

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 480

PLANNING PROPOSER: J. M. Clark DEPTH:

LOCATION: 15 Bench (Section 8-5)

PURPOSE OF HOLE: Oreblocking along Section 8-5

PROPOSED CO-ORDS: 219740 E 564066 N

INCLINATION: -73°

BEARING: 199.5 $^{\circ}$ GRID $^{\circ}$ MAG

TARGET: E N

DEPTH:

CHECKED BY: DATE:

SURVEY SURVEY CO-ORDS: E N

SURVEYED BEARING: $201^{\circ} 42'$ $^{\circ}$ GRID $^{\circ}$ MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219740.9 E 564066.6 N

R.L. OF COLLAR: -16.7

INCLINATION OF HOLE: $-72^{\circ} 22'$

PICKED UP BY: W. Davies DATE: 25/5/79

SUMMARY LOGGED BY: G. J. Bujtor
RESULTS: No significant Mineralisation

DRILLING DATE COMMENCED: 17/5/79 DATE TERMINATED: 29/5/79

DRILLER/CONTRACTOR: ADD

CASING: SIZE: NQ
DEPTH: 3m

CORE: SIZE: BQ
DEPTH: 109m

WEDGE PLACED: Nil DEPTH: PROPOSER:

EXTENSION: Nil

FINAL DEPTH: 109.0m

REASON FOR TERMINATION: Entered Granite

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: Surveyed at

WATER:

COMMENTS ON DRILLING CONDITIONS: Good

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY BORE HOLE SURVEY DATA

D.D.H. No. D 480

Surveyed method: Single shot
 Final depth: 109.0m
 Casing depth: 3m

Depth surveyed to: 109.0m
 Date surveyed: 29/5/79
 Surveyed by: L. Denby
 Checked by:

Bearing		Mag.	Inclination		True Vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corr.		S	W
7	179.50°	199°	12°	-78°	6.85	1.38	.98
26	180.50°	200°	12°	-78°	25.43	5.09	1.83
109	178.50°	198°	12°	-78°	106.61	29.40	9.73
TAKING LINE S-S AS N							

REMARKS:

GEOLOGY - KING ISLAND SCHEELITECORE RECOVERYD.D.H. No. D 480

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 3.0	3.0	-	No Core
3.0 - 6.1	3.1	3.1	100
6.1 - 10.0	3.9	3.9	100
10.0 - 12.3	2.3	2.3	100
12.3 - 13.0	0.7	0.7	100
13.0 - 15.2	2.2	2.2	100
15.2 - 19.0	3.8	3.8	100
19.0 - 21.3	2.3	2.3	100
21.3 - 23.1	1.8	1.8	100
23.1 - 26.0	2.9	2.9	100
26.0 - 28.0	2.0	2.0	100
28.0 - 3.0	2.0	2.0	100
30.0 - 32.2	2.2	2.2	100
32.2 - 33.4	1.2	1.2	100
33.4 - 34.8	1.4	1.4	100
34.8 - 37.6	2.8	2.8	100
37.6 - 40.6	3.0	3.0	100
40.6 - 41.8	1.2	1.2	100
41.8 - 43.8	2.0	2.0	100
43.8 - 45.7	1.9	1.9	100

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

D.D.H. No. D 480

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT/ LAOC)	JOINT FILLING	BEDDING ANGLE (W. R. T./ L. A. & C.)	% CORE RECO- VERY	R. Q. D.	REMARKS (WEATHERING)
3.0 - 14.47m	B lens	4-12		chl/clay/carb	30° - 8.5 31° -10.1 35° -12.0 27° -13.5	100	77%	
14.47 - 23.1	bh	2-8		Chl/carb/sulph		100	86	
23.1 - 37.6	bh	5-6		Chl/carb		100	86	
37.6 - 45.7	bh	10-15		Shl/carb/sulph		100	34	
45.7 - 51.3	bh	5-9		Chl/carb/sulph			71	
51.3 - 54.95	Aplite	6		Carb/clay			58	
54.95 - 70.9	bh/Vol	5-12		Chl/clay/carb/sulph	58° - 56.3		76	
70.9 - 82.45	Vol	6-10		Chl/clay/carb/sulph			49	
82.45 - 99.05	Vol/ph/bh	10-15		Chl/clay/carb/sulph	21° -84m		37	
99.05 - 109.0	Granite	10-12		Chl/carb/clay			50	
EOH 109.0m								

FURTHER DATA & REMARKS

- Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
- R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core} > 10 \text{ cm}}{\text{Length Drilled}}$
- Core size.

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 480

SAMPLE NO.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Rec.	WO ₃	Mo		
D 10552	3	4	1.0	1.0	0.18	0.01		
53	4	5	"	"	0.33	0.01		
54	5	6	"	"	0.05	<0.01		
55	6	7	"	"	<0.01	<0.01		
56	7	8	"	"	0.04	0.01		
57	8	9	"	"	0.01	0.01		
58	9	10	"	"	0.01	0.01		
59	10	11	"	"	0.01	0.01		
60	11	12	"	"	<0.01	0.01		
61	12	13	"	"	0.06	0.01		
62	13	14	"	"	<0.01	0.01		
63	14	15	"	"	0.05	0.01		
64	15	16	"	"	0.06	0.02		
65	16	17	"	"	0.08	0.02		
66	17	18	"	"	0.06	0.04		
67	85	86	"	"	0.07	0.04		
68	86	87	"	"	<0.01	0.01		
69	87	88	"	"	0.07	0.05		
70	88	89	"	"	0.09	0.04		
71	89	90	"	"	0.06	0.06		
72	90	91	"	"	0.03	0.01		
73	91	92	"	"	0.02	0.01		
74	92	93	"	"	0.05	0.04		
75	93	94	"	"	0.04	0.04		
76	94	95	"	"	0.03	0.01		
77	95	96	"	"	0.02	0.01		
78	96	97	"	"	0.05	0.02		
79	97	98	"	"	0.11	0.03		
80	98	99	"	"	0.04	0.02		
81	99	100	"	"	0.04	0.04		

SPECIFIC GRAVITY

Determined by:

Depth (metres):

Rock Type:

S.G.:

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 480

0.0 - 3.0m NO CORE

3.0 - 14.47 B-LENS

Dominantly grey coloured B-lens marble with minor scheelite present. Some pyroxene hornfels with minor garnet is present. Pyroxene hornfels alteration occurs at the contact with biotite hornfels below from 13.0 - 14.47m.

Bedding is well developed throughout -

Bedding	30°	to LCA	at	8.5m
Bedding	31°			10.1m
Bedding	35°			12.0m
Bedding	27°			13.5m

14.47 - 51.30 BIOTITE HORNFELS

Fine grained dark brown to black coloured biotite hornfels with numerous aplite dykes and veins. The largest occurs from 22.55 - 23.9m; 34.35 - 34.6m.

Broken and fractured core occurs from 37.6 - 41.80m where the core is significantly less competent.

Minor metamorphic spotting is present ie around 31.7m, 45.3m.

A possible fault occurs around 57.15m when an open carbonate fractures is present.

51.30 - 54.95m GRANITE - APLITE DYKE

Coarse grained, biotite rich, parphyrite (in K-feldspars) dyke with no visible scheelite.

54.95 - 60.70 BIOTITE HORNFELS minor pyroxene hornfels

Fine grained brown coloured biotite hornfels with numerous pyroxene hornfels alteration zones and patches. A quartz - pyroxene scheelite band occurs at 55.30m.

Bedding 58° to LCA at 56.3m

60.70 - 64.30 VOLCANICS

Coarse grained grey coloured volcanics with black spots of mafic minerals.. The footwall contact may well be faulted.

64.30 - 66.65 BIOTITE HORNFELS - SEDIMENTS

Brownish coloured biotite hornfels which appears slightly schistose in texture. Carbonate veining and sulphides (mainly pyrite) are present. A quartz - pyroxene vein carrying scheelite occurs at 64.7m

Footwall contact appears faulted with pyroxene enrichment.

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GEOLOGICAL LOG

D.D.H. No. D 480

66.65 - 69.0

VOLCANICS

Grey spotted volcanics with a pyroxene quartz scheelite vein at 64.65m. Minor rubble occurs around 67.3m

69.0 - 70.90

PYROXENE HORNFELS/(APLITE?)

Greenish, siliceous pyroxene hornfels rich rock with possible granitic/aplite at the top of the unit.

Footwall contact again appears to be faulted.

70.90 - 82.45

VOLCANICS

Coarse grained, grey coloured spotted volcanics with no visible scheelite. Molybdenite on joints and fractures is common, particularly around 75m.

Broken and fractured ground which probably represent fault zones occur 75.0 - 75.2m, 76.2 - 76.4m, 77.7 - 78.0m, 78.5 - 78.6m (clay pug breccia), 80.75 - 80.80m.

Base of unit appears to be faulted.

82.45 - 84.50

PYROXENE HORNFELS - marble

Greenish coloured pyroxene hornfels with minor marble. Some sparse patchy scheelite is present. The base of the unit is faulted and brecciated.

Bedding 21° to LCA at 84m

84.50 - 85.30

VOLCANICS

Coarse grained grey coloured and fractured spotted volcanics.

85.30 - 90.95

GRANITE/APLITE

Coarse grained granite/aplite dyke. Broken fractured and clayey zones are present around 88m, 89.3 - 90.95m. Some core loss is evident. (See recovery sheet).

Minor patchy scheelite mineralisation is present.

90.95 - 96.50

VOLCANICS

Grey coloured, fractured and broken volcanics.

96.50 - 99.05

PYROXENE HORNFELS

Dominantly pyroxene hornfels with minor grossular, aplite, biotite hornfels, carbonate veining and breccia.

Minor patchy scheelite is present.

The unit is obviously very fractured and disturbed.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 480

99.05 - 109.0

GRANITE

Coarse grained, porphyritic (K-feldspar) granite with no visible scheelite present.

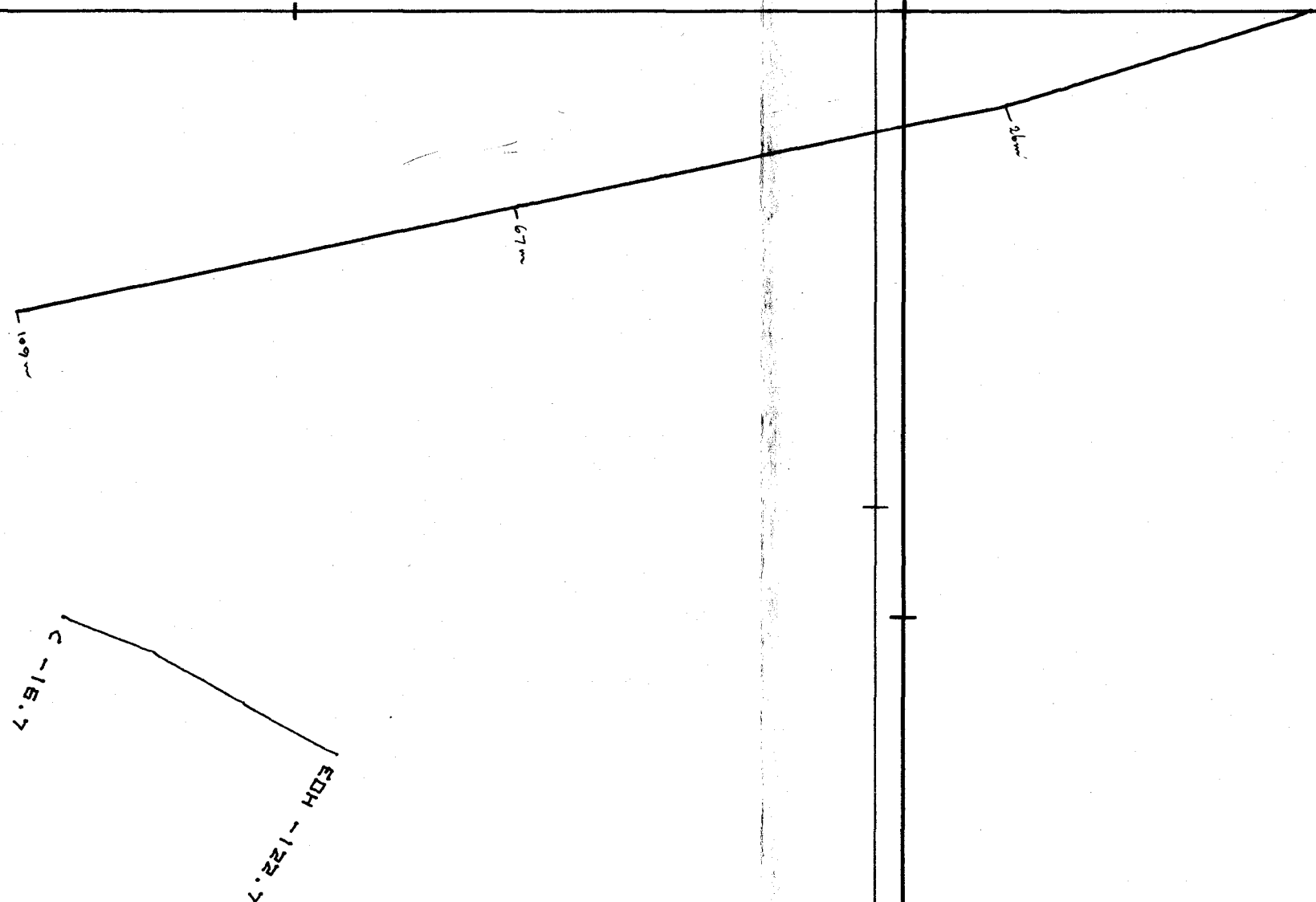
EOH 109.0m

FOLD

DOLPHIN DDH # D480

DATE SURVEYED > 29*05*79

HEWLETT-PACKARD
9280-0180
FOR USE ON HEWLETT-PACKARD RECORDERS



PLAN
SECTION

VIEWED FROM → 290.0 156 BG

SURV METHOD 55

FINAL DEPTH 109.0
SURVEY DEPTH 109.0

CASING DEPTH 3.0

COL 219740.9 564066.6
EOL 219729.5 564044.3

FOLD

DDH 480
1:500

29760E
(Section Line)

DDH 480

29720E
(Section Line)

DDH 480

R.L. = -16.7

B-lens

B-lens

-50m

-80m

-100m

granite

granite

granite

SG SECTION
LOOKING E.

SECTION IN
PLANE OF HOLE

Surveyed by L. DENBY

Date Surveyed 29-5-79

Revised
9/9/79
29/5/79

MAGN

O.C.S.N. 8.5

O.C.S.N. 8.5 CROSS SECTION

ODH D 480

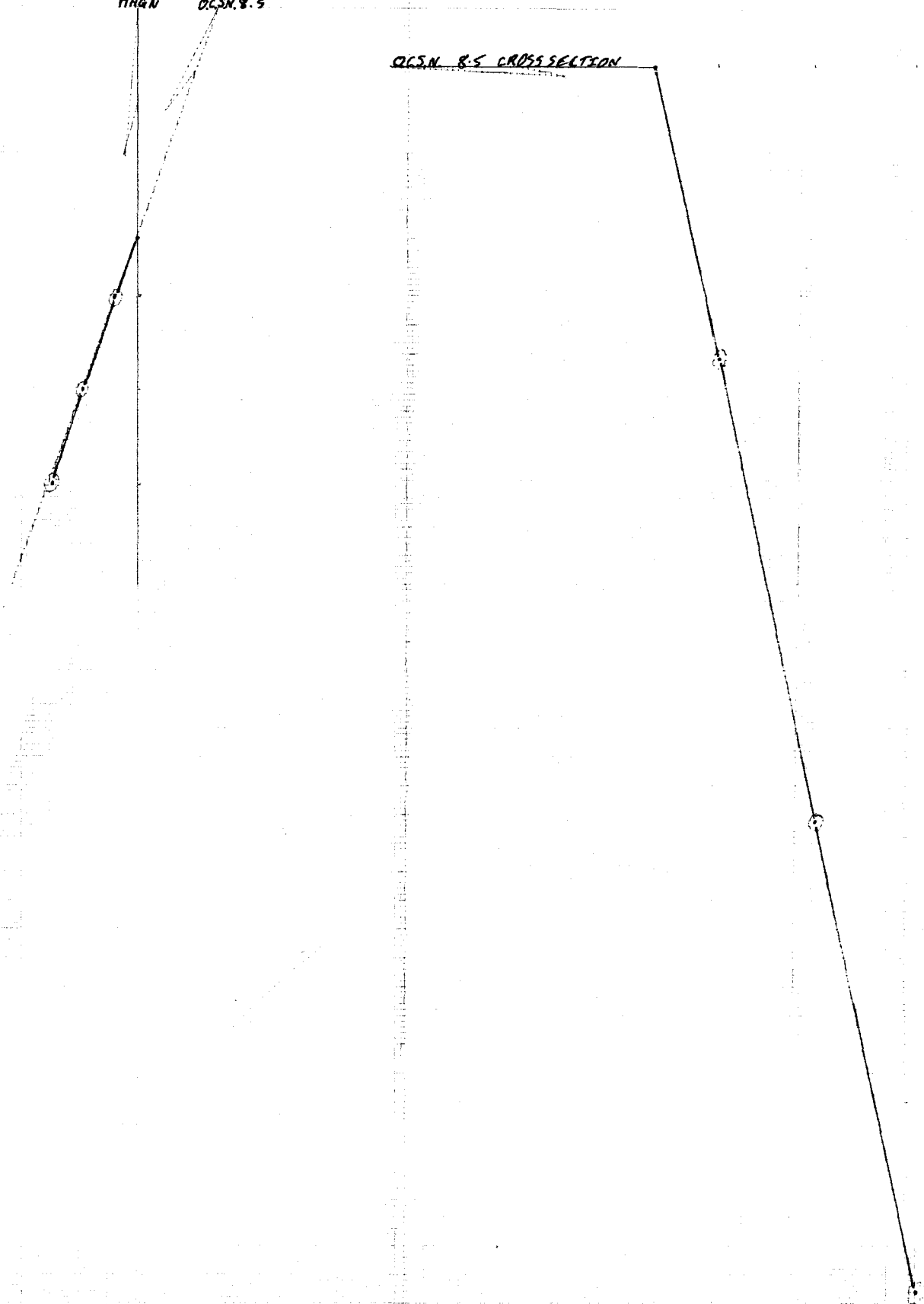
TOTAL DEPTH: 109.00m

CASING DEPTH: 3.00m

DEPTH SURVEYED: 109.00m

DATE SURVEYED: 29-5-79

SURVEYED BY: L. DENBY



GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 479

PLANNING

PROPOSER: R. J. Staveley Parker DEPTH: 120m

LOCATION: 13 Bench Open Cut

PURPOSE OF HOLE: Testing of C Lens Along Section 5

CO-ORDS: 219863.5 E 563982.4 N

INCLINATION: -57°

BEARING: 19.5° $^{\circ}$ GRID $^{\circ}$ MAG

TARGET: E N

DEPTH: 120m

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: $20^{\circ}15'$ $^{\circ}$ GRID $^{\circ}$ MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219863.6 E 563981.9 N

R.L. OF COLLAR -1.5

INCLINATION OF HOLE: $-56^{\circ} 47'$

PICKED UP BY: B. Davies DATE: 4/5/79

SUMMARY

LOGGED BY: J. M. Clark

RESULTS: Not assayed

No Ore Intersection

DRILLING

DATE COMMENCED: 4.4.79 DATE TERMINATED: 1.5.79

DRILLER/CONTRACTOR: ADD

CASING: SIZE: NQ
DEPTH: 3m

CORE: SIZE: BQ
DEPTH: 133.2

WEDGE PLACED: Nil DATE:

EXTENSION: Nil

FINAL DEPTH: 133.2m

REASON FOR TERMINATION: In Unmineralized banded Footwall Beds

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: Single shot

WATER:

COMMENTS ON DRILLING CONDITIONS: Good

SUMMARY BORE HOLE SURVEY DATA

Depth surveyed to: 133.20m
Date surveyed: 28.4.79
Surveyed by: L. Denby
Checked by:

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid OMG	Mag.	Read	Corrected		N	E
30	352° 90'	12°	32° 15'	-57° 45'	25.37	15.66	3.33
80	352° 30'	12°	31° 15'	-58° 45'	68.12	41.03	8.72
133.20	350° 30'	10°	31° 15'	-58° 45'	113.60	68.21	13.51

O.M.G. - Old Mine Grid

CORE RECOVERY

D.D.H. No. D 479

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 3.0	3.0	2.5	83
3.0 - 4.0	1.0	1.0	100
4.0 - 6.3	2.3	2.2	96
6.3 - 9.0	2.7	2.7	100
9.0 - 12.2	3.2	3.2	100
12.2 - 13.0	0.8	0.6	75
13.0 - 15.4	2.4	1.5	63
15.4 - 16.7	1.3	1.3	100
16.7 - 17.6	0.9	0.7	78
17.6 - 18.0	0.4	0.6	150
18.0 - 19.3	1.3	0.9	69
19.3 - 21.0	1.7	1.7	100
21.0 - 22.3	1.3	1.2	92
22.3 - 25.0	2.7	2.7	100
25.0 - 26.0	1.0	1.0	100
26.0 - 28.8	2.8	2.8	100
28.8 - 30.3	1.5	1.5	100
30.3 - 33.0	2.7	2.7	100
33.0 - 34.5	1.5	1.5	100
34.5 - 36.7	2.2	2.2	100
36.7 - 39.0	2.3	2.3	100
39.0 - 43.3	4.3	4.3	100
43.3 - 44.1	0.8	0.8	100
44.1 - 45.4	1.3	1.3	100
45.4 - 48.2	2.8	2.8	100
48.2 - 49.9	1.7	1.6	94
49.9 - 52.2	2.3	2.3	100
52.2 - 54.5	2.3	2.3	100
54.5 - 58.0	3.5	3.5	100
58.0 - 60.0	2.0	2.0	100
60.0 - 62.0	2.0	2.0	100
62.0 - 64.0	2.0	2.0	100
64.0 - 66.4	2.4	1.8	75
66.4 - 68.0	1.6	1.6	100
68.0 - 69.8	1.8	1.8	100
69.8 - 72.0	2.2	1.9	86
72.0 - 73.6	1.6	1.6	100
73.6 - 76.0	2.4	2.4	100
76.0 - 78.0	2.0	2.0	100
78.0 - 80.7	2.7	2.7	100
80.7 - 82.0	1.3	1.3	100
82.0 - 85.0	3.0	2.8	73
85.0 - 88.4	3.4	3.2	94
88.4 - 90.8	2.4	2.4	100
90.8 - 92.1	1.3	1.3	100
92.1 - 94.7	2.6	2.6	100
94.7 - 97.1	2.4	2.4	100
97.1 - 99.8	2.7	2.7	100
99.8 - 102.9	3.1	3.1	100
102.9 - 106.0	3.1	3.1	100
106.0 - 107.0	1.0	1.0	100
107.0 - 110.0	3.0	3.0	100
110.0 - 112.6	2.6	2.6	100

GEOLOGY - KING ISLAND SCHEELITECORE RECOVERYD.D.H. No. D 479

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
112.6 - 115.5	2.9	2.9	100
115.5 - 117.0	1.5	1.5	100
117.0 - 119.0	2.0	2.0	100
119.0 - 122.0	3.0	3.0	100
122.0 - 125.0	3.0	3.0	100
125.0 - 127.5	2.5	2.5	100
127.5 - 130.5	3.0	3.0	100
130.5 - 133.2	2.7	2.7	100
EOH 133.2m			

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

DDH No. D 479

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT LAOC)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO- VERY	R.Q.D.	REMARKS (WEATHERING)
0.0 - 50.8m	U/V, Aplite	8		cc		96	34	Many small zones of broken core. See log
50.8 - 68.7	U/Sediments	8		cc	50°	97	40	
68.7 - 92.2	U/V	14		cc/chl		97	22	Shearing at 84.2 - 84.3m, 84.4 - 85.0m
92.2 - 105.6	b/ph	6		cc/chl	53°	100	81	Many breccia fault zone. See log
105.6 - 118.6	Disturbed bph	20		cc/chl		100	44	
118.6 - 133.2	bfb	4		cc/chl	45°-70°	100	86	

FURTHER DATA & REMARKS

1. Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
2. R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core 10 cm}}{\text{Length Drilled}} \%$
3. Core size.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

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0.0 - 8.80m UPPER VOLCANICS

Fine grained green basic volcanics with minor dark green spotting. Core is uniformly broken.

Fractures/m = 9
Recovery = 93%

8.80 - 13.10 APLITE

Medium grained light pink aplite with some coarse pink othoclase crystals and abundant biotite. The aplite is very fine grained at its marzis and the base of the unit is very broken.

Fractures/m = 8
Recovery = 100%

13.10 - 50.80 UPPER VOLCANICS

Dark green, fine grained basic volcanics whose textures ranges from uniform to spotted to agglomeritic.

- 13.1 - 16.6m Moderately broken core, usually along chloritic rich sections.
20.7 m Broken and rubbly core along calcite/epidote vein.
23.2m Breccia with coarse fragments and minor pyrite matrix clays.
33.7 - 33.8m Broken core along calcite/epidote vein.
38.5 - 38.9m Fine grained pink aplite. The upper margin is sheared (at 27° to core axis) and chloritic while the lower margin is sandy and weathered.
37.7m Chlorite veins with slickensides are subparallel to the core axis.
49.1 - 49.2m 49.7 - 49.9m Minor broken core along chlorite veins with slickensides.

The base of this unit is indistinct. Minor shearing is possibly present.

Fractures/m = 8
Recovery = 96%

50.80 - 68.70 BIOTITE HORNFELS

A varied unit, consisting of biotite hornfels, biotite hornfels and minor marble and garnet hornfels. Both boundaries of this unit have calcite veins and minor shearing associated with them.

- 58.2 - 61.0m Pyroxene hornfels with minor marble and andradite garnet hornfels, the latter containing sparsely disseminated scheelite.

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Calcite veining in fregment throughout the unit.

At 58.4m bedding is 50° to core axis.

Fractures/m = 8
Recovery = 97%

68.70 - 92.20 UPPER VOLCANICS

Grey to light grey, often spotted, very fine grained basic volcanic. Calcite veining is abundant throughout and there are fine grained pink aplite veins at 81.8 - 82.1m at 83.2 - 83.4m

In the lower part (78 - 92.2m) most of the core is broken with several small rubble zones being caused by breakage along calcite veins. The most severely sheared zone is 84.2 - 84.3m and 84.4 - 85.0m.

Fractures/m = 14
Recovery = 97%

92.20 - 105.60 BIOTITE - PYROXENE HORNFELS

Purplish brown biotite hornfels with lesser amounts of interbedded green pyroxene hornfels, and occassional small marble beds.

92.2 - 95.0m Pyroxene hornfels which contains traces of scheelite. This section has no bedding but abundant calcite veins. Both boundaries are slightly gradational.

95.0 - 105.6m The remainder of the unit is well bedded with pyroxene rich units again showing traces of scheelite. Bedding is 53° to core axis.

Fractures/m = 6
Recovery = 100%

105.60 - 118.60 DISTURBED BIOTITE/PYOXENE HORNFELS

Very disturbed brown hornfels with lesser amounts of pyroxene hornfels. Small zones within the pyroxene rich rock contain minor grossular and andradite. Scheelite is not present.

The unit appears to have several distinct fault zones in it, and the breccia zones are usually accompanied by calcite veining. The breccia zones occur at 105.9m, 106.1m, 107.1 - 107.4m, 108.4m, 109.0 - 109.2m, 109.9 - 110.0m, 111.0 - 111.1m, 112.0 - 112.6m, (major) 115.4 - 115.6m, 116.6 - 116.7m, 117.1 - 117.6m, 118.5 - 118.6m (major).

At 114.8m banding in 30° to core axis.

Fractures/m = 20
Recovery = 100%

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

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118.60 - 133.20 BANDED FOOTWALL BEDS

Interbedded pyroxene hornfels, biotite hornfels and minor marble and garnet hornfels.

The top of the unit 118.6 - 120.5m is very disturbed and consists of garnet hornfels with disrupted beds of pyroxene hornfels. Scheelite is not present. Elsewhere in the unit micro faulting is present.

123.0 - 123.1m Calcite vein which contains pyrrhotite in vughs.

Towards the end of the unit some of the small garnet hornfels beds contain minor fine grained disseminated scheelite and also pyrrhotite.

Bedding is variable, $45 - 70^{\circ}$ to core axis.

