GEOPEKO - KING ISLAND

LOG OF D.D.H. No. D 465

PLANNING

PROPOSER: A. Younger DEPTH:

LOCATION: 17 Bench Open Cut

PURPOSE OF HOLE: Test C-Lens Beneath the Open Pit

CO-ORDS: 219747 E 564086 N

INCLINATION: -65°

BEARING: 019.5 °GRID °MAG

TARGET: E N

DEPTH: 50m

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: 5° 27' °GRID °MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219746.9 E 564086.5 N

R.L. OF COLLAR: -33.9

INCLINATION OF HOLE: -65° 18'

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

SUMMARY

LOGGED BY:

RESULTS: 15-17m, 2 m @ 0.80% WO_3 (Upper C)
20-24m, 4 m @ 0.42% WO_3 (Lower C)

DRILLING

DATE COMMENCED: 28/11/78 DATE TERMINATED: 30/11/78

DRILLER/CONTRACTOR: ADD

CASING: SIZE: NQ
DEPTH: 1 m

CORE: SIZE: BQ
DEPTH: 47.5 m

WEDGE PLACED: Nil DEPTH:

EXTENSION:

FINAL DEPTH: 47.5 m

REASON FOR TERMINATION: Passed Through Mineralised Sequence

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: L. Denby @ 47.5 m and 17.5 m

WATER:

COMMENTS ON DRILLING CONDITIONS:

GEOPEKO LIMITED - KING ISLAND

SUMMARY BORE HOLE SURVEY DATA

D.D.H. No. D 465

Survey method: Single shot
Final depth: 47.3 m
Casing depth: 2 m

Depth surveyed to: 47.3 m
Date surveyed 30/11/78
Surveyed by: L. Denby
Checked by: A. Younger

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corrected		N	W
0	005.3	355.3		-65.3	0	0	0
27	004	354	25°	-65.0	24.47	11.35	1.19
47.3	004	354	25.25	-64.75	42.83	19.96	2.09

REMARKS:

GEOPEKO LIMITED - KING ISLAND

CORE RECOVERY

D.D.H. No. D 465

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 2.15	2.15	1.00	46
2.15 - 5.3	3.15	3.45	109
5.3 - 6.5	1.2	1.35	112
6.5 - 9.5	3.0	2.90	96
9.5 - 12.5	3.0	3.00	100
12.5 - 15.5	3.0	3.07	102
15.5 - 17.3	1.8	1.70	94
17.3 - 20.3	3.0	3.05	101
20.3 - 23.3	3.0	3.00	100
23.3 - 26.3	3.0	2.95	98
26.5 - 29.3	3.0	3.05	101
29.5 - 32.3	3.0	3.05	101
32.5 - 35.3	3.0	3.00	100
35.3 - 38.3	3.0	2.90	96
38.3 - 40.0	1.7	1.55	91
40.0 - 43.5	3.5	3.65	104
43.5 - 44.5	1.0	0.80	80
44.5 - 47.5	3.0	2.75	91
			95%
EOH 47.5 m			

GEOPEKO LIMITED - KING ISLAND

SUMMARY STRUCTURAL DATA

DDH No. D 465

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 - 6.62	Bh	7	50-80°	Chl, Min Sulph	45°	77	46	
6.62 - 15.5	Pgh	4	70-90°	Chl, clay	-	100		
15.5 - 17.56	Gh	6	40-70°	Carb	-	100	89	
17.56 - 18.6	M/M	10	0-90°	Carb, Chl	45°	100	76	
18.6 - 26.35	Banded Gh	3	70-80°	Carb	70°	100	94	
26.35 - 34.8	Bh/Ph	4	60-80°	Chl, sulph, minor carb	55°-65°	100	86	
34.8 - 40.95	Ap	7	0-90°	Carb, clay	-	100	63	
40.95 - 47.5	LV	6	40-50°	Chl, clay	-	100	79	
EOH								

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) += $\frac{\text{Length Core 10 cm}}{\text{Length Drilled}}$ %
3. Core size.

GEOPEKO LIMITED - KING ISLAND

ASSAY DATA

D.D.H. No. D 465

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	TO	Length	Length Recovered	WO_3	Mo		
D 8714	10	11	1.0	1.0	0.30	<0.01	1m	0.30%
15	11	12	"	"	0.17	<0.01		
16	12	13	"	"	0.24	<0.01		
17	13	14	"	"	<0.01	<0.01		
18	14	15	"	"	<0.01	<0.01		
19	15	16	"	"	0.41	0.01		
20	16	17	"	"	1.18	0.05	2m	0.80%
21	17	18	"	"	0.14	0.01		
22	18	19	"	"	<0.01	<0.01		
23	19	20	"	"	0.03	<0.01		
24	20	21	"	"	0.36	0.01		
25	21	22	"	"	0.55	0.01		
26	22	23	"	"	0.34	0.01	4m	0.42%
27	23	24	"	"	0.42	0.01		
28	24	25	"	"	0.09	<0.01		
29	25	26	"	"	0.14	<0.01		
30	26	27	"	"	<0.01	<0.01		

SPECIFIC GRAVITY

Depth (metres):

Rock Type :

S.G. :

Determined by:

GEOPEKO - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 465

0.0 - 6.62 **BIOTITE HORNFELS**

Typical biotite hornfels which shows some shettering due to mining.

F/m average 7 mostly at 50^{o} - 80^{o} to the LCA.

Relic bedding is at about 45^{o} to the LCA at 3.5 m. A minor broken zone occurs 6.3 - 6.5 m

6.62 - 15.5 **PYROXENE GARNET HORNFELS**

Podded unit within a ground mass which varies between mainly pyroxene through grossular garnet to mainly andradite garnet incomposition. Mineralization is very variable with the last several metres at reasonable ore? grade.

F/m average about 4 ranging from 40^{o} - 90^{o} to the LCA most by 70^{o} - 80^{o}. Bedding is not apparent.

Minor fault occur.
12.7 - 12.8 m
14.0 - 14.2 m

15.5 - 17.56 **GARNET HORNFELS**

Massive andradite garnet skarn with good fine grained scheelite mineralization.

The upper contact with the pyroxene garnet hornfels is transitional and hence somewhat arbitary. Some fractures show minor faulting and are filmed by calcite.

F/m average about 6, mostly at 40^{o} - 70^{o} to the LCA.

Bedding/banding is not apparent.

17.6 - 18.6 **MARBLE MARKER**

Thin unit consisting mainly of biotite and pyroxene hornfels, with a 0.3 m, partly skarnified marble unit at the top. Bedding is at about 45^{o} to the LCA. F/m average are about 10 apparently at all angles.

A faulted and broken zone occurs 18.35 - 18.45 m

GEOPEKO - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 465

18.6 - 26.35 BANDED GARNET HORNFELS

Mineralised bands of andradite garnet hornfels alternating with pyroxene hornfels and a few minor biotite hornfels units.

Bedding is consistant at about 70° to the LCA.

F/m average 3 mostly at 70° - 80° to the LCA.

26.35 - 34.5 BIOTITE HORNFELS/PYROXENE HORNFELS

Thinly bedded unit consisting mainly interbedded biotite hornfels and pyroxene hornfels units but with some minor andradite garnet hornfels units. Most of the andradite garnet units occur between 30.95 - 33.1 m. Relic bedding or banding is very consistant eg 28 55° @ 28.3
63° @ 29.1
60° @ 31.4

Some minor aplites occur, from 32.8 to 34.5 m

F/m average about 4 but seems to be increasing towards the base of the unit. Most of the fractures range from 60° - 80° to the LCA.

Some minor faulting occurs 32.1 to 32.2 m and 34.7 m and there appears to be minor dislocation

34.5 - 40.95 APLITE

Variable granitic phases with a F/m rate of about 7.

Minor faulting occurs 35.0 - 35.5 m and
40.85- 40.95m

40.95 - 47.3 LOWER VOLCANICS

Highly shattered unit which has been recemented by chlorite and carbonate. Exhibits much spotting and some pyroxene? or chlorite? alteration eg 43.1 to 43.4 m

F/m average about 6 mostly at about 40 - 50° to the LCA; recementing gives an inflated RQD and apparent rock strength. A major fault zone of chlorite, clay and breccias occurs
44.45 - 44.90 m

GEOPEKO - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 465

Minor faults occur

41.9 - 42.0 m,	(clay, alterite fill)	
42.1 - 42.2 m,	(" , "	)
42.85 - 42.95m,	(" , "	)
46.5 - 46.75m, and	(carbonate)	
46.8 - 47.1 m,	("	)

EOH 47.3 m

DIAMOND DRILL HOLE SURVEY

Sheet 1 of 1

Eastman - Kodak SINGLE SHOT Camera

DDH No 465 Casing Depth 2m Surveyed by L. DENBY

Total Depth 47.30m Depth Surveyed 47.30m Date Surveyed 30-11-78

Depth	Drift Angle	Mean Drift Angle	Cos. Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc. N W	Mean Drift Direc. N W	Cos. Sine	Co-ords N/S	Co-ords E/W	Sum of Co-ords N/S	Sum of Co-ords E/W
27m	25°	25°	.9063 / .4226	24.47	24.47	11.41	6°	6°	.9945 / .1045	11.35	1.19	11.35	1.19
47.30m	25°15'	25°15'	.9045 / .4266	18.36	42.83	8.66	6°	6°	.9945 / .1045	8.61	-.90	19.96	2.09

Checked

1/12/78

PLAN OCCSN

OCCSN CROSS SECTION

DRH 0 465

Total Depth: 4.7.56m.

Casing Depth: 2m.

Date Surveyed: 4.7.56.

Date Surveyed: 30.11.73

Surveyed By: L. Clarke

DDH 465
1:500.

219760E
(Section Line)

DDH 465

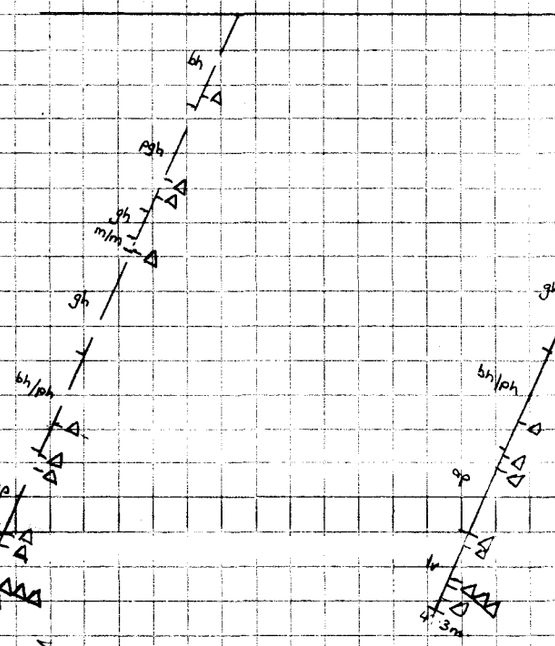
219720E
(Section Line)

5641000N

5640950N

DDH 465

RL = -33.9 m



(ISG SECTION
LOOKING E
use computer
plot as more
accurate.

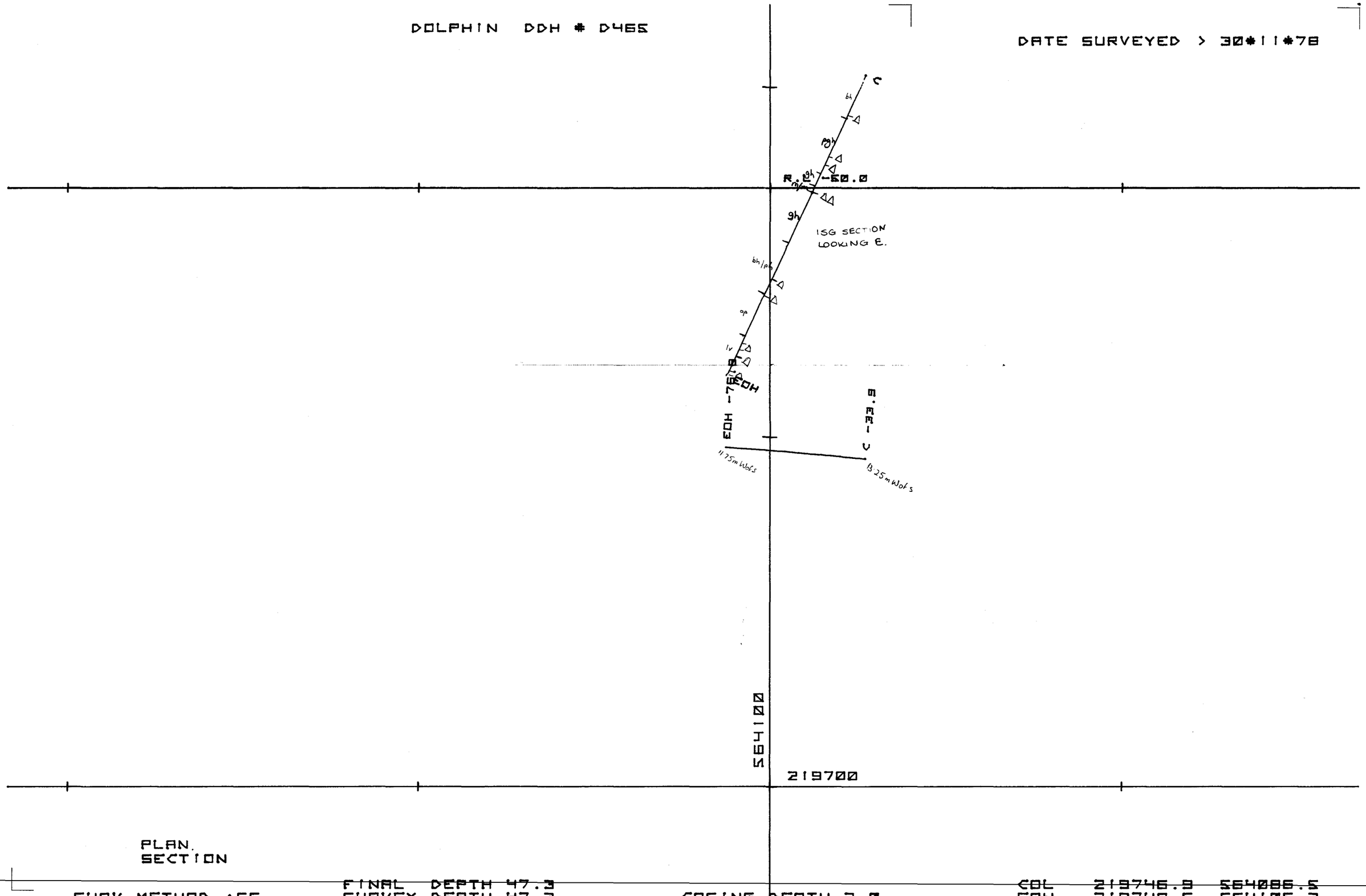
SECTION IN
PLANE OF HOLE.

FOLD

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

DOLPHIN DDH # D465

DATE SURVEYED > 30*11*78



PLAN.
SECTION

FOLD

FINAL DEPTH 47.3
SURV METHOD :SS SURVEY DEPTH 47.3 CASING DEPTH 2.0

COL 219746.9 564086.5
EOH 219748.6 564106.3

FOLD

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

DOLPHIN DDH # D465

DATE SURVEYED > 30*11*78

EOH -76.8

< -33.8

564100

219700

-50R.L

PLAN,
SECTION VIEWED FROM → 290.0 156 BRG

FOLD

SURV METHOD :55 FINAL DEPTH 47.3
SURVEY DEPTH 47.3 CASING DEPTH 2.0

COL	219746.9	564086.5
EOH	219748.6	564106.3

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 464

PLANNING

PROPOSER: A. Younger DEPTH:

LOCATION: Section 9 15 Bench Open Cut

PURPOSE OF HOLE: Test C Lens Mineralisation Beneath Open Pit

CO-ORDS: 219725 E 564085 N

INCLINATION: 90°

BEARING: °GRID °MAG

TARGET: E N

DEPTH: 95m

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: 196° 42' °GRID °MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219725.4 E 564084.2 N

R.L. OF COLLAR -17.7

INCLINATION OF HOLE -88° 20'

PICKED UP BY: B. Davies DATE: 4/10/79

SUMMARY

LOGGED BY: R. J. Stavely-Parker

RESULTS:

Upper C Lens	40.75 - 52.10
Marble Marker	52.10 - 72.50
Lower C Lens	72.50 - 87.9 m

DRILLING

DATE COMMENCED: 18/9/78 DATE TERMINATED: 27/11/78

DRILLER/CONTRACTOR: ADD

CASING: SIZE:
DEPTH:

CORE: SIZE: NQ1 46TT
DEPTH: 1m 95.0m

WEDGE PLACED: DATE:

EXTENSION:

FINAL DEPTH: 95.0m

REASON FOR TERMINATION:

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: Surveyed to 95.0m

WATER: NIL

COMMENTS ON DRILLING CONDITIONS:

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY BORE HOLE SURVEY DATA

D.D.H. No. D 464

Survey method: Single shot
Final depth: 95m
Casing depth: 2m

Depth surveyed to: 95m
Date surveyed: 27/11/78
Surveyed by: L. Denby
Checked by: A. Younger

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read.	Corrected		N	W
0	196.75	186.75		-88.33	0	0	0
35	331	321	1.75	-87.25	34.98	0.94	0.52
95	315	305	1.75	-87.25	94.95	2.23	1.81

REMARKS:

GEOLOGY - KING ISLAND SCHEELITE

CORE RECOVERY

D.D.H. No. D 464

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 8.0	8	7.10 broken	89
8.0 - 10.4	2.4	2.4	100
10.4 - 13.4	3.0	3.0	100
13.4 - 16.4	3.0	3.0	100
16.4 - 20.3	3.9	3.9 broken	100
20.3 - 22.0	1.7	1.7	100
22.0 - 24.0	2.0	2.0	100
24.0 - 26.5	2.5	2.2	88
26.5 - 27.7	1.2	1.0 broken	83
27.7 - 29.2	1.5	1.2	80
27.2 - 30.2	1.0	0.5	50
30.2 - 33.0	2.8	2.8 broken	100
33.0 - 35.0	2.0	2.0	100
35.0 - 38.0	3.0	3.0	100
38.0 - 41.0	3.0	2.9	97
41.0 - 42.0	1.0	0.9 broken	90
42.0 - 44.0	2.0	1.7 broken	85
44.0 - 47.0	3.0	2.6 broken	87
47.0 - 50.0	3.0	3.0	100
50.0 - 53.0	3.0	2.9	97
53.0 - 56.0	3.0	3.0	100
56.0 - 59.0	3.0	2.8	93
59.0 - 62.0	3.0	3.0	100
62.0 - 63.5	1.5	1.5	100
63.5 - 65.0	2.5	2.5	60
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
EOH 80.0m			

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

DDH No. D 464

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 - 2.5	Bh	10	20	Clay/carb.	60			
2.5 - 6.75	Aplite	6	0-20				100	
6.75- 30.7	Bh	7	45	Qtz/carb.	55		65	
30.7 - 41.0	Pgh	10	30	Qtz/cc/sulp	50		89	Irregular Qtz veinlets at steep angles to LAOC
41.0 - 45.5	Gh	17	50	Qtz/sulp/clay/ carb	45		46	Broken formation
45.5 - 58.0	Gh	5	65	Qtz/carb.			90	
58.0 - 72.3	M/M, Bh	5	60.70	Clay/Qtz	45		84	Strong jointing pattern Soft weathered zones around joints
72.3 - 88.5	Gh, Ph	6	60^{o}	Qtz/clay/carb sulp	45		87	
88.5 - 94.2	Aplite	5	50	Qtz/clay/sulp			85	
94.2 - 95	Bh, Gh, marb				50		85	

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) $+= \frac{\text{Length Core 10 cm}}{\text{Length Drilled}}$ %
3. Core size.

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 464

Sample No.	DEPTH (MEATRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO_3	Mo		
D 8812	32	33	1.0	1.0	0.02	<0.01		
13	33	34	"	"	0.08	<0.01		
14	34	35	"	"	<0.01	<0.01		
15	35	36	"	"	<0.01	<0.01		
16	36	37	"	"	<0.01	<0.01		
17	37	38	"	"	<0.01	<0.01		
18	38	39	"	"	0.01	<0.01		
19	39	40	"	"	<0.01	<0.01		
20	40	41	"	"	<0.01	<0.01		
21	41	42	"	"	<0.01	<0.01		
22	42	43	"	"	0.57	0.01		
23	43	44	"	"	0.36	<0.01		
24	44	45	"	"	<0.01	<0.01		
25	45	46	"	"	0.25	<0.01		
26	46	47	"	"	0.44	0.01	9m at	0.34%
27	47	48	"	"	0.23	<0.01		
28	48	49	"	"	0.25	<0.01		
29	49	50	"	"	0.36	0.01		
30	50	51	"	"	0.57	0.02		
31	51	52	"	"	0.07	<0.01		
32	52	53	"	"	0.02	<0.01		
33	53	54	"	"	0.02	<0.01		
55	54	55	"	"	<0.01	0.01		
56	55	56	"	"	<0.01	0.01		
57	56	57	"	"	0.09	<0.01		
58	57	58	"	"	0.11	0.03		
34	68	69	"	"	<0.01	<0.01		
35	69	70	"	"	0.10	0.02		
36	70	71	"	"	<0.01	<0.01		
37	71	72	"	"	0.01	<0.01		
38	72	73	"	"	<0.01	<0.01		
39	73	74	"	"	0.18	0.01		
40	74	75	"	"	0.43	<0.01		
41	75	76	"	"	1.00	0.01		
42	76	77	"	"	0.43	<0.01		
43	77	78	"	"	<0.01	<0.01		
44	78	79	"	"	0.29	<0.01	12m at	0.42%
45	79	80	"	"	0.56	0.02		
46	80	81	"	"	0.50	0.02		
47	81	82	"	"	0.66	0.03		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 464

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO_3	Mo		
D 8848	82	83	1.0	1.0	<0.01	<0.01		
49	83	84	"	"	0.38	0.02		
50	84	85	"	"	0.42	0.01		
51	85	86	"	"	0.30	0.01		
52	86	87	"	"	0.14	<0.01		
53	87	88	"	"	0.29	0.01		
54	88	89	"	"	<0.01	0.02		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 464

0.0 - 2.75 B LENS?

Sub ore skarn Garnet Hornfels with minor Pyroxene Hornfels.

2.75 - 5.75 APLITE DYKE

Coarse grained aplite to granodioritic dyke. Sharp concordant boundaries. 35cm interlayer of Pyroxene Hornfels and Biotite Hornfels at 5.10m.

5.75 - 30.72 BIOTITE HORNFELS

Minor Pyroxene Hornfels from 5.75 to 7.4m but subsequently 95% fine grained Biotite Hornfels. Slightly shattered zones from 26.0 to 26.5m and green coloured recemented fault pug from 27.5 to 27.70m.

30.72 - 40.75 PYROXENE GARNET HORNFELS

Minor amounts of Biotite Hornfels and Garnet Hornfels with proportion of Garnet Hornfels increasing towards base, 9cm medium grained aplite dyke at 39.90 - 39.99m. Barren except for slight mineralisation towards base.

40.75 - 52.10 GARNET HORNFELS UPPER C LENS

Minor Pyroxene Hornfels bands towards base. Upper boundary with Pyroxene Garnet Hornfels marked by broken formation extending from 41.0 to 42.5 and particularly fractured from 41.0 to 42.5. Moderate angle conjugate joint sets. Zones of Quartzite/carbonate veining 40.7 to 41.0m. Finely disseminated mineralisation.

52.10 - 72.25 MARBLE MARKER

	52.10 - 52.40	Marble with minor Garnet Hornfels
	52.40 - 56.00	Pyroxene Hornfels with minor Biotite Hornfels
	56.00 - 56.50	Garnet Hornfels with fine scheelite mineralisation
	56.50 - 57.15	Pyroxene Hornfels
	57.15 - 58.00	Biotite Hornfels
CURLEW FAULT	58.00 - 64.50	White/grey marble. Fault pug from 61.4 - 61.6m Minor Pyroxene Hornfels at base.
	64.50 - 67.00	Biotite Hornfels
	67.00 - 71.50	Interlayered Pyroxene Hornfels mineralised Garnet Hornfels and Marbles. Jointing near perpendicular to bedding. Minor slip along bedding planes.
	71.50 - 72.25	Marble

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 464

72.5 - 87.9	LOWER C LENS	
	72.5 - 75.3	Fine grained Garnet Hornfels
	75.3 - 75.8	Marble with uneven contacts.
	75.8 - 82.0	Predominantly Garnet Hornfels with minor Pyroxene Hornfels. Suplhide mineralisation associated with Quartzite veining at 78.5m
	82.0 - 84.2	Interlayered Marble, Garnet, Pyroxene Hornfels, and Biotite Hornfels
	84.2 - 86.1	Garnet Hornfels. Coarse and fine with patchy mineralisation.
	86.1 - 87.9	Biotite Hornfels with minor Garnet Hornfels. fine vertical vein networks.
	87.9 - 88.75	Interlayered Garnet Hornfels and Pyroxene Hornfels with minor Biotite Hornfels and 10cm Marble at base.
88.75 - 94.25	APLITE DYKE	
	Medium to fine grained aplite and grandodioritic dykes with discordant margins and coarser grained towards lower portion.	
	94.25 - 95.0	Interlaminated Biotite Hornfels, Garnet Hornfels and Marble.
	EOH	95.0m

DIAMOND DRILL HOLE SURVEY

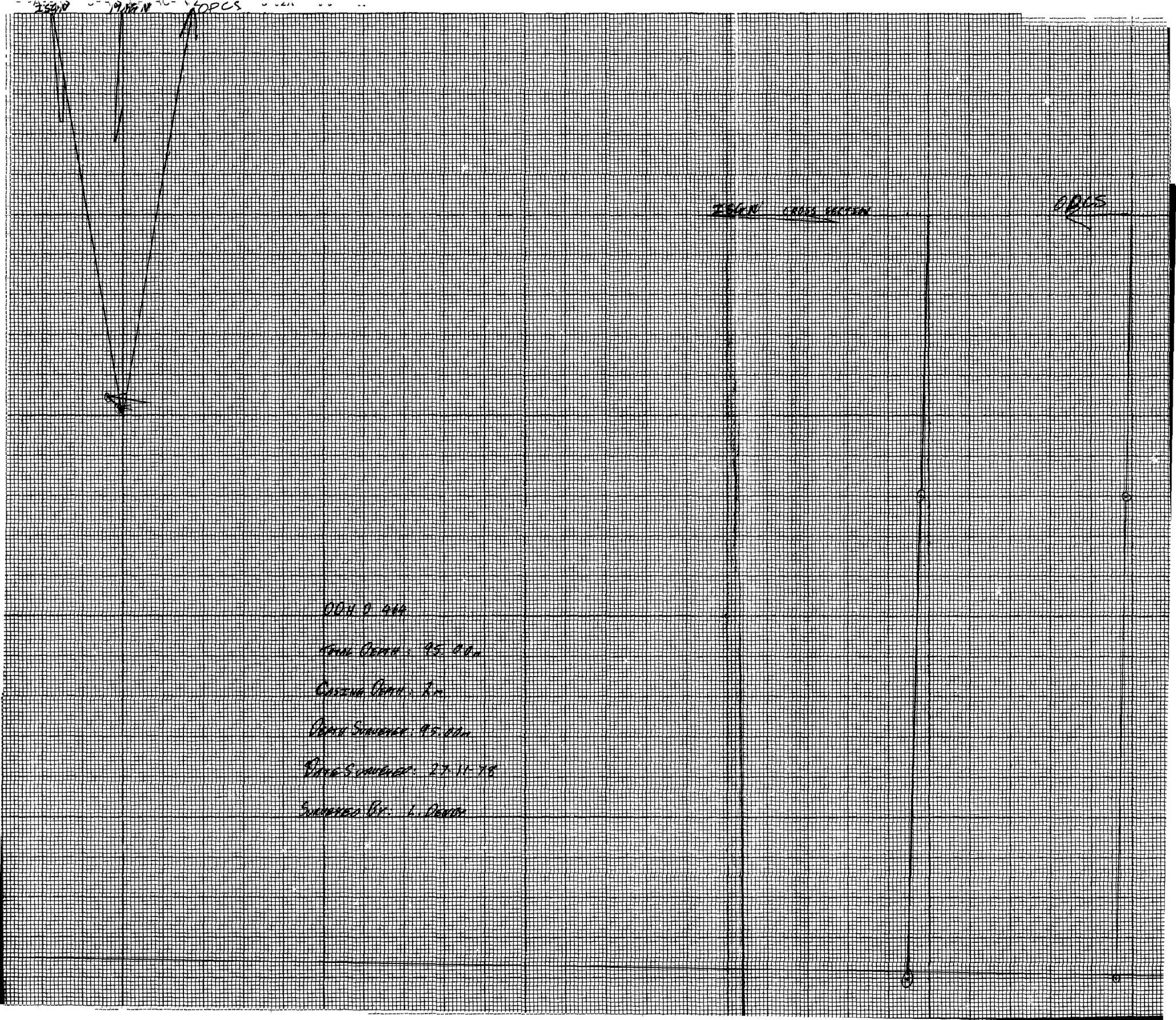
Sheet 1 of 1

Eastman - Kodak SINGLE SHOT Camera

DDH No D 466 Casing Depth 2m Surveyed by L. DENBY

Total Depth 95.00m Depth Surveyed 95.00m Date Surveyed 27-11-79

Depth	Drift Angle	Mean Drift Angle	Cos. Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc. N W	Mean Drift Direc. N W	Cos. Sine	Co-ords N	Co-ords W	Sum of Co-ords N	Sum of Co-ords W
35m	1°45'	1°45'	9995 / 0305	34.98	34.98	1.07	29	29	8788 / 4848	.94	.52	.94	.52
95m	1°45'	1°45'	9995 / 0305	59.97	94.95	1.83	45	45	7071 / 7071	1.29	1.29	2.23	1.81

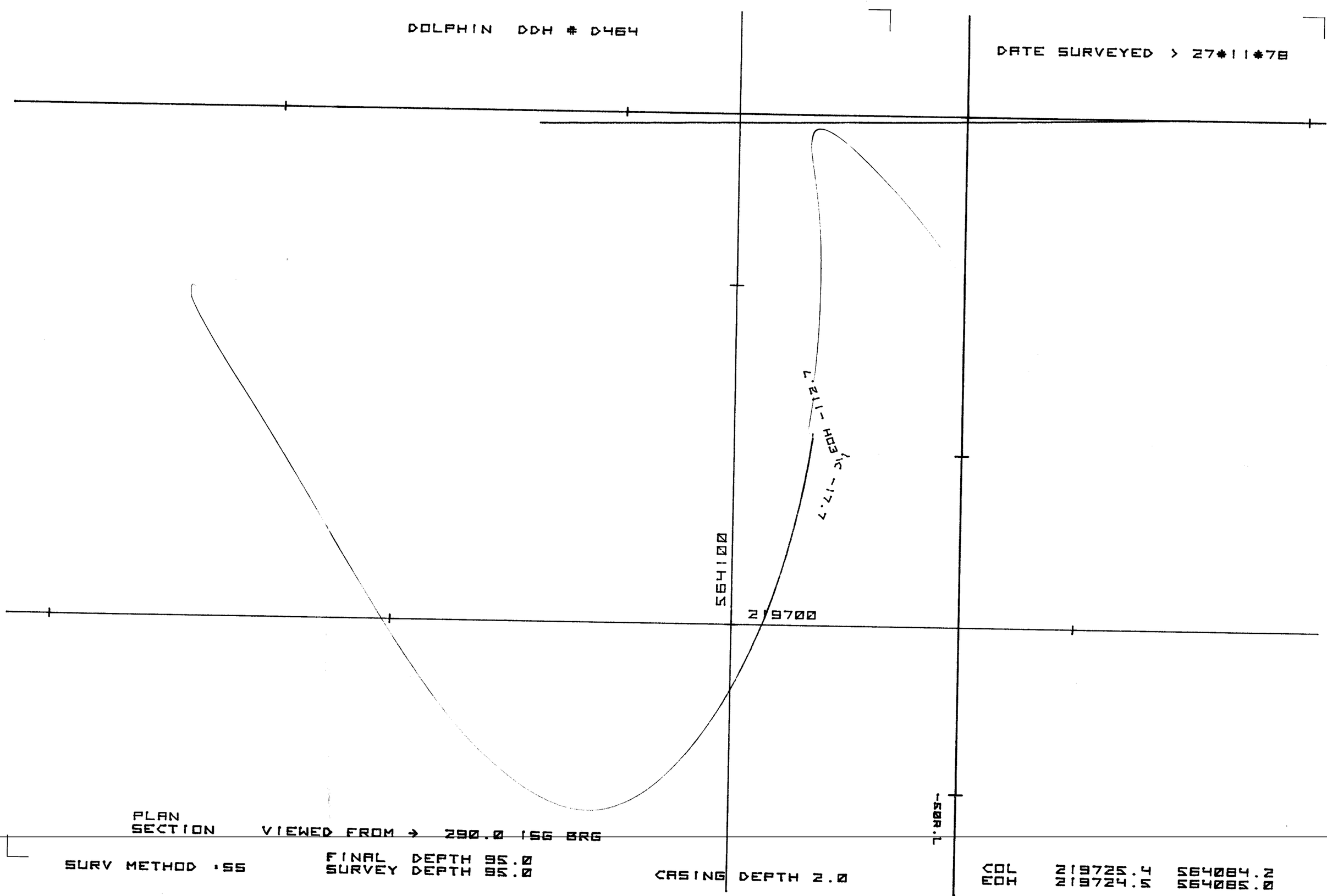

ODK D 444
Road Centre : 95.00m
Casting Centre : 1m
Road Surface : 95.00m
Date Surveyed : 27-11-76
Surveyed By : L. Dennis

FOLD

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

DOLPHIN DDH # D464

DATE SURVEYED > 27*11*78



PLAN
SECTION

VIEWED FROM → 290.0 156 BRG

SURV METHOD :55

FINAL DEPTH 95.0
SURVEY DEPTH 95.0

CASING DEPTH 2.0

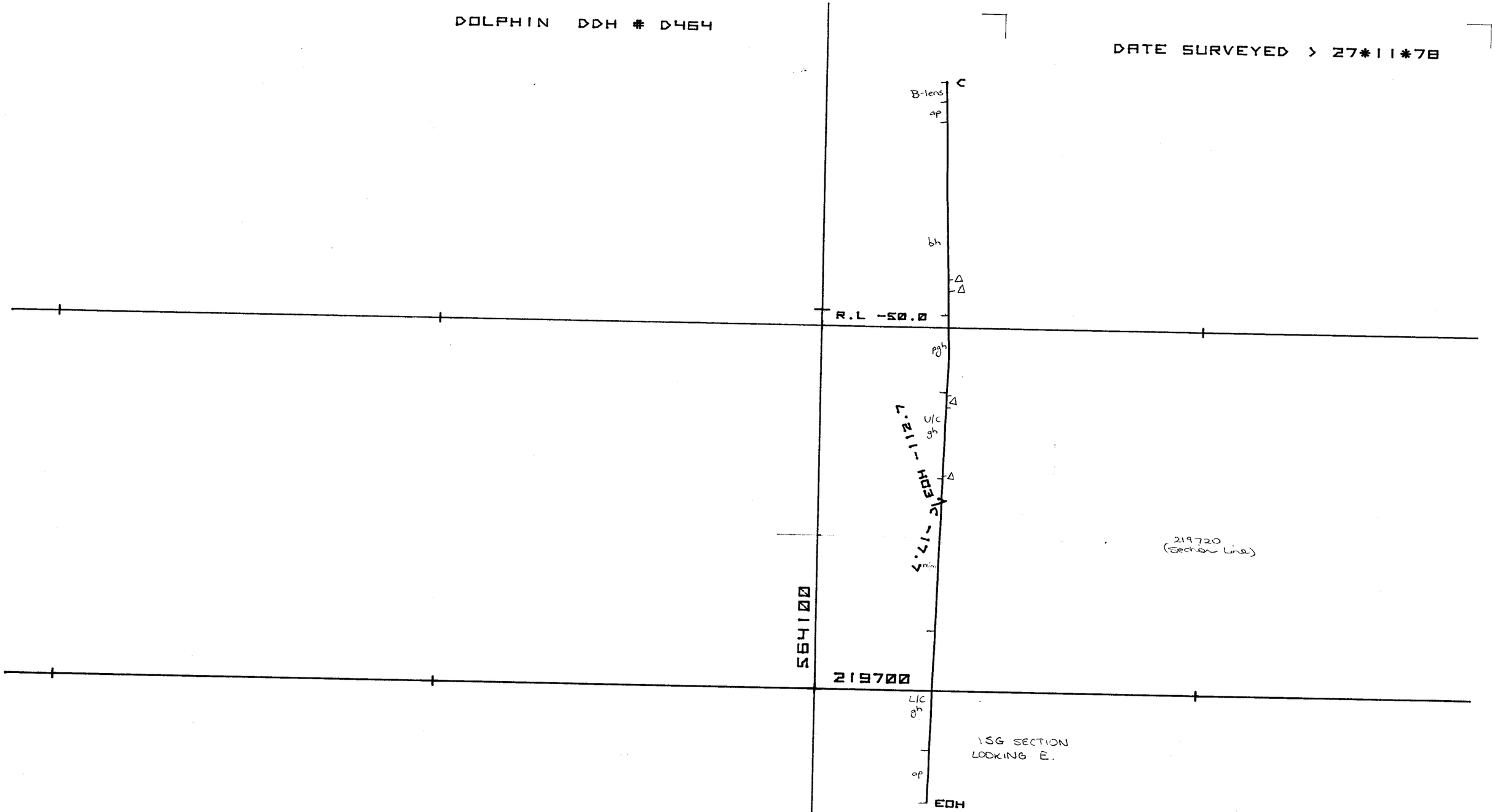
COL	219725.4	564084.2
EOH	219724.5	564085.0

FOLD

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

DOLPHIN DDH # D464

DATE SURVEYED > 27*11*78



ISG SECTION
LOOKING E.

PLAN
SECTION

FOLD

SURV METHOD :55

FINAL DEPTH 95.0
SURVEY DEPTH 95.0

CASING DEPTH 2.0

COL	219725.4	564084.2
EOH	219724.5	564085.0

GEOLOGY - KING ISLAND SCHEELITE

LOG OF D.D.H. No. D 463

PLANNING

PROPOSER: A. Younger DEPTH:

LOCATION: 15 Bench Open Cut

PURPOSE OF HOLE: To Test C-lens Beneath The Openpit

CO-ORDS: 219711 E 564106 N

INCLINATION: -80^{o}

BEARING: 199.5^{o} ^{o}GRID ^{o}MAG

TARGET: E N

DEPTH: 90m

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: 203^{o} 00' ^{o}GRID ^{o}MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219710.0 E 564103.8 N

R.L. OF COLLAR -18.0

INCLINATION OF HOLE: -81^{o} 06'

PICKED UP BY: B. Davies DATE: 4/10/78

SUMMARY

LOGGED BY: A. Younger

RESULTS: 62-67m, 5m @ 0.57% WO_3
71-74m, 3m @ 0.65% WO_3
77-80m, 3m @ 1.55% WO_3

DRILLING

DATE COMMENCED: 5/9/78 DATE TERMINATED: 15/9/78

DRILLER/CONTRACTOR: ADD

CASING: SIZE: NQ
DEPTH: 5m

CORE: SIZE: 46TT
DEPTH: 98.5

WEDGE PLACED: Nil DATE:

EXTENSION:

FINAL DEPTH: 98.5m

REASON FOR TERMINATION: Passed Through and Below Mineralization

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: L. Denby @ 98.5m

WATER: Nil

COMMENTS ON DRILLING CONDITIONS:

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY BORE HOLE SURVEY DATA

D.D.H. No. D 463

Survey method: Single shot
Final depth: 98.5m
Casing depth: 1m

Depth surveyed to: 98.5m
Date surveyed: 28/9/78
Surveyed by: L. Denby
Checked by: A. Younger

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read.	Corrected		S	W
8	28	198	11°	-79°	7.85	1.46	0.47
38	28°	198	11°	-79°	37.3	6.9	2.24
68	27°	197	9° 15'	-80 45'	66.91	11.51	3.65
98.5	30°	200	9° 15'	-80° 45'	97.01	16.11	5.33

REMARKS:

GEOLOGY - KING ISLAND SCHEELITE

CORE RECOVERY

D.D.H. No. D 463

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 3.4	3.4	3.0	88
3.4 - 3.9	0.5	0.55	110
3.9 - 4.4	0.5	0.4	80
4.4 - 6.2	1.8	1.5	83
6.2 - 6.5	0.3	0.3	100
6.5 - 7.0	0.5	0.5	100
7.0 - 9.6	2.6	2.6	100
9.6 - 10.8	1.2	1.15	96
10.8 - 14.2	3.4	3.55	104
14.2 - 14.3	0.1	0.1	100
14.3 - 15.0	0.7	0.6	86
15.0 - 17.1	2.1	2.15	102
17.1 - 19.0	1.9	1.85	97
19.0 - 19.80	0.8	1.05	131
19.80 - 22.7	2.9	2.2	76
22.7 - 25.1	2.4	3.0	125
25.1 - 28.1	3.0	2.95	98
28.1 - 31.1	3.0	3.0	100
31.1 - 32.5	1.4	1.55	110
32.5 - 35.5	3.0	3.0	100
35.5 - 38.5	3.0	2.9	96
41.5 - 41.5	3.0	3.0	100
41.5 - 43.7	2.2	2.3	104
43.7 - 44.2	0.5	0.45	90
44.2 - 47.2	3.0	3.0	100
47.8 - 49.8	2.6	2.6	100
49.8 - 52.8	3.0	3.0	100
52.8 - 55.2	2.6	2.4	92
55.2 - 58.25	3.05	3.05	100
58.25 - 61.25	3.0	2.8	93
61.25 - 64.25	3.00	2.0	66
64.25 - 66.25	2.00	2.0	100
66.25 - 67.15	0.9	0.9	100
67.15 - 68.7	1.55	1.7	109
68.7 - 70.9	2.2	2.35	107
70.9 - 72.8	1.9	3.05	160
72.8 - 75.3	2.5	2.45	98
75.3 - 78.0	2.7	2.7	100
78.0 - 80.5	2.5	2.75	110
80.5 - 83.5	3.0	3.05	102
83.5 - 86.5	3.0	2.9	96
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	2.95	98
			100.15

GEOLOGY - KING ISLAND SCHEELITE

SUMMARY STRUCTURAL DATA

DDH No. D 463

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 - 17.85	Bh	10	40-70°	Chl/carb.	20°	100	54	
17.85 - 38.2	Pgh	6	60-70°	Chl/carb.	20°	100	83	
38.2 - 40.45	Gh	5	70°		-	100	86	
40.5 - 48.5	M/M	8	30-40°		20-30°	100	78	
48.5 - 59.1	Bfb	5	40-80°	Chl/carb.	35 @ 48.7 20 @ 54.7	100	89	
59.1 - 73.05	Gph	3	70-80°	Chl	5°	100	93	
73.05 - 76.25	Bfb	7	70°	Chl/clay	20°	100	81	
76.25 - 92.6	Min Bfb	5	40-50°	Chl/carb.	35-40°	100	89	
92.6 - 98.5	Bah	6	70-80°	Chl	75°	100	85	

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) += $\frac{\text{Length Core 10 cm}}{\text{Length Drilled}}$ %
3. Core size. 46TT

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 463

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO_3	Mo		
D 8327	22	23	1.0	1.0	0.22	<0.01		
28	23	24	"	"	0.06	<0.01		
29	24	25	"	"	0.13	<0.01		
30	25	26	"	"	<0.01	<0.01		
31	26	27	"	"	<0.01	<0.01		
32	27	28	"	"	0.17	<0.01		
33	28	29	"	"	<0.01	<0.01		
34	29	30	"	"	<0.01	<0.01		
35	30	31	"	"	0.35	0.03	1m at	0.35%
36	31	32	"	"	0.02	<0.01		
37	32	33	"	"	<0.01	<0.01		
38	38	39	"	"	<0.01	<0.01		
39	39	40	"	"	<0.01	<0.01		
40	40	41	"	"	<0.01	<0.01		
41	41	42	"	"	<0.01	<0.01		
42	42	43	"	"	<0.01	<0.01		
43	43	44	"	"	0.09	<0.01		
44	44	45	"	"	0.48	<0.01	> 2m at	0.40%
45	45	46	"	"	0.32	0.01		
46	58	59	"	"	<0.01	<0.01		
47	59	60	"	"	0.18	<0.01		
48	60	61	"	"	0.46	<0.01		
49	61	62	"	"	0.27	<0.01		
50	62	63	"	"	0.31	<0.01		
51	63	64	"	"	0.47	<0.01		
52	64	65	"	"	0.97	0.02		
53	65	66	"	"	0.66	<0.01		
54	66	67	"	"	0.46	<0.01		
55	67	68	"	"	0.25	<0.01	14m at	0.49%
56	68	69	"	"	0.26	<0.01		
57	69	70	"	"	0.56	<0.01		
58	70	71	"	"	0.24	<0.01		
59	71	72	"	"	0.37	<0.01		
60	72	73	"	"	0.94	<0.01		
61	73	74	"	"	0.64	<0.01		
62	74	75	"	"	<0.01	0.01		
63	75	76	"	"	0.08	0.03		
64	76	77	"	"	0.18	0.01		
65	77	78	"	"	0.76	0.01		
66	78	79	"	"	1.60	0.02		
67	79	80	"	"	2.29	0.04		
68	80	81	"	"	0.26	0.01	10m at	0.68%
69	81	82	"	"	0.35	<0.01		

SPECIFIC GRAVITY

Depth (metres);

Rock Type :

S.G. :

Determined by:

GEOLOGY - KING ISLAND SCHEELITE

ASSAY DATA

D.D.H. No. D 463

Sample No.	DEPTH (MEATRES)				ELEMENTS			COMMENTS
	From	To	Length	Length Recovered	WO_3	Mo		
D 8370	82	83	1.0	1.0	<0.01	<0.01		
71	83	84	"	"	0.24	<0.01		
72	84	85	"	"	0.44	<0.01		
73	85	86	"	"	0.45	<0.01		
74	86	87	"	"	0.39	<0.01		
75	87	88	"	"	0.01	<0.01		
76	88	89	"	"	0.29	<0.01		
77	89	90	"	"	0.08	<0.01		
78	90	91	"	"	0.25	<0.01		
79	91	92	"	"	<0.01	<0.01		
80	92	93	"	"	<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 463

0.0 - 17.85m BIOTITE HORNFELS

Well broken typical grey brown biotite hornfels with some minor aplite dykes and faulting.

Bedding is very weak and appears to be at about 20° to the LCA around 12.0m.

Aplites occur at 8.1m, 15.2 - 15.35m and 17.0 - 17.1m

Most of the fragmentation due to mining seems to be finished by about 7.0m indicating that the broken zones listed blow are natural.

These occur:-

8.6 - 8.8 m
9.7 - 9.8 m
10.7 - 10.8 m
12.5 - 12.6 m carbonate filled,
12.8 - 12.85m
14.2 - 14.3 m

F/M below the mining zone average about 10 and are mostly between 40 - 70° to the LCA.

17.85 - 38.2m PYROXENE GARNET HORNFELS

This unit is typified by its variability. The matrix ranges from biotite hornfels through pyroxene matrix of grossular garnet and pyroxene with variable low to medium grade scheelite mineralization.

Bedding is virtually nonexistant with only the upper contact with the biotite hornfels apparently conformable at 20° to the LCA.

F/M average about 6 mostly at about 60° - 70° to the LCA.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 463

Faulting is fairly minor with mainly clay and carbonate fill zones occuring:-

19.15 - 19.2m
19.6 - 19.65m
20.2 - 20.4m
25.6 - 25.7m @ 20° to LCA
26.5 - 26.6m @ 30° to LCA
35.5 - 35.55m@ 30° to LCA

From 36.7 - 37.2m a highly silicic pegmatite occurs, it contains orthoclase feldspar crystals up to 4cm across.

38.2 - 40.45 GARNET HORNFELS

An extremely sheared and brecciated unit with only traces of scheelite mineralization in the leached andradite garnet.

All fractures are slickensided and some major carbonate fill occurs on many of them.

F/M average 5 mostly at about 70° to the LCA. However, the carbonate filled faults are mostly at 5° - 10° to the LCA. The occur between 39.5 - 40.45m

40.45 - 48.5 MARBLE MARKER

Relatively thick (>1.0m) interbedded units. of biotite hornfels, pyroxene hornfels, marble and minor garnet hornfels.

Most of the units are well bedded, which is generally at 20 - 30° to the LCA. (eg 407m, 43.3m).

F/M average about 8 mostly at about 30° - 40° to the LCA.

Apart from this fault/broken zones occur:-

40.6 - 40.8m
43.4 - 43.7m
46.0 - 46.1m, carbonate filled
46.4m
46.45m clay and carbonate filled
47.0 - 47.2m, clay and chlorite filled
48.1 - 48.2m, carbonate breccia zone, and
48.3 - 48.45m,carbonate filled and brecciated.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 463

48.5 - 59.1 BANDED FOOTWALL BEDS

Mainly thinly interbedded biotite hornfels, pyroxene hornfels garnet hornfels and marbles. The marble is mainly in two units from 49.75 - 53.0m and 56.6 - 58.95m with very minor interbeds of the other units.

Bedding is initally at about 35° to the LCA @ 48.7m and at about 20° to the LCA @ 54.7m.

F/M average about 5 at about 40° and 80° the LCA.

Faulting on broken zones occur:-

51.5 - 51.7m
53.2m at 15° to LCA.
54.15 - 54.50m carbonate filled at 10° to the LCA
58.15 - 58.25m
58.95 - 59.0m clay carbonate filled at 40° to LCA.

59.1 - 73.05 GARNET PYROXENE HORNFELS

An unusual unit with generally low andradite and grossular garnet content and high in pyroxene. It is initally fairly massive with only traces of banding (bedding?) but is fairly strongly banded by thin (1cm) grossular garnet units between about 68.0 to 71m at about 5° to the LCA.

F/M average about 3 mostly at about 70 - 80° to LCA.

Scheelite mineralization is generally good and fairly uniform as finely disseminated material.

Minor carbonate fill on fractures occur

64.05m
66.55 - 66.65m and a broken zone at
72.6 - 72.75m

73.05 - 76.25m BANDED FOOTWALL BEDS

Thin interbeds of biotite hornfels, pyroxene hornfels, minor grossular garnet hornfels and marble.

Bedding is common throughout at about 20° to the LCA.

F/M average about 7 at about 70° to the LCA.

Broken, sheared zones occur:

73.15 - 73.25m chloritic
75.3 - 75.4m
75.9 - 76.1m clayey broken zone.

GEOLOGY - KING ISLAND SCHEELITE

GEOLOGICAL LOG

D.D.H. No. D 463

76.25 - 92.6m MINERALISED BANDED FOOTWALL BEDS

Variably mineralised interbedded biotite hornfels, pyroxene hornfels, andradite garnet hornfels, and marbles.

Bedding is fairly regular at about 35° - 40° to the LCA.

eg @ 77m is 25°
85.7 is 40°
87.7 is 40°
90.1 is 35°
90.8 is 35°
92.2 banding is 40° to LCA.

F/M average about 5 mostly at 40° - 50° to LCA.

Minor broken zones occur:

81.8 - 81.9m
83.4 - 83.5m
86.0 - 86.1m
88.9 - 89.0m and
91.15 - 91.3m carbonate filled zone.

Major clay and rubble faults occur:-

80.1 - 80.4 and
83.35 - 83.5m

92.6 - 98.5m BIOTITE ACTINOLITE HORNFELS

Typical thinly laminated biotite actinolite hornfels alteration zones.

Bedding is at about 75° to the LCA.

From about 94.4m the unit develops a schistose nature which may be due to the granite.

F/M average about 6 mostly at 70 - 80° to the LCA

A significant broken and clay carbonate fill zone occur 94.8 - 95.1m at about 30° to the LCA

DIAMOND DRILL HOLE SURVEY

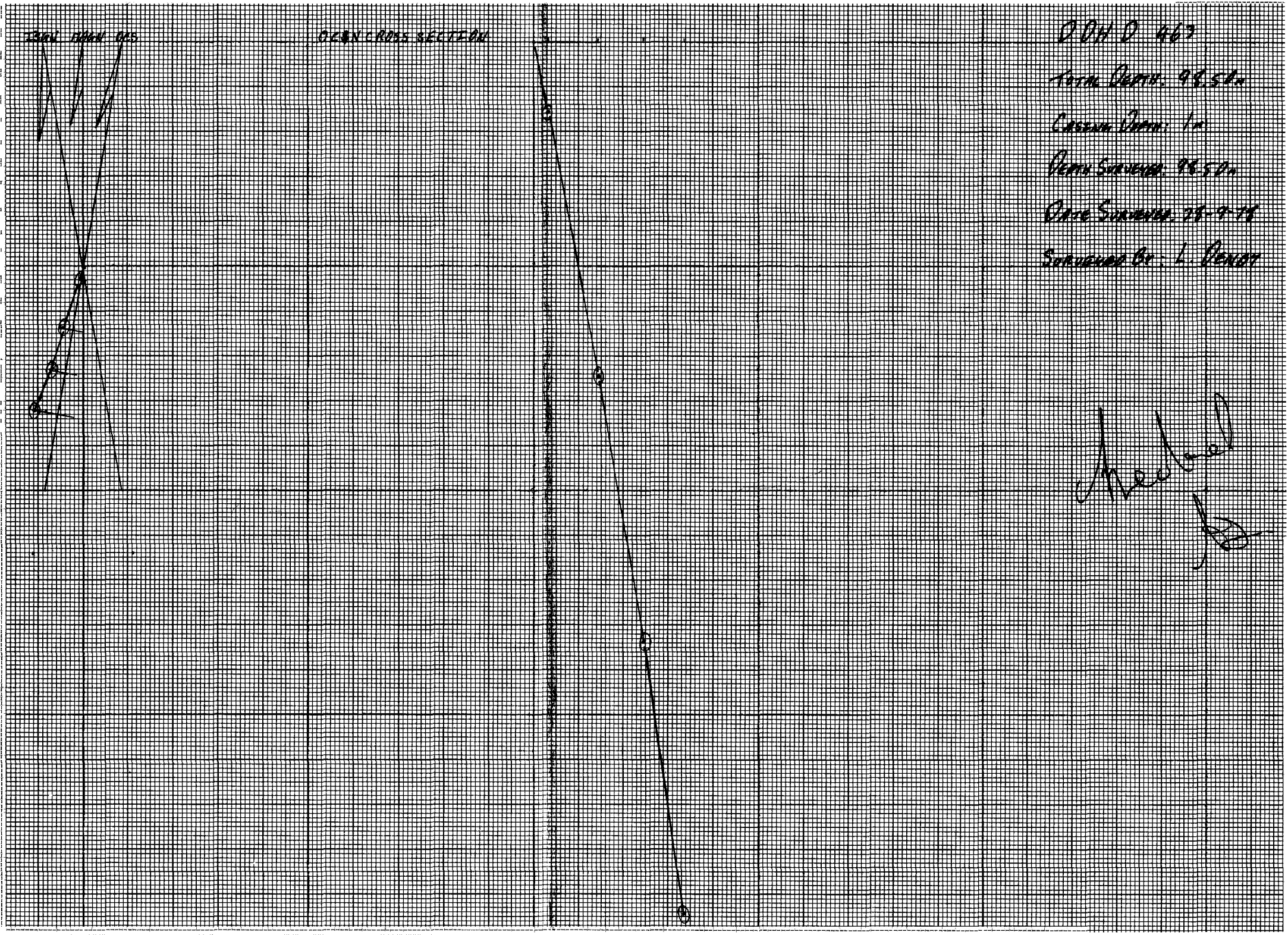
ESTMEN - KODAK MULTISHOT CAMERA

D.D.H. No. D463 Date Surveyed 28-9-78

Total Depth 98.50m Depth Surveyed to 98.50m

Casing Depth 1m Surveyed By L. DENBY

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc. S W	Mean Drift Direc S W	Cos Sine	Co-ords. S/S	Co-ords. E/W	Sum of Co-ords S/S	Sum of Co-ords E/W
8m	11°	11°	9816 1908	7.85	7.85	1.53	18	18	9511 3090	1.46	.47	1.46	.47
38m	11°	11°	9816 1908	29.45	27.30	5.72	18	18	9511 3090	5.44	1.77	6.90	2.24
68m	9°15'	9°15'	9870 1607	29.61	66.91	4.82	17	17	9563 2924	4.61	1.41	11.51	3.65
98.5m	9°15'	9°15'	9870 1607	30.10	97.01	4.90	20	20	9364 3420	4.60	1.69	16.11	5.33

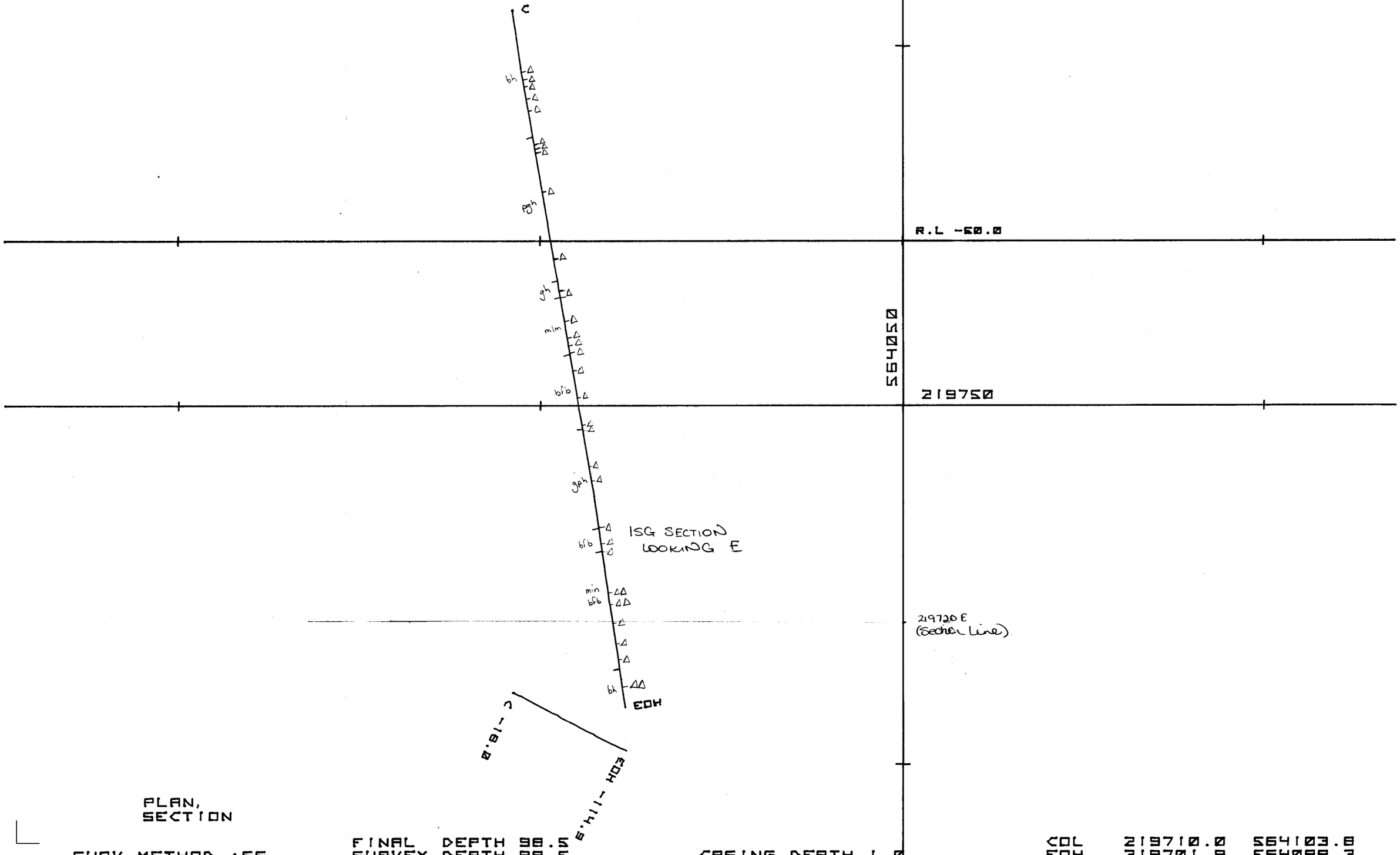

Zone Area 605
OCEAN CROSS SECTION
RDH 0 667
Total Depth: 98.5 Fm.
Casing Depth: 1 m
Depth Surveyed: 98.5 Fm.
Date Surveyed: 25-9-11
Surveyed By: L. Lenart

FOLD

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

DOLPHIN DDH # D463

DATE SURVEYED > 28*97*80



PLAN,
SECTION

SURV METHOD : SS

FINAL DEPTH 98.5
SURVEY DEPTH 98.5

CASING DEPTH 1.0

COL	219710.0	564103.8
EOH	219701.9	564088.2

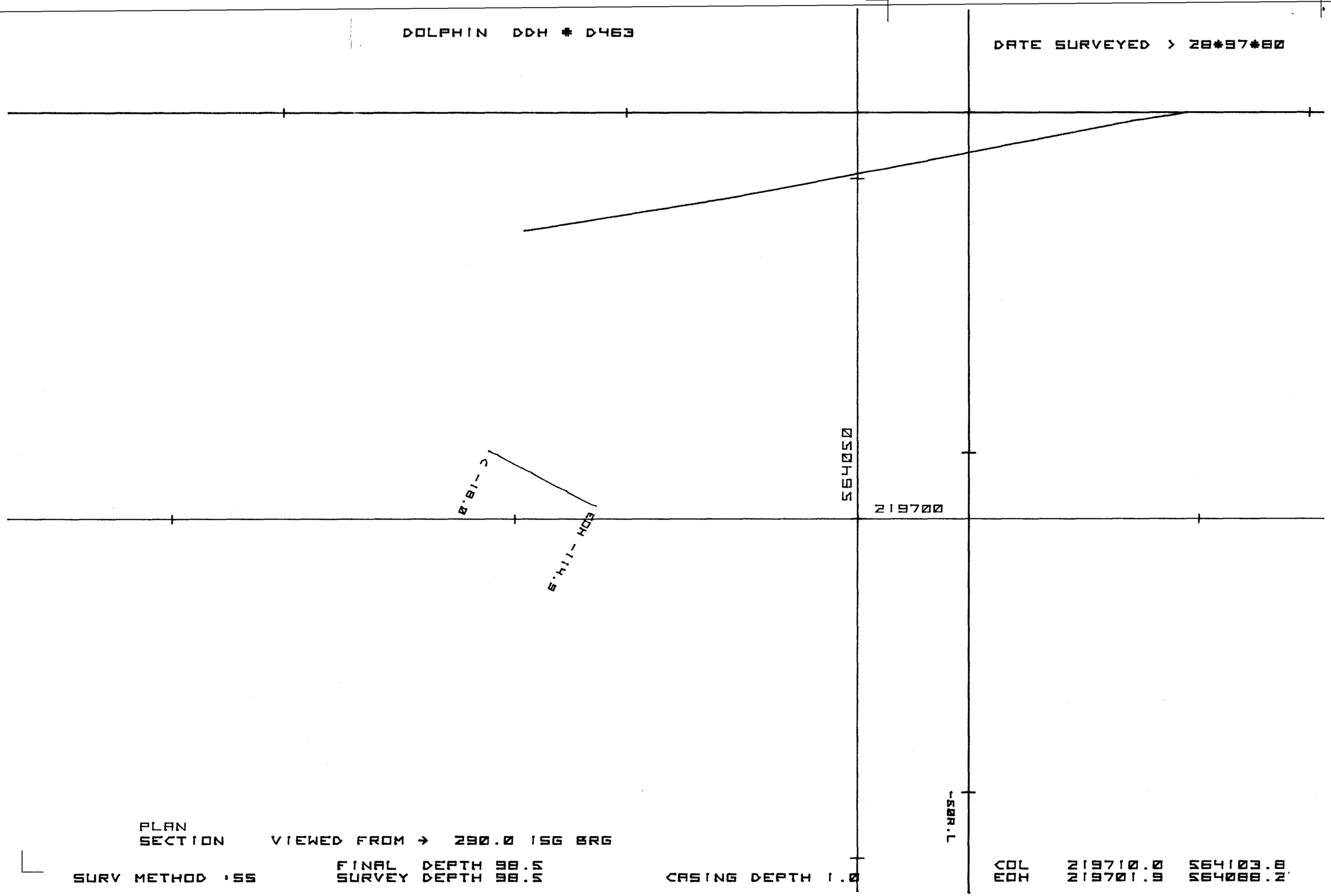
FOLD

FOLD

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

DOLPHIN DDH # D463

DATE SURVEYED > 28*97*80



PLAN
SECTION VIEWED FROM → 290.0 ISG BRG

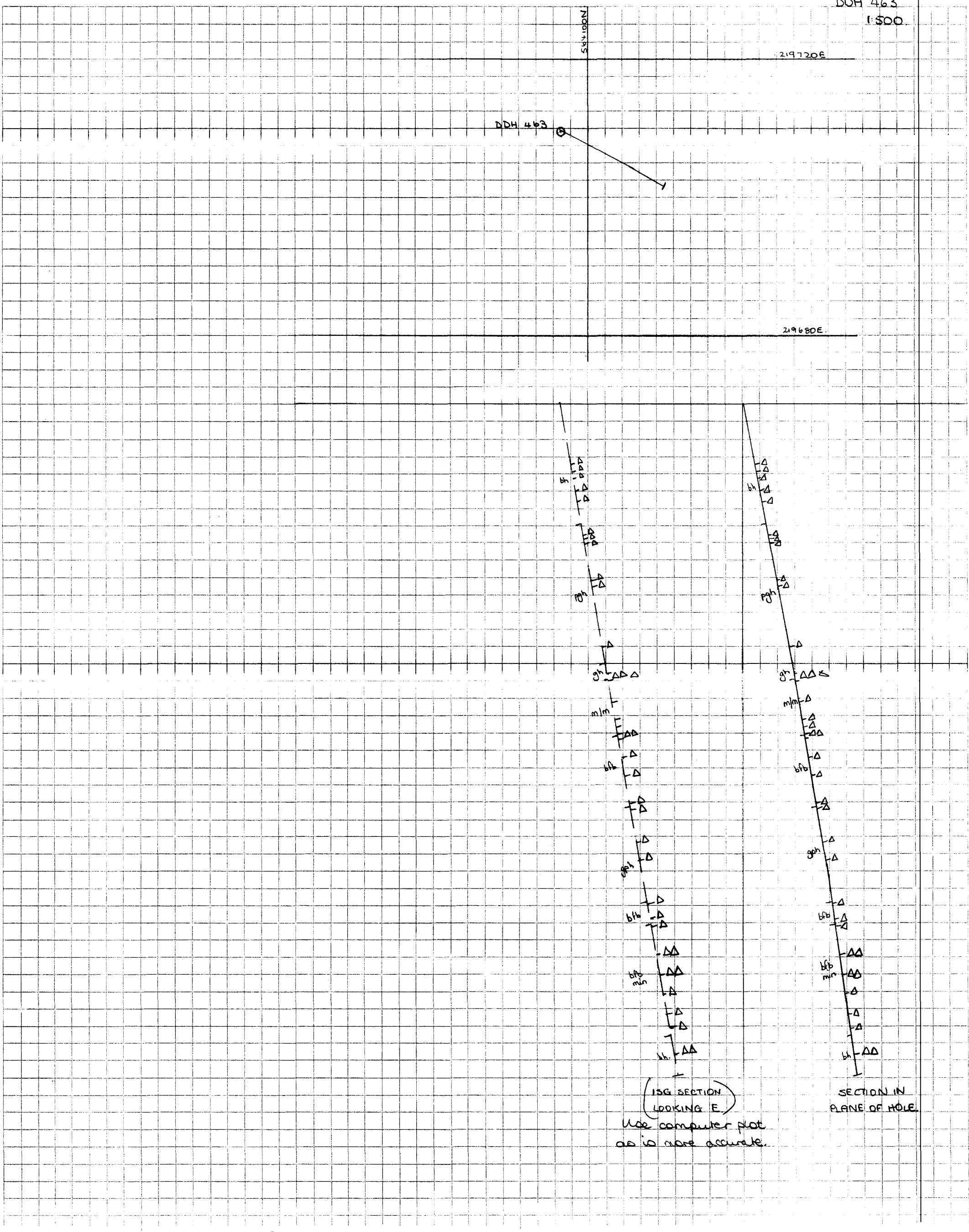
SURV METHOD :SS FINAL DEPTH 98.5
SURVEY DEPTH 98.5

CASING DEPTH 1.0

COL 219710.0 564103.8
EOH 219701.9 564088.2

FOLD

DDH 463
1:500


N001+95
219720E
DDH 463
219680E
gh
pgh
bh
m/m
bfb
gbs
bfb
bfg min
bh
(ISG SECTION LOOKING E.
Use computer plot as is more accurate.
gh
bh
m/m
bfb
gsh
bfg
bfg min
bh
SECTION IN PLANE OF HOLE.

