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Annual Report 1999/2000 - EL23/1992 - Alberton

Low Impact Diamond Drilling Specialists Proprietary Li
Dunham, M.; Stebbings, L EL23/1992

EL 23/92 - ALBERTON

**ANNUAL
REPORT
1999/2000**

MINERAL RESOURCES	
FIGURE	EL23/92 PT3
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See folio 26	

**L STEBBINGS
M DUNHAM**

28 September 2000

**LOW IMPACT DIAMOND DRILLING SPECIALISTS PTY LTD
A.C.N. 079 634 692**

**PO BOX 44
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ABSTRACT

Exploration Licence EL 23/92 comprising 31 square kilometres, was granted to Hercules Resources Pty Ltd on the 9th October 1992.

The exploration licence is being explored under a joint venture agreement between Hercules Resources and Low Impact Diamond Drilling Specialists (LIDDS). Under the terms of the agreement, LIDDS are to complete a minimum of 800 metres of diamond drilling within EL 23/92 to earn a fifty (50%) per cent share in the exploration licence.

Three closely spaced, angled diamond drill holes totalling 391.20 metres were completed underneath the historical workings of the Una #1 Adit in the southern area of the exploration licence. A zone of strong shearing, quartz boudins that may be gold bearing was intersected down hole in UNA09 and UNA10. The significance of the zones remains to be tested by assaying.

Diamond drilling is in progress at the Ringarooma Prospect located in the north of the exploration licence and is designed to test the potential gold mineralisation beneath the existing workings. One diamond drill hole RUL01 totalling 210.30 metres has been completed and a second drill hole RUL02 is currently in progress.

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1.0 Introduction

Exploration Licence EL 23/92 comprises an area of 31 square kilometres and encompasses the historical workings of the Alberton Goldfield. Mining Lease 7/88M comprising three square kilometres previously held by Tasmanian Tiger Mines was surrendered and incorporated into EL23/92 during the reporting period.

The exploration licence is currently being explored under a joint venture agreement between Hercules Resources and Low Impact Diamond Drilling Specialists (LIDDS). Under the terms of the agreement, LIDDS are to complete a minimum of 800 metres of diamond drilling within EL 23/92 to earn a fifty (50%) per cent share in the exploration licence.

Exploration activities completed during the reporting period include the following:

- the completion of three diamond drill holes UNA09-UNA011 for a total advance of 391.20 metres at the Una Prospect located in the south of the licence area
- the completion of diamond drill hole RUL01 for a total advance of 210.30 metres at the Ringarooma United Prospect located in the north of the licence area.
- The commencement of a second diamond drill hole RUL02 at the Ringarooma United Prospect for a total advance of 100 metres by 30 September 2000.

The following report summarises exploration activities and results completed within the licence during the period 199/2000.

2.0 Exploration Philosophy and Objectives

The philosophy and objectives of the exploration undertaken by LIDDS is directed to the definition of a substantial hard rock gold resource that would be amenable to narrow vein, underground mining. An initial resource target of 5,000 ounces of gold is sought within the exploration licence.

The geology, structure and mineralisation developed at the New Golden Gate Mine located to the south of the exploration licence is used as an exploration model for the identification of significant gold resources within the licence.

Drill testing of the potential gold mineralisation developed at depth beneath the #1 Adit at the Una Prospect was completed during the period following a review and consideration of the encouraging drilling results previously received by Hercules Resources.

Diamond drilling also commenced at the Ringarooma Prospect during August 2000 following the relinquishment of Consolidated Mining Lease 7/88M by Tasmanian Tiger Mines earlier in the year.

The Ringarooma Mine was considered to offer excellent exploration potential to define a small tonnage, high-grade gold resource. This is based on previous recorded production of 12,576 ounces between 1901-1918 and the reported existence of gold bearing lodes in the base of the deepest winze in the existing underground workings.

3.0 Location and Access

Exploration Licence EL 23/92 is located near the rural township of Alberton, situated in the northeastern region of Tasmania.

The licence is situated within both rural and State Forest areas and is serviced by an excellent network of sealed and all weather graded roads and fire trails.

Topographic relief varies from gently undulating pasture areas to steep hills and ridges with deeply incised valleys developed in the central area of the licence. Vegetation in non-farmed areas is dominated by open eucalypt forest with dense undergrowth that is generally restricted to areas adjacent to established drainages.

4.0 Regional Geology

The regional geology of EL23/92 has been previously described by Tasmanian Mines Department geologists and summarised on the 1:50,000 Alberton geological map. Recent publications specific to the economic geology of the district are provided by Taheri (1992 and 1993) and Keel et. al. (1994) as part of the Netgold project.

The EL is located within the 70km long, 2km wide north-westerly trending Mangana to Lyndhurst gold lineament. Gold mineralisation contained within the lineament is hosted by the Silurian to Devonian Mathinna Beds. The Mathinna Beds comprise an alternating sequence of bedded quartzites, sandstones, siltstones and slates. The quartzites have a lithic component and display graded structures locally. The sequence has been interpreted to represent turbidites from previous studies. The Mathinna Beds are unconformably overlain by probable Carboniferous and Permo-Triassic sedimentary sequences of the Parmeener Supergroup.

The Mathinna Beds have been intruded by granites and granodiorites of Devonian age. Thermal alteration of the surrounding sediments has produced an alteration halo containing sporadic tin and tungsten mineralisation. The age of the gold mineralisation is uncertain, although it is probable that deposition occurred concurrently with folding and cleavage development prior to emplacement of the Devonian granite intrusives.

Regionally, the Mathinna Beds are folded about northwest trending axes to form small scale and kilometre scale wavelength, tight to moderate folds. Axial plane cleavage development takes the form of a slaty cleavage in the pelitic units (Taheri, 1993). Folding is asymmetric, with local steep overturning to the west in some cases (Pearson, 1993). A subsequent deformation has produced regional mega kinking about steep, northeast trending kink planes, and numerous steep dipping kink bands with both sinistral and dextral geometry (Goscombe and Findlay, 1989, in Taheri, 1993).

The origin of the gold mineralisation and its relation to the structure of the goldfield is uncertain, with a number of theories having been forwarded. Hill (1923), Powell (1991) and Keele et. al. (1994) have all invoked deep seated thrust models. Taheri (1993) has modelled a pre-Permian extensional dextral jog with dextral transcurrent faulting (Figure 1).

At present, little field evidence is available to support or disprove the models.

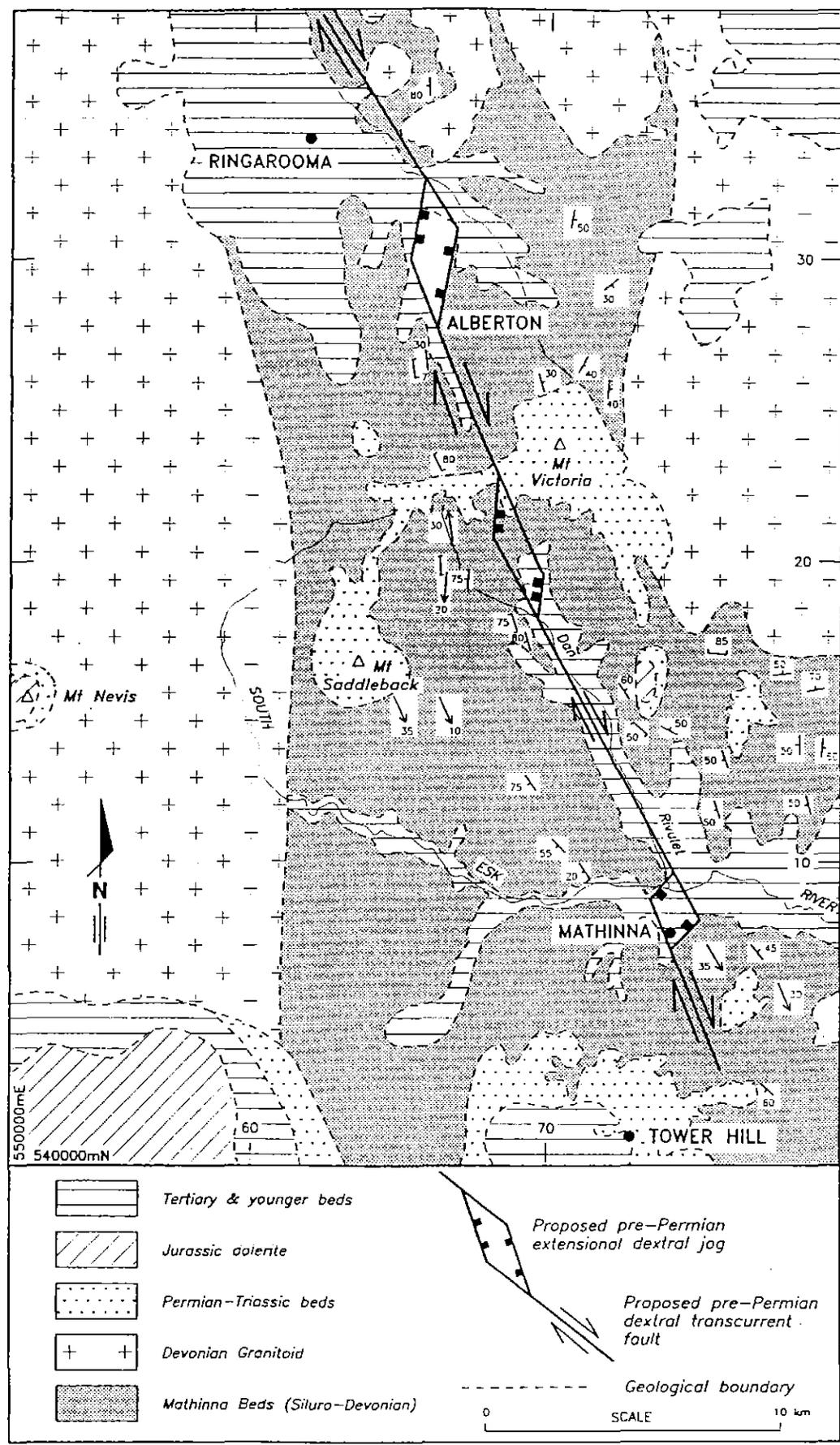
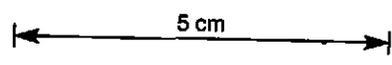


FIGURE 1

Simplified geology of Tower Hill - Ringarooma area, showing proposed pre-Permian extensional dextral jog and dextral transcurrent fault



682011

5.0 Previous Work

5.1 Mining History

The Alberton district contains numerous gold occurrences that have been explored and developed to varying degrees since the turn of the century.

Auriferous quartz veins were first discovered in the Alberton goldfield prior to 1883 (Thureau, 1883). Over one hundred gold bearing lodes were mined intermittently between 1883 to 1939 with most of the gold discoveries, prospecting and mining activities occurring prior to 1900.

The discovery of the hard rock deposits and to a lesser extent the alluvial workings, resulted in numerous no liability companies and mining syndicates being formed to prospect and develop the gold deposits in the district.

With the exception of the Ringarooma United Company, most of the syndicates were poorly organised and under capitalised and failed to define sufficient gold resources to provide a satisfactory return on capital. The development of long term mining operations were interrupted and hampered by both World Wars.

The failure of the mining syndicates and no liability companies to locate substantial gold deposits, lessened the appeal of the district to host substantial gold resources. Consequently, the gold deposits contained within the district developed an unfavourable reputation of being shallow and discontinuous despite not having been adequately testing by diamond drilling.

Underground development at both the Ringarooma United and the Mercury Operations has shown that significant gold mineralisation continues at depth at both these operations. Gold bearing, quartz lodes have been exposed in the base of the internal winzes developed within the deepest sections of both of these mines.

The strike and depth continuity of the mineralisation exposed within the winzes at both the mines remains to be adequately tested by diamond drilling.

A plan illustrating the location of the known deposits contained in the Alberton gold field is given in Appendix 1.

5.2 Previous Exploration

A number of exploration companies that include Stanton Engineering Company (EL6/76), Amdex Mining Ltd (EL7/80), Goldfields Exploration Pty Ltd (EL 26/85 and 17/86), Oceania Pty Ltd (EL 23/82), Billiton, Newcrest Mining and Hercules Resources have conducted exploration to varying degrees within the exploration licence area.

Exploration work completed previously includes geochemical, ground and airborne magnetic geophysical surveys, mapping, trenching, costeaning, and diamond drilling employed at many of the prospects contained within the exploration licence. To date, no economically viable project

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has been developed within the licence despite the high level of exploration undertaken within the district.

6.0 Exploration Completed During the Period

6.1 Una Prospect Diamond Drilling

Following a review and consideration of the encouraging drilling results received by Hercules Resources at the Una Prospect, LIDDS decided to continue drill testing the potential gold mineralisation at depth beneath Adit #1 in late 1999.

Three angled, closely spaced diamond drill holes, UNA09-UNA011, totalling 391.20 metres were drilled at the Una Prospect during the period. The drill holes were designed to test the thickness and grade of the gold mineralisation developed at a depth of approximately seventy metres below the Una #1 Adit. A plan illustrating the drill hole collar positions is given in Appendix 2.

Two main zones of potential gold mineralisation were intersected during diamond drilling.

Diamond drill hole UNA09 intersected a broad zone of strong, white, massive quartz veining in the first thirty metres of the drill hole. The individual veins may be up to 3cm in width and exhibit local stock works.

A total of 42 samples were submitted for gold analysis to Analabs in Burnie from the zone. No significant mineralisation was returned from the samples with the highest recorded value being 0.07 g/t Au. A similar zone was intersected in the top portion of drill hole UNA010. The interval was not sampled due to the disappointing results received in UNA09.

A strongly sheared fault zone up to several metres in width was intersected in UNA010 from approximately 93.08-96.28 metres. The zone is located at approximately seventy metres below the Una #1 adit. The zone contains strongly sheared and weakly silicified, fine-grained black slates with up to 20% boudinaged white, massive quartz. The zone may represent the base of a potentially gold bearing zone.

The zone has been sampled and the assay results are pending.

A similar shear structure was intersected in drill hole UNA09 from 68.20-69.50 metres and UNA011 from 87.80-88.35 metres to respectively. Sampling of the shear zones will depend upon the assay results from the corresponding zone in UNA010.

All diamond drill holes were photographed and logged for lithology, mineralisation, and alteration. Copies of the analytical reports, drill logs and core photographs are given in the attached appendices.

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6.2 Ringarooma United Prospect Diamond Drilling

The Ringarooma United Prospect was considered to offer excellent potential to define a small tonnage, high-grade gold resource. The assumption is based on previous recorded gold production of 12,576 ounces between 1901-1918 and the reported existence of gold bearing lodes in the base of the deepest winze in the underground workings.

Diamond drilling commenced in September 2000 following the relinquishment and incorporation of Mining Lease 7/88M comprising three square kilometres previously held by Tasmanian Tiger Mines into EL23/92.

Diamond drilling was designed to test the thickness and grade of the gold mineralisation developed at the intersection of the east dipping Rosalind-Gumsucker Reef and the west dipping Premier Reef. The drill hole target depths were approximately thirty metres below the main winze on the Long Tunnel level. The proposed drill hole traces for RUL01 and RUL02 are given in Figure 2. A more detailed plan of the drill holes and underground workings is given in Appendix 6.

