



NATURAL RESOURCES EXPLORATION

YEAR 2

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Title Holder:	NATURAL RESOURCES EXPLORATION PTY. LTD.
Operator:	Natural Resources Exploration Pty. Ltd.
Tenement Manager:	Becana Devencorn
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Contact Details:	

NATURAL RESOURCES EXPLORATION PTY. LTD.

PO Box 9235, Gold Coast Mail Centre, QLD 9726

Level 8 Corporate Centre, 2 Corporate Ct, Bundall QLD

Tel: (07) 5644 5500 **Fax:** (07) 5528 4558

Email: info@naturalresources.net.au

Contents

Summary	3
1. Introduction	5
2.1 Location and Access	6
2.2 Topography and Drainage.....	8
3. Geology	8
3.1 Regional Geology	8
3.2 Permit Geology	10
4. NRE’s Exploration Activities during the Reporting Period	12
4.1 Exploration Studies	13
5. NRE’s Exploration Activities for next 12 month period	14
6. Reports lodged during the reporting period.....	14
7. Conclusions	15
8. Bibliography	16

Figures

Figure 1. Location Map	6
Figure 2. Access Map	7
Figure 3. Cadastral Map	7
Figure 4. Topography Map.....	8
Figure 5. Regional Geology Map	9
Figure 6. Permit Geology Map	11
Figure 7. Historic tenements over the Carrara East Project	14

Tables

Table 1. Tenement Details.....	5
Table 2. Stratigraphy across Mt Drummond 1:250K geological sheet	12
Table 3. Historic Tenements and Previous Companies’ Exploration Reports	13

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Summary

Section 94 of the ***Mineral Titles Act*** requires the submission of an Annual Report prepared by the titleholder for each exploration licence. The purpose of the following Annual Report for Exploration Licence (EL) 28400 is to provide a summary of the activities carried out over the licence area in the past 12 months, including results produced by those activities.

During the second year of grant, Natural Resources Exploration ('NRE') has carried out a detailed geological assessment of Exploration Licence (EL) 28400, known to NRE as its 'Carrara East' Prospect.

To delineate prospective areas for base metal mineralisation and define the next phase of exploration, NRE carried out extensive office-based studies including desktop reviews of all previous exploration across EL28400 and its surrounding tenements. From its reviews and data compilation of historical reports and data it has collected in the region across other tenements adjacent to the tenure have allowed NRE to define targets for a limited drilling program.

NRE also made application to amalgamate this tenement with other tenements it holds in the region for the purpose of facilitating operations and reporting given that the areas cover the same target mineralisation.

NRE's activities during the second year of grant have been a great success and have defined targets for further exploration activities to be conducted during the third term.

1. Introduction

During the second year of grant, Natural Resources Exploration ('NRE') has carried out a detailed geological assessment of Exploration Licence (EL) 28400, known to NRE as its 'Carrara East' Prospect.

EL 28400 was granted to NRE on 8 July 2011, consisting of a total of 8 sub-blocks. The tenement is located within the Mesoproterozoic-Palaeoproterozoic South Nicholson Basin, a western extension of the Law Hill Platform sequence which forms part of the North Australian Platform Cover. Given the limited number of sub-blocks forming the tenement, NRE made application for waiver of partial reduction at the end of the second term.

During the reporting period, NRE's exploration rationale and objectives for its Carrara East Prospect considered the evaluation of potential base metal mineralisation. Investigations were intended to locate any outcropping of mineralisation and any indicators of any sub-surface mineralisation within the tenement based on desktop reviews.

NRE has conducted a full review of all previous exploration within the project area including review of previous exploration data from NTGS open file company reports, review of aeromagnetics, of radiometrics and gravity survey provided by NTGS and review of satellite imagery, ASTER imagery and Google Earth Imagery. From these reviews and as a result of NRE's data compilation for results, reports and mapping of the region, NRE has been able to define targets for a soil and rock chip sampling program which will subsequently be followed by a limited drilling program if successful.

NRE's activities during the second year of grant have allowed for the delineation of targets for further exploration activities to be conducted during the third term of EL28400 in conjunction with its surrounding tenements.

2. Tenure

NRE's exploration licence (EL) 28400, is more commonly known by NRE as its 'Carrara East Project'. EL 28400 was granted to NRE on 8 July 2011 for a term of 6 years.