GEOPEKO - KING ISLAND

LOG OF D.D.H. No. D 462/A

PLANNING

PROPOSER: A. Younger DEPTH:

LOCATION: 15 Bench Open Cut

PURPOSE OF HOLE: Test C lens Beneath the Open Pit.

CO-ORDS: 219711 E 564106 N

INCLINATION: -70°

BEARING: 019.5 °GRID °MAG

TARGET: E N Depth: 60.7m

SURVEY

SURVEY CO-ORDS: E N

SURVEYED BEARING: 17°17' °GRID °MAG

SURVEYED IN BY: DATE:

ACTUAL CO-ORDS: 219710.4 E 564105.2 N

R.L. OF COLLAR: -18.1

INCLINATION OF HOLE: -69°37'

PICKED UP BY: B. Davies DATE: 4-10-78

SUMMARY

LOGGED BY: A. Younger

RESULTS: Pgh 1 m at 0.39% WO_3, 21 - 22 m

Upper C lens 4 m at 1.07% WO_3, 27 - 31 m

Lower C lens sub ore grade mineralized bfb 4m at 0.5% WO_3, 47 - 51 m

DRILLING

DATE COMMENCED: 30-8-78 DATE TERMINATED: 4-9-78

DRILLER/CONTRACTOR: A.D.D.

CASING: SIZE: NQ
DEPTH: 7m

CORE: SIZE: 46TT
DEPTH: 58.7m

WEDGE PLACED: Nil DEPTH:

EXTENSION:

FINAL DEPTH: 58.7 m

REASON FOR TERMINATION: Passed below mineralization

CONDITION OF HOLE ON COMPLETION:

CASING:

CEMENTED:

BORE HOLE SURVEY: A. Younger at 58.7 m 35 m, at 12 m.

WATER: Nil

COMMENTS ON DRILLING CONDITIONS:

GEOPEKO LIMITED - KING ISLAND

SUMMARY BORE HOLE SURVEY DATA

D.D.H. No. D 462/A

Survey method: Singleshot Camera
Final depth: 61.7 m
Casing depth: 5m

Depth surveyed to: 61.7 m
Date surveyed 5-9-78
Surveyed by: A. Younger
Checked by: L. Denby

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corrected		N	E
7.5	019.5	009.5	21	-69	7.00	2.65	0.44
3.5	015	005	20	-70	32.84	12.02	1.26
61.7	017	007	20.5	-69.5	57.85	21.3	2.4

REMARKS:

GEOPEKO LIMITED - KING ISLAND

CORE RECOVERY

D.D.H. No. D 462/A

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
0.0 - 5.2	5.2	3.5	67
5.2 - 5.5	0.3	0.35	115
5.5 - 7.3	1.8	1.8	100
7.3 - 9.7	2.4	2.6	108
9.7 - 11.0	1.3	1.8	138
11.0 - 14.0	3.0	2.5	83
14.0 - 15.2	1.2	1.05	87
15.2 - 18.2	3.0	2.9	96
18.2 - 23.6	5.4	5.45	101
23.6 - 26.6	3.0	2.75	92
26.6 - 27.5	0.9	0.9	100
27.5 - 29.6	2.1	2.3	109
29.6 - 31.4	1.8	2.0	111
31.4 - 32.2	0.8	0.7	87
32.2 - 35.2	3.0	3.0	100
35.2 - 37.9	2.7	2.6	96
37.9 - 40.5	2.6	3.0	115
40.5 - 43.5	3.0	2.9	96
43.5 - 46.5	3.0	2.95	98
46.5 - 49.5	3.0	2.95	98
49.5 - 50.0	0.5	0.4	80
50.0 - 52.7	2.7	2.7	100
52.7 - 55.32	2.62	2.65	101
55.32 - 56.35	1.03	1.03	100
56.35 - 58.75	2.4	2.4	100
			99

GEOPEKO LIMITED - KING ISLAND

ASSAY DATA

D.D.H. No. D 462/A

Sample No.	DEPTH (METRES)				ELEMENTS			COMMENTS
	From	TO	Length	Length Recovered	WO_3	Mo		
D 8176	18	19	1.0	1.0	0.02	0.01		
77	19	20	"	"	0.03	<0.01		
78	20	21	"	"	0.03	<0.01		
79	21	22	"	"	0.34	0.01		
80	22	23	"	"	0.16	0.01		
81	23	24	"	"	0.10	0.01		
82	24	25	"	"	<0.01	<0.01		
83	25	26	"	"	<0.01	<0.01		
84	26	27	"	"	<0.01	<0.01		
85	27	28	"	"	0.33	0.01		
86	28	29	"	"	1.08	0.01	4m at	1.07%
87	29	30	"	"	1.15	0.01		
88	30	31	"	"	1.72	0.04		
89	31	32	"	"	0.07	<0.01		
90	32	33	"	"	<0.01	<0.01		
91	33	34	"	"	<0.01	<0.01		
92	34	35	"	"	<0.01	<0.01		
93	35	36	"	"	<0.01	<0.01		
94	36	37	"	"	0.68	0.01		
95	37	38	"	"	0.05	<0.01	4m at	0.49%
96	38	39	"	"	0.25	0.01		
97	39	40	"	"	0.98	0.01		
98	40	41	"	"	0.05	<0.01		
99	41	42	"	"	<0.01	<0.01		
D 8200	42	43	"	"	<0.01	<0.01		
1	43	44	"	"	0.08	0.01		
2	44	45	"	"	0.11	0.01		
3	45	46	"	"	0.15	0.01		
4	46	47	"	"	0.15	<0.01		
5	47	48	"	"	0.66	0.02		
6	48	49	"	"	0.36	0.01		
7	49	50	"	"	0.58	0.01	4m at	0.50%
8	50	51	"	"	0.40	0.01		
9	51	52	"	"	0.07	<0.01		
10	52	53	"	"	0.20	0.01		
11	53	54	"	"	0.27	0.01		
12	54	55	"	"	0.02	<0.01		
13	55	56	"	"	0.27	<0.01		

SPECIFIC GRAVITY

Depth (metres):

Rock Type :

S.G. :

Determined by:

GEOPEKO LIMITED - KING ISLAND

SUMMARY STRUCTURAL DATA

DDH No. D 462/A

DEPTH INTERVAL (METRES)	ROCK TYPE	FRAC-TURES /m	JOINT ANGLE (WRT C.A.O.C)	JOINT FILLING	BEDDING ANGLE (W.R.T. L.A.O.C.)	% CORE RECO-VERY	R.Q.D.	REMARKS (WEATHERING)
0.0 - 17.8	Bh	7	60-70°	Clay,chl	70°	99	77	
17.8 - 27.35	Pgh	3	40-50°	Carb,chl		99	94	
27.35 - 31.3	Gh	6	30-50°	Clay,carb,pyrite		99	94	
31.3 - 34.05	M/M	8	70-80°	Clay,chl	70°	99	62	
34.05 - 41.4	Bgh	4	65-70°	Carb,chl	65°	99	94	
41.4 - 45.63	Bfb	5	45-55°	Carb,chl	45-55°	99	86	
45.63 - 55.05	min. BFB	5	50-60°	Carb,clay	60°	99	83	
55.05 - 58.75	Bh/Ph	7	50-60°	Clay,carb	50-60°	99	92	

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) += $\frac{\text{Length Core 10 cm}}{\text{Length Drilled}}$ %
3. Core size.

GEOPEKO - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 462/A

0.0 - 17.8 m

BIOTITE HORNFELS

Typical grey and brown biotite hornfels with minor amounts of pyroxene alteration. The first 5.5 metres of core are extremely broken due to the open cut mining, otherwise F/M average about 7 mostly at about 60-70° to the LCA. Bedding at 13.5 m is at 70° to the LCA. Several minor aplites intrude the core between 8.50 m and 9.30 m. Some mottling occurs 16.4 - 16.6 m. A fault zone occurs, from 16.6 to 16.7 m at about 30° to the LCA.

17.8 - 27.35

PYROXENE GARNET HORNFELS

Variably altered and mineralized unit forming fairly typical pyroxene garnet hornfels. Within the first metre matrix changes from biotite hornfels to a mixture of pyroxene and grossular garnet which continues to the last metre where andradite garnet enters.

The contact with the Upper C lens is gradational. F/M average 3 mostly at 40-50° to the LCA. Carbonate filled fractures are relatively common and occur at 19.6 m, 23.1 m, 23.65 m, 23.95 and 24.5 m.

27.35 - 31.3

UPPER C LENS

Garnet hornfels massive andradite garnet hornfels with minor calcite and pyroxene and very minor pyrite. Scheelite mineralization probable over 1%.

F/M about 6 mostly at 30-50° to the LCA some of which may be due to minor faulting eg. around 29.0 m.

31.3 - 34.05 m Marble marker interbedded units of marble, biotite hornfels and pyroxene hornfels. A major fault occurs 31.35 - 31.85 m which contains clay and minor chlorite in badly broken ground.

Otherwise F/M are about 8 at about 70-80° to the LCA. Bedding in the biotte hornfels at 33.9 m is at 70° to the LCA.

GEOPEKO - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 462/A

34.05 - 41.4 BANDED GARNET HORNFELS LOWER C LENS

Variably mineralized thinly interbedded andradite garnet hornfels, pyroxene hornfels, biotite hornfels, grossular garnet hornfels and minor marbles.

Bedding is regular at about 65° to the LCA.

F/M average 4 mostly at about 65-70° to the LCA.

From about 37.0 m to about 38.1 m the unit is considerably, as if it is a rehealed fault zone, chloritic slickensides do occur at 37.20 m.

41.4 - 45.63 m BANDED FOOTWALL BEDS

Mostly marbles with thin interbeds of biotite hornfels, and pyroxene hornfels with grossular garnet reaction rims.

The contact with above unit is slightly sheared indicating bedding plane movement.

Bedding varies from 45-55° to the LCA.

F/M average 5 at about 45-55° to the LCA.

45.63 - 55.05 m MINERALIZED BANDED FOOTWALL BEDS

Interbedded andradite garnet hornfels, pyroxene hornfels minor biotite hornfels and marbles.

The andradite garnet units being variably mineralized Bedding is fairly consistent at about 60° to the LCA. Some major faults occur at:-

46.1 m	at	15°	to the LCA,	carb. fill
46.35m	at	10°	to the LCA,	carb.
46.65m	at	15°	to the LCA,	carb.
47.0 - 47.5 m	at	5°	to the LCA,	carb.
50.5 m	at	60°	to the LCA,	clay.

F/M otherwise average about 5 mostly of 50°-60° LCA.

GEOPEKO - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 462/A

55.05 - 58.75 BIOTITE HORNFELS/PYROXENE HORNFELS

Grey brown biotite hornfels with numerous pyroxene hornfels alteration zones.

Bedding is variable but mostly at about 55° to the LCA. F/M average 7 mostly at 50-60° to the LCA. A major fault occurs 55.5 - 55.75 m at about 5° to the LCA and a small broken zone occurs 56.4 - 56.45 m. Both zones have some clay and carbonate fill.

GEOPEKO - KING ISLAND

LOG OF D.D.H. No. D 462

PLANNING

PROPOSER: A. Younger **DEPTH:** 60 m

LOCATION: 15 Bench

PURPOSE OF HOLE: To Test C-lens Beneath the Openpit.

CO-ORDS: 219711 **E** 764106.5 **N**

INCLINATION: 70°

BEARING: 019.5 **°GRID** **°MAG**

TARGET: **E** **N**

APPROVED BY: DATE: 1/7/78

SURVEY

SURVEY CO-ORDS: **E** **N**

SURVEYED BEARING: **°GRID** **°MAG**

SURVEYED IN BY: 009° 39' **DATE:**

ACTUAL CO-ORDS: 219710.24 **E** 564104.84 **N**

R.L. OF COLLAR: -18.2

INCLINATION OF HOLE: 69° 40'

PICKED UP BY: W. Davies **DATE:** 20/7/78

SUMMARY

LOGGED BY: A. Younger

RESULTS: No Mineralization

DRILLING

DATE COMMENCED: 9/8/78 **DATE TERMINATED:** 15/8/78

DRILLER/CONTRACTOR: ADD

CASING: **SIZE:** NQ
DEPTH: 3m

CORE: **SIZE:** NQ 46TT
DEPTH: 5m 8.62m

WEDGE PLACED: **DEPTH:**

EXTENSION:

FINAL DEPTH: 13.62

REASON FOR TERMINATION: Abandoned Due Excessive Deviation and Gear Lost in Hole.

CONDITION OF HOLE ON COMPLETION:

CASING: 3m

CEMENTED:

BORE HOLE SURVEY: 13.62m

WATER:

COMMENTS ON DRILLING CONDITIONS: Bench Rubble and Mining Shattered Ground Conditions Caused Excessive Deviation.

GEOPEKO LIMITED - KING ISLAND

SUMMARY BORE HOLE SURVEY DATA

D.D.H. No. D 462

Survey method: Single shot
Final depth: 13.62
Casing depth: 5m

Depth surveyed to: 13.62 m
Date surveyed 10m
Surveyed by: A. Younger
Checked by: L. Denby

Bearing			Inclination		True vertical Depth (m)	Co-ordinates	
Depth (m)	Grid	Mag.	Read	Corrected		N	E
10m	012	002	20.5	-69.5	9.37	3.42	0.73
Estimated							
13.62	012	002	20.5	-69.5	12.76	4.66	0.99

REMARKS:

GEOPEKO LIMITED - KING ISLAND

SUMMARY STRUCTURAL DATA

DDH No. D 462

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)
0.0-13.63	Bh	7	50-70°	Chl,	70°	100	77	

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) += $\frac{\text{Length Core 10 cm}}{\text{Length Drilled}}$ %
3. Core size.

GEOPEKO - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 462

0.0 - 13.62 **BIOTITE HORNFELS**

Typical grey and brown biotite hornfels with minor amounts of pyroxene alteration.

Approximately, the first 5 metres of the core has been shattered by the open cut mining operations.

The F/m average about 7 mostly at about 50^{o} - 70^{o} to the LCA Bedding is at about 70^{o} to the LCA.

EOH 13·62m

Sheet No. 1 of 1

DIAMOND DRILL HOLE SURVEY

ESTMEN - KODAK MULTISHOT CAMERA

D.D.H. No. D462/A
Total Depth 61.7m
Casing Depth 5m

Date Surveyed 5/9/78
Depth Surveyed to 61.7m
Surveyed By A Young

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc	Cos Sine	Co-ords. N/S	Co-ords. E/W	Sum of Co-ords N/S	Sum of Co-ords E/W
7.5													
7.5	21		.9336 .3584	7.00	7.00	2.69	9.5		.9863 .165	2.65	0.44	2.65	0.44
27.5													
35	20		.9397 .342	25.84	32.84	9.41	5		.9962 .0872	9.37	0.82	12.02	1.26
26.7													
61.7	20.5		.9368 .3502	25.01	57.85	9.35	7		.9925 .1219	9.28	1.14	21.3	2.4

checked
5/9/78

DUE FINAL DEPTH 58.7m

A62A BEARING 17.17

219710.4 E 564105.2 N

-18.1 RL

inc. -69.37

58.70

4-9-78

Sheet No. 1 of 1

DIAMOND DRILL HOLE SURVEY

ESTMEN - KODAK MULTISHOT CAMERA

D.D.H. No. D462
Total Depth 13.62
Casing Depth 1 m.

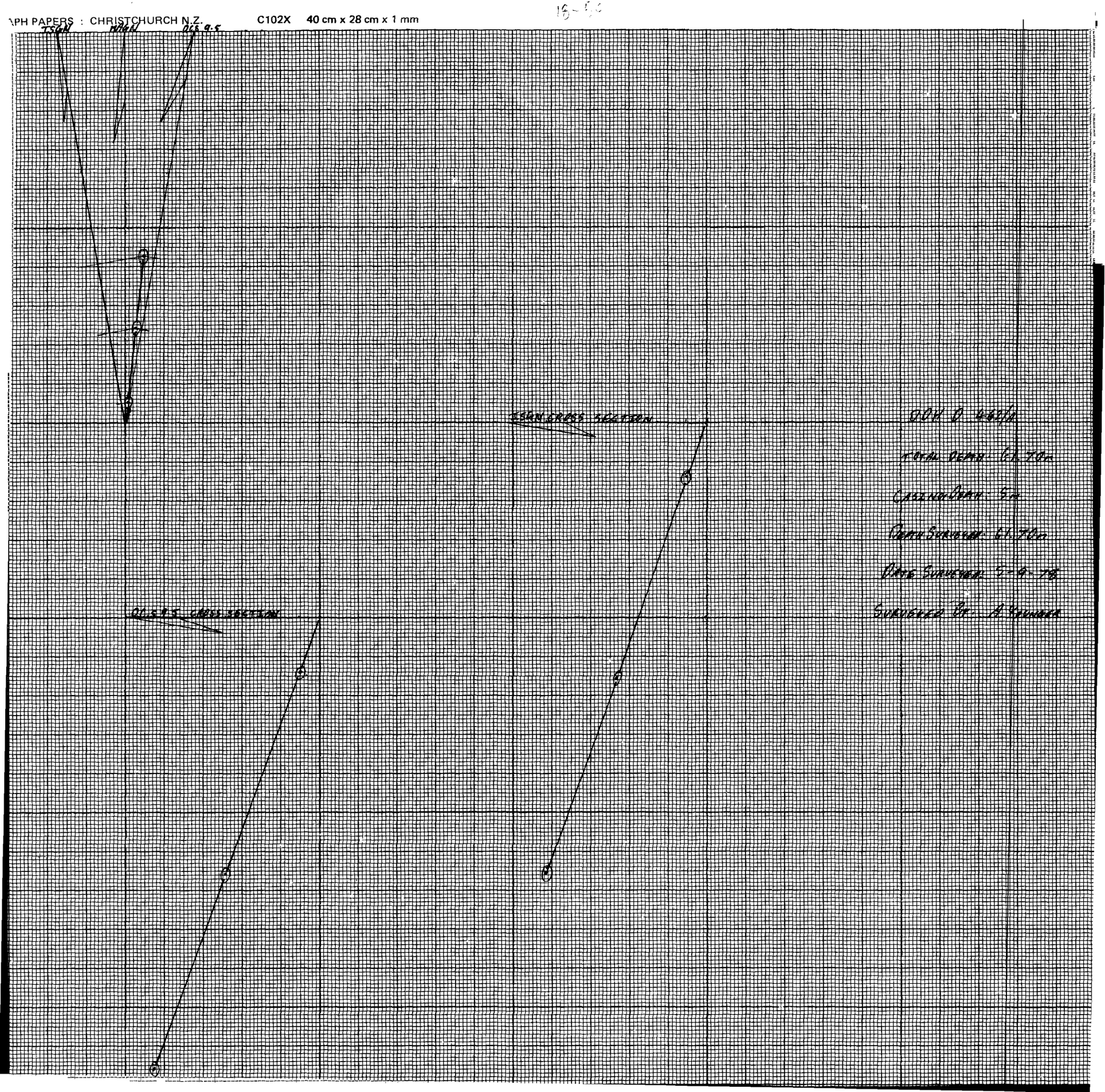
Date Surveyed 12/8/78
Depth Surveyed to 4m
Surveyed By A Younger.

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc	Cos Sine	Co-ords. N/	Co-ords. E/	Sum of Co-ords N/	Sum of Co-ords E/
4m	67.5	22.5	.9239 .3827	3.69	3.69	1.53		N 2 E	.9994 .0349	1.[illegible]	0.05	1.31	0.05
13.62	67.5	22.5	.9239 .3827	8.89	1258	3.68		N 2 E	.9994 .0349	3.68	0.[illegible]	4.99	0.18

Hole Abandoned

Refer DDH462/A

APH PAPERS : CHRISTCHURCH N.Z. C102X 40 cm x 28 cm x 1 mm



DDH 462/A
1:500

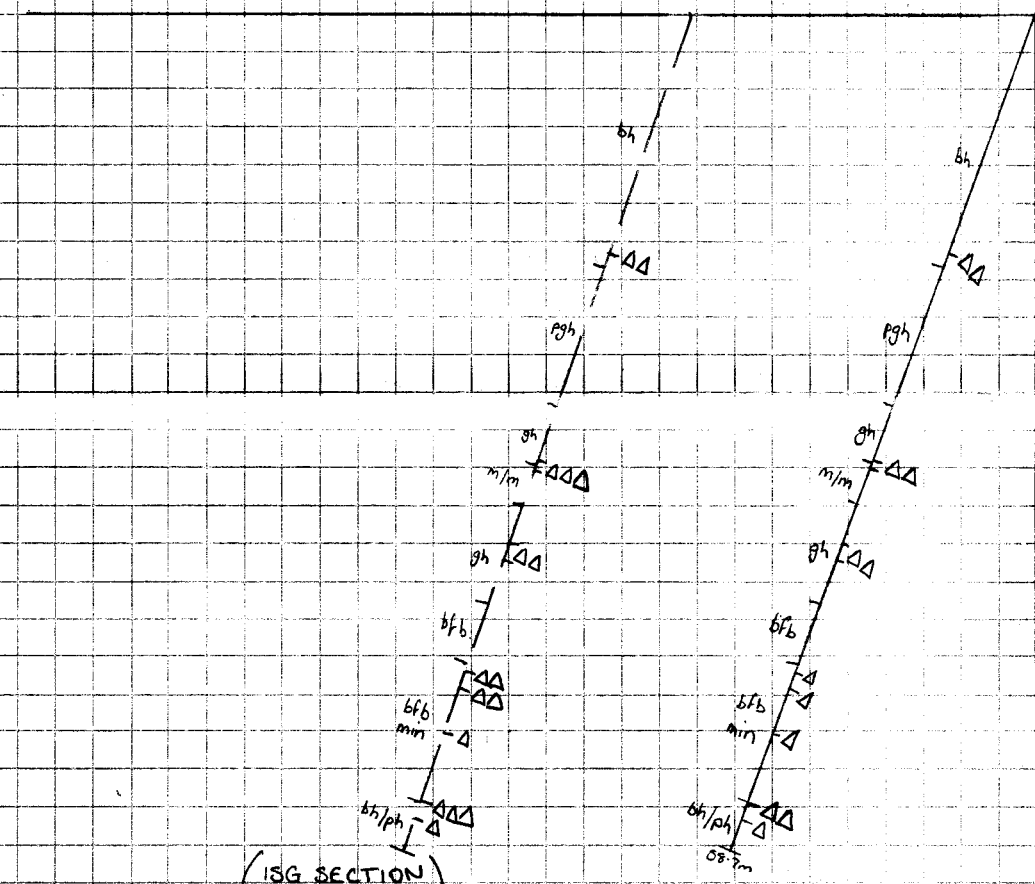
N 6504N

N 6505N

219 720 E
(Section Line)

DDH 462/A.

219680 E.
(Section Line)



(ISG SECTION
LOOKING E.

Use computer plot
as is more accurate

SECTION IN
PLANE OF HOLE.

FOLD

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

DOLPHIN DDH # D462A

DATE SURVEYED > 05*09*78

564150

219700

EOH -73.1

C -18.1

SOR.L

PLAN.
SECTION VEIWED FROM → 290.0 1SG BG

SURV METHOD :SS

FINAL DEPTH 58.7
SURVEY DEPTH 58.7

CASING DEPTH 5.0

COL 219710.4 564105.2
EOH 219716.6 564124.8

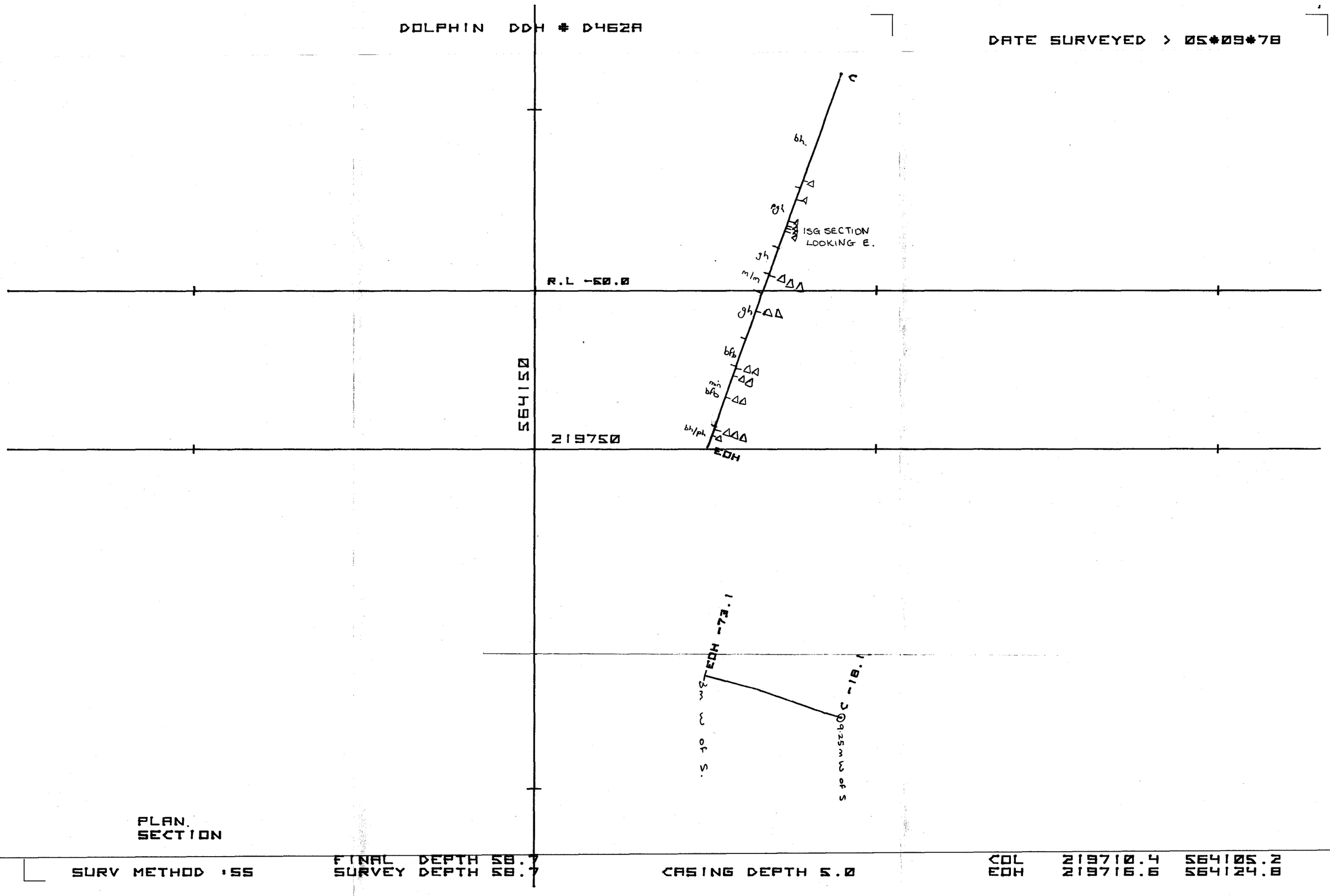
FOLD

FOLD

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

DOLPHIN DDH # D462A

DATE SURVEYED > 05*09*78



PLAN.
SECTION

FOLD

SURV METHOD :55

FINAL DEPTH 58.7
SURVEY DEPTH 58.7

CASING DEPTH 5.0

COL	219710.4	564105.2
EOH	219716.6	564124.8

GEOPEKO LIMITED - KING ISLAND

LOG OF D.D.H. NO. D 461

PLANNING

Proposer: M. Danielson **Depth:** 200 metres

Location: Sea dump fill area

Purpose of hole: Test north of Northern Boundary Fault

Co-ordinates:	220 330	**E**	564 180	N
Inclination:	- 90°			**Magnetic:**
Bearing	360	**Grid**		**Target Depth:**
Target:		**E**		N
Approved by:	M.C.R.			**Date:** 1-12-1977

SURVEY

Survey Co-ords:		**E**		N
Survey bearing:		**Grid**		**Magnetic:**
Surveyed in by:				**Date:**
Actual Co-ords:	220 330.1	**E**	564 180.9	N
R.L. of Collar:	+3.5			**Inclination of Hole:**
Picked up by:	R.J.H.			**Date:** 090178

SUMMARY

Logged by: G. Bujtor

Results: Intersected quartzites

DRILLING

Driller/Contractor: A.D.D.

Date commenced: 5-12-1977 **Date terminated:** 24-1-1978

Casing:	**Size:**			
	Depth:	15 m		
Core:	**Size:**	HQ	NQ	BQ
	Depth:	0-27	27-47	47-103

Wedge Runoff: Nil

Wedge placed: **Depth:**

Proposed by: **Approved by:**

Reason:

Extension: Nil

Reason for termination: Intersected quartzites and base of mine series.

Condition of hole on completion: **Final depth:** 103.0 metres

Casing: 15 metres remaining down hole

Cemented: No

Bore hole survey: Surveyed to 103 metres

Water:

Comments on drilling conditions: Extremely difficult getting through mine fill. Hit solid rock at some 54.0 metres.

GEOPEKO LIMITED - KING ISLAND

SUMMARY BORE HOLE SURVEY DATA

D.D.H. No. D 461

Survey method: Eastman Single Shot
Final depth: 103.0 metres
Casing depth: 15 metres

Depth surveyed to: 103.0 metres
Date surveyed to: 21-1-1978
Surveyed by: L. Denby
Checked by: G. Bujtor

Depth (m)	Bearing		Inclination		True vertical Depth (m)	Co-ordinates	
	Grid	Mag.	Read	Corrected		S	W
19	254°	244°	1.75°	-89.25°	18.99	0.25	0.52
40	254°	244°	1.75°	-88.25°	39.98	0.53	1.10
61	254°	244°	1.75°	-88.25°	60.97	0.81	1.68
82	259°	249°	1.75°	-88.25°	81.96	1.04	2.28
103	236°	226°	2.75°	-87.25°	102.93	1.74	3.01
EOH 103 metres							

REMARKS:

GEOPEKO LIMITED - KING ISLAND

CORE RECOVERY

D.D.H. No. D 461

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
53.58 - 55.0	1.42	1.4	99
55.0 - 59.0	4.0	1.5	38
59.0 - 61.0	2.0	1.0	50
61.0 - 62.0	1.0	0.9	90
62.0 - 63.0	1.0	1.0	100
63.0 - 64.0	1.0	0.9	90
64.0 - 65.0	1.0	0.3	30
65.0 - 68.0	3.0	1.0	33
68.0 - 70.0	2.0	1.2	60
70.0 - 71.0	1.0	0.7	70
71.0 - 73.0	2.0	1.7	85
73.0 - 76.0	3.0	1.0	33
76.0 - 77.0	1.0	0.1	10
77.0 - 80.0	3.0	1.0	33
80.0 - 82.0	2.0	2.0	100
82.0 - 84.0	2.0	2.0	100
84.0 - 86.0	2.0	1.5	75
86.0 - 88.0	2.0	2.0	100
88.0 - 89.0	1.0	1.0	100
89.0 - 91.0	2.0	1.5	75
91.0 - 94.0	3.0	2.0	67
94.0 - 95.0	1.0	1.0	100
95.0 - 97.0	2.0	1.0	50
97.0 - 98.0	1.0	1.0	100
98.0 - 99.0	1.0	1.0	100
99.0 - 100.0	1.0	0.5	50
100.0 - 102.0	2.0	1.5	75
102.0 - 103.0	1.0	0.2	20
EOH 103.0 metres			

GEOPEKO LIMITED - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 461

0.0 - 54.0 — No Core

Drilling through mine fill, sand and early weathered / altered bedrock.

54.0 - 103.0 — Quartzite

Extremely broken, fractured and rubbly quartzite with no visible structural features. The quartzite is very hard, grey in colour and contains some thin dark grey? siliceous biotite hornfels interbeds (such as those between 82-86 metres)

So 52^{o} to LCA at 82.8 metres
So 66^{o} to LCA at 84.5 metres

EOH 103.0 metres.

DIAMOND DRILL HOLE SURVEY

ESTMEN - KODAK MULTISHOT CAMERA

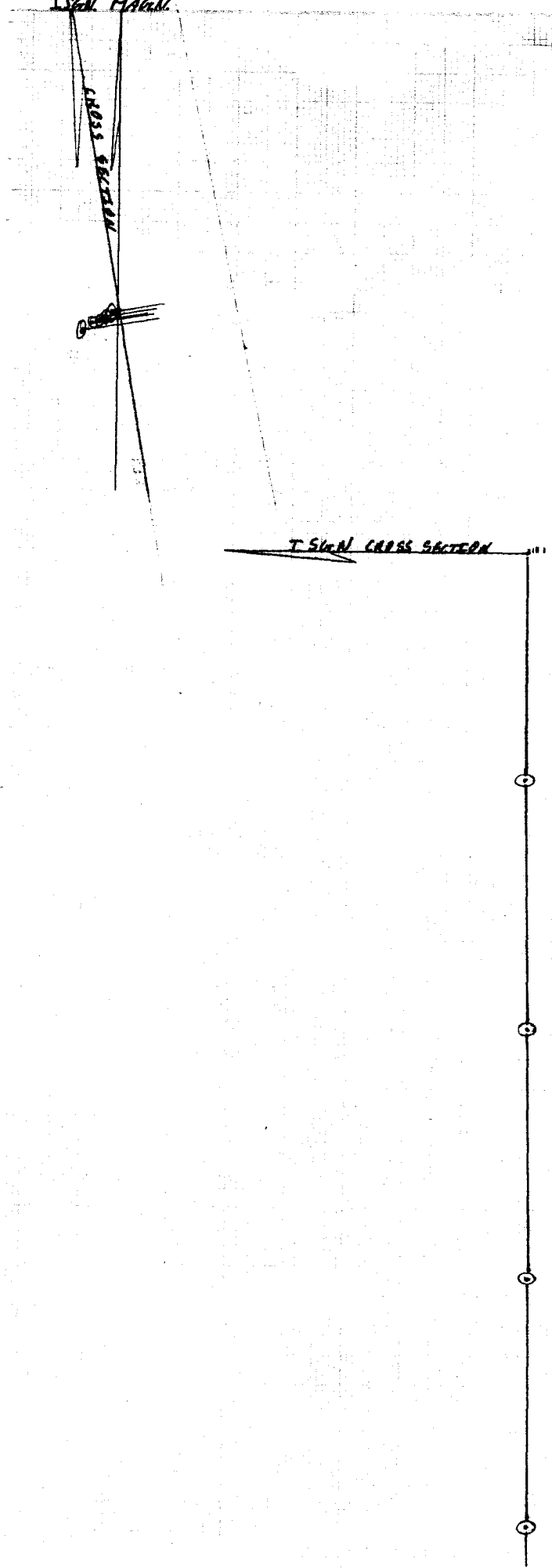
D.D.H. No. D 461 Date Surveyed 21-1-78

Total Depth 103.00m Depth Surveyed to 103.00m

Casing Depth 47.50m 15m Surveyed By L. DENOT

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc. S W	Mean Drift Direc S W	Cos Sine	Co-ords. S	Co-ords. W	Sum of Co-ords S	Sum of Co-ords W
19m	1.45	1.45	.9995 0305	19.99	19.99	.58	64	64	4384 8988	.25	.52	.25	.52
40m	1.45	1.45	9995 0305	20.99	39.98	.64	64	64	4384 8988	.28	.58	.53	1.10
61m	1.45	1.45	9995 0305	20.99	60.97	.64	64	64	4384 8988	.28	.59	.81	1.68
82m	1.45	1.45	9995 0305	20.99	81.96	.64	69	69	3584 7356	.23	.60	1.04	2.28
103m	2.45	2.65	9988 0490	20.97	102.93	1.01	46	46	6647 7193	.70	.73	1.74	3.01

998
26/1/78



D.D.H.D. 461

TOTAL DEPTH: 103.00M

CASING DEPTH: 47.50M

DATE SURVEYED: 21.1.78

DEPTH SURVEYED: 103.00M

SURVEYED BY : L. DENOT

GEOPEKO LIMITED - KING ISLAND

D.D.H. No.: 460

Location:

Wedge Block. Section 16. Bench 5. +75m Level.

Purpose of Hole:

Test for westward extensions of wedge block ore. (No previous drilling west of 15.)

Hole Proposed by: P. Cottam Date 2/11/72

Surveyed in by: K.I.S. Date 25/1/73

Proposed:	219532	E	564391	N
Surveyed:		E		N
Actual from which Drilled:	RL = +69.29m 219532.22	E	564394.16	N

Reduced Level of Collar: + 69.29

Bearing:- N 19°20'E I.S.Grid Magnetic

Inclination:- - 30° degrees

Target; depth: ft.

Planned depth: 55m ~~ft.~~

Actual Depth: 53.34m ~~ft.~~

Date Commenced: 10 2/73

Date Completed: 20/2/73

Wedges Placed:

Extensions (if any)

Checked: M. C. Rogers

Summary Result:

27 - 32 m 5 m at 0.55% WO_3
33 - 35 m 2 m at 0.45% WO_3

Remarks: Intersected westward extension of mineralisation on section 15 but poor grades and thin intersection offer little potential of any significant wedge block mineralisation in the west.

DRILL LOG DDH: 460

0 - 8.23 BIOTITE HORNFELS

With only 2.5 metres recovered. Core is mostly rubble from 0 - 21.03 metres with only approximately 9 metres recovered.

8.23 - 9.14 GARNET PYROXENE HORNFELS

A weak Gph skarn with only a speck of scheelite. Core not assayed. Core recovery is good in this section.

9.14 - 17.07 HANGINGWALL HORNFELS

A rubbly barren dark grey biotite hornfels.

17.07 - 24.08 GARNET PYROXENE HORNFELS

A heavily leached Gph skarn. Some banding apparent.

20.12 m 60° to LACC
22.25 m 45° to LACC

Scheelite mineralisation commences 22.25 metres. First split is 21 - 24 metres due to core loss so the complete run is bulked together.

24.08 - 30.48 SKARN

No noticeable banding. Scheelite is extremely variable. See assays.

30.48 - 34.14 BANDED SKARN

Variable mineralisation in a weakly banded pyroxene rich skarn.

Banding 30.48 m 30°
32.31 m 45°
33.53 m 45°

No significant mineralisation below 34.10 metres.

34.14 - 37.79 FOOTWALL BEDS

Unreplaced banded footwall beds. No significant mineralisation.

Banding	35.35 m	55°
	36.88 m	55°
	37.79 m	60°

37.79 - 41.76 BANDED BIOTITE / PYROXENE HORNFELS

Thinly banded purple and pale green hornfels. No scheelite.

Banding	40.23 m	45°

41.76 - 43.89 OLDER VOLCANICS

43.89 - 53.34 QUARTZITE

E.O.H. 53.34 metres.

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 460

Logged By : M.J.D.

Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
B 1647	21	24	3.0	0.04			
8	24	25	1.0	0.28			
9	25	26	"	0.07			
50	26	27	"	0.20			
1	27	28	"	0.66			
2	28	29	"	0.24			
3	29	30	"	0.35			5m at 0.55% WO_3
4	30	31	"	1.17			
5	31	32	"	0.35			
6	32	33	"	0.05			
7	33	34	"	0.31			
B 1658	34	35	"	0.58			2m at 0.45% WO_3

GEOPEKO LIMITED KING ISLAND

D.D.H. No.: 459

Location:
Wedge Block
Section 14
+57m Level

Purpose of Hole:
Test up-dip continuance of ore intersected in DDH 71 and obtain geological correlation.

Hole Proposed by: P. Cottam Date 2/11/72

Surveyed in by: P. Morrison Date 17/11/72

Proposed:	219601	E	564369	N
Surveyed:	219602.9	E	564375.2	N
Actual from which Drilled:	219603.52	E	564376.90	N

Reduced Level of Collar: 74.56 m

Bearing:- 19° 20' I.S.G. Grid Magnetic

Inclination:- -50° degrees

Target; depth: ft.

Planned depth: 70 m ~~ft.~~

Actual Depth: 55.17 m ~~ft.~~

Date Commenced: 4/1 /73

Date Completed: 13/1 /73

Wedges Placed:

Extensions (if any)

Checked: M. C. Rogers

Summary Result: Ore in DDH 71 not intersected. Little replacement of C-lens marble except near base where weak scheelite mineralisation. Bh 00 - 8.50, PGH 8.50 - 18.89, Ch 20.42 - 39.71, Gh 39.71 - 41.43, BPh 41.43 - 43.31, Ov 43.31 - 48.20, Q 48.20 - 55.17

Remarks:
Sequence much as expected though intersections slightly higher than anticipated.

DRILL LOG DDH1 452

00 - 8.50 HANGING WALL BIOTITE HORNFELS

Very fine grain dark to medium grey massive hornfels rich in quartz and biotite. Highly broken with well developed jointing. Has sharp basal boundary marked by clay filled joint.

8.50 - 18.89 P.G.H.

8.50 - 12.00 a massive rock though well broken and with zones of lost core. Fine grain light green-grey pyroxene-quartz hornfels matrix containing varying concentrations of sub-rounded grossularite rimmed fragments suffering varying degrees of weathering. Most of the pods have been leached and consist of a honeycomb of fibres of light brown-white mineral, probably woollastonite. Occasional MoS$_2$ crystals occur round outer edges of pods. Only occasional specks of scheelite present.

12.00 - 14.64 similar texture to above but dark grey fine grain biotite hornfels matrix. There are lesser numbers of pods which do not have grossularite rim and show little leaching of calcite. Core is less broken and much more competent than overlying PGH.

14.64 - 16.76 only 20 cm of core recovered. Similar to top part of [redacted] being pyroxene rich, broken and showing weathering of pods.

17.32 irregular vein or pod 3 cm wide filled with milky white chert with overgrowth of clinohumite.

17.37 - 17.98 only 35 cm core recovered, this is rubble similar to top part of PGH consisting of garnet, pyroxene with vuggy infillings of clinohumite.

17.98 - 18.89 only 25 cm of rubbly PGH recovered.

18.89 - 19.50 basal hornfels of dark brown-black fine grain massive biotite hornfels.

19.50 - 20.42 light green grey fine grain pyroxene hornfels with garnet - woollastonite (?) honeycomb from 20.11 - 20.21.

20.42 - 41.43 C-LENS

20.42 - 39.71 white to light grey medium grain calcite hornfels. Has poorly defined bedding, irregular narrow bands of replacement to garnet and zones where marble is impure and pyroxene rich.

24.38 - 24.88 light green fine grain calcite hornfels spotted with porphyroblasts of biotite, green colour is presumably due to pyroxene in a largely calcite matrix.

24 - 24.38 core rubbly but no appreciable core loss.

25.45 - 26.51 core heavily broken, only 50 cm recovered.

26.51 - 28.65 core more competent. Narrow (<1cm) bands of garnet replacement laminate the core. Form on 20% of the surface area. Scheelite content very low. Replacement appears to be along bedding.

Bedding 75 - 80° to long axis of core.

28.75 - 29.00 band of replacement to grossular garnet.

29.20 - 29.55 band of intermixed pyroxene and grossularite. Grossularite dominant.

30.02 - 30.22 core weathered to a calcareous silt.

32.37 - 39.71 occasional narrow bands of fine grain biotite hornfels, sometimes with narrow pyroxene and grossularite rim, appear in sequence. However forms only small proportion of core.

39.71 - 41.43 Replacement of marble to dark green brown garnet pyroxene skarn except for marble band from 40.31 - 40.61. Weak scheelite mineralisation between 39.71 and 40.31. Base of skarn marked by 20 cm zone of highly fractured core.

Bedding	55°	to LAC at	38.50 m
	75°		34 m
	48°		38 m
	90°		32.50 m
	85°		40 m
	80°		40.20 m

41.43 - 43.31 BIOTITE AND PYROXENE HORNFELS

Finely laminated fine grain bands of medium grey - dark grey siliceous biotite hornfels with green grey interbeds of pyroxene hornfels. Some narrow bands of pyroxene rimmed skarn e.g. 42.97 - 43.00. Sharp lower boundary, roughly along a bedding plane, with older volcanics.

43.31 - 48.20 OLDER VOLCANICS

A massive fairly uniform medium grain holocrystalline rock consisting of a felted groundmass of actinolite crystals with black chlorite and biotite (?) interstitial to the green groundmass giving a mottled texture. The boundary with the underlying quartzites is gradational and somewhat uncertain as older volcanics become highly broken and more siliceous between 47.39 and 50.20, with underlying quartzites being spotted and slightly green in colour.

48.20 - 55.17 QUARTZITES

Medium to light green grey fine grain quartzites with fine dark spotted surface. Highly jointed.

E.O.H. 55.17 metres.

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 459

Logged By : M.D.

Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
B 1625	39.71	40.31	0.60	0.66	0.08		
B 1626	40.70	50.70	1.0	0.02	0.08		

DRILL LOG DDH: 452

00 - 8.50 HANGING WALL BIOTITE HORNFELS

Very fine grain dark to medium grey massive hornfels rich in quartz and biotite. Highly broken with well developed jointing. Has sharp basal boundary marked by clay filled joint.

8.50 - 18.89 P.G.H.

8.50 - 12.00 a massive rock though well broken and with zones of lost core. Fine grain light green-grey pyroxene-quartz hornfels matrix containing varying concentrations of sub-rounded grossularite rimmed fragments suffering varying degrees of weathering. Most of the pods have been leached and consist of a honeycomb of fibres of light brown-white mineral, probably wollastonite. Occasional MoS_2 crystals occur round outer edges of pods. Only occasional specks of scheelite present.

12.00 - 14.64 similar texture to above but dark grey fine grain biotite hornfels matrix. There are lesser numbers of pods which do not have grossularite rim and show little leaching of calcite. Core is less broken and much more competent than overlying PGH.

14.64 - 16.76 only 20 cm of core recovered. Similar to top part of [illegible] being pyroxene rich, broken and showing weathering of pods.

17.32 irregular vein or pod 3 cm wide filled with milky white chert with overgrowth of clinohumite.

17.37 - 17.98 only 35 cm core recovered, this is rubble similar to top part of PGH consisting of garnet, pyroxene with vuggy infillings of clinohumite.

17.98 - 18.89 only 25 cm of rubbly PGH recovered.

18.89 - 19.50 basal hornfels of dark brown-black fine grain massive biotite hornfels.

19.50 - 20.42 light green grey fine grain pyroxene hornfels with garnet - wollastonite (?) honeycomb from 20.11 - 20.21.

20.42 - 41.43 C-LENS

20.42 - 39.71 white to light grey medium grain calcite hornfels. Has poorly defined bedding, irregular narrow bands of replacement to garnet and zones where marble is impure and pyroxene rich.

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 459 — Date Surveyed 15.1.73

Total Depth 1811' — Depth Surveyed To 170

Casing Depth 105 — Surveyed By G. Massey.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
		0	40				170	38½	N 10 E
		10	40				170	"	"
		10	40				170	"	"
		10	40				170	"	"
		20	40				160	M	-
		30	39¾				150	M	-
		40	39½				130	39	N 10 E
		50	M				120	39	"
		70	39				110	39	"
		80	39				100	39	
		90	39				90	39	
		100	39				80	39	
		110	39	N 11 E			70	M	
		120	39	"			60	39	
		130	39	"			50	39	
		140	38¾	"			40	39½	
		140	"	"			30	39¾	
		150	"	"			20	40	
		160	"	"			10	40	
		170	38½	10			0	40	
		170	"	"					
		170	"	"					

REMARKS:-

Sheet No. 1 of 2

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 459 — Date Surveyed 15 · 1 · 73

Total Depth 181' — Depth Surveyed To 170'

Casing Depth 105' — Surveyed By G. Massey.

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords. N/S	Sum of Co-Ords. E
0	40	40	·7660 / ·6428	0	0	0				—	—	—	—
	40												
10	40	40		7.66	7.66	6.43				6.31	1.23	6.31	1.23
	40												
20	40	40		7.66	15.32	6.43				6.31	1.23	12.62	2.46
	40												
30	39 45	39 45	·7688 / ·6394	7.69	23.01	6.39				6.27	1.22	18.89	3.68
	39 45												
40	39 30	39 30	·7716 / ·6361	7.72	30.73	6.36				6.24	1.21	25.13	4.89
	39 30												
50	39 30	39 15	·7744 / ·6327	7.74	38.47 (11.74)	6.33				6.21	1.21	31.34 (9.55)	6.10 (1.86)
	39												
60	39	39	·7771 / ·6293	7.77	46.24	6.29				6.17	1.20	37.51	7.30
	39												
70	39	39		7.77	54.01	6.29				6.17	1.20	43.68	8.50
	39												
80	39	39		7.77	61.78	6.29				6.17	1.20	49.85	9.70
	39												
90	39	39		7.77	69.55	6.29				6.17	1.20	56.02	10.90
	39												
100	39	39		7.77	77.32 (23.57)	6.29				6.17	1.20	62.19 (18.95)	12.10 (3.69)
	39												
110	39	39		7.77	85.09	6.29	N 11 E	11	·9816 / ·1908	6.17	1.20	68.36	13.30
	39												
120	39	39		7.77	92.86	6.29	N 11 E	11		6.17	1.20	74.53	14.50
	39												
130	39	39		7.77	100.63	6.29	N 11 E	10½	·9833 / ·1822	6.17	1.20	80.70	15.70
	39						N 10 E						

Sheet No. 2 of 2

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. _____ Date Surveyed _____

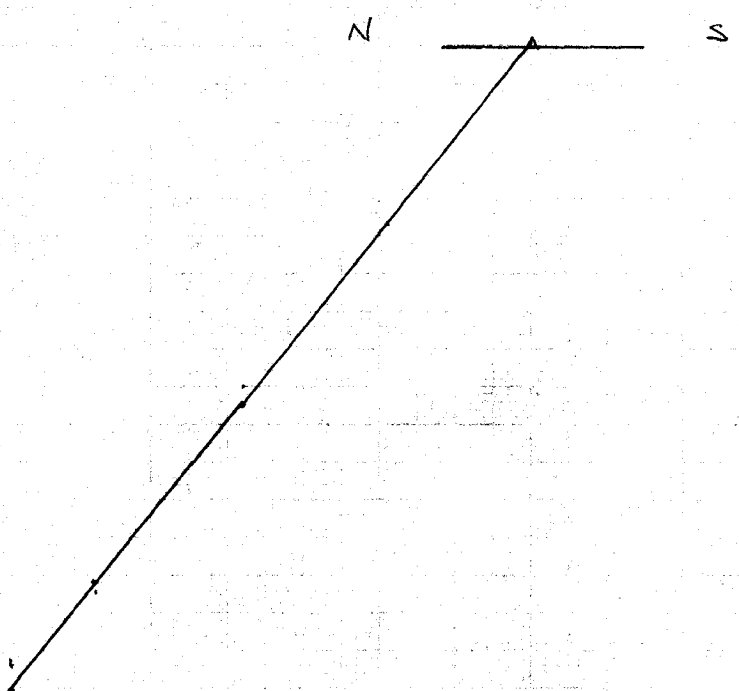
Total Depth _____ Depth Surveyed To _____

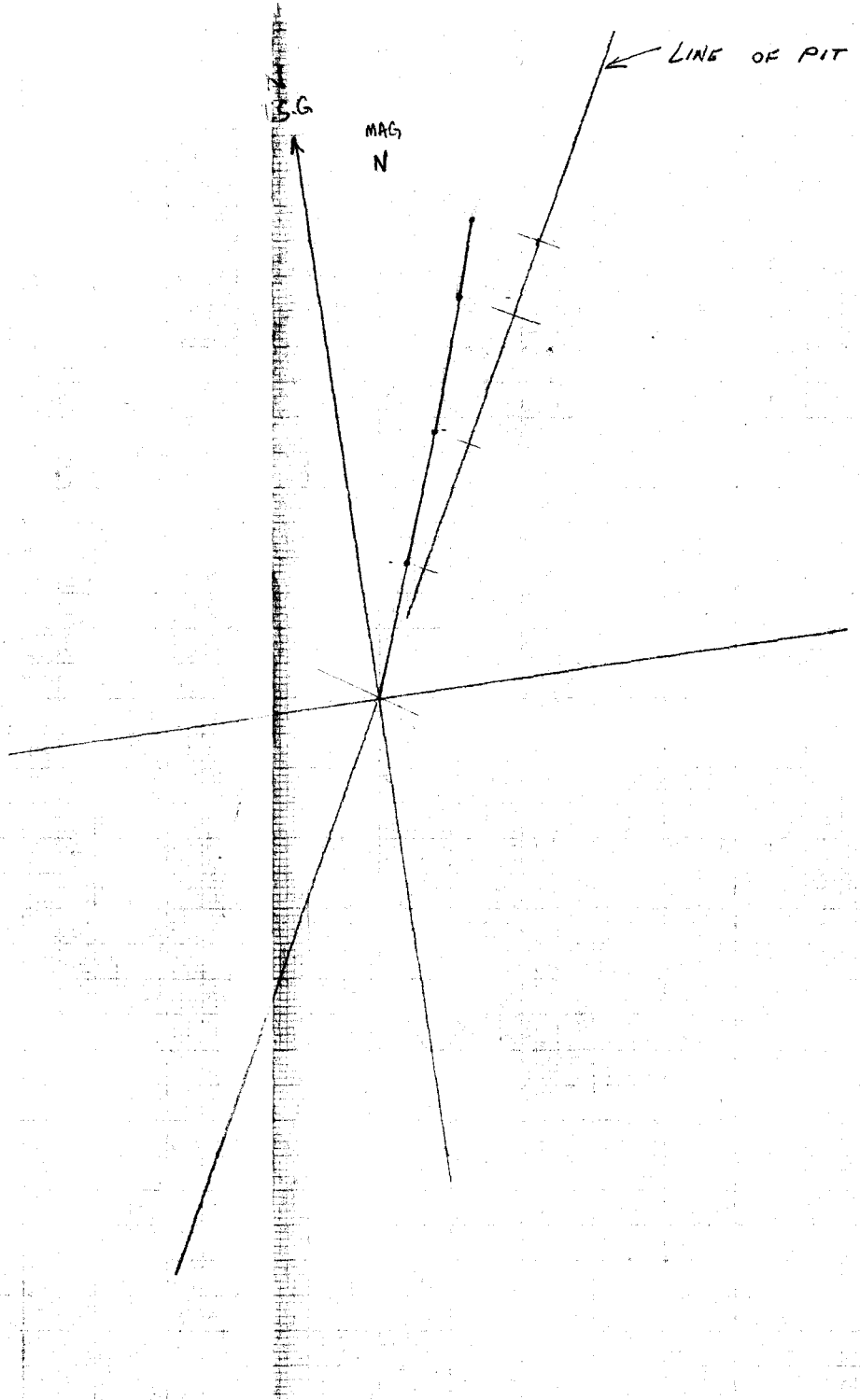
Casing Depth _____ Surveyed By _____

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords N/S	Sum of Co-Ords E
140	38 45	38 45	.7799 / .6259	7.80	108.43	6.26	N 11 E	10½	.9833 / .1822	6.15	1.14	86.85	16.84
							10						
150	38 45	38 45		7.80	116.23 (35.43)	6.26	N 11 E	10½		6.15	1.14	93.00 (28.35)	17.98 (5.48)
							10						
160	38 45	38 45		7.80	124.03	6.26	N 11 E	10½		6.15	1.14	99.15	19.12
							10						
170	38 30	38 30	.7826 / .6225	7.83	131.86	6.22	N 10 E	10	.9848 / .1736	6.12	1.08	105.27	20.20
	38 30												
181	38 30	38 30	.7826 / .6225	8.61	140.47 (42.81)	6.85	N 10 E	10	.9848 / .1736	6.75	1.19	112.02 (34.14)	21.39 (6.52)

ODH 459

PROJECTION IN PLANE OF GEOLOGICAL PIT SECTIONS.
(SECTION 14)





DDH 459

Depth = 181'
Surveyed to 170'
Cased to 105'
Surveyed - 15/1/73.
by G. Massey

Co-ords 564376.9 N
219603.5 E.

GEOPEKO LIMITED - KING ISLAND

D.D.H. No.: 458

Location: Wedge Block. Section 13. + 75m Level (Bench 5)

Purpose of Hole: Test westward continuation of ore intersected at higher levels on section 11, 12.

Hole Proposed by: P. Cottam Date 2/11/72

Surveyed in by: P. Morrison Date 25/1/73

Proposed:	219649.0	E	564379.0	N
Surveyed:	219649.2	E	564379.0	N
Actual from which Drilled:	219,648.91	E	564,377.81	N

Reduced Level of Collar: + 75.90 m

Bearing:- N 19°20' I.S.G. Grid Magnetic

Inclination:- -35° degrees

Target; depth: 10 - 20 m

Planned depth: 45 m

Actual Depth: 53.34 m

Date Commenced: 25/1/73

Date Completed: 9/2/73

Wedges Placed: Nil

Extensions (if any) Nil

Checked: M. C. Rogers

Summary Result: Extreme core loss in C lens zone but appears to be unmineralised. No assays taken.

Remarks: Surveyed to 160' Direction constant N 18° E I.S.G. Dip constant 36°.

DRILL LOG DDH: 458

00 - 21.34 BIOTITE HORNFELS

A greyish, purple, extremely broken and strongly jointed hornfels.
0 - 3.81 1.8 metres core loss.
6.00 bedding 35° L.A.O.C.
The bedding is also the principal joint direction.
Core is not as heavily fractured below 5.6 metres.
7.62 - 8.53 0.85 metre core loss.
9.14 bedding 10° L.A.O.C.
9.50 " 72° "
11.0 " 47° "
11.0 - 15.2 2 metres core loss.
16.5 bedding at 40° L.A.O.C.
Core severely fractured below 18 metres.
18.3 - 19.8 1.1 metre core loss.

Fault? 18.3 - 19.2 core is very sheared, poor recovery, and much clay or gouge to 19.8 metres with oxidation present and clay on joint planes.
Around 20.4 core begins to resemble Pgh.

21.34 - 23.92 PYROXENE GARNET HORNFELS

Typical green hornfels with miner calcite ovoids. No scheelite.

23.92 - 33.83 C LENS (?)

Core recovery extremely poor. 23.92 - 34.59 only 2.45 metres recovered. What core was recovered was a barren Bh and Ch.

33.83 - 39.62 BANDED FOOTWALL BEDS

Very carbonate rich 35.36 - 37.49. No scheelite.
Bedding 34.6 metres 47° L.A.O.C.
Some free Molybdenum at 34.14 metres.
Miner fault 36.88

39.62 - 45.72 OLDER VOLCANICS

45.72 - 46.2 PYROXENE HORNFELS

46.2 - 46.8 BIOTITE HORNFELS

46.8 - 53.34 QUARTZITE

E. O. H. 53.34 metres.

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. DDH 458 Date Surveyed 8-2-73

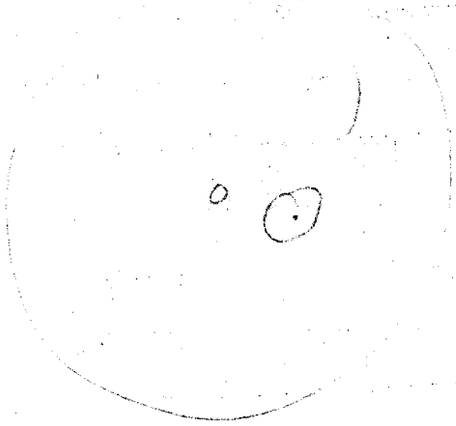
Total Depth 175' Depth Surveyed To 160'

Casing Depth 111' Surveyed By G.M. & G.B

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
1	0	S				22	160			
2	1	m				23	160			
3	2	m				24	160			
4	3	m				25	160			
5	4	m				26	150 m.			
	5	10 m.				27	140 m.			
	6	20 m.				28	130			
	7	40 m.				29	120			
	8	50				30	110 m.			
	9	60.				31	90 m.			
	10	70 m.				32	80 m			
	11	80 m				33	70 m.			
	12	90 90				34	60 60 m.			
	13	100 m.				35	50 50 m.			
	14	120 m				36	40 40			
	15	120 120				37	30 m.			
	16	130 131				38	20 m.			
	17	140 140.				39	10 m			
	18	150 150				40	0 m			
	19	m.				41	0 m			
	20	160 160				42	0 m			
	21	160				43	S			

REMARKS:-

1	black	
2	black	
3	m	
4	m	
5	m	
6	m	
7	m	
8	55°	65° SE
9	55°	17° NW
10	55°	6° SW
11	55°	44° SW
12	55°	19° SW
13	m	
14	m	
15	m	
16	55°	10° NE
17	54·2°	9° NE
18	54·5°	11° NE
19	55°	10° NE
20	54°	10° NE –
21	54°	10° NE –
22	54°	10° NE –
23	54°	10° NE –
24	54°	10° NE
25	54°	10° NE
26	M 54°	10° NE
27	54·2°	12° NE
28	54·5°	10° NE
29	54·5°	9° NE
30	54·5°	9° NE
31	54°	9° NE
32	M	
33	M	
34	M	
35	M	
36	M	
37	M	
38	M	
39	M	
40	M	
41	M	
42	M	
43	M	
44	black	
45	black	
46	black	



GEOPEKO LIMITED KING ISLAND

D.D.H. No.: 457

Location:

Section 9
Bench 15

Purpose of Hole:

Test block of ore intersected by DDH 130.

Hole Proposed by: P. Cottam Date 1/9/72

Surveyed in by: P. D. M. Date 9/11/72

	E	N
Proposed:	219725.75	564084.5
Surveyed:	"	"
Actual from which Drilled:	215725.13	564085.13

Reduced Level of Collar: -18.09 m

Bearing:- Grid ISG N 19° E Actual N13°E Magnetic = 6° Off Section

Inclination:- -76° degrees Actual -75°

Target; depth: ft.

Planned depth: 95 m ft. xx

Actual Depth: 94.79 m ft. xx

Date Commenced: 10/11/72

Date Completed: 20/11/72

Wedges Placed:

Extensions (if any)

Checked: M. Danielson

Summary Result:

Bottom C lens not as thick as indicated by DDH 130:
32 - 34 m 2 m at 0.35% WO_3. 44 - 48 m 4 m at 0.57% WO_3.
51 - 60 m 9 m at 0.63% ". 62.8 - 72 m 9.2 m at 0.67% "

Remarks:

Very narrow top C lens, abnormally thick bottom orebody with no definite banded footwall beds, replaced or unreplaced, sharp contact with biotite and pyroxene hornfels.

DRILL LOG DDH: 457.

00 - 3.83 GRANITE - APLITE

Coarse grained homogeneous granite dyke becoming slightly finer grained towards margins.

3.83 - 4.30 B-LENS HORNFELS

Biotite quartz hornfels with irregular, disturbed light green grey interbeds of pyroxene quartz hornfels often with narrow pyrrhottite - pyrite rich bands at their centre.

4.30 - 26.70 HANGING WALL HORNFELS

Dark grey black generally massive fine grain biotite - actinolite - quartz hornfels. Indistinct bedding of green (actinolite rich) and brown (biotite rich) tinged bands from 11.40 - 13 metres. Irregular light grey (quartz rich) mottling from 8.50 - 10.50.

5.23 - 5.63 core rubbly and chlorite rich. Fragments of aplite present in rubble. Some calcite infilling.

13.92 - 14.17 fine grain homogeneous aplite.

22.80 - 22.30 band with irregular boundaries of light green siliceous fragmental hornfels; texture similar to P.G.H.; subrounded pods of quartz, often with pyrite infilling, up to 1 cm. diameter are set in a light green quartz-pyroxene matrix.

Bedding to long axis of core 65° at 9.80
65° at 10.70

26.70 - 37.64 "P.G.H."

26.70 - 28 occasional quartz-calcite pods with pyroxene reaction rim in a fine grain biotite hornfels matrix. Pyrite and pyrrhottite common accessories in the pods.

28 - 28.23 feldspar rich pink aplite. Poorly defined boundaries. Acts as boundary between overlying unit and underlying "typical P.G.H."

28.23 - 36.20 Medium grain garnet pyroxene / pyroxene garnet (andradite) skarn with calcite pods typical of P.G.H. Weak patches of disseminated scheelite mineralisation present throughout.

36.20 - 37.64 matrix finer grained, more pyroxene rich than overlying core. Becomes darker grey towards base.

37.64 - 43.85 BASAL HORNFELS (PGH base)

37.64 - 38.48 not typical PGH. Pods occur but irregular, not well defined.. Consists of intermixture of light green fine grain pyroxene-quartz hornfels, honey brown grossularite and calcite hornfels. Small patches of pyrite are disseminated throughout.

38.48 - 40.33 finely brecciated garnet skarn with numerous veins and infillings of calcite. 38.70 - 38.90 core heavily broken; most of core consolidated but cut by numerous fractures and slightly oxidised. Barren of scheelite. Becomes pyroxene rich over last 50 cm.

40.33 - 41.25 light to medium grey fine grain calcite hornfels cut by numerous white calcite stringers and retaining slightly brecciated appearance of overlying core. Becomes pyroxene - grossularite rich towards base.

41.25 - 42.81 massive dark grey black fine grain biotite hornfels grading into pyroxene grossularite hornfels at base.

42.81 - 43.85 slightly garnet replaced fine grain light grey calcite hornfels grading down into finely banded light green pyroxene hornfels with interbeds of grossularite and biotite hornfels.

Bedding to LAC 75° at 43m.

43.85 - 45.53 TOP C-LENS (?)

