

EXPLORATION LICENCE NO 39/89 - BLYTHE RIVERANNUAL REPORT - YEAR 1C O N T E N T S

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PLANS

PLAN NO 1/91 EL 39/89, Regional Geology/Sample Location Plan
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1. INTRODUCTION - SUMMARY

Exploration Licence 39/89 covering 9km² east of the Kara tungsten magnetite mine was acquired to investigate the magnetite resource potential of three magnetite skarn zones previously identified and delineated at the Kara No 2 region.

During Year 1 of EL tenency, the above mentioned skarns were investigated as follows:-

- Kara No 2 Main Zone. An evaluation of the deposits tonnage and grade potential was commenced, this work being supplemented by a programme of percussion drilling. Results of the work were somewhat disappointing with the magnetite content of the deposit being lower and more weathered than originally anticipated.
- Kara No 2 South Skarn. This previously unexamined deposit was investigated by geologic and ground magnetic surveys, and subjected to two programmes of percussion drilling. Results were encouraging showing a high grade in-situ magnetite values (58-66% Fe) and unusually low SiO₂ contents (<3%). Bulk sampling (100 tonnes) of this deposit was undertaken and this sample is to be processed through the Kara No 1 mill to assess its potential to be beneficiated to a saleable lump or fines magnetite product.

2. GENERAL

2.1 LOCATION

EL 39/89 covers a total area of 9km² located in the upper reaches of the Blythe River situated approximately 30km south of Burnie.

The licence lies east of the Kara tungsten-magnetite mine operated by Tasmania Mines Ltd, and embraces the magnetite skarn zones constituting the "Kara No 2 Group" - Main, East and South Zones - please refer to Figure No 1.

Access to the area is good, initially by sealed road from Burnie to Hampshire, then either by Rogetta Road or Blythe Road past the Upper Natone Forestry Commission, both of which lead south off the Hampshire to Upper Natone Road.

Vehicular access within the licence area could be described as poor, and except for forest tracks, the main means of access over most of the area would be by foot.

In the main, the licence area would be described as undulating but dominated by the Blythe River which transgresses the eastern section of the area. Most of the area is underlain by granite, this land supporting eucalypt plantations. The remainder of the land is underlain by siliceous sediments and metamorphosed skarn zone which either support button grass scrub or stunted regrowth vegetation.

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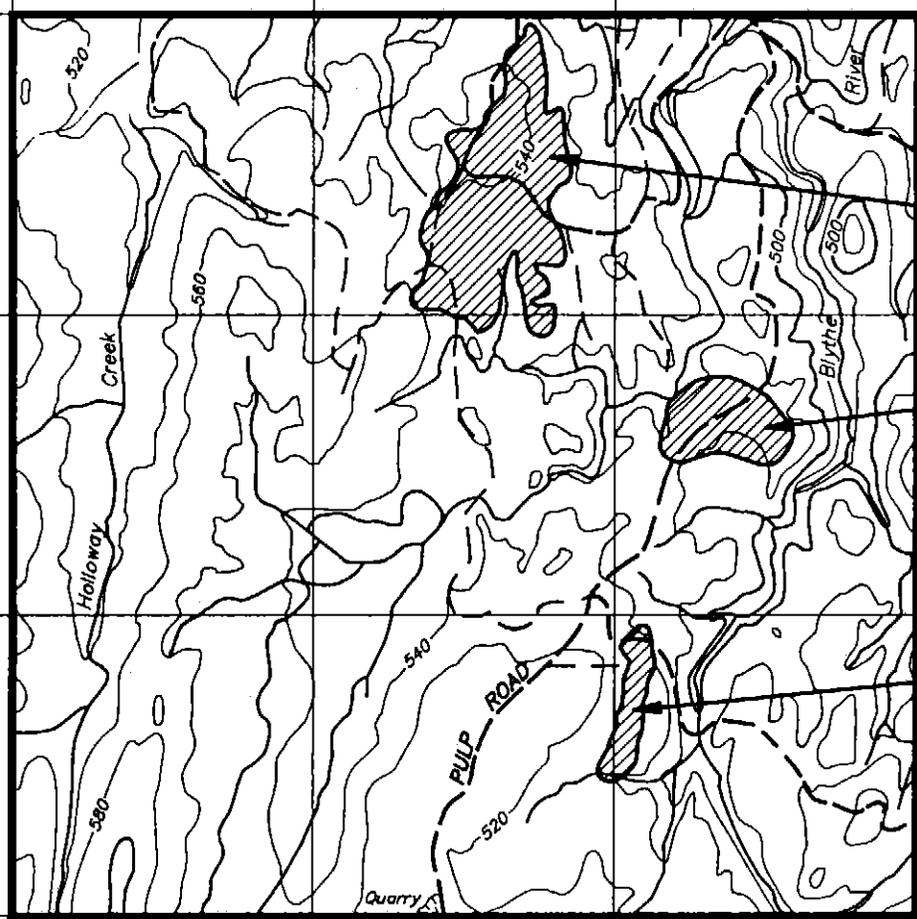
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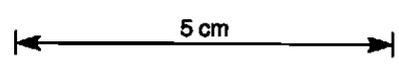
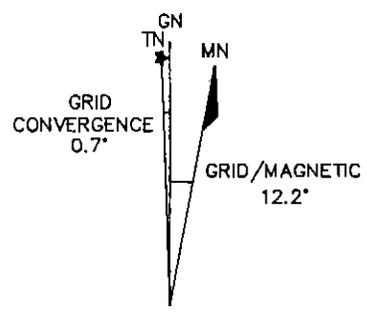
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KARAs No.2
MAIN ZONE

