MAGNUM GOLD N.L.

MINERAL CLAIMS N214-217 & N218-222
GROVE HILL REGION
Northern Territory.

FINAL REPORT

MAP REFERENCES:

Pine Creek	1:250,000	SD 52-8
McKinlay River	1:100,000	5271
Ban Ban	1:50,000	5271-3

ERA Report A/379
July, 1993

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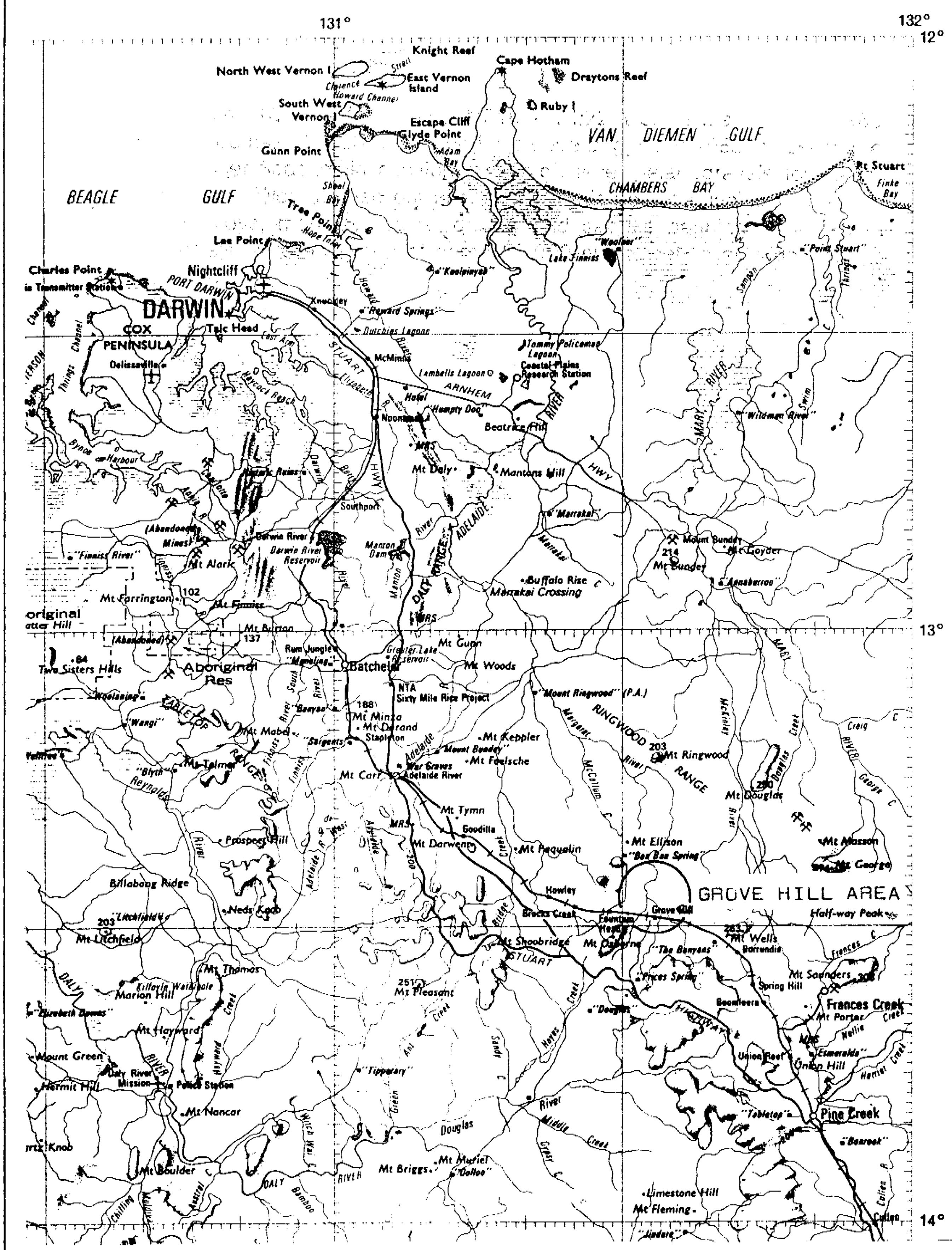

FIGURE 1 LOCATION MAP

Scale 1:1,000,000

SUMMARY

Mineral claims N214 - N216 and N218 - N222 were situated some 160 kilometres south-east of Darwin. The MCs were pegged in 1982 to assess the Margaret River flood plain alluvium and high level palaeogravels for placer gold potential. Work carried out in assessing this potential included hammer seismic surveys, mapping, auger drilling and sample panning. High level palaeogravels were assessed at some 50,000 cubic metres at subeconomic grade. Alluvials of the current flood plain were shown to consist principally of fine silts and sands with little potential for potentially auriferous gravels.

Later work concentrated on exploration for primary gold mineralization. High arsenic grades were returned from several small quartz veins however gold grades were subeconomic. There appears to be little potential for an economic primary gold deposit within the tenements.

EARTH RESOURCES AUSTRALIA PTY LTD

I.M.Milligan
Senior Geologist

1.0 INTRODUCTION

Mineral claims N214 - N216 and N218 - N222 were situated adjacent to the Margaret River north of Grove Hill and some 160 kilometres south-east of Darwin (Figure 1). The MCs were pegged in 1982 to assess the Margaret River flood plain alluvium and associated palaeogravels for placer gold and tin. Tenure was originally held by Magnum Resources Limited and later transferred to Magnum Gold NL.

The MCs formed one of four blocks of mineral claims then held by Magnum Resources in the area north of Grove Hill. In company reports these tenement blocks were referred to as the Grove Hill East, Central, South and West blocks and comprised a total of fortyone mineral claims. Those MCs the subject of this report comprised the Central Block. Initially the Central Block also included MCN217 which has previously been surrendered.

In the period up to 1986 exploration on all four blocks was reported on collectively. Magnum Resources engaged geological consultants to carry out exploration. Initial work was carried out by John Shields of Geonorth and later work was by Earth Resources Australia Pty Limited.

In 1985 the tenements were covered by a low altitude high resolution aeromagnetic survey. This was jointly commissioned by Magnum Resources Ltd and Territory Resources NL over an area of approximately 180 square kilometres in the Grove Hill area. This survey was flown by Geoterrex Pty Ltd with data interpretation for Magnum by Geospex Associates Pty Ltd (Pratt & Lindberg 1986). The data tape for this survey together with a copy of the Geospex report has been submitted to the NT Geological Survey.

Examination of Mines Department records produced no report of prior company exploration over the area of the Central Block tenements. The only evidence located on the ground of previous prospecting activity were several shallow prospecting pits at about AMG 776000mE 85133000mN.

2.0 WORK CARRIED OUT AND RESULTS

2.1 Initial Surface Prospecting

Ref. Shields, Geonorth Dec. 1982

Panning of a spread of surface samples taken from palaeoalluvial "high level" gravels returned colours of gold and provided the impetus for pegging of the claims and subsequent work.

2.2 Hammer Seismic Traverses

Ref. Shields, Geonorth Dec. 1982

In order to ascertain the probable thickness of alluvial material over the tenements trial hammer seismic refraction spreads were run over two sites within the tenements. Each spread was of 100 metres length at the following locations (AMG coordinates are approximate at centre of spread)

#1 - on boundary between MCN221 & N222 AMG777900mE 8512900mN
#2 - on boundary between MCN216 & N220 AMG776000mE 8512900mN

A Geometrics Signal Enhancement Exploration Seismograph Model ES-125 was used. This instrument utilises a signal enhancement system whereby signals from repeated hammer blows are superimposed on a cathode ray tube until the first arrival time can be defined. Results were interpreted as presented in Appendix 1. It should be noted that hardware problems were apparent during the survey.

Interpreted depth to base of surface soil and of alluvium are as follows:

Spread	Soil	Alluvium
1	3-6m	15-25m
2	3m	3-12m

Subsequent auger drilling indicated that the intermediate velocity signal was probably due to weathered bedrock and not in fact from alluvium. In view of this, alluvial material would be restricted to the upper 6 metres (previously interpreted as "soil and overburden").