Medium to coarse garnet - pyroxene skarn with abundant calcite and pyrite interstitial to the garnet and pyroxene. Bedding faintly discernible. Rich in finely disseminated scheelite.

45.53 - 51.61 MARKER BEDS

An irregular unit similar to that of basal PGH unit consisting of irregularly interbedded bands of light grey calcite hornfels, garnet pyroxene skarn, pyroxene hornfels and grossularite hornfels.

SEE LATER

light grey, fine grain, slightly banded calcite hornfels: 45.53 - 45.98, 47.0 - 47.42.

garnet pyroxene skarn containing abundant interstitial calcite and weak scheelite mineralisation: 46.42 - 47.0, 47.42 - 48.10.

generally interbedded but in some places partially

intermixed fine grain pyroxene hornfels and grossularite hornfels. Occasional narrow calcite hf. band.
48.10 - 51.61

Bedding to long axis of core: 65° at 45 m
65° at 46.5 m
50° at 48 m
30° at 50 m
45° at 52 m

51.61 - 73.60 BOTTOM C-LENS

Andradite skarn with faintly discernible banding and occasional narrow interbed of pyroxene - biotite hornfels which become thicker and more numerous with depth (however always <20% of core). A small amount of pyroxene and grossular garnet in some parts of core. Contains fine disseminated scheelite over most of length.

62.24 - 62.80 granite - aplite dyke. 10 cm thick quartz vein forms upper boundary.

54.30 - 55.50 patches and bands of grossularite - quartz developed within the skarn.

Bedding to LAC 45° at 57 m
35° at 57.5 m
35° at 63 m
50° at 64 m
40° at 69 m
40° at 71.3 m
30° at 72 m
28° at 73 m

73.60 - 83.84 BIOTITE AND PYROXENE HORNFELS

Nb. no typical banded footwall beds, either replaced or unreplaced, present.

Sharp change into finely laminated biotite and pyroxene hornfels. Occasional narrow skarn interbeds (<5cm thick) containing disseminated scheelite form a small proportion of core. Bedding at acute angles to core axis for most part: 35° at 75 m
20° at 77 m.

78.04 - 79.83 APLITE

fine grain light pink, feldspar-rich aplite

79.83 - 80.10 core rubbly.

80.10 - 81.50 massive black fine grain biotite hornfels with odd narrow siliceous pyroxene hornfels bands.

81.50 - 82.90 Aplite, slightly leached from 81.5 - 82.1, extremely rubbly and ground up from 82.10 - 82.60. Possible fault.

82.60 - 83.84 massive black biotite - actinolite hf.

83.84 - 93.59 OLDER VOLCANICS (?)

Medium grain dark grey holocrystalline massive hornfels composed principally of biotite and actinolite with interstitial feldspar giving fine white mottling to surface in some portions of core, (texture doleritic). Darker colour than usual older volcanics: not so actinolite rich. Occasional narrow pyroxene hornfels bands present.

Below 88.45 rock has spotted surface texture: dark grey sub-angular to sub-rounded spots equally distributed over surface, form up to 50% of surface area: vesicle remnants (?) or retexturing feature(?). Much of core broken, slightly oxidised.

87.23 - 87.65 coarse grained granite - aplite.

91.90 - 93.35 porphyritic granite - aplite.

93.59 - 94.79 aplite medium to coarse grain, rubbly and broken.

E.O.H. 94.79 metres.

16.1 - 16.32 very broken core
49.8 - 50.0 weak shear
79.9 - 80.15 pug - strong shear
82.0 - 82.2 strong fault
82.9 - 83.2 " "
84.2 - 84.3 " "
89.76 - 89.86 " "
90.83 - 91.00 " "
94.2 - 94.79 " "

Potter Jan '80

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 458

Logged By : P.C.

Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
B 1532	28	29	1	0.29	<.01		
33	29	30	1	0.10	<.01		
34	30	31	1	0.06	<.01		
35	31	32	1	0.18	<.01		
36	32	33	1	0.29	<.01		2m at 0.36%
37	33	34	1	0.42	0.01		
38	34	35	1	0.09	<.01		
39	35	36	1	0.07	<.01		
40	36	37	1	0.05	<.01		
41	37	38	1	0.04	<.01		
42	38	39	1	0.05	0.01		
43	39	40	1	0.06	<.01		
44	40	41	1	0.13	<.01		
45	41	42	1	0.05	<.01		
46	42	43	1	0.08	<.01		
47	43	44	1	0.21	<.01		
48	44	45	1	1.12	0.03		HW CLEN
49	45	46	1	0.10	<0.10		
50	46	47	1	0.58	0.02		
51	47	48	1	0.50	<.01		
52	48	49	1	0.14	<.01		
53	49	50	1	0.37	<.01		~~14.8m at 0.69%~~
54	50	51	1	0.13	<.01		
55	51	51.70	.70	0.44	<.01		13.8 at 0.66
56	51.70	53	1.30	0.64	0.01		
57	53	54	1	0.49	0.01		
58	54	55	1	0.58	0.01		
B 1559	55	56	1	2.00	0.07		

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 457

Logged By : P.C.

Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
B 15 60	56	57	1	0.76	0.02		
61	57 (58'8)	60	1.8	1.25	0.03	Over last 2.40 only 0.40 recovered.	
62	60 (57.4 Core Loss)	61	1	0.13	<.01		
63	61	62.20	1.20	0.09	<.01		
64	62.80	64	1.20	0.39	0.01		
65	64	65	1	1.43	0.02		
66	65	66	1	1.04	0.02		
67	66	67	1	0.56	0.01		
68	67	68	1	0.92	0.02		
69	68	69	1	0.39	<.01		
70	69	70	1	0.37	<.01		
71	70	71	1	0.44	<.01		
72	71	72	1	0.54	<.01		
73	72	73	1	0.06	0.04		
74	73	74	1	0.04	0.05		
B 1575	75.5	76.5	1	0.22	<.01		

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 457 Date Surveyed 5/12/72

Total Depth 398' Depth Surveyed To 300'

Casing Depth 6' Surveyed By G. MASSEY

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
1	0	0		S	23	22	180 180m			
2	1	0			24	23	190 190m			
3	2	m			25	24	200 200			
4	3	m.	15	N5E	26	25	210 210			
5	4	10	15	N5E	27	26	220 220m			
6	5	10 m.	15	N10E	28	27	230 230m			
7	6	20 20			29	28	240 240m			
8	7	30 30	15	N5E	30	29	250 250			
9	8	40 40	15	N4E	31	30	260 260			
10	9	50 50m	M		32	31	270 270			
11	10	60 60	15	N4E	33	32	280 280			
12	11	70 70m	15	N2E	34	33	290 290			
13	12	80 80			35	34	300 300m	15½	N3E	
14	13	90 90			36	35	300	"	"	
15	14	100 100			37	36	300	"	"	
16	15	110 110			38	37	300	"	"	
17	16	120 120			39	38	300	"	"	
18	17	130 130			40	39	300	"	"	
19	18	140 140			41	40	300	"	"	
20	19	150 150			42	41	300	"	"	
21	20	160 160m			43	42	300	"	"	
22	21	170 170m			44	43	300	"	"	

REMARKS:- 15°, APPROX N5E ALL THE WAY

MN 5E = 15G N13E = 6° WEST OF SECTION

= dx 0.256

= 24.53

DEPTH = 94.79

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 457 Date Surveyed 5/12/72

Total Depth 300' Depth Surveyed To 300'

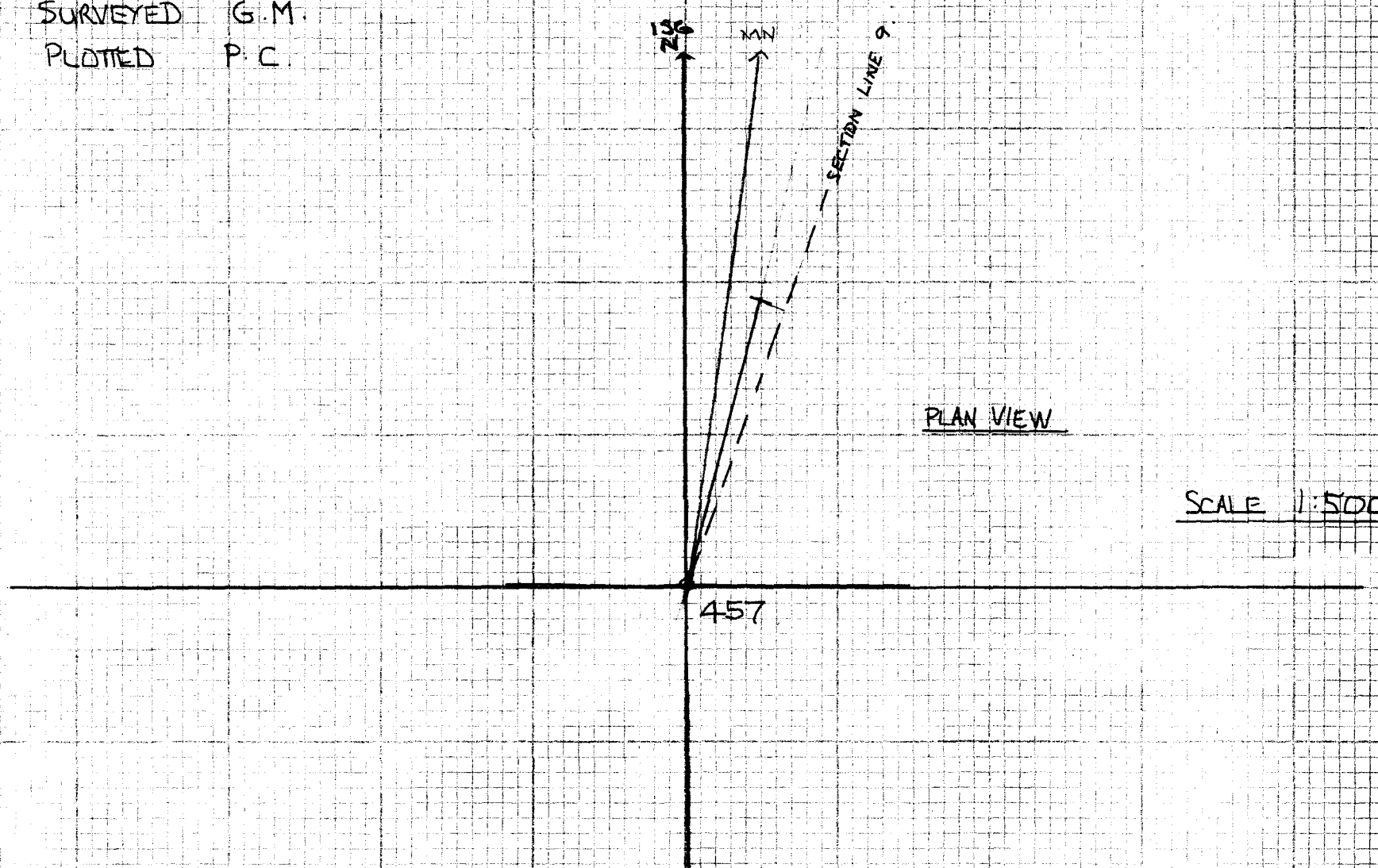
Casing Depth 6' Surveyed By G. Massey.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
~~45~~	44	290m	15	N4E	67	66	20 m			
46	45	280 280m	15	N3E	68	67	10	15	N10E	
47	46	270 270m	15	N5E	69	68	m			
48	47	260 260m	15	N5E	70	69	M.			
49	48	260	15	N3E	71	70	S			
50	49.	240 240	15	N4E						
51	50	230 230								
52	51	220 220								
53	52	210 M								
54	53	190 M.								
55	54	180 180	15	N4E						
56	55	170 170	15	N5E						
57	56	160 M.								
58	57	140 M.								
59	58	130 130								
60	59	120 M.								
61	60	110 M.								
62	61	100 M.								
63	62	80 80								
64	63	70 M								
65	64	60 50	15	N5E						
66	65	40 M.								

REMARKS:-

DDH 4.57

No. 1 OREBODY
DEPTH 94.79 m
INCLINATION -75°
SURVEYED G.M.
PLOTTED P.C.



PLAN VIEW

SCALE 1:500

PROJECTION ONTO SECTION 9

GEOPEKO LIMITED - KING ISLAND

D.D.H. No.: 456

Location: Section 8½ Bench 17

Purpose of Hole: Test bottom C-lens on 19-20 bench level north of central-pit fault.

Hole Proposed by: P. Cottam, M. Danielson Date 16/11/72

Surveyed in by: P. Morrison Date 17/11/72

Proposed:	219758.5	E	564118.25	N
Surveyed:	"	E	"	N
Actual from which Drilled:	219758.67	E	564119.95	N

Reduced Level of Collar: -33.75 m

Bearing:- N 19°20'E ISG. Grid Magnetic

Inclination:- -70 degrees

Target; depth: ft.

Planned depth: 30 m xxx

Actual Depth: 27.43 m xxx

Date Commenced: 17/11/72

Date Completed: 20/11/72

Wedges Placed:

Extensions (if any)

Checked: M. Rogers

Summary Result:

0 - 3.66	3.66m	at	0.80%	WO_3
4.25 - 6.25	2.0 m	at	1.20%	"
23.38 - 24.38	1.0 m	at	0.63%	"
14.5 - 15.5	1.0 m	at	0.78%	"

Remarks: Rig moved ten feet north of survey peg to obtain level sight.
ACTUAL INCLINATION = 69°. not surveyed.

DRILL LOG DDH: 456

0 - 0.22 MARBLE MARKER ?

Impure fine grained light grey calcite hornfels, core broken (top of hole).

0.22 - 9.52 BOTTOM C-LENS ? *

Massive andradite skarn with interstitial calcite and disseminated scheelite. *possibly top orebody

3.66 - 4.42 massive medium grain light green-grey calcite hornfels. Green-grey colour due to pyroxene (?) impurity. Contains disseminated patches of pyrrhottite and pyrite. Barren of scheelite.
*possibly marble marker

4.42 - 6.12 massive medium grain andradite skarn becoming pyroxene and calcite rich near base.

6.12 - 7.40 massive coarsely crystalline white - light grey marble partially replaced by quartz and containing abundant pyrite. Barren of scheelite except for top 10 cms. Grades into skarn at base.

7.40 - 9.52 fine grain garnet - pyroxene skarn, massive except for narrow pyroxene-rimmed biotite hornfels band near base; bedding faintly discernible above this. Scheelite mineralisation only weak and patchy. *possibly bottom orebody.

9.52 - 17.22 BIOTITE AND PYROXENE HORNFELS

fine grain biotite hornfels with narrow interbeds of siliceous pyroxene hornfels. Occasional irregular poorly defined patches containing garnet with fine disseminated scheelite e.g: 15.16 - 15.34, 13.04 - 13.12. Calcite-pyrite filled stylolites cutting the biotite hornfels are common as are features showing disturbance of bedding. Small scale folding apparent in variation of core angle.

Angle of bedding to long axis of core:

60°	at	9.60
45°	at	13
25°	at	14.30
55°	at	14.60

16.31 - 16.61 fine grain aplite with abundant biotite boundaries sharp and at 30° LAC.

17.22 - 22.36 (23.36) OLDER VOLCANICS

Massive fine to medium grain dark green-grey hornfels, matrix predominantly of felted actinolite laths with sub-rounded dark chloritic spots up to 2 cm diameter mottling the surface (vesicles?) Degree of spotting varies as does the percentage of quartz in the matrix.

Core broken and puggy, possibly faulted at:
18.31 - 18.44
18.54 - 18.79
22.35 - 22.51

22.36 - 24.90 LOWER MARBLE

22.36 - 23.97 2cm thick chlorite filled joint forms boundary of older volcanics with impure poorly bedded fine grain calcite hornfels containing patches of blue-fluorescing fine scheelite crystals.

23.97 - 24.60 very fine grain dark green-grey siliceous hornfels rich in pyrite. Bedding disturbed and indistinct.

24.60 - 24.90 core broken and rubbly, possible fault.

24.90 - 27.43 OLDER VOLCANICS

24.90 - 25.65 similar to older volcanics above except finer grained with lesser degree of mottling.

25.65 - 26.55 fine grain siliceous biotite hornfels with irregular interbeds approximately 10 cm thick of quartz-pyroxene hornfels containing small amount of disseminated scheelite.

26.55 - 27.43 biotite-aplite fine grain aplite with varying amount of biotite in groundmass.
26.86 - 27.04 band of fine grain siliceous light grey hornfels.

E.O.H. 27.43 metres.

NOTE: identification of marble marker and bottom C-lens units not definite.

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 456

Logged By: P.C.

Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
B 1517	0	1	1	0.95	0.02		
18	1	2	1	1.08	0.02		
19	2	3	1	0.49	0.01		3.66m at 0.80% WO_3
20	3	3.66	0.66	0.64	0.01	0.42	
21	3.66	4.25	0.59	0.10	<.01	0.06	6.25 at 0.87 %
22	4.25	5.25	1	1.57	0.03		
23	5.25	6.25	1	0.84	0.02		2m at 1.20% WO_3
24	7.5	8.5	1	0.06	<.01		
25	8.5	9.5	1	0.04	<.01		
26	23.38	24.38	1	0.63	<.01		1m at 0.63% WO_3
27	12.5	13.5	1	0.08	<.01		
28	13.5	14.5	1	0.04	<.01		
29	14.5	15.5	1	0.78	0.05		1m at 0.78% WO_3
30	15.5	16.5	1	0.05	<.01		
B 1531	16.5	17.5	1	0.04	<.01		

2.8 - 0.66

DIAMOND DRILL HOLE NO. 454

LOCATION: OPEN PIT; SECTION 10, BENCH 15FW

CO-ORDINATES: 219717.67E 564187.67N

R.L.: -17.27

DATE COMMENCED: 25/8/72

DATE COMPLETED: 27/8/72

FINAL DEPTH: 15.24

DATE SURVEYED: NOT SURVEYED

LOGGED BY: P. COTTAM

BEARING: 19° 20' GRID

INCLINATION: -60°

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL LOG — DRILL HOLE No. 454

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO3	ASSAYS Mo	UNIT	GEOLOGICAL DESCRIPTION	FRACTURE
B 1099	0	4	4	3.30	0.68	0.02	REPLACED BANDED FOOTWALL BEDS 00 - 12.82	00 - 3.88 predominantly very coarse andradite skarn with frequent narrow interbeds of fine grain pyroxene and biotite hornfels. 3.88 - 12.82 finely laminated fine grain biotite and pyroxene hornfels with occasional interbeds of skarn, generally approx 5cm thick but up to 25cm. Calcite hornfels bands present but largely replaced. 6.82 - 7.40 white unreplaced calcite hornfels.	
B 1100	4	5	1	1	0.12	.01			
1	5	6	1	1	0.24	"			
2	6	7	1	1	.01	"			
3	7	8	1	1	"	"			
4	8	9	1	1	"	*			
5	9	10	1	1	"	"			
6	10	11	1	1	"	"			
							BIOTITE AND PYROXENE HORNFELS. 12.82 - 15.24	finely laminated interbedded biotite and pyroxene hornfels.	

Bedding to long axis of core.

75°	at	1cm
60	at	5m
80	at	6m
75	at	7m
80	at	14m
70	at	10m

DIAMOND DRILL HOLE NO. 453

LOCATION:	OPEN PIT; SECTION 9 BENCH 16
CO-ORDINATES:	219744.75E 564139 N (approx. only)
R.L.:	-27.0m
DATE COMMENCED:	16/8/72
DATE COMPLETED:	19/8/72
FINAL DEPTH:	25.91m
DATE SURVEYED:	NOT SURVEYED.
LOGGED BY:	P. COTTAM
BEARING:	19° 20' GRID
INCLINATION:	-50°

GEOPEKO LIMITED. KING ISLAND — DIAMOND DRILL LOG — DRILL HOLE No. 453

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO3	ASSAYS Mo	UNIT	GEOLOGICAL DESCRIPTION	FRACTURIN
B 1109	0	3	3	2.50	0.75	0.02	TOP C LENS	00 - 4.50 coarse andradite skarn becoming	
10	3	4	1	1	1.18	0.02	00 - 5.72	finer grained and rich in pyroxene towards	
11	4	5	1	1	0.27	0.01		base. 4.50 - 4.72 pyroxene garnet skarn	
12	5	6	1	1	0.48	<.01		with faintly discernible banding.	
13	6	7	1	1	<.01	"			
14	7	8	1	1	"	"	MARKER BEDS	5.72 - 6.80 pyroxene calcite grossularite	
15	8	9	1	1	"	"	5.72 - 9.80	hornfels with bands of biotite hornfels.	
16	9	10	1	1	"	"		Patches of grossularite and calcite mottle	
17	10	11	1	1	0.06	"		the surface. 6.80 - 7.62 fine grain massive	
18	11	12	1	0.70	<.01	"		grey-black biotite hornfels. 7.62 - 9.80	
19	12	13	1	1	0.12	0.01		impure pyroxene rich green-grey med. grain	
20	13	14	1	1	0.43	0.01		marble suffering irregular partial re-	
21	14	15	1	1	0.19	0.01		placement to grossularite. Faint banding	
								discernible.	
B 1122	20	21	1	1	0.05	<.01			
23	21	22	1	1	<.01	"	BOTTOM C LENS	9.80 - 13.62 massive coarse andradite skarn	
							9.80 - 15.10	10.90 - 11.05 core rubble, slightly oxidised.	
								30cm of core lost. possible fault zone. 13.62 -	
								15.10 skarn richer in pyroxene and calcite and	
								finer grained than overlying unit. Banding	
								faintly discernible.	
							FOOTWALL BEDS	15.10 - 20.53 core predominantly of massive	
							15.10 - 25.91	unpive marble, rich in actinolite and pyroxene	
								with abundant interstitial pyrite. Slight	
								replacement developed. Narrow interbeds of	
								pyroxene and biotite hornfels present. (nb	
								not typical footwall beds). 16.50 - 16.77 andra-	
								dite skarn band containing fine disseminated	
								scheelite mineralisation. 20.53 - 25.30 finely	
								laminated biotite and pyroxene hornfels with	
								interbeds of grossularite calcite hornfels.	
								22.61 - 24.00 coarse grained porphyritic	
								granite - aptite dyke.	
								25.07 - 25.13 fine grain aptite.	
								25.30 - 25.91 agglomerate sub rounded to sub	
								angular light grey fine grain siliceous frag-	
								ments up to 1cm dia and often rich in and	
								rimmed by pyrrhottite set in a fine grain	
								dark green crystalline matrix. Fragments cover	
								20% of surface area. Cut by abundant irregular	

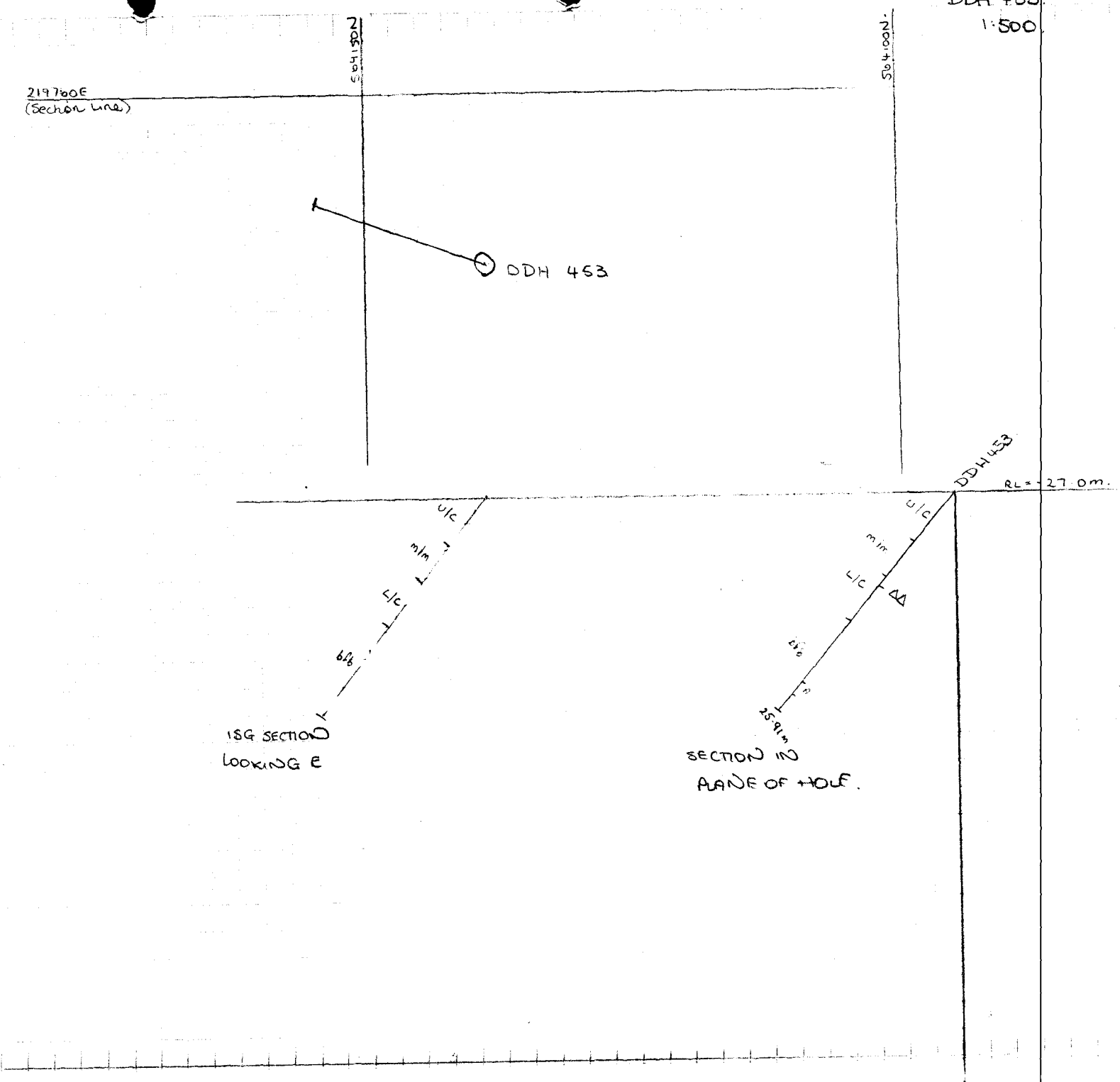
BEGEKO LIMITED, KING ISLAND — DIAMOND DRILL LOG

SHEET No. 2 of 2

DRILL HOLE No. 453

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS	UNIT	GEOLOGICAL DESCRIPTION	FIELD RECORD
							Bedding to long axis of core:	
							80° at 9m	
							70 at 17m	
							55 at 21m	
							85 at 20m	

DDH 453.
1:500.


2197600E
(Section Line)
5641500N
5641400N
DDH 453
DDH 453
RL = 27.0m.
U/C
m/m
L/C
64.6m
ISG SECTION
LOOKING E
U/C
m/m
L/C
25.91m
SECTION ON
PLANE OF HOLE.

DIAMOND DRILL HOLE NO. 452

LOCATION: OPEN PIT: SECTION 9, BENCH 15.

CO-ORDINATES: 219725.49 E 564086.3N

R.L.: -18.39

DATE COMMENCED: 7/8/72

DATE COMPLETED: 11/8/72

FINAL DEPTH: 76.20m

DATE SURVEYED: NOT SURVEYED

LOGGED BY: P. COTTAM

BEARING: 19° 20' GRID

INCLINATION: -65°

GEOPEKO LIMITED, KING ISLAND — DIAMOND DR

SAMPLE No.	DISTANCE FROM	TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO3	Mo
B 1032	23.80	25	1.20	1.20	<.01	<.01
33	25	26	1	1	0.15	"
34	26	27	1	1	0.71	0.01
35	27	28	1	1	0.08	<.01
36	28	29	1	1	0.89	0.01
37	29	30	1	1	0.11	0.03
38	30	31	1	1	0.02	<.01
39	31	32	1	1	0.02	"
40	32	33	1	1	<.01	"
41	33	34	1	1	"	"
42	34	35	1	1	"	"
43	35	36	1	1	"	"
44	36	37	1	1	0.26	0.03
45	37	38	1	1	1.17	0.04
46	38	39	1	1	0.26	0.01
47	39	40	1	1	<.01	<.01
48	40	41	1	1	0.29	"
49	41	42	1	1	0.09	"
50	42	43	1	1	0.53	"
51	43	44	1	1	0.75	0.01
52	44	45	1	1	1.32	0.03
53	45	46	1	1	1.51	0.03
54	46	47	1	1	1.66	0.04
55	47	48	1	1	1.02	0.03
56	48	49	1	1	0.58	0.02
57	49	50	1	1	0.33	0.01
58	50	51	1	1	0.95	0.03
59	51	52	1	1	0.55	0.01
60	52	53	1	1	0.59	0.02
61	53	54	1	1	0.60	0.01
62	54	55	1	1	0.67	0.01
63	55	56	1.25	1.25	0.59	0.01
64	56	57	1	1	0.03	<.01
65	57	58	1	1	<.01	<.01
66	58	59	1	1	"	"
67	59	60	1	1	0.06	<.01
68	60	61	1	1	0.16	<.01

UNIT	GEOLOGICAL DESCRIPTION	GRADE
B-LENS HORNFELS 00 - 8.70	Predominantly dark grey black fine grain biotite hornfels with occasional pyroxene quartz hornfels bands approx 2 cm thick. These bands are rich in pyrrhottite and pyrite with odd blue fluorescing scheelite crystals. Bands often show considerable flow and distrubance features.	
	3.10 - 5.20 } fine grain aphtite 2.67 - 2.73 } 1 - 1.30 } coarse grained granite-aptite	
HANGING WALL HORNFELLS 8.70 - 23.80	Typical massive sharply jointed fine grain black grey biotite hornfels with patches of faint discernible banding between lighter grey siliceous portions and darker grey mafic portions. Odd narrow disturbed pyroxene quartz bands present of tupe more common in overlying unit e.g. 18.59 - 19.23 pyrhottite rich light green siliceous fine grain fragmental unit. Superficial resemblance to PGh.	
P.G.h. 23.80 - 35.90	Sharp boundary with overlying unit 23.80 - 24.18 med. grain pyroxene grossular hornfels with typical PGh texture. 24.18 - 24.78 matrix of black biotite hornfels with occasional sulphide rich pyroxene quartz ovoids up to 1 cm dia. 24.78 - 34.20. Typical PGh with varying percentages of pyroxine and garnet in the matrix with pyroxene generally predominant. The calcite ovoids are largely replaced. ~~34.20 - 34.77 band of massive grey-brown-black fine grain biotite hornfels.~~ ~~34.77 - 35.90 pyroxene grossular skarn with calcite grossular ovoids, grading down to andradite skarn at the base.~~	
TOP C-LENS 35.90 - 38.91	35.90 - 38.91 coarse andradite skarn with abundant disseminated scheelite.	
MARKER BEDS 38.91 - 41.93	~~38.91 - 40.39 massive black brown biotite hornfels. 40.39 - 40.74 irregular pyroxene grossular calcite hornfels.~~	

| | | |

MARKER BEDS 38.91 - 41.93	41.05 - 41.93 predominantly fine grain pyroxene hornfels with irregular beds and bands of grossular hornfels.
BOTTOM C LENS	Andradite skarn often with poorly defined bands of pyroxene, biotite & grossular hornfels, usually approx 1cm thick but up to 15cm thick. Pyroxene present in matrix but in highly variable amounts; andradite is always dominant. 55.55 - 56.00 fine grain aplite. 2cm thick chlorite rich band at upper boundary. Bedding to L.A.C. 40° at 49m, 55° at 47m 55° at 48m, 55° at 54m.
BIOTITE-PYROXENE HORNFELS 56.25 - 62.60	Very sharp boundary overlying unit. Absence of banded footwall unit, however no sign of faulting other than narrow chlorite band overlying aplite noted above. Core consists of dark grey-black fine grain biotite hornfels with finely laminated interbeds of fine grain light green pyroxene hornfels. Most of these bands have suffered extensive disturbance & disruption of the bedding. Disruption late diagnetic (?) as both plastic deformation & angular fracture are present. Microfaulting of beds common. 62.46 - 62.60 core very puggy & broken but no core loss. Probable fault zone.
OLDER VOLCANICS 62.60 - 68.12	Medium grey fine grain crystalline micaceous hornfels with fine melted texture. Identification hampered by fact that core is weathered to varying degrees. 62.60 - 64.65 only slight weathering. 64.65 - 68.12 chlorite clay filled joints extensive throughout core. Oxidation of core itself to varying degrees: very puggy towards base.
MARBLE 68.12 - 73.91	Highly variable impure marble, often pyroxene rich. Mottled medium grey light grey, medium grain. Puggy oxidised zones common as are clay filled joints. Weak, patchy, blue fluorescing scheelite mineralisation present.

...ENZ LIMITED, KING ISLAND — DIAMOND DRILL LOG — DATE 1967 No. 452

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO3	ASSAYS Mo	UNIT	GEOLOGICAL DESCRIPTION	FRACTURE
							MARBLE 68.12 - 73.91	69.34 - 69.56 coarse grained porphyrdic granite-aphite dyke. 73.91 - 74.21 fine grain aplite.	
							QUARTZITE 74.12 - 76.26	Light to medium grey uniform well jointed fine grain slightly micaceous quartzite.	

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 452 Date Surveyed 10.8.72

Total Depth 250' Depth Surveyed To

Casing Depth Surveyed By PC

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
0									
0						20	248	25	N 6E
1	0					21	248		
2	1	5				22	248		
3	2	5				23	248		
4	3	5				24	248		
5	4	10				25	230	25	N 11E
6	5	10	25°	N11E		26	210 210	25	N 8E
7		30 M?	25	N 11E		27	190 190	25	N 10E
8	7	M	25	N 13E		28	170	24	N 10E
	8	50 50	25	N 13E		29	150 150	M	
	9	70 70				30	130	24	N 11E
	10	90 90				31	110	24	N 10E
	11	110 110				32	90	24	N 11E
	12	130 130				33	70 M?		
	13	150 150				34	50 70	24	N 11E
	14	150				35	30 50		
	15	M!				36	30	25	N 11E
	16	170 170				37			
	17	190 190				38	10	25	N 11E
	18	210 210				39	5		
	19	230 230				40	5		
						41	5		
						42			
						43			

REMARKS:-

Bloody wet day.

N11E = 15G N 19E = ON SECTION.

PLANNED INCLINATION = -65 (25°)

= DEFLECTION NEGLIGIBLE

DIAMOND DRILL HOLE NO. 451

LOCATION: OPEN PIT: SECTION 15, BENCH 14

CO-ORDINATES: 219502.5E, 564200N

R.L.: -6.5m

DATE COMMENCED: 11/8/72

DATE COMPLETED: 15/8/72

FINAL DEPTH: 48.77m

DATE SURVEYED: NOT SURVEYED

LOGGED BY: M.J. DANIELSON

BEARING: 19° 20' GRID

INCLINATION: -80°

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL LOG — SHEET No. 4 of ..... — DRILL HOLE No.451

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO3	ASSAYS Mo	UNIT	GEOLOGICAL DESCRIPTION	FRACTURE
B 1069	16.5	17.5	1.0	1.0	0.03		PYROXENE GARNET HORNFELS 00 - 15.75	Very pyroxene rich Pgh with frequent calcite ovoids rimmed with grossular garnets. Most calcite ovoids <2cms dia but occasionally, up to 9 cms dia. Very minor disseminated scheelite.	
70	17.5	18.5	1.0	1.0	0.08				
1	18.5	19.5	1.0	1.0	0.27				
2	19.5	20.5	1.0	1.0	<0.01				
3	20.5	21.5	1.0	1.0	0.15				
4	21.5	22.5	1.0	1.0	0.31				
							BIOTITE HORNFELS 15.75 - 16.55	Barren purplish brown hornfels	
						Mo			
							SKARN 16.55 - 25.85	Pyroxene rich massive skarn. No banding . Moderate scheelite development. Basic dyke 22.80 - 24.60. Light grey actinolite rich rock containing white felspar beds usually <5mm dia. One bleb is 3.5 cms dia and appears conjoined (?) Biotite hornfels 24.60 - 24.75 Skarn 24.75 - 25.85 low scheelite content.	
B 1075	24.85	25.85	1.0	1.0	0.21	FOR			
						ASSAYED			
B 1076	47.5	48.5	1.0	1.0	0.20				
						NOT			
							BIOTITE PYROXENE HORNFELS 25.85 26.26	Barren banded hornfels.	
							MARBLE 26.26 - 28.60	BARREN GREY CALCITE HORNFELS. Banding at 60° to LAOC.	
							BIOTITE HORNFELS 28.6 - 29.0	Barren purplish hornfels.	
							MARBLE 29.0 - 30.25	Barren dirty grey marble as above.	
							FOOTWALL BEDS (?) 30.25 - 48.87	Approx 95% calcite although it is now a clean white colour, still barren of scheelite. Banding is evidenced by Bh/Ph/Gh bands usually <2cms wide at 50° to LAOC. 35.0 10cms minor shearing. FAULT ? 38.0 banding at 60° 43.0 " " 60° 46.2 - 47.0 very sheared & brecciated 47.0 - 48.6 banded Ph rich skarn. Very minor scheelite development. Partially replaced 48.6 - 48.77 see 0.20% WO3 assay.	

DIAMOND DRILL HOLE NO. 450

LOCATION:	OPEN PIT; SECTION 14½, BENCH 15.
CO-ORDINATES:	219530.25 E 564222.5 N
R.L.:	- 17.9m
DATE COMMENCED:	4/8/72
DATE COMPLETED:	6/8/72
FINAL DEPTH:	27.13
DATE SURVEYED:	NOT SURVEYED.
LOGGED BY:	P. COTTAM
BEARING:	19° 20' GRID
INCLINATION:	- 50°

GEOPEKO [redacted] DIAMOND DRILL LOG

DRILL HOLE No. 450

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO3	ASSAYS Mo			UNIT	GEOLOGICAL DESCRIPTION	FRACTURES
B 1008	0	1	1	1	0.21	<.01			BOTTOM C-LENS	Banded ardradite pyroxene skarn with narrow	
9	1	2	"	"	1.49	0.05			00 - 12.19	poorly defined pyroxene - grossular fornfels	
10	2	3	"	"	0.32	<.01				interbeds common in first 6m. 6 - 12.19	
11	3	4	"	"	0.61	0.02				dark grey-black pyroxene rimmed biotite	
12	4	5	"	"	0.84	0.03				hornfels bands, usually about 2cm thick but	
13	5	6	"	"	1.01	0.04	12m at 0.72%			up to 15 cm, occur with increasing frequency	
14	6	7	"	"	0.28	<.01				with depth i.e. a gradational boundary with	
15	7	8	"	"	0.93	0.04				replaced footwall beds. Skarn still forms	
16	8	9	"	"	0.52	0.02				major part (>2/3) of core.	
17	9	10	"	"	0.77	0.04					
18	10	11	"	"	0.53	0.02			REPLACED BANDED	Typical banded footwall beds of interbedded	
19	11	12	"	"	0.76	0.03			FOOTWALL BEDS	marble (often replaced) biotite and pyroxene	
20	12	13	"	"	0.54	0.01			12.19 - 24.69	hornfels with BPh becoming dominant with depth.	
21	13	14	"	"	0.01	<.01				13.63 - 14.90 massive black-brown biotite	
22	14	15	"	"	0.08	"				hornfels band.	
23	15	16	"	"	0.02	"				13.10 - 13.64 } marble bands suffer only slight	
24	16	17	"	"	0.36	"	1m at 0.36%			14.90 - 16.00 } replacement other than these	
25	17	18	"	"	0.05	"				sections the marble is pre-	
26	18	19	"	"	0.13	"				dominantly replaced to skarn.	
27	19	20	"	"	0.02	"				17.07 - 24.69 narrow interbedded biotite and	
28	20	21	"	"	0.31	"	1m at 0.3%			pyroxene hornfels forms major part of sequence	
29	21	22	"	"	0.03	"				with skarn bands mostly< 20cm thick and form-	
30	22	23	"	"	0.10	"				ing approx. 25% of core.	
B 1031	23	24	"	"	0.14	"			FAULT (?)	24.69 - 26.36 core of brecciated skarn with	
										abundant calcite infilling. Weathered, broken	
										and slightly puggy between 25 - 25.40 but	
										little core loss. Possible fault zone.	
										26.36 - 27.13 finely interbedded biotite and	
										pyroxene hornfels.	
										Bedding to long axis of core:	
										65° at 8m 65° at 13m 55° at 21m	
										30° at 9 m 50° at 20 m 60° at 19m	
										35° at 11m 65° at 16m	

DIAMOND DRILL HOLE NO. 449

LOCATION: OPEN PIT; SECTION 12, BENCH 13.

CO-ORDINATES: 219603.18E 564119.5N

R.L.: + 1.10m

DATE COMMENCED: 27/7/72

DATE COMPLETED: 4/8/72

FINAL DEPTH: 91.74m

DATE SURVEYED:

LOGGED BY: P. COTTAM

BEARING:

INCLINATION: VERTICAL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	SAMPLE METHOD	ASSAYS WO3	ASSAYS Mo	UNIT	GEOLOGICAL DESCRIPTION	STRUCTURE
							HANGING WALL HORNFELS 00 - 40.29	Massive dark grey fine grain biotite/biotite actnolite hornfels. In first 10m occassional zones occur of light green siliceous hornfels containing numerous pyrite and pyrhottite rich fragments (texture similar to 'PGH') e.g. 2.45 - 3.30. Sharply jointed. Fine banding occassionally discernible 14.85 - 15.30 coarse grained granite - aplite dyke, 20.84 - 23.25 coarse grained granite - aplite dyke, banded top and bottom by 5cm thick zones of fine grained aplite which have sharp contact with hornfels.	35° 40°
								25.29 - 25.60 core broken and rubbly, however little weathering and no core loss.	15° 40° 50°
								33.50 - 33.60 fine grain aplite.	
								32.71 - 33.98 } distributed zones containing 37.68 - 38.25 } subangular to sub rounded 39.70 - 40.00 } fragments. (Similar to first 10m. Gradational zone with texture similar to PGH.	
B 0443	40	41	1	1	<.01	<.01	P.G.H. 40.29 - 61.22	Typical PGh texture. Boundary well defined by presence of large calcite ovoids and pyroxene rich matrix.	
44	41	42	1	1	<.01	"		40.29 - 56.58 calcite ovoids largely unreplaced except for pyroxene and grossular rin. Grossular present in med. grain matrix though minor to pyroxene. Patches and narrow ill defined bands of fine grain biotite hornfels common. Core competent, highly fragmental and calcareous.	
45	42	43	1	1	0.04	"			
46	43	44	1	1	0.04	"			
47	44	45	1	1	0.15	"			
48	45	46	1	1	0.01	"			
B 0449	58	59	1	1	0.02	<.01			
50	59	60	1	1	0.55	0.01	1m at 0.55%	56.58 - 58.93 calcite ovoids largely replaced by grossularite with matrix becoming gradually richer and predominant in grossularite with depth.	
B 1001	60	61	1	1	0.27	0.01		58.93 - 61.22 medium grain garnet pyroxene skarn with patches of calcite and containing patchy fine disseminated scheelite mineralisation.	
								Banding 45° at 61.15m 30° at 48m 40° at 51m	

	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D	ASSAYS WO3	ASSAYS Mo
B 1002	74	75	1	1	0.01	< .01
3	75	76	1	1	0.13	"
4	76	77	1	1	0.06	"
5	82	83	1	1	.01	"
6	83	84	1	1	0.13	"
7	84	85	1	1	0.05	"

UNIT	GEOLOGICAL DESCRIPTION	FRACTURES
BIOTITE HORNFELS 61.22 - 62.31	fine grain massive dark grey-black biotite hornfels.	
UNREPLACED C-LENS MARBLE. 62.31 - 81.89	medium grain light grey-white marble with occassional bands of fine grain biotite hornfels and pyroxene hornfels. Generally <2cm thick up to 50cm. Occassional narrow replacement bands (1cm thick) of garnet occur after 67m becoming more common between 73 - 77m but always occupying <20% of core. 75.39 - 75.69 } bands of ardradite skarn 76.25 - 76.41 } containing fine disseminated scheelite mineralisation. Bedding to long axis of core 60° at 77m 65° at 74m	
REPLACED BANDED FOOTWALL 81.89 - 86.25	garnet skarn containing abundant interstitial calcite and calcite stringers and numerous narrow (2cm) biotite and pyroxene hornfels interbeds. Scheelite mineralisation very weak. 85.25 - 86.25 gradually becomes pyroxene rich and disturbed with texture similar to PGh.	
BIOTITE AND PYROXENE HF. 86.25 - 87.79	Fine grain black biotite hornfels with odd narrow irregular beds of pyroxene grossularite hornfels. Finishes at clay and caclite filled joint plane.	
OLDER VOLCANICS 87.71 - 91.74	~~Fine grain actmolite rich crystalline dark grey-green hornfels mottled with numerous fine~~ elongate black sulphide rich spots, evenly ~~distributed throughout. Irregular narrow (epidote?) rich stringers common.~~	

DIAMOND DRILL HOLE SURVEY

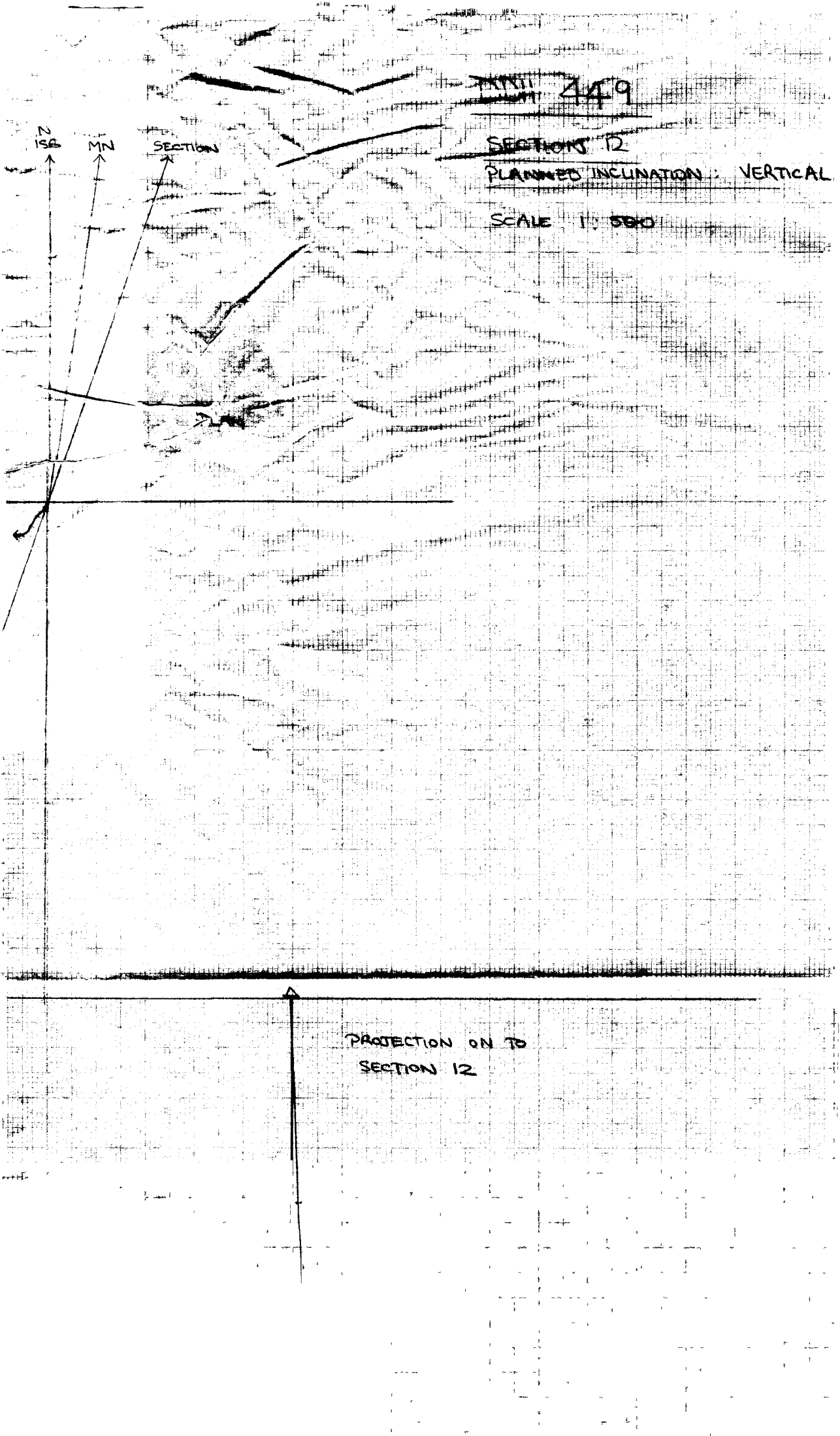
EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 449 Date Surveyed 4.8.72

Total Depth 300' Depth Surveyed To 293'

Casing Depth 10' Surveyed By P.C.

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc. Approx.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords N/S	Sum of Co-Ords E
9.14 30'	1° 1'	1°	.999 .0174			0.159	S 30W S 10W	S 20W					
15.24 50	1° 1°	1°				0.26	S 30W S 15W	S 25W					
21.33 70						0.37							
27.43 90	2° 2°	2°	.999 .0348			0.954	S 20W S 20W	S 20W					
33.52 110	2° 2°	2°				1.166	S 20W S 35W	S 30W					
39.62 130	2° 2°	2°				1.38	S 25W S 35W	S 30W					
45.72 150	2° 2°	2°				1.59	S 35W S 40W	S 35W					
51.18 170	2°	2°				1.80							
57.91 190	2° 2°	2°				2.01	S 40W S 45W	S 40W					
64 210'	2½° 2½°	2½°	.999 .0436			2.22	S 35W S 35W	S 35W					
70.10 230'	2½° 2½°	2½°				3.05	S 35W S 35W	S 35W					
76.2 250'	3°	3°				3.98	S 35W	S 35W					
82.29 270'	3°	3°				4.30	S 35W S 45W	S 40W					
89.38 293	3°	3°	.998 .0523			4.67	S 45W	S 45W					


DRILL HOLE 449
SECTION 12
PLANNED INCLINATION : VERTICAL
SCALE 1: 500
N ISA
MN
SECTION
PROJECTION ON TO SECTION 12

DIAMOND DRILL HOLE NO. 448

LOCATION:	OPEN PIT; SECTION 14½, BENCH 14.
CO-ORDINATES:	219517.0 E 564186.0 N
R.L.:	- 6.54m
DATE COMMENCED:	22/7/72
DATE COMPLETED:	26/7/72
FINAL DEPTH:	62.79m
DATE SURVEYED:	NOT SURVEYED
LOGGED BY:	M. J. DANIELSON
BEARING:	19° 20' GRID
INCLINATION:	-80°

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RECOVERED	ASSAYS WO_3	ASSAYS Mo		UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
B 0401	5	6	1.0	1.0	0.02	<.01		PYROXENE GARNET HORNFELS 00 - 11.82	Very pyroxene rich light green hornfels with calcite ovoids up to 5 cms dia. Core is very broken and heavily calcite veined to 3 metres but no lost core. Minor scheelite 5.0 - 8.0 but not oregrade.	
2	6	7	"	"	0.17	"				
3	7	8	"	"	0.03	"				
			"							
4	15	16	"	"	1.03	0.07	1m at 1·03%	BIOTITE HORNFELS 11.82 - 14.55	Purplish black barren hornfels with greenish pyroxene hornfels inclusion at 12.60 - 13.0m	
5	16	17	"	"	<.01	<.01				
6	17	18	"	"	<.01	"				
7	18	19	"	"	<.01	"				
8	19	20	"	"	0.32	"	2·0m at 0·49%		14.55 - 14.98 only 5 cms of a heavily sheared bh (?) recovered.	
9	20	21	"	"	0.66	0.01				
10	21	22	"	"	0.04	<.01				
1	22	23	"	"	0.01	"				
2	23	24	"	"	0.29	0.01		SKARN 14.98 - 25.58	Massive pyroxene rich skarn with very minor scheelite mineralisation. 3 cms coarse scheelite 15.03 - 15.06. Banding at 45° L.A.O.C. at 23m. Minor scheelite 19.8 - 21.0	
3	24	25	"	"	0.01	<.01				
4	25	26	"	"	0.22	0.02				
5	26	27	"	"	0.10	<.01				
6	27	28	"	"	<.01	"				
7	28	29	"	"	0.06	"				
8	29	30	"	"	0.24	"		MARBLE MARKER 25.58 - 27.20	Dirty grey barren calcite hornfels.	
9	30	31	"	"	<.01	"				
20	31	32	"	"	0.38	0.02	1 m at 0·38%		Pyroxene hornfels 27.20 - 27.40	
1	32	33	"	"	0.23	0.01			Biotite hornfels 27.40 - 27.90	
2	33	34	"	"	0.25	<.01				
3	34	35	"	"	<.01	"		LOWER SKARN 27.90 - 42.0	A very pyroxene rich skarn containing minor scheelite. Banding becomes more apparent below 31m.	
4	35	36	"	"	0.23	"				
5	36	37	"	"	0.56	0.01	2·0m at 0·49			
6	37	38	"	"	0.41	0.01				
7	44	45	"	"	0.05	<.01	~~1·0m at 0·50%~~			
8	45	46	"	"	0.52	0.01				
9	46	47	"	"	0.77	0.03	4·0m at 0·62%			
30	47	48	"	"	0.41	0.01				
1	48	49	"	"	0.77	0.02				
2	49	50	"	"	0.27	<.01				

GEOPEKO LIMITED — KIDD ISLAND — DIAMOND DRILL LOG — HOLE 448

SAMPLE No.	DISTANCE FROM	TO	LENGTH SAMPLED	LENGTH REC'D	ASSAYS oz/T	ASSAYS %	
B 0433	50	51	1.0	1.0	0.03	<.01	
4	51	52	2	"	0.09	"	
5	52	53	"	"	0.02	"	
6	53	58	"	"	0.01	"	
7	54	55	"	"	0.30	"	
8	55	56	"	"	0.69	"	5.0m at 0.40 %
9	56	57	"	"	0.23	"	
40	57	58	"	"	0.37	"	
1	58	59	"	"	0.43	0.01	
2	59	60	"	"	0.16	<.01	

UNIT	GEOLOGICAL DESCRIPTION	FRACTUR
LOWER SKARN 27.90 - 42.0	Banding in the skarn 34m 55° to L.A.O.C. 35m 60° 36m 65° - 70° 37m 60° 42m 35° Pyroxene hornfels 38.56 - 38.64 Biotite hornfels 38.64 - 39.14	
BANDED FOOTWALL BEDS 42.0 - 62.79	Very high calcite content to 45.0 m with calcite bands up to 20 cms wide. Below 45.0 an good scheelite mineralisation. Banding very apparent 45m 55° to L.A.O.C. 46m 80° 47m 60° 48m 55°	
	Intermittent mineralisation continues to 60m Banding is as follows: 49m 62° 53 65° 56 50° 58.5 45°	
	FAULT ? 61.80 - 62.79 core lost. Drilling through clay.	

DIAMOND DRILL HOLE NO. 447

LOCATION:	Open Pit; Section 11, bench 16.
CO-ORDINATES:	219 661.75 E 564 157.5 N
R.L.:	- 26.5m
DATE COMMENCED:	13-7-72
DATE COMPLETED:	17-7-72
FINAL DEPTH:	42.67m
DATE SURVEYED:	Not Surveyed
LOGGED BY:	M. J. Danielson
BEARING:	19° 20'
INCLINATION:	- 60°

GEOPEKO LIMITED

DRILL HOLE No. 447

SAMPLE No.	DISTANCE FROM	TO	LENGTH SAMPLED	LENGTH RECOVD.	ASSAYS WO_3	Mo		UNIT	LOGICAL DESCRIPTION	FRACTURING
B 0376	0	5	5.0	3.5	1.97	0.05	5.0 at 1.97	ANDRADITE SKARN 0 - 34.4	Coarse andradite skarn with abundant scheelite.	
7	5	6	1.0		0.06	<.01			0 - 4.88 only 3.66 recovered.	
8	6	7	"		0.01	"			4.5 - 5.5 core is oxidised and leached, possible fault. Although no real breccia or slickensides.	
9	7	8	"		0.11	"			NOTE: First core marker was 4.88 m so it is not known exactly where the lost core section occured.	
80	8	9	"		0.61	0.02			5.5 - 7.8 Fine grained andradite skarn - minor scheelite.	
1	9	10	"		0.13	"			7.8 - 10.5 Mostly Ph and Bh with occasional patches of skarn up to 10cms long. Minor scheelite.	
2	10	11	"		0.51	"			10.5 - 33.5 Fine grained skarn - patchy mineralisation.	
3	11	12	"		1.12	<.01	10.0m at 0.63%		Banding in form of Bh and Ph bands up to 2cms wide.	
4	12	13	"		0.96	"				
5	13	14	"		0.86	"				
6	14	15	"		0.24	0.01				
7	15	16	"		0.15	<.01				
8	16	17	"		0.63	0.01				
9	17	18	"		0.36	<.01				
90	18	19	"		0.27	"				
1	19	20	"		<.01	"				
2	20	21	"		0.01	"				
3	21	22	"		0.44	"				
4	22	23	"		0.89	0.02	4.0m at 0.64%			
5	23	24	"		0.91	0.02		FAULT ?	33.5 - 34.4 Brecciated and oxidised core. 20 cms core lost.	
6	24	25	"		0.33	<.01			34.4 - 35.7 Banded footwall beds.	
7	25	26	"		0.14	"				
8	26	27	"		0.02	"				
9	27	28	"		0.01	"		BIOTITE PYROXENE HORNFELS 35.7 - 42.67	Thinly banded Bh and Ph. Bands usually 1 cm wide. No mineralisation.	
B 0400	28	29	"		0.01	<.01				
B 0279	29	30	1.0		<.01	<.01				
80	30	31	"		"	"				
1	31	32	"		0.02	"			42.67 END OF HOLE.	
2	32	33	"		0.22	"				
3	33	34	"		0.02	"				
4	34	35	"		0.01	"				
B 0285	35	36	"		<.01	"				

DIAMOND DRILL HOLE NO. 446

LOCATION:	Open Pit; Section 14½, bench 14.
CO-ORDINATES:	219 518.37 E 564 190.87 N
R.L.:	- 6.49m
DATE COMMENCED:	18-7-72
DATE COMPLETED:	21-7-72
FINAL DEPTH:	48.77m
DATE SURVEYED:	Not Surveyed
LOGGED BY:	M.J. Danielson
BEARING:	19° 20' Grid
INCLINATION:	- 50°

GEOPEKO LIMITED

SAMPLE No.	DISTANCE FROM	TO	LENGTH SAMPLED	WIDTH ACCEPTED	ASSAYS WO_3	Mo	
B 0286	4	5	1.0	1.0	0.18	<.01	
7	5	6	"	"	0.01	"	
8	6	7	"	"	0.03	"	
B 0289	11	12	1.0	1.0	0.01	<.01	
90	12	13	"	"	0.05	"	
1	13	14	"	"	<.01	"	
2	14	15	"	"	0.16	"	
3	15	16	"	"	1.17	0.03	Im ab. WO3%
B 0294	21	22	1.0	1.0	0.06	<.01	
5	22	23	"	"	0.21	"	
6	23	24	"	"	0.25	"	
7	24	25	"	"	0.55	0.01	
8	25	26	"	"	0.26	<.01	
9	26	27	"	"	0.79	0.01	
B 0300	27	28	"	"	1.31	0.02	

next page

DRILL HOLE No. 446

UNIT	LOGICAL DESCRIPTION	REMARKS
PYROXENE GARNET HORNFELS 00 - 8.20	Very pyroxene rich hornfels with minor calcite blebs up to 2cms in diameter. Minor grossular garnet developed. Certainly not typical Pgh. Very minor scheelite 4.40 - 4.80. Good core recovery throughout.	
BIOTITE HORNFELS 8.20 - 9.65	Typical purplish black barren hornfels. Only 0.85m recovery in 1.45m Fault? 8.45 - 9.25 is area of major core loss. Bh is sheared and some doubtful slickensides developed.	
SKARN 9.65 - 16.50	Fine grained andradite skarn, very pyroxene rich. Massive with little banding to 14.10m. At 14.10 some Ph bands up to 1cm wide at 60° - 65° to L.A.O.C. Minor scheelite developed 14.30 - 14.50 15.0 - 15.60 14.50 - 15 Very grossular and pyroxene rich. No mineralisation. Banding at 80° to L.A.O.C. 15.60 - 16.20 Very pyroxene rich. Banding at 70° to L.A.O.C.	
MARBLE 16.50 - 21.50	Dirty grey calcite hornfels. Banding at 70° to L.A.O.C. No scheelite. Minor Ph interbeds up to 2 cm wide. Banding 65° to core axis at 20 m.	
LOWER SKARN 21.50 - 32.0	Mainly a very pyroxene and calcite rich skarn with moderate disseminated scheelite. Minor barren hornfels interbeds usually <2cms but up to 30cms. e.g. Bh 25.70 - 26.00. Banding 28.0m is 70° to L.A.O.C.	

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL LOG — DRILL HOLE No. 446

	SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D	ASSAYS WO_3	ASSAYS Mo		UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
B0469	28	29		1.0	1.0	0.41	0.01		LOWER SKARN	Development of some grossular garnet and some	
	70	29	30	"	"	1.12	0.05	4.0m at 0.6%	21.50 - 32.0	barded Bh/Ph between 31.0 - 32.0m. Maybe a	
	1	30	31	"	"	0.39	0.01			transition gone to barded footwall beds.	
	2	31	32	"	"	0.26	<.01				
	3	32	33	"	"	0.26	"		BANDED FOOTWALL	Mostly replaced with good skarn developed	
	4	33	34	"	"	0.43	0.01		BEDS	and moderate scheelite to 37.0 Banding	
	5	34	35	"	"	1.04	0.05	7.0m at 0.45%	32.0 - 48.77	well developed at 70^0 - 75^0 to L.A.O.C.	
	6	35	36	"	"	0.22	<.01			Below 37.0 m degree of replacement diminishes	
	7	36	37	"	"	0.60	0.02			and after 39.0 m scheelite is very sparse.	
	8	37	38	"	"	0.22	<.01			Below 39.0 m core is very pyroxene and	
	9	38	39	"	"	0.41	.01			grossular rich.	
	80	39	40	"	"	<.01	<.01				
	1	40	41	"	"	0.06	"			Minor fold axis 39.2m.	
	2	41	42	"	"	0.12	"				
	3	42	43	"	"	0.28	"			41.0 - 44.0 Moderate scheelite in replaced	
	4	43	44	"	"	0.15	"			banded (70^0) skarn.	
	5	44	45	"	"	0.32	0.01			44.0 - 46.0 mostly oorly to unreplaced banded	
	6	45	46	"	"	0.72	0.02	4m at 0.41%		footwall beds.	
	7	46	47	"	"	<.01	<.01			Banding 65^0 - 70^0 Minor scheelite 46.0 -	
	8	47	48	"	"	0.58	0.02			46.95. Biotite hornfels.	
B0489		48	48.77	0.77	0.77	0.09	<.01			46.95 - 48.77 poorly replaced beds.	
										Minor scheelite.	

DIAMOND DRILL HOLE NO. 445

LOCATION:	Open Pit; Section 12, bench 13.
CO-ORDINATES:	219 603.1 E 564 119.5 N
R.L.:	+ 1.05m
DATE COMMENCED:	4-7-72
DATE COMPLETED:	12-7-72
FINAL DEPTH:	89.92m
DATE SURVEYED:	12-7-72 (P.C.)
LOGGED BY:	P. Cottam
BEARING:	19° 20' Grid
INCLINATION:	- 70°

RILL LOG

DRILL HOLE No. 445

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
HANGING WALL HORNFELS 00 - 33.49	Massive very fine grain medium to dark grey, often green tinged, biotite - biotite actinolite hornfels, fine laminated bedding discernible in some parts of core, small blebs and stringers of pyrite common throughout. 1.25 - 1.35 band of fragmental hornfels ("PGh" texture); numerous fine to coarse sub-angular to sub-rounded reaction rimmed quartz fragments in a fine grain light green siliceous hornfels matrix. 5.82 - 6.72 mottled texture due to irregular patches of green-grey fine grain hornfels: apparently due to flow and disruption of bedding. 7.80 - 7.92 narrow aplite dyke, sharp contacts, no discernible zoning or contact effects. 18.40 - 20.37 coarse grained granite - aplite dyke, fine grained aplite rims at contacts. 29 - 33.49 numerous fine fragments, rich in pyrrhotite and quartz distributed through core. Extensive mottling and irregular banding of light green siliceous hornfels. A gradational zone between the hanging wall hornfels and "PGh".	
PGh 33.49 - 44.45	33.49 - 36 Typical "PGh" texture: gross. rimmed calcite ovoids, many completely replaced, up to 4cm diameter, in fine green pyroxene matrix. From 36, matrix much richer in grossularite, weak scheelite mineralisation present in scattered patches of medium to coarse grained crystals. 42.12 - 43.80 massive fine grain dark grey-black biotite hornfels band, disturbed siliceous pyroxene hornfels band from 43.40 - 43.50	

SAMPLE No.	DISTANCE FROM	TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	Mo	
B 0331	34	35	1	1	0.01	<.01	
32	35	36	"	"	0.11	"	
33	36	37	"	"	0.26	"	
34	37	38	"	"	0.12	"	
35	38	39	"	"	<.01	"	
36	39	40	"	"	0.08	"	
37	40	41	"	"	0.01	"	
38	41	42	"	"	<.01	"	
39	42	43	"	"	<.01	"	
40	43	44	"	"	0.28	"	
41	44	45	"	"	0.01	"	
42	45	46	"	"	<.01	"	
43	46	47	"	"	<.01	"	
44	47	48	"	"	0.14	"	
45	48	49	"	"	0.31	"	1m, 0.31%
46	49	50	"	"	<.01	"	
47	50	51	"	"	.01	"	
48	51	52	"	"	0.34	0.02	1m, 0.34%
49	52	53	"	"	<.01	<.01	
B 0350	53	54	"	"	0.07	"	
51	54	55	"	"	<.01	"	
B 0352	64	65	1	1	0.23	<.01	
53	65	66	"	"	0.09	"	
54	66	67	"	"	<.01	"	
55	67	68	"	"	0.08	"	
56	68	69	"	"	0.43	0.02	
57	69	70	"	"	0.38	0.02	
58	70	71	"	"	<.01	<.01	7m at 0.3
59	71	72	"	"	0.30	<.01	
60	72	73	"	"	0.55	0.02	
61	73	74	"	"	0.15	<.01	
62	74	75	"	"	0.61	"	
63	75	76	"	"	0.20	"	
64	76	77	"	"	0.06	"	
65	77	78	"	"	0.16	"	
66	78	79	"	"	0.10	"	
67	79	80	"	"	0.03	"	
68	80	81	"	"	<.01	"	
B 0369	81	82	"	"	0.07	"	

DRILL HOLE No. 445

UNIT	LOGICAL DESCRIPTION	DRILLING
	43.80 - 44.40 typical "PGh" (as above)	
	44.40 - 44.45 fine grain massive biotite hornfels.	
C-LENS	44.45 - 51.76 massive medium to coarse grain andradite pyroxene skarn with interstitial calcite.	
	47.53 - 48.36 moderate fine disseminated.	
	48.86 - 49.26 scheelite mineralisation.	
	49.58 - 49.75 laminated light green pyroxene hornfels and fine grain grossularite hornfels.	
	50.50 - 51.76 fine bands of pyroxene and grossularite hornfels apparent; core becoming more calcite rich.	
MARKER BEDS ? 51.76 - 55.51	51.76 - 55.51 interbedded fine grain Bh, Ph, Gh, Ch. Bands approximately 30cm thick with biotite hornfels being predominant.	
	53.37 - 54.36 moderate fine disseminated scheelite mineralisation.	
	Bedding to axis of core: 60° at 49m 60° at 52m 70° at 54m	
UNREPLACED C-LENS 55.51 - 64.32	white medium grain marble predominantly with narrow bands of fine grain biotite hornfels, gross. rimmed pyroxene hornfels and development of narrow replacement bands of andradite garnet. Barren of scheelite except for odd specks in garnet bands.	
C-LENS	64.32 - 66.19 Pyroxene andradite skarn with numerous distinct narrow (<.5cm) marble bands.	
REPLACED BANDED FOOTWALL BEDS 66.19 - 87.95	66.19 - 76.06 medium grain andradite pyroxene skarn bands interbedded with biotite hornfels bands and unreplaced light grey to white marble bands. Little replacement of marble from 66.19 - 68m but replacement almost whole below this.	

