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VOLUME 1

McINTYRE MINES (AUSTRALIA) PTY. LTD.

SUMMARY REPORT OF COMPLETED WORK PROGRAMME

EXPLORATION LICENCE 17/68

AND CONSOLIDATED LEASE 105M/77

PERIOD

MAY 4th 1981 TO NOVEMBER 3rd 1981.

C. H. WHITEHEAD,

3rd NOVEMBER, 1981

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COMPLETED WORK PROGRAMME - E. L. 17/68 AND CL. 105M/77

PERIOD - MAY 4th 1981 TO NOVEMBER 3rd 1981

INTRODUCTION AND SUMMARY

In the six month period ending November 3rd 1981, McIntyre Mines (Australia) Pty. Ltd., as manager of a joint venture agreement with Tasminex N.L., have continued to perform investigations within Exploration Licence 17/68 and its associated mining tenement CL. 105M/77.

During the first three months of the above period, activities were concentrated upon continuing exploration work in E.L. 17/68, particularly a regional appraisal and the detailed examinations of prospective areas in the outlying sections of the exploration licence. During the second three months of the period, it was the decision of McIntyre Mines (Australia) Pty. Ltd., to immediately initiate and proceed with the detailed investigations as outlined in a proposed Pre-Development Programme (Attachment "B") which was originally presented to Tasminex N.L., for review on November 26th 1980.

The initial phase of this Pre-Development Programme is now underway, and scheduled for completion February 1982. In addition to a continuation of exploration - geological investigations, the first phase programme includes an extensive infill daimond drilling programme and metallurgical studies, both of which are primarily aimed at increasing the known reserves of recoverable scheelite at the main Kara tungsten bearing skarn zones.

In the course of the above work, McIntyre Mines (Australia) Pty. Ltd., have incurred expenditures in excess of those originally proposed, totalling $129,699 (see Attachment "A"). Of this total, an expenditure of $67,004 was allocated to E.L. 17/68 and $62,695 to CL. 105M/77.

It is the belief of McIntyre Mines that the completed work programme in question, has greatly assisted the effort of fully evaluating the overall protential of E.L. 17/68. The area in general is considered to have sound and strong economic potential, and that a continuation of the present investigations have an excellent chance of success in proving and increasing additional reserves of tungsten bearing ore at the Kara skarn zones.

McIntyre Mines, for and behalf of the joint venture with Tasminex N.L., make application for a renewal of E.L. 17/68 for a further period of twelve months to November 3rd 1982, and with respect to this Volume 3 of the report outlines a proposed work programme and expenditures.

1. EXPLORATION - GEOLOGICAL WORK

A. Hampshire Silver Mine Location

Old underground workings at this property were examined and sampled, as likewise were spoil heaps, pits and collapsed adits. Assay results of this sampling are itemised in Appendix No. A 1.

The property appears developed along a contact between "Devonian" granite stock and metamorphosed Ordovician sequences, the latter showing some anamalous fluorine content up to 8.9%F.

The area was gridded on surface, and a ground magnetic survey run along lines of 12.5m spacing and readings at 5m intervals. An anomalous zone (high) of 10 - 15m width was outlined for a strike distance of approx. 200 metres, before being masked by surrounding Tertiary basalt cover.

Grid soil sampling on a 10 metre square pattern was completed over and around this magnetic anomaly, and assay results of this sampling are shown in Appendix A 2. Only the tin values showed any anomalism.

Except for completion of plans related to the above work, no further investigations are planned for this location.

B. Kara No. 2 Region

Three large bodies of skarn are known in the Kara No. 2 region - SE portion of the E.L. All are roof pendent bodies of magnetite skarn located in the main Housetop Granite Intrusive.

The region as a whole, and in particular the skarn zones, had previously been investigated by McIntyre Mines to establish possible associated tungsten mineralisation. A programme of pan-concentrate sampling, U.V. lamping and surface sampling resulted in a negative tungsten response. However, during the course of pan concentrate sampling, very high tin values were collected from gravels in drainage within close proximity to the northern and western margins of the Kara No. 2 Main Skarn. (see Plan No. 1).

To investigate the source of this tin, a large number of surface rock samples were collected from both within the skarn itself and from the bordering granite mass. Assay results of this sampling are tabulated in Appendix No. B1. Anomalous tin values were found to be associated with the skarn, and not with the granite, with values up to 6500 ppm Sn being recorded.

More systematic rock sampling across the skarn zone and analysis of all available Tasminex drill core from the main skarn confirmed anomalous tin values (Appendix No. B 2), and revealed a zone along the western margin of the magnetite body immediately adjacent to the granite to have the most consistent, and highest values (within a 1000 to 4000 ppm Sn range).

Plan Nos. 2 and 3 show results of this surface sampling and the drill core assay values.

Initial mineralogical examination of selected drill core recording anomalous tin values (up to 4700 ppm Sn) showed the tin to be associated with garnets - particularly the andradite-grossularite variety - and not be present in the form of free cassiterite (Appendix No. B 3). Sample M502 contains cassiterite "as rare 25-100μm euhedra".

A similar exercise of surface sampling was undertaken at the Kara No. 2 East and South skarn bodies. As shown in Appendices B4 and B5 only minor tin values and no tungsten anomalism were recorded.

C. Kara South

Prior to the current period of the E.L., a diamond drill programme consisting of eight holes (DDH 295 to 301) totalling 225.55 metres was completed (Jan. - Feb. 1981), investigating a recently discovered skarn zone along the eastern margins of the Kara South area.

Assay results of drill core have been received, and a full appraisal of the drill programme has been completed. In addition, during the current six month period (August 1981), one additional shallow core hole (DDH 302) was drilled at the main skarn zone at Kara South.

The salient points for DDH's 295 - 301 are itemised in Table No. 1.

TABLE NO. 1

KARA SOUTH DRILL LOGS - DDH's 295 - 301

HOLE NO.	DRILL SEC LINE	COORDINATES	INCLINATION	DEPTH DRILLED(m)
295	4340N	4340N-7743E	90°	31.39
296	4340N	4344N-7717E	45°E	28.04
296A	4340N	4344N-7715E	90°	21.03
297	4300N	4297N-7712E	60°E	35.97
298	4420N	4421N-7686E	60°E	30.18
299	4460N	4464N-7671E	90°	18.29
300	4420N	4416N-7651E	70°E	27.43
301	4380N	4383N-7685E	70°E	33.23
				225.55 metres

Drill logs and assay results for the above holes are attached as Appendix C, and drill sections are shown on Plan No. 7.

The overall results of investigations at Kara South can be summarised as follows:-

Detailed surface examinations in the form of U.V. lamping, ground magnetics, geologic mapping, trenching and sampling revealed the existence of a new scheelite bearing skarn along the eastern flank of the main Kara South skarn between Section Lines 4300N and 4380N. This zone was narrow, varying in width from 3 to 10 metres, but could be followed on surface for a strike distance of 77 metres. The skarn was magnetiferous, and on removal of surface rubble was seen to be partially weathered to fresh showing coarse to fine disseminated scheelite mineralisation with values in excess of 1% WO_3.

Ground magnetics indicated the zone could continue along strike an additional 160 metres north and 60 metres south, but the magnetic anomaly was narrower and less pronounced. Bad ground conditions along strike prohibited further surface investigations by trenching, and it was therefore decided to implement a diamond drill programme both to investigate the down dip subsurface extensions of the outlined mineralised skarn and its possible extensions along strike.

In total eight shallow diamond drill holes were completed. These certainly helped clarify an interpretation of the local geology, but also downgrade the economic potential of the location. The main points arising from drilling were as follows:-

- the surface mineralised scheelite bearing skarn zone dips west at an average dip of approx. 35 - 50°.
- the mineralised skarn is underlain by a grey siltstone-sandstone formation and overlain by unmineralised skarns and clays.
- down dip extensions of the mineralised zone (to depths of 35 metres) were found to be narrower, and of far inferior WO_3 grades to that at the surface.
- best grade intersections (+0.5% WO_3) were made on the most southerly Section Line (4300N) and 40 metres north of the northerly exposed portion of surface skarn (4420N).
- drilling at the two northern section lines (4420N and 4460N) revealed a shallow subsurface granite, and as a result both down dip extensions of the skarn zone and tonnage potential are limited and downgraded respectively.

D. E.L. 17/68 Skarns - Metal Distribution

During the course of drilling programmes at the main Kara ore zones, namely Kara No. 1, Kara North and Eastern Ridge, a multitude and wide range of analytical data has been acquired from assaying drill core. The prime objective has of course been directed at evaluating the tungsten content of these skarn zones, but periodically assays of potential ancillary elements (molybdenum, lead, bismuth and tin) have also been run. Assays of these elements were basically requested to evaluate possible contaminant elements in potential tungsten bearing ore rather than a complete study of the extent, nature of distribution and their genetic relationship to tungsten mineralisation.

During the current period, efforts have been made to further study and broaden our knowledge of the general metal distribution (other than tungsten) of the skarns in the more outlying sections of the E.L.

Initial emphasis has been placed upon evaluating the possible tin content of the skarns. To date, and in addition to the three known skarns of the Kara No. 2 region, a further twelve skarns in E.L. 17/68 have been sampled, analysed and examined. Representative samples took the form of either drill core pulps, grab rock samples, trench samples, soil samples and even pan concentrate stream sediments. Analytical XRF results of this work are tabulated in Appendix D (Sheets D1 - D15), but the table below briefly summarises the range of total tin content of the various skarns.

Skarns - tin content with range 0 to 500 ppm Sn

1. Kara No. 2 South
2. Location L. 4
3. Companion Skarn

Skarns - tin content with range 0 to 1000 ppm Sn

1. Kara No. 2 East
2. Suttons Skarn
3. Lohrey's Pits
4. Location L. 13
5. Location L. 11
6. Kara No. 1 (with exceptions)

Skarns - tin content with range 0 to 3000 ppm Sn

1. Bob's Bonanza
2. Kara South

Skarns - tin content with range 0 to 1.0% Sn

1. Kara North 266 Zone
2. Kara No. 2 Main Skarn
3. Eastern Ridge
4. Western Limb - Kara No. 1

Representative samples of core (thirteen in number) of the latter four skarn zones showing tin values ranging up to 1% total tin content were subjected to stereobinocular and petrological miscroscope examination. In the majority of cases, the samples were identified as garnetiferous skarns (typified by

semi to near massive grossular andradite) and it appeared the bulk of the tin is present as a silicate form,specifically as stanniferous garnet. (Appendix D 16).

Investigations are still proceeding, as likewise is a study of the potential Pb - Ag content of the skarns.

E. Location L. 5

This location (see Plan No. A) is found along the eastern bank of the Companion River, approx. 700 metres N 40° E of the Kara North Magnetite Anomaly.

Geologically it lies midway between the Hampshire Silver Mine and the Eastern Ridge deposit - two skarns separated by a strike distance of 3 kms in a region predominantly covered by variable thickness of Tertiary basalt. Both skarns are believed to be geologically connected, belonging to the same stratigraphical level, and forming the eastern limb of the main Kara synclinorium.

Location L. 5 is essentially an extremely strong ground magnetic anomaly in an area masked by basalt, geologically believed to be underlain by the host stratigraphical level (Transition Series) favourable for skarn development. The location is also observable as an aeromagnetic high.

Detailed ground magnetics (line spacing 10 metres, readings at 5 metre spacing) outlines a strongly anomalous area of size 200m by 140m. The magnetics are of such variation and form to that observed at the Eastern Ridge deposit. As said the location is completly masked by basalt of massive, bouldery form, similar to that found in basal sections of basalt sequences.

Any additional surface work at the location would be unrealistic, and although the basalt would only be assumed to be shallow, bulldozing work or power auger drilling would not be feasible. In order to prove the presence of underlying magnetic skarn, and investigate the possibility of associated tungsten mineralization, core drilling appears the only line of attack.

F. Kara North Deposit

In conjunction with an infill diamond drill program at the Kara North 266 Zone (see section - Pre-Development Programme), a detailed programme of mapping, ground magnetics and surface sampling has been completed at this area.

The Kara North area (see Plan No. 4) is composed of the "266 Zone" (with known geologic tungsten reserves) and the "Magnetite Anomaly". The latter has, in the past, only briefly been examined - essentially 4 core holes along one drill section across the anomaly. These showed a buried magnetite skarn body, apparently within a deep seated (300 metre) synclinal structure, overlain by Gordon Limestone, and completly masked by either Tertiary basalt and sediments, plus Recent alluvium.

Detailed systematic ground magnetics were run to more accurately define the form and extent of the Magnetite Anomaly. These results were somewhat surprising by showing it to be much stronger and varied in expression than the 266 Zone (and even Kara No. 1), and of greater areal extent (extending further north and east) than previously known. In size the Magnetite Anomaly covers an area of 400 metres by 180 metres - in comparison, the Kara No. 1 skarn plus the Western Limb skarn extends over a strike distance of 600 metres strike length. The anomaly is even more remarkable as the area is covered by younger formations.

Although drilling to date proves underlying magnetite skarn, no tungsten mineralization has as yet been found associated with the skarn. However, the holes penetrate the central portions or core of the skarn body, and additional holes directed to skarn adjacent to the higher level of the surrounding granite intrusion along the east and west margins would be recommended.

The location as a whole is evaluated as very prospective, and specific drill targets are being outlined for possible inclusion in the 1982 programme.

G. Companion Skarn

This skarn is found immediately south of the Companion River road crossing. It forms part of the "skarn horizon" developed along the western limb of the main Kara synclinorium which extends from Kara No. 1, along the Western Limb, through the Companion Skarn, to the Kara N. 266 Zone and eventually Location L. 13.- a total strike distance of 2.4 kms.

To complete detailed investigations over this entire strike length, and also to pin-point future potential drill targets, geologic mapping and ground magnetics (Plan No. 5) were completed at this Companion Skarn Location.

Again, magnetics were stronger and broader than those covering the skarn extension to the immediate south (Western Limb) and to the north (Kara N. 266 Zone).

One core hole was drilled by Anzeco in 1974 (DDH 147) at this location. This proved a good development of magnetite skarn which was completly barren of tungsten grades, and even anomalism. However, as was the case with the original drilling at Kara N. 266 Zone, the hole was inclined east into the centre of the skarn mass. From later experience, the western margins of the skarn towards the underlying sandstone and granite contact appear more prospective.

No further surface work is possible or planned, but future drill targets are being considered.

H. Location L. 1

Ground investigations of a small strong aeromagnetic anomaly in the extreme NE corner of the E.L. (1.6Km ENE of Hampshire, direct line) revealed the presence of a good magnetite skarn development.

This skarn, not previously known to McIntyre Mines, occurs on the edge and within the main mass of the Housetop Granite Intrusive. Access by old forest tracks is reasonable, but the area is thickly forested. Old hand-dug trenches are present in the centre of the skarn body. Although exposures are generally

poor, where observable, fresh hard magnetite-diopside-actinolite skarn is present.

Reconnaissance mapping, detailed ground magnetics, U.V. night - lamping, pan concentrate sampling and soil sampling along two grid lines were undertaken. Ground magnetics would indicate the skarn to be of approx. 220m x 140m surface extent. No scheelite was observable from surface exposures, but pan concentrate sampling of drainage in the general vicinity did show slight scheelite mineralization.

However assays of soil samples and pan cocentrates recorded a poor maximum of 55 ppm WO_3 (Appendix F 1). It is interesting to note, that with the exception of Suttons Skarn, all skarn developments associated with the main mass of the Housetop Granite Intrusive are barren or show little tungsten mineralisation.

Plans of the location, and results of work completed, have as yet not been completed.

I. Miscellaneous Locations

Both follow up investigations and brief surface exploration examinations were made at a number of miscellaneous prospective locations within the E.L.

i Limestone Creek Area

In Limestone Creek, 1.1 km south of the Hampshire-Upper Natone road, good exposures of Gordon Limestone are found both within the creek and its eastern bank. Exposures further to the east and immediately to the west are masked by Tertiary basalt, but the Gordon Limestone is believed to outcrop as the core of a broad synclinal structure. The calcareous formation is heavily metamorphosed, particularly with the development of wollastonite, and this is especially the case towards a small outcrop of weathered Devonian granite located in the creek bed some 600m south of the Hampshire-Natone road bridge.

If the interpretation of a synclinal structure is correct, the favourable stratigraphical level ("Transition Series") which appears to be the host horizon for skarn development at the main Kara properties, should underlie the Gordon Limestone sequence. In the hope that the latter was of shallow thickness and was possibly underlain by magnetite skarns, representing the metamorphosed Transition Series, a large number of reconnaissance ground magnetic surveys were run across a 2km length of Limestone Creek. Unfortunatly these surveys gave negative response and no anomalism.

ii Loudwater Creek

A small, but fairly distinctive aeromagnetic high anomaly is situated over the central parts of Loudwater Creek, some 730-760 metres upstream from its junction with the Companion River.

Geologically, the position of this magnetic high is interesting as it lies directly in strike between known skarn developments at Location L. 13 and the Hampshire magnetite occurrence. Previous geologic mapping included a ? complete masking of Ordovician sequences by Tertiary basalt cover. However, detailed ground magnetic surveys were run across and down Loudwater Creek, but unfortunatly no strong magnetic response or variation could be observed.

iii Location L. 13

Follow up grid soil sampling of a poorly exposed skarn at the northern extremity of this location defined more accurately the limits of associated tungsten anomalism (up to 900 ppm WO_3) - see Appendix F3.

This skarn, where exposed, is seen to be highly weathered, and tungsten values not related to fresh or even partially weathered scheelite mineralisation. For this reason, no additional work is planned for the immediate future.

iv Location L. 10

Follow up systematic soil sampling was completed along grid line 5200N where previous sampling at 25 metre spacing had recorded anomalous WO_3 values. This detailed sampling (Appendix F 4) showed no large development of tungsten anomalism, the latter interpretated as being associated with a minor greisenous zone in granite.

v Ringwood Granite

Regional geologic mapping in the western section of the E.L. in the vicinity of the Ringwood Granite stock revealed the surface exposed iron gossan over a small area, approx 200 x 75m in size. This appeared related to sequences at the Ordovician - Cambrian contact adjacent to granite. Random surface sampling of the gossan and base metal analysis, showed no strong anomalism.

2. PRE - DEVELOPMENT PROGRAMME

As agreed under clause 2 of the Heads of Agreement dated 20th June, 1980, and clause 5 of the draft agreement based on the Heads of Agreement, McIntyre Mines (Australia) Pty. Ltd., on the 26th November 1980 delivered to Tasminex N.L. a "Pre-Development Programme". This "Programme" outlined proposals for a three phased itinerary of investigations, plus timetable and estimated expenditures (see Attachment "B").

Although Tasminex N.L., have since the above date (November 26th 1980) refused to enter into a formal agreement to replace the Heads of Agreement dated 20th June 1980, McIntyre Mines decided in August 1981 of the current period to implement Phase 1 of the Pre- Development Programme.

Phase I involves investigations to be undertaken during a six month period, and includes exploration, drilling, metallurgical, engineering and environmental studies. To date, the exploration, drilling and metallurgical studies have been initiated and are proceeding.

A - Exploration

Details of the completed exploration - geological work of the Pre-Development Programme have been described in the proceeding Section 1 of the present report.

It is felt the completed regional work and detailed surface examinations of prospective areas in the E.L., have reached a sufficient stage whereby both an overall geologic appraisal of the E.L. and an economic evaluation of the potential of the surface exposed skarns can now be completed. The appropiate reports and plans on these subjects are to be finalised in the immediate future.

B - Drilling Programme

The prime objective of this programme is to further investigate the main Kara ore zones by infill drilling, upgrading potential ore resources and proving additional reserves. The specific target is to increase ore reserves of a fresh to partially weathered material which are of open pit potential.

Skarn zones to be drilled include:-

- Kara North 266 Zone
- Bob's Bonanza
- Eastern Ridge
- Western Limb
- Kara No. 1 - Southern Extension

It is anticipated the programme will consist of approximately twenty holes totalling 800 metres.

