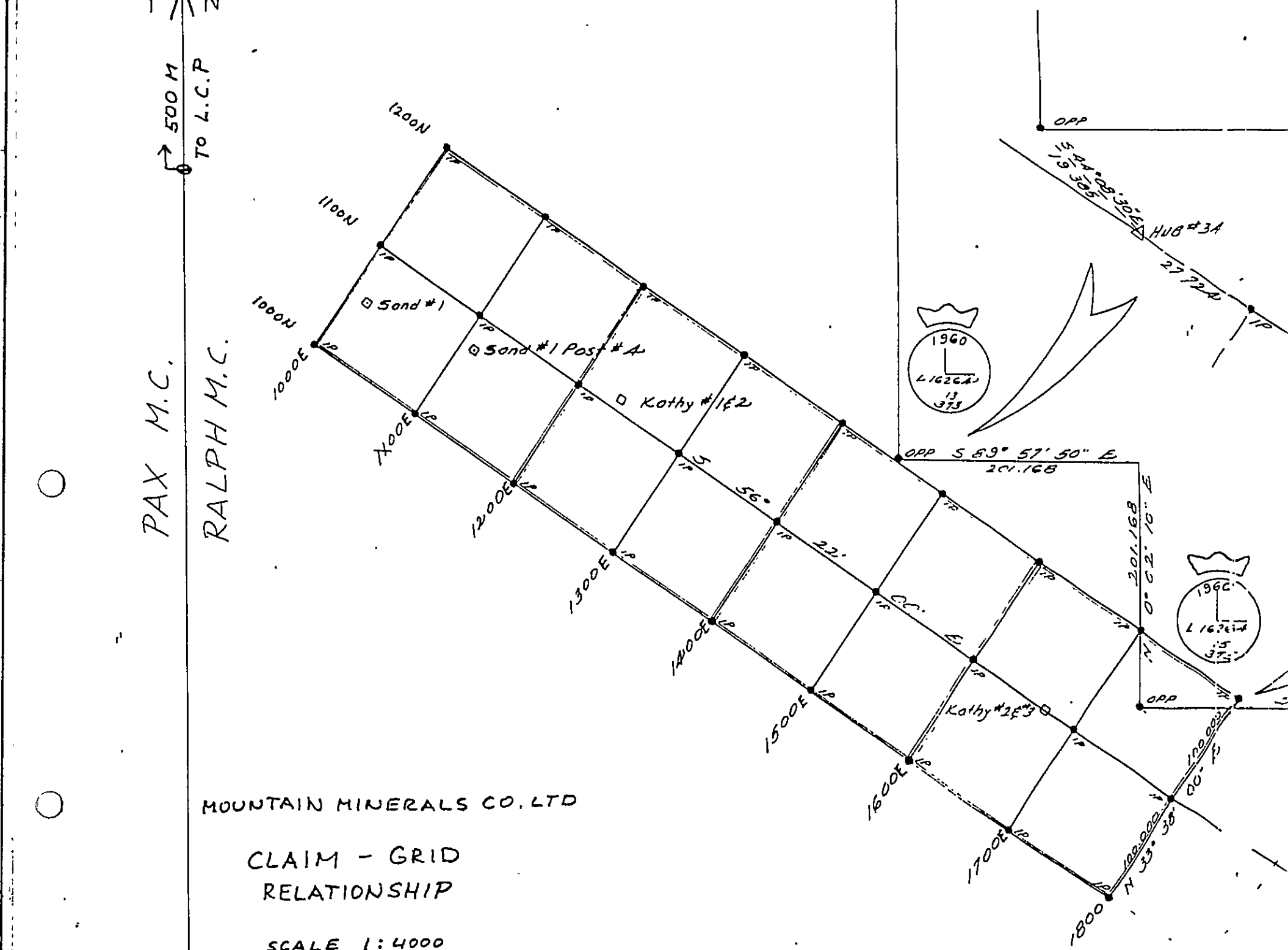
C) Testing

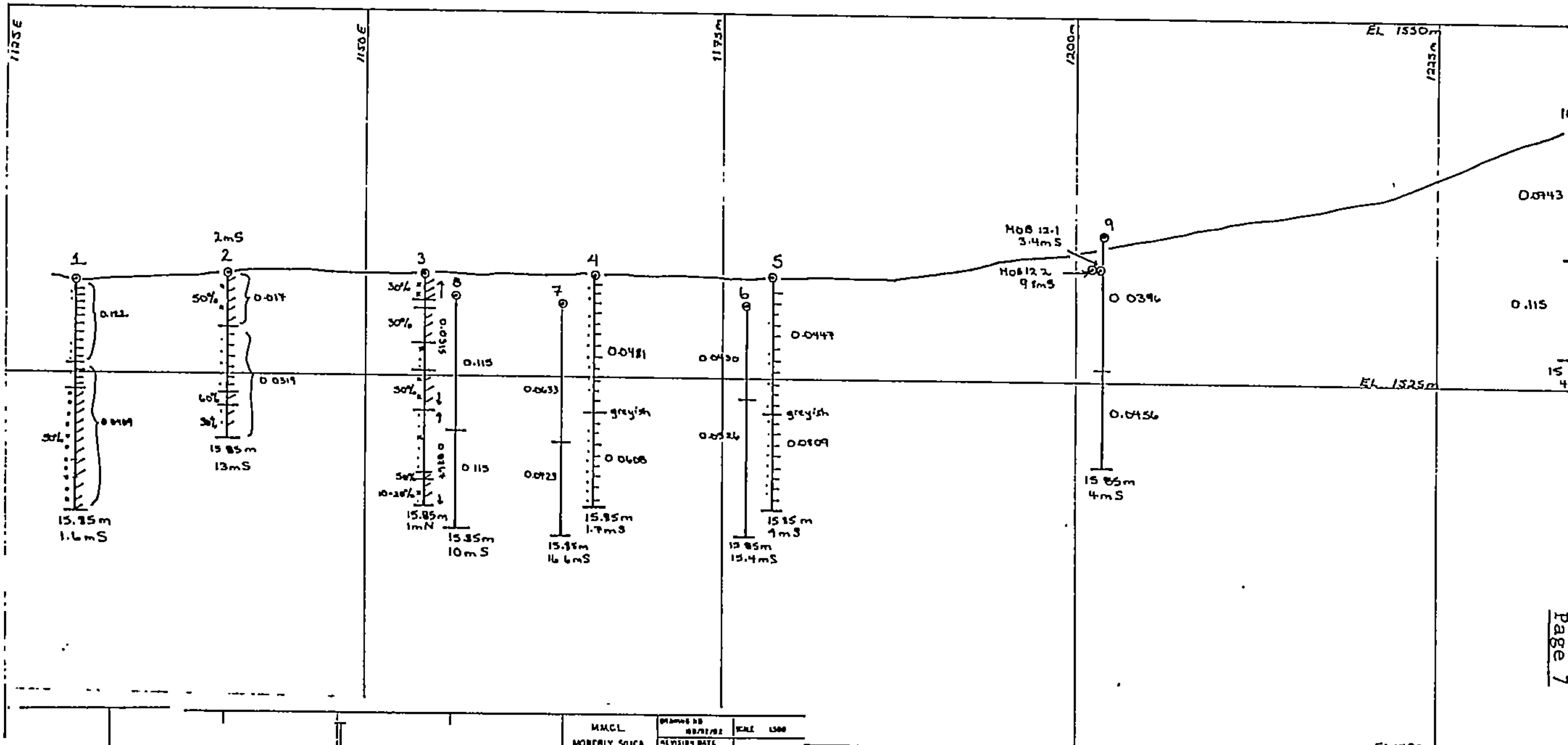
1. Magnetic separation and attrition scrubbing tests (Ontario Research Foundation invoice)	4,795.00
2. Acid scrubbing and magnetic separation tests (Lakefield Research invoice)	1,900.00

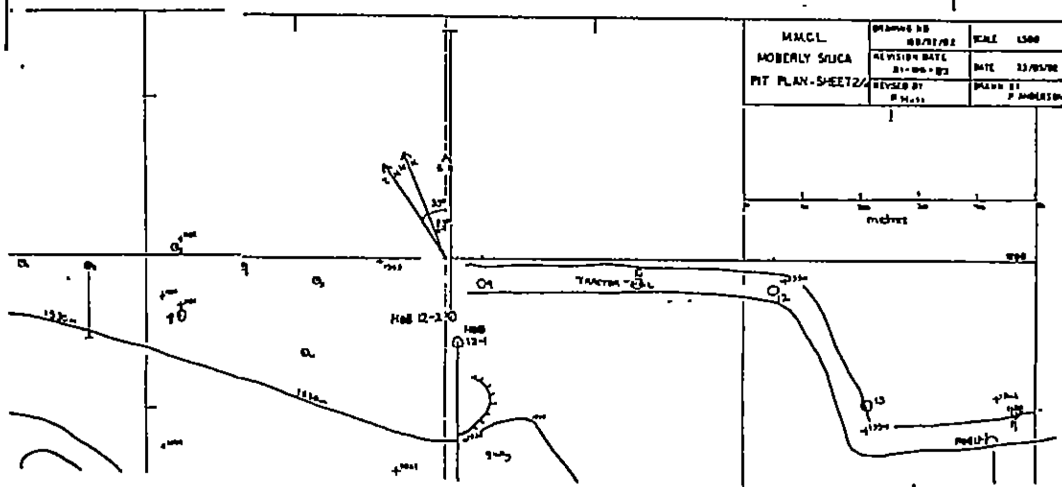
F. AUTHOR'S QUALIFICATION

I, Fred Huss, graduated from the University of B.C. in 1965 with a B.Sc degree in Geology (Hons).

Subsequently, I have been involved in all phases of exploration and mining geology in Canada, the United States, the Middle East, Africa, Central and South America with increasing responsibilities for Rio Algom Mines; Derry, Michener and Booth Consultants; Prospection Ltd; Tech Corp; the United Nations and Mountain Minerals Co. Ltd.


500 M
TO L.C.P
PAX M.C.
RALPH M.C.
1200N
1100N
1000N
1000E
1100E
1200E
1300E
1400E
1500E
1600E
1700E
1800
Sond #1
Sond #1 Post #A
Kathy #1E2
Kathy #2E3
OPP
S 44° 08' 30" E
1,935'
HUB #3A
27.72m
1960
L 162 CA
13
373
OPP S 89° 57' 50" E
201.168
201.168
S 0° 02' 10" E
1960
L 162 CA
15
373
OPP
100.00
100.00
N 33° 38'
MOUNTAIN MINERALS CO. LTD
CLAIM - GRID
RELATIONSHIP
SCALE 1:4000
FIG 7.