KARAs No.2
EAST ZONE

KARAs No.2
SOUTH ZONE



E.L. 39/89
KARAs No.2 REGION
LOCATION PLAN

DATE: FEB. 1991 SCALE: 1:25,000

FIG. 1

2.2 TENEMENT INFORMATION

EL 39/89 was granted to Tasmania Mines Ltd under ETA (No 120) Application on 23 February 1990.

The area covered by the licence totals 9km² and originally formed part of the Tasmania Mines Ltd EL 17/68 which in 1987 was reduced in size from 74km² to 21km² (including the Consolidated Mining Lease at the Kara No 1 Mine).

The licence originally embraced 3 mining leases under application by Tasmania Mines (Nos 81M/87, 82M/87 and 87M/87 - covering 2.27km²). These application have since EL 39/89 acquisition been dropped and the MLA areas reverted to exploration licence status.

No other exploration licences are currently held adjoining EL 39/89.

2.3 REGIONAL GEOLOGY - PREVIOUS EXPLORATION

The EL 39/89 area was primarily designed to cover the three magnetite skarn zones known as the "Kara No 2 Group". These occur (Fig No 1 - Plan No 1/91) either within or along the western flank of the main Husetop Granite intrusive, the latter occupying a large part of the eastern and central sections of the EL. The western section of the area is characterised by the Ordovician Transitional Beds - predominantly siliceous sediments which are differentially metamorphosed along the contact with Husetop Granite.

While the area was originally covered by EL 17/68, exploration work was primarily undertaken to assess its potential for tungsten mineralisation within magnetite skarns and greisenous zones. An assessment of this potential was made by geologic mapping and extensive geochemical drainage sampling. Following aeromagnetic flying (McIntyre Mines-1977) - please see Figure No 2 - and follow up ground magnetic studies, three magnetite skarn zones were identified - Kara No 2 Main, South and East Zones. One of these, the Kara No 2 Main Zone was subjected to detailed exploration and investigations, namely geologic mapping, grid ground magnetic survey, trenching/sampling, geochemical sampling and both percussion and diamond drilling programmes (Dept of Mines, Tasminex NL, McIntyre Mines and Tasmania Mines Ltd).

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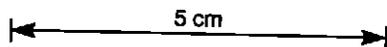
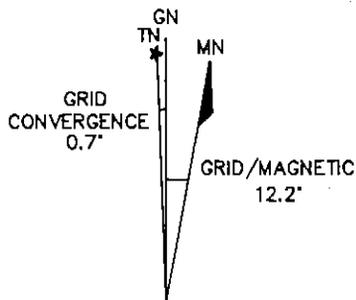
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E.L. 39/89
KARA No.2 REGION
AEROMAGNETIC CONTOURS

393009

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FIG. 2

3. EXPLORATION AIMS - PHILOSOPHY

Previous exploration work at the Kara No 2 Main Skarn Zone was of such a nature to classify the deposit as a delineated "resource of near-surface high grade magnetite". One of the aims of the proposed investigations by Tasmania Mines Ltd within EL 39/89 was to finalise a tonnage/grade evaluation of this resource and to assess whether it could form a future source of magnetite ore to supplement other Fe occurrences and the Kara No 1 deposit currently being developed by Tasmania Mines.

Although the Kara No 2 East and South Skarns had previously been identified by reconnaissance geologic work and sampling, both deposits warranted more detailed investigations in order to evaluate their true economic potential.

