

CRA EXPLORATION PTY.LIMITED.

of M	AO	CG	EO
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MINERAL LEASE 19M/76 - BALFOUR, TASMANIA.REPORT FOR THE TWELVE MONTHS ENDING 31ST DECEMBER, 1981.

Author: P.Heithersay (Geopeko)

Date: 31st March, 1982.

Submitted to: T.W.Dickson

Copies: P.Laan, M.Laan, N.Langsford, W.Baker Syndicate
Department of Mines, Tasmania.
 Geopeko
 CRAE Library
 CRAE Hobart

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1. SUMMARY

Detailed investigations involving geological mapping, macro bedrock sampling and geophysical surveys were carried out over the Balfour grid. This work led to the drilling of six diamond drill holes in areas outside 19M/76.

Results of the drilling programme particularly in the Specimen Hill area immediately to the south of 19M/76 were encouraging.

It is recommended one diamond drill hole of 200 metres length be developed on line 98N to test the vein system in the northern extension of Specimen Hill.

2. INTRODUCTION

This report covers work carried out on the mineral lease 19M/76 held by P.Laan, M.Laan, N.R.Langsford and the estate of W.Baker, for the period ending 31st December 1981. The L,L,L, & B Syndicate option agreement was dated 15th August, 1978 and it is one of a number of farm in - joint venture agreements negotiated between CRA Exploration Pty.Limited and various other syndicates in the Balfour area.

P.Laan & S.Caddy

MINING LEASE 73M/77

P.Laan & W.Baker (L. & B. Syndicate)

MINING LEASES 20M/76; 72M/77; 103M/77
104M/77; 8M/78; 57M/78

S.P.L.'s 774 and 781

M.Laan & N.R.Langsford (Balfour Agreement)

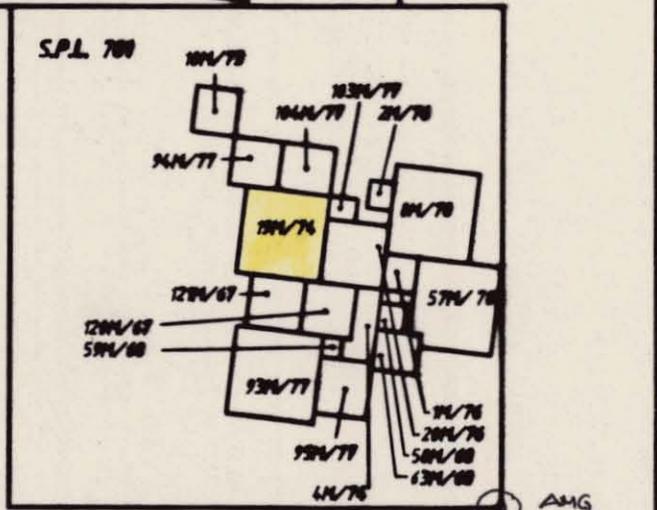
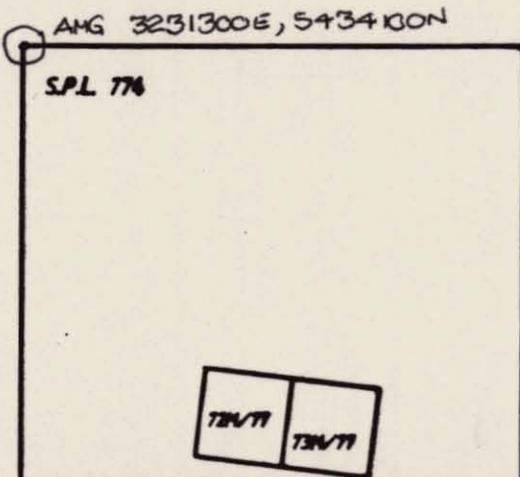
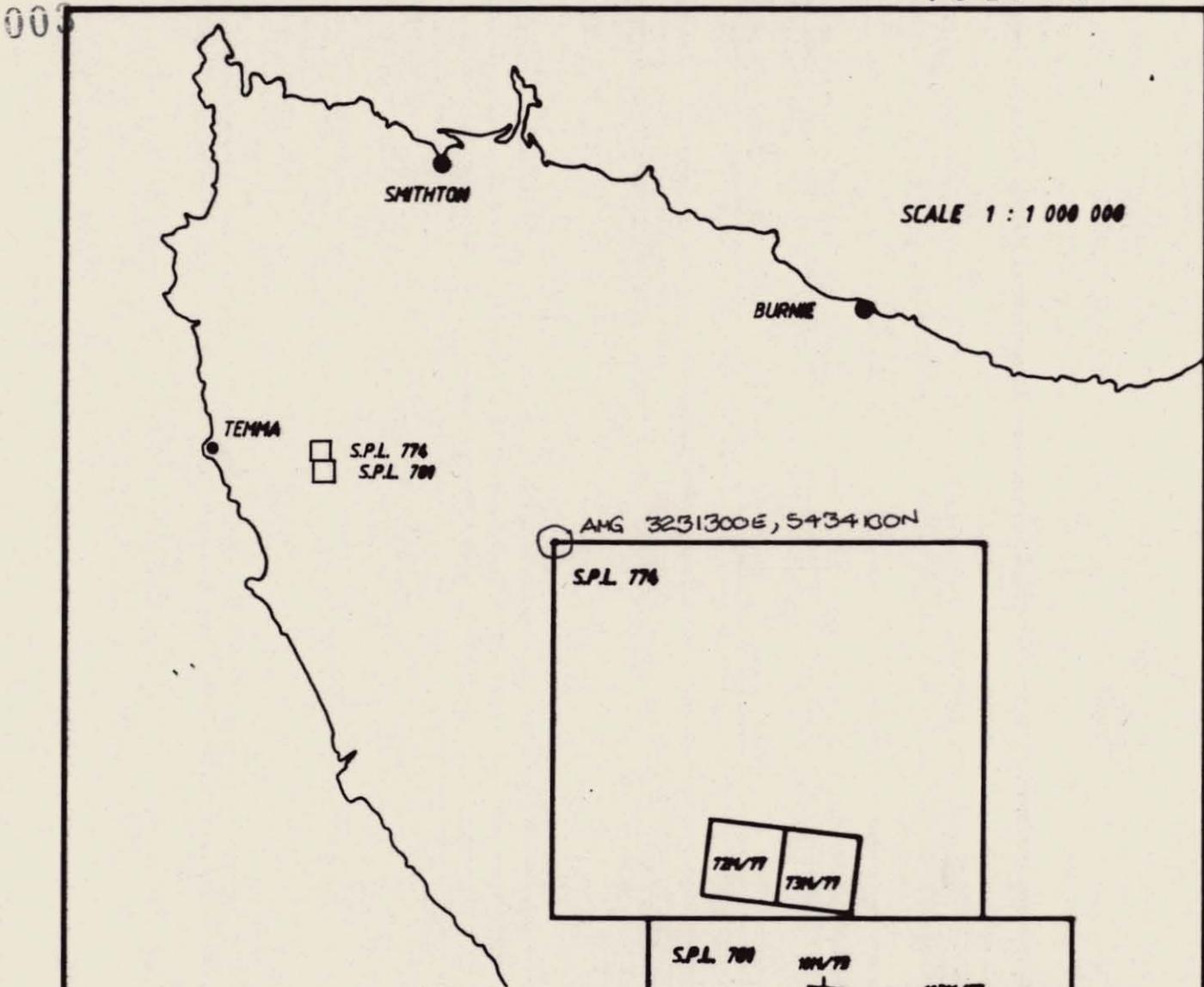
MINING LEASES 120M/76; 121M/76; 10M/73; 1M/73
2M/76; 93M/77; 94M/77; 95M/77

P.Laan, M.Laan, N.R.Langsford, W.Baker

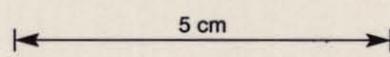
MINING LEASE 19M/76

J.Holloway and R.South

MINING LEASE 59M/76; 4M/74



SCALE 1 : 50 000



AMG REFERENCE POINTS ADDED

CRA EXPLORATION PTY. LIMITED	
BALFOUR TENEMENTS	
LOCALITY PLAN	
Ref. s SK35 - 3	
Scale AS SHOWN	Drawn R. T.
Author T. W. D.	Report No.
Date 16th Feb. 1982	Plan No. TASH 585

S.Tatlow (Agreement 1)

MINING LEASE 63M/68

S.Tatlow (Agreement 2)

Mining Lease 58M/68

All of the above agreements are part of the Rocky Cape Joint Venture between CRA Exploration and Geopeko.

The township of Balfour is situated approximately 16km inland from Temma Harbour and lies some 50km south of Smithton.

The programme of work carried out within 19M/76 includes.

- Geological mapping at both regional and 1:5000 scale.
- I.P. Surveying - original data collected 1979 with fill-in work carried out in December 1980.
- A Jacro auger bedrock geochemical sampling programme.

No diamond drilling was carried out within the lease area during this programme.

The I.P. survey was planned and interpreted by M.Flis and carried out by Geoterrex Ltd. The auger sampling and Jacro drilling was carried out under contract by Geopeko Ltd. with geological supervision by P.Heithersay. The auger samples were prepared and split by Geopeko Ltd. All assays were by Analabs of Cooe, Tasmania.

3. CONCLUSIONS

Drilling and mapping on Specimen Hill has demonstrated that the veins should be considered as a sheeted system with a dominant trend of approximately 300° magnetic and dip of between 0° and 35°. The evidence is inconclusive as to whether the veins can be considered laterally continuous or not and this can only be tested by additional drilling to the north and south of the existing drill traverse on line 96N.