Fractures/m = 4
Recovery = 100%

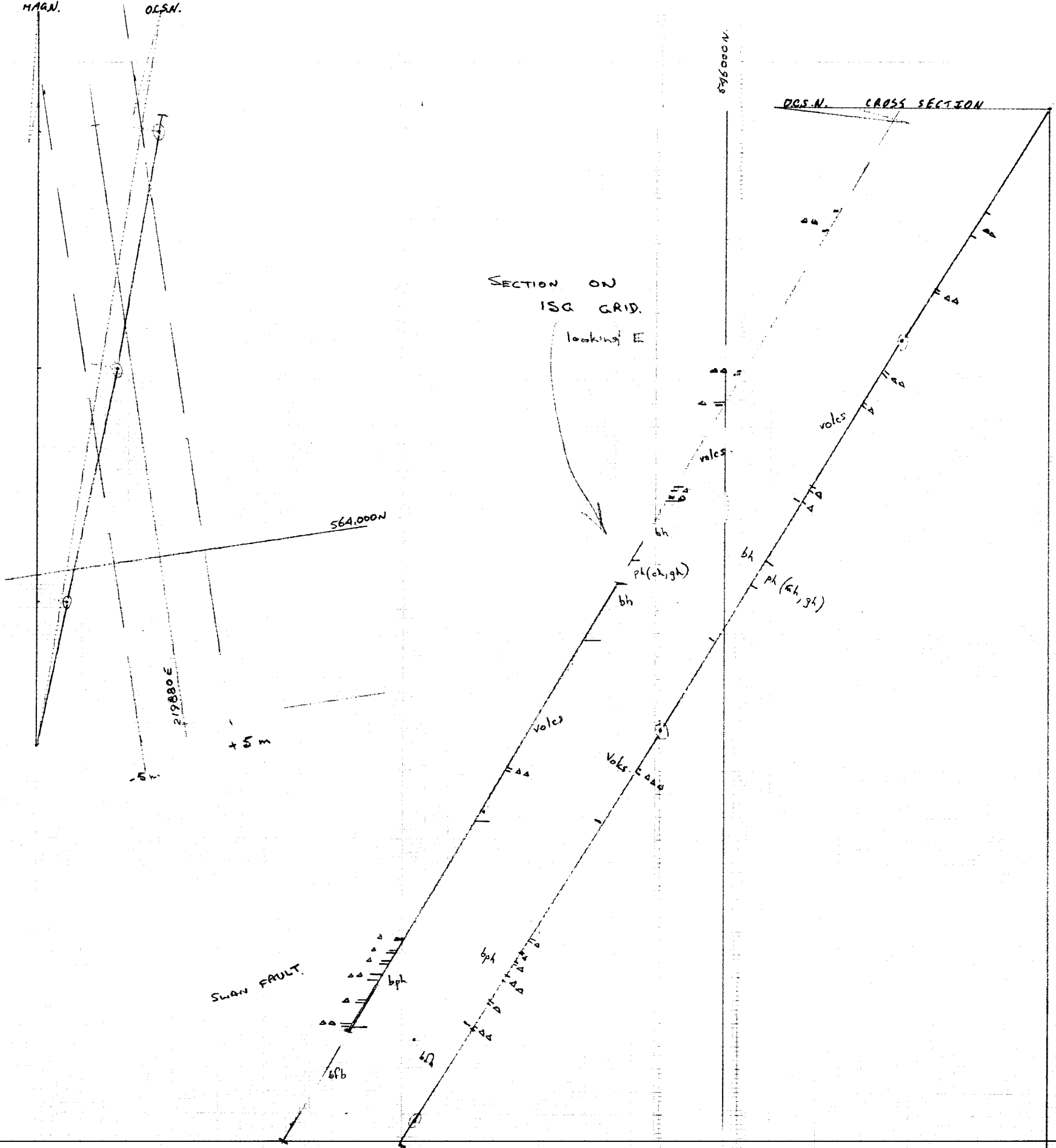
EOH 133.2m

Sheet 1 of 1

Surveyed by L. Denny

Date Surveyed 28-4-79

[illegible]



ODHO 479
 TOTAL DEPTH: 130.00m
 CASING DEPTH: 1m
 DEPTH SURVEYED 130.00m
 DATE SURVEYED: 28-4-79
 SURVEYED BY: L. DENBY

DEC '79
 7/10/79

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 478

PLANNING PROPOSER: R. J. Staveley-Parker DEPTH: 150m
LOCATION: 12 Bench Open Cut
PURPOSE OF HOLE: Testing of C Lens Along Section 9.5m
PROPOSED CO-ORDS: 219695 E 564060 N
INCLINATION: -85°
BEARING: -19.5° $^{\circ}$ GRID $^{\circ}$ MAG
TARGET: E N
DEPTH: 150m
CHECKED BY: DATE:
SURVEY SURVEY CO-ORDS: E N
SURVEYED BEARING: $10^{\circ} 30'$ $^{\circ}$ GRID $^{\circ}$ MAG
SURVEYED IN BY: DATE:
ACTUAL CO-ORDS: 219693.2 E 564056.2 N
R.L. OF COLLAR: +9.4
INCLINATION OF HOLE: $-82^{\circ} 34'$
PICKED UP BY: W. Davies DATE: 4/5/79
SUMMARY LOGGED BY: R. J. Staveley-Parker
RESULTS: 102-112m 10m @ 0.4% WO_3

DRILLING DATE COMMENCED: 5/4/79 DATE TERMINATED: 20/4/79
DRILLER/CONTRACTOR: ADD
CASING: SIZE: NQ
DEPTH: 2m
CORE: SIZE: BQ
DEPTH: 139.30m
WEDGE PLACED: DEPTH: PROPOSER:
EXTENSION:
FINAL DEPTH: 139.30m
REASON FOR TERMINATION:
CONDITION OF HOLE ON COMPLETION:
CASING:
CEMENTED:
BORE HOLE SURVEY: Single shot
WATER:
COMMENTS ON DRILLING CONDITIONS: Good

D.D.H. No. D 478

CORE RECOVERY

D.D.H. No. _____

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 5.5m	5.5	4.2	76
5.5 - 8.5	3.0	3.0	100
8.5 - 11.5	3.0	3.0	100
11.5 - 14.2	2.7	2.65	98
14.2 - 17.4	3.2	3.2	100
17.4 - 20.5	3.1	3.1	100
20.5 - 23.4	3.9	3.9	100
23.4 - 26.4	3.0	3.0	100
26.4 - 29.2	3.8	2.8	100
29.2 - 32.5	3.3	3.3	100
32.5 - 35.1	2.6	2.6	100
35.1 - 38.2	3.1	3.1	100
38.2 - 41.5	3.3	3.3	100
41.5 - 44.5	3.0	3.0	100
44.5 - 47.5	3.0	3.0	100
47.5 - 50.5	3.0	3.0	100
50.5 - 53.5	3.0	3.0	100
53.5 - 56.2	2.7	2.7	100
56.2 - 59.2	3.0	3.0	100
59.2 - 62.1	2.9	2.9	100
62.1 - 65.2	3.1	3.1	100
65.2 - 68.5	3.3	3.3	100
68.5 - 71.5	3.0	3.0	100
71.5 - 74.5	3.0	3.0	100
74.5 - 77.0	2.5	2.5	100
77.0 - 80.5	3.5	3.5	100
80.5 - 83.5	3.0	3.0	100
83.5 - 86.2	2.7	2.7	100
86.2 - 89.4	3.4	3.35	99
89.4 - 92.4	3.0	3.0	100
92.4 - 95.5	3.1	3.05	98
95.5 - 98.3	3.0	3.0	100
98.3 - 100.9	2.4	2.4	100
100.9 - 103.9	3.0	3.0	100
103.9 - 107.0	3.1	3.1	100
107.0 - 110.1	3.1	3.1	100
110.1 - 112.7	2.6	2.6	100
112.7 - 115.8	3.1	3.1	100
115.8 - 117.6	1.8	1.8	100
117.6 - 119.4	1.8	1.8	100
119.4 - 122.5	3.1	3.1	100
122.5 - 125.5	3.0	3.0	100
125.5 - 128.3	3.0	3.0	100
128.5 - 131.5	3.0	3.0	100
131.5 - 134.5	3.0	3.0	100
134.5 - 137.4	2.9	3.0	100
137.4 - 139.3	1.9	1.9	100
EOH 139.3			

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

D.D.H. No. D 478

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT/ LAOC)	JOINT FILLING	BEDDING ANGLE (W. R. T./ L. A. Q. C.)	% CORE RECO- VERY	R. Q. D.	REMARKS (WEATHERING)
0.0 - 1.5m	N O	C O R E						
1.5 - 7.2	UV	15		Chl/cc		100	45	
7.2 - 38.7	B lens ph, ch, ap	4-15		Chl/cc	38m-52°	100	70	Broken zones are pyroxene - rich. Broken core at: 7.9m, 8.9m, 10.8m, 17.5 - 19.5m, 22.5 - 23.4m (along ap vein).
38.7 - 59.0	ap, bh	4		Chl	50° @ 40m	100	89	Mildly broken core at 50.0 - 50.8m, 51.5m.
59.0 - 71.0	bh	10		Chl		100	32	
71.0 - 79.5	bh	4		Chl/cc/py		100	84	Shearing 79.1 - 99.5m at 20° to core axis.
79.5 - 101.9	pgh	4		cc		100	95	84.5 - 85.3m Broken core along cc/chl vein at 50° to core axis.
101.9 - 111.6	gh	5		Chl/cc		100	91	
111.6 - 120.3	M/M	7		Chl/cc	45°	100	67	
120.3 - 125.6	bfb bph	6		Chl	34° @ 122m 62° @ 125m	100	87	
125.6 - 139.3	ad	7		Chl/cc		100	85	

FURTHER DATA & REMARKS

- Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
- R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core} > 10 \text{ cm}}{\text{Length Drilled}}$
- Core size.

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 478

SAMPLE NO.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Rec.	WO ₃	Mo		
D 10177	6	7	1.0	1.0	<0.01	0.04		
78	7	8	"	"	<0.01	0.04		
79	8	9	"	"	1.93	0.08		
80	9	10	"	"	0.48	0.06	2 m	1.21%
81	10	11	"	"	0.08	0.05		
82	11	12	"	"	<0.01	0.05		
83	12	13	"	"	<0.01	0.04		
84	13	14	"	"	<0.01	0.04		
85	14	15	"	"	0.64	0.08	1 m	0.64%
86	15	16	"	"	0.04	0.05		
87	16	17	"	"	<0.01	0.04		
88	17	18	"	"	0.47	0.07	1 m	0.47%
89	18	19	"	"	<0.01	0.05		
90	19	20	"	"	<0.01	0.04		
91	20	21	"	"	<0.01	0.04		
92	27	28	"	"	<0.01	0.04		
93	28	29	"	"	0.20	0.06		
94	29	30	"	"	1.39	0.10	1 m	1.39%
95	30	31	"	"	<0.01	0.05		
96	79	80	"	"	<0.01	0.07		
97	80	81	"	"	<0.01	0.05		
98	81	82	"	"	<0.01	0.05		
99	82	83	"	"	<0.01	0.05		
10200	83	84	"	"	<0.01	0.05		
10094	84	85	"	"	<0.01	0.06		
95	85	86	"	"	0.01	0.02		
96	86	87	"	"	0.10	0.01		
97	87	88	"	"	0.23	0.02		
98	88	89	"	"	0.01	0.01		
99	89	90	"	"	0.02	0.01		
10100	90	91	"	"	0.05	0.01		
51	91	92	"	"	0.20	<0.01		
52	92	93	"	"	<0.01	<0.01		
53	93	94	"	"	0.12	0.01		
54	94	95	"	"	0.24	0.01		
55	95	96	"	"	0.03	<0.01		
56	96	97	"	"	0.06	<0.01		
57	97	98	"	"	<0.01	<0.01		
58	98	99	"	"	0.01	0.02		
59	99	100	"	"	<0.01	0.02		
60	100	101	"	"	0.10	0.02		
61	101	102	"	"	0.08	<0.01		
62	102	103	"	"	0.35	<0.01		
63	103	104	"	"	0.57	<0.01		
64	104	105	"	"	0.58	<0.01		
65	105	106	"	"	0.41	<0.01		

SPECIFIC GRAVITY

Depth (metres):

Rock Type:

S.G.:

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 478

SAMPLE NO.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Rec.	WO ₃	Mo		
D 10266	106	107	1.0	1.0	0.44	<0.01		
67	107	108	"	"	0.32	<0.01		
68	108	109	"	"	0.47	<0.01		
69	109	110	"	"	0.32	<0.01	13 m	0.38 %
70	110	111	"	"	0.18	<0.01		
71	111	112	"	"	0.49	<0.01		
72	112	113	"	"	0.01	<0.01		
73	113	114	"	"	0.46	<0.01		
74	114	115	"	"	0.29	<0.01		
75	115	116	"	"	0.01	0.02		
76	118	119	"	"	0.01	0.02		
77	119	120	"	"	0.11	0.02		
78	120	121	"	"	0.07	0.01		
79	121	122	"	"	0.03	<0.01		
80	122	123	"	"	<0.01	<0.01		
81	123	124	"	"	<0.01	<0.01		

SPECIFIC GRAVITY

Depth (metres):

Rock Type:

S.G.:

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 478

0.0 - 1.5m NO CORE

1.5 - 7.2 UPPER VOLCANICS

Dark green fine grained basic volcanics. Minor pyrite is present both within the rock and on fracture surfaces. Towards the end of the unit a slight brownish colour is present in the volcanics.

Fractures/m = 15
Recovery = 100%

7.20 - 38.7 B LENS

7.20 - 12.5 PYROXENE HORNFELS

Green pyroxene hornfels with abundant calcite and irregularly distributed, bedded fine grained scheelite. Minor grossular is present in barren pyroxene hornfels at 10.8 - 11.5m, and between 11.5 - 12.5m, biotite hornfels is present. Core is relatively broken, especially at 7.9m, 8.9m and 10.3m.

Fractures/m = 15
Recovery = 100%

12.50 - 14.2 APLITE

White, sugary, fine to medium grained aplite with abundant light brown muscovite.

Fractures/m = 8
Recovery = 100%

14.20 - 33.0 MARBLE

Light grey fine grained marble with many white calcite veins and dark grey chlorite veins. Bedding is not present.

14.5 - 15.2m Green pyroxene hornfels containing grossular and calcite with moderate amounts of fine to medium grained scheelite.

17.5 - 19.5m Broken core consisting of dark green pyroxene hornfels with a fragmental appearance, caused by light green white subangular fragments.

29.0 - 30.1m Rounded marble fragments are set in a green pyroxene rich matrix. Minor fine grained scheelite is present in parts of this unit.

Fractures/m = 5
recovery = 100%

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 478

33.00 - 38.7 PYROXENE/BIOTITE HORNFELS

33.0 - 35.2 Purplish brown biotite hornfels with small calcite veinlets throughout.

35.2 - 38.7 Well bedded pyroxene hornfels with smaller marble beds. Grossular is present with some pyroxene and biotite becomes more common towards the end of the unit.

Bedding is 52° to core axis.

Fractures/m = 4

Recovery = 100%

38.7 - 41.0 APLITE

Medium grained white to light pink aplite contains abundant biotite

Fractures/m = 2

Recovery = 100%

41.0 - 79.5 BIOTITE HORNFELS

Biotite hornfels, which in places becomes very chloritic, with minor amounts of pyroxene hornfels. The top of the unit is very well bedded at 50° to the core axis.

50.0 - 50.8m, 51.5m Mildly broken core with chloritic veinlets along microfractures. At 51.5m there is an intraformational breccia.

52.7 - 53.2m Small calcite fragments with narrow rims of green pyroxene in a biotite rich matrix.

57.2 - 57.7 Brown biotite hornfels with small irregularly shaped quartz eyes.

57.7 - 58.1 Aplite. Very fine grained at both margins and slightly coarser with abundant biotite in the middle.

59.2 - 71.0 Very chloritic biotite hornfels which is severely microfractured and has many chlorite veinlets. Although the core is quite broken there does not appear to be a fault present.

78.2 - 78.9 Microfaulting is present.

79.1 - 79.5 Shearing at 20° to the core axis has associated discontinuous calcite veinlets. Minor brecciation is present in this zone.

Fractures/m = variable 4-10

Recovery = 99%

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 478

79.50 - 101.9 PYROXENE - GARNET HORNFELS

Irregularly shaped fragments of calcite and grossular are present in a matrix of pyroxene, grossular, calcite + andradite. Fine to medium grained scheelite is sparsely distributed throughout, and does not reach ore grade.

84.5 - 85.3 Broken core along calcite/chloritic veins at 50° to core axis. Minor slickensiding is present on some surfaces.

99.7 - 100.6 Brown biotite hornfels with minor pyroxene hornfels is bedded at 56° to core axis.

The lower boundary of this unit is gradational over 1m length.

Fractures/m = 4
Recovery = 100%

101.9 - 111.6 GARNET HORNFELS

Massive andradite garnet hornfels containing coarse grained andradite pyroxene calcite and amphibole. Fine grained scheelite is moderately and irregularly disseminated, so that this unit has only medium grade. There are length up to 80m which have only minor scheelite in them.

106.0m Minor broken core

Fractures/m = 5
Recovery = 100%

111.6 - 120.3 MARBLE MARKER

A variable unit consisting of interbedded biotite hornfels, marble and pyroxene hornfels. Small beds of garnet hornfels are present near the top of the unit, but these do not contain scheelite.

Bedding is 45° to core axis.

115.8 - 115.9 Minor broken core along a soft calcite vein.

Fractures/m = 7
Recovery = 100%

120.3 - 123.0 BANDED FOOTWALL BEDS

Interbedded pyroxene hornfels, garnet (andradite at the top of the unit grading to grossular at the base) hornfels and marble. Beds of grossular hornfels are disrupted and the result is elongate lenses of grossular in a pyroxene-rich matrix. Minor, fine grained, subgrade scheelite is present in garnet hornfels beds near the top of the unit.

Bedding is 34° to core axis.

Fractures/m = 5
Recovery = 100%

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 478

123.0 - 125.6 BIOTITE/PYROXENE HORNFELS

Finely interbedded biotite and pyroxene hornfels. Small aggregates of pyrrhotite and pyrite are present in some beds.

Bedding is slightly disturbed but averages 62° to core axis.

Fractures/m = 6
Recovery = 100%

125.6 - 139.3 ADAMELLITE

Medium grained Grassy adamellite with fine grained aplite veins and calcite veins throughout. Broken ironstaining is usually associated with the calcite veins.

Grainsize is noticeably smaller at the beginning of the unit and there is banding of biotite parallel to adjacent bedding.

Fractures/m = 7
Recovery = 100%

EOH 139.30m

DIAMOND DRILL HOLE SURVEY

Sheet 1 of 1

Eastman - Kodak SINGLE SHOT Camera

DDH No 0478

Casing Depth 12

Surveyed by L. DENBY

Total Depth 139.30m

Depth Surveyed 139.30m

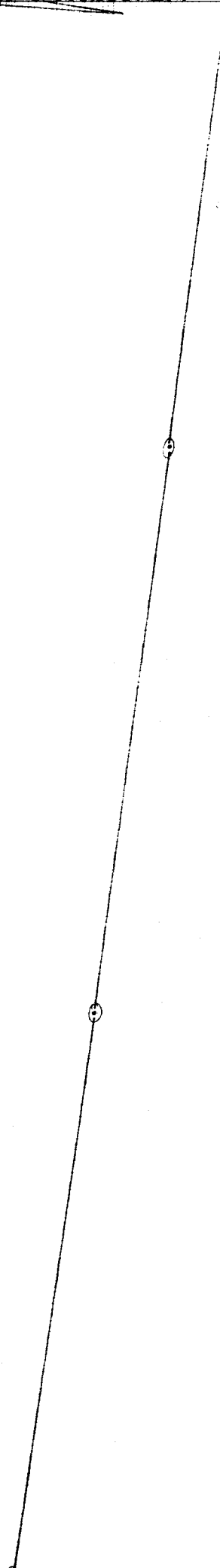
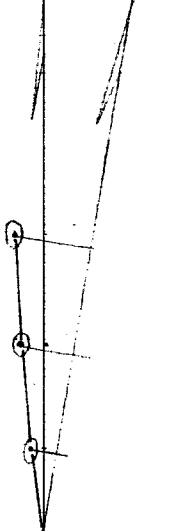
Date Surveyed 20-4-79

Depth	Drift Angle	Mean Drift Angle	Cos.	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos.	Co-ords		Sum of Co-ords	
			Sine						Sine	N	E	N	E
39.30	7°45'	7°45'	9909 1349	38.94 38.98	38.94 38.98	✓ 5.30	9	9	9877 1564	✓ 5.23	✓ .83	✓ 5.23	✓ .83
89.30	8°	8°	9903 1392	49.51 49.52	48.45 88.50	✓ 6.96	6	6	9945 1045	✓ 6.92	✓ .73	✓ 12.15	✓ 1.56
139.30	8°15'	8°15'	9897 1475	✓ 49.48	7.17 137.99	7.17 7.18	3	3	9986 0523	7.16 7.17	✓ .38	19.31 19.32	✓ 1.94

checked
99 Aug
24/5/79
TRAFFIC

O.C.S.N. CROSS SECTION

MAGN. O.C.S.N.



DDH D 478

TOTAL DEPTH: 139.30

CASEIN DEPTH: 1M

DEPTH SURVEYED: 139.30

DATE SURVEYED: 20-4-79

SURVEYED BY: L. DENOY

FOLD

HEWLETT-PACKARD
9280-0180
FOR USE ON HEWLETT-PACKARD RECORDERS

FOLD

DOLPHIN DDP # D478

DATE SURVEYED > 22*04*79

564100

219650

EDH -128.6

IC 8.4

NR.L

PLAN.
SECTION VEIWD FROM → 250.0 156 BG

SURV METHOD	SS	FINAL DEPTH	139.8	CASING DEPTH	1.0	COL	219693.2	564056.2
		SURVEY DEPTH	139.8			EDH	219694.7	564074.9

DDH 478
1:500

219700E

219680E
(Section Line)

R.L. = 9.4

- 50m

100 m

34 SECTION
LOOKING E.

FOLD

HEWLETT-PACKARD
9280-0180
FOR USE ON HEWLETT-PACKARD RECORDERS

FOLD

DOLPHIN DDH # D478

DATE SURVEYED > 20#04#79

R.L. 0.0
R.L. -100.0

564100

219700

EOH -128.6

EOH

C 814

C

PLAN
SECTION

SURV METHOD :SS

FINAL DEPTH 139.0
SURVEY DEPTH 139.0

0.64

CASING DEPTH 1.0

COL	219693.2	564056.2
EOH	219694.7	564074.9

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 477

PLANNING PROPOSER: G. J. Bujtor DEPTH:
LOCATION: 13 Bench Open Cut
PURPOSE OF HOLE: Testing for Southern Orebody
PROPOSED CO-ORDS: 219920 E 563970 N
INCLINATION: -78.5°
BEARING: 0° $^{\circ}$ GRID $^{\circ}$ MAG
TARGET: E N
DEPTH:
CHECKED BY: DATE:
SURVEY SURVEY CO-ORDS: E N
SURVEYED BEARING: $356^{\circ} 40'$ $^{\circ}$ GRID $^{\circ}$ MAG
SURVEYED IN BY: DATE:
ACTUAL CO-ORDS: 219919.6 E 564971.5 N
R.L. OF COLLAR: 4.1
INCLINATION OF HOLE: $-74^{\circ} 17'$
PICKED UP BY: W. Davies DATE: 3/4/79
SUMMARY LOGGED BY: G. J. Bujtor
RESULTS: 142 - 145m 3m @ 0.35
172 - 178m 6m @ 0.36
DRILLING DATE COMMENCED: 17/3/79 DATE TERMINATED:
DRILLER/CONTRACTOR: ADD
CASING: SIZE: NQ
DEPTH: 32m
CORE: SIZE: BQ
DEPTH: 201m
WEDGE PLACED: Nil DEPTH: PROPOSER:
EXTENSION: Nil
FINAL DEPTH: 201.00m
REASON FOR TERMINATION:
CONDITION OF HOLE ON COMPLETION:
CASING:
CEMENTED:
BORE HOLE SURVEY: Single shot
WATER:
COMMENTS ON DRILLING CONDITIONS: Good

GEOLOGY - KING ISLAND SCHEELITESUMMARY BORE HOLE SURVEY DATAD.D.H. No. D 477

Surveyed method: Single shot

Final depth: 201.40 m

Casing depth: 32.00m

Depth surveyed to: 201.40m

Date surveyed: 2/4/79

Surveyed by: L. Denby

Checked by:

Bearing			Inclination		True Vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corr.		N	W
101	0°	350°	10° 30'	-79° 30'	99.1	18.20	3.21
151	355°	345°	10°	-80	148.95	26.58	5.46
201	344°	334°	9° 15'	-80° 45'	198.30	33.81	8.98

REMARKS:

GEOLOGY - KING ISLAND SCHEELITECORE RECOVERYD.D.H. No. D 477

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
101.7 - 104.2	2.5	2.5	100
104.2 - 106.6	2.4	2.4	100
106.6 - 107.4	0.8	0.8	100
107.4 - 109.6	2.2	2.1	95
109.6 - 112.7	3.1	3.1	97
112.7 - 115.2	2.5	2.5	100
115.2 - 115.9	0.7	0.7	100
115.9 - 117.7	1.8	1.8	100
117.7 - 119.0	1.3	1.2	92
119.0 - 121.9	2.9	2.9	100
121.9 - 124.3	2.4	2.4	100
124.3 - 127.3	3.0	3.0	100
127.3 - 130.3	3.0	3.0	100
130.3 - 131.4	1.1	1.1	100
131.4 - 132.8	1.4	1.3	93
132.8 - 135.9	3.1	3.1	100
135.9 - 139.0	3.1	3.1	100
139.0 - 142.0	3.0	3.0	100
142.0 - 145.0	3.0	3.0	100
145.0 - 149.0	4.0	4.0	100
149.0 - 152.1	3.1	3.1	100
152.1 - 154.5	2.4	2.3	96
154.5 - 156.8	2.3	2.3	100
156.8 - 160.0	3.2	3.1	97
160.0 - 163.7	3.7	3.7	100
163.7 - 165.2	1.5	1.5	100
165.2 - 167.5	2.3	2.3	100
167.5 - 170.2	2.7	2.8	104
170.2 - 173.4	3.2	3.1	97
173.4 - 176.5	3.1	.30	97
176.5 - 177.8	1.3	1.2	92
177.8 - 180.4	2.6	2.4	92
180.4 - 182.0	1.6	2.0	125
182.0 - 185.0	3.0	3.0	100
185.0 - 189.4	4.4	3.8	86
189.4 - 192.4	3.0	3.0	100
192.4 - 195.4	3.0	3.0	100
195.4 - 198.4	3.0	3.0	100
198.4 - 199.6	1.2	1.1	92
199.6 - 201.4	1.8	1.8	100

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

D.D.H. No. D 477

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT/ LAOC)	JOINT FILLING	BEDDING ANGLE (W R T/ L A Q C)	% CORE RECO- VERY	R Q D	REMARKS (WEATHERING)
0.0 - 100.6m	N O T	R E C O R D E D						
100.6 - 119.2	UV	12				98	39	Broken core: 103.8 - 104.2m, 107.4 - 107.6m, 111.6 - 112.7m, 113.2 - 115.9m, 118.7 - 119.1
119.2 - 139.9	bh/ph	4			74	99	75	
139.9 - 167.5	bph Tuffite bph ch	6			43m: 55° 60m: 70° 163: 66°	99	87	153.4 - 154.1m sheared and weathered ap. dyke. 154.2 - 154.9m broken core
167.5 - 171.5	pgh	5				100	61	Possible faults at both boundaries
171.5 - 201.4	bfb(m) bfb lv				50° - 70°	97	86	

FURTHER DATA & REMARKS

- Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
- R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core} > 10 \text{ cm}}{\text{Length Drilled}}$
- Core size.

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 477

SAMPLE NO.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Rec.	WO ₃	Mo		
D 10231	139	140	1.0	1.0	0.08	0.01		
32	140	141	"	"	0.03	0.01		
33	141	142	"	"	0.02	0.01		
34	142	143	"	"	0.39	0.01		
35	143	144	"	"	0.32	0.01	3m	0.35%
36	144	145	"	"	0.33	0.01		
37	145	146	"	"	0.02	<0.01		
38	159	160	"	"	<0.01	<0.01		
39	160	161	"	"	0.09	<0.01		
40	161	162	"	"	0.07	0.01		
41	162	163	"	"	0.10	<0.01		
42	163	164	"	"	<0.01	0.01		
43	164	165	"	"	0.18	0.01		
44	165	166	"	"	0.09	0.01		
45	166	167	"	"	<0.01	<0.01		
46	167	168	"	"	0.26	0.01		
47	168	169	"	"	<0.01	<0.01		
48	169	170	"	"	<0.01	<0.01		
49	170	171	"	"	<0.01	0.01		
50	171	172	"	"	0.03	<0.01		
10101	172	173	"	"	0.32	0.01		
02	173	174	"	"	0.50	0.02		
03	174	175	"	"	0.36	0.01	6m	0.36%
04	175	176	"	"	0.23	0.01		
05	176	177	"	"	0.43	0.02		
06	177	178	"	"	0.30	0.01		
07	178	179	"	"	0.16	0.01		
08	179	180	"	"	<0.01	0.01		
09	180	181	"	"	0.14	0.01		
10	181	182	"	"	<0.01	0.01		

SPECIFIC GRAVITY

Depth (metres):

Rock Type:

S.G.:

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 477

0.0 - 3.40m NO CORE

3.40 - 9.10 APLITE

Fine grained pink to light green aplite.

Minor medium grained biotite is present.
core occurs between 7.2 - 8.0m

Minor broken

Fractures/m = 7
Recovery = 100%

9.10 - 119.20 UPPER VOLCANICS

Dark greenish grey to dark grey, fine grained basic volcanics.
The unit a uniform featureless texture except for short lengths
of spotting (dark spots up to 5mm diameter).

11.4 - 12.7m, 14.4 -- 14.6m and other shorter lengths in between
Fine grained light pink aplite.
17.3 - 17.4 Broken core.
32.6 - 32.8 Calcite vein at 20° to core axis contains fragments
of volcanics.
38.5 -- 38.7 Broken core
54.6 - 54.7m, 55.6 - 55.9m. Broken core.
64.8 -- 65.5m Broken core with minor brecciation and calcite
veining.
72.1 - 72.6 Broken core
72.9 - 73.0m, 73.2 - 73.3m, 75.4 - 75.5m. Aplite veins.
80.6 - 82.1 Lighter green pyroxene hornfels containing blebs
of calcite and trace scheelite.
91.4 - 91.6 Broken core.
91.8 - 92.0 Light pink fine grained aplite.
94.8 - 95.3 Light green pyroxene hornfels.
96.0 - 96.2 Broken core
98.9 - 100.8 Badly broken core, in places no more than rubble.
The core is intensely veined by calcite and
in places a recemented breccia. This zone appears
to be a fault zone.
101.6 - 101.9 Pyroxene hornfels bedded at 60° to core axis.
106.6 - 106.7m, 107.4 - 107.6m. Broken core.
114.0 - 115.4m, Mildly to moderately broken core, some of which
is associated with an aplite vein.

The boundary of this unit with underlying biotite hornfels is
indistinct.

Fractures/m = 12
Recovery = 99%

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 477

119.20 - 139.90m BIOTITE HORNFELS/PYROXENE HORNFELS

Predominantly dark brown and grey biotite hornfels with small beds of green pyroxene hornfels, often containing minor marble. These becomes more prominent towards the base of the unit.

126.5m Abundant calcite veining.

128.9, 129.0m. Light pink aplite vein.

At 138.1m bedding is 74° to core axis.

Fractures/m = 4

Recovery = 100%

139.90 - 167.50 ?B LENS

139.90 - 145.65m Biotite/Pyroxene/Garnet Hornfels

This unit consists of disturbed, bedded brown biotite, dark green pyroxene, andradite hornfels and minor marble. The andradite rich beds contain calcite, some grossular, and disseminated fine grained scheelite. Undisturbed bedding in about 55° to the core axis, with some disturbed areas being less than 30° .

Fractures/m = 5

Recovery = 100%

145.65 - 155.40m ?Tuffite

Uniformly textured dark brown to dark green unit. Small white feldspar crystals are distributed throughout (slightly unevenly) and small brown spots (up to 3mm diameter) are also present. The beginning of the unit is very micaeous.

153.4 - 154.1m Medium grained aplite dyke which is very weathered (vugs are present) and sheared.

154.1 - 154.8 Broken core.

Fractures/m = 2

Recovery = 100%

155.40 - 162.20 Biotite - Pyroxene Hornfels

Interbedded and mildly disturbed brown biotite hornfels and green pyroxene hornfels with small beds of grossular rimmed marble.

155.7 - 156.1m Bedding very disturbed and white calcite veins are present.

156.5 - 156.9 Very disturbed and mildly broken core.

159.3 - 160.1 Green pyroxene with large (av. 5mm diameter) white calcite spots thickly distributed.

160.3, 160.9 - 161.0m, 161.7 - 161.8m, 161.9 - 162.0m, 162.1 - 162.2m. Moderately disseminated fine grained scheelite in pyroxene andradite - calcite rich sections of core.

Bedding varies from $70 - 75^{\circ}$ to core axis.

Fractures/m = 6

Recovery = 100%

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 477

162.20 - 167.50m Marble

Fine grained white and light grey marble with short lengths that are rich in pyroxene. Core is noticeably more broken in the pyroxene rich lengths.

164.7 - 164.9m, 167.0 - 167.5m. Fine grained moderately disseminated scheelite is present in pyroxene - andradite - calcite rock.

163.0 Bedding is 66° to core axis.

Fractures/m = 10

Recovery = 100%

167.50 - 171.50 PYROXENE GARNET HORNFELS

Subangular to lensoid grossular rimmed calcite fragments are set in a matrix of pyroxene and grossular. The fragments range up to 3cm in diameter.

167.5 - 168.2m Biotite hornfels with lenses of pyroxene and calcite. The beginning of this section is very sheared and possibly represents a fault zone.

170.7 - 171.5 Very disturbed rock with rounded masses of grossular commonly found near fault zones. Broken core is present at 171.2m.

Isolated specks of scheelite are present.

Fractures/m = 5

Recovery = 100%

171.50 - 178.60 BANDED GARNET HORNFELS

Interbedded pyroxene hornfels and andradite hornfels which may contain minor grossular and calcite. Thickly disseminated fine grained scheelite is present in the garnet hornfels beds.

Bedding is 50° - 60° to core axis.

Fractures/m = 4

Recovery = 100%

178.60 - 196.30 BIOTITE HORNFELS/PYROXENE HORNFELS

Finely interbedded brown biotite hornfels and green pyroxene hornfels with minor small marble/grossular beds.

178.6 - 181.5m Transitional unit from banded footwall beds to biotite hornfels/pyroxene hornfels with some small andradite garnet beds containing scheelite.

185.0 - 185.3 Scattered fine grained scheelite in grossular/calcite/pyroxene matrix.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 477

190.6 - 190.7m Thickly disseminated scheelite in grossular garnet.
195.7 - 195.85 Thickly disseminated fine grained scheelite in andradite garnet.

Bedding is locally disturbed but averages 60° - 70° to core axis.

Fractures/m = 7
Recovery = 98%

196.30 - 199.1m LOWER VOLCANICS

Dark green to black fine grained basic volcanics. A medium grained aplite vein is present at 197.4 - 197.6m.

Fractures/m = 8
Recovery = 100%

199.10 - 201.40 BIOTITE HORNFELS/PYROXENE HORNFELS

Finely interbedded brown biotite hornfels green pyroxene hornfels with minor grey actinolite hornfels. Bedding is 65° to the core axis.

