

Litchfield Minerals Pty Ltd

Mount Doreen Mineral Field Project

Mt Doreen mineral field, North West Arunta region along Tanami Road

EL 31305 Annual Report for the period 06/06/2018 to 05/06/2019

Tenement holder: Litchfield Minerals Pty Ltd

Target Commodities: Copper Lead Zinc Silver Molybdenum Tungsten

Compiled by:

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EL 31305 Annual report for the period 06/06/2018 to 05/06/2019

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Project Name	Mount Doreen mineral Field Project
Tenement Number	EL 31305
Tenement Holder	Litchfield Minerals Pty Ltd
Operator	Litchfield Minerals Pty Ltd
Commodities	Copper Lead Zinc Silver Molybdenum Tungsten
Tectonic Unit	Arunta region
Stratigraphic units	Patmungala beds, Southwark granite, Lander formation
1:250 000 Map sheet	Mt Doreen SF 5212
Key words	Arunta region, Yarunganyi granite, Pegmatites, Nicker beds

Summary

No field work was carried out on EL 31305 during the reporting year. Planning for the year 2 work program has been finalised and is timed to begin in the second half of 2019. The 2019 work program will incorporate the remainder of the year 1 program expenditures. Year 1 work consisted of an extensive review of historical open file data in order to target field work locations for Geochemical sampling and mapping.

The focus of the Litchfield Minerals field exploration work in EL 31305 will be the Wolfram Hill site. The aim is to fully assess the mineralisation in the ground covering an area of 1.5 kilometres x 400 metres surrounding the peak of 50 metres height.

The Litchfield Minerals year one desktop studies of EL 31305 prospects and mineral occurrences have identified structures that need to be sampled and mapped at Wolfram Hill, the Patmungala Beds, the Silver King, the Clarke copper mines 1 to 3, The Ringer tungsten occurrence and the Mount Irene base metals workings.

The exploration target minerals at the Wolfram Hill site are Tungsten, Molybdenum, Copper and Tin.

Previous Energy Metals Ltd sampling assay results, accessed by the author, clearly show highly anomalous Ag, Cs, Nb and Te within the Wolfram Hill mineralisation. Historical assays by other explorers in the area only assayed for a small range of elements and subsequently missed out on identifying the more exotic elements contained within the Wolfram Hill site. Some of these more esoteric elements identified in the assays are highly valuable and sought after in Alternative Energy applications.

Geologically, EL31305 sits at the Mount Doreen Mineral Field in Arunta Region of Aileron Province. The major rock types include Mesoproterozoic-Paleoproterozoic variably metamorphosed clastic sediments, meta volcanic rock, calc-silicate rocks, dolerite, mafic rock and intrusion granite.

Minerals hosted by the rocks include metamorphosed VMS and carbonate replacement Pb-Zn-Cu, iron-oxide Cu-Au, orogenic Au, W(-Mo), Sn, mafic-hosted Ni-Cu, Hydrothermal U and apatite- and pegmatite-hosted REE-U(-P).

The title lies within the Mount Doreen 250K map sheet (SF5212).

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1. Introduction

This report covers the operational year 1 (6th June 2018 to 5th June 2109).

The tenement was granted on the 5th June 2018.

No field exploration activities have been carried out since the grant of the tenement.

The Exploration License 31305 Mount Doreen Mineral Field Project is located approximately 300 km northwest of Alice Springs. The project area is mainly situated on the Mount Doreen (SF52-12) 1:250,000 scale sheet.

Access to the Mount Doreen area is via the Tanami Highway, which passes through the tenement approximately 20 kilometres north west of Yuendumu. Station tracks and fence lines provide access throughout the project area.

The Mount Doreen region contains moderate relief comprising extensive high ranges of quartzite belonging to basal units of the Ngalia Basin, high rounded granite hills rising to 250 metres above the surrounding terrain, and low rounded ranges of schist and granite tors. Extensive low-lying areas surrounding the ranges comprise sheet wash sand, clay and gravel, aeolian sand, wide incised fluvial gravel and sand, and minor calcrete and playa lake clay and silt.