2.3 Initial Auger Drilling

Ref. Shields. Geonorth, Nov.1984

Power auger drilling was carried out over the area of high level gravels. Drilling of fortyseven holes was carried out on a 100 metre square grid pattern

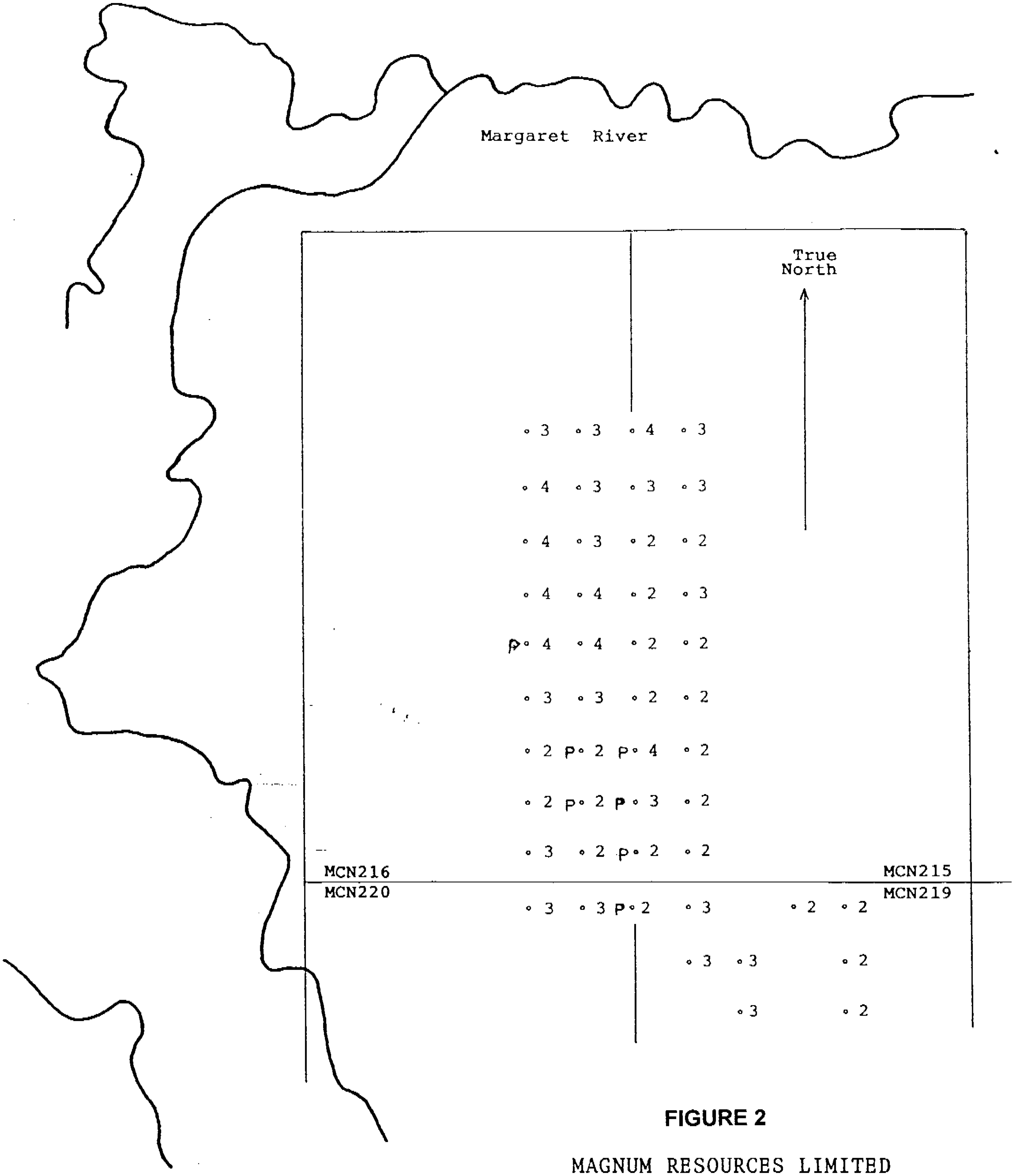

FIGURE 2

MAGNUM RESOURCES LIMITED

MARGARET RIVER

GROVE HILL AREA

ALLUVIAL GOLD INVESTIGATION

Scale 1: 10 000

0 100 200 300 400 500 metres

J.W. Shields March 1984

- ∘ 3 Auger drill hole with depth in metres
- P∘ 3 Panned hole
- p∘ 3 Gold present

over an area as indicated on Figure 2. Drilling depth ranged from 2 to 4 metres and no bedrock was recognised at these depths. Material from seven holes was panned and gold traces were returned from all but one hole. No estimate of grade was made.

2.4 Follow-Up Mapping & Auger Drilling

Ref. Milligan, Earth Resources Pty Ltd Jan. 1986

During 1985 the tenements were investigated in more detail by mapping and power auger drilling. The gravels were found to occur on a low north-northwest trending ridge some 1 kilometre long by 400 metres wide. They show a diverse range of lithologies, are well rounded and range from pebble to cobble size. Detail mapping (see Figure 3) indicated several areas of outcrop and quartz rubble probably derived from outcrop rather than gravels. This indicated that the gravels were not as thick nor as uniform in distribution as was previously supposed.

This was confirmed by subsequent power auger drilling totalling some 110 metres over 27 holes. Drill hole locations are plotted on Figure 3 and results summarised on Table 1 and presented in full in Appendix 2. Panning of selected samples indicated very low gold grades (estimated at well under 0.2 grams per cubic metre) with traces of cassiterite.

Gravels rarely exceed one metre in thickness (average 0.7 metres) and appear to form a mantle over a low basement rise of micaceous siltstone. Surface processes may have spread the gravels down the flanks of the ridge from a more restricted original channel deposit.

Total volume of potentially auriferous gravels is estimated at about 50,000 cubic metres. Both the size and grade of the deposit are indicated to be subeconomic and no further work was carried out on their assessment.

2.5 Assessment of Flood Plain Alluvium

Ref. Milligan, Earth Resources Pty Ltd Jan. 1986

During the latter auger drilling described above (2.4) several holes were drilled through the recent flood plain deposits of the Margaret River (viz: holes 6,7,8,9,26 and 27). These intersected tight clayey and silty sands with very minor coarse running sands and no significant gravel intervals (see Appendix 2 for logs). Panning of the sands produced no gold traces. Sediment thickness ranged up to 14 metres on an irregular basement of micaceous siltstone and minor greywacke.

TABLE 1 **1985 AUGER DRILLING PROGRAM HIGH LEVEL GRAVELS MC N215, N216, N219, N220**

Date: 12-13th June, 1985
Contractor: Bynoe Drilling (Grant Unstead)
Geologist: Ian Milligan, ERA
Total Holes: 27
Total Metres: 110

Hole No.	Location	T.D. (m)	Sample Nos.	D.B. (m)	Gravel Thickness
1	5000N 5300E	2	8020-8021	1.0	0
2	5000N 5200E	2	8022-8023	1.8	0.8
3	5000N 5100E	2	8024-8025	1.4	0.5
4	5000N 5000E	4	8026-8029	1.4	0.4
5	5000N 4900E	2	8030-8031	0.9	0.9
6	5000N 4800E	4	8032-8035	2.8	0
7	5000N 4700E	18	8036-8041	c14	0
8	5000N 4600E	10	8042-8045	>10	0
9	5000N 4500E	10	8046-8049	c8	0
10	4800N 5400E	2	8050	0.4	0
11	4800N 5300E	2	8051-8052	0.8	0.8
12	4800N 5200E	4	8053-8055	0.8	0.8
13	4800N 5100E	2	8056-8057	1.0	1.0
14	4800N 5000E	2	8058-8059	0.8	0.8
15	4600N 5000E	2	8060	0.4	0
16	5200N 5200E	4	8061-8062	3.8	3.5
17	5200N 5100E	2	8063-8064	0.7	0.7
18	5200N 5000E	2	8065-8066	0.7	0.7
19	5200N 4900E	1	8067	0.4	0.4
20	5200N 4800E	1	8068	0.4	0.4
21	5400N 4800E	3	8069-8070	0.3	0
22	5400N 4900E	2	8071-8072	0.7	0.7
23	5400N 5000E	2	8073-8074	0.8	0.8
24	5600N 4900E	2	8075-8076	0.8	0.8
25	5600N 4800E	2	8077-8078	0.7	0.7
26	5600N 4700E	7	8079	1.5	0
27	5600N 4600E	14	8080	c5	0

The Margaret River cuts an irregular course through the flood plain with banks in excess of three metres high. Examination of these banks indicated similar silty and clayey sands with rare pebble trains. Basement outcrop is rare but where encountered is within 3 to 4 metres of the surface of the plain.