4. RECOMMENDATIONS

One diamond drill hole is to be developed at co-ordinates 9800N 10 000E within lease 19M/76. The hole is to be inclined at -50° with azimuth of 047° and estimated depth of 200 metres. The hole is designed to evaluate the mineralised vein system some 200 metres north of the intersection on line 9600 North.

5. GEOLOGY

5.1 Regional Geology (Refer Fig.1)

S.W.Careys (1981) photogeological study of the Rocky Cape E. 1/77 places the Balfour region within his Epsilon Group rocks. Epsilon Group is upper Proterozoic in age and is the most extensive Precambrian sequence delineated by his study. Where Epsilon Group runs into areas where field data are available the group correlates with the Balfour Slates and Interview Slates.

The structure of the Balfour region is dominated by north-north westerly trending faults which form within Careys 'Balfour-Redpa deep fault corridor'.

The style of folding in the region is a series of doubly plunging anticlines and synclines forming 'dome and basin' structures with fold axes trending NW-SE and E-W.

5.2 Prospect Geology (Refer Plan TASH 627)

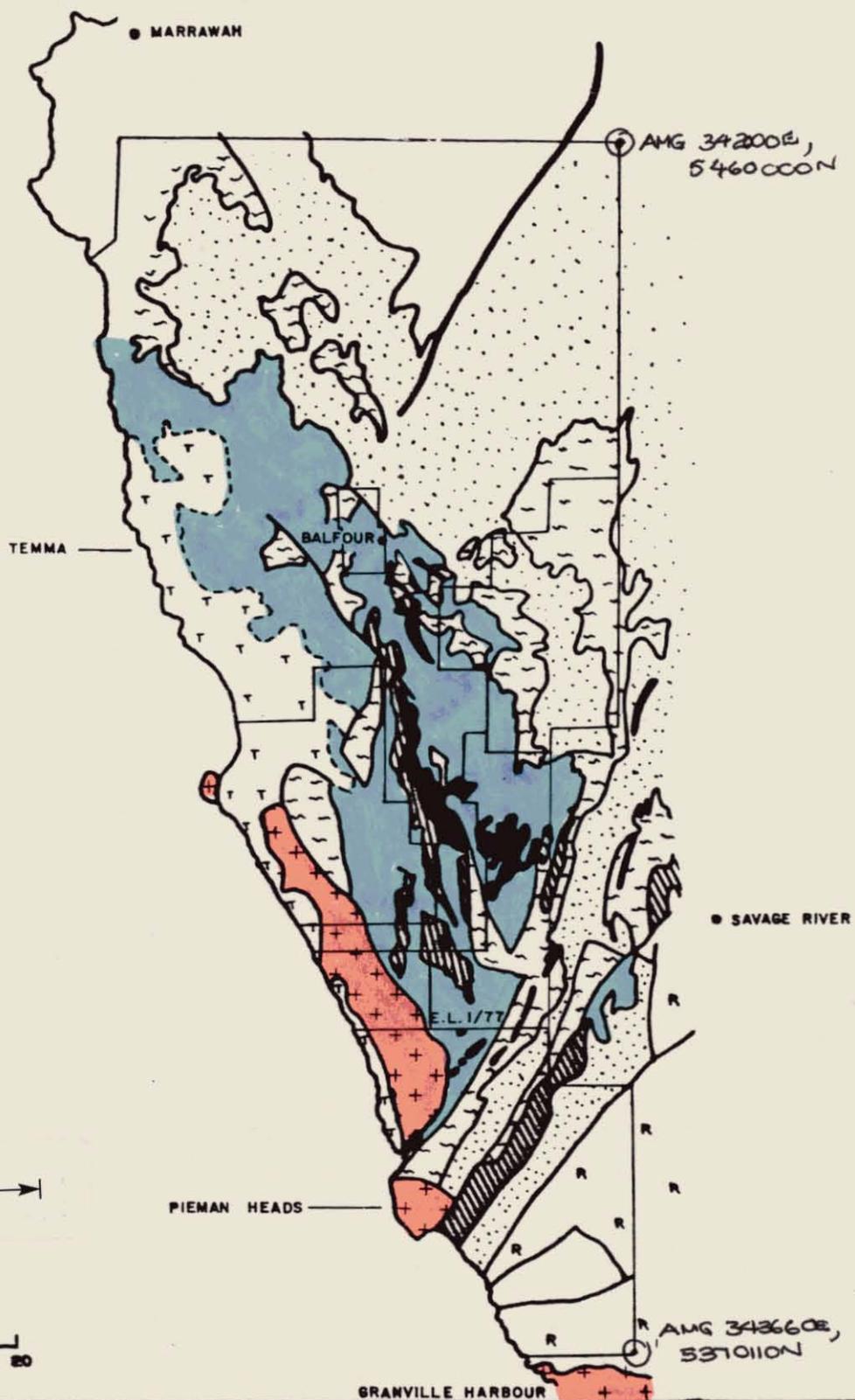
Methods

Grid extensions were mapped at 1:2500 scale using enlarged Lands Department aerial photos.

Stratigraphy

The Balfour stratigraphy is illustrated in figure 2. Facing criteria such as crossbedding and graded bedding established that the sequence youngs from west to east.

The rock sequences exhibit gradational contacts and mapping has illustrated the facies relationships between them. Hence they will be described as lithofacies.



LEGEND:

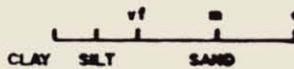
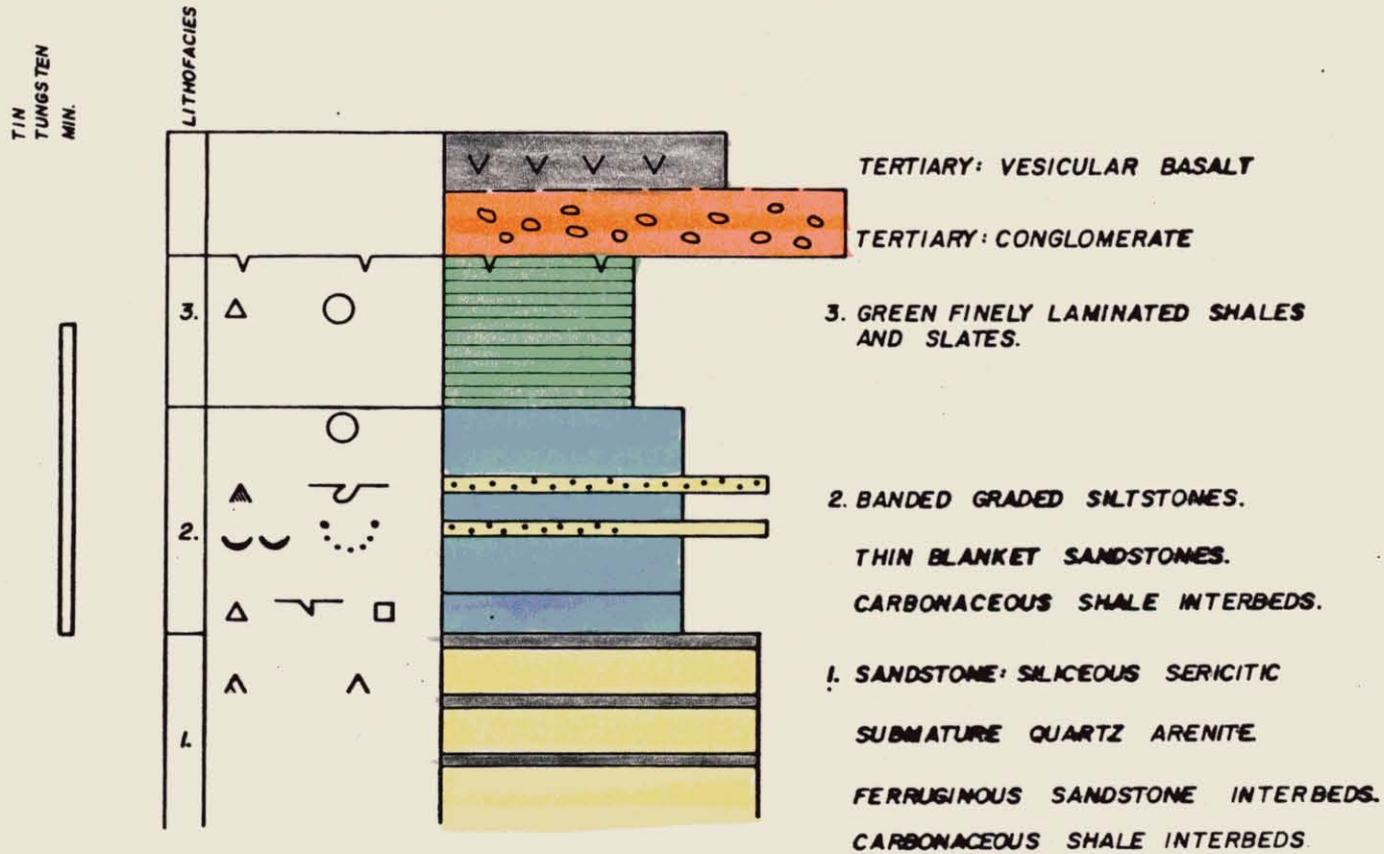
Quaternary, Tertiary	Proterozoic Alpha Group
Eocambrian, Sigona Group	Rho Group
Proterozoic Phi Group	Devonian Granite
Epsilon Group	Eocambrian: Kappa Group

GEOPEKO

ROCKY CAPE E.L. 1/77
 SUMMARY REGIONAL GEOLOGY
 LOCATION MAP
 FIG.1 TASH 680

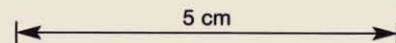
STRATIGRAPHIC COLUMN - BALFOUR REGION

794009



LEGEND:

- Wave Ripples
- Cross Lamination
- Mud Cracks
- Flaser Bedding
- Load Casts
- Possible Evaporite Casts
- Channel Scour And Fill
- Upwards Finning Grading
- Horizontal Lamination
- Syngenetic Pyrite



TASH 681

FIGURE 2

Lithofacies 1:

Consists dominantly of fine sandstone: siliceous sericitic-submature quartz arenite. Carbonaceous black shales and brown ferruginous sandstones are interbedded in the sequence. Crossbedding, rip up shale clasts are common sedimentary features and bedding planes showing symmetric ripple marks are occasionally seen.