2. Tenure Details

EL 31305 was granted to Litchfield minerals on the 6th June 2018 for a period of six years expiring 5th June 2024.

Litchfield minerals hold 100% interest in EL 31305 and is also the operator of the license. Sub block outline drawing of EL31305 (Fig 1) is shown below.

The tenement comprises of 144 sub blocks.

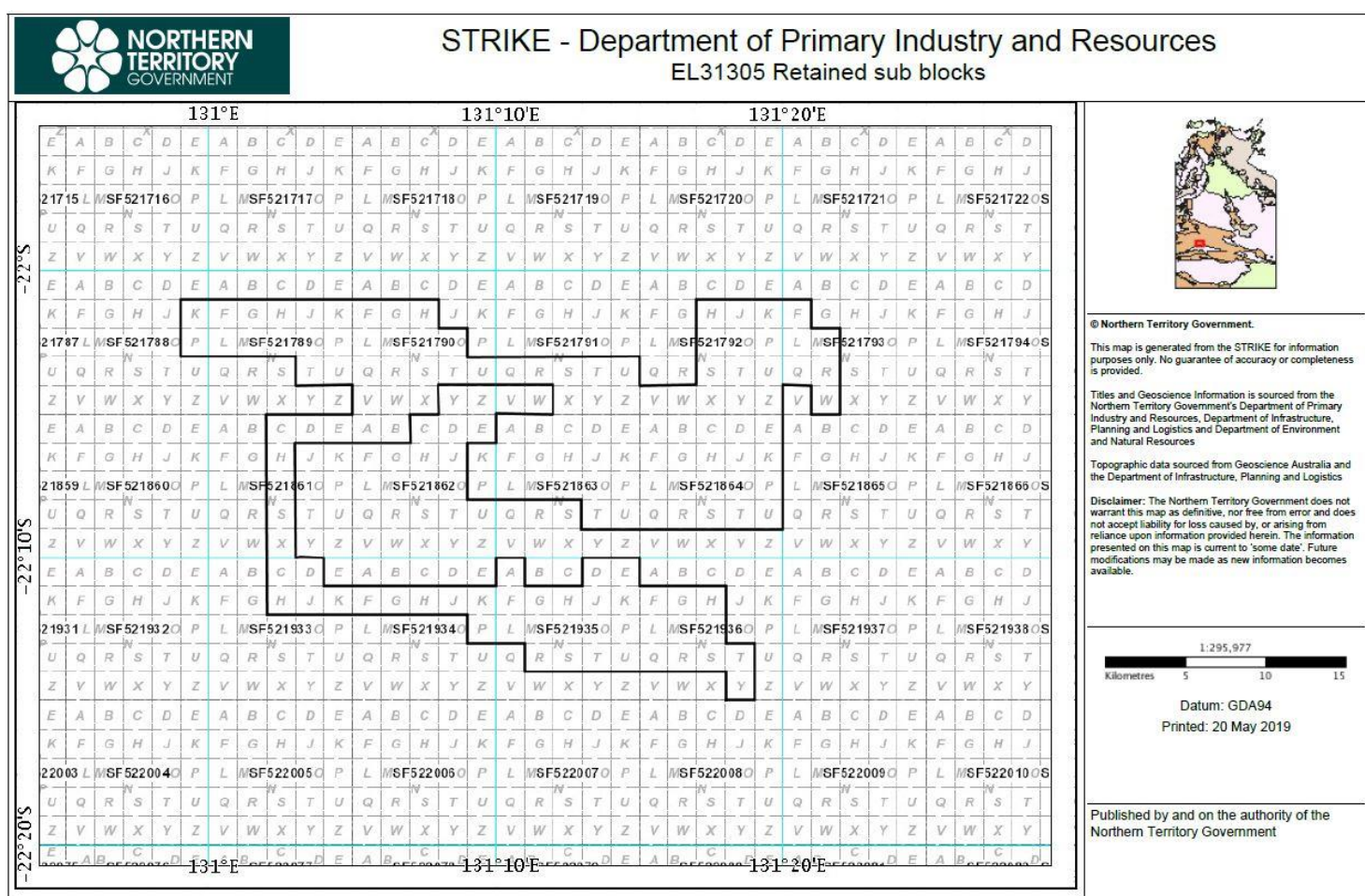


Fig 1: EL 31305 sub-block drawing

3. Geology and Mineralisation

3.1 Regional Geology

The Mount Doreen Project lies within the Aileron Province of the northern Arunta region. The oldest rocks in the Mount Doreen area are metamorphosed Paleoproterozoic siliciclastic sediments of the c.1840 Ma Lander Group. These sediments were multiply deformed and variably metamorphosed during the c.1810 Ma Stafford Event and numerous subsequent events.

The previously reported magmatic age of 1880 Ma for the Ngadarunga Granite and consequent older age for the Lander Group and proposed Yuendumu Tectonic Event (Young et al., 1995) has been re-evaluated and is interpreted to be much younger.