Diamond drill hole, RUL01, totaling 210.30 metres advance has been completed at the Ringarooma Prospect during the period. Due to the drilling program commencing close to the end of the reporting period, only limited information can be included in the annual report at this time. However, preliminary core logging has identified a number of potentially gold bearing zones within the drill hole.

In particular, a broad zone of strong to intense quartz veining was intersected from approximately 181.0 metres-188.0 metres down hole. This zone may correlate to the theoretical depth intersection of the Rosalind-Gumsucker and Premier Reefs. Visible gold was detected at both 185.70 metres and 186.50 metres.

A suite of eleven samples has been collected from this zone and submitted to Analabs in Burnie for gold analysis.

Drill hole RUL02 is currently in progress and is at a depth of 100 meters at the end of September 2000. The drill hole is designed to test the potential of the reef system further towards the south.

All diamond drill core will be photographed, logged for lithology, mineralisation, and alteration. Detailed sampling will be completed at the end of the current drilling program. Drill cross-sections and more detailed geological information will be presented in the annual report for next year.

Copies of the core photographs for RUL01 are given in Appendix 7. It should be noted that the final three metres of drill core has not been included in the photographs.

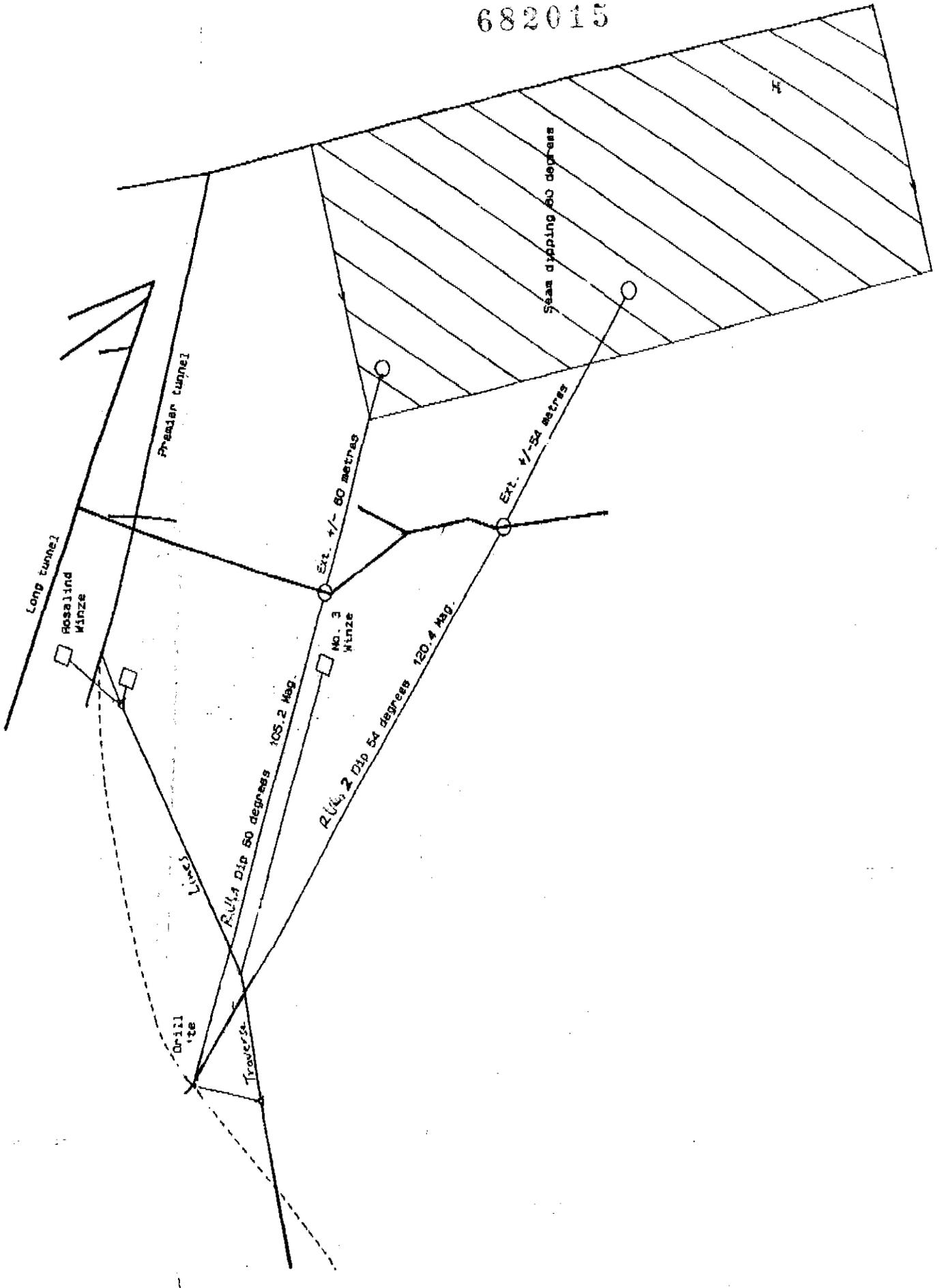


FIGURE 2

RINGAROOMA UNITED PROSPECT

DRILL HOLE PLAN

682016

7.0 Conclusions

Based on the results of the exploration completed during year one the following conclusions are drawn:

- The strongly sheared zones encountered in drill holes UNA09-UNA011 at depth beneath the existing workings of the Una #1 Adit are interpreted to represent the base of the mineralised system. The potential of the zones to host significant gold mineralisation remains to be tested by assaying.
- The broad zone of near surface quartz veining encountered in drill holes UNA09 and UNA010 does not host significant gold mineralisation.
- Several potentially gold bearing zones have been intersected by drill hole RUL01 at the Ringarooma Prospect that remain to be assayed.
- Visible gold mineralisation was observed at 185.70m and 186.70m in RUL01 and may correlate to the zone of intersection of the Rosalind-Gumsucker and Premier Reefs at depth.

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8.0 Environment

All exploration activities completed during the year were conducted in accordance with the Exploration Code of Practice issued by the Mineral Resources of Tasmania.

Diamond drilling at the Una and Ringarooma Prospects utilised an existing access track for site access, which was also served to provide suitable pads for drilling. Minimal track clearing was required to access the drill sites and the drill hole collar was cased and plugged at the completion of each drill hole.

A previously damaged section of the access track near the Mount Victoria road was repaired prior to the commencement of diamond drilling.

No environmental rehabilitation was required at the completion of the drilling program.

682018

9.0 Expenditure Statement

The total expenditure for EL 23/92 Alberton as at 28 September 2000 is \$411,573.00.

Total expenditure incurred during the September 2000 quarter for the completion of diamond drilling at the Ringarooma Mine is estimated at \$75,000.00.

682019

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11.0 Key Words

Alberton, Una, Ringarooma United, Gold.

12.0 Acknowledgments

I would like to thank the following people from a number of organisations for their contributions to the success of the exploration activities during the year. In particular,

Mr David Gatehouse – Environmental Officer, Mineral Resources Tasmania, for his assistance in co-ordinating exploration activities in the State Forest Reserve.

The State Forestry Commission, Alberton-Ringarooma District.

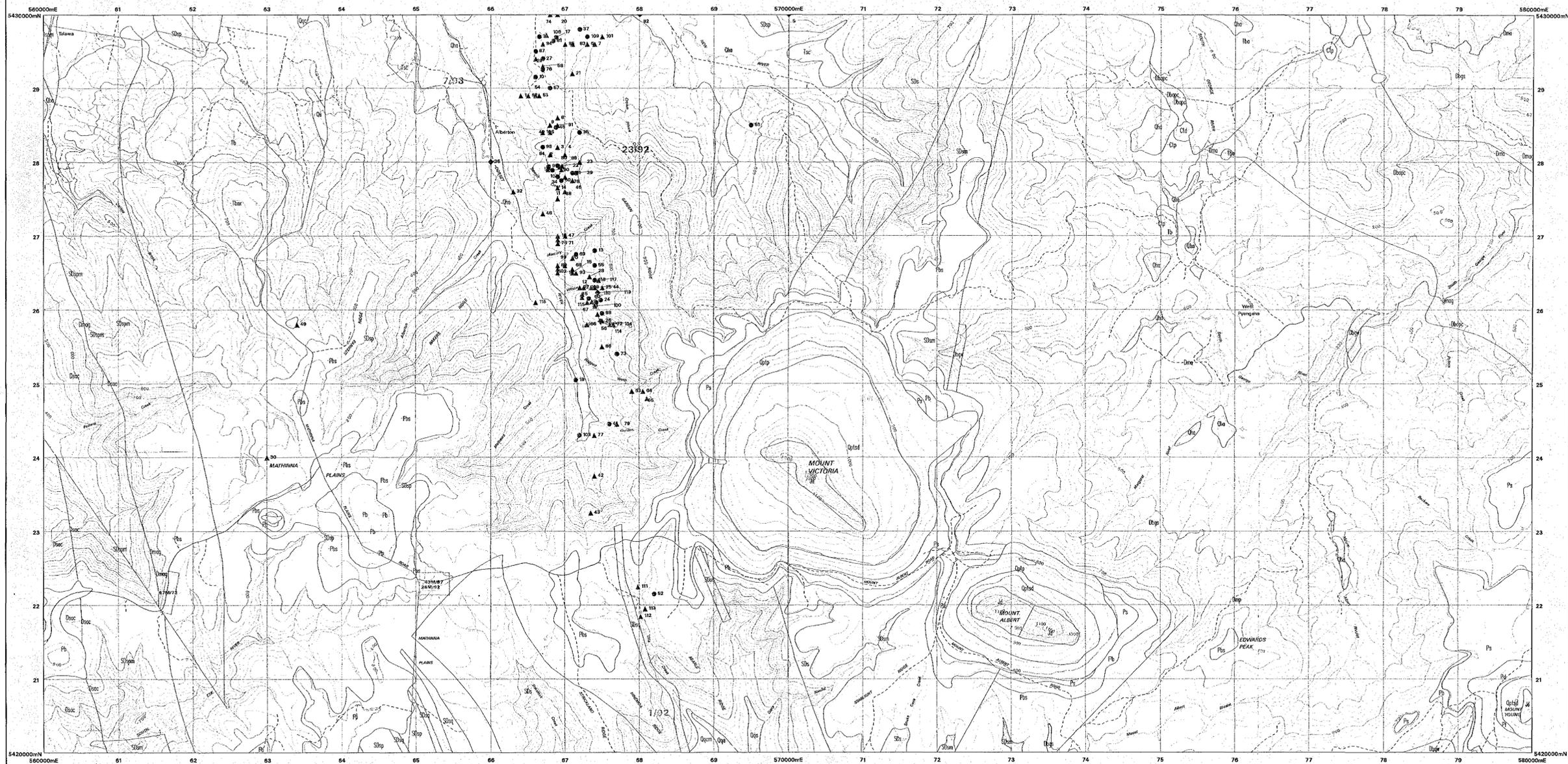
Mr Andrew McGregor, East Coast Surveying, St Helens.

The people of the Ringarooma District for their assistance in piecing together the colourful past of the gold field and access onto their private land to inspect the old workings.

APPENDIX 1

VICTORIA

MINERAL DEPOSITS AND MINING TENEMENTS



No.	REF No.	NAME	COMMODITY	EASTING	NORTHING
1	40165	7	AU	568000	5428000
2	40167	7	AU	568000	5428000
3	40168	7	AU	567000	5428100
4	40169	7	AU	567000	5428100
5	40170	TORRETT R. OR DAN RT.	AU	567000	5428100
6	40172	A REEF	AU	567000	5428000
7	40173	A REEF	AU	567000	5428000
8	40174	ALBERTON	AU	568000	5428000
9	40175	ALBERTON NO.2	AU	568000	5428000
10	40181	ALMOR	AU	568000	5428100
11	40182	BAL TICHOSSALS	AU	568000	5427900
12	40183	BATTERS	AU	567000	5428000
13	40177	BICKERS	AU	567000	5428000
14	40184	BILLY HATFIELD/MARLBURY	AU	567000	5428000
15	40185	BLACK HORSE/MARK HORSE	AU	567000	5428000
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59	40229	BODDY EVANS	AU	568000	5428000
60	40230	BODDY EVANS	AU	568000	5428000

No.	REF No.	NAME	COMMODITY	EASTING	NORTHING
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62	40194	NEW RIVER ALLUV.	AU	568000	5428000
63	40195	NO.3 REEF	AU	567000	5428100
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75	40207	NO.3 REEF	AU	567000	5428100
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97	40229	NO.3 REEF	AU	567000	5428100
98	40230	NO.3 REEF	AU	567000	5428100
99	40231	NO.3 REEF	AU	567000	5428100
100	40232	NO.3 REEF	AU	567000	5428100

Scale: 1:25 000
Contour interval: 20 metres
Grid: Australian Map Grid, Zone 55.



Digital base information from Land Information Services, Department of Environment and Land Management. Map produced by the Data Management Group of Mineral Resources Tasmania using G.I.S. software.

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LEGEND

KEY TO DEPOSITS

- Mine
- △ Prospect
- ◆ Mineral Occurrence

COMMODITY

- Silver
- Gold
- Coal
- Copper
- Iron
- Nickel
- Lead
- Tin
- Tungsten
- Zinc
- Other

TENEMENTS

5M/25 Mineral Lease

14/93 Exploration Licence

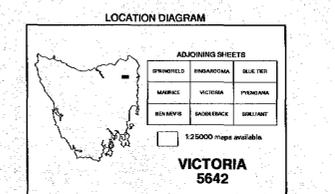
Tenement data current as at: 24 Mar 99

For detailed information on the tenement data shown on this map refer to the Mineral Resources Tasmania tenement maps.

GEOLOGICAL INFORMATION

Geological boundary

For detailed information on the geology of this map refer to the 1:25000 digital geological atlas series.