LEGEND

SILICA	WHITE
% SAND IN SILICA	BUFF
% IRON OXIDE	RUSTY

MOUNTAIN MINERALS CO. LTD

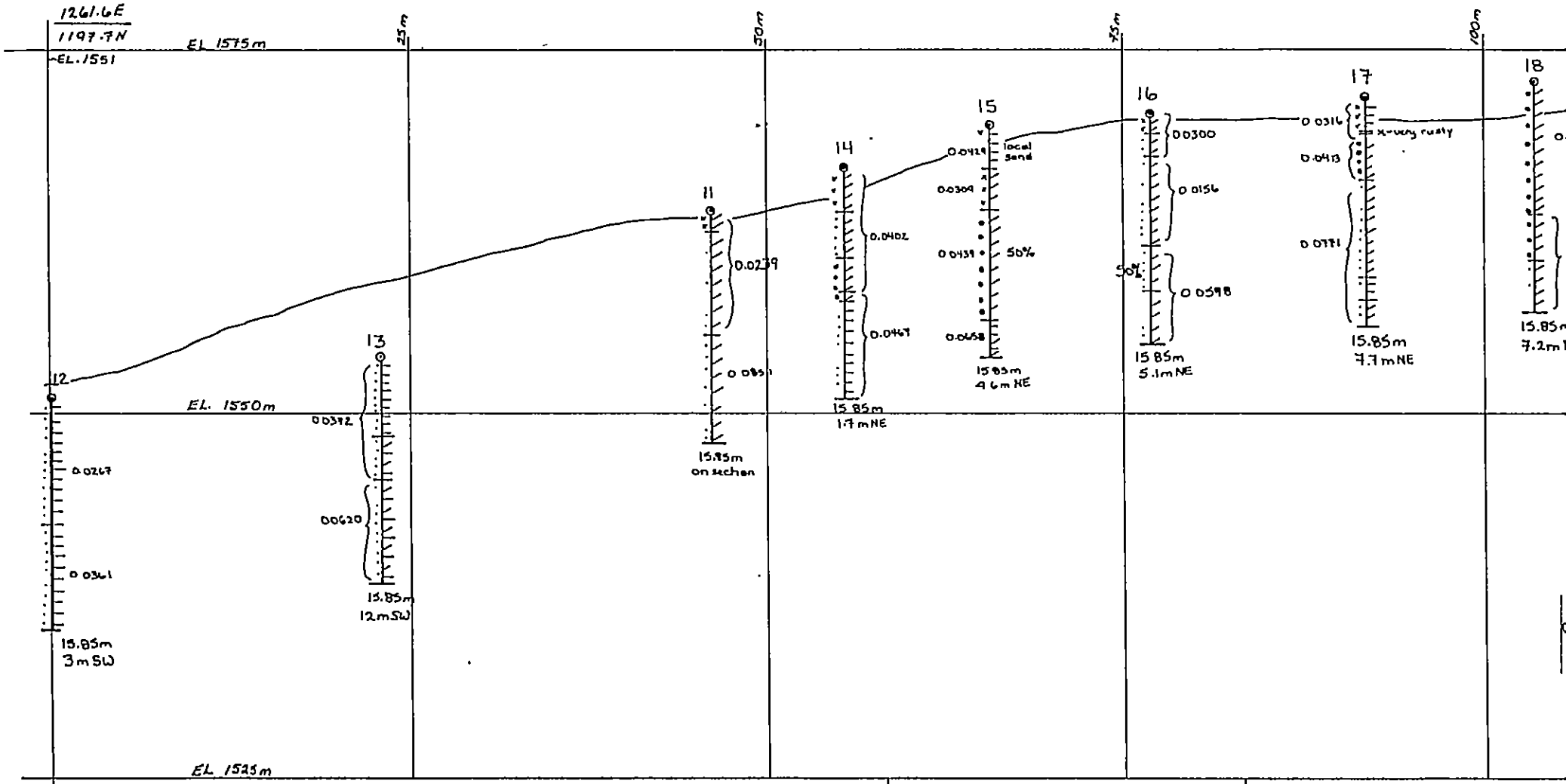
MOBERLY SILICA PERCUSSION DRILL HOL

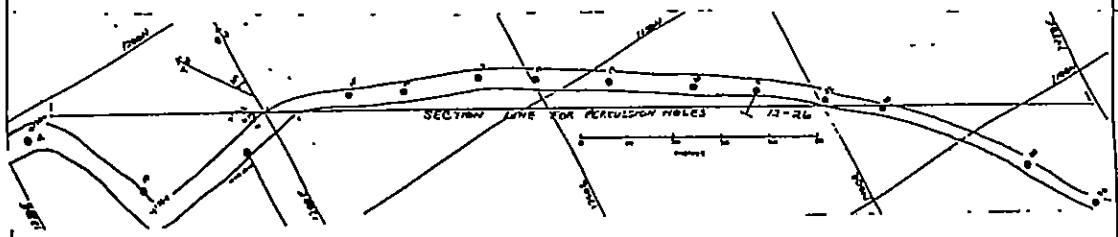
1200 N LONG SECTION

SCALE ~~1:200~~ 1:400	DESIGN BY P ANDERSON
DATE AUG. 10, 1982	REVISED
DRAWN BY P ANDERSON	DRAWING NO 32-82-1

Page 7

FIG 5A





LEGEND

- SILICA — WHITE
- % SAND IN SILICA — BUFF
- 0.0000 % IRON OXIDE — RUSTY

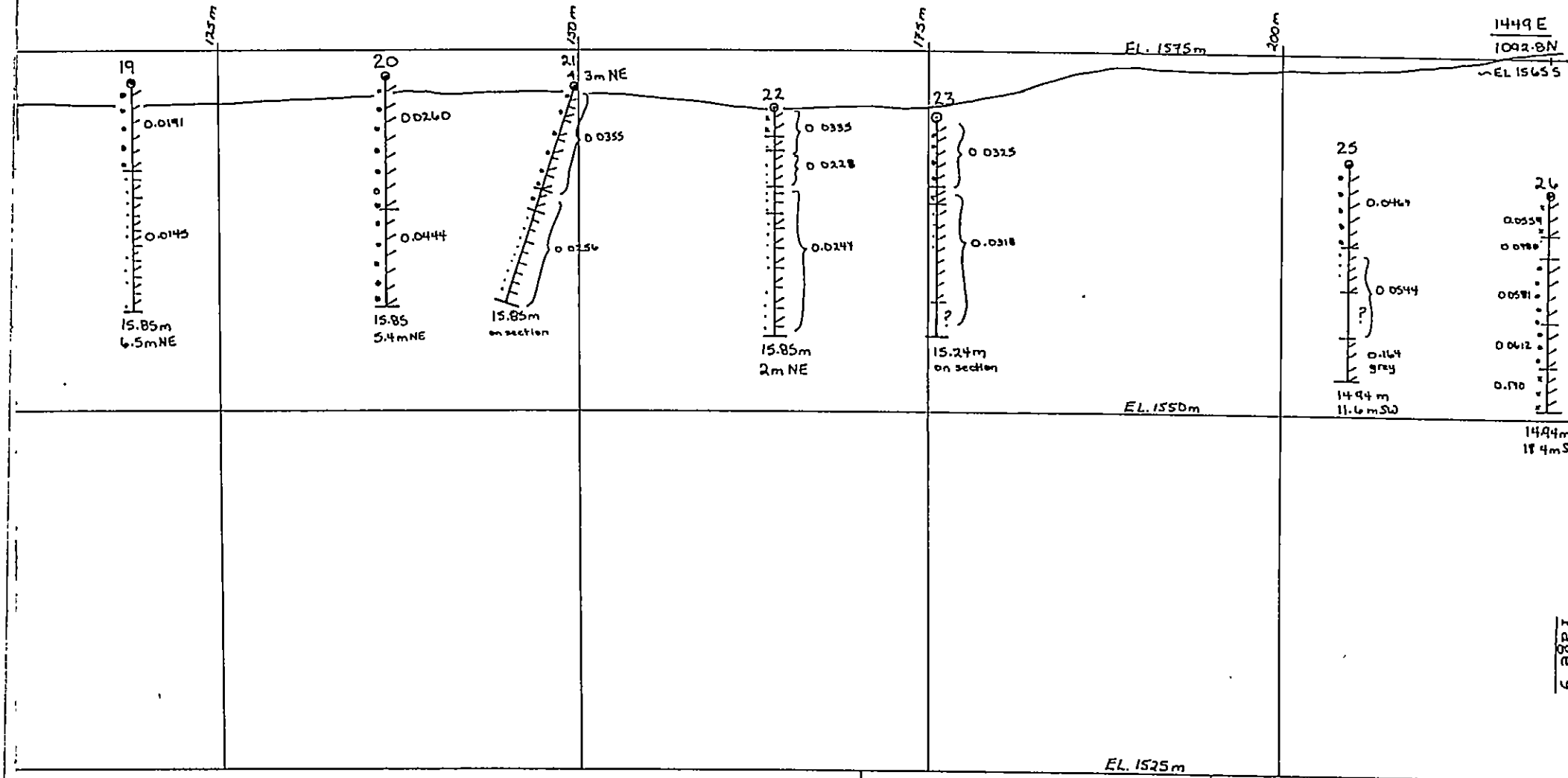
MOUNTAIN MINERALS CO.