Fractures/m = 7
Recovery = 100%

EOH 201.40m

DOLPHIN DDH # 3477

DATE SURVEYED > 2-4-79

R.L 0.0
R.L -100.0

0.281-403

564000

219900

1.4 4.1

403

PLAN.
SECTION

COL	219919.6	563971.5
EDH	219917.2	564016.4

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 476

PLANNING PROPOSER: R. J. Staveléy-Parker DEPTH: 90m
LOCATION: 15 Bench Open Cut
PURPOSE OF HOLE: Oreblocking along Section 10.
PROPOSED CO-ORDS: 219963 E 564117.8 N
INCLINATION: 71°
BEARING: -19.5 ° GRID ° MAG
TARGET: E N
DEPTH: 90m
CHECKED BY: DATE:

SURVEY SURVEY CO-ORDS: E N
SURVEYED BEARING: 208° 48' ° GRID ° MAG
SURVEYED IN BY: DATE:
ACTUAL CO-ORDS: 219692.9 E 564118.9 N
R.L. OF COLLAR: -17.7
INCLINATION OF HOLE: -69° 11'
PICKED UP BY: W. Davies DATE: 19/4/79

SUMMARY LOGGED BY: R. E. S. Davies
RESULTS: 43 - 50m, 7m @ 0.91% WO₃
52-- 59m, 7m @ 0.64% WO₃

DRILLING DATE COMMENCED: DATE TERMINATED: 26/3/79
DRILLER/CONTRACTOR: ADD
CASING: SIZE: NQ
DEPTH: 2
CORE: SIZE: BQ
DEPTH: 113.5
WEDGE PLACED: N11 DEPTH: PROPOSER:
EXTENSION: N11
FINAL DEPTH: 113.5
REASON FOR TERMINATION:
CONDITION OF HOLE ON COMPLETION:
CASING: 2.0 m NQ
CEMENTED:
BORE HOLE SURVEY: Single shot to 113.5m.
WATER:
COMMENTS ON DRILLING CONDITIONS:

SUMMARY BORE HOLE SURVEY DATA

Depth surveyed to: 113.50
Date surveyed: 27/3/79
Surveyed by: L. Denby
Checked by:

Bearing			Inclination		True Vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corr.		S	W
53.50	188° 50'	198°	21°	-69°	49.95	18.23	5.92
85.50	189° 30'	199°	21°	-69°	79.83	29.07	9.65
113.50	189° 30'	199°	21°	-69°	105.97	38.56	12.92

REMARKS:

GEOLOGY - KING ISLAND SCHEELITECORE RECOVERYD.D.H. No. D 476

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 5.5	5.5	4.2	76
5.5 - 8.0	2.5	2.5	100
8.0 - 11.5	3.5	3.2	91
11.5 - 14.0	2.5	2.5	100
14.0 - 16.0	2.0	2.0	100
16.0 - 17.5	1.5	1.2	80
17.5 - 19.5	2.0	2.0	100
19.5 - 20.5	1.0	1.0	100
20.5 - 23.5	3.0	3.0	100
23.5 - 26.8	3.3	3.2	97
26.8 - 29.5	2.7	2.7	100
29.5 - 32.5	3.0	3.0	100
32.5 - 35.5	3.0	3.0	100
38.1 - 41.3	3.2	3.2	100
41.3 - 44.4	3.1	3.1	100
44.4 - 47.5	3.1	3.1	100
47.5 - 50.5	3.0	3.0	100
50.5 - 53.5	3.0	3.0	100
53.5 - 56.4	2.9	2.9	100
56.4 - 59.5	3.1	3.1	100
59.5 - 62.5	3.0	3.0	100
62.5 - 65.5	3.0	3.0	100
65.5 - 68.5	3.0	3.0	100
68.5 - 71.5	3.0	3.0	100
71.5 - 73.8	3.3	3.3	100
73.8 - 76.8	3.0	3.0	100
76.8 - 79.9	3.1	3.1	100
79.9 - 83.0	3.1	3.1	100
83.0 - 86.1	3.1	3.1	100
86.1 - 89.3	3.1	3.1	100
89.3 - 92.3	3.0	3.0	100
92.3 - 95.5	3.2	3.2	100
95.5 - 98.5	3.0	3.0	100
98.5 - 101.5	3.0	3.0	100
101.5 - 104.5	3.0	3.0	100
104.5 - 107.5	3.0	3.0	100
107.5 - 110.5	3.0	3.0	100
110.5 - 113.5	3.0	3.0	100
EOH			

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

D.D.H. No. D 476

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT/ LAOC)	JOINT FILLING	BEDDING ANGLE (W R T/ L A O C)	% CORE RECO- VERY	R Q D	REMARKS (WEATHERING)
0.0 - 16.2	Bh	9	60°	Clay			0.46	
16.2 - 39.7	Pgh	5	65	Qtz/cc/chl/clay			0.82	
39.7 - 55.0	Gh	6	55	Clay/cc			0.95	
55.0 - 67.7	MM	6	60	Clay/cc/chl	35° 40		0.83	
67.7 - 73.7	Gh	6-15	60	Qtz/cc/clay/chl	35 25		0.54	
73.7 - 94.0	Bfb	3-8	25 80	Clay/cc/chl	28 30 25 40		0.90	
94.0 - 107.26	Bh/ph/ Gph	5	70-90	Sulph/cc/clay/chl	35 50 40		0.88	
107.24 - 113.5	Granite	5	50	Qtz/cc/clay			0.91	

FURTHER DATA & REMARKS

- Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
- R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core} > 10 \text{ cm}}{\text{Length Drilled}}$
- Core size.

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 476

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO ₃	Mo		
D 9814	27	28	1.0	1.0	0.04	<0.01		
15	28	29	"	"	0.12	0.01		
16	29	30	"	"	0.03	<0.01		
17	30	31	"	"	0.08	<0.01		
18	31	32	"	"	0.18	<0.01		
19	32	33	"	"	0.13	0.01		
20	33	34	"	"	0.24	0.01		
21	34	35	"	"	0.32	0.01		1m at 0.32
22	35	36	"	"	0.21	0.01		
23	36	37	"	"	0.08	0.01		
24	37	38	"	"	0.04	0.01		
25	38	39	"	"	0.01	0.01		
26	39	40	"	"	0.01	<0.01		
27	40	41	"	"	0.02	<0.01		
28	41	42	"	"	0.36	<0.01		
29	42	43	"	"	0.46	<0.01		
30	43	44	"	"	1.09	0.03		
31	44	45	"	"	0.46	0.01		
32	45	46	"	"	0.63	0.01		
33	46	47	"	"	0.99	0.02		
34	47	48	"	"	0.74	0.01		
35	48	49	"	"	0.78	0.01		
36	49	50	"	"	1.71	0.02		18m at 0.67
37	50	51	"	"	0.19	<0.01		
38	51	52	"	"	0.19	<0.01		
39	52	53	"	"	0.44	0.01		
40	53	54	"	"	0.41	0.01		
41	54	55	"	"	0.70	0.01		
42	55	56	"	"	0.78	0.01		
43	56	57	"	"	1.19	0.01		
44	57	58	"	"	0.48	0.01		
45	58	59	"	"	0.50	<0.01		
46	59	60	"	"	0.04	<0.01		
47	60	61	"	"	0.02	<0.01		
48	61	62	"	"	0.02	<0.01		
49	62	63	"	"	0.02	<0.01		
50	63	64	"	"	0.39	0.01		1m at 0.39
51	64	65	"	"	0.21	0.01		
52	65	66	"	"	0.06	<0.01		
53	66	67	"	"	0.03	<0.01		
54	67	68	"	"	1.08	0.01		1m at 1.08
55	68	69	"	"	0.03	<0.01		
56	69	70	"	"	0.14	0.01		
57	70	71	"	"	0.04	<0.01		
58	71	72	"	"	0.18	0.01		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 476

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO ₃	Mo		
D 9859	72	73	1.0	1.0	0.19	0.01		
60	73	74	"	"	0.28	0.01		
61	74	75	"	"	0.02	<0.01		
62	75	76	"	"	0.21	<0.01		
63	76	77	"	"	<0.01	<0.01		
64	77	78	"	"	0.08	0.01		
65	78	79	"	"	0.04	0.01		
66	79	80	"	"	0.28	<0.01		
67	80	81	"	"	0.02	<0.01		
68	81	82	"	"	0.01	<0.01		
69	82	83	"	"	0.11	<0.01		
70	91	92	"	"	<0.01	<0.01		
71	92	93	"	"	0.10	<0.01		
72	93	94	"	"	<0.01	<0.01		
73	94	95	"	"	<0.01	<0.01		
74	95	96	"	"	<0.01	<0.01		
75	96	97	"	"	<0.01	<0.01		
76	97	98	"	"	<0.01	0.01		
77	98	99	"	"	0.06	0.01		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 476

0.0 - 16.2m BIOTITE HORNFELS

Medium grained hornfels with occasional coarser, actinolite rich horizons.

Possible reheated fault zone 9.2 - 9.33m. Often badly broken but seems to be the result of closely spaced jointing rather than faulting. Sharp lower contact with pyroxene garnet hornfels.

16.2 - 39.7 PYROXENE GARNET HORNFELS

Typical podded pyroxene garnet hornfels. Matrix is predominantly garnet hornfels with a pink colouration due to grossular. Reaction rims are indistinct and merge with matrix. Last 2m are biotite hornfels rich. Calcite veining is common. Contact with biotite hornfels is marked by 20cm of pyroxene hornfels and upper 4m show little podding.

Mineralisation is generally sparse and fine grained but increases towards the base of the unit.

Fault zones at:

- 16.2 - 16.3m Calcium carbonate and biotite hornfels.
- 19.0 - 19.5 Calcium carbonate veining/chlorite/pug.
- 19.9 - 20.0 Platey, calcium carbonate, crystals
- 24.6 - 24.7 Coarse calcium carbonate/green clays/surrounding weathered zone.
- 26.7 - 26.8 Broken core/pug
- 26.8 - 28.5 Siliceously cemented/calcium carbonate crystals/vugs.

39.70 - 55.0 GARNET HORNFELS UPPER C

Gradational contact with overlying pyroxene garnet hornfels. Upper 2m is leached fine grained garnet hornfels with no mineralisation. To 48.0m is typical Upper C lens but from 48 - 56m becomes rather variable with an increase in quartz, calcite and amphibole components. Sulphides are common in the coarsely grained material, particularly from 54.0 to 55.2m. May in part include mineralised marble marker.

55.0 - 67.7 MARBLE MARKER

Consists of the following subdivisions:

- 56.0 - 58.5 Garnet hornfels/pyroxene hornfels mineralised.
- 58.5 - 59.0 Biotite hornfels/pyroxene hornfels
- 59.0 - 59.8 Marble
- 59.8 - 60.4 Biotite hornfels
- 60.4 - 65.4 Intermixed pyroxene hornfels/garnet hornfels and minor biotite hornfels mineralised.
- 65.4 - 67.7 Garnet hornfels/biotite hornfels mineralised

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 476

Mineralisation patchy and fine grained. Fault at 58.8 - 60.0 consisting of broken pyroxene hornfels recemented by calcite. Boundary with Lower C vague.

Bedding	40°	LAOC @	60.5m
Bedding	35°		60.0m

67.7 - 73.7

BANDED GARNET HORNFELS LOWER C LENS

Interbedded and intermixed garnet hornfels/pyroxene hornfels and biotite hornfels. Core generally leached and broken by closely spaced jointing cut by several thick calcite veins. Mineralisation fine grained and dispersed.

Bedding	35°	LAOC @	69.4m
Bedding	25°		71.0m

73.7 -- 94.0

BANDED FOOTWALL BEDS

Interbedded garnet hornfels/biotite hornfels/pyroxene hornfels/marble. Upper and lower limits taken upon first and last appearance of marble respectively. Variably mineralised in generally thin bands, although mineralised massive garnet hornfels is present from 79.1 - 79.9m.

Bedding	28°	LAOC @	77.0m
	25°		80.8m
	30°		88.2m
	40°		93.4m

94.0 -- 107.24

BIOTITE PYROXENE AND GARNET PYROXENE HORNFELS

94.0 to 96.2m massive fine grained garnet pyroxene hornfels. From 96.2m onwards well bedded and predominantly pyroxene hornfels with minor garnet hornfels and biotite hornfels. Garnet hornfels contains scheelite mineralisation and biotite hornfels often contains medium grained scheelite mineralisation. Medium grained aplite intrusions from 99.1 - 99.2m and 100.5 - 100.86m. Rehealed fault zone from 97.4 to 97.6m.

Bedding	35°	LAOC @	98.55m.
	50°		103.7
	40°		104.6

107.24 - 113.5

GRANITE

Reasonably sharp contact at about 30° LAOC with overlying strata. Feldspars shown a greenish (choritic?) alteration in the first 5m. Massive calcite vein from 107.9 - 108.4m.

She is _____ of _____

Surveyed by L. DENBY

Date Surveyed 27-3-79

Handwritten: 99 Bow 10/11 79
DRAFTED

DOLPHIN DDH # D476

DATE SURVEYED > 27*03*79

2-17.7

2-21-403

219630

219632

-500 L

PLAN
SECTION

VIEWED FROM → 290.0 156 BRG

SURV METHOD 155

FINAL DEPTH 113.5
SURVEY DEPTH 113.5

CASING DEPTH 1.0

COL	219692.9	564118.9
EDH	219673.5	564083.3

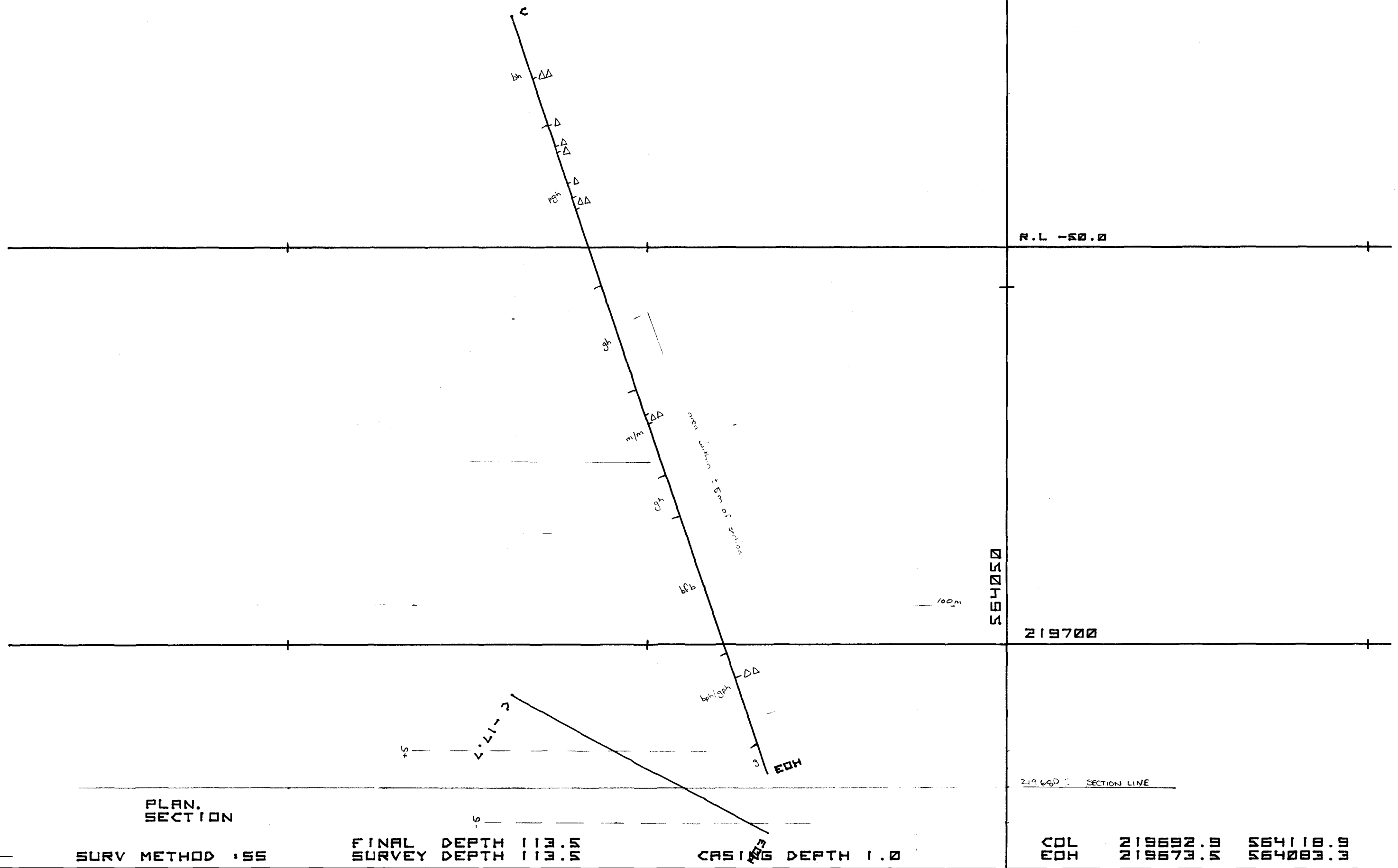
HEWLETT-PACKARD
9280-0180
FOR USE ON HEWLETT-PACKARD RECORDERS

FOLD

FOLD

DOLPHIN DDH # D476

DATE SURVEYED > 27*03*79



PLAN.
SECTION

SURV METHOD :SS

FINAL DEPTH 113.5
SURVEY DEPTH 113.5

CASING DEPTH 1.0

COL 219692.9 564118.9
EDH 219673.5 564083.3

DDH 476
1:500

219 700E

219 680 E
(Section line)

DDH 476

504 050

504 050

45

5

45

5

45

5

45

5

45

5

45

45

m/m

45

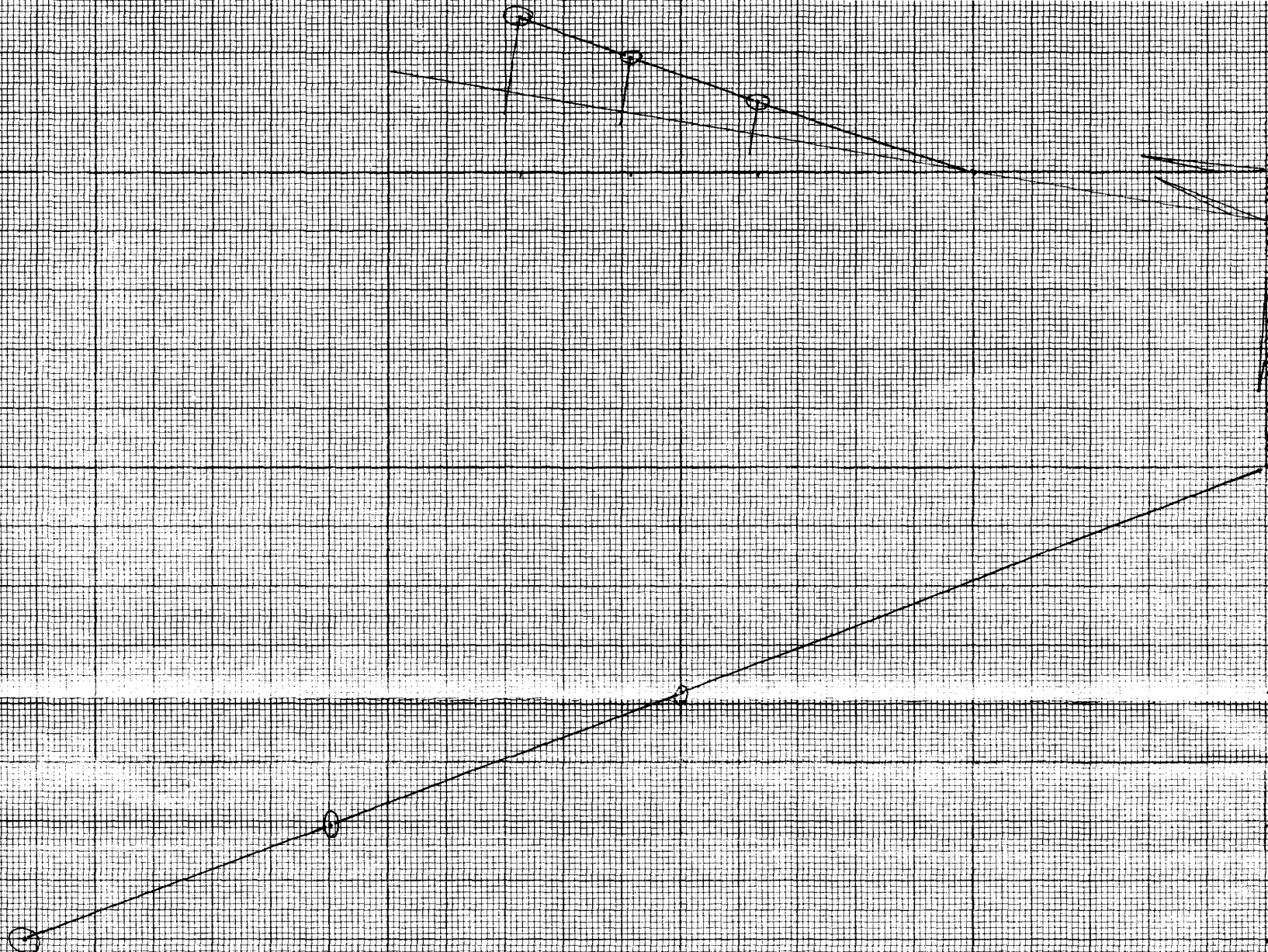
45

45

45

45

11/20/02 02:30 N. 02:30 02:30 02:30



DOH 0 8/11

DATE RECEIVED: 11/20/02

CASEWORKER: J. A.

DEPT. SUMMER: 11/20/02

DATE SUBMITTED: 8/27-3-74

SUBMITTED BY: J. A.

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 475

PLANNING

PROPOSER: R. J. Staveley-Parker

DEPTH: 85m

LOCATION: 15 Bench Open Cut

PURPOSE OF HOLE: Testing of Southern Orebody along Section 10

CO-ORDS: 219693 E 564117.8 N

INCLINATION: -88°

BEARING: 199.5 $^{\circ}$ GRID $^{\circ}$ MAG

TARGET: E N

DEPTH: 85m

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: $227^{\circ}15'$ $^{\circ}$ GRID $^{\circ}$ MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219693.1 E 564119.3 N

R.L. OF COLLAR -17.7

INCLINATION OF HOLE $-88^{\circ} 23'$

PICKED UP BY: B. Davies DATE: 19/4/79

SUMMARY

LOGGED BY: R. J. Staveley-Parker

RESULTS: 32-36m, 4m @ 0.76% WO₃
51-58m, 7m @ 0.46% WO₃
69-80m, 11m @ 0.63% WO₃

DRILLING

DATE COMMENCED: 27.3.79 DATE TERMINATED: 1.4.79

DRILLER/CONTRACTOR: ADD

CASING: SIZE: NQ
DEPTH: 2

CORE: SIZE: BQ
DEPTH: 98m

WEDGE PLACED: Nil DATE: -

EXTENSION: -

FINAL DEPTH: 98m

REASON FOR TERMINATION:

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: Singleshot

WATER:

COMMENTS ON DRILLING CONDITIONS: Good

SUMMARY BORE HOLE SURVEY DATA

Surveyed method: Single shot
Final depth: 98.50m
Casing depth: 1.00m

Depth surveyed to: 98.50m
Date surveyed: 4/4/79
Surveyed by: L. Denby
Checked by: G. J. Bujtor

Bearing			Inclination		True Vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corr.		S	W
43.5	201.50°	221°	4° 30'	-85° 30'	43.37	2.57	2.24
98.5	210.50°	230°	4° 15'	-85.45'	98.22	5.19	5.37

REMARKS:

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

DDH No. D 475

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT LAOC)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO- VERY	R.Q.D.	REMARKS (WEATHERING)
0 - 12.55	Bh	20	35var	Chl/cc			33	
12.55 - 23.3	Pgh	5	35 & 10	Qtz/cc/chl/ clay/Fe stain			89	
23.3 - 32.10	Gph/ch	6	60	Qtz/cc/clay			69	
32.1 - 39.75	Gh	4	30	Qtz/cc/clay			85	
39.75 - 53.76	MM	4-8	45	cc/sulp/clay			91	
53.76 - 85.0	Gh	5	40var	cc/sulph/chl clay			74	
85.0 - 88.0	Bph							
88.0 - 96.86	L/V	12	40var	cc/clay/moly chl/sulp			56	
96.86 - 98.5	<u>FAULT ZONE</u>							

FURTHER DATA & REMARKS

1. Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
2. R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core 10 cm}}{\text{Length Drilled}} \%$
3. Core size.

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 475

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO ₃	Mo		
D 10111	13	14	1.0	1.0	0.25	0.01		
	12	14	"	"	0.18	<0.01		
	13	15	"	"	0.10	<0.01		
	14	16	"	"	0.16	0.01		
	15	17	"	"	0.30	<0.01	1m at	0.3
	16	18	"	"	0.27	<0.01		
	17	19	"	"	<0.01	<0.01		
	18	20	"	"	<0.01	<0.01		
	19	21	"	"	<0.01	<0.01		
	20	22	"	"	<0.01	<0.01		
	21	23	"	"	<0.01	<0.01		
	22	24	"	"	0.01	<0.01		
	23	25	"	"	<0.01	<0.01		
	24	26	"	"	<0.01	<0.01		
	25	27	"	"	0.12	<0.01		
	26	28	"	"	<0.01	<0.01		
	27	29	"	"	0.31	<0.01	1m at	0.31
	28	30	"	"	<0.01	<0.01		
	29	31	"	"	0.04	<0.01		
	30	32	"	"	1.02	0.01	4m at	0.76
	31	33	"	"	0.71	0.01		
	32	34	"	"	0.85	0.01		
	33	35	"	"	0.44	0.01		
	34	36	"	"	<0.01	<0.01		
	35	37	"	"	<0.01	<0.01		
	36	38	"	"	<0.01	<0.01		
	37	39	"	"	<0.01	<0.01		
	38	40	"	"	<0.01	<0.01		
	39	41	"	"	<0.01	<0.01		
	40	51	"	"	0.71	0.02	7m at	0.46
	41	52	"	"	0.45	0.01		
	42	53	"	"	0.06	<0.01		
	43	54	"	"	0.81	0.01		
	44	55	"	"	0.35	<0.01		
	45	56	"	"	0.52	<0.01		
	46	57	"	"	0.31	<0.01		
	47	58	"	"	0.20	<0.01		
	48	59	"	"	<0.01	<0.01		
	49	60	"	"	0.22	<0.01		
	50	61	"	"	<0.01	<0.01		
	51	62	"	"	<0.01	<0.01		
	52	63	"	"	<0.01	<0.01		
	53	64	"	"	<0.01	<0.01		
	54	65	"	"	<0.01	<0.01		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 475

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO ₃	Mo		
D 10155	66	67	1.0	1.0	0.07	<0.01		
56	67	68	"	"	0.15	<0.01		
57	68	69	"	"	0.19	<0.01		
58	69	70	"	"	0.61	<0.01		
59	70	71	"	"	3.13	0.02		
60	71	72	"	"	0.25	<0.01		
61	72	73	"	"	0.50	0.01		
62	73	74	"	"	0.24	<0.01		
63	74	75	"	"	0.32	<0.01		
64	75	76	"	"	0.74	0.01		
65	76	77	"	"	0.01	<0.01		
66	77	78	"	"	0.28	<0.01		
67	78	79	"	"	0.33	<0.01		
68	79	80	"	"	0.48	<0.01		
69	80	81	"	"	0.17	<0.01		
70	81	82	"	"	0.13	<0.01		
71	82	83	"	"	0.24	<0.01		
72	83	84	"	"	<0.01	<0.01		
73	84	85	"	"	<0.01	<0.01		
74	85	86	"	"	0.10	0.01		
75	86	87	"	"	<0.01	0.02		
76	87	88	"	"	<0.01	0.01		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 475

0.0 - 12.55m BIOTITE HORNFELS

Biotite hornfels with a minor Actinolite hornfels and pyroxene hornfels component particularly towards the base of the unit. Core is broken throughout but no particularly obvious fault zone except perhaps at 9.9 - 10.2m. Contact with Pyroxene garnet hornfels is sharp and at 70° to LAOC.

12.55 - 23.30 PYROXENE GARNET HORNFELS

Podded pyroxene garnet hornfels in a mixed pyroxene and garnet matrix with garnet hornfels proportion increasing with depth. Mineralised throughout, although generally sparsely. Cut by a number of calcite veins all at about 45° to LAOC. Merges into a fault zone? at lower limit.

23.3 - 32.10 GARNET PYROXENE HORNFELS AND MARBLES

Sequence consisting of following subdivisions.

- 23.3 - 23.76m Intermixed pyroxene hornfels and grossular with abundant calcite.
- 23.76 - 24.07 Biotite hornfels.
- 24.07 - 24.55 Garnet hornfels and biotite hornfels into massive garnet hornfels.
- 24.55 - 28.1 Massive garnet hornfels with grain size decreasing with depth. Cut by a number a calcite filling shears. Leached fault zone 25.55 - 25.75. Sparse mineralisation.
- 28.1 - 29.9 Intermixed garnet hornfels and pyroxene hornfels. Pyroxene hornfels content decreases with depth.
- 29.9 - 31.20 Banded marble.
- 31.20 - 32.10 Pyroxene hornfels last 40cm of marble are calcite veined and pyroxene hornfels may represent a fault zone.

Contact between pyroxene hornfels and underlying garnet hornfels has been lost during drilling.

bedding 50° to LAOC @ 28.7m
30° 30.6m

32.10 - 39.75 MASSIVE GARNET HORNFELS

Typical upper C lens. Last 4cm leached and show little mineralisation. Garnet is generally fine grained.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 475

39.75 - 53.76

MARBLE MARKER

Interbedded biotite hornfels/pyroxene hornfels/grossular/garnet hornfels/marble. Predominantly marble, garnet hornfels, abundance increases downwards. Mineralised in places.

Bedding	45°	to	LAOC	@	41.4m
	40°				44.2m
	47°				47.0m
	20°				53.5m

53.76 - 85.0

BANDED GARNET HORNFELS AND BANDED FOOTWALL BEDS

First 20 m mixed garnet hornfels and pyroxene hornfels but following strata becomes more regularly bedded and merges into banded footwall beds at about 74m.

Mineralisation is zonally restricted and is fine grained.

Bedding	40°	to	LAOC	@	66.0m
	30°				68.0
	35°				72.3

85.0 - 88.0

BIOTITE PYROXENE HORNFELS

Thinly interbedded Pyroxene hornfels and biotite hornfels with the 2.5m on upper side of Lower Volcanic contact showing disrupted bedding intermixing and is richer in dark green pyroxene hornfels than proceeding beds.

Bedding	40°	to	LAOC	@	85.1m
---------	-----	----	------	---	-------

88.0 - 96.86

LOWER VOLCANICS

Contact with biotite pyroxene hornfels is marked by a minor fault zone. Volcanics are particularly sheared and broken with strong leaching and alteration about joints. Molybdenum is abundant within sheared portions. Alteration/Fault zones at:

90.5 - 90.6m
92.9 - 93.0m
94.4 - 94.6m

R.Q.D. is inflated due to clay content binding broken core together.

96.86 - 98.5

FAULT ZONE

A major fault zone within volcanics, consisting of clays, breccia, chloritic alteration products, altered aplite sulphides and very scattered scheelite.

EOH 98.5 m

Sheet 1 of 1

DDH No 0475

Casing Depth 1m

Surveyed by L. DENBY

Total Depth 98.50m

Depth Surveyed 98.50m

Date Surveyed 4-4-79

Dec 2nd
JG Burt
6/14/74

564130N

564100N

DDH 475
1:500
219680E
(Section Line)
219720E
(Section Line)

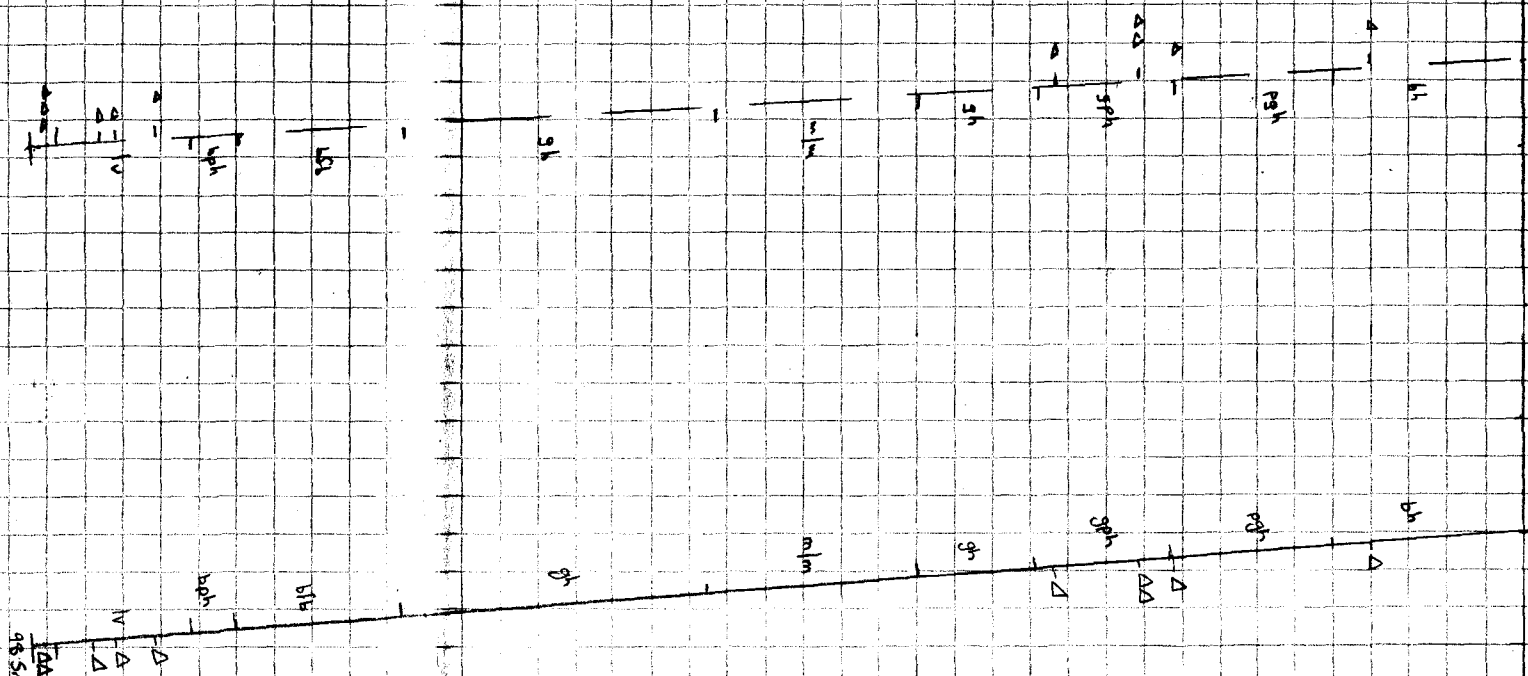
DDH 475

BL = 17.7m

50

100

SECTION IN
PLANE OF HOLE



FOLD

DOLPHIN DDH # D475

DATE SURVEYED > 04*04*79

HEWLETT-PACKARD
9280-0180
FOR USE ON HEWLETT-PACKARD RECORDERS

EDH - 118.0
C - 17.7

564050

219650

-564.1

PLAN
SECTION

VIEWED FROM → 290.0 156 BRG

SURV METHOD .SS

FINAL DEPTH 98.5
SURVEY DEPTH 98.5

CASING DEPTH 1.0

COL	219693.1	564119.3
EDH	219688.8	564115.8

MAIN DESIGN

DCS-N CROSS SECTION

ODH 0 475

TOTAL DEPTH: 98.50m

CASING DEPTH: 1m

DEPTH SURVEYED: 98.50m

DATE SURVEYED: 4-4-79

SURVEYED BY: L. BENDY

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 474

PLANNING PROPOSER: J. Clark DEPTH: 90m .
LOCATION: 15 Bench Section 3S
PURPOSE OF HOLE: To Test Continuation of Ore
PROPOSED CO-ORDS: 219942 E 564035 N
INCLINATION: -75.5°
BEARING: °GRID 322 °MAG
TARGET: E N
DEPTH:
CHECKED BY: DATE:
SURVEY SURVEY CO-ORDS: E N
SURVEYED BEARING: 326° 42' °GRID °MAG
SURVEYED IN BY: DATE:
ACTUAL CO-ORDS: 219940.8 E 564035.4 N
R.L. OF COLLAR: -17.8
INCLINATION OF HOLE: -74° 29'
PICKED UP BY: W. Davies DATE: 4/5/79
SUMMARY LOGGED BY: G. J. Bujtor
RESULTS: No Significant Mineralisation.

