SCRIVEN EXPLORATION PTY LTD

EL23591 & EL24951

5th ANNUAL REPORT for MUCKATY

FOR THE YEAR ENDED
2nd MAY 2016

Group Report Number: GR250/12

Commodity: Mn, Au, Cu & Ni
Compiled by: Neil Scriven & Maryanne Muir
Title Holder: *Scriven Exploration Pty Ltd*

Map Sheet:
1:250,000 Helen Springs SE 53-10
1:100,000 Helen 5661
1:100,000 Muckaty 5660
Datum: GDA94, Zone 53

Compilation Date: June 2016

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EL23591 & EL24951 5th Annual Report for Muckaty for the Year Ending 2 May 2016

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ABSTRACT

The Muckaty Project is located approximately 130km north of Tennant Creek in the Northern Territory. The region is underlain by the Palaeoproterozoic Namerinni Group (Carruthers Formation) in the north east and to the south west the Tomkinson Creek Group (Morphett Creek Formation). These are unconformably overlain by the Mesoproterozoic Renner Group (Powell Formation and Gleeson Formation) which are centrally located placed north west to south east. The region is thought to be highly prospective for several minerals including Manganese, Copper, Lead, Zinc, Silver, Platinum, Paladium and Gold, mention has been made of Barite and Uranium.

Several companies have explored the Muckaty Project area, most recently between 1996-1997 BHP Minerals flew and EM survey over the region and followed up anomalies with ground EM and Drilling of WY1 (HSP002) & WY3 (HSD003) – this took place to the north of EL23591. The earliest exploration can be traced to the Dillingham Mining Company of Australia where rockchips returned a high of 3050ppm Cu with in EL23591.

Exploration activities conducted by Scriven Exploration during the first year of tenure included a literature review and a Geophysical Survey combined with planning. The second year of tenure involved soil sampling of the targets generated in the first year, some 1429 surface samples were taken with several +700ppm Mn samples being identified. The third year of exploration saw several infill soil sample programmes implemented to outline a drill target and follow up areas of interest.

2013-2014 provided Scriven Exploration with the opportunity to continue exploration on EL23591 & EL24951 through geochemical sampling of targets generated from the first and second year of work. Some 490 surface samples were taken. Extensions of the initial Central Mn anomalism were outlined. Prooving up an area ready for drilling. Drilling is anticipated to occur during June 2014.

2014-2015 saw continued surface sampling and the completion of the first shallow drilling programme over manganese targets. The highest results being 22.2% Mn(from 2-3m, sample 1635) and 21.7% Mn (from 5-6m, sample 1638) from MURC0003. Geochemical sampling occurred across areas of interest with 28 samples being taken over EL23591 and 236 samples being taken over EL24951.

During 2015-2016, the relinquishment of the mandatory portion of the ELs 23591 & 24951 occurred. Work focussed on the testing of the newly purchased CMD_DUO conductivity meter. A Orientation Survey was produced and concluded that the CMD_DUO would be an effective tool for the discovery of Manganiferous horizons in the Bootu Creek Region.

During 2016-17 should see the use of the newly purchased CMD_DUO conductivity meter in the field to produce some manganese anomalies.

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1. INTRODUCTION

The Muckaty Project is located approximately 130km north of Tennant Creek in the Northern Territory. The region is underlain by the Palaeoproterozoic Namerinni Group (Carruthers Formation) in the north east and to the south west the Tomkinson Creek Group (Morphett Creek Formation). These are overlain by the Mesoproterozoic Renner Group (Powell Formation and Gleeson Formation) which are centrally located placed north west to south east. The region is thought to be highly prospective for several minerals including Manganese, Copper and Gold.

Exploration activities conducted by Scriven Exploration during the fifth year of tenure concentrated on the purchase and understanding of the CMD-DUO conductivity meter. An Orientation report was produced for the Muckaty and Bootu Creek region.

2. PROPERTY DESCRIPTION AND TENURE

The Muckaty Project comprises two granted exploration licences (ELs 23591 & 24951) which cover a combined area of 378 square kilometres. The licences are held 100% by Scriven Exploration. See Table below for further details on grant dates and relinquishments.

Table 1: Tenement Details

Title	Status	Grant	Expiry	Original Area (km^2)	Original Blocks	Remaining Area (km^2)	Remaining Blocks
EL23591	Granted	3-5-2011	2-5-2017	314.3	119	176.1	66
EL24951	Granted	3-5-2011	2-5-2017	63.7	22	29.3	10

During the first half of 2012 Group Reporting was requested and granted by the Department of Resources – Minerals and Energy with the Report dates as follows 3rd May to 2nd May the following year. The Group Reporting Number is GR250/12.