The Lander Group is interpreted to be stratigraphically equivalent to the Tanami Group, which hosts significant gold mineralisation at The Granites, Dead Bullock Soak and Coyote. As such, the Lander Group metasediments are considered prospective for gold mineralisation. Rare amphibolite and metagabbro occurs within the Lander Group and are interpreted to be metamorphosed dolerite sills. Volcanic units have not been identified in the Lander Group. There are other Paleoproterozoic volcano sedimentary successions in the Mount Doreen area, including the ~1770-1790 Ma Reynolds Range Group, Patmungala and Nicker beds, but these are relatively insignificant.

There have been two main periods of granite intrusion in the Mount Doreen area; the c.1780 Ma Carrington Suite and the c.1580 Ma Southwark Suite. The Southwark Suite has geochemical affinities with granite associated with Proterozoic Au-Cu mineralisation elsewhere in Australia (Wyborn, 1998).

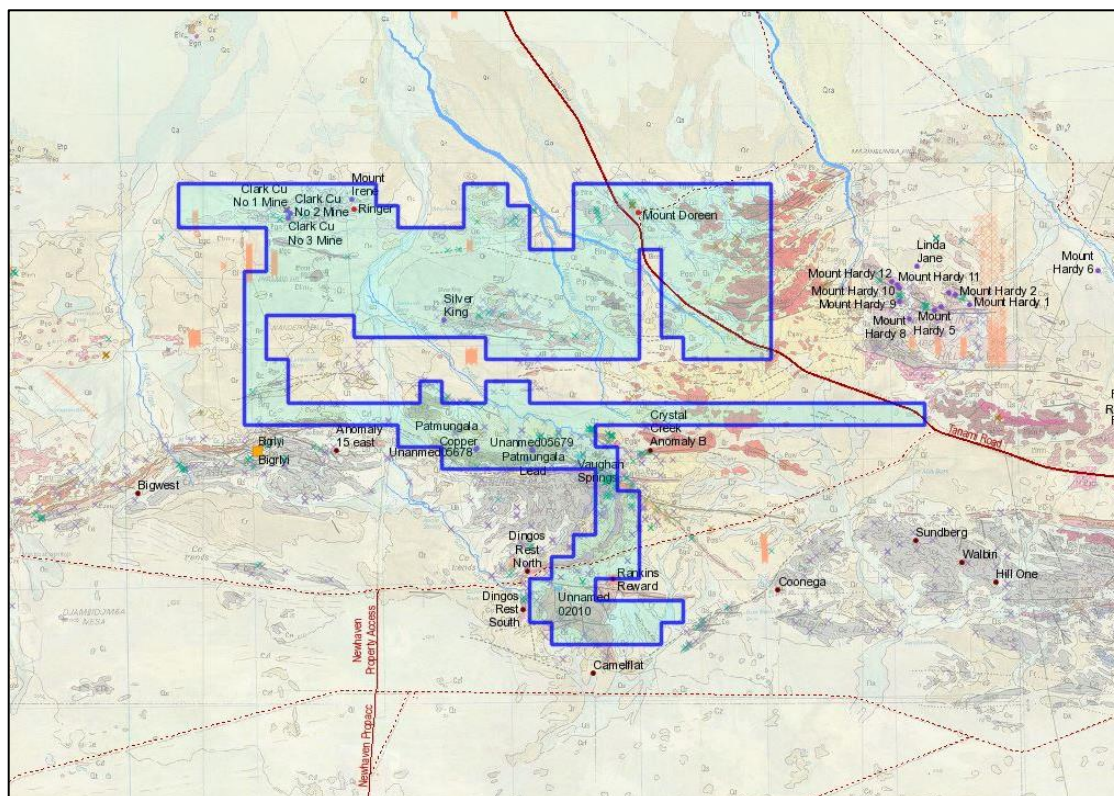
Correlatives of the 1820-1790 Ma granites in the Tanami region (Frederick and Grimwade Suites) are unknown in the Mount Doreen area and may have implications for mineralisation models. Neoproterozoic to Palaeozoic sedimentary rocks of the Ngalia Basin overlie the Paleoproterozoic to Mesoproterozoic Arunta basement in the central part of the Mount Doreen 1:250,000 sheet.