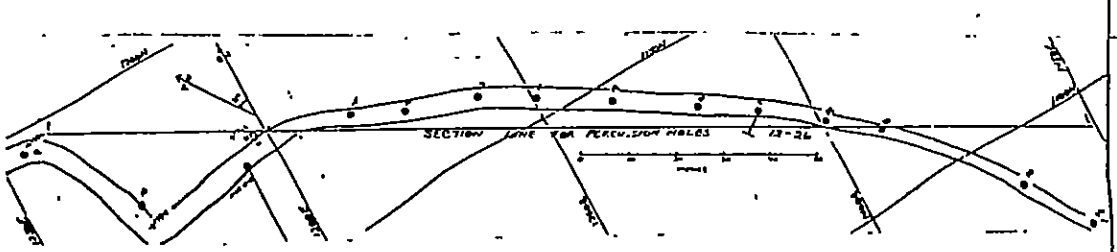
MOBERLY SILICA PERCUSSION DRIL

HOLES 12-26

SCALE 1.250 ~~1:400~~	DESIGN BY P ANDE
DATE AUG 11, 1982	REVISED
DRAWN BY P ANDERSON	DRAWING NO. 32-

FIG 5B





LEGEND

SILICA	WHITE
% SAND IN SILICA	BUFF
0.0000 % IRON OXIDE	RUSTY

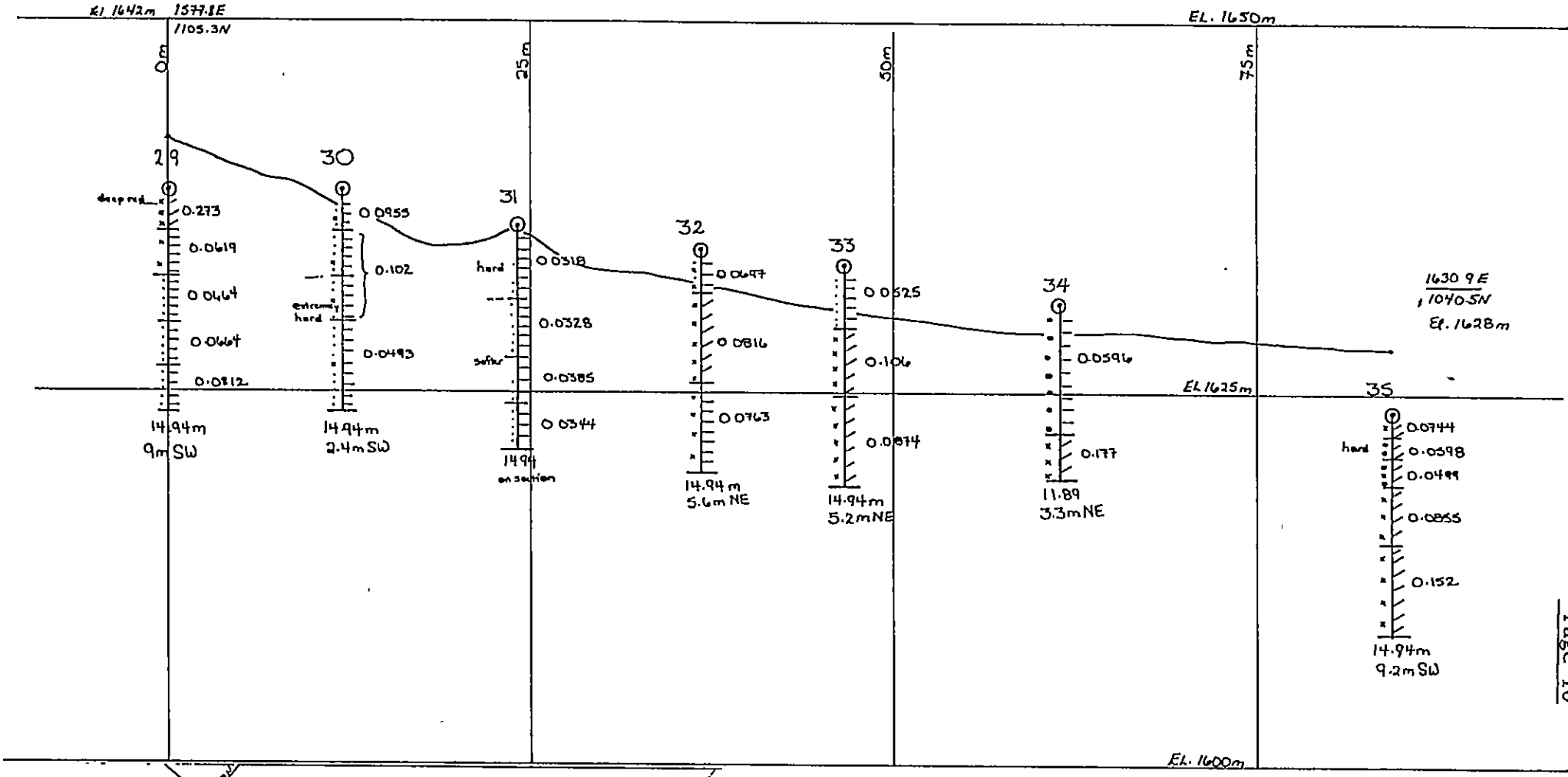
MOUNTAIN MINERALS CO. LTD

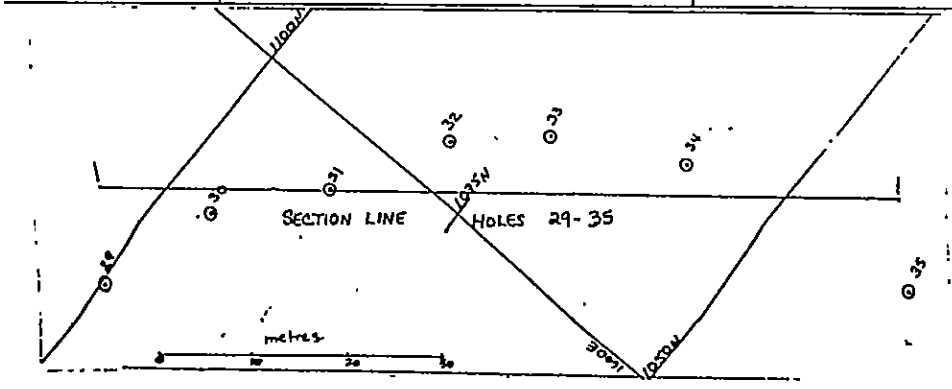
MOBERLY SILICA PERCUSSION DRILLING

HOLES 12-26

SCALE 1:250~1:400	DESIGN BY P. ANDERSON
DATE AUG 11, 1982	REVISED
DRAWN BY P. ANDERSON	DRAWING NO. 32-82-2b

FIG 5C

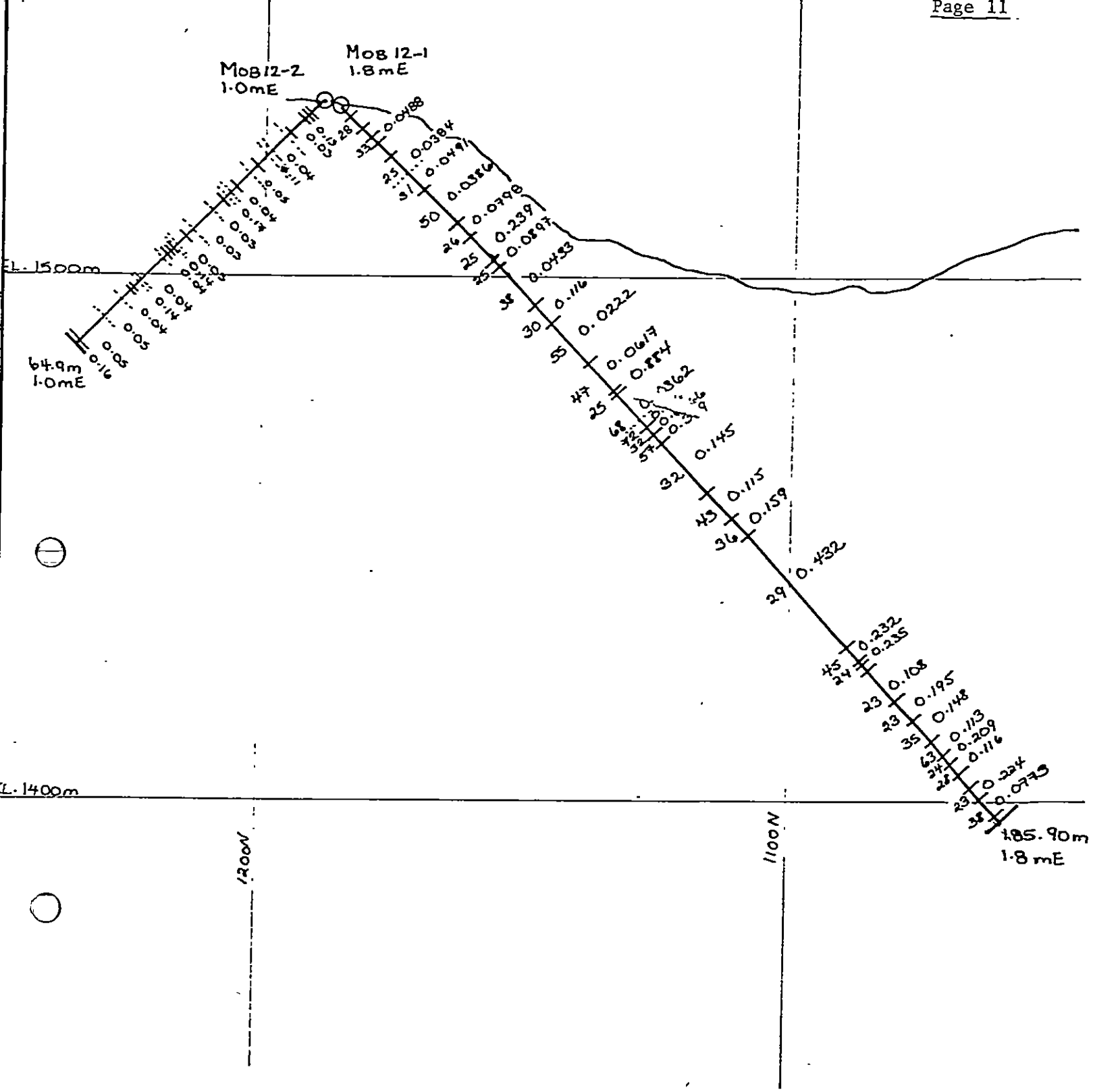




LEGEND		
SILICA		WHITE
% SAND IN SILICA		BUFF
0.0000 % IRON OXIDE		RED, RUSTY

MOUNTAIN MINERALS CO. LTD.	
MOBERLY SILICA PERCUSSION DRILLING	
HOLES 29-35	
SCALE 1:250 ~ 1:400	DESIGN BY P. ANDERSON
DATE AUG 12, 1982	REVISED
DRAWN BY P ANDERSON	DRAWING NO. 32-82-3

FIG 5D

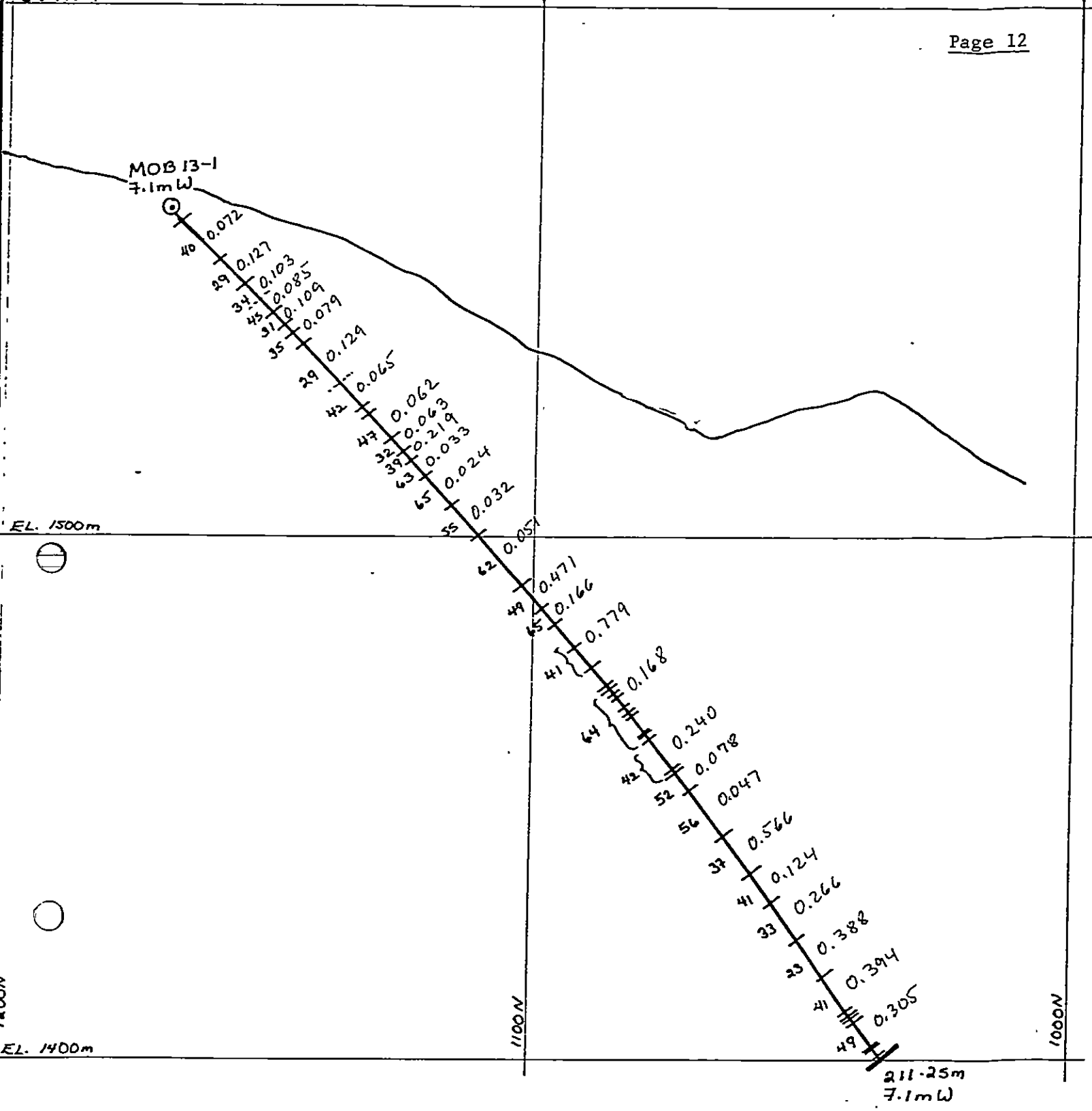


LEGEND

% Sand | % | 0.000 | % Fe_2O_3 -30 mesh

MOUNTAIN MINERALS CO-LTD.
MOBERLY SILICA D.D.H.
1200 E CROSS SECTION
SCALE 1:1000 DESIGN BY D.P.A.
DATE AUG. 17, 1982 #33-82-1a

