

REPORT TO THE TASMANIAN MINES DEPARTMENT
ON EXPLORATION FOR CHRYSOTILE ASBESTOS
IN EXPLORATION LICENCE 13/65

DECEMBER, 1970 TO JUNE, 1971

882002

Q64
71-758

B. H. P.

~~Altogether~~ ~~at~~ ASBESTOS Pt.

McQUARIE HARBOUR AREA.

REPORT TO THE TASMANIAN MINES DEPARTMENT

ON EXPLORATION FOR CHRYSOTILE ASBESTOS

IN EXPLORATION LICENCE 13/65

December, 1970 to March, 1971

by

J. G. Langlands

and

R. C. Rees

APRIL, 1971

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1. GENERAL STATEMENT

Previous work by B.H.P. geologists and others delineated a belt of ultrabasic rocks, serpentinites and pyroxenites, intruding steeply dipping Cambrian sediments from the Spero River to the Asbestos Point area. Deposits of chrysotile have been found throughout the belt. The current season's work is designed to assess more fully the mining potential of the Noddy Creek area by costeaning, mapping, sampling and drilling and to provide information of a reconnaissance nature to guide more intensive exploration and development of other areas of the belt in the near future.

This report deals with field work carried out between the beginning of December, 1970 to the end of March, 1971.

Plan No. A2 1035/A is attached as a locality map.

2. FIELD INVESTIGATIONS

2.1 Costeaning

The following lines in the Noddy Creek area were costeaned to expose fresh rock over the complete width of the ultrabasic for the purposes of detailed mapping, fibre logging, and selective channel sampling.

<u>Line</u>	<u>Approximate length of Costean</u>
5500N	1,000 ft
50 N	700 ft
45 N	700 ft
40 N	700 ft
35 N	800 ft
30 N	1,000 ft
25 N	1,000 ft
20 N	1,000 ft
15 N	800 ft
10 N	800 ft

A costean 150 feet long was dug at Asbestos Point.

2.2 Mapping

Tracks and costeans in the Noddy Creek eastern ultrabasic belt were surveyed and levelled from Asbestos Point to the 7000S line, seven miles south of the point, to provide mapping control.

2.2 (a) 400 feet to 1 inch mapping

Reconnaissance mapping of two parallel ultrabasic bodies to locate areas of outcropping cross fibre bearing serpentinite was carried out between Asbestos Point and the Pad 2 area, a strike length distance of about 7 miles.

A party of two geologists and one field assistant was flown into the Spero River/Hibb's Lagoon area to carry out reconnaissance mapping and fibre logging to guide future exploration. One week was spent at the Spero River and two days at Hibb's Lagoon.

2.2 (b) 50 feet to 1 inch mapping

Costeans at 20N, 30N and 40N were mapped in detail to control drilling on these lines. No further detailed mapping has been carried out to date.

2.3 Fibre Logging

Cross fibre bearing outcrops in the 20N, 30N and 40N costeans have been fibre logged. A summary of the results is attached as an appendix.

2.4 Channel Sampling

75 channel samples of approximately 75 pounds each from 25 feet intervals have been collected across the width of the eastern ultrabasic body on lines 20N, 30N and 40N in order to test the fibre content of the serpentinite by experimental milling.

2.5 Drilling

It is proposed to drill up to 10 diamond drill holes on lines 10N, 20N, 30N and 40N for a total footage of about

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5,000 feet to test the subsurface extensions of cross fibre and slip fibre bearing serpentinite to 200 feet or more below surface. One hole may be drilled to test for fibre at 650 feet below surface, the suggested limit of open cut mining.

The following 45° angle holes were completed by March 31st:

<u>Hole</u>	<u>Line</u>	<u>Depth</u>	<u>Chrysotile Intersection</u>	<u>Approx. Volume%</u>	<u>Cross fibre</u>			
DHNG2	30N	512'	10' - 35'	10' - 15'	0.1%	≤ 1/32"		
				15' - 20'	0.1%	≤ 1/32"		
				20' - 25'	0.4%	≤ 1/16"		
				25' - 30'	0.5%	≤ 2/16"		
				30' - 35'	0.6%	≤ 1/32"		
				45' - 85'	45' - 50'	1.4%	≤ 2/16"	
					50' - 55'	0.8%	≤ 1/32"	
					55' - 60'	0.4%	≤ 1/32"	
					60' - 65'	1.6%	≤ 1/16"	
					65' - 70'	0.8%	≤ 1/16"	
					70' - 75'	0.1%	≤ 1/32"	
					75' - 80'	0.5%	≤ 1/16"	
					80' - 85'	2.3%	≤ 1/16"	
					130' - 160'	130' - 135'	0.1%	≤ 1/16"
						135' - 140'	0.1%	≤ 1/16"
						140' - 145'	0.1%	≤ 1/16"
						145' - 150'	0.1%	≤ 1/16"
						150' - 155'	0.1%	≤ 1/16"
						155' - 160'	0.1%	≤ 1/16"
					205' - 215'	205' - 210'	0.2%	≤ 1/32"
			210' - 215'	1.8%	≤ 4/16"			
		220' - 225'	220' - 225'	1.8%	≤ 2/16"			

<u>Hole</u>	<u>Line</u>	<u>Depth</u>	<u>Chrysotile Intersection</u>	<u>Approx. Volume%</u>	<u>Cross fibre</u>
DHNC2 Con't.			305' - 355'	305' - 310' 0.9%	≤ 2/16"
				310' - 315' 0.6%	≤ 2/16"
				315' - 320' 0.2%	≤ 1/16"
				320' - 325' 1.6%	≤ 2/16"
				325' - 330' 0.9%	≤ 3/16"
				330' - 335' 1.9%	≤ 4/16"
				335' - 340' 1.3%	≤ 2/16"
				340' - 345' 1.0%	≤ 1/16"
				345' - 350' 1.5%	≤ 5/16"
			350' - 355' 0.3%	≤ 2/16"	
DHNC3 30N	503.5'	0' - 15'		0' - 5' 0.9%	≤ 1/16"
				5' - 10' 0.2%	≤ 1/16"
				10' - 15' 0.3%	≤ 1/16"
		25' - 50'		25' - 30' 2.8%	≤ 2/16"
			30' - 35' 12.9%	≤ 4/16"	
			35' - 40' 9.8%	≤ 4/16"	
			40' - 45' 8.0%	≤ 4/16"	
			45' - 50' 1.7%	≤ 1/16"	

The target zone for this hole (as deduced from surface outcrops) was barren.

3. PERSONNEL

3.1 Professional Staff

- 1 Resident geologist
- 3 Geologists, periodical visits
- Consultant - Mr. B. Butt of Watts Griffis McQuat

3.2 Support Personnel

- 1 Foreman
- 1 Leading Hand
- 2 Technical assistants
- 1 Cook
- 1 Field assistant

- 6 Drilling crew members
- 1 Bulldozer operator.

4. EQUIPMENT

4.1 Contract hired plant, equipment and vehicles

- 2 Diamond drilling rigs and ancillary equipment
- 1 Landrover (support vehicle to drilling rig).
- 1 Nissan F.W.D. (support vehicle to drilling rig).
- 1 Bulldozer

4.2 Vehicles

- 1 International tipper truck
- 1 Landrover
- 1 Haflinger F.W.D. vehicle
- 1 Bombardier tracked personnel vehicle
- 1 Nodwell tracked carrier vehicle.

4.3 Stationary Engines

- 2 Honda E300 generators
- 1 Braybon generator
- 1 Ajax/Villiens water pump
- 1 Finsbury/Villiers water pump.

4.4 Chain Saws

- 1 07 Stihl
- 1 08 Stihl

4.5 Miscellaneous

- 1 Holman compressor with jack hammers
- Spare parts for vehicles
- 1 Set oxy/acetylene welding equipment
- Set mechanical workshop tools
- Set carpenter's tools
- Set mining hand tools.

4.6 Personnel Facilities

Accommodation:

- 3 Four berth caravans
- 2 Two man WOWIC Camp units
- 2 Timber and Canvas billy huts.

Messing:

- 1 24' x 13' C.G.I. prefab building with 2 LP Gas stoves
3 LP gas refrigerators
1 LP gas hot water service
Cooking utensils,
furniture etc.
- 1 9' x 8' food store annexe to the mess.
- 1 12' x 8' ridge tent with LP Gas stove, LP gas refrigerator
and cooking utensils etc.