3.2 Local geology:

Map 1 below shows the interpreted geology of the local area. EL 31305 is shaded in a light blue transparency outlined in blue border lines.

The basement rocks are dominated by the Paleoproterozoic Lander Rock Formation. In the eastern part of the title, NTGS geological interpretations indicate the Yarunganyi Granite and other intrusions ascribed to the Southwark Granitic Suite occur. However, Proterozoic basement outcrop is restricted to approximately 30% of the title area, with the remainder, including the contact between granitic and metasedimentary rocks, covered by recent sheetwash sediments.

The Mount Doreen area has 10-20 % basement exposure with large rounded hills and tors of granite and ranges and low ridges of metasediment. Strike extensive quartzite and quartz vein ridges are common. Areas of colluvium immediately surrounding exposed bedrock are amenable to surface geochemical methods. Elsewhere extensive aeolian and sheetwash sandplains and minor lacustrine clay-calcrete-silcrete deposits, which often form inverted topography, covers the residual geology. Well-developed alluvial deposits are common.



Map 1: EL31305 shown in light blue shaded area on 250K Geology map with mineral occurrences overlay

4. Previous Exploration and company report references

06/04/67- 05/10/69: Central Pacific Minerals JV.

AP 1722: 336 blocks

Target: Tungsten, base metals

- No significant work beyond review of geological reports and estimation of possible reserves
- Concluded that mineralisation at Wolfram Hill is of limited extent and uneconomic
CR1967-0023, CR1969-0011, CR1969-0088

01/02/88 - 23/06/92: White Industries Ltd./ Mareeba Mining & Exploration P/L.

EL 5688: 293 blocks

Target: Base metals in Lower Proterozoic metasediments (Lander Beds).

- Stream sediment sampling (99 samples assayed for base and precious metals)
- Rock chip sampling on known deposits at Wolfram Hill and Mt Hardy (19 samples assayed for base and precious metals)
- 1 moderate base metal anomaly in stream sediments - associated with Mt Hardy
- 1 weak base metal anomaly in stream sediments - not associated with any known mineralisation
- Base and precious metal anomalism from quartz-pegmatite veins within zones of known copper mineralisation
CR1989-0134, CR1990-0217, CR1990-0451, CR1990-0541, CR1991-0546, CR1992-0528

26/03/93 - 22/05/96: Poseidon Gold Ltd. & Yuendumu Mining Company (YMC).