This suggests that the potential for significant volumes of auriferous gravels under the flood plain is low, however the area upstream to the south and near the confluence with Yam Creek may warrant further investigation.

2.6 Assessment of Potential for Primary Gold Mineralization

Quartz outcrops sampled during mapping of the high level gravels returned no gold assays above detection level. Results are presented in Table 2 and located on Figure 3. Reconnaissance work at this time failed to indicate any significant area of primary mineralization .

Later work by Jenkins (1991) sampled outcrop and float from the vicinity of a prominent hill within MCN219 (AMG 776600mE 8512000mN). Several high values for arsenic were returned (refer Table 3). The higher arsenic samples (42933 - 1120ppm & 42934 - 2060ppm) were taken from thin quartz/scorodite vein. Gold values for these samples were only weakly anomalous (17 and 7 ppb respectively). Other moderately high arsenic values and weak gold values were obtained from other lithologies (see Table 3).

Follow-up work was carried out as follows:

- At the location of sample 42931 (42ppb Au) - 300 metres west of the prominent hill - a quartz blow crops out within red and yellow sandstones and siltstones. Bedding dips 70° to 235° with steeper sub-parallel cleavage. Further sampling in the vicinity (samples 42971-74) returned only low gold grades (0.03ppm max.).

- On the southern flank of the hill a thin (1-2 cm average) quartz/scorodite vein with abundant iron oxides was located. The vein dips 65° to 100° and is traceable along strike for about 10 metres (samples 42978 & 79). This orientation dips across the bedding plane orientation (dip 45° to 260°). Sample 42934 is from a boulder of white sub-translucent quartz with minor scorodite and mica that forms a local thickening of the quartz/scorodite vein. Arsenic values up to 19.5% were returned and gold values obtained from the vein are anomalous but subeconomic (up to 0.24ppm).

- The northern flank of the hill lacks significant veining however very thin, sub-continuous quartz veining (most prominent on structural planes dipping at 55°>105° and 35°>290°) returned elevated arsenic (2800ppm) and base metal values and anomalous gold (0.11ppm) from sample 42977 (Table 3).

- Outcrop on a low rise some 300 metres south-east of the hill (samples 42936-42) indicates bedding dips to east. This evidence coupled with aerial photo features suggests that an anticline exists to the east of the hill and strikes approximately north-north-west. Such a structure represents a potential site for hosting economic gold mineralization.

Reconnaissance soil sampling with BLEG analysis in this area (samples 42982 86) indicated no significant values. A soil sampling grid was proposed over the possible anticlinal structure but no further work was carried out.

TABLE 2 1985 OUTCROP SAMPLING

Sample No.	Description	Sample Type*	Assay Au g/t
8093	Quartz, white, milky; trace pyrite; minor iron oxides on fractures	Rand.grab 3m rbl & o/c	X
8094	Quartz, milky, minor yellow staining	Rand.grab ? o/c	X
8095	Quartz, milky, minor red & yellow staining on fractures	Rand.grab p.pit	X
8096	Quartz, similar 8095	Rand.grab Rbl & o/c	X
8097	Quartz with iron oxide coatings, some gossanous, some brecciated	Sel.grab 10m rbl & o/c	X
8098	Quartz, milky, massive	Rand.grab o/c	X
8099	Quartz, milky, saccharoidal, brecciated; minor iron oxide coatings	Rand.grab 30m rbl.	X

* Sample Type

rbl	rubble
o/c	outcrop
Rand.	random
Sel.	selected

X below level of detection (0.02 ppm)

TABLE 3: GROVE HILL CENTRAL BLOCK (MC N16-18, N18-22) - Sample Locations & Descriptions

SAMPLE No.	EASTING (AMG)	NORTHING (AMG)	Sample Type	Sample Description	Au	Au	As	Cu	Pb	Zn	Ag	Labrpt#
42931	776250	8512140	O-C	Quartz vein	42		190	210	185	7	0.5	1DN0860B
42932	776550	8512000	O-C	Quartz vein	5		25	380	640	150	11	1DN0860B
42933	776550	8511950	O-C	Quartz vein	17		1120	200	42	51	0.5	1DN0860B
42934	776600	8511850	RF	Quartz vein (boulder), euhedral green xtals.	7		2060	12	9	11	0.5	1DN0860B
42935	776600	8511850	O-C	similar to above	0.5		25	3	2	5	0.5	1DN0860B
42936	776850	8511900	RF	Quartz vein cross cutting dark sediment	0.5		25	5	9	6	0.5	1DN0860B
42937	776850	8511900	O-C	Quartz	0.5		25	8	63	12	0.5	1DN0860B
42938	776850	8511900	RF	Quartz - minor sulphide	0.5		180	7	20	13	0.5	1DN0860B
42939	776850	8511900	RF	Ironstone & quartz	0.5		25	20	48	27	0.5	1DN0860B
42940	776850	8511900	RF	Quartz	0.5		25	2	2	3	0.5	1DN0860B
42941	776850	8511900	O-C	Quartz - ironstone infill	0.5		25	2	2	4	0.5	1DN0860B
42942	776850	8511900	O-C	Saccharoidal quartz	0.5		230	1	2	4	0.5	1DN0860B
42943	777050	8511950	RF	Gossanous ironstone	0.5		160	10	30	8	0.5	1DN0860B
42944	777200	8512100	RF	Quartz	10		25	1	4	4	0.5	1DN0860B
42945	777200	8512100	RF	Quartz - ironstone fill	31		80	15	6	4	0.5	1DN0860B
42946	777200	8512100	O-C	Quartz	10		710	84	24	8	0.5	1DN0860B
42947	777200	8512100	O-C	Banded ironstone & quartz	16		1100	125	13	5	0.5	1DN0860B
					AAS9							
					1ppb							
42971	776150	8512200	O-C	Saccharoidal Quartz		0.03	25	8	69	35	0.5	1DN1009
42972	776150	8512200	O-C	Saccharoidal Quartz with green quartzite		0.01	25	33	110	200	2	1DN1009
42973	776150	8512150	O-C	Quartz		0.01	100	45	470	37	4	1DN1009
42974	776150	8512100	O-C	Quartz		0.01	25	12	2	7	0.5	1DN1009
42975	776400	8511950	RF	Ironstone "cap rock" localized		0.02	1890	2180	360	1600	2	1DN1009
42976	776550	8512050	O-C	Thin quartz vein Fe mins - trend 315°		0.02	670	170	21	48	0.5	1DN1009
42977	776551	8512050	O-C	a/a on planes 55 > 70°, 65 > 115°		0.11	2800	360	680	240	1	1DN1009
42978	776550	8511900	O-C	Scorodite , Fe oxides & micaceous saccharoidal quartz.		0.24	19.20%	290	39	65	1	1DN1009
				Thin vein traceable 10m along strike - 65° > 100°			AAS2(C)				AAS2	1DN1009
							50ppm				1ppm	