Utilising the Tasminex N.L., Joy Sullivan diamond drill rig, and McIntyre Mines drilling personnel, the programme was commenced in August 1981.

- Kara North 266 Zone

To date, four diamond drill holes have been completed at this location - combined metres drilled 250.47m.

Previous McIntyre Mines work delineated a small lens (approx. 150,000 tonnes) of scheelite bearing fresh skarn at depth. However, unless additional reserves can be blocked out, the present ore:waste ratio of the deposit would prohibit economic open-pit mining.

The drilling at present being completed is intended to investigate the potential of reserves up-dip from the known ore blocks, and also any possible strike extensions in a north and south direction.

Details of the four holes drilled to date are as follows:-

Hole No.	Section Line	Inclination	Depth Drilled (m)
303	7160N 2?m W of DDH 266	45°W	48.46
304	7060N 28m W of DDH 268	55°W	77.11
305	7120N 22.5m W of DDH290	55°W	38.71
306	7020N 25m W of DDH 292	45°W	86.19

DDH 307, at present in progress, is sited on Section Line 7220N

On completion, it is felt sufficient drill information will be available to fully evaluate the reserves and the viability of open pit mining of the 266 Zone.

Confirmatory assay results are awaited, but to date, drilling appears to have been moderately successful in extending the ore lens 100 metres further south along strike, and providing additional information on the variations in oxidation, and therefore the potential of up dip extensions of fresh scheelite bearing ore.

A final evaluation and report of drilling at Kara North should be completed by the end of November 1981.

On completion of DDH 307, a 4 to 5 hole programme of approx. 180-200 metres is planned for the Bob's Bonanza skarn. These holes will attempt to intersect any down dip extensions of the ore zone already mined by Tasminex N.L. at this location. Preliminary geologic mapping, ground magnetics and plan preparation has been completed for this location (Plan 6).

C - Metallurgical Studies

A number of metallurgical tests are underway or planned for Phase 1 of the Pre-Development Programme. These include:

i Metallurgical tests to evaluate the possibility of additional tungsten reserves, or recoverable scheelite, from known or potential geological resources of partially weathered or completely weathered ore.

At present 576,000 tonnes of "Weathered Ore" averaging 0.69% WO_3 has been blocked out at the Kara No. 1 and Southern Extensions deposits. This material ranges from ore with zero scheelite content to ore with as much as 50% of the total W content related to scheelite. However due to its "en bloc" estimated low scheelite recoverability all this "weathered ore" is excluded from the ore reserves. ← Kara No. 1

- Underway at Kara No. 1, is an on site classification of this material attempting to categorise it into separate ore types according to scheelite content versus total W content. This is being undertaken by detailed on site U.V. and assay examinations of all available core, sludge, pulps and trench samples.
- Contemporaneously, attempts have been made to find suitable analytical and/or bench tests to quantitatively measure scheelite versus total W content. Methods considered have been, sink:float tests, colour measurements and magnetic amenability. At this stage, none appear functionable in a practical sense.
- Provided the "weathered ore" at Kara No. 1 can be classified on site, and suitable representative samples collected, these will be submitted to Warmans International Ltd., laboratories for full scale metallurgical tests to estimate recoverable scheelite.

ii)- Samples of partially weathered ore are also being collected for a further detailed programme of flotation testing. This involves a lengthy 10 man week programme of 60 tests to be completed by Warmans International Ltd.

iii)- During the current period, all past experimental work on completly weathered ore has been reviewed. This indicated that although salt-roast leach techniques are viable, they are still economically prohibitive at the present time. Neverthless, a number of alternative chemical methods could be considered at a future date, namely, variations of salt content in the roast leach process; substitution with lime, a caustic soda leach; and the potential of a hydrochloric acid:sodium dithionate attack.

At present, studies are to be directed to the partially weathered ore in preference to completely oxidised material.

iv)- Samples of magnetite tailings produced at the Tasminex N.L., treatment plant were collected on a daily working basisduring the month of September. A representative sample was submitted to Warmans International Ltd., for size fraction classification, detailed chemical analyses, S.G. determinations and Davis Tube Tests.

GENERAL

A. Personnel

McIntyre Mines (Australia) Pty. Ltd., personnel employed during the six month period up to November 3rd 1981, and involved in exploration activities in E.L. 17/68 have included:-

Full time	-	One Geologist (six months)
		One prospector (six months)
		One field assistant (six months)
		One diamond drill operator (three months)
		One diamond drill helper (three months)
Part time	-	One draftsman
		One typist
Consultant	-	Metallurgical engineer.

B. Reporting

- Attached with this report is the requested Dept. of Mines Mineral Industry Unpublished Report - DATA SHEET.

- For the period May to July 1981 monthly progress reports and Statements of Expenditure for E.L. 17/68 were submitted to the Director of Mines, Mines Department.

- A quarterly report and Statement of Expenditure for exploration work on E.L. 17/68 for the three month period ending August 3rd 1981 was submitted to the Dept. of Mines, Hobart.

- Supplementary to the present report, is a separate report on proposed exploration work and expenditures in support of an application for renewal of E.L. 17/68 for a further 12 month period.

Cliff H. Whitehead
McIntyre Mines (Australia) Pty. Ltd.

ATTACHMENT "A"

STATEMENT OF EXPENDITURE E.L. 17/68

McIntyre Mines (Australia) Pty. Ltd., as manager of a joint venture with Tasminex N.L., incurred the following expenditures on E.L. 17/68 and within CL. 105M/77 during the six month period to November 3rd 1981.

	E.L. 17/68	CL105M/77	TOTAL
	A$	A$	A$
Office, rent, services	10,450	5,541	15,991
Staking	1,203	129	1,332
Camp, supplies, hotel.	294	45	339
Geology	5,763	16,376	22,139
Ground magnetometer	5,246	995	6,241
Metallurgy	-	1,325	1,325
Geochemistry	10,743	-	10,743
Assays	-	(3020)	(3020)
Transportation	4,826	24,416	29,242
Diamond Drilling	15,925	-	15,925
Assessment Work	284	284	568
Legal Fees	11,500	13,651	25,151
Geological Consulting	-	861	861
Feasibility	-	1,321	1,321
Insurance	770	771	1,541
	67,004	62,695	129,699

Cliff H. Whitehead,
McIntyre Mines (Australia) Pty. Ltd.

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ATTACHMENT "B"

MCINTYRE MINES (AUSTRALIA) PTY. LTD.

KARA PROJECT

PRE-DEVELOPMENT PROGRAM

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SECTION 1 - INTRODUCTION

This is the Pre-Development Program which McIntyre Mines (Australia) Pty. Ltd. agreed to deliver to Tasminex N.L. by December 31, 1980 and which is referred to under clause 2 of Heads of Agreement dated June 20, 1980 and clause 5 of the draft agreement based on the Heads of Agreement.

As stated in the legal documents referred to, the objective of the Pre-Development Program is to enable a decision to be made by December 31, 1982 (with an option to extend to December 31, 1983 if McIntyre considers that further work is required) as to whether the Kara properties should be placed in production. It was also agreed that the program would be based on engineering studies completed September 30, 1980 by Golder Associates, which company reported its findings in a report entitled "Evaluation of the Kara Tungsten Property - Burnie, Tasmania" enclosed herewith.

While the Pre-Development Program is based on such studies, results of previous work by various parties have also been taken into account in designing the work schedule to meet the objective.

The basic premise underlying the whole program is that current indicated reserves are insufficient to justify a 600 tons/day operation but might suffice for a 200 or perhaps 400 tons/day mine, providing start-up capital costs are very low. The corollary to this statement is that more ore must be found before McIntyre could consider medium or large scale production viable.

SECTION 2 - EXPANSION OF RECOVERABLE RESERVES

2-1 Metallurgical Investigations

(A) 576,000 tonnes of "Weathered Material" in the Kara No. 1 deposit averages 0.69% WO_3 but is excluded from reserves due to low scheelite recoverability. Attempts to find a viable process to treat this material have failed except for roast-leach methods which however seem too costly.

Further test work must be carried out as a "breakthrough" would immediately enhance the ore reserve picture by over 50%. Bench tests should be continued

and, if possible, the Tasminex plant be utilized to monitor the processing of various types of ore.

(B) Further work should be done to substantiate and possibly improve the scheelite recoveries presently assigned to "Partially Weathered Ore" forming part of current reserves. Suggestions are:

(i) Further test work on bulk samples - possibly using the Tasminex plant (see Section 3).

(ii) Find an analytical method capable of defining recoverable scheelite and apply to as many samples as possible in the different ore categories and zones.

(iii) Further bench scale tests as before, on further samples of the different ore categories and zones.

(iv) Detailed surface and core evaluations to further classify zones of fresh visible mineralization.

Any improvement in recovery obviously means an increase in recoverable scheelite reserves.

(C) High intensity magnetic separation tests and other methods should be aimed at substantially improving the grade and quality of scheelite flotation concentrates using the products of former test work carried out by Warman's. The purpose is to improve the saleability and value of mine products.

SECTION 2-2 EXTENSION AND FILL-IN DRILLING OF KNOWN DEPOSITS

Further diamond or rotary drilling is required in certain key areas both to increase confidence in reserves prior to making final mining decisions and to test various extension possibilities, up and down dip and along strike.

(A) Kara North (266 Zone) (See Appendix A, Section 10.2.2 etc.)

Drilling is required up and down dip and along strike, particularly to the south. Six holes totalling 350 metres updip and an additional 4 holes totalling 600 metres would define the updip limit of the reserves and the overall potential of this important ore-body.

(B) Western Limb (See Appendix A, Section 10.2.1 etc.)

Six holes totalling 450 metres would increase confidence in the reserves of the main zone and possibly add tonnage north of Section 6140N.

(C) Eastern Ridge (See Appendix A, Section 10.2.3 etc.)

Four holes totalling 500 metres are needed to define reserves in the Upper Skarn Unit.

(D) Kara No. 1 and South Extension

Fill-in drilling on the main zone and drilling to expand reserves in the South Extension should be carried out. Some 500 metres of drilling would be adequate initially.

(E) Bob's Bonanza

Three hundred metres of drilling is recommended here initially to determine whether or not the zone has significant reserve potential beyond its contribution to the current operations of Tasminex.

SECTION 2-3 EXPLORATION

Under this heading, recommendation is made to explore various prospects within EL17/68 that to date have only received preliminary work. All are skarn zones with good potential for associated tungsten mineralization.

The program generally consists of various combinations of:

- surveying
- geological mapping
- UV lamping
- magnetometer surveys where not already done
- bulldozing
- sampling
- power auger drilling

No diamond or rotary drilling is planned at this stage except with respect to Kara South which is a new discovery deserving of more advanced exploratory work - 500 metres of drilling is warranted initially.

An outline of work for the period ending May 4, 1981 is given in Appendix B together with a resume of work done in the six months preceding November 4, 1980. A map in Appendix B shows the location of all prospects. The prospects to be investigated are:

A. Kara South
B. Lohreys Pits
C. L.13 Prospect
D. L.4 Prospect
E. Kara North Magnetic Anomaly
F. Suttons Skarn
G. Hampshire Magnetite
H. L.11 Prospect
I. L.12 Prospect
J. Companion Skarn
K. L10 Prospect
L. L9 Prospect

SECTION 2-4 UNDERGROUND MINING STUDIES

Golder Associates are pessimistic about the outlook for underground mining at Kara on account of apparently bad ground conditions and ore zone complexity. The diamond drill core resulting from the work done under 2.2 & 2.3 should be studied by qualified geotechnical engineers and further cost studies done in order to re-evaluate the underground mining potential at Kara. If positive conclusions result, the reserve potential is increased since this aspect has been excluded from current evaluations of the property except for Western Contact underground ore.

SECTION 3 - PRODUCTION STUDIES

The Golder report (Appendix A) suggests thoughtbe given to upgrading the Tasminex mill to operate efficiently at 200 tons per day and in a year or two, consider increasing production to 400 tons per day. The report however omits many ancillary questions to be settled first and several additional cost items. To test the idea properly, the following steps are proposed:-

A. Formulate in detail a development plan based on the above objective and with the following main aspects:

1. Pit development and mining plan.
2. Grade Contraol.
3. Tailings and waste disposal.
4. Stockpiling of ore, weathered material, lowgrade ore and magnetite.
5. Detailed costs of and design of mill modifications.
6. Personnel and management requirements.
7. Environmental considerations.
8. Market for increase in production.
9. Review all cost estimates based on preliminary bids etc.

B. Negotiate with Tasminex N.L. a working legal relationship with particular regard to the question whether company owned equipment and supplies should be leased or purchased.

C. Formulate detailed cash flow analysis based on revised cost estimates and make "go" or "no-go" decision.

D. If "go" - modify and improve Tasminex Mill as proposed by Golder Associates to operate at 200 tons per day with increased recoveries and on a sound economic basis.

E. From time to time use the improved mill to bulk test all categories of ore, especially weathered material, and modify the facilities to maximize recovery of scheelite from all types of ore.

F. During first two years of operation, complete detailed financial analysis of operations and evaluate relative merits of increasing production to 400 tons per day or remaining at 200 tons per day while maintaining and improving the facilities. Also assess the marketability of scheelite in accessible markets to determine how much product can be sold readily without marketing problems i.e. use the operation as a base for marketing studies.

SECTION 4 - MARKETING STUDIES

Throughout the program, contact should be maintained with interested marketing agents and the price of tungsten monitored regularly.

Samples of anticipated scheelite products should be submitted to the agents for assessment.

SECTION 5 - LEGAL WORK

The following should be accomplished:

A. McIntyre and Tasminex must finalize a joint venture agreement to cover mining operations.

B. Action regarding the future of EL17/68 should be taken as recommended in Appendix "C", i.e. two additional mineral leases as described should be taken out leaving the balance of the tenements in EL17/68.

C. Examine all tax considerations of both parties and obtain legal advice on a "tax strategy".

SECTION 6 - ENVIRONMENTAL STUDIES/WATER STUDY

6-1 Environmental Studies

Concurrently with the execution of the foregoing program, a complete study of all requirements under local environmental laws should be made and plans made in strict compliance with such laws. A base-line study i.e. collection of samples of soil and water to establish current background levels for various elements, should be initiated as early as possible.

6-2 Water Study

Studies should be made to:

(A) Establish water requirements for the designed operation.

(B) Establish water resources available to the operation.

(C) Establish legal ownership of water rights.

(D) Obtain all necessary permits and licences for utilization of the water.

SECTION 7 - TIMETABLE

Outlined below is an approximate timetable. Unexpected delays, changes in program and other happenings could alter this schedule.

7-1 January-June 1981

A. Commence items under sections 2.1-A,B.C. ("Metallurgy")
B. Complete items 2.3-A,B,C,D ("Exploration") i.e. program submitted to Dept. of Mines for EL17/68.
C. Complete items 3-A,B,C ("Production Studies")
D. Commence items under Sections 4,5,6. ("Marketing", "Legal", "Environmental/Water")

If a decision to go into production is made pursuant to the suggestion raised under Section 3 i.e. re-habilitation of the Tasminex facilities, a new schedule will come into effect based on a detailed mine plan which at the moment cannot be specified in detail but will include items 3-D,E,F and 5-A and such other parts of the Pre-Development Program hereunder as are both necessary and beneficial. If the decision is either postponed or rejected the following schedule will be followed having as its objective to increase reserves to a point where some level of full scale production is justified:

7-2 July-December 1981

A. Continue items 2.1-A,B,C ("Metallurgy")
B. Complete items 2.2-A,D ("Drilling")
C. Complete items 2.3-E,F,G,H,I ("Exploration")
D. Continue items unfinished under Sections 4,5,6. ("Marketing", "Legal", "Environmental/Water")
E. Commence items under 2.4. ("Underground Studies")

7-3 January-December 1982

A. Complete items 2.1-A,B,C ("Metallurgy")
B. Complete items 2.2-B,C,E ("Drilling") and following up drill targets arising from items 2.3 ("Exploration")
C. Continue items under 2.3-J,K,L and 2.4. ("Exploration", "Underground Studies")
D. Complete unfinished business under Sections 4,5,6. ("Marketing", "Legal", "Environmental/Water").

Vol (2)

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APPENDICES & PLANS

ACCOMPANYING

SIX MONTH REPORT - E.L.17/68

May 4th - November 3rd 1981.

923033

McINTYRE MINES (AUSTRALIA) PTY. LTD.

APPENDICES AND PLANS

ACCOMPANYING

SIX MONTHLY REPORT - E. L. 17/68 AND CL. 105M/77

FOR THE PERIOD

MAY 4th 1981 - NOVEMBER 3rd 1981.

C. H. WHITEHEAD.

3rd NOVEMBER, 1981

PLANS

(In Back Pockets)

(ALL IN VOLUME 3)

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PLAN No. 2	Kara No. 2 - Main Skarn	1:1200
PLAN No. 3	Kara No. 2 - Main Skarn - Drill Sections/Assays	1:500
PLAN No. 4	Kara North - Ground Magnetics	1:1000
PLAN No. 5	Companion Skarn - Ground Magnetics	1:1000
PLAN No. 6	Bob's Bonanza - Geologic Sections & Ground Magnetics	1:500
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APPENDIX A

HAMPSHIRE SILVER MINE - SAMPLE ASSAY RESULTS

A1 - Miscellaneous Rock Samples

A2 - Grid Soil Samples

LOCATION - HAMPSHIRE SILVER MINE

Assayed - Amdel Project Nos. 5827/81 Date June - Sept. 1981.
5876/81
6189/81

Sample No.	Cu	Pb	Zn	Bi	Mo	Sn	WO_3	Ag	Au	%F
SM1	32	180	1300	10	6	22	60	<1	0.05	2.65
SM2	18	30	1500	10	4	460	<20	<1	0.05	0.35
SM3	16	10	130	10	1	85	<20	<1	0.05	8.90
SM4	90	2800	3100	10	55	4	<40	430	0.05	0.15
SM5	16	530	1300	10	10	220	<20	2	0.05	2.45
SM6	-	10	34	-	-	10	<10	1	-	-
SM6A	-	45	130	-	-	360	<20	1	-	-
SM7	-	10	52	-	-	20	<20	<1	-	-
SM7A	-	10	1100	-	-	36	40	2	-	-
SM8	-	5	30	-	-	<4	40	1	-	-
SM9	-	70	310	-	-	38	75	2	-	-
SM10	-	9500	7.4%	-	-	<4	50	860	-	-
SM10A	-	7100	7.2%	-	-	34	<20	27	-	-
SM11	-	15	18	-	-	280	10	-	-	0.66
SM12	-	15	20	-	-	370	<10	-	-	0.96
SM13	-	15	20	-	-	720	20	-	-	0.10

LOCATION HAMPSHIRE SILVER MINE

1. Grid Soil Samples (along ground magnetic anomaly trend).

Assayed - Amdel Project No. 6189/81 Date June 23rd, 1981.