EL 7986: 149 blocks

Target: Structurally controlled gold mineralisation in Lander Rock Beds

Small part of a much larger project area that includes 5 titles. Overall work programme included -

- Airborne magnetic and radiometric survey
- Soil sampling (1927 samples)
- Lag (302) and rock chip (15) sampling

- Vacuum drilling (584 holes)
- Air core drilling (25 holes for 140m)
- Generally, very poor results
- Minor gold anomalism associated with elevated arsenic
CR1994-0351, CR1995-0584, CR1996-0012, CR1996-0625

29/10/96 - 19/07/00: Homestake Gold of Australia Ltd.

EL 9673: 280 blocks

Target: *Gold and base metals*

- Soil BLEG sampling (1119)
- Stream sediment BLEG sampling (110)
- Rock chip sampling (52)
- Vacuum drilling (203 holes for unknown total metres)
- Two broad, low level Au anomalies (max. 17.36ppb CN)
- One anomaly appears associated with Clarke Cu Mines
- Otherwise, generally discouraging results
CR1998-0275, CR1998-0746, CR1999-0030

30/10/01- 28/09/06: Tanami Exploration N.L.

EL 22771 280 blocks

Target: Au, Tanami-style, Cu-Au, Tennant Creek style mineralisation (IOCG)

- Lag (80) and rock chip (199) sampling
- Soil sampling (158)
- Vacuum drilling (254 holes for 1,487m)
- RAB drilling (317 holes for 4,003m)
- Not very encouraging drilling results. Probably too shallow.
- Minor Au (max 22ppb) and Cu (max 450ppm) anomalism from bedrock
- Cu and Ag were deemed as pathfinders for Au in this location
CR2002-0346, CR2003-0497, CR2004-0101, CR2004-0704, CR2005-0501,
CR2006-0559

19/03/07-07/02/11: Yellow Rock Resources.

EL 25426: 499 blocks

Target: Uranium

- No groundwork done, only a review of open-file geological reports
- No known results

CR2010-0285

14/02/08 -3 0/01/12: Callabonna uranium Ltd.

EL 26040: 51 blocks

Target: Channel-hosted uranium

Direct relevance in terms of the Wolfram Hill target. Minimal work done

- Reprocessing of Rio Tinto radiometric data
- Ground checking of desktop generated targets
- One rock chip sample taken and assayed from Wolfram Hill ore dump
- Confirmed 4km-long U anomaly associated with prominent structure
- No significant U occurrences within Yaloolgarrie Granite apart from minor anomalism in east-west veining

CR2009-0083, CR2010-0074, CR2011-0079, CR2011-0312, CR2012-0222

5. Work Completed – Litchfield Minerals Pty Ltd

An extensive and ongoing review and search of open (and other)-file data and historic exploration activities was conducted by Litchfield Minerals covering ground in tenement EL 31305.

No ground activity was completed within the title during the first reporting year.

6. Conclusions

Exploration Licence EL 31305 is approximately centred on the historic Silver King polymetallic mine to the west of the Tanami Road, Northern Territory approximately 30 km NW of the Yuendumu township.

The EL 31305 was granted to Litchfield Minerals on the 6th June 2018 for a period of six years.

Litchfield Minerals Pty Ltd is of the view that tenement EL31305 is likely to hold sizeable mineralisation at depth and under cover, considerable in areas where outcrop is not present. Parts of the tenement area have supergene mineralisation attributes at surface that is very similar in nature to the newly discovered and deep-seated system existing within the Todd River Resources Mount Hardy project area.

Litchfield Minerals will pursue a program of exploration to uncover any deep mineralised system below the supergene outcrops. This will eventually involve deep drilling.

Litchfield minerals will merge the year 1 program and expenditures into the year 2 program and expenditures commencing in the second half of 2019.