Lithofacies 2:

Consists dominantly of irregularly laminated and banded rock which is characterized by beds and laminae which grade from white fine grained sericitic sandstone to grey green or brown, chlorite or tourmaline rich, argillaceous siltstone. Sedimentary features include oversteepened cross-stratification, 'sandstone dikelets', load structures and scour and fill structures. Soft sediment deformation is ubiquitous. Interbedded in the lower part of the sequence are thin black shale interbeds which appear to be laterally extensive.

Further up in the sequence, are interbeds of silica and sericite rich quartz arenites. These form the backbones of the ridges in the area. They are individually quite thin, rarely exceeding 3 metres in thickness, but are laterally extensive.

This lithofacies has been termed Pyjama Siltstones by CRAE geologists. This is a general name applied to tourmaline bearing siltstones and quartzites commonly found in the Upper Precambrian of Western Tasmania.

This sequence hosts the tin and tungsten bearing veins of Specimen Hill and a similar rock type is present in the footwall of the massive pyrrhotite cassiterite lodes at Mt. Bischoff.

The sequence has undergone lower greenschist facies metamorphism and an incipient schistosity develops to varying degrees.

Tourmaline content varies throughout the 'Pyjama Siltstones' but is generally confined to the argillaceous layers. A tourmaline rich zone has been mapped on Specimen Hill (Porter 1979) which crosscuts bedding, suggesting epigenetic replacement. A syngenetic origin involving boron rich sediments has been suggested in the past. Petrographic evidence has given conflicting viewpoints. Drill hole data suggests however that tourmalinisation has preceded veining, hence this zone could be viewed as an alteration zone associated with veining.

Rare thin beds of probable andesite has been noted in this lithofacies.

Lithofacies 3: Lithofacies 2 grades both vertically and laterally into a monotonous, finely laminated, green, chloritic shale and slate sequence. Pyrite is common and is usually disseminated along bedding planes. This sequence hosts the Murray's Reward copper mineralisation and Tatlow's tin prospect.

Unconformably overlying this is a remnant Tertiary basalt flow on which the Balfour township is located. To the south remnant flat lying silicified Tertiary conglomerate beds can be seen.

Structure

The general lack of continuous marker beds has made structural interpretation difficult. However, the strata generally dip fairly steeply to the east. Southerly plunging flexures can be mapped on Specimen Hill and around the baseline on line 9100N. Plotting of cleavages developed on Specimen Hill reveals two distinct cleavages at approximately 335°/80E and 035/95E

This suggests that fold axes have developed with approximately 60° difference in trend. This would result in dome and basin structures, which ties in well with Carey's (1981) regional interpretation.

A structural problem which is apparent at Balfour is the difference in dip between Lithofacies 1 and 2. The sandstones of Lithofacies 1 form generally flat lying small scale domes and basins. As you proceed into Lithofacies 2, the dips become very steep. The contact between the two is gradational and no evidence for an unconformity or fault can be seen.

Strike slip faults are common displacing prominent sandstone/quartzite ridges.

The main quartz veins are generally between 1 to 10cm in thickness with a maximum thickness of 30cm. Two trends of veining are evident. The dominant trend is approximately 300°M while the subordinate trend is 235°M. The main concentration of veining which is exposed, occurs between 9600N and 9700N.

The veining exposed consists of massive white quartz containing varying amounts of cassiterite and rare wolframite. Bladed voids after wolframite are, however, commonly seen. Cassiterite occurs as small crystals in 'vughs' with blebs up to 5cm in diameter or as thin layers on margins of veins.

6. GEOCHEMICAL INVESTIGATIONS

During 1963-1964 BHP undertook exploration centred around the Specimen Hill mineralisation. Peat and gravel samples were taken and assayed for tin so as to define surface areas in which tin mineralisation appeared strongest. Small scattered areas of high tin content emerged mainly in the north west quadrant of the hill (Chestnut 1964).

1979 saw the establishment of 2.6km x 0.65km grid by the CRAE/Geopeko joint venture partners. A rock chip sampling programme over available outcrop was initiated, followed later by a Jacro auger sampling programme over areas of sparse outcrop, where magnetic and IP anomalies had been defined.

During 1980 a more comprehensive programme of Jacro bedrock sampling was completed. The first stage was completed during the period 25/4/80 to 10/6/80 and the lines selected on the following basis:

Auger holes were drilled to depths ranging from 0.5 to 3 metres using a Bombardier mounted Jacro auger. Particular care was taken to achieve a clean bedrock or if impractical, a 'C' horizon sample and to avoid contamination from alluvial and eluvial material at the tops of the holes. Where it was thought contamination would not be avoided, it was duly noted in the ledger sheets.

The samples were analysed for Tin, Tungsten, Copper, Lead, Zinc, Silver and Iron by A.A.S. The results, on CRA Exploration Geochemical Ledger Sheets, are given in Appendix with geological description of the rock chips by Mr.A.McKay, Mr.N.R.Langsford and Mr.P.Heithersay.

6.1 Discussion of Results

Generally results were very encouraging with strong geochemical anomalies over Specimen Hill.

Tin Geochemistry

Refer Plan TASH 630

Values suggest that greater than 100 ppm should be regarded as a significant anomaly. Background values are concentrated in the 5 to 30 ppm range.

Within 19M/76 there are a number of linear anomalies with values in excess of 400 parts per million extending northwards from the complex high over Specimen Hill. A number of isolated spot highs of similar order also occur but a large area in the central section of the lease shows values generally below 50 parts per million.

Tungsten Geochemistry Refer Plan TASH 626

Anomalous values are considered to be greater than 20 parts per million against a background of 10ppm. As the detection limit of XRF for tungsten is 10ppm anomalies of 20ppm should be regarded with caution.

A well defined high with values in excess of 40ppm occurs over Specimen Hill and values in excess of 20ppm extend northwards to line 99N within 19M/76.

Copper Geochemistry Refer Plan TASH 629

Results for the Balfour district imply that greater than 50ppm Cu is anomalous while background values average from 2-15ppm.

A series of small spot highs with values up to 210ppm copper occur within 19M/76 but no significant trend is evident.

Zinc Geochemistry Refer Plan TASH 623

Visual estimation suggests a background value of around 50 parts per million. Samples in excess of 100ppm are considered anomalous while approximately 3 per cent of Balfour samples exceed 1000ppm.

Three separate zones of anomalous values occur within 19M/76. The Western most zone peaks at 520ppm while the central and stronger zone peaks at 900ppm on line 101N and 0.16% on line 103N. The zones do not appear to be closely related to veining although the central zone roughly coincides with the tin anomaly extending north from Specimen Hill

Lead Geochemistry Refer Plan TASH 624

Background values are in the order of 5-10ppm. Two spot highs occur on line 101N with the strongest value 0.10% lead occurring at 10,300 west.

Iron Geochemistry Refer Plan TASH 625

Two linear anomalies with values in excess of 2% iron occur east of the coincident with zones of anomalous zinc geochemistry.

7. GEOPHYSICS

In December 1980 a number of I.P. lines were extended to provide better coverage of the Specimen Hill zone and to examine extensions to the north and south. The survey was carried out by Geoterrex using a 2.5 KVA transmitter and an IPR-7 receiver. A dipole-dipole configuration of 50 metres was used.

The results of the survey are appended in the form of chargeability/resistivity pseudosections.

Line numbers refer to the Balfour grid.

Lines 98N, 99N and 100N

Designed to extend the anomalous zones of line 97N these three lines indicate that the zones in fact die out on line 98N.

On this line elevated chargeabilities and depressed resistivities indicate the possible extension of a zone to 10 000mE - 10 050mE which further degenerates northwards on lines 99N and 100N. All three lines indicate a lithology change to the east: 10 550E on 98N, 10 475mE on 99N and 10 525 on 100N. The elevated zinc geochem values on these lines correspond with this poorly defined zone.

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9. KEYWORDS

Tin, Tungsten, veins, Drill-Diamond, Geochem-rock, soil, Geology,
Geophysics, Mag, I.P.

Locality: Burnie 1:250 000 Sheet SK55-3

017

10. LIST OF PLANS

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Tungsten Geochemistry	TASh 626
Copper "	TASh 629
Zinc "	TASh 623
Lead "	TASh 624
Iron "	TASh 625

11. LIST OF APPENDICES

Appendix 1. Geochemical Ledger Sheets.

APPENDIX 1

GEOCHEMICAL LEDGER SHEETS

Tenement name S.P.L. 781 No. 819359 - 819376 Sample numbers 819359 - 819376 Collected by P.H. Sheet no. 37
 Area / Prospect RALFOUR Date APRIL 1980
 Map / Photo reference Analysed by A.L.S. DPO no.