WARNING: INKS ARE LIGHT SENSITIVE

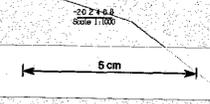
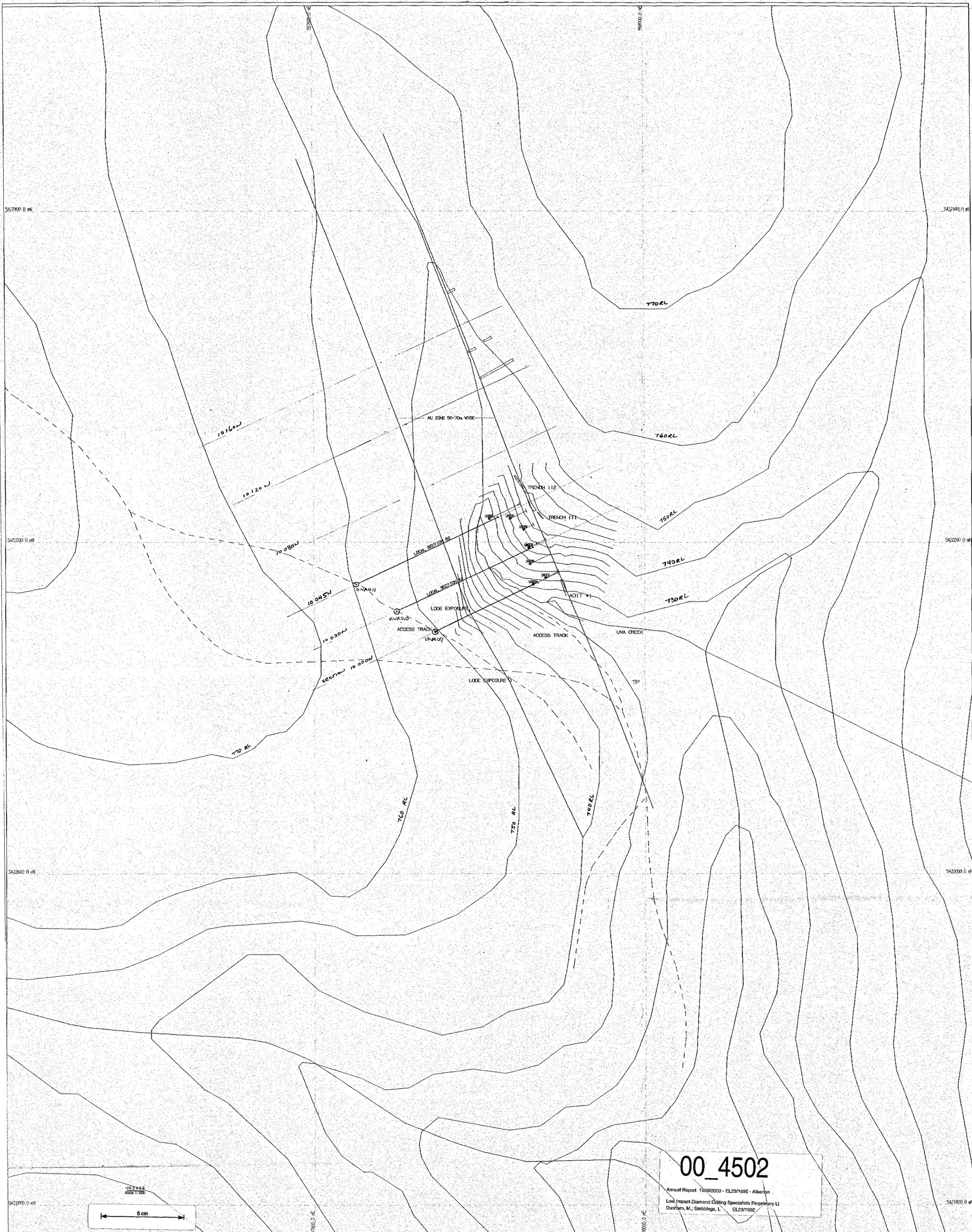
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00_4502

Annual Report 1998/2000 - EL231/992 - Alberton
Low Impact Diamond Drilling Specialists Proprietary Ltd
Dunham, M.; Stoltzberg, L. EL231/992

682024

APPENDIX 2



00_4502
 Annual Report 1999/2000 - EL23/1992 - Alberton
 Low Impact Diamond Drilling Specialists Proprietary Li
 Durham, M., Seabrooks, L. EL23/1992

Launceston Office
 P.O. Box 240, 45B Carleton
 Launceston, Tasmania
 Australia 7250
 UNITS - METRES DATE: 99/03/17 TIME: 08:16:49
 DRAWN BY: Tim Averinon

Mancala Pty Ltd.
 Una DDH Location Plan
 682026
 Hercules Resources Pty Ltd

APPENDIX 3

UNA PROSPECT

99UNDD9

HOLE NO: 99ORDD	SECTION:	GRID:
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<p>PROJECT CODE</p> <p>TENEMENT : EL 23/92</p> <p>PROSPECT : UNA</p> <p>GRID</p> <p>MAP REFERENCE : ALBERTON</p> <p>LOCATION : UNA</p> <p>HOLE TYPE : DIAMOND</p> <p>**COLLAR COORDINATES AND RL**</p> <p>SURVEYED:</p> <p>AMG 5422146 N 567872.5 E 750 mRL</p> <p>PRE-COLLAR DEPTH 0</p> <p>FINAL DEPTH 123.00</p> <p>PURPOSE OF HOLE : Resource Definition</p> <p>HOLE STATUS : Complete</p> <p>COMMENTS :</p> <p>SURVEY DATA</p> <table> <tr> <td>Survey Method:</td> <td colspan="3">Eastman Single Shot</td> </tr> <tr> <td>Depth</td> <td>Azimuth</td> <td colspan="2">Inclination</td> </tr> <tr> <td>50</td> <td>065</td> <td colspan="2">-57</td> </tr> <tr> <td>123</td> <td>065</td> <td colspan="2">-57</td> </tr> </table> <p>SUMMARY LOG</p> <p>0.00-11.00 Quartz sandstone</p> <p>11.00-19.90 Silty quartz sandstone</p> <p>19.90-68.20 Silty quartz sandstone+siltstone int/bed</p> <p>68.20-90.00 Interbedded silty sandstone+siltstone</p> <p>90.00-92.80 Silty sandstone</p> <p>92.83-123.00 Interbedded silty sandstone+siltstone</p>	Survey Method:	Eastman Single Shot			Depth	Azimuth	Inclination		50	065	-57		123	065	-57		<p>** DRILLING SUMMARY**</p> <p>DIAMOND 123.00 NTW</p> <p>Drilling Contractor : LIDDS</p> <p>Drill Rig: : Gopher 28</p> <p>Date Started :</p> <p>Date Completed :</p> <p>Logged By : AG</p> <p>Sampled By : AG</p> <p>Material Left in Hole : NIL</p> <p>Base of Complete Oxidation : 31.20 m</p> <p>Top of Fresh Rock : 31.20 m</p> <p>Water First Encountered :</p> <p>Water Inflow Estimate :</p> <p>SIGNIFICANT ASSAYS</p> <p>NIL</p>
Survey Method:	Eastman Single Shot																
Depth	Azimuth	Inclination															
50	065	-57															
123	065	-57															

UNA

DIAMOND DRILL LOG

99UNDD9

FROM (m)	TO (m)	GEOLOGICAL LOG	SAMPLE No	FROM (m)	TO (m)
0.00	11.00	<p>QUARTZ SANDSTONE Pale gray to tan coloured, partially oxidised, massive, fine to medium grained quartz sandstone</p> <p>3.50-6.00m minor, <5% massive, white quartz veins up to 10mm wide at 60 degrees to core axis</p>			
11.00	19.90	<p>LIGHT GRAY SILTY QUARTZ SANDSTONE Light gray, massive, silty quartz sandstone. Interval appears to grade into a fine grained silt interval. Zone partially oxidised with FeOx commonly developed on joint planes. Zone contains 5% white, massive, qtz+carbonate veins to 5mm width. Veins at 15 and 75 degrees to core. No significant mineralisation.</p>			
19.90	68.20	<p>SILTY QUARTZ SANDSTONE + SILTSTONE INTERBEDS Light to dark gray coloured, fine grained silty quartz sandstone with minor fine grained black coloured siltstone interbeds. Interval appears to display a number of repetitive fining upward cycles from sandstone to siltstone. Sedimentary structures developed include parallel bedding, slump structures and small scale ripple cross beds.</p> <p>20.90-20.97m 7cm wide white, massive quartz vein at 45deg to core. Non mineralised</p> <p>20.97-31.00m Zone of 5% white, massive qtz veins + trace carbonate. Non mineralised 2 vein sets, 1st generation at 15 degrees and 2nd generation 35 degrees to core axis. Veins typically 3-4mm thick. Non mineralised.</p> <p>33.80-34.60m 5% white, massive qtz veins to 10mm width. 45 degrees to core. Non mineralised</p> <p>37.50-37.90m 5% white, massive qtz veins to 20mm. Non mineralised</p> <p>41.70-42.10m 5% white, massive qtz veins to 20mm width. 1st generation 10 degrees and 2nd generation 45 degrees to core. Trace 1% pyrite cubes, <1mm diameter.</p>			

682029

UNA

DIAMOND DRILL LOG

99UNDD9

FROM (m)	TO (m)	GEOLOGICAL LOG	SAMPLE No	FROM (m)	TO (m)
		42.10-68.20m 5% white, massive quartz veins up to 20mm, average 3mm. Trace carbonate+rare ?chlorite associated with veins. Trace pyrite cubes <1mm diameter.			
68.20	90.00	<p>INTERBEDDED SILTY SANDSTONE AND SILTSTONE Light gray silty quartz sandstone with interbeds of fine grained black siltstone. Interval contains repetitive fining upward cycles. Sedimentary structures identified include parallel bedding slump structures and low amplitude ripples.</p> <p>68.20-69.50m Shear zone developed in siltstone at 45 degrees to core. Intense shearing from 69.0-69.50m reflected in development of stretched and elongate quartz boudins. Trace<1% pyrite and chalcopryrite. Structure may represent base of potentially gold bearing structure.</p> <p>69.50-71.70m 10% white massive quartz veins typically 10mm wide at both 10 and 45 degrees to core. Interval includes one 200mm wide vein. No significant mineralisation.</p> <p>76.0-77.80m 10% white massive quartz veins typically 10mm wide at both 10 and 45 degrees to core</p> <p>77.80-77.95m Shear zone developed in siltstone at 45 degrees to core. reflected in development of stretched and elongate quartz boudins. Trace<1% pyrite and chalcopryrite. Structure may represent base of potentially gold bearing structure.</p> <p>79.0-90.00m 5% white, massive quartz veins up to 20mm, average 3mm. Trace carbonate+rare ?chlorite associated with veins. Trace pyrite cubes <1mm diameter.</p>			
90.00	92.80	<p>SILTY SANDSTONE Light gray, massive, medium grained silty sandstone Interval contains 5% white, massive quartz veins up to 60mm wide, average typically 5mm. Trace carbonate and rare pyrite cubes. Veins preferentially at 45 degrees to core.</p>			

682030

UNA

DIAMOND DRILL LOG

99UNDD9

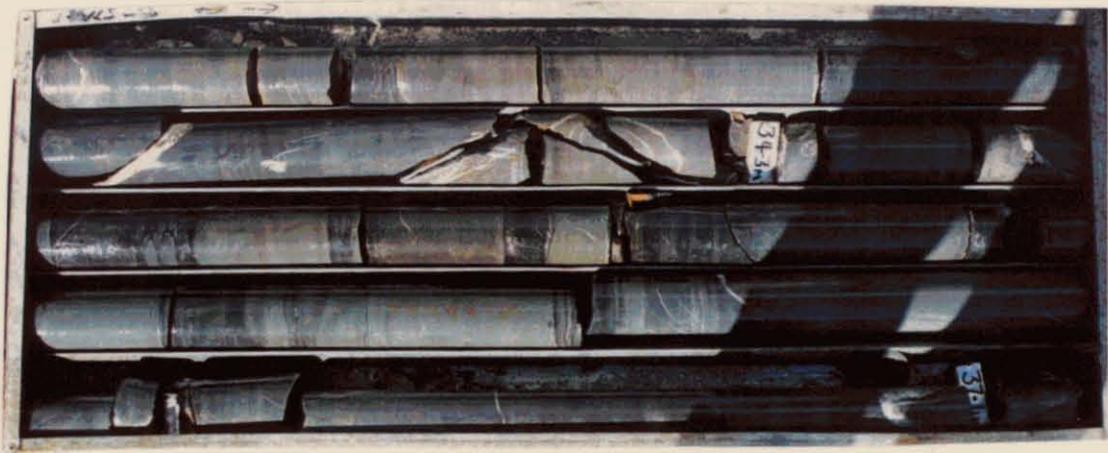
FROM (m)	TO (m)	GEOLOGICAL LOG	SAMPLE No	FROM (m)	TO (m)
92.80	123.00	<p>INTERBEDDED SILTY SANDSTONE AND SILTSTONE Light gray silty quartz sandstone with interbeds of fine grained black siltstone. Interval contains repetitive fining upward cycles. Sedimentary structures identified include parallel bedding slump structures and low amplitude ripples.</p> <p>93.30-95.60M Zone of multiple white, massive quartz veins+trace carbonate. Veins up to 200mm but typically average 10mm. Veins at 70 degrees to core with trace pyrite cubes <1mm</p> <p>98.50-100.50m Zone of multiple white, massive quartz veins+trace carbonate. Veins up to 200mm but typically average 10mm. Veins at 70 degrees to core with trace pyrite cubes <1mm</p> <p>105.30-105.80n Minor white massive quartz veins to 10mm width, locally stock worked. No significant mineral</p> <p>118.10-118.30n Zone of multiple white, massive quartz veins+trace carbonate. Veins typically 5mm and at 45 degrees to core. No significant mineralisation.</p> <p style="text-align: center;">END OF HOLE</p>			