During May 2015 EL23591 was reduced from 119 blocks to 66 blocks. Figure 2 shows the relinquished ground in red.

During May 2015 EL24951 was reduced from 22 blocks to 10 blocks. Figure 3 shows the relinquished ground in red.

3. ACCESSIBILITY AND INFRASTRUCTURE

The Muckaty Project exploration licences are located approximately 800km south of Darwin and 130km north of Tennant Creek in the Northern Territory. The exploration licences are accessed from Stuart Highway to the west (Figure 1). Accommodation is available at the Renner Springs Road House located some 15km north of the northern most boundary of the EL23591 along the Stuart Highway. The licence lies within the Muckaty Perpetual Pastoral Lease owned by the Northern Land Council.

The underground NT Gas Pipe line runs through the west – south west corner of the Muckaty project areas.

EL23591 is transected by the Tomkinson Creek from the WNW – ESE. There are at least three waterholes noted on the Topography (see Figure 1) – the Namerinni Waterhole, Namerinni Pools and Koolooloogoo Waterhole.

Figure 1: Location of Muckaty Tenements on topography. Plans in GDA94.

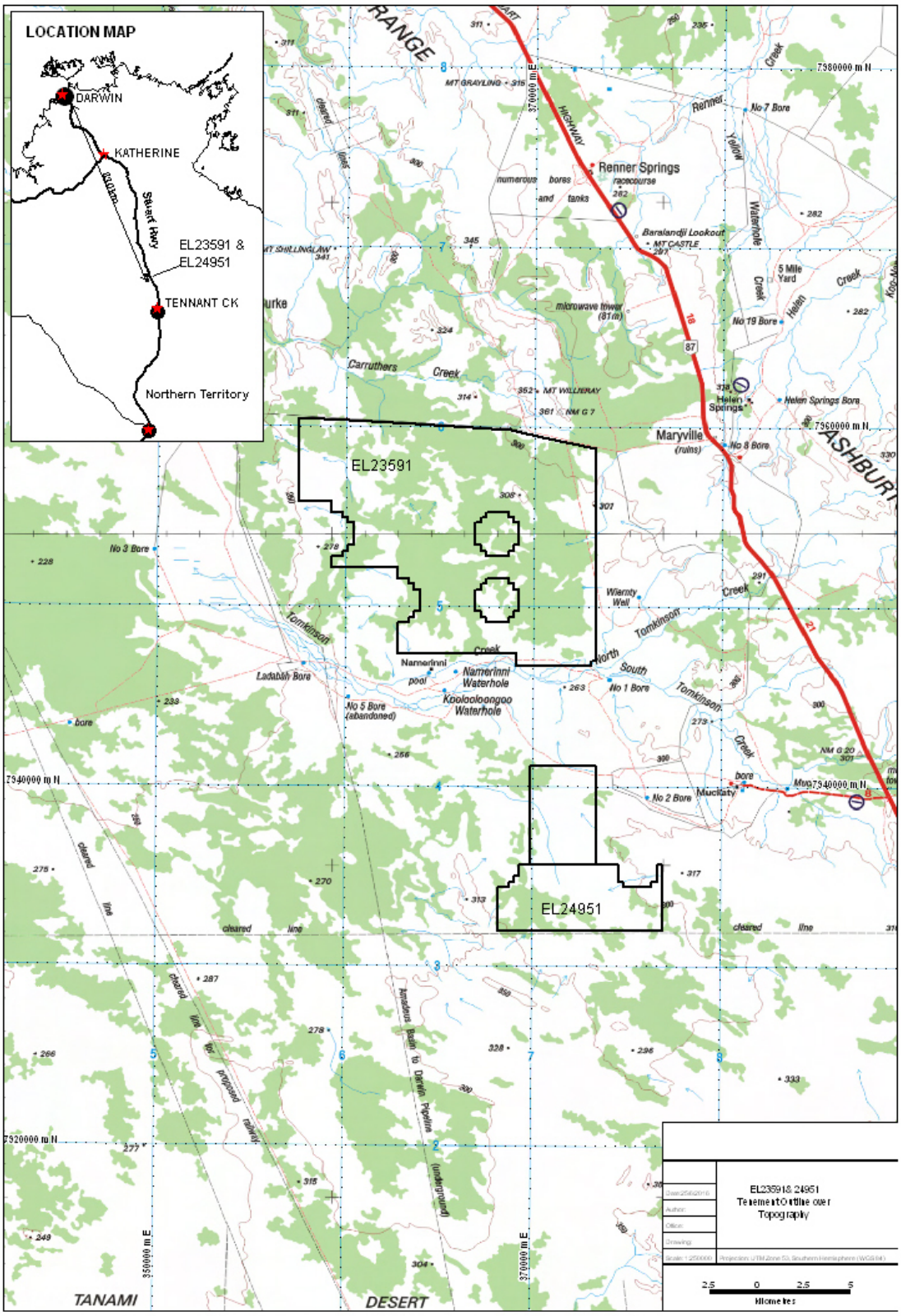


Figure 2: Relinquishment diagram for EL23591 where the red defines the relinquished ground.

