

Geological and Ceramic Services Pty. Ltd.

06_5361

21 GROVE STREET,
EDEN HILLS, 5050.
SOUTH AUSTRALIA.

Period 1st Qtr May to July incl. 1984

Geological and Ceramic Services Proprietary Limited*
Ware, M.D. EL2/1984

TELEPHONE: (08) 278 7207

2nd. August, 1984

The Director
Department of Mines- Tasmania
P.O. Box 56
Rosny Park,
Tasmania 7018

Attention. Mr. A.J.Reeves

Exploration Licence 2/84

Report on activity within Ulverstone Exploration Licence submitted
on behalf of Pioneer Concrete (Tas) Pty. Ltd.

Period... 1st. quarter. May to July(inc.) 1984.

Report prepared and submitted by, Michael D. Ware.

Michael D. Ware.

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Period 1st Qtr May to July incl. 1984

Geological and Ceramic Services Proprietary Limited*
Ware, M.D. EL2/1984

Statement of Expenditure.

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Exploration Licence E.L. 2/84

Period May to July Quarter

Airfares	\$ 1843.60
Accommodation and Meals	1191.60
Vehicles and transport	654.86
Chemical Analyses	495.65
Drilling expenses. Rig hire and consumables	2132.50
Consultants Fees. Geologist	5700.00
Maps, telephone, general expenses	167.30
	<hr/>
	\$12185.51

1. Summary of Interest and Activity Within Exploration Area. E.L.2/84

The Exploration Area is being assessed as a potential source of silica. Prior to exploration during the quarter the potential of the area was based upon the analysis of surface and near surface samples of chert which indicated a material of near pure silica content with low levels of alkalies, alkaline earths, iron and alumina being the only contaminants.

The chert, Barrington Chert (Jennings et al, 1959), crops out in the north-western portion of the E.L.A. where it forms the northern extremity of a troughed sequence of thinly bedded and massive grey, white and brownish coloured chert horizons which extend, and thicken, to the south-west and unconformably overlies a series of mudstones, volcanics and conglomerate.

In the past the chert has been mined by a strip and scrape method over a wide area extending south from the Allison Golf Course. In particular activity has been concentrated within, and immediately to the south of, a saddle lying within a narrow ridge behind the Golf Course and it was in this area that a programme of drilling was undertaken during the quarter to assess the quality and extremities of the chert horizon.

In the vicinity of the saddle (Reference Forth 1:100000 Series No. 8115 Grid:248428) mudstone is evident beneath the chert suggesting only a thin layer of material in this area. However to the south the ridge rises some 40 to 50 metres over a distance of 500 metres to a massive outcrop of chert which at surface analysed of reasonable quality. Between the saddle and the southern outcrop there is no definite outcrop although chert float and gravel is consistently present within the soil horizon.

Drilling was concentrated between the saddle and the southern outcrop along the crest of the ridge with minor lateral extensions from the main drill line, which followed an existing pony track, as dictated by the topography.

DoI M.	A.O.	C.G.	E.O.	D.S.M.E.
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	DEPT. OF MINES			
REF. No.	7991/84			

2. Drilling Programme

The prospect was drilled using an Atlas Copco ROC 601 Air Trak rig on a nominal 50 metre, southerly extending, grid commencing south of the saddle and moving south to the main chert outcrop some 500 metres to the south. Drill sites were surveyed by compass and tape.

Samples were recovered on a continuous basis and subsampled at intervals reflecting either a colour or lithological change. Drill logs are appended for the 28 sites investigated the localities of which are shown on figure 1.

3. Chemical Analyses.

Eleven chert and one green clay samples were analysed using Inductively Coupled Plasma Atomic Emission Spectrometry for the common silicate components. Samples were prepared by screening at 1.0mm., rejecting the undersize, and sieving a subsample of the oversize in a tungsten carbide mill. Selected samples were washed prior to screening to remove adhering clay.

Chemical analyses are given in Table 1.

4. Assessment of Area.

At this locality the chert is the basal horizon of the Barrington Chert which is intimately associated with secondary clays, mudstones and possibly a weathered volcanic lens.

The Cateena Group is represented by a red/burgandy mudstone and possibly a secondary white clay, the presence of either of which cannot be adequately predicated due to localized faulting (or post-depositional slumping), minor folding and considerable erosion prior to, or contemporaneous with, deposition of the chert.