682031

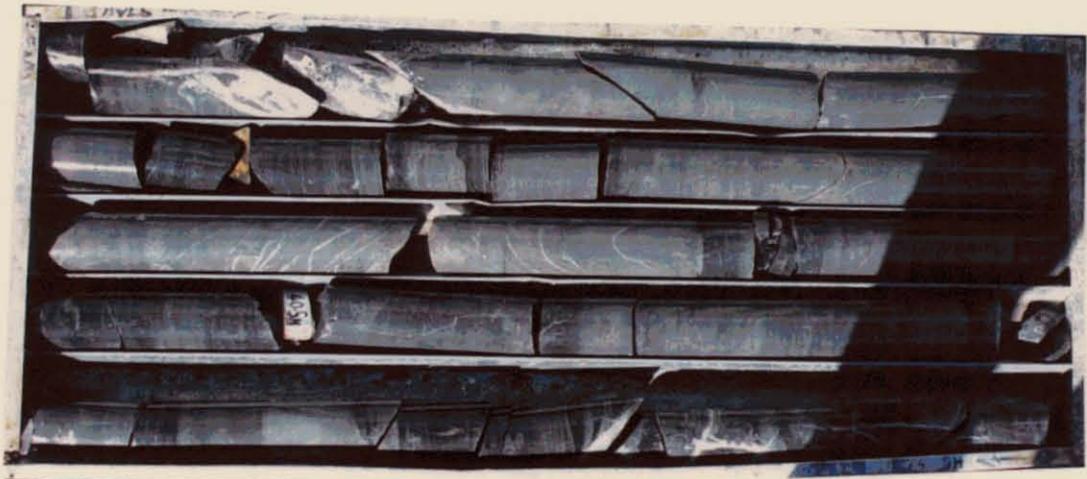
UNA 09



UNA 09



UNA 09



UNA 09

682035



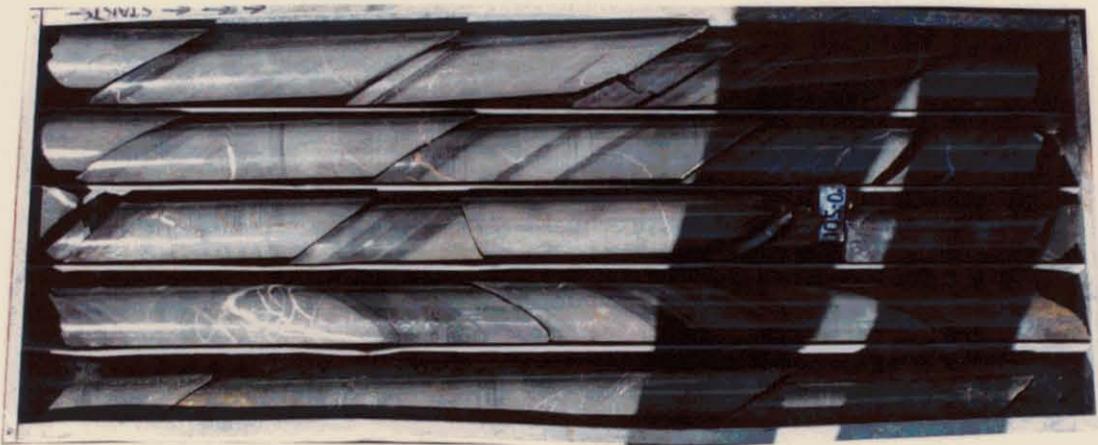
682026

UNA 09



682037

UNA 09



UNA 09

682038



APPENDIX 4

UNA PROSPECT

99UNDD10

HOLE NO: 99UNDD10	SECTION:	GRID:
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<p>PROJECT CODE</p> <p>TENEMENT : EL 23/92</p> <p>PROSPECT : UNA</p> <p>GRID</p> <p>MAP REFERENCE : ALBERTON</p> <p>LOCATION : UNA</p> <p>HOLE TYPE : DIAMOND</p> <p style="text-align: center;">**COLLAR COORDINATES AND RL**</p> <p>SURVEYED:</p> <p>AMG 5422158 N 567849 E 755 m RL</p> <p>PRE-COLLAR DEPTH 0</p> <p>FINAL DEPTH 130.50</p> <p>PURPOSE OF HOLE : Resource Definition</p> <p>HOLE STATUS : Complete</p> <p>COMMENTS :</p> <p>SURVEY DATA</p> <table style="width:100%;"> <tr> <td>Survey Method:</td> <td colspan="3">Eastman Single Shot</td> </tr> <tr> <td>Depth</td> <td>Azimuth</td> <td colspan="2">Inclination</td> </tr> <tr> <td>50</td> <td>065</td> <td colspan="2">-55</td> </tr> <tr> <td>130.5</td> <td>065</td> <td colspan="2">-55</td> </tr> </table> <p>SUMMARY LOG</p> <p>0.00-2.50 Quartz sandstone</p> <p>2.50-3.50 Siltstone</p> <p>3.50-5.75 Quartz sandstone</p> <p>5.75-10.70 Interbedded quartz sandstone+siltstone</p> <p>10.70-22.90 Quartz sandstone</p> <p>22.90-35.00 Interbedded quartz sandstone+siltstone</p> <p>35.00-93.08 Silty qtz sandstone+shale interbeds</p> <p>93.08-96.28 Shear zone</p> <p>96.28-130.50 Interbedded silty sandstone+siltstone</p>	Survey Method:	Eastman Single Shot			Depth	Azimuth	Inclination		50	065	-55		130.5	065	-55		<p style="text-align: center;">** DRILLING SUMMARY**</p> <p>DIAMOND 130.50 NTW</p> <p>Drilling Contractor : LIDDS</p> <p>Drill Rig: : Gopher 28</p> <p>Date Started :</p> <p>Date Completed :</p> <p>Logged By : AG</p> <p>Sampled By : AG</p> <p>Material Left in Hole : NIL</p> <p>Base of Complete Oxidation : 27.00 m</p> <p>Top of Fresh Rock : 27.00 m</p> <p>Water First Encountered :</p> <p>Water Inflow Estimate :</p> <p>SIGNIFICANT ASSAYS</p> <p style="text-align: center;">NIL</p>
Survey Method:	Eastman Single Shot																
Depth	Azimuth	Inclination															
50	065	-55															
130.5	065	-55															

UNA

DIAMOND DRILL LOG

99UNA10

FROM (m)	TO (m)	GEOLOGICAL LOG	SAMPLE No	FROM (m)	TO (m)
0.00	2.50	QUARTZ SANDSTONE Light to dark gray, fine to medium grained, massive quartz sandstone. Partially oxidised with red-brown coloured FeOx developed on fracture planes. No significant mineralisation.			
2.50	3.50	SILTSTONE Light gray, moderately oxidised siltstone with FeOx developed on fracture planes. Siltstone is fissile with parallel bedding. Gradational contact with overlying quartz sandston. Contact at 15 degrees to core. No significant mineralisation.			
3.50	5.75	QUARTZ SANDSTONE Light to dark gray, fine to medium grained, massive quartz sandstone. Partially oxidised with red-brown coloured FeOx developed on fracture planes. No significant mineralisation.			
5.75	10.70	INTERBEDDED QUARTZ SANDSTONE AND SILTSTONE Light gray, medium grained massive quartz sandstone with light gray fine grained siltstone interbeds. Basal contacts of siltstones sharply defined at 15 degrees to core, upper contacts gradational and irregular. Sandstone interval contains 5% white, massive quartz veinlets, 1-2mm wide, vugged. No significant mineralisation.			
10.70	22.90	QUARTZ SANDSTONE Light to dark gray, massive, weak to moderately oxidised medium grained quartz sandstone. Moderately fractured, with red-brown FeOx infill on fracture planes. 14.40-14.60m Zone of moderately silicified, 5% white, quartz veins 1-2mm partially vugged, 60 degrees to core	P1110 P1111 P1112	12.00 13.00 13.50	13.00 13.50 14.30

682041

UNA

DIAMOND DRILL LOG

99UNA10

FROM (m)	TO (m)	GEOLOGICAL LOG	SAMPLE No	FROM (m)	TO (m)
		22.50-22.90m Zone of strong to intense 10% white quartz veining up to 10mm. Veins may be locally brecciated with minor pyrite cubes <1mm.			
22.90	35.00	<p>INTERBEDDED QUARTZ SANDSTONE AND SILTSTONE Light gray, medium grained massive quartz sandstone with dark gray-black fine grained siltstone interbeds. Sandstone may have rare discontinuous silty laminae, small scale ripples, cross-beds and slump structures. Siltstone may occur as thin laminae or as thicker band to 100mm at 27.50m. Unit displays fining upward repetitions with gradational contacts between the units.</p> <p>29.00-31.00m Zone of moderate to strong 10% white massive quartz veining. Vein maximum 10mm, typically 3-5mm. Preferred orientation 45 degrees to core, second vein set 10 degrees to core. Veins are weakly vugged, possibly after fine grained pyrite.</p> <p>33.50-35.00m Zone of moderate to strong 10% white massive quartz veining. Vein maximum 10mm, typically 3-5mm. Preferred orientation 60 degrees to core, second vein set 10 degrees to core. Veins are weakly vugged, possibly after fine grained pyrite.</p>	P1113 P1114 P1115 P1116 P1117 P1118 P1119 P1120 P1121 P1122 P1123 P1124 P1125 P1126 P1127 P1128 P1129 P1130 P1131 P1132 P1133	14.30 15.50 16.50 17.50 18.50 19.50 20.50 21.50 22.50 23.50 24.50 25.50 26.50 27.50 28.50 29.50 30.50 31.50 32.50 33.50 34.50	15.50 16.50 17.50 18.50 19.50 20.50 21.50 22.50 23.50 24.50 25.50 26.50 27.50 28.50 29.50 30.50 31.50 32.50 33.50 34.50 35.50
35.00	93.08	<p>SILTY QUARTZ SANDSTONE AND SHALE INTERBEDS Light to dark gray, fine grained silty quartz sandstone with black, silt/shale interbeds. Unit displays a number of repetitive fining upward cycles, coarse to fine uphole. Laminae in sandstone defined by silty material and may form parallel bedding, small scale ripple cross beds and slump structures. Bedding sub-perpendicular to core axis.</p> <p>37.50-39.00m 5% white, massive quartz veins up to 10mm, typically 3-5mm. 70 degrees to core, minor second set, 1mm wide 10 degrees to core.</p> <p>39.00-39.40m 1% white massive quartz-carbonate veins in black silt</p> <p>40.08-40.13m breccia zone, clast supported, matrix infill of white massive quartz-carbonate and fine grained pyrite.</p>			

682042

UNA

DIAMOND DRILL LOG

99UNA10

FROM (m)	TO (m)	GEOLOGICAL LOG	SAMPLE No	FROM (m)	TO (m)
		40.50-43.60m 5% white massive quartz-carbonate veins up to 10mm. Veins typically 5mm, 45 degrees to core conjugate sets developed.	P1134	35.50	36.50
		43.60-43.70m 10% white massive quartz veins, locally discontinuous, trace fine grained pyrite. Increased silicification both within and adjacent to the zone.	P1135	36.50	37.50
		43.70-49.80m 1% white massive quartz veins to 10mm typically 30 degrees to core	P1136	37.50	38.50
		49.80-52.00m 5% white massive quartz-carbonate-?chlorite veins to 10mm. 2 sets, first generation 30 degrees second 45 degrees. Second set trace fine grained pyrite+chalcoppyrite.	P1137	38.50	39.50
		52.00-54.00m 5-10% white massive quartz veins contained in shears up to 15cm in width. Shears 45 degrees to core axis, and trace 1% fine grained pyrite and chalcoppyrite.	P1138	39.50	40.50
		54.00-63.70m 5% white massive quartz-carbonate+?chlorite veinsto 10mm, typically 2-3mm. Veins typically 30-40 degrees to core, weak carbonate alteration. Trace fine grained pyrite.	P1139	40.50	41.50
		63.70-63.80m 10% strong to intense quartz veining with local brecciation. Veins massive, weak chlorite and carbonate alteration. Trace fine grained pyrite.	P1140	41.50	42.50
		74.60-77.50m 10% strong to intense quartz-carbonate veining. 2 sets, first generation, narrow <1mm, 45 degrees to core, no significant mineralisation. Second generation yp to 20mm wide, at both 10 and 30 degrees to core. 1% fine grained disseminated pyrite.	P1141	42.50	43.50
		77.50-81.20m 1% white massive quartz + carbonate veins typically 3mm, 20 degrees to core. No significant mineralisation.	P1142	43.50	44.50
		81.20-81.50m 5% white massive quartz-carb-chlorite veins. 2 sets at 45 and 10 degrees to core	P1143	44.50	45.50
		81.50-93.08m 1% white massive quartz-carb-chlorite veins. 2 sets at 45 and 10 degrees to core	P1144	45.50	46.50
			P1145	46.50	47.50
			P1146	47.50	48.50
			P1147	48.50	49.50
			P1148	49.50	50.50
			P1149	50.50	51.50
			P1150	51.50	52.50
			P1151	52.50	53.50
			P1152	53.50	54.50
93.08	96.28	SHEAR ZONE Strongly sheared and boudinaged black siltstone and silty sandstone. Quartz boudins strongly sheared and elongate and stretched. Boudins aligned 45 degrees to core, up to 10cm in width. Weak 1% fine grained pyrite stringers and blebs <1mm in quartz boudins. No significant mineralisation in the shear but may be the start or root of a gold bearing structure at higher elevations.			

682043

UNA DIAMOND DRILL LOG 99UNA10

FROM (m)	TO (m)	GEOLOGICAL LOG	SAMPLE No	FROM (m)	TO (m)
96.28	130.50	<p>INTERBEDDED SILTY SANDSTONE AND SILTSTONE Gray, fine grained silty quartz sandstone and fine grained black interbedded silt horizons. Sequence exhibits repetitive fining upward cycles. Sedimentary structures developed include parallel beds, small scale slump structures and low amplitude ripple cross beds. Interval has 1% white massive quartz-carbonate veins 1-20mm in width. 2 vein sets at 10 and 40 degrees to core</p> <p style="text-align: center;">END OF HOLE</p>			

682044

UNA 10



UNA 10



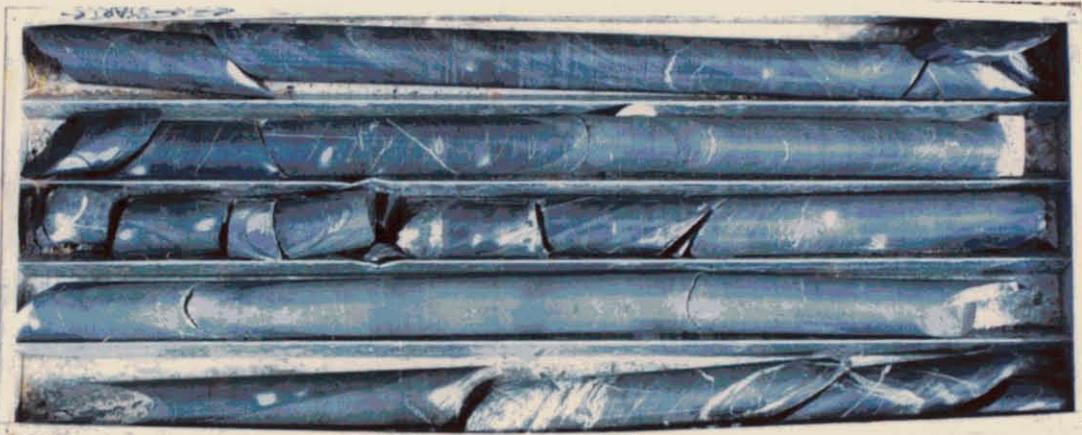
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UNA 10



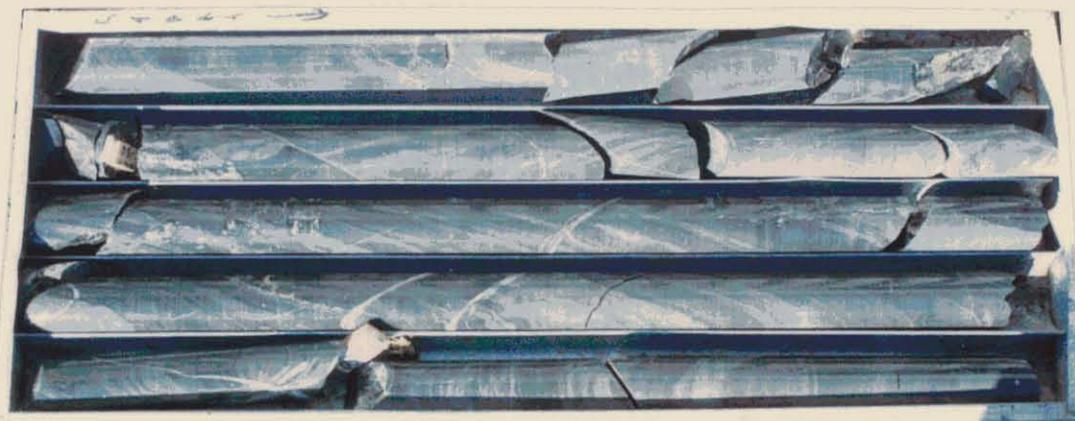
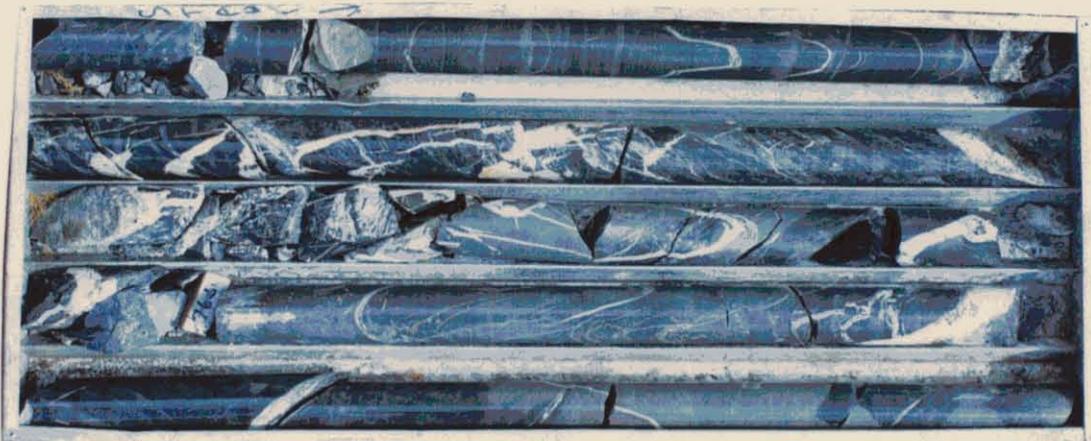
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UNA 10