GEOPEKO LI[illegible]

SAMPLE No.	DISTANCE FROM	TO	LENGTH SAMPLED	LENGTH RECOVERED	ASSAYS WO_3	Mo
B 0370	82	83	1	1	0.06	<.01
71	83	84	"	"	0.02	"
72	84	85	"	"	0.11	"
73	85	86	"	"	0.07	"
74	86	87	"	"	0.16	"
B 0375	87	88	"	"	0.05	"

DRILL HOLE No. 445

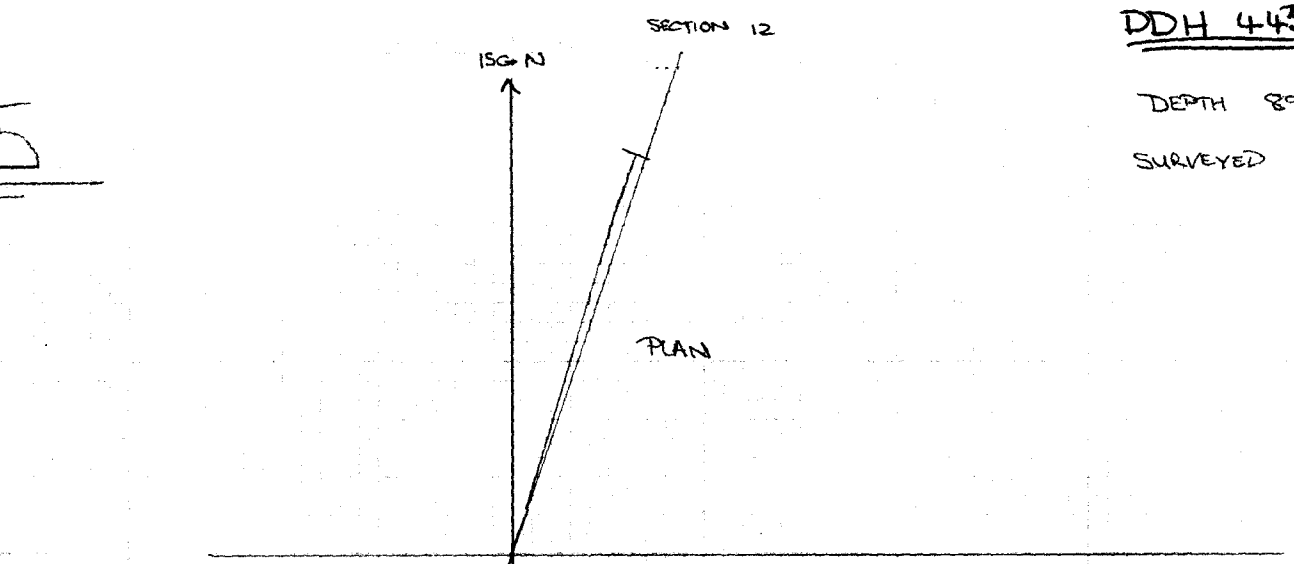
SAMPLE No.	DISTANCE FROM		LENGTH SAMPLED	DEPTH M.C.D.	ASSAY	UNIT	LOGICAL DESCRIPTION	STRUCTURING
							76.06 - 80.22 banded skarn. Andradite pyroxene skarn with poorly defined narrow pyroxene hornfels bands.	
							80.22 - 87.95 skarn less dominant. Interbedded Bh, Ph with skarn bands. Skarn bands <20cm thick. Occasional unreplaced narrow marble band. Scheelite mineralisation only weak and very patchy.	
							70.74 - 72.45 74.35 - 74.99 84.56 - 84.64 85.04 - 85.28 86.35 - 86.49 86.70 - 87.06 } patchy fine disseminated scheelite mineralisation	
							Angle of bedding to axis of core: 85° at 67m 75° at 74m 55° at 77m 65° at 86m.	
						BANDED FOOTWALL BEDS 87.95 - 89.92	broken, slightly oxidised core of fine grain interbedded biotite actinolite hornfels and pyroxene hornfels.	
							END OF HOLE 89.92m	

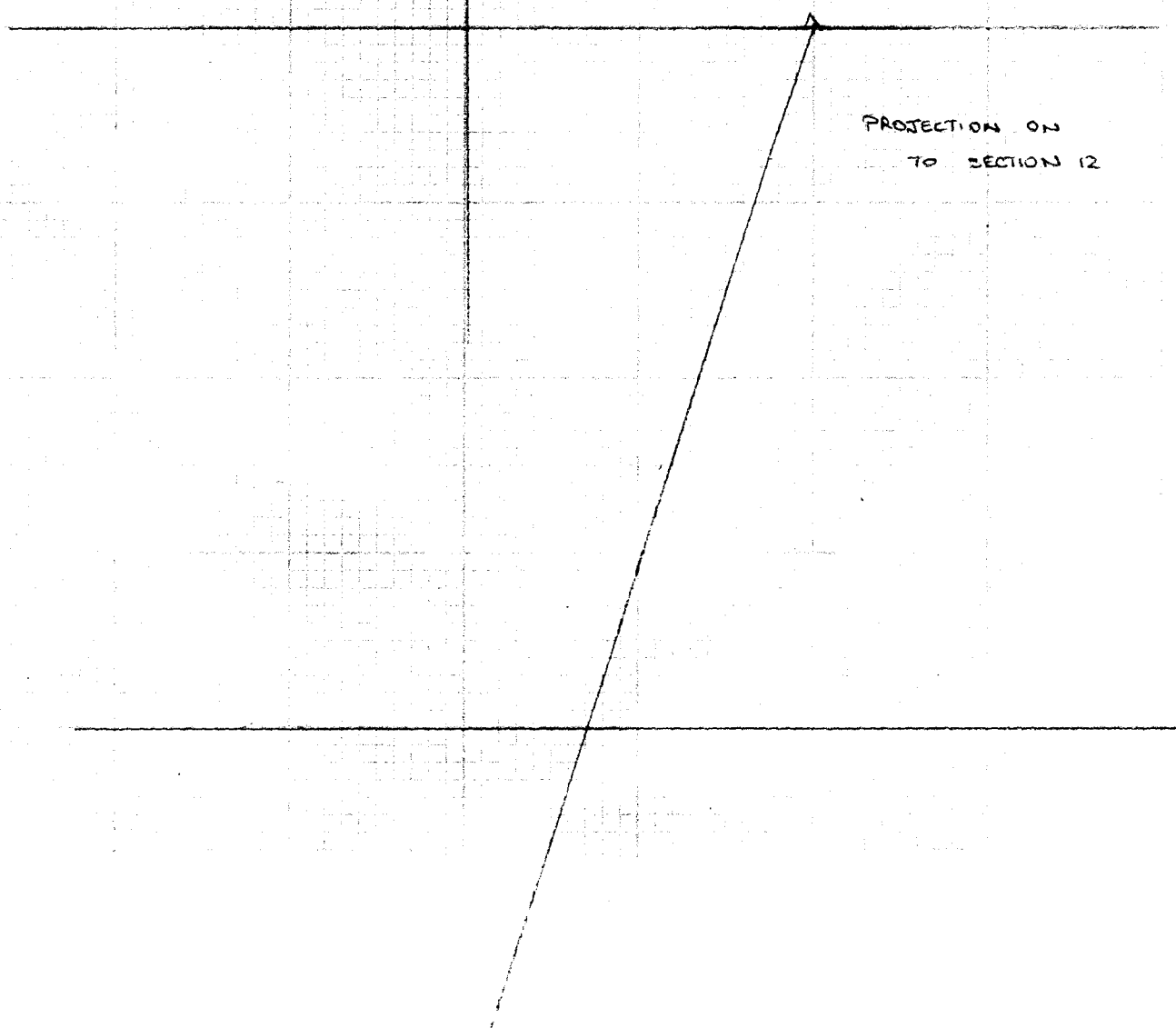
445

DDH 445

DEPTH 89.91 m.

SURVEYED JULY '72
BY P.C.





DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 445 Date Surveyed 12.7.72

Total Depth 295' Depth Surveyed To 298

Casing Depth 10 Surveyed By PC

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
1	0									
2	1				23	22	293	18 N10E	43	S
3	2	S			24	23	293	18 N10E	44	S
4	3	10	~~19~~			24	293	18 N10E	45	
5	6	10 10	19	N11E		25	270		46	
6	5	30	19	N11E		26	270	18 N8E	47	
7	6	30				27	250 250		48	
8	7	50 50				28	230 230	18 N7E		
9	8	70 70	18	N7E		29	210 210			
10	9	90 90	18	N8E		30	190 M?			
11	10	110 110	18	N8E		31	M			
12	11	130 130	18	N5E		32	170 170			
13	12	150				33	150			
14	13	170 M?				34	130 130			
15	14	190 M				35	110 110			
16	15	190				36	90 90			
17	16	210 210				37	70			
18	17	230 230				38	M			
19	18	250	18	N8E		39	50 50			
20	19	270 M?	18	N8E		40	30 30	19	N10E	
21	20	M				41	10			
22	21	298	18	~~N10E~~ N7E		42	10 M			

REMARKS:- ISC = 5° 06' W of MN

Section - 19° E of ISC

DIAMOND DRILL HOLE NO. 444

LOCATION: Open Pit; Section 12½, bench 16

CO-ORDINATES: 219 604.68 E 564 187.91 N

R.L.: - 26.66m

DATE COMMENCED: 1-7-72

DATE COMPLETED: 3-7-72

FINAL DEPTH: 27.43

DATE SURVEYED: Not Surveyed

LOGGED BY: P. Cottam

BEARING: 19° 20' Grid

INCLINATION: - 60°

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO3	ASSAYS Mo	
B 0304	0	1	1	.80	0.13	<.01	
05	1	2	"	.75	0.56	"	1m at 0.56%
06	2	3	"	.75	0.06	"	
07	3	4	"	.80	0.07	"	
08	4	5	"	.80	0.04	"	
09	5	6	"	1	0.02	"	
10	6	7	"	"	0.04	"	
11	7	8	"	"	0.04	"	
12	8	9	"	"	0.02	"	
13	9	10	"	"	0.06	"	
14	10	11	"	"	0.05	"	
15	11	12	"	"	0.14		
16	12	13	"	"	0.39	0.02	1m at 0.39%
17	13	14	"	"	0.08	0.01	
18	14	15	"	"	0.23	<.01	
19	15	16	"	"	0.09	"	
20	16	17	"	"	0.04	"	
21	17	18	"	"	0.02	"	
22	18	19	"	"	0.02	"	
23	19	20	"	"	0.02	"	
24	20	21	"	"	0.05	"	
25	21	22	"	"	0.04	"	
26	22	23	"	"	0.10	0.01	
27	23	24	"	"	0.02	0.02	
28	24	25	"	"	0.01	0.02	
29	25	26	"	"	0.02	<.01	
B 0330	26	27	"	"	0.06	<.01	

DRILL LOG

DRILL HOLE No. 444

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
BANDED FOOTWALL BEDS	26.50 - 27.43 broken weathered core of unreplaced Bfb. Medium grain white marble bands with narrow grossular and pyroxene rims are interbedded with fine grain biotite and pyroxene hornfels bands. 27 - 27.30 core oxidised and brecciated. NOTE: No division between C lens bottom orebody and replaced banded footwall beds is clear. Hornfels bands are clearly defined throughtout but andradite pyroxene skarn makes up by far the greatest proportion of the core (possible boundary approximately 11m). Bedding to long axis of core; 35° at 7.5m 40° at 9m 40° at 12m 50° at 16m 55° at 22m 60° at 23m 80° at 27m 27.43m END OF HOLE.	

ILL LOG

DRILL HOLE No. 444

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	only 2.5m recovery out of first 4m. Much of the core is oxidised and broken to varying degrees, indicative of hole being in vicinity of fault or faults.	
C-LENS BOTTOM OREBODY.	00 - 1.70 broken slightly oxidised core of fine grain biotite actinolite hornfels grading down into pale green garnet actinolite calcite hornfels with disseminated fine scheelite.	
	FAULT 1.70 - 5.25 highly broken, oxidised, calcite-leached core of coarse grain andradite skarn containing patches of fine disseminated scheelite. 4.50 - 4.88 puggy clay rich zone. Approximately 30% of core lost (fault zone).	
	5.25 - 26.50 Banded skarn. Medium to coarse grained andradite pyroxene skarn with narrow interbeds (.5 - 5cm thick) of fine grain biotite and pyroxene hornfels. Poorly defined bedding also exists within skarn.	
	9.47 - 10.72 weathered massive band of coarse andradite skarn, partially leached of calcite giving rough honeycomb texture, puggy clay rich zone from 9.63 to 9.72. Barren of scheelite.	
	11.76 - 14.03 moderate fine disseminated scheelite mineralisation through the banded unweathered GP skarn, large patches of white quartz common in this section.	
	14.71 - 15.80 16.70 - 16.90 } Moderate fine disseminated scheelite mineralisation present.	
	18.90 - 19.30 } oxidised, leached andradite skarn band.	
	FAULT 20.42 - 21.44 highly broken rubbly core with leached oxidised garnet bands above and below. Only 30 cm of core recovered.	

DIAMOND DRILL HOLE NO. **443**

LOCATION:	**Open Pit; Section 12, bench 16.**
CO-ORDINATES:	**219 622.69 E 564 175.07 N**
R.L.:	**- 26.6m**
DATE COMMENCED:	**27-6-72**
DATE COMPLETED:	**30-6-72**
FINAL DEPTH:	**36.58m**
DATE SURVEYED:	**Not Surveyed**
LOGGED BY:	**P. Cottam**
BEARING:	**19° 20' Grid**
INCLINATION:	**- 60°**

DRILL LOG

DRILL HOLE No. 443

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
00 - 6.15	00 - 3.10 Broken rubbly core of medium grain garnet pyroxene skarn fine poorly defined bedding marked by variation in pyroxene content between beds. Abundant calcite in matrix. Moderate scheelite mineralisation in top 80cm. Barren below this. Angle of bedding to core axis: 75°, 55°, 55°.	
	3.10 - 4 light green siliceous fine grain pyroxene (?) hornfels with numerous quartz filled joints. 15cm band of garnet pyroxene skarn at base. 4 - 5.15 black-grey fine grain biotite hornfels. 5.15 - 6.15 light green-grey fine grain pyroxene rich marble band, indistinct fine bedding.	core highly broken
FAULT ZONE 6.15 - 7.92	6.15 - 7.17 chloritised highly broken puggy light green hornfels. 7.17 - 7.92 light grey fine impure marble breccia with infilling white calcite forming matrix in highly broken portions.	
UNREPLACED MARBLE MARKER (?) 7.92 - 9.84	7.92 - 8.08 medium grain light green pyroxene rich marble. 8.08 - 8.59 vein of massive white quartz 8.59 - 9.84 Highly variable, impure marble band, passes from medium grey finely laminated band to more impure pyroxene rich marble with slight grossular replacement to a coarse grain disturbed zone to a more massive medium grey, fine grain band to a coarse grained mottled variety.	
C-LENS BOTTOM OREBODY 9.84 - 29	coarse grain andradite pyroxene skarn with poorly defined irregular narrow interbeds of fine grain pyroxene and biotite hornfels.	15°, 15°

GEOPEKO LIMITED — [illegible] ISLAND — DIAMOND

SAMPLE No.	DISTANCE FROM		LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	ASSAYS Mo	
B 0975	0	2	2	1	0.48	0.03	2m at 0.48%
76	2	3	1	1	0.02	<.01	
77	3	4	"	"	0.01	"	
78	9	10	"	"	0.23	"	
79	10	11	"	"	0.02	"	
80	11	12	"	"	0.03	0.03	
81	12	13	"	"	0.01	0.04	
82	13	14	"	"	<.01	<.01	
83	14	15	"	"	<.01	0.01	
84	15	16	"	"	<.01	0.01	
85	16	17	"	"	0.09	<.03	
86	17	18	"	"	0.51	0.06	
87	18	19	"	"	0.44	0.04	2.0m at 0.48%
88	19	20	"	"	0.08	0.02	
89	20	21	"	"	0.02	0.02	
90	21	22	"	"	0.01	0.04	
91	22	23	"	"	0.01	0.02	
92	23	24	"	"	0.01	<.01	
93	24	25	"	"	0.01	"	
94	25	26	"	"	0.01	0.02	
95	26	27	"	"	0.01	<.01	
96	27	28	"	0.75	<.01	"	
97	28	29	"	1	0.01	"	
98	29	30	"	"	<.01	"	
B 0999	30	31	"	"	0.02	"	
B 0301	31	32	"	"	0.11	0.01	
02	32	33	"	"	0.12	<.01	
03	33	34	"	"	0.02	"	

DRILL LOG — DRILL HOLE No. 443

UNIT	GEOLOGICAL DESCRIPTION	STRUCTURE
	Largely barren of scheelite except for occasional patches of weak mineralisation.	
	10.70 - 12.15 core partially leached of interstitial calcite (slightly weathered)	
C-LENS	12.15 - 12.25 core broken along clay filled joint. Calcite filled joints common.	5°
	23.31 - 23.51 core strongly weathered, broken and puggy.	
	27.30 - 27.65 leached, brecciated, broken andradite skarn with extensive calcite veining. Possible fault.	
	26.31 - 26.46 fine laminated biotite and pyroxene hornfels, weathered and brecciated.	
	Angle of bedding to core axis:	
	65° at 24m	
	35° at 15m	
	40°, 55° at 17m	
	17.10 - 19 moderate fine disseminated scheelite mineralisation.	
REPLACED BANDED FOOTWALL BEDS 29 - 32.51	gradational boundary with fine grain pyroxene and biotite hornfels interbeds becoming more strongly defined and greater percentage of grossular garnet in the sequence.	
BANDED FOOTWALL BEDS 32.51 - 36.58	pyroxene and grossularite rimmed unreplaced light grey marble bands with narrower interbeds of fine grain biotite and pyroxene hornfels. Marble bands becoming few towards end of hole.	
	Bedding 80° at 32m 85° at 34m.	
	E.O.H. 36.58	

DIAMOND DRILL HOLE NO. 442

LOCATION:	Open Pit; Section 11½, bench 16.
CO-ORDINATES:	564 160.28 N 219 642.26 E
R.L.:	- 26.6m
DATE COMMENCED:	23-6-72
DATE COMPLETED:	27-6-72
FINAL DEPTH:	36.58m
DATE SURVEYED:	Not Surveyed.
LOGGED BY:	M. J. Danielson
BEARING:	19° 20' Grid
INCLINATION:	- 69°

GEOPEKO LIMITED, ... ISLAND — DIAMOND DRILL LOG — DRILL HOLE No. 442

SAMPLE No.	DISTANCE FROM	TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	ASSAYS Mo	UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
B 0942	0	1.0	1.0		0.05	<.01	PYROXENE GARNET HORNFELS 00 - 2.50	Not typical Pgh. Has appearance of a partial andradite skarn with irregular shaped calcite ovoids up to 2cm diameter. Minor scheelite.	
3	1.0	2.0	"		0.04	<.01			
4	2.0	3.0	"		0.04	0.01			
5	3.0	4.0	"		0.04	0.01			
6	4.0	5.0	"		0.05	<.01		Core is badly broken.	
7	5.0	6.0	"		0.84	.07			
8	6.0	7.0	"		0.28	.04	SKARN 2.50 - 9.00	Weakly mineralised andradite skarn.	
9	7.0	8.0	"		0.48	.04			
50	8.0	9.0	"		0.61	.07		Fault 4.50 Core badly broken. Slickensides visible.	
1	13.0	14.0	"		0.11	.01			
2	14.0	15.0	"		0.13	.01		Skarn is leached - honeycomb - appearance 5.40 to 7.40	
3	15.0	16.0	"		0.02	.01			
4	16.0	17.0	"		0.46	.02			
5	17.0	18.0	"		0.16	.03	HORNFELS 9.00 - 11.75	Barren biotite and pyroxene hornfels. Minor banding in the BL at 55° to L.A.O.C.	
6	18.0	19.0	"		0.04	.01			
7	19.0	20.0	"		0.05	<.01			
8	20.0	21.0	"		0.04	.02	MARBLE 11.75 - 12.40	Dirty grey barren marble.	
9	21.0	22.0	"		0.05	<.01			
60	22.0	23.0	"		0.03	.02			
1	23.0	24.0	"		0.54	.05	BANDED SKARN 12.40 - 36.58 E.O.H.	Banded (55°) calcite rich skarn - weakly mineralised.	
2	24.0	25.0	"		0.22	.02		14.50 - 15.10 Marble as above.	
3	25.0	26.0	"		0.04	.02			
4	26.0	27.0	"		0.04	.02			
5	27.0	28.0	"		0.03	.01		Fault 18.00 Oxidised and brecciated 18.00 - 18.30m.	
6	28.0	29.0	"		0.03	.01			
7	29.0	30.0	"		0.03	.02			
8	30.0	31.0	"		<.01	<.01		21.30 - 22.10 Pyroxene hornfels.	
9	31.0	32.0	"		0.04	.01		23.15 - 23.35 Biotite hornfels.	
70	32.0	33.0	"		0.07	.03			
1	33.0	34.0	"		0.07	.02		Continuing banded skarn to E.O.H. Very minor scheelite mineralisation.	
2	34.0	35.0	"		0.16	.02			
3	35.0	36.0	"		0.03	.01		Banding 60° - 65° to L.A.O.C.	
4.	36.0	36.58	0.58		0.04	.01			

DIAMOND DRILL HOLE NO. 441

LOCATION: Bench 14 - Section 12½

CO-ORDINATES: 219 589.64E 564 145.57

R.L.: -7.46

DATE COMMENCED: 15-6-72

DATE COMPLETED: 22-6-72

FINAL DEPTH: 56.08

DATE SURVEYED: 22-6-72

LOGGED BY: M.J.B.

DRILL LOG — DRILL HOLE No. 441

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
Granite 00 - 0.50	Medium to coarse grained granite. Abundant biotite with pink feldspar phenocrysts in a medium grained groundmass.	
Biotite Hornfels 0.50 - 11.75	Purplish black massive hornfels. Barren of mineralisation.	
Pyroxene Garnet Hornfels 11.75 - 25.60	Typical pyroxene rich groundmass with calcite ovoids rimmed with grossular garnets. Minor mineralisation. Barren biotite hornfels inclusion 21.30 to 23.45. Pgh shows more replacement and greater mineralisation transitional to skarn - although still not oregrade.	
Skarn 25.60 - 30.55	Weakly mineralised andradite skarn very pyroxene rich. Some barren Bh bands 27.12 - 27.20 29.90 - 30.15	
Biotite Pyroxene Hornfels 30.55 - 32.8	Massive purplish black hornfels. No mineralisation to 31.20 then interbedded Bh/Ph the main divisions of which are 31.20 - 32.40 Ph 32.40 - 32.90 Bh 32.90 - 33.30 Ph Some banding is apparent: 32.3m 70° to L.A.O.C. 32.8m 68° to L.A.O.C.	
Marble 32.8 - 34.4	Dirty grey calcite hornfels. No mineralisation. Becomes very pyroxene rich over last 60 cms.	
Biotite Hornfels 34.4 - 36.55	Dark purplish black barren biotite hornfels.	
Marble 36.55 - 36.55	Dirty, grey as above with some banding of pyroxene hornfels towards base (over final 20cms) before it grades into a scheelite bearing skarn. Banding is at 66° to L.A.O.C.	

GEOPEKO LIMITED, KING ISLAND — DIAMOND

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	ASSAYS Mo	
B 0913	12	13	1.0	1.0	0.07	<.01	
4	13	14	1.0	1.0	0.07	<.01	
5	14	15	1.0	1.0	0.10	0.03	
6	15	16	1.0	1.0	0.08	<.01	
7	16	17	1.0	1.0	0.07	<.01	
8	17	18	1.0	1.0	0.05	<.01	
9	18	19	1.0	1.0	0.01	<.01	
20	19	20	1.0	1.0	0.02	<.01	
1	20	21	1.0	1.0	0.03	.01	
2	23	24	1.0	1.0	0.15	0.02	
3	24	25	1.0	1.0	0.11	<.01	
4	25	26	1.0	1.0	0.05	<.01	
5	26	27	1.0	1.0	0.92	0.05	
6	27	28	1.0	1.0	0.48	0.03	4.0m at 0.50% WO_3
7	28	29	1.0	1.0	0.23	0.01	4.0m at 0.50% WO_3
8	29	30	1.0	1.0	0.36	0.01	4.0m at 0.50% WO_3
9	36	37	1.0	1.0	0.02	0.01	
30	37	38	1.0	1.0	0.10	0.02	
1	38	39	1.0	1.0	0.22	0.02	
2	39	40	1.0	1.0	0.27	0.02	
3	40	41	1.0	1.0	0.03	0.02	
4	41	42	1.0	1.0	0.13	.06	
5	42	43	1.0	1.0	0.21	0.01	
6	43	44	1.0	1.0	0.30	0.02	1.0m at 0.30%
7	44	45	1.0	1.0	0.18	0.02	
8	45	46	1.0	1.0	0.01	<.01	
9	53.5	54.5	1.0	1.0	0.03	<.01	
40	54.5	55.5	1.0	1.0	0.03	<.01	
B 0941	55.5	56.08	0.58	0.58	0.02	.01	

DRILL LOG

DRILL HOLE No. 441

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
Skarn 36.55 - 46.10	Moderate scheelite mineralisation. Some minor banding to 45.90 45.90 - 46.10 Biotite hornfels.	
Unreplaced Marble 46.10 - 53.60	Mainly an unreplaced white grey marble with some minor grossular garnet banding - bands up to 1 cm wide. Banding at 70° to L.A.O.C. 47.9 - 48.5 some Bh and Ph banding which gives rock appearance of banded footwall beds. 48.5 - 51.30 unreplaced marble. 51.30 - 51.55 biotite hornfels. 51.55 - 51.70 unreplaced marble. 51.70 - 52.00 partially replaced marble with minor scheelite visible. Then further unreplaced marble with minor Gh and Bh bands <1cm.	
Banded Footwall Beds 53.60 - 56.08	Banded Bh/Gh/Ph/Ch with some minor replacement although very little scheelite. See assays.	
	56.08 END OF HOLE	

12½

15 N

PLAN VIEW

DDH 441

SCALE 1 : 500

INCLINATION -60°

FINAL DEPTH 56.08 m

SURVEYED TO 52.73 m

PROJECTED ONTO SECTION 12½

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 441 Date Surveyed 22.6.72

Total Depth 184' Depth Surveyed To 173' = 52.73

Casing Depth 2' Surveyed By P.C. NJD.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
1	0	●							
2	1	◉				22	130		
3	2	S				23	110		
	3	M				24	90		
	4	10	32	N5E		25	70		
	5	10	32	N5E		26	50	31	N10E
	6	30	31	N8E		27	M		
	7	50	31	N8E		28	30		
	8	M	8			29	10		
	9	70	31	N9E		30	S		
	10	70	"	"		31	S		
	11	90	31	N9E		32	S		
	12	M				33	●		
	13	110	30.5	N9E		34	◉		
	14	130	30	N9E		35			
	15	M							
	16	150	30	N8E					
	17	173'	30	N9E					
	18	173'	30	"					
	19	173'	30	"					
	20	150?	30	N8E					
	21	130?	M						

REMARKS:- planned inclination -58°.

ISG N = 8°06' W of mag. north

depth = 56.08 m

52.73 × sin 60° = 45.66 = true [illegible] depth

DIAMOND DRILL HOLE NO. 440

LOCATION:	Section 13½ - bench 14
CO-ORDINATES:	219 550.79E 564 162.76N
R.L.:	-6.46
DATE COMMENCED:	12/6/72
DATE COMPLETED:	14/6/72
FINAL DEPTH:	50.29
DATE SURVEYED:	14/6/1972
LOGGED BY:	M.J.D.

RILL LOG DRILL HOLE No. 440

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
Biotite Actinolite Hornfels 00 - 5.43	Greyish black dense massive hornfels. No banding. Barren of mineralisation.	
Aplite 5.43 - 6.93	Pale white pink with minor biotite. Fine grained margins with a more coarse central part. Inclusion of Bh 6.33 - 6.55.	
Biotite Actinolite Hornfels 6.93 - 7.20	As for the same unit above.	
Pyroxene Garnet Hornfels 7.20 - 19.40	Greenish brown with white calcite pods. Pyroxene is dominant mineral. Minor scheelite mineralisation.	
Biotite Hornfels 19.40 - 20.50	Purplish brown massive hornfels. No mineralisation.	
Pyroxene Garnet Hornfels 20.50 - 24.00	Calcite is becoming more replaced and this unit is gradational to the skarn. Mineralisation is low.	
Skarn 24.00 - 29.10	Weakly mineralised skarn. Pyroxene is again the dominant mineral. Some banding 25.3m 72°L.A.O.C. 27.2m 68° " Inclusion of Bh 26.65 - 27.15	
Biotite Hornfels 29.10 - 29.50	Pale purplish brown hornfels. No mineralisation.	
Marble Marker 29.50 - 31.60	Barren grey marble.	
Pyroxene Hornfels 31.60 - 31.85	Pale green pyroxene hornfels. No mineralisation.	
Biotite Hornfels 31.85 - 32.65	Dark purplish black massive hornfels. No mineralisation.	

GEOPEKO LIMITED, KING ISLAND

DIAMOND

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	ASSAYS Mo	
B 0898	10.0	11.0	1.0	1.0	0.02	<.01	
9	11.0	12.0	1.0	1.0	0.02	<.01	
90	12.0	13.0	1.0	1.0	0.04	<.01	
1	13.0	14.0	1.0	1.0	0.02	<.01	
2	14.0	15.0	1.0	1.0	0.02	<.01	
3	15.0	16.0	1.0	1.0	0.05	0.01	
4	16.0	17.0	1.0	1.0	0.03	<.01	
5	17.0	18.0	1.0	1.0	0.03	<.01	
6	18.0	19.0	1.0	1.0	0.03	<.01	
7	19.0	20.0	1.0	1.0	0.02	<.01	
8	20.0	21.0	1.0	1.0	0.02	<.01	
9	21.0	22.0	1.0	1.0	0.02	<.01	
B 0900	22.0	23.0	1.0	1.0	0.02	<.01	
1	23.0	24.0	1.0	1.0	0.02	<.01	
2	24.0	25.0	1.0	1.0	0.02	<.01	
3	25.0	26.0	1.0	1.0	0.07	<.01	
4	26.0	27.0	1.0	1.0	0.04	<.01	
5	27.0	28.0	1.0	1.0	0.68	0.04	1.0m at 0.68
6	28.0	29.0	1.0	1.0	0.23	<.01	
7	34.0	35.0	1.0	1.0	0.02	<.01	
8	35.0	36.0	1.0	1.0	0.40	0.02	1.0m at 0.40
9	36.0	37.0	1.0	1.0	<.01	<.01	
10	41.0	42.0	1.0	1.0	0.02	<.01	
11	48.0	49.0	1.0	1.0	0.47	0.01	3.03m at 0.37%
12	49.0	50.29	1.29	1.29	0.30	0.03	2.3m at 0.37%

ILL LOG

DRILL HOLE No. 440

UNIT	GEOLOGICAL DESCRIPTION	FRACTURES
Unreplaced Marble 32.65 - 47.50	Barren grey marble. Minor developement of grossular garnets in bands up to 1 cm wide. Some minor Bh and Ph banding although very infrequent - say 2 or 3 bands per metre. Bh and Ph bands usually <1 cm wide. Banding is not regular enough to be banded footwall beds. Lower limit of marble is variable but banding now becomes more frequent. Banding in marble 37.0 72° L.A.O.C. 39.5 65° 42.6 72° 45.0 75° 46.2 69°	
Banded Footwall Beds 47.50 - 50.29	Generally barren to 48.5 then replaced to 50.29 E.O.H. Banding is thin with some Bh bands up to 10 cms. Gh and Ph less than 1 cm.	
	50.29 END OF HOLE	

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 460 Date Surveyed 16 6 72

Total Depth 165' Depth Surveyed To 162'

Casing Depth 2' Surveyed By P.C.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
1	0	●							
2	2	S → two at surface			23	22	162	24	N 6 E
3	3	10'	25	N 8 E	24	23	150		
4	4	10'	25	N 6 E	25	24	150		
5	5	10'			26	25	130		
6	6	30'	↓		27	26	M		
7	7	M?			28	27	110		
8	7				29	28	90		
9	8	M 50	24	N 6 E	30	29	90		
10	9	M			31	30	70	trouble with my winch	
11	10	70	24	N 6 E		31	70		
12	11	M				32	70		
13	12	90				33	70	24	N 6 E
14	13	110				34	M? 50	24	N 7 E
15	14	110				35	50		
16	15	130				36	30	24	N 7 E
17	16	130				37	10	25°	N 6 E
18	17	150				38	S		
19	18	150				39	S		
20	19	M? 160				40	●		
21	20	162	24	N 6 E		41	●		
22	21	162	"	"					

REMARKS:- slow. planned initiation : -65° (25)

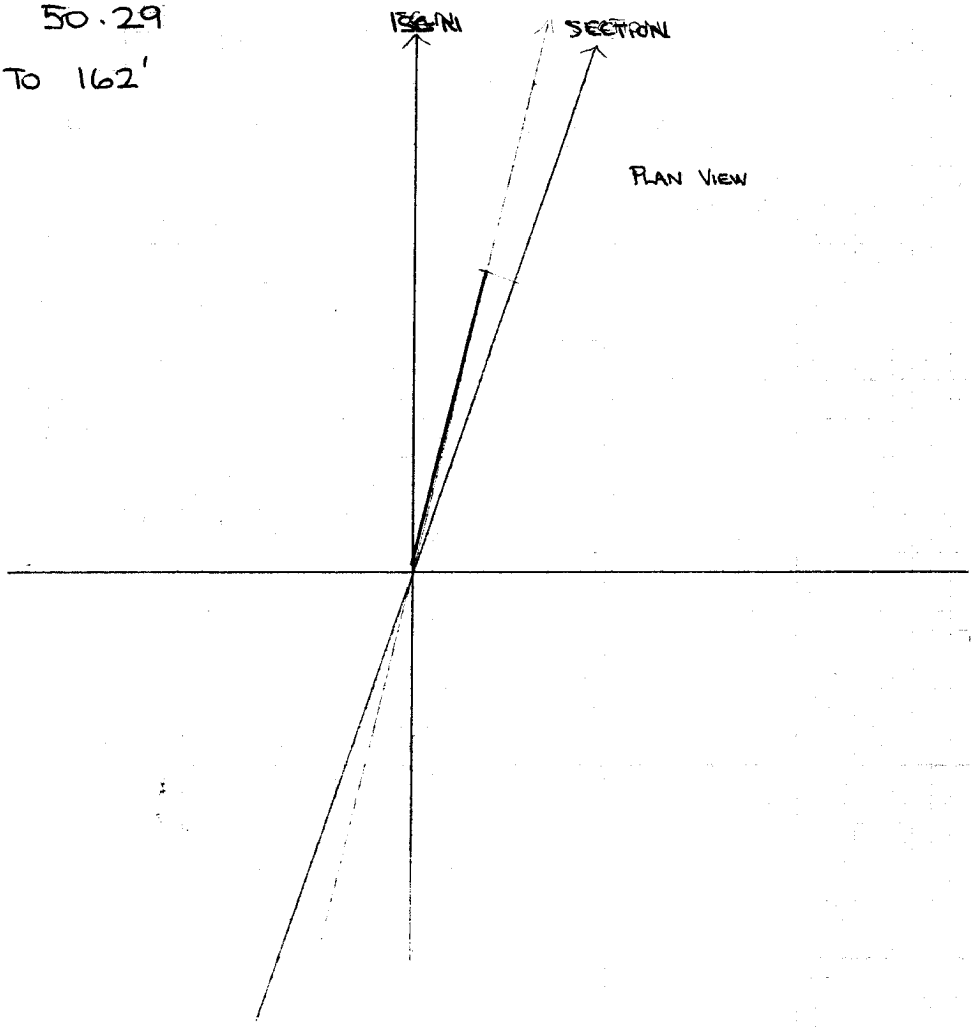
N 6 E = 1SG N 14 E

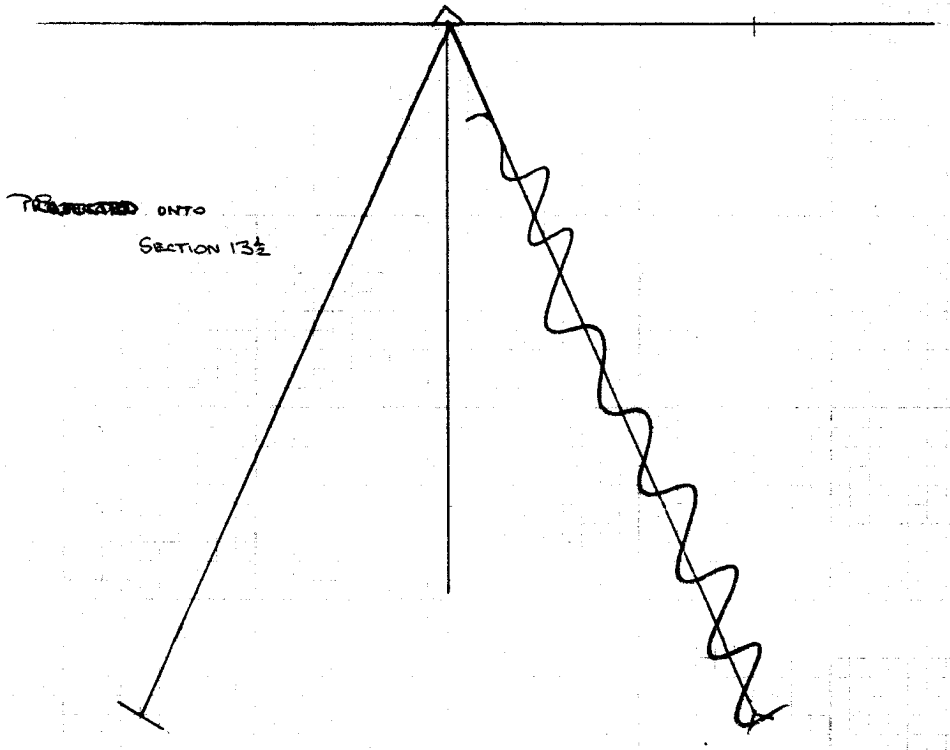
DDH 440

DEPTH 165'

50.29

SURVEYED TO 162'





DIAMOND DRILL HOLE NO. 439

LOCATION:	Section 13½ - bench 15
CO-ORDINATES:	219 560.87E 564 192.88N
R.L.:	-17.57
DATE COMMENCED:	8/6/72
DATE COMPLETED:	11/6/72
FINAL DEPTH:	30.48
DATE SURVEYED:	
LOGGED BY:	M.J.D.

D DRILL LOG

DRILL HOLE No. 439

UNIT	GEOLOGICAL DESCRIPTION	FRACTURI
Skarn 0 - 4.40	Dark greenish brown ardradite skarn - minor scheelite. Minor interbeds up to 10cms in length of unreplaced marble. No banding apparent.	
Marble 4.40 - 5.30	Medium grey massive calcite hornfels. Minor calcite veining. No banding. Barren of mineralisation.	
Biotite and Pyroxene Hornfels 5.30 - 9.40	Intermixed biotite and pyroxene hornfels. Barren of mineralisation. No banding. 8.00 - 9.40 Gh and Ch developing and rock has a more "skarn" appearance but still only minor scheelite.	
Banded Skarn 9.40 - 14.80	Banded ardradite skarn - generally very pyroxene rich. Banding 10.5m 47° to L.A.O.C. 15.2m 22° to L.A.O.C.	
Hybrid Hornfels 14.80 - 16.45	Intermixed Bh and Ph, minor Ch. Mostly pyroxene. No mineralisation.	
Banded Skarn 16.45 - 18.60	Banded skarn developing to replaced banded footwall beds - a gradational zone. Banding at high angle to core axis. 70° - 75° to L.A.O.C.	
Unreplaced Banded Footwall Beds 18.60-22.60	Banded Ph/Bh/Ch/Gh. Banding 65° to L.A.O.C. at 19.5m steepening to 45° - 50° by 22.2m. Banding generally less than 1 or 2 cms although some unreplaced calcite bands are up to 10 cms.	
Replaced Banded Footwall Beds 22.60 - 30.48	As for the unit above although the major part of the calcite hornfels are now developed as a moderately mineralised skarn. Banding 26.5m 20° L.A.O.C. 28.5m 65° - 70° 29.5m 65°	
	30.48m END OF HOLE	

GEOPEKO LIMITED, KING ISLAND — DIAMOR

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	Ni %	Mo %	ASSAYS
B 9862	2.0	3.0	1.0	1.0	1.29	0.08	2m at 1.0
3	3.0	4.0	1.0	1.0	0.88	0.06	2m at 1.09
4	4.0	5.0	1.0	1.0	0.03	<.01	
5	5.0	6.0	1.0	1.0	0.04	<.01	
6	6.0	7.0	1.0	1.0	0.16	<.01	
7	7.0	8.0	1.0	1.0	0.07	<.01	
8	8.0	9.0	1.0	1.0	0.09	<.01	
9	9.0	10.0	1.0	1.0	0.66	0.08	1m at 0.66
70	10.0	11.0	1.0	1.0	0.08	.05	2m at 1.2
1	11.0	12.0	1.0	1.0	0.02	0.02	
2	12.0	13.0	1.0	1.0	0.04	0.02	
3	13.0	14.0	1.0	1.0	1.11	0.10	2m at 1.1
4	14.0	15.0	1.0	1.0	0.48	0.03	2m at 0.80
5	15.0	16.0	1.0	1.0	0.10	<.01	
6	16.0	17.0	1.0	1.0	0.05	0.04	
7	17.0	18.0	1.0	1.0	0.03	0.04	
8	18.0	19.0	1.0	1.0	0.04	0.01	
9	19.0	23.0	1.0	1.0	0.12	<.01	
80	23.0	24.0	1.0	1.0	0.35	0.02	
1	24.0	25.0	1.0	1.0	0.24	0.05	3m at 1.3
2	25.0	26.0	1.0	1.0	0.38	0.05	8m at 0
3	26.0	27.0	1.0	1.0	0.24	0.04	
4	27.0	28.0	1.0	1.0	0.24	0.03	
5	28.0	29.0	1.0	1.0	0.38	0.05	1m at 0.38%
6	29.0	30.0	1.0	1.0	0.16	0.04	
B 9887	30.0	30.48	0.48	0.48	0.35	0.04	0.5m at 0.3

DIAMOND DRILL HOLE NO. Section 10 - bench 16

LOCATION: 219 706.48E 564 157.64N

CO-ORDINATES: -25.63

R.L.: 6/6/1972

DATE COMMENCED: 7/6/1972

DATE COMPLETED: 21.43

FINAL DEPTH:

DATE SURVEYED: M.J.D.

LOGGED BY:

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL LOG — 438

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	ASSAYS Mo		UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
B 0843	2.0	3.0			0.11	0.01		Skarn	Brownish red ardradite garnet skarn.	
4	3.0	4.0			0.02	0.02		00 - 6.50	Minor banding with only very minor scheelite	
5	4.0	5.0			0.17	0.02			mineralisation. Some barren bands of Bh up	
6	5.0	6.0			0.23	0.03			to 10cms wide.	
7	6.0	7.0			0.32	0.02			Poor core recovery 00 - 1.83 only	
8	7.0	8.0			0.08	<.01			0.45 recovered.	
9	8.0	9.0			0.03	<.01				
50	9.0	10.0			0.24	0.02		Replaced Banded	Banded Bh/Ch/Gh/Ph with patchy although	
1	10.0	11.0			0.90	0.05	3m at 0.47%	Footwall Beds	mostly weak scheelite mineralisation.	
2	11.0	12.0			0.26	0.04		6.50 - 21.34	Banding 6.50m 30° to L.A.O.C.	
3	12.0	13.0			0.17	0.02			11.0 m 38°	
4	13.0	14.0			0.09	0.01			18.0 m 50°	
5	14.0	15.0			0.25	0.01				
6	15.0	16.0			0.03	0.02			From 16.5m to end of hole very low	
7	16.0	17.0			0.03	0.03			mineralisation. Mostly banded Bh/Ph with	
8	17.0	18.0			0.03	<.01			minor unreplaced marble.	
9	18.0	19.0			0.03	<.01				
60	19.0	20.0			0.07	<.01				
B 0861	20.0	21.0			0.04	<.01			21.34 END OF HOLE	

DIAMOND DRILL HOLE NO. 436

LOCATION:	Bench 18 - Section 2S
CO-ORDINATES:	564 124.54N 219 907.83E
R.L.:	-44.32m
DATE COMMENCED:	29:5:72
DATE COMPLETED:	31:5:72
FINAL DEPTH:	22.86m
DATE SURVEYED:	Not Surveyed
LOGGED BY:	M.J.D.

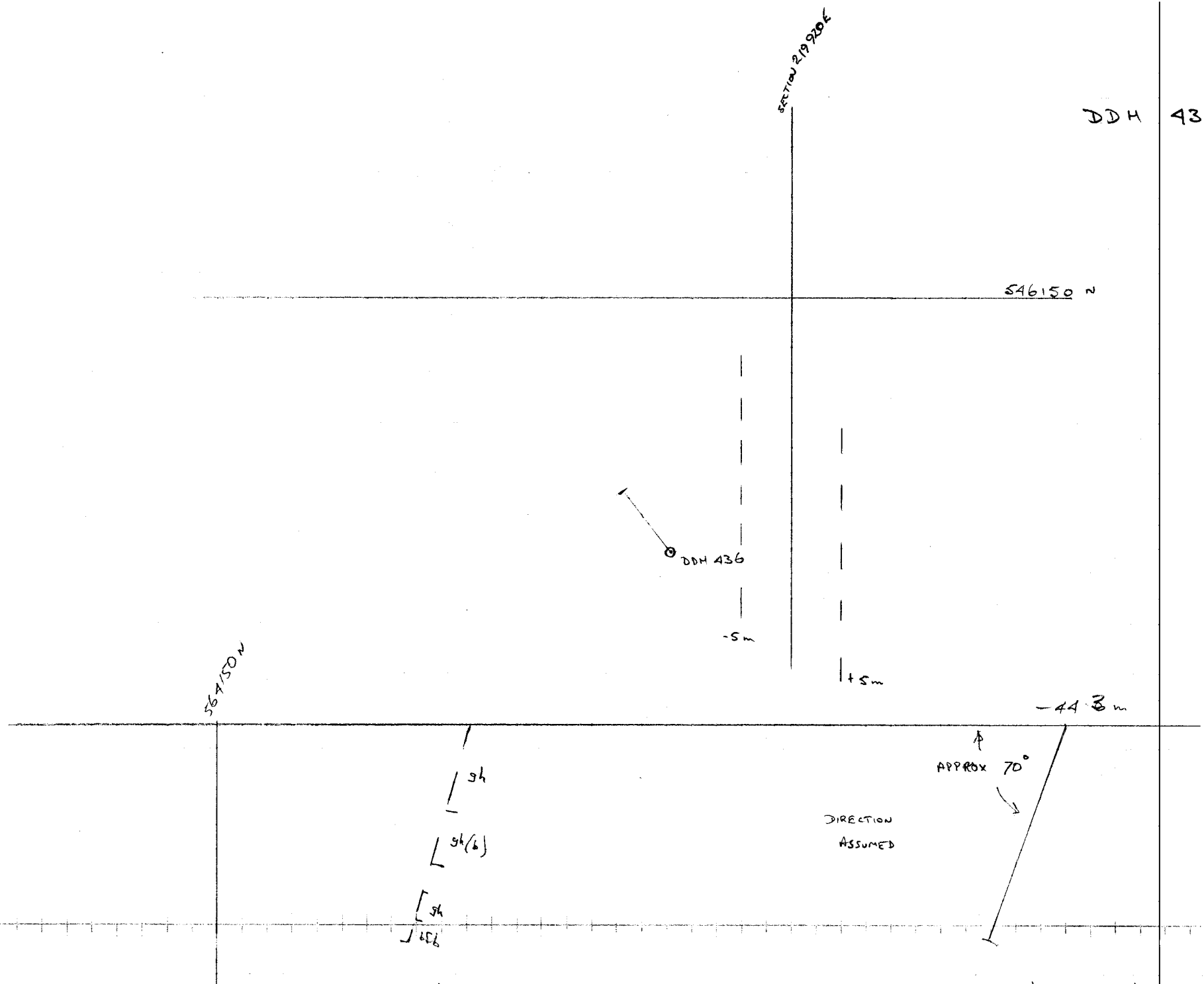
70° In the North

GEOPEKO LIMITED, KING ISLAND — DIAM

NO.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D	ASSAYS WO_3	ASSAYS Mo	
B 0791	00	1.0	1.0		0.62	0.05	
2	1.0	2.0	1.0		0.16	0.01	
3	2.0	3.0	1.0		0.37	0.01	
4	3.0	4.0	1.0		0.35	0.01	
5	4.0	5.0	1.0		0.53	0.01	
6	5.0	6.0	1.0		0.48	0.01	
7	6.0	7.0	1.0		0.24	0.01	
8	7.0	8.0	1.0		0.42	0.03	14m at 0.46%
9	8.0	9.0	1.0		0.49	0.05	
B 0800	9.0	10.0	1.0		0.73	0.05	
1	10.0	11.0	1.0		0.33	0.03	
2	11.0	12.0	1.0		0.73	0.05	
3	12.0	13.0	1.0		0.16	<0.01	
4	13.0	14.0	1.0		0.88	0.06	
5	14.0	15.0	1.0		0.15	0.01	
6	15.0	16.0	1.0		0.16	<0.01	
7	16.0	17.0	1.0		0.18	0.01	
8	17.0	18.0	1.0		0.26	0.01	
9	18.0	19.0	1.0		0.49	0.06	3m at 0.37%
10	19.0	20.0	1.0		0.38	0.05	2m at 0.44%
1	20.0	21.0	1.0		0.15	0.01	
B 0812	21.0	22.0	1.0		0.13	<0.01	

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
Banded Skarn 00 - 8.80	Banded ardradite skarn with minor grossular garnet developed. Very pyroxene rich with pyroxene mainly forming the bands which are generally between 75°-85° to L.A.O.C. Barren Bh 7.55 - 7.90. The banded skarn is only weakly to moderately mineralised.	
Gradational Banded Skarn to Replaced Footwall Beds 8.80-14.20	Banding now becomes more frequent with interspersed bands of Bh/Ph/Gh. No evidence of Ch banding although it could be completely replaced.	
Partially Replaced Banded Footwall Beds 14.20 - 22.86	Banded Bh/Ph/Gh/Ch/ Banding at 70° to L.A.O.C. Patchy mineralisation.	
	22.86 END OF HOLE	

DDH 436



ISC section.
looking E.

section in plane of hole

DIAMOND DRILL HOLE NO. 435

LOCATION:	Bench 16 - Section 6
CO-ORDINATES:	564 085N 219 855.5E
R.L.:	-27.1
DATE COMMENCED:	1:6:72
DATE COMPLETED:	5:6:72
FINAL DEPTH:	38.4
DATE SURVEYED:	Not Surveyed
LOGGED BY:	M.J.D.

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL LOG — DRILL HOLE No. 435

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	ASSAYS Mo		UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
B 0813	3.0	4.0	1.0	1.0	0.62	0.01		Biotite Hornfels	Dark purplish brown fine grained massive	
14	4.0	5.0	1.0	1.0	0.26	0.01	3m at 0.42%	00 - 2.70	biotite hornfels.	
15	5.0	6.0	1.0	1.0	0.38	0.02			Barren of scheelite mineralisation.	
16	6.0	7.0	1.0	1.0	0.13	0.02				
17	7.0	8.0	1.0	1.0	0.09	<.01		Pyroxene Garnet	Mainly pale green pyroxene with white	
18	8.0	9.0	1.0	1.0	0.42	0.01		Hornfels	calcite pods rimmed by honey coloured	
19	9.0	10.0	1.0	1.0	0.07	<.01		2.70 - 17.10	grossular garnet.	
20	10.0	11.0	1.0	1.0	0.09	<.01			Patchy scheelite mineralisation.	
21	11.0	12.0	1.0	1.0	0.20	0.02				
22	12.0	13.0	1.0	1.0	0.29	0.02		Skarn	Typical andradite skarn. Massive with no	
23	13.0	14.0	1.0	1.0	0.23	0.01		17.10 - 23.90	banding. Abundant scheelite mineralisation.	
24	14.0	15.0	1.0	1.0	0.16	<.01				
25	15.0	16.0	1.0	1.0	0.26	0.01		Marble	Pale grey marble with minor grossular	
26	16.0	17.0	1.0	1.0	0.04	<.01		.90 - 24.05	garnets. No mineralisation.	
27	17.0	18.0	1.0	1.0	1.46	0.10				
28	18.0	19.0	1.0	1.0	1.87	0.10		Biotite Hornfels	Black massive biotite hornfels. Barren	
29	19.0	20.0	1.0	1.0	2.42	0.09		24.05 - 24.40	of mineralisation.	
30	20.0	21.0	1.0	1.0	0.84	0.08	7m at 1.34%			
31	21.0	22.0	1.0	1.0	1.60	0.09		Marble	Minor pyroxene with grossular garnet to	
32	22.0	23.0	1.0	1.0	0.82	0.06		24.40 - 26.60	24.50 then dirty grey barren marble. Minor	
33	23.0	24.0	1.0	1.0	0.39	0.03			calcite veining.	
34	29.0	30.0	1.0	1.0	0.27	0.01				
35	30.0	31.0	1.0	1.0	0.13	0.01		Banded	Mainly dark brownish black biotite hornfels	
36	31.0	32.0	1.0	1.0	0.44	0.04		Bh/Ph	with bands of pyroxene up to 5 cms wide -	
37	32.0	33.0	1.0	1.0	1.10	0.07		26.60 - 28.30	usually 1 to 2 cms wide.	
38	33.0	34.0	1.0	1.0	0.42	0.03	9m at 0.46%			
39	34.0	35.0	1.0	1.0	0.22	0.01		artially Replaced	Banded Bh/Ph/Gh/Ch.	
40	35.0	36.0	1.0	1.0	0.33	0.04		Banded Footwall	Banding at 65° - 75° to L.A.O.C.	
41	36.0	37.0	1.0	1.0	0.65	0.05		Beds	Bands generally 1 - 2 cms wide.	
B 0842	37.0	38.0	1.0	1.0	0.60	0.05		28.30 - 38.40	Patchy mineralisation.	
									38.40 END OF HOLE	

DDH 435
1:500

564,100 E

2/8850 E

SECTION 2/8840 E

RL = ~27.1

71°

pgh

gh (main)

gh (min)

m/m

bf/bg

bfb

7m, 1.34g/t

90m, 0.96 g/t

564,150

DIAMOND DRILL HOLE NO. 434

LOCATION:	Bench 16-17 Ramp - Section 8
CO-ORDINATES:	564 145.38N 219 788.33E
R.L.:	-31.18m
DATE COMMENCED:	26:5:72
DATE COMPLETED:	27:5:72
FINAL DEPTH:	15.24
DATE SURVEYED:	Not Surveyed
LOGGED BY:	M.J.D.
INCLINATION	- 50°

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRI

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS				
	DIAMOND DRILL HOLE NO. 434								
B 0778	2.0	3.0	1.0		0.11	0.01			
9	3.0	4.0	1.0		0.26	0.01			
80	4.0	5.0	1.0		0.11	0.01			
1	5.0	6.0	1.0		0.04	0.01			
2	6.0	7.0	1.0		0.26	0.03			
3	7.0	8.0	1.0		0.25	0.01			
4	8.0	9.0	1.0		0.17	0.01			
5	9.0	10.0	1.0		0.12	0.02			
6	10.0	11.0	1.0		0.08	0.01			
7	11.0	12.0	1.0		0.22	0.03			
8	12.0	13.0	1.0		0.04	0.01			
B 0789	13.0	14.0	1.0		0.26	0.01	2.0 m		
B 0790	14.0	15.0	1.0		0.81	0.03	at 0.53%		

DRILL LOG

DRILL HOLE No. 434

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
BANDED SKARN 00-4.10	Banded andradite skarn. Minor grossular garnet developed. Main banding is in form of pyroxene hornfels and usually at approx. 70° to L.A.O.C. Minor scheelite mineralisation but would not go ore grade.	
MARBLE 4.10-6.00	A very "dirty" greyish yellow marble containing moderate pyrite. Minor ferromagnesious in the form of biotite and pyroxene. Some banding developed e.g. 5.90m 85° to L.A.O.C. Barren of scheelite mineralisation.	
PARTIALLY REPLACED BANDED FOOTWALL BEDS 6.00-15.24	Banded Bh/Ph/Ch/Gh. Bands generally less than 1 cm thick. Banding at a high angle to the long axis of the core. 7.0 78° 8.0 82° 9.0 85° 10.0 82° 11.0 77° 14.0 65° Very Bh/Ph rich between 12.0 - 13.8m - evidence of fluidity, disrupted bedding etc. Patchy scheelite mineralisation. see assays. 15.24m E.O.H.	

DEAD OIL DRILL HOLE NO. 433.

LOCATION:	Bench 17 - Section 5
CO-ORDINATES:	564 072.2N 219894.9E
R.L.	-35.94m
DATE COMMENCED:	19:5:72
DATE COMPLETED:	24:5:72
FINAL DEPTH:	39.62m
DATE SURVEYED:	
LOGGED BY:	P.C.

vertical

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 433

Logged By : M.J.D./P.C

Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
B 0731	10.0	11.0	1.0	0.08	<0.01		
2	11.0	12.0	1.0	0.08	<0.01		
3	12.0	13.0	1.0	0.04	0.01		
4	13.0	14.0	1.0	0.03	<0.01		
5	14.0	15.0	1.0	0.07	<0.01		
6	15.0	16.0	1.0	0.04	<0.01		
7	16.0	16.5	0.5	0.11	0.02		
8	16.5	17.0	0.5	0.05	0.02		
9	17.0	17.5	0.5	1.22	0.09	2.001	
40	17.5	18.0	0.5	2.30	0.08	3.772	
1	18.0	18.5	0.5	0.72	0.04	1.181	
2	18.5	19.0	0.5	0.92	0.08	1.509	
3	19.0	19.5	0.5	0.71	0.05	1.164	
4	19.5	20.0	0.5	1.90	0.07	3.116	
5	20.0	20.5	0.5	1.92	0.10	3.149	
6	20.5	21.0	0.5	1.94	0.06	3.182	
7	21.0	21.5	0.5	3.60	0.11	5.905	C lens
8	21.5	22.0	0.5	0.82	0.02	1.345	12.5m
9	22.0	22.5	0.5	0.18	0.01	0.295	at
50	22.5	23.0	0.5	0.61	0.05	1.000	1.28% WO_3
1	23.0	23.5	0.5	1.15	0.05	3.772	
2	23.5	24.0	0.5	1.64	0.07	2.690	
3	24.0	24.5	0.5	0.56	0.04	0.918	
4	24.5	25.0	0.5	1.68	0.04	2.755	
5	25.0	25.5	0.5	1.10	0.06	1.804	
6	25.5	26.0	0.5	0.84	0.04	1.377	
7	26.0	26.5	0.5	0.55	0.02	0.902	
8	26.5	27.0	0.5	0.45	0.03	0.738	
9	27.0	27.5	0.5	1.34	0.06	2.198	
60	27.5	28.0	0.5	1.71	0.08	2.805	
1	28.0	28.5	0.5	2.06	0.09	3.379	
2	28.5	29.0	0.5	1.28	0.09	2.099	
3	29.0	29.5	0.5	0.74	0.05	1.213	
4	29.5	30.0	0.5	0.19	<0.01		
5	30.0	30.5	0.5	0.11	<0.01		
6	30.5	31.0	0.5	0.03	<0.01		
7	31.0	31.5	0.5	0.02	<0.01		
8	31.5	32.0	0.5	0.08	0.03		

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 433

Logged By : M.J.D./P.C.

	Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
		From	To	Length	WO_3	Mo		
	9	32.0	32.5	0.5	0.40	0.04		
	70	32.5	33.0	0.5	0.04	<0.01		
	1	33.0	33.5	0.5	0.07	<0.01		
	2	33.5	34.0	0.5	0.10	0.01		
	3	34.0	34.5	0.5	0.06	<0.01		
	4	34.5	35.0	0.5	0.02	<0.01		
	5	35.0	35.5	0.5	0.05	<0.01		
	6	35.5	36.0	0.5	0.41	0.04		
	7	36.0	36.5	0.5	0.30	0.03		

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	ASSAYS Mo	
B 0731	10	11	1	1	0.08	<.01	
32	11	12	1	1	0.08	<.01	
33	12	13	1	1	0.04	0.01	
34	13	14	1	1	0.03	<.01	
35	14	15	1	1	0.07	<.01	
36	15	16	1	1	0.04	<.01	
37	16	16.5	0.5	0.5	0.11	0.02	
38	16.5	17	0.5	0.5	0.05	0.02	
39	17	17.5	0.5	0.5	1.22	0.09	
40	17.5	18	0.5	0.5	2.30	0.08	
41	18	18.5	0.5	0.5	0.72	0.04	
42	18.5	19	0.5	0.5	0.92	0.08	
43	19	19.5	0.5	0.5	0.71	0.05	
44	19.5	20	0.5	0.5	1.90	0.07	
45	20	20.5	0.5	0.5	1.92	0.10	
46	20.5	21	0.5	0.5	1.94	0.06	
47	21	21.5	0.5	0.5	3.60	0.11	
48	21.5	22	0.5	0.5	0.82	0.02	
49	22	22.5	0.5	0.5	0.18	0.01	
B 0750	22.5	23	0.5	0.5	0.61	0.05	
51	23	23.5	0.5	0.5	1.15	0.05	12.5m at 1.2% WO_3
52	23.5	24	0.5	0.5	1.64	0.07	
53	24	24.5	0.5	0.5	0.56	0.04	
54	24.5	25	0.5	0.5	1.68	0.04	
55	25	25.5	0.5	0.5	1.10	0.06	
56	25.5	26	0.5	0.5	0.84	0.04	
57	26	26.5	0.5	0.5	0.55	0.02	
58	26.5	27	0.5	0.5	0.45	0.03	
59	27	27.5	0.5	0.5	1.34	0.06	
60	27.5	28	0.5	0.5	1.71	0.08	
61	28	28.5	0.5	0.5	2.06	0.09	
62	28.5	29	0.5	0.5	1.28	0.09	
63	29	29.5	0.6	0.5	0.74	0.05	
64	29.5	30	0.5	0.5	0.19	<.01	
65	30	30.5	0.5	0.5	0.11	<.01	
66	30.5	31	0.5	0.5	0.03	<.01	
67	31	31.5	0.5	0.5	0.02	<.01	
68	31.5	32	0.5	0.5	0.08	0.03	
69	32	32.5	0.5	0.5	0.40	0.04	
70	32.5	33	0.5	0.5	0.04	<.01	
71	33	33.5	0.5	0.5	0.07	<.01	
72	33.5	34	0.5	0.5	0.10	<.01	
73	34	34.5	0.5	0.5	0.06	<.01	

ILL LOG

DRILL HOLE No. 433

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
HANGING WALL BIOTITE HORNFELS 00 - 9,60	00 - 9.60 core of fine grain, dark grey black biotite hornfels. Highly broken (due to bench blasting), well jointed, with numerous interfingering fine quartz stringers.	50° 40° 40°
PGh	9.60 - 12.04 Puggy chlorite filled joint(?) marks boundary with coarse grained massive garnet pyroxene skarn with occasional, poorly defined, largely garnet replaced calcite pods. Consists predominately of ardradite with deep green interstitial pyroxene and calcite. Joints are calcite filled. Occasional small patches of coarse scheelite crystals present.	35° 20°
	12.04 - 12.34 soft weathered brecciated chlorite rich core.	
	12.34 - 15.09 massive fine grained more typical "PGh", pyroxene rich with fairly well defined, partially garnet replaced calcite pods. Core contains numerous fine calcite stringers. 12.80 - 13.26 is a coarsely mottled variety with irregular subangular fragments of garnet with interstitial pyroxene. Possibly remobilised (retextured?) portion of PGh.	35°, 20°
.28% 10_3		
	15.09 - 15.39 fine grain pyroxene hornfels band overlain by a narrow broken biotite hornfels band.	
C-Lens 15.39 - 33.24	15.39 - 15.84 core highly broken but no loss consists of andradite skarn with interstitial calcite and a small amount of interstitial pyroxene.	
	15.84 - 21.30 coarse andradite skarn, well developed crystals with calcite matrix. Highly competent massive core.	
	17.22 - 30.26 core rich in finely disseminated, fairly continuous scheelite mineralisation. From 30.26 onwards mineralisation is more patchy and less rich.	