DRILLING DATE COMMENCED: 2/5/79 DATE TERMINATED: 14/5/79
DRILLER/CONTRACTOR: ADD
CASING: SIZE: NQ
DEPTH: 15m
CORE: SIZE: NQ
DEPTH: 110.30
WEDGE PLACED: N11 DEPTH: PROPOSER:
EXTENSION: N11
FINAL DEPTH: 110.30
REASON FOR TERMINATION:
CONDITION OF HOLE ON COMPLETION:
CASING:
CEMENTED:
BORE HOLE SURVEY: Single shot
WATER:
COMMENTS ON DRILLING CONDITIONS: Good

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY BORE HOLE SURVEY DATA

D.D.H. No. D 474

Surveyed method: Single shot
 Final depth: 110.30m
 Casing depth: 15.00m

Depth surveyed to: 110.30
 Date surveyed: 14/5/79
 Surveyed by: L. Denby
 Checked by: G. J. Bujtor

Bearing			Inclination		True Vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corr.		N	W
28	324°	314°	15° 15'	-74° 45'	27.01	5.11	5.29
40	322	312°	15° 45'	-74° 15'	38.56	7.29	7.71
58	318	308°	16°	-74°	55.86	10.34	11.62
76	316	306°	17° 45'	-72° 15'	73.00	13.57	16.06
82	315	305°	18°	-72°	78.71	14.63	17.58
94	313	303	18° 45'	-71° 15'	90.07	16.73	20.82
110.30	313	303	19°	-71°	105.48	19.62	25.67

REMARKS:

ASSAY DATA

D.D.H. No. D 474

SAMPLE NO.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Rec.	WO ₃	Mo		
D 10396	75	76	1.0	1.0	0.50	0.01	2m	0.40%
97	76	77	"	"	0.29	0.01		
98	77	78	"	"	0.02	0.01		
99	78	79	"	"	<0.01	0.01		
10400	79	80	"	"	<0.01	<0.01		
01	80	81	"	"	<0.01	<0.01		
02	81	82	"	"	<0.01	<0.01		
03	82	83	"	"	0.13	<0.01		
04	83	84	"	"	<0.01	<0.01		
05	84	85	"	"	<0.01	<0.01		
06	85	86	"	"	0.08	0.01		
07	86	87	"	"	0.02	0.01		
08	87	88	"	"	0.01	0.01		
09	88	89	"	"	<0.01	<0.01		
10	89	90	"	"	<0.01	<0.01		
11	90	91	"	"	<0.01	<0.01		
12	91	92	"	"	<0.01	<0.01		
13	92	93	"	"	<0.01	<0.01		
14	93	94	"	"	<0.01	<0.01		
15	94	95	"	"	0.01	0.01		
16	95	96	"	"	0.01	0.01		
17	96	97	"	"	<0.01	0.01		
18	97	98	"	"	<0.01	<0.01		

SPECIFIC GRAVITY

Depth (metres):

Rock Type:

S.G.:

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 474

0.0 - 4.50m UPPER VOLCANICS - GREENISH

Greenish coloured Upper volcanics with visible sulphides, micas (?seridite, ?muscovite) and chlorite. The core is slightly fractured and broken, possibly due to blasting in the open cut. No visible scheelite is present.

The bottom contact is approximately 55° to LCA.

Fractures/m = 10-12
Recovery = 90%

4.50 - 14.00 BIOTITE HORNFELS

Fine grained dark brown coloured biotite hornfels with numerous quartz - aplite veins, the largest occurring from 7.5 - to 9.15m. This intrusive dyke has a green pyroxene - ?actinolite hangingwall and footwall alteration zone associated with it. No visible scheelite is present.

Fractures/m = 6-9
Recovery = 100%

14.00 - 23.2m PYROXENE (?ACTINOLITE) HORNFELS

Greenish coloured pyroxene (-?actinolite) hornfels with no visible scheelite. The unit is similar to the alteration zone adjacent to the intrusive aplite/granite dyke from 7.5 - 9.15m.

Numerous thin sulphide (pyrite) - chlorite veins are present.

Bedding 34° to LCA at 22.3m

Fractures/m = 3-4
Recovery = 100%

23.2 - 60.90 UPPER VOLCANICS - GREY (& SPOTTED)

Grey coloured, generally well spotted Upper Volcanics with no visible scheelite present.

Some ?biotite hornfels seems to be present from 23.2 - 23.7m, 33.8 - 34.8m, and 38.3m, ?55.0 - 60.9m. (greenish hornfels from 58.2 - 60.9m; - possible volcanics).

The metamorphic spotting can be up to 5mm in size, overlying 3mm.

Broken and fractured core occurs from 23.2 - 29.1m (highly fractured, with minor open carbonate veins; no obvious fault breccia); 30.3 - 34.0m (badly broken with numerous clay - pug breccia fault zones at 31.7m, 32.3m 32.5m and 33.1m; abundant carbonate veining); 41.6 - 43.0 (broken and fractured); 48.6 - 52.5 (broken and fractured - no obvious fault zone); 57.0 - 58.2 (fractured and abundant carbonate veins).

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 474

The exact base of the unit is difficult to determine.

Fractures/m = 10
Recovery = 98%

60.90 - 75.00 BIOTITE HORNFELS

Fine to medium grained brownish to grey coloured biotite hornfels with no visible scheelite present. Numerous green pyroxene hornfels alteration bands patches are present throughout.

75.00 - 86.80m ?PYROXENE HORNFELS Minor skarn, biotite hornfels and volcanics(?)

Unusual intermixed unit consisting of pyroxene hornfels, biotite hornfels, (?)volcanics and pyroxene hornfels with andradite and lesser amounts of grossular garnet.

From 78 - 79m, the unit resembles some sort of volcanics or sheared, schistose-like sediments.

The unit is very much disturbed with abundant carbonate and quartz veining present. Noteable bad ground zones occurs around 78.2m - 78.25m (possible fault); 80.7m (rubble); 81.10m (rubble); around 83.0m (carbonate veined, broken and fractured); 84.0 - 84.3m (fractured and broken); 86.0 - 86.25m (fractured, broken breccia - clay - pug fault zone).

Bedding appears to be developed throughout -

Bedding 45° to LCA at 81.9m
Bedding 45° to LCA at 85.8m

Fair scheelite from 75.3 - 76.5m

Fractures/m = 8-12
Recovery = 98%

86.8 - 88.25 MARBLE

Well bedded greyish white coloured marble with patches of pyroxene hornfels, grossular and andradite. Patchy very low grade scheelite is present.

Bedding 40° to LCA at 86.9m

Fractures/m = 8
Recovery = 100%

88.25 - 790.00 ?PYROXENE GARNET HORNFELS

Not the typical pyroxene garnet hornfels, but looks somewhat similar with numerous pods and fragments of marbles. The unit could be a disturbed Banded footwall beds zone adjacent to the possible fault below. Rare scheelite specks are present.

Fractures/m = 5
Recovery = 100%

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 474

?90.00 - 92.55 ?REHEALED FAULT ZONE

Possible rehealed fault zone consisting dominantly of pyroxene hornfels and garnet with numerous carbonate veins and breccia zones (ie 90.8m, 92.5m). Some rare scheelite specks are present

Fractures/m = 5
Recovery = 100%

92.55 - 110.30 BIOTITE HORNFELS/PYROXENE HORNFELS

Well bedded sequence of biotite hornfels/pyroxene hornfels with some interbeds of marble and associated grossular garnet. Rare specks of scheelite are present but definitely below cut-off.

Probable fault zone occur at 96.9m (clay rubble, breccia); 108.8m (rubble, clay, shearing).

Bedding	58°	to LCA	at	95.4m
Bedding	50°			99.5m
Bedding	70°			101.6m
Bedding	45°			104m
Bedding	65°			109.7m
Bedding	74°			110.3m

Fractures/m = 6-12
Recovery = 100%

EOH 110.3m

Eastman - Kodak MULTISHOT Camera

DDH No 0 474

Casing Depth 15.00m

Surveyed by L. DENBY

Total Depth 110.30

Depth Surveyed 110.30

Date Surveyed 14-5-79

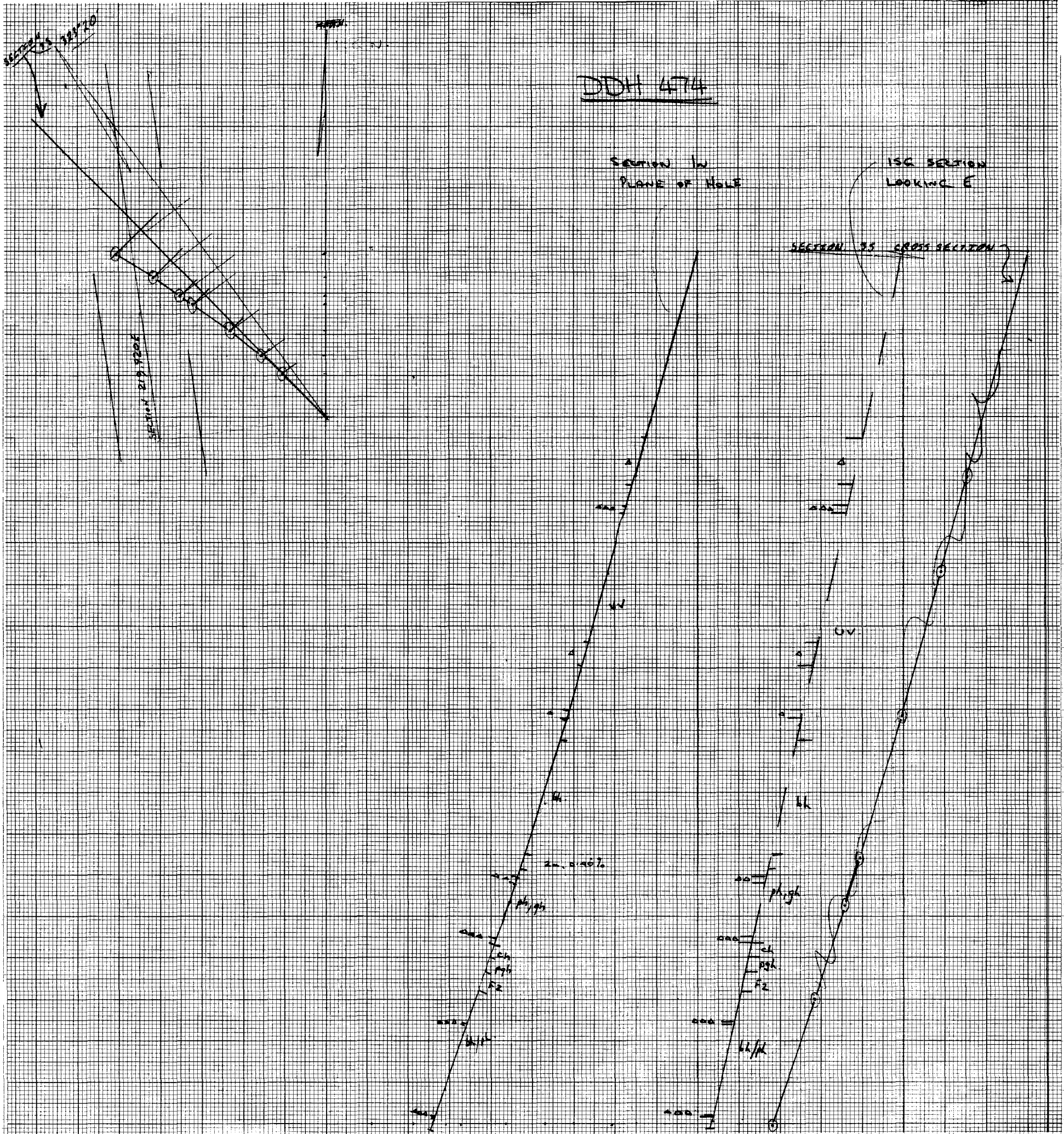
Dec 24 1919

DDH 474

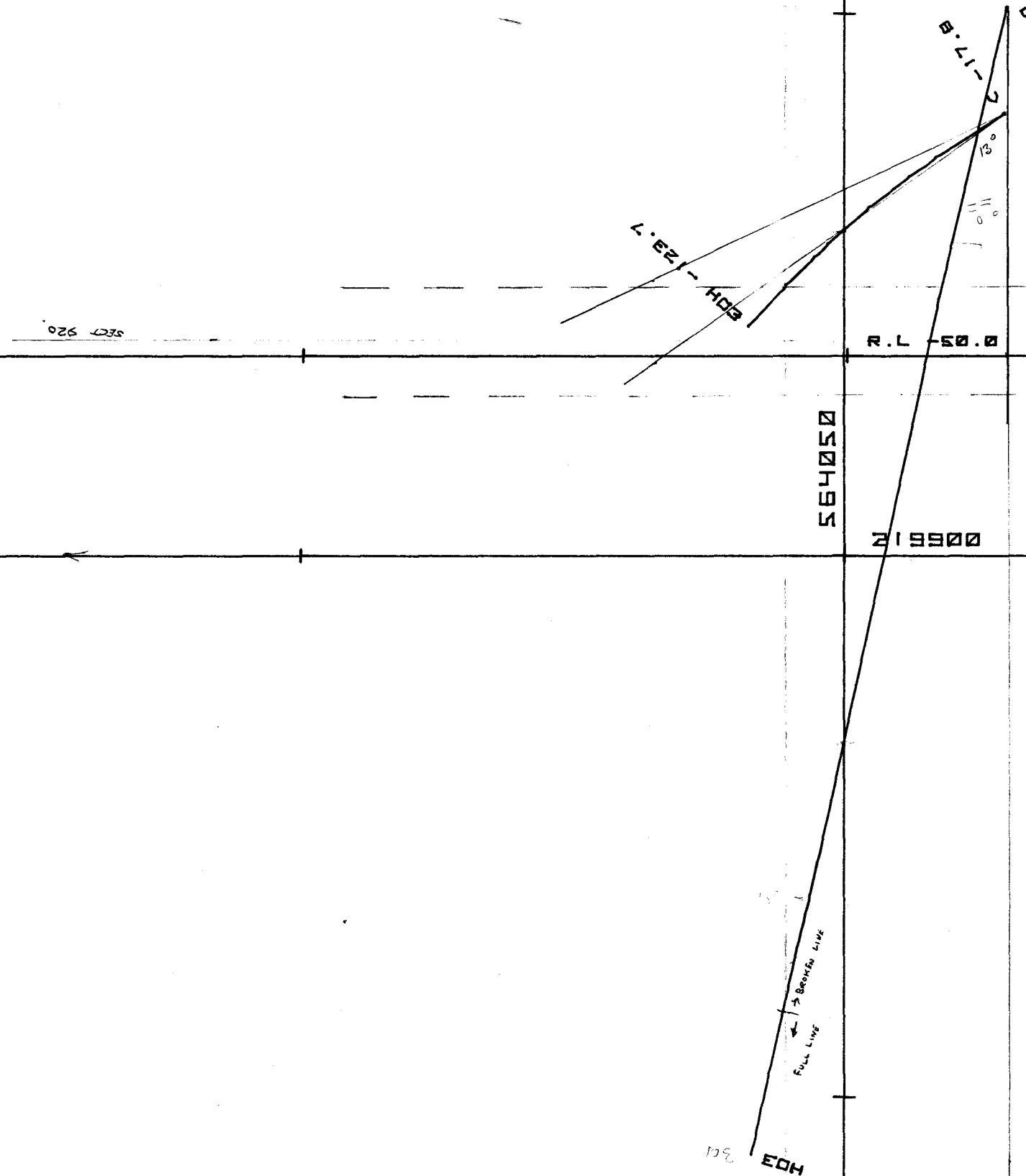
SECTION IN
PLANE OF HOLE

ISC SECTION
LOOKING E

SECTION 35 CROSS SECTION



DATE SURVEYED > 14*05*79



SURV METHOD	SS	FINAL DEPTH	110.3	CASING DEPTH	15.0	COL	219940.8	564035.4
		SURVEY DEPTH	110.3			EDH	219921.2	564058.8

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 473

PLANNING

PROPOSER: R. J. Staveley-Parker

DEPTH: 80m

LOCATION: 15 Bench Open Cut

PURPOSE OF HOLE: Oreblocking along Section 8.5m

CO-ORDS: 219740 E 564066 N

INCLINATION: -90°

BEARING: 199.5° $^{\circ}$ GRID $^{\circ}$ MAG

TARGET: E N

DEPTH: 80m

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: $^{\circ}$ GRID $^{\circ}$ MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219740.7 E 564066.9 N

R.L. OF COLLAR -16.9

INCLINATION OF HOLE -90°

PICKED UP BY: B. Davies DATE: 29/3/79

SUMMARY

LOGGED BY: R. Davies

RESULTS: 42-49m, 7m @ 0.44% WO_3
58-61m, 3m @ 0.42% WO_3
66-77m, 11m @ 0.80% WO_3

DRILLING

DATE COMMENCED: 9/3/79 DATE TERMINATED: 13/3/79

DRILLER/CONTRACTOR: ADD

CASING: SIZE: NQ
DEPTH: 2m

CORE: SIZE: BQ
DEPTH: 104m

WEDGE PLACED: Nil DATE:

EXTENSION: Nil

FINAL DEPTH: 104m

REASON FOR TERMINATION:

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: Single shot

WATER:

COMMENTS ON DRILLING CONDITIONS: Good

SUMMARY BORE HOLE SURVEY DATA

Depth surveyed to: 104.00m
Date surveyed: 14/3/79
Surveyed by: R. J. S. P.
Checked by: G. J. Bujtor

Bearing			Inclination		True Vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corr.		N	W
44	3°	326°	2° 15'	-87° 45'	43.96	1.43	.91
74	358°	321°	1° 45'	-88° 15'	73.95	2.14	1.55
104	356°	319°	3°	-87°	103.91	3.32	2.58

REMARKS :

GEOLOGY - KING ISLAND SCHEELITECORE RECOVERYD.D.H. No. D 473

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0 - 2	2.0	0.5	25
2 - 4.6	2.6	2.6	100
4.6 - 7.1	2.5	2.5	100
7.1 - 11.0	3.9	3.7	95
11.0 - 14.0	3.0	3.0	100
14.0 - 17.0	3.0	3.0	100
17.0 - 20.0	3.0	3.0	100
20.0 - 22.3	2.3	2.3	100
22.3 - 24.7	2.4	2.4	100
24.7 - 26.0	1.3	1.3	100
26.0 - 29.0	3.0	3.0	100
29.0 - 31.3	2.3	2.3	100
31.3 - 32.0	0.7	0.7	100
32.0 - 34.0	2.0	2.0	100
34.0 - 35.0	1.0	1.0	100
35.0 - 38.0	3.0	3.0	100
38.0 - 41.0	3.0	3.0	100
41.0 - 44.0	3.0	3.0	100
44.0 - 47.0	3.0	3.0	100
47.0 - 50.0	3.0	3.0	100
50.0 - 52.7	2.7	2.7	100
52.7 - 55.8	3.1	3.1	100
55.8 - 58.9	3.1	3.1	100
58.9 - 62.0	3.1	3.1	100
62.0 - 65.0	3.0	3.0	100
65.0 - 68.0	3.0	3.0	100
68.0 - 71.0	3.0	3.0	100
71.0 - 74.0	3.0	3.0	100
74.0 - 77.0	3.0	3.0	100
77.0 - 80.0	3.0	3.0	100
80.0 - 83.0	3.0	3.0	100
83.0 - 86.0	3.0	3.0	100
86.0 - 89.0	3.0	3.0	100
89.0 - 92.0	3.0	3.0	100
92.0 - 95.0	3.0	3.0	100
95.0 - 98.0	3.0	3.0	100
98.0 - 101.0	3.0	3.0	100
101.0 - 104.0	3.0	3.0	100

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

DDH No. D 473

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT LAOC)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO- VERY	R.Q.D.	REMARKS (WEATHERING)
0.0 - 10.3	Bh	4inch. 7inph.	45inch 70inph	cc/Qtz/inch Clay/chl/inph			68	
10.3 - 36.55	Bah/Bh	6	40&20°	cc/clay/chl			86	
36.55 - 66.0	Pgh	4	60&30°	cc/clay			86	
66.0 - 78.2	Gh	5	60	cc/Qtz			96	
78.2 - 81.7	gh (banded)	5	70°	cc/qtz				
81.7 - 89.8	Aplite	6	35&15°	Qtz/cc/clay			84	
89.8 - 92.6	gh (banded)	6	40°	Clay/cc				
92.6 - 95.8	Bh/ph	8	80°	cc/chl/sulp			63	
95.8 - 99.1	Aplite	6	50	Qtz/chl/clay			83	
99.1 - 104.0	Bh/ph	8	80	cc/chl/sulp			63	

FURTHER DATA & REMARKS

1. Deatiled % core recoveries within each depth interval is shown in the core recovery tabulation.
2. R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core 10 cm}}{\text{Length Drilled}} \%$
3. Core size.

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 473

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO ₃	Mo		
D 9953	0	2	"	"	0.01	0.01		
54	2	3	"	"	0.08	0.01		
55	3	4	"	"	0.02	0.01		
56	4	5	"	"	0.27	0.01		
57	5	6	"	"	0.12	0.01		
58	6	7	"	"	0.02	<0.01		
59	7	8	"	"	0.08	0.01		
60	8	9	"	"	0.02	<0.01		
61	9	10	"	"	0.08	0.01		
62	10	11	"	"	0.23	0.02		
63	11	12	"	"	0.01	0.01		
64	35	36	"	"	0.02	0.02		
65	36	37	"	"	0.01	0.01		
66	37	38	"	"	0.06	0.01		
67	38	39	"	"	<0.01	<0.01		
68	39	40	"	"	0.02	<0.01		
69	40	41	"	"	0.03	<0.01		
70	41	42	"	"	0.03	<0.01		
71	42	43	"	"	0.38	0.01		
72	43	44	"	"	0.12	0.01		
73	44	45	"	"	0.56	0.02		
74	45	46	"	"	0.28	0.01		
75	46	47	"	"	1.08	0.02	10m	0.38 %
76	47	48	"	"	0.21	0.01		
77	48	49	"	"	0.44	0.02		
78	49	50	"	"	0.22	0.01		
79	50	51	"	"	0.21	0.01		
80	51	52	"	"	0.34	0.01		
81	52	53	"	"	0.29	0.01		
82	53	54	"	"	0.10	0.01		
83	54	55	"	"	0.20	0.01		
84	55	56	"	"	0.25	0.01		
85	56	57	"	"	0.26	0.01		
86	57	58	"	"	0.19	0.01		
87	58	59	"	"	0.46	0.01		
88	59	60	"	"	0.44	0.02	3m	0.42 %
89	60	61	"	"	0.35	0.02		
90	61	62	"	"	0.01	0.01		
91	62	63	"	"	0.03	0.01		
92	63	64	"	"	0.02	0.01		
93	64	65	"	"	0.01	<0.01		
94	65	66	"	"	0.07	<0.01		
95	66	67	"	"	1.06	0.02		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 473

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO ₃	Mo		
D 9996	67	68	1.0	1.0	0.96	0.02		
97	68	69	"	"	0.92	0.02		
98	69	70	"	"	0.94	0.02		
99	70	71	"	"	0.78	0.02		
10000	71	72	"	"	1.14	0.02	// m	0.80%
01	72	73	"	"	1.20	0.04		
02	73	74	"	"	0.45	0.01		
03	74	75	"	"	<0.01	0.01		
04	75	76	"	"	0.93	0.01		
05	76	77	"	"	0.36	<0.01		
06	77	78	"	"	0.08	0.01		
07	78	79	"	"	<0.01	<0.01		
08	79	80	"	"	<0.01	<0.01		
09	80	81	"	"	<0.01	<0.01		
10	81	82	"	"	0.03	<0.01		
11	82	83	"	"	0.01	<0.01		
12	86	87	"	"	<0.01	0.02		
13	87	88	"	"	<0.01	0.15		
14	88	89	"	"	0.37	0.02	' m	0.37%
15	89	90	"	"	0.21	0.04		
16	90	91	"	"	0.01	0.01		
17	91	92	"	"	0.37	0.01	1 m	0.37%
18	92	93	"	"	<0.01	<0.01		
19	93	94	"	"	0.01	<0.01		
20	94	95	"	"	0.01	<0.01		
21	95	96	"	"	0.01	<0.01		
22	96	97	"	"	0.01	0.01		
23	97	98	"	"	<0.01	<0.01		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 473

0.0 - 10.30 B LENS

Initial 2m slightly broken and weathered by open cut operations. Comprised of layered grey marbles and pyroxene hornfels. Scattered mineralisation with occasional concentrations into thin (<2cm) layers. Consists of following subdivisions:

0.- 1 m	Marble
1 - 2.2m	Biotite - actinolite hornfels
2.2 - 3.2m	Mineralised pyroxene hornfels
3.2 - 7.3m	Marble
7.3 - 10.3m	Pyroxene hornfels

Bedding	55°	LAOC	@	6.2m
	45°			7.5m
	37°			9.9m

10.30 - 36.55 BIOTITE AND BIOTITE-ACTINOLITE HORNFELS

Initial 5m contain interlayered pyroxene and actinolite hornfels with very minor mineralisation and is probably transition to B lens. Following 2lm show an increasing actinolite content with a dark-pale grey colour rather than the typical black of biotite hornfels.

Aplite intrusives at:

18 - 18.8m
20.2 - 20.8m
29.8 - 30.2m

In the last 4m jointing becomes more irregular and more closely spaced with minor broken zones. A probable rehealed fault zone at 34 - 34.5m.

Bedding	45°	LAOC	@	15m
	40°			22m
	45°			28m
	52°			33.7m

36.55 - 66.0 PYROXENE GARNET HORNFELS

A fairly variable unit ranging from typical podded marble with grossular to mixed grossular and pyroxene hornfels to garnet hornfels with a ramifying matrix of pyroxene hornfels. Upper portion has a number of unreactive clasts. Garnet hornfels content increases with depth.

Mineralised throughout with occasional zonal concentration of scheelite and scattered coarse crystals.

Bedding? 20° LAOC @ 52.0m

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 473

66.0 - 78.2 MASSIVE GARNET HORNFELS UPPER C LENS

Typical upper C lens although fairly fine grained. Final 1.5m are very fine grained and grade into banded garnet hornfels without a marble marker. Infillings of calcite and amphibole also become rarer towards the base. Mineralisation is fine grained throughout except for a coarsely crystalline, amphibole rich, zone at 72.0 - 72.5m.

Slightly broken zone from 71.4 to 71.6m.

78.2 - 81.7 BANDED GARNET HORNFELS LOWER C LENS

Presence of pyroxene hornfels, scarcity of mineralisation and finer grain mature of the garnet hornfels distinguish this from the overlying massive garnet hornfels.

Intermixed and interlayered pyroxene hornfels and garnet hornfels. Bedding generally disturbed and often discontinuous. Mineralisation is fine and very dispersed.

Approximate bedding 40° LAOC @ 77.9m
 30° 79.6m

81.7 - 89.8 APLITE

A replaced "granitised" unit with fine - medium grained feldspar crystals and irregular quartz intergrowths. Whole unit has a faint diffuse appearance. Irregular zones of relict hornfels. Between 84.5 and 85.7m crystals of platy calcite and vugs containing calcite pseudomorphs (after quartz?) quartz crystals and sulphide mineralisation occur. Some very finely dispersed mineralisation and occasional coarse scheelite crystals.

Lower contact is particularly indistinct and intrusive merges with hornfels over some 3m where scattered coarse scheelite crystals occur.

89.8 - 92.6 BANDED GARNET HORNFELS

Comprised of garnet hornfels/pyroxene hornfels/biotite hornfels/marble. Boundary with biotite hornfels/pyroxene is taken as last appearance of garnet hornfels. Minor mineralisation.

Bedding 55° LAOC @ 91.7m

92.6 - 95.8 BIOTITE - PYROXENE HORNFELS

Typical banded biotite hornfels/pyroxene hornfels. Upper 1m is slightly disturbed with irregular layering and bedding. Aplite from 94.7 to 94.9m.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 473

95.8 - 99.1m APLITE

Fine - medium grained intrusive similar to previous one, although crystal outlines are sharper and overall appearance is more of intrusion than of replacement. Sharp upper and lower contacts of about 70° LAOC. Occasional scheelite crystal.

99.1 - 104.0 BIOTITE - PYROXENE HORNFELS

Thinly bedded Biotite hornfels/pyroxene hornfels and biotite actinolite hornfels. From 102.9 to 103.5 bedding has been emphasised by injection of quartz and feldspars from intrusion.

Bedding 70°	to LAOC @	99.5m
72°		102.0m
60°		103.7m

Date Surveyed: 14-3-79

Dec 2001
99 Bk
1/4/20

11/24/03

023 N

CROSS SECTION

00M D 479

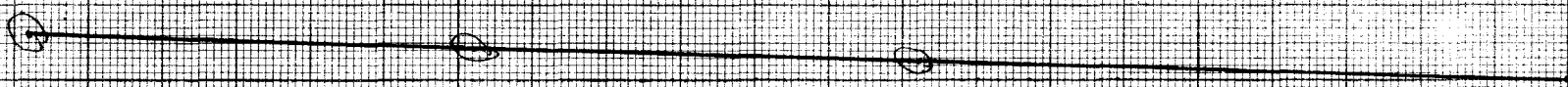
total beam: 10m.00m

caston beam: 1m

beam support: 10m.00m

date: 11-3-79

surveyed by: R. J. SP



FOLD

DOLPHIN DDH # D473

DATE SURVEYED > 14*03*79

HEWLETT-PACKARD

9280-0180

FOR USE ON HEWLETT-PACKARD RECORDERS

FOLD

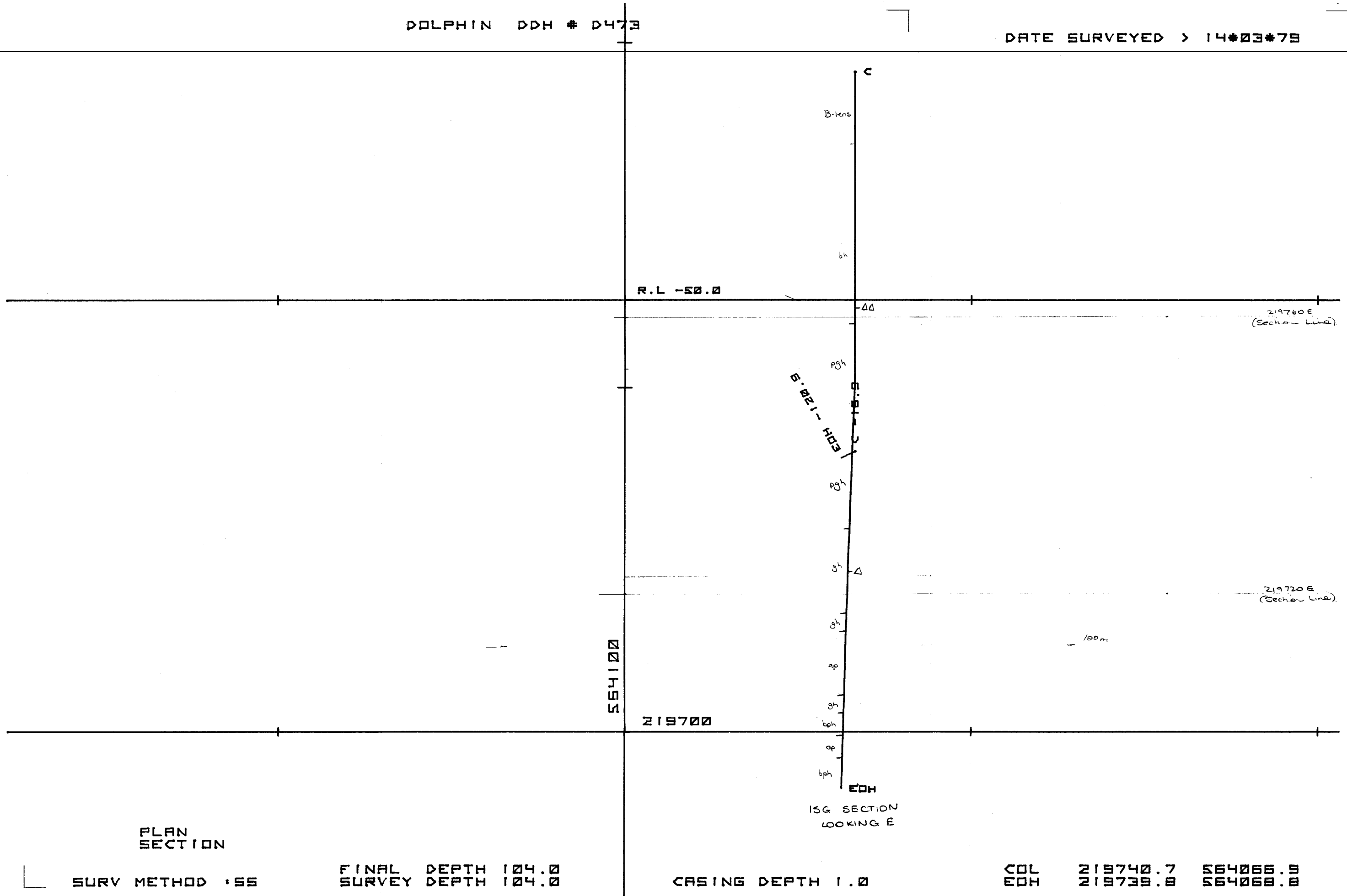
PLAN
SECTION

SURV METHOD :SS

FINAL DEPTH 104.0
SURVEY DEPTH 104.0

CASING DEPTH 1.0

COL	219740.7	564066.9
EDH	219739.8	564068.8



FOLD

HEWLETT-PACKARD
9280-0180
FOR USE ON HEWLETT-PACKARD RECORDERS

FOLD

DOLPHIN DDH # D473

DATE SURVEYED > 14#03#79

564100

219700

5.821 - HOE
C - 16.8

-508.1

PLAN
SECTION

VIEWED FROM → 290.0 156 BRG

SURV METHOD :SS

FINAL DEPTH 104.0
SURVEY DEPTH 104.0

CASING DEPTH 1.0

COL	219740.7	564066.9
EOH	219739.8	564068.8

DDH 473
1:500

SECTION

SECTION

219760E
(Section Line)

DDH 473

219720E
(Section Line)

DDH 473

B-lens

B-lens

bh

bh

FAA

FAA

bh

bh

U.C-lens

U/C

L.C-lens

L/C

ap

ap

gh

gh

bh/ph

bh/ph

ap

ap

bh/ph

bh/ph

104m

ISG SECTION
LOOKING E*

SECTION IN
PLANE OF HOLE

* use computer plot
in preference.