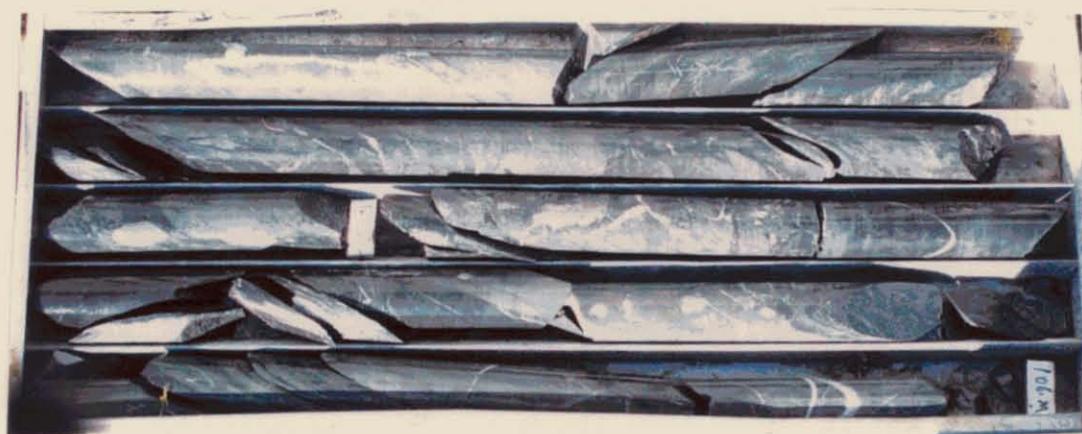
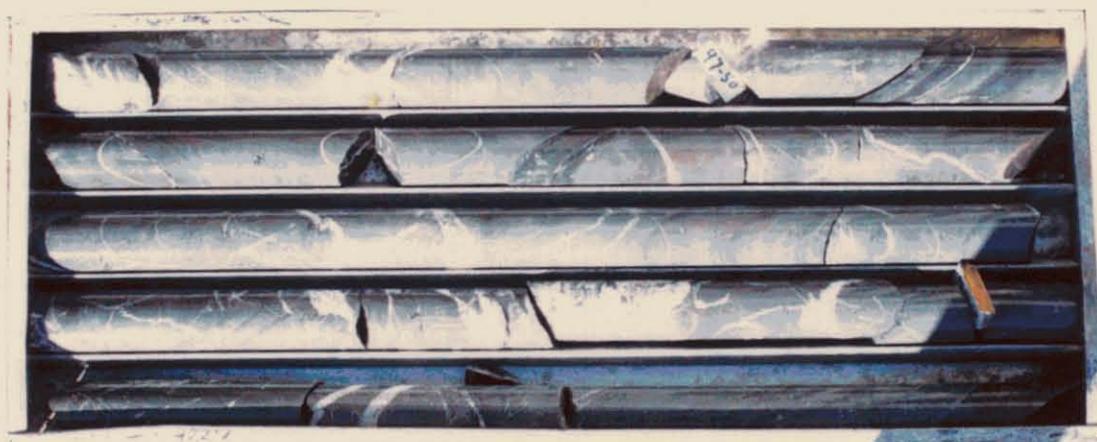
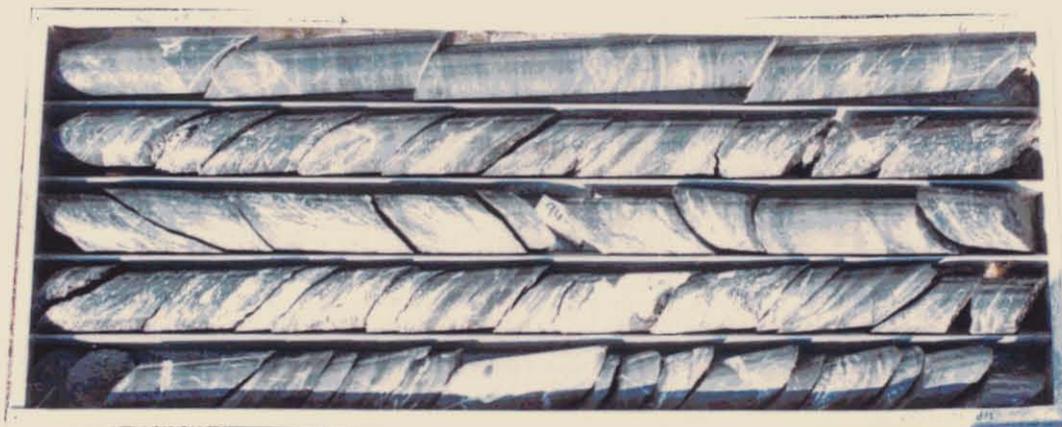
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UNA 10



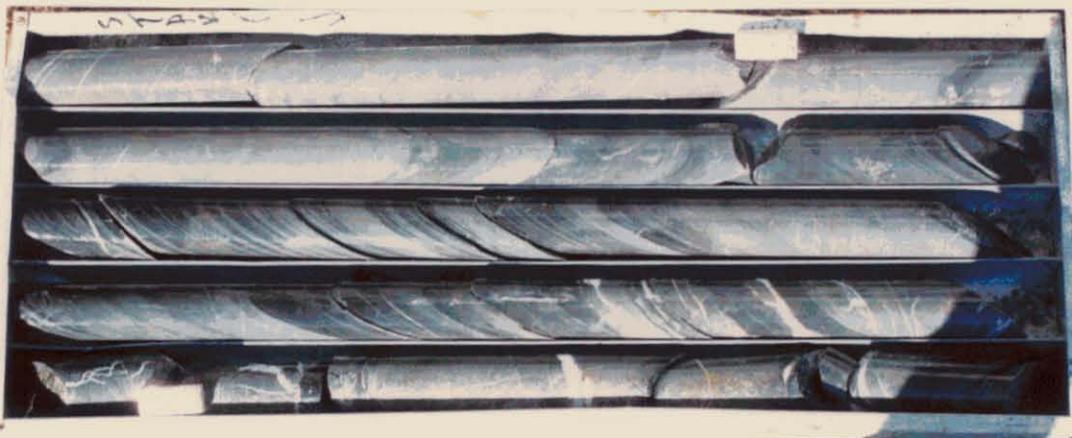
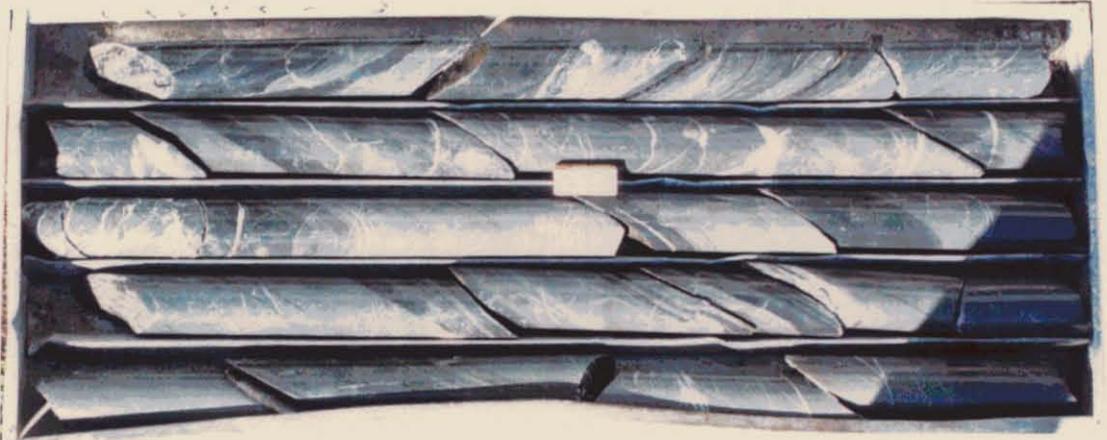
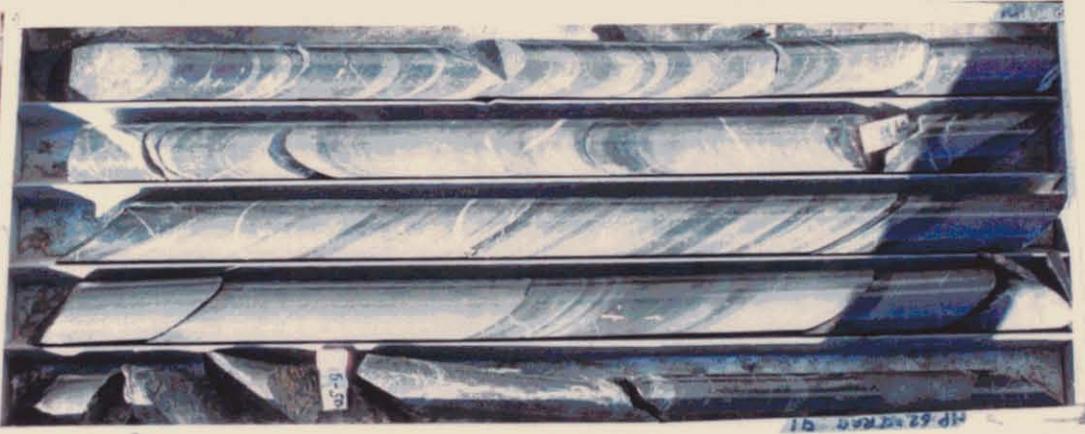
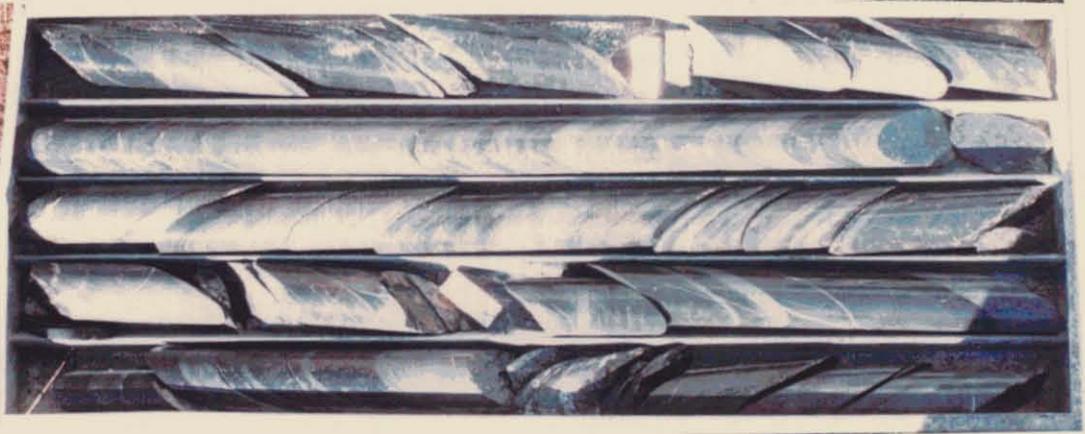
682050

UNA 10



682051

UNA 10



682052

UNA 10



APPENDIX 5

UNA PROSPECT

99UNDD11

HOLE NO: 99UNDD11

SECTION:

GRID:

PROJECT CODE

TENEMENT : EL 23/92

PROSPECT : UNA

GRID

MAP REFERENCE : ALBERTON

LOCATION : UNA

HOLE TYPE : DIAMOND

COLLAR COORDINATES AND RL

SURVEYED:

AMG 5422174 N 567824 E 760 mRL

PRE-COLLAR DEPTH 0

FINAL DEPTH 137.70

PURPOSE OF HOLE : Resource Definition

HOLE STATUS : Complete

COMMENTS :

SURVEY DATA

Survey Method: Eastman Single Shot

Depth	Azimuth	Inclination
50	065	-55
137.7	065	-55

SUMMARY LOG

0.00-24.00 Silty qtz sandstone+silt interbeds
 24.00-29.70 Quartz sandstone
 29.70-87.80 Silty qtz sandstone+silt interbeds
 87.80-88.35 Shear zone
 88.35-125.70 Interbedded silty sandstone+siltstone
 125.70-137.70 Silty qtz sandstone

** DRILLING SUMMARY**

DIAMOND 137.70 NTW

Drilling Contractor : LIDDS

Drill Rig: : Gopher 28

Date Started :

Date Completed :

Logged By : AG

Sampled By : AG

Material Left in Hole : NIL

Base of Complete Oxidation : 0.00 m

Top of Fresh Rock : 37.00 m

Water First Encountered :

Water Inflow Estimate :

SIGNIFICANT ASSAYS

NIL

UNA

DIAMOND DRILL LOG

99UNA11

FROM (m)	TO (m)	GEOLOGICAL LOG	SAMPLE No	FROM (m)	TO (m)
0.00	24.00	<p>SILTY QUARTZ SANDSTONE AND SILT INTERBEDS Tan to gray, partially oxidised, fine to medium grained silty quartz sandstone with dark gray to black fine grained silt horizons. First 6 metres partially oxidised with red-brown FeOx developed on joint planes. Sandstone generally massive but may have rare, discontinuous bedding laminae defined by silty material. Intervals display numerous repetitive fining upward cycles, with diffuse contacts between the units. Small scale slump structures may be developed near the contacts</p> <p>8.30-8.35m White massive quartz vein 80 degrees to core. No significant mineralisation</p> <p>9.50-10.0m 10% white massive quartz veins to 40mm, typically 3mm, 80 degrees to core. Non mineralised.</p> <p>11.6-11.8m 10% white massive quartz veins to 20mm, typically 3mm, 20 & 70 degrees to core. Common void spaces infilled by FeOx after pyrite.</p> <p>18.75-19.0m 10% white massive quartz veins 3-5mm wide, 80 degrees to core. Common voids infilled by FeOx possibly after pyrite.</p> <p>19.0-24.0m 1% white massive quartz veins 2-4mm wide, 20 degrees to core. Common voids infilled by FeOx + trace pyrite <1mm.</p>			
24.00	29.70	<p>QUARTZ SANDSTONE Gray, fine-grained massive quartz sandstone. Very weak bedding lamination defined by silty material. Interval contains 5% white, massive quartz veins to 10mm, typically 3-4mm + rare pyrite <1mm. Two quartz vein sets at 20 and 70 degrees to core.</p>			
29.70	87.80	<p>SILTY QUARTZ SANDSTONE AND SILT INTERBEDS Gray, fine to medium grained silty quartz sandstone with dark gray to black fine grained silt horizons. Sandstone generally massive but may have rare, discontinuous bedding laminae defined by silty material. Intervals display numerous repetitive fining upward cycles, with diffuse contacts between the units.</p>			