The actual nature of proposed exploration work within EL 39/89 was as follows:-

- Kara No 2 South and East - complete:
 - Shallow percussion drilling programme (600m)
 - Back hoe trenching/bulk sample collection - 100 tonnes magnetite sample
 - Bulk sample treatment of the magnetite sample at the Kara No 1 Mill
- Kara No 2 Main Skarn
 - Bulk sample collection (200 tonnes) and processing of the sample through the Kara No 1 Mill
 - Economic evaluation of the deposit

4. EXPLORATION WORK COMPLETED - YEAR 14.1 REGIONAL ASSESSMENT

The results of all previous work in the area, by the Dept of Mines, Tasminex NL, Savage River, McIntyre Mines and Anzeco, has been collected and is being utilised in an assessment of the areas mineral potential, in particular, that of the magnetite skarns.

Previous regional work had consisted of reconnaissance mapping and a variety of regional geochemical (pan concentrate) sampling programmes. The locations of this sampling work within the specific area covered by EL 39/89 is now shown on attached Plan No 1/91. This work was primarily concerned with an investigation of the tungsten (scheelite) potential of the region and magnetite skarns. Results show that although W03 anomalism was found at the NW and NE extremities of the Kara No 2 Main Skarn, follow up work showed the anomalism to be related to disseminated low order concentrates within greisenous zones peripheral to the skarns.

A review of analytical work associated with past drilling at the Kara No 2 Main Skarn shows an anomalous tin zone along the western flank of the skarn zone. Although this can reach quite high Sn values (0.8 to 0.9%), the tin is in the form of silicate minerals rather than as cassiterite. No additional mineralisation (eg gold, molybdenite, bismuth) appears detectable at this skarn.

4.2 KARA NO 2 MAIN SKARN ZONE

- Magnetite Reserves. Utilising previous Dept of Mines, Tasminex NL and Tasmania Mines drill results - supplemented by those from the current years drilling, an evaluation of the tonnage/grade potential of the magnetite has commenced. New drill transverse sections are being compiled.

- Percussion Drilling

A shallow percussion drilling programme was completed across the northern section of the deposit - please refer to Plan No 2/91. A total of 22 holes were completed and 121.50m drilled. The objective of the drilling was to more closely identify variations in magnetite content within the skarn zone across strike, and if possible, identify zones of more massive unweathered magnetite. The completed drilling showed the deposit along this particular traverse line to be extremely weathered, and except for a narrow (5-7m) wide zone along the W margin (Holes 11 to 18) no strongly developed zones of massive magnetite were encountered.

No assays, or detailed logging, of this drilling have yet been completed. Appended Table No 1 itemises brief drill statistics data.

4.3 KARA NO 2 SOUTH SKARN

The following work has been completed during the current term at this previously unexamined skarn zone.

- The deposit was initially examined by ground reconnaissance and gridded, grid lines spaced at 25m across the N-S striking skarn. A narrow (5-20m) zone of magnetite and hematite is readily recognisable over a strike distance of approximately 75m, and "suspected" over a total strike of 375m. The skarn is flanked by the Housetop granite intrusive along its eastern margin, but the actual western contact of the skarn zone can not be determined due to masking by Tertiary basalt cover.
- A gridded ground magnetic survey was run over the entire deposit, with readings taken at 5m intervals along the 25m spaced traverse lines. Plotted results are shown on Plan No 3/91. As shown, an area of extreme magnetic disturbance is located at the south-central portion of the gridded area, this coinciding with the strong development of magnetite on surface. However, the survey revealed another north-south linear running along the western margin of the grid beneath basalt cover, and could be related to a second magnetite horizon. This is an obvious future drill target.
- An initial Phase 1 shallow percussion drilling programme was completed over the south-central section of the deposit, consisting of 20 shallow holes totalling 123m depth. These holes have not yet been surveyed but drill statistics and Fe and SiO₂ assay results are itemised in Table No 2. The in-situ Fe values of drill samples over the entire strike distance drilled were found to be remarkably high, varying between 58 and 66% Fe. More significantly the SiO₂ content of the deposit was extremely low - invariably below 3%. Preliminary mineralogical work shows the iron to consist of 15-20% goethite, 15-20% hematite and 70% magnetite.

- A 2nd Phase drilling programme was completed along strike to the north from the above Phase 1 drilling. An additional 21 holes were completed, and 87.5m drilled. The drilling showed and proved the deposits strike extension for 375m before being masked by basalt. Shallow drilling to the west of surface exposures showed a fairly steep (60-70°) dip of the magnetite zone in a westerly direction.

- At the request of the APPM Group Research Unit, Burnie, Tasmania Mines Ltd had been assessing the possibility of a low silica magnetite deposit at the Kara Properties. Initial drill results from the Kara No 2 South deposit appeared extremely favourable, and composite drill samples were subsequently submitted to the APPM laboratories for analytical and mineralogical studies. Results apparently showed the material could possibly be utilised in the APPM Dars Project, and additional samples from the deposit have been requested. Table No 3 documents a more completed chemical analysis of the Kara No 2 South deposit.