The Carrara East Prospect consists of 8 sub-blocks covering 26 square kilometres of land across the Carrara Range. **Table 1** lists the pertinent tenement details.

Table 1. Tenement Details

Project Name	Tenement Name	Title No. (EL)	Sub-blocks	Sq. Km	Status	Grant Date	Term (Yrs)	Expiry Date
South Nicholson	Carrara East	28400	8	26	Granted	8-Jul-11	6	7-Jul-17

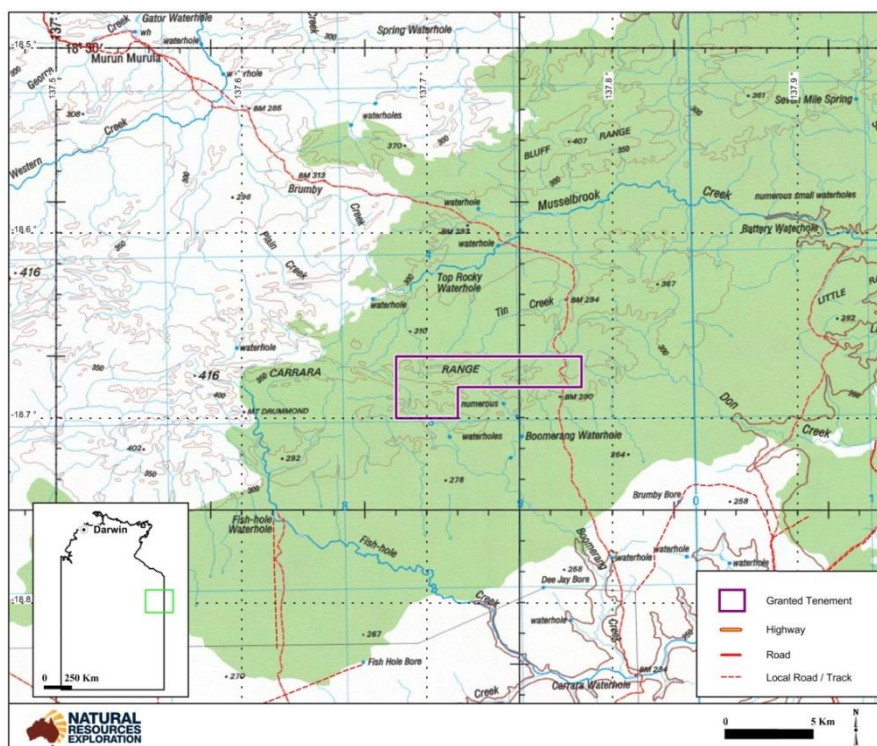
2.1 Location and Access

Location & Access

Exploration Licence EL28400 is located in the Carrara Range, approximately 60 kilometres east of Mittiebah Station and 34 kilometres west of the Queensland – Northern Territory state border. The Carrara Range is the western extension of the Lawn Hill Proterozoic Block which extends south and south-west from the older Murphy Tectonic ridge.

The location of the tenement is shown in **Figure 1** below.