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations 794020
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn Fe	Au	Sn	W			
		o/c sample type ***																		
		Depth	s sample type ****															Horizon		
819359	S	0.4					C		40	15	40	1		1.22		65	20	10000E	Black siltstone	
360	"	2					"		25	10	25	1		1.20		5	10	10025E	" "	
361	"	2					"		2	10	10	<1		0.20		685	70	10050E	Pyjama siltstone, Qtzite	
362	"	2					"		25	25	65	<1		1.44		5	10	10075E	" "	
363	"	1					"		15	15	10	<1		0.88		20	10	10100E	" "	
364	"	0.6					"		10	10	35	<1		0.76		170	10	10125E	" " Alluvial workings	
365	"	2					"		55	40	250	<1		1.92		10	<10	10150E	" " " "	
366	"	2					"		60	40	220	<1		0.76		195	60	10175E	" " "	
367	"		hand auger				"		5	10	60	4		0.20		90	30	10200E	" " contaminated	
368	"	2					"		2	10	40	2		0.10		695	20	10225E	" "	
369	"	1.3					"		5	10	10	1		0.10		265	10	10250E	contaminated sample	
																		10275E	NOT SAMPLED	
																		10300E	" "	
																		10325E	" "	
819370	S	2					C		2	10	10	<1		0.12		105	20	10350E	Quartzite	
371	"	2					"		110	30	0.16%	<1		1.60		135	20	10375E	Pyjama siltstone	
372	"	0.4					"		50	50	150	<1		1.36		10	<10	10400E	" " along strike from sea	
373	"	1.2					"		20	115	20	5		0.78		575	10	10425E	" "	
374	"	2.7					"		5	10	10	<1		0.48		140	20	10450E	Qtzite pyjama siltstone	
375	"	2					"		10	20	20	<1		1.29		25	<10	10475E	" " "	
																		10500E	NOT SAMPLED	
																		10525E	" "	
819376	S	1					C		10	10	25	<1		2.36		50	20	10550E	Qtzite, probably contaminated TOP OF PETERS RIDGE	

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type (gs = grab sample rc = rock chip (state interval & length) cs = channel sample (s = length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

020

Tenement name..... S.P.L. 781

C.R. EXPLORATION GEOCHEMICAL SAMPLER EDGER

No. Sample numbers 5283 - 5294

Collected by N.R.L.

Sheet no. 75

Area / Prospect..... LEOUR

Date July 1980

Map / Photo reference.....

Analysed by A.L.S.

DPO no.....

A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations	
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au	Sn	W				
		o/c sample type ***																			
		s sample type ****																			
5283		1.2						10	20	30							335	20	10000N	9975E	0-0.5m road 0.5m-1.2m yellow and green shale
5284		0.4						110	40	50							550	20		9950E	0-0.4m dark green pyritic clay
5285		1						10	20	15							255	20		9925E	0-0.5 peat 0.5-1 hard brown and grey shale
5286		1						5	10	10							265	40		9900E	0-0.5m peat 0.5-1m light grey shale
5287		1.2						15	20	50							25	10		9875E	0-0.7m peat 0.7-1.2m grey shale
5288		0.5						40	15	20							10	<10		9850E	0-0.5 yellow green clay
5289		1						35	15	30							40	<10		9825E	0-0.5m peat 0.5-1m grey shale
5290		3						35	40	520							120	60		9800E	0-2.5m peat 2.5-3m sandy grey shale
5291		1.5						2	10	5							5	<10		9725E	0-0.5m peat 0.5-1.5m white silty qtzite
5292		2						5	10	5							25	<10		9700E	0-1m peat rubble 1-2m white silty qtzite
5293		1.2						2	5	2							25	10		9675E	0-0.7m peat rubble 0.7m-1.2m white silty qtzite
5294		3.5						2	5	2							420	<10		9650E	0-1m peat 1-3.5m soft white silty qtzite

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

020
 Tenement name: S.P.L. 781
 Area / Prospect: FOUR
 Map / Photo reference: A 02143
 U.M. EXPLORATION GEOCHEMICAL SAMPLE EDGEH
 No. Sample numbers: 5270 - 5282 Collected by: N.R.L.
 Analysed by: A.L.S.
 Sheet no: 74
 Date: July 1980
 DPO no:

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		ss * oc f s	fl	wi	al	co	ca		pH	Cu	Pb	Zn	Ag	Mo	Mn	Au	Sn	W		
			o/c sample type ***																	
			s sample type ****																	
depth																				
5270		1.5						2	10	5						225	10	9600N	10125E	light grey green siltstone
5271		1.5						2	5	2						75	10	10000E	10000E	" " " sandy shale
5272		1.5						2	10	20						50	60	10025E	10025E	0-0.5m peat
																				0.5-1.5m pale yellow green sandy shale
5273		1						<2	10	5						195	70	10050E	10050E	thinly laminated grey green shale and qtz veins
5274		2						<2	5	2						130	70	10075E	10075E	light brown-green sandy shale
5275		1.3						2	10	5						50	40	10100E	10100E	0-0.5m peat
																				0.5-1.3m pale yellow shale
5276		1.5						2	15	5						70	20	10125E	10125E	0-0.5m peat
																				0.5-1m pale yellow shale
5277		1						5	15	20						30	<10	10100N	9975E	0-0.5m peat
																				0.5-1m brown shale
5278		1.2						2	15	10						0.10%	10	9950E	9950E	0-0.7m peat
																				0.7-1.2m light grey shale
5279		1.1						10	15	20						15	<10	9925E	9925E	0-0.2 peat
																				0.2-1.1 kahki shale
5280		1						10	15	15						145	20	9900E	9900E	0-0.5m road
																				0.5-1m grey shale
5281		0.9						5	30	260						575	10	9875E	9875E	0-0.5m peat
																				0.5-0.9m stiff green clay
5282		1.2						10	20	300						60	<10	9850E	9850E	0-0.7m peat
																				0.7-1.2m grey shale

* Sample type ss = stream sediment oc = outcrop f = float s = soil
 ** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2
 *** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)
 **** Soil sample type auger hole or pit depth m A, B or C horizon

Tenement name **SPL 781** No. **819342 - 819358** Sample numbers **819342 - 819358** Collected by **P.H.** Sheet no. **36**
 Area / Prospect **BALFOUR** Date **APRIL 1980**
 Map / Photo reference Analysed by **A.L.S.** DPO no.

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations		
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn Fe	Au	Sn	W					
		o/c sample type ***																				
		Depth	s sample type ****															Horizon				
819358		1.6					C		50	30	200	1				1.76		5	<10	10000E	Dark grey siltstone	
357	S	2					"		30	10	100	1				2.32		35	<10	10025E	Grey siltstone	
356	"	1.6					"		80	20	95	1				1.72		45	<10	10050E	Pyjama siltstone	
355	"	2.0					"		180	40	100	1				1.68		5	<10	10075E	" "	
354	"	1.6					"		10	25	70	1				1.12		5	<10	10100E	" "	
353	"	2	UPEO				"		20	20	140	1				1.92		10	<10	10125E	" "	
352	"	2	UPEO				"		10	20	30	1				2.36		<5	<10	10150E	Iron stained shale	
351	"	2	UPEO				"		20	15	60	1				2.16		75	<10	10175E	Pyjama siltstone	
350	"	2	ROBER				"		30	15	45	1				2.12		35	<10	10200E	" "	
349	"	2	ROBER				"		55	15	50	1				2.16		<5	<10	10225E	" " qtzite	
348	"	1.8	ROBER				"		25	15	20	<1				0.52		480	<10	10250E	" " "	
347	"	3	SAMPLING				"		25	20	130	<1				1.08		15	<10	10275E	Grey siltstone	
																				10300E	Not sampled	
																					10325E	" "
																					10350E	" "
																					10375E	" "
																					10400E	" "
																					10425E	" "
819346	S	2					C		5	10	30	<1				0.30		320	<10	10450E	Pyjama siltstone	
345	"	2					"		2	5	20	<1				0.28		190	<10	10475E	Pyjama siltstone qtzite grey siltstone along strike from phal occur.	
344	"	2					"		5	10	340	1				2.28		25	<10	10500E	Pink cream siltstone just wth P. laas workings	
343	"	2					"		<2	10	20	<1				0.18		25	<10	10525E	Pink brown siltstone	
342	"	3.4					"		2	30	30	1				0.76		460	<10	10550E	Green shale	

* Sample type ss = stream sediment oc = outcrop f = float s = soil
 ** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2
 *** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)
 **** Soil sample type super hole or pit depth m A B or C horizon

023
 Tenement name S.P.L. 781
 Area / Prospect BALEFOUR CENTRAL
 Map / Photo reference

U.R.A. EXPLORATION GEOCHEMICAL SAMPLE LOG SHEET
 No. Sample numbers 819.301 - 320 Collected by A.D.MCK. & P.H. Sheet no. 33
 Date 25/4/80
 Analysed by A.L.S. DPO no.....