- Permission (from Division of Mines) was sought to acquire a 100 tonne magnetite ore sample from this deposit. This was acquired and transported to the Kara No 1 mill site for future processing and treatment. The main objectives of this bulk sample test work will be:-
 - to assess its crushing and grinding characteristics, and possibility of providing lump magnetite ore on a commercial grade;
 - to acquire a minus 2.5mm fines product and investigate its Fe and SiO₂ characteristics, and possible future use by APPM;
 - to acquire a minus 2.5mm, plus 0.25mm fines product, and again evaluate its chemical content and recoverable amounts.

This latter processing is to be completed during late February-early March 1991.

5. CONCLUSIONS - PROPOSED WORK

Investigations completed during Year 1 tenancy of EL 39/89 somewhat downgraded the potential of the Kara No 2 Main skarn deposit. The near surface magnetite material in the north-central section of the deposit was found to be extremely weathered, and it is believed it would be difficult to beneficiate on a commercial basis. Previous drilling results would indicate the southern section of the deposit - unfortunately overlain by a button grass plain development - is the more massive and least oxidised of magnetite.

Current exploration work at the Kara No 2 South Skarn deposit is quite encouraging, both with regard to identifying a small (250,000 tonnes) near surface magnetite deposit of high Fe content and of a low siliceous nature. Certainly further investigations of this deposit are justified.

Proposed exploration work during a 2nd year term of EL 39/89 would include the following:-

- Kara No 2 Main Skarn Zone
 - Complete resource/economic evaluation of the deposit
- Kara No 2 East Zone
 - Delineation of the magnetite resource in the skarn
 - Undertake a ground magnetic survey
 - If deemed justified, complete a reconnaissance percussion drill programme
- Kara No 2 South Skarn
 - Finalise the bulk sample (100 tonnes magnetite) treatment at the Kara No 1 mill
 - Evaluate the potential of the magnetite for use as either a low silica magnetite ore for utilisation by the Dars Project APPM Burnie, or as a potential magnetite fines/lump ore
 - Complete a tonnage/grade potential of the deposit.

TABLE NO 1KARA NO 2 MAIN SKARNPERCUSSION DRILLING PROGRAMME - TASMANIA MINES LIMITED 1990

REFER TO PLAN NO 2/91

<u>HOLE NO</u>	<u>E</u>	<u>N</u>	<u>DEPTH DRILLED</u>	<u>COMMENT</u>
K2M-1	402550	425502	15.0m	Magnetite 0-15m
K2M-2	402571	425501	5.0m	Weathered Magnetite 0-5m
K2M-3	402600	425500	5.0m	Soft, oxidised magnetite 0-5m
K2M-4	402625	425500	4.0m	Weathered Fe-Garnet skarn 0-4m
K2M-5	402650	425499	4.0m	Soft weathered skarn 0-4m
K2M-6	402675	425499	3.0m	Skarn soft, no air
K2M-6A			14.0m	Soft skarn
K2M-7	402700	425498	3.0m	Skarn, soft oxidised, no air
K2M-8	402725	425497	5.5m	Garnet/Fe skarn 0-5.5m
K2M-9	402750	425496	8.0m	Skarn
K2M-10	402775	425495	4.0m	Granite
K2M-11	402500	425495	3.0m	Fe Skarn
K2M-12	402520	425472	2.0m	Fe Skarn
K2M-13	402550	425520	7.0m	Magnetite, oxidised 0-7m
K2M-14	402560	425545	6.0m	Weathered magnetite
K2M-15	402580	425572	9.0m	Massive magnetite
K2M-16	402590	425600	11.0m	Fe Skarn
K2M-17	402610	425620	9.0m	Fe Skarn
K2M-18	402620	425650	3.0m	Garnet skarn, weathered
K2M-19	402500	425497	3.0m	Granite
K2M-20	402460	425460	3.0m	Granite
K2M-21	402532	425530	3.0m	Magnetite