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 472

PLANNING

PROPOSER: R. J. Staveley-Parker

DEPTH: 80m

LOCATION: 15 Bench Open Cut

PURPOSE OF HOLE: Ore blocking along section 9.5

CO-ORDS: 219 711 E 564 106 N

INCLINATION: -85°

BEARING: 19.5 $^{\circ}$ GRID $^{\circ}$ MAG

TARGET: E N

DEPTH: 80m

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: $8^{\circ} 54'$ $^{\circ}$ GRID $^{\circ}$ MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219710.4 E 564105.2 N

R.L. OF COLLAR -18.0

INCLINATION OF HOLE $-81^{\circ} 52'$

PICKED UP BY: B. Davies DATE: 29/3/79

SUMMARY

LOGGED BY: R. E. S. Davies

RESULTS: 53 - 55m, 2m @ 0.51% WO_3
59 - 61m, 2m @ 0.51% WO_3
64 - 75m, 11m @ 0.67% WO_3

DRILLING

DATE COMMENCED: 18/2/79 DATE TERMINATED:

DRILLER/CONTRACTOR: ADD

CASING: SIZE: NQ
DEPTH: 2m

CORE: SIZE: BQ
DEPTH: 98.5m

WEDGE PLACED: DATE:

EXTENSION:

FINAL DEPTH: 98.5

REASON FOR TERMINATION:

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: Single shot

WATER:

COMMENTS ON DRILLING CONDITIONS: Good

GEOLOGY - KING ISLAND SCHEELITECORE RECOVERYD.D.H. No. D 472

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 2.5	2.5	0.5	20
2.5 - 4.9	2.4	2.0	83
4.9 - 8.5	3.6	3.0	83
8.5 - 11.5	3.0	2.5	83
11.5 - 14.2	2.7	2.7	100
14.2 - 16.9	2.7	2.7	100
16.9 - 19.8	2.9	2.9	100
19.8 - 23.5	3.7	3.7	100
23.5 - 26.5	3.0	3.0	100
26.5 - 29.5	3.0	2.8	93
29.5 - 32.3	2.8	2.8	100
32.3 - 35.4	3.1	3.1	100
35.4 - 38.5	3.1	3.1	100
38.5 - 41.5	3.0	3.0	100
41.5 - 46.95	5.45	5.2	95
46.95 - 50.1	3.15	3.0	95
50.1 - 53.25	3.15	3.0	95
53.25 - 56.15	2.90	2.90	100
56.15 - 59.25	3.10	3.10	100
59.25 - 62.4	3.15	3.15	100
62.4 - 65.5	3.1	3.10	100
65.5 - 68.5	3.0	3.0	100
68.5 - 72.7	4.2	4.2	100
72.7 - 74.5	1.8	1.8	100
74.5 - 77.5	3.0	3.0	100
77.5 - 80.5	3.0	3.0	100
80.5 - 83.5	3.0	3.0	100
83.5 - 86.5	3.0	3.0	100
86.5 - 89.5	3.0	3.0	100
89.5 - 92.5	3.0	3.0	100
92.5 - 95.5	3.0	3.0	100
95.5 - 98.5	3.0	3.0	100
EOH			

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

DDH No. D 472

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT LAOC)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO- VERY	R.Q.D.	REMARKS (WEATHERING)
0.0 - 19.3	Bh	7-10	45	Qtz/cc/sulp	50°		0.69	Severly leached
19.3 - 33.28	Pgh	4	30	Qtz/cc			0.96	
33.28 - 35.80	Gh	5	10	Qtz/cc/sulp			0.87	
35.80 - 51.0	MH	4-6	40	Qtz/cc/clay/ chl	50°		0.86	
51.0 - 88.0	Gh	3-10	50	Qtz/cc/clay/ sulp/chl	60°		0.79	
88.0 - 88.76	Braccia							
88.76 - 95.74	L/V	6	40	Qtz/cc/chl/ clay/sulp			0.80	
95.75 - 96.4	Aplite							
96.4 - 98.5	Bh							
ROH								

FURTHER DATA & REMARKS

- Deatiled % core recoveries within each depth interval is shown in the core recovery tabulation.
- R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core 10 cm}}{\text{Length Drilled}} \%$
- Core size.

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 472

Sample No.		DEPTH (METRES)				ELEMENTS		COMMENTS
		From	To	Length	Length Recovered	WO ₃	Mo	
D	9553	19	20	1.0	1.0	0.04	0.01	
	54	20	21	"	"	<0.01	<0.01	
	55	21	22	"	"	<0.01	<0.01	
	56	22	23	"	"	0.02	<0.01	
	57	23	24	"	"	0.21	0.01	
	58	24	25	"	"	0.05	<0.01	
	59	25	26	"	"	0.15	0.01	
	60	26	27	"	"	<0.01	0.01	
	61	27	28	"	"	<0.01	0.01	
	62	28	29	"	"	<0.01	0.01	
	63	29	30	"	"	<0.01	0.01	
	64	30	31	"	"	0.04	0.01	
	65	31	32	"	"	<0.01	0.01	
	66	32	33	"	"	<0.01	0.01	
	67	33	34	"	"	0.10	<0.01	
	68	34	35	"	"	0.16	<0.01	
	69	35	36	"	"	0.45	0.02	1.0 m 0.45%
	70	36	37	"	"	0.01	0.01	
	71	37	38	"	"	0.06	<0.01	
	72	38	39	"	"	<0.01	<0.01	
	73	39	40	"	"	0.24	0.01	
	74	40	41	"	"	0.07	0.01	
	75	41	42	"	"	0.47	0.01	1.0 m 0.47%
	76	42	43	"	"	0.04	0.01	
	77	43	44	"	"	<0.01	<0.01	
	78	44	45	"	"	<0.01	<0.01	
	79	45	46	"	"	<0.01	<0.01	
	80	49	50	"	"	<0.01	<0.01	
	81	50	51	"	"	<0.01	<0.01	
	82	51	52	"	"	0.23	<0.01	
	83	52	53	"	"	0.08	<0.01	
	84	53	54	"	"	0.54	0.01	2 m 0.51%
	85	54	55	"	"	0.48	0.01	
	86	55	56	"	"	0.19	0.01	
	87	56	57	"	"	<0.01	<0.01	
	88	57	58	"	"	<0.01	<0.01	
	89	58	59	"	"	<0.01	<0.01	
	90	59	60	"	"	0.39	<0.01	
	91	60	61	"	"	0.62	0.01	
	92	61	62	"	"	0.14	<0.01	
	93	62	63	"	"	0.23	<0.01	
	94	63	64	"	"	0.26	<0.01	
	95	64	65	"	"	0.49	0.01	
	96	65	66	"	"	0.40	0.01	
	97	66	67	"	"	0.88	0.01	

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 472

Sample No.		DEPTH (METRES)				ELEMENTS			COMMENTS
		From	To	Length	Length Recovered	WO ₃	Mo		
D	9598	67	68	1.0	1.0	0.03	<0.01		
	99	68	69	"	"	1.38	0.02		
	9600	69	70	"	"	0.45	<0.01		
	01	70	71	"	"	1.06	0.02	16 m	0.56%
	02	71	72	"	"	1.30	0.02		
	03	72	73	"	"	0.78	0.01		
	04	73	74	"	"	0.20	<0.01		
	05	74	75	"	"	0.38	<0.01		
	06	75	76	"	"	<0.01	<0.01		
	07	76	77	"	"	0.02	<0.01		
	08	77	78	"	"	0.48	0.01	10m	0.48%
	09	78	79	"	"	0.03	<0.01		
	10	79	80	"	"	<0.01	<0.01		
	11	80	81	"	"	<0.01	<0.01		
	12	81	82	"	"	<0.01	<0.01		
	13	82	83	"	"	<0.01	<0.01		
	14	83	84	"	"	<0.01	<0.01		
	15	84	85	"	"	<0.01	<0.01		
	16	85	86	"	"	<0.01	<0.01		
	17	86	87	"	"	<0.01	<0.01		
	18	87	88	"	"	<0.01	<0.01		
	19	94	95	"	"	<0.01	<0.01		
	98	95	96	"	"	0.89	0.01	1 m	0.89%

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 472

0.0 - 19.3 m BIOTITE HORNFELS

First 4m broken by open cut operations.

Initial 11m typical black biotite hornfels followed by an increasing proportion of pyroxene hornfels and increasing content of actinolite in the biotite hornfels.

Broken zone from 9.0- 9.4m and thin aplite at 9.7m

Bedding: 50° LAOC @ 14.6m
70° 18.7m

19.3 - 33.28 PYROXENE GARNET HORNFELS

Sharp incoming of podded rock marks upper contact. First 6m predominantly pyroxene hornfels and garnet hornfels matrix with scattered pods but with grossular content increasing with depth.

Next 3m coloured pink and dominantly grossular matrix. Mineralisation scattered and fine grained.

Lower limit vague and has been taken as the last appearance of pyroxene hornfels.

Occasional reahealed fracture zones with coarsly crystalline quartz/calcite/sulphides/actinolite/scheelite.

33.28 - 35.80 GARNET HORNFELS

Severely leached and altered Upper C lens with very sparse mineralisation. Both upper and lower contacts indistinct and lower limit taken as the start of a 1½m biotite hornfels/pyroxene hornfels bed.

Garnet hornfels fine grained with minor pyroxene hornfels occasionally recognisable

35.80 - 51.0 MARBLE MARKER?

Once again the unit lacks distinctive boundaries but may be subdivided into the following portions:

- | | |
|--------------|--|
| 35.8 - 37.45 | Intermixed pyroxene hornfels/biotite hornfels |
| 37.45 - 42.8 | Predominantly fine grained garnet hornfels with intermixed and interbedded pyroxene hornfels and biotite hornfels and minor marble and grossular |
| 42.8 - 51.0 | Predominantly marble with interbedded grossular/biotite hornfels and pyroxene hornfels. |

Has the appearance of banded footwall beds rather than that of typical marble marker in having white marbles and grossular reaction rims.

Bedding 50° LAOC @ 42.6m
57° 44.2m
40° 46.5m
72° 50.2m

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 472

51.0 - 88.0

BANDED GARNET HORNFELS

Banded garnet hornfels/pyroxene hornfels/biotite hornfels and minor marble and actinolite hornfels. Garnet hornfels fine grained and with fine grained mineralisation. In places has the appearance of banded footwall beds but such units have been included in Lower C because of their discontinuous occurrence.

Shearing parallel to bedding is common with broken and fault zones at the following meterages.

56.8 - 56.9	Broken core and chlorite
62.5	Minor broken core
62.75 - 62.9	Minor shearing and chlorite
76.1 - 76.20	Fault pug sulphides and slickensiding on adjacent joint surfaces
83.2 - 83.5	Fault pug/calcite/chlorite
84.05 - 84.5	Rehealed breccia with coarse calcite crystallisation and weathering about fault zone

Calcite veining and leaching and alteration becomes more marked towards the base of the unit which is marked by a consolidated breccia and pug with calcite veining and sulphides at 88.0 - 88.76m.

Bedding	60°	LAOC @	52.6m
	75°		57.3
	30°		63.5
	25°		68.4
	30°		79.5
	25°		85.0
	25°		87.95

88.76 - 97.5

LOWER VOLCANICS

Often coarsely spotted and intraded by several aplite dykes. Upper 1½m weathered and moderately altered.

Aplites at:

89.4 - 90.25	2 phases of intrusion
92.06 - 92.2	
95.86 - 96.4	

Mineralisation occurs in fine grained non spotted volcanics from 94.98 - 95.85m where it is associated to a fine grained black magnetic phase - magnetite?

Lower limit marked by an aplite at 95.74 - 96.4m. Aplites has a sharp upper contact but the lower one is less distinct.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 472

96.4 - 98.5m

BIOTITE HORNFELS

Dark purple/black hornfels invaded by numerous thin ($< \frac{1}{2}$ cm) criss-crossing aplite veins and vague "granitised" areas. Breccia like material with light coloured clasts less than 1/3cm diameter set in a biotite hornfels matrix.

EOH

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY BORE HOLE SURVEY DATA

D.D.H. No. D 472

Survey method: Single shot
Final depth: 98.50m
Casing depth: 4m

Depth surveyed to: 98.50m
Date surveyed: 7/3/79
Surveyed to: L. Denby
Checked by: G. J. Bujtor

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid OM	Mag.	Read	Corrected		N	E
20.50	349°30'	9°	6°45'	-83°15'	20.36	2.38	.38
50.50	349°30'	9°	6°45'	-83°15'	50.15	5.87	.93
98.50	349°30'	9°	7°	-83°	97.64	11.65	1.84

REMARKS:

Sheet 1 of 1

Surveyed by L. DENBY

Casing Depth 4m

Depth Surveyed 98.50m

Date Surveyed 7-3-79

[illegible]

W. 1/4

0.000

ACS W. CROSS SECTION

00H 0 472

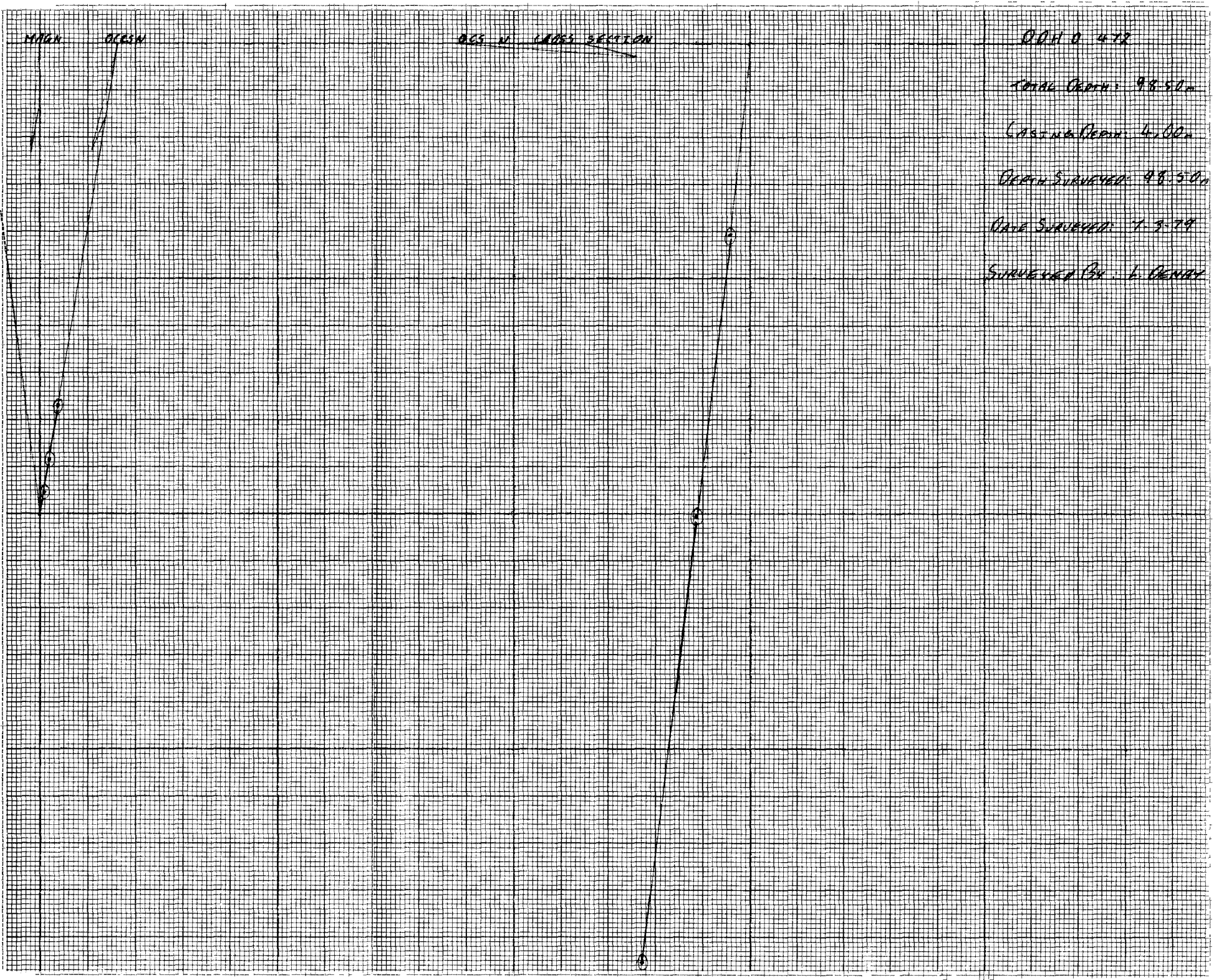
TOTAL DEPTH: 98.50m

CROSSING DEPTH: 4.00m

DEPTH SURVEYED: 98.50m

DATE SURVEYED: 7-3-79

SURVEYED BY: L. GENTRY



FOLD

HEWLETT-PACKARD
9280-0180
FOR USE ON HEWLETT-PACKARD RECORDERS

FOLD

DOLPHIN DDH # D472

DATE SURVEYED > 07*03*79

564150

219700

EDH -115.0
C -18.0

-SRR.L

PLAN SECTION VIEWED FROM → 290.0 ISG BRG

SURV METHOD :SS FINAL DEPTH 98.5
SURVEY DEPTH 98.5 CASING DEPTH 4.0

COL 219710.4 564105.2
EDH 219713.6 564116.2

DDH 472
1:500

219720

219680

RL = 18.0m

1SG SECTION
LOOKING E

SECTION IN
PLANE OF HOLE

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 471

PLANNING

PROPOSER: R. Staveley-Parker

DEPTH:

LOCATION: 13 Bench Open cut

PURPOSE OF HOLE: To test for Southern Orebody

CO-ORDS: 219 920 E 563970 N

INCLINATION: -90

BEARING: 0 °GRID °MAG

TARGET: E N

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: °GRID °MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219919.7 E 563971.3 N

R.L. OF COLLAR 4.06

INCLINATION OF HOLE -90°

PICKED UP BY: B. Davies DATE: 3/4/79

SUMMARY

LOGGED BY: R. Staveley-Parker

RESULTS: 165 - 171m, 6m @ 0.54% WO₃

DRILLING

DATE COMMENCED: 14/2/79 DATE TERMINATED: 12/3/79

DRILLER/CONTRACTOR:

CASING: SIZE: HQ NQ
DEPTH: 2m 36m

CORE: SIZE: BQ
DEPTH: 209.70

WEDGE PLACED: DATE:

EXTENSION:

FINAL DEPTH: 209.70

REASON FOR TERMINATION:

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: Single shot

WATER:

COMMENTS ON DRILLING CONDITIONS:

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 471

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO ₃	Mo		
D 10060	160	161	1.0	1.0	<0.01	0.01	0.03	
61	161	162	"	"	<0.01	0.02		
62	162	163	"	"	0.12	0.02		
63	163	164	"	"	0.19	0.02		
64	164	165	"	"	0.19	0.02		
65	165	166	"	"	0.48	0.03		
66	166	167	"	"	0.35	0.03		
67	167	168	"	"	1.13	0.04	6 m	0.54 %
68	168	169	"	"	0.37	0.03		
69	169	170	"	"	0.52	0.03		
70	170	171	"	"	0.37	0.10		
71	171	172	"	"	<0.01	0.01		
72	181	182	"	"	<0.01	0.01		
73	182	183	"	"	1.26	0.03	1 m	1.26 %
74	183	184	"	"	0.02	0.01		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

DDH No. D 471

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT LAOC)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO- VERY	R.Q.D.	REMARKS (WEATHERING)
Not Recorded above 110.6m.								
110.6 - 123.8m	U/V					98%	35	
123.8 - 124.1	U/V			Cal veining at 49°				Fault
124.1 - 138.7	U/V/Bh					100	92	
138.8 - 139.9	Bh			Cal			41	Broken core
139.9 - 143.5	Aplite						94	
143.5 - 152.5	Bph			Cal			63	146.0 - 146.2m shearing
152.5 - 158.9	Aplite						67	
158.9 - 171.5	Bph/Bfb				50 - 52°		85	
171.5 - 180.4	L/V						70	
180.0 - 195.5	Granite						91	
195.5 - 205.0	Granite						33	
205.0 - 209.7	Granite						83	

FURTHER DATA & REMARKS

1. Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
2. R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core} > 10 \text{ cm}}{\text{Length Drilled}} \%$
3. Core size.

GEOLOGY - KING ISLAND SCHEELITECORE RECOVERYD.D.H. No. D 471

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
110.6 - 111.3	0.7	0.5	71
111.3 - 112.6	1.3	1.3	100
112.6 - 114.2	1.6	1.6	100
114.2 - 115.3	1.1	1.1	100
115.3 - 116.2	0.9	0.9	100
116.2 - 117.2	1.0	1.0	100
117.2 - 118.7	1.5	1.5	100
118.7 - 119.6	0.9	0.85	94
119.6 - 120.4	0.8	0.8	100
120.4 - 122.1	1.7	1.7	100
122.1 - 123.0	0.9	0.8	89
123.0 - 124.0	1.0	1.0	100
124.0 - 127.0	3.0	3.0	100
127.0 - 129.5	2.5	2.5	100
129.5 - 131.2	1.7	1.7	100
131.2 - 132.6	1.4	1.2	86
132.6 - 135.0	2.4	2.4	100
135.0 - 137.0	2.0	2.0	100
137.0 - 138.9	1.9	1.9	100
138.9 - 139.7	0.8	0.8	100
139.7 - 140.4	0.7	0.7	100
140.4 - 143.4	3.0	3.0	100
143.4 - 145.0	1.6	1.6	100
145.0 - 146.4	1.4	1.4	100
146.4 - 149.4	3.0	3.0	100
149.4 - 151.0	1.6	1.6	100
151.0 - 152.4	1.4	1.4	100
152.4 - 155.0	2.6	2.6	100
155.0 - 158.0	3.0	3.0	100
158.0 - 159.0	1.0	1.0	100
159.0 - 161.4	2.4	2.4	100
161.4 - 164.4	3.0	3.0	100
164.4 - 167.4	3.0	3.0	100
167.4 - 170.4	3.0	3.0	100
170.4 - 173.4	3.0	3.0	100
173.4 - 176.0	2.6	2.6	100
176.0 - 179.0	3.0	3.0	100
179.0 - 182.0	3.0	3.0	100
182.0 - 185.0	3.0	3.0	100
185.0 - 188.0	3.0	3.0	100
188.0 - 191.0	3.0	3.0	100
191.0 - 194.0	3.0	3.0	100
194.0 - 197.0	3.0	3.0	100
197.0 - 198.2	1.2	1.1	92
198.2 - 199.0	0.8	0.65	81
199.0 - 202.7	3.7	3.65	99
202.7 - 204.7	2.0	2.0	100
204.7 - 207.8	3.1	3.05	98
207.8 - 209.7	1.9	1.9	100

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 471

0.0 - 1.80m NO CORE

1.80 - 8.60 APLITE

Fine grained pink aplite with light green quartz-epidote veins. The top of the unit (1.8 - 4.0m) is very broken.

Fractures/m = 10
Recovery = 95%

8.60 - 129.10 UPPER VOLCANICS

Grey, dark green and brown basic volcanics with small interbeds of sediment. The volcanics are typically very fine grained and featureless apart from calcite veinlets

13.8 - 14.6m Broken core around aplite dyke.
36.0 - 38.0m Broken core along calcite veins parallel with the core axis.
54.9 - 56.6m Broken core.
56.8 - 57.6m Light green marble bed with banding at 57° to core axis.
58.0 - 59.3 Short zones of broken core within this interval
72.9 - 73.5m Aplite
76.7 - 78.7m Marble containing abundant and pyroxene. Short zones contain andradite and grossular with minor fine grained disseminated scheelite in some beds. Bedding is 70° to core axis.
78.7 - 81.0m, 84.0 - 84.2m, 87.3 - 88.0m Broken core with minor core loss.
100.4 - 101.0m Aplite
107.0 - 107.1m Mildly sheared moderately broken core.
109.6 - 110.6m Broken core
117.0 - 121.0m Short zones of broken core (usually associated with calcite veins) within longer lengths of core.
123.8 - 124.1m Sheared and mildly brecciated broken core with abundant calcite veining. probably representing a fault zone.

The lower boundary of this unit is indistinct.

Fractures/m = 7
Recovery = 99%

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 471

129.10 - 139.90m BIOTITE HORNFELS

Dark brown very fine grained biotite hornfels. Short lengths are spotted but bedding is not present.

- 131.1 - 131.2m Broken core
- 133.4 - 133.5m Aplite dyke
- 136.0 - 136.6m Aplite dyke
- 138.55 - 139.7m Broken core around a 2cm wide calcite vein subparallel to the core axis.

Fractures/m = 4 (except for 138.55 - and 139.7m)
Recovery = 99%

139.90 - 143.50 APLITE

Fine grained light pink aplite in which mafic minerals are not common. Fragments of biotite hornfels are present near the end of the unit.

Fractures/m = 4
Recovery = 100%

143.50 - 152.20 BIOTITE PYROXENE HORNFELS

Dark brown biotite hornfels is interbedded with green pyroxene hornfels. Small calcite veins are abundant and aplite is present between 147.5 - 147.9m. Small fragments of marble are sometimes present in the pyroxene rich beds.

- 146.0 - 146.2m Intensely sheared pyroxene hornfels with abundant calcite veinlets.
- 151.5 - 151.6m Broken core is zone of calcite veining.

Fractures/m = Av. 9
Recovery = 100%

152.20 - 158.90 APLITE

Fine grained pink aplite with scattered black biotite. Some joints have minor muscovite on them.

- 156.7 - 157.2 Brown hornfels with minor green pyroxene hornfels bedded at 48° to the core axis. Small calcite veinlets are present throughout the aplite and this fragments.

Fractures/m = 7
Recovery = 100%

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 471

158.90 - 160.80m BIOTITE - PYROXENE HORNFELS

Purplish brown with lesser amounts of interbedded green pyroxene hornfels and small lenses of marble. The unit appear to be disturbed with the marble lenses resulting from disruption and boudinage of beds.

Bedding ranges from 50° - 65° to core axis. The basic of this unit is disturbed by intense calcite veining (which has caused minor brecciation of the core) and aplite veins.

Fractures/m = 6
Recovery = 100%

160.80 - 171.50 BANDED FOOTWALL BEDS

Finely interbedded pyroxene, biotite, garnet and calcite hornfels, with constant bedding at 50° - 52° to core axis.

Andradite garnet hornfels is more abundant between 167.3 - 170.3m, and where present contains fine grained disseminated scheelite which overall is either sub-grade or very low grade.

Marble beds are more common between 160.8 - 167.3m and are usually rimmed or nearly completely replaced by grossular with only minor andradite.

Fractures/m = 7
Recovery = 100%

171.50 - 174.10 LOWER VOLCANICS

Dark green moderately spotted basic dyke with abundant fine grained pyrrhotite. Small calcite veinlets are present.

Fractures/m = 9
Recovery = 100%

174.10 - 175.30 PYROXENE - CALCITE HORNFELS

Fine grained white marble rimmed and interbedded with dark green pyroxene hornfels fine grained scheelite is present in andradite rich zones at 174.6 - 174.7m and in calcite/amphibole at 174.1m. The base of this unit appears to be a fault zone (sheared brecciated and veined by calcite).

Fractures/m = 4
Recovery = 100%

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 471

175.30 - 180.40m LOWER VOLCANICS

Dark green spotted basic volcanics with contains small feldspar phenocrysts and small dark ?biotite clots

Fractures/m = 6
Recovery = 100%

180.40 - 209.70 ADAMELLITE

Coarse grained adamellite with large pink orthoclase phenocrysts, quartz, plagioclase and abundant biotite, chlorite and hornblende.

180.4 - 181.6 The unit has a very fine grained aplite margin grades into fine grained adamellite.

181.6 - 183.0 Biotite pyroxene hornfels with length of pyroxene-quartz hornfels containing fine grained disseminated scheelite. The interval 182.0 - 182.4m contains abundant scheelite.

195.5 - 205.0m Adamellite has been intensely veined and brecciated by calcite. Short lengths of rubble are present.