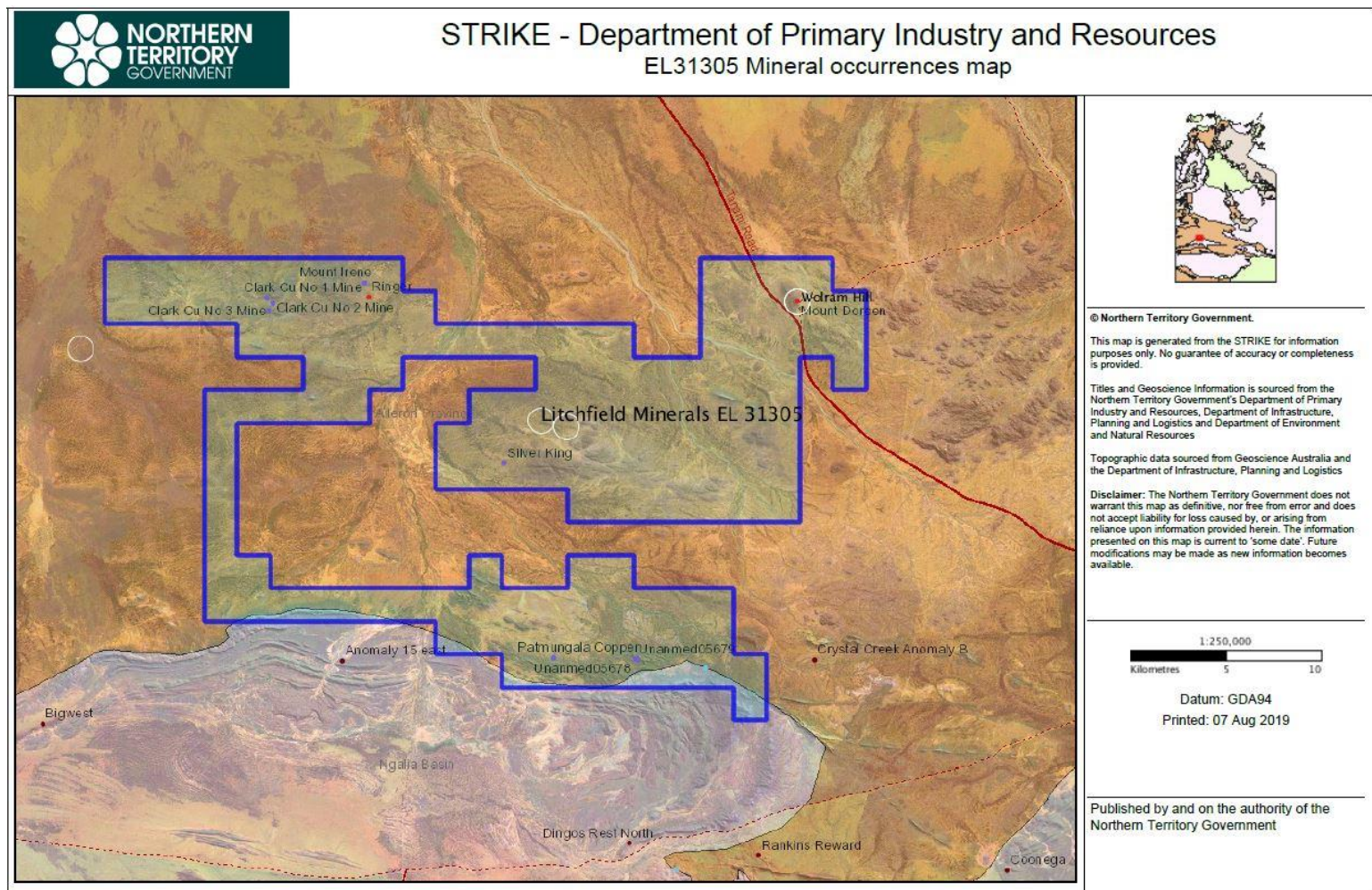
7. Copyright Statement:

The author (Michael Pustahya) of the annual report has reviewed publicly available information and data sets from the DPIR Strike website and information available from the sources noted in the bibliography on page 15, using such information in order to compile the body of the report

Michael Pustahya authorises the Minister and the Department to copy and distribute this report without changes as needed.

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2019 EL31305 tenement overlay on Strike generated Mineral occurrences map



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