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TABLE NO. 2

KARA NO 2 SOUTH1ST PHASE PERCUSSION DRILLINGTASMINES 1990

REFER TO PLAN NO 3/91

<u>HOLE NO</u>	<u>E</u>	<u>N</u>	<u>DEPTH DRILLED (m)</u>	<u>COMMENT</u>	<u>ASSAY</u>	
					<u>% Fe</u>	<u>% SiO₂</u>
29	403055	423605	0 - 3	Weathered Granite	N/A	
			3 - 6	Granite	N/A	
30	403040	423590	0 - 3	Granite	N/A	
			3 - 6	Granite	N/A	
31	403020	423574	0 - 3	Soft Granite	N/A	
			3 - 6	Granite	N/A	
32	403030	423575	0 - 3	Haematite/Magnetite	63.4	
			3 - 6	" "	64.3	
			6 - 9	Magnetite Skarn	65.9	
			9 - 11	Magnetite	65.2	
33	403025	423576	0 - 3	Weathered Skarn	64.1	
			3 - 6	Magnetite	63.8	
34	403025	4 ² 3562	0 - 3	Fe Skarn	56.6	3.6
			3 - 6	Magnetite	64.6	1.8
35	403020	423545	0 - 3	Magnetite	65.1	1.0
			3 - 6	"	67.0	0.59
			6 - 8	"	66.9	0.55
36	403015	423546	0 - 3	Magnetite	66.2	0.54
			3 - 6	"	62.6	2.00
			6 - 8	"	63.6	1.80
37	403025	423544	0 - 3	Magnetite	66.4	0.64
			3 - 6	"	64.6	1.10
			6 - 8	L.G. Magnetite	61.2	3.50
38	403018	423534	0 - 3	Magnetite	64.1	1.1
			3 - 4	Fe Skarn	56.6	1.4
39	403015	423521	0 - 3	Fe Skarn	59.7	2.0
			3 - 4	Fe Skarn	56.8	6.3
40	403010	423522	0 - 3	Fe Skarn	56.3	1.4
41	403020	423520	0 - 3	Magnetite Weathered	61.7	2.4
			3 - 5	" "	60.0	2.3

1ST PHASE PERCUSSION DRILLING (CONTINUED)

42	403010	423500	0 - 3	Magnetite	63.4	1.6
			3 - 6	"	65.5	1.0
			6 - 7	"	61.8	2.1
43	403024	423590	0 - 3	Skarn	42.7	13.1
			3 - 4	Skarn 41.3	8.6	
44	403035	423605	0 - 3	Granite	N/A	N/A
45	403045	423605	0 - 3	Magnetite	62.7	2.3
			3 - 6	"	65.1	0.75
			6 - 9	"	62.0	1.7
46	403035	423620	0 - 3	Fe Skarn	60.8	1.5
			3 - 5	Magnetite	64.6	1.4
47	403045	423620	0 - 3	Weathered Skarn	56.2	1.7
			3 - 6	Magnetite	62.4	1.7
			6 - 8	Magnetite	65.7	1.6
48	403040	403635	0 - 3	Fe Skarn	57.5	5.7
			3 - 6	Magnetite	62.4	2.5
			6 - 8	Magnetite	65.7	1.3