Fractures/m = Av. 4 (except for calcite veined zone)
Recovery = 99%

EOH 209.70m

GEOLOGY - KING ISLAND SCHEELITESUMMARY BORE HOLE SURVEY DATAD.D.H. No. D 471

Survey method: Singleshot
Final depth: 207.70m
Casing depth: 36.00m

Depth surveyed to: 207.70
Date surveyed: 15/3/79
Surveyed by: R. J. S. P.
Checked by: L. Denby

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corrected		N	W
63	290°	280°	3°30'	-86°30'	62.88	.67	3.78
111	292°	282°	9°45'	-80°15'	110.19	2.36	11.73
159	293°	283°	10°45'	-79°15'	157.35	4.37	20.45
207.70	290°	280°	11°45'	-78°15'	205.20	6.09	30.22

REMARKS:

DOLPHIN DDH # D471

DATE SURVEYED > 15-3-79

R.L 0.0
R.L -100.0

564000

219900

EDH -201.4

EDH

106.6

SECTION 21920
+5m
+5m

PLAN
SECTION

COL	219919.7	563971.3
EDH	219901.7	563970.6

DOLPHIN DDH # D471

DATE SURVEYED > 15/3/78

R.L 0.0
R.L -100.0
R.L -200.0

EDH

564000

219900

EDH -201.4

SECTION 2199202

PLAN
SECTION

COL	219919.7	563971.3
EDH	219901.7	563978.6

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 470

PLANNING

PROPOSER: R. Balde

DEPTH:

LOCATION: 13 Bench Open Cut

PURPOSE OF HOLE: To Test for Southern Orebody along Section 219960 E

CO-ORDS: 219960 E 563980 N

INCLINATION: -79°

BEARING: 180° $^{\circ}$ GRID $^{\circ}$ MAG

TARGET: E N

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: 181° $^{\circ}$ GRID $^{\circ}$ MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219960.0 E 563982.7 N

R.L. OF COLLAR 8.61

INCLINATION OF HOLE -76° 22'

PICKED UP BY: W. Davies DATE: 6/2/79

SUMMARY

LOGGED BY: R. Staveley-Parker

RESULTS: No significant mineralisation

DRILLING

DATE COMMENCED: 20/1/79 DATE TERMINATED: 15/2/79

DRILLER/CONTRACTOR: ADD

CASING: SIZE: NQ
DEPTH: 1.5

CORE: SIZE: BQ
DEPTH: 217.0m

WEDGE PLACED: DATE:

EXTENSION:

FINAL DEPTH: 217.0m

REASON FOR TERMINATION: Finished in granite

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: Surveyed to 217m

WATER:

COMMENTS ON DRILLING CONDITIONS:

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY BORE HOLE SURVEY DATA

D.D.H. No. D 470

Surveyed method: Singleshot camera
Final depth: 217m
Casing depth: 1.50m

Depth Surveyed to: 217m
Date surveyed: 15/2/79
Surveyed by: L. Denby
Checked by: J. Clark

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corrected		S	E
50	183°	173°	14°15'		48.46	12.22	1.50
100	190	180	14°15'		96.92	24.53	1.50
150	188	178	15°		145.22	37.46	1.95
217	186	176	15°		209.94	54.76	3.16
EOH 217m							

REMARKS:

GEOLOGY - KING ISLAND SCHEELITE

CORE RECOVERY

D.D.H. No. D 470

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 2.5	2.5	0.35	14
2.5 - 5.4	2.9	0.6	21
5.4 - 6.7	1.3	0.5	38
6.7 - 8.5	1.8	1.2	67
8.5 - 10.0	1.5	1.5	100
10.0 - 12.0	2.0	1.6	80
12.0 - 14.2	2.2	2.0	91
14.2 - 16.0	1.8	1.8	100
16.0 - 18.0	2.0	1.8	90
18.0 - 20.2	2.2	1.5	68
20.2 - 20.5	0.3	0.2	67
20.5 - 23.5	3.0	3.0	100
23.5 - 26.5	3.0	3.0	100
26.5 - 29.5	3.0	3.0	100
29.5 - 32.5	3.0	2.8	93
32.5 - 36.1	3.6	3.3	92
36.1 - 38.5	2.4	2.4	100
38.5 - 40.0	1.5	1.5	100
40.0 - 41.9	1.9	1.9	100
41.9 - 44.5	2.6	2.6	100
44.5 - 48.0	3.5	3.5	100
48.0 - 50.5	2.5	2.5	100
50.5 - 53.4	2.9	2.9	100
53.4 - 56.1	2.7	2.7	100
56.1 - 59.0	2.9	2.9	100
59.0 - 62.5	3.5	3.2	91
62.5 - 65.5	3.0	3.0	100
65.5 - 68.5	3.0	3.0	100
68.5 - 71.5	3.0	3.0	100
71.5 - 73.9	2.4	2.4	100
73.9 - 77.0	3.1	3.1	100
77.0 - 79.6	2.6	2.6	100
79.6 - 82.75	3.15	3.0	95
82.75 - 85.6	2.85	2.85	100
85.6 - 88.6	3.0	3.0	100
88.6 - 91.85	3.25	3.25	100
91.85 - 95.0	3.15	3.15	100
95.0 - 98.5	3.5	3.5	100
98.5 - 100.2	1.9	1.7	89
100.2 - 101.5	1.3	1.3	100
101.5 - 104.2	2.7	2.7	100
104.2 - 107.3	3.1	3.1	100
107.3 - 110.4	3.1	3.1	100
110.4 - 113.5	3.1	3.1	100
113.5 - 115.6	2.1	2.1	100
115.6 - 118.6	3.0	3.0	100
118.6 - 119.5	0.9	0.8	89
119.5 - 122.0	2.5	2.0	80

GEOLOGY - KING ISLAND SCHEELITECORE RECOVERYD.D.H. No. D 470

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
122.0 - 125.0	3.0	3.0	100
125.0 - 128.2	3.2	3.2	100
128.2 - 131.3	3.1	3.1	100
131.3 - 134.4	3.1	3.1	100
134.4 - 137.5	3.1	3.1	100
137.5 - 140.5	3.0	3.0	100
150.5 - 143.5	3.0	3.0	100
143.5 - 146.5	3.0	3.0	100
146.5 - 149.5	3.0	3.0	100
149.5 - 152.5	3.0	3.0	100
152.5 - 155.5	3.0	3.0	100
155.5 - 157.3	1.8	1.8	100
157.3 - 159.7	2.4	2.4	100
159.7 - 161.5	1.8	1.8	100
161.5 - 164.5	3.0	3.0	100
164.5 - 167.5	3.0	3.0	100
167.5 - 170.5	3.0	3.0	100
170.5 - 173.1	2.6	2.6	100
172.1 - 176.3	3.2	3.2	100
176.3 - 178.3	2.0	2.0	100
178.3 - 179.5	1.2	0.7	58
179.5 - 181.5	2.0	2.0	100
181.5 - 184.3	2.8	2.8	100
184.3 - 187.3	3.0	3.0	100
187.3 - 190.3	3.0	3.0	100
190.3 - 193.5	3.2	3.2	100
193.5 - 196.6	3.1	3.0	97
196.6 - 199.8	3.2	3.2	100
199.8 - 203.0	3.2	2.9	91
203.0 - 206.1	3.1	3.1	100
206.1 - 208.7	2.6	2.6	100
208.7 - 211.9	3.2	3.2	100
211.9 - 214.3	2.6	2.6	100
214.3 - 215.5	1.2	1.2	100
215.5 - 217.0	1.5	1.5	100
EOH			

GEOLOGY--KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

DDH No. D 470

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT LAOC)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO- VERY	R.Q.D.	REMARKS (WEATHERING)
0.0 - 12.8	Aplite	8	30°@0°	Qtz/chl			18	
12.8 - 157.2	U/V	6-15	30-60	Chl/cc/Qtz/ clay			75	
157.2 - 162.75	Fault zone							
162.75 - 180.0	U/V	15	20-35	Chl/Qtz/clay/ cc			72	
180.0 - 200.4	Bh/Bah	6	53&10	cc/chl			69	
200.4 - 211.82	Bh/Bah/Bh Ph	5	40	Moly/Chl/Qtz/ cc/clay/sulp	55°@ 205m		60	
211.82 - 217.0	Granite	4	45	cc/Qtz/clay			94	
EOH								

FURTHER DATA & REMARKS

1. Deatiled % core recoveries within each depth interval is shown in the core recovery tabulation.
2. R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core 10 cm}}{\text{Length Drilled}} \%$
3. Core size. BQ

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 470

0.0 - 12.8m APLITE

Medium fine grained with Upper Volcanics between 6.6 and 7.8m.

12.8 - 180.0 UPPER VOLCANICS

Dark green - black volcanics showing increase in metamorphic spotting with depth. Also obvious is alternation of light and dark zones which have irregular margins and interfinger on a fine scale with each other. Banding is semi-regular over a given interval. Metamorphic spotting appears to be superimposed upon the zonation, which extends from about 50m to 178.0m.

Aplite veins at:

15.2 - 15.55m
25.9 - 26.95m
28.1 - 31.4m
56.1 - 57.0m
93.8 - 94.1m
108.9 - 109.1m

Small scale fracturing and shearing is common, particularly in the upper portion of the sequence.

More obvious broken zones at:

23.0 - 26.0
40.0 - 47.0 Several small shattered areas with chlorite, clay and slickensided surfaces.
84.2 - 84.6 Minor pug
87.9 - 88.6 Slickensided surfaces, Aplite and clay
119.135 - 121.95 Fault zone with consolidated pug.
157.2 - 162.75 Major zone consisting of breccia, chloritic pug, calcite, serpentinite and 5m of clear crystalline quartz. Upper contact is at 12° to LAOC but lower margin marked by shattered and re cemented volcanics. Fault zone mineralised with patches of medium - coarse scheelite.
178.0 - 180.0 Zone of broken core.

180.0 - 211.82 HORNFELSED SEDIMENTS

Biotite, biotite-actinolite, actinolite and pyroxene hornfels. Fine grained and varying from predominantly biotite hornfels in the upper portion to a banded (<2cm) hornfels with increasing pyroxene hornfels and actinolite hornfels proportion with depth. Between 206.5 and 211.82 there is veining by quartz and calcite.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 470

Fault zones at:

196.45 - 196.75 Powdery chloritic clays
200.5 - 202.0 Several small fault zones and possibly a
large totally rehealed fault. All contain
abundant molybdenum and chlorite give an
extremely slick surface.

Bedding 70° LAOC @ 204.80, 55° @ 205.0m
55° @ 209.90m

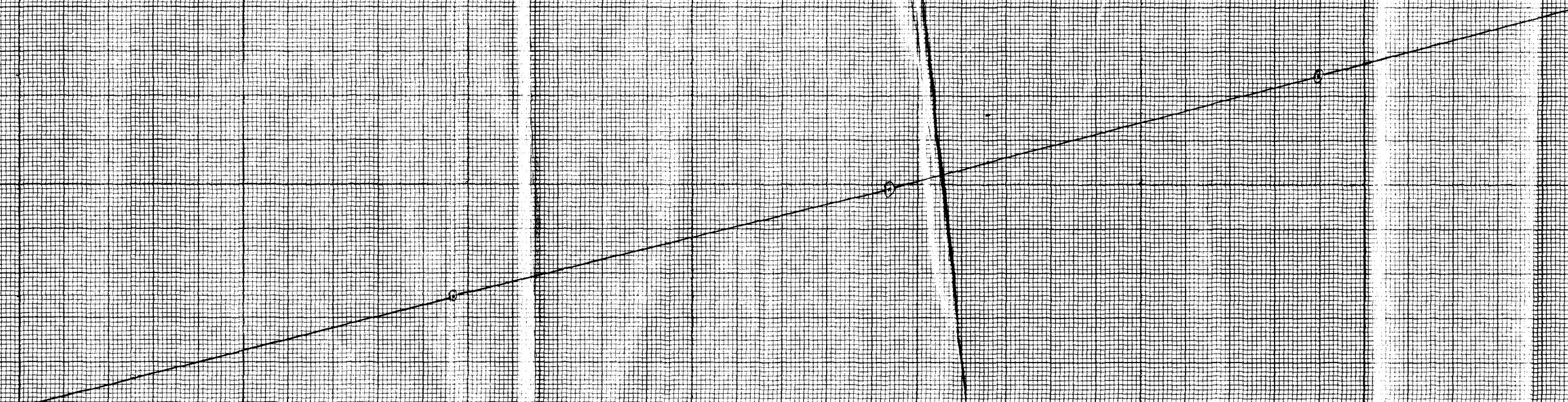
211.82 - 217.0 GRANITE

Typical coarse grained granite but with a sharp contact with
overlying pyroxene hornfels/biotite hornfels at 40° to LAOC
The usual alteration zone is lacking.

EOH 217.0m

ODM D 470
TOTAL DEPTH: 217.00
CASE NO. DEPTH: 1.50 m
DEPTH SURVEYED: 150.00 m
DATE SURVEYED: 15.2.79
SURVEYED BY: L. DENTON

ODM CROSS SECTION



R.L 0.0

R.L -100.0

H.001- H03

H03

564000

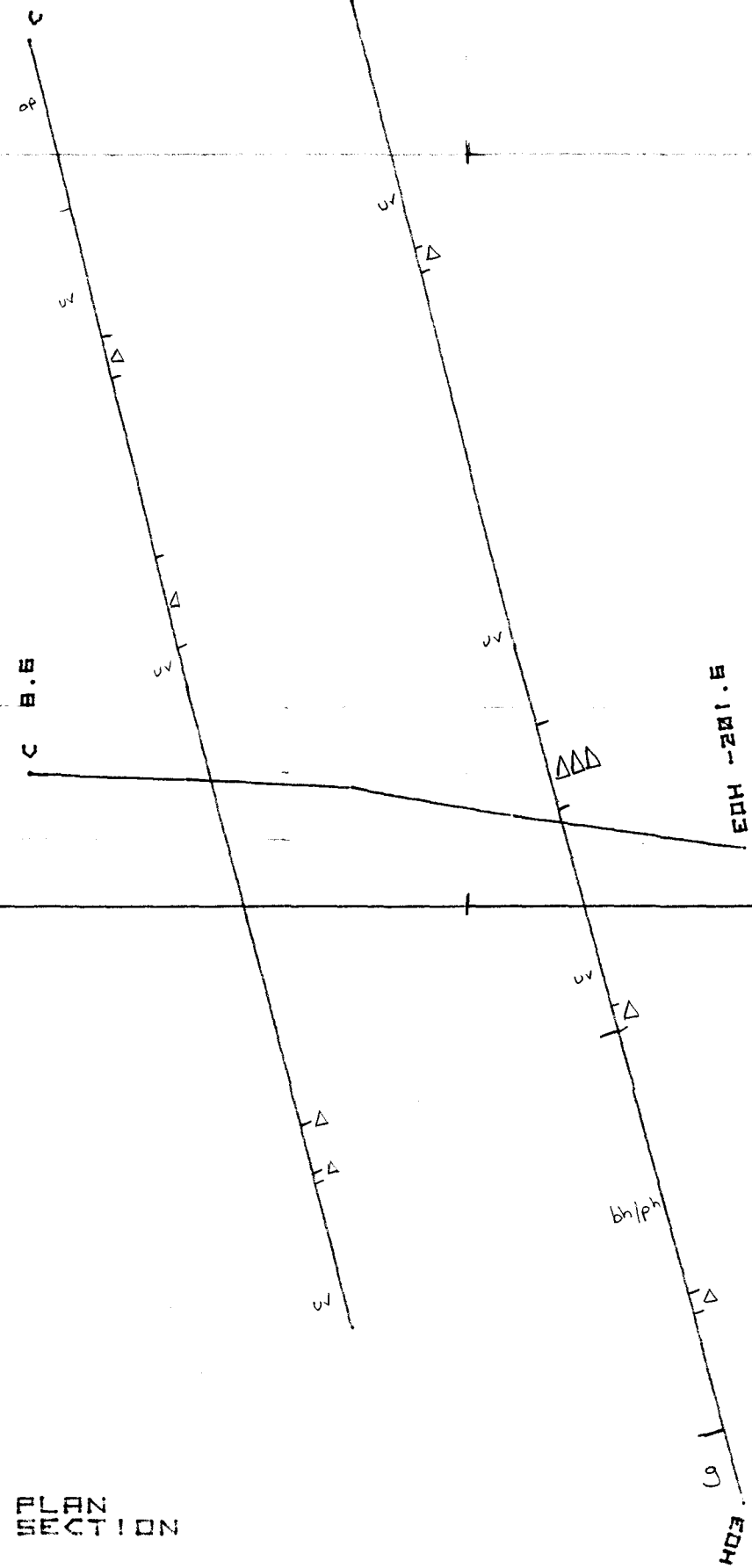
219900

C.H.0

PLAN.
SECTION

DDH 470

COL 219919.7 563971.7



R.L 0.0
R.L -100.0

000000

219950

PLAN
SECTION

COL	219960.0	563502.7
EDH	219954.4	563529.3

Sheet 1 of 1

Surveyed by L. DENBY

Surveyed by L. DENBY

Date Surveyed 15-2-79

ok
JW
6:39 AM Wols

GEOPEKO - KING ISLAND

LOG OF D.D.H. No. D 469

PLANNING

PROPOSER: R. Balde

DEPTH:

LOCATION: 13 Bench Open Cut

PURPOSE OF HOLE: To Test the Southern Orebody

CO-ORDS: 219 920 E 563 970 N

INCLINATION: -65°

BEARING: 0 °GRID °MAG

TARGET: E N

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: $359^{\circ} 40'$ °GRID °MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219919.7 E 563971.7 N

R.L. OF COLLAR: + 4.0.

INCLINATION OF HOLE: $-64^{\circ} 01'$

PICKED UP BY: B Davies DATE: 6/2/79

SUMMARY

LOGGED BY: A. Younger

RESULTS: Garnet Hornfels 161 - 163m, 2 m @ 0.62% WO_3

DRILLING

DATE COMMENCED: 9/1/79

DATE TERMINATED: 12/2/79

DRILLER/CONTRACTOR: ADD

CASING: SIZE: NQ
DEPTH: 45m

CORE: SIZE: BQ
DEPTH: 202.7

WEDGE PLACED: DEPTH:

EXTENSION:

FINAL DEPTH: 202.7 m

REASON FOR TERMINATION:

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: Surveyed to 202.7 m

WATER:

COMMENTS ON DRILLING CONDITIONS:

GEOPEKO LIMITED - KING ISLANDSUMMARY BORE HOLE SURVEY DATAD.D.H. No. D 469

Survey method: Multi shot
Final depth: 202.5
Casing depth: 45 m

Depth surveyed to: 202.7
Date surveyed 13/2/79
Surveyed by: L. Denby
Checked by: A. Younger

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corrected		N	E
18	22	12	26.25	-63.75	16.14	7.79	1.65
48	22	12	26.25	-63.75	43.04	20.76	4.46
60	23	13	24.75	-65.25	53.91	25.69	5.66
84	357	347	24.75	-65.25	75.69	35.62	3.84
105	354	344	24.75	-65.25	94.81	44.01	1.58
123	341	331	23.25	-66.75	111.33	N 51.58	W 1.85
141	341	331	23.25	-66.75	127.88	57.76	5.31
181	311	301	23.25	-66.75	164.64.	68.51	16.65
202.7	288	278	23.5	- 66 5	184.56	70.58	24.95
EOH	202.7						

REMARKS:

GEOPEKO LIMITED - KING ISLAND

CORE RECOVERY

D.D.H. No. D 469

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
1.6 - 3.0	1.4	1.3	
3.0 - 5.3	2.3	2.3	100
5.3 - 8.0	2.7	2.7	100
8.0 - 10.6	2.6	2.6	100
10.6 - 13.0	2.4	2.2	92
13.0 - 14.3	1.3	1.3	100
14.3 - 17.3	3.0	2.9	97
17.3 - 20.3	3.0	2.8	93
20.3 - 23.9	3.6	3.6	100
23.9 - 25.6	1.7	1.7	100
25.6 - 29.8	4.2	3.6	86
29.8 - 32.3	2.5	2.5	100
32.3 - 33.7	1.4	1.4	100
33.7 - 37.0	3.3	3.3	100
37.0 - 38.3	1.3	1.3	100
38.3 - 41.3	3.0	3.0	100
41.3 - 45.0	3.7	3.7	100
45.0 - 47.1	2.1	2.1	100
47.1 - 50.3	3.2	3.2	100
50.3 - 53.3	3.0	3.0	100
53.3 - 55.2	1.9	1.9	100
55.2 - 56.3	1.1	1.1	100
56.3 - 59.3	3.0	3.0	100
59.3 - 62.3	3.0	3.0	100
62.3 - 65.3	3.0	3.0	100
65.3 - 68.3	3.0	3.0	100
68.3 - 69.4	1.1	1.1	100
69.4 - 71.3	1.9	1.9	100
71.3 - 73.1	1.8	1.8	100
73.1 - 76.0	2.9	2.9	100
76.0 - 78.0	2.0	2.0	100
78.0 - 81.9	3.9	3.8	97
81.9 - 85.0	3.1	3.1	100
85.0 - 88.3	3.3	3.3	100
88.3 - 91.0	2.7	2.2	81
91.0 - 93.5	2.5	2.5	100
93.5 - 97.0	3.5	3.2	91
97.0 - 99.5	2.5	2.5	100
99.5 - 102.5	3.0	2.8	93
102.5 - 106.1	3.6	3.6	100
106.1 - 108.0	1.9	1.8	95
108.0 - 110.0	2.0	2.0	100
110.0 - 113.0	3.0	3.0	100
113.0 - 116.1	3.1	2.9	97
116.1 - 119.2	3.1	3.1	100
119.2 - 122.2	3.0	3.0	100
122.2 - 123.7	1.5	1.5	100
123.7 - 126.7	3.0	3.0	100

GEOPEKO LIMITED - KING ISLAND

CORE RECOVERY

D.D.H. No. D 469

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
126.7 - 128.1	1.4	1.4	100
128.1 - 130.8	2.7	2.5	93
130.8 - 133.8	3.0	3.0	100
133.8 - 136.3	2.5	2.3	92
136.3 - 137.3	1.0	1.0	100
137.3 - 140.3	3.0	3.0	100
140.3 - 145.2	4.9	4.7	96
145.2 - 148.1	2.9	2.9	100
148.1 0 150.4	2.3	2.3	100
150.4 - 152.3	1.9	1.9	100
152.3 - 153.9	1.6	1.6	100
153.9 - 156.9	3.0	3.0	100
156.9 - 158.3	1.4	1.2	86
158.3 - 161.3	3.0	3.0	100
161.3 - 164.3	3.0	3.0	100
164.3 - 168.6	4.3	4.0	93
168.6 - 170.3	1.7	1.5	88
170.3 - 173.3	3.0	3.0	100
173.3 - 174.7	1.4	1.4	100
174.7 - 177.8	3.1	3.10	100
177.8 - 180.7	2.9	2.9	100
180.7 - 182.0	1.3	1.3	100
182.0 - 184.6	2.6	2.6	100
184.6 - 185.7	1.1	1.0	91
185.7 - 187.8	2.1	1.8	86
187.8 - 189.1	1.3	0.8	62
189.1 - 191.3	2.2	2.0	91
191.3 - 193.9	2.6	2.6	100
193.9 - 196.6	2.9	2.9	100
196.6 - 199.6	3.0	3.0	100
199.6 0 202.7	3.1	3.1	100
EOH 202.7 m			

GEOPEKO LIMITED - KING ISLAND

SUMMARY STRUCTURAL DATA

DDH No. D 469

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT LAOC)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO- VERY	R.Q.D.	REMARKS (WEATHERING)
1.6 - 6.65	Ap	10.20	35	Clay			0.30	
6.65 - 8.0	UV	7	45				0.63	
8.0 - 13.67	Ap	10.14	10° & 55°				0.56	
13.67 - 107.90	UV	7.20	0-60	Clay/cc/Qtz/sulp			0.64	
107.90 - 122.15	Bh	4.10	15° & 45°	Qtz/cc/sulp	65°		0.62	
122.15 - 148.60	B lens	4.15	60	Clay/ch/Qtz/sulp/cc	62°		0.67	Badly altered adjacent to faults.
148.6 - 161.2	Bh	5.15	20° & 65	Qtz/cc/Chl	55°		0.84	
161.3 - 163.07	Gh	3	35	Qtz/cc	55°		0.95	
163.07 - 171.98	Bh/Ph	4-8	60	Qtz/cc/clay/Chl	55°		0.68	
171.98 - 173.95	Marble	4	55	cc/Chl			0.98	
173.95 - 174.7	Fault zone							
174.7 - 202.7	LV	6	55 & 15	Chl, clay/cc/sulp			0.66	Green powdery weathering product.

FURTHER DATA & REMARKS

- Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
- R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core 10 cm}}{\text{Length Drilled}} \%$
- Core size. BQ

GEOPEKO LIMITED - KING ISLAND

ASSAY DATA

D.D.H. No. D 469

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	TO	Length	Length Recovered	WO ₃	Mo		
D 9217	122	123	1.0	1.0	0.02	0.02		
18	123	124	"	"	0.02	<0.01		
19	124	125	"	"	<0.01	0.01		
20	125	126	"	"	0.43	0.02		
21	126	127	"	"	0.02	0.02	3m	0.27
22	127	128	"	"	0.36	0.01		
23	128	129	"	"	0.02	0.01		
24	129	130	"	"	0.01	0.01		
25	130	131	"	"	0.28	0.02		
26	131	132	"	"	<0.01	0.02		
27	132	133	"	"	<0.01	0.01		
28	133	134	"	"	0.01	<0.01		
29	134	135	"	"	0.04	<0.01		
30	135	136	"	"	0.06	<0.01		
31	160	161	"	"	0.01	<0.01		
32	161	162	"	"	0.78	0.02	2m	0.62%
33	162	163	"	"	0.46	0.04		
34	163	164	"	"	<0.01	<0.01		
35	164	165	"	"	0.01	<0.01		

SPECIFIC GRAVITY

Depth (metres):

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 469

1.00 - 6.65m APLITE

Medium grained aplite with zonal concentrations of mafics.

6.65 - 8.0 UPPER VOLCANICS

8.0 - 13.67 APLITE

Fine to medium grained aplite with fine grained leucocratic zones. Interbedded Upper Volcanics at 10.20 - 10.35m and 12.75 - 13.12m. Contacts sharp and discordant.

13.67 - 107.90 UPPER VOLCANICS

Volcanics with scattered bands of sulphides surrounded by quartz rim. Angle between bands and LAOC reasonably consistent between 40 and 70°. Below 64.0m sulphides becomes less common and beyond this depth grain size appears to increase with increased occurrence of metamorphic spotting. Colour also changes from a purplish hue to a grey/green.

Colour gritty bands (turffaceous?) also occur:

89.4 - 90.0 Pale green

83.9 - 84.0 Dark green

Broken and fault zones:

20.9 - 21.6 Consolidated fault pug and calcite.

29.0 - 29.7 Calcite infilled.

47.0 - 47.3 Chloritic and slickensided surfaces.

64.3 - 64.5

65.5 - 68.20 Core fragmented and clay covered surfaces common.

70.40 - 74.30 Major rehealed and recemented fault zone.

Chlorite and calcite on surfaces. Marble associated

74.6 - 74.75 Consolidated fault pug

Core between 87.0 and 103.20m often badly broken with minor surfaces of slips thin (<20cm) aplite dyke.

107.90 - 122.15 BIOTITE HORNFELS

Minor pyroxene hornfels associated. A number of thin (<4cm) zones of pyroxene with sulphides surrounded by actinolite hornfels reaction rims. These become more common with depth. Aplites at 117.55 and 117.75m.

Bedding to LAOC 65° @ 119.65m
80° @ 117.10m

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 469

122.15 - 148.60 B LENS

Comprising marble, pyroxene hornfels mineralised and barren garnet hornfels. Garnet hornfels fine grained and mineralisation sparse and patchy.

- 122.15 - 128.10 Interlayered garnet hornfels/pyroxene hornfels/marble.
128.10 - 130.40 Major fault zone with broken core, slickensided surfaces and consolidated fault breccia and pug.
130.40 - 132.20 Interlayered pyroxene hornfels/pyroxene hornfels/biotite hornfels. Generally soft and altered.
132.20 - 133.80 Pale cream coloured fault pug and breccia. Chloritic and slickensided surfaces common. Some mineralisation.
133.80 - 136.20 One metre of altered olive green pyroxene hornfels followed by marbles, biotite hornfels pyroxene hornfels and sparsely mineralised garnet hornfels. Chloritic joint surfaces.
136.20 - 136.80 Fault zone of broken marbles and clay.
136.80 - 141.55 Light grey marble partially skarnitised marble and minor pyroxene hornfels. Fault breccia at 138.10m.
141.55 - 145.55 Badly altered pyroxene hornfels and coarsely spotted biotite actonite hornfels. Several small fault zones with green pug. Badly jointed.
145.55 - 148.60 Dark grey/black thinly bedded marbles

Bedding LAOC 55° @ 126.30m
62° @ 141.20m
65° @ 147.70

148.60 - 161.20 BIOTITE HORNFELS

80cm of banded biotite hornfels and actinolite hornfels at top than slightly "podded" biotite hornfels. Occasional included marble clasts. Core becomes more broken towards base and increasing actinolite hornfels content. Minor sulphides accretions.

Bedding 50° LAOC @ 152.66m
55° 160.50m

161.2 - 163.07 GARNET HORNFELS

Banded garnet hornfels and pyroxene hornfels. Finely but fairly rich mineralisation. Upper and lower contacts concordant with surrounding strata.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 469

162.07

BANDED FOOTWALL BED?

Banded pyroxene hornfels/grossular/calcite hornfels/biotite hornfels. Predominantly biotite hornfels for first 2.5m and then becoming more finely banded (band width less than 2.5cm). Fractured and faulted zone at 168.5 - 169.75m with pug and chlorite surfaces. Below this depth predominantly biotite hornfels with some pyroxene hornfels.

171.98 - 173.95

MARBLE

White - dark grey marble. Base broken and brecciated. Passing into a fault zone (disconformity?) at 173.95 - 174.7m with a recemented breccia.

174.7 - 202.7

LOWER VOLCANICS

Often unusually mottled and in places coarse grained or perhaps on autoclastic breccia eg 192.0 - 192.0m. Major fault zone from 184.2 - 189.1 with broken core, chlorite, calcite, slickensides, green powdery clay and a soft talc-like material. Minor faulting and shattering from 180.55 - 183.0m.

EOH 202.7m

DIAMOND DRILL HOLE SURVEY

Sheet 1 of 2Eastman-Kodak MULTISHOT CameraDDH No 469Casing Depth 45.00mSurveyed by L. RENDYTotal Depth 202.70mDepth Surveyed 202.70mDate Surveyed 13-2-79

Depth	Drift Angle	Mean Drift Angle	Cos.	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos.	Co-ords		Sum of Co-ords	
			Sine						Sine	N	E	N	E
18m	26°15'	26°15'	8969 4423	16.14	16.14	7.96	N E 12	N E 12	9781 2079	7.79	1.65	7.79	1.65
30m	26°15'	26°15'	8969 4423	10.76	26.90	5.31	N E 12	N E 12	9781 2079	5.19	1.10	12.98	2.75
36m	26°15'	26°15'	8969 4423	5.38	32.29	2.65	N E 12	N E 12	9791 2079	2.59	.55	15.57	3.30
48m	26°15'	26°15'	8969 4423	10.76	43.04	5.31	N E 4 20	N E 12	9781 2079	5.19	1.10	20.76	4.40
51m	26°	26°	8989 4384	2.70	45.74	1.32	N E 18	N E 18	9511 3090	1.26	.41	22.02	4.81
60m	24°45'	24°45'	9081 4187	6.17	53.91	3.77	N E 12	N E 13	9744 2250	3.67	.85	25.69	5.66
72m	25°	25°	9063 4226	10.89	64.80	5.07	N W 8	N W 8	9903 1392	5.02	.71	30.71	4.95
75m	25°	25°	9063 4226	2.72	67.52	1.27	N W 12	N W 12	9781 2079	1.24	.26	31.95	4.69
84m	24°45'	24°45'	9081 4187	4.17	75.69	3.77	N W 14	N W 13	9744 2250	3.67	.85	35.62	3.84
93m	24°15'	24°15'	9118 4107	9.21	83.90	3.70	N W 14	N W 14	9703 2419	3.59	.90	39.21	2.94
96m	24°	24°	9135 4067	2.74	86.64	1.22	N W 15	N W 15	9659 2588	1.18	.32	40.39	2.62
105m	24°45'	24°45'	9081 4187	9.17	94.81	3.77	N W 16	N W 16	9613 2796	3.62	1.04	44.01	1.58

NOTE

Hole surveyed by multishot at 141m & at 202.70 by single shot, hole depth 10.00m

Eastman - Kodak MULTESMOT CameraDDH No 469Casing Depth 45.00mSurveyed by L. DENBYTotal Depth 202.70mDepth Surveyed 202.70mDate Surveyed 13-2-79

Depth	Drift Angle	Mean Drift Angle	Cos.	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos.	Co-ords		Sum of Co-ords	
			Sine						Sine	N S	E W	N S	E W
111	23°45'	23°45'	9153	5.49	108.30	3.62	N W	N W	9397	3.40	1.21	47.41	E .37
			4024						3420				
114	23°15'	23°15'	9188	2.76	103.06	1.18	N W	N W	9063	1.07	.50	48.48	W .13
			3947						4226				
123	23°15'	23°15'	9188	8.27	111.33	3.55	N W	N W	8746	3.10	1.72	51.58	W 1.85
			3947						4848				
132	23°15'	23°15'	9188	8.27	119.60	3.55	N W	N W	8704	3.09	1.75	54.67	W 3.60
			3947						4924				
135	23°15'	23°15'	9188	2.76	122.36	1.18	N W	N W	8746	1.03	.57	55.70	W 4.17
			3947						4848				
138	23°15'	23°15'	9188	2.76	155.12	1.18	N W	N W	8746	1.07	.57	56.73	W 4.74
			3947						4848				
141	23°15'	23°15'	9188	2.76	127.88	1.18	N W	N W	8746	1.03	.57	57.76	W 5.31
			3947						4848				
161	23°15'	23°15'	9188	18.38	146.26	7.89	N W	N W	7721	6.13	4.97	63.89	W 10.25
			3947						6293				
171	23°15'	23°15'	9188	9.19	155.45	3.95	N W	N W	6561	2.59	2.98	66.48	W 13.26
			3947						7547				
181	23°15'	23°15'	9188	9.19	164.64	3.95	N W	N W	5150	2.03	3.39	68.51	W 16.65
			3947						8572				
191	23°15'	23°15'	9188	9.19	173.83	3.95	N W	N W	3584	1.42	3.69	69.93	W 20.31
			3947						9336				
202	23°15'	23°15'	9171	10.73	184.56	4.66	N W	N W	1392	.65	4.61	70.58	W 24.95
			3987						9903				