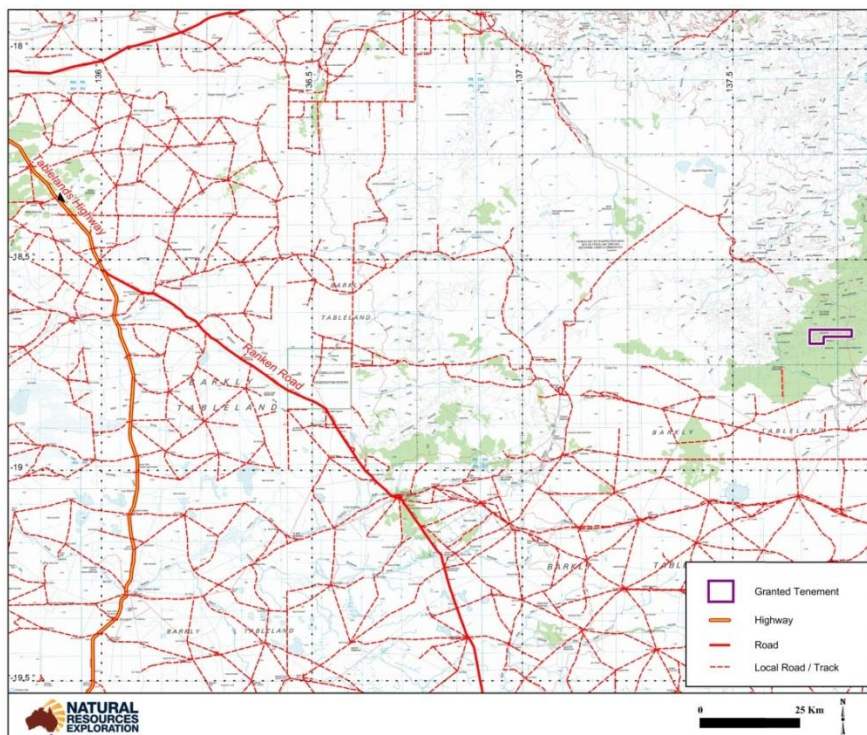
Figure 1. Location Map



The Carrara East Prospect is accessed via the Ranken Road (gravel) from the Barkly Highway (sealed). The area is locally rugged and access to the Carrara East Prospect is difficult, particularly after heavy rainfall.

Access to the tenement is identified in **Figure 2**.

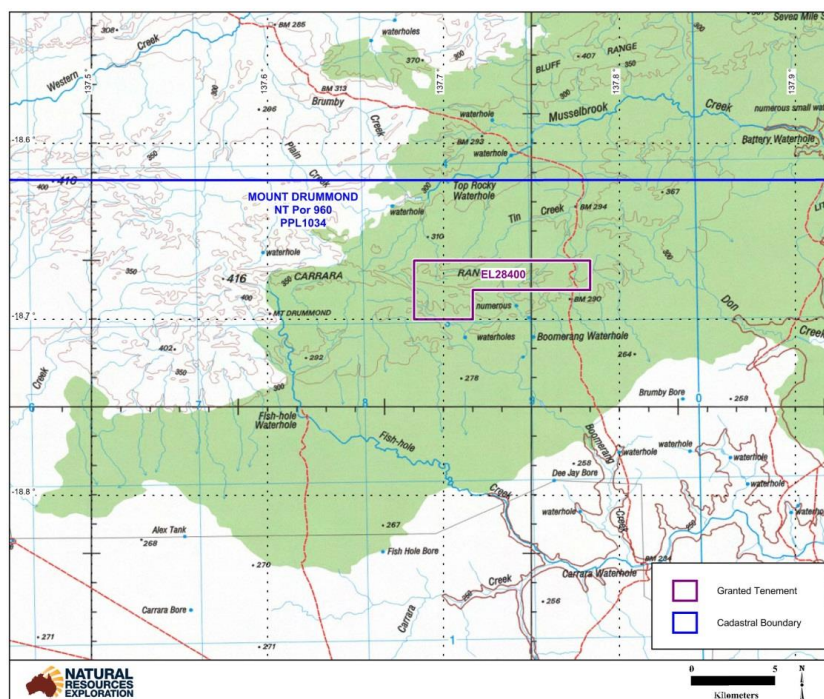
Figure 2. Access Map



Pastoral Leases

NRE’s Carrara East Prospect overlies one (1) Pastoral Lease, namely ‘Mount Drummond’ NT Portion 960, Perpetual Pastoral Lease 1034. **Figure 3** shows this lease in relation to the Carrara East Prospect area.