TOTAL NO OF HOLES = 20
TOTAL METRES = 123M

KARA NO 2 SOUTHLOW SILICA MAGNETITE SAMPLE

APPM DESIGNATION - KARA 2S NO 25975

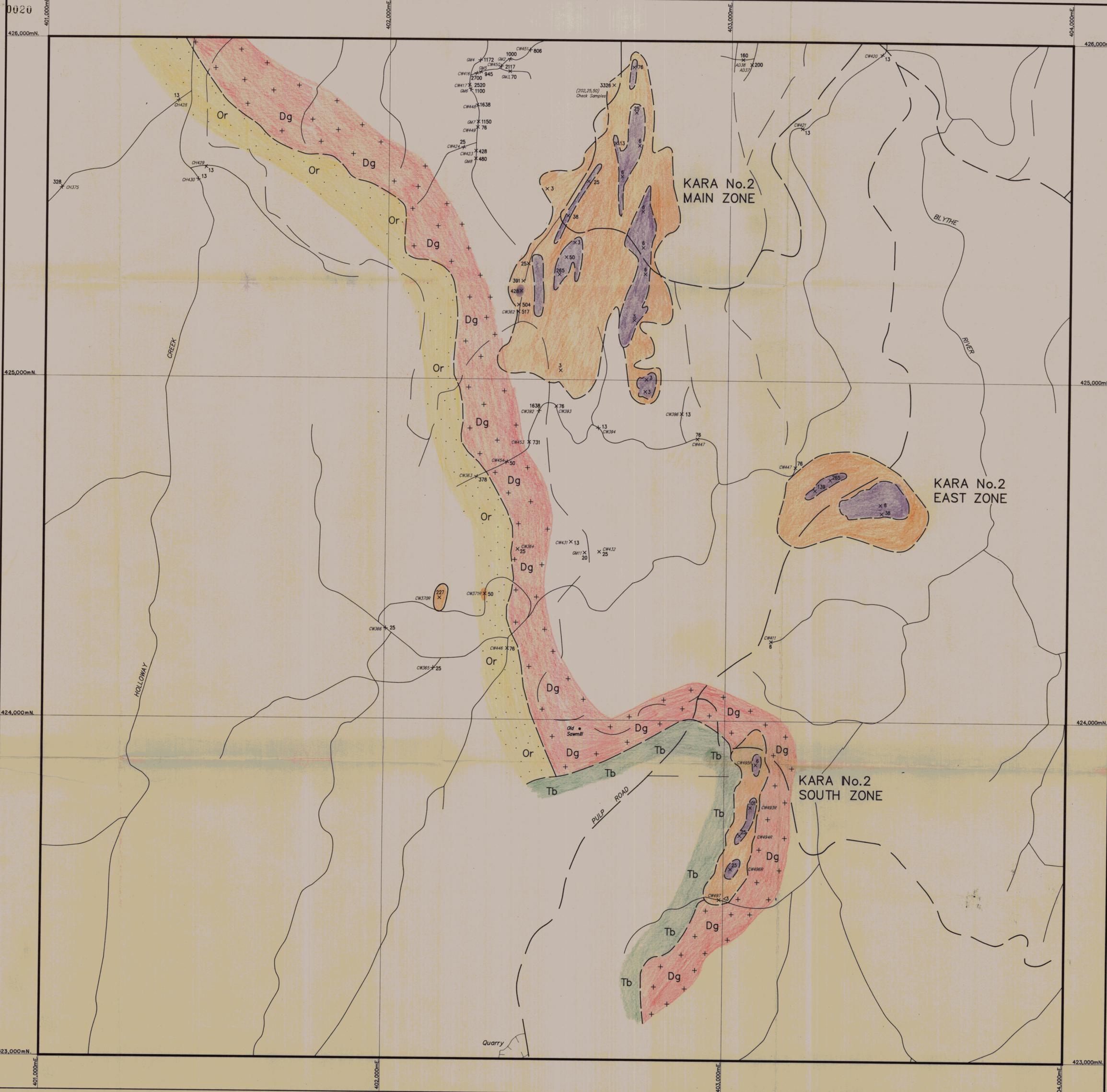
AND 100 TONNE BULK SAMPLE

(GRID REFERENCE: 403020E - 423560N)

Fe ₂ O ₃	-	91.8%
Al ₂ O ₃	-	1.5%
SiO ₂	-	0.7%
CaO	-	NIL
MgO	-	0.2%
Na ₂ O	-	TRACE
SO ₃	-	TRACE
LOF	-	1.3%
15-20%	-	Goethite
15-20%	-	Hematite
60-70%	-	Magnetite

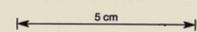
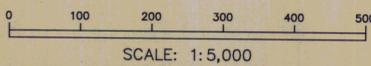
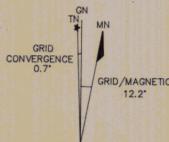
KARA NO 2 SOUTH
2ND PHASE PERCUSSION DRILLING
TASMINES 1990

<u>HOLE NO</u>	<u>E</u>	<u>N</u>	<u>DEPTH DRILLED</u>
49	403095	423860	6.0
50	403090	423840	2.5
51	403095	423840	6.0
52	403095	423840	6.0
53	403080	423810	6.0
54	403075	423810	6.0
55	403085	423810	3.0
56	403075	423780	6.0
57	403070	423780	6.0
58	403080	423780	6.0
59	403070	423750	6.0
60	403065	423750	3.0
61	403075	423750	6.0
62	403080	423720	3.0
63	403075	423720	3.0
64	403085	423720	6.0
65	403055	423695	2.0
66	403050	423695	2.0
67	403050	423670	3.0
68	403045	423670	3.0



LEGEND

- | | | | |
|--|--------------------------|----------|------------------------------------|
| Tb | BASALT | x | SAMPLE LOCATION |
| Dg | GRANITE | CW350 x | STREAM SEDIMENT SAMPLE |
| Or | TRANSITIONAL SERIES | CW351R x | ROCK SAMPLE |
| Dm | MAGNETIC SKARN | x50 | ASSAY VALUE IN PPM WO ₃ |
| | CONTACT METAMORPHIC ZONE | | |