SAMPLE NO.	ppm F	ppm Pb	ppm Zn	ppm Sn	ppm WO_3
SMS Road	200	120	130	38	15
SMS 74	400	100	95	60	10
" 76	800	100	150	34	15
" 78	800	250	80	22	10
" 80	400	100	24	30	x
" 82	400	25	14	26	x
" 84	200	10	10	22	10
" 86	200	10	8	22	x
" 88	200	10	190	16	10
" 102	600	50	85	75	10
" 104	400	530	270	12	25
" 106	600	120	75	16	x
" 108	400	35	30	24	x
" 110	200	25	22	20	10
" 112	200	10	20	18	x
" 128	600	35	55	18	10
" 130	600	130	120	18	20
" 132	200	200	110	16	20
" 134	600	100	75	18	10
" 326	600	40	70	75	15
" 328	600	75	120	130	10
" 346	600	25	55	16	10
" 348	600	30	95	14	x
" 350	600	30	65	22	10
" 352	800	30	44	14	x
" 354	600	45	90	18	10
" 356	400	40	95	38	10
" 358	400	35	65	180	15
" 360	400	25	50	450	15
" 362	200	30	48	75	x
" 364	600	20	55	680	10
" 366	600	30	50	120	10
" 378	200	35	65	20	10

Sample No.	ppm F	ppm Pb	ppm Zn	ppm Sn	ppm WO_3
SMS 380	200	65	220	18	20
" 382	200	35	50	22	10
" 384	400	35	85	44	x
" 386	400	25	60	540	15
" 388	600	25	85	760	x
" 390	400	25	70	880	x
" 392	400	25	60	200	10
" 406	400	40	40	22	10
" 408	400	30	48	16	10
" 410	600	20	48	14	x
" 412	600	30	50	18	x
" 414	400	20	40	24	X
" 416	400	45	65	24	15
" 418	200	35	70	22	15

APPENDIX B

KARA NO. 2 REGION - SAMPLE ASSAY RESULTS

B1 - Kara No. 2 Main Skarn - Surface Rock Samples

B2 - Kara No. 2 Main Skarn - Tasminex Drill Core

B3 - Kara No. 2 Main Skarn - Mineralogical Examination (Drill Core)

B4 - Kara No. 2 South Skarn - Surface Rock Samples

B5 - Kara No. 2 East Skarn - Surface Rock Samples

LOCATION - KARA NO. 2 MAIN SKARN

Assayed - Amdel. Project No. - 6045/81 Date 11th September, 1981
" " - 277/82 29th July, 1981.

Sn and WO_3 Assays - Surface Rock Samples

SAMPLE No.	ppm WO_3	ppm Sn	SAMPLE No.	ppm WO_3	ppm Sn
2/1	50	1000	2/30	25	940
2/2	30	540	3/31	110	1050
2/3	10	24	2/32	55	740
2/4	20	600	2/33	60	1200
2/5	40	1450	2/34	60	860
2/6	35	30	2/35	20	520
2/7	30	30	2/36	140	760
2/8	60	4600	2/37	330	6500
2/9	40	490	2/38	120	1100
2/10	20	600	2/39	20	660
2/11	50	640	2/40	40	820
2/12	60	920	2/41	35	1100
2/13	75	95	2/42	-	370
2/14	60	860	2/43	-	540
2/15	40	460	2/44	-	450
2/16	20	380	2/45	-	420
2/17	60	320	2/46	-	700
2/18	< 10	320	2/47	-	350
2/19	20	60	2/48	-	240
2/20	50	36	2/49	-	840
2/21	20	1200	2/50	-	450
2/22	35	60	2/51	-	470
2/23	30	380	2/52	-	900
2/24	50	1450	2/53	-	660
2/25	60	2450	2/54	-	400
2/26	30	900	2/55	-	360
2/27	110	740	2/56	-	350
2/28	100	1800	2/57	-	540
2/29	65	1950	2/58	-	170
			2/59	-	200

LOCATION KARA No. 2 MAIN SKARN

Assayed - Amdel Project No. 237/82 Date 22.7.81

Sn Assays - Tasminex Drill Core

DD HOLE No.	INTERVAL(m)	LENGTH(m)	SAMPLE No.	ppm Sn
7	0.00 - 8.53	8.53	K2/7-1	280
7	8.53 -11.28	2.75	K2-7-2	1600
7	11.28-14.32	3.04	K2-7-3	1200
7	14.32-17.37	3.05	K2-7-4	980
7	17.37-20.12	2.75	K2-7-5	780
8	6.10 - 8.53	2.43	K2-8-1	1000
8	8.53 -10.53	2.00	K2-8-2	1200
8	10.53-12.80	2.27	K2-8-3	1750
8	12.80-14.63	1.83	K2-8-4	2350
8	14.63-15.54	0.91	K2-8-5	2300
8	15.54-17.98	2.44	K2-8-6	1200
8	17.98-21.33	3.35	K2-8-7	1150
9	5.79 - 7.92	2.13	K2-9-1	3450
9	7.92 -11.28	3.36	K2-9-2	3700
9	11.28-13.10	1.82	K2-9-3	1250
9	13.10-15.85	2.75	K2-9-4	1100
9	15.85-17-98	2.13	K2-9-5	1050
9	17.98- ?	?	K2-9-6	450
10	9.75 -10.97	1.22	K2-10-1	780
10	10.97-12.19	1.22	K2-10-2	160
10	12.19-14.63	2.44	K2-10-3	940
10	14.63-17.07	2.44	K2-10-4	1650
10	17.07-20.12	3.05	K2-10-5	900
10	20.12-21.64	1.52	K2-10-6	1050
10	21.64-22.86	1.22	K2-10-7	140
10	22.86-26.21	3.35	K2-10-8	55

B2

DD HOLE No.	INTERVAL(m)	LENGTH(m)	SAMPLE No.	ppm Sn
14	3.66 - 5.49	1.83	K2-14-1	380
14	5.49 - 7.01	1.52	K2-14-2	290
14	7.01 - 8.53	1.52	K2-14-3	450
14	8.53 -10.97	2.44	K2-14-4	580
14	10.97-14-02	3.05	K2-14-5	520
14	14.02-17.06	3.04	K2-14-6	190
14	17.06-23.16	6.10	K2-14-7	340
14	23.16-26.21	3.05	K2-14-8	860
14	26.21-28.65	2.44	K2-14-9	800
14	28.65-29.86	1.21	K2-14-10	1100
14	29.86-31.70	1.84	K2-14-11	580
16	12.18-14.63	2.44	K2-16-1	160
16	14.63-16.76	2.13	K2-16-2	640
16	16.76-19.20	2.44	K2-16-3	340
16	19.20-22.24	3.04	K2-16-4	390
16	22.24-25.30	3.06	K2-16-5	180
16	25.30-27.12	1.82	K2-16-6	200
16	27.12-29.56	2.44	K2-16-7	150
17	7.01 -10.06	3.05	K2-17-1	920
17	10.06-12.19	2.13	K2-17-2	1550
17	12.19-15.24	3.05	K2-17-3	4700
17	15.24-18.29	3.05	K2-17-4	2500
18	5.49 - 9.14	3.65	K2-18-1	370
18	9.14 -11.28	2.13	K2-18-2	350
18	11.28-14.02	2.74	K2-18-3	300
18	14.02-16.76	2.74	K2-18-4	400
18	16.76-19.51	2.76	K2-18-5	640
18	19.51-21.94	2.43	K2-18-6	470
18	21.94-24.08	2.14	K2-18-7	320
18	24.08-26.52	2.44	K2-18-8	680
18	26.52-28.04	1.52	K2-18-9	580

KARA NO. 2 MAIN SKARN. DRILL CORE SAMPLES SUBMITTED FOR MINERALOGICAL EXAMINATION

923043

SAMPLE NO.	DDH No.	INTERVAL(m)	LENGTH(m)	ASSAY - ppm Sn
M500	Tasminex No.7	8.53-11.28	2.75	1600
M501	" No.8	12.80-14.63	1.83	2350
M502	" No.17	12.19-15.24	3.05	4700
M503	" No.9	7.92-11.28	3.36	3700

Central Mineralogical Services

ample No.	Classification - Composition	Fabric	Accessories	Comments
500 T.S. 38255)	Garnet-Magnetite Skarn. Semi-massive andradite garnet with sporadic aggregates of partly martitised magnetite, intergranular films, clots of extensively ferruginised ?talc.	Medium-grained, granular garnet, magnetite.	Minor traces quartz, chlorite.	Partly weathered/ferruginised garnet-magnetite with talc, chlorite (after accessory ?phlogopite). No optically detectable cassiterite.
501	Ferruginised Skarn. Massive to cellular limonite with disseminated to semi-massive, partly martitised magnetite.	Essentially similar to M 500. Limonitic garnet boxworks ?pyroxene amphibole pseudomorphs.	Traces Fe-stained chlorite, talc.	Thoroughly weathered/ferruginised garnet-magnetite-?diopside-?amphibole skarn. No optically detectable cassiterite.
502	Degraded "Skarn". Extensively chloritised actinolite (trend hastingsite) with closely intergrown quartz, subordinate fluorite, disseminated epidote, allanite, sparse cassiterite.	Fine-medium-grained, subradiating actinolite, semi-poikilitic quartz, intergranular fluorite.	Disseminated extensively martitised/oxidised magnetite.	Skarn-like facies, conceivably a vein. Cassiterite as rare 25-100 μ subhedra; locally frequent microscopic acicular clots ("needle tin") in quartz.
503	Ferruginised Skarn. Massive to cellular limonite with sporadic patches granular, extensively martitised/oxidised magnetite.	Similar to M 501, with garnet, pyroxene,, ?amphibole, pyrrhotite boxworks, pseudomorphs.	Minor degraded/Fe-stained chlorite, talc.	Thoroughly weathered/ferruginised skarn with affinities to M 500 and particularly M 501. No detectable cassiterite.

LOCATION - KARA NO. 2 - SOUTH SKARN

Assayed - Amdel. Project No. 6074/81 Date 19th June, 1981

Sn and WO_3 Assays - Surface Rock Samples

SAMPLE No.	ppm Sn	ppm WO_3
2S/1	420	80 *
2S/2	350	40
2S/3	28	< 10
2S/4	560	110
2S/5	440	20
2S/6	250	55
2S/7	14	10
2S/8	10	10
2S/9	410	< 10
2S/10	430	15
2S/11	390	25
2S/12	50	< 10
2S/13	280	15
2S/14	310	15

* Matrix difficulties render W result subject to error.

LOCATION KARA No. 2 EAST SKARN

Assayed - Amdel. Project No. - 6074/81 Date 19th June, 1981.

Sn and WO_3 Assays - Surface Rock Samples

SAMPLE No.	ppm Sn	ppm WO_3
2E/1	200	50
2E/2	260	75
2E/3	50	15
2E/4	380	60 *
2E/5	1200	80
2E/6	390	45 *
2E/7	150	15
2E/8	290	15
2E/9	180	140
2E/10	48	15
2E/11	80	<10
2E/12	140	45
2E/13	250	55
2E/14	12	<10

* Matrix difficulties render WO_3 result subject to error.

APPENDIX C

KARA SOUTH - DIAMOND DRILLING

DIAMOND DRILL LOGS AND ASSAY SHEETS

Hole Numbers - DDH 295

DDH 296

DDH 296A

DDH 297

DDH 298

DDH 299

DDH 300

DDH 301

DDH 302 (Assay sheet only)

923047

SCALE 1:100.

LENGTH 31·39m NORTHING 4340N
AZIMUTH — EASTING 7743E.
DIP AT COLLAR 90° ELEVATION 524·0
LOCATION KARA SOUTH. (22-29 DEC 1980).

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT
HOLE No 295 PAGE 1 OF 1/2.
PROJECT KARA

% CORE RECOVERY	CORE SPLIT REC.	FEATURE		FRACTURING	BEDDING	GEOLOGY	MINERAL	MINERALISATION	GEOLOGY
1·00		1·00	1250			Tdgm			SKARN. DIOPSIDE GARNET MAGNETITE SKARN.
1·62		0·52	800						0·0 – 1·52m – COARSE, HARD FRESH DIOPSIDE SKARN.
2·34		0·82	1460					Y.	1·52 – 2·74m – MORE MAGNETITE (UP TO 25%) FRACTURED.
2·74		0·40	180					LITTLE SCHEELITE SPECKS IN LAST RUN.	2·74 – 4·27m – CLAY + SKARN RUBBLE
4·27		1·63	c¼					4·27m	
	69·0					Sd			SILTSTONE. LIGHT GREYISH BROWN FINE GRAINED HOMOGENEOUS SILTSTONE. LITTLE BANDED. JOINTED SLIGHTLY – NOT FRACTURED
6·40									
7·81	52·7								
7·92	60·7								
8·93	72·8							NONE.	
10·36	100								
11·58	95·08								
12·80	96·72								
13·71	100							Y-F	
14·62	100								
15·84	86·88								
16·75	91·2								
17·67	65·55								
19·50	87·85								
								19·50m	
	100					Sd		NIL.	SILTSTONE. AS ABOVE. MUCH FRESHER.
21·63									
23·16	100								
23·47	TBC								
24·99	89·2								

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH
SURVEY
CONTRACTOR
CORE
CASING
DATE
LOGGED BY
STARTED
FINISHED

5 cm

923048

SCALE 1:100

LENGTH	31.39m
AZIMUTH	—
DIP AT COLLAR	90°
LOCATION	KARA SOUTH
NORTHING	4340N
EASTING	7743E
ELEVATION	524.0

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT

HOLE No 295 PAGE 2/2 OF

PROJECT KARA.

% CORE RECOVERY	CORE SPLIT REC.	FEATURE	FRACTURING	BEDDING	GEOLOGY	MINERAL
26.52	100				S	
27.13	100					
28.65	100				Q.	
30.16	100					
31.39	96.7					

MINERALISATION

25.62

27.43m.

Y+F

31.39m.

GEOLOGY

SILTSTONE.

PREDOMINANTLY LIGHT GREY.
HARD-FRESH.
FINE GRAINED.

QUARTZITE

LIGHT GREY EQUIGRANULAR, FINE GRAINED QUARTZITE

31.39m END OF HOLE.

NQ-CORE. To 31.39m.
8 CORE BOXES

ANGLE READ

ANGLE CORRECTED

AZIMUTH

DEPTH

SURVEY

CONTRACTOR

CORE

CASING

DATE

LOGGED BY

STARTED

FINISHED

FREP

½ CORE. HALVED. LIBRARY

D.D.H. KARA. SOUTH. 295. 923049

(REC) RECOVERY, CONSIDER >90% EXCEPT AS NOTED

(WX) WEATHERING, CONSIDER FRESH ROCK EXCEPT AS NOTED. WX INDICATES CLAYEY, LIMONITIC MATERIAL

SECTION:				ASSAY					AVE:			AVE:		
SAMP NO.	REC WX	INTERVAL	LGTH	ppm WO_3		ppm Sn.			INVL	LGTH %M-%	WT AR AV.	INVL	LGTH %M-%	WT AR AV.
295/1	CORE No.	0·00 - 1·00.	1·00	1250		3450								
295/2.	"	1·00 - 1·62	0·62	800		3750								
295/3	"	1·52 - 2·34	0·82	460		3000								
295/4	"	2·34 - 2·74	0·40	180		660								
295/5	"	2·74 - 4·27	1·53	0·44%		1960								

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE

COMMENT

PROJECT

923050

5 cm

SCALE 1:100

LENGTH 28·04m NORTHING 4344N
AZIMUTH 270°/90° EASTING 7717E
DIP AT COLLAR 45° ELEVATION 621·4m.
LOCATION KARA SOUTH. (5-8 JAN 1981)

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT
HOLE No 296 PAGE 1 OF 1/2.
PROJECT KARA.

% CORE RECOVERY	CORE SPLIT REC.	FEATURE INT	FEATURE ppm WO3	FRACTURING	BEDDING	GEOLOGY	MINERAL
4·27	96·5					CL	
5·18	100						
6·40	100						
7·32	100					SP	
7·92	75						
9·75	73·2						
10·36	100						
11·89	100						
13·41	63·2	1·82	660.			Tm. 25-35	
14·63	26·2	1·22	2000				
16·50	62·6	0·91	330				
17·07	100	0·46	60				
18·29	68·0						
20·12	71·0						
20·73	100						
22·56	91·3						
23·77	100						
	92·9						

MINERALISATION

NIL.

Isolated scheelite speck 14·40m.

GEOLOGY

CLAY.

6·40m

SANDSTONE - MUDSTONE.
LIGHT BROWN COLOURED.
FINE GRAINED.
Fe STAINING ON JOINTS AND FRACTURES.
LITTLE STRUCTURE.

11·89m

SKARN.
MAGNETITE SKARN.
25% Fe - 11·89 - 14·63.
35% Fe - 14·63 - 16·90.
POOR RECOVERY.

16·90m

SILTSTONE.
LIGHT GREY - BROWN SILTSTONE.
HOMOGENEOUS - NO BANDING.
FRACTURED AND RUBBLY TO 21·60m
MORE MASSIVE IN LATER RUNS.

F

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH
SURVEY
CONTRACTOR
CORE
CASING
DATE
LOGGED BY
STARTED
FINISHED

5 cm

923051

SCALE 1: 100.

% CORE RECOVERY	CORE SPLIT	FEATURE	FRACTURING	BEDDING	GEOLOGY	MINERAL
25·60	929					
26·42	100					
28·04	864					

LENGTH 28·04m · NORTHING A344N.
AZIMUTH ~~270~~ 90 · EASTING 771E.
DIP AT COLLAR -45° · ELEVATION 521·4m
LOCATION KARA SOUTH (5-E. JAN 1981)

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT

HOLE No 296 · PAGE 2 OF 2.

PROJECT KARA.

MINERALISATION

NIL.

28·04m

GEOLOGY

SILTSTONE (CONTINUED)

BAND OF LIGHT GREY HARD QUARTZITE @ 25·90 - 26·20m.

28·04m

END OF HOLE.

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH

SURVEY

CONTRACTOR
CORE
CASING

LOGGED BY
DATE
STARTED
FINISHED

FILE ½ CORE. ½ FOLDER. LIBRARY

D.D.H. 296 KARA SOUTH. 923052

(REC) RECOVERY, CONSIDER 99% EXCEPT AS NOTED

(WX) WEATHERING, CONSIDER FRESH ROCK EXCEPT AS NOTED. WX INDICATES CLAYEY, LIMONITIC MATERIAL

SECTION:				ASSAY				AVE:			AVE:		
SAMP NO.	REC WX	INTERVAL	LGTH	ppm WO_3		ppm Sn		INVL	LGTH ΣM-%	WT AR AV.	INVL	LGTH ΣM-%	WT AR AV.
CORE.	296/1.	11·89 - 13·41	1·52	660		2600							
"	296/2	13·41 - 14·63	1·22	2000.		780							
"	296/3	14·63 - 15·54	0·91.	330.		350							
"	296/4	15·54 - 16·60	0·86.	60.		320							
"	296/5	16·50 - 16·90	0·40	240.		460							
SLUDGE	296/9	11·89 - 13·41	1·52	420		220							
"	296/10	13·41 - 14·63	1·22	430		260.							
"	296/6	14·63 - 15·54	0·91	2200		700							
"	296/9	15·54 - 16·50	0·86.	680		460							
"	296/8	16·50 - 16·90	0·40	540.		430							

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE

COMMENT

PROJECT

923053

5 cm

SCALE 1: 100

LENGTH 21·03m	NORTHING 4344N
AZIMUTH —	EASTING 7715E
DIP AT COLLAR 90°	ELEVATION 521·4m
LOCATION KARA SOUTH.	

M'INTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT

HOLE No 296A | PAGE 1 OF 1/1

PROJECT KARA.

% CORE RECOVERY	CORE SPLIT	FEATURE	FRACTURING	BEDDING	GEOLOGY	MINERAL	MINERALISATION	GEOLOGY
3·96	88·4				Cl		NIL	CLAYS. WEATHERED BROWNISH YELLOW CLAYS.
5·18	94·3				S.		NIL.	LIGHT BROWN SANDSTONES. IMPREGNATED WITH Fe.
6·10	100				S+Q.			SANDSTONES + QUARTZITES. ALTERNATING HORIZONS OF ABOVE. LIGHT GREY IN COLOUR. SANDSTONES SLIGHTLY IMPREGNATED WITH Fe. QUARTZITES, FINE GRAINED + HARD.
7·62	100							
8·53	100							
11·28	100				S		NIL.	SANDSTONE. LIGHT GREY BROWN SANDSTONES. VERY FINE GRAINED. SOME ZONES HEAVILY FRACTURED JOINTS Fe IMPREGNATED.
13·41	100							
14·94	75·2							
15·54	80							
16·76	100				S+Q.		NIL.	SANDSTONES + QUARTZITES. LIGHT GREY-BROWNISH IN COLOUR AS ABOVE MATERIAL 6-10m.
18·29	71·9							
21·03	32·8.							

X 4·57 m

Y 6·00 m

F 15·54m

10·00m

21·03m

END OF HOLE - 21·03m.