SAMPLE No.	EASTING (AMG)	NORTHING (AMG)	Sample Type	Sample Description	Au	Au	As	Cu	Pb	Zn	Ag	Labrpt#
42979	776550	8511900	O-C	similar to above, lacks scorodite		0.22	1.68%	460	63	220	1	1DN1009
42980	776550	8511900	O-C	Thin quartz & arenite,associated with vein above		0.04	1.05%	114	17	25	0.5	1DN1009
42981	776600	8511850	RF	Resample of 42934-qtz & scorodite		0.02	1680	29	17	21	0.5	1DN1009
							AAS2(C)				AAS2	
							50ppm				1ppm	
42982	776500	8542400	BLEG	BOS, brown grey & light brown soil	4.2		30				0.01	1DN1459
42983	776800	8511800	BLEG	BOS, light brown soil	0.6		10				0.01	1DN1459
42984	777100	8511800	BLEG	BOS, light grey brown soil	0.27		1				0.01	1DN1459
42985	777100	8512250	BLEG	Drainage(poor), grey brown & light brown soil	0.31		1				0.01	1DN1459
42986	776850	8512750	BLEG	BOS, light grey brown soil	0.87		1				0.01	1DN1459
				Scheme	BLEG1B	AAS7	XRF1	AAS2	AAS2	AAS2	BLEG1B	
				Det. Limit (if below detection - half the det. limit)	0.5ppb	0.02ppm	2ppm	2ppm	4ppm	2ppm	0.02ppm	

Analyses are quoted in parts per million (ppm) or parts per billion(ppb)

LABRPT# - refers to laboratory reports - Classic Laboratories(Darwin)

BLEG - (Bulk Leach Extractable Gold) - minus 1.6mm fraction sampled.

RF = rock float

O-C = outcrop

BOS = Base of Slope

3.0 CONCLUSIONS

Potential for gold mineralization of three styles has been assessed within the tenements.

1. **High level palaeoalluvial gravels** - Following a program of mapping, auger drilling and sample panning a total volume of some 50,000 cubic metres of gravels was estimated. Gold grades, whilst not accurately determined, were considered to be subeconomic. The gravels form a thin veneer over a low bedrock (siltstone, greywacke) ridge with minor quartz outcrop.

2. **Margaret River flood plain alluvials** - Data from auger drilling and observations from the incised banks of the river suggest that the majority of flood plain alluvium is fine grained with little potential for significant volumes of coarse gravels which may host placer gold. Some potential may exist further upstream near the confluence with Yam Creek.

3. **Primary gold mineralization** - Mapping and sampling of outcrop has returned high arsenic values and anomalous but subeconomic gold values from minor quartz veining. The potential for gold mineralization of economic grade and tonnage is considered very low.

4.0 REFERENCES

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Mineral Claims N214-217 and N218-222, Grove Hill Central Block, NT Final Report Earth Resources Australia Pty Ltd report A/371 for Magnum Gold NL (submitted to NTDME)

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Reef & Alluvial Gold Prospects, Grove Hill Area Geonorth report to Magnum Resources Ltd.

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Exploration Activities in Mineral Claims Held by Magnum Resources Ltd in the Grove Hill Area Geonorth report to Magnum Resources Ltd

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Grove Hill Tenements, NT Earth Resources Australia Pty Ltd report A/169 for Magnum Resources Ltd (submitted to NTDME)

5.0 EXPENDITURE

Apart from work carried out since 1990 expenditure on mineral claims N214 to N217 and N218 to N222 was not accounted for separately from that on other tenements in the Grove Hill project area. As such it is not possible to present a schedule of expenditure apart from work carried out during 1991. A schedule of expenditure relating to this work (viz. assessment of the potential for primary gold mineralization) is presented below. As much expenditure is of a general nature and not tenement specific a pro-rata allocation of total annual costs for a particular category (eg vehicle maintenance costs) has been determined based on "geologist field hours". No work apart from report preparation and administration has been carried out since 1991.

Schedule of Expenditure for Calendar 1991

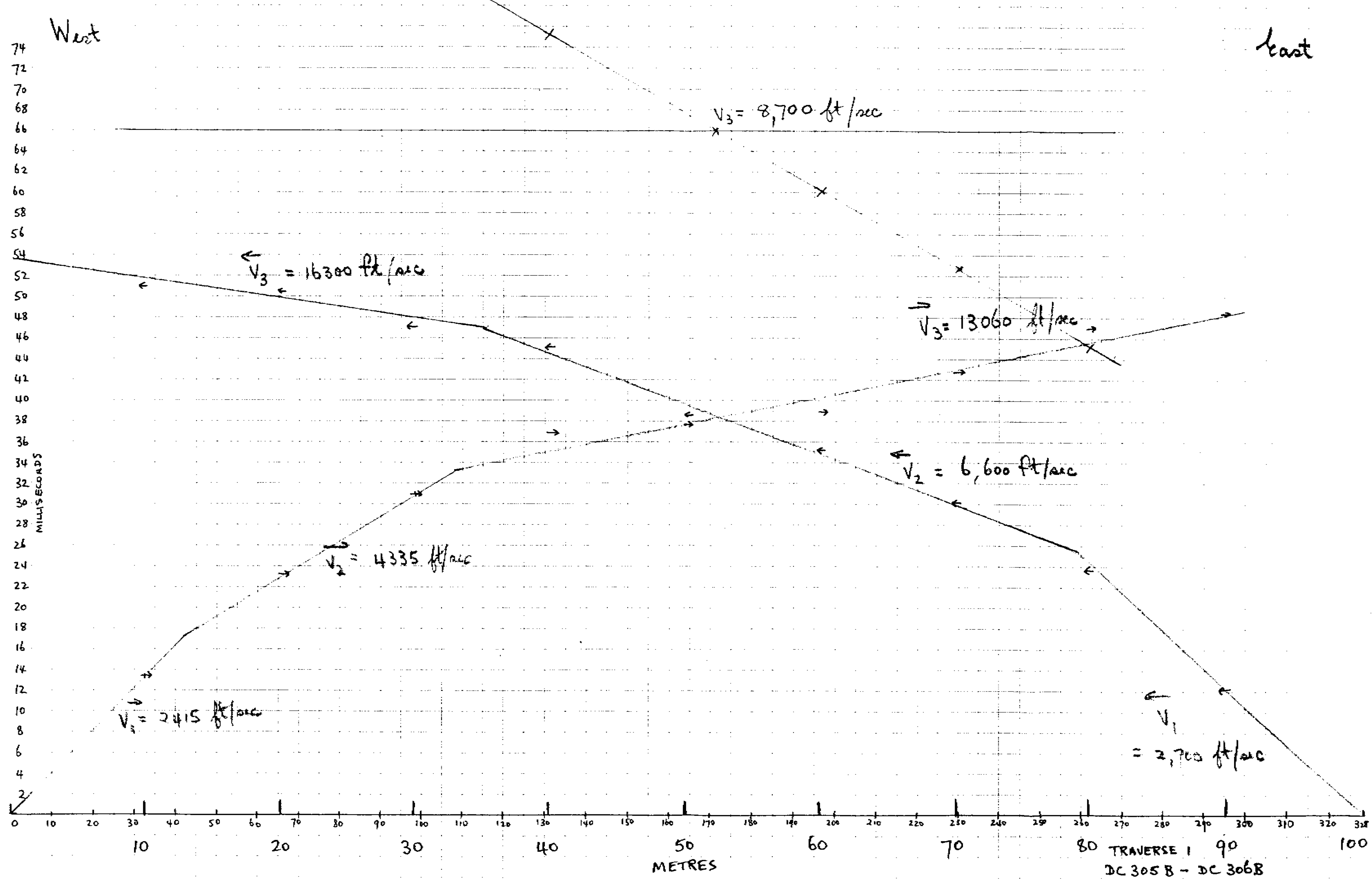
	$
Geologist fees	5,177
Assay & laboratory fees	287
*Field assistants & labour	61
*Base camp running costs	43
*Fuel	76
*Vehicle maintenance costs	73
*Field equipment & consumables	29
*Provisioning	103
*Communications (fax, phone, post)	41
*Radio communications (equipment service fees)	73
*Maps & publications	5
*Photocopying	17
*Stationery	9
*Couriers & freight	52
*Travel costs	182
*Accommodation & meals	28
Total	$6,256

* Indicates a pro-rata estimate based on "geologist -field hours".
Note that these costs are exclusive of head office and administrative costs.