682053

UNA

DIAMOND DRILL LOG

99UNA11

FROM (m)	TO (m)	GEOLOGICAL LOG	SAMPLE No	FROM (m)	TO (m)
		<p>29.70-42.0m 1% white massive quartz veins 1-3mm at 60 degrees to core.</p> <p>43.0-53.70m 5% white massive quartz veins to 10mm, typically 3-5mm wide. Two veins sets at 10 and 60 degrees to core. Veining is preferentially developed in the silt horizons. No significant mineralisation.</p> <p>56.7-57.40m 10% white massive quartz+carbonate+chlorite veins to 10mm with trace pyrite cubes <1mm. Two vein sets at 10 (2nd generation) and 60 degrees (1st generation) to core.</p> <p>59.20-58.70m 10% white massive quartz+carbonate+chlorite veins to 10mm with trace pyrite cubes <1mm. Two vein sets at 10 (2nd generation) and 60 degrees (1st generation) to core.</p> <p>58.70-73.80m 1% white massive quartz+carbonate veins 1-3mm at 60 degrees to core.</p> <p>73.80-74.00m 10% white massive quartz+carbonate+chlorite veins to 10mm with trace pyrite cubes <1mm. Veins locally stock worked</p> <p>74.0-86.70m 1% white massive quartz+carbonate+chlorite veins up to 20mm typically 5mm at 20 and 60 degrees to the core. No significant mineralisation.</p>			
87.80	88.35	<p>SHEAR ZONE</p> <p>Zone of moderately sheared interbedded siltstone and sandstone. Shears preferentially developed in the silt horizons and display boudinaged/stretched quartz orientated 70 degrees to core. Two zones developed at 87.80-88.0m & 88.30-88.50m. No significant mineralisation.</p> <p>Shears are interpreted to represent the base of the gold bearing structures developed at higher RL's</p>			
88.35	125.70	<p>INTERBEDDED SILTY SANDSTONE AND SILTSTONE</p> <p>Interbedded gray, fine to medium grained silty sandstone and black siltstone. Interval contains numerous repetitive fining upward cycles, siltstone intervals typically up to 50mm thick, typically 10-20mm. Sedimentary structures developed include parallel beds, small scale slumps and low amplitude ripples. Vein development is typically restricted to the sandstone intervals.</p>			

682056

UNA

DIAMOND DRILL LOG

99UNA11

FROM (m)	TO (m)	GEOLOGICAL LOG	SAMPLE No	FROM (m)	TO (m)
		<p>88.35-94.70m 1% white massive quartz+carbonate veins 1-3mm at 60 degrees to core.</p> <p>94.70-98.40m 10% white massive quartz+carbonate+chlorite veins up to 30mm typically 5mm at 10 and 60 degrees to the core. No significant mineralisation.</p> <p>100.20-102.30m 10% white massive quartz+carbonate+chlorite veins up to 30mm typically 5mm at 40 degrees to the core. No significant mineralisation.</p> <p>107.70-108.50m Zone several white massive quartz+carbonate veins to 50mm width at 10 and 40 degrees to core. No significant mineralisation.</p> <p>109.80-110.60m 5% white massive quartz+carbonate veins typically at 10-20 degrees to core. Veins may be locally stockworked. No significant mineralisation.</p> <p>110.60-112.35m Zone of moderately sheared silt horizons. Two zones at 110.60-110.65m and 112.25-112.35m. Shears contain stretched and boudinaged quartz+trace carbonate+ rare pyrite <1mm. Shears are typically orientated at 70 degrees to core.</p> <p>112.35-125.70m 1% white massive quartz+carbonate veins 1-3mm at 60 degrees to core.</p>			
125.70	137.70	<p>SILTY QUARTZ SANDSTONE</p> <p>Gray, fine grained silty quartz sandstone. Sedimentary structures developed include parallel bedding, low amplitude ripples and small scale slumps. Bedding orientated at 70 degrees to core.</p> <p>125.70-129.40m 10% white massive quartz+carbonate+chlorite veins to 30mm with trace pyrite cubes <1mm. Two vein sets at 10 (1st generation) and 60 degrees (2nd generation) to core.</p> <p>129.40-137.70m 1% white massive quartz+carbonate veins 1-3mm at 60 degrees to core.</p> <p style="text-align: center;">END OF HOLE</p>			

682067

UNA 11

682058



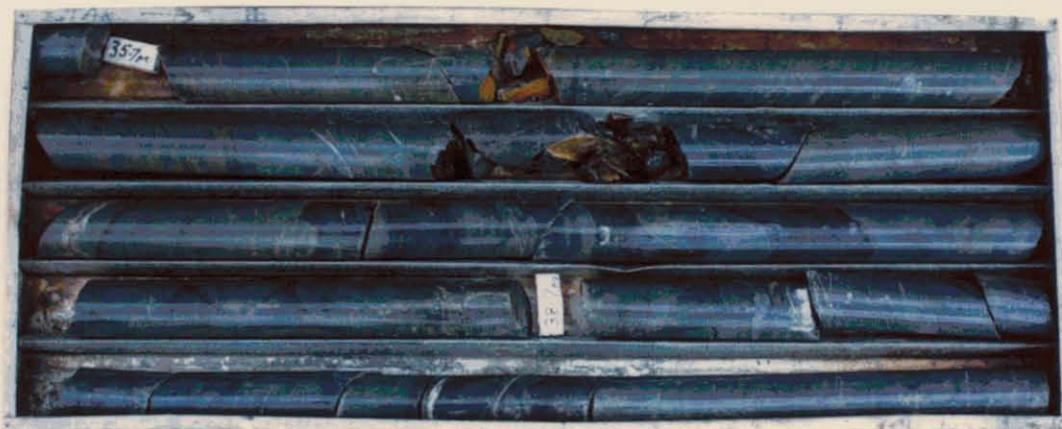
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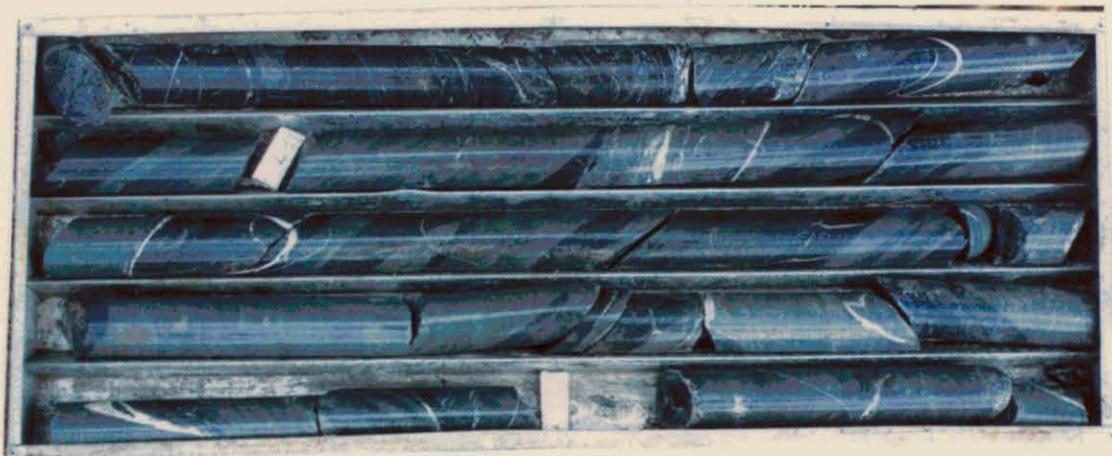
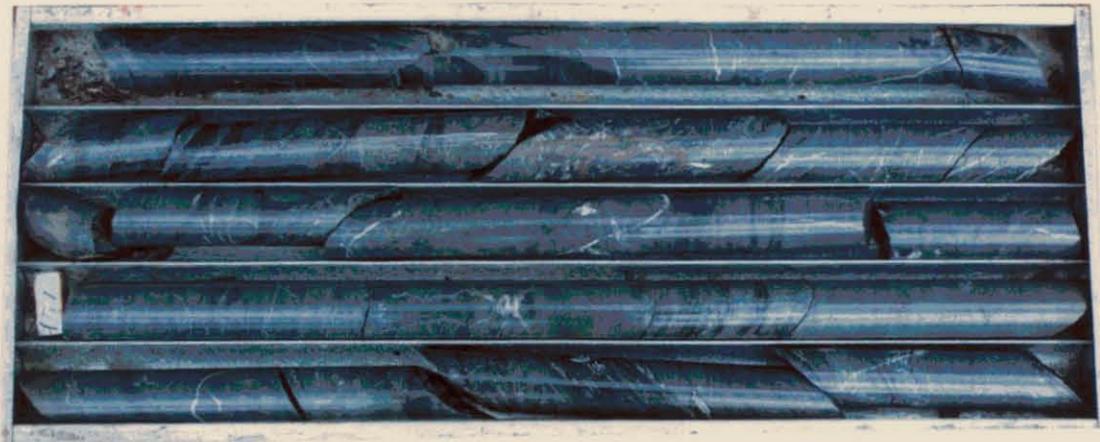
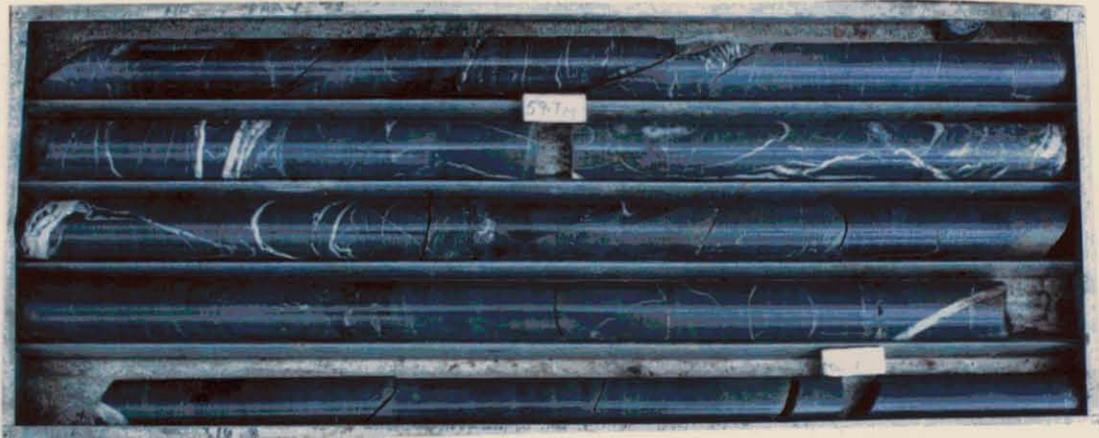
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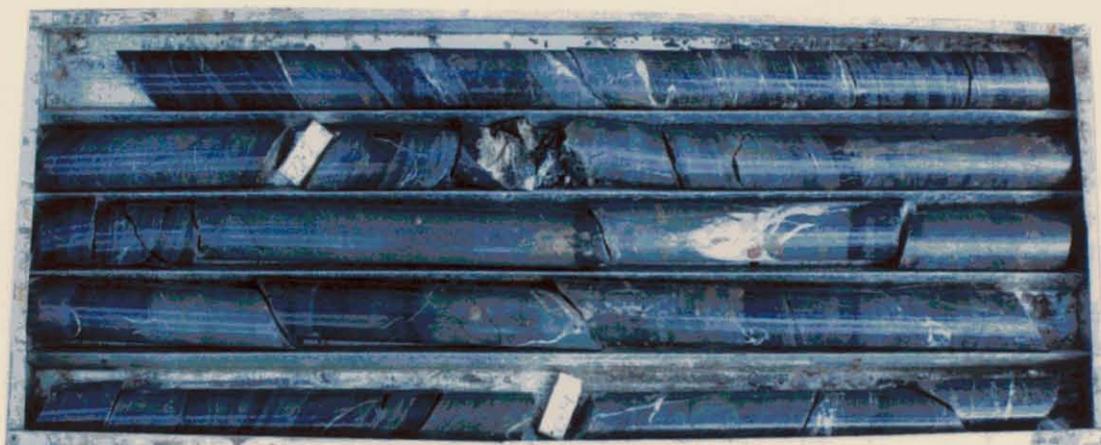
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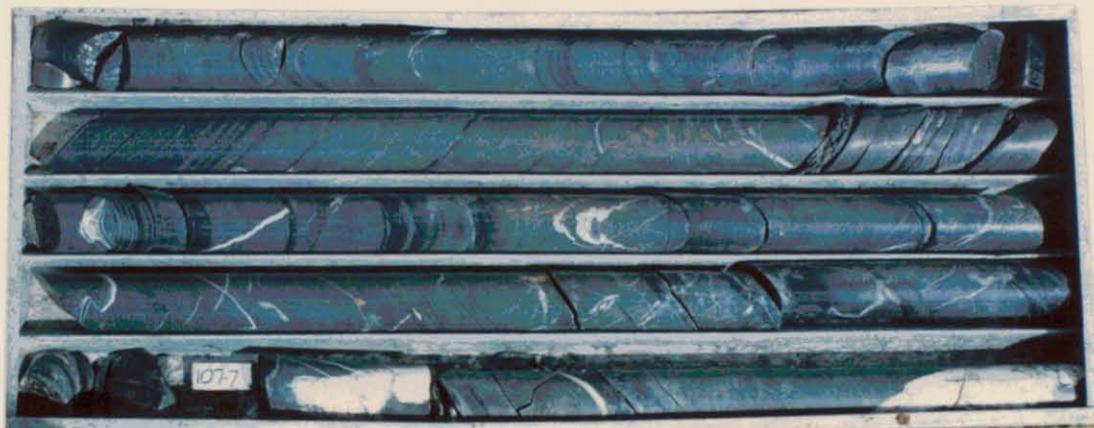
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682062



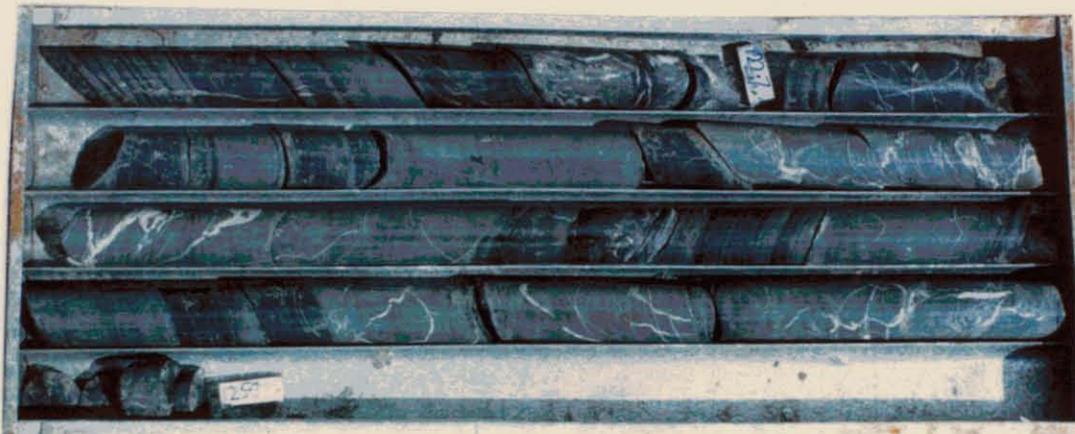
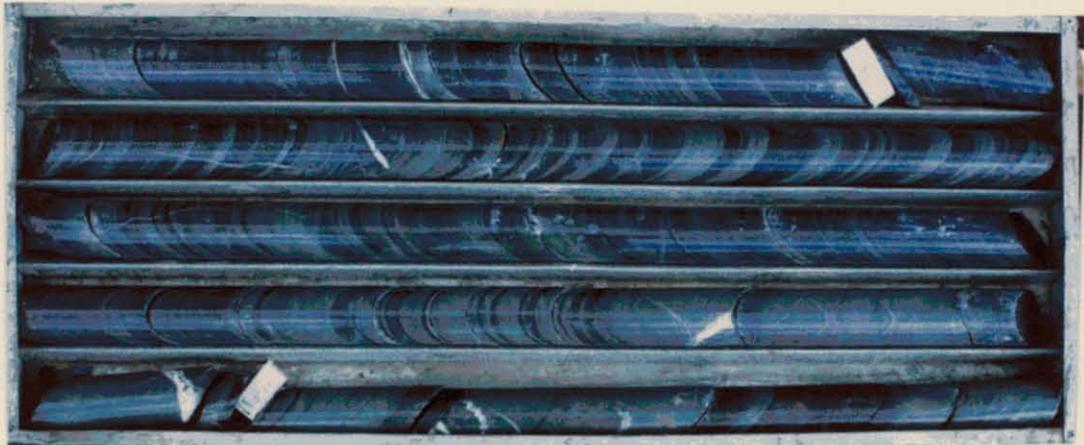
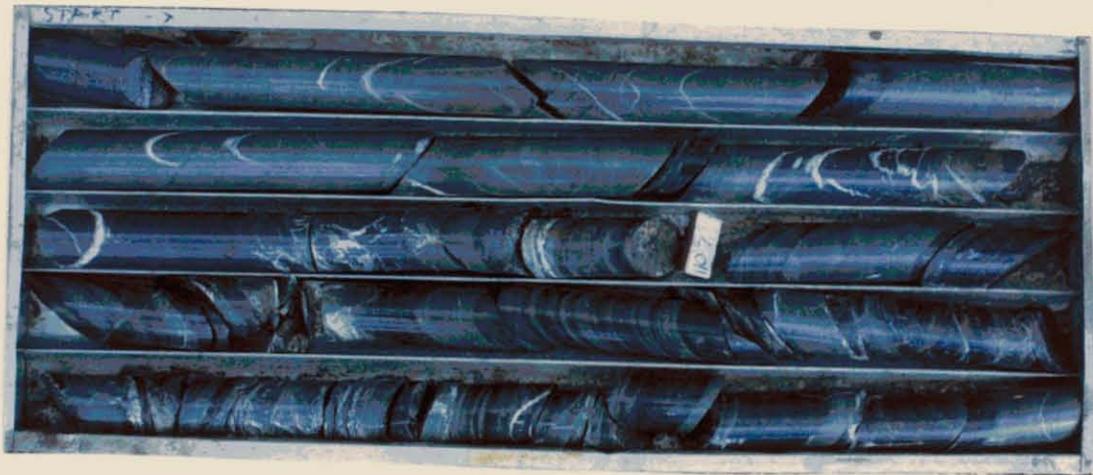
UNA 11