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	ASSAYS Mo
B 0774	34.5	35	0.5	0.5	0.02	<.01
75	35	35.5	0.5	0.5	0.05	<.01
76	35.5	36	0.5	0.5	0.41	0.04
B 0777	36	36.5	0.5	0.5	0.30	0.03

ILL LOG

DRILL HOLE No. 433

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
C Lens	21.30 - 33.24 Ardradite skarn with indistinct bedding visible and occasional narrow (approximately ½cm) pyroxene hornfels bands. 22.38 - 22.50 pyroxene rimmed fine grain biotite hornfels band. 30.50 - 30.70 black fine grain biotite hornfels band with irregular boundaries.	
BANDED FOOTWALL BEDS	33.24 - 34.66 light brown grossular garnet bands interbedded with light green fine grain pyroxene hornfels bands. Pyroxene bands approximately 3cm wide with grossular bands slightly thicker. 34.66 - 38.64 coarse garnet bands containing fine disseminated scheelite are interbedded with black fine grain biotite hornfels bands and occasional narrow pyroxene hornfels bands. 38.64 - 39.62 finely laminated interbedded biotite and pyroxene hornfels. Beds very narrow (<.5cm)	
	END OF HOLE 39.62m	
	Bedding to core axis: 70° at 23m 60° at 31m 40° at 32m 40° at 31m 45° at 23.50m 50° at 24m 50° at 35m 50° at 39m	

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 433 Date Surveyed 24.5.72

Total Depth 130' Depth Surveyed To 130'

Casing Depth 10' Surveyed By PC. GM.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
1	0	●				22	50 50			
2	1	S				23	30 30			
3	2	S				24	30			
4	3	10'				25	10 10			
5	4	10 10	.75°			26				
6	5	30 30	0.75°	N70 [illegible]		27				
	6	30 M				28				
	7	50 50	.8°	S35E		29				
	8	M								
	9	70 70	.8°	S20E						
	10	M								
	11	90 90	.9°	S						
	12	90 M								
	13	110 110	1°	S20W						
	14	130 M								
	15	130	1°	S35W						
	16	130	1°	S35W						
	17	130	1°	S35W						
	18	110 110								
	19	90 M								
	20	90 90								
	21	70 70								

REMARKS:- Deflection at end = 130 sine 1° = .0175 × 130 =

= 0.69 metre

130 feet = 39.62 m.

DIAMOND DRILL HOLE NO. 432

LOCATION:	Bench 16 - Section 13
CO-ORDINATES:	219 587.5 E 564 203.0 N
ELEV.:	-26.3m
DATE COMMENCED:	11-5-72
DATE COMPLETED:	12-5-72
FINAL DEPTH:	15.24m
DATE SURVEYED:	Not Surveyed
LOGGED BY:	P.C.

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRI...

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	ASSAYS Mo	
B 0680	00	0.5	0.5	0.5	0.24	0.02	
81	0.5	1	0.5	0.5	0.61	0.04	
82	1	1.5	0.5	0.5	0.59	0.05	
84	1.5	2.5	1	1	0.88	0.05	
85	2.5	3	0.5	0.5	0.24	0.02	9.5m at 044° 2:59
86	3	3.5	0.5	0.5	0.43	0.04	
87	3.5	4	0.5	0.5	0.56	0.04	
88	4	4.5	0.5	0.5	0.48	0.04	
89	4.5	5	0.5	0.5	0.22	0.04	
90	5	5.5	0.5	0.5	0.90	0.06	
91	5.5	6	0.5	0.5	0.03	0.03	
92	6	6.5	0.5	0.5	0.02	0.01	
93	6.5	7	0.5	0.5	0.02	0.02	
94	7	7.5	0.5	0.5	0.02	0.01	
95	7.5	8	0.5	0.5	0.02	<.01	
96	8	8.5	0.5	0.5	0.02	<.01	
97	8.5	9	0.5	0.5	0.02	0.02	
98	9	9.5	0.5	0.5	0.03	0.03	
99	9.5	10	0.5	0.5	0.03	0.03	
B 0700	10	10.5	0.5	0.5	0.03	0.05	
01	10.5	11	0.5	0.5	0.05	0.02	
02	11	11.5	0.5	0.5	2.40	0.12	
03	11.5	12	0.5	0.5	1.49	0.09	
04	12	12.5	0.5	0.5	0.23	0.03	4.2m at 0.85°
05	12.5	13	0.5	0.5	0.51	0.04	
06	13	13.5	0.5	0.5	0.17	0.01	
07	13.5	14	0.5	0.5	1.32	0.07	
08	14	14.5	0.5	0.5	0.16	0.03	
09	14.5	15.24	0.74	0.74	0.63	0.05	

RILL LOG

DRILL HOLE No. 432

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
C Lens. Bottom orebody. 00 - 11.95	00 - 4.88 massive coarse ardradite skarn with calcite interstitial to the garnet. Contains continuous fine disseminated scheelite mineralisation. Narrow biotite hornfels bands occur at: 3.87 - 3.88 ~~25° to core axis~~ 3.94 - 3.95 3.75 - 3.79 40° to core axis	20°, 30°
	4.88 - 10.97 predominantly ardradite skarn ~~but largely~~ barren of scheelite mineralisation. Bedding discernible, hornfels bands thicker and more common than in overlying core: ~~6.35 - 6.38 pyroxene rimmed Bh band 30°.~~ 7.16 - 7.33 medium grey quartz biotite hornfels. 8.31 - 8.64 green grey quartz actinolite (?) hornfels followed by 2cm band of dark green grey biotite actinolite hornfels. 20° to core axis ~~Irregular discontinuous calcite stringers pass through all the bedding features.~~ 7.76 - 8.30 skarn slightly brecciated and chlorite rich, core slightly broken but none missing.	30°
	10.97 - 11.95 scheelite mineralisation present but slightly patchy. Core of ardradite skarn with occasional narrow fine grain hornfels bands. 10.97 3cm wide pyroxene rimmed band of biotite hornfels. 5° to core axis.	
Mineralised Banded Footwall Beds. 11.95 - 15.24	11.95 bedding becomes more distinct and degree of lamination much more pronounced. Mineralised skarn bands are interbedded with medium grain biotite and pyroxene hornfels bands. The skarn bands form the major part of the core being approximately twice as thick as the biotite and pyroxene hornfels interbeds. Scheelite mineralisation within the skarn bands is finely disseminated but somewhat patchy. Bedding 30° at 13.20, 30° at 12.50	
	15.24m END OF HOLE	

DIAMOND DRILL HOLE NO. 431

LOCATION	Bench 14 - Section 13
CO-ORDINATES	564 151.64N 219 569.44E
ELEV.	-7.32m
COLLAR BEARING	4:5:72
DATE COMMENCED	11:5:72
FINAL DEPTH	60.96m
DATE COMPLETED	
CONTRACTOR	P.C.

GEOPEKO LIMITED, KING ISLAND — DIAMOND DR

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	ASSAYS Mo	
B 0648	12.5	13.5	1	1	0.07	<.01	
	13.5	14.5	1	1	0.38	0.01	2m at 0.435
50	14.5	15.5	1	1	0.49	<.01	
51	15.5	16.5	1	1	0.06	<.01	
52	16.5	17.5	1	1	0.05	<.01	
53	17.5	18.5	1	1	0.09	<.01	
54	18.5	19	0.5	0.5	0.14	<.01	
55	19	19.5	0.5	0.5	0.52	0.01	
56	19.5	20	0.5	0.5	1.66	0.05	
57	20	20.5	0.5	0.5	0.24	<.01	
58	20.5	21.5	1	1	0.05	<.01	
59	21.5	22.5	1	1	0.10	<.01	
60	22.5	23.5	1	1	0.02	<.01	
61	23.5	24.5	1	1	0.01	<.01	
62	24.5	25.5	1	1	0.03	<.01	
63	25.5	26.5	1	1	0.02	<.01	
64	26.5	27.5	1	1	0.01	<.01	
65	27.5	28.5	1	1	0.13	<.01	
66	28.5	29	0.5	0.5	0.97	0.05	
67	29	30	1	1	0.02	0.01	
68	30	31	1	1	0.01	<.01	
69	31	32	1	1	0.01	<.01	
70	32	32.5	0.5	0.5	0.02	<.01	
71	32.5	33	0.5	0.5	0.43	0.01	
72	33	33.5	0.5	0.5	0.09	<.01	
73	33.5	34.5	1	1	0.03	<.01	
74	54	55	1	1	0.12	<.01	
75	55	56	1	1	0.05	0.01	
76	56	57	1	1	0.02	0.01	
77	57	58	1	1	0.01	0.02	
78	58	59	1	1	0.10	<.01	
B 0679	59	60	1	1	0.02	<.01	

DRILL LOG DRIL. HOLE No. 431

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
Hanging Wall Hornfels 00 - 5.65	00-5.65 fine grain black grey biotite actnolite hornfels, in parts green tinged. Jointing well developed. Broken faces show rich in fine clear interlocking needles of trenolite-actinolite (?). Fine bedding discernible in much of core. (Core highly broken to 12' due to pre-split blasting of bench). Bedding 25° at 0.30m.	45°, 10°, 35°, 35°,
PGh 5.65 - 6.30	5.65-6.30 core displays fine fragmental texture: resembling a mobilised, disturbed version of overlying sequence. Contains numerous small irregular green hornfels (pyroxene?) fragments, often with a quartz centre, in grey-black biotite hornfels matrix.	
Granite-Aplite Dyke.	6.30-8.14 A coarse grained granitic dyke containing porphyritic, pink euhedral orthoclase crystals. Zoned at the walls into fine grain pink feldspar-rich aplite. Contact 90° to core axis.	
PGh 8.14 - 26.75	8.14 fine grain black biotite hornfels matrix with large pyrrhotite rich calcite and quartz pods, often rectangular and surrounded by irregular grey-green pyroxene (?) hornfels rim. Innumerable small fragments present in the matrix, grades into: 11.47 pyroxene rich matrix with pods composed predominantly of calcite and grossular garnet, grades into: 14.62 coarse pyroxene-grossularite matrix, less siliceous, deeper green, more calcareous than the overlying sequence. Typical pyroxene-garnet hornfels. Sequence barren of scheelite above 13.50, after which occasional patches of coarse grain scheelite mineralisation occur at: 14.28 - 14.32 15.47 - 15.55 19.56 - 20.57	

DRILL LOG

DRILL HOLE No. 431

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	The coarse scheelite is restricted largely in and around the calcite pods, with coarse scheelite occurring around a calcite filled joint at 20.13	
	23.14-23.93 gradation into black fine grain biotite hornfels matrix with pyroxene rimmed calcite-garnet pods.	
	23.93 - 24.72 massive fine grain biotite hornfels.	
	24.72 - 25.22 finely laminated fine grain biotite actinolite hornfels.	
	25.22 - 26.36 coarse grain pyroxene grossularite hornfels.	
	26.36 - 26.75 black fine grain biotite hornfels with unreplaced calcite ovoids.	
C Lens Partially Replaced 26.75 - 33.91	26.75 pyroxene-grossular skarn grading into ardradite skarn with interstitial calcite after 50cm.	
	Scheelite mineralisation is very patchy with the major part of the core being barren. Occurs at:	
	28.49 - 28.99 (finely disseminated scheelite)	
	30 - 30.25 skarn grades into fine grain laminated, interbedded pyroxene and grossularite hornfels.	
	30.25 - 33.14 garnet skarn with interbedded bands of fine grain biotite hornfels at 31.10 - 31.30, 31.66 - 32.33.	
	33.14 - 33.91 laminated medium-grey fine grain biotite (?). hornfels and fine grain light green pyroxene (?) hornfels. No garnet bands.	
C Lens Unreplaced	33.91 - 53.95	
	Light grey medium grain calcite hornfels with occassional thin (approximately 1cm)	
	biotite, pyroxene and garnet hornfels bands.	
	Bh bands 35.47 - 36.27	
	41.45 - 41.60	
	44.80 - 45.02 coarse spot of ardradite,	
	replacing the calcite, occur	

ILL LOG

DRILL HOLE No. 431

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	43.10 - 44 pyroxene rimmed narrow grossularite hornfels bands are frequent (5 in 10cm). Apart from this core fairly massive, highly competent with little jointing.	
	Bedding 70° 38m, 60° 45m, 60° 43m.	
	This section of core (33.91 - 53.95) is barren of scheelite except for occasional specks.	
Replaced BANDED FOOTWALL BEDS 53.95 - 58.98	53.95 - 58.98 laminated pyroxene-calcite, grossularite, ardradite, biotite hornfels in narrow beds. Composed predominantly of coarse pyroxene-ardradite-calcite hornfels with light brown fine grain grossularite hornfels and fine grain pyroxene hornfels interbeds. Barren of scheelite except for a few weakly mineralised patches.	
58.98 - 60.96 BANDED FOOTWALL BEDS	58.98 - 60.96 predominantly fine grain biotite hornfels with pyroxene hornfels interbeds. Occasional narrow replaced marble band. Hole passes through small fold as is witnessed by change to rear vertical bedding at 60m.	
	Bedding 55m 45°	
	59m 45°	
	60m 5°	
	End of hole 60.96 metres.	

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 431

Logged By : P.C.

Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
B 0648	12.5	13.5	1	0.07	<0.01		
9	13.5	14.5	1	0.38	<0.01	1.246	2.0m at 0.44%
B 0650	14.5	15.5	1	0.49	<0.01	1.607	
1	15.5	16.5	1	0.06	<0.01		
2	16.5	17.5	1	0.05	<0.01		
3	17.5	18.5	1	0.09	<0.01		
4	18.5	19.0	0.5	0.14	<0.01		
5	19.0	19.5	0.5	0.52	0.01	0.853	1.0m at 1.09%
6	19.5	20.0	0.5	1.66	0.05	2.723	
7	20.0	20.5	0.5	0.24	<0.01	0.393	
8	20.5	21.5	1	0.05	<0.01		
9	21.5	22.5	1	0.10	<0.01		
B 0660	22.5	23.5	1	0.02	0.01		
1	23.5	24.5	1	0.01	<0.01		
2	24.5	25.5	1	0.03	<0.01		
3	25.5	26.5	1	0.02	<0.01		
4	26.5	27.5	1	0.01	<0.01		
5	27.5	28.5	1	0.13	<0.01		
6	28.5	29.0	0.5	0.97	0.05	1.591	0.5m at 0.97%
7	29.0	30.0	1	0.02	0.01		
8	30.0	31.0	1	0.01	<0.01		
9	31.0	32.0	1	0.01	<0.01		
B 0670	32.0	32.5	0.5	0.02	<0.01		
1	32.5	33.0	0.5	0.43	0.01	0.705	0.5m at 0.43%
2	33.0	33.5	0.5	0.09	<0.01		
3	33.5	34.5	1	0.03	<0.01		
4	54.	55.0	1	0.12	<0.01		
5	55.0	56.0	1	0.05	0.01		
6	56.0	57.0	1	0.02	0.01		
7	57.0	58.0	1	0.01	0.02		
8	58.0	59.0	1	0.10	<0.01		
9	59.0	60.0	1	0.02	<0.01		

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 431 Date Surveyed 11.5.72

Total Depth 200' Depth Surveyed To ~~200'~~ 193'

Casing Depth 10' Surveyed By PC.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
1	0	●			23	50 ~~22~~	50	~~10~~ 9	N 10 E	
2	1	●			24	23	30 30	~~10~~ 9	N10E	
3	2	S			25	24	10 M			
4	3	S				25	10 M	●		
5	4	10 10	9°	~~N 11E~~		26	S			
6	5	30 30	9°	N 11E		27	S			
7	6	50 50	9°	N 10E		28	●			
8	7	70 70	9°	N ~~10~~ 10 E						
9	8	90 90	9°	N10E						
10	9	110 110	9°	N10E						
11	10	130 130	9°	N10E						
12	11	150 150	9°	N10E						
13	12	190 170	9°	N10E						
14	13	193 193	9°	N10E						
15	16	193	9°	N ~~10~~ 10 E						
16	15	193	9°	N10E						
17	16	170 170	~~9~~ 9°	N10E						
18	17	150 M ?								
19	18	130 130	9°	N10E						
20	19	110 M ?								
21	20	90 M								
22	21	70 70	9°	N 10E						

REMARKS:- ISG NORTH = 8° W of MN

∴ N18° E of ISG = 10° W of Section.

Planned Declination = 80°

Actual = 81°

DIAMOND DRILL HOLE NO. 430

LOCATION:	Bench 15 - Section 13
CO-ORDINATES:	564 178.8N 219 582.4E
R.L.:	-17.66m
DATE COMMENCED:	29:4:72
DATE COMPLETED	3:5:72
FINAL DEPTH:	37.18
DATE SURVEYED:	
LOGGED BY:	P.C.

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 430

Logged By : P.C.

Sample No.	FOOTAGES From	To	Length	ASSAYS WO_3	Mo	L X A	REMARKS
B 0583	0	0.65	0.65	0.05	0.01		
84	0.65	1.5	0.85	0.02	0.01		
85	1.5	3	1.5	0.02	0.01		
86	3	4	1	0.03	0.01		
87	4	5	1	0.02	0.03		
88	5	6	1	0.03	0.03		
89	6	7	1	0.02	<0.01		
90	7	8	1	0.29	0.01	0.951	
91	8	9	1	0.23	0.02		
92	9	10	1	0.10	0.01		
93	10	11	1	0.01	0.03		
94	11	12	1	0.02	0.01		
95	12	13	1	0.02	0.03		
B 0578	13	13.5	0.5	0.44	0.03	0.721	0.5m of 0.44%
79	14	14.5	0.5	0.05	0.03		
80	14.5	15	0.5	0.39	0.05	0.639	0.5m at 0.39%
81	15	15.5		0.04	<0.01		
82	15.5	16		0.21	0.04		
B 0596	16	16.5		0.22	0.03		
97	16.5	17		0.29	0.04	0.476	
98	17	17.5		0.22	0.04		
99	17.5	18		0.30	0.05	2.5 m at 0.31	0.492 0.639
B 0600	18	18.5		0.39	0.05		
01	18.5	19		0.33	0.06	0.541	
02	19	19.5		0.22	0.01		
03	19.5	20		0.07	<0.01		
04	20	20.5	0.5m	0.16	0.06		
05	20.5	21	"	0.57	0.07	0.935	
06	21	21.5	"	0.39	0.07	0.639	2.5m at 0.46%
07	21.5	22	"	0.23	0.03	2.5 m at 0.46%	
08	22	22.5	"	0.59	0.05		0.967
09	22.5	23	"	0.51	0.03		0.836
10	23	23.5		0.15	0.03		
11	23.5	24		0.22	0.02		
12	24	24.5		0.18	0.04		
13	24.5	25		0.41	0.08	0.672	0.5m at 0.41%
14	25	25.5		0.17	<0.01		
15	25.5	26		0.06	<0.01		

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 430

Logged By : P.C.

Samole No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
16	26	26.5	0.5	0.15	0.01		
17	26.5	27		0.16	0.02		
18	27	27.5		0.44	0.04	0.721	1.5m at 0.44%.
19	27.5	28		0.45	0.02	0.738	
20	28	28.5		0.43	0.04	0.705	
21	28.5	29.		0.13	0.02		
22	29	29.5	0.5	0.03	<0.01		
23	29.5	30		0.04	0.01		
24	30	30.5		0.24	0.02		
25	30.5	31		0.17	0.01		
26	31	31.5		0.04	<0.01		
27	32	32.5		0.16	0.02		
28	32.5	33		0.23	0.01		
29	33	33.5		0.20	0.02		
30	33.5	34.	0.5	0.18	<0.01		
31	36.5	37.19	0.69	0.09	<0.01		

GEOPEKO LIMITED, KING ISLAND — DIAMOND D.D.H.

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3	
DDH 430		Whole Core				
B 0583	00	0.65	0.65	0.65	0.05	
84	0.65	1.5	0.85		0.02	
85	1.5	3	1.5		0.02	
86	3	4	1	1	0.03	
87	4	5	1	1	0.02	
88	5	6	1	1	0.03	
89	6	7	1	1	0.02	
B 0590	7	8	1	1	0.29	
91	8	9	1	1	0.23	
92	9	10	1	1	0.10	
93	10	11	1	1	0.01	
94	11	12	1	1	0.02	
95	12	13	1	1	0.03	
B 0578	13	13.5	0.5	0.5	0.44	
79	14	14.5	0.5	0.5	0.05	
80	14.5	15	0.5	0.5	0.39	
81	15	15.5	0.5	0.5	0.04	
82	15.5	16	0.5	0.5	0.21	
B 0596	16	16.5	0.5	0.5	0.22	
97	16.5	17	0.5	0.5	0.29	10m at 0.28
98	17	17.5	0.5	0.5	0.22	
99	17.5	18	0.5	0.5	0.30	
B 0600	18	18.5	0.5	0.5	0.39	
01	18.5	19	0.5	0.5	0.33	
02	19	19.5	0.5	0.5	0.22	
03	19.5	20	0.5	0.5	0.07	
04	20	20.5	0.5	0.5	0.16	
05	20.5	21	0.5	0.5	0.57	
06	21	21.5	0.5	0.5	0.39	
07	21.5	22	0.5	0.5	0.23	
08	22	22.5	0.5	0.5	0.59	
09	22.5	23	0.5	0.5	0.51	
10	23	23.5	0.5	0.5	0.15	
11	23.5	24	0.5	0.5	0.22	
12	24	24.5	0.5	0.5	0.18	
13	24.5	25	0.5		0.41	
14	25	25.5	0.5		0.17	
15	25.5	26	0.5		0.06	
16	26	26.5	0.5		0.15	
17	26.5	27	0.5		0.16	
18	27	27.5	0.5		0.44	
19	27.5	28	0.5		0.45	

DRILL LOG — DRILL HOLE No. 430

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
C LENS Garnet-pyroxene skarn 00 - 3.31	Massive garnet pyroxene skarn with a small amount of interstitial calcite and quartz. Joints calcite filled. Some disseminated scheelite from 00 - 0.36.	5°
Garnet skarn 3.31 - 6.08	Grades into coarse ardradite skarn at 3.31 with interstitial calcite, quartz with occasional quartz patches. Barren of scheelite except for occasional very weak patches.	
Ph, Gh, Bh, Ch. 6.08 - 9.72	6.08 medium grain green grey pyroxene garnet hornfels. 6.71 very fine grain dark grey-black biotite hornfels, proceeded by a 2cm calcite hornfels band, occasional very narrow bed of pyroxene hornfels. 7.63 - 7.83 pyroxene biotite hornfels. Grossular rimmed pyrite rich garnet skarn band at 7.77 - 7.80. 90° to core axis. 7.83 - 9.72 massive medium to coarse pyroxene garnet hornfels with occasional skarn and calcite hornfels bands. Gh at 8.23 -8.31, 9.32 - 9.42. Barren of scheelite except for weak mineralisation between 7.84 - 9.08. Bedding 60° to core axis.	55°
Garnet skarn 9.70 - 13.27	Coarse grain dark brown ardradite skarn with interstitial calcite. Occasional narrow pyroxene hornfels band. Highly competent. Coarse calcite filled joint at 11.27. Ph bands at 10.50, 11.38. 13.50 - 13.72 garnet pyroxene skarn. Barren of scheelite except for finely disseminated mineralisation from 13.05 to 13.20	5°
MARKER BED Calcite hornfels 13.27 - 14.04	Light grey fine grain calcite hornfels, bedding partially visible, 65-70° to core axis. 13.60 - 13.71 black ovoid irregular spots within the calcite hornfels.	

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS WO_3
B 0620	28	28.5	0.5		0.43
21	28.5	29	0.5		0.13
22	29	29.5	0.5		0.03
23	29.5	30	0.5		0.04
24	30	30.5	0.5		0.24
25	30.5	31	0.5		0.17
26	31	31.5	0.5		0.04
27	32	32.5	0.5		0.16
28	32.5	33	0.5		0.23
29	33	33.5	0.5		0.20
30	33.5	34	0.5		0.18
B 0631	36.5	37.19	.69	.69	0.09
			END OF HOLE 37.19		

DRILL LOG

DRILL HOLE No. 430

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	13.71 - 13.81 slightly altered light green-grey calcite pyroxene hornfels	
	13.81 - 14.04 fine grain dark grey-black Bh	
C LENS Garnet pyroxene skarn 14.04 - 22.80	14.04 coarse garnet pyroxene skarn with bedding partially visible. Highly competent Predominantly ardradite with some intermixed pyroxene with interstitial calcite.	
	14.04 - 14.24 patch of fine disseminated scheelite.	
	14.70 - 22.80 fairly continuous fine dissenination of scheelite. Barren patch 19.36 - 19.85	
	15.77 - 16.03 finer grain, more pyroxene rich with distinctly laminated bedding at 60° to core axis.	
	19.34 - 20.05 laminated pyroxene, biotite, grossularite, calcite hornfels. In narrow beds about ½cm wide, all very fine grain. Barren of scheelite from 19.36 - 19.85. Bedding 45° to core axis at 19.80, 60° at 19.50.	
	20.53 - 20.60 coarse ardradite skarn patch, well developed garnets in calicte matrix. Bedding 60° to core axis at 20.74.	
	22.40 - 22.80 intermixing of pyroxene and grossularite hornfels grading down to boundary with BFb.	
REPLACED BANDED FOOTWALL BEDS 22.80 - 37.19	Fine grain fine laminated Bh, Ph, Ch. Predominantly bands approximately 8cms of skarn with fine disseminated scheelite with interbedded laminated biotite hornfels, pyroxene hornfels bands rimmed with grossularite generally about 2cm thick. Odd unreplaced marble bands becoming more frequent towards end of hole.	25° 25.20 20° 36.80
	25.85 - 26.30 only partial replacement of marble. core barren of scheelite from; 22.55 - 23.15, 25.83 - 26.28, 28.94 - 30.13, 31.15 - 31.95, 33.73 - 36.44.	
	29.- 30.13 typical unreplaced banded footwall beds, predominatly Bh, Ph with Ch bands.	

.OG

DRILL HOLE No. 430

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	31.15 - 31,95 band of medium grain light grey calcite hornfels with a couple of narrow Bh, Ph bands.	
	31.95 - 33.73 replacement of Ch with skarn containing disseminated scheelite.	
	From 33.73 onwards no replacement except for 36.44 - 37.19.	
	Core angle 70° at 29m Core highly	
	75° at 26m competent with	
	70° at 36.30 little jointing.	

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No.	430	Date Surveyed	4.5.72
Total Depth	122'	Depth Surveyed To	110'
Casing Depth	10'	Surveyed By	P.S. F.B.

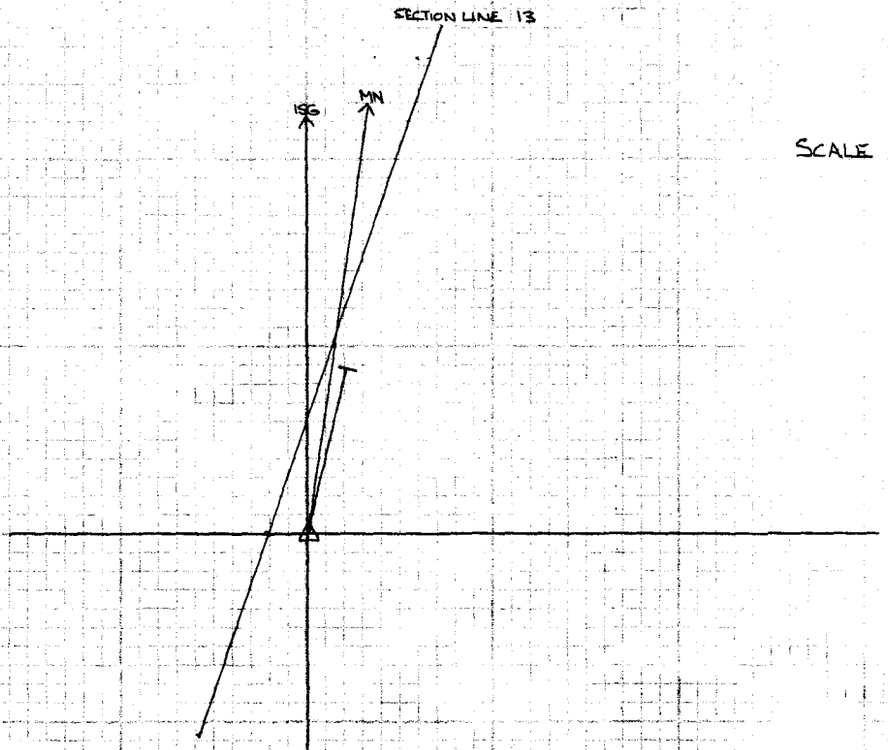
Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
1	0	●				22	S		
2	1	S				23	S		
3	2	S				24	●		
4	3	S M							
5	4	10 10	Casng						
6	5	10 10	casng						
7	6	30 30							
8	7	30 30							
9	8	50 50	20°	N S E					
10	9	70 70	20°	N S E					
11	10	90 90	20°	N S° E					
12	11	110 110	20°	N S° E					
13	12	110	20°	N S° E					
14	13	110	20°	N S° E					
15	14	90 90	20°	N S° E					
16	15	70 70	20°	N S° E					
17	16	50 M? 50							
18	17	50 M							
19	18	30 30	20°	N S E					
20	19	10 10							
21	20	10 M?							
22	21	S, M							

REMARKS:- Deflection at 110' = 100 sin 20° = 110 x 0.3420 = 37.62

= 11.47 mts

D.D.H. 430

DEPTH 122'
SURVEYED TO 110'
ANGLE 70°



SCALE 1 = 500

PROJECTION ONTO
SECTION 13.

37.12 metre.

DIAMOND DRILL HOLE NO. 429

LOCATION:	13 Bench FW - Section 10
CO-ORDINATES:	564 210N 219 725E
R.L.:	- 1.0m (approx.)
DATE COMMENCED:	26:4:72
DATE COMPLETED:	27:4:72
FINAL DEPTH:	15.24 m
DATE SURVEYED:	27:4:72
LOGGED BY:	M.J.D.
INCLINATION	-80°

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS		
		DIAMOND DRILL HOLE NO. 429					
B 0555	0	3.0	3.0	1.0	0.45	0.02	
6	3.0	3.5	0.5	0.5	0.63	0.03	
7	3.5	4.0	0.5	0.5	0.23	0.01	
8	4.0	4.5	0.5	0.5	0.29	0.01	
9	4.5	5.0	0.5	0.5	0.11	0.02	
60	5.0	5.5	0.5	0.5	0.02	<0.01	
1	5.5	6.0	0.5	0.5	0.02	<0.01	
2	6.0	6.5	0.5	0.5	<0.01	<0.01	
3	6.5	7.0	0.5	0.5	0.18	<0.01	
4	7.0	7.5	0.5	0.5	1.20	0.05	
5	7.5	8.0	0.5	0.5	0.40	0.03	
6	8.0	8.5	0.5	0.5	0.66	0.05	
7	8.5	9.0	0.5	0.5	0.19	0.01	
8	9.0	9.5	0.5	0.5	0.21	0.04	
9	9.5	10.0	0.5	0.5	0.62	0.05	
70	10.0	10.5	0.5	0.5	0.91	0.06	
1	10.5	11.0	0.5	0.5	0.69	0.04	11 metre at 3
2	11.0	11.5	0.5	0.5	0.01	<0.01	
3	11.5	12.0	0.5	0.5	0.19	<0.01	
4	12.0	12.5	0.5	0.5	0.30	0.02	
5	12.5	13.0	0.5	0.5	0.04	<0.01	
6	13.0	13.5	0.5	0.5	0153	0.02	
7	14.82	15.24	0.42	0.42	0.39	0.01	
			= 13.5 metre at 0.358% WO_3				

DRILL LOG

DRILL HOLE No. 429

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
PARIATLLY REPLACED BANDED FOOTWALL BEDS 00 - 15.24 M	The entire length of hole was cored in banded footwall beds which showed varying degrees of replacement. The degree of this replacement is clearly indicated from the assay results.	
	00 - 0.20 Banded Bh/Ph/Ch/Gh Beds are generally approx. 2 cm thick and bedding is at 35° to the core axis. Very minor mineralisation..	
at 0.395% WO_3	0.20 - 4.90 Good replacement - abundant tungsten mineralisation. Banding not so dominant but still visible. 4.0m banding 30°.	
	4.90 = 6.80 Mainly an unreplaced calcite hornfels. No mineralisation. Banding 6.20m - 35°.	
	6.80 - 11.0 Moderate replacement of the marble beds. Banding as follows. 7.5m 35° 8.5m 30° 9.85m 30° 10.50m 35°	
	11.0 - 12.75 Only partially replaced in thin bands up to 5 cm wide. Mostly Ph and Gh. Banding 30° at 11.5m	
	12.75 - 14.85 Biotite pyroxene hornfels. Banding at 30° to core axis. Bedding is mostly thin and generally less than 1 cm thick.	

RILL LOG

DRILL HOLE No. 429

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	14.85 - 15.24 Replaced banded footwall beds. Banding not visible. Abundant tungsten mineralisation.	
	15.24 E.O.H.	

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 429 Date Surveyed 30.4.72

Total Depth 15.24 metre Depth Surveyed To 40 feet.

Casing Depth 10 feet Surveyed By MTD

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
	0	●								
	1	5								
	2	10'								
	3	10'								
	4	20'								
	5	30'								
	6	30'								
	7	40'								
	8	40'								
	9									

REMARKS:-

DRILL HOLE NO. 428

LOCATION: Bench 14 West - Section 14

CO-ORDINATES: 219 536.14E 564 185.36N

R.L.: - 6.25

DATE COMMENCED: 22:4:72

DATE COMPLETED: 23:4:72

TOTAL DEPTH: 21.94

DATA SURVEYED:

LOGGED BY: P.C.

INCLINATION: VERTICAL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS		
		DIAMOND DRILL HOLE NO. 428					
	0 - 9.15m						
B 0531	1.50	2.0	0.5	0.5	0.02	<0.01	
32	2.0	2.5	0.5	0.5	0.31	0.02	0.5m at 0.31%
33	2.5	3.0	0.5	0.5	0.07	<0.01	
34	3.0	3.5	0.5	0.5	0.04	<0.01	
35	3.5	4.0	0.5	0.5	0.19	0.01	
36	4.0	4.5	0.5	0.5	0.26	0.02	
37	4.5	5.0	0.5	0.5	0.17	0.01	
38	5.0	5.5	0.5	0.5	0.28	0.02	
39	5.5	6.0	0.5	0.5	0.02	0.02	
B 0540	6.0	6.5	0.5	0.5	0.41	0.03	1.0 m at 0.38%
41	6.5	7.0	0.5	0.5	0.35	0.02	1.0 m at 0.38%
42	7.0	7.5	0.5	0.5	0.01	<0.01	
43	7.5	8.0	0.5	0.5	0.01	<0.01	
	9.15 - 10.92						
B 0544	10.5	11.0	0.5	0.5	0.02	<0.01	
	10.92 - 13.62						
B 0545	11.0	11.5	0.5	0.5	0.04	<0.01	
46	11.5	12.0	0.5	0.5	0.09	<0.01	
47	12.0	12.5	0.5	0.5	0.22	0.02	
48	12.5	13.0	0.5	0.5	0.69	0.04	1.0 m at 0.66%
B 0549	13.0	13.5	0.5	0.5	0.50	0.03	at 0.66%
	13.62 - 21.95						
B 0551	13.5	14.0	0.5	0.5	0.24	0.02	
B 0552	16.0	16.5	0.5	0.5	0.05	0.01	
3	17.5	18.0	0.5	0.5	0.36	0.02	0.5m at 0.36%
4	18.0	18.5	0.5	0.5	0.06	0.01	

SHEET No. [illegible]

RILL LOG — DRILL HOLE No. 428

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
PYROXENE-GARNET HORNFELS-PYROXENE - GARNET SKARN 00→9.15 m	Typical "PGh" medium to coarse grain garnet pyroxene matrix containing rounded calcite fragments up to 6 cm in diamter. Coarse scheelite crystals present in ovoids to a limited extent. Grades into coarser garnet-pyroxene-calcite skarn at 3.66 with calcite ovoids largely replaced, Scheelite mineralisation throughout but in coarse crystals and patchy, being richest from 3.66 - 4.11, 4.70 - 5.08, 6.05 - 6.26, 6.72 - 6.88. At 7 metres a less coarse grained pyroxene-garnet skarn poor in calcite and barran of scheelite. This grades into pyroxene-garnet hornfels at 8.24 : this consists of medium grained pyroxene hornfels matrix with numerous small grossular rimmed calcite pods.	
BIOTITE AND PYROXENE HORNFELS 9.15 - 10.92	Very fine grain dark grey-black biotite hornfels with one irregular light green pyroxene hornfels band. 9.66 - 10.52 core is highly jointed and broken. Angle of bedding to core axis is 40°.	
GARNET-PYROXENE SKARN 10.92 - 13.62	Pyroxene-grossular hornfels grades down into garnet- pyroxene skarn at 11.18 which contains interstitial calcite and irregular small calcite pods. Scheelite is present from 11.50 but is patchy up to 12.10 from where it is fairly continuous in the dissemination to 13.62.	
UNREPLACED C LENS MARBLE 13.62 - 21.95	At 13.62 laminations become obvious and grain size gradually decreases. 13.62 - 14.90 is laminated pyroxene-grossularite hornfels poor in scheelite. 14.90 - 16.76 the core consists of fine grain biotite hornfels with pyroxene rimmed interbeds of grossularite andradite hornfels. These beds mostly about 20 cm thick 16.12 - 16.42 is band rich in finely disseminated	

RILL LOG

DRILL HOLE No.

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	scheelite. 16.76 - 16.42 is band rich in finely interbedded pyroxene-grossularite-biotite hornfels. Bedding at 40° to core axis. 19.05 - 21.95 medium grain light grey calcite hornfels with small amounts of pyroxene grossularite. Highly competent, slightly laminated, barren of scheelite.	
	21.95 END OF HOLE	

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 428 Date Surveyed 24. 4. 72

Total Depth 72' Depth Surveyed To 72'

Casing Depth 12' Surveyed By PC

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
1	0	S								
2	1	[illegible]								
3	2	S								
4	3	S								
5	4	N	[illegible]							
6	5	10	1½°	N 75E						
7	6	20	1½°							
8	7	30	1½°	N 65E						
9	8	40	1½°	N 65E						
10	9	50	1½°	N 75E						
4	10	60	1½°							
12	11	72	"	N 75E						
13	12	72	"	N 75E						
14	13	72	"	N 75E						
15	14	50								
16	15	30								
17	16	10								
18	17	S								
19	18	S								
20	19									
21	20									
22	21									

REMARKS:- film under-developed. Deflection and direction readings hard to accurately read

DIAMOND DRILL HOLE NO. 427

LOCATION: 14 Bench West - Section 14

CO-ORDINATES: 564 175.15N 219 532.65E

R.L. - 6.62m

DATE COMMENCED: 18:4:72

DATE COMPLETED: 21:4:72

FINAL DEPTH 46.02

DATE SURVEYED:

LOGGED BY P.C.

INCLINATION -83°

Bearing 19° 20'

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 427

Logged By : P.C.

Sample No.	FOOTAGES (m)			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
10	25.0	25.5		0.31	0.01	0.508	
1	25.5	26.0		0.13	<0.01		
2	26.0	26.5		0.01	<0.01		
3	26.5	27.0		0.10	<0.01		
4	27.0	27.5		0.07	<0.01		
5	27.5	28.0		0.37	<0.01	0.606	1m at 0.33
6	28.0	28.5		0.28	<0.01	0.459	
7	28.5	29.0		0.02	<0.01		
8	29.0	29.5		0.01	<0.01		
9	29.5	30.0		<0.01	<0.01		
20	30.0	30.5		<0.01	<0.01		
1	30.5	31.0		0.01	<0.01		
2	31.0	31.5		0.01	<0.01		
3	31.5	32.0		0.01	<0.01		
4	32.0	32.5		0.60	0.01	0.984	
5	32.5	33.0		0.70	<0.01	1.148	1.5m at 0.55
6	33.0	33.5		0.35	<0.01	0.574	
7	33.5	34.0		<0.01	<0.01		
8	34.0	34.5		0.03	<0.01		
9	34.5	35.0		0.01	<0.01		
30	35.0	35.5		<0.01	<0.01		

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS			
		DIAMOND DRILL HOLE 427						
	0	16.30						
B 0122	6.0	6.5	0.5	0.5	0.01	<0.01		
3	6.5	7.0	0.5	0.5	0.03	<0.01		
4	7.0	7.5	0.5	0.5	0.11	<0.01		
5	7.5	8.0	0.5	0.5	0.01	<0.01		
6	8.0	8.5	0.5	0.5	0.01	<0.01		
7	8.5	9.0	0.5	0.5	0.01	<0.01		
8	9.0	9.5	0.5	0.5	0.02	<0.01		
9	9.5	10.0	0.5	0.5	0.02	<0.01		
B 0130	10.0	10.5	0.5	0.5	0.01	<0.01		
31	10.5	11.0	0.5	0.5	0.01	<0.01		
32	11.0	11.5	0.5	0.5	0.01	<0.01		
33	11.5	12.0	0.5	0.5	0.01	<0.01		
34	12.0	12.5	0.5	0.5	0.01	<0.01		
35	12.5	13.0	0.5	0.5	0.06	<0.01		
36	13.0	13.5	0.5	0.5	0.26	<0.01		
37	13.5	14.0	0.5	0.5	0.01	<0.01		
38	14.0	14.5	0.5	0.5	0.11	<0.01		
B 0139	14.5	15.0	0.5	0.5	0.05	<0.01		
40	15.0	15.5	0.5	0.5	0.13	<0.01		
41	15.5	16.0	0.5	0.5	0.01	<0.01		
42	16.0	16.5	0.5	0.5	0.01	<0.01		
	16.30	27m						
43	16.5	17.0	0.5	0.5	0.01	0.01		
44	17.0	17.5	0.5	0.5	0.05	0.01		
45	17.5	18.0	0.5	0.5	0.01	0.01		
46	18.0	18.5	0.5	0.5	0.80	0.01		
47	18.5	19.0	0.5	0.5	0.53	0.01		
48	19.0	19.5	0.5	0.5	0.70	0.01		
49	19.5	20.0	0.5	0.5	0.42	0.01		
B 0150	20.0	20.5	0.5	0.5	0.12	<0.01		
B 0501	20.5	21.0	0.5	0.5	0.21	<0.01		

DRILL LOG

DRILL HOLE No. 427

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
PYROXENE - GARNET HORNFELS 00 — 16.30	0 - 3m siliceous light green-grey hornfels irregularly intermixed with darker green-grey hornfels (Bh). Numerous calcite ovoids, with pyrrbottite, up to 6 cm in diameter throughout light green hornfels. Grossular garnet common in pods after 3.30m and dark grey hornfels not present. Specks of scheelite present after 6.03m, barren above this. After 6.03m core becomes much more garnet (typical PGh). Scheelite rich patch 7.20 to 7.41m. 7.91-99 patch of coarse andradite skarn. Core predominantly pyroxene hornfels with grossular rimmed calcite pods. 11.82 - 13.40 is medium grain garnet hornfels with small amounts of pyroxene, calcite in the matrix. Poor in scheelite. Disturbed chloritic-calcite zone 13.40-13.90. 13.90 - 16.30 typical PGh with patchy scheelite mineralisation 14.83 - 14.94, 15.28- 15.33, 15.74- 15.99. Boundary with C lens not clear.	
GARNET-PYROXENE SKARN 16.30 — 27.00	Garnet with small amount of pyroxene and calcite in matrix. Pods of calcite common and resemblance to PGh texture remains. Scheelite mineralisation, slightly patchy, continuous from 18.78. 16.30 - 18.78 contains irregular small amounts of scheelite with richer patch at 18.03. Narrow beds of biotite and pyroxene hornfels, 65° to core axis, at 23.82, 24.35, 24.90-25.45 is patchy skarn and pyroxene hornfels with small patches of MoS_2 at 25.50, 25.64 in pyroxene hornfels.	

GEOPEKO LIMITED, KING ISLAND — DIAMOND DRILL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS		
B050 2	21.0	21.5	0.5	0.5	1.11	0.02	
3	21.5	22.0	0.5	0.5	1.41	0.05	5m at 0.61%
4	22.0	22.5	0.5	0.5	0.42	0.02	
5	22.5	23.0	0.5	0.5	0.88	0.01	
6	23.0	23.5	0.5	0.5	0.01	<0.01	
7	23.5	24.0	0.5	0.5	0.01	<0.01	
8	24.0	24.5	0.5	0.5	0.06	<0.01	
9	24.5	25.0	0.5	0.5	0.03	<0.01	
B 0510	25.0	25.5	0.5	0.5	0.31	0.01	0.5m at 0.31%.
11	25.5	26.0	0.5	0.5	0.13	<0.01	
12	26.0	26.5	0.5	0.5	0.01	<0.01	
13	26.5	27.0	0.5	0.5	0.10	<0.01	
14	27.0	27.5	0.5	0.5	0.07	<0.01	
	27. - 32m						
B 0515	27.5	28.0	0.5	0.5	0.37	<0.01	0.5m at 0.37%.
16	28.0	28.5	0.5	0.5	0.28	<0.01	
17	28.5	29.0	0.5	0.5	0.02	<0.01	
18	29.0	29.5	0.5	0.5	0.01	<0.01	
19	29.5	30.0	0.5	0.5	<0.01	<0.01	
B 0520	30.0	30.5	0.5	0.5	<0.01	<0.01	
21	30.5	31.0	0.5	0.5	0.01	<0.01	
22	31.0	31.5	0.5	0.5	0.01	<0.01	
23	31.5	32.0	0.5	0.5	0.01	<0.01	
	32 - 33.36						
B 0524	32.0	32.5	0.5	0.5	0.60	0.01	
25	32.5	33.0	0.5	0.5	0.70	<0.01	1.5m at 0.55%
26	33.0	33.5	0.5	0.5	0.35	<0.01	
27	33.5	34.0	0.5	0.5	<0.01	<0.01	
	33.36 - 46.02						
28	34.0	34.5	0.5	0.5	0.03	<0.01	
29	34.5	35.0	0.5	0.5	0.01	<0.01	
B 0530	35.0	35.5	0.5	0.5	<0.01	<0.01	

DRILL LOG

DRILL HOLE No. 427

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
MARKER BEDS 27.0 – 32.0 m	Laminated fine grain impure calcite hornfels, green-grey with numerous pyroxene-garnet bands and patchy scheelite mineralisation up to 28.75. Then light grey fairly pure Ch, with very little scheelite. 30.48 to 31.12 medium grain biotite pyroxene hornfels, 31.12-32 is medium grain calcite hornfels bounded by narrow garnet-pyroxene hornfels bands.	
GARNET PYROXENE SKARN 32.0 – 33.36 m	Garnet pyroxene skarn showing some lamination with interstitial calcite and patchy scheelite mineralisation.	
UNREPLACED C LENS 33.36 – 46.02 m	Fine to medium grain light grey calcite hornfels with garnet pyroxene skarn band, with scheelite from 34.08 - 34.16. Occassional grossular rimmed pyroxene, biotite hornfels bands up to 6 cm thick becoming more frequent towards end of hole. Angle of bedding with core axis is 60°.	
	END OF HOLE 46.02m	

DDH 427

SCALE 1:500

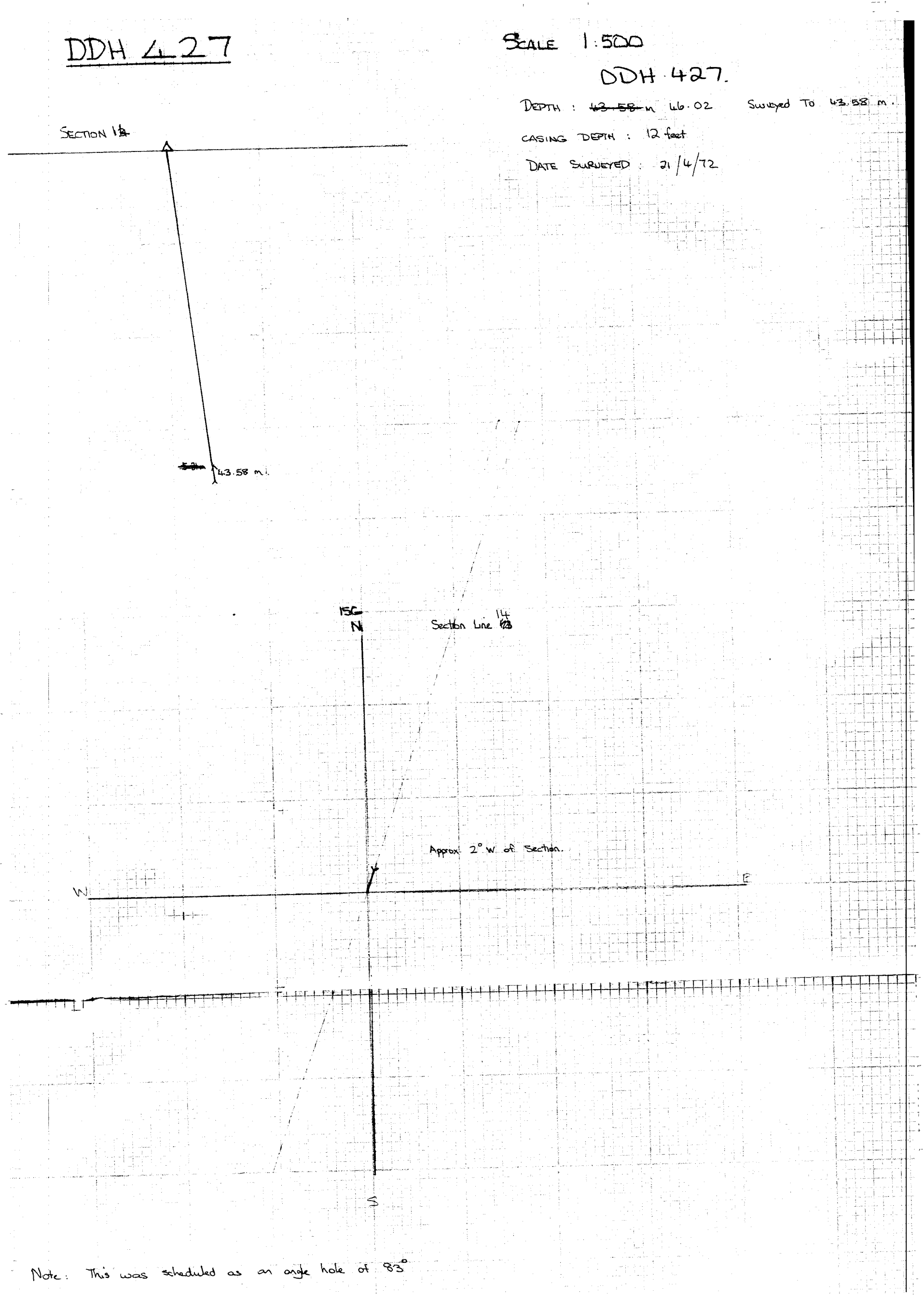
DDH 427.

DEPTH : ~~43.58 m~~ 46.02 Surveyed To 43.58 m.

CASING DEPTH : 12 feet

DATE SURVEYED : 21/4/72

SECTION 1~~B~~



Note: This was scheduled as an angle hole of 83°

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 427 Date Surveyed 21/4/72

Total Depth 151 Depth Surveyed To 143'

Casing Depth 10 Surveyed By RB/RC.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
1	—	●				21	120	7½	N8E
2	0	●				22	110 110	7	N 5E
3	1	●				23	100 M ?	7½	N 10 E
4	2	M				24	90 80? M ?	7½	N 10 E
5	3	M				25	70 60	7	N 10E
6	4	10	7°	N 8°E		26	50 40	7½	N 8 E
7	5	20	7½°	N 8°E		27	30 20 M ?	7	
8	6	30 30	7½°	N 8°E		28	10 10	7	N 10E
9	7	40 40	7½°	N 8°E		29	Surface		
10	8	50 M	7½°	N 5°E		30	Surface		
11	9	60 60	7½°	N 8°E		31	surface		
12	10	70 M	7°	N 9°E		32	●		
13	11	80 80	7°	N 9°E		33			
14	12	90 90	7½°	N 12°E		34			
15	13	100 100	7½°	N 10E		35			
	14	110	7°	N 11°E		36			
	15	M	7½°	N 10E		37			
	16	130	7°	N 8E		38			
	17	143	7°	N 6E		39			
	18	143	7	N 6E		40			
	19	143	7	N 8E					
	20	130 120?	7½	N 10E					

DIAMOND DRILL HOLE NO. 426.

LOCATION: Bench 15 HW - Section 14

CO-ORDINATES: 219 544.24E 564 207.84N

R.L. : - 18.35m

DATE COMMENCED 16:5:72

DATE COMPLETED 18:5:72

FINAL DEPTH 24.68

DATE SURVEYED 19:5:72 by P. Cottam

LOGGED BY: M.J.D.

INCLINATION - 45°

GEOPEKO LIMITED, KING ISLAND — DIAMOND DR

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS	
	d DIAMOND DRILL LOG NO. 426				WO₃	
B 0710	1.5	2.0	0.5		.13	
1	2.0	2.5	0.5		.12	
2	2.5	3.0	0.5		.47	1.5m at
3	3.0	3.5	0.5		.40	0.46
4	3.5	4.0	0.5		.57	1.5m at 0.48%
5	4.0	4.5	0.5		.23	
6	4.5	5.0	0.5		.09	
7	5.0	[illegible]	[illegible]		.15	
8	[illegible]	[illegible]	[illegible]		.28	
9	6.0	6.5	0.5		.31	2.0 m at
20	6.5	7.0	0.5		1.17	0.57
1	7.0	7.5	0.5		.51	1.5m at 0.66%
2	7.5	8.0	0.5		.12	
3	8.0	8.5	0.5		.03	
4	8.5	9.0	0.5		.21	
5	9.0	9.5	0.5		.62	
6	9.5	10.0	0.5		1.08	2.5m at
7	10.0	10.5	0.5		.37	0.97
8	10.5	11.0	0.5		.76	2.5m at 0.67%
9	11.0	11.5	0.5		.50	
30	11.5	12.0	0.5		.22	

) DRILL LOG

DRILL HOLE No. 426

UNIT	GEOLOGICAL DESCRIPTION	FRACTURIN
PARTIALLY RE-PLACED BANDED FOOTWALL BEDS oo – 24.68	Partially mineralised biotite pyroxene calcite hornfels. Banding measured with respect to the long axis of the core is. 2.0m 35° 3.0m 40° 5.0m 90° 6.0m 70° 9.0m 75° Calcite cemented breccia from 12.7 - 13.0m 14.64 - 15.24 "Crumbly, gritty", weathered skarn. Major mineralised zones are 2.7m - 4.3 5.8m - 7.8 8.7 - 11.7 coc assays 11.7 - 12.5 unreplaced banded hornfels. Banding Boundary at 70-75° to core axis. Bands up to 1 cm wide. 12.5-20.54 barren skarn with banding at 80° to core axis. Fault 1.3m core lost 20.8-22.10m. 22.10 - 23.0 crumbly weathered skarn 23.0 - 24.5 brecciated biotite hornfels 24.5 -24.68 crumbly weathered skarn 24.68m END OF HOLE	

No. 1 Orebody

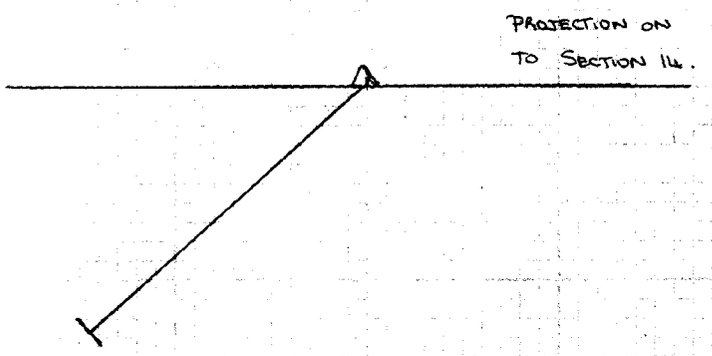
D.D.H. 426

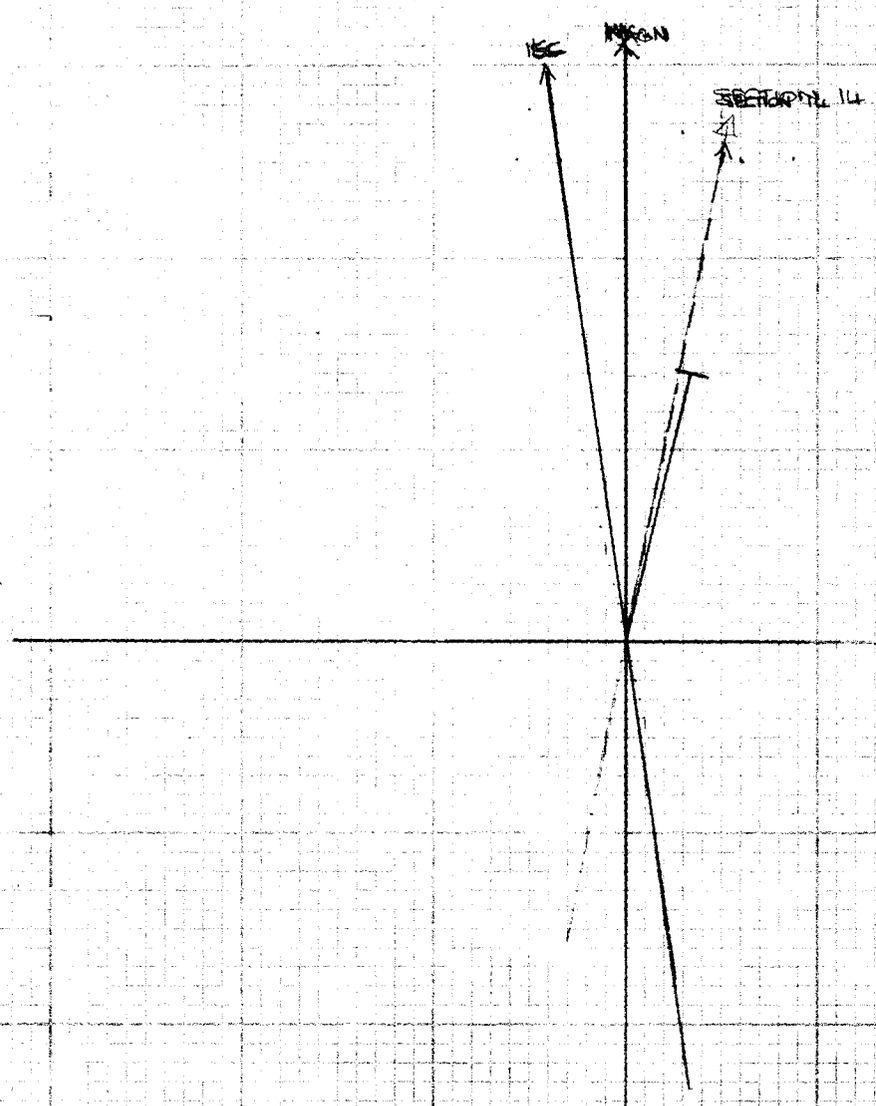
Planned Inclination to Vertical = 45°

Actual = 48°

DEPTH = 24.688 m

SURVEYED BY P.C. 19.5.72





DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 426 Date Surveyed 19.5.72

Total Depth 81' Depth Surveyed To 81'

Casing Depth 5' Surveyed By S.C.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
0	0	●				21	5			
1	0	●				22	5			
2	1	5				23	5			
3	2	5				24	●			
4	3	10								
5	4	10								
6	5	10								
7	6	M								
8	7	30								
9	8	50								
10	9	50								
11	10	70	48	N13E						
12	11	70	48	N13E						
13	12	81	48	N13E						
14	13	81	48	N13E						
	14	81	48	N13E						
	15	70	48	N13E						
	16	50								
	17	M								
	18	30								
	19	10								
	20	10								

REMARKS:- ISG north = 8° W of magnetic north

direction
~~deflect~~ = 21° E of ISG = 2° E of section

deflection 4 is 48° from vertical ie. 42° from horizontal and 3° steeper than planned.

film came out lousy

$81 \times 0.3048 \times \sin 42^\circ = 18.3462$

81 feet = 24.6888 m

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS	
	DIAMOND DRILL HOLE 425					
	0.00	13.25				
	13.25	17.30				
	17.30	23.15				
	23.15	24.00				
	24.00	26.30				
	26.30	29.25				
	29.25	36.00				
	36.00	45.50				
	45.50	48.20				
	48.20	50.20				
	48.50	49.00	0.50	0.50	0.19	0.01
	49.00	49.50	0.50	0.50	0.30	0.01
	49.50	50.00	0.50	0.50	0.04	0.01
	50.20	54.40				
	53.50	54.50	1.00	1.00	0.38	0.01
	54.40	54.85				
	54.50	55.00	0.50	0.50	1.22	0.03
	54.85	55.60				

DRILL LOG DRILL HOLE No. : 425

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
SPOTTED HORNFELS	Spotted blue-grey Hornfels Spots 2-5mm diameter. Core highly fractured along well developed joints - brittle fracture rare. Joints calcite coated.	10, 22, 45 55, 65 82
	Biotite Hornfels massive, fine grained occasionally with pyroxene and/or grossularite Well jointed but less fractured than above.	68, 55 32
	Spotted Hornfels as previous but spots less distinct, and occasionally incipient in fine grained matrix.	40, 45 70, 65 25, 15
	Biotite Hornfels Massive fine grained.	
	Spotted Hornfels Spotting indistinct but highlighted when etched. Core more competent though jointing still well developed.	
	Biotite Hornfels Massive, fine grained, well jointed.	
B. LENS	Banded Hornfels Medium grained, Mottled, grey-green hornfels, which shows faint banding at 60°. Joints well developed - chlorite coated.	
	Banded bh/Ph Fine grained biotite hornfels with occasional pyroxene hornfels bands at 56°. Minor garnet develonement. Occasionally very minor scheelite. Fabric becomes chaotic after 44 metres - bands now fragmental or streaked out. Small 5 c.m patches of garnet skarn occur in this zone.	
	Spotted Biotite-quartz Hornfels Very hard and siliceous. Spotting generated by biotite clotting. Rich in pyrite. Very fractured along irregular joints. Bedding absent.	
	Pyroxene-grossular hornfels Stucturally chaotic. Local develonement of andradite skarn with occasional specks of scheelite	
	Biotite Hornfels Fairly coarse grained at first becoming later siliceous	
	Hybrid Rock Mainly grossular and pyroxene, andradite skarn locally intermixed . Good disseminated scheelite.	
	Marble Fine grained. Distinctly banded at 42°	

GEOPEKO LIMITED, KING ISLAND. DIAMOND DR

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS				
	55..60	55.90							
	55.00	56.00	1.00	1.00	0.05	0.01			
	55.90	57.44							
	56.00	56.50	0.50	0.50	0.92	0.03			
	56.50	57.00	0.50	0.50	0.04	0.01			
	57.00	57.50	0.50	0.50	0.13	0.01			
	57.44	64.45							
	64.45	71.68							
	64.50	65.00	0.50	0.50	1.31	0.03			
	65.00	65.50	0.50	0.50	4.20	0.14			
	65.50	66.00	0.5	0.5	1.25	0.03			
	66.00	66.50	0.50	0.50	0.19	0.01			
	66.50	67.00	0.50	0.50	14.70	0.36			
	67.00	67.50	0.40	0.50	2.70	0.09			
	67.50	68.00	0.50	0.50	4.70	0.13			
	68.00	68.50	0.50	0.50	0.31	0.01			
	68.50	69.00	0.50	0.50	7.50	0.18			
	69.00	69.50	0.50	0.50	1.31	0.03			
	69.50	70.00	0.50	0.50	3.00	0.07			
	70.00	70.50	0.50	0.50	6.90	0.14			
	70.50	71.00	0.50	0.50	5.50	0.11			
	71.00	71.50	0.50	0.50	0.28	0.01			
	71.68	72.68							
	72.68	73.30							
	73.30	74.45.							
	74.45	76.37							
	76.37	76.83							
	76.83	77.80							
	77.80	80.00							

UNIT	GEOLOGICAL DESCRIPTION	RECOVERY
	Aplite White quartz rock speckled with biotite	
	Marble Banding at 60°. Some pyroxene skarn zones with good disseminated scheelite.	
~~Biotit~~	Biotite hornfels Black and fine grained with horizons showing a distinctly planar sheared texture. Boundaries of these horizons ragged and diffuse. Aplite at 58.8 (4 cm) and 59.6 (15 cm).	
	Hybrid Rock Mainly pyroxene, garnet, scheelite and quartz. Very rich in coarse scheelite, crystals up to 4 cm across. Fabric completely chaotic - evidently mechanically mixed prior to diagenesis and metasomatism. Quartz occurs in irregular pervasive veins. Intermittent skarn is is developed often hosting coarse scheelite. Texture becomes semi schistose towards the base.	
HANGINGWALL HORNFELS	Chlorite-muscovite schist with clots of quartz distorting the lamellae. Hybrid leucocratic fine grained rock mainly biminerallic. Interlocking texture . Pyroxene -mica hornfels coarse grained crystalline rock with quartz and coarse scheelite crystals. Quartzite White-cream coloured rock with a streaky fabric. A dark mineral, possibly chlorite, spotted or intermixed throughout. Biotite - quartz hornfels Massive and fine grained. Quartz - pyroxene hornfels Hard, random intermixing. Biotite - quartz hornfels Homogeneous, massive rock becoming highly siliceous towards base.	