FIG 6A

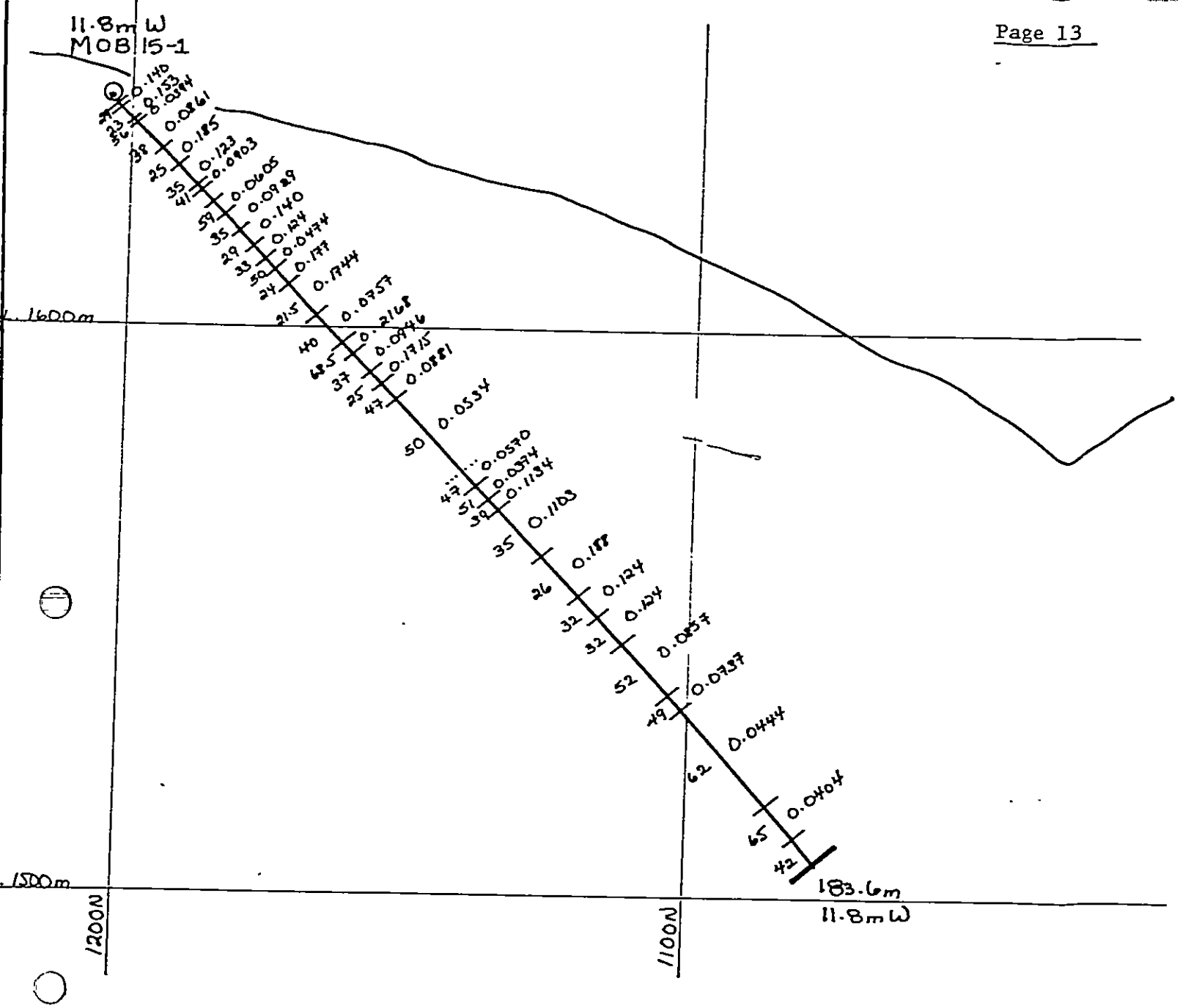


LEGEND

% SAND | % Fe_2O_3 −30 mesh

MOUNTAIN MINERALS CO. LTD.
MOBERLY SILICA DDH 13-1
1300 E CROSS SECTION
SCALE 1:1000 DESIGN BY D.P.A.
DATE AUG. 17, 1982 # 33-82-2a

FIG 6B



LEGEND

% SAND

% Fe_2O_3 -30 MESH

MOUNTAIN MINERALS CO. LTD.
MOBERLY SILICA DDH
1500 E CROSS SECTION

SCALE 1:1000 DESIGN BY D.P.A.
DATE AUG. 17, 1982 #33-82-3a

FIG 6C

The fourth diamond drill hole was drilled away from the sand zone at section 1200E (Mob 12-2) in order to test the hard quartzite for its usability in the manufacture of ferrosilicon.

Cores were split in half and, in the case of the 3 sand-zone holes crushed to -1". The -30 mesh fraction of each sample was screened out, weighed and analyzed for iron. The -30 mesh fraction weight related to the total sample weight is recorded as "sand percentage" on the logs in Annex 2 and on Sections 6A to C. Similarly the HCL soluble iron is documented as Fe_2O_3 in the drill logs and sections.

The hole penetrating the hard quartzite was custom analysed for Ca, Mg, Al Si and Fe. Quarter core fragments are on hand for decrepitation tests. All analyses are recorded on the Mob 12-2 drill log attached in Annex 2 and on Section Fig. 6A.

Cores of the four diamond drill holes are stored at Mountain Minerals' Moberly plant site.

3. Surveying

Trenches, percussion holes and diamond drill holes were surveyed in by the Stadia method and are presented on Fig. 8 (in pouch).

4. Testing

Two roughly 40 kg. samples from location 1200E/1100N were sent to Ontario Research Foundation and Lakefield Research with instructions to lower the iron content to 0.03% Fe_2O_3 or less.

While high intensity magnetic seperation will not lower the Fe_2O_3 content sufficiently, attrition scrubbing was found to do so and it is preferred over acid scrubbing.

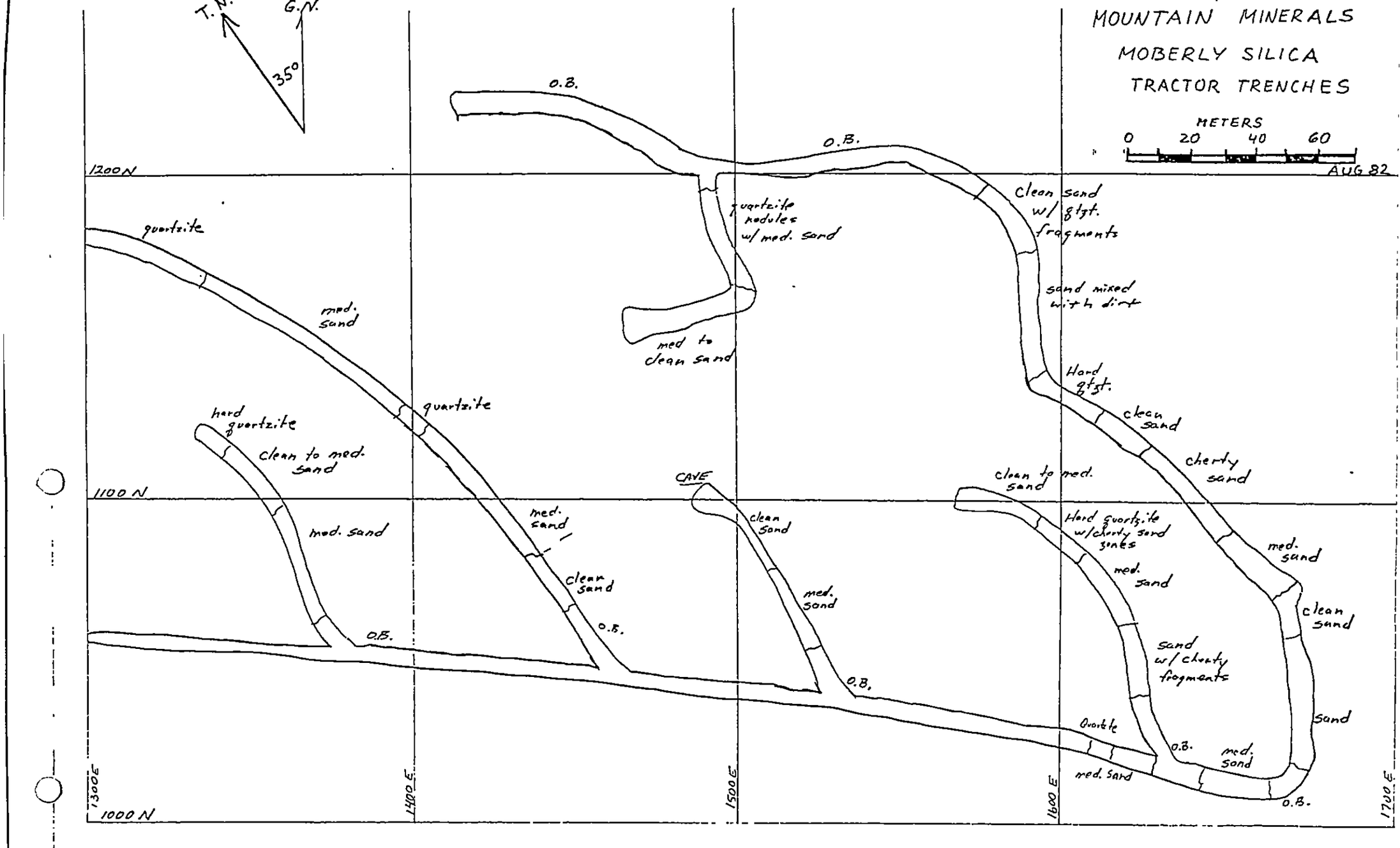

T.N.
G.N.
35°
MOUNTAIN MINERALS
MOBERLY SILICA
TRACTOR TRENCHES
METERS
0 20 40 60
AUG 82
1200N
1100 N
1000 N
1300E
1400 E
1500 E
1600 E
1700 E
O.B.
quartzite
med. sand
quartzite
hard quartzite
clean to med. sand
med. sand
O.B.
clean sand
O.B.
quartzite nodules w/ med. sand
med to clean sand
CAVE
clean sand
med. sand
O.B.
clean sand w/ glyt. fragments
sand mixed with dirt
Hard qtzt.
clean sand
cherty sand
clean to med. sand
Hard quartzite w/cherty sand zones
med. sand
med. sand
clean sand
sand w/ cherty fragments
sand
Quartzite
O.B.
med. sand
med. sand
O.B.