91-3233
 E.L. 39/89
 KARA No.2 REGION
 REGIONAL GEOLOGY / SAMPLE LOCATION PLAN

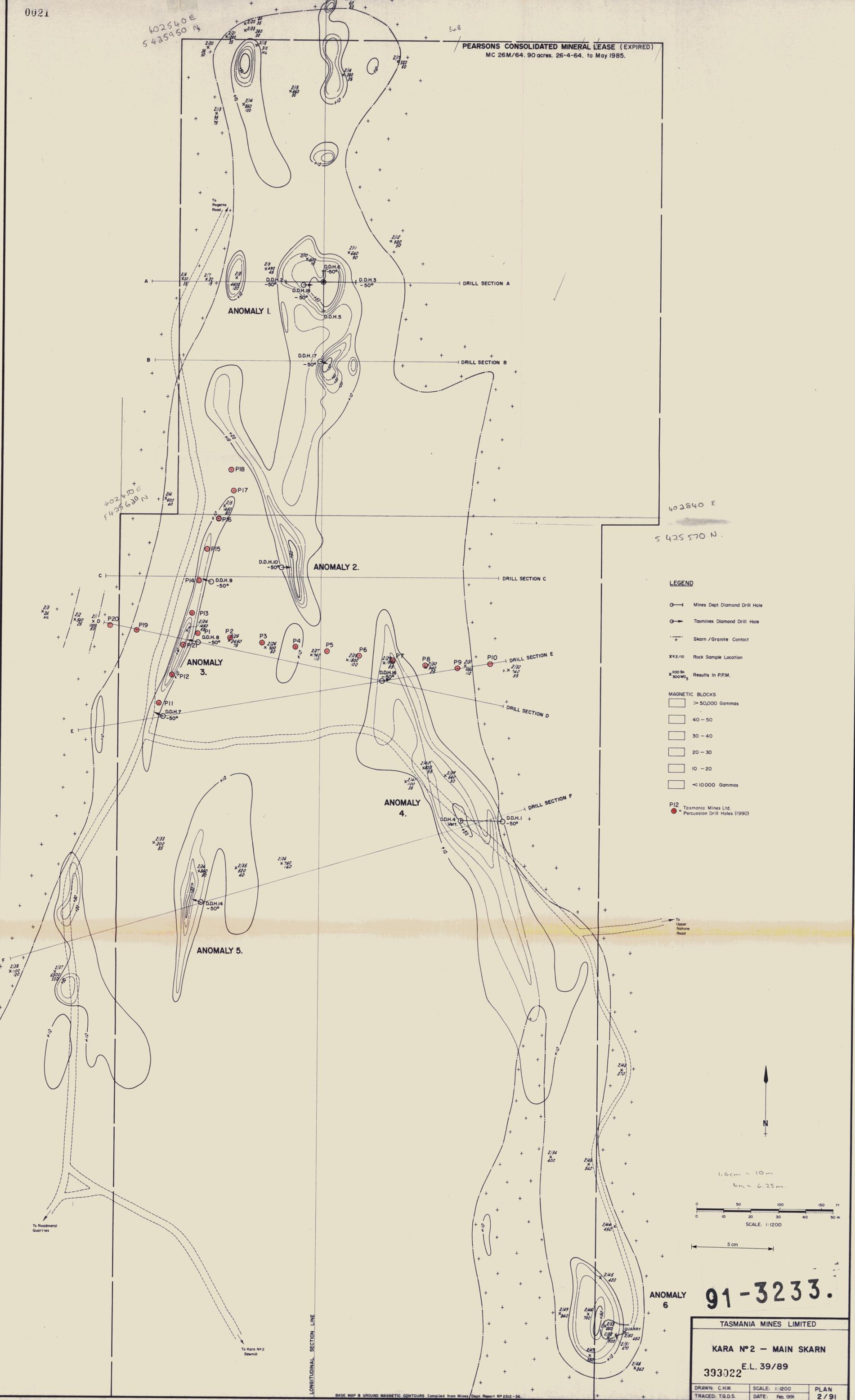
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PLAN No. 1/91

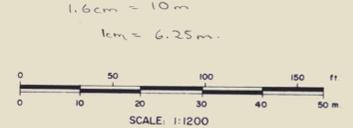
402540 E
5425950 N

PEARSONS CONSOLIDATED MINERAL LEASE (EXPIRED)
MC 26M/64. 90 acres. 26-4-64. to May 1985.



LEGEND

- Mines Dept Diamond Drill Hole
- Tasminex Diamond Drill Hole
- + Skarn / Granite Contact
- xk2/10 Rock Sample Location
- x^{100Sn}/_{300W} Results in P.P.M.
- MAGNETIC BLOCKS
 - >50,000 Gammas
 - 40 - 50
 - 30 - 40
 - 20 - 30
 - 10 - 20
 - <10,000 Gammas
- P12 Tasmania Mines Ltd.
● Percussion Drill Holes (1990)



91-3233.