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH
SURVEY
CONTRACTOR
CORE
CASING
DATE
LOGGED BY
STARTED
FINISHED

923054

SCALE 1: 100

LENGTH 35.97m NORTHING 4297N
AZIMUTH 90° EASTING 7712E
DIP AT COLLAR 60° ELEVATION 519.5.
LOCATION KARA SOUTH (22-30 JAN 1981)

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT
HOLE No 297 PAGE / OF 1/2
PROJECT KARA.

% CORE RECOVERY	CORE SPLIT	FEATURE INTERVAL	FEATURE ppm WO_3	FRACTURING	BEDDING	GEOLOGY	MINERAL
49.2		4.88	3.40.			Cl.	
4.88							
5.79		0.91	290.				
6.71		0.92	280				
7.62		0.91	520				
8.53		0.91	490				
9.45		0.92	430				
10.36		0.91	390				
11.85		1.22	560				
12.50		0.92	300				
13.41		0.91	620				
14.65		1.24	640				
15.54		0.89	470				
16.50		0.85	700				
17.65		1.15	500				
42.4						St.	
18.90							
82.4						Q.	
19.81							
100						S	
20.73							
100							
21.34							
76.9							
22.25							
87.5						Q	
23.95							
100.		1.37	0.05%			St Q.	

GLUDGE ONLY

MINERALISATION

GEOLOGY

CLAYS.

WEATHERED CLAYS
DARK BROWN + YELLOW.

4.88m 4.88m.

NO CORE
SLUDGE SAMPLES.
CLAY.
ONLY LITTLE IRON CONTENT.

17.68m. 17.68m

SANDSTONES + QUARTZITES. F

18.40m — LIGHT BROWN TO GREY MEDIUM GRAINED SST + QZTS - FRACTURED.

19.60m — HARD HOMOGENOUS WHITE GRANULAR QUARTZITES

HARD GREY TO FAWN SANDSTONES
SLIGHT FE IMPREGNATIONS ON JOINTS.

NIL.

22.30m

VERY HARD WHITE GRANULAR QUARTZITES
DIFFICULT DRILLING.

24.00m

F. GREY FAWN SANDSTONE - QUARTZITES.

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH
SURVEY
CONTRACTOR
CORE
CASING
DATE
LOGGED BY
STARTED
FINISHED

5 cm

5 cm

923055

SCALE 1:100.

LENGTH 35·97m NORTHING N297N
AZIMUTH ~~270°~~ 90 EASTING 7712E
DIP AT COLLAR -60° ELEVATION 625·2
LOCATION KARA. SOUTH. (22-30 JAN. 1981)

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT
HOLE No 297 PAGE 1 OF 2/2.
PROJECT KARA.

% CORE RECOVERY	CORE SPLIT	FEATURE		FRACTURING	BEDDING	GEOLOGY	MINERAL
25·80							
100		1·10	0·55%			Ted	
26·40							
74·8		1·03	0·52%				
27·43							
85·7		0·91	0·31%			Tm	
28·34						60.	
84·8		0·92	838				
29·26							
84·8		0·92	470				
30·18							
100		0·87	0·38%				
31·05							
86·3						Q+S	
32·00							
100							
32·92							
91·8							
34·75							
73·8						Q.	
35·97							

MINERALISATION

FINE DISSEMINATED SCHEELITE MINERALISATION.

COARSE SCHEELITE CRYSTALS + SPECKS IN FINAL 1 METRE RUN.

NIL.

25·20m GEOLOGY F

SKARN.

EPIDOTE DIOPSIDE SKARN.
(21·52-26·15 - WHITE QUARTZITE BANDS).

27·43m

F.

MAGNETITE SKARN.
60% MAGNETITE CONTENT.
LITTLE EPIDOTE AND DIOPSIDE AT BEGINNING AND END OF RUN.

31·66m

QUARTZITES AND SANDSTONES. F

GREY + FAWN INDURATED SANDSTONES + QUARTZITES.

F

34·75m.

WHITE HOMOGENEOUS QUARTZITES.

35·97m.

END OF HOLE - 35·97m.

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH
SURVEY
CONTRACTOR
CORE
CASING
DATE
LOGGED BY
STARTED
FINISHED

FILE 1/2. LIBRARY MODEL. D.D.H. 923066

KARA SOUTH. 297.

(REC) RECOVERY, CONSIDER >90% EXCEPT AS NOTED

(WX) WEATHERING, CONSIDER FRESH ROCK EXCEPT AS NOTED, WX INDICATES CLAYEY, LIMONITIC MATERIAL

SECTION:				ASSAY		AVE:			AVE:		
SAMP NO.	REC WX	INTERVAL	LGTH	ppm WO_3	ppm Sn	INVL	LGTH SM_2	WT AR AV.	INVL	LGTH SM_2	WT AR AV.
297/1	CORE	0·00 - 4·88	4·88	340	740						
297/2	SLUDGE.	4·88 - 5·79	0·91	290.	200						
297/3	"	5·79 - 6·71	0·92	280	190						
297/4	"	6·71 - 7·62	0·91	620	110						
297/5	"	7·62 - 8·53	0·91	490	66						
297/6	"	8·53 - 9·45	0·92	430	140						
297/7	"	9·45 - 10·36	0·91	390	120						
297/8	"	10·36 - 11·58	1·22	660	200						
297/9	"	11·58 - 12·50	0·92	340	110						
297/10	"	12·50 - 13·41	0·91	620	120						
297/11	"	13·41 - 14·65	1·24	640	500						
297/12	"	14·65 - 15·54	0·89	470	410						
297/13	"	15·54 - 16·50	0·96	700	840						
297/14	"	16·50 - 17·65	1·18	600	260						
297/16	CORE	23·93 - 25·30	1·37	0·05 %	780						
297/17	"	25·30 - 26·40	1·10	0·55 %	2600						
297/18	"	26·40 - 27·43	1·03	0·52 %	1850						
297/19	"	27·43 - 28·34	0·91	0·31 %	700						
297/20	"	28·34 - 29·26	0·92	880	320						
297/21	"	29·26 - 30·18	0·92	470	350						
297/22	"	30·18 - 31·05	0·87	0·68 %	860						

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE

COMMENT

PROJECT

5 cm

923057

SCALE 1:100.

LENGTH 30·18m NORTHING 4421N
AZIMUTH 270° EASTING 7686E.
DIP AT COLLAR 60° ELEVATION 5263m
LOCATION KARA SOUTH. (2nd-4th FEB. 1981).

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT
HOLE No 298 PAGE 1 OF 1/2
PROJECT KARA.

% CORE RECOVERY	CORE SPLIT	FEATURE INTERVAL	FEATURE ppm WO₃	FRACTURING	BEDDING	GEOLOGY	MINERAL	MINERALISATION	GEOLOGY
NIL. 1·5						NIL.		NO CORE	DRILLED WITH CASING. 1·50m.
3·05	SLUDGE SAMPLES.	1·53	300.			CLAY. SLUDGE		SLUDGE SAMPLES SUBMITTED FOR ASSAY.	CLAY. BROWN STICKY CLAY AND MAGNETITE. SPORADIC SECTIONS OF COARSE QUARTZ AND MAGNETITE. PROBABLY CLAY AFTER SKARN.
4·53		1·48	820						
6·10		1·57	430						
7·62		1·52	370						
9·40		1·78	1·80						
84·2 10·67		1·27	1100						10·67m. OXIDISED.
100 12·00		1·12	2800			Tm 36		SKARN.	SKARN. MAGNETITE SKARN. MAGNETITE ESTIMATED 25-30%. FRACTURED - RUBBLY., DECREASING WITH DEPTH. LIMONITIC + HEMATITIC ZONES. 12·80m.
100 12·80		0·80	1·01%						
13·41		0·61	0·58%			Td(g)		GOOD SCHEELITE (FINE TO WELL DISSEM) 13·41 TO 13·41 + 14·40m.	DIOPSIDE GARNET SKARN. COARSE + GRANULAR. MAGNETITE < 10% Y+F.
100 14·63		1·22	0·42%						14·63m.
100 15·63		1·00	1·03%			Tm 35		SCHEELITE 15·40 - 15·58m.	MAGNETITE SKARN. BLEBS + BLOTCHES OF MAGNETITE. MAGNETITE ESTIM 30-35% HIGHLY BROKEN GROUND 15·35 - 15·64m. Y+F. 15·63m.
100 17·00		1·37	0·33%			Td			DIOPSIDE SKARN. LITTLE EPIDOTE + MAGNETITE. (10-15%). IN COARSE BLEBS. VARIABLY FRACTURED. Y+F.
96·9 18·29		1·25	0·09%					SCHEELITE 18·26 - 18·59m.	18·29m.
58·9 19·80		0·89	0·40%			Tm 30			MAGNETITE SKARN. (MAGNETITE 25-30%) LITTE GARNET.
58·1 20·73		0·54	1100					SPORADIC SPECKS. SCHEELITE. 18·70 - 19·78m.	20·73m. Y+F.
41 21·95		1·22	260			Tqpg.			QUARTZ, EPIDOTE, GARNET, MAGNETITE SKARN. MAGNETITE 10%. COARSE VUGGY QUARTZ. FRACTURED. TRANSITIONAL ZONE. Y+F.
29·7 22·86		0·91	400						22·86m.
62·6 23·77		0·91	60			S.			LIGHT TO MEDIUM GREY SILTSTONE/SANDSTONE HARD + FINE GRAINED LITTLE MAGNETITE + ALTERATION ON FRACTURES + JOINTS F
66·5 24·67		0·92	200						

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH
SURVEY
CONTRACTOR
CORE
CASING
DATE
LOGGED BY
STARTED
FINISHED

5 cm

923058

SCALE 1: 100

% CORE RECOVERY	CORE SPLIT	FEATURE INTERVAL	FEATURE ppm WO3	FRACTURING	BEDDING	GEOLOGY	MINERAL
26.30							
		0.71	45				
62.7							
		1.42	1100				
27.43							
						Gr	
90.2							
30.18							

LENGTH 30.18m NORTHING 4421 N.
AZIMUTH 270° EASTING 7686 E.
DIP AT COLLAR 60° ELEVATION 624.0m
LOCATION KARA SOUTH. (2nd-4th FEB. 1981)

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT

HOLE No 298 PAGE 1 OF 2/2

PROJECT KARA.

MINERALISATION

27.43m.

F

30.18m.

GEOLOGY

27.43m.

GRANITE,

FRESH, LIGHT GREY TO PINK, FINE TO MEDIUM GRAINED.
HOMOGENEOUS.
ALTERED FELDSPAR, PROBABLY PLAGIOCLASE, LITTLE MAFIC.

30.18m

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH

SURVEY

CONTRACTOR
CORE
CASING

LOGGED BY
DATE
STARTED
FINISHED

5 CORE BOXES

FILE

1/2 CORE. LIBRARY

U.D.H.
KARA SOUTH. 298.

923059

(REC) RECOVERY, CONSIDER 95% EXCEPT AS NOTED
(WX) WEATHERING. CONSIDER FRESH ROCK EXCEPT AS NOTED. WX INDICATES CLAYEY, LIMONITIC MATERIAL

SECTION:					ASSAY					AVE:			AVE:		
SAMP NO.	REC WX	INTERVAL		LGTH	ppm % WO_3	ppm Sn.				INVL	LGTH SM-%	WT AR AV.	INVL	LGTH SM-%	WT AR AV.
298/1	SLUDGE	0·00 - 1·52.		1·52	360.	180									
298/2	SLUDGE	1·52 - 3·05		1·53	300.	150									
298/3	SLUDGE	3·05 - 4·53		1·48	320.	110									
298/4	SLUDGE	4·53 - 6·10		1·57	430.	160									
298/5	SLUDGE	6·10 - 7·62		1·52	370.	480									
298/6	SLUDGE.	7·62 - 9·40		1·78	180.	620									
298/7	SLUDGE	9·40 - 10·67		1·27	1100	130				9·40 - 12·00	2·60m	0·20%			
298/8	CORE	10·67 - 12·00		1·33	2800	1700									
298/9	"	12·00 - 12·80		0·80	1·01%	2860				12·00 - 15·63	3·63m	0·74%			
298/10	"	12·80 - 13·41		0·61	0·56%	2860									
298/11	"	13·41 - 14·63		1·22	0·42%	2300									
298/12	"	14·63 - 15·63		1·00	1·03%	2750									
298/13	"	15·63 - 17·00		1·37	0·28%	1900				15·63 TO 20·73	5·10m	0·12%			
298/14	"	17·00 - 18·29		1·29	0·09%	1600									
298/15	"	18·29 - 19·80		1·51	0·40%	1800									
298/16	"	19·80 - 20·73		0·93	1100	350									
298/17	"	20·73 - 21·95		1·22	260	60									
298/18	"	21·95 - 22·86		0·91	400.	860									
298/19	"	22·86 - 23·77		0·91	60	22									
298/20	"	23·77 - 24·69		0·92	200	34									
298/21	"	24·69 - 26·30		0·61	110	36									
298/22	"	25·30 - 26·01		0·71	45	22									
298/23	"	26·01 - 27·43		1·42	1100	160									
298/24	SLUDGE	10·67 - 12·19			6000	2000									
298/25	SLUDGE.	12·19 - 13·41			1·76%	2500									

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE
9·40 - 20·73	11·33	0·38%	WO_3					12·00 - 19·80		7·80	0·48%	WO_3.			
10·67 - 19·80	9·13	0·45%	WO_3												

COMMENT

PROJECT KARA

5 cm

923060

SCALE 1:100

LENGTH	18·29m
AZIMUTH	090°
DIP AT COLLAR	90°
LOCATION	KARA SOUTH. (5-10 FEB 1987)
NORTHING	4464N
EASTING	7671E.
ELEVATION	525·8.

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT

HOLE No 299 PAGE 1 OF 1/1

PROJECT KARA.

% CORE RECOVERY	CORE SPLIT	FEATURE INT	FEATURE ppm WO3	FRACTURING	BEDDING	GEOLOGY	MINERAL
N.C.		0·3	1330			CC	
		2·75	190			N/C.	
		1·52	85				
		1·53	65				
		1·52.	75				
7·62							
100		1·52	95			GR	
9·14							
100		1·84				Tgd.	
10·97							
100						Tm 40	
11·28							
100		2·61				Tdg	
12·19							
96·3							
		1·33				Td	
14·63							
100		1·44					
15·54							
100.						GR	
18·29							

MINERALISATION

GEOLOGY

NO CORE 0·0 – 7·62m.

SLUDGE SAMPLES TAKEN FOR ASSAY.

CLAY AFTER SKARN. (COLOUR VARIOUS).

X

7·62m

GRANITE

MEDIUM GRAINED PINKISH. NO VEINING.

9·45m

9·45m.

SKARN.

DIOPSIDE GARNET SKARN. LITTLE OR NO MAGNETITE.

11·00m

11·30m MAGNETITE SKARN HORIZON – 40%.

DIOPSIDE GARNET SKARN. COARSE BLEBS AND PATCHES MAGNETITE.

13·30m

F

DIOPSIDE SKARN FINE GRAINED.

14·86m

DIOPSIDE SKARN COARSE GRAINED. BLEBS OF MAGNETITE.

16·04m

16·04m.

GRANITE.

MEDIUM GRAINED – PINKISH. EQUIGRANULAR. VEINLETS OF EPIDOTISED QUARTZ. 17·40-17·45 – SCHEELITE.

18·29m

END OF HOLE – 18·29m.

ANGLE READ

ANGLE CORRECTED

AZIMUTH

DEPTH

SURVEY

CONTRACTOR

CORE

CASING

DATE

LOGGED BY

STARTED

FINISHED

ELP 1/2 CORE. LIBRARY HITDEL

U.D.H.
KARA SOUTH. 299. 923061

(REC) RECOVERY, CONSIDER 100% EXCEPT AS NOTED
(WX) WEATHERING, CONSIDER FRESH ROCK EXCEPT AS NOTED. WX INDICATES CLAYEY, LIMONITIC MATERIAL

SECTION:				ASSAY		AVE:			AVE:		
SAMP NO.	REC WX	INTERVAL	LGTH	ppm WO3	ppm Sn	INVL	LGTH %M-%	WT AR AV.	INVL	LGTH %M-%	WT AR AV.
299A/1	SL	0.00 - 0.30	0.30	1350	330						
299A/2	SL	0.30 - 3.05	2.75	190	210						
299A/3	SL	3.05 - 4.57	1.52.	85	60						
299A/4	SL	4.57 - 6.10	1.53.	65	32						
299A/5	SL	6.10 - 7.62	1.52	75	30						
299A/6	SL.	7.62 - 9.14	1.52.	95	60.						
299/7	CORE	9.45 - 11.29	1.84	220	390						
299/8	CORE	11.29 - 13.30	2.01	120	440						
299/9	CORE	13.30 - 14.63	1.33	15	620						
299/10.	CORE	14.63 - 16.04.	1.41.	170	600.						

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE

COMMENT PROJECT

5 cm

923062

SCALE 1:100

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT

LENGTH 27·43m NORTHING 4416 N
AZIMUTH 090° EASTING 7651E.
DIP AT COLLAR 70° ELEVATION 520·4.
LOCATION KARA SOUTH (11-14 FEB 1981) PROJECT KARA

HOLE No 300 PAGE 1 OF 1/2

% CORE RECOVERY	CORE SPLIT	FEATURE INTERVAL	FEATURE ppm UO_2	FRACTURING	BEDDING	GEOLOGY	MINERAL
SLUDGE ONLY.	SLUDGE.	1·52.	160			Cl.	
		1·53	85.				
		1·52	20				
		1·53	190				
		1·52.	160				
9·144		1·52.	95				
30·7		1·53	220			G.	
10·67							
46·7		1·52.	75				
12·19							
88·9							
13·41							
100							
14·33							
100							
15·54							
100							
17·07							
160							
18·59							
100							
20·42							
100							
21·64							
100							
23·05							
100							
24·88							

MINERALISATION

NIL.

GEOLOGY

NO REC.

SOFT CLAYS.

9·14m — 9·14m

GRANITE.

PARTIALLY WEATHERED GRANITE.
SLIGHT EPIDOTISATION.
BIOTITE COMMON.
OTHER MAFICS.

13·05

FINE GRAINED TO MEDIUM GRAINED PINKISH-FRESH GRANITE.
SLIGHT ALTERATION ALONG FRACTURES.
LITTLE MAFICS.

19·00m

MEDIUM GRAINED PINK. GRANITE.
LITTLE TO NO MAFICS.

24·00m

SLIGHTLY ALTERED ZONE OF GRANITE.

24·80m

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH
SURVEY
CONTRACTOR
CORE
CASING
DATE
LOGGED BY
STARTED
FINISHED

5 cm

923063

SCALE 1:100.

LENGTH 27.43m NORTHING 4416 N
AZIMUTH 190° EASTING 7651 E
DIP AT COLLAR 76° ELEVATION 520.4
LOCATION KARA SOUTH (11-14th FEB 1981

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT
HOLE No 300 PAGE 1 OF 2/2
PROJECT KARA.

% CORE RECOVERY	CORE SPLIT	FEATURE		FRACTURING	BEDDING	GEOLOGY	MINERAL
100							
27.43m						27.43	

MINERALISATION

FINE SCHEELITE ON FRACTURE JOINT at 26.38m.

GEOLOGY

GRANITE -
PINK - MEDIUM GRAINED.
LITTLE QUARTZ FILLED FRACTURES.
LITTLE HAMES.

27.43m END OF HOLE.

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH

SURVEY

CONTRACTOR
CORE
CASING

LOGGED BY
DATE
STARTED
FINISHED

FELP

LIBRARY HINDEL.

D.D.H.
KARA SOUTH. 300.