Figure 3. Cadastral Map

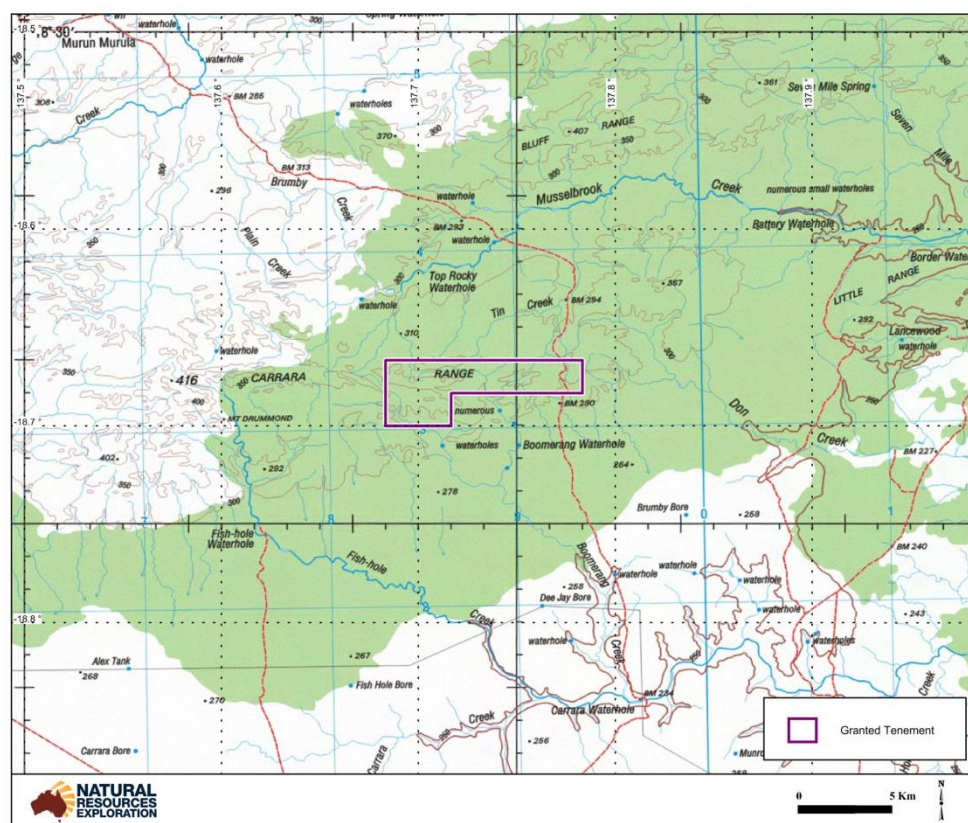


2.2 Topography and Drainage

The Carrara East Prospect is located largely within the Carrara Range, which is a dissected upland with elevations to 410m AHD. The grass plains to the west are in the order of 270m AHD and flat. Numerous small drainages coalesce into Fish Hole Creek in the south-west corner of the Exploration Licence.

Fish Hole Creek flows south-east and east to join Carrara Creek which in turn joins Lawn Hill Creek across the border, flowing eventually as the Gregory River and Nicholson River into the Gulf of Carpentaria. The topography of the area is shown in **Figure 4**.

Figure 4. Topography Map



3. Geology

3.1 Regional Geology

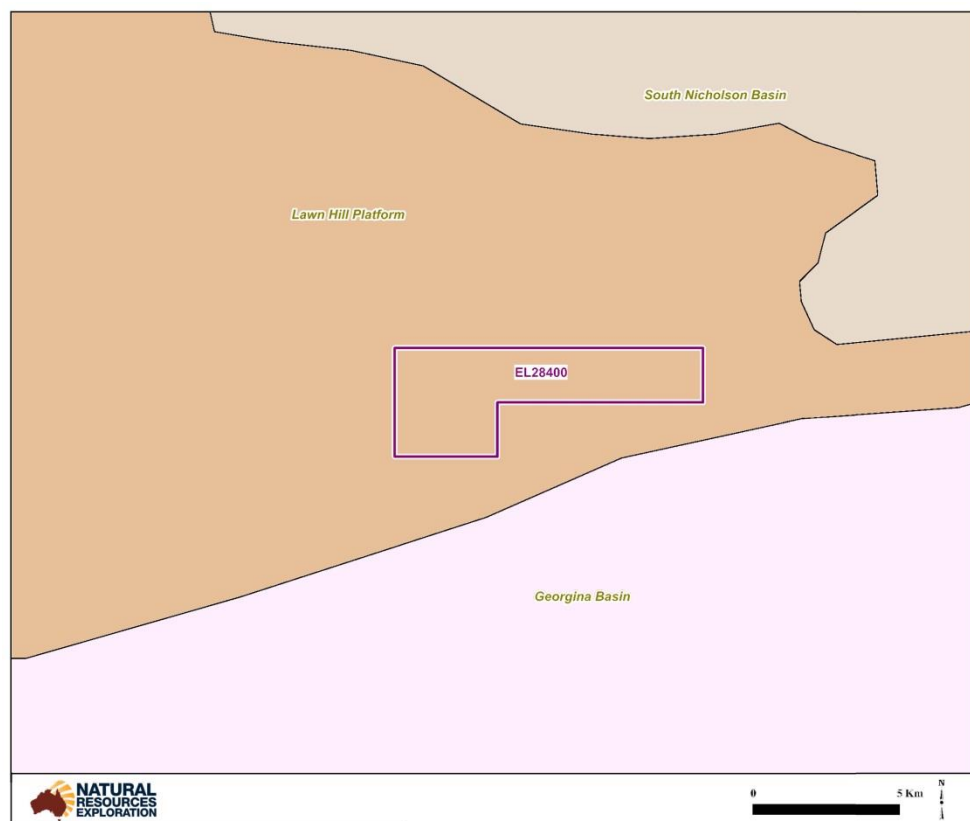
The Exploration Licence is located within the Mesoproterozoic-Palaeoproterozoic South Nicholson Basin a western extension of the Law Hill Platform sequence which forms part of the North Australian Platform Cover. To the east this sequence hosts the large Sedex