FIG 4

D. DETAILED TECHNICAL DATA

1. D-8 Tractor Trenching

The aim was twofold a) to create fresh rock exposures for geological appraisal and b) to serve as access for the programmed percussion and diamond drilling.

The outline of the trenches with geological notes in respect to sand-quartzite relationship and iron contamination is given in Fig. 4.

2. (a) Percussion Test Drilling

The programme was designed to test grade and sand distribution down to 15 m (50') (practical limit of compressor capacity to clean out cuttings). Although holes at 45° across the formation strike would have been preferred, difficulties in the practical implementation led to the drilling of vertical holes, except for 3.

Penetration speeds were used to gauge the percentages of sand present. Visual appraisal of the cuttings were used to determine sample breaks. Samples were analyzed for HCL soluble iron in Mountain Minerals' Moberly laboratory. Detailed geological information as well as assay results are presented on sections in Fig. 5A to D and in log form (Annex 1).

2. (b) Diamond Drilling

3 diamond drill holes at sections 1200E, 1300E and 1500E were aimed to transgress the sand zone of the Mt. Wilson quartzite and ideally terminate in the stratigraphically overlying Beaverfoot limestone. However, downward deflection of the holes made achieving the goal impractical.

Drilling of the sand zone proved costly due to high bit wear and the use of a special iron free polymer mud. Core recoveries were above 90%.

The origin of the sand zone within the Mt. Wilson formation is thought to be a colaboration of poor consolidation and tectonism. Iron is present "originally" as iron oxide cement bonding nodules, consisting of quartz grains and occurring locally concentrated within particular stratigraphic horizons. Groundwater action seems to have mobilized some of the "original" iron and re-deposited as limonitic coatings at lower elevations.

.....

May 27, 1982

#1 - 90° 52' (15.85 m) (1198.4N/1129.6E; 1531.4 m)

				Fe_2O_3
0 - 19'	hard white silica	0 - 19'	#2026	0.122
19 - 25'	" " "			
25 - 52'	+/- 50% sand with buff bands	19 - 52'	#2027	0.0409
	41 - 42' rusty			
	45 - 46' rusty			

May 28, 1982

#2 - 46° 52' (15.85 m) (1198N/1140.5E; 1532 m)

0 - 18'	~50% sand w/minor iron oxide	0 - 18'	#2028	0.017
18 - 28'	very hard white silica			
38 - 42'	white sand (60%)	18 - 52'	#2029	0.0319
42 - 52'	+/- 30% white sand			

#3 - 90° 52' (15.85 m) (1201N/1155E; 1532 m)

drilled 10:34 - 11:20 May 28/82

0 - 6'	+/- 30% sand, minor rust			
6 - 8'	tough			
8 - 16'	+/- 30% sand	0 - 31'	#2030	0.0315
16 - 22'	tough, rusty at 17'			
22 - 31'	+/- 30% sand, minor rust			
31 - 45'	tough-white (rusty sand 36-37')	31 - 52'	#2031	0.0767
45 - 46'	+/- 50% sand			
46 - 52'	10-20% sand; minor rust at 49 & 50'			

#4 - 90° 52' (15.85 m) (1198.3N/1166.4E; 1532 m)
(11:55 - 12:35)

0 - 52'	hard grey white	0 - 31'	#2032	0.0481
		31 - 52'	#2033	0.0608

#5 - 90° 52' (15.85 m) (1196N/1178.5E; 1532 m)

0 - 52'	hard grey white	0 - 31'	#2034	0.0447
		31 - 52'	#2035	0.0809

#6 - 90° 52' (1184.6N/1176.7E; 1530 m)

No record		0 - 21'	#2036	0.0439
		21 - 52'	#2037	0.0526

#7 - 90° 52' (1183.4N/1163.6E; 1530 m)

No record		0 - 31'	#2038	0.0633
		31 - 52'	#2039	0.0723

May 31, 1982

#8 - 90° 52' (1059.2N/1157.8E; 1530.5 m)

No record		0 - 30'	#2040	0.115
		31 - 52'	#2041	0.115

			Fe_2O_3
#9 - 90° 52' (road 160° 5.7 m SE of G-1200)			
No record	0 - 30'	#2042	0.0396
	30 - 52'	#2043	0.0456
#10 - 90° 52' (road 34 m E of G-1200)			
No record	0 - 30'	#2044	0.0743
	30 - 52'	#2045	0.115
June 1, 1982 (all on 1560 road)			
#11 - 90° 52'			
0 - 5' red sand	0 - 28'	#2046	0.0239
5 - 52' white sand	28 - 52'	#2047	0.0851
#12 - 90° 52'			
0 - 52' tough white quartzite	0 - 28'	#2048	0.0267
	28 - 52'	#2049	0.0361
#13 - 90° 52'			
0 - 18' hard quartzite, white	0 - 28'	#2050	0.0372
18 - 52' alternating sand & quartzite	28 - 52'	#2051	0.0620
#14 - 90° 52'			
0 - 10' reddish sand			
10 - 20' white sand	0 - 28'	#2052	0.0402
20 - 30' buff sandy	28 - 52'	#2053	0.0467
30 52' hard, white quartzite			
June 2, 1982 - No drilling due to lack of bits			
June 3, 1982			
#15 - 90° 52'			
0 - 10' tough w/local sand bands 0 - 2' rusty	0 - 10'	#2054	0.0429
10 - 19' rusty sand	10 - 19'	#2055	0.0309
19 - 44' buff sand 50%	19 - 44'	#2056	0.0439
44 - 52' first 5' tough then alternating sand & tough	44 - 52'	#2057	0.0658

.....

#16 - 90° 52'				Fe_2O_3
0 - 5'	sandy reddish	0 - 10'	#2058	0.0300
5 - 30'	sandy white	10 - 30'	#2059	0.0156
30 - 40'	hard white (50% sand)	30 - 52'	#2060	0.0598
40 - 52'	sandy white			

#17 - 90° 52'				
0 - 8'	tough white	0 - 10'	#2061	0.0316
8 - 9'	very rusty	10 - 19'	#2062	0.0413
9 - 19'	buff sand	19 - 52'	#2063	0.0771
19 - 41'	white sand			
41 - 46'	hard white			
46 - 52'	white sand			

#18				
0 - 40'	sandy off-white	0 - 30'	#2064	0.0207
40 - 52'	sandy-white	30 - 52'	#2065	0 0233

#19				
0 - 20'	sandy-off white	0 - 20'	#2066	0.0191
20 - 40'	harder white	20 - 52'	#2067	0.0145
40 - 52'	harder white with sand bands			

#20				
0 - 52'	off-white sand	0 - 30'	#2068	0.0260
		30 - 52'	#2069	0.0444

#21				
0 - 25'	mixed hard & sand off-white	0 - 30'	#2070	0.0355
25 - 30'	sand, off-white	30 - 52'	#2071	0.0256
30 - 52'	hard white			

#22 - 90° 52'				
0 - 7'	rusty sand	0 - 10'	#2072	0.0335
7 - 18'	white sand	10 - 18'	#2073	0.0228
18 - 24'	tough white	18 - 52'	#2074	0.0247
24 - 52'	white sand with few ribs			

23 - 90° 42'				
0 - 16'	buff sand	0 - 16'	#2075	0.0325
16 - 20'	rusty sand	16 - 42'	#2076	0.0318
20 - 42'	white sand			
(Past 42' no sed. return)				

#24

0 - 10'	rusty sand)	#2077
10 - 30'	off-white sand)	
30 - 49'	off-white sand	#2078

#25

0 - 19'	off-white sand	#2079
19 - 29'	white sand)	#2080
29 - 39'	no recovery)	
39 - 49'	grey hard	#2081

#26

0 - 9'	rusty buff sand	#2082
9 - 14'	hard white	#2083
14 - 29'	sand off-white	#2084
29 - 39'	sand off-white	#2085
39 - 49'	rusty sand poor recovery	#2086

#27 225° - 40°

6 - 17'	hard white & rusty	#2087
17 - 37'	hard rusty	#2088
37 - 45'	hard, fine, rusty	#2089

#28

0 - 5'	tough, some rust)	#2090
5 - 9'	buff sand)	
9 - 11'	medium hard)	
11 - 12'	rust)	
12 - 15'	alternating sand/hard)	
15 - 19'	hard)	

					% Fe_2O_3
#29 - 90° 49' (14.95 m)					
0 - 9'	med. red sandy quartzite - first foot deep red sand	0	- 9'	#2092	.273
9 - 19'	hard clean quartzite - slight reddish tinge	9	- 19'	#2093	.0619
19 - 29'	clean hard quartzite	19	- 29'	#2094	.0664
29 - 49'	as above	29	- 39'	#2095	.0664
		39	- 49'	#2096	.0812
#30 - 90° 49' (14.95 m)					
0 - 19'	hard quartzite - slight iron staining	0	- 9'	#2097	.0955
19 - 49'	extremely hard quartzite - some slight iron 19'-29'	9	- 29'	#2098	.102
		29	- 49'	#2099	.0493
#31 - 90° 49' (14.95 m)					
0 - 16'	clean hard quartzite	0	- 16'	#2100	.0318
16 - 49'	slightly softer clean quartzite	16	- 29'	#2201	.0328
		29	- 39'	#2202	.0385
		39	- 49'	#2203	.0344
June 11, 1982					
#32 - 90° 49' (14.95 m)					
0 - 9'	hard rusty to white	0	- 9'	#2204	.0697
9 - 29'	softer rusty sand	9	- 29'	#2205	.0816
29 - 49'	hard, rusty	29	- 49'	#2206	.0763
#33 - 90° 49' (14.95 m)					
0 - 14'	hard, white	0	- 14'	#2207	.0525
14 - 29	soft, rusty sand	14	- 29'	#2208	.106
29 - 49'	soft, rusty	29	- 49'	#2209	.0874
#34 - 90° 39' (11.90 m)					
0 - 29'	med. hard off-white	0	- 29'	#2210	.0596
29 - 39'	soft, rusty sand stuck rods @ 39'	29	- 39'	#2211	.177
#35 - 90° 49' (14.95 m)					
0 - 5'	soft, rusty sand	0	- 5'	#2212	.0744
5 - 10'	off-white sand, hard	5	- 10'	#2213	.0598
10 - 16'	off-white & rusty	10	- 16'	#2214	.0499
16 - 29'	rusty sand	16	- 29'	#2215	.0855
29 - 49'	rusty sand	29	- 49'	#2216	.152

#36 - 90° 49' (14.95 m)

0 - 29'	off-white sand	0 - 29'	#2217	.0420
29 - 39'	rusty & off-white	29 - 39'	#2218	.0614
39 - 49'	rusty sand	39 - 49'	#2219	.117