923064

(REC) RECOVERY, CONSIDER 100% EXCEPT AS NOTED
(WX) WEATHERING, CONSIDER FRESH ROCK EXCEPT AS NOTED. WX INDICATES CLAYEY, LIMONITIC MATERIAL

SECTION:				ASSAY				AVE:			AVE:		
SAMP NO.	REC WX	INTERVAL	LGTH		PPm WO3		ppm. Sn.	INVL	LGTH $M-%	WT AR AV.	INVL	LGTH $M-%	WT AR AV.
300/1	SL	0.00-1.52	1.52	↑ S	160		270						
300/2	SL	1.52-3.05	1.53	L	85		310						
300/3	SL	3.05-4.67	1.62	U	20		90						
300/4	SL	4.57-6.10	1.53	D	190		390						
300/5	SL	6.10-7.62	1.52	G	160		620						
300/6	SL	7.62-9.14	1.52	E	95		310						
300/7	SL	9.14-10.67	1.53	|	220		270						
300/8	SL	10.67-12.19	1.52	↓	75.		260						

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE

COMMENT

PROJECT

5 cm

923065

SCALE 1:100.

LENGTH 33.22m NORTHING 4388N.
AZIMUTH 270° EASTING 7685E.
DIP AT COLLAR 70° ELEVATION 5220.5.
LOCATION KARA SOUTH (15-19-FEB 1981) PROJECT KARA

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT
HOLE No 301 PAGE 1 OF 1/2

% CORE RECOVERY	CORE SPLIT	FEATURE INTERVAL	FEATURE ppm WO₃	FRACTURING	BEDDING	GEOLOGY	MINERAL
N. REC. 3.05						No Rec	
SLUDGE 6.10		1.52	150			Q.	
		1.53	280				
71.4 7.01		0.91	70			Tdqm	
25.3 7.92		2.13	20				
7.8 9.14							
91.8 10.26		1.22	120				
85.0 12.50		2.14	180			Tm 20	
100 13.41		0.91	60			Tdem	
95.6 15.24		1.83	860			Tm 25	
100 16.50		1.26	680			Qe.	
						Tm	
89.4 18.29		2.40				Tedq	
100 19.90		2.30					
98.5 21.64							
88.7 24.38		1.72	240			Tgd.	
100.		1.46	220.				

MINERALISATION

NIL OR VERY OCCASSIONAL SMALL SPECKS SCH.

OCCASIONAL SPECKS SCHEELITE.

GEOLOGY

NO RECOVERY - CASING.

3.05.

SLUDGE SAMPLES
CLAY AFTER SKARN.

6.10.

SKARN.

QUARTZ DIOPSIDE MAGNETITE SKARN.
PARTIALLY OXIDISED + FRESH HORIZONS.
LITTLE HEMATITE ALTERATION.
MAGNETITE IN BLEBS + BLOTCHES
MAG SKARN HORIZON 9.14m - 9.35m.

10.52m

MAGNETITE SKARN.
20% MAGNETITE.
LITTLE HEMATITE.
FRACTURED.

Y-F

12.50m

QUARTZ DIOPSIDE EPIDOTE MAGNETITE SKARN MIXTURE.

13.48m

MAGNETITE SKARN.
MAGNETITE 25%.
SLIGHTLY OXIDISED

15.30m

EPIDOTISED QUARTZITE
LIGHT GREEN. MAGNETITE IMPROVS.

16.00m

LIMONITE-MAG SKARN
WEATHERED + RUBBLY.

16.50m

QUARTZ EPIDOTE DIOPSIDE SKARN.

MAGNETITE IMPREGNATED
19.30 - 19.80m.

21.26m

COARSE GARNET DIOPSIDE SKARN.

F.

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH
SURVEY
CONTRACTOR
CORE
CASING
DATE
LOGGED BY
STARTED
FINISHED

5 cm

923066

SCALE 1:100.

LENGTH 33.22m NORTHING 4383N
AZIMUTH 090° EASTING 7685E
DIP AT COLLAR -70° ELEVATION 620.5
LOCATION KARA SOUTH (15-19 FEB 1981

McINTYRE MINES (AUST.) PTY. LTD.
EXPLORATION DEPARTMENT
HOLE No 301 PAGE 1 OF 2/2
PROJECT KARA.

% CORE RECOVERY	CORE SPLIT	FEATURE		FRACTURING	BEDDING	GEOLOGY	MINERAL	MINERALISATION	GEOLOGY
100 26.60		1.62	620.						VERY COA AS ABOVE.
100. 27.43		1.43.	620						27.43.
100 28.46		0.97	900			Tgd.		OCCASSIONAL SPECK.	VERY COARSE GARNET DIOPSIDE SKARN.
100 29.85		1.45	2300					WELL DISSEM SCHEELITE. F.	29.85m.
100 30.48		0.63				Q.			QUARTZITE.
79.5 32.61		2.13							LIGHT GREY FRESH HARD FINE GRAINED QUARTZITE. SKARN MAC RUBBLE HORIZON. 32.61-32.80m.
100 33.22		0.61							END OF HOLE - 33.22m.

ANGLE READ
ANGLE CORRECTED
AZIMUTH
DEPTH
SURVEY
CONTRACTOR
CORE
CASING
DATE
LOGGED BY
STARTED
FINISHED

CALE

42 CORE. LIBRARY MODEL

D.D.H. KARA SOUTH. 301.

923067

(REC) RECOVERY, CONSIDER 100% EXCEPT AS NOTED

(WX) WEATHERING, CONSIDER FRESH ROCK EXCEPT AS NOTED. WX INDICATES CLAYEY, LIMONITIC MATERIAL

SECTION:				ASSAY				AVE:			AVE:		
SAMP NO.	REC WX	INTERVAL	LGTH	ppm WO_3		ppm Sn		INVL	LGTH SM·%	WT AR AV.	INVL	LGTH SM·%	WT AR AV.
301/1	SL.	3·85-4·57	1·52	150		66							
301/2	SL	4·57-6·10	1·53	280		75							
301/7	CORE	6·10-7·01	0·91	70		10							
301/8	"	7·01-9·14	2·13	20		10							
301/9	"	9·14-10·36	1·22	120		24							
301/10	"	10·36-12·50	2·14	180		38							
301/11	"	12·50-13·41	0·91	60		28							
301/12	"	13·41-15·24	1·83	360		30							
301/13	"	15·24-16·50	1·26	680		30							
301/14	"	16·50-18·90	2·40	150		320							
301/15	"	18·90-21·20	2·30	370		60							
301/1	"	21·20-22·92	1·72	240		680							
301/2	"	22·92-24·38	1·46	220		560							
301/3	"	24·38-26·00	1·62	620		560							
301/4	"	26·00-27·43	1·43	520		700							
301/5	"	27·43-28·40	0·97	940		740							
301/6	"	28·40-29·85	1·45	2300		960							
301/16	"	29·85-30·48	0·63	140		760							
301/17	"	30·48-32·61	2·13.	85		830							
301/18	"	32·61-33·22	0·61.	85		14							

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE

COMMENT

PROJECT KARA SOUTH

AMDEL. | CLIENT | D.D.H. 923068

JOB. N° 1000/82. | CORE - 1/2 SPLIT. | 302. 1/1

18 SEPTEMBER 1981 | KARA SOUTH - MAIN SKARN

SECTION:

Log'd	Feet	Metres Interval	Lgth.	ASSAY % WO3	ppm Sn	ppm Ag	ppm Cu.		AVE: INVL	LGTH SM·%	WT AR AV		AVE: INVL	LGTH SM·%	WT AR AV
	D302														
CORE.	1	0·00 - 1·0	1·0	x	32	L1	—								
	2	1·0 - 2·0	1·0	70	26	L1	—								
	3	2·0 - 3·0	1·0	50	22	L1	—								
	4	3·0 - 4·0	1·0	10	18	L1	—								
	5	4·0 - 5·0	1·0	40	60	L1	—								
	6	5·0 - 6·0	1·0	x	680	L1	—								
	7	6·0 - 7·0	1·0	15	560	L1	—								
	8	7·0 - 8·0	1·0	20	1500	L1	—								
	9	8·0 - 9·0	1·0	15	3750	1	—								
	10	9·0 - 10·0	1·0	x	310	1	260								
	11	10·0 - 11·0	1·0	65	130	L1	710								
	12	11·0 - 12·0	1·0	70	150	1	2800								
	13	12·0 - 13·0	1·0	120	410	1	920								
	14	13·0 - 14·0	1·0	65	290	2	2000								
	15	14·0 - 15·0	1·0	50	170	2	400								
	16	15·0 - 16·0	1·0	30	300	1	820								
	17	16·0 - 17·0	1·0	45	130	1	540								
	18	17·0 - 18·0	1·0	170	370	1	400								
	19	18·0 - 19·0	1·0	160	620	1	46.								
	20	19·0 - 20·0	1·0	85	470	1	920								
	21.	20·0 - 21·20	1·20	50	470	L1	20.								

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE

APPENDIX D

E. L. 17/68 SKARNS - TIN ASSAY RESULTS

D1 - Suttons Skarns - Rock Samples

D2 - Lohreys Pits - Trench Samples

D3 - Location L. 4 - Soil Samples

D4 - Location L. 13 - Trench Samples

D5 - Location L. 11 - Pan Concentrate Stream Sediments

D6 - Companion Skarn - DDH 147

D7 - Kara N - 266 Zone- Trench Samples

D8 - Kara N - 266 Zone- DDH 130

D9 - Kara N - 266 Zone- DDH 131

D10 - Kara N - 266 Zone- DDH 268

D11 - Kara N - 266 Zone- Trench Samples

D12 - Kara No.1 Ore Zone - Trench Samples

D13 - Bob's Bonanza - Trench Samples

D14 - Eastern Ridge - Trench Samples

D15 - Kara South - Trench Samples

D16 - Mineralogical Examinations - Drill Core Kara.

LOCATION - SUTTONS SKARN

Assayed - Amdel Job No. - 351/82 Date 8th August, 1981.

Sample No.	ppm Sn	ppm WO_3
SS1	75	< 10
SS2	85	< 10
SS3	80	10
SS4	60	15
SS5	150	55
SS6	140	110
SS7	160	1750
SS8	230	500
SS9	620	55
SS10	740	30
SS11	360	15
SS12	440	35
SS13	620	30
SS14	300	40

Type of sample - surface grab rock samples

Number of samples - 14

LOCATION - LOHREY'S PITS

Assayed - Amdel Job No. 533/82 Date 18th August, 1981

SAMPLE NO.	ppm Sn	ppm WO_3
LP1	520	1050
LP2	390	2450
LP3	500	1200
LP4	250	350
LP5	1100	3050
LP6	140	420

Type of sample - Surface trench samples

LOCATION L4.

Assayed - Amdel Job No. 745/82 Date 28th August, 1981.

Sample No.	ppm Sn	Sample No.	ppm Sn
L4/1A	20	L4/33	12
L4/1	14	L4/34	14
L4/2	16	L4/35	10
L4/3	30	L4/36	8
L4/4	32	L4/37	12
L4/5	30	L4/38	8
L4/6	60	L4/39	24
L4/7	38	L4/40	8
L4/8	18	L4/41	10
L4/9	22	L4/42	28
L4/10	30	L4/43	26
L4/11	32	L4/44	22
L4/12	30	L4/45	85
L4/13	55	L4/46	120
L4/14	110	L4/47	120
L4/15	150	L4/48	36
L4/16	160	L4/49	85
L4/17	32	L4/50	14
L4/18	12	L4/51	20
L4/19	14	L4/52	20
L4/20	16	L4/53	6
L4/21	18	L4/54	10
L4/22	16	L4/55	10
L4/23	14	L4/56	14
L4/24	20	L4/57	12
L4/25	18	L4/58	6
L4/26	48	L4/59	48
L4/27	30	L4/60	34
L4/28	14	L4/61	28
L4/29	28	L4/62	46
L4/30	18	L4/63	14
L4/31	16		
L4/32	18		

Type of sample - soil

Total No. of samples - 64.

LOCATION L. 13

Assayed - Amdel. Job No. 512/82 Date 8th August, 1981.

Sample No.	ppm Sn	ppm WO_3
L13/1	350	660
L13/2	170	640
L13/3	140	1150
L13/4	160	350
L13/5	65	40
L13/6	140	330
L13/7	150	60
L13/8	940	420
L13/9	310	230
L13/10	340	260

Type of sample - Trench rock sample.
Number of samples - 10.

LOCATION L. 11

Assayed - Amdel Job No. 6274/81 Date 22nd July, 1981.

Sample No.	ppm WO_3	ppm Sn
L/11/1	60	230
1/11/2	170	280
L/11/3	210	900
L/11/4	140	130
L/11/5	760	1150
L/11/6	330	75
L/11/7	260	75
L/11/8	85	22
L/11/9	260	32
L/11/10	270	60
L/11/11	290	38

Type of sample - pan concentrate stream sediment

Number of samples - 11.

LOCATION -COMPANION SKARN

ASSAY RESULTS - DDH 147

Assayed - Amdel Job No. 513/82 Date 18th August, 1981.

Sample No.	Depth (m)	Length Run(m)	ppm Sn	ppm WO_3
D147/2	23.47 - 24.99	1.52	290	55
D147/5	28.04 - 29.56	1.52	310	20
D147/8	32.61 - 34.14	1.53	270	45
D147/11	37.18 - 38.70	1.52	280	15
D147/14	41.76 - 43.28	1.52	330	10
D147/17	46.33 - 47.85	1.52	340	10
D147/20	50.90 - 52.42	1.52	300	55
D147/23	55.47 - 56.99	1.52	260	25
D147/26	60.04 - 61.57	1.53	320	25
D147/29	64.61 - 66.14	1.53	230	10
D147/32	69.19 - 70.71	1.52	270	50
D147/35	73.76 - 75.28	1.52	270	10
D147/38	78.33 - 79.85	1.52	220	15
D147/41	82.90 - 84.43	1.53	300	<10
D147/44	87.47 - 89.00	1.53	160	130
D147/47	92.05 - 93.57	1.52	190	40
D147/50	96.62 - 98.14	1.52	520	190
D147/53	101.19-102.71	1.52	170	15

Type of sample - ½ core

Number of samples- 18.

LOCATION - KARA NORTH 266 ZONE

Assayed - Amdel Job No. 353/82 Date - 8th August 1981

Sample No.	Trench Sample No.	ppm Sn
KN/TR/1	400-402	46
KN/TR/2	403-405	28
KN/TR/3	406-408	95
KN/TR/4	409-411	100
KN/TR/5	412-414	40
KN/TR/6	415-417	75
KN/TR/7	418-420	80
KN/TR/8	421-423	22
KN/TR/9	424-426	26
KN/TR/10	427-429	85
KN/TR/11	430-432	160
KN/TR/12	433-435	960
KN/TR/13	436-438	290

Type of sample - Trench rock samples

Number of samples - 13

LOCATION - KARA NORTH (266 ZONE)

D.D.H. 130 - Sn ASSAYS

Assayed - Amdel. Job No. 238/82 Date 29th July, 1981.

Sample No.	Depth (m)	Interval(m)	ppm Sn
D130/1	7.62 - 9.14	1.52	1800
D130/2	9.14 -12.19	3.05	1450
D130/3	12.19-15.24	3.05	1000
D130/4	15.24-18.29	3.05	1100
D130/5	18.29-21.33	3.04	1650
D130/6	21.33-24.38	3.05	1500
D130/7	24.38-27.43	3.05	1550
D130/8	27.43-30.48	3.05	1450
D130/9	30.48-33.53	3.05	1400
D130/10	33.53-36.57	3.04	1850
D130/11	36.57-39.62	3.05	1200
D130/12	39.62-42.67	3.05	1300
D130/13	42.67-45.71	3.04	600
D130/14	45.71-48.77	3.06	540
D130/15	48.77-51.81	3.04	130
D130/16	51.81-54.86	3.05	220
D130/17	54.86-57.90	3.04	190
D130/18	57.90-60.96	3.04	250
D130/19	60.96-64.00	3.04	660
D130/20	64.00-67.05	3.05	440
D130/21	67.05-70.10	3.05	680
D130/22	70.10-73.15	3.05	540

Type of sample - ¼ core

Number of samples - 22

LOCATION - KARA NORTH (266 ZONE)

D.D.H. 131 - Sn ASSAYS

Assayed - Amdel Job No. 763/82 Date - 31st August, 1981.

SAMPLE NO.	DEPTH (M)	INTERVAL (M)	ppm Sn
D131/1	25.91 - 28.95	3.04	480
D131/2	28.95 - 32.00	3.05	30
D131/3	32.00 - 35.05	3.05	20
D131/4	35.05 - 38.10	3.05	65
D131/5	38.10 - 41.15	3.05	130
D131/6	41.15 - 45.66	4.51	490
D131/7	45.66 - 48.77	3.11	560
D131/8	48.77 - 51.83	3.06	420

Type of sample - ½ Core

Number of samples - 8

LOCATION - KARA NORTH (266 ZONE)

D.D.H. 268 - Sn ASSAYS

Assayed - Amdel Job No. 763/82 Date - 31st August, 1981

Sample No.	Depth (m)	Interval(m)	ppm Sn
D268/1	52.60 - 53.80	1.20	1450
D268/2	53.80 - 55.30	1.50	1550
D268/3	55.30 - 58.30	3.00	2100
D268/4	58.30 - 61.30	3.00	1050

Type of sample - ¼ Core

Number of samples - 4

LOCATION - KARA NORTH (266 ZONE)

TRENCH SAMPLES - ppm WO_3 Sn

Assayed - Amdel Job No. 352/82 Date 8th August, 1981.

Sample No.	Trench Interval(m)	ppm WO_3	ppm Sn
KN1	3	-	130
KN2	3	-	190
KN3	3	-	940
KN4	3	-	1950
KN5	3	-	2450
KN6	1	2550	2000
KN7	1	4700	2350
KN8	1	1.14%	2650
KN9	1	9000	1850
KN10	1	8800	1600
KN11	1	8300	1650
KN12	1	6800	1350
KN13	1	4300	940
KN14	1	1850	2150
KN15	1	9100	2650
KN16	1	8200	2350
KN17	1	5700	2250
KN18	1	4000	2000
KN19	1	5400	2300
KN20	1	2500	1350
KN21	1	4600	2100
KN22	1	1550	1950
KN23	1	760	1450
KN24	1	320	600
KN25	1	860	1050
KN26	1	6800	3950
KN27	1	4550	1850
KN28	1	4400	1400
KN29	1	2100	1500
KN30	3	-	1250
KN31	3	-	980
KN32	3	-	700
KN33	3	-	620
KN34	3	-	270

Sample No.	Trench Interval(m)	ppm WO_3	ppm Sn
KN35	3	920	760
KN36	3	1750	1150
KN37	3	940	1250
KN38	3	340	620
KN39	3	230	490
KN40	3	240	480
KN41	3	340	1250
KN42	3	220	520
KN43	3	130	430
KN44	3	130	340

Type of sample - Trench rock sample

Number of samples- 44

LOCATION - KARA NO. 1 ORE ZONE

Assayed - Amdel Job No. 353/82 Date 8th August, 1981.

Sample No.	Trench Sample No. (Length Metres)	ppm Sn
1. PIT TRENCH		
P/TR/1	332-336-4m	470
P/TR/2	337-341-4m	450
P/TR/3	342-346-4m	360
P/TR/4	347-351-4m	520
P/TR/5	352-355-4m	300
2. DAM TRENCH		
D/TR/1	300-304-4m	560
D/TR/2	305-309-4m	960
D/TR/3	310-314-4m	860
D/TR/4	315-319-4m	620
D/TR/5	320-324-4m	520
D/TR/6	325-330-4m	520

Type of sample - Trench rock sample

Number of samples - 11

LOCATION - BOB'S BONANZA SKARN

Assayed - Amdel Job No. 353/82 Date - 8th August, 1981

Sample No.	Trench Sample No. Length - Metres	ppm Sn
BB1	600-604 (4m)	1150
BB2	605-609 (4m)	450
BB3	610-614 (4m)	1150
BB4	615-619 (4m)	400
BB5	620-624 (4m)	560
BB6	625-629 (4m)	800
BB7	630-634 (4m)	1250
BB8	635-639 (4m)	170
BB9	640-644 (4m)	660

Type of sample - Trench rock sample

Number of samples - 9

LOCATION - EASTERN RIDGE

Assayed - Amdel Job No. 353/82 Date 8th August, 1981.