Ablutions/Laundry:

- 10' x 10' corrugated iron and timber building with
2 wash tubs
2 LP Gas drying cabinets
1 electric washing machine
1 shower
Hot and cold running water.
- 1 Outside toilet suitably distant from other facilities.

4.7 Equipment Stores

- 1 20' x 15' workshop/garage unit of timber and corrugated
iron construction.
- 1 6' x 6' corrugated iron and timber to house generators.
- 2 12' x 12' marque type tents
- 1 16' x 12' steel and corrugated iron prefabricated
building erected near the landing at Asbestos
Point.

4.8 Office Space

- 1 WOWIC 2 man unit used as geological office.
- 1 WOWIC 2 man unit used as Administration office, with
two way radio for communication with Strahan
and Hobart Radio.

4.9 Water Supply Storage

- 1 700 gallon collapsible tank
- 1 200 gallon, trailer mounted steel tank
- 1 100 gallon corrugated iron tank for storage of rain
water.

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5. EXPENDITURE

Expenditure incurred during December, 1970 and January and February, 1971 is as follows:

Company Personnel	\$11,034
Transport	1,243
Contract Services	7,061
Other Expenditure	6,128
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Total Expenditure	\$ 25,466
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APPENDIXFIBRE LOG SHEETS

<u>Fibre Log</u>	<u>Line</u>	<u>Slope Distance</u>	<u>Approx.</u>	<u>Volume %</u>	<u>Cross fibre</u>
FLO01	20N	25'	0' - 5'	4.2%	≤ 2/16"
			5' - 10'	4.0%	≤ 4/16"
			10' - 15'	4.3%	≤ 3/16"
			15' - 20'	3.2%	≤ 3/16"
			20' - 25'	1.4%	≤ 2/16"
FLO02	20N	35'	0' - 5'	3.2%	≤ 2/16"
			5' - 10'	0	-
			10' - 15'	2.0%	≤ 1/16"
			15' - 20'	7.0%	≤ 2/16"
			20' - 25'	5.2%	≤ 2/16"
			25' - 30'	5.2%	≤ 2/16"
FLO03 20 feet along strike from FLO02.	20N	35'	0' - 5'	2.2%	≤ 4/16"
			5' - 10'	0.2%	≤ 1/16"
			10' - 15'	0.6%	≤ 2/16"
			15' - 20'	1.7%	≤ 3/16"
			20' - 25'	0.3%	≤ 1/16"
			25' - 30'	0	-
			30' - 35'	2.0%	≤ 5/16"
FLO04	30N	160'	0' - 5'	1.3%	≤ 2/16"
			5' - 10'	2.6%	≤ 3/16"
			10' - 15'	3.7%	≤ 4/16"
			15' - 20'	6.2%	≤ 6/16"
			20' - 25'	3.0%	≤ 5/16"
			25' - 30'	1.9%	≤ 4/16"
			30' - 35'	0.2%	≤ 1/16"
			35' - 40'	0	-
			40' - 45'	0.9%	≤ 2/16"
			45' - 50'	4.1%	≤ 4/16"
			50' - 55'	3.6%	≤ 5/16"
55' - 60'	1.5%	≤ 2/16"			
60' - 65'	2.3%	≤ 5/16"			