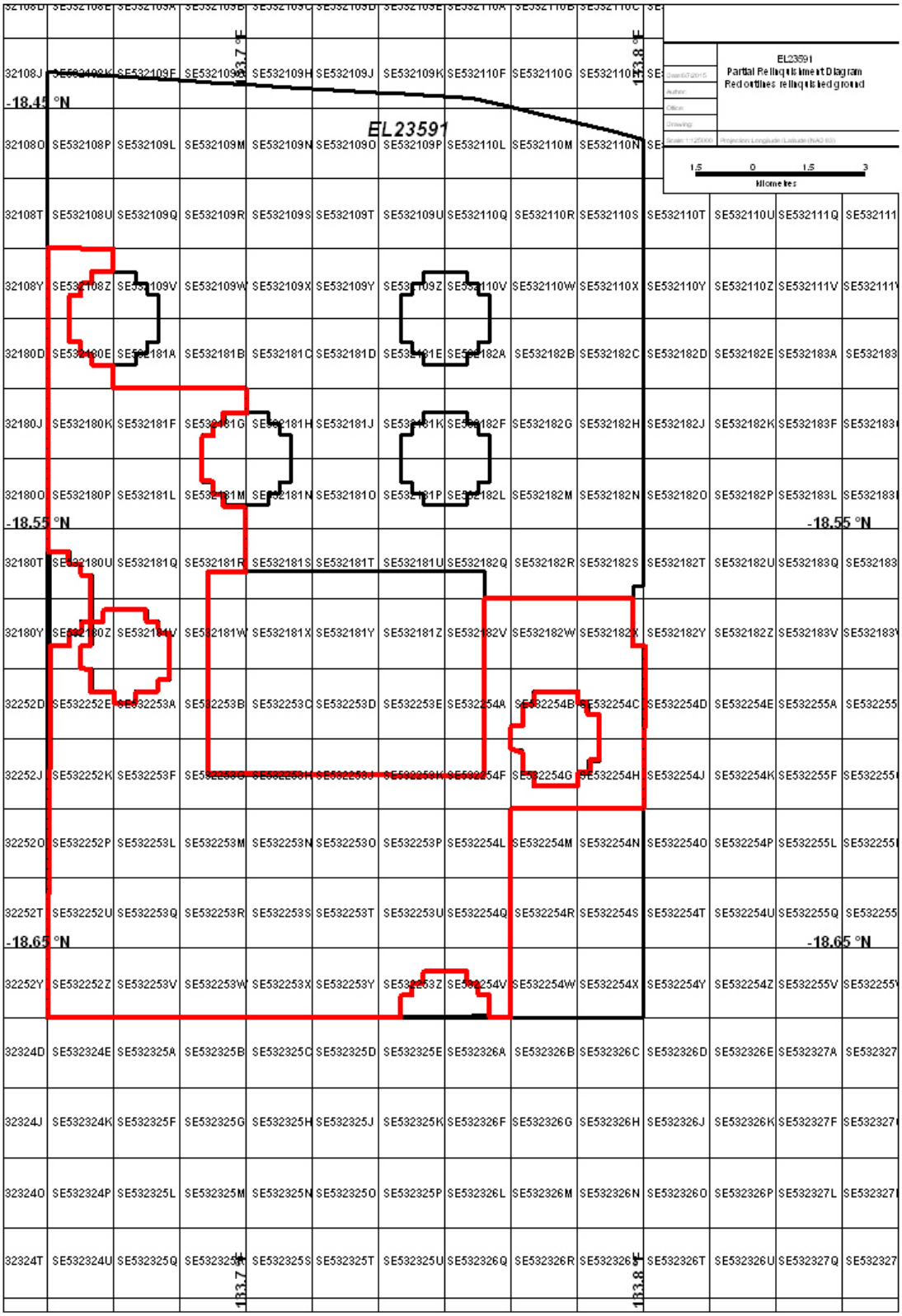
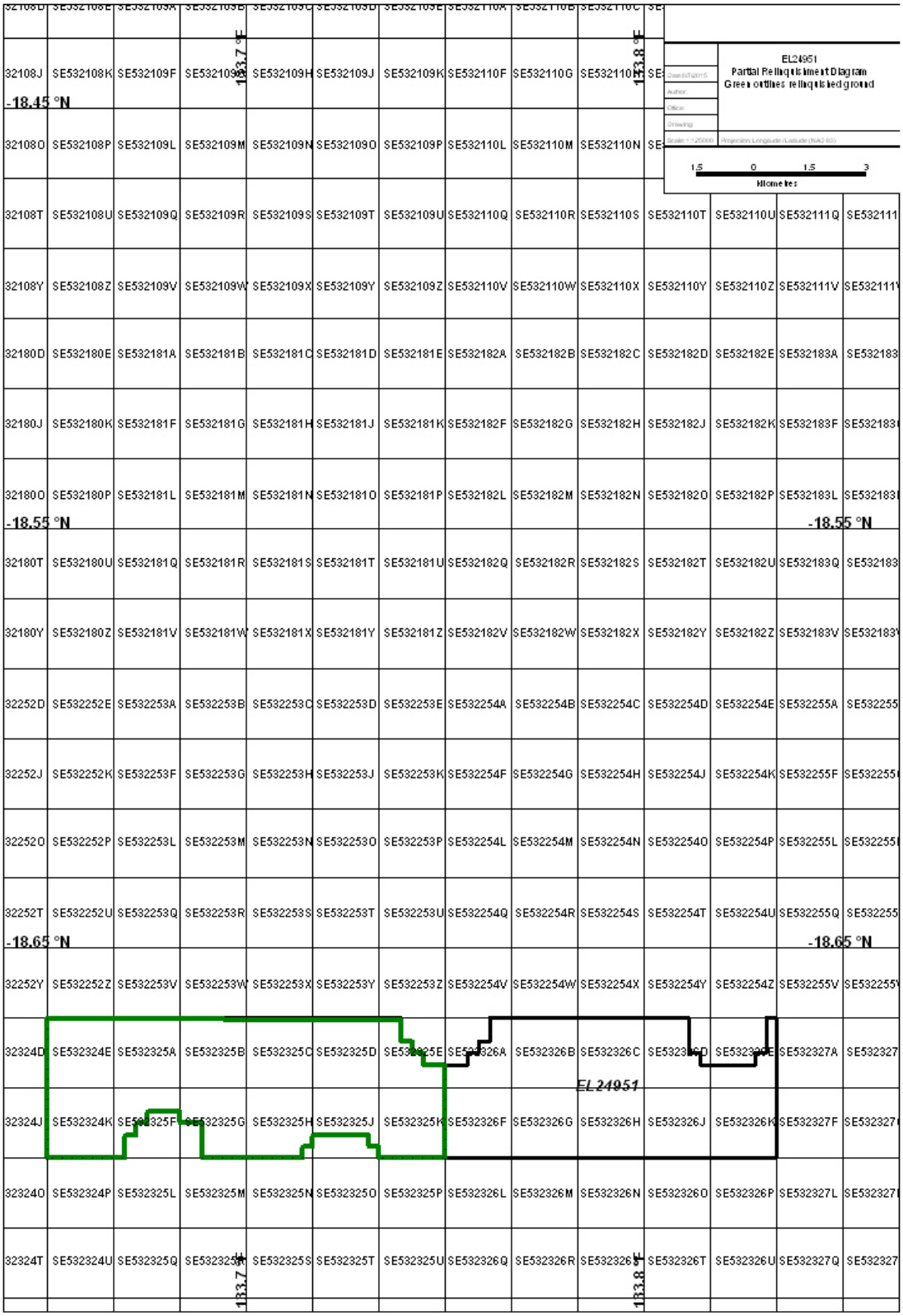


Figure 3: Relinquishment diagram for EL24951 where green outlines the relinquished ground.