GEOPEKO LIMITED, KING ISLAND. DIAMOND DI

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS	
	80.00	81.00				
	81.00	81.70				
	81.70	84.00				
	84.00	84.65				
	84.65	85.00				
	85.00	86.25				
	86.25	87.30				
	87.30	87.66				
	87.66	88.55				
	88.55	89.64				
	89.64	90.90				
	90.90	91.15				
	91.15	92.30				
	92.30	105.50				
	103.00	103.50	0.50	0.50	0.45	0.01
	103.50	104.00	0.50	0.50	1.30	0.01
	104.00	104.50	0.50	0.50	0.04	0.01
	104.50	105.00	0.50	0.50	0.03	0.01
	105.00	105.50	0.50	0.50	0.02	0.01
	105.50	106.80				
	105.50	106.00	0.50	0.50	1.04	0.02
	106.00	106.50	0.50	0.50	0.35	0.01
	106.50	107.00	0.50	0.50	0.19	0.01
	106.80	108.80				
	107.00	108.00	1.00	1.00	0.06	0.01
	108.00	109.00	1.00	1.00	0.99	0.02.
	108.80	109.42				
	109.00	109.50	0.50	0.50	0.03	0.01
	109.42	110.07				
	109.50	110.00	0.50	0.50	4.70	0.11

DRILL LOG

DRILL HOLE No. 425

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	Quartzite with interbedded bh.	
	Quartz possibly intrusive with inclusions of bh. Boundaries diffuse.	
	Quartz-biotite hornfels sheared texture developed after 83.65.	
	Intrusive material massive, pink (K felspar?)	27
	Contains quartz-mica zones with rounded felspar crystals.	
	Biotite hornfels fine grained with a 6 cm band of dirty grey quartz showing reaction features along boundaries and dislocated along a joint direction.	
	Massive quartz felspar rock diffuse relation between the two minerals. Some zones K felspar only with quartz veins carrying pyrite.	
	Biotite Hornfels with quartz felspar zones.	
	Quartz felspar rock with diffuse boundaries.	
	Clotted Biotite hornfels Some lineation evident.	
	Quartzite highly jointed and fragmented	
	Spotted Quartzite Highly fragmented	
	Aplite	
	Quartzite with 10 cm zone of bh.	
	Biotite Hornfels Medium grained, very soft showing lamination in parts. Often clotted with segregations of quartz.	
	Breccia at 98.40 - core heavily broken down	
	Small shear at 101.70. Otherwise core fairly competent, though well jointed along planar structures at 50°	
C LENS	Garnet Skarn very impure and patchy.	
	Strongly sheared along joints. Fair disseminated scheelite.	
BANDED FOOTWALL BEDS	Banded Pyroxene -Garnet Hornfels (grossular)	
	Very disseminated but competent.	
	Biotite-Pyroxene Hornfels Evenly banded	55
	strong fracture along bedding planes (55°)	
	Last 20 cm strongly disturbed.	
	Andradite Skarn Massive with disseminated scheelite	

GEOPEKO LIMITED, KING ISLAND. DIAMOND DR

SAMPLE NO.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS			
	110.07	112.43						
	110.00	111.00	1.00	1.00	0.14	0.01		
	112.43	115.80						
	115.80	117.30						
	117.30	119.25						
	119.25	122.20						
	122.20	126.20						
	126.20	127.80						
	127.80	137.06						
	137.06	139.20						
	139.20	142.15						
	142.15	147.02						

DRILL LOG

DRILL HOLE No. 425

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	Biotite-Pyroxene Hornfels with garnet, calcite and bands. Evenly banded.	
BIOTITE-PYROXENE HORNFELS	Biotite Pyroxene Hornfels evenly banded and fractured at 75°.	
	Biotite Pyroxene Hornfels banding now seriously disturbed. Incorporates zones of pyroxene and garnet hornfels. Fabric chaotic throughout.	
	Biotite Pyroxene Hornfels evenly banded at 85°.	
	Biotite Pyroxene Hornfels strongly disturbed	
	Biotite Pyroxene Hornfels evenly banded but angle varies 35° to 78°	
OLDER VOLCANICS	Older Volcanics Grey-black medium grained crystalline rock.	
BIOTITE PYROXENE HORNFELS	Biotite Pyroxene Hornfels with occasional grossularite bands. Skarn with disseminated scheelite developed at 134.70 - 134.80 and 135.76 - 135.84	
OLDER VOLCANICS	Older Volcanics as above	
	Biotite Hornfels fine grained, very competent at first then highly fractured.	
QUARTZITE	Quartzite Often spotted (chlorite) Highly fractured. Small fault zone at 144.85.	
	END OF HOLE 47.02 m	

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 425

Logged By: P.H. FEE

	Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
		From	To	Length	WO_3	Mo		
	B 0086	48.5	49.0	0.5	0.19	0.01		
	87	49.0	49.5	0.5	0.30	0.01	0.492	
	88	49.5	50.0	0.5	0.04	0.01		
	89	53.50	54.50	1.0	0.38	0.01	1.246	
	90	54.5	55.0	0.5	1.22	0.03	2.001	
	91	55.0	56.0	1.0	0.05	0.01		
	92	56.0	56.5	0.5	0.92	0.03	1.509	
	93	56.5	57.0	0.5	0.04	0.01		
	94	57.0	57.5	0.5	0.13	0.01		
	95	64.5	65.0	0.5	1.31	0.03	2.148	
	96	65.0	65.5	0.5	4.20	0.14	6.889	
	97	65.5	66.0	0.5	1.25	0.03	2.050	
	98	66.0	66.5	0.5	0.19	0.01	0.311	
	99	66.5	67.0	0.5	14.70	0.36	24.113	
	B 0100	67.0	67.5	0.5	2.70	0.09	4.429	B lens
	101	67.5	68.0	0.5	4.70	0.13	7.709	7m @ 3.84% WO_3
	102	68.0	68.5	0.5	0.31	0.01	0.508	
	103	68.5	69.0	0.5	7.50	0.18	12.303	
	104	69.0	69.5	0.5	1.31	0.03	2.148	
	105	69.5	70.0	0.5	3.00	0.07	4.921	
	106	70.0	70.5	0.5	6.90	0.14	11.318	
	107	70.5	71.0	0.5	5.50	0.11	9.022	
	108	71.0	71.5	0.5	0.28	0.01	0.459	
	109	103.0	103.5	0.5	0.45	0.01	0.738	C lens
	110	103.5	104.0	0.5	1.30	0.01	2.132	1m @ 0.87
	111	104.0	104.5	015	0.04	0.01		
	112	104.5	105.0	0.5	0.03	0.01		
	113	105.0	105.5	0.5	0.02	0.01		
	114	105.5	106.0	0.5	1.04	0.02		
	115	106.0	106.5	0.5	0.35	0.01	0.574	
	116	106.5	107.0	0.5	0.19	0.01		
	117	107.0	108.0	1.0	0.06	0.01		
	118	108.0	109.0	1.0	0.99	0.02	3.247	
	119	109.0	109.5	0.5	0.03	0.01		
	120	109.5	110.0	0.5	4.70	0.11	7.709	
	121	110.0	111.0	1.0	0.14	0.01		

DDH 425

R.L. = 5·29 m
Scale = 1:500

Section
1 North

Section
564120 N. 1SG

5·29 metres

482'

146·9 m

SECTION N

MA
N

1SG

[redacted]

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 425 Date Surveyed 18/12/71

Total Depth 482'4" Depth Surveyed To 350'

Casing Depth 10' Surveyed By PH.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
	44	350	5°30	72° SW	6	66	80			
	45	350	5°30	72° SW		67	60			
	46	350	5°30	72° SW		68	40			
	47	350	5°30	72 SW		69	20			
	48	M				70	M			
	49	320	5°00	73 SW		71	M			
	50	M				72	M			
	51	300	5°00	70 SW		73	O			
	52	280	4°45	72 SW		74				
	53	M				75				
	54	260	4°30	75 SW		76				
	55	240	4°30	77 SW		77				
	56	230	4°30	76 SW		78				
	57	M				79				
	58	200	4°15	77 SW		80				
	59	M				81				
	60	180	3°30	77 SW		82				
	61	160				83				
	62	M				84				
	63	140	3°15	80° SW		85				
	64	120				86				
	65	100				87				

REMARKS:- Insufficient film loaded. No shots after time 63.

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 425 Date Surveyed 13/12/71

Total Depth 482' 4" Depth Surveyed To 380'

Casing Depth 10' Surveyed By PHPL

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
	00	0				22	180	3°30	77 SW
	01	0				23	(M)		
	02	M				24	M		
	03	M				25	190		
	04	M				26	M		
	05	M				27	200	4°30	78 SW
	06	10'				28	210		
	07	M				29	220	4°30	78 SW
	08	30	1°15	62 SW		30	M		
	09	M				31	240	4°30	78 SW
	10	50	2°15	65 SW		32	M		
	11	60	2°30	67 SW		33	260	4°30	77 SW
	12	M				34	M		
	13	80	2°48	71 SW		35	280	4°45'	72 SW
	14	M				36	M		
	15	100	3°00	71 SW		37	300	5°	71 SW
	16	M				38	M		
	17	120	3°15	78 SW		39	320	5°	78° SW
	18	140	3°30	79 SW		40	M		
	19	M				41	340	5°	72 SW
	20	160	3°30	80 SW		42	M		
	21	M				43	M		

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 425 Date Surveyed _____

Total Depth 482 Depth Surveyed To _____

Casing Depth _____ Surveyed By _____

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords N/S	Sum of Co-Ords E/W
30	1 15		9998/0218	29.994	29.994	0.654	—		4926/9863				
50	2 15		9992/0393	49.992	49.99	0.786	S 65 W		4226/9063	0.33	0.72	0.33	0.72
60	2 30		9990/0436	59.990	59.98	0.436	S 67 W		3907/9205	0.17	0.41	0.50	1.13
80	2 45		9988/0480	79.976	79.95	0.96	S 71 W		3256/9455	0.31	0.91	0.81	2.04
100	3 00		9986/0528	99.972	99.92	1.05	S 71 W		3256/9455	0.34	0.99	1.15	3.03
120	3 15		9984/0567	119.968	119.892	1.13	S 75 W		2588/9659	0.29	1.09	1.44	4.12
[redacted]	3 30		9981/0610	139.962	139.85	1.22	S 79 W		1908/9816	0.23	1.19	1.67	5.31
160	3 30		9981/0610	159.962	159.82	1.22	S 80 W		1736/9848	0.21	1.20	1.88	6.51
180	3 30		9981/0610	179.962	179.78	1.22	S 77 W		2250/9744	0.27	1.19	2.15	7.70
200	4 30		9969/0785	199.938	199.72	1.57	S 78 W		2079/9781	0.33	1.54	2.48	9.24
220	4 30		9969/0785	219.938	219.65	1.57	S 79 W		2079/9781	0.33	1.54	2.81	10.78
240	4 30		9969/0785	239.938	239.59	1.57	S 78 W		2079/9781	0.33	1.54	3.14	12.32
260	4 30		9969/0785	259.938	259.53	1.57	S 77 W		2250/9744	0.35	1.53	3.49	13.85
280	4 45		9966/0828	279.932	279.46	1.66	S 72 W		3090/9511	0.51	1.58	4.00	15.43
300	5 00		9962/0872	299.924	299.38	1.74	S 71 W		3256/9455	0.57	1.65	4.57	17.08
320	5 00		9962/0872	319.924	319.31	1.74	S 73 W		2924/9563	0.51	1.66	5.08	18.74
340	5 00		9962/0872	339.924	339.23	1.74	S 72 W		3090/9511	0.54	1.65	5.62	20.39
350	5 30		9954/0958	349.908	349.14	1.92	S 72 W		3090/9511	0.59	1.83	6.21	22.22
480	6 00		9945/1045	129.28	13.58	13.58	72		3090/9511	4.19	12.92	10.41	35.24

GEOPEKO LIMITED, KING ISLAND. DIAMOND DRILL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS					
		DIAMOND DRILL HOLE		424						
	0.00	2.00								
	2.00	7.50								
	7.50	12.00								
	12.00	16.91	4.41	2.28						
	16.91	24.75								
	24.75	26.80								
B 0006	25.00	26.00	1	1	0.05	0.01				
07	26.00	27.00	1	1	0.04	0.01				
	26.80	27.80								
08	27.00	28.00	1	1	0.03	0.01				
	27.80	28.80								
09	28.00	28.50	0.5		0.03	0.01				
B 0010	28.50	29.00	0.5		0.20	0.01				*
	28.80	30.45								
11	29.00	29.50	0.5		0.04	0.01				
12	29.50	30.00	0.5		0.06	0.01				
13	30.00	30.50	0.5		0.03	0.01				
	30.45	31.40								
14	30.50	31.00	0.5		0.41	0.01				
15	31.00	31.50	0.5		0.66	0.02				
	31.40	32.25								
16	31.50	32.00	0.5		0.03	0.01				
17	32.00	32.50	0.5		0.12	0.01				
	32.50	36.12								
18	32.50	33.00	0.5		0.04	0.01				
19	33.00	34.00	1		0.04	0.01				
	36.12	45.28								

GEOPEKO LIMITED, KING ISLAND. DIAMOND DRILL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS
	45.28	49.00			
	48.00	51.00			
	51.00	52.43			
	52.43	66.90			
	66.90	68.00			
	68.00	75.59			

) DRILL LOG

DRILL HOLE No. 424

UNIT	GEOLOGICAL DESCRIPTION	FRACTURES
	Rubble	
VOLCANICS	Blue-grey, biotite-actinolite hornfels.	
	Weak banding discernable. Incipient spotting common. Pure biotite hornfels 5.60 to 6.10m.	
	Spotted hornfels. Blue-grey spotting very evident. Core badly fractured along joints well developed.	55, 30 35, 03
SHEAR ZONE	Core badly fractured and sheared at 45° to core axis. Some fairly competent sections of banded biotite-pyroxene hornfels and biotie biotite-actinolite hornfels - particularly 13.41 to 14.33 metres. Core loss between 14.33 and 16.91.	45
B LENS	Biotite-pyroxene hornfels. Very irregular banding; diffusion channels occur between bands. Banding structure chaotic between 24.00 and 24.75	
	Hybrid Rock Fragmental nature, rich in pyroxene and muscovite.	
	Impure Marble Hybrid Rock fragmental and vuggy. Possibly alteration product of marble.	
	Impure Marble	
	Altered Marble. Some pyroxene and garnet. Very blotchy appearance.	
	Impure Marble. 10 cm skarn band at base.	
	Biotite hornfels spotted with biotite clusters. Concentration of spotting occasionally intense giving rock a laminated appearance.	
	Banded Biotite-Pyroxene-Garnet Hornfels streaky in appearance. Banding at 70° to 90° to core axis - fracture largely parallel to these planes.	

DRILL LOG

SHEET No. 2 of 2 (5)

DRILL HOLE No. 424

UNIT	GEOLOGICAL DESCRIPTION	FRACTURE
B LENS CONT.	Banding becomes somewhat chaotic after 44.50, Unit has ill defined base.	
	Sheared Hornfels Probably sheared representative of above unit. Streaking still deiscernable but now a more coarsely crystalline texture is dominant feature.	
	Banded Biotite - Pyroxene Hornfels Banding fluctuates considerably from 10° to 90° in extreme cases.	
	Garnet-Pyroxene Skarn fine-medium grained skarn containing moderate disseminated scheelite Weathered and badly broken.	
QUARTZITES	Fine grained, light grey. spotted quartzite	
	well jointed (12 joints per metre approx)	45, 60
	joints coated with chlorite or biotite -	55
	occasional sulphide. Spotting dense from 56.65 to 59.75.	
	Fault Zone Core badly broken and sheared, deeply weathered in parts butno core lost.	
	Quartzite Fined grained, light grey, fairly	35.45
	pure quartzite. Joint frequent (c. 20 per	67, 75
	metre) and well developed - biotite or	30 55
	chlorite coated.	80
	END OF HOLE 75.59 METRES	

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 424

Logged By: P.H.F.

	Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
		From	To	Length	WO_3	Mo		
	B 0066	25	26	1	0.05	0.01		
	7	26	27	1	0.04	0.01		
	8	27	28	1	0.03	0.01		
	9	28	28.5	0.5	0.03	0.01		
	10	28.5	29	0.5	0.20	0.01	0.32	
	11	29	29.5	0.5	0.04	0.01		
	12	29.5	30	0.5	0.06	0.01		
	13	30	30.5	0.5	0.03	0.01		
	14	30.5	31.	0.5	0.41	0.01	0.672	B lens 1m @
	15	31	31.5	0.5	0.66	0.02	1.09	0.54
	16	31.5	32.	0.5	0.03	0.01		
	17	32	32.5	0.5	0.12	0.01		
	18	32.5	33	0.5	0.04	0.01		
	19	33	34.0	1	0.04	0.01		

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 424 Date Surveyed 22/11/71

Total Depth 248 Depth Surveyed To 243'

Casing Depth 30' Surveyed By D.F. P.M.G.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
	-01	0			23	21	150	19°	045	
	00	0			24	22	160	19° 10	045° 30	
	01	M			25	23	M (?)	19°	045	
	02	M			26	24	180	19°	043° 30	
	03	M			27	25	M	19°	045	
	04	M			28	26	200	19° 10	044° 30	
	05	M			29	27	210 (?)	19° 10	045° 30	
	06	M			30	28	220	19° 10	045° 30	
1	07	20'	18° 10'	—	31	29	230	19° 10	047	
10	08	30'	18° 30	—	32	30	240	19° 10	047	
11	09	M			33	31	250	19° 10	047	
12	10	50	18°	042°	34	32	250	19° 10	~~045~~ 047	
13	11	60	18° 45	042° 30	35	33	250	19° 10	~~045~~ 3047	
14	12	M		~~042°~~	36	34	250	19° 10	~~053~~ 3047	
15	13	80	19°	043	37	35	M			
16	14	M			38	36	220	19° 10	044	
17	15	100	19°	044° 45	39	37	M (?)	19°	044	
18	16	110	19°	043°	40	38	200	19° 10	044	
19	17	120	18° 45	042° 30	41	39	M			
20	18	M			42	40	170 (?)	19° 10	043° 30	
21	19	M			43	41	160	19° 10	045° 30	
22	20	140	18° 45	045° 30	44	42	M			

REMARKS:- Camera rods counted as 20'

Actual depth of survey 243

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 424 Date Surveyed 22/11/71

Total Depth 248' Depth Surveyed To 243'

Casing Depth 30' Surveyed By PHJ. PMcG.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
45	43	140 130 4M								
46	44	120 120	19°	044						
47	45	110 M								
48	46	100 90 90	19°	044						
49	47	80 80	19°	043° 30						
50	48	70 M								
51	49	40 40								
52	50	30 30								
53	51	20 20								
54	52	M								
55	53	M								
56	54	M								
57	55	M								
58	56	M								
59	57	0								
~~60~~	~~58~~									
~~61~~	~~59~~									
~~62~~	~~60~~									

REMARKS:-

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 424 Date Surveyed 22/11/71

Total Depth 248' Depth Surveyed To 243'

Casing Depth 30' Surveyed By PHJ. PMcL.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
45	43	140 130 4M								
46	44	120 120	19°	044						
47	45	110 M								
48	46	100 90 90	19°	044						
49	47	80 80	19°	043° 30						
50	48	70 M								
51	49	60 40								
52	50	30 30								
53	51	20 20								
54	52	M								
55	53	M								
56	54	M								
57	55	M								
58	56	M								
59	57	0								
~~60~~	~~58~~									
~~61~~	~~59~~									
~~62~~	~~60~~									

REMARKS:-

...KO ... M...D, KING ISLAND. DIAMOND DR ... DRILL HOLE NO. 423

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS					UNIT	GEOLOGICAL DESCRIPTION	FRACTUR
	DIAMOND DRILL HOLE NO. 423											
	0	5.72	NO CORE									
	5.72	11.80								BIOTITE HORNFELS	Pure grey-black fine grained biotite hornfels. Coarsening in grain size apparent from 10.0m Banding between 11.50 and 11.80. Very low incidence of fracture but jointing sharp though intermittent.	
	11.80	22.25								PYROXENE - GARNET HORNFELS	Typical PGh with prominent calcite ovoids (up to 5 cm) in fine grained streaky pyroxene hornfels matrix.	
A 4935	11.80	13.00	1.20	1.20	0.03	0.01						
6	13.00	14.00	1.00	1.00	0.03	0.01						
7	14.00	15.00	1.00	1.00	0.05	0.01						
8	15.00	16.00	1.00	1.00	0.03	0.01						
9	16.00	17.00	1.00	1.00	0.08	0.01						
40	17.00	18.00	1.00	1.00	0.03	0.01						
1	18.00	19.00	1.00	1.00	0.05	0.01						
2	19.00	20.00	1.00	1.00	0.05	0.01						
3	20.00	21.00	1.00	1.00	0.09	0.01						
4	21.00	22.00	1.00	1.00	0.14	0.02						
	22.25	25.35									Biotite hornfels with some minor pyroxene hornfels bands	
5	22.00	23.00	1.00	1.00	0.03	0.01						
6	23.00	24.00	1.00	1.00	0.03	0.01						
7	24.00	25.00	1.00	1.00	0.03	0.01						
8	25.00	25.50	0.50	0.50	0.03	0.01						
	25.35	28.34								GARNET SKARN	Pyroxene-garnet skarn, medium grained, relatively abundant grossularite to androdite scheelite mineralisation visually very weak. Joints poorly developed mainly calcite filled, occasionally quartz filled.	
9	25.50	26.00	0.50	0.50	0.03	0.02						
50	26.00	26.50	0.50	0.50	0.03	0.01						
A4751	26.50	27.00	0.50	0.50	0.07	0.01						
A4752	27.00	27.50	0.50	0.50	0.04	0.01						
A4753	27.50	28.00	0.50	0.50	0.03	0.01						
A4754	28.00	28.50	0.50	0.50	0.03	0.01						
	28.34	30.52								MARKER BEDS	Biotite-pyroxene hornfels, banded at 80° to core axis.	
	30.52	31.39									Marble - dirty with much pyroxene impurity.	

GEOPEKO LIMITED, KING ISLAND.

DIAMOND

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS			
A 4755	28.50	29.00	0.50	0.50	0.02	0.01		
6	29.00	29.50	0.50	0.50	0.03	0.01		
7	29.50	30.00	0.50	0.50	0.03	0.01		
8	30.00	30.50	0.50	0.50	0.03	0.03		
9	30.50	31.00	0.50	0.50	0.14	0.01		
60	31.00	31.50	0.50	0.50	0.25	0.01		
	31.39	34.57						
1	31.50	32.00	0.50	0.50	0.09	0.01		
2	32.00	32.50	0.50	0.50	0.18	0.02		
3	32.50	33.00	0.50 1.21	0.50 ~~0.95~~	1.21	0.05		
4	33.00	33.50	0.50	0.50	0.49	0.03		
5	33.50	34.00	0.50	0.50	0.46	0.02		
6	34.00	34.50	0.50	0.50	0.25	0.01		
	34.57	34.95						
7	34.50	35.00	0.50	0.50	0.06	0.01		
	34.95	38.00						
8	35.00	35.50	0.50	0.50	0.03	0.01		
9	35.50	36.00	0.50	0.50	0.03	0.01		
70	36.00	36.50	0.50	0.50	0.03	0.01		
1	36.50	37.00	0.50	0.50	0.31	0.02		
2	37.00	37.50	0.50	0.50	0.33	0.02		
3	37.50	38.00	0.50	0.50	0.26	0.01		
	38.00	40.50						
4	38.00	38.50	0.50	0.50	0.07	0.01		
5	38.50	39.00	0.50	0.50	0.04	0.01		
6	39.00	39.50	0.50	0.50	0.10	0.01		
7	39.50	40.00	0.50	0.50	0.03	0.01		
8	40.00	40.50	0.50	0.50	0.12	0.01		
	40.50	41.85						
9	40.50	41.00	0.50	0.50	0.03	0.01		
80	41.00	41.50	0.50	0.50	0.03	0.01		
1	41.50	42.00	0.50	0.50	0.03	0.01		
	41.85	64.00						
2	42.00	42.50	0.50	0.50	0.06	0.02		
3	42.50	43.00	0.50	0.50	0.07	0.02		

LOG

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
GARNET SKARN	Medium grained garnet pyroxene skarn. Abundant calcite. Sporadic scheelite mineralisation often good	
	Biotite hornfels - fine grained and somewhat laminated. Garnet-Pyroxene hornfels banding becoming evident but irregular. Sparadic scheelite mineralisation very finely disseminated	
	Andradite skarn - Coarse grained andradite up to 1.5 cm in a largely calcite matrix. Disseminated scheelite is intermittent.	
BANDED FOOTWALL BEDS	Banded Ph, Ch, Bh with minor gh skarn beds. Very weakly mineralised. Bands 85° to core. axis.	
	Banded Gh/Ph/Bh/Ch. Mainly garnet skarn, medium grained with minor bands Bh/Ph. Moderate scheelite mineralisation.	

GEOPEKO LIMITED, KING ISLAND.

DIAMOND D-

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS	
A 4784	43.00	43.50	0.50	0.50	0.43	0.02
5	43.50	44.00	0.50	0.50	0.32	0.02
6	44.00	44.50	0.50	0.50	0.37	0.02
7	44.50	45.00	0.50	0.50	0.41	0.01
8	45.00	45.50	0.50	0.50	0.70	0.04
9	45.50	46.00	0.50	0.50	0.53	0.03
90	46.00	46.50	0.50	0.50	0.52	0.02
1	46.50	47.00	0.50	0.50	0.56	0.03
2	47.00	47.50	0.50	0.50	0.38	0.02
3	47.50	47.00	0.50	0.50	0.85	0.04
4	48.00	48.50	0.50	0.50	0.83	0.04
5	48.50	49.00	0.50	0.50	1.84	0.06
6	49.00	49.50	0.50	0.50	0.13	0.01
7	49.50	50.00	0.50	0.50	0.05	0.01
8	50.00	50.50	0.50	0.50	0.77	0.02
9	50.50	51.00	0.50	0.50	0.32	0.01
A 4800	51.00	51.50	0.50	0.50	2.50	0.07
A 4701	51.50	52.00	0.50	0.50	0.93	0.04
2	52.00	52.50	0.50	0.50	0.18	0.02
3	52.50	53.00	0.50	0.50	0.61	0.02
4	53.00	53.50	0.50	0.50	0.07	0.01
5	53.50	54.00	0.50	0.50	0.03	0.01
6	54.00	54.50	0.50	0.50	0.03	0.01
7	54.50	55.00	0.50	0.50	0.03	0.01
8	55.00	55.50	0.50	0.50	0.03	0.02
9	55.50	56.00	0.50	0.50	0.16	0.02
10	56.00	56.50	0.50	0.50	0.02	0.01
11	56.50	57.00	0.50	0.50	0.43	0.03
12	57.00	57.50	0.50	0.50	0.07	0.01
13	57.50	58.00	0.50	0.50	0.21	0.02
14	58.00	58.50	0.50	0.50	0.03	0.02
15	58.50	59.00	0.50	0.50	0.04	0.01
16	59.00	59.50	0.50	0.50	0.03	0.01
17	59.50	60.00	0.50	0.50	0.03	0.01
18	60.00	60.50	0.50	0.50	0.02	0.01
19	60.50	61.00	0.50	0.50	0.03	0.01
20	61.00	61.50	0.50	0.50	0.04	0.01
1	61.50	62.00	0.50	0.50	0.03	0.01
2	62.00	62.50	0.50	0.50	0.03	0.01
3	62.50	63.00	0.50	0.50	0.02	0.01
4	63.00	63.50	0.50	0.50	0.03	0.01
5	63.50	64.00	0.50	0.50	0.04	0.01

DRILL HOLE NO. 423

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
BANDED FOOTWALL (CONT.)	Banding indistinctly defined except in Bh/Ph bands when 60° - 80° to core axis	30° 45°
	Coarse scheelite occurs between 51.50 and 51.75.	
	Massive quartz probably intrusive from 50.30 to 50.65	
	Euhedral clusters of calcite about 5 cm length at 52.80 - 53.40	
	Bh/Ph banding more common below 54 m.	30° 45°
	At 64 m core weathered and vuggy but no core loss.	

GEOPEKO LIMITED, KING ISLAND. DIAMOND DRILL HOLE NO. 423

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH REC'D.	ASSAYS				UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	64.00	66.00							BANDED FOOTWALL BEDS (CONT.)	Biotite-pyroxene hornfels with streaked out banding attitudes erratic. Jointing highly developed and fracture interse.	30° 45° 70° 56°
A 4726	64.00	65.00	1.00	1.00	0.03	0.01					
7	65.00	66.00	1.00	1.00	0.04	0.01					
	66.00	66.20								Pure biotite hornfels	
	66.20	67.25								Banded Garnet pyroxene-biotite hornfels.	
8	66.00	66.50	0.50	0.50	0.06	0.01				Minor scheelite mineralisation.	
9	66.50	67.00	0.50	0.50	0.03	0.01					
	67.25	68.75								Quartz intrusive massive quartz containing a bh/ph fragment.	
30	67.00	67.5	0.50	0.50	0.17	0.01					
1	67.5	68.0	0.50	0.50	0.87	0.03					
2	68.0	68.5	0.50	0.50	0.03	0.01					
3	68.5	70.0	0.50	0.50	0.04	0.01					
	68.75	72.24							BIOTITE-PYROXENE HORNFELS	Banding streaked out at angles varying 15°-90° to core axis.	
										END OF HOLE 72.24 METRES.	

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 423 Date Surveyed 23/10/71

Total Depth 236 Depth Surveyed To 230

Casing Depth 10' Surveyed By PHF/JNG.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
1	00	•			23	22	M			
2	01	•			24		200	32	08 ~~30~~	
3	2	M			25		M			
4	3	M			26		220	32	8 ~~30~~	
5	4	13	32	—	27		230	32	8 30	
6	5	M			28		"	"	"	
7	6	M			29		"	"	"	
8	7	40	32	8-30	30		"	"	"	
9	8	M			31		220	32	8 30	
10	9	60	32	9 00	32	M	~~220~~ M			
11	10	M			33		~~200~~	32	8 30	
12	11	80	32	8 30	34		~~200~~ 180	32	9 00	
13	12	M			35	M	~~160~~			
14	13	100	32	9 00	36		160	32	9 00	
15	14	M			37		M			
16	18	120	32	9 30	38		140	32	9 30	
17	16	M			39		120	32	8 30	
18	17	140	32	10	40		M			
19	18	M			41		100	32	8 00	
20	19	160	32	9 30	42		M			
21	20	M			43		80	32	8 30	
22	21	180	32	09	44		60	32	8 00	
					45		M			
					46		~~40~~	32	8 30	
					47		M			
					48		M			
					~~49~~		M			
					50		M			
					51		0			

REMARKS:-

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH ED'D.	ASSAYS	
	DIAMOND DRILL LOG FOR HOLE 422					
	0	2.55				
	2.55	17.50				
B 0020	3.04	4.00	0.96	0.96	0.20	0.01
21	4.00	5.00	1.0	1.0	0.06	0.01
22	5.00	6.00	1.0	1.0	0.06	0.01
23	6.00	7.00	1.0	1.0	0.38	0.01
24	7.00	8.00	1.0	1.0	0.15	0.01
25	8.00	9.00	1.0	1.0	0.05	0.01
26	9.00	10.00	1.0	1.0	0.02	0.01
27	10.00	11.00	1.0	1.0	0.06	0.01
28	11.00	12.00	1.0	1.0	0.02	0.01
29	12.00	13.00	1.0	1.0	0.03	0.01
B 0030	13.00	14.00	1.0	1.0	0.04	0.01
31	14.00	15.00	1.0	1.0	0.04	0.01
32	15.00	16.00	1.0	1.0	0.86	0.01
33	16.00	17.00	1.0	1.0	0.07	0.01
34	17.00	17.50	0.5	0.5	0.07	0.01
	17.50	22.08				
35	17.50	18.00	0.5	0.5	0.27	0.01
36	18.00	18.50	0.5	0.5	1.07	0.03
37	18.50	19.00	0.5	0.5	1.20	0.04
38	19.00	19.50	0.5	0.5	0.31	0.02
39	19.50	20.00	0.5	0.5	2.10	0.07
B 0040	20.00	20.50	0.5	0.5	0.74	0.03
41	20.50	21.00	0.5	0.5	0.46	0.03
42	21.00	21.50	0.5	0.5	1.04	0.05
43	21.50	22.0	0.5	0.5	0.04	0.01
	22.08	24.50				
44	22.00	22.50	0.5	0.5	0.45	0.02
45	22.50	23.00	0.5	0.5	1.32	0.05
46	23.00	23.50	0.5	0.5	1.05	0.04
47	23.50	24.00	0.5	0.5	0.71	0.03
48	24.00	24.50	0.5	0.5	0.95	0.03
	24.50	27.00				
49	24.50	25.00	0.5	0.5	0.09	0.01
50	25.00	26.00	1.0	1.0	0.18	0.01
51	26.00	27.00	1.0	1.0	0.04	0.01
	27.00	28.16				

ND DRILL LOG

DRILL HOLE No. 422

UNIT	GEOLOGICAL DESCRIPTION	FRACTURE
BIOTITE HORNFELS PYROXENE-GARNET HORNFELS	Fine grained, blue-grey, biotite hornfels. Typical Pgh with irregular calcite ovoids. Patches of semi-skarn developed. Very weak scheelite mineralisation.	
TOP OREBODY C LENS	Garnet - Pyroxene Skarn Medium to coarse grained andradite skarn. Interstices droposide and calcite filled. Good disseminated scheelite.	
	Garnet Pyroxene Skarn Medium grained, banded andradite skarn. Occasional pyroxene or biotite hornfels bands up to 1cm thick. Banding at 65° to core axis.	
MARKER BEDS	Marble, Fine grained but impure - intermixed pyroxene and grossular.	
	Fine grained, streaky, biotite pyroxene hornfels.	

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS		
	DIAMOND DRILL LOG FOR HOLE 422						
	0	2.55					
	2.55	17.50					
B 0020	3.04	4.00	0.96	0.96	0.20	0.01	
21	4.00	5.00	1.0	1.0	0.06	0.01	
22	5.00	6.00	1.0	1.0	0.06	0.01	
23	6.00	7.00	1.0	1.0	0.38	0.01	
24	7.00	8.00	1.0	1.0	0.15	0.01	
25	8.00	9.00	1.0	1.0	0.05	0.01	
26	9.00	10.00	1.0	1.0	0.02	0.01	
27	10.00	11.00	1.0	1.0	0.06	0.01	
28	11.00	12.00	1.0	1.0	0.02	0.01	
29	12.00	13.00	1.0	1.0	0.03	0.01	
B 0030	13.00	14.00	1.0	1.0	0.04	0.01	
31	14.00	15.00	1.0	1.0	0.04	0.01	
32	15.00	16.00	1.0	1.0	0.86	0.01	
33	16.00	17.00	1.0	1.0	0.07	0.01	
34	17.00	17.50	0.5	0.5	0.07	0.01	
	17.50	22.08					
35	17.50	18.00	0.5	0.5	0.27	0.01	
36	18.00	18.50	0.5	0.5	1.07	0.03	
37	18.50	19.00	0.5	0.5	1.20	0.04	
38	19.00	19.50	0.5	0.5	0.31	0.02	
39	19.50	20.00	0.5	0.5	2.10	0.07	
B 0040	20.00	20.50	0.5	0.5	0.74	0.03	
41	20.50	21.00	0.5	0.5	0.46	0.03	
42	21.00	21.50	0.5	0.5	1.04	0.05	
43	21.50	22.0	0.5	0.5	0.04	0.01	
	22.08	24.50					
44	22.00	22.50	0.5	0.5	0.45	0.02	
45	22.50	23.00	0.5	0.5	1.32	0.05	
46	23.00	23.50	0.5	0.5	1.05	0.04	
47	23.50	24.00	0.5	0.5	0.71	0.03	
48	24.00	24.50	0.5	0.5	0.95	0.03	
	24.50	27.00					
49	24.50	25.00	0.5	0.5	0.09	0.01	
50	25.00	26.00	1.0	1.0	0.18	0.01	
51	26.00	27.00	1.0	1.0	0.04	0.01	
	27.00	28.16					

D DRILL LOG

DRILL HOLE No. 422

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
BIOTITE HORNFELS PYROXENE-GARNET HORNFELS	Fine grained, blue-grey, biotite hornfels. Typical Pgh with irregular calcite ovoids. Patches of semi-skarn developed. Very weak scheelite mineralisation.	
TOP OREBODY C LENS	Garnet - Pyroxene Skarn Medium to coarse grained andradite skarn. Interstices dropside and calcite filled. Good disseminated scheelite.	
	Garnet Pyroxene Skarn Medium grained, banded andradite skarn. Occasional pyroxene or biotite hornfels bands up to 1cm thick. Banding at 65° to core axis.	
MARKER BEDS	Marble, Fine grained but impure - intermixed pyroxene and grossular.	
	Fine grained, streaky, biotite pyroxene hornfels.	

GEOPEKO LIMITED, KING ISLAND. DIAMOND DRIL

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS				
51	27.00	28.00	1.0	1.0	0.04	0.01			
	28.16	30.70							
53	28.00	29.00	1.0	1.0	0.06	0.01			
54	29.00	30.00	1.0	1.0	0.08	0.01			
55	30.00	30.50	0.5	0.5	0.04	0.01			
	30.70	32.47							
56	30.00	31.00	0.5	0.5	0.28	0.01			
57	31.00	31.50	0.5	0.5	0.14	0.01			
58	31.50	32.00	0.5	0.5	0.78	0.01			
59	32.00	32.50	0.5	0.5	0.66	0.01			
	32.47	33.25							
60	32.50	33.00	0.5	0.5	0.04	0.01			
61	33.00	33.50	0.5	0.5	0.04	0.01			
	33.25	34.35							
62	33.50	34.00	0.5	0.5	0.03	0.01			
63	34.00	34.50	0.5	0.5	0.038	0.01			
	34.35	39.60							
64	34.50	35.00	0.5	0.5	1.81	0.05			
65	35.00	35.50	0.5	0.5	1.27	0.03			
66	35.50	36.00	0.5	0.5	0.06	0.01			
67	36.00	36.50	0.5	0.5	0.62	0.02			
68	36.50	37.00	0.5	0.5	0.12	0.01			
69	37.00	37.50	0.5	0.5	0.72	0.03			
70	37.50	38.00	0.5	0.5	0.89	0.02			
71	38.00	38.50	0.5	0.5	0.39	0.02			
72	38.50	39.00	0.5	0.5	0.61	0.02			
73	39.00	39.50	0.5	0.5	0.40	0.02			
	39.60	41.58							
74	39.50	40.00	0.5	0.5	1.65	0.04			
75	40.00	40.50	0.5	0.5	0.68	0.03			
	41.58	43.40							
76	40.50	41.00	0.5	0.5	0.51	0.02			
77	41.00	41.50	0.5	0.5	0.47	0.02			
78	41.50	42.00	0.5	0.5	0.14	0.01			
79	42.00	42.50	0.5	0.5	0.61	0.02			
B 0080	42.50	43.00	0.5	0.5	1.72	0.05			
81	43.00	43.50	0.5	0.5	1.32	0.03			
	43.40	44.50							
82	43.50	44.00	0.5	0.5	0.50	0.01			
83	44.00	44.50	0.5	0.5	0.83	0.01			

LOG DRILL HOLE No. 422

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
	Impure marble with bands of pyroxene, grossular and occasionally skarn.	
PYROXENE GARNET SKARN	Medium grained green-brown rock. Disseminated scheelite (2-3 mm) throughout.	
	Impure marble. Phenocrysts of a black unidentified mineral.	
BANDED FOOTWALL BEDS	Banded Pyroxene - biotite - garnet hornfels.	
	One 6cm skarn band.	
	Massive andradite skarn with bands of biotite and pyroxene hornfels, rare calcite hornfels	
	Good disseminated scheelite.	
	Garnet Skarn Massive, medium to coarse grained.	
	Banded Skarn Medium to fine grained andradite skarn with bands of pyroxene hornfels.	
	Pyroxene garnet hornfels Mainly pyroxene hornfels with some skarn intermixed.	

GEOPEKO LIMITED, KING ISLAND.

DIAMOND DRILL LOG

SHEET No. 3 of 3 (C)

DRILL HOLE No. 422

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS					UNIT	GEOLOGICAL DESCRIPTION	FRACTUR
	44.50	49.90	0.5	0.5						BIOTIE PYROXENE HORNFELS	Banded Biotite-pyroxene hornfels even banding at 70°. Good competence though well developed jointing.	
84	44.50	45.00	0.5	0.5	0.04	0.01						
85	45.00	46.00	1.0	1.0	0.09	0.01						
	49.90	51.00									Aplite	
	51.00	51.57									Core Broken possible fault zone.	
	51.57	55.25								OLDER VOLCANICS	Green mottled crystalline rock with much mica and sulphides. 10 cm zone of calcite hornfels and pyroxene hornfels banded at 52 to 80°.	
	55.25	58.82								BIOTITE PYROXENE HORNFELS	Banded bh/ph banding indistinct.	
											END OF HOLE 58.82m	

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 422 Date Surveyed 18/12/71

Total Depth 192 Depth Surveyed To 192

Casing Depth 10' Surveyed By [illegible]

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 422 Date Surveyed 18/12/71

Total Depth 192' Depth Surveyed To 192

Casing Depth 10' Surveyed By [illegible]

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
	00	0				22	M	26°	8° N
	01	CM				23	180	26°	9 45 N
	02	M				24	192	26°	9 30 N
	03	M				25	192	26°	9 30 N
	04	10	27°30			26	M		
	05	M				27	M		
	06	M				↓	M		
	07	20	27°45	11° N		↓	"		
	08	M	27°30	11° N		↓	"		
	09	40	27°30	10 30		40	O		
	10	50	27°15	10 30					
	11	60	27°30	10 30					
	12	70	27°15	10 30					
	13	80	27°30	10 30					
	14	90	27°15	10					
	15	100	27°	11					
	16	M							
	17	120	27°	10 30					
	18	M							
	19	140	27°	11					
	20	M							
	21	160	26°	10					

Depth

Depth	of rds E
20	1·78
40	3·46
60	5·14
80	6·82
100	8·46
120	10·12
140	11·86
160	13·38
180	14·86
192	16·30

REMARKS:- No shots recorded up the hole - rods pulled in a hurry due to imminent blasting!

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 421

Logged By: P.H.F.

	Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
		From	To	Length	WO_3	Mo		
	A 4734	21.10	22.0	0.9	0.06	0.01		
	5	22.0	23.0	1	0.08	0.01		
	6	23.0	23.5	0.5	0.62	0.02	1.017	
	7	23.5	24.0	0.5	0.12	0.01		
	8	24.0	25.0	1	0.03	0.01		
	9	25.0	26.0	1	0.05	0.01		
	40	26.0	27.0	1	0.60	0.01	0.994	
	1	27.0	28.0	1	0.02	0.01		
	2	28.0	29.0	1	0.02	0.01		
	3	29.0	29.5	0.5	0.08	0.01		
	4	29.5	30.0	0.5	0.08	0.01		
	5	30.0	30.5	0.5	1.56	0.04	2.559	
	6	30.5	31.0	0.5	1.04	0.03	1.706	
	7	31.0	31.5	0.5	0.26	0.01	0.426	
	8	31.5	32.0	0.5	1.52	0.04	2.492	4.5m @ 0.82% W
	9	32.0	32.5	0.5	0.24	0.01	0.393	
	50	32.5	33.0	0.5	0.45	0.02	0.738	
	A 4985	33.0	33.5	0.5	1.33	0.03	2.181	
	6	33.5	34.0	0.5	0.67	0.01	1.099	
	7	34.0	34.5	0.5	0.31	0.01	0.508	
	8	34.5	35.0	0.5	0.11	0.01		
	9	35.0	35.5	0.5	0.24	0.01		
	90	35.5	36.0	0.5	0.18	0.01		
	1	36.0	36.5	0.5	0.35	0.01	0.574	
	2	36.5	37.0	0.5	0.05	0.01		
	3	37.0	37.5	0.5	0.04	0.01		
	4	37.5	38.5	1.0	0.06	0.01		
	5	38.5	39.5	1.0	0.01	0.01		
	6	39.5	40.5	1.0	0.01	0.01		
	7	40.5	41.5	1.0	0.01	0.01		
	8	41.5	42.5	1.0	0.02	0.01		
	9	42.5	43.5	1.0	0.03	0.01		
	A 5000	43.5	44.0	1.0	0.02	0.01		
	A 4697	44.0	44.5	0.5	0.15	0.01	0.256	
	8	44.5	45.0	0.5	0.47	0.02	0.779	
	9	45.0	45.5	0.5	0.06	0.01	0.213	
	A 4700	45.5	46.0	0.5	0.32	0.02	0.524	

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 421

Logged By: P.H.F.

Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
F 3980	46.0	46.5	0.5	0.52	0.02	0.26	4m @ 0.41% WO
1	46.5	47.0	0.5	0.23	0.01		
2	47.0	47.5	0.5	0.15	0.01		
3	47.5	48.0	0.5	0.76	0.03	1.38	
4	48.0	48.5	0.5	0.73	0.02	1.19	
5	48.5	49.0	0.5	0.11	0.01		
6	49.0	49.5	0.5	0.11	0.01		
7	49.5	50.0	0.5	0.07	0.01		
8	50.0	50.5	0.5	0.03	0.01		
9	50.5	51.0	0.5	0.02	0.03		
90	51.0	51.5	0.5	0.02	0.01		
1	51.5	52.0	0.5	0.02	0.02		
2	52.0	52.5	0.5	0.01	0.01		
3	52.5	53.0	0.5	0.01	0.01		
4	53.0	53.5	0.5	0.09	0.01		
5	53.5	54.0	0.5	0.17	0.01		
6	54.0	54.5	0.5	0.03	0.01		
7	54.5	55.0	0.5	0.03	0.01		
8	55.0	55.5	0.5	0.03	0.01		
9	55.5	56.0	0.5	0.30	0.01	0.15	
B 0001	56.0	57.0	1.0	0.07	0.01		
2	57.0	58.0	1.0	0.03	0.01		
3	58.0	58.5	0.5	0.03	0.01		
4	58.5	59.0	0.5	0.41	0.01	0.67	
5	59.0	60.0	1.0	0.02	0.01		

GEOPEKO LIMITED, KING ISLAND.

DIAMOND DRI

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS WO3	ASSAYS Mo
		DIAMOND DRILL HOLE 421				
	0	21.10				
	21.10	28.10				
A 4734	21.10	22.00	0.90	0.90	0.06	0.01
5	22.00	23.00	1.00	1.00	0.08	0.01
6	23.00	23.50	0.50	0.50	0.62	0.02
7	23.50	24.00	0.50	0.50	0.12	0.01
8	24.00	25.00	1.00	1.00	0.03	0.01
9	25.00	26.00	1.00	1.00	0.05	0.01
A 4740	26.00	27.00	1.00	1.00	0.60	0.01
1	27.00	28.00	1.00	1.00	0.02	0.01
	28.10	37.65				
2	28.00	29.00	1.00	1.00	0.02	0.01
3	29.00	29.50	0.50	0.50	0.08	0.01
4	29.50	30.00	0.50	0.50	0.08	0.01
5	30.00	20.50	0.50	0.50	1.56	0.04
6	30.50	31.00	0.50	0.50	1.04	0.03
7	31.00	31.50	0.50	0.50	0.26	0.01
8	31.50	32.00	0.50	0.50	1.52	0.04
9	32.00	32.50	0.50	0.50	0.24	0.01
A 4750	32.50	33.00	0.50	0.50	0.45	0.02
A 4985	33.00	33.50	0.50	0.50	1.33	0.03
6	33.50	34.00	0.50	0.50	0.67	0.01
7	34.00	34.50	0.50	0.50	0.31	0.01
8	34.50	35.00	0.50	0.50	0.11	0.01

LOG

DRILL HOLE No. 421

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
BIOTITE HORNFELS	Fine grained, grey-black, biotite hornfels. Bedding absent at first but can be distinguished after 6.0 metres (at 90° to core axis). Jointing well developed, calcite or chlorite filled, fracture frequent along these planes. Spotting (chlorite?) developes between 15.46 and 16.25 metres. Aplite, with discernible banding, (mica concentration) from 2.70 to 3.07, 3.33 to 3.42, and 3.51 to 4.45 metres. Quartz accretions up to 1 cm. occur from 16.68 to 17.10. Core becciated from 20.35 to 20.42 with minor core loss (10 cm approx) - minor fault?	
PYROXENE-GARNET HORNFELS	Mottled brown-green rock less fragmental in texture than typical Pg.h. Some areas of coarse grained skarn occur, also biotite rich horizons e.g. 25.80 to 26.60 metres. Base unit ill defined but becomes particularly pyroxene rich before passing into garnet skarn. Mineralisation sparse in the form of occasional crystals about 1mm diameter except 23.00 to 23.80 (good disseminated scheelite and 26.90 metres (coarse scheelite)	
GARNET SKARN	Medium to coarse grained andradite skarn. Interstices mainly calcite filled. Garnet usually eubedral up to 1 cm diameter. Fracture irregular and joints ill-defined (calcite filled) Good disseminated scheelite occurs from 29.75 to 34.45 metres and from 36.23 to 36.43 metres	

GEOPEKO LIMITED, KING ISLAND.

DIAMOND

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS			
9	35.00	35.50	0.50	0.50	0.24	0.01		
A 4990	35.50	36.00	0.50	0.50	0.18	0.01		
1	36.00	36.50	0.50	0.50	0.35	0.01		
2	36.50	37.00	0.50	0.50	0.05	0.01		
3	37.00	37.50	0.50	0.50	0.04	0.01		
	37.65	38.70						
	38.70	39.30						
	39.30	41.86						
	41.86	43.63						
	43.63	44.00						
4	37.50	38.50	1.00	1.00	0.06	0.01		
5	38.50	39.50	1.00	1.00	0.01	0.01		
6	39.50	40.50	1.00	1.00	0.01	0.01		
7	40.50	41.50	1.00	1.00	0.01	0.01		
8	41.50	42.50	1.00	1.00	0.02	0.01		
9	42.50	43.50	1.00	1.00	0.03	0.01		
A 5000	43.50	44.00	0.50	0.50	0.02	0.01		
	44.00	59.10						
A 4697	44.00	44.50	0.50	0.50	0.15	0.01		
8	44.50	45.00	0.50	0.50	0.47	0.02		
9	45.00	45.50	0.50	0.50	0.06	0.01		
A 4700	45.50	46.00	0.50	0.50	0.32	0.02		
F 3980	46.00	46.50	0.50	0.50	0.52	0.02		
1	46.50	47.00	0.50	0.50	0.23	0.01		
2	47.00	47.50	0.50	0.50	0.15	0.01		
3	47.50	48.00	0.50	0.50	0.76	0.03		
4	48.00	48.50	0.50	0.50	0.73	0.02		
5	48.50	49.00	0.50	0.50	0.11	0.01		
6	49.00	49.50	0.50	0.50	0.11	0.01		
7	49.50	50.00	0.50	0.50	0.07	0.01		
8	50.00	50.50	0.50	0.50	0.03	0.01		
9	50.50	51.00	0.50	0.50	0.02	0.03		
F 3990	51.00	51.50	0.50	0.50	0.02	0.01		
1	51.50	52.00	0.50	0.50	0.02	0.02		
2	52.00	52.50	0.50	0.50	0.01	0.01		
3	52.50	53.00	0.50	0.50	0.01	0.01		
4	53.00	53.50	0.50	0.50	0.09	0.01		
5	53.50	54.00	0.50	0.50	0.17	0.01		
6	54.00	54.50	0.50	0.50	0.03	0.01		

LOG

DRILL HOLE No. 421

UNIT	GEOLOGICAL DESCRIPTION	FRACTURES
MARKER BEDS	~~Fine grained, banded, grren hornfels (Tuffite of U.B.)~~	
	~~Biotite hornfels~~	
	~~Marble.~~ very impure. Bedding at 80° to core axis.	20° 65°
	Banded tuffite and biotite hornfels, highly siliceous band at base	45° 15° 24°
	Marble Bedding at 45°	
GARNET SKARN	Andradite skarn with intermittent biotite and pyroxene hornfels bands. Skarns medium to coarse grained, very coarse in parts. Joints calcite filled. Bedding varies 70° - 90° to core axis.	26° 40°

GEOPEKO LIMITED, KING ISLAND.

DIAMOND

SAMPLE No.	DISTANCE FROM	DISTANCE TO	LENGTH SAMPLED	LENGTH RED'D.	ASSAYS			
7	54.50	55.00	0.50	0.50	0.03	0.01		
8	55.00	55.50	0.50	0.50	0.03	0.01		
9	55.50	56.00	0.50	0.50	0.30	0.01		
B 0001	56.00	57.00	1.00	1.00	0.07	0.01		
B 0002	57.00	58.00	1.00	1.00	0.03	0.01		
B 0003	58.00	58.50	0.50	0.50	0.03	0.01		
B 0004	58.50	59.00	0.50	0.50	0.41	0.01		
	59.10	62.50						
	62.50	63.23						
	63.23	68.08						
	68.08	70.30						
	70.30	71.93						

LOG

DRILL HOLE No. 421

UNIT	GEOLOGICAL DESCRIPTION	FRACTURING
BANDED FOOTWALL BEDS	Biotite pyroxene hornfels, banded at 70° to core axis. Pure marble band from 61.04 to 61.58 metres	
OLDER VOLCANCIS	Finely mottled grey/black very competent rock, speckled with sulphide clusters.	
BANDED FOOTWALL BEDS	Bands of garnet, calcite, biotite and pyroxene hornfels.	
BIOTITE PYROXENE HORNFELS	Banded biotite-pyroxene hornfels. Jointing poorly developed, fracture usually perpendicular to core axis.	
APLITE	Fine grained, non prophyritic white rock speckled with clusters of biotite.	
	END OF HOLE 71.93 metres	

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 421 — Date Surveyed 8 Nov 1971

Total Depth 236' — Depth Surveyed To 230'

Casing Depth 20' — Surveyed By PHJ

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
1	00	0			23		160	22 45	04 15
2		0			24		M		
3		0			25		180	22·30	04 15
4		C			26		M		
5		C			27		200	22·15	04 30
6		C			28		M		~~02~~
7		0~~2~~0M			29	30	220	22	04 30
8		10	23 45		30		230	22	04 15
9	10	20	M		31		230	22	04 15
10		30	23·45	04 45	32		230	22	04 15
11		40(M)	23 45	04 30	33		220(M)	22	04 30
12		M			34		M		
13		60	23	03·30	35		200	22·30	04 30
14		M			36		M		
15		80	23	04	37		180	22 40	04 30
16		(M)		~~04~~	38		M		
17		100	23	04	39	40	160	23	04
18		110	23	04 30	40		150(M)	23	04
19	20	120	23	04 30	41		140	23	04
20		M			42		120(M)	23	04
21		140	23	04 00	43		110(M)	23	04
22		M			44		100	23	04

REMARKS:-

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 421 Date Surveyed 8 Nov. 1971

Total Depth 236 Depth Surveyed To 230'

Casing Depth 20' Surveyed By PHY.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
45		M								
46		80	23	04						
47		M								
48		60	23·30							
49		M	2							
50		30	24							
51		10								
52		M								
53		M								
54		M								
55		0								

REMARKS:-

GEOPEKO LIMITED - KING ISLAND

LOG OF D.D.H. No. D 420

PLANNING

Proposer: K.I.S. Depth: 75m.

Location: Transport car park.

Purpose of hole: Underground fill hole.

Co-ordinates: 220 180 E 564 190 N

Inclination: -90° Magnetic

Bearing: 360° Grid Target depth: 75m

Target: E N

Approved by: M.C. Rogers. Date:

SURVEY

Survey Co-ords: E N

Survey bearing: Grid Magnetic

Surveyed in by: Date:

Actual Co-ords: 220 179.33 E 564 191.39 N

R.L. of collar: 5.4m Inclination of hole:

Picked up by : R.J.H. Date: 1/8/75

SUMMARY

Logged by : M.J. Danielson

Results: B lens:
33 - 56m 23m @ 0.49% WO_3

DRILLING

Driller/Contractor: A.D.D.

Date commenced: 5/8/75 Date terminated: 12/8/75

Casing:	Size :	HW	
	Depth :	14.6	
Core:	Size :	HQ	
	Depth :	14.6 - 74.1	

Wedge Runoff:

Wedge placed: Nil Depth:

Proposed by : Approved by:

Reason:

Extension: Nil

Reason for termination: Hole intersected development on -75m R.L. Final depth: 74.1m

Condition of hole on completion:

Casing : 0 - 14.6m HW remains.

Cemented :

Bore hole survey: No

Water: No

Comments on drilling conditions: Hole precollared to 14.3m by K.I.S. Crawlmaster.

GEOPEKO LIMITED - King Island

CORE RECOVERY

D.D.H. No.D 420

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
14.7 - 15.6	.9	.9	100
16.3	.7	.7	100
16.9	.6	.6	100
18.1	1.2	1.0	83
18.6	.5	.6	120
20.1	1.5	1.5	100
21.4	1.3	1.3	100
21.9	.5	.5	100
22.5	.6	.5	83
23.2	.7	.7	100
24.5	1.3	1.3	100
26.7	2.2	2.2	100
27.4	.7	.6	86
27.7	.3	.3	100
28.3	.6	.6	100
29.0	.7	.7	100
29.6	.6	.3	50
29.9	.3	.3	100
30.6	.7	.6	86
32.1	1.5	1.5	100
32.3	.2	.2	100
33.6	1.3	1.3	100
35.1	1.5	1.5	100
35.5	.4	.4	100
39.6	4.1	4.3	100
41.1	1.5	1.5	100
42.6	1.5	1.5	100
44.1	1.5	1.5	100
45.6	1.5	1.3	87
47.1	1.5	1.5	100
48.6	1.5	1.5	100
50.1	1.5	1.6	107
51.6	1.6	1.5	94
53.1	1.5	1.6	107
54.5	1.4	1.5	107
56.1	1.6	1.6	100
57.6	1.5	1.45	97
59.1	1.5	1.60	107
60.0	.9	.9	100
60.6	.6	.55	92
62.1	1.5	1.5	100
63.7	1.6	1.6	100
65.1	1.4	1.4	100
66.6	1.5	1.6	107
68.1	1.5	1.6	107

GEOPEKO LIMITED - King Island

CORE RECOVERY

D.D.H. No. D 420

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	% CORE RECOVERY
69.6	1.5	1.5	100
71.1	1.5	1.6	107
72.6	1.5	1.4	93
94.1	1.5	1.6	107
E.O.H.			

GEOPEKO LIMITED - Dolphin

ASSAY DATA

D.D.H. No. D 420

SAMPLE No.	DEPTH (METRES) From	To	Length	Length Recovered	ELEMENTS WO_3	Mo		COMMENTS
D 4159	32	33	1.0	1.0	0.06	0.03		
60	33	34	"	"	1.31	0.05		B lens:
1	34	35	"	"	0.17	< 0.01		
2	35	36	"	"	0.37	< 0.01		
3	36	37	"	"	0.35	< 0.01		23m @
4	37	38	"	"	0.89	0.01		
5	38	39	"	"	0.23	< 0.01		
6	39	40	"	"	0.47	< 0.01		0.49% WO_3
7	40	41	"	"	0.73	< 0.01		
8	41	42	"	"	0.83	0.02		
9	42	43	"	"	0.52	< 0.01		
70	43	44	"	"	0.74	< 0.01		
1	44	45	"	"	0.39	< 0.01		
2	45	46	"	"	0.50	< 0.01		
3	46	47	"	"	0.47	< 0.01		
4	47	48	"	"	< 0.01	< 0.01		
5	48	49	"	"	< 0.01	< 0.01		
6	49	50	"	"	0.04	< 0.01		
7	50	51	"	"	1.14	< 0.01		
8	51	52	"	"	0.67	< 0.01		
9	52	53	"	"	0.19	< 0.01		
80	53	54	"	"	0.52	< 0.01		
1	54	55	"	"	0.31	< 0.01		
2	55	56	"	"	0.36	< 0.01		
83	56	57	"	"	< 0.01	< 0.01		
4	57	58	"	"	< 0.01	< 0.01		
5	58	59	"	"	0.27	< 0.01		
6	59	60	"	"	0.38	< 0.01		
7	60	61	"	"	0.[illegible]	< 0.01		
8	61	62	"	"	0.11	< 0.01		
D4189	62	63	"	"	0.02	< 0.01		

SPECIFIC GRAVITY

Depth (m) :
Rock Type :
S.G. :

Determined by:

NOTE: These are whole core samples.

GEOPEKO LIMITED - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 420

0 - 14.3m	Precollared by K.I.S. Crawlmaster.
14.3 - 27.0m	QUARTZITE Pale grey barren heavily broken quartzite. 21.8 - 22.5m Fault zone (?).
27.0 - 29.6m	FAULT ZONE WEDGE FAULT Breccia zone of mine series and quartzite often forming clay recemented breccia. 29.0 - 29.6m = 50% core lost.
29.6 - 62.5m	B LENS 29.6 - 33.3m Pyroxene hornfels Barren green ph - minor grossular garnet. 33.3 - 47.1m Garnet pyroxene hornfels Medium to fine grained andradite garnet skarn. Moderate disseminated scheelite throughout. 47.1 - 49.8m Biotite hornfels Barren grey bh. 49.8 - 55.8m Garnet pyroxene hornfels Similar unit to that described above but is more carbonate rich with a consequent decrease in scheelite mineralization. 55.8 - 58.2m Marble Barren grey ch. 58.2 - 62.5m Pyroxene hornfels This unit is a dominant ph rock with minor development of gph. Some disseminated scheelite. 58.2 - 60.0 61.0 - 62.4
62.5 - 74.1m	BIOTITE HORNFELS Barren grey brown bh. Weakly fragmental to 67.0m with white fragments of actinolite hornfels set in the bh ground mass.
74.1m E.O.H.	NOTES: 1. There is no engineering log of this hole. For comparison see D 419. 2. Core assayed between 32 - 63m is whole core. There are no facilities for splitting core of this size.

GEOPEKO LIMITED - KING ISLAND

LOG OF D.D.H. No. DOLPHIN 419

PLANNING

Proposer: K.I.S. Depth: 75m.

Location: Heavy vehicle yard.

Purpose of hole: Pass underground fill.

Co-ordinates: 220180 E 564190 N

Inclination: vertical Magnetic

Bearing: 360° Grid Target depth:

Target: E N

Approved by: M. Baker. Date: 1/4/75

SURVEY

Survey Co-ords: E N

Survey bearing: Grid Magnetic

Surveyed in by: Date:

Actual Co-ords: 220179.5 E 564189.5 N

R.L. of collar: +5.3m Inclination of hole:

Picked up by : R.J.H. Date: 30/4/75

SUMMARY

Logged by : M.J. Danielson.

Results:

DRILLING

Driller/Contractor: A.D.D.

Date commenced 27/4/75 Date terminated 19/5/75

Casing:	Size :	12.7cms.
	Depth :	12.2m.
Core:	Size :	HQ
	Depth :	14.93 - 75.59

Wedge Runoff:

Wedge placed: NIL Depth:

Proposed by : Approved by:

Reason:

Extension: NIL

Reason for termination: Hole intersected development on -75m R.L. Final depth: 75.59m

Condition of hole on completion:

Casing : 12.2m of 12.7cms dia. pipe remains.

Cemented : No.

Bore hole survey: No.

Water: No.

Comments on drilling conditions: Precollared to 14.93m using K.I.S. Crawlmaster.

GEOPEKO LIMITED - KING ISLAND

CORE RECOVERY

D.D.H. No. D419

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	RECOVERED % CORE
14.93 - 15.85	.92	.80	87
17.07	1.22	1.22	100
17.37	.30	.30	100
18.59	1.22	1.22	100
18.90	.31	.31	100
19.51	.61	.61	100
20.42	.91	.90	100
21.64	1.22	1.22	100
23.16	1.52	1.50	99
24.07	.91	.90	100
24.38	.31	.30	97
24.99	.61	.61	100
26.52	1.53	1.53	100
28.04	1.52	1.52	100
29.56	1.52	1.52	100
31.09	1.53	1.53	100
32.00	.91	.91	100
33.22	1.22	.99	81
34.14	.92	.92	100
35.66	1.52	1.52	100
37.18	1.52	1.52	100
38.71	1.53	1.53	100
40.23	1.52	1.52	100
41.75	1.52	1.40	92
43.28	1.53	1.50	98
44.80	1.52	1.52	100
46.33	1.53	1.53	100
47.85	1.52	1.52	100
49.38	1.53	1.50	98
50.90	1.52	1.52	100
52.42	1.52	1.52	100
54.56	2.14	2.05	93
55.47	.91	.91	100
57.00	1.53	1.53	100
58.52	1.52	1.52	100
60.04	1.52	1.52	100
61.57	1.53	1.48	97
63.09	1.52	1.52	100
64.62	1.53	1.50	98
66.14	1.52	1.52	100
67.66	1.52	1.50	99
69.19	1.53	1.53	100

GEOPEKO LIMITED - KING ISLAND

CORE RECOVERY

D.D.H. No. D 419

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	RECOVERED % CORE
70.71	1.52	1.40	92
72.23	1.52	1.57	100
73.76	1.53	1.46	95
75.28	1.52	1.52	100
75.59	.31	.25	81
E.O.H.			

GEOPEKO LIMITED - KING ISLAND

SUMMARY STRUCTURAL DATA

D.D.H. No. D 419

Depth Interval (metres)	Rock Type	Fractures/m.	Joint Angle (w.r.t. L.A.O.C.)	Joint Filling	Bedding Angle (w.r.t. L.A.O.C.	% Core Recovery	R.Q.D.	Remarks (weathering)
0 - 14.93m	predrilled.							
14.93 - 28.73	q	+20		clay & pyrite		99	38	Chlorite & slickensides @ 17.37 - 19.51.
28.73 - 33.22	Fault zone	8		clay & minor pyrite		95	53	Mostly a clay recemented breccia.
33.22 - 35.66	gph	5		clay chlorite 34.6 - 34.9		100	57	clay recemented breccia to 34m. Bad ground. 33.76 - 34.14 34.64 - 34.96
35.66 - 46.33	gph ch	5		clay & carbonate.		96	88	
46.33 - 50.90	gph fault acid dyke	7		clay & carbonate		99	69	bad ground 49.0 - 49.6 Weakly leached 48.8 - 50.9
50.90 - 63.09	ch gph ph	4		clay & carbonate		99	85	
63.09 - 66.14	bph	8		clay		99	73	
66.14 - 75.59 E.O.H.	bph	3		clay	71m:55^0	98	87	

FURTHER DATA & REMARKS

1. Detailed % core recoveries within each depth interval is shown in the core recovery tabulation.
2. R.Q.D. (rock quality designator). = $\frac{\text{length core} > 10 \text{ cms}}{\text{length ~~recovered~~}}$ %
3. Core size.HQ. 63.5mms. diameter.

GEOPEKO LIMITED - DOLPHIN MINE

ASSAY DATA

D.D.H. No. D 419

SAMPLE No.	DEPTH (METRES)				ELEMENTS					COMMENTS
	From	To	Length	Length Recovered	WO_3	Mo				
D 3671	34	35	1.0	1.0	0.01	<0.01				
2	35	36	"	"	0.84	0.13				
3	36	37	"	"	0.23	0.02				
4	37	38	"	"	0.64	0.03				
5	38	39	"	"	0.16	0.02				
6	39	40	"	"	0.96	0.07				
7	40	41	"	"	0.12	0.01				
8	41	42	"	"	0.03	0.01				
9	42	43	"	"	0.10	<0.01				
80	43	44	"	"	<0.01	<0.01				
1	44	45	"	"	0.01	<0.01				
2	45	46	"	"	<0.01	<0.01				
D 3683	46	47	"	"	0.22	0.01				
D 3684	52	53	"	"	0.10	<0.01				
5	53	54	"	"						
6	54	55	"	"						
7	55	56	"	"						
8	56	57	"	"						
9	57	58	"	"						
90	58	59	"	"						
1	59	60	"	"						
2	60	61	"	"						
D 3693	61	62								

SPECIFIC GRAVITY

Determined by:

Depth (m) :
Rock Type :
S.G. :

Only split 3671 - 3684 before splitter became unserviceable.

GEOPEKO LIMITED - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 419

0 - 14.93m Precollared by K.I.S. Crawlmaster.

14.93 - 29.56m QUARTZITE

Pale grey barren heavily broken quartzite. Abundant clay and moderate pyrite on joint surfaces.
17.37 - 19.51 Fault zone (?)
Core is heavily sheared and there is abundant chlorite and slickensides evident on fracture surfaces.

29.56 - 33.22m FAULT ZONE

This interval is a clay recemented breccia the rock types being a mixture of biotite hornfels and quartzite.
Quality of core is moderately good R.Q.D. and there is no significant core loss except between 32.0 - 33.22 = 19 % lost.

33.22 - 62.24m B LENS

33.22 - 43.13 Garnet pyroxene hornfels
Grossular garnet and pyroxene rich weakly developed skarn. No significant mineralization to 34.96 but then moderate grade desseminated scheelite to 43.13m.

43.13 - 46.20 Marble
Barren grey marble.

46.20 - 46.63 Garnet pyroxene hornfels
High grade desseminated scheelite in an andradite and grossular garnet pyroxene rich skarn.

46.63 - 47.0 Fault (?)
Rubbly core with abundant chlorite on fracture surfaces. In part is brecciated and clay recemented.

47.0 - 50.25 Acid dyke (?)
Medium to coarse grained grey rock. Volcanic texture weakly fragmental.

50.25 - 57.13m Marble
Mostly a barren grey marble but there are some minor developments of weakly mineralized garnet pyroxene hornfels.
e.g. 50.25 - 50.50.
52.60 - 53.60.
55.20 - 56.20m.

57.13 - 60.40m Garnet pyroxene hornfels
Grossular garnet and pyroxene rich fine grained skarn with minor andradite garnet. Moderate desseminated scheelite 57.13 - 60.20m.