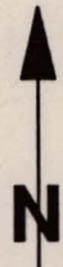
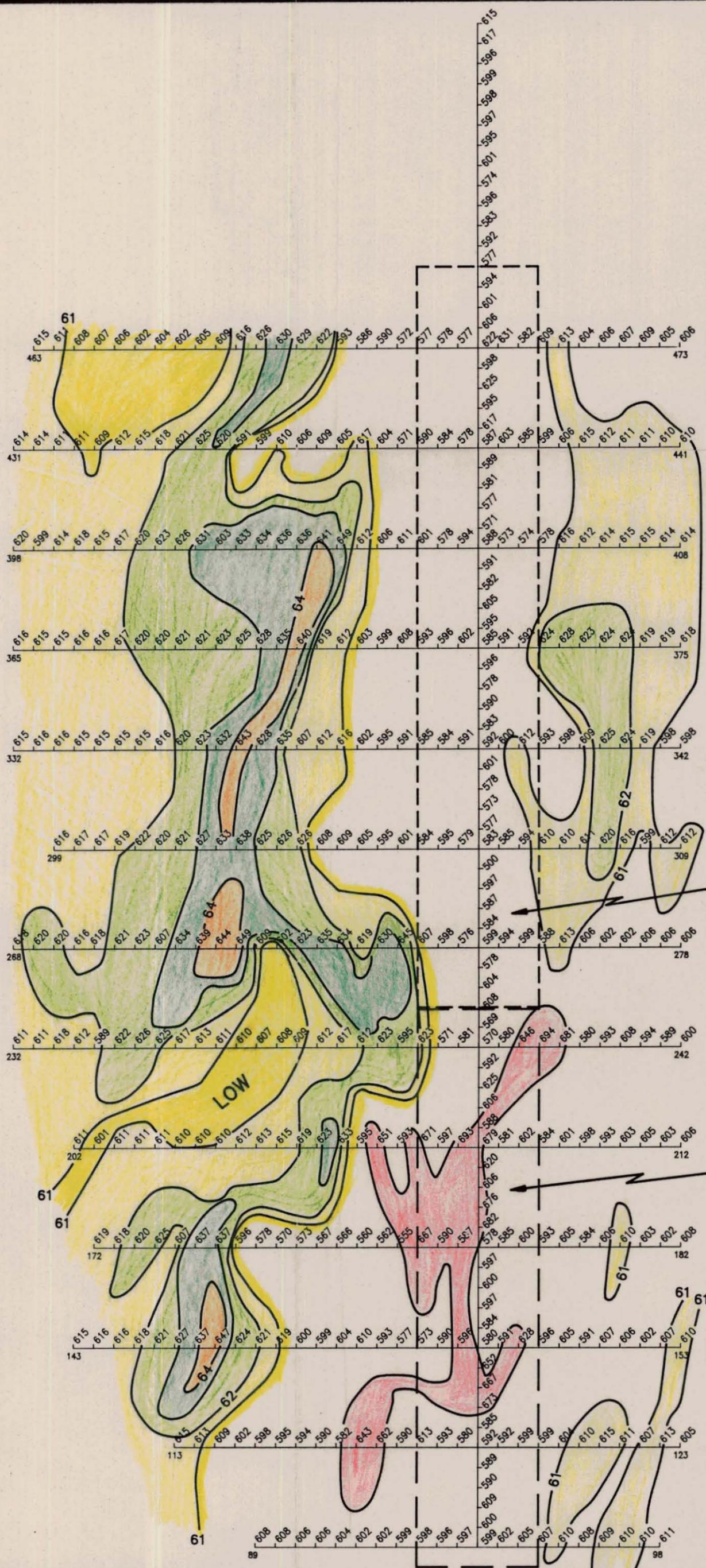
TASMANIA MINES LIMITED

KARA N°2 - MAIN SKARN

E.L. 39/89

393022

DRAWN: C.H.W.	SCALE: 1:1200	PLAN
TRACED: T.G.D.S.	DATE: Feb. 1991	2 / 91



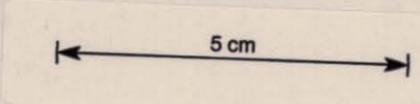
LEGEND

- >64,000 GAMMAS
- 63,000 - 64,000
- 62,000 - 63,000
- 61,000 - 62,000
- <61,000
- AREA OF STRONG MAGNETIC DISTURBANCE

AREA OF PHASE 2
PERCUSSION DRILLING

91-3233.

AREA OF PHASE 1
PERCUSSION DRILLING



**KARA No.2 SOUTH
SKARN ZONE**

**GROUND MAGNETIC
GRID SURVEY**

DATE: NOV. 1990 SCALE: 1:1000

393023 PLAN No.3/91