Century Zn deposit. To the north the Mesoproterozoic Lawn Hill Platform mainly onlaps the Paleoproterozoic Murphy Tectonic Inlier.

Rock types in the South Nicholson Basin are largely clastic sediments, sandstones conglomerates and siltstones, along with chemical sediments, dolomites, and dolomitic siltstones of the South Nicholson Group. These rocks are weakly metamorphosed, with sandstones often indurated and quartzitic in character.

The South Nicholson Basin unconformably overlies rocks of the Lawn Hill Subprovince of the Western Fold Belt Province, across the Queensland-Northern Territory border (**Figure 5**). The only significant mineralisation recorded within the rocks of the basin is sedimentary ironstone in the Constance Range area (Harms, 1965) where oolitic hematite, siderite and chamosite beds occur within the Train Range Ironstone Member.

Figure 5. Regional Geology Map



The Murphy Province is made up of the Palaeoproterozoic Murphy Metamorphics and the comagmatic Cliffdale Volcanics and Nicholson Granite Complex. The Murphy Metamorphics consist of shale, siltstone, sandstone and felsic volcanic rocks converted to schist and gneiss by greenschist facies metamorphism. These rocks are isoclinally folded along east-west axes and are unconformably overlain by the Cliffdale Volcanics. Their upper age limit is constrained by the older phases of the Nicholson Granite Complex at 1820 ± 103 Ma. The

lower part of the Clifffdale Volcanics is dominated by ignimbrite whilst the upper part consists essentially of flow-banded alkali rhyolite and minor tuff dated at 1730 ± 20 Ma. The Nicholson Granite Complex intrudes both the Murphy Metamorphics and Clifffdale Volcanics and consists of granodiorite and granite.

The unmetamorphosed Georgina Basin is an intracratonic Neoproterozoic to Devonian sedimentary basin forming part of the Central Australian Platform Cover. The Basin is an erosional remnant of a series of originally interconnected central Australian intracratonic basins (the Centralian Super-Basin) that range from Neoproterozoic to Palaeozoic.

The Basin contains up to 3.7 km of sedimentary rocks with frequent oil shows throughout. Although mainly explored for phosphate, oil and gas, several small lead-zinc occurrences are located along the southern margin. There are a number of smaller deposits and prospects within the Basin including the large Wonarah phosphate deposit.