682063



UNA 11

682064



UNA 11

682065

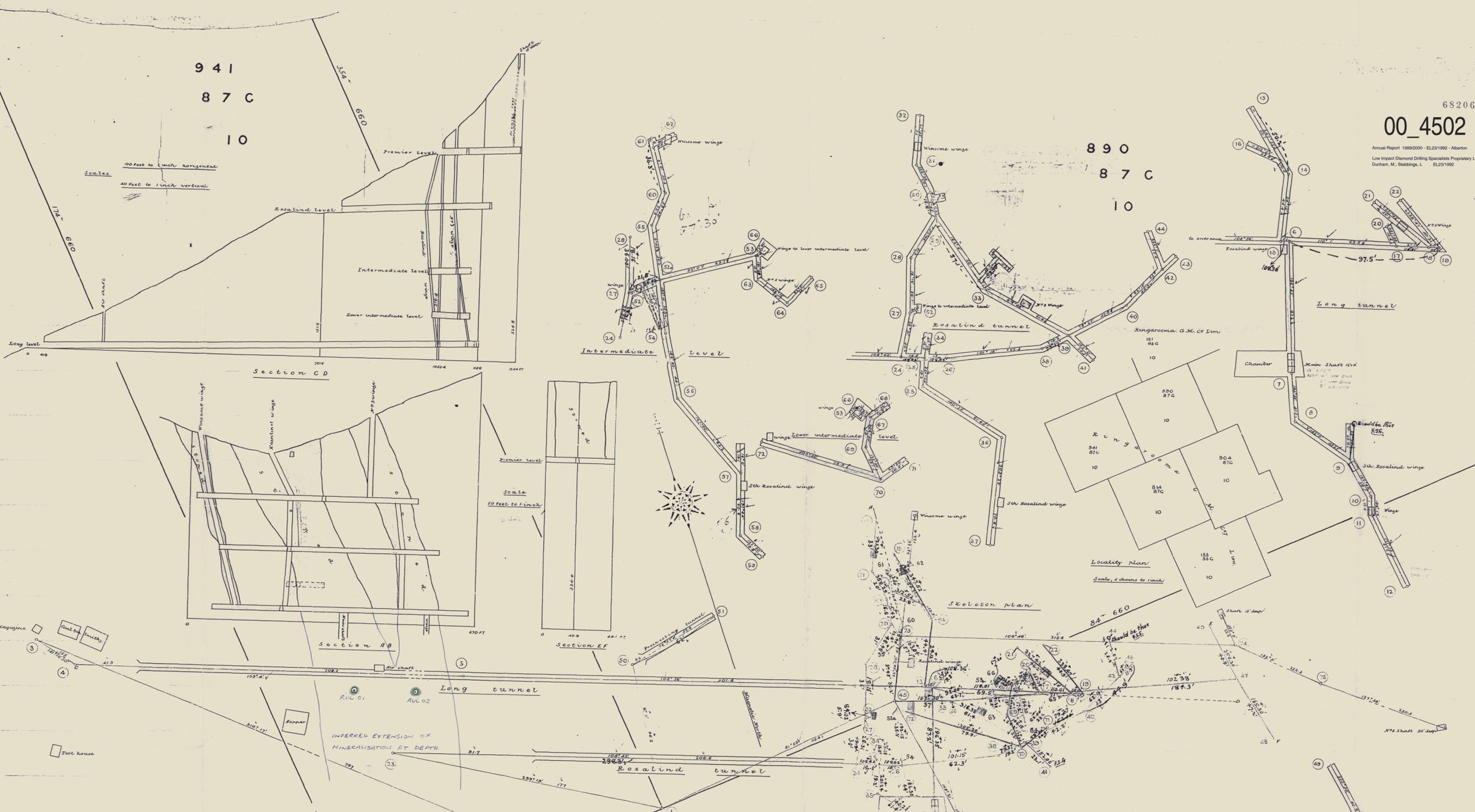


APPENDIX 6

APPENDIX 6

941
87C
10

890
87C
10



RINGAROOMA G.M.CO.

LIMITED

RINGAROOMA MINE WORKINGS

COUNTY OF DORSET

PARISH OF ALBERTON

SCALE



- Index to colours:
- Long tunnel
 - Lower intermediate level
 - Intermediate level
 - Upper intermediate level
 - Rosalind tunnel
 - Premier tunnel
 - Surface traverse lines
 - Underground traverse lines

814
87C
10

Henry H. W. Lamm
Authorised Surveyor
 31st January 1901

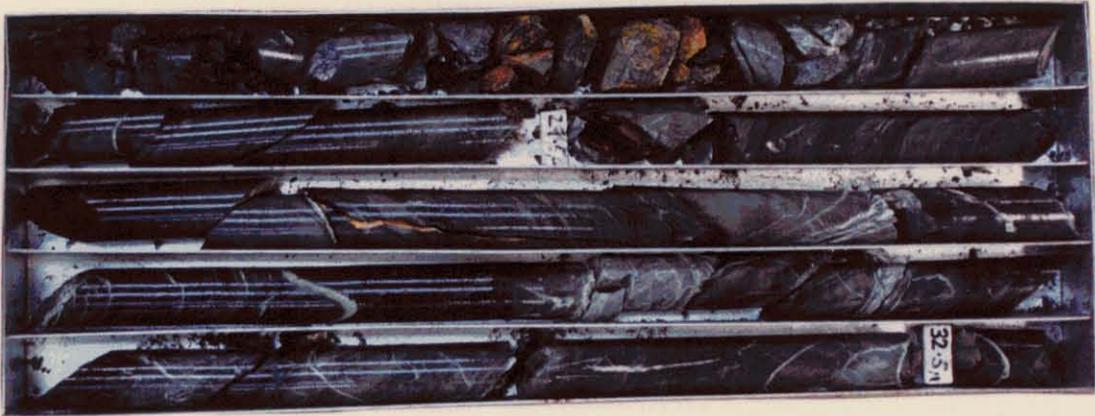
APPENDIX 7

RUL 001

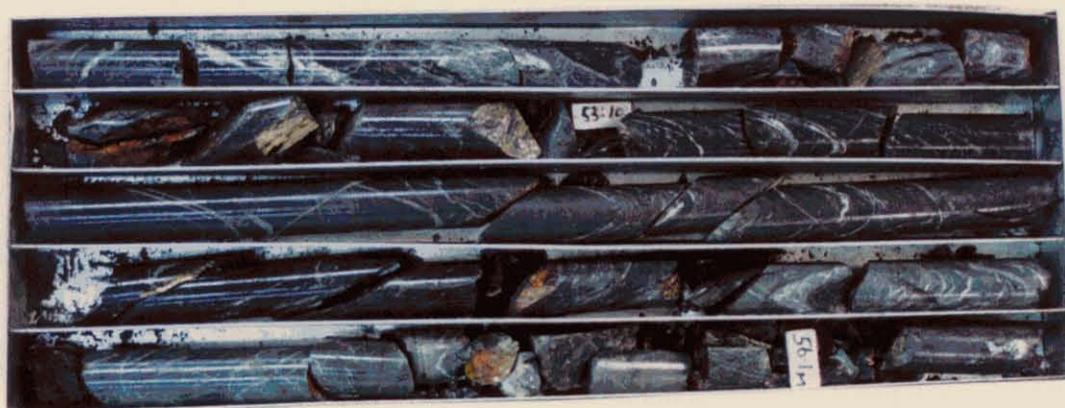
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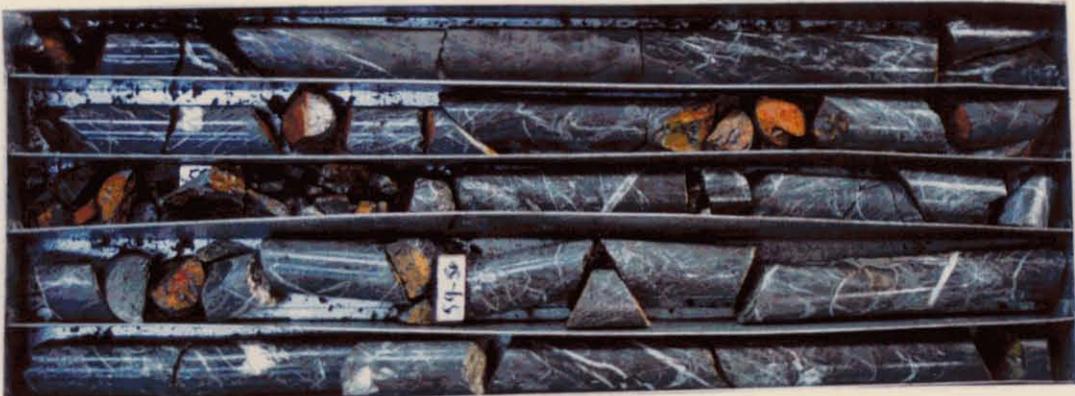
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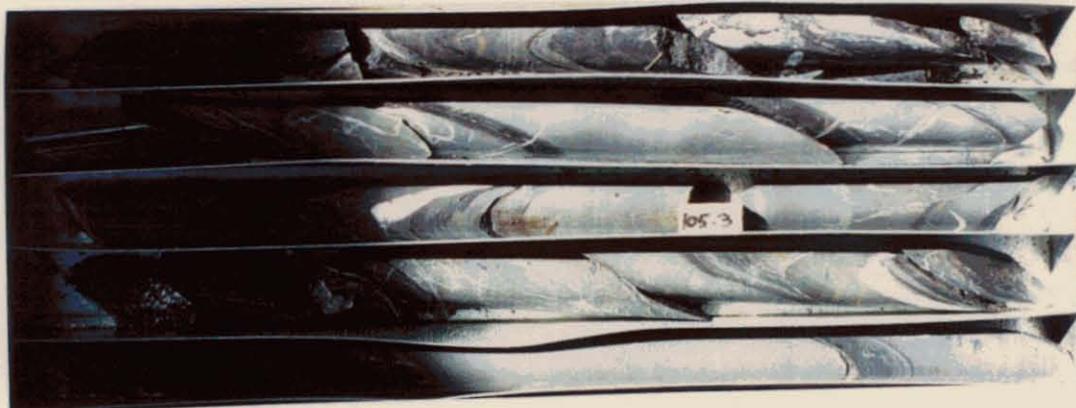
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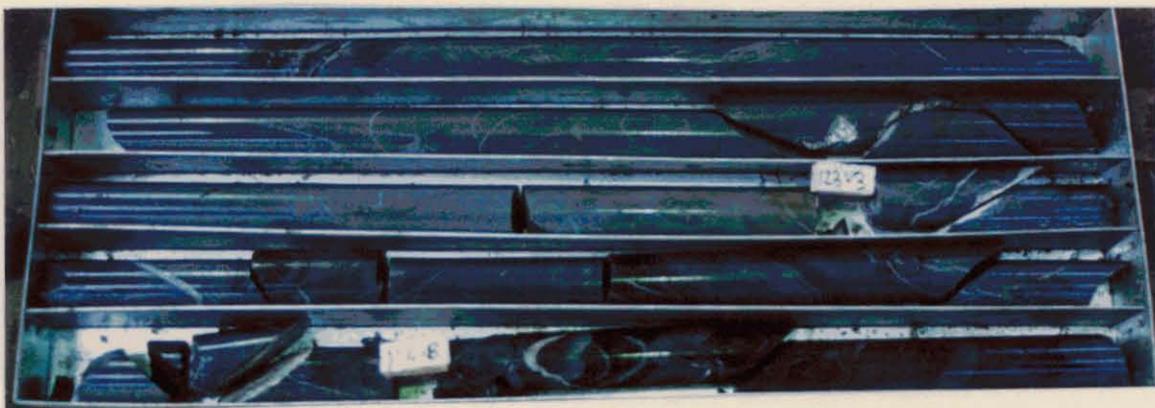
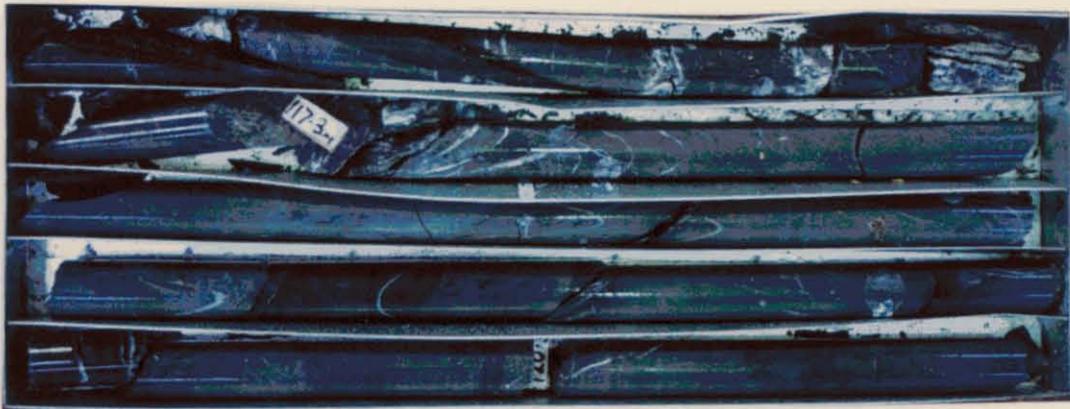
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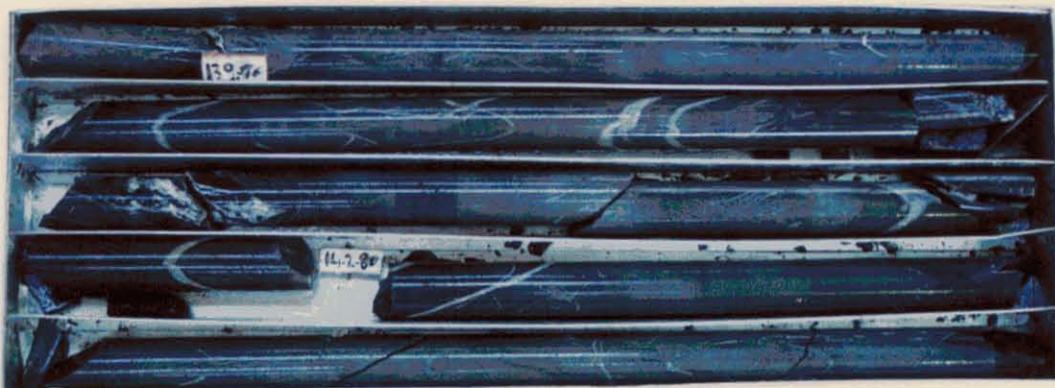
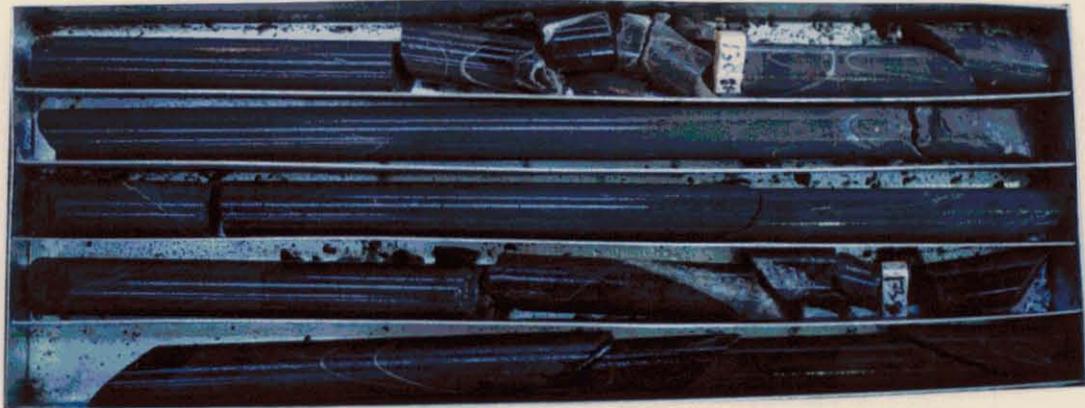
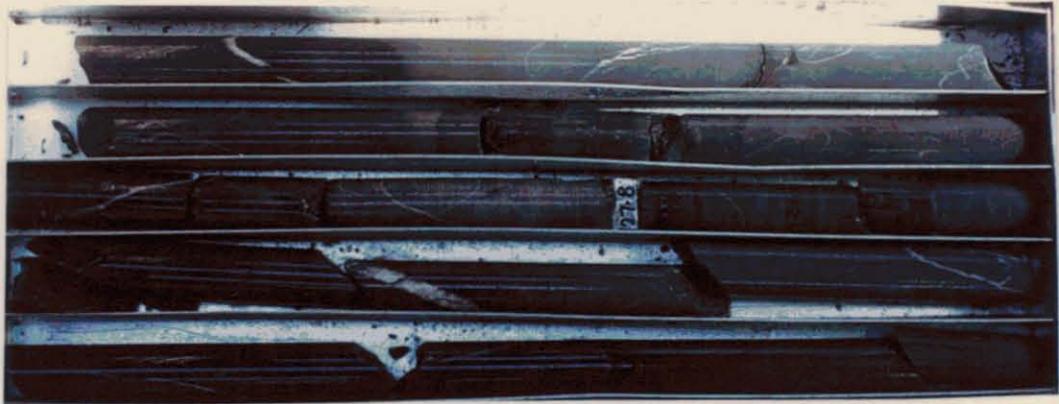