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		fl	wl	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au	S _A	W			
		o/c sample type ***																		
		Depth	s sample type ****				Horizon													
19 301	S	0.8					C		3	20	50	1		0.24		50	<10	10025E	Pyjama siltst, grey siltst, \bar{c} qtz, old workings	
02	"	2.0	JACO				"		30	30	360	2		0.29		145	<10	10050E	Grey siltstone	
03	"	2.1	JACO				"		40	45	920	2		3.20		65	<10	10075E	" "	
04	"	0.8					"		10	10	40	2		0.36		580	10	10100E	Black siltst, Alluv. workings	
05	"	1.2	ROGER				"		20	30	100	1		1.24		160	<10	10125E	SST \bar{c} qtz, " "	
06	"	1.1	ROGER				"		210	350	270	1		1.52		5	<10	10150E	Weathered brown siltst. " "	
07	"	0.5					"		5	5	30	<1		0.22		20	<10	10175E	White siltstone, qtzite	
08	"	1.0					"		20	10	40	1		2.32		<5	<10	10200E	Weathered brown siltst. qtzite	
03	"	1.3					"		20	10	55	1		2.64		<5	<10	10225E	Pyjama siltst. Alluv workings near	
		NOT	SAMPLED															10250E	sample inaccessible	
819.310	"	1.0					C		5	15	40	1		0.48		395	20	10275E	White qtzite, Alluv. workings nearby	
11	"	2.3					"		60	0.1%	720	5		2.56		90	<10	10300E	Qtzite " " "	
12	"	3.0							75	105	600	2		3.20		245	<10	10325E	Creek bed, Alluv. workings	
																			Grey clay	
13	"	2.5							80	80	340	1		1.36		25	<10	10350E	Alluv. workings near, Grey shales	
14	"	2.2							15	15	70	1		0.69		130	<10	10375E	Qtzite - sample possibly contaminated with alluvial material.	
15	"	0.5					C		5	10	30	3		0.44		70	<10	10400E	Quartzite	
16	"								5	5	40	<1		0.32		100	<10	10425E	"	
17	"								2	10	20	<1		0.10		450	<10	10450E	"	
18	"	0.5					C		5	5	20	<1		0.16		110	<10	10475E	"	
19	"	0.4					C		5	5	40	<1		0.32		170	<10	10500E	"	
819.320	"	0.5					C		5	10	20	<1		0.20		255	<10	10525E	"	

* Sample type ss = stream sediment oc = outcrop f = float s = soil
 ** Stream sed. sample description fl = flow m3/sec wl = width m al = alluvial co = colluvial ca = catchment km2
 *** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (st. length)
 **** Soil sample type auger hole or pit depth m A, B or C horizon

024 S.P.L. 781
 Tenement name.....
 Area / Prospect..... FOUR
 Map / Photo reference.....
 A 02143

C.R. EXPLORATION GEOCHEMICAL SAMPLING EDGER

No. Sample numbers 5223 - 5234 Collected by M.R.L.

Sheet no. 70
 Date July 1980
 DPO no.

Analysed by A.L.S.

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au	Sn	W			
		o/c sample type ***																		
		s sample type ****																		
5223		1						5	10	25					5	<10	10200N	10225E	0-0.7m qtz rubble 0.7-1m green brown shale	
5224		1.5						60	50	680					90	10			0-1.2m peat, rubble 1.2-1.5m grey clay	
5225		1.2						25	30	240					10	<10			0-0.5m peat 0.5-1.2m grey shale with pyritic qtzite	
5226		1.5						110	30	75					530	<10			0-1.4m peat + gravel 1.4-1.5m hard grey shale	
5227		0.6						10	10	10					40	10			0-0.4m peat 0.4-0.6m pale yellow qtzite	
5228		1.2						15	20	340					65	<10			0-1m peat 1-1.2m stiff grey clay	
5229		1.5						10	30	95					<5	<10	10375E		0-0.5m peat 0.5m-1m light grey shale	
5230		1.7						10	20	165					5	<10	10400E		1.7 light grey shale	
5231		1.5						30	880	640					45	10	10425E		0.5m qtzite rubble 0.5-1m brown shale	
5232																				
5233		2						10	35	45					70	<10	10200N	10150E	0-1.7m peat 1.7-2m pale grey green shale	
5234		3						10	25	25					15	<10	10175E		0-2.5m peat and gravel 2.5-3m white clay	

* Sample type ss = stream sediment oc = outcrop f = float s = soil
 ** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2
 *** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)
 **** Soil sample type auger hole or pit depth m A, B or C horizon

025

Tenement name S.P.L. 781

C.R. EXPLORATION . GEOCHEMICAL SAMPLING EDGER

No. Sample numbers 5201 - 5210 Collected by N.R.L.Sheet no. 68Area / Prospect ALFOURDate July 1980

Map / Photo reference

Analysed by P.L.S.

DPO no.

A 02143

Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au	Sn	W			
		o/c sample type ***																		
		Depth	s sample type ****																	
TS 5201		1.6						60	15	10						25	<10	10400N	10000E	0-0.4m peat
5202								5	10	10						10	<10	10400N	10025E	0.4-1.6m grey yellow clay 0-0.5m peat 0.5-2m soft white to yellow clay micaceous and pyritic
5203		1.5						10	15	15						10	<10	10050E		0-1m peat 1-1.8m yellow to grey green weathered siltstone
5204		1						5	10	10						<5	<10	10075E		0-0.2m peat 0.2-1m grey mottled siltstone
5205		1.2						5	30	20						20	<10	10100E		0-0.2m peat 0.2-1.2m grey clay
5206		1.3						175	30	500						10	<10	10125E		0-0.2m peat 0.2-0.8m stanniferous muddy gravels 0.8-1.3m grey pyritic siltstone
5207		1.3						10	15	20						5	<10	10300N	10000E	0-0.7m peat 0.7-1.3m light grey shale
5208		2						20	25	290						35	<10	10025E		0-1m peat 1-2m light grey siltstone
5209		1.2						15	20	25						<5	<10	10050E		0-0.5m peat and rubble 0.5-1.2m light grey shale
5210		1.8						10	25	10						10	20	10200W	10000E	0-0.4m peat 0.4-1.3m gravel 1.3-1.8m Brown shale

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

**** Soil sample type auger hole or pit depth m A, B or C horizon

026

C.R. EXPLORATION GEOCHEMICAL SAMPLE EDGER

Tenement name S.P.L. 781 No. 5211 - 5222 Sample numbers 5211 - 5222 Collected by N.R.L. Sheet no. 69Area / Prospect LFBR Da July 1980Map / Photo reference Analysed by A.L.S. DPO no.

A 02143

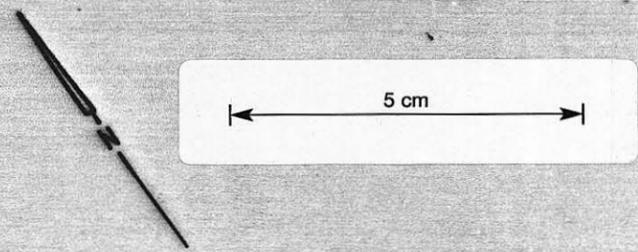
Sample No.	Type	ss channel **						Carbon	Metal content ppm or %										Grid ref	Geological Observations	
		fl	wi	al	co	ca	pH		Cu	Pb	Zn	Ag	Mo	Mn	Au	Sn	W				
		o/c sample type ***																			
		depth	s sample type ****																		
5211		1.1						2	10	10							<5	<10	10200N	10025E	0-0.5 peat 0.5-1.1 grey siltstone
5212		2						10	15	15							5	<10	10050E	10050E	0-1.0 sand, peat 1-2.0m soft yellow-grey clay
5213		1.1						15	15	45							5	<10	10075E	10075E	0-0.7m peat 0.7-1.1m light grey green shale
5214		1						10	30	20							225	20	10100E	10100E	0-0.2m peat 0.2-1m dark brown shale
5215		0.5						10	20	10	2						5	<10	10300N	10075E	0-0.5m yellow siltstone/shale
5216		2						30	35	80	2						20	<10	10100E	10100E	0-1.5m peat and gravel 1.5m-2m white clay
5217		2						20	25	150	1						<5	<10	10125E	10125E	0-1m peat, gravel 1-2m grey shale
5218		2						70	160	0.16%	3						360	80	10150E	10150E	0-1m peat 1-2m stiff grey clay
5219		1.5						30	65	490							85	10	10225E	10225E	0-1m peat, rubble 1-1.5m brown sandy siltstone
5220		2.7						20	15	60							70	<10	10200N	10150E	0-2m gravels 2-2.7m light grey clay
5221		1.7						20	20	45							25	<10			0-1m peat 1-1.7m light grey shale
5222		1.5						30	25	180							25	<10	10200E	10200E	0-1.2m peat 1.2-1.5m light grey clay