Sample No.	Trench Sample No. Length Metres	ppm Sn
TRENCH E.R. 3 (Lower Skarn)		
ER3/1	507-509(9m)	260
ER3/2	510-513(9m)	170
TRENCH E.R. 3 (Upper Skarn)		
ER3/3	514-518(12m)	500
ER3/4	519-523(12m)	1450
ER3/5	524-528(12m)	1800
CREEK TRENCH (Upper Skarn)		
CF/1	163-168(5m)	1350
CF/2	169-171(3m)	800
CF/3	172-174(3m)	800
CF/4	175-177(3m)	780
CF/5	178-180(3m)	1600
CF/6	181-184(3m)	1100
CF/7	186-(1m)	1100
CF/8	186-188(2m)	1050
RIPPER TRENCH (Upper Skarn)		
RT/1	123-125(3m)	2750
RT/2	126-128(3m)	2100

Type of sample - trench rock sample.

Number of samples - 15

LOCATION - KARA SOUTH SKARN

Assayed - Amdel Job No. 196/82 Date - 30th July, 1981

Trench Samples - Trench G (1 metre intervals)

Sample No.	ppm Sn
G1	410
G2	680
G3	230
G4	360
G5	1400
G6	520
G7	640
G8	960
G9	640
G10	880
G11	780
G12	940
G13	920
G14	1050
G15	470
G16	460
G17	840
G18	330
G19	250
G20	280
G21	250
G22	290
G23	260
G24	290
G25	230
G26	200
G27	270
G28	350

Type of sample - Trench samples - 1 metre intervals

Number of samples - 28.

MINERALOGICAL EXAMINATIONS - KARA DRILL CORE

[redacted]

923086

M509	-	DDH 267	Kara N.	- 54.7-55.7(1m)	- 0.29% Sn	M504 - DDH 271 East Ridge	22.4-23.9m (1.50m) 1.22% Sn
M510	-	DDH 290	Kara N.	- 38.4-39.4(1m)	- 0.34% Sn	M505 - DDH 233 West Flank	40.15-41.15(1.00m) 0.85% Sn
M511	-	DDH 290	Kara N.	- 13.4-14.4(1m)	- 0.27% Sn	M506 - DDH 233 West Flank	41.15-42.15(1.00m) 1.14% Sn
						M507 - DDH 233 West Flank	42.15-43.15(1.00m) 0.97% Sn

Central Mineralogical Services

Sample No.	Classification - Composition	Fabric	Accessories	Comments
M 509 (T.S. 38264)	Garnet Skarn. Grossular-andradite with sporadic intergranular magnetite, minor quartz, partly altered (phlogopitised/carbonated) diopside, similarly altered actinolite.	Medium-grained, granular to euhedral garnet, intergranular accessories.	Rare intergranular calcite, apatite, quartz. Isolated clusters of vesuvianite.	Close affinities with M 500, 504, etc., but lacking fractures, late ferruginisation. No detectable cassiterite.
M 510	Garnet Skarn. Near-massive grossular-andradite with sporadic patches of fine-grained magnetite. Minor serpentinous chlorite aggregates, patchy vein-type quartz aggregates, talc clots.	Granular to euhedral, locally complexly-zoned garnet, platy to acicular magnetite.	Traces calcite, ultra-fine tremolite-actinolite (quartz veins). Rare corroded relics ?pagelite.	Similar to M 504 etc. with quartz healing localised zones of granulation. Magnetite is secondary after subacicular ilvaite-like talc. opaque, possibly pagelite.
M 511	Garnet Skarn. Near-massive grossular-andradite with minor intergranular films, clots of talc. Semi-pervasive late limonitic films, microfractures.	Relatively coarse-grained, variably zoned/twinned garnet.	Minor fine-grained, degraded magnetite.	Typical, virtually massive garnet skarn with late limonitic ferruginisation similar to M 500 etc. No detectable cassiterite.
M 504	Garnet Skarn. Virtually massive grossular-andradite with minor intergranular, degraded phlogopite, ?actinolite.	Variably-sized granular, complexly-twinned/zoned garnet.	Traces oxidised fine-grained magnetite, ?pyrrhotite.	Relatively garnetiferous skarn, partly weathered/ferruginised. No optically detectable cassiterite.
M 505	Garnet Skarn. Near-massive grossular-andradite with minor intergranular talc (after tremolite, ?phlogopite), partly martitised/oxidised magnetite.	Closely analogous to M 504, but with relatively simple granular garnet.	Traces quartz. Semi-pervasive limonite films, impregnations.	Close affinities with M 504. No optically detectable cassiterite.
M 506	Garnet Skarn. Virtually massive grossular-andradite with minor intergranular talc aggregates, sparse martitised/oxidised magnetite, pervasive secondary limonite films.	Closely analogous to M 504, 505, but extensively microfractured, locally granulated.	Traces degraded ?phlogopite. Patchy Mn-oxide films.	Close affinities with M 504, 505. No optically detectable cassiterite. Fracturing, ferruginisation reflect late brittle deformation (?faulting).
M 507	Garnet Skarn. Near-massive grossular-andradite with sporadic intergranular films, clots of talc, minor degraded/ferruginised amphibole, magnetite. Pervasive limonite films.	Near-identical with M 506. Sporadic talcose fractures.	Rare degraded/ferruginised ?epidote.	Very similar, closely related to M 506, similarly fractured/ferruginised. No detectable cassiterite.

APPENDIX E

E.L. 17/68 SKARNS - METAL DISTRIBUTION

E1 - Kara No. 1 Main Skarn DDH 220 and 221

LOCATION -KARA NO.1 MAIN SKARN

DDH 220 and 221 - Pb and Ag Assays

Assayed - Amdel Jon No. 764/82 Date - 26th August, 1981.

DDH 220

Sample No.	Depth(m)	Interval(m)	ppm Pb	ppm Ag
D220/1	15.0 - 16.4	1.40	2000	19
D220/2	17.0 - 18.0	1.00	930	8

Number of samples - 2

Type of sample - ¼ Core

DDH 221

D221/1	3.00 - 3.60	0.60	450	3
/2	3.60 - 4.20	0.60	3500	32
/3	4.20 - 5.00	0.80	1.60%	11
/4	5.00 - 6.00	1.00	4500	7
/5	6.00 - 6.80	0.80	50	3
/6	6.80 - 8.00	1.20	50	2
/7	8.00 - 9.00	1.00	55	1
/8	9.00 -10.20	1.20	110	2
/9	10.20-11.70	1.50	270	4
/10	11.70-13.30	1.60	1.40%	7
/11	13.30-14.80	1.50	300	2
/12	14.80-16.30	1.50	1000	2
/13	16.30-17.30	1.00	4200	15
/14	17.30-18.50	1.20	2100	6
/15	18.50-19.30	0.80	2300	2

Number of samples - 15

Type of sample - ¼ Core.

APPENDIX F

ASSAY RESULTS - MISCELLANEOUS LOCATIONS E.L. 17/68

F1 - Location L. 1 - Soil and Pan Concentrate Samples

F2 - Ringwood Granite Area - Rock and Pan Concentrate Samples

F3 - Location L. 13 - Soil Samples

F4 - Location L. 10 - Soil Samples

LOCATION L. 1

Soil Samples - WO_3 Assays

Assayed - Amdel Job No. 1784/82 Date 23rd October, 1981

Sample No.	ppm WO_3	Sample No.	ppm WO_3
L1/1S	30	L1/14S	10
L1/2S	40	L1/15S	50
L1/3S	25	L1/16S	10
L1/4S	20	L1/17S	25
L1/5S	10	L1/18S	25
L1/6S	<10	L1/19S	55
L1/7S	15	L1/20S	20
L1/8S	20	L1/21S	45
L1/9S	<10	L1/22S	<10
L1/10S	<10	L1/23S	30
L1/11S	20	L1/24S	<10
L1/12S	15	L1/25S	35
L1/13S	15	L1/26S	35

Number of samples - 26.

PAN CONCENTRATE - STREAM SEDIMENT SAMPLES

Assayed - Amdel Job No. 1784/82 Date 23rd October, 1981

Sample No.	ppm WO_3	ppm Sn
L1/1P	65	300
L1/2P	15	490

Number of samples - 2

LOCATION - RINGWOOD GRANITE AREA

RINGWOOD GRANITE GOSSAN ROCK SAMPLES

Assayed - Amdel Job No. 5826/81 Date - 3rd June, 1981
5827/81

Sample No.	Cu	Pb	Zn	Bi	Ag	Mo	Au	% F
GP1	10	20	30	L10	L1	2	Lo.05	0.05
GP2	40	5	8	10	L1	2	L0.05	0.05
GP3	38	10	8	10	L1	2	L0.05	0.05
GP4	65	5	8	10	L1	3	L0.05	0.05
GP5	36	5	6	10	L1	4	L0.05	L0.05
GP6	32	20	6	10	L1	3	L0.06	L0.05

Number of samples - 6

PAN CONCENTRATE SAMPLES

Sample No.	ppm WO_3
GL100	210
GL101	Nil

Number of samples 2

LOCATION L. 13 - GRID SOIL SAMPLE ASSAYS

Assayed - Amdel. Report No. 5750/81 Date May 28th, 1981

SAMPLE NO.	ppm WO_3	SAMPLE NO.	ppm WO_3
S26	L.10	S43	230
S27	25	S44	320
S28	110	S45	75
S29	270	S46	25
S30	460	S47	10
S31	900	S48	25
S32	410	S49	200
S33	230	S50	160
S34	410	S51	10
S35	410	S52	35
S36	500	S53	180
S37	55	S54	210
S38	25	S55	170
S39	20	S56	310
S40	15	S57	35
S41	280	S58	50
S42	260		

Total number of samples - 33

LOCATION L. 10 - GRID SOIL SAMPLE ASSAYS

Assayed - Amdel. Report No. 5826/81 Date 1-3rd June, 1981.

SAMPLE NO.	ppm WO_3	SAMPLE NO.	ppm WO_3
L10/1	30	L10/19	40
L10/2	45	L10/20	15
L10/3	65	L10/21	30
L10/4	25	L10/22	20
L10/5	30	L10/23	30
L10/6	25	L10/24	25
L10/7	15	L10/25	40
L10/8	30	L10/26	75
L10/9	25	L10/27	60
L10/10	15	L10/28	10
L10/11	20	L10/29	30
L10/12	20	L10/30	20
L10/13	40	L10/31	35
L10/14	15	L10/32	10
L10/15	20	L10/33	25
L10/16	40	L10/34	15
L10/17	40	L10/35	85
L10/18	20		

Total Number of Samples - 35

APPENDIX G

KARA NORTH 266 ZONE - ASSAY RESULTS

DRILLING PROGRAMME

G1 - DDH 303

G2 - DDH 305

ANDEL.

JOB. N° 1209/82.

18 SEPT. 1981.

CORE - ½ SPLIT.
+ SLUDGE.

D.D.H. 303.

KARA. N - 266 ZONE.

SECTION :

Sludge / Core	Feet Interval	Metres Interval	Lgth	% WDS	ASSAY Sn	ASSAY Ag			AVE: INVL	AVE: LGTH $Sn-\%$	AVE: INT AV	AVE: INVL	AVE: LGTH $Sn-\%$	AVE: INT AV
	D303													
SLUDGE	S/1	0·00 - 5·18	6·18	2300										
	S/2	5·18 - 6·70	1·52	1650										
	S/3	6·70 - 8·23	1·53	1400										
	S/4	8·23 - 9·75	1·52	2760										
	S/5	9·75 - 11·27	1·52	2800										
	S/6.	11·27 - 12·80	1·53	1750.										
					ppm Sn	ppm Ag								
CORE	D303 1	5·18 - 6·00	0·82	720	1600	< 1								
	2	6·0 - 7·0	1·0	1900	3800	< 1								
	3	7·0 - 8·0	1·0	1600	3600	< 1								
	4	8·0 - 9·0	1·0	700	4350	< 1								
	5	9·0 - 10·0	1·0	2750	4600	< 1								
	6	10·0 - 11·0	1·0	3500	2300	< 1								
	7	11·0 - 12·0	1·0	3400	1900	< 1								
	8	12·0 - 13·0	1·0	600	1850	< 1								
	9	13·0 - 14·0	1·0	1450	1750	< 1								
	10	14·0 - 15·0	1·0	260	960	< 1								
	11	15·0 - 16·0	1·0	940	1150	< 1								
	12	16·0 - 17·0	1·0	430	900	< 1								
	13	17·0 - 18·0	1·0	540	920	< 1								
	14	18·0 - 19·0	1·0	2850	1300	< 1								
	15	19·0 - 20·0	1·0	2150	1350	< 1								
	16	20·0 - 21·0	1·0	640	920	< 1								
	17	21·0 - 22·0	1·0	850	1100	< 1								
	18	22·0 - 23·0	1·0	1700	1250	< 1								
	19.	23·0 - 24·0	1·0	3050	1000	< 1								

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE

AMDEL.

JOB. Nº. 1209/82

DATE - 18 SEPT 1981

CORE - 1/2 SPLIT.

D.D.H. 303

923096

2/2

KARA. N - 266 ZONE.

SECTION:

Sludge / Core	Feet	Metres Interval	Lgth.	ASSAY ppm WO_3	ppm Sn	ppm Ag			AVE: INVL	LGTH $SN-\%$	WT AR AV	AVE: INVL	LGTH $SN-\%$	WT AR AV.
	D303													
CORE	20	24.0-25.0	1.0	760	860	<1								
	21	25.0-26.0	1.0	2050	1150	<1								
	22	26.0-27.0	1.0	480	1050	<1								
	23	27.0-28.0	1.0	390	1550	<1								
	24	28.0-29.0	1.0	2000	1750	<1								
	25	29.0-30.0	1.0	2500	1850	<1								
	26	30.0-31.0	1.0	2550	1150	<1.								
	27	31.0-32.0	1.0	900	1800	<1								
	28	32.0-33.0	1.0	1200	1800	<1								
	29	33.0-34.0	1.0	1200	1150	<1								
	30	34.0-35.0	1.0	7200	840	<1								
	31	35.0-36.0	1.0	6300	1800	<1								
	32	36.0-37.0	1.0	1300	1950	<1								
	33	37.0-38.0	1.0	2600	1300	<1								
	34	38.0-39.0	1.0	3300	1150	<1								
	35	39.0-40.0	1.0	2800	600	<1								
	36	40.0-41.0	1.0	860	1350	<1								
	37	41.0-42.0	1.0	436	540	<1								
	38	42.0-43.0	1.0	960	800	<1								
	39	43.0-44.0	1.0	1950	240	<1								
	40	44.0-45.0	1.0	290	270	<1								
	41	45.0-46.0	1.0	50	110	<1								
	42	46.0-47.0	1.0	55	140	<1								
	43.	47.0-48.46	1.46.	20	160	<1								

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE

ELF 1/2 CORE. LIBRARY ANDEL. U.D.H. 923097

ANDEL JOB. Nº AC 1784/82. 305 1/1

DATE. 28 OCT. 1981. CORE SAMPLES. KARA NORTH – 266 ZONE.

SECTION :

ASSAY

AVE : AVE :

Sludge or Core	Feet	Metres Interval	Lgth.	%WO₃					INVL	LGTH %M-%	WT AR AV	INVL	LGTH %M-%	WT AR AV.
0806														
1		8·40 - 9·75	1·35	620										
2		9·75 - 10·97	1·27	2800										
3		10·97 - 12·19	1·27	1360										
4		12·19 - 13·11	0·92	640										
5		14·00 - 15·0	1·00	1950										
6		15·0 - 16·0	1·00	2000										
7		16·0 - 17·0	1·00	4050										
8		17·0 - 18·0	1·00	780										
9		18·0 - 19·0	1·00	2150										
10		19·0 - 20·0	1·00	1200										
11		20·0 - 21·0	1·00	1·71%										
12		21·0 - 22·0	1·00	1·04%										
13		22·0 - 23·0	1·00	1600										
14		23·0 - 24·0	1·00	9000										
15		24·0 - 25·0	1·00	660										
16		25·0 - 26·0	1·00	400										
17		26·0 - 27·0	1·00	1500										
18		27·0 - 28·0	1·00	520										
19		28·0 - 29·0	1·00	120										
20		29·0 - 30·0	1·00	370										
21		30·0 - 31·0	1·00	350										
22		31·0 - 32·0	1·00	1650										
23		32·0 - 33·0	1·00	150										
24		33·0 - 34·0	1·00	45										
25		34·0 - 35·0	1·00	55										
26		35·0 - 36·0	1·00	210										
27		37·0 - 38·0	1·00	70.										

INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE	INVL	CORE LGTH	WIDTH	AVE

COMMENT PROJECT KARA

Vol (3)

923098

McINTYRE MINES (AUSTRALIA) PTY. LTD.

E. L. 17/68 AND CL 105M/77

PROPOSED WORK PROGRAMME AND ESTIMATED EXPENDITURES

PERIOD - 4th NOVEMBER 1981 TO 3rd NOVEMBER 1982

SUBMITTED BY

McINTYRE MINES (AUSTRALIA) PTY. LTD.

(For and on behalf of McIntyre Mines (Australia) Pty. Ltd., and Tasminex N.L.)

C. H. WHITEHEAD,

3rd November, 1981.

PROPOSED WORK PROGRAMME - E. L. 17/68 & CL. 105M/77

PERIOD NOVEMBER 4th 1981 TO NOVEMBER 3rd 1982

In support of an application for the renewal of Exploration Licence 17/68 for a period of twelve months to November 3rd 1982, McIntyre Mines (Australia) Pty. Ltd., for and on behalf of Tasminex N.L., and McIntyre Mines, hereby submit details of a proposed work programme and estimated expenditure for the period in question.

McIntyre Mines (Australia) Pty. Ltd., believe the area embraced by E.L. 17/68 has sound economic potential and that a continuation of both exploration investigations and engineering-economic studies is justified, and one which should be pursued in an energetic manner.

The prime objectives of the current proposed investigations are:-

- To fully evaluate the overall economic potential of E.L. 17/68
- To increase, by drilling and metallurgical studies, the known reserves of open pit scheelite bearing ore at the Kara properties
- To reach a stage where a decision can be made as to whether and how the Kara tungsten deposits can be brought into production on a sound economically viable basis

A. Work Programme

As outlined in the accompanying report applicable to completed work within E.L. 17/68 for the six month period to November 3rd 1981, McIntyre Mines are at present at the midway stage of completing Phase 1 of a Pre-Development Programme. This Phase 1 work will be continued and scheduled for completion by the end of February 1982. At that stage, it is envisaged the 2nd Phase of the Pre-Development Programme, also of six months duration, will be initiated.

Details of proposals and intentions of Phase 1 and 2 work can be summarised conjunctively as follows:-

1. Exploration - Geologic Work

Since 1978 McIntyre Mines have undertaken extensive exploration work in the E.L. area, both in a regional sense and more specifically by detailed surface examinations at a multitude of localised prospective areas. Although it would be incorrect to say surface work is complete, it is felt a stage has been reached where the following exploration-geologic appraisals can be made:

- Prepare an overall geologic appraisal and interpretation of the E.L. 17/68 area.
- From overall results to date, classify the tungsten potential of all known and suspected skarn zones in the E.L.
- Recommend additional work programmes(essentially drilling) if and as required for both the tungsteniferous skarns not completely evaluated (infill drilling) or suspected subsurface skarns with possible W potential (exploratory drilling)
- Review the overall potential of other minerals in the E.L. other than tungsten, particular emphasis placed on the commodities tin and iron.
- Undertake routine geologic observations of present mining operations.

2. Drilling Programme

Two separate programmes are planned.

- Infill drilling. This is at present underway and aimed at upgrading and measuring additional reserves of open pit fresh scheelite bearing reserves at the known Kara skarn zones. Diamond drilling at the Kara North 266 Zone is almost complete, and additional holes (approx. 15 holes) are planned for drilling at the Bob's Bonanza, Eastern Ridge, Western Limb and Kara No. 1 skarns.
- Exploratory drilling of skarns with W potential as yet not investigated (eg. Companion Skarn) and of areas and subsurface skarns geologically interpretated as having tungsten potential (eg. Kara N magnetite anomaly, Location L. 5, the area between Eastern Ridge and Bob's Bonanza).