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. MOB 12-1

Started June 1, 1982	Bearing Az 215°	Lat. 1186.58 N	Collar El. 1532.84 m	Logged by	Date
Completed June 7, 1982	Angle from Horiz. -45°	Dep. 1201.77 E.	Bottom El.	Remarks	
Driller TONTO	Length Depth 185.90 m	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
0	3 m					Overburden							
3						QUARTZITE							
3	6.10			85		Quartzite fragments with 20-30% sand;	2101	3 - 8.20					28%
						numerous oxide seams and spots							
6.10	8.20					Good core; irregular blebs & pockets of sand +/- 20%; principal fractures at 55° to C.A.							
8.20	10.00			87		As before, but 50% sand; sand bands (bedding) at 45° to C.A.	2102	8.20-13.70		0.0488			33%
0.00	13.70					Ditto 6.10 to 8.20; 11.60 to 13.70 occasional rusty slip							
3.70	22.90			22		Broken up core; +/- 50% sand; from 17.20	2103	13.70-17.20		0.0384			25%
				43		to 22.90 frequent oxide slips and sand pockets	2104	17.20-22.90		0.0491			31%
2.90	32.00			97		70-90% sand; minor selected oxide stained spots +/- 1 cm Ø; at 24.70 m prominent low angle (20°) oxide coated fracture;	2105	22.9-32		0.0386			50%
						at 27.40 - 28.10 voids parallel to C.A. from 30.50 m gradually diminishing sand content to +/- 30% at 32 m							

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. MOB 12-1

Started	June 1, 1982	Bearing		Lat.		Collar El.	Logged by / Date
Completed	June 7, 1982	Angle from Horiz.		Dep.		Bottom El.	Remarks
Driller		Length		Location		Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
32.00	35.00			85		Tough quartzite +/- 10% sand; fractures pred. at 60° with minor oxide	2106	30 - 35		0.0798			26%
35.00	41.50			95		30-40% sand; few selected sand spots are oxide stained	2107	35-41.50		0.239			25%
41.50	43.30			95		Tough quartzite; 10-20% sand; vugs parallel to C.A.; few selected rust spots; pred. fractures turning at 45°	2108	41.5-44.8		0.0897			25%
43.30	53.60			99		Tough with few large (3-5 m Ø) far spaced sand pockets; +/- 20% sand; minor rusty spots only except for 43.30-44.80 pred. fractures at 45° - good core	2109	44.8-53.6		0.0433			38%
53.60	58.50			88		As before but core fragments only; several rust coated fractures	2110	53.6-58.5		0.116			30%
58.50	68.60			88		Increasing sand reaching 80% at 59.5 m no oxides to 67.10; laced at 45°; At 68 m a rust coated fracture at 45°	2111	58.5-68.6		0.0222			55%

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. MOB 12-1

arted June 1, 1982	Bearing	Lat.	Collar El.	Logged by	Date
ompleted June 7, 1982	Angle from Horiz.	Dep.	Bottom El.	Remarks	
riller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe2O3			%-30 Mesh Sand
68.6	75.75			94		Decreasing sand reaching +/- 50% at 69.20; rust spots and rust fractures at 70.70-71.00 & 72.90 m; last 0.5 m abundant oxide laces	2112	68.6-75.6		0.0617			47%
75.75	76.70			71		Sharp contact ° to reddish-purple breccia	2113	75.6-76.7		0.844			25%
76.70	85.00			91		80% sand white, except oxide at 76.80 & 77.80; principal fractures at 50°; subordinate fractures at 10° to C.A.	2114	76.7-82.9		0.0362			68%
				98		82.90-84.40 abundant oxide stains on fractures from 10-45°	2115	82.9-85.0		0.116			72%
85.00	86.90			99		Cherty, brecciated; 10% sand; low angle fractures. 85.6-86.9 highly oxide stained	2116	85.0-86.9		0.0366			32%
86.90	89.30			99		60-80% sand; highly oxide stained	2117	86.9-89.3		0.379			57%
89.30	101.80			93		20-30% sand; large irregular pockets; Numerous rusty slips at 70° as well as low angle	2118	89.3-101.8		0.145			32%
101.80	108.50			98		50-60° sand with oxide spots and oxide covered low angle (20-30°) fractures	2119	101.8-108.5		0.115			43%

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. MOB 12-1

arted June 1, 1982	Bearing	Lat.	Collar El.	Logged by	Date
ompleted June 7, 1982	Angle from Horiz.	Dep.	Bottom El.	Remarks	
riller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
108.50	112.80			99		40-30% sand - decreasing; intensely rust laced and stippled	2120	108.5-112	.8	0.159			36%
112.80	141.45			97		10% sand, tough with lacework of fractures; abundant low angle (20-30°) rust coated slips; at 121.90 extremely oxide stained. From 130.45 rusty "spheres" in variable concentrations (up to 1 cm Ø)	2121	112.8-141	.45	0.432			29%
141.45	145.10			99		40-50% sand in irregular small pockets (checkerboard "spots); locally rusty: 143.00-143.30/143.90-144.20	2122	141.45-145	.10	0.232			45%
145.10	146.30			99		Decreasing sand 30%→10% in form of spherical inclusions < 1 cm in Ø; Some are oxide stained	2123	145.10-147	.50	0.235			24%
146.30	147.50					10% sand as before; some vugs; few 30° oxide coated fractures							
147.50	155.45			99		30-40% sand (locally 80%) (152.4-153.3 - 15%) in irregular spherical pockets < 1 cm Ø +/- every 20 cm at 30° rust coated fracture	2124	147.50-155	.45	0.108			23%

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. MOB 12-1

tarted June 1, 1982	Bearing	Lat.	Collar El.	Logged by	Date
ompleted June 7, 1982	Angle from Horiz.	Dep.	Bottom El.	Remarks	
riller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
155.45	160.15			99		10% sand in tiny pockets; rock highly X fractured; few rust coated slips pred. at 30° to C.A.	2125	155.45-160	0.15	0.195			23%
160.15	165.50			95		30-40% sand in irregular spherical pockets; abundant oxide pred. in 30° fractures	2126	160.15-165	.50	0.148			35%
165.50	169.45			99		30-40% sand as before, but only minor oxide in 30° fractures	2127	165.50-169	.45	0.113			63%
169.45	171.90			99		10% sand tough; irregular distribution of spherical sand pockets; Occasional rust spot or fracture	2128	169.45-171	.90	0.209			24%
171.90	174.05			97		20-30% sand in variably sized and concentrated spherical pockets; 20-30° fractures very minor iron oxide	2129	171.90-177	.70	0.116			28%
174.05	177.70					20% sand, small spherical pockets pred. 20-30° fractures minor iron oxide							

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Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. MOB 12-1

Started June 1, 1982	Bearing	Lat.	Collar El.	Logged by	Date
Completed June 7, 1982	Angle from Horiz.	Dep.	Bottom El.	Remarks	
Driller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
177.70	180.75			99		10% sand in small spherical pockets. 178.30-178.60 extremely rusty; low angle (10°) rust slips continue to 180.75	2130	177.70-180.75		0.224			23%
180.75	185.00			99		20-30% sand as above; at 184.40 bedded at 45° to C.A.; minor iron oxide as spots	2131	180.75-185.00		0.0773			38%
185.00	185.90					Cavity - no recovery limestone contact ? =							
						185.90 END OF HOLE Total Core Recovery: 90% Dip Test at 185 M: 49°							

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Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 12-2

Started	June 7, 1982	Bearing XXXXXX Az 35°	Lat. 1190.2N	Collar El. 15.32.8M	Logged by F. Huss Date
Completed	June 10, 1982	Angle from Horiz. -45°	Dep. 1201.0E	Bottom El.	Remarks
Driller	TONTO	Length 64.90.N	Location	Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY CaO	ASSAY Al_2O_3	ASSAY Fe_2O_3	ASSAY MgO
0	3					CASING							
0	64.9					QUARTZITE							
3	3.30					hard, blocky quartzite; +/- 10% sand - no oxides							
3.30	4.25					competent quartzite, fractured pred. @ 60°; +/- 10% sand - no oxides	2192	4.25-4.85	Lor	0.23	0.19	0.13	0.03
									Core	0.134	0.049	0.12	0.002
4.25	4.55					blocky quartzite; minor Fe-oxide stains; +/- 50% sand			MMCL			0.048	
4.55	9.00					hard, dense quartzite, excellent core; < 10% sand (fractured & Fe stained from 5.20-5.35 with +/- 50% sand) principal fractures @ 45° showing slight Fe oxide staining;	2401	4.85-10.0	Lor C	0.02	0.33	0.03	0.02
									Lor F	0.72	0.38	0.03	0.03
						5.35-5.65 elongated vuggs along fractures	2402	10.0-14.35	Lor C	0.02	0.22	0.04	0.01
									Lor F	0.02	0.33	0.03	0.02
9.00	17.35					blocky core; pred. fractures 45° to C.A. 11.45-11.90 & 12.20-13.10 hard quartzite ≤ 10% sand 15.95-16.30 sand zone, minor Fe stain +/- 90% sand	2193	14.35-14.95	Lor	0.01	0.13	0.11	0.01
									Core	0.015	0.067	0.111	0.002
									MMCL			0.073	

BURROUGHS PRINTING

Drill Hole Log

OMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 12-2

arted	Bearing	Lat.	Collar El.	Logged by Date
mpleted	Angle from Horiz.	Dep.	Bottom El.	Remarks
iller	Length	Location	Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY CaO	ASSAY Al_2O_3	ASSAY Fe_2O_3	ASSAY MgO
17.35	22.85					+/- 10% sand; competent quartzite; very few fractures, with light Fe stains. Sand occurs in irregular pockets. At 20.40 a 0.5 cm quartz vein @ 70° W/vuggs	2403	15.0-20.0	Lor C	0.02	0.41	0.05	0.03
									Lor F	0.02	0.71	0.04	0.06
							2404	20.0-24.4	Lor C	0.02	0.33	0.04	0.02
									Lor F	0.02	0.50	0.03	0.04
22.85	26.20					intense fracturing results in extremely blocky core; minor sand except 22.85-23.15 = 60% sand. very little oxide stain	2194	24.40-25.00	Lor	0.01	0.17	0.17	0.02
									Core	0.014	0.062	0.21	0.128
									MMCL			0.061	
							2405	25.0-29.0	Lor C	0.01	0.38	0.03	0.02
26.20	36.60					more competent than above; at 28.95 a 3 cm coarse sand dike or bed @ 35° to C.A. From 29.55-36.60 slightly more sand in pockets & along fractures (10-15%) 31.40-31.55 50% sand bedded at 35°			Lor F	0.02	0.47	0.03	0.03
						At 32.60 a 2 cm sand dike or bed at 35° to C.A. Vuggs at 35.05	2406	29.0-34.0	Lor C	0.02	0.25	0.04	0.01
									Lor F	0.01	0.34	0.04	0.02
							2407	34.0-38.1	Lor C	0.02	0.37	0.03	0.02
									Lor F	0.01	0.41	0.03	0.03
36.60	39.95					Cherty bluish quartzite; X fracturing causes blockiness locally. Trace sand.	2195	38.1-38.7	Core	0.024	0.053	0.56	0.15
									Lor C	0.01	0.21	0.14	0.02
39.95	40.40					10% sand and X fractured quartzite			MMCL			0.088	
							2408	38.7-43.7	Lor C	0.02	0.38	0.04	0.02
									Lor F	0.01	0.46	0.03	0.02