* Sample type ss = stream sediment oc = outcrop f = float s = soil

** Stream sed. sample description fl = flow m3/sec wi = width m al = alluvial co = colluvial ca = catchment km2

*** Outcrop sample type gs = grab sample rc = rock chip (state interval & length) cs = channel sample (state length)

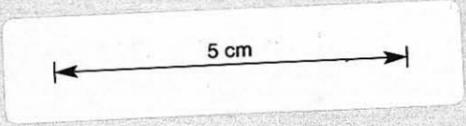
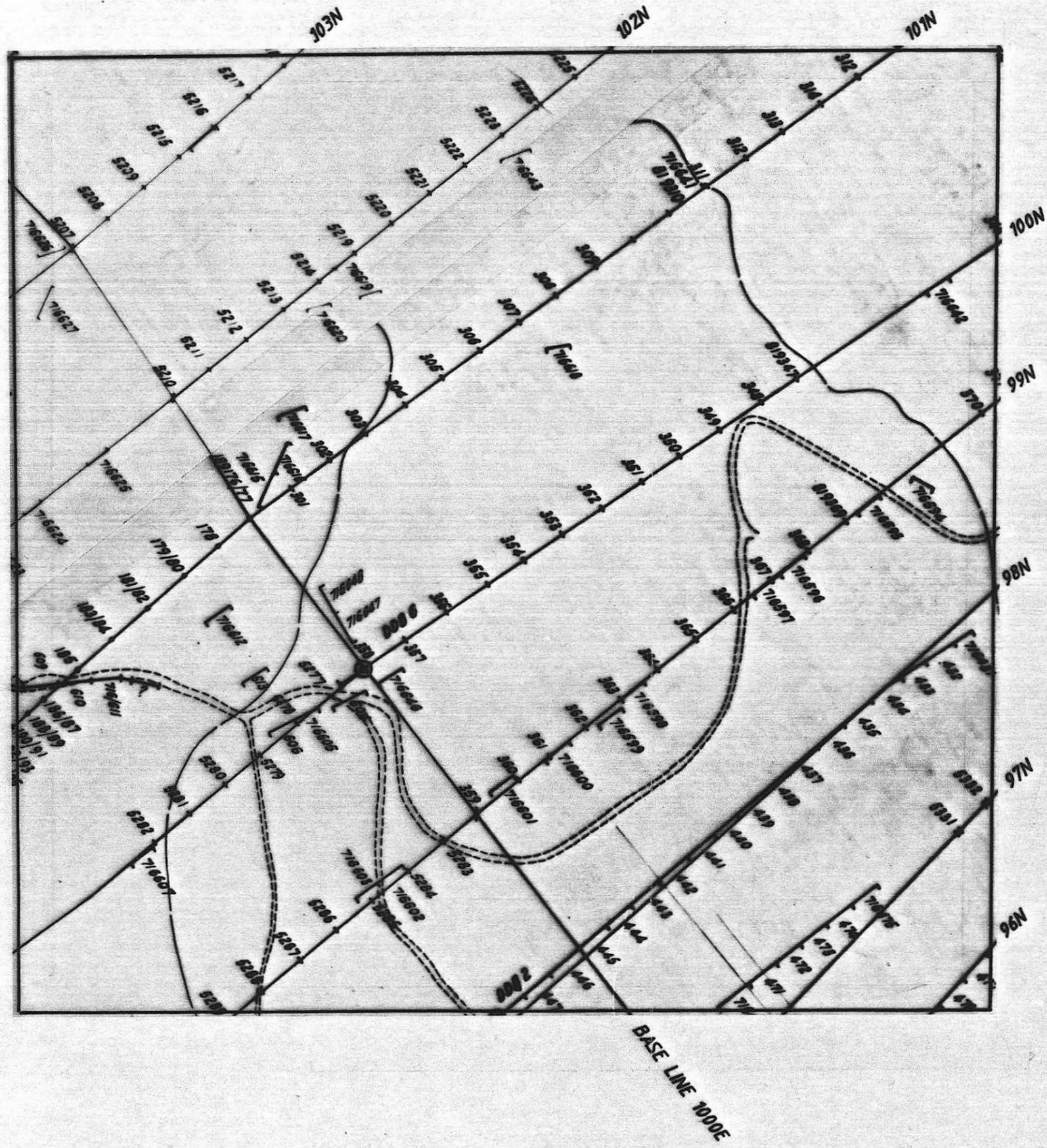
**** Soil sample type auger hole or pit depth m A, B or C horizon



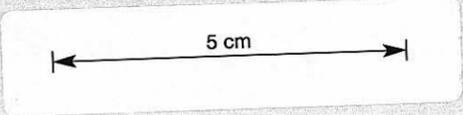
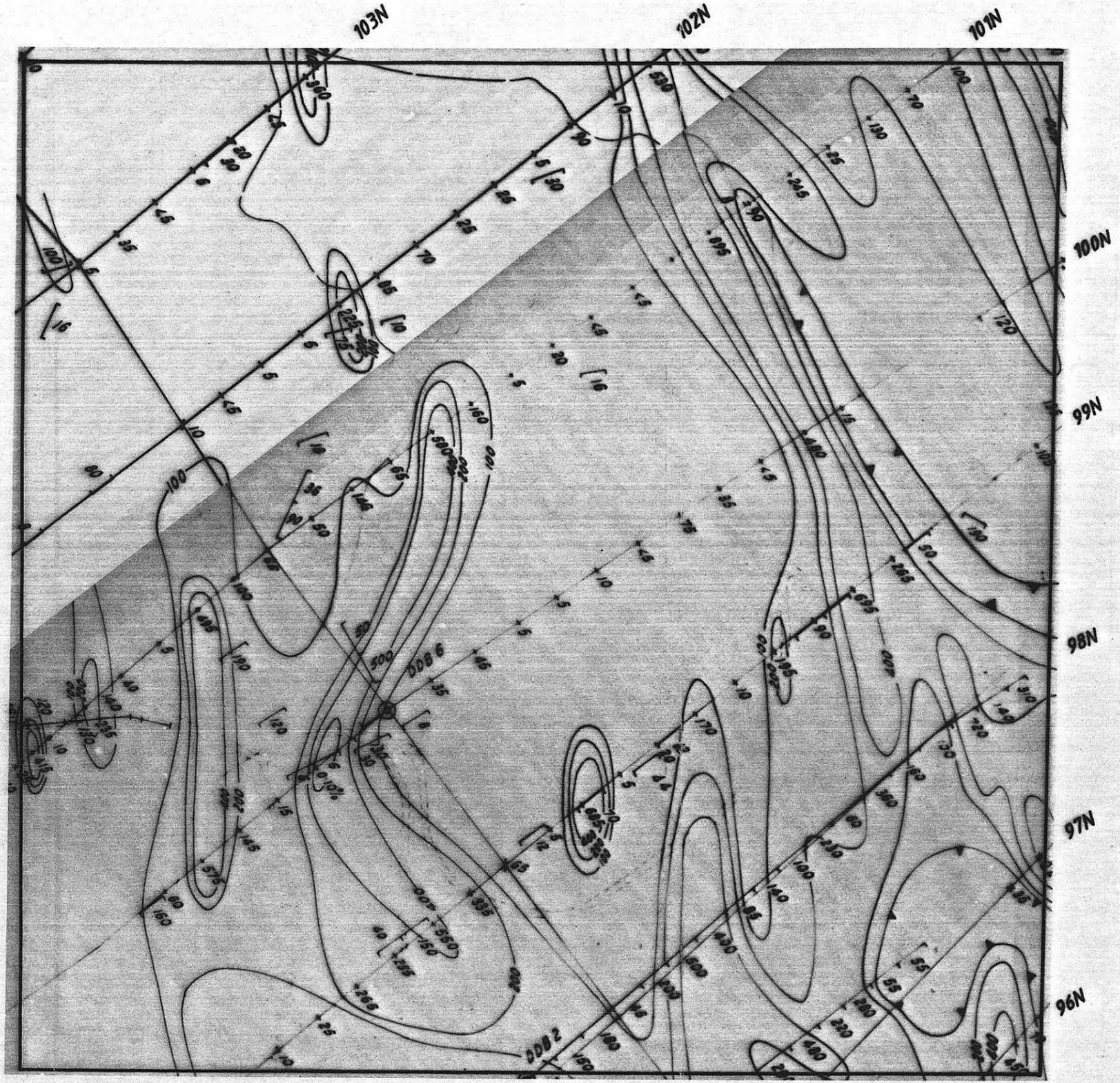
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19M/76 BALFOUR			
P. LAAN, M. LAAN, N.R. LANGSFORD			
W. BAKER			
GEOLOGY PLAN			
REF.	SK55-3		
SCALE.	1 : 2500	DRAWN.	R.T
AUTHOR.	T.W.D	REPORT.	
DATE.	FEB '82	PLAN No	TASH 627

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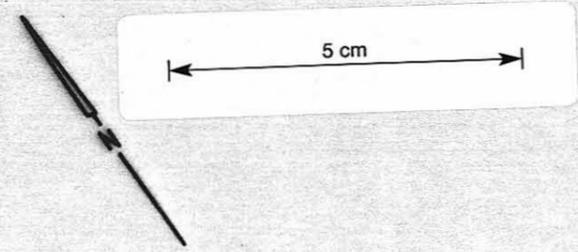
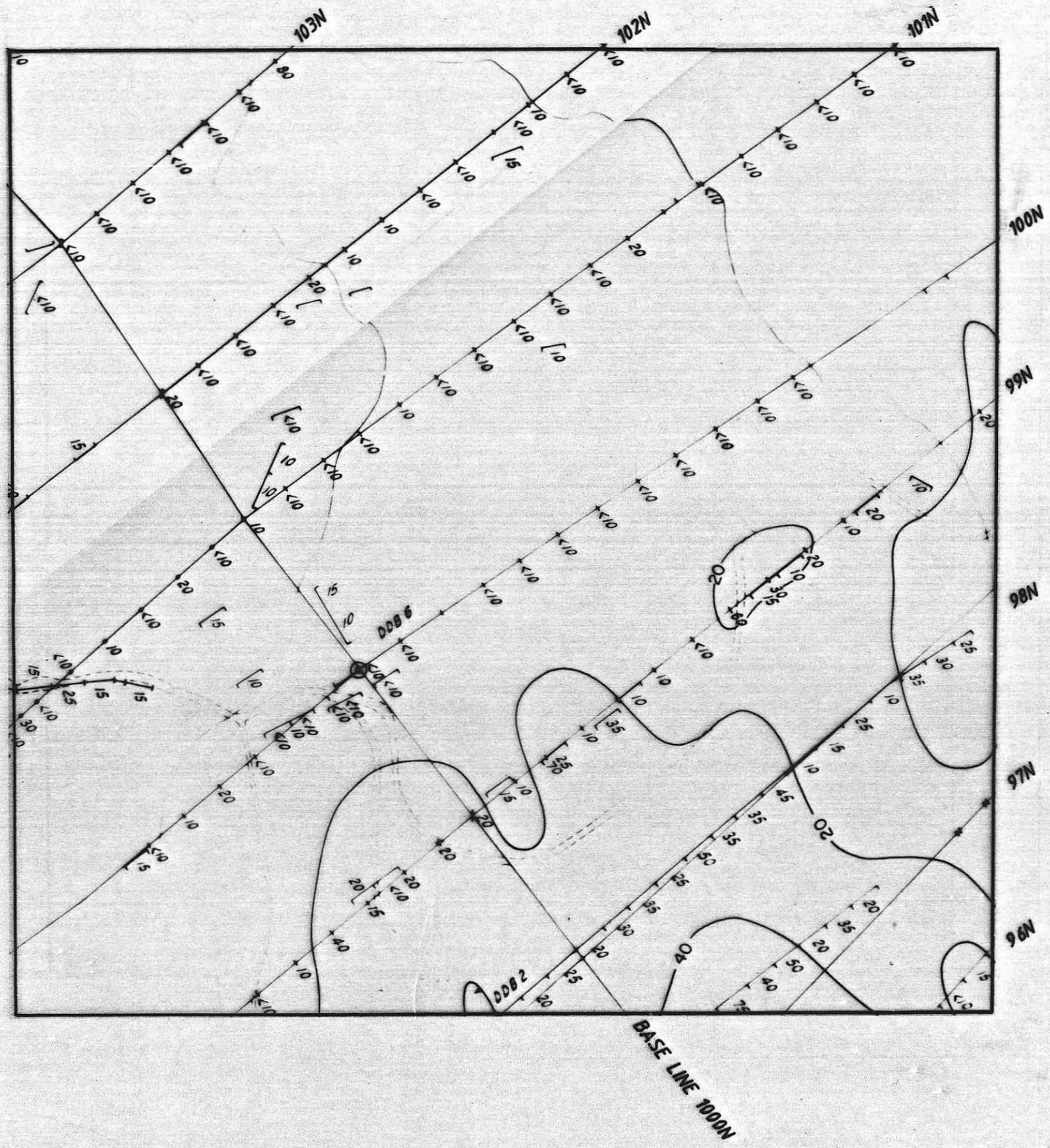