The drilling indicated that, with the exception of the southern chert outcrop, the chert is generally highly fractured and associated with varying amounts of clay present either as a coating along fine joint or fracture cracks in the chert or as the bulk of a zone in which chert fragments lie.

On the basis of the analytical results it is apparent that the chert contains a relatively consistent percentage of soda, 0.2 to 0.3%, regardless of the percentage of the other variables. The soda is thus considered to be due to the presence of a discrete mineral, possibly a feldspar, common to the chert.

Potash increases as the level of alumina increases and in part this is likely to be due to a mica/kaolinite association. Some of the potash however is tied to the chert and cannot be removed by washing.

When corrected for moisture, chert from the area analyses 98% to 99% SiO_2 , 0.4% to 0.7% Al_2O_3 when free of clay, up to 0.1% Fe_2O_3 , 0.35% to 0.45% K_2O , 0.22% Na_2O , and to 0.15% MgO . However, there is evidence that the cherts have in part been leached and bleached near the surface and it is probable that the level of contamination will increase with depth.

Reference.

Jennings, I.B., Burns, K.L., Mayne, S.J., and Robinson, R.G., 1959
Sheffield Map Sheet. Geol. Surv. Tas. 1 Mile Map Ser. 37.

Attached.

Drilling Logs
Chemical Analyses
Detail of Expenditure
Site Map. Allison Prospect.



Table 1 Allison Prospect.

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Analysis code H1/1

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NATA Certificate

Results in percentages

	A1	A2	A3	A4	A5
SiO ₂	97.7	98.6	97.7	98.0	97.3
TiO ₂	0.08	0.07	0.07	0.07	0.10
Al ₂ O ₃	0.39	0.38	0.60	0.57	0.50
Fe ₂ O ₃	0.07	0.07	0.08	0.12	0.09
MnO	0.00	0.00	0.00	0.00	0.00
MgO	0.12	0.13	0.15	0.16	0.17
CaO	0.03	0.02	0.02	0.03	0.03
Na ₂ O	0.20	0.20	0.21	0.22	0.23
K ₂ O	0.33	0.35	0.40	0.45	0.47
P ₂ O ₅	0.03	0.02	0.04	0.02	0.03
LOI	1.20	0.29	0.53	0.29	1.18
Totals	100.1	100.1	99.9	100.0	100.2

Total FE as Fe₂O₃

Hole	19	19	19	19	25
Depth(metres)	0-9	0-9	9-12	9-12	0-4.5
Treatment(+1.0mm.)	None	Wash Dried	None	Wash Dried	None
SiO ₂ corrected.	98.6		98.1		98.2



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TABLE 1 CHEMICAL ANALYSES Allison Prospect

Analysis code H1/1

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NATA Certificate

Results in percentages

	A6	A7	A8	A9	A10
SiO2	90.4	91.6	98.8	94.9	90.6
TiO2	0.41	0.37	0.15	0.20	0.25
Al2O3	5.70	4.90	0.36	2.64	3.78
Fe2O3	0.32	0.27	0.06	0.17	0.23
MnO	0.00	0.00	0.00	0.00	0.00
MgO	0.29	0.30	0.15	0.23	0.27
CaO	0.03	0.04	0.03	0.03	0.03
Na2O	0.26	0.26	0.23	0.26	0.25
K2O	0.79	0.82	0.44	0.66	0.81
P2O5	0.04	0.03	0.03	0.03	0.01
LOI	2.12	1.77	0.33	1.06	3.86
Totals	100.4	100.4	100.6	100.2	100.1

Total FE as Fe2O3

Hole	13	13	16	10	10
Depth(metres)	3.5-9	9-18	0-5	0-9	9-13.5
Treatment(+1.0mm.)	Wash Dried	Wash Dried	Wash Dried	Wash Dried	None



Table 1 Allison Prospect.

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Analysis code H1/1

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NATA Certificate

Results in percentages

	Alli	A12
SiO ₂	91.2	69.6
TiO ₂	0.30	0.99
Al ₂ O ₃	4.96	16.0
Fe ₂ O ₃	0.51	2.62
MnO	0.00	0.01
MgO	0.33	1.63
CaO	0.03	0.04
Na ₂ O	0.27	0.24
K ₂ O	1.02	3.80
P ₂ O ₅	0.06	0.04
LOI	1.85	5.20
Totals	100.5	100.2
Cr ₂ O ₃		0.015
Total FE as Fe ₂ O ₃		
Hole	8	8 (Bright green clay)
Depth(metres)	1.5-7	7-9
Treatment(+1.0mm.)	Wash Dried	Total sample- dried only

APPENDIX A. DRILL HOLE LOGS.