APPENDIX 1

HAMMER SEISMIC SURVEY RESULTS

TRAVERSE 1



TRAVERSE 1
DC 305 B – DC 306B
HAMMER SEISMIC INTERPRETATION
GROVE HILL AREA N.T. JWS 11/82

→

Traverse 1

$$D_1 = \frac{X_{c1}}{2}\sqrt{\frac{V_2 - V_1}{V_2 + V_1}}$$

$$= \frac{43}{2}\sqrt{\frac{4335 - 2415}{4335 + 2415}}$$

$$= 21.5\sqrt{\frac{1920}{6750}}$$

$$= 11.5 \text{ ft.}$$

$$D_2 = 0.8\,D_1 + \frac{X_{c2}}{2}\sqrt{\frac{V_3 - V_2}{V_3 + V_2}}$$

$$= 0.8 \times 11.5 + \frac{106}{2}\sqrt{\frac{13060 - 4335}{13060 + 4335}}$$

$$= 9.2 + 53\sqrt{\frac{9725}{17395}}$$

$$= 48.8 \text{ feet.}$$

HAMMER SEISMIC
CALCULATIONS
DC 305B - DC 306B
GROVE HILL AREA N.T
JWS 11/82

Traverse 1 ←

$$D_1 = \frac{X_{c1}}{2} \sqrt{\frac{V_2 - V_1}{V_2 + V_1}}$$

$$= \frac{69}{2} \sqrt{\frac{6,600 - 2700}{6,600 + 2700}}$$

$$= 34.5 \sqrt{\frac{3900}{9300}}$$

$$= 22.34 \text{ feet}$$

$$D_2 = 0.8\, D_1 + \frac{X_{c2}}{2} \sqrt{\frac{V_3 - V_2}{V_3 + V_2}}$$

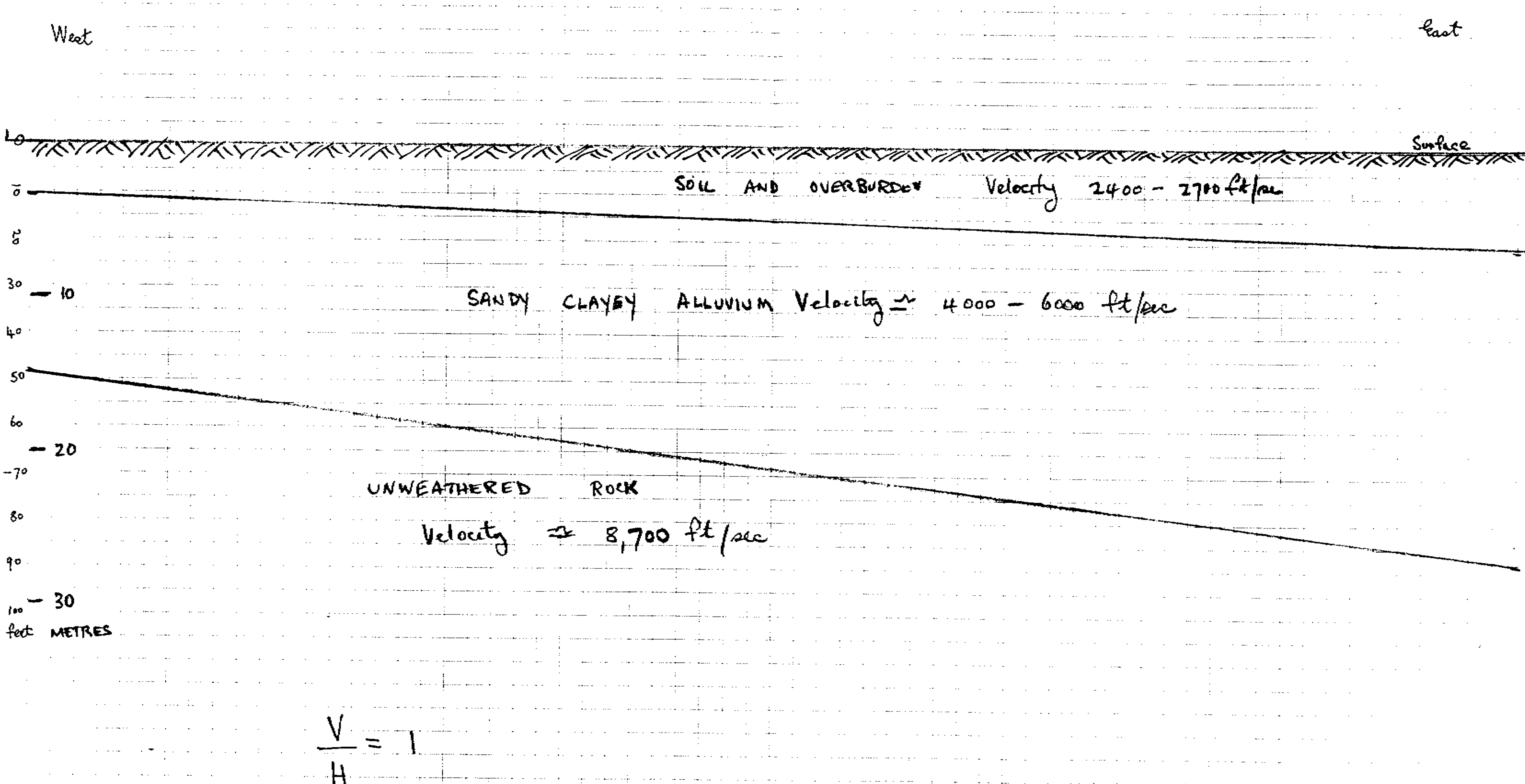
$$= 0.8 \times 22.34 + \frac{212.5}{2} \sqrt{\frac{17000 - 6,600}{17000 + 6\,600}}$$