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<u>Fibre Log</u>	<u>Line</u>	<u>Slope</u> <u>Distance</u>	<u>Approx.</u>	<u>Volume %</u>	<u>Cross fibre</u>
FLO04(Cont'd)		65' - 70'	6.2%	≤ 3/16"	
		70' - 75'	2.9%	≤ 4/16"	
		75' - 80'	1.2%	≤ 3/16"	
		80' - 110'	Barren		
		110' - 115'	0.2%	≤ 1/16"	
		115' - 120'	0.6%	≤ 2/16"	
		120' - 145'	Barren		
		145' - 150'	3.0%	≤ 2/16"	
		150' - 155'	3.8%	≤ 3/16"	
		155' - 160'	1.7%	≤ 2/16"	
FLO05	40N	65'	0' - 5'	0.1%	≤ 1/16"
		5' - 10'	3.2%	≤ 8/16"	
		10' - 15'	5.3%	≤ 8/16"	
		15' - 20'	1.2%	≤ 2/16"	
		20' - 25'	5.8%	≤ 11/16"	
		25' - 30'	3.7%	≤ 3/16"	
		30' - 35'	2.0%	≤ 2/16"	
		35' - 40'	4.2%	≤ 4/16"	
		40' - 45'	3.3%	≤ 6/16"	
		45' - 50'	0	-	
		50' - 55'	3.4%	≤ 4/16"	
		55' - 60'	4.4%	≤ 6/16"	
		60' - 65'	0	-	
FLO06 15' along strike from FLO05	40N	50'	0' - 5'	0	-
		5' - 10'	11.3%	≤ 10/16"	
		10' - 15'	0.2%	≤ 2/16"	
		15' - 20'	0	-	
		20' - 25'	0	-	
		25' - 30'	0	-	
		30' - 35'	1.4%	≤ 1/16"	
		35' - 40'	1.0%	≤ 2/16"	
40' - 45'	1.2%	≤ 2/16"			
45' - 50'	0	-			

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<u>Fibre Log</u>	<u>Line</u>	<u>Slope Distance</u>	<u>Approx. Volume %</u>	<u>Cross fibre</u>
FLO07	40N	105'		
		0' - 5'	0	
		5' - 10'	0	
		10' - 15'	0	
		15' - 20'	0	
		20' - 25'	0.2%	≤ 1/16"
		25' - 30'	0.4%	≤ 1/32"
		30' - 35'	0	
		35' - 40'	5.1%	≤ 4/16"
		40' - 45'	0	
		45' - 50'	0.1%	≤ 1/16"
		50' - 55'	0	
		55' - 60'	0	
		60' - 65'	1.8%	≤ 3/16"
		65' - 70'	0	
		70' - 75'	0.2%	≤ 1/16"
		75' - 80'	0.3%	≤ 2/16"
		80' - 85'	0.4%	≤ 1/16"
		85' - 90'	2.8%	≤ 5/16"
		90' - 95'	2.6%	≤ 7/16"
95' - 100'	2.7%	≤ 4/16"		
100' - 105'	0.8%	≤ 2/16"		

REPORT ON PART OF EXPLORATION LICENCE 13/65SORELL PENINSULA, S.W. TASMANIAMAY AND JUNE, 19711. GENERAL STATEMENT

During May and June, costeaning, drilling, mapping, sampling, fibre logging and a magnetometer survey were carried out at Noddy Creek. The programme was concluded by the middle of June.

2. FIELD INVESTIGATIONS2.1 Costeaning

The following lines in the Noddy Creek area were costeaned:

07S
04S
05N
70N
80N
105N

The Pad 2 area was explored and defined by 3 costeans over a strike length of $1\frac{1}{2}$ miles.

2.2 Mapping

The following costeans were mapped at a scale of 50 feet to 1 inch:

07S
00 70N
35N 80N
45N 90N
60N 100N

Mapping was also carried out on connecting roads and tracks, and the track from 100N to Asbestos point was mapped at a scale of 400 feet to 1 inch.

2.3 Channel Sampling

Forty-four channel samples were collected on the following lines:

10S	10N
15S	40N
20S	20N
	1000N

2.4 Fibre Logging

The following table is a summary of fibre log results:

Fibre Log	Line	Zone	Footage	Interval	% Fibre U.V.	Length
FLO09	1000N	West	0-15	15	4%	≤ 5/16"
			15-75	60	barren	-
			75-90	15	4.1%	≤ 4/16"
FLO10	1000N	East	5-30	25	2.8%	≤ 7/16"
FLO11	1000S	West	0-20	20	3.4%	≤ 4/16"
FLO12	2000S	West	0-80	80	1.7%	≤ 4/16"
FLO13	1500S	West	0-20	20	7.7%	≤ 10/16"
			35-45	10	2.0%	≤ 2/16"
FLO14	15N	East	0-80	80	2.1%	≤ 14/16"
FLO15	50N	West	0-65	65	2.7%	≤ 8/16"
FLO16	25N	West	0-105	105	1.1%	≤ 3/16"
FLO17		West	0-50	50	3.5%	≤ 18/16"
FLO18	35N		0-75	75	5.0%	≤ 19/16"
			75-110	35	0.7%	≤ 2/16"
FLO19	45N		0-45	45	2.5%	≤ 7/16"
FLO20	51N Creek		0-10	10	10.8%	≤ 4/16"
FLO21	51N Creek		0-40	40	4.7%	≤ 12/16"
FLO22	55N		0-15	15	10.4%	≤ 10/16"
FLO23	70N		0-20	20	3.3%	≤ 12/16"

FLO16 and FLO17 are parallel logs approximately 100 feet apart.