ALLISON PROSPECT- ULVERSTONE, TASMANIA.

Appendix A. Allison Prospect.

Drill Hole Logs.

<u>Drill Hole</u>	<u>Depth (Metres)</u>	<u>Description</u>
1	0 -1.5	White Chert
	1.5-3.0	White + light brown mottled clay
2	0 - 1.0	Top soil
	1 - 3.0	White + light brown mottled clay
3	0 -1.2	Top Soil
	1.2-3.0	White + grey fractured chert
	3.0-6.2	White chert + white clay
	6.2-6.7	Light brown sandy clay + minor white chert
4	0 - 3.05	White, grey chert- minor clay and iron staining.
	3.05-6.0	Pink + white chert, minor clay
	6.0-9.0	White chert and grey clay
5	0 - 6.0	White clay. Moist, bogged in hole. Abandoned.
6	0 -1.8	Red/brown clay
	1.8-6.0	Hard drilling. White/grey + minor pink chert
7	0 -3.0	Reddish clay/mudstone.
8	0 - 1.5	White clay
	1.5-7.0	Grey/white chert, minor white clay-possibly contamination
	7.0-9.0	Bright green and white clay.
9	0 -6.0	White, tan and finally red clays

Drill Hole Logs. contd.

<u>Drill hole</u>	<u>Depth (Metres)</u>	<u>Description</u>
10	0 - 9.0	Greyish and minor white chert. Some white clay and minor iron staining on fracture planes. Section appears heavily fractured
	9.0-13.5	As above with minor clay lumps.
	13.5-15.0	Similar with clay % increasing.
11	0-3.0	Pink/brown clay. Minor chert
	3.0-7.0	White clay + fractured greyish and iron stained chert.
	7.0-9.0	Grey and light brown fractured chert. Minor white clay.
	9.0-11.0	As above with clay increasing.
12	0 - 3.0	Minor chert followed by light brown clay then silicified red brown mudstone or reddish chert.
13	0 - 3.5	Minor grey chert + white clay
	3.5-9.0	Hard grey chert. Few % white soft lumps and minor brown clay.
	9.0-18.0	Grey to white chert. Some fracturing and iron staining on fracture planes. Few % of white, soft, lumps. (clay?)
14	0-1.5	Fractured chert. Caved at 1.5 metres and abandoned. Additional holes in close proximity also caving.
15	0 - 5.5	White chert, minor white clay Ground fractured and caving
16	0 - 4.5	White chert. Fractured with clay dusting on fracture planes
	4.5-5.0	Sandy zone. Hole Caved.

Drill Hole Logs. contd.

<u>Drill Hole</u>	<u>Depth (Metres)</u>	<u>Description</u>
17		Caved from surface
18	0 -3.0 3.0-5.0	Heavily fractured white chert. Fractured chert with traces of brown/grey mudstone.
19	0 -9.0 9.0-12.0 12.0-13.5	Greyish translucent chert. Fine clay dust and few white lumps, possibly clay. Similar. Limited degree of fracturing only. As above with minor cinnamon coloured chert.
20	0 -3.0 3.0-6.0 6.0-7.0 7.0-9.0	White + grey chert. Minor brown- ish clay. White + grey/brown chert. Some fracturing and minor white clay. Fracturing more evident. White clay + minor grey chert.
21	0 -3.0 3.0-7.5	Fractured greyish chert with traces of clay. Grey chert, heavily fractured. Holed caved at 7.5 metres.
22	0 - 3.0	White/grey semi-plastic clay followed by brown/purple mudstone.
23	0 -6.0	Tan and finally red/burgandy clay/mudstone.
24	0 -9.0	white to grey translucent chert. Fractured, minor clay and chlorite Hole caved and abandoned.

Drill Hole Logs.contd.

<u>Drill Hole</u>	<u>Depth (Metres)</u>	<u>Description</u>
25	0-4.5	Very hard white and greyish, with minor cinnamon, chert. Minimal fracturing with fine dust on fracture planes.
	4.5-6.0	Soft, fractured, sandy area.
	6.0-9.0	Fractured grey chert with white clay on fracture planes.
26	0 -3.0	White chert on surface followed by white clay.
	3.0-4.5	White clay
	4.5-6.0	Hard grey chert.
	6.0-9.0	Grey chert with abundant white clay.
27	0 -3.0	Brown/khaki clay.
	3.0-6.0	Red/burgandy clay/mudstone
28	0 -3.0	Tan clay.
	3.0-6.0	Red/burgandy clay/mudstone.