3. Metallurgical Work

This would basically be a continuation of work already initiated, attempting to improve the scheelite recoveries of partially weathered ore and achieve success in recovering the scheelite content of oxidised ore. In this respect the following work is being undertaken or proposed:-

- Complete surface and core evaluations, classifying types of scheelite bearing ore.
- detailed metallurgical tests on various types of partially weathered and oxidised ore.
- Complete a detailed flotation test programme.
- Pursue an attempt at finding a functionable analytical method or field laboratory test capable of defining recoverable scheelite.
- Undertake bulk sample treatment tests, possibly utilising the Tasminex treatment plant.

In addition, metallurgical test work on magnetite tailings will be completed.

4. Production - Engineering Studies

On completion of the current infill drill programme and recalculation of upgraded reserves of open-pit scheelite bearing reserves, it is the intention to formulate in detail a development plan aimed at an economic and efficient operation producing at the rate of 400 tpd. This study would involve the following aspects.

- Pit development and mining plan
- Grade control
- Tailing and waste disposal
- Stockpiling of ore, weathered material, low grade ore and magnetite
- Detailed costs of and design of mill or modifications
- Personnel and management requirements
- Environmental considerations
- Market for increase in production
- Review all cost estimates based on preliminary bids.

5. Environmental - Water Studies

Complete an environmental base line study at the main Kara property to establish current background levels for various elements in soil and water.

Water studies will include establishing water requirements for the designed operation, establishing available water resources and legal ownership of water requirements.

B - PROPOSED ESTIMATED EXPENDITURES

It is anticipated that a total estimated expenditure of $358,000 would be incurred by McIntyre Mines (Australia) Pty. Ltd., in completing the above programme during the 12 month period to November 3rd, 1982.

An itemised breakdown of estimated expenditures would be as follows:-

Fixed costs - office, services, salaries	$60,000
Exploration - geological	$26,000
Drilling - infill drilling	$36,000
- exploratory drilling	$126,000
Metallurgical	$33,000
Production engineering	$52,000
Environmental	$11,000
Administration - contingencies	$14,000
Total	$358,000

C - GENERAL

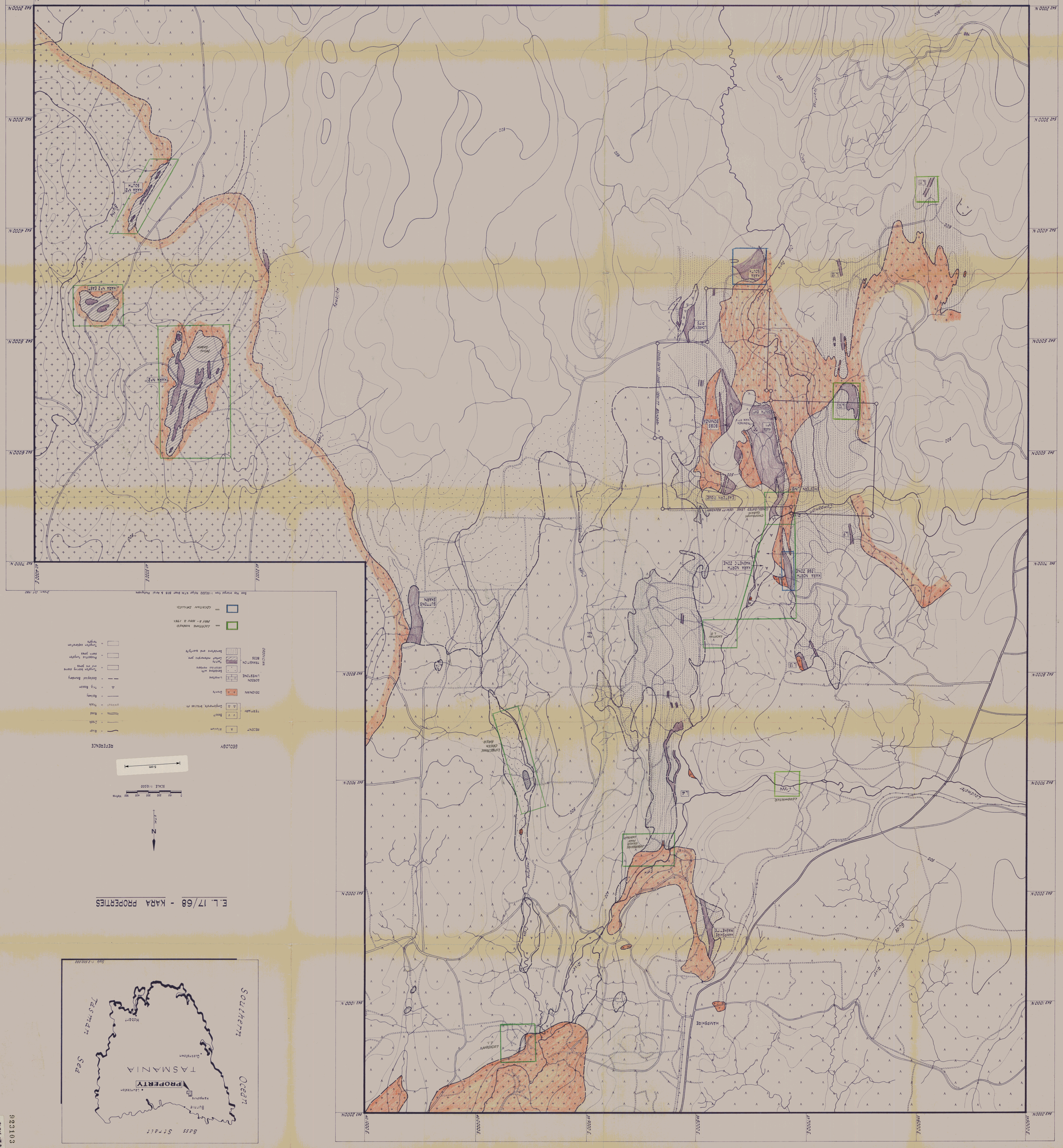
As with any mining - exploration proposal, the above programme is considered sufficiently flexible to cope with any unforseen events (eg. new discoveries, disappointing results etc.). The programme and expenditure will at all times be closely monitored, and if necessary modified in the event of any mitigating circumstances that may arise.

It is believed the above twelve month programme of work can be directed from the McIntyre Mines Regional Exploration Offices on Burnie, using existing in house staff and metallurgical consultants.

C. H. Whitehead,

McIntyre Mines (Australia) Pty. Ltd.

E.L. 17/68 - KARA PROPERTIES



PLAN N° B

923103

KARA Nº 2
(Samples CW 470 - 492R and CW 501 - 503R)

KARA Nº 2 EAST
(Samples CW 497 - 500R)

KARA Nº 2 SOUTH

TO UPPER NATONE

TO LOVETEA

BLYTHE RIVER

BLYTHE RIVER

PULP ROAD

QUARRIES

OLD SAWMILL

CHECK SAMPLES

LEGEND

GEOLOGY

TERTIARY

- Tb — BASALT
- Tc — BASAL CONGLOMERATE

DEVONIAN

- Dg — GRANITE

ORDOVICIAN

- Og — GORDON LIMESTONE
- Or — TRANSITIONAL SERIES
- Om — MOINA SANDSTONE
- Oc — CONGLOMERATE ZONE
- Dm — MAGNETITE SKARN
- CONTACT METAMORPHIC ZONE

- GEOLOGICAL BOUNDARY
- GEOCHEMICAL ANOMALY
- 40° — DIP AND STRIKE

SAMPLING

- × — SAMPLE LOCATION
- × CW350 — STREAM SEDIMENT SAMPLE
- × CW351R — ROCK SAMPLE
- × 1000 — ppm Sn.
- × 50 — ASSAY VALUE IN p.p.m. WO_3

GENERAL

- RIVER
- CREEK
- VEHICLE TRACK
- UNCLEARED FOREST TRACK

SCALE 1:7200

100 0 100 200 300 400 500 METRES

5 cm

N

McINTYRE MINES (AUST.) PTY. LTD.

REGIONAL GEOCHEMICAL SURVEY
KARA Nº 2 REGION
E.L. 17/68

JULY 1981

923104

PLAN. Nº 1.

PEARSONS CONSOLIDATED MINERAL LEASE
MC 26M/64. 90 acres. 26-4-64.

ANOMALY 1.
ANOMALY 2.
ANOMALY 3.
ANOMALY 4.
ANOMALY 5.
ANOMALY 6

D.D.H.1 -50°
D.D.H.2 -50°
D.D.H.3 -50°
D.D.H.4 Vert.
D.D.H.5
D.D.H.6 -50°
D.D.H.7 -50°
D.D.H.8 -50°
D.D.H.9 -50°
D.D.H.10 -50°
D.D.H.14 -50°
D.D.H.16 -50°
D.D.H.17 -50°
D.D.H.18 -50°

DRILL SECTION A
DRILL SECTION B
DRILL SECTION C
DRILL SECTION D
DRILL SECTION E
DRILL SECTION F

To Rogetta Road
To Roadmetal Quarries
To Kara No 2 Sawmill
To Upper Natone Road
QUARRY

LONGITUDINAL SECTION LINE

LEGEND

- Mines Dept. Diamond Drill Hole
- Tasminex Diamond Drill Hole
- Skarn / Granite Contact
- ×K2/10 Rock Sample Location
- ×1100 Sn / 300 WO_3 Results in P.P.M.

MAGNETIC BLOCKS
- > 50,000 Gammas
- 40 – 50
- 30 – 40
- 20 – 30
- 10 – 20
- < 10000 Gammas

N

0 50 100 150 ft.
0 10 20 30 40 50 m.
SCALE: 1:1200

5 cm

923105

McINTYRE MINES (AUST.) PTY. LTD.

KARA Nº 2 – MAIN SKARN
E.L. 17/68

DRAWN: C.H.W.	SCALE: 1:1200
TRACED: T.G.D.S.	DATE: July, 1981

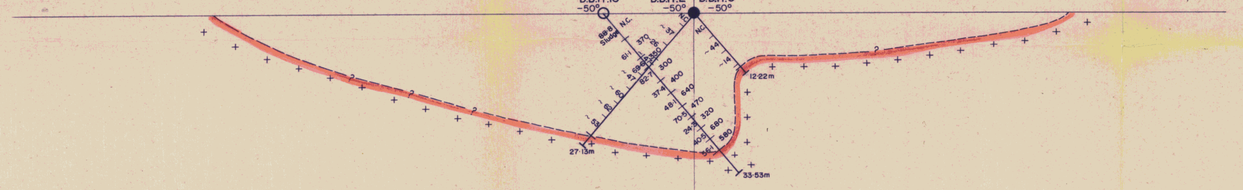
PLAN. Nº 2.

BASE MAP & GROUND MAGNETIC CONTOURS Compiled from Mines Dept. Report Nº 2312–36.

WEST

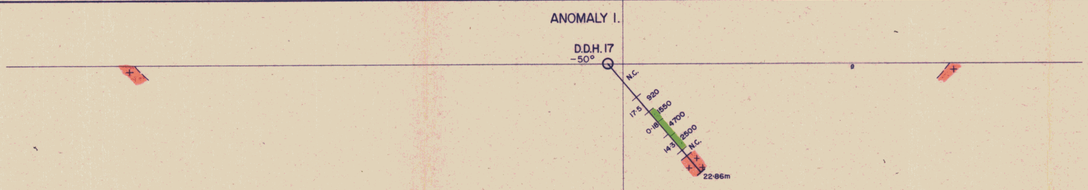
EAST

ANOMALY 1.



SECTION LINE A

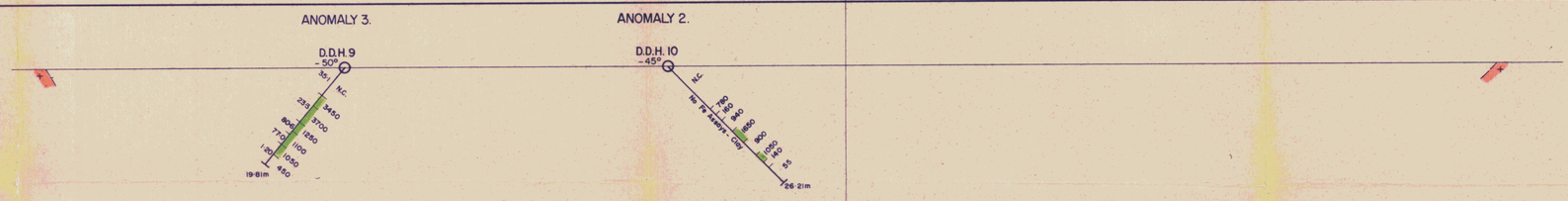
ANOMALY 1.



SECTION LINE B

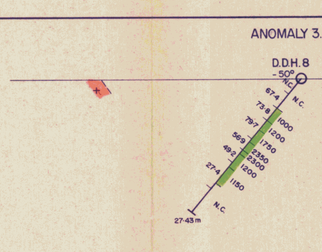
ANOMALY 3.

ANOMALY 2.



SECTION LINE C

ANOMALY 3.

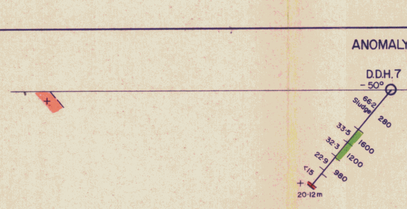


ANOMALY 4

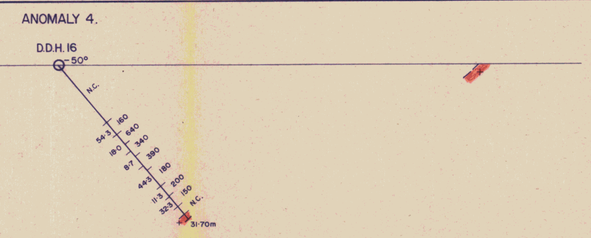


SECTION LINE D

ANOMALY 3.

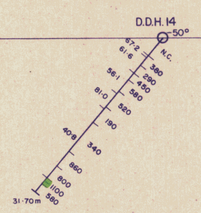


ANOMALY 4.



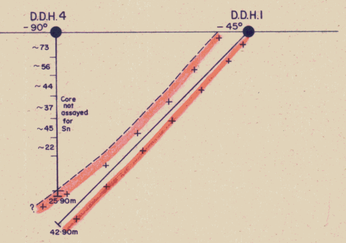
SECTION LINE E

ANOMALY 5.



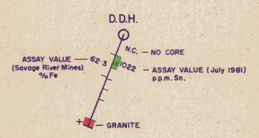
LOGITUDINAL SECTION LINE

ANOMALY 4.



SECTION LINE F

LEGEND:



● MINES DEPT. D.D.HOLE (Not assayed for Sn content)

○ TASMINEX N.L. D.D. HOLE

0 10 20 30 Metres
0 50 100 Feet
SCALE. 1:500 (Hor.+ Vert.)

923106

5 cm

McINTYRE MINES (AUST.) PTY. LTD.

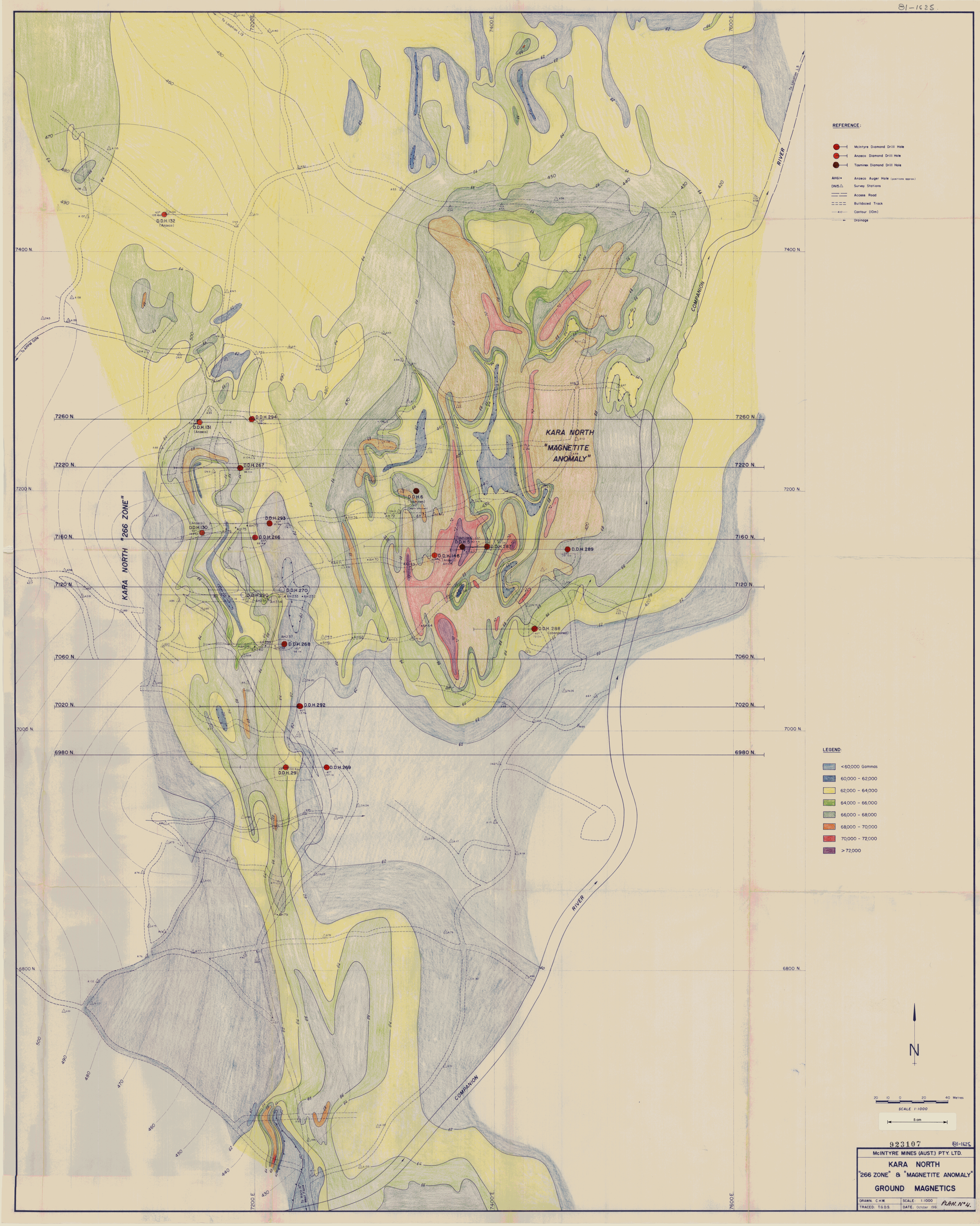
KARA No2 — MAIN SKARN DRILL SECTIONS

(MINES DEPT. & TASMINEX N.L. DATA)

DRAWN: C.H.W.	SCALE: 1:500
TRACED: T.G.D.S.	DATE: July 1981

PLAN No 3.

81-1625.



923107 81-1625

McINTYRE MINES (AUST.) PTY. LTD.

KARA NORTH

"266 ZONE" & "MAGNETITE ANOMALY"

GROUND MAGNETICS

DRAWN: C.H.W.	SCALE: 1:1000
TRACED: T.G.D.S.	DATE: October 1981

PLAN N° 4.

COMPANION SKARN LOCATION

GEOLOGY & GROUND MAGNETICS

McINTYRE MINES (AUST.) PTY. LTD.

DRAWN: C.H.W. | SCALE: 1:1000

TRACED: T.G.D.S. | DATE: October 1[illegible]

PLAN N° 5.