2.5 Sampling

Twenty-four miscellaneous rock samples (NC1 to NC24) were sent to A.M.D.E.L. for thin section and analysis for Co, Ni, Cu, Zn, Pb and Cr.

2.6 Drilling

The following diamond drill holes were completed:

<u>Hole</u>	<u>Depth</u>
DHNC6	600'
DHNC7	595'
DHNC8	510'
DHNC9	390'

Summary logs for these holes are attached.

2.7 Core Sampling for Milling

Twenty-four core samples were sent for milling from DHNC6 (AF431-AF438), DHNC7 (AF439-AF446) and DHNC9 (AF452-AF454).

2.8 Magnetometer Survey

Approximately 21,000 feet of magnetometer traverses were made on 22 lines from 20S to 105N. The observation interval was 25 feet. Line 30N was read in more detail.

3. PERSONNELProfessional Staff

2 Geologists
1 Consultant

Support Personnel

1 Foreman
1 Leading Hand
1 Technical Assistant
1 Cook
1 Field Assistant
Drilling Crew
2 Bulldozer Operators

4. EQUIPMENT

- 2 diamond drilling rigs and ancillary equipment
- 2 bulldozers
- 2 landrovers
- 1 Nissan FWD vehicle
- 1 International tip truck
- 1 Haflinger FWD vehicle
- 1 Bombardier tracked personnel vehicle
- 1 Nodwell tracked carrier vehicle
- 2 Honda E300 generators
- 1 Braybon generator
- 2 water pumps
- 2 chain saws
- 1 Holman compressor with jack hammers
- 1 set oxy-acetylene welding equipment

5. EXPENDITURE

Expenditure incurred on exploration on Sorell Peninsula during June has not yet been consolidated. Expenditure incurred during March, April and May is as follows:

	<u>March</u>	<u>April</u>	<u>May</u>
Company Personnel	\$ 5,431	\$ 5,189	\$ 4,229
Transport	2,952	1,773	2,557
Company Plant	-	-	1,274
Contract Services	12,182	4,919	27,882
Sample Analysis	26	83	218
Other Expenditure	<u>1,905</u>	<u>810</u>	<u>-</u>
Total Expenditure	<u>\$22,496</u>	<u>\$12,774</u>	<u>\$36,160</u>

Map

1. EL 13/65 S.W. Tasmania Ultrabasic Belt

This report is submitted to the Mines Department as required by Clause 5 of Exploration Licence 13/65

DHNC 6

4000N 40N 349E offset 1.55 45°/086°T

R.L. 723.0 A.D.D. Mindrill F30

0 - 48.0	Massive and sheared pale green serpentinite.
48.0 - 80.0	Massive pale green serpentinite.
80.0 - 169.0	Massive and sheared pale green serpentinite.
169.0 - 184.5	Deformed serpentinite.
184.5 - 194.5	Slightly sheared pale green serpentinite.
194.5 - 197.4	Sheared serpentinite.
197.4 - 203.8	Deep green sheared serpentinite.
203.8 - 249	Slightly sheared pale green serpentinite.
249 - 313.5	Sheared and slightly sheared serpentinite.
313.5 - 333.5	Massive pale serpentinite.
333.5 - 369.1	Pale and dark sheared serpentinite.
369.1 - 378.5	Lamprophyric dyke.
378.5 - 386.0	Sheared serpentinite.
386.0 - 422.6	Pale sheared serpentinite.
422.6 - 449.3	Massive pale green serpentinite.
449.3 - 455	Dark and pale sheared serpentinite.
455 - 498	Massive and sheared pale green serpentinite.
498 - 512.5	Massive pale green serpentinite.
512.5 - 586.0	Slightly sheared, pale green serpentinite.
586 - 600	Pale and dark sheared serpentinite.