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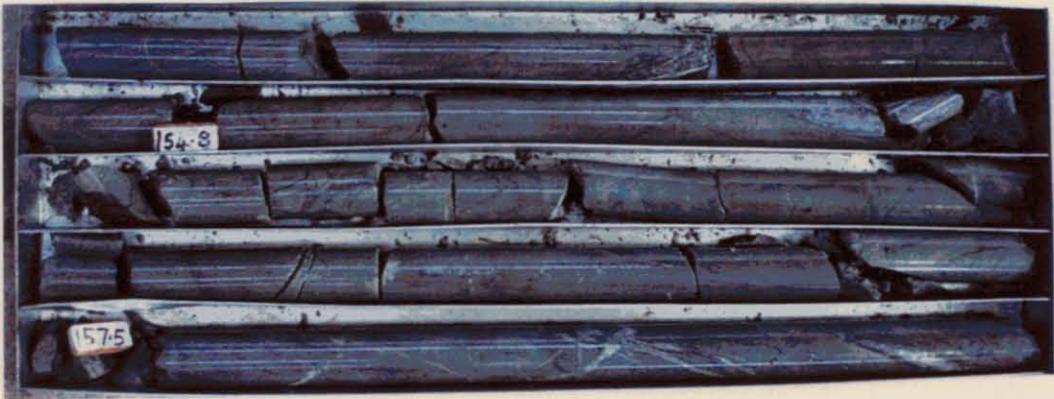
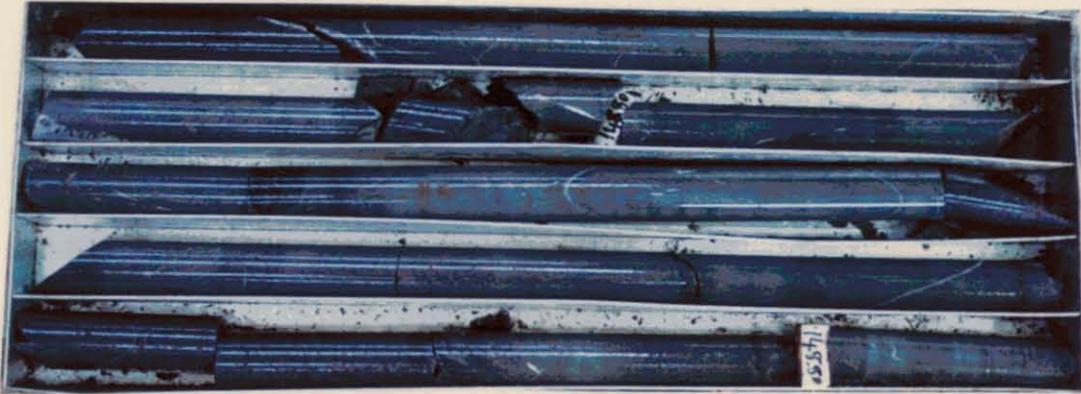


682076

RUL 001



RUL 001

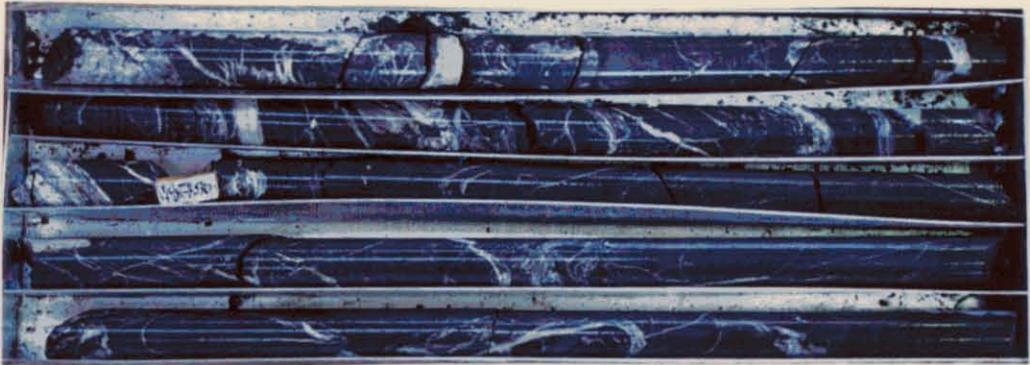
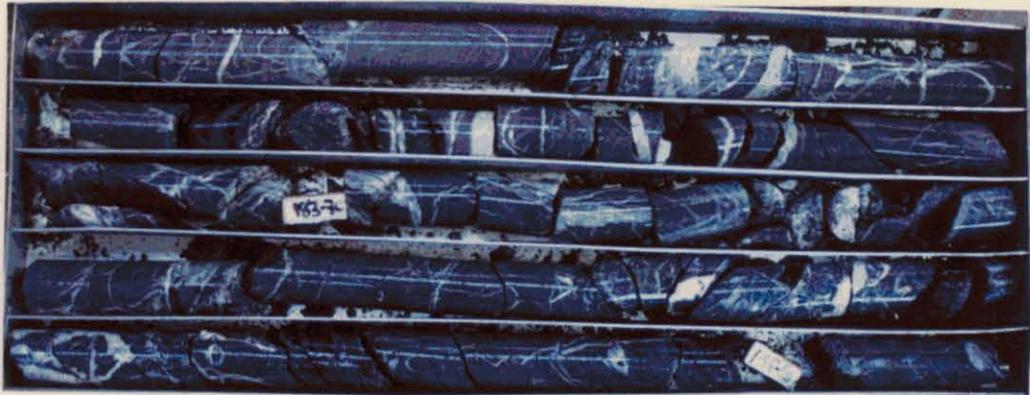


682078

RUL 001

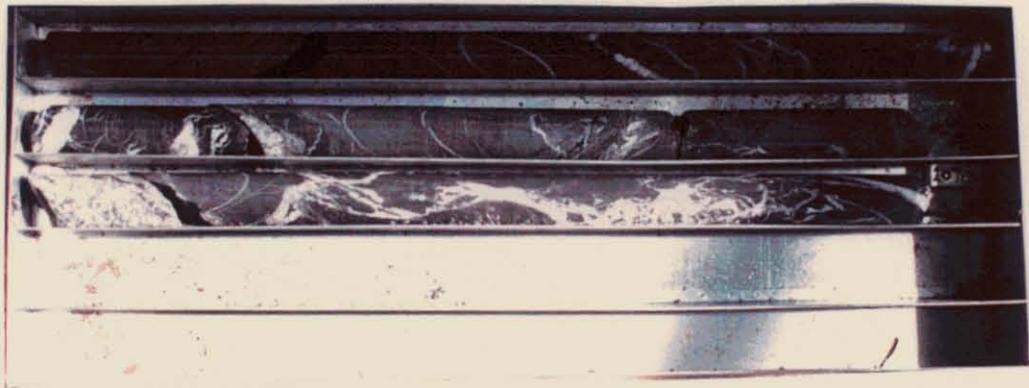
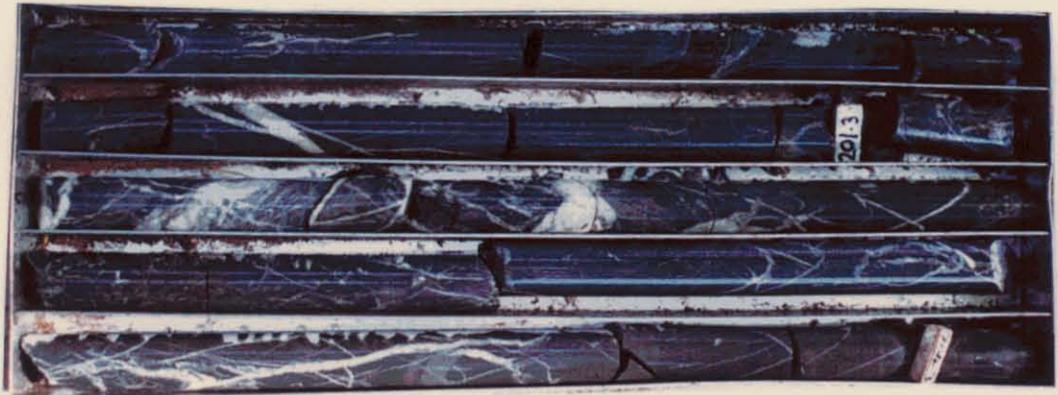


RUL 001



682030

RUL 001



APPENDIX 8



Our reference : BU017575
 Your reference : 112873
 Project code : Drill Core
 Date received : 25/02/00
 Date reported : 02/03/00

Analabs Pty. Ltd.
 ACN 004 591 664
 14 Thirkell St, Burnie
 Tasmania 7320
 Telephone : (03) 6431 6837
 Facsimile : (03) 6431 8890

Michael Dunham

Number of pages of results : 1
 Number of Samples : 44
 First Sample : P1110
 Last Sample : P1153

Invoice to:
 Michael Dunham

Electronic Data Transmission :
 Modem : / /
 Facsimile : / /
 Disk Report : / /

Results to:

Results to:

Remarks :

Authorised by *M. U. Good*
 On behalf of:

Rob Chapman
 Laboratory Manager

The results in the following analytical report pertain to the samples provided to this laboratory
 for preparation and/or analysis as requested by the client.



Our reference : BU017575
 Your reference : 112873
 Project code : Drill Core
 Report date : 02/03/00
 Report status : Final
 Page : 1 of 1

Analabs Pty. Ltd.
 ACN 004 591 664
 14 Thirkell St, Burnie
 Tasmania 7320
 Telephone : (03) 6431 6837
 Facsimile : (03) 6431 8890

ANALYTICAL DATA

Sample	Au	Au(R)			
P1110	<0.01	--			
P1111	<0.01	--			
P1112	0.05	--			
P1113	<0.01	--			
P1114	<0.01	--			
P1115	<0.01	--			
P1116	0.03	--			
P1117	<0.01	--			
P1118	<0.01	--			
P1119	<0.01	<0.01			
P1120	<0.01	--			
P1121	<0.01	--			
P1122	<0.01	--			
P1123	<0.01	--			
P1124	<0.01	--			
P1125	<0.01	--			
P1126	0.07	--			
P1127	<0.01	--			
P1128	<0.01	--			
P1129	<0.01	--			
P1130	0.02	--			
P1131	0.02	--			
P1132	0.02	--			
P1133	0.03	--			
P1134	<0.01	--			
P1135	0.02	--			
P1136	<0.01	--			
P1137	0.02	--			
P1138	<0.01	--			
P1139	<0.01	--			
P1140	0.03	--			
P1141	<0.01	<0.01			
P1142	<0.01	--			
P1143	<0.01	--			
P1144	0.04	0.02			
P1145	<0.01	--			
P1146	<0.01	--			
P1147	<0.01	--			
P1148	<0.01	--			
P1149	<0.01	--			
P1150	<0.01	--			
P1151	0.06	--			
P1152	0.01	--	HEATHORNE DUMP SAMPLE		
P1153	0.41	0.39	RINGAROOMA DUMP SAMPLE		
Method	F650	F650			
Units	ppm	ppm			
Detection Limit	0.01	0.01			

Notes: N.A. = not analysed, -- = element not determined, I.S. = insufficient sample, L.N.R. = listed not received