$$= 17.87 + 106.25 \sqrt{\frac{10400}{23600}}$$

$$= 88.4 \text{ feet}$$

HAMMER SEISMIC CALCULATIONS
DC 305B – DC 306 B
GROVE HILL AREA N.T.
JWS 11/82

TRAVERSE 1



TRAVERSE 1

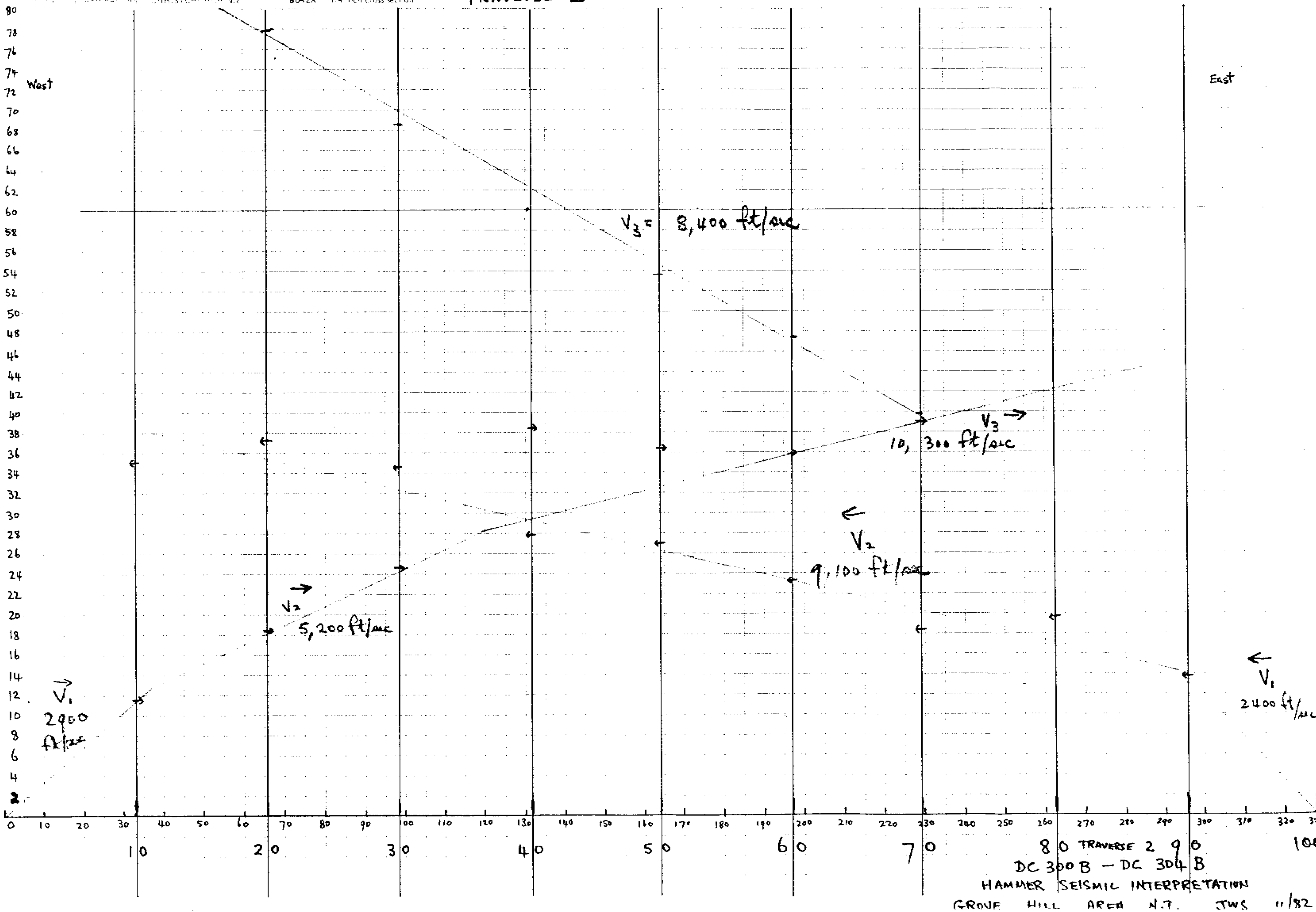
DC 305 B – DC 306 B

HAMMER SEISMIC INTERPRETATION

GROVE HILL AREA N.T.

JWS NOV 1982

TRAVERSE 2


B042X 1/4 inch cross section
West
East
V_3 = 8,400 ft/sec
V_3
10,300 ft/sec
V_2
9,100 ft/sec
V_2
5,200 ft/sec
V_1
2900 ft/sec
V_1
2400 ft/sec
TRAVERSE 2
DC 300 B – DC 304 B
HAMMER SEISMIC INTERPRETATION
GROVE HILL AREA N.T. JWS 11/82