4. GEOLOGICAL SETTING

The Muckaty project area is underlain by the Palaeoproterozic Namerinni Group (Carruthers Formation) in the North East and the Tomkinson Creek Group (Morphett Creek Formation) in the south west. Younger Mesoproterozoic sediments of the Renner Group (mostly Powell Formation and Gleeson Formation) overlie the Palaeoproterozic sediments. In the east of the exploration licence lies a North South trending dyke that runs over at least 40 km. The region is transected west north west to east south east by the Tomkinson Creek.

The area is covered by the HELEN SPRINGS 1:250,000 map sheet and explanatory notes (SE 53-10). Also the 1:100,000 mapsheets are as follows,

1:100,000	Helen	5661
1:100,000	Muckaty	5660

Within the project area the Palaeoproterozic Namerinni Group (Carruthers Formation) is concentrated in the northern half of the exploration licences and is described by the Northern Territory Geological Survey as a ”interbedded dolostone (including silicified dolostone, chert, dolomitic mudstone, quartzic dolostone, and laminated stromatilitic boundstone and bafflestone), shale, mudstone and sandstone” Hussey 2001. Evaporite pseudomorphs are described as common and include nodular and chert molds after anhydrite, hopper and cube casts and moulds after halite, and bladed or disc shapes after gypsum (Hussey et al 2001). Hussey (2001) states that the Carruthers Formation is characterised by stromatolites. The Carruthers Formation is divided into an upper, mid and lower lithofacies. EL23591 and EL24951 are covered by the upper lithofacies which is characterised by sandstones (thin to medium bedded, fine to coarse grained and rippled, crossbedded, mudstone, pebbly sandstone, dolostone, and stromatolitic bioherms that are ridge forming. The Carruthers Formation shows a conformable and transitional relationship with the underlying Jeromah Formation (predominantly Sandstone).

The Carruthers Formation sedimentary and diagenetic structures indicate a marginal marine setting with occasional emergence, possibly in a coastal to continental supratidal sabkha environment, although alternative settings are such as intertidal lagoon or lacustrine are possible (Hussey et al 2001).

To the southern end of the Exploration licences the Tomkinson Creek Group is prevalent with the Morphett Creek Formation outcropping. The Northern Territory Geological Survey described the Morphett Creek Formation as a "succession of ridge forming sandstones and recessive siltstone and carbonate rocks". Four distinct lithofacies are recognised in the Formation with the Mitty Member (consisting of mixed siliclastic – carbonate and undifferentiated Morphett Creek Formation outcropping with in EL 23591 & EL24951.

Undifferentiated Morphett Creek Member is described as sandstone, pebbly sandstone, siliclastic mudstone, silicified stromatolitic dolostone and evaporate pseudoomorphs. The Miity Member is usually poorly exposed and the type section is described as thin to medium bedded sandstone, laminated mudstone and green and blue-grey chert (silicified microbial mat) and stromatilites Hussey etal 2001.

The Morphett Creek Formation is described by Hussey (et al) as "representing a transgression from fluvial to very shallow marginal marine settings to shallow water intertidal and marginal marine to sabkha environments. This formation is thought to represent steady subsidence following the wide spread extrusion of continental flood basalts in the Whittington Range Member atop of the Hayward Creek Formation".

The recorded mineral occurrences on the Muckaty Project area are manganese in close proximity to the Namerinni Waterhole. Manganese has also been recorded is surface samples to 1690ppm in the north east by MIM Exploration. There are Copper occurrences recorded from the 1970s south of Muckaty Station by Dillingham Mining Company.

The NTGS has stated that there is a "clear stratigraphic control evident in the manganese deposits at Bootu Creek and Renner Springs with faults in close proximity" Hussey 2001. The fine grained nature of the mineralisation suggests that it was formed by the replacement of the original rock types (both sandstone and siltstone). The lack of sedimentary textures is suggestive of 'epigenetic, low temperature hydrothermal fluids'. The Mn rich fluids could be related to basin dewatering or minor hydrothermal activity.

The region may also be prospective for Base Metals and Diamonds with minor exploration having been completed for Uranium in the 1970's.