END OF HOLE

DHNC 7

2000N, 20N149E offset 19N, 45°/108½°T

R.L. 802.7, Edeco 36 rig

0 - 52	Fine greywacke and siltstone.
52 - 54	Sheared gabbro.
54.0 - 68.4	Indurated siltstone and fine greywacke.
68.4 - 73.0	Sheared gabbro.
73.0 - 105.0	Sheared serpentinite with minor +ve DMG disseminated sulphides.
105.0 - 115.0	Xenolithic lampropyre.
115.0 - 117.0	Talc, serpentinite rock.
117.0 - 128.8	Sheared serpentinite with minor +ve DMG disseminated sulphides.
128.8 - 137.5	Dark and green serpentinite with short ribbon and stockwork cross fibre.
137.5 - 139.5	Dark hard sheared serpentinite.
139.5 - 177.7	Serpentinite and pyroxenite with good ribbon and stockwork cross fibre.
Fibre log 125' - 180', 55' of 1.5% (V.U.) \leq 6/16"	
177.7 - 217.0	Dark and pale sheared serpentinite with +ve DMG disseminated sulphides.
217.0 - 283.0	Slightly sheared serpentinite with localised minor talcose slip fibre.
283.0 - 306.5	Massive mottled serpentinite with minor talcose slip fibre.
306.5 - 308.5	Dark sheared serpentinite.
308.5 - 342.3	Massive serpentinite with minor finely disseminated +ve DMG sulphides.
342.3 - 391.0	Pale and dark green serpentinite. Disseminated stichtite from 362' onwards.
391.0 - 465.0	Massive and sheared pale and deep green serpentinite.
465.0 - 498.0	Massive and sheared pale and dark serpentinite with minor cross fibre 465' to 465.9'.
498 - 514.5	Massive and sheared pale and dark serpentinite with \sim 1% slip fibre.
514.5 - 568.5	Pale and dark, sheared, flakey serpentinite with minor cross fibre.
568.5 - 595	Dark massive serpentinite and pyroxenite with minor cross fibre.
Fibre log 515' to 595', 80' of 0.1% \leq 1/16"	

END OF HOLE

DHNC 8

2000N-20N, 452E offset 0-43⁰/108¹/₂⁰
 TRUE - R.L. 764.9' A.D.D. Mindrill F30

0 - 10	Overburden
10 - 129	Slightly sheared, pale green serpentinite with ~ $\frac{1}{2}$ % slip fibre and minor localised thread vein ribbon fibre < $\frac{1}{32}$ "
129 - 147.5	Sheared serpentinite.
147.5 - 209.5	Serpentinite with cross fibre, slip fibre and magnetite.
Fibre log 145-215, 70'	of 0.25% \leq 2/16" with 1 of 5/16"
209.5 - 396	Serpentinised and partially serpentinitised pyroxenite with cross fibre 280 - 291.
Fibre log 280 - 291, 11 feet	of 0.3% \leq 1/16" (recovery 30%)
396 - 510	Heavily carbonated and carbonate veined highly altered ultrabasic or basic rock (no further fibre bearing zones).

END OF HOLE

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DHNC 9

1500S 733.2E offset 11.7S 45°/319°
TRUE R.L. 788.7' A.D.D. Mindrill F30

- 0 - 30 Sheared quartz veined chloritic schists.
- 30 - 110.5 Dark partially serpentinitised pyroxenite.
- 110.5 - 133.2 Dark massive serpentinite and part serpentinitised pyroxenite with cross fibre.
- 133.2 - 189.0 Alternations of serpentinite and pyroxenite with cross fibre.
- Fibre log 80' of 1.3% (V.U.) < 7/16"
- 189 - 195 Dark and deep green sheared serpentinite with 1/2% slip fibre.
- 195 - 201.5 Pale green massive, granular serpentinite with 1/2% slip fibre.
- 201.5 - 271 Sheared serpentinite with 1/2% slip fibre.
- 271 - 288.7 Pale green massive serpentinite with < 1/2% slip fibre.
- 288.7 - 297.2 Pale green sheared serpentinite with 1/2% slip fibre.
- 297.2 - 366.8 Massive sheared serpentinite with 1/2% slip fibre.
- 366.8 - 390 Extremely sheared serpentinite.

END OF HOLE