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Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 12-2

arted	Bearing	Lat.	Collar El.	Logged by	Date
mpleted	Angle from Horiz.	Dep.	Bottom El.	Remarks	
iller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY (Cuttings) CaO	Al_2O_3	Fe_2O_3	MgO
40.40	41.75					ditto 36.60-39.95	2409	43.7-47.9	Lor C	6.03	0.34	0.04	2.90
									Lor F	0.28	0.57	0.04	0.14
41.75	50.30					competent quartzite - no sand	2196	47.9-48.5	Lor	0.10	0.23	0.14	0.02
									Core	0.159	0.176	0.031	0.35
									MMCL			0.058	
50.30	51.20					15% sand - minor Fe oxides	2410	48.5-53.5	Lor C	0.08	0.32	0.04	0.02
									Lor F	0.34	0.40	0.03	0.02
51.20	51.25					competent X fractured quartzite; minor Fe-oxides on some fracs. - no sand	2411	53.5-58.5	Lor F	0.27	0.49	0.04	0.03
									Lor C	0.38	0.59	0.05	0.05
							2412	58.5-64.4	Lor F	0.95	0.40	0.04	0.02
									Lor C	0.08	0.39	0.05	0.02
51.25	64.90					10% sand; at 55.15 a 5 cm coarse sand layer or dike @ 35° to C.A. Similar observations at 56.70, 58.20-59.10 and 60.65	2147	64.4-64.9	Lor	0.34	0.13	0.16	0.02
									Core	0.255	0.042	0.19	0.014
									MMCL			0.115	
						64.90 END OF HOLE							
						TOTAL CORE RECOVERY; 90.4%							

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 13-1

Started	June 16, 1982	Az	215°	Lat.	1170.7N	Collar El.	1561.45m
Completed	June 21, 1982	Angle from Horiz.	-45°	Dep.	1292.9E	Bottom El.	
Driller	TONTO	Length	211.25m	Location		Level	

Logged by F. Huss Date

Remarks

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
0	3.0					CASING							
3.0	211.25					QUARTZITE							
3.0	13.70					30-40% Sand in large irregular shaped pockets; minor rust stains on fractures and less frequent on sand	2164	3.0-13.70		0.0723			40%
13.70	20.10					~10% sand; hard; sand occurs in small pockets & along fractures; some rust coated fractures; at 17.55 a 5 cm sand pocket; several vuggy fractures	2165	13.70-20.10		0.1272			29%
20.10	27.75					30-40% sand in layers, pockets & along fractures - clean to 24.40; 24.40-25.00 abundant iron oxides. Bedding 60-70° to C.A. - alternate coarse & fine sand interbedded in a few places pred. fracturing	2166	20.10 - 24.40		0.1032			34%
							2167	24.40 - 27.75		0.0848			45%
						+/- parallel and 60-70° to C.A. 27.15-27.75 abundant iron oxide; at 27.75 a 5 cm breccia zone; fragments <1 cm Ø + rust + sand							

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 13-1

arted June 16, 1982	Bearing	Lat.	Collar El.	Logged by	Date
ompleted	Angle from Horiz.	Dep.	Bottom El.	Remarks	
riller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3	%-30 Mesh Sand
27.75	31.10					10-20% sand; hard; sand along fractures & in far spaced irregular shaped pockets. Extremely crisscross fractured; low angle fractures pred. several rust coated fractures	2168	27.75-31.10		0.1092	31%
31.10	33.55					20-30% sand in large irregular pockets; extremely crisscross fractured with low angle fractures pred. (10-45°) - frequently rust coated. 33.25-33.55 vuggy fracture with cleaved quartz crystals	2169	31.10-36.40		0.0742	35%
33.55	36.40					40-50% sand in pockets as well as coarse sections; minor rusty stains in sand					
36.40	52.75					20-30% sand in irregular shaped pockets; minor rust slips & rust stains at sand pocket margins. Low angle fractures (10-45°) pred. Locally bedded at 65°(41.75) At 44.20 cluster iron modules	2170	36.40-45.70		0.1294	29%
							2171	45.70-52.75		0.0652	42%
52.75	54.25					Not Recovered					
54.25	60.65					80% sand; minor brown stains; From 54.85-60.65 iron modules mm to cm size	2172	54.25-60.65		0.0618	47%

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 13-1

arted	Bearing	Lat.	Collar El.	Logged by Date
ompleted	Angle from Horiz.	Dep.	Bottom El.	Remarks
riller	Length	Location	Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
60.65	63.70					10-15% sand hard with tiny iron spots; bedding at 60° and odd vuggy fracture	2173	60.65-63.70		.06275			32%
63.70	65.85					20-30% sand in small pockets; minor diss. iron spots; some brown stained sand pockets; sheared at 40° to C.A. at 64.30 at 64.30 strong iron staining	2174	63.70-65.85		0.2185			39%
65.85	70.40					80-90% sand, mostly white, except for oxide stains at 66.15, 67.65 & 70.40 These stains transgress bedding (55°)	2175	65.85-70.40		0.0327			63%
70.40	77.40					80% sand as above, but less iron oxides - cherty pebbles <1 cm Ø 70.70-72.25 & 73.75-77.40 tiny iron modules	2176	70.40-77.40		0.0236			65%
77.40	85.35					70-80% sand (harder than previous - good core) few fractures; few oxide spots around black core; bedding @ 60° @ 79.55; @ 79.60 & 80.45 strong rust stains over 10 cm caused by a concentration of iron modules. 82.60-83.20 oxide spots	2177	77.40-85.35		0.0324			55%

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 13-1

Started	Bearing	Lat.	Collar El.	Logged by / Date
Completed	Angle from Horiz.	Dep.	Bottom El.	Remarks
Driller	Length	Location	Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
85.35	98.15					70-80% sand as before but dotted with up to 0.5 cm Ø iron modules - good core to 91.75; Vuggy fractures @ 90.85; 91.75-92.65 breccia (cherty) with abundant oxide 96.6-98.15 decreasing sand - numerous oxide stained fractures	2178	85.35-98.15		0.0513			62%
98.15	103.35					30/80% sand. 98.25-98.75 intensely rusty throughout; abundant rust in low angle (0-30°) fractures as well as sand pockets. 100.90-103.00 - 80% sand with only moderate oxide stain	2179	98.15-103.35		0.4710			49%
103.35	107.90					80-90% sand, very soft, coarse grained, white sand; odd iron module from 104.85-107.90	2180	103.35-107.90		0.1656			65%
107.90	113.40					80-90% sand; iron oxide spotting increases to brown staining of most sand. 0.3 cm veinlet of iron oxide at 107.95 parallel to C.A. 109.10-109.70 deep brown. From 111.55 sand content decreases to +/- 20% at 113.40	2181	107.90-123.15		0.7790			41%
						up to 2 cm Ø iron modules are frequent to 123.15							

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 13-1

tarted	Bearing	Lat.	Collar El.	Logged by / Date
ompleted	Angle from Horiz.	Dep.	Bottom El.	Remarks
iller	Length	Location	Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3	ASSAY	ASSAY	%-30 Mesh Sand
113.40	118.55					very hard cherty; pred. fracs 30-45° same are vuggy; all are extremely rusty							
118.55	123.15					60-70% sand; very rusty; crisscross veining							
123.15	124.05					Shattered quartzite; 2 sets of 45° fractures 0.5 cm apart; minor rust along some fracs.	2182	123.15-136.25		0.1683			64%
124.05	125.00					80% sand pure white, at 125 m a rust seam							
125.00	125.90					Buff sand; coloration due to odd rust seam							
125.00	130.45					iron modules up to 1 cm ∅ cause oxide fracs.							
127.5	128.00					Hard 30% sand in pockets; low angle oxide fracs.							
128.00	129.80					80-90% sand							
129.80	130.45					Hard, with 30% sand; crisscross fractured							

ALBUQUERQUE PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 13-1

arted	Bearing	Lat.	Collar El.	Logged by	Date
ompleted	Angle from Horiz.	Dep.	Bottom El.	Remarks	
iller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3	ASSAY	ASSAY	%-30 Mesh Sand
130.45	134.40					Buff sand, colour due to few rust seams & small iron modules							
134.40	135.00					Cherty, 30% sand; iron banded; X fractured							
135.00	136.25					90% sand with iron modules							
136.25	143.55					30% sand in highly fractured cherty quartzite to 137.15 only few iron modules. 137.15-143.55 pervasive rust fracs. & scattered iron modules 141.43-143.55 50-60% sand, highly rusty	2183	136.25-144.50		0.240			42%
143.55	144.50					30% sand with a low angle iron seam							
144.50	149.05					144.50-146.0 80% sand; minor oxide stains 146.00-149.05 30% sand, cherty, iron coated low angle slips; iron modules 146.0-146.30	2184	144.50-149.05		0.077			52%

BURROUGHS PRINTING

Drill Hole Log

OMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 13-1

arted	Bearing	Lat.	Collar El.	Logged by	Date
mpleted	Angle from Horiz.	Dep.	Bottom El.	Remarks	
iller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
149.05	159.10					80% sand; cherty fragments; brilliant white 149.95-150.25 hard, no sand; iron coated fracs; iron modules at 150.25 (for 3 cm) at 150.40 for 5 cm ≤1 cm ∅; minute iron modules at 153.60; and from 154.25-159.10	2185	149.05-159.10		0.0471			56%
						however, sand is brilliant white							
159.10	168.85					50% sand in irregular pockets; rusty; low angle fractures with oxide. Throughout small iron modules; 163.05-164.60 penny-sized iron modules; cherty 167.95-168.85 70% sand; dark brown; 168.55 a 45° 1 cm rust seam	2186	159.10-168.85		0.5662			37%
168.85	175.25					60% sand with cherty fragements minor oxides on pred. parallel to C.A. fractures with odd vugg. From 171.0 small and large iron modules causing rust throughout	2187	168.85-175.25		0.1235			41%
175.25	183.80					30% sand in pockets in cherty base; tiny iron modules; stained sand pockets & rusty slips pred. parallel to C.A. At 179.80 5 cm concentration of small iron modules at 50°	2188	175.25-183.80		0.2657			33%

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 13-1

arted	Bearing	Lat.	Collar El.	Logged by Date
ompleted	Angle from Horiz.	Dep.	Bottom El.	Remarks
riller	Length	Location	Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
						From 181.05 abundant iron modules up to 5mmØ 181.95-182.55 80% sand 182.55-183.80 as beginning but fractures peter out towards end							
183.80	192.95					Tough cherty, minor sand; few low angle rusty slips & vuggs. Scattered iron modules concentrated 182.9-183.20 187.15-189.90 very blocky; extremely rusty with 30-40% sand	2189	183.80-192.95		0.3879			23%
192.95	200.55					40-50% sand in pockets and low angle fractures Few rust fracs. with vuggs; odd iron module	2190	192.95-200.55		0.3944			41%
200.55	200.70					Claystone green-block; non calcareous; contact 55° to C.A.							
200.70	200.85					Rusty quartzite							
200.85	201.80					Alternating bands of claystone &quartzite 3 cm to 30 cm wide							
201.80	202.40					rusty quartzite banded at 55°							
202.40	208.50					50-60% sand banded (bedded) at 40° sand in irregular pockets pervasively rust stained; cherty base; throughout small iron modules	2191	202.40-208.50		0.3052			49%