60.40 - 62.24 Pyroxene hornfels
Pale green barren ph and very pale whitish pink grossular garnet. No proper skarn development.

GEOPEKO LIMITED - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. D 419

62.24m - 75.59m BIOTITE PYROXENE HORNFELS

Dominantly biotite rich to 65.9 but below this depth there would be approximately 50:50 bh/ph intermixed. No mineralization. The unit is typical of the immediate hangingwall and footwall of B lens.

75.59m E.O.H.

GEOPEKO LIMITED - KING ISLAND

LOG OF D.D.H. No. D 418

PLANNING

Proposer: K.I.S. Depth: 76m.

Location: Heavy vehicle yard.

Purpose of hole: u/g fill hole.

Co-ordinates: 220 120 E 564 235 N

Inclination: Vertical Magnetic

Bearing: Grid Target depth:

Target: E N

Approved by: M. Baker. Date: 1/3/75

SURVEY

Survey Co-ords: E N

Survey bearing: Grid Magnetic

Surveyed in by: Date:

Actual Co-ords: 220 119.6 E 564 234.0 N

R.L. of collar: +7.0 Inclination of hole:

Picked up by : M.G.M. Date: 2/4/75

SUMMARY

Logged by : M.J. Danielson.

Results: No assays taken.

DRILLING

Driller/Contractor: A.D.D.

Date commenced: 19.3.75 Date terminated: 30/3/75

Casing: Size : AX

Depth : 77.11

Core: Size : HQ

Depth : 28.34 to 77.11

Wedge Runoff:

Wedge placed: NIL Depth:

Proposed by : Approved by:

Reason:

Extension: NIL

Reason for termination: Hole entered -75m R.L. Wedge Area mine workings Final depth: 77.11m

Condition of hole on completion:

Casing : 0 - 77.11m AX casing remains.

Cemented : No.

Bore hole survey: No.

Water: Lost all water return at approximately 60m.

Comments on drilling conditions: Lousy!

GEOPEKO LIMITED - KING ISLAND

GEOLOGICAL LOG

D.D.H. No. 418

0 - 28.34m. Precollared by K.I.S. Crawlmaster.

- 44.80m. QUARTZITE

Typical pale grey massive quartzite. No scheelite mineralization but abundant pyrite on joint surfaces - also clay.

Quality of core is moderate for mine area quartzite but below 40m the core becomes brecciated.

44.80 - 49.68 FAULT ZONE

This fault zone is presumably the Wedge Fault. Core recovery is poor in this section and the core recovered is only rubble with no structural competence at all.

The rock in this zone is a mixture of quartzites and mine series at times forming a clay recemented breccia e.g. 45.5m.

49.68 - 53.50 BIOTITE PYROXENE HORNFELS

This interval is a mixture of green (ph) and brown (bh) hornfels but core is heavily sheared and brecciated with abundant clay and chlorite on joint surfaces - minor pyrite.

53.30 - 53.80 PYROXENE GARNET HORNFELS

Several pieces of rock very similar in appearance to pgh. Pale green ph with irregular fragments of carbonate - minor grossular garnet.

No mineralization.

53.80 - 69.00 SHEARED BIOTITE PYROXENE HORNFELS

Basically a biotite and pyroxene hornfels but minor grossular garnet strung out between 66.5 - 66.8m.

This section is weakly brecciated and clay recemented and gives the appearance of being either in or very close to a fault.

Some blue scheelite 68.5 - 68.7m.

Fault 69.0 - 69.5.

Core lost 0.3m.

Slickensides and chlorite on joint surfaces.

69.5 - 71.5 SHEARED BIOTITE HORNFELS

Similar to the sheared bh described above.

71.5 - 77.11 GARNET PYROXENE HORNFELS

Moderately mineralized andradite pyroxene skarn. Very high grade 75.0 - 77.11m which is a weakly banded andradite skarn.

77.11m E.O.H.

GEOPEKO LIMITED - KING ISLAND

CORE RECOVERY

D.D.H. No. D 418

INTERVAL (m)	LENGTH (m)	LENGTH RECOVERED (m)	RECOVERED % CORE
28.34 - 29.56	1.22	1.22	100
31.39	1.83	1.69	92
32.92	1.53	1.53	100
34.44	1.52	1.52	100
35.97	1.53	1.53	100
37.49	1.52	1.52	100
39.01	1.52	1.52	100
40.54	1.53	1.53	100
42.06	1.52	1.52	100
45.11	3.05	2.95	97
46.63	1.52	1.30	85
47.85	1.22	1.00	82
48.92	1.07	.70	65
49.68	.76	.50	66
51.20	1.52	1.30	85
52.73	1.53	1.20	78
54.10	1.37	1.20	87
55.17	1.07	1.00	93
56.69	1.52	1.52	100
57.91	1.22	1.13	93
58.52	.61	.61	100
59.74	1.22	1.20	99
61.26	1.52	1.52	100
61.71	.45	.45	100
63.25	1.54	1.54	100
64.92	1.67	1.48	89
66.45	1.53	1.53	100
69.49	3.04	2.74	90
71.02	1.53	1.40	91
72.54	1.52	1.52	100
75.59	3.05	3.05	100
77.11	1.52	1.33	87
E.O.H.			

GEOPEKO LIMITED - KING ISLAND

LOG OF D.D.H. NO: D 417

PLANNING

Proposer: K.I.S. Depth: 85m

Location: Geopeko car park.

Purpose of hole: Ventilation shaft - test ground conditions.

Co-ordinates: E N

Inclination: Target depth: 85m

Bearing: °Grid °Magnetic

Target: E N

Approved by: M. Baker Date: 14.5.74

SURVEY

Survey Co-ords: E N

Survey bearing: °Grid °Magnetic

Surveyed in by: Date:

Actual Co-ords: 220 035.83E 5[6]4 258.49N

R.L. of collar: 10.36 Inclination of hole:

Picked up by: M. G. Marchant Date: 3.6.74

SUMMARY

Logged by: M. J. Danielson

Results: Quartzites throughout. No mineralisation.

DRILLING

Driller / Contractor: A.D.D.

Date commenced: 21.5.74 Date terminated: 25.5.74

Casing:	Size :	HW	NX			
	Depth:	3m	27m			
Core:	Size :	HQ	NQ			
	Depth:	27.28	81.38			

Wedge Runoff:

Wedge placed: Nil Depth:

Proposed by: Approved by:

Reason:

Extension: Nil Final depth: 81.38m

Reason for termination: Reached required depth.

Condition of hole on completion:

Casing : 3m HW cemented in.

Cemented:

Bore hole survey: Surveyed to 80.77m

Water: Normal water pressure throughout.

Comments on drilling conditions: "Good" drilling throughout.

GEOPEKO LIMITED - DOLPHIN MINE

SUMMARY BORE HOLE SURVEY DATA

D.D.H. NO. D 417

Survey method : Multishot Camera
Final depth : 81.38m
Casing depth : 27.28m

Depth surveyed to : 80.77m
Date surveyed : 27.5.74
Surveyed by :G. Buckland
Checked by :M. J. Danielson

DEPTH	Bearing		Inclination		True Vertical depth	Co-oridinates	
	Grid	Mag.	Read	Corrected		E W	N S
30.48		258°		-86°15'	30.42	1.95	0.41
45.72		258°		-86°15'	45.63	2.93	0.62
60.96		258°		-85°45'	60.83	3.98	0.86
76. 20		251°		-85°45'	76.02	5.11	1.21
80.77		252°		-85°30'	80.58	5.45	1.33

REMARKS

GEOPEKO LIMITED - KING ISLAND

SUMMARY STRUCTURAL DATA

D.D.H. NO. 417

Depth Interval (metres)	Rock Type	Fractures / Metre	Joint Angle	Joint Filling	Bedding Angle	% Core Recovery	Broken Core % >10cms (R.Q.D.)	Remarks (weathering)
0 - 2.13	overburden					Nil		precollared
2.13 - 4.57	quartzite			clay/ pyrite		84	45	
4.57 - 10.06	"	10		"		100	58	
10.06 - 12.65	"	+20		clay		100	31	slightly weathered bad ground 10.6 - 11.6
12.65 - 27.28	"	5		clay/ pyrite		99	50	bad ground 25.3 - 27.3
27.28 - 71.63	"	8		"		100	70	
71.63 - 81.38	"	10		"		100	64	

FURTHER DATA & REMARKS (Compression Tests)

Core size : 0 - 27.28m HQ (63.5mms dia.)
27.28 - 81.38m NQ (48.3mms dia.)

GEOPEKO LIMITED - DOLPHIN MINE

GEOLOGICAL LOG

D.D.H. NO. 417

0 - 2.13 Precollared using a Crawlmaster made available from the Open cut.

2.13 - 15.0 Mostly a fresh grey weakly spotted quartzite with oxidation on joint surfaces.

Clay and pyrite are the most common joint fillings.

10.06 - 12.65 Core is slightly weathered. Badly shattered ground 10.6 - 11.6m.

15.0 - 81.38 Fresh grey quartzite. Small cavities, usually less than 1cm dia. occur at most predominantly at:

15 - 18m
62 - 63m
73 - 75m.

They are similar in appearance to solution cavities but more likely represent incomplete compaction in the original sediments.

81.38 E.O.H.

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. D 417 — Date Surveyed 27/5/74

Total Depth 81.38m — Depth Surveyed To 80.77 m

Casing Depth 27.43m — Surveyed By Gtbuckland

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords. N/S	Sum of Co-Ords. E/W
100	3° 45	3 45	·9979 / ·0654	99.79	99.79	6.54	S78W	S78W	·2079 / ·9781	1.36	6.40	1.36	6.40
30.48				30.42	30.42							0.41	1.95
120	3 45	3 45	·9979 / ·0654	19.96	119.75	1.31	S78W		·2079 / ·9781	0.27	1.28	1.63	7.68
	3 45						S78W						
150	3 45	3 45	·9979 / ·0654	29.94	149.69	1.96	S78W	S78W	·2079 / ·9781	0.41	1.92	2.04	9.60
45.72	3 45				45.63		S75W					0.62	2.93
	3 45						S78W						
160	3 45	3 45	·9979 / ·0654	9.98	159.67	0.65	S76W	S78W	·2079 / ·9781	0.14	0.64	2.18	10.24
180	4 1/	4 1/	·9976 / ·0698	19.95	179.62	1.40	S76W	S76W	·2419 / ·9703	0.34	1.36	2.52	11.60
200	4 15	4 15	·9973 / ·0741	19.95	199.57	1.48	S78W	S78W	·2079 / ·9781	0.31	1.45	2.83	13.05
60.96	4 15				60.83		S78W					0.86	3.98
220	4 30	4 30	·9969 / ·0785	19.94	219.51	1.57	S75W	S75W	·2588 / ·9659	0.41	1.52	3.24	14.57
240	4 30	4 30	·9969 / ·0785	19.94	239.45	1.57	S72W	S72W	·3090 / ·9511	0.49	1.49	3.73	16.06
250	4 15	4 15	·9973 / ·0741	9.97	249.42	0.74	S71W	S71W	·3256 / ·9455	0.24	0.70	3.97	16.76
76.2	4 15				76.02		S71W					1.21	5.11
260	4 30	4 30	·9969 / ·0785	9.96	259.38	0.79	S71W	S71W	·3256 / ·9455	0.26	0.75	4.23	17.51
280	4 30'	4 30	·9969 / ·0785	19.96	279.36	0.39	S72W	S72W	·3090 / ·9511	0.12	0.37	4.35	17.88
80.77	↓	"			80.58		"					1.33	5.45
	X7												
	"												

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. D 417 — Date Surveyed 27/5/74

Total Depth 81.38m (267') — Depth Surveyed To 265 (80.77m)

Casing Depth 27.43m (90') — Surveyed By GB

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
1	0	Open			23	22	220	4°30'	S75W	
2	1	Open			24	23	240	4°30'	S72W	
3	2	m			25	24	250	4°15'	S71W	
4	3	m			26	25	250	4°15'	S71W	
5	4	m			27	26	250	4°30'	S71W	
6	5	m			28	27	250	4°15'	S71W	
7	6	m			29	28	260	4°30'	S71W	
8	7	Casing			30	29	265	4°30'	S72W	
9	8	Casing	3°30'		31	30	265	4°30'	S72W	
10	9	Casing	3°45'		32	31	265	4°30'	S72W	
11	10	100	3°45'	S78°W	33	32	265	4°30'	S72W	
12	11	120	3°45'	S78°W	34	33	265	4°30'	S72W	
13	12	120	3°45'	S78W	35	34	265	4°30'	S72W	
14	13	m	———		36	35	265	4°30'	S72W	
15	14	150	3°45'	S78°W	37	36	m	———		
16	15	150	3°45'	S75°W	38	37	240	4°30'	S71W	
17	16	150	3°45'	S78W	39	38	240	4°15	S72 30'W	
18	17	160	3°45	S[illegible]W	40	39	240	4°15	S72W	
19	18	180	4°	S76°W	41	40	220	4°15	S76W	X
20	19	m	———		42	41	200	4°5'	S78W	
[illegible]	20	200	4°15'	S78W	43	42	200	4°15'	S78W	
[illegible]	21	200	4°15'	S78W	44	43	180	4°5'	S77W	

REMARKS:-

Photos up: 5' + [illegible]

Camera + 7 rods fell to EOH when pulling up from 160 to 140'.

No apparent damage to equipment

DDH D 417
Total depth : 81.38 m
Surveyed to : 80.77 m
Date surveyed: 27/5/74
Surveyed by : G.L.B.
Scale : 1:500
Casing : 27.43 m.

MAG. N.

I.S.G.N

I.S.G.N

80.58

76.02

60.83

45.63

30.42 UD

DIAMOND DRILL HOLE SUMMARY

SHEET NO 1 OF

D.D.H. DDH 416 FINAL DEPTH

CO-ORDINATES RELATIVE LEVEL

DATE COMMENCED DATE COMPLETED

DATE SURVEYED

LOCALITY:

Footage	Rock Type	Assay Results WO₃%	Joints per Metre (0 / 0–2 / 2–4 / 4–8 / 8–10 / 10–20 / 20+)	Joint Direction	Fracture	Faulting	Filling	Bedding	Veining
0	PYROXENE HORNFELS	Te core test.	3	45, 80°				% broken core < 3".	chl. calcite, epidote
1			3	45, 40°					
2			7	55, 58 15,			cal. chl.		cal.
3			6	57, 55, 75, 80° 28, 50°			cal, chl, gypsum, pyrite	[illegible],	cal, chl epid, [illegible]
4			4	60, 54 90, 75			chl, pyr, cal,		[illegible], qtz
5			5	90 80, 45, 90°, 14			pyr, chl	17%	qtz
6			7	60, 54, 80° 80° 10°, 55° 60			cal, pyr, chl		cal.
7		20%	7+20?	25°, 75°, 35				60%	cal.
8	C-LENS GARNET SKARN		7+20	60° 30°, 0° 50°, 60° 90°	alot of weaving & rotten core		cal, pyrit, chl	25%	cal, joints filled with cal, chl, pyrite
9			7	30° 30°, 90° 27°, 36°, 55°			cal, chl, pyr.	10%	cal. chl.
10			5	73° 55° 80°, 85° 80°			cal, pyr.		
11			4	84°, 90° 87° 90°			cal, pyr		
12			3	75° 77° 90°			cal, sulp.		
13			5	80, 80°, 60° 44° 73°			cal. suph-pyrite	5%	
14			5	90°, 75°, 80° 77° 84°			cal, sulp-pyrite, chl.?		cal.
15			5	80°, 60° 60° 70° 66°			cal, sulp. pyrite chl.		
16			5	90° 80° 70° 82° 68°			cal, sulp., chl.,		
17	BIOTITE HORNFELS	30%	4+20	32°, 37° 30°, 20°	Badly broken, brecciated slickensides	FAULT between 16.00–17.00 m	chl, sulp, iron staining. cal.	25%/60%	cal.
18		20%	4+20	50°, 45° 65°			chl, sulp, cal. gypsum.	60%	cal.
19	PYROXENE GARNET HORNFELS		5+5	58, 60, 25° 70° 57°			chl, cal. gyp.	15%	cal
20			3	35° 80° 62°			chl, sulp, cal.		
21			5+3	45° 82° 82°, 90°, 22° 20°			chl, sulp, cal,	20%	cal.
22			1				cal, sulp,		cal.
23			7	74°, 90°, 65° 10°, 90° 20° 80°			cal, chl, sulp.	20%	cal.
24			4	70°, 65° 60° 80°			chl, cal, sulp		
25			3+3	90° 25°, 50°,			chl, cal, sul,	20%	cal,
26			6	50°, 70°, 20° 20°, 14°, 80°	med.		cal, chl, sulp.	20%	cal.
27			3	55° 70° 70°			chl, cal, sulp.		
28			8	38° 87° 57° 45° 75°			cal, chl, sulp.		
29			3	80, 46°, 52			cal.		
30			3	80°, 64°, 60°			cal, chl.		

DDH 416

0 – 2·33m Pyroxene hornfels

Massive green rocks with abundant ~~calcite~~ veins and stringers of calcite – epidote ± chlorite. Veins are up to 2cm wide (and appear to follow the joint pattern) 60° LAOC & 55° LAOC.

Junction between biotite-hornfels / Pyroxene hornfels at 0 — 0·20m.

~~2·33m –~~

~~Contact~~

2·33m — 16·08m C-lens Skarn

2·33m – 6·20m Fine grained ~~garnet~~ andradite garnet hornfels with occasional veins and stringers of (qtz + calcite)

6·20m – 6·45m Biotite Hornfels with prominent bedding-foliation.

Badly broken core → 0·20m core loss.

6·45m – 16·08m Coarse grained andradite skarn containing fine disseminated scheelite.

6·45 – 7·80m Broken fractured core with abundant calcite stringers, & infilled joints & veins of calcite.

16·08 – 17·0m(?) Biotite hornfels Badly broken and brecciated core showing slickensides. Abundant calcite veins and stringers.

PROBABLY A ~~FA~~ SMALL FAULT.

17·0m – 53·00m Pyroxene Garnet Hornfels (P.G.H.)

Typical greenish-grey P.G.H with characteristic calcite ovoids often rimmed by brown granular garnets.

Some ovoids and irregular masses contain sulphides (mainly pyrite), andradite garnet, chlorite and minor fine disseminated scheelite.

21m – 23m Abundant calcite veins (up to 1·5cm wide) & calcite in the joints (→ or infilled joints?).

24·5m & 25·5m Badly weathered core. → chlorite rich & breaks v. easily.

18 - 23m Chl + scheel pod at 19.90.

23 - 28 No schel except vein. 36.

28 - 34 Pods of chlorite + scheelite at 30.19m, 31.20m + 33.04m.

34 - 39m. Chl pod with scheelite 34.68m., 37.36, 38.80m

39 - 45m. Chlorite rich pod with coarse schee cry at 42.65m.

45 - 51 No sch. except large amphibolite, chlorite pod at approx 47.25m.

51m - 53m. — no scheelite in pgh.

Veins of coarse scheelite at 43.05m
↓
up to 2cm wide.

41.63m
27.81m.
~~26.75m~~
~~28.24m~~
28.83m
30.98m
31.57
31.78m
32.15m

49.55 – 50.02m – Aplite(?) dyke, or a large fragment in p.gh.

53.00m – ~~86.68~~ Biotite Hornfels.

Massive grey to black-brown biotite hornfels; the grey rock probably being actinolite rich.

55.25 – 56.0m ~~Upper contact of part of the pgh~~

Contact between pgh and biotite hornfels. This intersection of pgh ~~again~~, is due to the irregular upper surface of the pgh.

~~The pgh is very~~ The fragments within the pgh. are very angular and completely replaced by pyrrhotite and minor chalcopyrite and pyrite.

56.0 – 59.85 An irregular grey brown biotite hornfels intermixed with a pale grey actinolite (?) rich hornfels – the boundary between the two is generally quite diffuse.

58.20 A band (1 cm wide) actinolite hornfels at 12° to C.A.O.C.

58.85 – 61.0 Pale greenish grey hornfels – possibly more pyroxene rich.

61.0 – 62.15 Intermixed Bh and Ah but ~~the~~ before however the Ah now appears as definite fragments which at 61.60 show evidence of shearing at 10° to C.A.O.C.

62.15 – 64.20 Spotted Bh. Abundant small spots up to 5 mm dia often joined together and often elongate although in no preferred direction. Spots often have a greyish white centre with a dark brown margin.

65.20 – 66.20 Pyroxene rich hornfels.

66.20 – ~~70.50~~ Irregular brownish grey Bh/Ah as before. Some weak banding at

67.10 18° C.A.O.C

68.20 12° "

~~70.48~~

69.50 10° ∠A0C.

70.50 17° "

70.50 — 71.80 Spotted hornfels. Small abundant spots as before but now elongate at approx. 15° to ∠A0C.

71.80 — 76.60 Irregular grey brown Bth/Ath.
Minor carbonate veining 73.5 0.5 cm wide
73.75 ~~###~~ 2 x 2 mm wide
74.8 abundant fibrous veining
75.10 1 cm wide

76.60 — 78.0 Spotted hornfels. No apparent orientation of the spots.

Core begins to deteriorate in competency past 74.5 m and becomes very poor beyond 78.30 m.

78.0 — 84.15 Abundant chlorite (and talc?) on joint surfaces. Core very incompetent. Much core loss. (see frac. log.)

84.15 — 84.85 Core quality improves to moderate.

84.85 — 86.68 Core is heavily sheared with majority of joint + shear surfaces at low angles to long axis of core. Abundant chlorite on joint surfaces.

86.68 — B Lens.

86.68 — 88.70 Weakly mineralised granular garnet skarn. Core is very competent. No coreloss. ∠ 2 j/m.

88.70 — 91.0 Principally a pyroxene hornfels with patches of carbonate and granular garnet, up to 10 cms long in some elongate shapes. Scheelite is confined to several quartz carbonate veins up to 5 mm wide.

91.0 – 92.90 Biotite - pyroxene hornfels.
Mostly Dk but irregularly banded Ph at 30° ∠ AOC.

92.90 – 93.60 Pale green very siliceous pyroxene hornfels.

93.60 – 98.50 Marble.
Mostly banded grey, bedding at 35° ∠ AOC.
Mod. disseminated scheelite 98 – 99 m.

98.00 – 99.00 Pale green siliceous pyroxene hornfels with mod. disseminated scheelite.

99.00 – 102.90 Tuffite(?)
Mostly pale grey-green in colour and have abundant porphyroblasts of mica (~~biotite~~ mainly biotite with possible minor muscovite) generally aligned approx 20°–30° to ∠ AOC. This unit resembles the older volcanics unit.

99.36 – 99.70 Core badly broken, sheared & ~~con~~ has slickensides. [illegible] are present.

902.53 – 102.90 Similar to 99.36 – 99.70.

(Note mica porphyroblasts may be due to shearing!)

102.90 – 105.00 Pyroxene hornfels.
~~Red~~ Mostly pyroxene hornfels which is very quartz & carbonate rich and contains a bit of andradite garnet & granular garnet with minor disseminated scheelite.

105.00 – 110.25 ~~marble dk brown grey black~~ Marble.
Massive brown grey-black marble with bedding at approx 30° – 37° to ∠ AOC.

110.25 – 116.00 Pred Pyroxene Hornfels with minor Biotite hornfels.

110.25 – 111.70 Typical green pyr. hornfels containing minor scheelite specks, granular garnet and very siliceous in parts. ~~extremely well developed~~

111.70 – 112.95 Biotite hornfels with ~~extremely well defined~~ foliation (bedding plane?) defined by biotite flakes. Minor pyroxene hornfels bands are present.

112.45 – 116.00 Pred. pyroxene hornfels with occasional bands of biotite hornfels at approx 40° to LAOC. Pyr. hornfels contains minor granular garnet and irregular blebs and patches of foliated biotite hornfels. Calcite veins generally have elongate crystals of chlorite with minor pyrite.

116.00 – Biotite hornfels (& Pyroxene Hornfels)

116.00 – 126.90 Generally massive dark purplish-brown biotite hornfels with well defined biotite foliation and occasional lenses and bands of pyroxene hornfels at approx 30-90 to LAOC. Biotite foliation at approx 25 – 40° to LAOC.

126.90 – 129.60 pale green – dark green pyr. hornfels with veins of calcite and minor breccia recemented by calcite. Fine disseminated sulphides (mainly pyrite) occurs throughout.

129.60 – 133.00 Biotite hornfels

133.00 – 135.00 Greyish-dark brown biotite hornfels (?) with well developed incipient spotting. This gives a mottled texture. The spots are greyish-white; the matrix dark brown.

135.00 – 141.00(?) Grey { Upper volcanics? / Biotite hornfel } with extremely well developed spotting which closely resembles that of the upper meta-volcanics; band/preferred orientation of spotting – 35° to LAOC. (with black spots and a light grey matrix)

Core badly broken, fractured and rubbly in part from 133.00 — 144.00; Joint freq is >20 j/m.

Recemented breccia at 143.5m.

Rubble at 138.80 – 139.00, 139.60 – 139.70; 140.44 – 142.80

141.00 – 146.80 Biotite hornfels with well developed to incipient spotting. Spots are light grey-white; matrix is dark brown. Occasional bands of pyroxene hornfels occurs. The spots resemble pyroxene hornfels or actinolite hornfels.

146.80 — ~~Massive~~.

146.80 — 167.80 Biotite hornfels generally massive and spotted in part (pale greyish-green pyroxene-actinolite hornfels spots in a biotite rich matrix).
Unit well jointed from 146.80 - [illegible]

167.80 — 175.65 Speckled biotite hornfels containing small ~~specs~~ black specs of biotite and fine pale greyish-green specs of pyroxene (actinolite) hornfels. The unit is very micaceous and coarser grained in appearance than the typical massive biotite hornfels

in a light-dark brown biotite hornfels matrix

175.65 — 198.00 Massive black - dark-brown Biotite hornfels. Aplite vein (4.5cm wide) at 189.48; quartz vein (10cm wide) at 188.70m.
Minute veins and cracks (former solution channel ways) are lined by pyroxene (an actinolite?) reaction veins varying from 0.5mm to 1cm in width.

199.00 - 199.75 Biotite hornfels with pale green bands and lens of pyroxene hornfels, at 20° - 40° to LAOC. Abundant sulphides (pyrrhotite + pyrite) occur aligned parallel to the bedding in the pyroxene lenses and bands.

199.75 - 201.50 Pale green siliceous pyroxene hornfels.

201.50 - 221.30 massive black - dark brown biotite hornfels with bands & lenses of pyroxene (actinolite?) hornfels (containing invariably sulphides (pyrrhotite + pyrite + occasional chlorite)). (Bedding in Biotite hornfels is 10 - 27° to LAOC.) ranging from 0.05cm - 30cm in width. Thin sulphides veins are common.

221.30 - 225.00 Pale greenish-grey pyroxene? (actinolite?) hornfels with abundant calcite and sulphides veins.

225.00 - 233.52 Biotite hornfels with pyroxene (actinolite) hornfels banding.

233.52 - 236.80 Greyish - green pyroxene (actinolite?) hornfels.

236.80 - 240.53 Biotite hornfels with pyroxene (actinolite) hornfels bands and lenses.

240.53 - 245.72 Greenish - grey very siliceous pyroxene (actinolite) hornfels with patches of black biotite hornfels.

245.72 - 283.00m Biotite hornfels with bands & lenses of pyroxene (actinolite?) hornfels (with sulphides) & Banding ranging from 18° to 33° to LAOC.
Recemented breccia - 20cm wide at 262m.

V minor trace of pure scheelite associated with pyrrhotite & chlorite occurs at 271.40m & 271.90m

273.00 - 283.0 V. Well developed ~~biotite~~ foliation in biotite hornfels at ≈ 20° - 30° to LAOC.

283 - 295.50 Biotite hornfels - massive black-dark brown biotite hornfels with well defined foliation (20 - 30° to CA0C) and occasional spotting at 288-289 m. Spots are small, white-grey in colour and appear 1-4 mm in maximum dimension.

DDH 416

GEOPEKO LIMITED

D.D.H. No.: 416

Location: Portal Site
Dolphin Mine

Purpose of Hole: Test ground conditions adjacent to proposed Dolphin Decline,

Hole Proposed by: M. Baker Date 4/4/73

Surveyed in by: P. Morrison Date 13/4/73

Proposed:	219937.5	E	564139.0	N
Surveyed:	219938.76	E	564139.51	N
Actual from which Drilled:	219938.76	E	564139.51	N

Reduced Level of Collar: -52.16

Bearing:- 114 I.S.G. Grid Magnetic

Inclination:- - 9° 30' degrees

Target; depth: ft.

Planned depth: 200 m +

Actual Depth: 295.5 m

Date Commenced: 19/4/73

Date Completed: 10/6/73

Wedges Placed:

Extensions (if any)

Checked: M. Danielson

Summary Result: POSSIBLE FAULT 135.0-143.0 m: 0-16.08 C lens garnet skarn; 16.08-53.00 P.G.H; 53.00-86.68 Biotite hornfels; 86.68-116.00 B lens; 116-135 Bh; 135-141? Upper vol.; 141-198 Bh; 198-283 biotite hornfels-~~pyroxene hornfels; 283.0-295.5 Bh.~~

Remarks:

DRILL LOG DDH: 416

0 - 2.33 PYROXENE HORNFELS

Massive green rock with abundant veins and stringers of calcite-epidote-chlorite, up to 2 cm in width and approximately 55° - 60° to LAOC.

A contact between biotite hornfels and pyroxene hornfels occurs at 0 - 0.20 m.

2.33 - 16.08 C-LENS GARNET SKARN

2.33 - 6.20 Fine grained andradite garnet skarn with occasional quartz and calcite stringers and veins.

6.20 - 6.45 Badly broken biotite hornfels with prominent foliation. 0.20 m core loss.

6.45 - 16.08 Coarse grained andradite skarn containing fine disseminated scheelite. Broken fractured core with abundant infilled joints and stringers of calcite occurs from 6.45 - 7.80 m.

16.08 - 17.0 (?) BIOTITE HORNFELS - FAULT?

Badly broken and brecciated core showing slickensides. Abundant calcite veins and stringers. Probably a small fault?

17.0 - 53.0 PYROXENE GARNET HORNFELS (P.G.H.)

Typical greenish-grey P.G.H. with characteristic calcite ovoids often rimmed by brown grossular garnet. Unmineralised except for occasional ovoids and quartz veins. Some ovoids (and irregular masses of calcite) contain sulphides (mainly pyrite), andradite garnet, chlorite with minor fine disseminated scheelite, (e.g. at 19.90 m, 30.19 m, 31.20 m, 33.04 m, 34.68 m, 37.36 m, 38.80 m, 42.65 m, 47.25 m.)

Veins of coarse scheelite, up to 2 cm in width, occur at 26.75 m, 27.81 m, 28.24 m, 28.83 m, 30.48 m, 31.57 m, 31.78 m, 32.15 m, 41.63 m and 43.05 m.

21.0 - 23.0 A lot of infilled joints and / or veins of calcite up to 1.5 cm wide.

24.5 - 25.5 Weathered core - chlorite rich and breaks easily.

49.55 - 50.02 Aplite dyke (?) or a large fragment in the P.G.H.

53.00 - 86.68 BIOTITE HORNFELS

53.00 - 55.25 Massive grey to black-brown biotite hornfels; the grey hornfels possibly being actinolite rich.

55.25 - 56.00 Contact between P.G.H. and biotite hornfels. This intersection of P.G.H. again is most probably due to the irregular upper surface of the P.G.H. The fragments within the P.G.H. are very angular and completely replaced by pyrrhotite with minor chalcopyrite and pyrite.

56.00 - 59.85 An irregular grey brown biotite hornfels intermixed with pale grey actinolite (?) rich hornfels - the boundary between the two being diffuse. 58.20 a band (1 cm wide) of actinolite hornfels at 12° to L.A.O.C.

58.85 - 61.00 Pale greenish grey hornfels - possibly more pyroxene rich.

61.00 - 62.15 Intermixed biotite hornfels and actinolite hornfels, but, as before, the actinolite hornfels now appears as definite fragments which at 61.60 show evidence of shearing at 10° to L.A.O.C.

62.15 - 64.20 Spotted biotite hornfels. Abundant small spots up to 5 mm diameter often joined together and elongated with no preferred direction. Spots often have a greyish white centre with a dark brown margin.

65.30 - 66.20 Pyroxene rich hornfels.

66.20 - 70.50 Irregular brownish grey biotite hornfels/ actinolite hornfels as before. Some weak banding at

67.10	18° L.A.O.C.
68.20	12° L.A.O.C.
69.50	10° L.A.O.C.
70.50	17° L.A.O.C.

70.50 - 71.80 Spotted hornfels. Small abundant spots as earlier but now elongated at approximately 15° to L.A.O.C.

71.80 - 76.60 Irregular grey brown biotite hornfels/ actinolite hornfels. Minor carbonate veining -

73.5	0.5 cm wide
73.75	2 x 2 mm wide
74.8	abundant fibrous veining
75.10	1 cm wide

Core begins to deteriorate in competency past 74.5 m and becomes very poor beyond 78.30 m.

78.00 - 84.15 Abundant chlorite (and talc?) on joint surfaces. Core very incompetent. Much core lost (see fracture log).

84.15 - 84.85 Core quality improves to moderate.

84.85 - 86.68 Core is heavily sheared with majority of joints and shear surfaces at low angles to long axis of core. Abundant chlorite on joint surfaces.

86.68 - 116.00 B-LENS

86.68 - 88.70 Weakly mineralised grossular-garnet skarn. Core is very competent. No core loss <2 j/m.

88.70 - 91.00 Principally a pyroxene hornfels with patches of carbonate and grossular garnet up to 10 cm and often elongated. Scheelite is confined to several quartz carbonate veins up to 5 mm wide.

91.00 - 92.90 Biotite-pyroxene hornfels. Mainly biotite hornfels with irregularly banded Ph at 30° to L.A.O.C.

92.90 - 93.60 Pale green very siliceous pyroxene hornfels.

93.60 - 98.00 Marble. Mostly barren grey; bedding at 35° to L.A.O.C.

98.00 - 99.00 Pale green siliceous pyroxene hornfels with moderate disseminated scheelite.

99.00 - 102.90 Tuffite (?) Mostly pale grey-green in colour and having abundant porphyroblasts of mica (mainly biotite with possible minor muscovite) generally aligned approximately 20° - 30° to L.A.O.C.

Core badly broken and sheared - 99.36 - 99.70 Abundant chlorite and carbonate on joints.

102.90 - 105.00 Pyroxene hornfels. Mostly pyroxene hornfels which is quartz and carbonate rich and contains abundant andradite and grossular garnet with minor disseminated scheelite.

105.00 - 110.25 Marble. Mainly barren grey-black marble with bedding at approximately 30° - 37° to L.A.O.C.

110.25 - 116.00 Predominately pyroxene hornfels with minor biotite hornfels.
110.25 - 111.70 - Green pyroxene hornfels containing minor scheelite specks, grossular garnet and very siliceous in parts.
111.70 - 112.45 - Biotite hornfels with well developed biotite foliation (bedding plane foliation). Minor bands of pyroxene hornfels at approximately 40° to L.A.O.C.
112.45 - 116.00 Predominately pyroxene hornfels with occasional bands of biotite hornfels at approximately 38° to L.A.O.C. Pyroxene hornfels contains minor grossular garnet and irregular blebs and patches of foliated biotite hornfels. Elongate crystals of chlorite with minor pyrite occur in some calcite veins.

116.00 - 135.00 BIOTITE HORNFELS (& PYROXENE HORNFELS)

116.00 - 126.90 Generally massive dark purplish-brown biotite hornfels with well defined biotite foliation (25° - 40° to L.A.O.C.) and occasional lenses and bands of pyroxene hornfels at approximately 30° - 40° to L.A.O.C.

126.90 - 129.60 Pale green - dark green pyroxene hornfels with veins of calcite and minor recemented breccia. Fine disseminated sulphides (mainly pyrite) occurs throughout. Unit becomes competent; abundant chlorite on joint surfaces.

129.60 - 133.00 Biotite hornfels - as above.

133.00 - 135.00 Greyish - dark brown biotite hornfels(?) with incipient to well developed spotting (giving the rock a mottled texture). Spots are greyish -white; the matrix dark brown. Rough preferred orientation of spotting - 35° to L.A.O.C. Very incompetent unit with > 20 j/m.

135.00 - 141.00 (?) UPPER METAVOLCANICS

Grey upper metavolcanics with extremely well developed spotting. The matrix is light grey, the spots are black.

Core badly broken, fractured and rubbly in part from 133.00 - 144.00: recemented breccia at 143.50; rubble at 138.80 - 139.00, 139.60 - 139.70, 140.44 - 142.80. Joint freq. > 20 j/m.

141.00 (?) - 198.00 BIOTITE HORNFELS

141.00 (?) - 146.80 Biotite hornfels with well developed to incipient spotting. Spots are light greyish-white, the matrix is dark brown.

146.80 - 167.80 Biotite hornfels - spotted in part (pale greyish-green pyroxene-actinolite hornfels(?) spots set in a biotite rich matrix). Unit well jointed (approximately 17 j/m) from 146.80 - 155.00.

167.80 - 175.65 Speckled biotite hornfels with small black specks of biotite and fine pale greyish-green specks of pyroxene and / or actinolite, set in a light-dark brown biotite hornfels matrix. The unit is very micaceous and coarser grained in appearance than the typical massive biotite hornfels.

175.65 - 198.00 Massive black-dark brown biotite hornfels. Aplite vein (4.5 cm wide) at 189.48; quartz vein (10 cm wide) at 188.70. Minute veins and cracks are lined by a pyroxene-actinolite boundary varying from 6.5 mm to 1 cm in width.

198.00 - 283.00 BIOTITE HORNFELS - PYROXENE HORNFELS

198.00 - 199.75 Biotite hornfels with pale green bands and lenses of pyroxene-actinolite hornfels at 20° - 40° to L.A.O.C. Abundant sulphides (mainly pyrrhotite with minor chalcopyrite and pyrite) occur aligned parallel to the bedding within the bands and lens.

199.75 - 201.50 Pale green siliceous pyroxene hornfels.

201.50 - 221.30 Massive black - brown biotite hornfels with lenses and bands of pyroxene-actinolite hornfels invariably associated with sulphides. Bands vary from 0.05 cm - 30 cm in width. Bedding in biotite hornfels is approximately 10° - 27° to L.A.O.C. Thin sulphide veins are common.

221.30 - 225.00 Pale greyish-green pyroxene-actinolite hornfels with abundant calcite and sulphide veins.

225.00 - 233.52 Biotite hornfels with pyroxene-actinolite hornfels banding

233.52 - 236.80 Greyish-green pyroxene-actinolite hornfels.

236.80 - 240.53 Biotite hornfels with pyroxene-actinolite hornfels bands and lens.

240.53 - 245.72 Greenish grey very siliceous pyroxene -actinolite hornfels with patches of black biotite hornfels.

245.72 - 283.00 Biotite hornfels with bands and lenses of pyroxene-actinolite hornfels at 18° - 33° to L.A.O.C. Abundant sulphides associated with the pyroxene-actinolite bands and lenses. Recemented breccia - 20 cm wide at 262 metres.

Very minor trace of pure scheelite occurs associated with pyrrhotite and chlorite at 271.40 and 271.90.

273.00 - 283.00 Very well developed foliation in biotite hornfels at approximately 20° - 30° to L.A.O.C.

283.00 - 295.50 BIOTITE HORNFELS

Massive black - dark brown biotite hornfels with well defined foliation (20° - 30° to L.A.O.C.) and occasional spotting at 288 - 289 metres. Spots are small, white-grey in colour and approximately 1 mm in maximum dimension.

E.O.H. 295.50 metres.

TRUE VERTICAL PROJECTION.

-25

-50

-52.16

30'

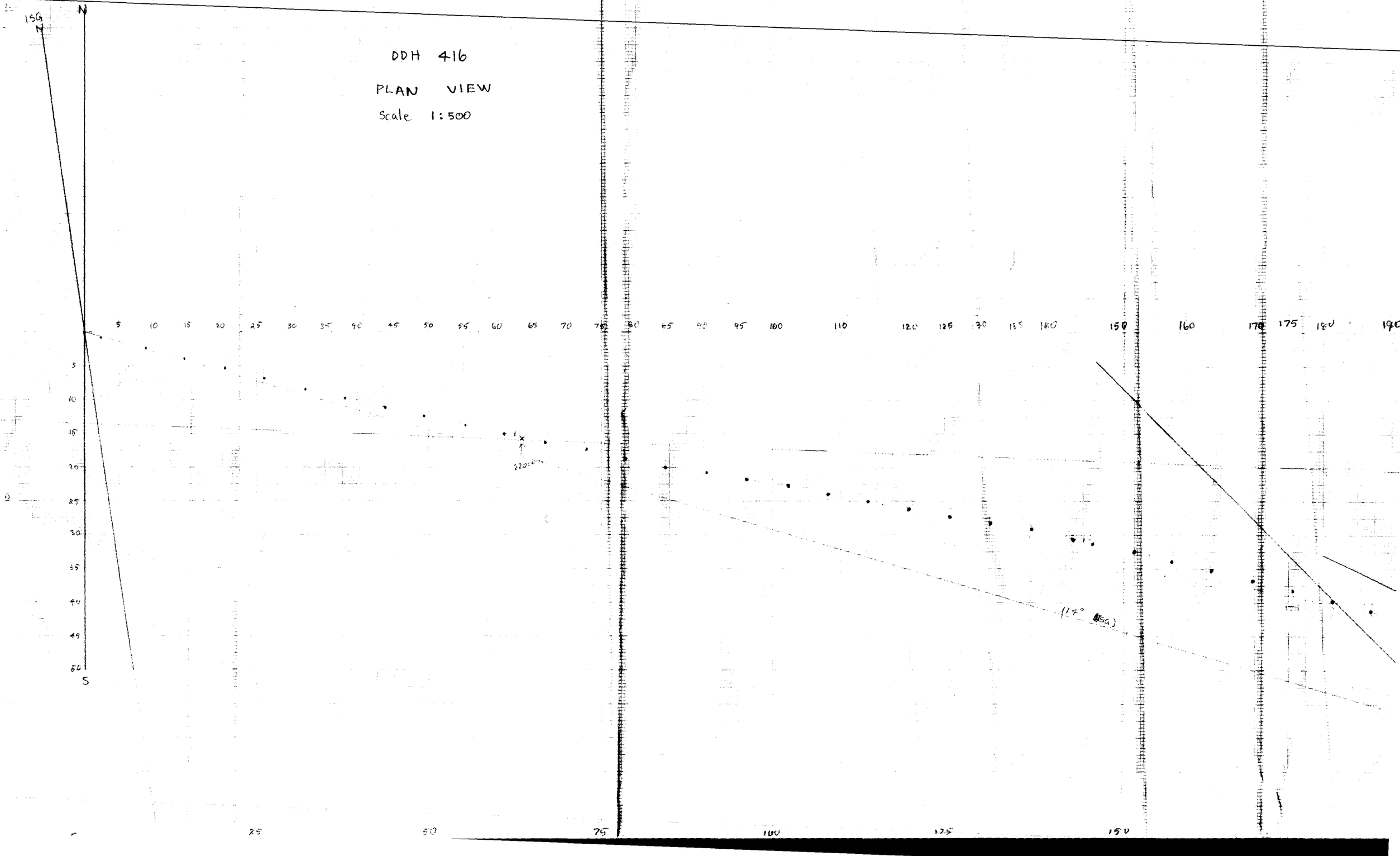
-75

-100

DDH 416

PLAN VIEW

Scale 1:500



TRUE VERTICAL PROJECTION.

25

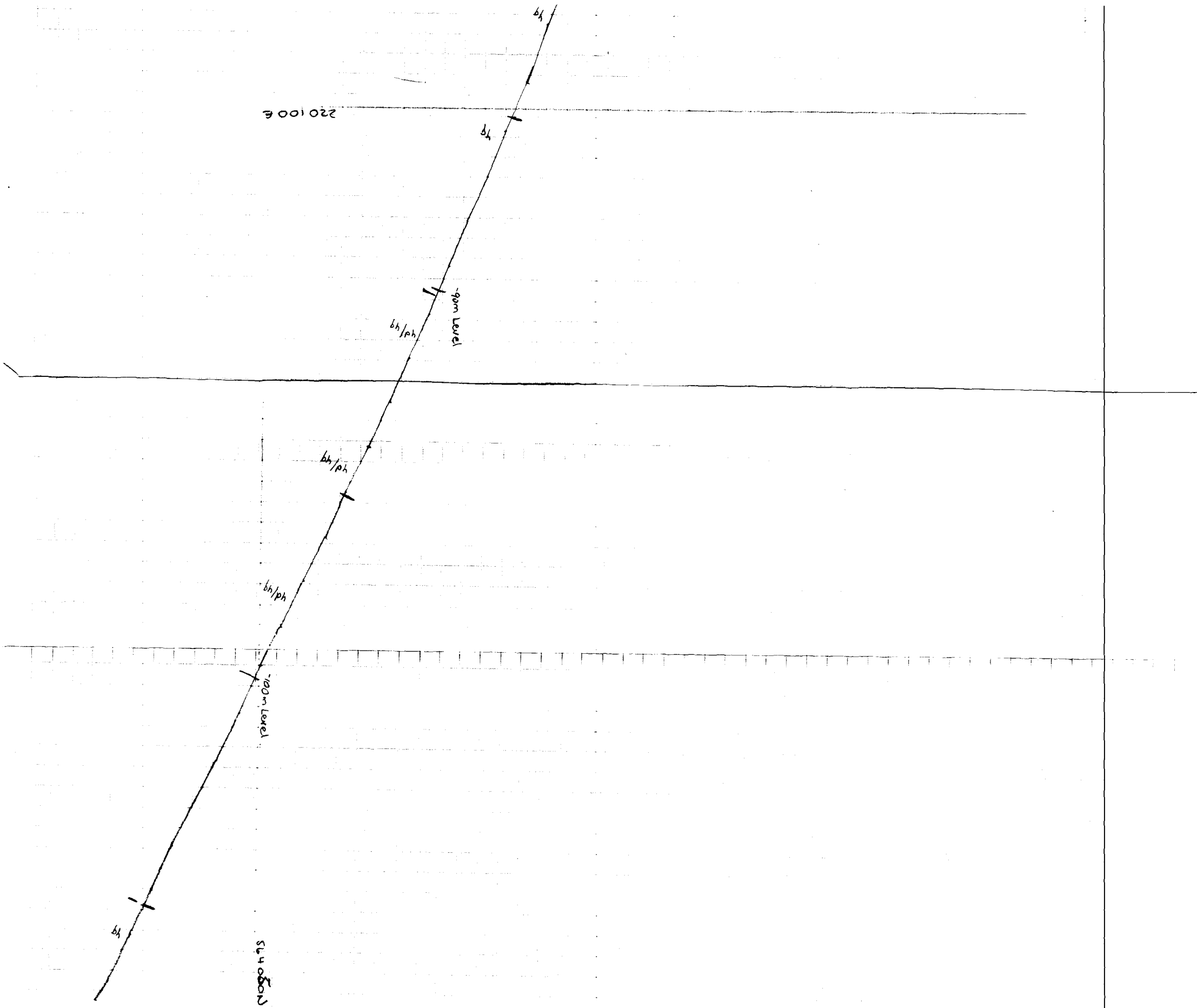
50

52.46

30°

75

100


220100 E
-90m Level
-120m Level
564080 N

564150 N

CENTRAL FAULT

C-1015

-60 m Level

-70 m Level

-80m Level

564000N

219950

219960.

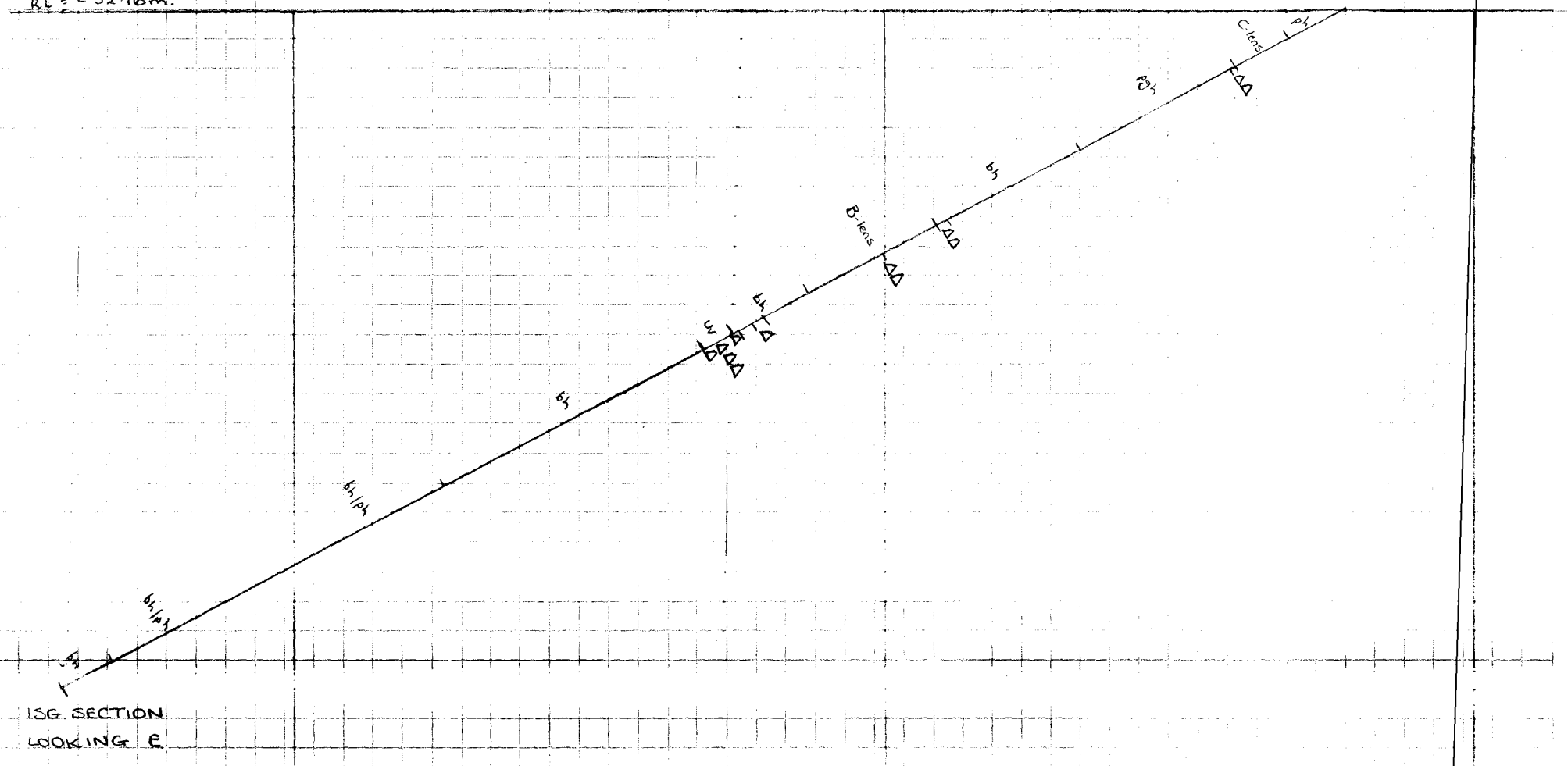
220,000E

220050E

DDH 416 PLAN VIEW.

1:500

DDH 416
1:500



ISG SECTION
LOOKING E

-90

-100

110 →

bh

bh

bh

bh/ph

bh/ph

bh/ph

bh/ph

bh

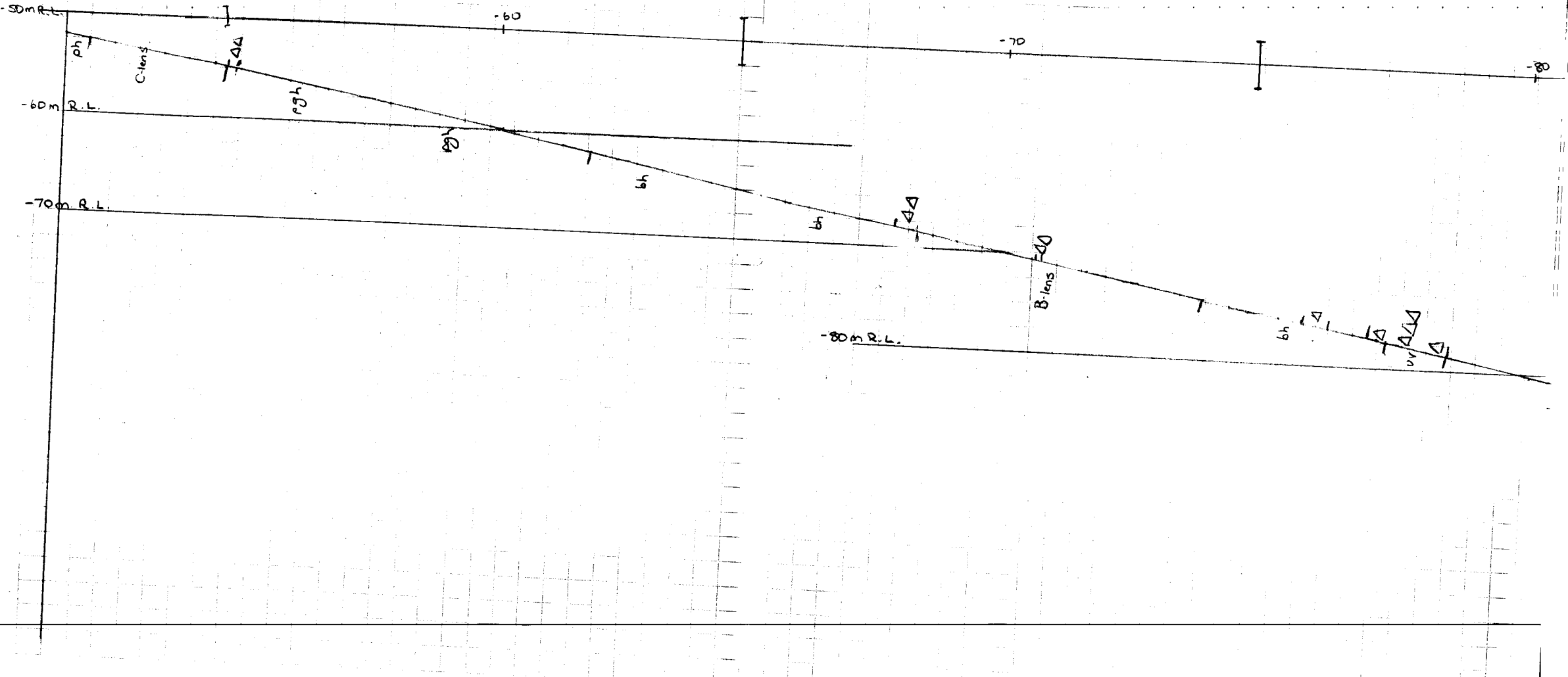
-90m. R.L.

-100m R.L.

-110m R.L.

DDH 416: SECTION IN PLANE OF HOLE

1:500



DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 416 Date Surveyed _____

Total Depth _____ Depth Surveyed To _____

Casing Depth _____ Surveyed By _____

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords. N/S	Sum of Co-Ords. E/W
0	0 00			0	0	0	assume S 75° E		.2588 / .9659	0	0	0	0
10	80 115 assumed	80 15	.1693 / .9856	1.693	1.693 / 0.516	9.856	assume S 75° E		.2588 / .9659	2.551	9.520	2.551 / 0.78	9.520 / 2.90
30	80 15	80 15	.1693 / .9856	3.386	5.079 / 1.55	19.712	S 75 E	S 75 E	.2588 / .9659	5.101	19.040	7.652 / 2.33	28.560 / 8.71
50	80 00	80 00	.1736 / .9848	3.472	8.551 / 2.61	19.696	S 75 E	S 75° 15'	.2546 / .9670	5.015	19.046	12.667 / 3.86	47.606 / 14.51
	80 00						S 75° 30' E						
70	80 00	80 00	.1736 / .9848	3.472	12.023 / 3.66	19.696	S 76 E	S 76 E	.2419 / .9703	4.764	19.111	17.431 / 5.31	66.717 / 20.34
90	79 45	79 45	.1779 / .9840	3.558	15.581 / 4.75	19.680	S 76 E	S 76° E	.2419 / .9703	4.761	19.096	22.192 / 6.76	85.813 / 26.16
110	79 45	79 45	.1779 / .9840	3.558	19.139 / 5.83	19.680	S 76° E	S 76° E	.2419 / .9703	4.761	19.096	26.953 / 8.22	104.909 / 31.98
130	80 00	80 00	.1736 / .9848	3.472	22.611 / 6.89	19.696	S 76° E	S 76° E	.2419 / .9703	4.764	19.111	31.717 / 9.67	124.020 / 37.80
150	79	79 00	.1808 / .9816	3.816	26.427 / 8.05	19.632	S 76° E	S 76° E	.2419 / .9703	4.749	19.049	36.466 / 11.11	143.069 / 43.61
170	78 45	78 45	.1951 / .9808	3.902	30.329 / 9.24	19.616	S 77° E	S 77° E	.2250 / .9744	4.414	19.114	40.880 / 12.46	162.183 / 49.43
190	78 45	78 37.5	.1974 / .9803	3.948	34.277 / 10.447	19.606	S 77° E	~~S 77° E~~ S 77° 45'	.2292 / .9734	4.494	19.084	45.374 / 13.83	181.267 / 55.25
	78 30						S 76° 30' E	S 76° 45' E					
210	78 00	78 00	.2079 / .9781	4.158	38.435 / 11.71	19.562	S 78° E	S 77° 45' E	~~.2292 / .9734~~ .2122 / .9772	4.151	19.116	49.525 / 15.10	200.383 / 61.05
	78 00						S 77° 30'					~~53.599~~	
230	78 30	78 30	.1994 / .9799	3.988	42.423 / 12.93	19.598	S 78° E	S 78° E	.2079 / .9781	4.074	19.169	53.599 / 16.34	219.552 / 66.92
250	79 30	79 30	.1822 / .9833	3.644	46.067 / 14.04	19.666	S 79° 30' E	S 79° 30' E	.1822 / .9833	3.583	19.336	57.182 / 17.43	238.890 / 72.81

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 416 Date Surveyed _____

Total Depth _____ Depth Surveyed To _____

Casing Depth _____ Surveyed By _____

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. #/S	Co-Ords. E/#	Sum of Co-Ords. #/S	Sum of Co-Ords. E/#
270	79 30	~~79 30~~ 79 45	·1779 ·9840	3·558	49·625	19·680	S 78° E	S 78° E	·2079 ·9781	4·091	19·249	61·273	258·139
	80 00				15·13		S 78° E					18·68	78·68
290	79 30	~~79 30~~ 79 45	·1779 ·9840	3·558	53·183	19·680	S 76° E	S 77° 45' E	·2122 ·9772	4·176	19·231	65·449	277·370
	80 00				16·21		S 77° 30 E					19·95	84·54
310	80 00		·1736 ·9848	3·472	56·655	19·696	S 81° E	S 81° E	·1564 ·9877	3·080	19·454	68·529	296·824
	80 00				17·27		S 81° E					20·89	90·47
330	assume 79 30	~~79 30~~	·1822 ·9833	3·644	60·299	19·666	assume S 81° E	S 81° E	·1564 ·9877	3·076	19·424	71·605	316·248
					18·38							21·525 79	96·392
350	79 00	79 07	·1908 ·9816	3·816	64·115	19·632	S 81° E	S 81° E	·1564 ·9877	3·070	19·390	74·675	335·639
	79 15		·1865 ·9827	3·730	19·54		S 81° E					22·761	102·303
370	79 00	79 00	·9908 ·9816	3·816	67·931	19·632	S 78° 30' E	S 78° 30'	·1994 ·9799	3·914	19·237	78·590	354·876
					20·71							23·954	105·166
390	79 00	79 00	·1908 ·9816	3·816	71·747	19·632	S 79° E	S 79° E	·1908 ·9816	3·746	19·271	82·336	374·147
					21·87							25·096	114·040
410	79 45	79 45	·1779 ·9840	3·558	75·305	19·680	S 79° E	~~S 79° 15' E~~	·1908 ·9816	3·755	19·319	86·091	393·465
					22·95		S 79 30' E	·1865 ·9827	·1922 ·9838			26·241	119·428
430	79 30	79 36	·1822 ·9833	3·644	78·949	19·666	S 79° 30'	S 79° 30'	·1822 ·9833	3·583	19·336	89·674	412·80
			·1779 ·9840		24·06			assume use S 79° 45'				27·333	125·822
450	79 45	79 45	·1779 ·9840	3·558	82·507	19·680	S 77° E	~~S 79° 45' E~~	·2292 ·9734	4·51	19·157	94·184 38·707	431·960 132·661
	79 45				25·15		S 76° 5 E	·1779 ·9840	·1779 ·9840	3·501	19·365	93·175 38·490	432·168 131·730
470	79 00	79 00	·1908 ·9816	3·816	86·323	19·632	S 80° E	S 80° E	·1736 ·9848	3·408	19·334	96·583	451·502
					26·31							29·438	137·618
490	79 00	79 00	·1908 ·9816	3·816	90·139	19·632	S 78° 30' E	79 45	~~·1994 ·9799~~ ·1799 ·1951 ·9808	3·830	19·255	100·443	470·757
	79 00				27·47		S 79° E					30·606	143·486
500	79 00	79 00	·1908 ·9816	~~3·816~~ 1·908	~~93·953 92·047~~ 92·047	~~19·632~~ 9·816	S 79 E	S 79° E	~~·1908 ·9816~~ ·1908 ·9816	1·873	9·635	102·285	480·392
530					28·06							31·18	146·42

2

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 416 Date Surveyed _____

Total Depth _____ Depth Surveyed To _____

Casing Depth _____ Surveyed By _____

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords N/S	Sum of Co-Ords E
520	79 00	79 00	·1908 / ·9816	3·816	95·863	19·632	S 78° E	S 78 E	·2079 / ·9781	4·081	19·202	106·367	499·544
					29·22							32·42	152·28
540	79 00	79 00	·1908 / ·9816	3·816	99·679	19·632	S 76° E	S 76° E	·2919 / ·9703	4·749	19·049	110·951	518·543
					30·38		S 76° E					33·82	158·09
560	79 00	79 00	·1908 / ·9816	3·816	103·495	19·632	S 76° 30'	S 76° 30'	·2334 / ·9724	4·582	19·090	115·533	537·733
	79 00				31·55		S 76° 31					35·22	163·90
580	79 00	79 00	·1908 / ·9816	3·816	107·311	19·632	S 76°	S 76° E	·2419 / ·9703	4·749	19·049	120·262	556·78
	79 00				32·71		S 76°					36·66	169·71
600	79 00	79 00	·1908 / ·9816	3·816	111·127	19·632	S 76E	S 76° E	·2419 / ·9703	4·749	19·049	125·031	575·831
	79 00				33·87		S 76° E					38·11	175·51
620	78° 30	78 30	·1914 / ·9799	3·988	118·115	19·998	S 75E	S 75 E	·2588 / ·9659	5·072	18·926	130·103	594·759
					36·00							39·66	181·30
640	79 00	79 00	·1908 / ·9816	3·816	121·931	19·632	S 75E	S 75 E	·2588 / ·9659	5·081	18·963	135·184	613·722
					37·16							41·20	187·06
66	79 00	79 00	·1908 / ·9816	3·816	125·747	19·632	S 75° E	S 75° E	·2588 / ·9659	5·081	18·963	140·265	632·685
					38·33							42·75	192·9
680	79 45	79 45	·1779 / ·9840	3·558	129·305	19·680	S 74	S 74 E	·2756 / ·9613	5·424	18·918	145·689	651·60
					39·41							44·41	198·6
700	79 45	79 45	·1779 / ·9840	3·558	132·863	19·680	S 73° 30'	S 73° 30'	·2840 / ·9588	5·589	18·869	151·278	670·47
	79 45				40·50		S 73° 30'					46·11	204·3
720	80 00	80 00	·1736 / ·9848	3·472	136·335	19·696	S 72° 30E	S 72° 30'	·3007 / ·9537	5·923	18·784	157·201	689·256
	80 00				41·55		S 72° 30'					47·91	210·04
740	80 00	80 00	·1736 / ·9848	3·472	139·807	19·696	S 72E	S 72° E	·3090 / ·9511	6·086	18·733	163·287	707·989
					42·61							49·77	215·7
760	80 00	80 00	·1736 / ·9848	3·472	142·279	19·696	S 74° E	S 74 E	·2756 / ·9613	5·428	18·434	168·715	726·42
	80 00				43·46		S 74° E					51·42	221·5
780	80 00	80 00	·1736 / ·9848	3·472	146·751	19·696	S 72E	S 72 E	·3090 / ·9511	6·086	18·733	174·801	745·69
					44·73							53·26	227·3

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 416 Date Surveyed _____

Total Depth _____ Depth Surveyed To _____

Casing Depth _____ Surveyed By _____

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords N/S	Sum of Co-Ords E
800	79 45	79 45	·1779 / ·9840	3·558	150·309	19·680	S 72° 30'	S 72° 30'	·3007 / ·9537	5·918	18·769	180·789	764·425
	79 45				45·81		S 72° 30'					55.08	233.00
820	79 45	79 45	·1779 / ·9840	3·558	153.867	19·680	S 73° E	S 73° E	·3090 / ·9511	6.081	18.718	186.800	783.143
					46.90							56.93	238.70
840	80 00	80 00	·1736 / ·9848	3·472	157·339	19·696	S 73° E	S 73° E	·3090 / ·9511	6·086	18·733	192·886	801·876
	80 00				47.96		S 73° E					58.79	244.41
860	80 45	80 45	·1607 / ·9870	3·214	160·553	19·740	S 72° E	S 72° E	·3090 / ·9511	6·100	18·775	198·986	820·651
					48.94							60.65	250.13
880	80 45	80 45	·1607 / ·9870	3·214	163.767	19·740	S 71 30'	S 71° 30'	·3173 / ·9483	6·264	18·719	205·250	839·370
					49.92							62.86	256.94
900	81 00	81 00	·1564 / ·9877	3·128	166.895	19·754	S 71° 30'	S 71° 30'	·3173 / ·9483	6·268	18·733	211·581	858.103
	81 00				50.87		S 71° 30'					64.49	261.55
920	81 00	81 00	·1564 / ·9877	3·128	170.023	19·754	S 71° E	S 71° E	·3256 / ·9455	6.432	18.677	217.950	876.260
	81 00				51.82		S 71° E					66.43	267.07
940	81 00	81 00	·1564 / ·9877	3·128	173.151	19·754	S 71° E	S 71° E	·3256 / ·9455	6·432	18·677	224.382	894.937
	81 00				52.78							68.39	272.78
960	"	81 00		3·128	176.279	19·754		S 71° E		6·432	18·677	230.814	913.614
					53.73							70.35	278.48
970		81 00		1·564	177.843	9·877				3.215	9.339	234.029	922.953
					54.21							71.33	281.32

Pressure

GEOPEKO LIMITED - KING ISLAND

D.D.H. No.: 415

Location:

No. 2 Orebody area. Heavy Vehicle Shop area.