TRAVERSE 2

$$D_1 = \frac{X_{C1}}{2}\sqrt{\frac{V_2 - V_1}{V_2 + V_1}}$$

$$= \frac{37}{2}\sqrt{\frac{5200 - 2900}{5200 + 2900}}$$

$$= 18.5\sqrt{\frac{2300}{8100}}$$

$$= 9.9 \text{ feet}$$

$$D_2 = 0.8 D_1 + \frac{X_{C2}}{2}\sqrt{\frac{V_3 - V_2}{V_3 + V_2}}$$

$$= 0.8 \times 9.9 + \frac{118}{2}\sqrt{\frac{10300 - 5200}{10300 + 5200}}$$

$$= 7.92 + 59\sqrt{\frac{5100}{15500}}$$

$$= 41.8 \text{ feet}$$

HAMMER SEISMIC
CALCULATIONS
DC 300 B - DC 304 B
GROVE HILL AREA
N T

JWS 11/82

←

TRAVERSE 2

$$D_1 = \frac{X_{C1}}{2}\sqrt{\frac{V_2 - V_1}{V_2 + V_1}}$$

$$= \frac{32.8}{2}\sqrt{\frac{9,100 - 2400}{9100 + 2400}}$$

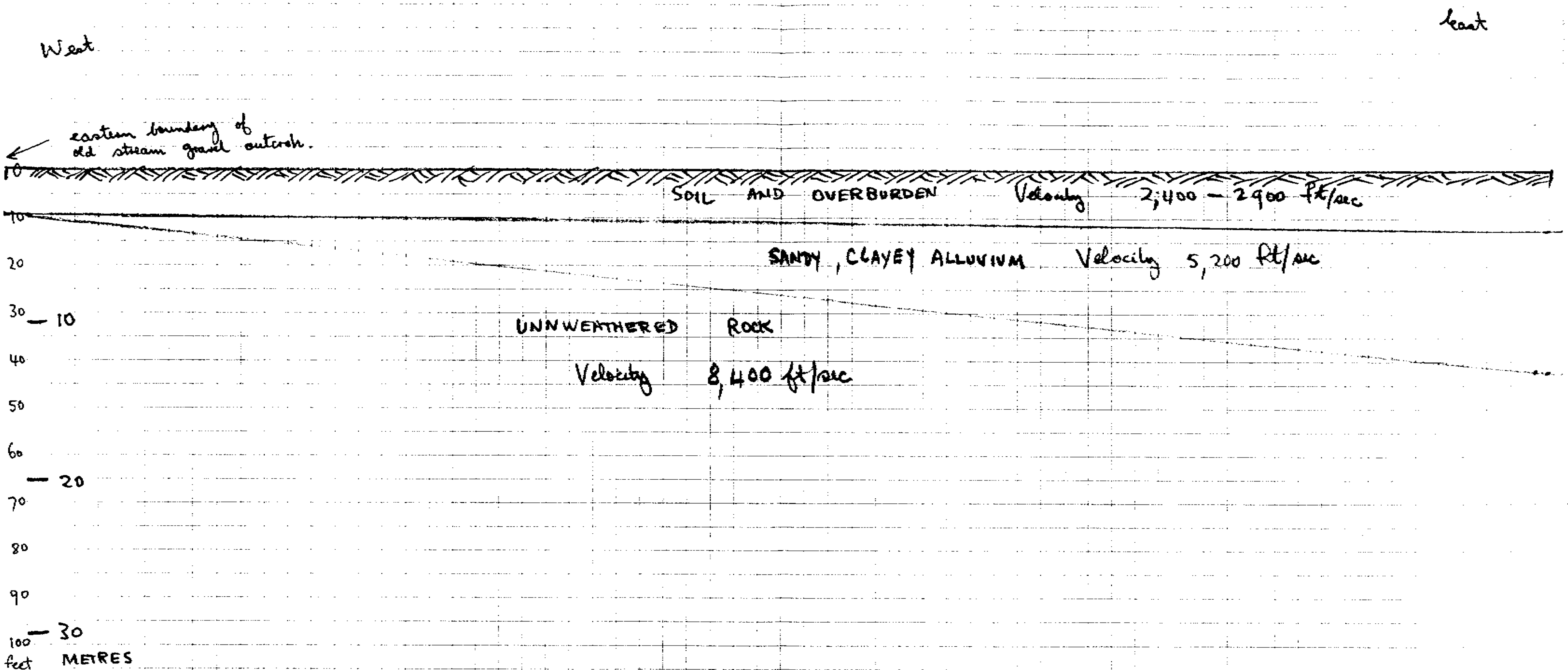
$$= 16.4\sqrt{\frac{6700}{11500}}$$

$$= 12.5 \text{ feet}$$

HAMMER SEISMIC
CALCULATIONS
DC 300B - DC 304B
GROVE HILL AREA
NT

JWS 11/82

TRAVERSE 2



$\frac{V}{H} = 1$

TRAVERSE 2

DC 300B – DC 304 B
HAMMER SEISMIC INTERPRETATION
GROVE HILL AREA N.T.
JWS NOV 1982

APPENDIX 2

1985 AUGER DRILLING PROGRAM

APPENDIX 2A

CENTRAL BLOCK -- GROVE HILL NORTH

AUGER HOLE LOGS 1985 PROGRAMME

Hole No.	Base	Thickness	Description	Sample No.
1	0.5	0.5	Loam, yellow	8020
	1.0	0.5	Loam, red; ferruginous pebbles	8020
	1.8	0.8	Siltstone, micaceous, red	8021
	2.0	0.2	Siltstone, micaceous, yellow brown	8021
	TD			
2	0.8	0.8	Gravel, waterworn, pebble to cobble, pale grey silty matrix	8022
	1.0	0.2	Gravel, as above, red silty matrix	8022
	1.8	0.8	Gravel, as above	8023
	2.0	0.2	Siltstone, micaceous, yellow brown	8023
	TD			
3	0.5	0.5	Gravel, minor grey silt matrix	8024
	1.0	0.5	Gravel, red silt	8024
	1.4	0.4	Gravel, as above	8025
	2.0	0.6	Siltstone, micaceous; hard ferruginous bands	8025
	TD			
4.	0.4	0.4	Gravel, grey silt	8026
	0.9	0.5	Clay, mottled red grey, some pebbles	8026
	1.0	0.1	Clay, less red	8026
	1.4	0.4	Clay, as above	8027
	2.0	0.6	Siltstone, micaceous, yellow	8027
	3.0	1.0	Siltstone as above	8028
	4.0	1.0	Siltstone as above; quartz veins at 3.4m	8029
	TD			
5	0.9	0.9	Gravel	8030
	1.0	0.1	Siltstone, red	8030
	2.0	1.0	Greywacke, buff, subschistose, minor vein quartz	8031
	TD			
6	1.0	1.0	Loam, clayey	8032
	2.0	1.0	Gravel, fine, sandy	8033
	2.8	0.8	Sand, clayey	8034
	3.0	0.2	Greywacke, yellow, disaggregated	8034
	4.0	1.0	Siltstone, micaceous, yellow	8035
	TD			

Hole No.	Base	Thickness	Description	Sample No.
7	0.4	0.4	Loam, grey	8036
	2.0	0.6	Clay, sandy, brown	8036
	4.0	2.0	Clay, sandy, brown, "tight"	8037
	5.8	1.8	Clay, AA	8038
	6.0	0.2	Mud, wet, sandy	8038
	8.0	2.0	Mud, sandy; coarse angular quartz sand; minor grey chert fragments & pisolitic ironstone	8039
	14.0	6.0	Mud, sandy as above	8040
	18.0 TD	4.0	Mud, micaceous, yellow brown; probably basement siltstone	8041
8	2	2	Clay, grey-brown, red mottled	8042
	4	2	Sand, clayey, very hard & cemented, yellow-brown	8043
	6	2	Sand as above	8044
	10.1 TD	4.1	Sand as above; negligible penetration at 10.1m	8045
9	1	1	Loam, silty, pale brown	8046
	4	3	Clay, silty, red-brown, mottled; minor pisolitic ironstone	8046
	4.6	0.6	Clay as above, damp	8047
	6	1.4	Clay, sandy, red-brown, wet	8047
	7.5	1.5	Mud, brown, gritty, poor sample return	8048
	8	0.5	No sample return, slow drilling	8048
	10 TD	2	Mud, micaceous, sandy, pale brown; probably basement siltstone.	8049
10	0.4	0.4	Loam, grey-brown	8050
	1.6	1.2	Greywacke, red, ferruginous	
	2.0 TD	0.4	Greywacke, quartzose, slightly fissile	
11	0.8	0.8	Gravel, silty matrix	8051
	1.0	0.2	Siltstone, micaceous, fissile, orange-brown and red.	8051
	2.0 TD	1.0	Siltstone as above	8052
12	0.8	0:8	Gravel	8053
	1.0	0.2	Siltstone, micaceous, red	8053
	1.8	0.8	Siltstone as above	8054
	2.0	0.2	Clay green-brown	8054
	3.0	1.0	Siltstone, micaceous, fissile, dark green-brown	8055
	4.0 TD	1.0	Siltstone, similar above, clayey bands	8055

Hole No.	Base	Thickness	Description	Sample No.
13	1.0	1.0	Gravel	8056
	1.6	0.6	Siltstone, micaceous, red	8057
	2.0	0.4	Siltstone, pale green-grey	8057
	TD			
14	0.8	0.8	Gravels	8058
	1.0	0.2	Siltstone, micaceous, purple	8058
	1.5	0.5	Siltstone, micaceous, red	8059
	2.0	0.5	Siltstone, pale green-brown; some green clay.	8059
	TD			
15	0.4	0.4	Loam pale grey-brown	8060
	1.3	0.9	Siltstone, highly ferruginised, hard	8060
	2.0	0.7	Siltstone, moderately fissile, green-brown, soft.	8060
	TD			
16	0.8	0.8	Loam grey-brown	8061
	2.0	1.2	Lateritic ironstone pebble material	8061
	3.5	2.3	Gravel, fine pebbly gravel, brown silty matrix	8062
	3.8	1.5	Clay green-grey	8062
	4.0	0.2	Siltstone, micaceous, fissile, pale brown	8062
	TD			
17	0.7	0.7	Gravel	8063
	1.0	0.3	Siltstone, red	8063
	1.7	0.7	Siltstone as above	8064
	1.8	0.1	Clay, yellow-green	8064
	2.0	0.2	Siltstone, micaceous, green-brown	8064
	TD			
18	0.7	0.7	Gravel	8065
	1.0	0.3	Siltstone, ferruginous	8065
	1.6	0.6	Siltstone, as above	8066
	2.0	0.4	Siltstone, sandy, slightly fissile, hard, brown	8066
	TD			
19	0.4	0.4	Gravel	8067
	1.0	0.6	Siltstone, ferruginous; quartz band 0.5 - 0.7m	8067
	TD			
20	0.4	0.4	Gravel	8068
	1.0	0.6	Siltstone, ferruginous	8068
	TD			

Hole No.	Base	Thickness	Description	Sample No.
21	0.3	0.3	Loam, yellow	8069
	0.5	0.2	Very hard, ?quartz	8069
	1.0	0.5	Siltstone, ferruginous	8069
	2.0	1.0	Siltstone, micaceous, yellow-red, powdered	8070
	3.0 TD	1.0	Greywacke, moderately fissile, soft, disaggregated, yellow	8070
22	0.7	0.7	Loam, gravelly	8071
	1.0	0.3	Siltstone, ferruginous	8071
	2.0 TD	1.0	Siltstone, yellow micaceous fines	8072
23	0.8	0.8	Gravel, loamy, yellow-grey	8073
	1.0	0.2	Siltstone, micaceous, red	8073
	1.3	0.3	Siltstone, as above	8074
	2.0 TD	0.7	Siltstone, micaceous, powdered, yellow	8074
24	0.8	0.8	Loam, gravelly	8075
	1.0	0.2	Siltstone, powdered, red	8075
	2.0 TD	1.0	Siltstone, powdered, yellow	8076
25	0.7	0.7	Gravel, loamy	8077
	1.0	0.3	Siltstone, micaceous, powdered, red	8077
	1.5	0.5	Clay, sandy, yellow	8078
	2.0 TD	0.5	Greywacke, subschistose, disaggregated, yellow	8078
26	5.0	5.0	Loam, sandy clay, greenish yellow, red below 2.5m	NS
	7.0 TD	2.0	Siltstone, micaceous, yellow, fines only, slow tight drilling	8079
27	1.2	1.2	Loam, sandy clay, mottled grey - yellow-red	NS
	1.5	0.3	Sand, coarse angular quartz in yellow silt	NS
	2.0	0.7	Loam, sandy clay, pale brown	NS
	7.8	5.8	Clay, sandy, mid brown	NS
	9.0	1.2	Sand, coarse angular quartz, minor lithic fragments, in brown mud; wet, poor sample	NS
	14.0 TD	5.0	Poor sample return; micaceous fines; steady drilling but hard band at 13.5m; probably basement micaceous siltstone.	NS

NS - Not sampled

APPENDIX 2B

MC N215, N216, N219 AND N220 AUGER DRILLING PROGRAMME

BASEMENT LITHOLOGY DESCRIPTIONS

AH1 1-2 metres sample 8021

90% angular chips of slightly to moderately foliated micaceous siltstone, khakhi and iron stained. Occasional rounded lateritised siltstone fragments. Finer material mainly sub-angular equant quartz. Some fragments more foliated and schistose, composed of sericite-biotite-quartz (?foliated sandstone).