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 13-1

arted	Bearing	Lat.	Collar El.	Logged by Date
ompleted	Angle from Horiz.	Dep.	Bottom El.	Remarks
iller	Length	Location	Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Sample No.	From - To	Interval	ASSAY
208.50	209.40					10-15% sand; base is cherty, oxide laced at 45°; At 209.40 0.2 m rusty sand				
209.40	210.90					Green grey claystone - quartzite interbedded @ 45-50° to C.A.				
210-90	211.25					Ferruginous quartzite; minor sand; rusty crisscross fractures				
						211.25 END OF HOLE TOTAL CORE RECOVERY 95.9% DIP TEXT @ 211 M = 54°				

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. 1500E HOLE No. 15-1

arted	June 10/82	Bearing	180° (grid S.)	Lat.	1204.3N	Collar El.	1639.65M
ompleted	June 16/82	Angle from Horiz.	45-48°	Dep.	1488.2 E	Bottom El.	
riller	TONTO	Length	602' (183.6 m)	Location		Level	

Logged by S. Groening Date

Remarks

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Est. Sand %	Sample No.	From - To	Interval	ASSAY Fe2O3			%-30 Mesh Sand
0	1.53 m					Overburden								
1.53	183.6m					QUARTZITE								
1.53	2.14	.61		80		Weathered quartzite sand	80	2132	1.53-2.14		0.140			29%
2.14	5.55	3.41		66		Hard quartzite - with small round sand blebs (2-3 cm) very little iron with abundant fracturing parallel with core	30-40	2133	2.14-5.55		0.153			23%
5.55	6.40	.85		99		White sand - with minor hard quartzite	80-90	2134	5.55-6.40		0.0394			56%
6.40	12.50	6.1		60		Hard quartzite - some large sand blebs (6-10 cm); irregular in shape; fracturing @ 60-80° * broken pieces of quartzite where sand may have washed out	30-40	2135	6.4-12.5		0.0861			38%

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 15-1

arted	Bearing	Lat.	Collar El.	Logged by Date
ompleted	Angle from Horiz.	Dep.	Bottom El.	Remarks
riller	Length	Location	Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Est. Sand %	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
12.5	16.8	4.3		99		As above with less sand along 60° fractures, good core 12.5-15.2 then broken to 16.8. Very little iron along fracture	10-20	2136	12.5-16.8		0.185			25%
16.8	21.65	4.85		99		hard quartzite - slightly more sand along fractures & in blebs 10 cm sand layer @ 18.0 and from 19.5-20.0	40-50	2137	16.8-21.65		0.123			35%
21.65	22.5	.85		99		White sand - bedding observable @ 50° to C.A. A few vuggy areas	90-95	2138	21.65-25.5		0.0903			41%
22.5	25.5	3.00				Cherty quartzite - with irregular sand zones & fractures	20-25							
25.5	28.7	3.20		99		Sand - mostly white with a slight yellowish tinge 50° quartzite from 27.1-27.4	75-85	2139	25.5-28.7		0.0605			59%

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 15-1

arted	Bearing	Lat.	Collar El.	Logged by	Date
mpleted	Angle from Horiz.	Dep.	Bottom El.	Remarks	
ller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Est. Sand %	Sample No.	From - To	Interval	ASSAY Fe_2O_3	ASSAY	ASSAY	%-30 Mesh Sand
28.7	32.5	3.8		95		Hard cherty quartzite with numerous irregular fractures and white sand zones	40-50	2140	28.7-32.5		0.0929			35%
32.5	36.6	4.1		95		As above - only less sand with a more yellowish tinge	5-10	2141	32.5-36.6		0.140			29%
36.6	39.8	3.2		75		Quartzite with numerous white sand pockets & elongated lenses @ 60°; irregular fracturing sand zone 37.7-38.4	20-25	2142	36.6-39.8		0.124			33%
39.8	42.4	2.6		99		White sand - with some quartzite and very little iron staining	85-90	2143	39.8-42.4		0.0474			50%
42.4	45.45	3.05		99		Hard dense cherty quartzite - numerous fractures & occasional sand pockets - very little iron - fracture @ 45° to C.A.	10-20	2144	42.4-45.45		0.177			24%

SURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 15-1

Started	Bearing	Lat.	Collar El.	Logged by / Date
Completed	Angle from Horiz.	Dep.	Bottom El.	Remarks
Driller	Length	Location	Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Est. Sand %	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
45.45	53.1	7.65		89		Heavily fractured quartzite with some yellowish sand seams - no core recovery 48.34-48.8 (sand washed out?)	20-25	2145	45.45-53.1		0.1744			21.5%
53.1	59.8	6.7		81		White sand with some cherty quartzite pieces & yellow iron staining along fractures	80-85	2146	53.1-59.8		0.0757			40%
59.8	62.5	2.7		50		Yellowish sand - very little or no quartzite	95-100	2147	59.8-62.5		0.2168			68.5%
62.5	67.4	4.9		99		Hard white quartzite with white sand zones from 63.1-63.4 65.0-65.6 65.9-67.4 Lost circulation @ 67.4	30-40	2148	62.5-67.4		0.0946			37%
67.4	70.15	2.75		99		As above - with a few scattered yellow round sand concretions	10-20	2149	67.4-70.15		0.1715			25%

BURROUGHS PRINTING

Drill Hole Log

OMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 15-1

arted	Bearing	Lat.	Collar El.	Logged by	Date
mpleted	Angle from Horiz.	Dep.	Bottom El.	Remarks	
ller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Est. Sand %	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
70.15	73.8	3.65		83		White to pale yellow sand with a few small chert fragments NOTE: No recovery - downsized to NQ @ 73.8	70-80	2150	70.15-73.8		0.0881			47%
73.8	94.55	20.75		89 99		White quartzite with white sand lenses Very little iron - competent core	40-50	2151 2152	73.8-91.5 91.5-94.55		0.0534 0.0570			50% 47%
94.55	97.3	2.75		99		White sand - little quartzite Very friable with slight yellowish tinge in places	80-90	2153	94.55-97.3		0.0374			51%
97.3	100.3	3.0		99		Hard dense quartzite with a few sand seams irregularly distributed throughout. Very little iron	10-20	2154	97.3-100.3		0.1134			39%
100.3	111.3	11.0		30		White to yellow sand with abundant chert fragments (5-10 cm)	30-40	2155	100.3-111.3		0.1103			35%

BURROUGHS PRINTING

Drill Hole Log

OMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 15-1

arted	Bearing	Lat.	Collar El.	Logged by	Date
mpleted	Angle from Horiz.	Dep.	Bottom El.	Remarks	
ller	Length	Location	Level		

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Est. Sand %	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
111.3	121.1	9.8		60		Cherty quartzite with sand zones, very broken core (as if sand was washed out - mostly ground chert fragments) poor recovery	10-20	2156	111.3-121.1		0.188			26%
121.1	126.0	4.9		97		Hard gray quartzite with a few small sand filled vuggs - some slight iron staining throughout	20-30	2157	121.1-126		0.124			32%
126.0	132.7	6.7		98		Gray quartzite marbled with white sand. Some slight iron staining	40-50	2158	126.0-132.7		0.124			32%
132.7	144.9	12.2		95		Sand - soft & yellow from 132.7 to 134.2 Broken with chert fragments 134.2-144.9	70-80	2159	132.7-144.9		0.0857			52%
144.9	147.9	3.0		99		Hard gray quartzite marbled with sand; little iron except @ 147.8	40-50	2160	144.9-147.9		0.0737			49%

BURROUGHS PRINTING

Drill Hole Log

COMPANY MOUNTAIN MINERALS CO. LTD. PROPERTY MOBERLY SILICA Section No. HOLE No. 15-1

arted	Bearing	Lat.	Collar El.	Logged by Date
mpleted	Angle from Horiz.	Dep.	Bottom El.	Remarks
iller	Length	Location	Level	

Footage From	Footage To	Interval	RECOVERY Ft.	RECOVERY %	Graphic Log	DESCRIPTION	Est. Sand %	Sample No.	From - To	Interval	ASSAY Fe_2O_3			%-30 Mesh Sand
147.9	170.2	22.3		96		White sand with very little quartzite (increasing in quartzite with depth)	75-90	2161	147.9-170.2		0.0444			62%
170.2	177.8	7.6		98		Clean white sand - some cherty fragments - broken core	80-90	2162	170.2-177.8		0.0404			65%
177.8	183.6	5.8		98		Hard cherty quartzite with minor white sand	30-40	2163	177.8-183.6					42%
						183,60 END OF HOLE TOTAL CORE RECOVERY: 85.37% DIP TEST @ 183.0 m: 48°								

BURROUGHS PRINTING

FIGURE No. 8

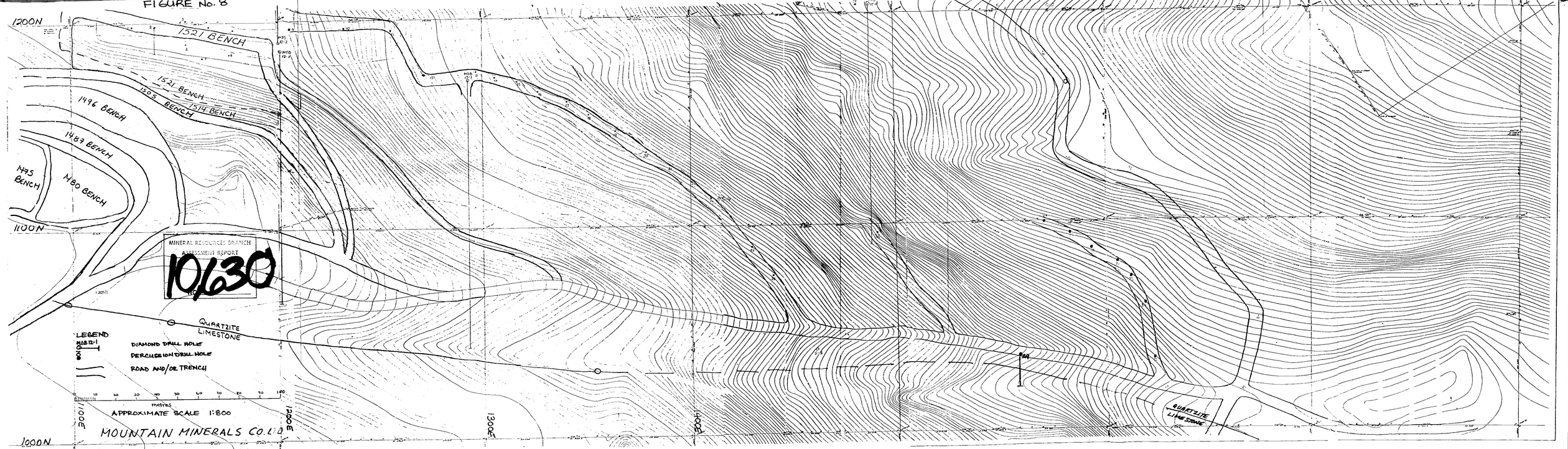

FIGURE No. 8