Figure 4: Regional surface geology from NTGS 1:250, 000 mapping. Plan in GDA 94

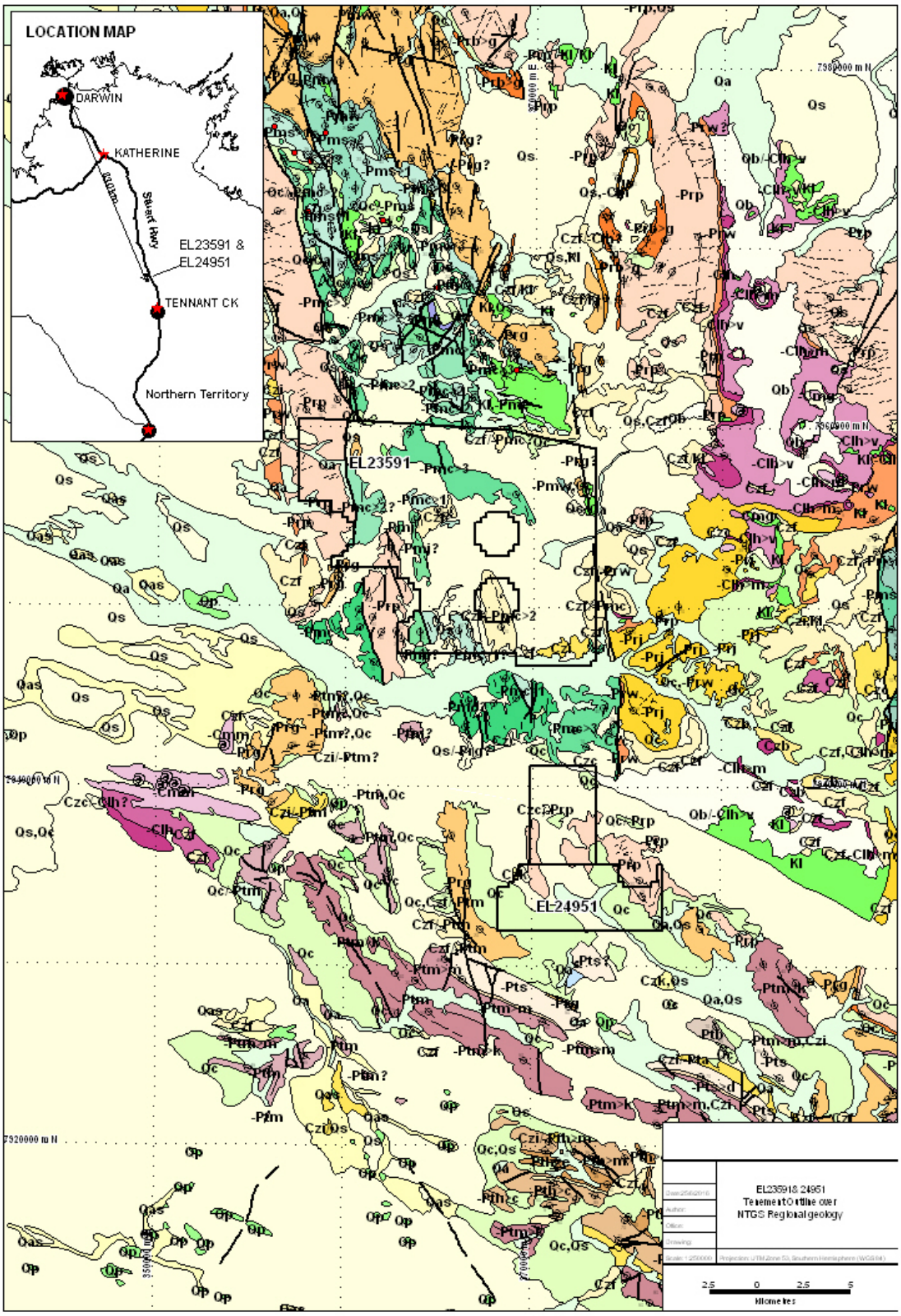
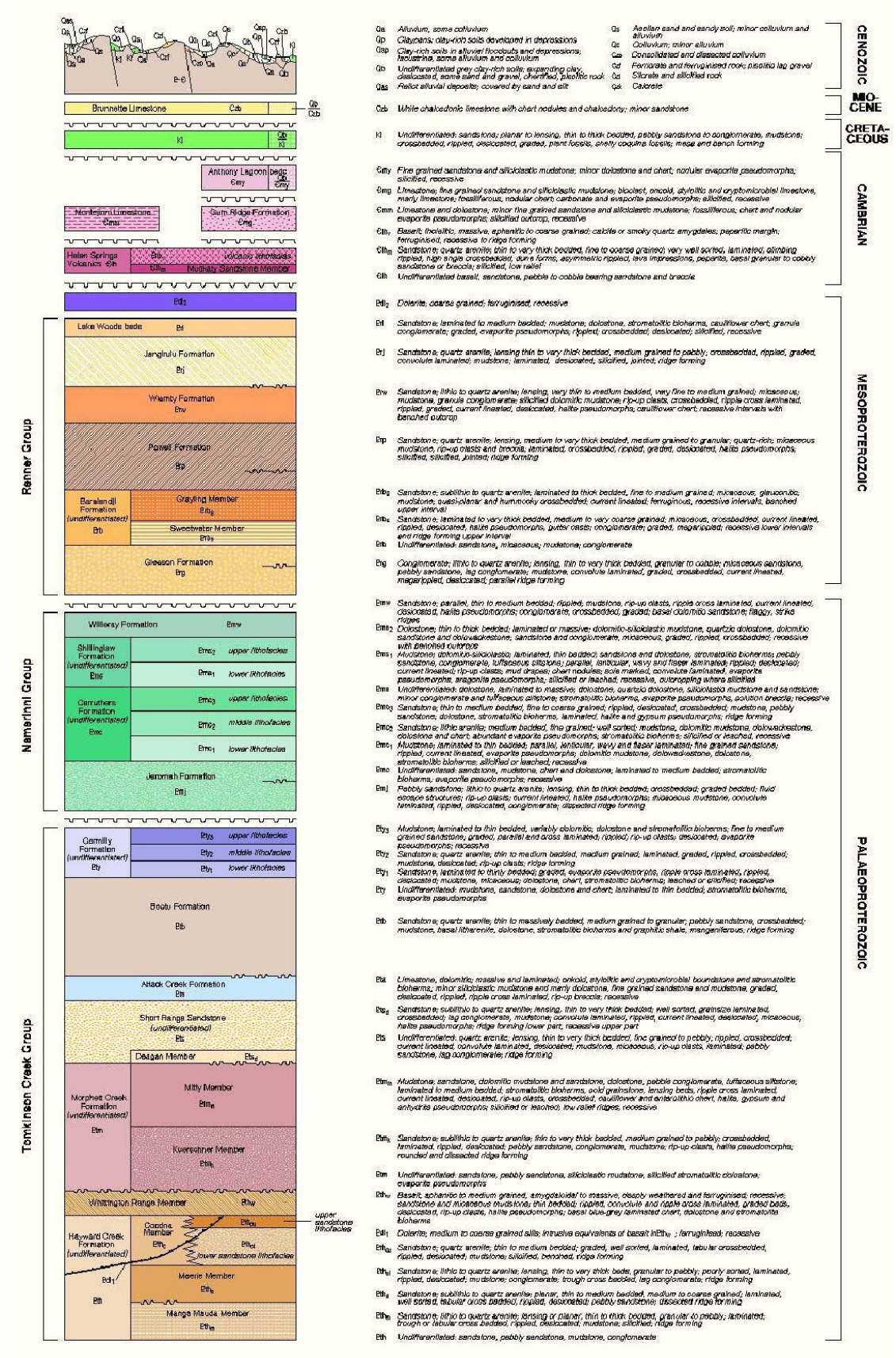