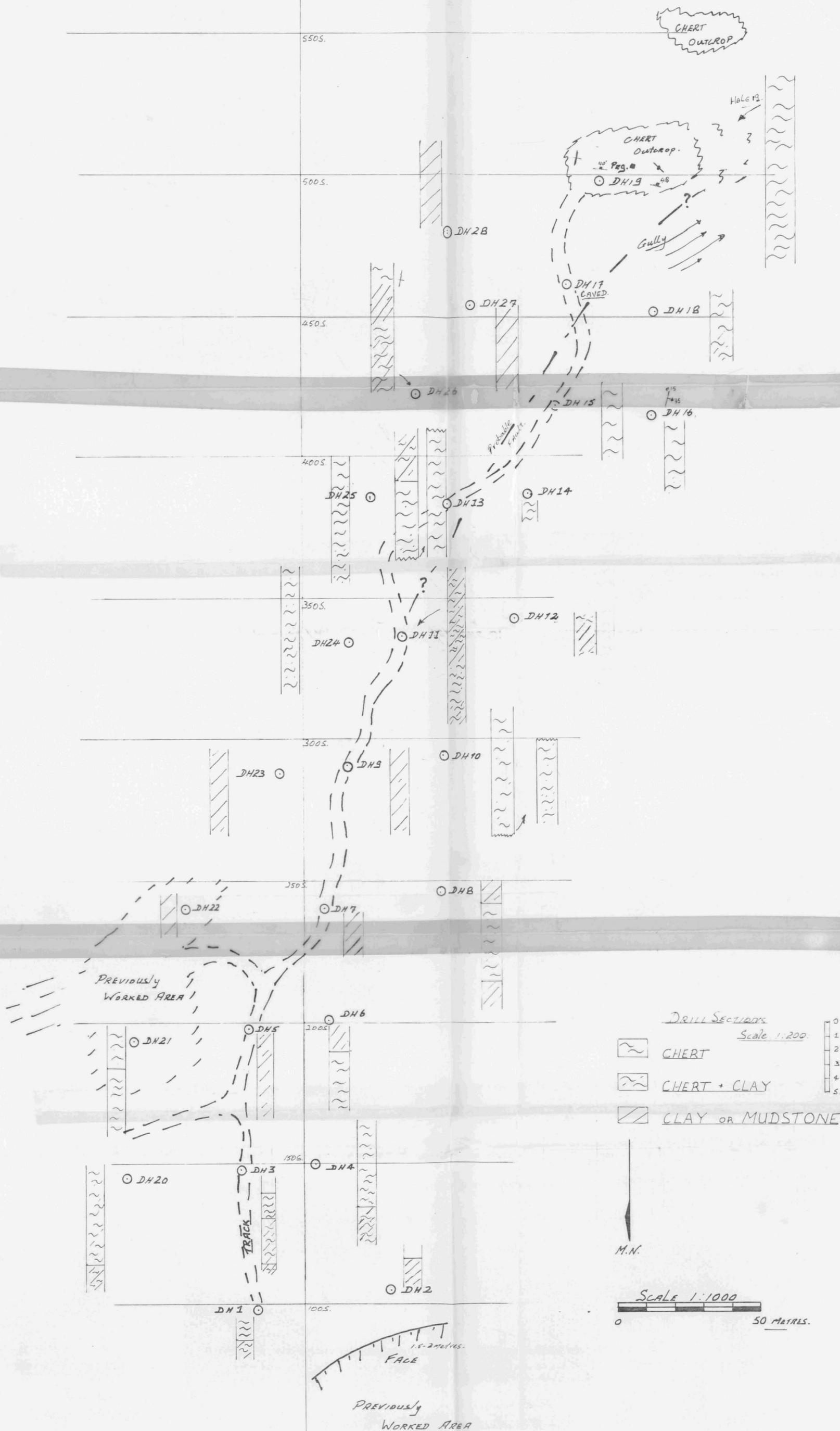


FIGURE 1 ALLISON PROSPECT.

E.L. 2/B4 Pioneer Concrete (Gas) P/L.

Drawn M. WAKE
May 1984.

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Period 1st Qtr May to July incl. 1984

Geological and Ceramic Services Proprietary Limited*
Ware, M.D. EL2/1984

Transmission Lines
30 METRES