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19M/76 BALFOUR			
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W. BAKER			
SAMPLE LOCATION PLAN			
REF.	SK55-3		
SCALE	1:2500	DRAWN	R.T
AUTHOR.	T.W.D	REPORT.	
DATE	FEB '82	PLAN No	TASH 628

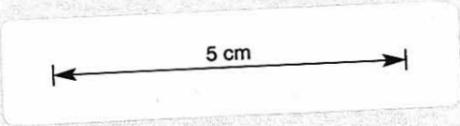
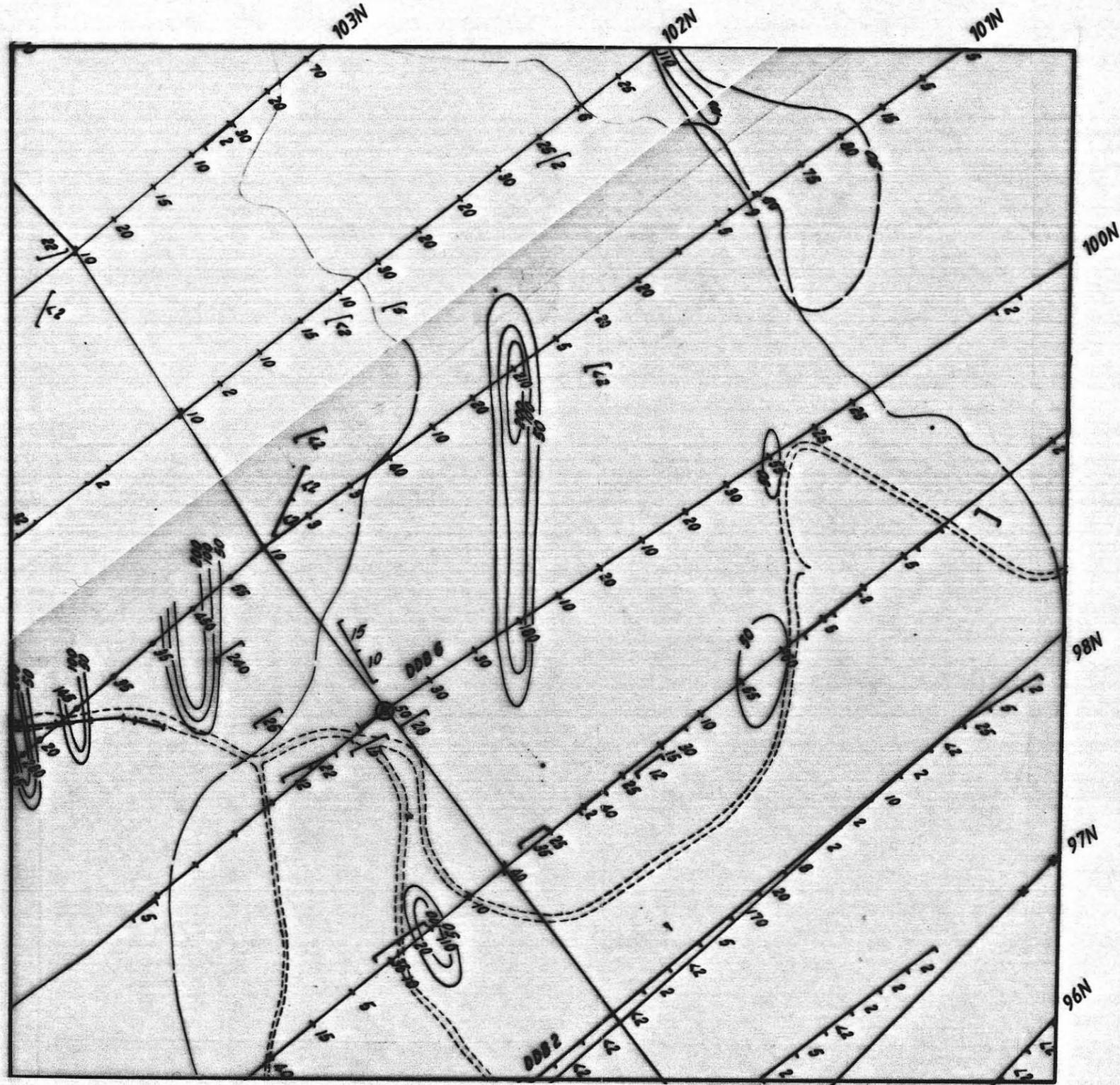


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19M/76 BALFOUR	
P. LAAN, M. LAAN, N.R. LANGSFORD	
W. BAKER	
Sn GEOCHEMISTRY	
REF.	SK55-3
SCALE	1 : 2500
AUTHOR.	T.W.D
DATE.	FEB '82
DRAWN.	R.T
REPORT.	
PLAN No	TASH 630