923108

REFERENCE:

GEOLOGY
- Alluvium
- Tertiary Basalt
- Granite
- Skarn
- Sandstone and Quartzite

SYMBOLS
- McIntyre Diamond Drill Hole
- Anzeco Diamond Drill Hole
- McIntyre Auger Hole
- Survey Station

MAGNETICS
- <60,000 Gammas
- 60,000 - 62,000
- 62,000 - 64,000
- 64,000 - 66,000
- 66,000 - 68,000
- 68,000 - 70,000
- 70,000 - 72,000
- >72,000

7200 E. 7400 E.

6600 N. 6400 N. 6200 N.

To Kara North

To Eastern Ridge

To Kara N°1

COMPANION RIVER

WESTERN CONTACT

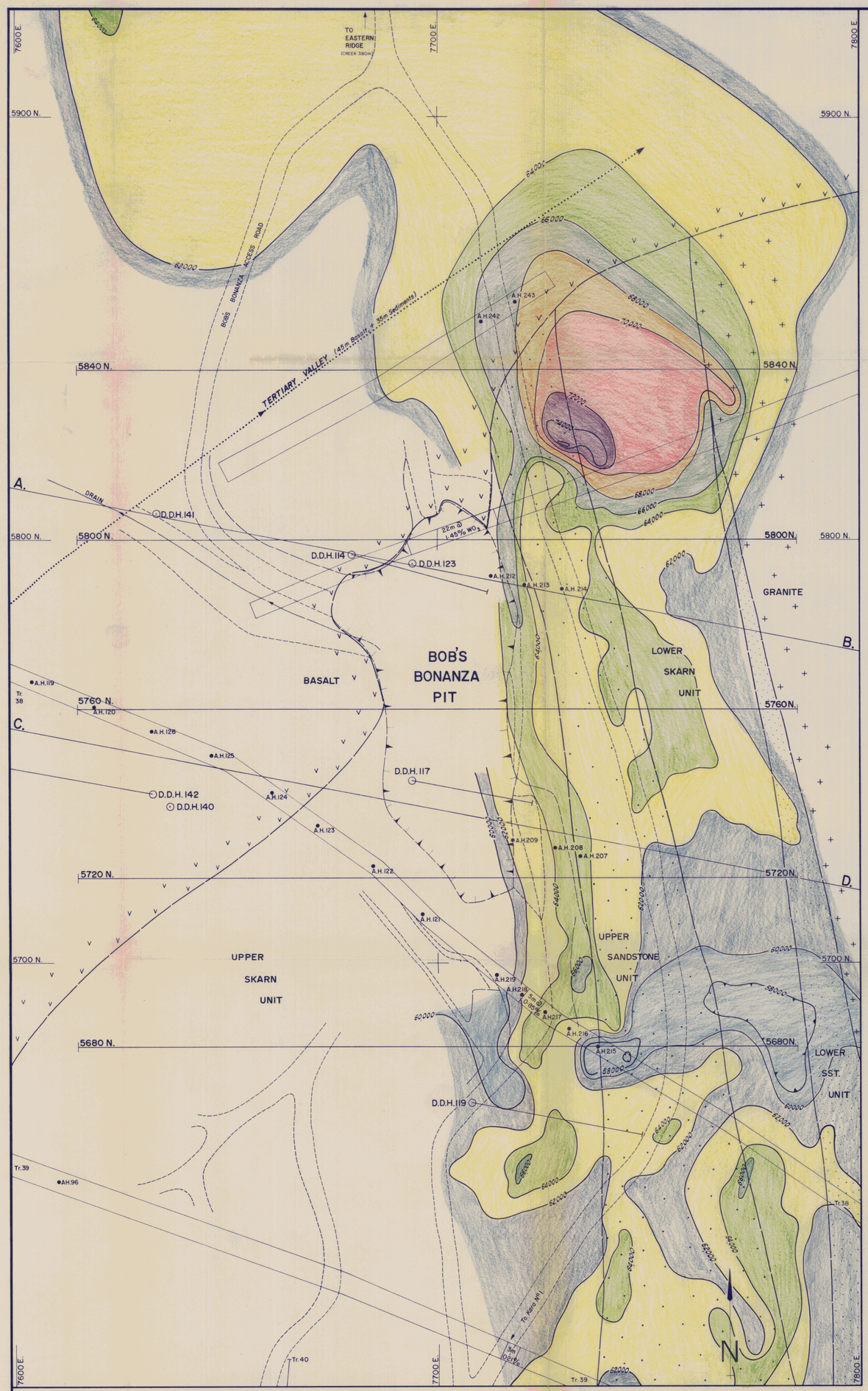
LINE 6230 LINE 6190 LINE 6148

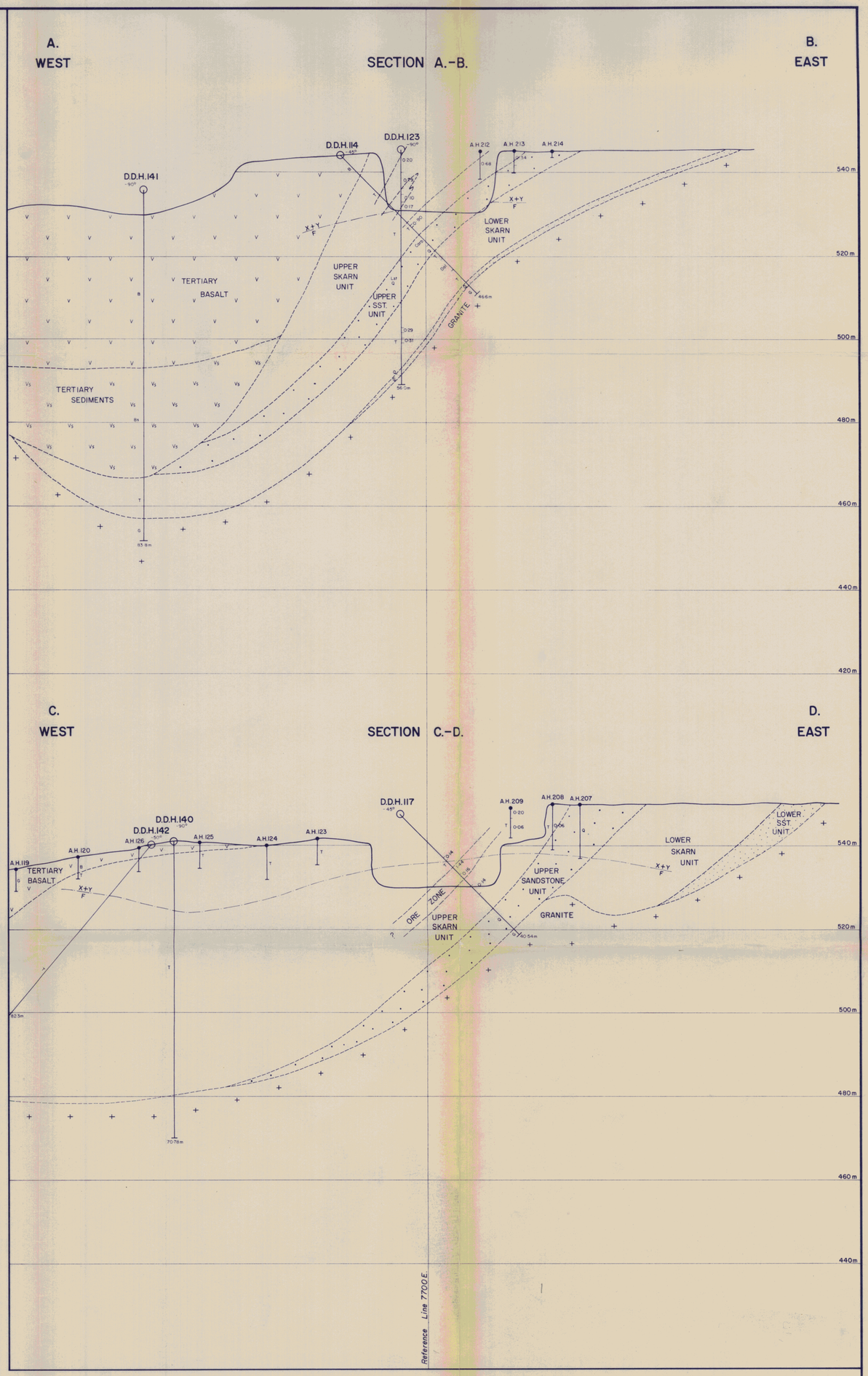
D.D.H.147 D.D.H.234 D.D.H.235 D.D.H.233 D.D.H.283 D.D.H.232 D.D.H.129 D.D.H.286 D.D.H.282 D.D.H.212 D.D.H.284 D.D.H.211 D.D.H.281 D.D.H.285

20 10 0 20 40 Metres

SCALE: 1:1000

5 cm





MAGNETICS:

- <60,000 Gammas
- 60,000 – 62,000
- 62,000 – 64,000
- 64,000 – 66,000
- 66,000 – 68,000
- 68,000 – 70,000
- 70,000 – 72,000
- >72000

10 5 0 10 20 Metres

SCALE 1:500

5 cm

GEOLOGY LEGEND:

- V V / Vs Vs BASALT / SEDIMENTS — TERTIARY
- UPPER SKARN UNIT (ORE ZONE)
- UPPER SANDSTONE UNIT
- LOWER SKARN UNIT
- LOWER SANDSTONE UNIT
- + + GRANITE

McINTYRE MINES (AUST.) PTY. LTD.

BOB'S BONANZA
GEOLOGY, GROUND MAGNETICS AND SECTIONS

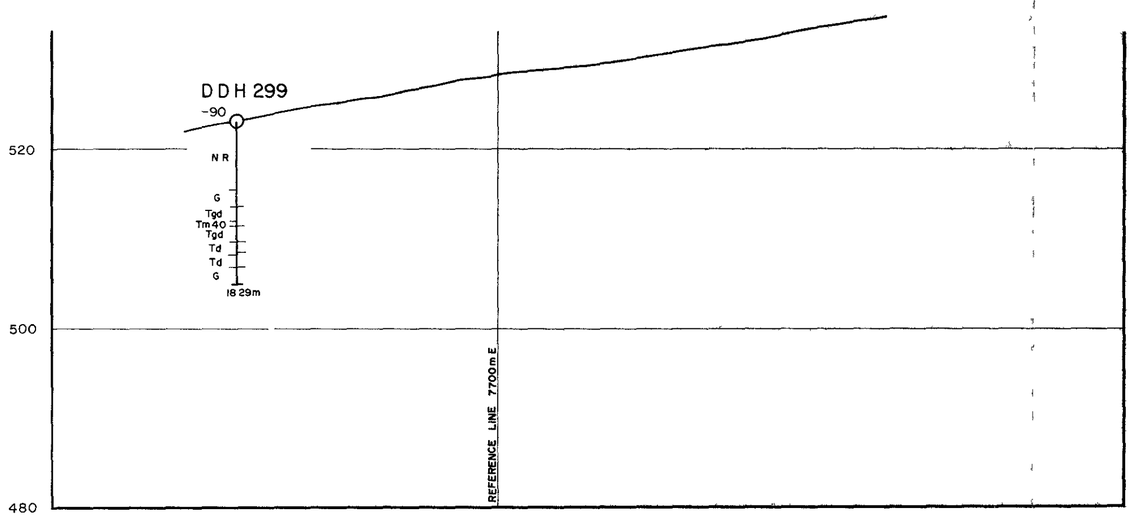
DRAWN: C.H.W.	SCALE: 1:500
TRACED: T.G.D.S.	DATE: October 19[illegible]

PLAN N°6

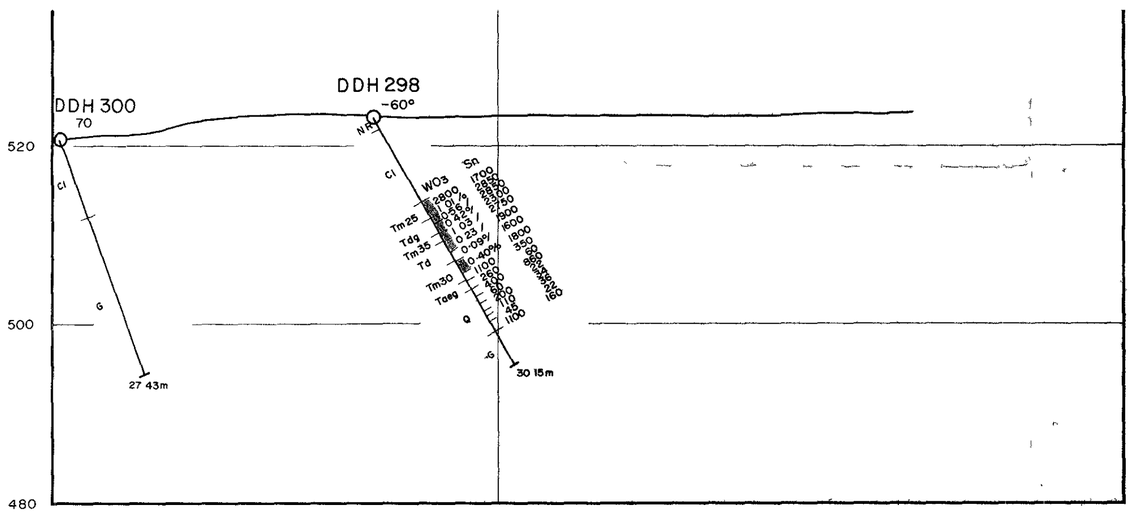
923109

WEST EAST

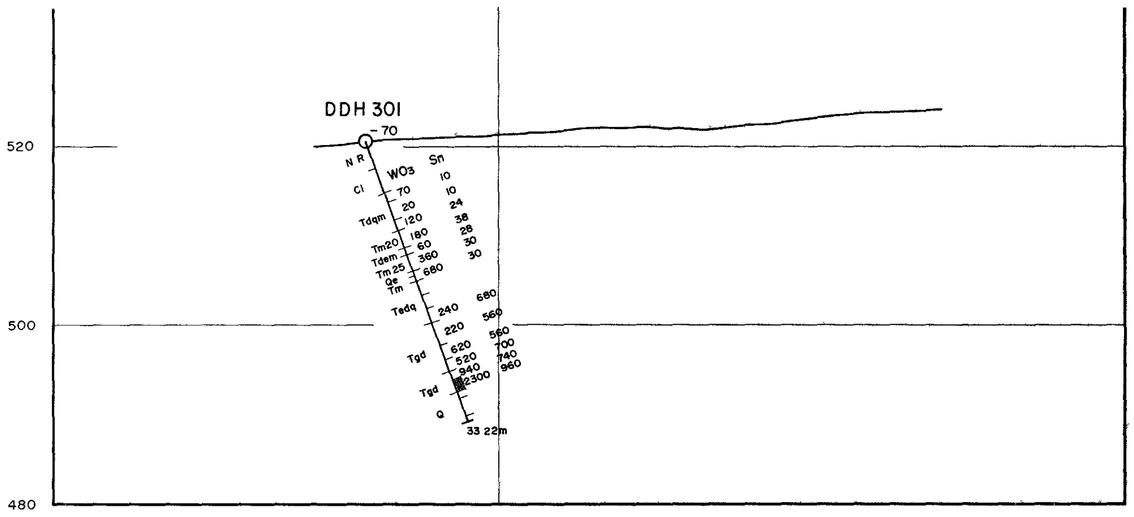
4460 N



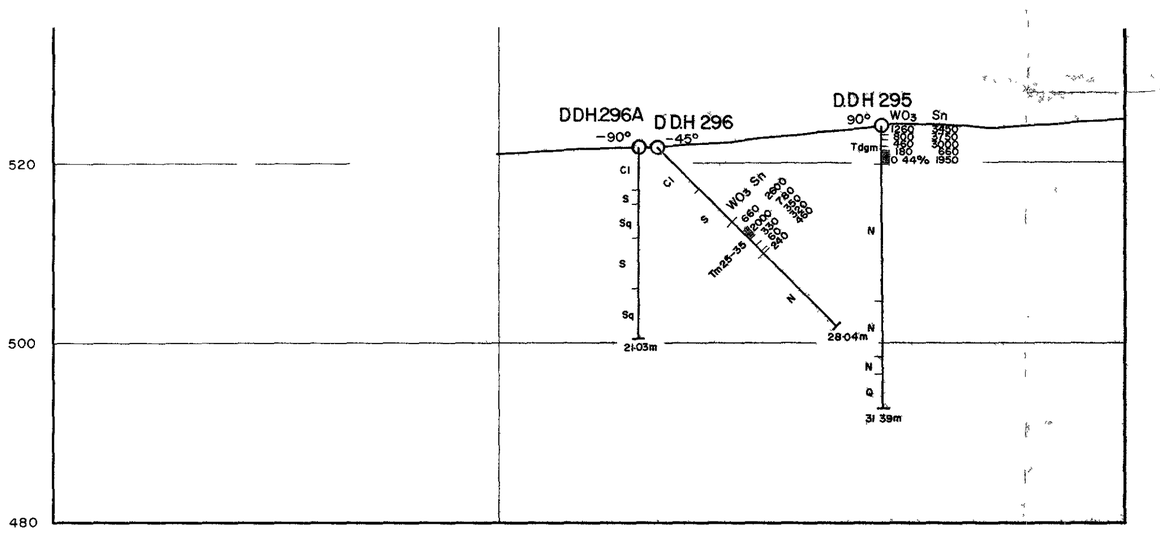
4420 N



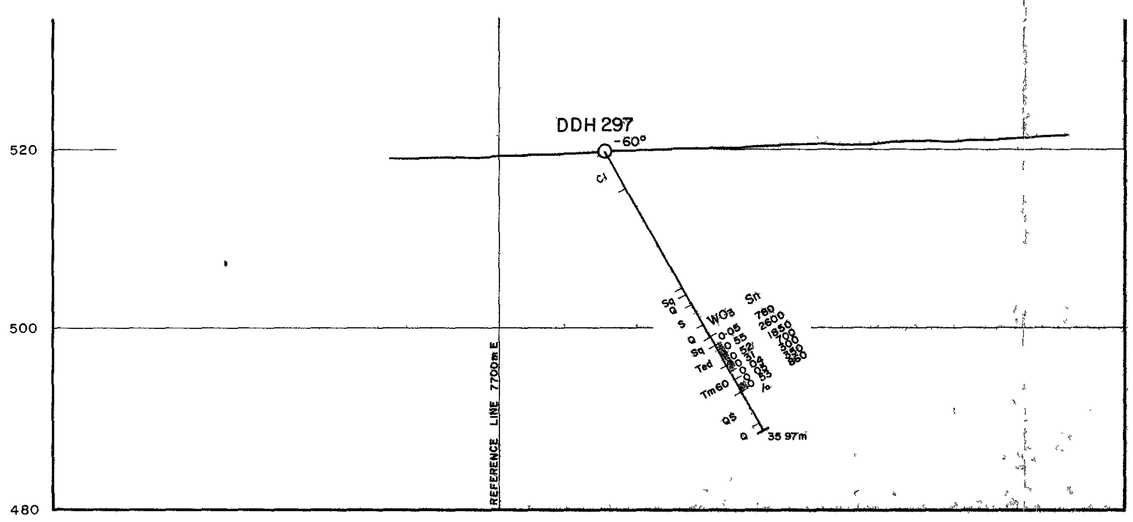
4380 N



4340 N



4300 N



LEGEND

$\frac{X+Y}{F}$ WEATHERED ZONES
X WEATHERED
Y PARTIALLY WEATHERED
F FRESH

N.R No Cor

ROCK TYPE

S — Sedimentary Series
N Siltstone
S Sandstone
Cl Clay
q quartzite

T — Skarn Series
g garnet
d diopside
e epidote
a amphibole
q quartz
m(20) magnetite % indicated

QE — Quartz — Epidote rock
Q — Quartzite
G Granite

0 10 20 30 Metres
0 50 100 Feet
SCALE 1 500 (Hor + Vert)
5 cm

McINTYRE MINES (AUST) PTY LTD
KARA TUNGSTEN PROJECT — TASMANIA
KARA SOUTH
DRILL SECTIONS 4300N TO 4460N
GEOLOGY & ASSAY (WO3 + Sn DISTRIBUTION)

DRAWN C.H.W	SCALE 1 500
TRACED T.G.D.S	DATE July 1981

PLAN N°7

923110