NOTE Hole surveyed by multistat at 141m and at 202.70 by angle shot, hole purged

056395

R.L. 0.0
R.L. -100.0

219900

DDH -100.4

C H.B

C H.B

DDH -100.4
H03

DATE SURVEYED > 23/2/79

DOLPHIN DDH # D469

564.000 N

ISLN CROSS SECTION

ODH 469

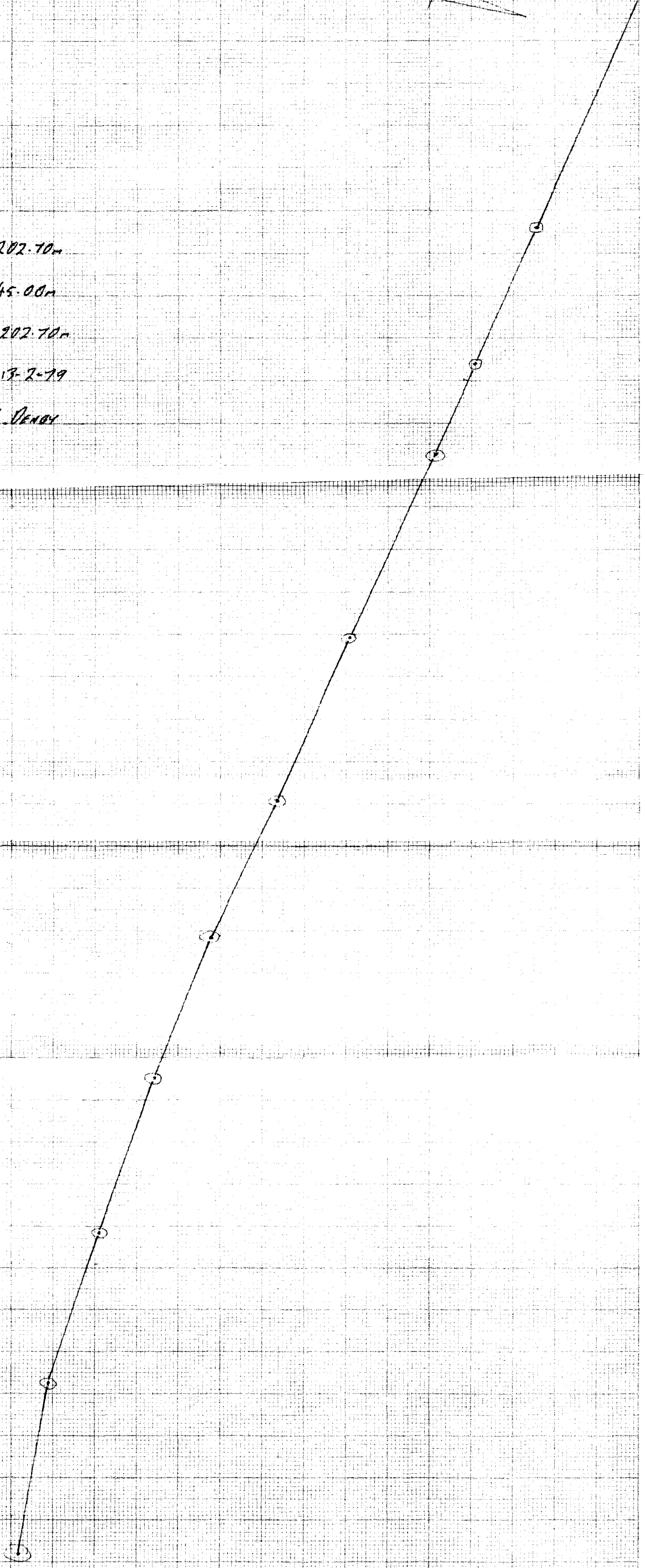
TOTAL DEPTH: 202.70m

CASING DEPTH: 45.00m

DEPTH SURVEYED: 202.70m

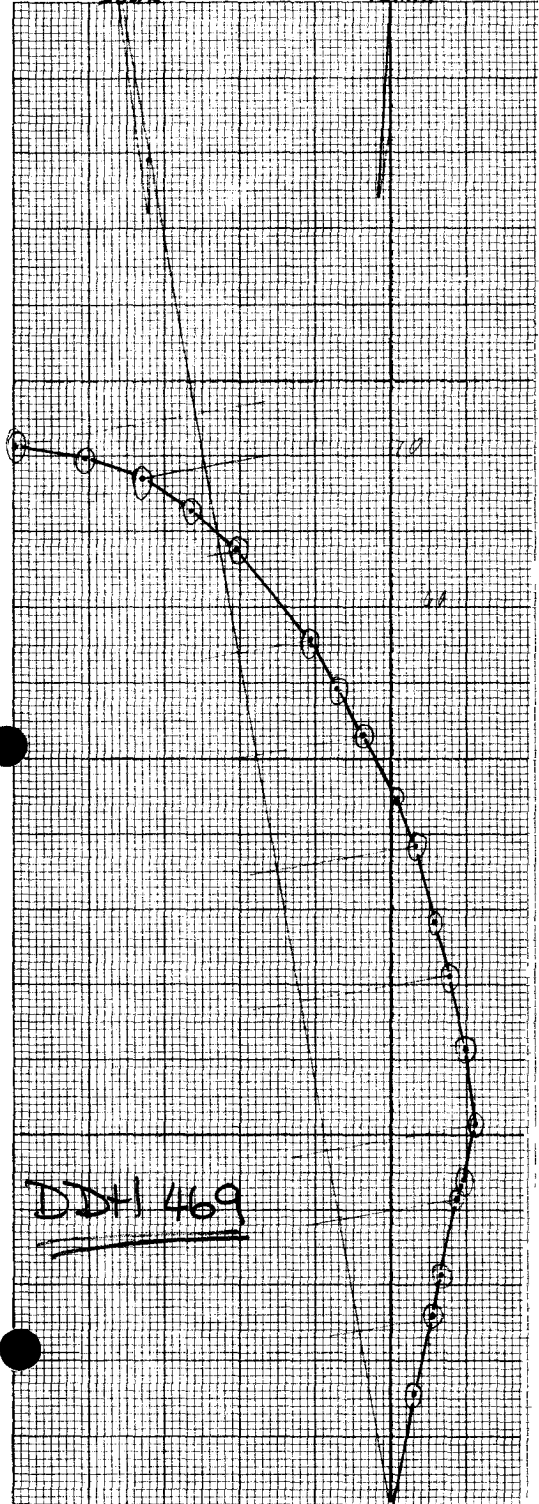
DATE SURVEYED: 13-2-79

SURVEYED BY: L. DENDY



154N

154N

DDH 469

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 468

PLANNING

PROPOSER: A. Younger

DEPTH:

LOCATION: 13 Bench Open Cut

PURPOSE OF HOLE: To Test for Southern Orebody

CO-ORDS: 219960 E 563990 N

INCLINATION: -87

BEARING: 360 °GRID °MAG

TARGET: E N

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: 28° 20' °GRID °MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219959.7 E 563983.1 N

R.L. OF COLLAR 8.5

INCLINATION OF HOLE -85° 06'

PICKED UP BY: B. Davies DATE: 4/1/79

SUMMARY

LOGGED BY: R. J. Staveley-Parker

RESULTS: C-lens 183 - 192m, 9m @ 0.70% WO₃
Swan Fault? 237.07 - 238.2m

DRILLING

DATE COMMENCED: 11/12/78 DATE TERMINATED: 18/1/79

DRILLER/CONTRACTOR: A.D.D.

CASING: SIZE: NQ

DEPTH: 5m

CORE: SIZE: BQ

DEPTH: 255

WEDGE PLACED: DATE:

EXTENSION:

FINAL DEPTH: 255m

REASON FOR TERMINATION: Encountered granite at 250.5 m

CONDITION OF HOLE ON COMPLETION:

CASING: All Pulled Out

CEMENTED: Yes

BORE HOLE SURVEY:

WATER: Water Loss at 17m

COMMENTS ON DRILLING CONDITIONS:

GEOLOGY - KING ISLAND SCHEELITESUMMARY BORE HOLE SURVEY DATAD.D.H. No. D 468

Survey method: Singleshot
Final depth: 255.0m
Casing depth: 5.0m

Depth surveyed to: 255m
Date surveyed: 19/1/79
Surveyed by: L. Denby
Checked by: A. Younger

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read.	Corrected		N	E
0	28.3°			-85.1	0	0	0
20	26	16	5°15'	-84.75°	19.92	1.76	0.50
90	23	13	5°15'	-84.75	89.63	8.01	1.94
170	8	358	5°15'	-84.75	16.29	15.33	1.68
255	360	350	5°45'	-84.25	253.88	23.72	0.20

REMARKS:

GEOLOGY - KING ISLAND SCHEELITE

CORE RECOVERY

D.D.H. No. D 468

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
132.96 - 133.5	.54	0.45	83
133.5 - 136.2	2.7	2.5	93
136.2 - 139.3	3.1	3.0	97
139.3 - 142.3	3.0	3.0	100
142.3 - 146.5	4.2	4.2	100
146.5 - 149.5	3.0	3.0	100
149.5 - 152.5	3.0	3.0	100
152.5 - 155.5	3.0	3.0	100
155.5 - 158.5	3.0	3.0	100
158.5 - 161.5	3.0	3.0	100
161.5 - 164.5	3.0	3.0	100
164.5 - 167.5	3.0	3.0	100
167.5 - 170.5	3.0	3.0	100
170.5 - 173.5	3.0	3.0	100
173.5 - 176.5	3.0	3.0	100
176.5 - 179.5	3.0	3.0	100
179.5 - 182.5	3.0	3.0	100
182.5 - 185.5	3.0	3.0	100
185.5 - 188.5	3.0	3.0	100
188.5 - 191.5	3.0	3.0	100
191.5 - 194.5	3.0	3.0	100
194.5 - 197.5	3.0	3.0	100
197.5 - 200.5	3.0	3.0	100
200.5 - 203.5	3.0	2.97	99
203.5 - 206.5	3.0	3.0	100
206.3 - 209.5	3.0	3.0	100
209.5 - 212.5	3.0	2.96	99
212.5 - 215.5	3.0	3.0	100
215.5 - 318.5	3.0	2.98	99
218.5 - 221.5	3.0	3.0	100
221.5 - 224.5	3.0	3.0	100
224.5 - 227.3	2.8	2.8	100
227.3 - 230.4	3.1	3.1	100
230.4 - 233.5	3.1	3.1	100
233.5 - 236.5	3.0	3.0	100
236.5 - 239.5	3.0	3.0	100
239.5 - 242.5	3.0	2.9	97
242.5 - 245.5	3.0	2.85	95
245.5 - 248.5	3.0	3.0	100
248.5 - 251.5	3.0	2.8	93
251.5 - 254.5	3.0	3.0	100
254.5 - 255.0	1.0	0.07	67
EOH 255.0m			

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 468

Sample No.	DEPTH (MEATRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO ₃	Mo		
D 9108	156	157	1.0	1.0	0.01	0.01		
09	157	158	"	"	0.08	0.01		
10	158	159	"	"	0.02	0.01		
11	159	160	"	"	0.11	0.01		
12	160	161	"	"	1.00	0.02	1 m	1.0 %
13	161	162	"	"	0.09	0.01		
14	162	163	"	"	0.14	0.01		
15	163	164	"	"	0.02	0.01		
16	164	165	"	"	0.01	0.01		
17	176	177	"	"	0.01	0.01		
18	177	178	"	"	0.01	0.01		
19	178	179	"	"	0.01	0.01		
20	179	180	"	"	0.06	0.01		
21	180	181	"	"	0.10	0.01		
22	181	182	"	"	0.01	0.01		
23	182	183	"	"	0.02	0.01		
24	183	184	"	"	0.62	0.01		
25	184	185	"	"	0.89	0.01		
26	185	186	"	"	0.82	0.02		
27	186	187	"	"	0.44	0.01		
28	187	188	"	"	0.36	0.01	9 m	0.70 %
29	188	189	"	"	0.43	0.01		
30	189	190	"	"	0.60	0.01		
31	190	191	"	"	0.52	0.01		
32	191	192	"	"	1.60	0.01		
33	192	193	"	"	0.01	0.01		
34	193	194	"	"	0.01	0.01		
35	194	195	"	"	0.06	0.01		
36	195	196	"	"	0.66	0.01	1 m	0.66 %
37	196	197	"	"	0.12	0.01		
38	197	198	"	"	0.01	0.01		
39	198	199	"	"	0.01	0.01		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

DDH No. 468

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT LAOC)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO- VERY	R.Q.D.	REMARKS (WEATHERING)
0.0 - 81.4	UV	4.10	45.60	Clay/culp/chl			60	
81.4 - 158.5	Bh/Ah/Ph	5.25+	15.40	Qtz/clay/cc			93	
158.5 - 164.5	B lens	5	20	cc	30° @ 162.7		89	
164.5 - 177.6	Bh/Ph	4.7	40	Qtz/cc/sulp	45° @ 173.95		83	
177.6 - 182.9	Pgh	4	40	Clay/ch/cc			96	
182.9 - 196.1	C lens	3.7	40	Qtz/cc/clay/ sulp	45° @ 193.8		90	
196.1 - 201.2	BFB	5	70	Qtz/cc	35° @ 196.4		91	
201.2 - 228.1	Bh/Ph	3.6	50.70	Qtz/cc	70° @ 202.8		03	
228.1 - 230.67	Ch	8	45	Qtz/cc/clay/ sulp			76	
230.67 - 250.45	LV	4.12	30	cc/sulp/ch/ clay			72	
250.45 - 255	Granite	7	20	Clay/sulp			60	
EOH 255.0m								

FURTHER DATA & REMARKS

1. Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
2. R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core 10 cm}}{\text{Length Drilled}} \%$
3. Core size. 46TT

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 468

0.0 - 81.40m UPPER VOLCANICS

Typical fine grained volcanics with increased metamorphic spotting with depth.

Aplite dykes at:

7.7 - 12.7m Very broken and badly altered.
20.9 - 21.4m
23.5 - 24.0m
27.1 - 30.0m Severly jointed and altered
50.23 - 50.8m Upper lower contacts sheared

Shear and fault zones at

20.4 - 20.45m Minor
30.3 - 30.35m Minor
31.7 - 31.9m Minor
45.02 - 45.29m
53.63 - 54.09m
55.95 - 56.40m
63.0 - 64.0m Broken, jointed and slickensided core
65.6 - 68.1m Generally broken core with numerous slickensided
Surfaces with major fault pug, breccia and
minor scheelite mineralisation at 67.7 - 67.35.
68.84 - 70.35m
72.60 - 74.50m Major fault zone.
78.30 - 78.85m Fault pug and 20cm of aplite.
81.4 - 81.8m Fault/unconformity separating Upper Volcanics
from mine series rocks.

81.8 - 158.5

BIOTITE HORNFELS/PYROXENE HORNFELS/BIOTITE ACTINOLITE HORNFELS

Fine grained sequence consisting of predominantly Biotite Hornfels with lesser amounts of Pyroxene and Actinolite Hornfels with the following subdivisions:

81.80 - 83.63 Biotite Hornfels with a minor fault at 82.7 - 82.8
83.63 - 86.1 Pyroxene Hornfels with minor Biotite Hornfels and occasional Garnet hornfels.
86.10 - 93.75 Biotite Hornfels with core particularly broken from 86.80 - 92.10m
93.75 - 94.10 Coarse Grained Pyroxene Hornfels
94.10 - 102.8 Biotite Hornfels fine grained but with increasing grain size, Actinolite content and metamorphic content towards base.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 468

- 102.8 - 105.05 Broken Biotite Hornfels and Calcite Veined Olive Green Pyroxene Hornfels. Recemented fault breccia at 103.9m and sheared flakes and pug from 104.05 - 105.05.
- 105.05 - 125.0 Mainly Biotite Actinolite Hornfels with interlayered Biotite Hornfels/Actinolite Hornfels/Pyroxene Hornfels. Consolidated fault pug and brecciated fragments at 113.33 - 113.8m.
- 125.0 - 135.90 Biotite Hornfels Minor Actinolite Hornfels. Aplite with associated shearing at 131.35 - 131.40 and series of thin aplite veins with diffuse margins from 133.5 - 134.20m. Broken zones from 132.9 - 133.6m.
- 135.9 - 149.97 Biotite Hornfels with Pyroxene Hornfels. Pyroxene Hornfels often coarse grained. Minor aplites at 136.8m, 138.53 - 138.8m, 140m and 141m showing sharp discordant boundaries and associated pyrite and chalcopyrite. Section from 137.6 - 139.6 is considerably broken and veined with quartz and calcite. Rehealed fault zone? at 146.5 with a 3cm vein of Quartz/Quartzite and carbonate. Fibrous amphibole (actinolite) infilling a near vertical vein from 143.2 - 143.6m. Proportion of Pyroxene Hornfels increases towards base and mode of occurrence changes from narrow lenses and pods to more coherent beds.
- 149.97 - 158.5 Pyroxene Hornfels with Minor Biotite Hornfels, Marble, Garnet Hornfels and a calcareous Actinolite? Hornfels. Bedding disturbed and near brecciated in places. Garnet Hornfels distribution patchy and often lensoidal with minor fine grained scheelite. Calcite in irregular blebs and veins. Often associated with Pyrite.

Bedding LAOC: 40° @ 94.05m
45° @ 124.80m
50° @ 148.0m
30° @ 154.0m

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 468

158.5 - 164.5m

B-LENS

Comprises interbedded Garnet Hornfels/Pyroxene Hornfels/ Calcite Hornfels/Biotite Hornfels. Bedding disrupted with intermixed Garnet Hornfels and Pyroxene Hornfels at top. Proportion of garnet Hornfels decreases towards base. Scheelite mineralisation fine grained and dispersed.

Bedding LAOC 0° @ 160.5m
20° @ 161.1m
30° @ 162.7m

164.5 - 177.6

BIOTITE HORNFELS WITH MINOR PYROXENE HORNFELS

Often fractured and broken. 164.5 - 166.4m intraformational breccia with 0.25 - 2.0cm long pods of coarser Biotite Hornfels in a finer grained matrix. Long axis of pods at 30° to LAOC. Occasional bands of coarser grained spotted Biotite Hornfels. Zones of Calcite recementation at 167.35 - 167.55 and 174.6 - 174.8m.

Bedding LAOC 45° @ 173.95m
45° @ 174.60m

177.6 - 182.9

PYROXENE GARNET HORNFELS

Typical lense of Calcite and grossular in Pyroxene Hornfels 181.85 - 182.8m Biotite Hornfels with minor Pyroxene Hornfels and podded material. Sparse mineralisation.

182.9 - 196.1

C-LENS

182.0 - 185.0 Generally fine grained Garnet Hornfels with small amounts of Calcite with a thin marble from 183.3 - 183.43.

185.0 - 186.5 Coarse-med. Grained Garnet Hornfels with fine scheelite mineralisation.

186.5 - 188.7 Med. Fine Garnet Hornfels.

188.7 - 189.1 Biotite Hornfels with minor Pyroxene Hornfels unmineralised.

189.1 - 190.5 Garnet Hornfels with minor Pyroxene Hornfels, Marble, Biotite Hornfels.

190.5 - 191.5 Coarse Garnet Hornfels with coarse Calcite and Amphiboles. Coarse grained mineralisation.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 468

191.5 - 196.1 Banded Garnet Hornfels/Pyroxene Hornfels with fine localised scheelite. Skarn some times barren.

Bedding LAOC: 90° @ 190.0m
45° @ 193.80m

196.1 - 201.2

BANDED FOOTWALL BEDS

Interlayered Marble/Biotite Hornfels/Pyroxene Hornfels/gross/Garnet Hornfels (minor). Ratio Marble: Biotite Hornfels: Pyroxene Hornfels: Gross of approximately 40: 40: 15: 5. Marble attain a maximum thickness of 14cm. Thin (less than 1cm) concentrations of scheelite.

Bedding LAOC: 35° @ 196.4m
70° @ 199.4m

201.2 - 221.4

BIOTITE HORNFELS AND PYROXENE HORNFELS

Minor amounts of Marble, Actinolite Hornfels and Garnet Hornfels. Very occasional grains of scheelite and very small concentration in Garnet Hornfels. Banding grows coarser towards base and is accompanied by an increase in the proportion of Marble and Biotite Hornfels. Aplite veins present at:

211.8 - 212.6 Medium grained leucocratic and fine grained melanocratic phases.

213.4 - 213.6

213.0 - 213.1

215.94- 217.8

Bedding LAOC: 70° @ 202.3
65° @ 205.4
40° @ 207.7
35° @ 219.15

221.4 - 228.1

MASSIVE BIOTITE HORNFELS

Broken zone from 227.2 - 227.7m with Chloritic and slicken-sided surfaces. Pyrite and sulphide mineralisation in zones.

228.1 - 230.67

GREY MARBLE

Associated with minor mineralised Garnet Hornfels and some Pyroxene Hornfels. Marble fractured and pronouncedly jointed with small shear surfaces and faults.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 468

230.67 - 250.45 LOWER VOLCANICS

Dark green to grey coloured unit with no obvious internal subdivisions. Numerous broken and fractured zones with powdery green chlorite clays.

Fracture and faults at:

230.9 - 231.94m
231.2 - 231.25m
231.3 - 231.38m
231.9 - 231.96m
232.32 - 232.37m
232.60 - 232.80m
232.05 - 232.10m
237.07 - 238.2m Major fault zone with pug/ Marble/Sulphides
Swan Fault?
239.2 - 239.4m Broken zone
242.10 - 242.15m Fault
242.5 - 243.0m Broken zone
245.2 - 245.25m Fault pug
248.55 - 248.70m Broken zone with clays
248.8 - 249.10m Broken core with chlorite serpentitic
material and slickenside

250.5 - 255.0 GRANITE

Seperated from overlying country rock by 10cm of pug and coarsly crystalline calcite. Average grain size increase away from contact.

EOH 255.0m

Surveyed by L. DENBY

Date Surveyed 19-1-78

checked
LD
19-1-79

ESON KRON

DDH # 4-8

DDH # 6-8

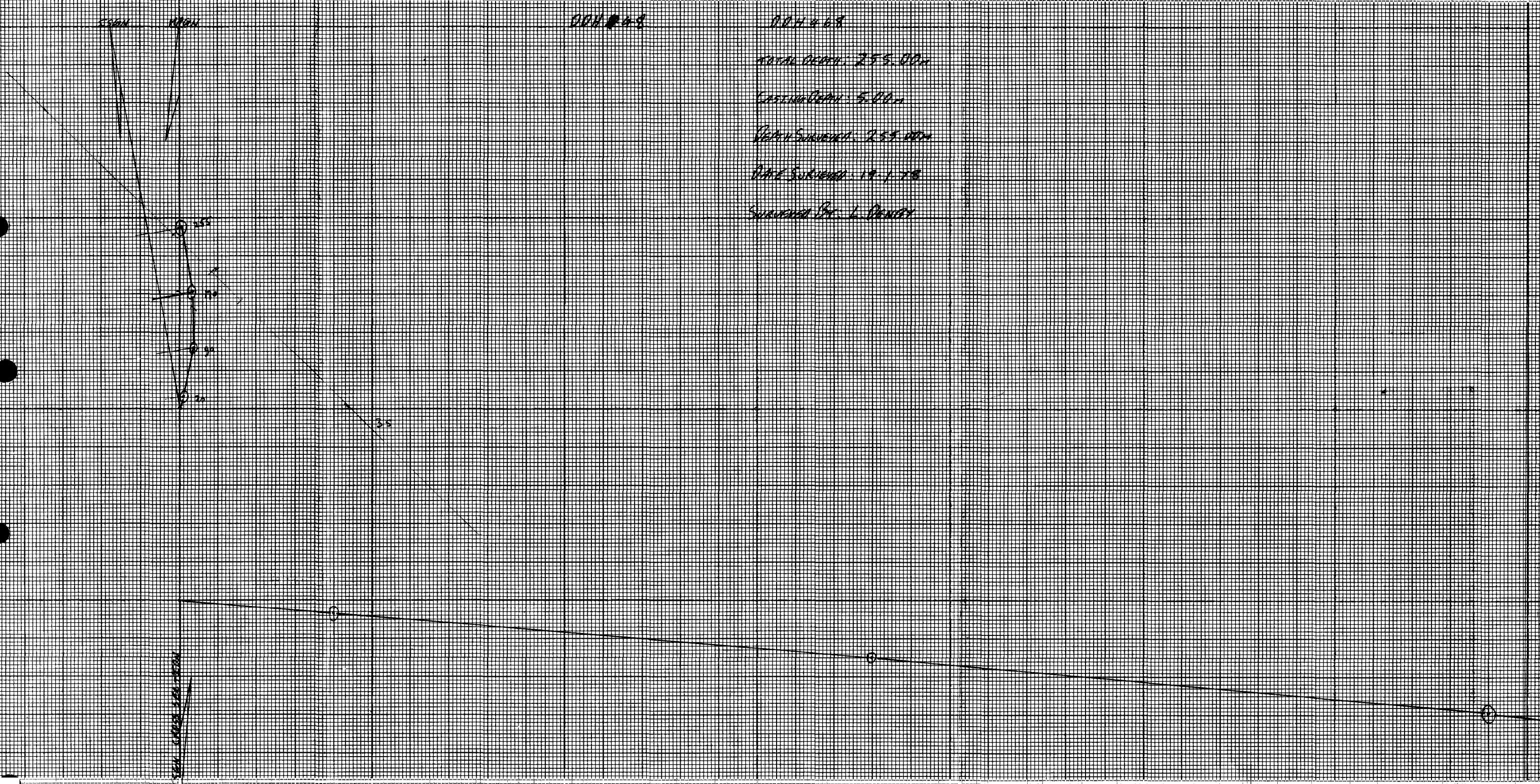
WATER DEPTH: 255.00m

CASTING DEPTH: 5.00m

DEPTH SURVEYED: 255.00m

DATE SURVEYED: 12-1-78

SURVEYED BY: L. DENNY



4-4-8

DDH 4-68

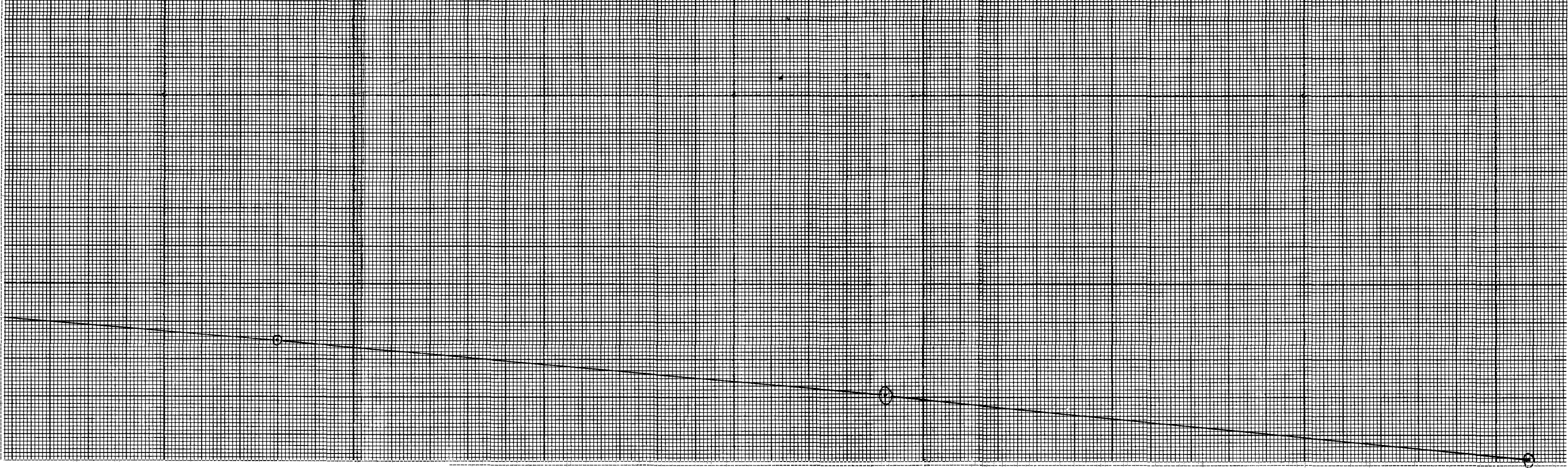
TOTAL DEPTH: 255.00m

COSTAL DEPTH: 5.00m

DEPT SURVEY: 255.00m

DATE SURVEY: 19-1-78

SURVEYED BY: L. DAVIES



R.L 0.0
R.L -100.0
R.L -200.0

564000

220000

DDH -245.7

B.S

PLAN
SECTION

SURV METHOD :SS

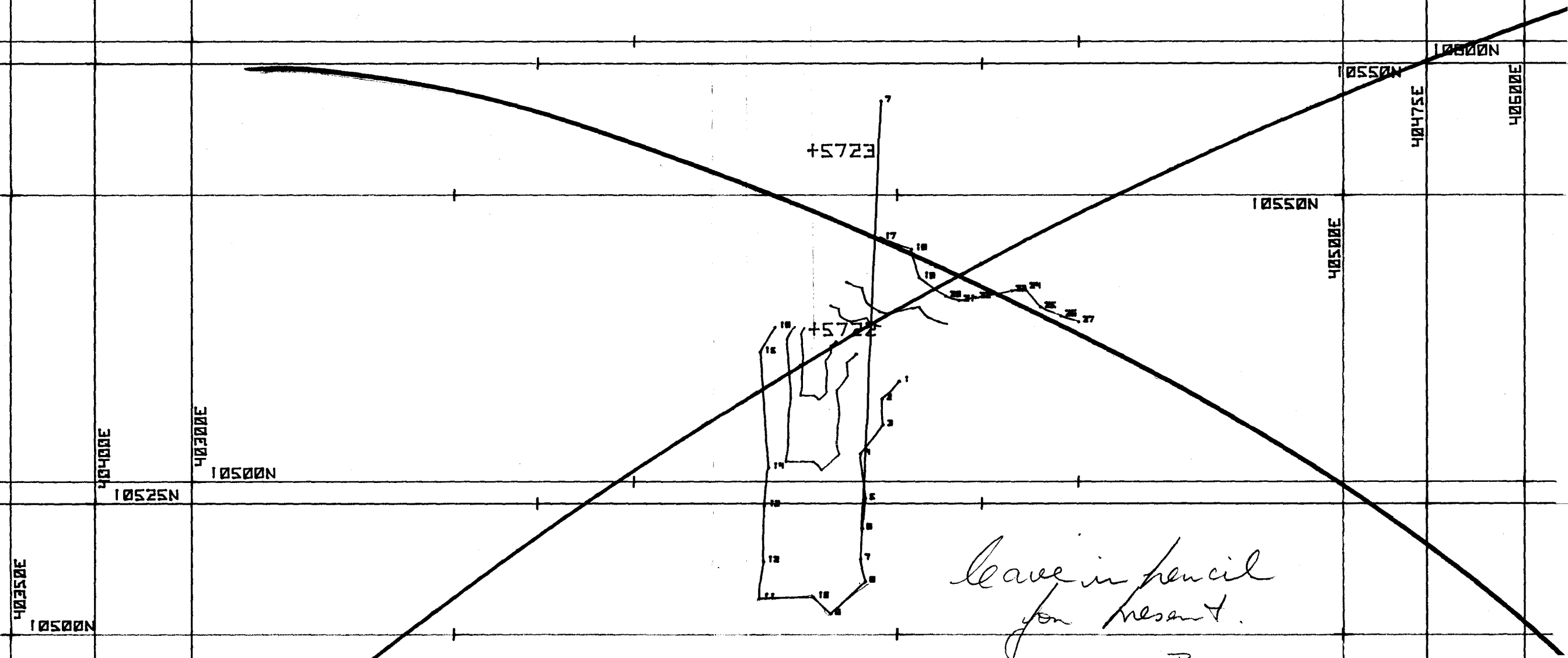
FINAL DEPTH 255.0
SURVEY DEPTH 255.0

CASING DEPTH 5.0

COL 219959.7 563983.1
EDH 219966.4 564002.2

SECTION 219.950

1% 250
1% 500



leave in pencil
for present.

BL.
looks wrong.!!