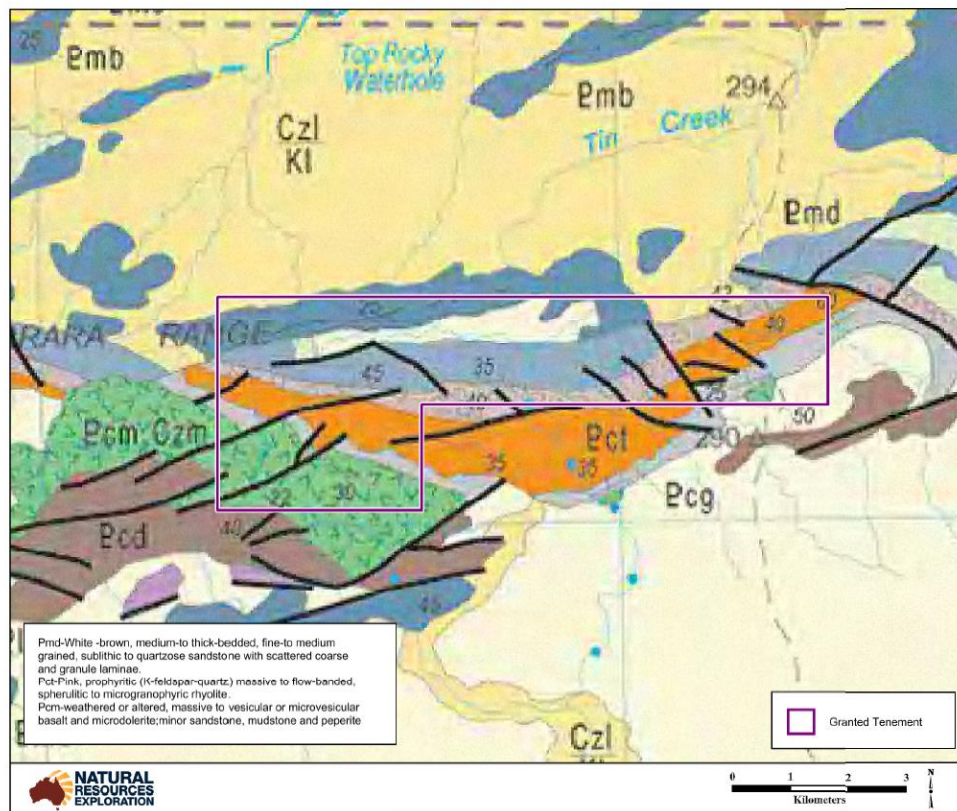
3.2 Permit Geology

The geology within the Carrara East Prospect consists of units which have been mapped and interpreted across the Mt Drummond 1:250K geological sheet by government geologists. The Mt Drummond geological sheet has been mapped in two phases, the first being in 1972 and the second in 2008. The permit geology is illustrated in **Figure 6** and the changes in the interpreted stratigraphic succession over time are shown in **Table 2**.

Within the Carrara East Prospect, lithologies have been interpreted as belonging largely to the Carrara Range Group. Previous mapping interpreted a basement of Murphy Metamorphics onto which the Carrara Range Group had been deposited. The interpretation of these rocks as being Murphy Metamorphics is considered problematic.

The Carrara Range Group (Sweet 1982) constitutes the basal portion of the western Lawn Hill Platform and outcrop is confined to the Carrara Range in eastern Mt Drummond. It lies unconformably on basement units of the Murphy Inlier and is, in turn, unconformably overlain by the Surprise Creek Formation and McNamara Group of the Lawn Hill Platform.