Figure 5: Regional surface geology LEGEND from NTGS 1:250, 000 mapping.



5. PREVIOUS EXPLORATION

The Muckaty project area has been the centre of several exploration programmes since the early 1970s through to the late 1990's. Several diamond holes and surface sampling has been completed in the region with a couple of older geophysical studies that were assessed to be far from perfect. The table below provides brief information on historic activities in the project area. A more extensive table is provided in Appendix 1.

BHP Minerals undertook an airborne EM survey followed up by ground EM with targets followed up by drilling to the North.

MIM Exploration searched the region for stratiform Base Metals mineralisation similar to McArthur River style mineralisation.

Key Resources and Clifford Minerals drilled several holes on the Exploration Licences and extensively to the north in the Renner Springs manganese fields.

Table 2: Review of Exploration in the Muckaty Region

Date	Company	Target	Activities
1996-1997	BHP Minerals	Zn, Pb, Zn SEDEX	Zircon Age of 1640 Ma. EM surveys (air and ground). Drilling. Surface sampling. Work completed to the north of EL23591.
1992-1993	MIM Exploration	Stratiform Base Metals Mineralisation	Stream sediment sampling, surface sampling, SIROTEM, Drilling MPD1 & MP2.
1990-1991	Ben Hall and Eupene Exploration	Manganese/Gold/Base Metals	Review of the Bootu Ck Region. Search for JV partner. Stream sediments/rockchips.
1986-1987	Ashton Mining	Diamonds	A couple of diamonds located in the district. None followed up.
1984-1986	Clifford Resources	Shale Hosted base metal deposits	Completed extensive mapping and drilling in conjunction with Key Resources
1981-1988	Key Resources Pty Ltd	Shale Hosted base metal deposits	Completed extensive drilling & RRMIP surveys.
1971	Metals Investment Holdings Ltd		Extensive review of the geology and mineral prospectivity of the region.
1971	Dillingham Mining Company of Australia	Cu/Pb/ Zn/Ag	Review of the region/ Rockchip and stream sediments sampling with the best result Cu-3050ppm.

During the first year of tenure, 2011-2012 Scriven Exploration commenced exploration on EL23591 & EL24951 with the data obtained from the October – December 2011 airborne magnetic and radiometric survey. From the survey several anomalies were identified in conjunction with the Literature review.

During the second year of tenure, 2012-2013 Scriven Exploration continued exploration on EL23591 & EL24951 through geochemical sampling of targets generated from the first year of work. Some 1429 surface samples were taken. A positive manganese target was highlighted during this process, with several +700ppm Mn samples being identified.

During the third year of tenure, 2013-2014 exploration continued with the emphasis on the manganese targets identified in the previous year and outlining of a drill target. Surface sampling continued in other areas but results were disappointing.

During the fourth year of tenure, 2014-2015, exploration efforts continued. The emphasis focused on drilling manganese targets identified in the previous year. 40 RC holes (MURC 001-040) were completed for 1030m.

The best results were as follows:

MURC0003 - 1635 2-3m 22.2% Mn & 3.43% Fe
1638 5-6m 21.7% Mn & 11.3% Fe
MURC0001 - 1629 2-3m 8.84% Mn & 5.37% Fe
1629 2-3m 0.11% Cu & 0.07% Pb
MURC0005 - 1656 7-8m 5.64% Mn & 5.8% Fe

Surface sampling (264 surface samples) was completed mostly in the southern tenement (EL24951) with a series of results being followed up.

6. EXPLORATION COMPLETED DURING THE REPORTING PERIOD 3rd MAY 2015 to 2nd MAY 2016.

Work during the fifth reporting period has included:

- Reporting
- Purchase of CMD_DUO Conductivity Meter
- Production of an Orientation Survey

6.1 CMD_DUO Orientation Survey

The CMD_DUO conductivity meter was designed to 'measure near surface conductivity variations'. Within the Tennant Creek region the regolith conditions are believed to be model for 'depth penetration capabilities of this particular instrument'. The manganese horizons have significant 'conductivity contrasts' to the surrounding sediments to provide good targets. Orientation surveys were conducted over the Bootu Creek Mine sequence and over geochemical anomalies in adjacent exploration licences.

Conclusions from the report

- The CMD_DUO conductivity meter is an effective tool to detect strong Manganiferous horizons.
- Regolith conditions were ideal with a thin layer of soil of colluvial cover above moderately weathered sediments, ground water is fresh. The survey needs to be extended over areas of deeper weathering.
- The instrument is effective at detecting buried or perched water tables.
- The instrument is effective at detecting lithological contacts where the conductivity contrast between the two units is high.

See Appendix 1 for final report "Orientation Surface Electromagnetic Survey – CMD-Duo Conductivity Meter – Bootu Creek Project – Tennant Creek Region – Northern Territory".

7. CONCLUSIONS AND RECOMMENDATIONS

2015-2016 provided Scriven Exploration with the opportunity to continue exploration on EL23591 & EL24951. This involved the purchase of the CMD_DUO conductivity meter from the Czech Republic to aid in the discovery of a new Manganese deposit. During this year an Orientation survey using the CMD_DUO conductivity meter was completed and concluded that the instrument could be used successfully to prospect for Manganese rich horizons in the Bootu Creek district.

2016-2017 should see a review of previous data to assess the Exploration Licences potential for ground follow up with the CMD_DUO conductivity meter. Several surveys will be planned to attempt to outline manganese horizons. If and only if, there are anomalies outlined then there should be RC drilling to delineate the anomalies.

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Appendix 1 – Data

See Folder: GR250-12_2016_A_02_Appendix_1