SCALE 1: 250	SHEET	•	0
SCALE 1: 500	SHEET	•	0
SCALE 1: 1000	SHEET	•	0

059

54

PAYS

FIELD WORK DONE TU 22.5.79 BY BL/LB/BL/

~~PLOTTING DONE 11.0 TU 22.5.79 BY BL~~

COORDS OF 5722 : LAT 10534.964, DEP 47000 FCB, TARI 909 791

5723 - 10545.117
40 440.584

RL 912.13

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.E.H. No. D467

PLANNING

PROPOSER: A. Younger

DEPTH:

LOCATION: 17 Bench Open Cut

PURPOSE OF HOLE: Test C Lens Along Section 8.5

CO-ORDS: 219 747 E 564086 N

INCLINATION: -80°

BEARING: 199.5 $^{\circ}$ GRID $^{\circ}$ MAG

TARGET: E N

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: $200^{\circ} 40'$ GRID $^{\circ}$ MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219746.0 E 564088.7 N

R.L. OF COLLAR -33.7

INCLINATION OF HOLE $-78^{\circ} 40'$

PICKED UP BY: B. Davies DATE: 4/1/79

SUMMARY

LOGGED BY: R. J. Stavelly-Parker

RESULTS: 25 - 31m, 6m at 0.70% WO_3 ,
0.01% MO_3 Upper C

DRILLING

DATE COMMENCED: 6/12/78 DATE TERMINATED: 8/12/78

DRILLER/CONTRACTOR: ADD

CASING: SIZE: NQ
DEPTH: 2m

CORE: SIZE: BQ
DEPTH: 71.5

WEDGE PLACED: DATE:

EXTENSION:

FINAL DEPTH: 71.5m

REASON FOR TERMINATION: In aplite

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: Surveyed at 30, 71.5m

WATER:

COMMENTS ON DRILLING CONDITIONS:

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 467

Sample No.		DEPTH (METRES)				ELEMENTS			COMMENTS
		From	To	Length	Length Recovered	WO ₃	Mo		
D	9236	8	9	1.0	1.0	<0.01	<0.01		
	37	9	10	"	"	0.10	0.01		
	38	10	11	"	"	<0.01	0.01		
	39	11	12	"	"	0.03	<0.01		
	40	12	13	"	"	0.16	<0.01		
	41	13	14	"	"	0.05	0.01		
	42	14	15	"	"	0.24	0.01		
	43	15	16	"	"	0.46	0.01	1 m	0.46
	44	16	17	"	"	0.10	<0.01		
	45	17	18	"	"	<0.01	<0.01		
	46	18	19	"	"	<0.01	<0.01		
	47	19	20	"	"	0.06	<0.01		
	48	20	21	"	"	0.02	<0.01		
	49	21	22	"	"	<0.01	<0.01		
	50	22	23	"	"	0.07	<0.01		
	51	23	24	"	"	<0.01	<0.01		
	52	24	25	"	"	0.23	<0.01		
	53	25	26	"	"	1.03	<0.01	25-31m 6m at 0.70% WO ₃ 0.01% MO ₃	
	54	26	27	"	"	1.06	0.02		
	55	27	28	"	"	0.68	0.01		
	56	28	29	"	"	0.46	<0.01		
	57	29	30	"	"	0.61	<0.01		
	58	30	31	"	"	0.35	<0.01		
	59	31	32	"	"	0.02	<0.01		
	60	32	33	"	"	<0.01	<0.01		
	61	33	34	"	"	0.39	<0.01	1 m	0.39
	62	34	35	"	"	0.23	<0.01		
	63	35	36	"	"	0.29	<0.01		
	64	36	37	"	"	0.01	<0.01		
	65	37	38	"	"	<0.01	0.03		
	66	38	39	"	"	0.29	<0.01		
	67	39	40	"	"	0.30	<0.01	2 m	0.30%
	68	40	41	"	"	0.08	<0.01		
	69	41	42	"	"	<0.01	<0.01		
	70	42	43	"	"	<0.01	<0.01		
	71	43	44	"	"	<0.01	<0.01		
	72	44	45	"	"	<0.01	<0.01		
	73	45	46	"	"	0.29	0.01		
	74	46	47	"	"	0.02	0.01		
	75	47	48	"	"	<0.01	<0.01		
	76	48	49	"	"	<0.01	<0.01		
	77	49	50	"	"	0.09	<0.01		
	78	50	51	"	"	0.20	<0.01		
	79	51	52	"	"	<0.01	<0.01		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 467

Sample No.		DEPTH (METRES)				ELEMENTS			COMMENTS
		From	To	Length	Length Recovered	WO ₃	Mo		
D	9280	52	53	1.0	1.0	<0.01	<0.01		
	81	53	54	"	"	<0.01	0.03		
	82	54	55	"	"	<0.01	0.01		
	83	55	56	"	"	0.03	0.01		
	84	56	57	"	"	0.73	0.02	/m	0.73%
	85	57	58	"	"	<0.01	0.01		
	86	58	59	"	"	<0.01	0.02		
	87	59	60	"	"	<0.01	0.01		
	88	60	61	"	"	0.07	0.02		
	89	61	62	"	"	<0.01	0.01		
	90	62	63	"	"	<0.01	0.02		
	91	63	64	"	"	<0.01	0.01		
	92	64	65	"	"	0.17	0.01		
	93	65	66	"	"	0.03	0.08		
	94	66	67	"	"	0.07	0.01		
	95	67	68	"	"	<0.01	0.03		
	96	68	69	"	"	<0.01	0.02		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

CORE RECOVERY

D.D.H. No. D 467

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 2.5	2.5	0.5	20
2.5 - 5.5	3.0	3.0	100
5.5 - 8.5	3.0	2.8	93
8.5 - 11.5	3.0	3.0	100
11.5 - 14.5	3.0	3.0	100
14.5 - 17.5	3.0	3.0	100
17.5 - 20.5	3.0	3.0	100
20.5 - 23.5	3.0	3.0	100
23.5 - 26.5	3.0	3.0	100
26.5 - 29.5	3.0	3.0	100
29.5 - 32.5	3.0	3.0	100
32.5 - 35.5	3.0	3.0	100
35.5 - 38.5	3.0	3.0	100
38.5 - 41.5	3.0	3.0	100
41.5 - 44.5	3.0	3.0	100
44.5 - 47.5	3.0	3.0	100
47.5 - 50.5	3.0	3.0	100
50.5 - 53.1	2.6	2.6	100
53.1 - 56.1	3.0	3.0	100
56.1 - 59.3	3.2	3.2	100
59.3 - 62.5	3.2	3.2	100
62.5 - 65.5	3.0	3.0	100
65.5 - 68.5	3.0	3.0	100
68.5 - 71.5	3.0	3.0	100
EOH 71.5m			

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

DDH No. D 467

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT LAOC)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO- VERY	R.Q.D.	REMARKS (WEATHERING)
0.0 - 8.8	Bh	8	30@55°	Clay/cc	30°		0.64	
8.8 - 24.89	Pgh	5	20@45°	cc/chl/Qtz	60°		0.95	
24.89 - 35.4	Gh	3	65°	cc/Qtz			0.96	
35.4 - 51.40	MM	3-6	65°	Qtz/cc/chl/ clay	15°		0.88	
51.40 - 55.0	Aplite	3	70°	Qtz/chl			0.92	
55.0 - 56.88	L/C	8	30@60°	cc/chl/clay			0.53	
56.88 - 61.1	Aplite	7	55°	Qtz/cc			0.94	
61.1 - 66.4	L/C	5	70°	cc	30		0.56	
66.4 - 71.5	Aplite	4	35°	cc/chl/Qtz			0.91	

FURTHER DATA & REMARKS

1. Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
2. R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core 10 cm}}{\text{Length Drilled}} \%$
3. Core size. BQ

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 467

0.0 - 8.8m BIOTITE HORNFELS

Biotite and ~~boitite~~-actinolite hornfels with minor pyroxene hornfels at top some metamorphic spotting and sulphide enrichment at base. Minor fault zone at 36 - 3.7m

Bedding 30° LAOC @ 5.97m

8.8 - 24.89m PYROXENE-GARNET HORNFELS

Typical marble and grossular in pyroxene hornfels but whole sequence is mineralised. Towards base pods become fewer and there is a change to fine grained garnet hornfels with sparse mineralisation and irregular network of pyroxene hornfels. Basal 70cm show relict bedding. Separated from Upper C by 20cm of a cream/pink calcite and grossular rock.

Bedding 60° LAOC @ 24.28m

24.89 - 35.40m UPPER C

Massive garnet hornfels. Both upper and lower margins are gradational with the lower limit marked by increasing pyroxene hornfels and pyroxene hornfels bands.

35.4 - 51.4m MARBLE MARKER

Pyroxene hornfels/garnet hornfels/biotite hornfels/Marble Mineralised throughout Lower portion may be Lower C. A mixture of lithologies with the following sequences shown.

- 35.4 - 37.0 Fine grained garnet hornfels with thin pyroxene hornfels and Marble layers near base
- 37.0 - 37.44 Interlayered Marble/pyroxene hornfels/minor garnet hornfels
- 37.44 - 38.01 Biotite hornfels/minor pyroxene hornfels
- 38.01 - 40.4 Fine grained garnet hornfels/minor pyroxene hornfels and Actinolite hornfels
- 40.4 - 41.35 Grey-brown Marble
- 41.35 - 41.75 Pyroxene hornfels
- 41.75 - 41.9 Biotite hornfels
- 41.9 - 42.35 Pyroxene hornfels/minor garnet hornfels
- 42.35 - 44.75 A mottled Marble
- 44.75 - 45.9 Altered pyroxene hornfels/minor garnet hornfels and biotite actinolite hornfels
- 45.9 - 49.9 Marble/minor pyroxene hornfels and garnet hornfels
Fault at 49.9 - 49.75m
- 49.9 - 51.4 Mottled and slightly podded garnet hornfels in a pyroxene hornfels matrix.

Bedding 15° LAOC @ 37.5m
15° 37.9m
22° 42.5m

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 467

51.40 - 55.0

APLITE

A medium to coarse aplite coarsest at the top and fining downwards. Upper contact sharp but the lower is marked by a chloritic pug and faulted disconformity.

55.0 - 56.88

LOWER C?

Shows the following divisions:

- 55.0 - 56.1 Intermixed Marble and pyroxene hornfels. Calcite infillings common. Minor garnet hornfels.
Mineralised
56.1 - 56.88 Fine grained garnet hornfels/pyroxene hornfels
Mineralised

56.88 - 61.1?

APLITE

A medium to coarse aplite. Upper boundary sharp but the lower diffuse and permeated. Aplite is calcareous perhaps indicating assimilation of Marble (in a cool state?) Fine mineralisation

61.1? - 66.4?

LOWER C?

Marble at top passing into thinly banded pyroxene hornfels/grossular and andradite rock. Mineralised. Both pyroxene hornfels and garnet hornfels are untypically calcareous. Vague diffuse patches of partially replacing aplite appear in the sequence.

Bedding 32° @ 64.4m
Bedding 30° @ 65.2m

66.4 - 71.5

APLITE

Coarse grained and once again calcareous but very little mineralisation apparent.

EOH 71.5m

Date Surveyed 8-12-78

Depth	Drift Angle	Mean Drift Angle	Cos.	Vert. Depth	True Vert. Depth	Defl.	Drift Direc. S W	Mean Drift Direc. S W	Cos.	Co-ords		Sum of Co-ords	
			Sine						Sine	S	W	S	W
30	11'15"	11'15"	9809 1951	29.42	29.42	5.85	14	14	9703 2419	5.68	1.42	5.68	1.42
71.50	11"	11"	9816 1908	40.74	70.16	7.92	10	10	9849 1736	7.80	1.37	13.48	2.79

OPEN PIT CROSS
SECTION

~~OPEN CROSS SECTION~~

DDH D 467

TOTAL DEPTH: 71.50m

CASEWORK DEPTH: 2m

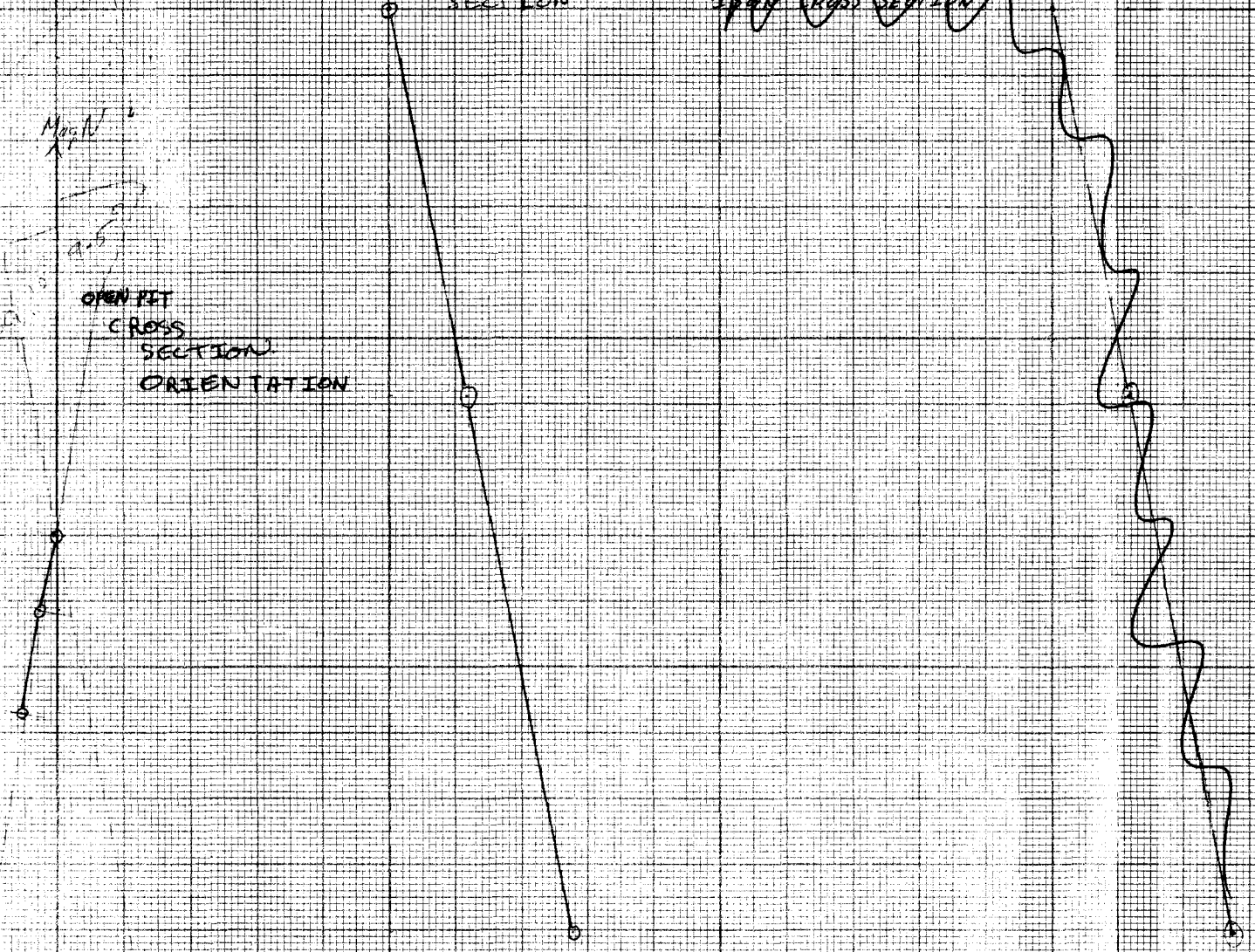
DEPTH SURVEYED: 71.50m

SURVEYED BY: A. BLACK

DATE SURVEYED: 8.12.78

Magn N

OPEN PIT
CROSS
SECTION
ORIENTATION



DDH 467
1500

564150N

564100N

219760 E
(Section Line)

DDH 467.

219720 E
(Section Line)

RL = -33.7m.

h

pg

gh

m/m

Δ

ap

Δ

gh

ap

gh

ap

gh

ap

(ISG SECTION
LOOKING E.)

use computer
plot as more
accurate.

h

pg

gh

m/m

Δ

ap

Δ

gh

ap

gh

ap

gh

ap

gh

ap

71.5m

SECTION IN
PLANE OF HOLE

FOLD

DOLPHIN DDH # D467

DATE SURVEYED > 08*12*78

HEWLETT-PACKARD
9280-0180
FOR USE ON HEWLETT-PACKARD RECORDERS

EDH - 103.8
LEE - 33.7

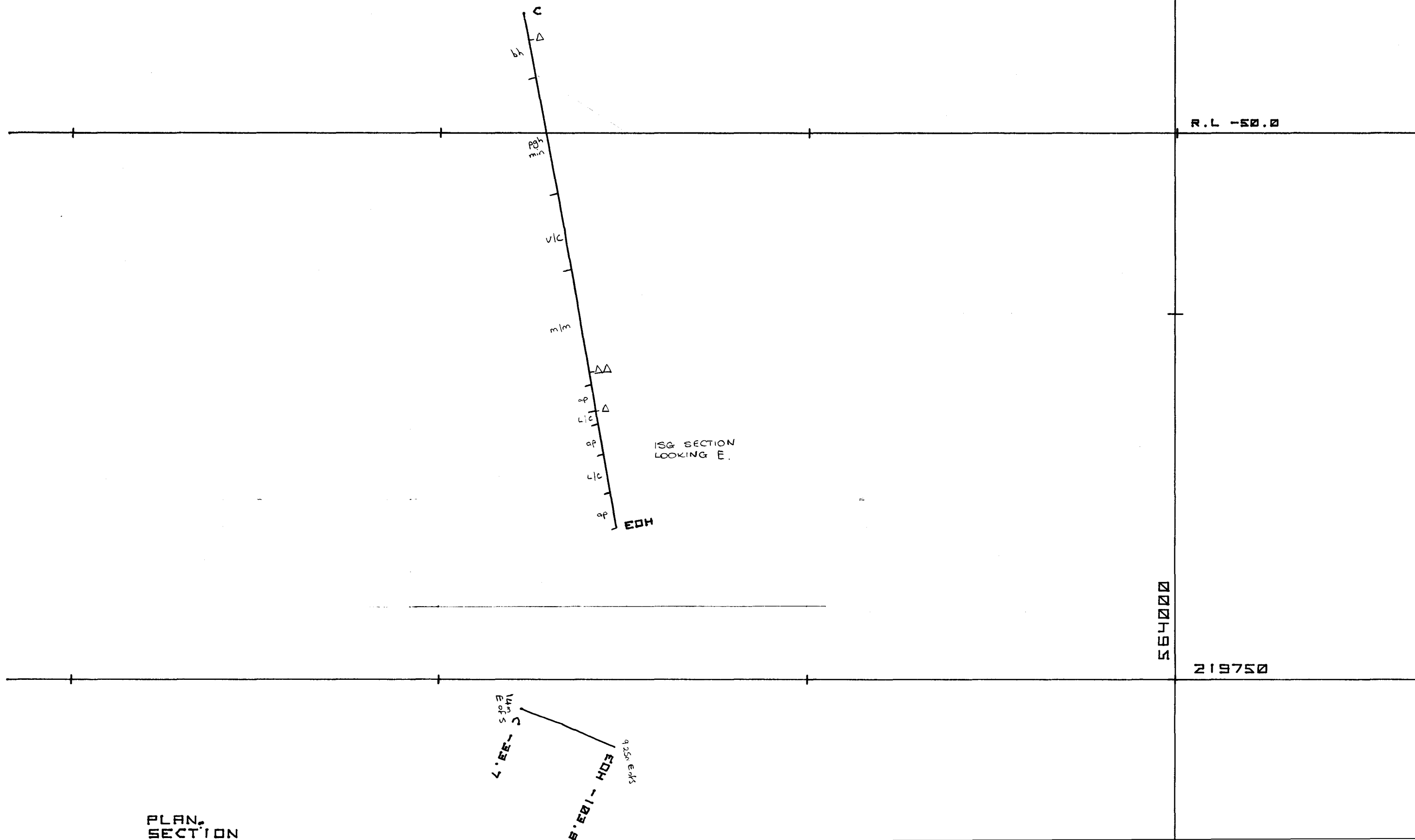
PLAN,
SECTION VIEWED FROM → 290.0 156 BRG

SURV METHOD	SS	FINAL DEPTH	71.5	CASING DEPTH	2.0	COL	219746.0	564088.7
		SURVEY DEPTH	71.5			EDH	219740.8	564076.1

FOLD

FOLD

DATE SURVEYED > 08*12*78



PLAN.
SECTION

SURV METHOD : SS

FINAL	DEPTH	71.5
SURVEY	DEPTH	71.5

CASING DEPTH 2.0

COL	218746.0	564088.7
EDH	218740.8	564076.1

GEOPEKO - KING ISLAND

LOG OF D.D.H. No. 466

PLANNING

PROPOSER: A. Younger

DEPTH: 50 m

LOCATION: 17 Bench Open Cut

PURPOSE OF HOLE: To Test C-lens Beneath The Open Pit.

CO-ORDS: 219747 E 564086 N

INCLINATION: -80°

BEARING: 019.5 °GRID °MAG

TARGET: E N

SURVEY

SURVEY CO-ORDS: $22^{\circ} 00'$ E N

SURVEYED BEARING: °GRID °MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219747.3 E 564086.2 N

R.L. OF COLLAR: -33.8

INCLINATION OF HOLE: $-84^{\circ} 57'$

PICKED UP BY: B. DAVIES DATE: 4/1/79

SUMMARY

LOGGED BY: A. Younger

BANDED Ch

RESULTS: 30-37 m, 7 m @ 0.45% WO_3

Bh/Ph/Marble 51-56 m, 5 m @ 1.86% WO_3

DRILLING

DATE COMMENCED: 30/11/78

DATE TERMINATED: 4/12/78

DRILLER/CONTRACTOR: A.D.D.

CASING: SIZE:
DEPTH:

CORE: SIZE:
DEPTH:

WEDGE PLACED: DEPTH:

EXTENSION:

FINAL DEPTH:

REASON FOR TERMINATION:

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY:

WATER:

COMMENTS ON DRILLING CONDITIONS:

D.D.H. No. 466

GEOPEKO LIMITED - KING ISLAND

CORE RECOVERY

D.D.H. No. 466

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 2.5	2.5	0.55	22
2.5 - 5.5	3.0	3.0	100
5.5 - 8.5	"	"	100
8.5 - 11.5	"	"	100
11.5 - 14.5	"	"	100
14.5 - 17.5	"	"	100
17.5 - 20.5	"	"	100
20.5 - 23.5	"	"	100
23.5 - 26.5	"	"	100
26.5 - 29.5	"	"	100
29.5 - 32.5	"	"	100
32.5 - 35.5	"	"	100
35.5 - 38.5	"	"	100
38.5 - 41.5	"	"	100
41.5 - 44.5	"	"	100
44.5 - 47.5	"	"	100
47.5 - 50.5	"	"	100
50.5 - 53.5	"	"	100
53.5 - 56.5	"	"	100
56.5 - 59.5	"	"	100
59.5 - 61.5	2.0	1.8	90
EOH			AVER 95.8

GEOPEKO LIMITED - KING ISLAND

SUMMARY STRUCTURAL DATA

DDH No. D 466

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC- TURES /m	JOINT ANGLE (WRT LAOC)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO- VERY	R.Q.D.	REMARKS (WEATHERING)
0.0 - 8.55 m	Bh			Chl, minor sulph.			55	
8.55 - 21.7	Pgh			Chl, minor carb, clay			74	
21.7 - 27.4	Gh			Chl, carb.			94	
27.4 - 30.15	MM			Chl, carb			89	
30.15 - 40.25	Bgh			Chl, minor clay carb.			93	
40.25 - 46.25	Mp			Qtz, minor carb			96	
46.25 - 54.95	Bh/gh			Chl. minor clay			94	
54.95 - 58.1	Ch			Chl, carb			86	
58.1 - 59.35	Lv			Chl,			72	
59.35 - 61.5	Ap			Carb. qtz			76	

FURTHER DATA & REMARKS

- Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
- R.Q.D. (rock quality designation) $\pm \frac{\text{Length Core 10 cm}}{\text{Length Drilled}} \%$
- Core size.

GEOPEKO LIMITED - KING ISLAND

ASSAY DATA

D.D.H. No.

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	TO	Length	Length Recovered	WO ₃	Mo		
D 8740	9	10	1.0	1.0	1.14	0.01		
41	10	11	"	"	0.14	<0.01	4 m	0.55%
42	11	12	"	"	0.36	0.03		
43	12	13	"	"	0.55	0.01		
44	13	14	"	"	0.24	0.01		
45	14	15	"	"	0.03	<0.01		
46	15	16	"	"	<0.01	<0.01		
47	16	17	"	"	<0.01	<0.01		
48	17	18	"	"	<0.01	<0.01		
49	18	19	"	"	<0.01	<0.01		
50	19	20	"	"	0.04	<0.01		
51	20	21	"	"	<0.01	<0.01		
52	21	22	"	"	<0.01	<0.01		
53	22	23	"	"	0.04	<0.01		
54	23	24	"	"	0.00	<0.01		
55	24	25	"	"	0.06	<0.01		
56	25	26	"	"	0.92	<0.01	1 m	0.92%
57	26	27	"	"	<0.01	<0.01		
58	27	28	"	"	0.09	<0.01		
59	28	29	"	"	<0.01	<0.01		
60	29	30	"	"	<0.01	0.01		
61	30	31	"	"	0.52	<0.01		
62	31	32	"	"	0.70	0.02		
63	32	33	"	"	0.23	<0.01		
64	33	34	"	"	0.35	<0.01	7 m	0.45%
65	34	35	"	"	0.33	<0.01		
66	35	36	"	"	0.26	<0.01		
67	36	37	"	"	0.76	0.01		
68	37	38	"	"	0.03	<0.01		
69	38	39	"	"	0.01	0.01		
70	39	40	"	"	0.26	0.01		
8803	50	51	"	"	0.09	<0.01		
04	51	52	"	"	2.75	0.05	truncated to 1%	
05	52	53	"	"	0.28	0.02		
06	53	54	"	"	6.08	0.11	5 m	1.86%
07	54	55	"	"	1.92	0.05		
08	55	56	"	"	0.33	0.02		
09	56	57	"	"	0.12	0.01		
10	57	58	"	"	0.11	0.01		
11	58	59	"	"	<0.01	0.01		

SPECIFIC GRAVITY

Depth (metres):

Rock Type :

S.G. :

Determined by:

GEOPEKO - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 466

0.0 - 8.55

BIOTITE HORNFELS

Typical grey brown biotite hornfels with minor spotting (6.3 - 6.5 m) and weak relic bedding.

Bedding is at about 40° to the LCA.

F/M average about 7 mostly at 40° - 70° to the LCA. Some mining shattering occurs in the early part of the hole (ie 0.0 - 4.5 m)

8.55 - 21.7

PYROXENE GARNET HORNFELS

Typically variable unit varying from biotite hornfels matrix, through pyroxene hornfels, and grossular garnet matrix through to a mixed grossular and andradite garnet matrix, with mineralization increasing with increasing alteration grade.

The last 2 metres before the contact with the garnet hornfels is virtually unaltered, barren biotite hornfels matrix pyroxene garnet hornfels.

Relic bedding at 20.0 m is @ 65° to the LCA.

F/M average about 5 mostly at about 50 - 70° to the LCA.

Some surfaces (eg 14.3 - 14.4 m) show minor faulting but there are no major faults.

21.7 - 27.4

GARNET HORNFELS

Massive andradite garnet hornfels with variable amounts of grossular garnet and pyroxene present. Some quartz veining is also present (ie 20.5 - 20.7).

Scheelite mineralization is poor and generally subgrade?

F/M average about 5 mostly at about 40 - 70° to the LCA.

A minor carbonate filled breccia zone occurs 26.1 - 26.2m.

27.4 - 30.15 m

MARBLE MARKER

Somewhat of a misnomer as no marble occurs, the unit consisting of biotite and pyroxene hornfels, with some traces of scheelite mineralization.

Relic bedding at 27.5 m is at 15° to the LCA.

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F/M are about 4, mostly at about 50° to the LCA.

30.15 - 39.4 m

BANDED GARNET HORNFELS

Well mineralised and regularly banded skarn/pyroxene hornfels with increasing amounts of biotite hornfels toward the base of unit.

Bedding is prominent and fairly consistent, at about 30° to the LCA (eg 37.8 m).

F/M average about 3 mostly at 50° - 70° to the LCA.

39.4 - 40.05

BIOTITE HORNFELS

Minor biotite hornfels unit slightly recrystallized by the underlying dyke.

40.25 - 46.25

APLITE

Aplite/garnet dyke with minor partially assimilated sediments 43.6 - 44.1.

F/M average 5 mostly at 60 - 70° to the LCA.

46.25 - 54.9 m

BIOTITE HORNFELS/PYROXENE HORNFELS

Generally well bedded biotite and pyroxene hornfels units with minor andradite garnet hornfels and some minor aplites eg 47.9 - 48.0 m.

Bedding varies little.

25° to LCA at 48.5 m,
25° to LCA at 52m.

F/M average about 6 mostly at 60° - 80° to the LCA.

54.9 - 58.15 m

MARBLE

Somewhat altered marble with large amounts of pyroxene and some garnet pyroxene hornfels with some scheelite mineralization.

Weakly developed bedding is at 20° to the LCA at 57.5 m

F/M average about 6, generally at 50 - 70° to the LCA.

Minor faulting occurs 55.9 - 56.0 m

GEOPEKO - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 466

58.15 - 59.4 m

LOWER VOLCANICS

Fine grained green spotted unit which has been *intruded* by an aplite which forms a chilled margin.

F/M average 5 at 40° to the LCA.

59.4 - 61.5

APLITE/GRANITE

Virtually typical Grassy granite.

61.5 m EOH

Date Surveyed 4-12-78

checked

NOTE GCS GEOLGICAL CROSS SECTION

GCSN CROSS SECTION

D.D.N. 485 61.50m

TOTAL DEPTH 61.50m

CASENA DEPTH 2m

DEPTH SURVEYED 61.50m

DATE SURVEYED: 4.12.78

SURVEYED BY: L. DUNBY

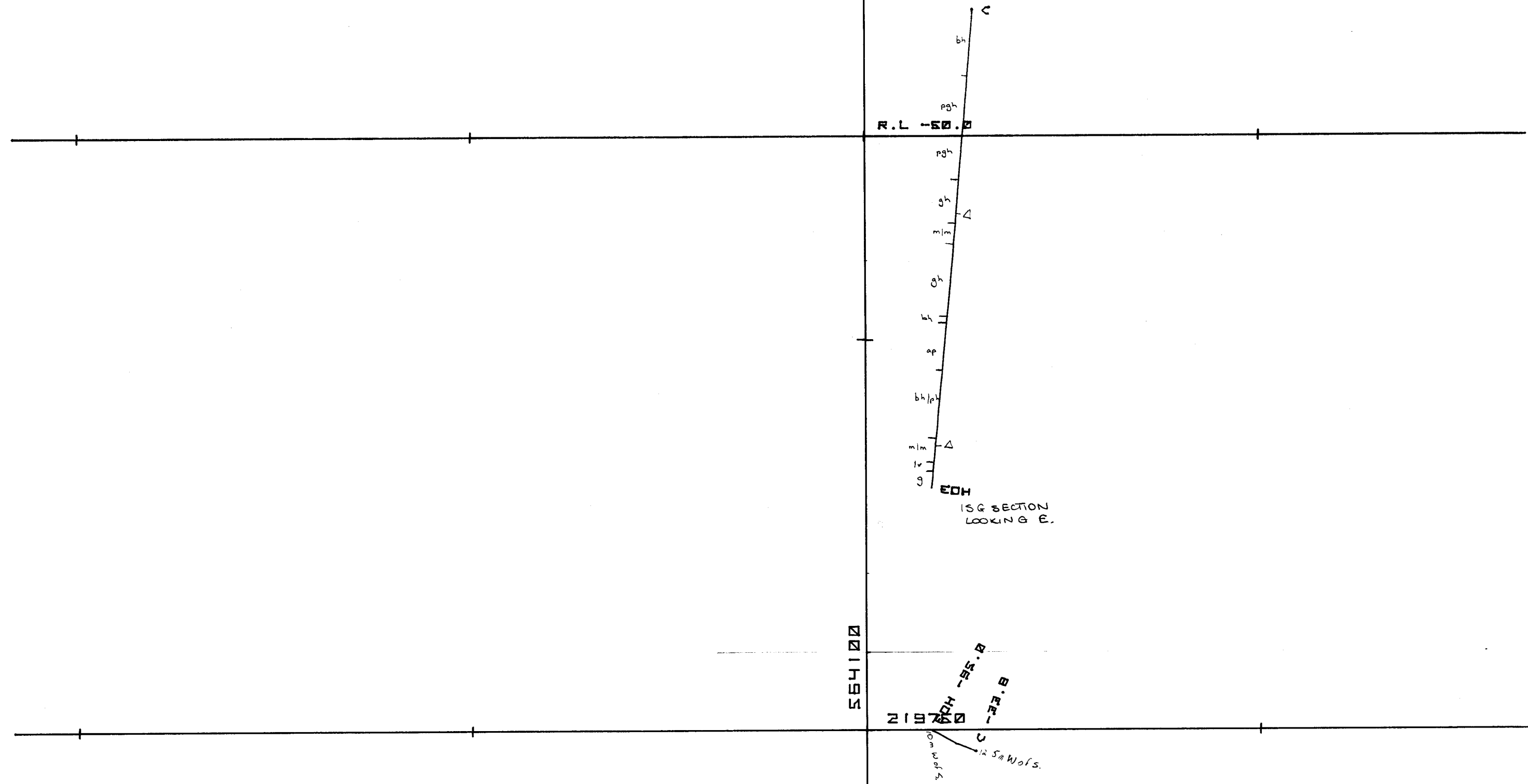
FOLD

HEWLETT-PACKARD
9280-0180
FOR USE ON HEWLETT-PACKARD RECORDERS

FOLD

DOLPHIN DDH # D466

DATE SURVEYED > 04*12*78



PLAN.
SECTION

SURV METHOD :SS

FINAL DEPTH 61.5
SURVEY DEPTH 61.5

CASING DEPTH 2.0

COL	219747.3	564086.2
EDH	219750.0	564091.6

FOLD

HEWLETT-PACKARD
9280-0180
FOR USE ON HEWLETT-PACKARD RECORDERS

DOLPHIN DDH # D466

DATE SURVEYED > 04*12*78

EDH -55.0
B.EE-3
-33.0

564100

219700

SOR.L

PLAN.
SECTION VIEWED FROM → 290.0 156 BRG

SURV METHOD	SS	FINAL DEPTH	61.5	CASING DEPTH	2.0	COL	219747.3	564086.2
		SURVEY DEPTH	61.5			EDH	219750.0	564091.6

FOLD

DDH 466.
1:500.

564100N

564050N

219760E

219720E

DDH 466

RL = -33.8

DDH 466.