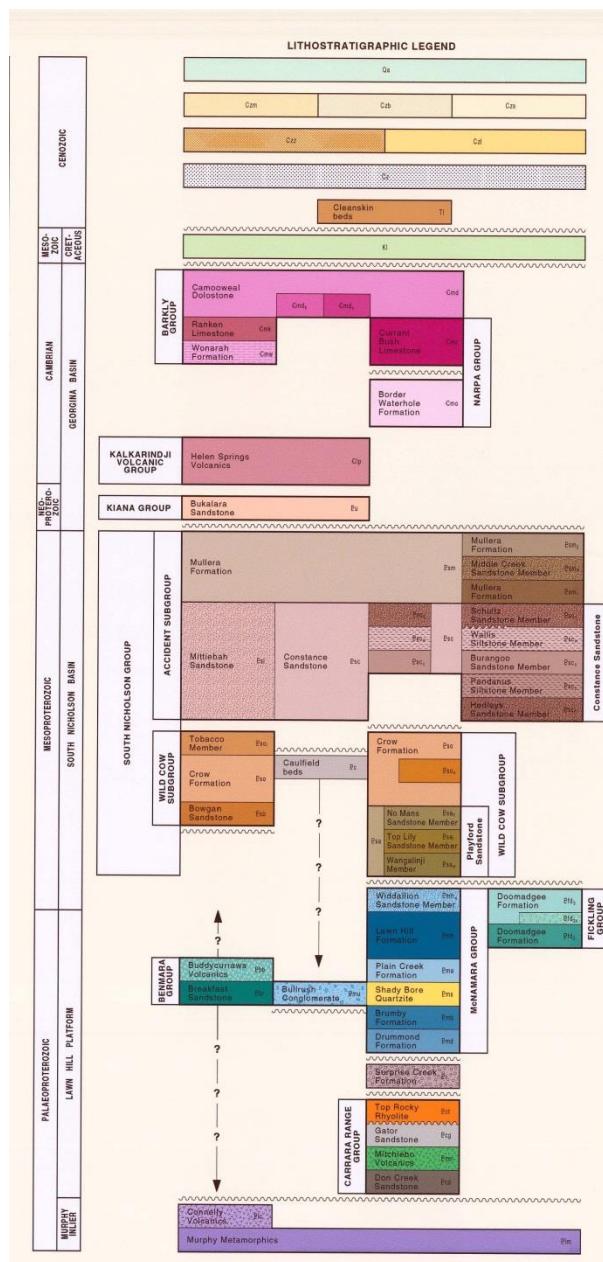
Figure 6. Permit Geology Map



The Carrara Range Group is dominated by braided fluvial and perhaps minor shallow-marine sandstone, with lesser mudstone and bimodal (basalt-rhyolite) volcanic and high-level intrusive rocks up to 2500 m thick.

Resistant, steeply dipping sandstone ranges with recessive valleys occur in a narrow east-west belt stretching over 50 km from No Mans Creek to Don Creek near the Queensland-Northern Territory border. The major units are the Don Creek Sandstone, Mitchiebo Volcanics, Gator Sandstone and Top Rocky Rhyolite. Only the Don Creek Sandstone has been mapped in the southern three sub-blocks of the licence.

Table 2. Stratigraphy across Mt Drummond 1:250K geological sheet



4. NRE’s Exploration Activities during the Reporting Period

NRE has carried out a detailed geological assessment of EL28400 during the second year of grant. To delineate prospective areas for base metal mineralisation and define the next phase of exploration, NRE carried out extensive office-based studies including desktop reviews of all previous exploration across EL28400 and its surrounding tenements.

NRE also compiled its data and interpreted data across the tenement and wider region in order to delineate targets for a soil and rock chip sampling program. Pending the results of

the sampling program, NRE suspects that the next phase of exploration will be to conduct a limited drilling program to drill test targets.

4.1 Exploration Studies

NRE has conducted an extensive review of historic exploration over its Carrara East Prospect. A review of all previous exploration within the project area has been completed including:

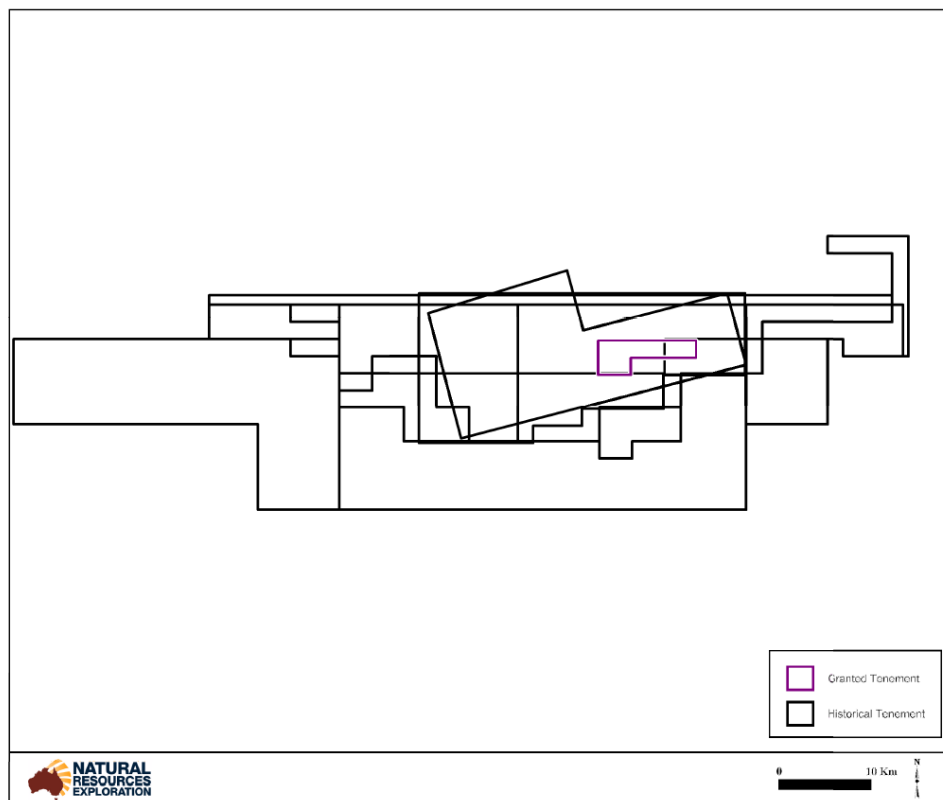
- Review of previous exploration data from NTGS open file company reports; and
- Review of aeromagnetics, of radiometrics and gravity survey provided by NTGS; and
- Review of satellite imagery, of ASTER imagery, Google Earth Imagery.