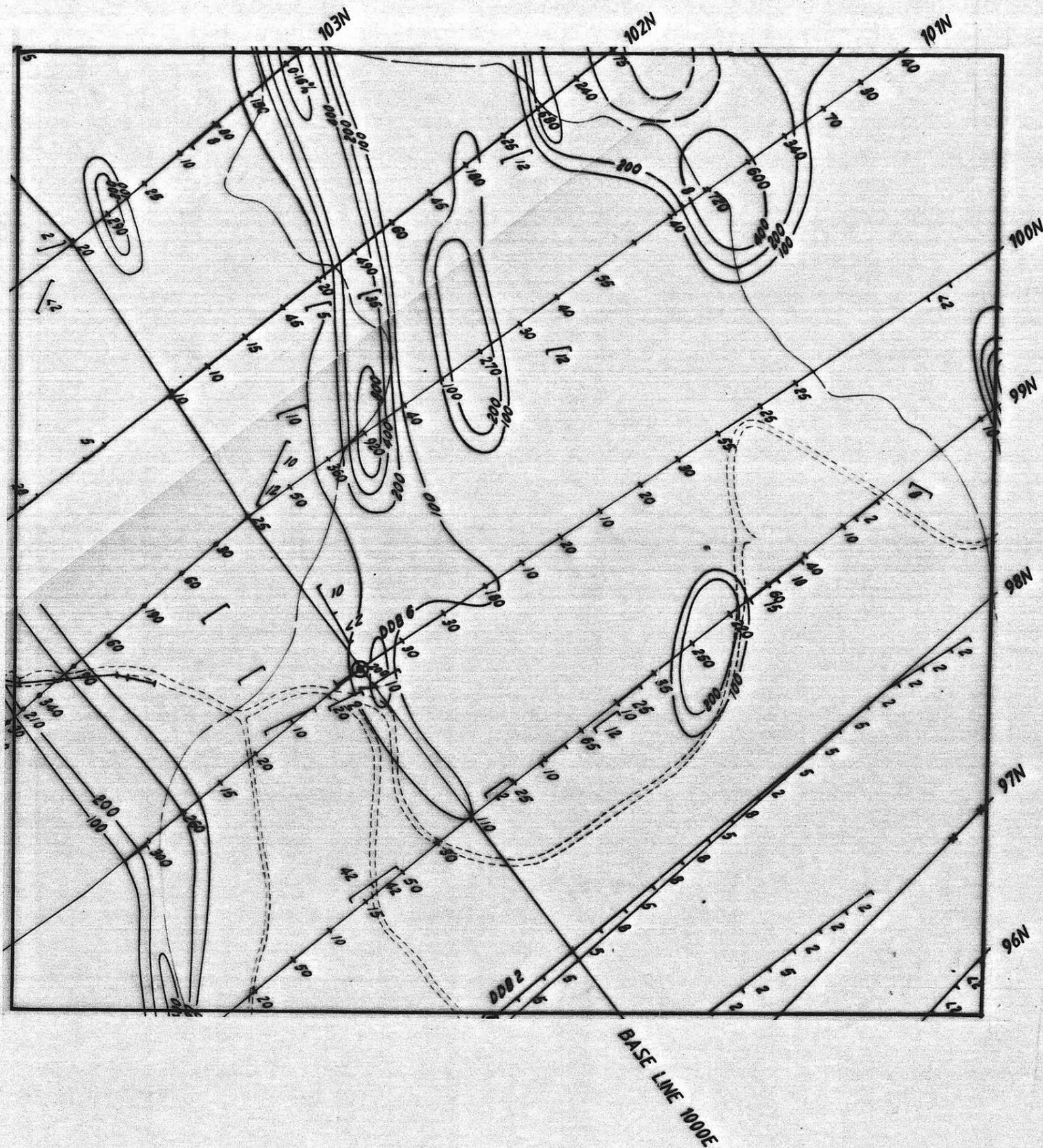
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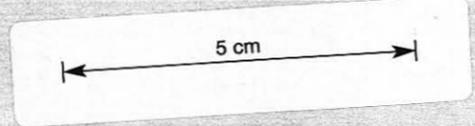
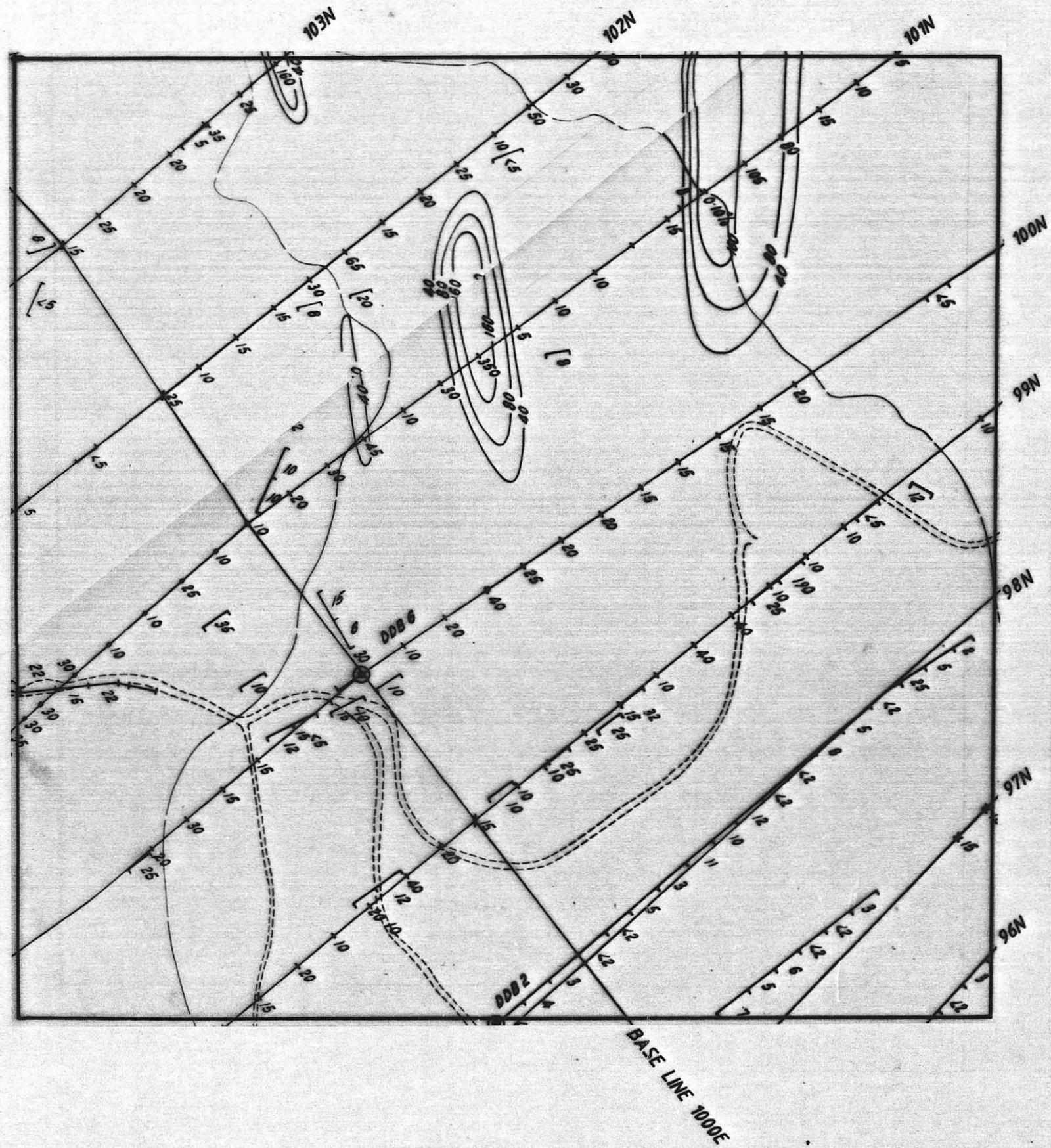
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19M/76 BALFOUR	
P. LAAN, M. LAAN, N.R. LANGSFORD	
W. BAKER	
W GEOCHEMISTRY	
REF.	SK55-3
SCALE	1 : 2500
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DATE	FEB '82
DRAWN	R.T
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PLAN	No TASb 626



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P. LAAN, M. LAAN, N.R. LANGSFORD	
W. BAKER	
Cu GEOCHEMISTRY	
REF.	SK55-3
SCALE	1 : 2500
AUTHOR	T.W.D
DATE	FEB '82
DRAWN	R.T
REPORT	
PLAN No	TASH 629

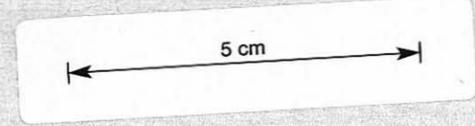
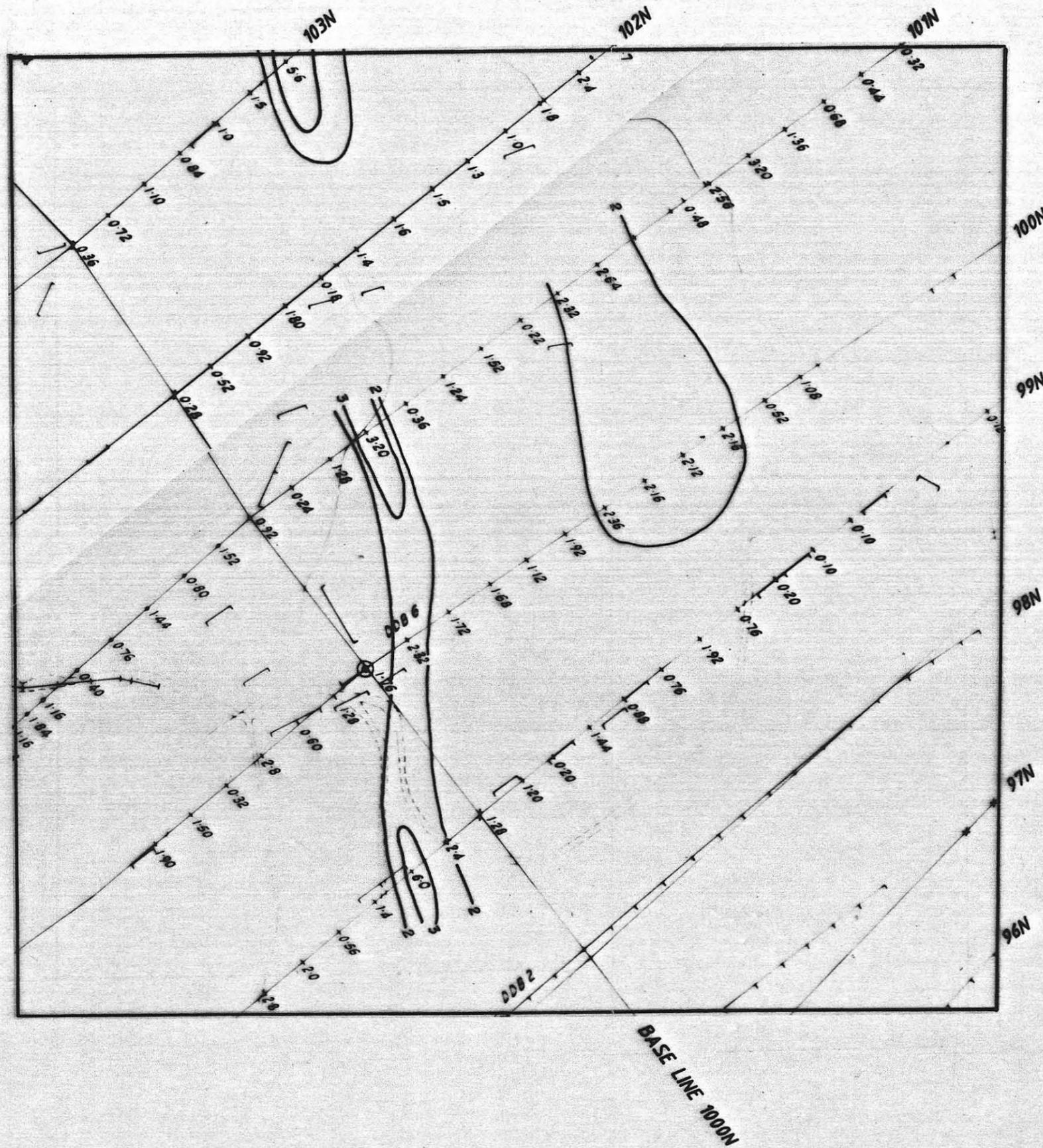


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19M/76 BALFOUR	
P. LAAN, M. LAAN, N.R. LANGSFORD	
W. BAKER	
Zn GEOCHEMISTRY	
REF.	SK55-3
SCALE.	1 : 2500
AUTHOR.	T.W.D
DATE.	FEB '82
DRAWN.	R.T
REPORT.	
PLAN No	TASH 623



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19M/76 BALFOUR	
P. LAAN, M. LAAN, N.R. LANGSFORD	
W. BAKER	
Pb GEOCHEMISTRY	
REF.	SK55-3
SCALE	1 : 2500
AUTHOR	T.W.D
DATE	FEB '82
DRAWN	R.T
REPORT	
PLAN No	TASH 624

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19M/76 BALFOUR	
P. LAAN, M. LAAN, N.R. LANGSFORD	
W. BAKER	
Fe GEOCHEMISTRY	
REF.	SK55-3
SCALE.	1 : 2500
AUTHOR.	T.W.D
DATE.	FEB '82
DRAWN.	R.T
REPORT.	
PLAN No	TASH 625