CONCLUSION: Mainly basement with lateritic surface material and perhaps minor detrital quartz.

AH2 1-2 metres sample 8023

90% slightly foliated khakhi sericite clay rock.
10% lateritic pisolites.

CONCLUSION: Lateritised basement micaceous siltstone and fine sandstone.

AH3 1-2 metres sample 8025

As 8023; minor detrital milky quartz; some vein quartz (not travelled).

CONCLUSION: As 8023, basement siltstone with surficial contamination.

AH4 3-4 metres, sample 8029

80% coarse angular milky vein quartz, some with adhering schistose material.
20% lateritised slightly foliated siltstone fragments.

CONCLUSION: ?Lateritised siltstone basement with abundant quartz veining.

AH5 1-2 metres sample 8031

60% khakhi sericite/biotite slightly to moderately foliated metasiltstone/sandstone.
40% coarse off white and milky vein quartz - one subrounded, rest highly angular.
Minor lateritic material.

CONCLUSION: Laterite and eluvial profile on siltstone basement.

AH6 3-4 metres sample 8035

Very clayey sample giving low oversize.
70% angular quartz; occasional pieces with suggestion of rounding.
30% biotite rich schistose material.
Minor ferruginised material.

CONCLUSION: ? Eluvial profile on schistose basement.

AH10 0-2 metres sample 8050

100% quartz/sericite slightly foliated metasiltstone and fine sandstone; khakhi, some ferruginised.

CONCLUSION: Metasiltstone/sandstone basement.

AH11 1-2 metres sample 8052

As 8050 with vein quartz; occasional lateritised fragments.

CONCLUSION: Laterite profile on metasiltstone/sandstone basement.

AH12 2-4 metres sample 8055

70% khakhi metasiltstone; some lateritised
30% very angular vein quartz

CONCLUSION: Basement metasiltstone with quartz veining.

AH13 1-2 metres sample 8057

Lateritised metasiltstone/sandstone; occasional angular milky quartz fragments.

CONCLUSION: Laterite profile on basement metasediments.

AH14 1-2 metres sample 8059

As 8057; all very angular except lateritised material.

CONCLUSION: Lterite profile on basement metasediments.

AH15 0-2 metres sample 8060

100% khakhi quartz/sericite metasiltstone with biotite flecking.

CONCLUSION: Basement metasiltstone.

AH21 1-3 metres sample 8070

Very clayey, low proportion of oversize fragments.
50% iron stained metasediments.
40% khakhi metasediments
10% coarse angular milky quartz

CONCLUSION: Lateritised basement metasediments, minor quartz veining.

AH22 1-2 metres sample 8072

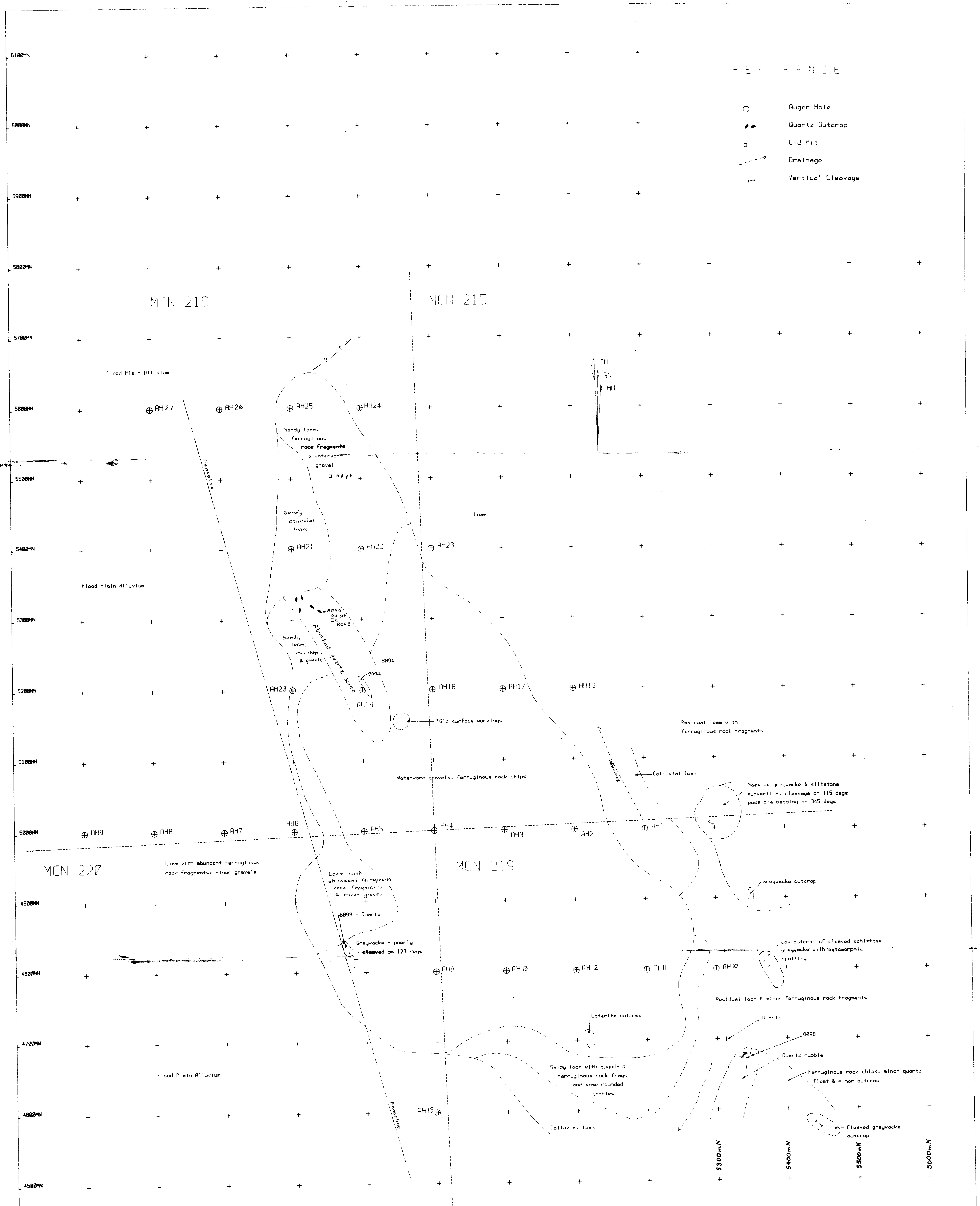
As 8070 but quartz finer and clear, still very angular.

CONCLUSION: As 8070

AH23 1-2 metres sample 8074

>90% khakhi and iron stained (lateritised) metasediments as 8070.
<10% clear and milky angular quartz.

CONCLUSION: Lateritised basement metasediments, very minor quartz veining.



GRID The Prospect Grid is aligned approximately 1°east of true.

Grid point 5000mE 5000mN is located at the NE corner of MCN220 and approximates AMG 776100mE 8512950mN

EARTH RESOURCES AUSTRALIA PTY LTD

RESOURCES LIMITED

PROJECT, N.T.

215,216,219 & 220

HIGH LEVEL GRAVELS

(COMPANY GRID)

0 100 200 300 m

SCALE - 1: 2500

AUTHOR(S): I.M. MILLIGAN

ERA Rept No A 182 DATE NOVEMBER, 1985

FIGURE 3