Purpose of Hole:

Confirm position of faults forming wedge of mine series. Test C-lens.

Hole Proposed by:	P.Cottam, M.Danielson, M.Rogers.			Date	8/ 1/73
Surveyed in by:	M. Marchant.			Date	8/ 1/73
Proposed:	220100	E	564223.5	N	
Surveyed:	220105.6	E	564225.9	N	
Actual from which Drilled:	220106.15	E	564225.56	N	

Reduced Level of Collar: + 7.64 m

Bearing:- N63°E I.S.G. Grid Magnetic

Inclination:- −60° degrees

Target; depth: ~~ft.~~

Planned depth: ~~ft.~~

Actual Depth: 111.56 m ~~ft.~~

Date Commenced: 12/ 1/73

Date Completed: 6/ 2/73

Wedges Placed:

Nil

Extensions (if any)

Checked: M. Danielson

Summary Result:

63.0 - 67.0 m	4 m	at	0.92% WO_3
69.0 - 71.0 m	2 m	at	0.61% WO_3

Remarks:

Surveyed to 160'
direction constant N62°E I.S.G.
dip constant 59°

DRILL LOG DDH: 415

0 - 11.88

No core.

11.88 - 44.80 QUARTZITE

Generally a grey coloured, well jointed and fractured rock with occasional "mottled texture". (The mottling and occasional spotting is due to intermixing with biotite hornfels.)

Core broken, high fractured and rubbly between -
(1) 11.88 - 13.10 m - mainly quartzite
(2) 23.3 - 25.9 m

Between 24.93 - 25.91 0.4 m of core lost
" 28.96 - 32.31 2.4 m " " "

44.80 - 47.3 BRECCIA ZONE - FAULT

Badly fractured, veined, rotten core. Exact junction between quartzites and biotite hornfels is difficult to determine.

47.3 - 62.0 BIOTITE HORNFELS

Massive Bh with zones and occasional bands of greenish-grey alteration (pyroxene rich) which sometimes give the impression of "disturbed bedding".

(54.0 - 55.1 Band of quartzite)

62.0 - 65.0 PYROXENE GARNET HORNFELS

65.0 - 71.0 C-LENS

65.0 - 66.2 Garnet pyroxene hornfels.
Disseminated scheelite: 63.0 - 66.0 m.
68.6 - 70.5m.

66.2 - 69.0 Biotite hornfels with a lot of pyroxene hornfels and some skarn.

69.0 - 71.0 Pyroxene hornfels.

71.0 - 88.6 BIOTITE HORNFELS / PYROXENE HORNFELS (B.F.B?)

Very disturbed unit with prominent foliation defined by biotite and sulphide mineralization (mainly pyrite). Biotite and pyroxene bands are stretched out and intermixed. Some of the core is well sheared, (i.e. 82.5 - 86.0 metres).

75.2 - 77.2: Calcite rich zone i.e. Calcite mixed with Bh and Ph with the development of massive pink-brown garnets.

86.4 - 87.0: Calcite hornfels - light grey calcite rich rock.

From 87.0 - 88.6 the core is broken, rubbly and silicified.

88.6 - 89.4 FAULT

88.6 - 88.8 Talcose(?) chlorite rich-clay material.

88.8 - 89.4 Biotite schist with foliation defined by biotite flakes. Possibly, initially a biotite hornfels.

89.4 - 111.56 QUARTZITE

Typical massive quartzites which shows some spotting and diffuse bands and zones of biotite-rich rock. Veins of sulphides (pyrite mainly) are common.

E.O.H. 111.56 metres.

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 415

Logged By : G. J. Bujtor

	Sample No.	METERS			ASSAYS		L X A	REMARKS
		From	To	Length	WO_3	Mo		
21-2-73	C 0954	63.0	64.0	1.0	1.26	0.05		
	C 0955	64.0	65.0	1.0	1.46	0.06		
	C 0956	65.0	66.0	1.0	0.44	0.03		4m at 0.92% WO_3
	C 0957	66.0	67.0	1.0	0.50	0.08		
	C 0958	69.0	70.0	1.0	0.88	0.05		
	C 0959	70.0	71.0	1.0	0.33	0.02		2m at 0.61% WO_3

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 415 Date Surveyed 6 2 72

Total Depth 366 Depth Surveyed To 160'

Casing Depth 50' Surveyed By G.MASSEY

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
1	0	S	●		~~22~~	22	30m.		
	1	m			23	23.	10 m.		
	2	m				24			
	3	m.				25			
	4	m.				26	S	●	
	5	30 m.							
	6	70							
	7	90 90							
	8	110 110 m							
	9	130 130.							
	10	150 150							
	11	160.						✓	
	12	160							
	13	160							
	14	160							
	15	160							
	16	160							
	17	150							
	18	130 130							
	19	110 110.							
	20	90 90.							
	21	70 70							

1	55°	31.5	
2	54	31.0	
3	54	31.0	
4	54	31.0	
5	54	31.5	
6	54	31.25	—
7	54	31.25	—
8	54	31.0	—
9	54	31.0	—
10	54	31.0	—
11	54	31.0	—
12	54	31.0	—
13	54	31.5	— ?
14	53	31.25	
15	54	31.0	
16	54	31.0	
17	54	31.0	
18	54	31.0	
19	55	31.5	X
20			
21			
22			
23			
24			
25			

DDH 414

GEOPEKO LIMITED - KING ISLAND

D.D.H. No.: 414

Location:

No. 2 Orebody

Purpose of Hole:

To test wedge area faults and obtain C lens intersection.

Hole Proposed by: M. Danielson, G. Bujtor Date 5/2/73

Surveyed in by: P. Morrison Date 6/2/73

Proposed:	220140	E	564185	N
Surveyed:	220140	E	564185	N
Actual from which Drilled:	220131.43	E	564184.08	N

Reduced Level of Collar: + 5.42

Bearing:- N ~~63~~ 072° E I.S.G. Grid N. 063° Magnetic

Inclination:- - 60° degrees

L. Danielson 25.7.73.

Target; depth: ft.

Planned depth: ft.

Actual Depth: 157.6 m ~~ft~~.

Date Commenced: 7/2/73

Date Completed: 28/2/73

Wedges Placed:

Extensions (if any)

Checked: M. Danielson

Summary Result:

FAULTS at 60.35 - 62.0 m and 154.5 m. C-lens skarn from 126.8 - 150.0 m assayed 15 m at 0.82% WO_3 and 4 m at 0.4% WO_3.

Remarks:

Precollared to 12.10 metres.

DRILL LOG DDH: 414

0 - 12.10

No core.

12.10 - 13.35

Younger Volcanics? Greenish (chloritic?) coloured rock resembling Y.V. This rock appears to be interbedded with the quartzites from 13.35 - 17.77m.

13.35 - 60.35 QUARTZITE

Typical quartzite with incipient to well developed spotting (21.5m, 27.1m) consisting of an intermixing of biotite hornfels and quartzite.

Core very broken, rubbly and clayey between -
(i) 48.2 - 51.0 metres
(ii) 52.0 - 63.9 metres.

60.35 - 62.0 BRECCIA ZONE - FAULT

Sheared core and slickensides.

62.0 - 64.0 SILICIFIED BIOTITE HORNFELS

64.0 - 67.7 PYROXENE HORNFELS

Greenish rock with abundant calcite veins and stringers and minor garnet. Three metres of fine disseminated scheelite.

67.7 - 106.7 BIOTITE HORNFELS

Massive biotite hornfels with occasional alteration zones of light grey-green actinolite (?) hornfels.

69.0 - 73.0 metres: Bands of calcite hornfels and garnet.

106.71 - 126.80 PYROXENE GARNET HORNFELS

Generally a greenish pyroxene-rich rock with angular - subrounded "fragments" of calcite (wollastonite?) surrounded by orangy-brown grossular garnets. The "fragments" are not really ovoids; the majority (70%) are rectangular in outline. Towards the base, the unit became andradite rich.

126.80 - 150.0 GARNET - PYROXENE SKARN (i.e. C-lens skarn)

Greenish rock rich in andradite garnets and pyroxenes with minor grossular garnets. Some bands and zones are
(i) pyroxene rich
(ii) biotite rich with some pyroxene bands (i.e. 144.5 - 146.0 m)
(iii) calcite rich (i.e. 148.90 m).
Between 146.0 - 150.0, the unit resembles replaced banded footwall beds (e.g. banding at 55^{0} - 66^{0} to LAOC at 148.30 m). Fair disseminated scheelite throughout. Coarse scheelite occurs only with the crosscutting quartz veins which vary from 0.2 cm - 2.5 cm in width.

150.0 - 154.5 DISTURBED BIOTITE HORNFELS / PYROXENE HORNFELS

The unit is highly sheared and disturbed due to FAULT at approximately 154.5 metres.

154.5 - 157.6 QUARTZITE

E.O.H. 157.6 metres.

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 414

Logged By : G. Bujtor

Sample No.	METREAGE			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
C 0791	114	115	1.0	0.12	<0.01		
2	115	116	"	0.26	0.02		
3	116	117	"	0.28	0.02		
4	117	118	"	0.26	0.02		
5	118	119	"	0.77	0.03		
6	119	120	"	<0.01	<0.01		
7	120	121	"	0.09	0.04		
8	121	122	"	0.03	0.01		
9	122	123	"	0.39	0.02		0.85 core recov.
C 0800	123	124	"	0.48	0.02		
C 0812	124	125	"	0.19	0.02		0.80 core recov.
3	125	126	"	0.75	0.02		
4	126	127	"	1.09	0.02		
C 0815	127	128	"	3.68	0.05		

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 414

Logged By : G. Bujtor

Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
C 0758	128.0	129.0	1.0	0.96	0.02		
59	129.0	130.0	1.0	1.24	0.04		
60	130.0	131.0	1.0	1.60	0.03		
61	131.0	132.0	1.0	0.74	0.03		
62	132.0	133.0	1.0	0.64	0.02		
63	133.0	134.0	1.0	0.92	0.02		
64	134.0	135.0	1.0	1.21	0.04		
65	135.0	136.0	1.0	1.38	0.04		15m at 0.82%WO_3
66	136.0	137.0	1.0	0.50	0.02		
67	137.0	138.0	1.0	0.50	0.02		
68	138.0	139.0	1.0	0.13	<0.01		
69	139.0	140.0	1.0	1.24	0.04		
70	140.0	141.0	1.0	0.15	<0.01		
71	141.0	142.0	1.0	0.38	0.02		
72	142.0	143.0	1.0	0.76	0.02		
73	143.0	144.0	1.0	0.15	<0.01		
74	144.0	145.0	1.0	0.15	<0.01		
75	145.0	146.0	1.0	0.11	<0.01		
76	146.0	147.0	1.0	0.82	0.02		
77	147.0	148.0	1.0	0.33	0.03		
78	148.0	149.0	1.0	0.25	0.01		4m at 0.4% WO_3
C 0779	149.0	150.0	1.0	0.27	0.01		
C 0751	66.0	67.0	1.0	0.10	0.01		
C 0999	64.0	65.0	1.0	0.21	0.02		
C 1000	65.0	66.0	1.0	0.10	0.01		

DDH 413

GEOPEKO LIMITED

D.D.H. No.: 413

Location:
No. 2 Orebody, New Section 5N
Staff car park area opposite main office.

Purpose of Hole:
Test north extension of C-lens intersected in DDH 412.

Hole Proposed by:	P. Cottam		Date	20/12/72
Surveyed in by:	K.I.S.		Date	20/12/72
Proposed:	200102	E	564268.5	N
Surveyed:	200102	E	564268.5	N
Actual from which Drilled:	Not picked up on completion so assume co-ords the same surveyed in.	E		N
Reduced Level of Collar:	+8.33 m			
Bearing:-	Grid		Magnetic	
Inclination:-	Vertical	degrees		
Target; depth:		ft.		
Planned depth:	70 m	ft.		
Actual Depth:	20.42 m	ft.		
Date Commenced:	29/12/72			
Date Completed:	29/12/72			
Wedges Placed:	Nil			
Extensions (if any)	Nil			
Checked:	M. Danielson			

Summary Result:
0 - 20.42 Quartzite
Hole abandoned as interpreted as being northwest of the mine series wedge.

Remarks:
Precollared to 12.19m

DRILL LOG DDH: 413

0 - 12.19 Precollared by Crawlmaster.

12.19 - 20.42 Grey spotted quartzite, heavily fractured. Hole was abandoned as it was assumed to be northwest of the conjunction of the two faults forming the wedge of mine series rocks in that area. No assays taken.

E.O.H. 20.42 metres.

DDH 412

GEOPEKO LIMITED

D.D.H. No.: 412

Location:

No. 2 Orebody (Heavy Vehicle Shop - Tyre Shed Locality).

Purpose of Hole:

Test for extension of mine series rocks intersected in Decline test hole (411)

Hole Proposed by: P. Cottam, M. Danielson			Date	2/12/72
Surveyed in by: K.I.S.			Date	6/12/72
Proposed:		E		N
Surveyed:		E		N
Actual from which Drilled:	220144.7	E	564243.81	N
Reduced Level of Collar:	+ 6.34 m			
Bearing:-	Grid		Magnetic	
Inclination:-	Vertical	degrees		
Target; depth:		ft.		
Planned depth:		ft.		
Actual Depth:	108.05 m	ft.		
Date Commenced:	8/12/72			
Date Completed:	20/12/72			

Wedges Placed:

Extensions (if any)

Checked: M. Danielson

Summary Result:

Began coring in B lens of mine series sequence. Hole completed in quartzites - stratigraphic boundary with quartzites.

Remarks:

Pre-collared by percussion rig. Much of core highly broken.

DRILL LOG DDH: 412

00 - 15.24

No core.

15.24 - 15.44

Rounded beach pebbles.

15.44 - 22.35 B-LENS

15.44 - 16.15 Garnet calcite pyroxene skarn containing fine yellow disseminated scheelite. Heavily jointed coarse grained skarn, predominantly andradite with patches of calcite and pyroxene hornfels.

16.15 - 16.30 Rounded to sub-rounded pebbles of various rock types: an inflow of old beach material.

16.30 - 22.35 Medium grain dark brown-green garnet pyroxene calcite skarn. Many stringers and veins filled with calcite cut the rock. Pyroxene and calcite content of matrix highly variable. Scheelite disseminated fairly evenly throughout with mineralisation becoming weaker in last 2 metres. Core has slightly brecciated appearance due to numerous cemented fractures criss-crossing the rock surface. Occasional discrete MoS_2 crystals present with patches of MoS_2 mineralisation at 17.82, 17.87.

22.10 - 22.35 Irregular band of light green fine grain pyroxene hornfels, 2 cm thick, interbedded with grossular garnet band running sub parallel to core axis, forms boundary of skarn.

22.35 - 53.80 HANGING WALL HORNFELS

22.35 - 24.95 Medium green-grey fine grain pyroxene hornfels. As with above core has numerous calcite stringers criss-crossing the core. MoS_2 filling fracture at 23.00. Core heavily broken, rich in chlorite from 23.10 - 23.60 = possible fault zone.

24.95 - 29.87 Intensely broken and sharply jointed dark brown-grey very fine grain biotite hornfels with stringers and occasional narrow bands of calcite. 25.30 - 25.90 core is very rubbly, possible fault.

29.87 - 30.32 Medium grain garnet skarn with

interstitial pyroxene and calcite. Only odd speck of scheelite present. Much less broken than rest of core.

30.32 - 31.39 Light grey fine to medium grain impure marble partially replaced by quartz. Core highly broken.

31.39 - 40.0 Dark grey-black fine grain biotite hornfels interbedded with light green-grey fine grain quartz-actinolite hornfels. For most part bedding shows extreme disturbance prior to metamorphism: disruption varies however in some parts yet massive, coarsely mottled rock similar to older volcanics, this is possibly intrusive or derived from original sedimentry pile, e.g. 32.31 - 33.92, 36.57 - 37.23, 38.65 - 39.62. Where the bedding is less disrupted it appears sub-parallel to the core axis.

40.0 - 48.26 Finely laminated nature of bedding not so obvious with biotite hornfels predominating and actinolite hornfels forming light green grey bands up to 20 cm thick with ill defined irregular boundaries. Light grey fine grain quartzose patches are common within these bands. Core is highly broken for most part.

48.26 - 53.80 Similar to disturbed laminated Bh, Ah described above. Much of core has brecciated appearance but with features indicating some degree of mobilisation and fluidity.

53.80 - 59.53 P.G.H.

53.80 - 57.80 Sub rounded pyroxene rimmed pods, usually calcareous but sometimes siliceous, in a dark green grey biotite - actinolite hornfels matrix. The pods are up to 4 cm diameter and form up to 50% of rock, Pyrite and pyrrhotite are frequently present in the pods.

57.80 - 59.53 Matrix of garnet and pyroxene with irregular rounded zones of calcite and grossular garnet. Contains patches of coarse scheelite, particularly in a vein at 58.26 - 58.31. Minor fine disseminated scheelite also present. 58.65 - 58.95 core heavily broken.

59.53 - 59.89 BASAL HORNFELS

Band of very fine grain medium green grey hornfels, extremely sheared and broken at 59.63 - 59.66. Shows fine bedding over last few centimetres.

59.89 - 65.04 C-LENS

Medium grain garnet pyroxene skarn with abundant fine disseminated and occasional patch of coarsely crystalline scheelite. Poorly defined banding occurs within the skarn. Irregular patches of calcite are common as are stringers and veins of calcite e.g. at 63.11 a 2 cm thick laminated calcite vein runs sub parallel to the core axis and contains minor pyrite and scheelite.

Bedding is more distinct below 63.50 and scheelite content less.

64.35 - 64.60 Interbedded biotite and pyroxene hornfels with narrow patches of andradite skarn.

64.60 - 65.04 Dark green-brown garnet-pyroxene skarn with interstitial calcite and fine disseminated scheelite.

bedding 62^{o} to LAC at 64.50
65^{o} base PGH.

Note: C lens not present as a distinct top or bottom orebody with a dividing marble marker bed. The unit present resembles bottom C lens of No. 1 Orebody in that it is indistinctly banded and pyroxene rich. No distinct replaced footwall beds occur with a fairly quick gradation into barren biotite and pyroxene hornfels occurring.

65.04 - 85.03 BIOTITE AND PYROXENE HORNFELS (FOOTWALL BEDS)

finely laminated fine grain dark brown grey biotite hornfels and light green grey pyroxene (?) hornfels (with the Bh predominant). The fine bedding is frequently disrupted by microfaulting and folding so that the structure is often chaotic. The biotite rich hornfels suffers varying degree of silicification. Narrow veins and stringers unfilled by calcite and pyrite are common. Core is for most part highly broken.

core angles 37^{o} to LAC at 81m
25^{o} at 79m
22^{o} at 72.50m
35^{o} at 77m
22^{o} at 66.50m

85.03 - 90.17 D LENS ?

Dark brown green medium grain garnet pyroxene skarn with occasional small patches and irregular bands of black grey biotite hornfels. Andradite is predominant mineral with pale medium green pyroxene being subsidary to this but predominating in patches within and around the garnet bands. Moderate fine disseminated scheelite mineralisation is present with small patches of coarser grained scheelite.

Matrix is rich in calcite between 89 - 89.50. Lesser amounts interstitial to the garnet occur above this.

90.17 - 100.70 BASAL HORNFELS

90.17 - 91.87 Fine grain green grey pyroxene hornfels with occasional narrow bands of dark brown grey biotite hornfels. Bedding is poorly defined but sub-parallel to core axis. Calcite cementing hairline fractures are common.

91.87 - 95.84 Dark brown-grey fine grain biotite hornfels extensively broken for most part with numerous calcite stringers. MoS_2 on some joint faces. 94.45 - 94.85 puggy chlorite rich zone: possible fault.

95.84 - 98.30 A breccia predominantly of white fine grain calcite hornfels enclosing a number of fragments of biotite hornfels. Pyrite commonly infills joints and fractures in the calcite. Base is a puggy chlorite rich zone 10 cm thick.

98,30 - 100.70 Gradation between Bh and quartzite with intermixing of 2 types with quartzite predominating.

100.70 - 108.05 QUARTZITE

Distinct boundary with uniform light grey fine grain massive fairly pure quartzite. Heavily jointed and with a number of chloritic zones of possible faulting e.g. 101.59 - 102.00

E.O.H. 108.05 metres

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 412

Logged By : M.J.D.

Sample No.	FOOTAGES			ASSAYS		L X A	REMARKS
	From	To	Length	WO_3	Mo		
C 0720	15.44	16.30	0.86	0.53		.456	
1	16.30	17.0	0.70	0.42		.294	3
2	17.0	18.0	1.0	0.94			4.56m at 0.57% WO_3
3	18.0	19.0	"	0.52			
4	19.0	20.0	"	0.39			
5	20.0	21.0	"	0.08			
6	21.0	22.0	"	0.08			
7	58.0	59.0	1.0	0.85			
8	59.0	60.0	"	0.13			C
9	60.0	61.0	"	1.68			5m at 0.86% WO_3
30	61.0	62.0	"	0.88			
1	62.0	63.0	"	0.74			
2	63.0	64.0	"	0.08			
3	64.0	65.0	"	0.07			
4	85.0	86.0	1.0	0.15			
5	86.0	87.0	"	0.36			C
6	87.0	88.0	"	1.34			2m at 0.85% WO_3
7	88.0	89.0	"	0.11			
8	89.0	90.0	"	0.15			
C 0739	90.0	91.1	1.1	0.08			

DDH 412

N°2 OREBODY

Total depth 354'

Cased to 200'

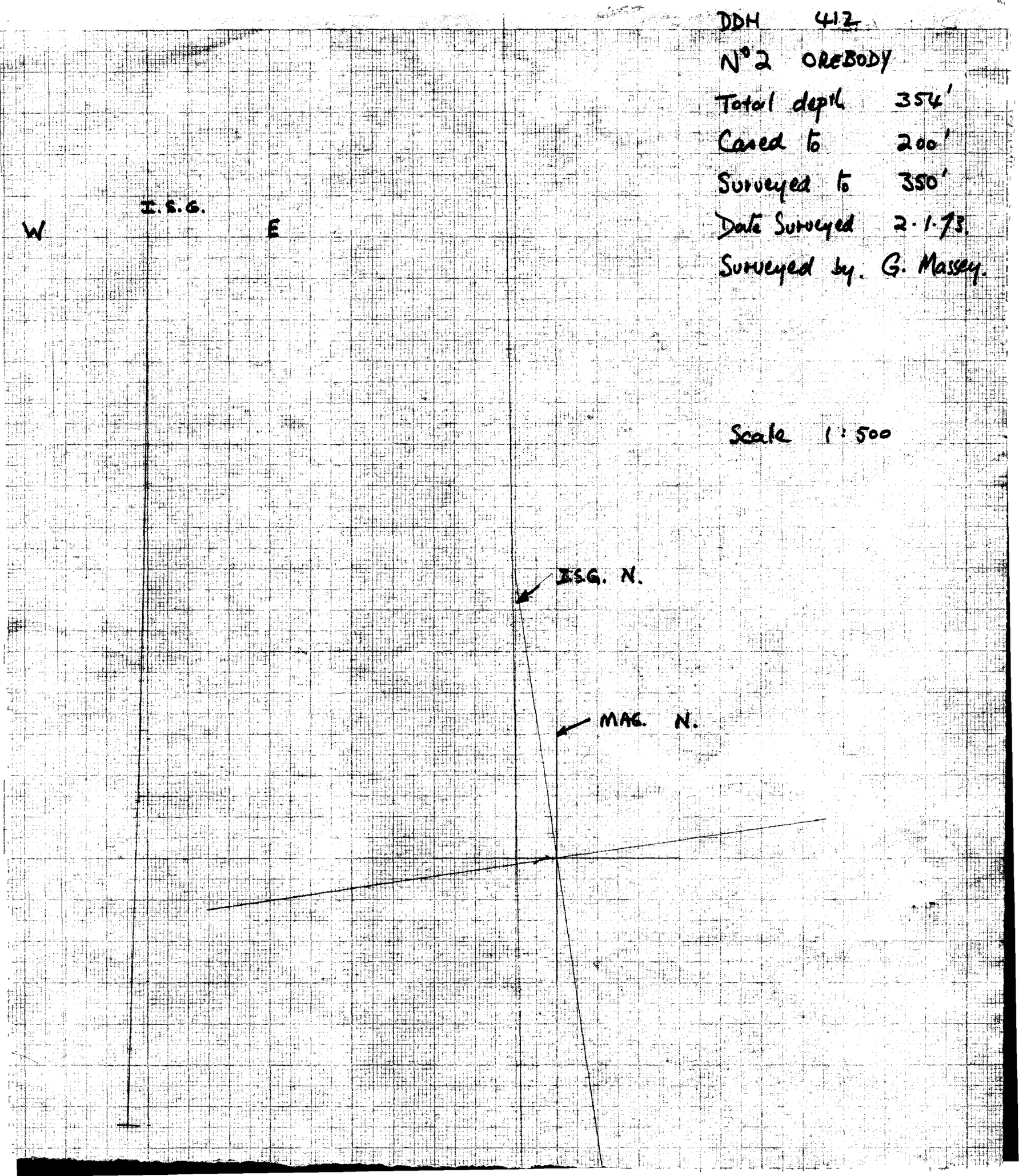
Surveyed to 350'

Date Surveyed 2-1-73

Surveyed by. G. Massey.

W I.S.G. E

Scale 1:500



DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 412 Date Surveyed 2.1.73

Total Depth 354' Depth Surveyed To 350

Casing Depth 200' Surveyed By G. MASSEY

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords N/S	Sum of Co-Ords E/W
10		0 00	- / -	10.0	10.0	0		-		-	-	-	-
20	0 30	0 30	1.0000 / .0087	10.0	20.0	0.09		N 84 W	.1045 / .9945	.009	.089	.009	.089
30		0 30	1.0000 / .0087	10.0	30.0	0.09		84	.1045 / .9945	.009	.089	.018	.178
40		0 30	1.0000 / .0087	10.0	40.0	0.09		84	.1045 / .9945	.009	.089	.027	.267
50	0 45	0 45	.9999 / .0131	10.0	50.0	0.13		84	.1045 / .9945	.044	.129	.044	.396
60		0 45	.9999 / .0131	10.0	60.0	0.13		84	.1045 / .9945	.044	.129	.054	.525
70	0 45	0 45	.9999 / .0131	10.0	70.0	0.13		84	.1045 / .9945	.044	.129	.068	.654
80		1 00	.9998 / .0175	10.0	80.0	0.17		84	.1045 / .9945	.048	.169	.086	.823
90		1 00	.9998 / .0175	10.0	90.0	0.17		84	.1045 / .9945	.048	.169	.104	.992
100		1 00	.9998 / .0175	10.0	30.48 100.0	0.17		84	.1045 / .9945	.048	.169	.037 .122	.354 1.161
110		1 00	.9998 / .0175	10.0	110.0	0.17		84	.1045 / .9945	.048	.169	.140	1.330
120		1 15	.9998 / .0218	10.0	120.0	0.22		84	.1045 / .9945	.023	.219	.163	1.549
130		1 15	.9998 / .0218	10.0	130.0	0.22		84	.1045 / .9945	.023	.219	.186	1.768
140		1 15	.9998 / .0218	10.0	140.0	0.22		84	.1045 / .9945	.023	.219	.209	1.987

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 412 Date Surveyed 2-1-73

Total Depth 354' Depth Surveyed To 350'

Casing Depth _____ Surveyed By G. MASSEY

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords N/S	Sum of Co-Ords E/W
150		1 30	.9997 / .0262	10.0	150.0	0.26		84	.1045 / .9945	.029	.259	.236	2.246
160		1 30	.9997 / .0262	10.0	160.0	0.26		84	.1045 / .9945	.029	.259	.263	2.505
170		1 30	.9997 / .0262	10.0	170.0	0.26		84	.1045 / .9945	.029	.259	.290	2.764
180		1 30	.9997 / .0262	10.0	180.0	0.26		84	.1045 / .9945	.029	.259	.317	3.023
190		1 30	.9997 / .0262	10.0	190.0	0.26		84	.1045 / .9945	.029	.259	.344	3.282
200		1 30	.9997 / .0262	10.0	60.96 / 200.0	0.26		84	.1045 / .9945	.029	.259	.113 / .371	1.08 / 3.541
210	1 145	1 152	.9995 / .0327	10.0	210.0	0.33	N 84 W	84	.1045 / .9945	.034	.328	.405	3.869
	2 00						N 84 W						
220		1 45	.9995 / .0305	10.0	220.0	0.30		84	.1045 / .9945	.034	.298	.439	4.167
230	1 45	1 45	.9995 / .0305	10.0	230.0	0.30	N 84 W	84	.1045 / .9945	.034	.298	.473	4.465
240	1 45	1 45	.9995 / .0305	10	239.99	0.30	S 81 W	81	.1564 / .9962	.047	.299	.426	4.764
250	2 00	2 00	.9994 / .0349	10	249.98	0.35	S 84 W	84	.1045 / .9945	.037	.348	.389	5.112
260	2 100	2 100	.9994 / .0349	10	259.99	0.35	S 87 W	87	.0523 / .9986	.018	.349	.378	5.461
270	2 00	2 00	.9994 / .0349	10	269.98	0.35	S 87 W	87	.3907 / .9205	.137	.322	.234	5.783
280	2 30	2 30	.9990 / .0436	10	279.95	0.44	S 59 W	59	.5150 / .8572	.227	.377	.007	6.160

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 412 Date Surveyed _____

Total Depth _____ Depth Surveyed To _____

Casing Depth _____ Surveyed By _____

Depth	Drift Angle	Mean Drift Angle	Cos Sine	Vert. Depth	True Vert. Depth	Defl.	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords N/S	Sum of Co-Ords E/W
290	2 30	2 30	.9990 / .0436	999	289.94	0.44	S 54 W	54	.5878 / .8090	0.260	.356	.253	6.516
300	2 30	2 30	.9990 / .0436	9.99	91.4 299.93	0.44	S 56 W	56	.5592 / .8290	.246	.365	.15 .499	2.60 6.881
310	2 30	2 37	.9989 / .0458	9.99	309.92	0.46	S 60 W	57	.5446 / .8387	.251	.386	.750	9.267
	2 45						S 52 W						
320	2 30	2 30	.9990 / .0436	9.99	319.91	0.44	S 56 W	56	.5592 / .8290	.246	.365	.996	1.632
330	2 15	2 22	.9991 / .0414	9.99	329.90	0.41	S 46 W	48	.6691 / .7431	.274	.305	1.270	7.937
	2 30						51						
340	3 00	3 00	.9986 / .0523	9.99	339.89	0.52	S 49 W	46	.6947 / .7193	.361	.374	1.631	8.311
	3 00						42						
350	3 15	3 15	.9984 / .0567	9.98	349.87	0.57	S 51 W	51	.6293 / .7771	.359	.443	1.990 1.61	8.754 2.67
	3 15												

DDH 411

GEOPEKO LIMITED

D.D.H. No.: 411

Location:
Open pit 17b east.

Purpose of Hole:
To test country rock No. 2 Orebody Decline.

Hole Proposed by:	M. Baker		Date 10/ 9/72	
Surveyed in by:	R. Harth (K.I.S.)		Date 14/ 9/72	
Proposed:	219 950	E	564 150	N
Surveyed:		E		N
Actual from which Drilled:	219 946.35	E	564 148.47	N

Reduced Level of Collar: - 36.00 m

Bearing:- 68° 28'35" Grid Magnetic

Inclination:- - 22½° degrees

Target; depth: 200 m

Planned depth: 200 m

Actual Depth: 245.36 m

Date Commenced: 15/ 9/72

Date Completed: 2/12/72

Wedges Placed:

Extensions (if any)

Checked: P. Cottam

Summary Result: Mine Series to 34.85 m = No. 3 fault. 35.38 - 169.95 Quartzite, 169.95 - 171.12 = Fault, 171.12 - 245.36 Biotite and Pyroxene Hornfels, 245.36 = Fault. Quartzites extremely broken ground.

Remarks: Fault at 169.95 m Returns Mine Series rocks to sequence: this was unexpected. Reappraisal of geology of the immediate area necessary. Hole finished in a fault zone: hole discontinued because of high risk of losing equipment as jamming was occurring.

DRILL LOG DDH: 411

0.0 - 13.76 BIOTITE HORNFELS

Fine grained, microcrystalline, finely banded in part. Dark grey. Equigranular with microlaths of ? actinolite. Biotite more evident towards bottom half of unit. Pyrite sparsely disseminated or as rare veinlets. Joints faced with clay, chlorite, secondary calcite or stellate pyrite, all in minor amounts. Fracture locally intense.

13.76 - 25.85 PYROXENE-GARNET HORNFELS

Variable fine to coarse grain. Podiform / ovoid masses of coarsely crystalline, often euhedral, andradite in quartz and calcite. Fine grained grossularite / diopside reaction rims common on ovoid margins. Ovoids set in a fine grained diopsidic matrix of brownish-green colour. Quartz veins / segregations common. P.G.H. locally grades into an andradite rich skarn with small amounts of disseminated molybdenite, pyrite, pyrrhotite. Calcite and chlorite form joint fillings. 3 - 4% core broken i.e. <10 cms.

25.85 - 30.50 ? TOP C-LENS OREBODY

Similar to P.G.H. above except that pods / ovoids of calcite-andradite not observed. Sulphides are somewhat more common in the skarns. A 1.5 cm wide vein of coarse scheelite is present at 28.40 metres. Segregations of actinolite needles occasionally appear and the unit grades into actinolite hornfels at the base. Abundant slickensided chlorite appears at 26.95 and elsewhere in the basal half of the unit.

30.50 - 31.35 ACTINOLITE HORNFELS

Non-homogeneous, fine to medium grained. Texturally, felted actinolite needles (black) to 2 m.m. in a fine grained, microcrystalline matrix. Minor pyrite present with some patches of coarsely crystalline calcite. Distribution of actinolite is irregular. Chlorite and minor secondary calcite form joint facings.

31.35 - 32.26 MARBLE MARKER

Medium to coarse grained, grey-white marble with a sharp contact with overlying actinolite hornfels. Joint facings are of secondary calcite, to 3 m.m. thick, and minor pyrite.

32.26 - 34.85 CHLORITE-CARBONATE-SERICITE ROCK

Intensively chloritized, sericitized and replaced by carbonate. Blebs of carbonate and pyrite appear in upper half of the unit. Thick chlorite at 32.95 metres may represent fault gouge. Biotite hornfels appears at very bottom of unit. Spotting of Bh at 32.85 is similar to that developed in Older Volcanics

34.85 - 35.38 FAULT

Fragments of chlorite in light brownish grey clay. Core 100% broken.

35.38 - 169.95 FOOTWALL QUARTZITE

Commonly pale or medium grey, microcrystalline quartzite with a sugary texture. Extremely well jointed with minor pyrite blebs and occasional molybdenite flakes on joint planes. Joints often clean, otherwise filled with chlorite, calcite or rarely clay. Spotting and veining by chlorite / sericite as at 45.20 metres is irregular and infrequent. A 20 cms. wide band of medium grained quartzite is present at 123.3 metres. Aplite veins present between 62.30 - 62.45 m., 118.60 - 119.80 m., 128.20 - 129.10 m., and at 133.3 m.

Fracture frequently very high or intense (see separate structural log for D.D.H. 411). Weathering slight or absent.

169.95 - 171.20 FAULT

Friable aggregate of clay, chlorite. Extreme fracture and weathering.

171.20 - 245.36 BIOTITE HORNFELS - PYROXENE HORNFELS

Biotite hornfels: black to dark brown, usually microcrystalline with a satiny lustre on bedding planes. Biotite abundant. Veins of crystalline carbonate and pyrite common.

Pyroxene hornfels: pale green, fine grained pyroxene rich hornfels with a saccharoidal texture. Brownish red, massive garnet occasionally associated. Ph forms segregations or thin bands within Bh or thick massive bands by itself. e.g. 225.79 - 226.79 metres. **

Joint facings are chlorite, carbonate, pyrite or minor clay. Jointing is less penetrative in Bh/Ph c.f. quartzites and joint surfaces are frequently irregular.

Bedding angles with respect to long axis of core:

175.0 m.	27°
187.0 m.	24°
193.0 m.	0°
204.0 m.	13°
214.0 m.	$0^{\circ} - 8^{\circ}$
226.0 m.	15°.

Rubbly core between 241.35 - 243.15 metres probably a fault zone: calcite/chlorite slickensides, clay/chlorite joint facings.

** Biotite hornfelses in the interval 194 - 195 metres are spotted in a similar fashion to that developed in the Older Volcanics.

E.O.H. 245.36 metres.

DIAMOND DRILL HOLE ASSAY SHEET

Hole No.: 411

Logged By : M.J.D.

Sample No.	FOOTAGES From	To	Length	ASSAYS WO_3	Mo	L X A	REMARKS
C 0685	14	15	1.0	0.61	0.01		
6	15	16	"	1.66	0.05		
7	16	17	"	0.39	0.01		
8	17	18	"	0.91	0.03		
9	18	19	"	1.24	0.03		
90	19	20	"	1.57	0.04	psh 0.92	
1	20	21	"	0.15	0.01		
2	21	22	"	0.24	<0.01		
3	22	23	"	3.57	0.12		
4	23	24	"	1.39	0.05		
5	24	25	"	2.36	0.07		
6	25	26	"	1.25	0.07		
7	26	27	"	2.53	0.07		
8	27	28	"	0.95	0.05		
9	28	29	"	2.73	0.08	gh	
C 0700	29	30	"	2.26	0.09		
C 0701	30	31	"	0.77	0.03		

C Lens
17 m at
1.45% WO_3
ok.

DDH 41
1:500

RL=-36.00m.

DDH 41

64

60

Tuff

Rhyolite

Tuff

Rhyolite

Tuff

Rhyolite

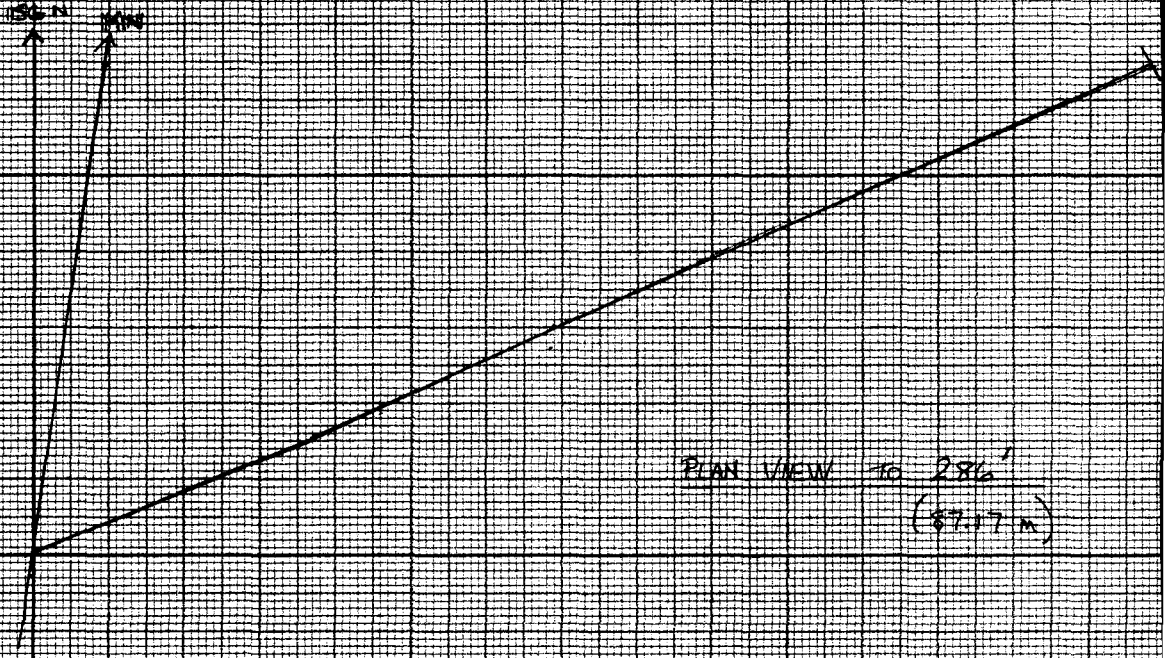
DDH 411 : DECLINE TEST HOLE

SURVEYED TO 286' (87.17m)

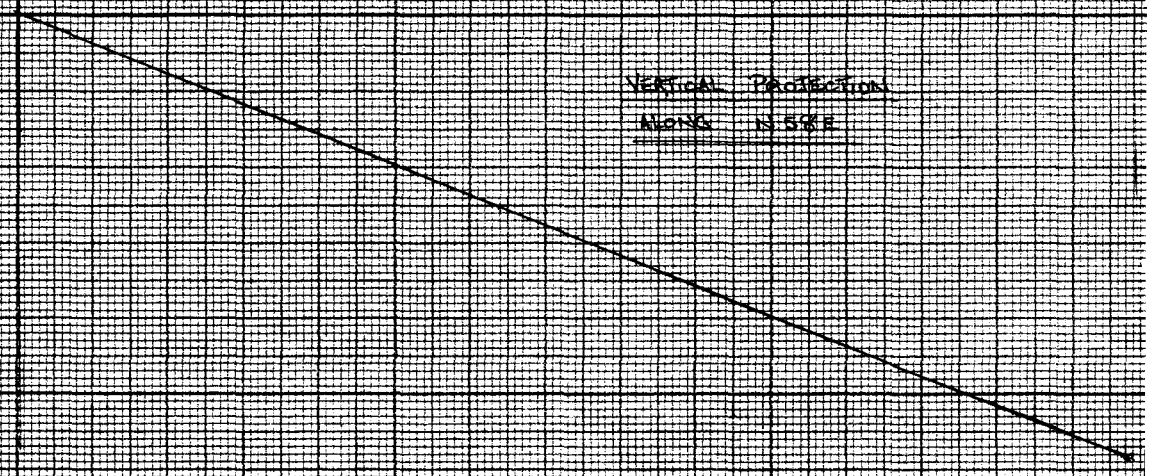
DATE 5.10.72

PLANNED DECLINATION TO HORIZONTAL = 22½°

SURVEYED BY P.C.



PLAN VIEW TO 286'
(87.17 m)



VERTICAL PROJECTION
ALONG N 50 E

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 411 Date Surveyed 5.10.72

Total Depth _____ Depth Surveyed To 286'

Casing Depth 15' Surveyed By P.C. G.M.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct	
1	0	●								
	1	S				22	286	68	N58E	
	2	S				23	286	"	"	
	3	10'				24	286	"	"	
	4	10				25	286	"	"	
	5	M 10?				26	270	68	N58E	
	6	30	68°	N60E		27	250	68	N58E	
	7	45	68	N60E		28	230 M?	"	"	
	8	50 M?				29	210	"	"	
	9	M				30	190	"	"	
	10	70	68	N59E		31	170	"	"	
	11	M				32	150	"	"	
	12	110	68	N58E		33	130	"	"	
	13	M				34	110	"	"	
	14	130	68	N58E		35	90	"	"	
	15	150	68	N58E		36	70	68	N60E	19.9.
	16	170	68	N58E		37	50	68	N60E	
	17	190	68	N58E		38	30	↑ all 20' out		
	18	210	68	N58E		39	30	68	N61E	
	19	M				40	13			
	20	230	68	N58E		41				
	21	M				42				

REMARKS:- mistake made in depths going down. 43

44

SEE PREVIOUS SURVEY TO 286'

Sheet No. ... of ...

DIAMOND DRILL HOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 411 Date Surveyed 14.11.72

Total Depth 805' Depth Surveyed To 790'

Casing Depth 296' Surveyed By G.M. P.C.

Depth	Drift Angle	Mean Drift Angle	Sine / cos	Vert. Depth cos × Length	True Vert. Depth Σ v.d.	Def. Sin × Length	Drift Direc.	Mean Drift Direc.	Cos Sine	Co-Ords. N/S	Co-Ords. E/W	Sum of Co-Ords N/S	Sum of Co-Ords E
00 - 190'	68° 30'		.9304 / .3665		21.22m	53.88m							
190 - 470'	68°	N 58E	.9272 / .3746	31.96	53.19m	79.13m							
470 - 490'	67° 30'	N 58E	.9239 / .3827	2.33	55.52m	5.63m							
490 - 750'	67°	N 56E	.9205 / .3907	30.96	86.48	72.95m							
750 - 790'	67.5°	N 58E	.9239 / .3827	4.66	91.14m	11.26 m							

1/

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 411 Date Surveyed 14/11/72

Total Depth 805 Depth Surveyed To 790'

Casing Depth 296 Surveyed By GM. PC.

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
1	0	0			22	410	410	68	S78E
2	1	0			23	410m.		68	S78W
3	2	0			24	430	430	68	S78W
4	3	10	68.5	N44E	25	m		68	S86W
5	4	10			26	450	450	68	N56E
6	5	30 m.			27	m.		m	
7	6	50 m.			28	470	470	68	N56E
8	7	70 m			29	m		67.5	N56E
9	8	190 m.	68.5	S73W	30	490	490	67.5	N56E
10	9	230 230	68	N70W	31	510	m.		
	10	250 250	68		32	510	510	67	N56E
	11	250m.			33.	530			
	12	270 270	68	S60W	34	510		67	N56E
	13.	290 m.	m		35	m.			
	14	290	m		36	530	530	67	N56E
	15	310 310	68	S65E	37	m.		67	N56E
	16	330 m.			38	570	570.	67	N56E
	17	350 m			39	m.			
	18	350	68	S60E	40	590	590	67	N56E
	19	370 370	68	S75W	41	m.		66.5	N56E
	20	390 m			42	610.	610.	67	N56E
	21	390m.	68	S73E	43.	630	630	m	

REMARKS:- Highly deviant directions between 00 - 430' assumed to be due to effects of casing. Direction constant coming up to 250' when again becomes highly deviant.

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 411 Date Surveyed _____

Total Depth _____ Depth Surveyed To _____

Casing Depth _____ Surveyed By _____

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
	44	630	67	N56E		66	M		
	45	M.	67	N56E		67	780 M.		
	46	650	67	N56E		68	770 M.		
	47	M	67	N56E		69	770		
	48	670	67	N56E		70	750 750 sm.		
	49	M.	M			71	730 M.		
	50	690 690	67	N56E		72	M.		
	51	M.				73	710 710		
	52	710.	67	N56E		74	690 M.		
	53	730. M.	67	N56E		75	690 M.		
	54	730	67	N57E		76	670 690		
	55	750 M.	[illegible]	N5		77	670 M.		
	56	750	67	N58E		78	670 M.		
	57	770 M.	67	N58E		79	650 650		
	58	770 m.	67.5	N59E		80	M.		
	59	790 790.	67.5	"		81	630 630.		
	60	790				82	M.		
	61	710	Bottom.			83	610 M.		
	62	790	"	N58E		84	590 590		
	63	790	"	" 58		85	570 M.		
	64	790	"	" 58		86	550 M.		
	65.	790		" 58		87.	530 530		

510.

REMARKS:- _____

DIAMOND DRILL HOLE BOREHOLE SURVEY

EASTMAN - KODAK MULTISHOT CAMERA

D.D.H. No. 411 Date Surveyed _____

Total Depth 805. Depth Surveyed To _____

Casing Depth 296. Surveyed By _____

Shot No.	Time	Depth	Defl.	Direct.	Shot No.	Time	Depth	Defl.	Direct
43	44	M				100	330. M.		N 57E
44	45	50	1°	S 15W		101	M.		N 57E
45	46	30	1°	S 10W		102	310. 310.		N 57E
46	47	10 M				103	290. M.		
47	48	10 M				104	270. M.		
48	49	10	1°	S 55 E		105	270. M.		
49	50	S				106	250. 250.		S 62 E
	51	S				107	230. M.		
	52	S				108	M.		
	53	●				109	210. 210.		
						110	290. M.		
	89.	490 M.				111	170. M		
	90	470. M.				112	M,		
	91	470. 470.				113	150. 150.		
	92	450. 450				114	130 M.		
	93	430. M.				115	130		
	94	430 SM.				116.	110. M.		
	95	410. 410.				117	90. M.		
	96	390 M.				118	M.		
	97	370. M.				119	70. M.		
	98	M.				122.	O	S.	●
	99.	350. 350							

REMARKS:- _____

DDH 411
1:500.

*N.B only first 70m plotted.
is actually 245.36m.

N 564 100

N 564 150

21996 OE
(Section Line)

21995 E

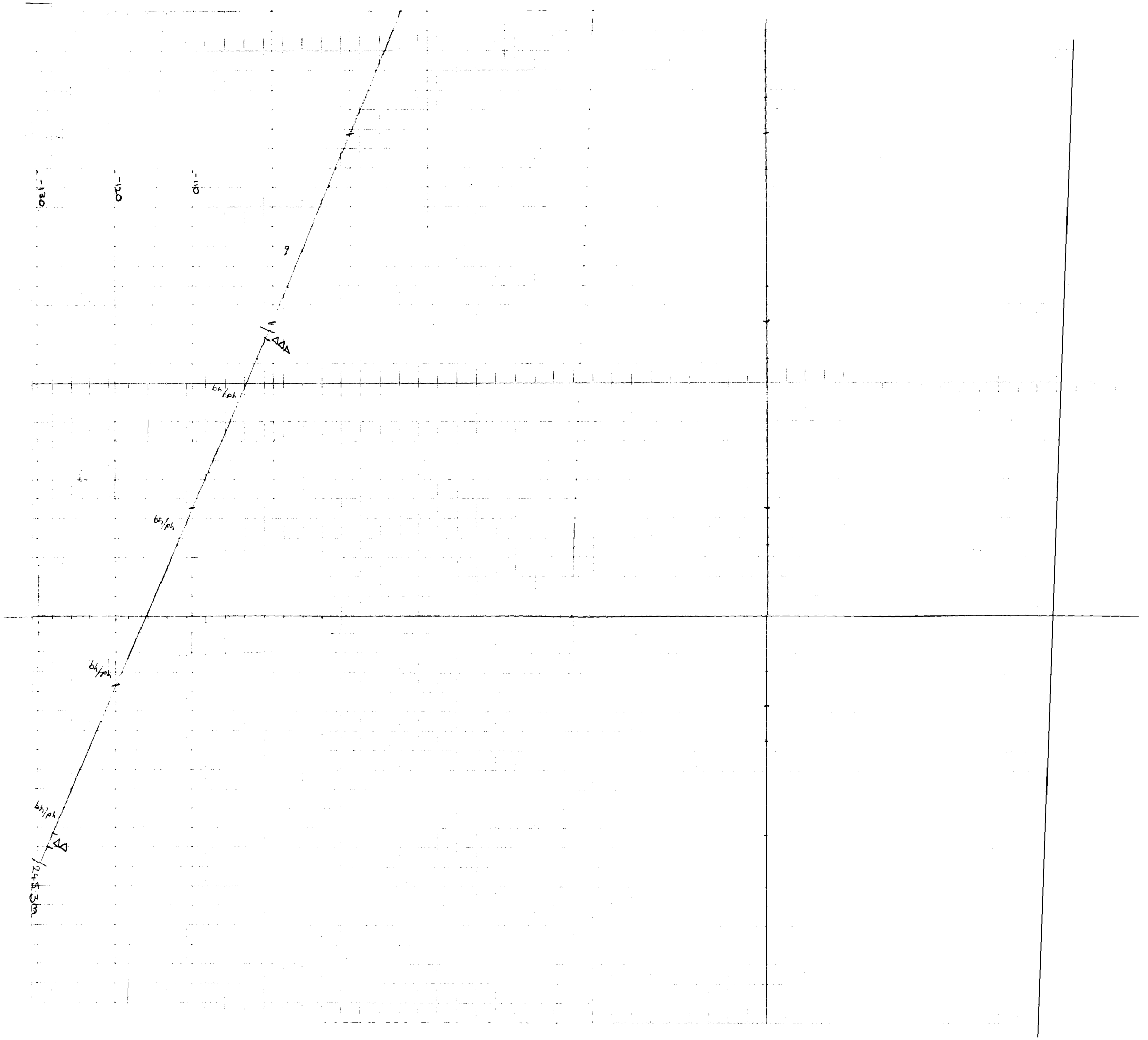
DDH 411

RL = -36m

70m.

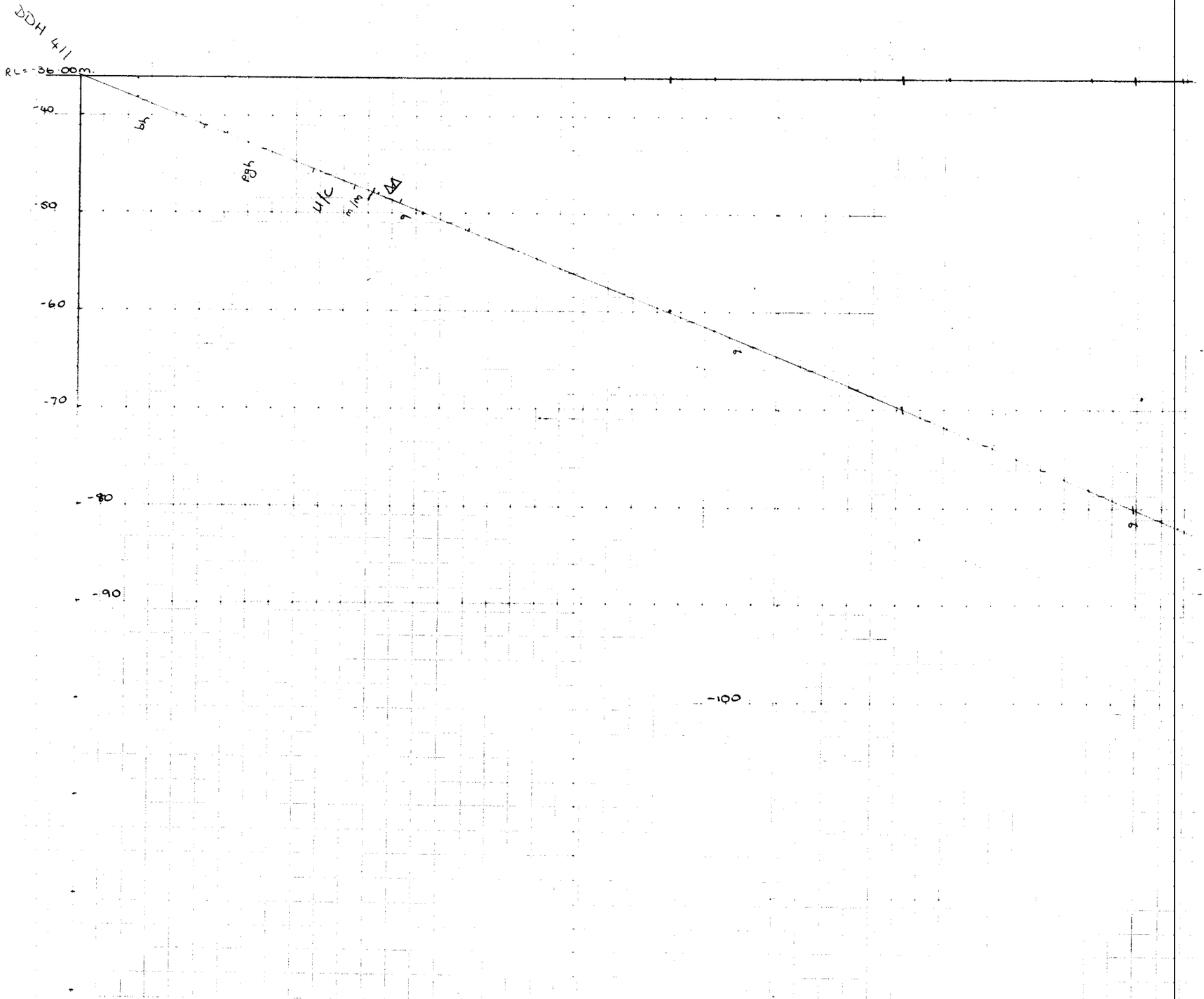
SECTION IN PLANE OF HOLE

ISG SECTION
LOOKING E.


-130
-120
-110
δ
$\Delta\Delta\Delta$
$\Delta h_1/\rho_1$
$\Delta h_2/\rho_2$
$\Delta h_3/\rho_3$
$\Delta h_4/\rho_4$
$\Delta\Delta\Delta$
$\Delta\Delta\Delta$

DDH 411
1:500

SECTION IN PLANE OF HOLE

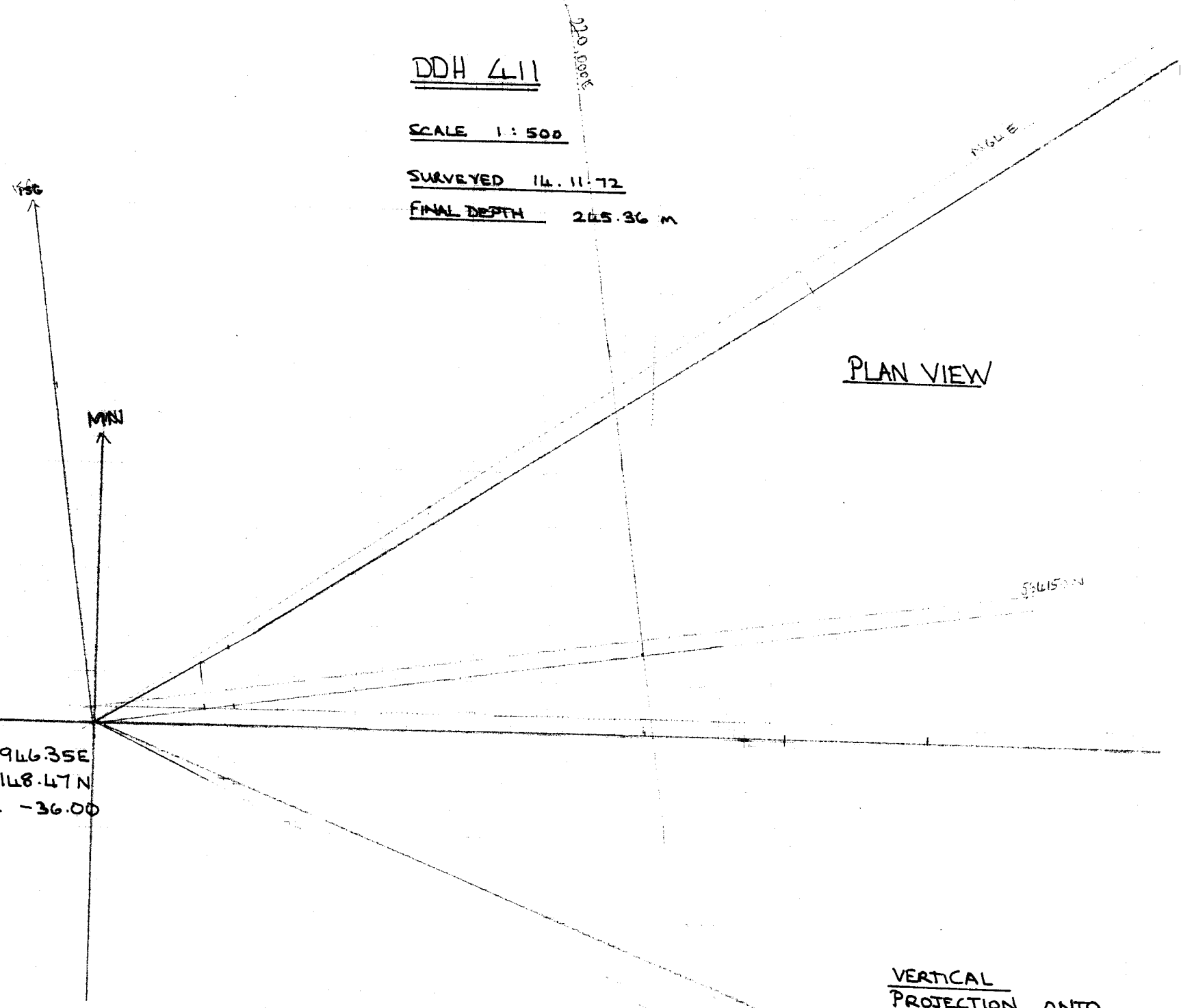


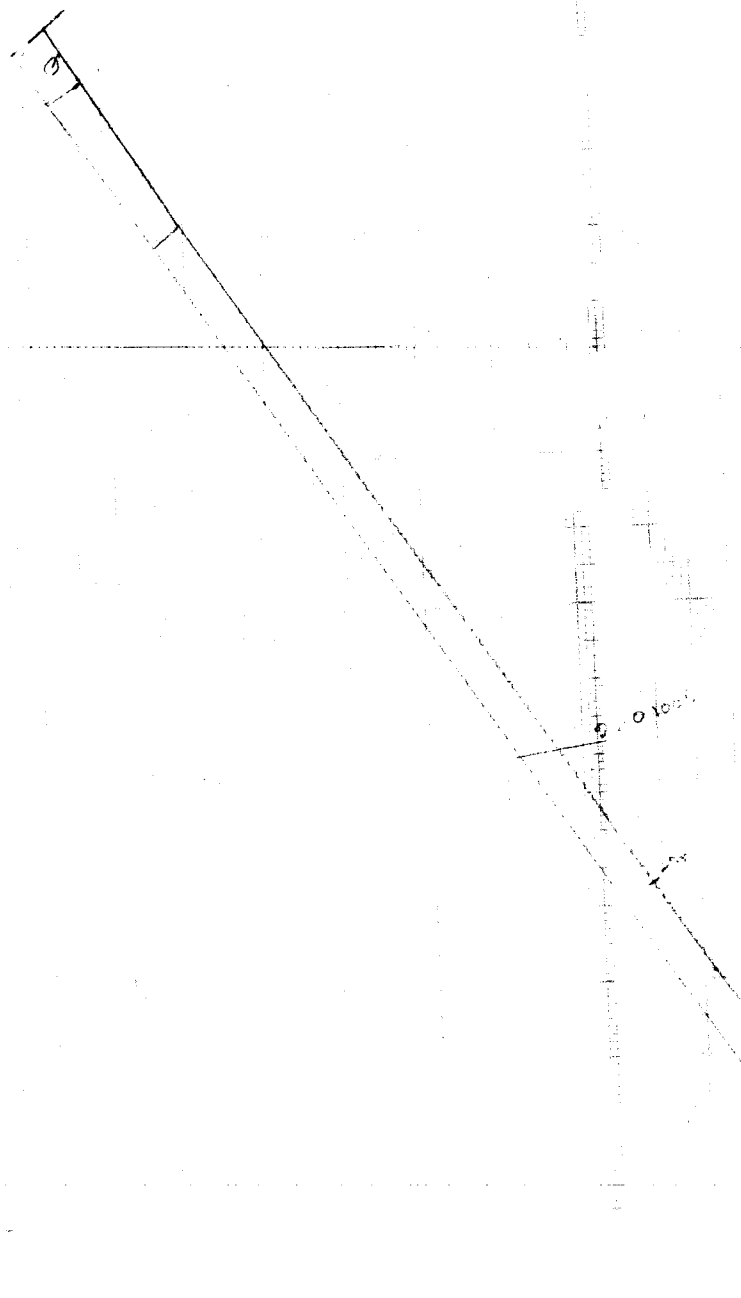
DDH 411

SCALE 1:500

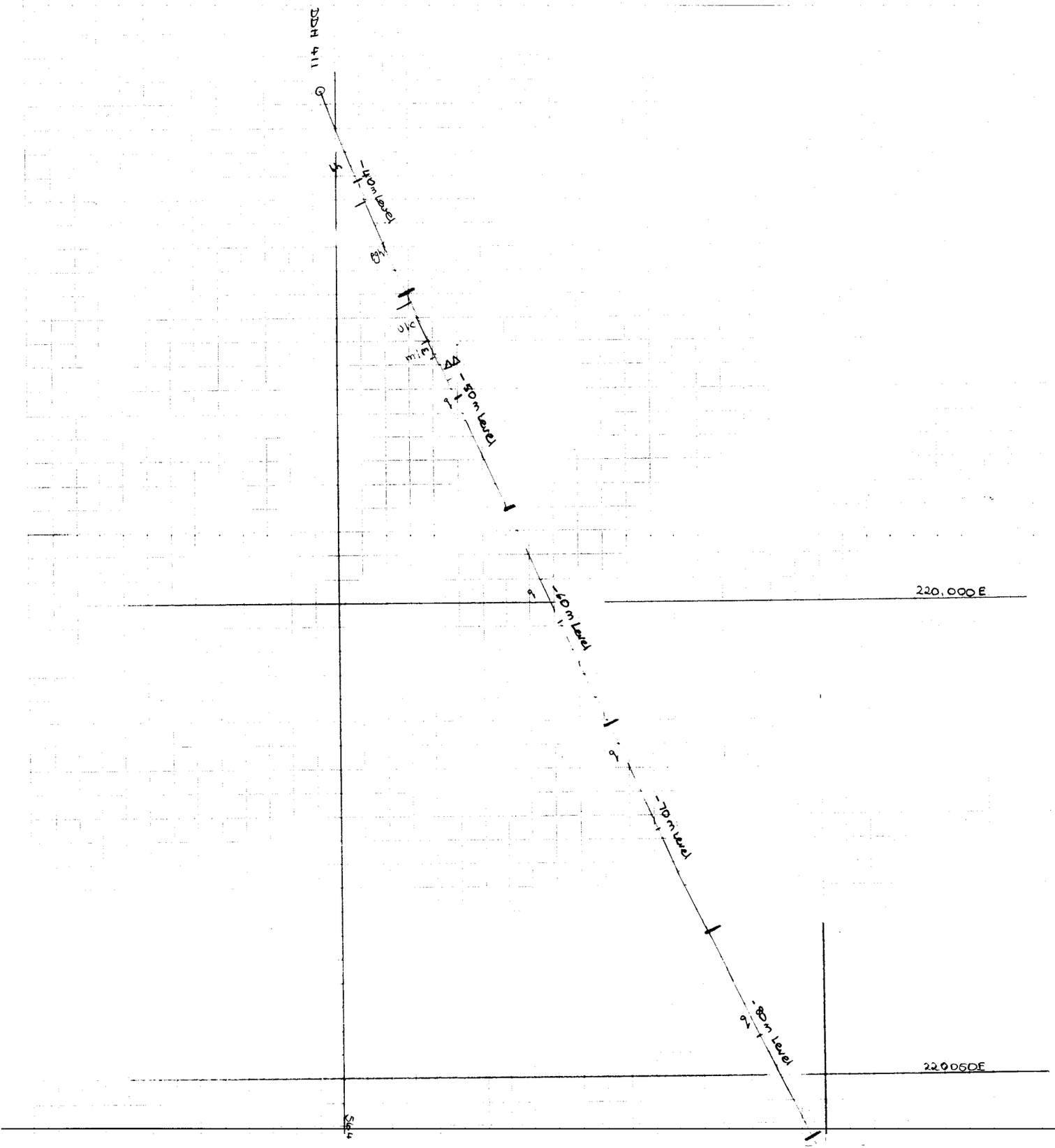
SURVEYED 14.11.72

FINAL DEPTH 245.36 m





160N.
-90m Level
9
-100m Level
ΔΔΔ
bh/ph
220100E
-110 m Level
bh/ph
-120 m Level.
bh/ph
ΔΔ
220150E
564 200 N.
-130

DDH 411
1:500.

PLAN VIEW