NRE also conducted an extensive review of historic exploration over its Carrara East Prospect. There has been continued intermittent interest in the area from 1963 to the present, with AFMECO, CRA Exploration and Anglo American having done the most work. Previous exploration has been summarised in **Table 3** and location of historic tenements is shown in **Figure 7**.

Table 3. Historic Tenements and Previous Companies' Exploration Reports

Tenement	Period	Company Reports	Company
EL 7714	1992-1993	CR1993-0337,CR1994-0319,CR1994-0452,CR1995-0316,CR1995-0323,CR1996-0149,CR1996-0149	CRA Exploration
SEL 8035	1993-1995	CR1993-0337,CR1994-0319,CR1994-0452,CR1995-0316,CR1995-0323,CR1996-0149	CRA Exploration
EL 9824	2002-2004	CR2003-0410,CR2004-0500	Anglo Amerinca Exploration Australia/Arafura Resources
EL 8035	1993-1995	Not Listed	Not Listed
EL 4084	1982-1989	CR1983-0304	Anaconda Australia
EL 4491	1984-1990	CR1985-0091,CR1985-0276,CR1987-0031	Stockdale Prospecting
EL 1125	1976-1977	CR1977-0039	Australian Fertilizers
AP 3392	1971-1972	CR1972-0050	CRA Exploration
EL 2112	1979-1981	CR1980-0096,CR1980-0209,CR1981-0093	Afmeco Mining and Exploration

Figure 7. Historic tenements over the Carrara East Project



5. NRE’s Exploration Activities for next 12 month period

The objective of NRE’s exploration activities over the next 12 month period in relation to the Carrara East Prospect is to identify any possible sub-surface mineralisation over the area through conducting a soil and rock chip sampling program over target areas.

NRE’s sampling program has been designed to be conducted along the same lines as CRA Exploration and intends on conducting a multi-element analysis of samples to allow for the effective delineation of targets within the Carrara East Prospect area.

NRE also intends to review the new results against soil results obtained from previous historical exploration conducted by CRA Exploration, as well as review existing weak anomalies in order to follow up any target areas of interest for a limited drilling program.

6. Reports lodged during the reporting period

NRE believes that no other reports were required to be lodged during this reporting period.

7. Conclusions

Natural Resources Exploration's exploration activities during the second term of its Carrara East Prospect have been focused on delineating targets and designing a soil and rock chip sampling program for the tenement and neighbouring tenements.

NRE has conducted a full review of all previous exploration within the project area including review of previous exploration data from NTGS open file company reports, review of aeromagnetics, of radiometrics and gravity survey provided by NTGS and review of satellite imagery, ASTER imagery and Google Earth Imagery.

Investigations were intended to locate any outcropping of mineralisation and any indicators of any sub-surface mineralisation within the tenement based on desktop reviews. NRE has identified weak anomalies which are worthy of followup exploration and further soil and rock chip sampling.

NRE is looking forward to commencing conducting geological mapping of the area and its soil and rock chip sampling programs over the area.

8. Bibliography

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Note these (and many more) references are also located in the References section of the Mt Drummond 1:250,000 geological map series explanatory notes.