

Annual Report EL 22349 "Mount Sainthill" May 17 2016 – May 16 2017

Map Sheets:1:250k – HUCKITTA SF53111:500k – JINKA 6052Project Operator:MOLYHIL MINING PTY LTDAuthor:R Bradey (rbradey@thormining.com)Date:July 15, 2017Target Commodity:Tungsten, Molybdenum

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SUMMARY

This annual exploration report covers EL22349 for the period 17 May 2016 to 16 May 2017. EL22349 comprises 72 graticule blocks and includes ML 23825, over the Molyhil tungsten, molybdenum deposit. Further tungsten resources are being sought to supplement a proposed mining and treatment operation at Molyhil. Prospective geological settings are likely to exist blanketed under transported cover in the vicinity of the deposit. A bedrock geochemistry program was completed during the reporting period to test identified targets. The company continues to seek funding for further exploration and development of the project.

INTRODUCTION

This report covers all exploration completed on EL22349 "Mount Sainthill" for the period 17 May 2016 to 16 May 2017. Exploration licence EL22349 covers the Molyhil Mining Leases ML 23825, ML 24429 and ML 25721 over the Molyhil Tungsten Molybdenum deposit area.

Exploration Licence EL 22349 was originally comprised of 259 graticule blocks (829 km²) and was granted to Imperial Granite and Minerals Pty Ltd on May 17, 2002.

EL 22349 was transferred to Tennant Creek Gold (NT) Pty Ltd on 26 March 2004. In 2005 the Molyhil Tenement Package (EL22349, MLA23825 and MLA24429) was transferred 100% to Sunsphere Pty Ltd. In 2007 Sunsphere Pty Ltd had a name change to Molyhil Mining Pty Ltd.

The tenement was reduced to 118 graticule blocks (374.0 km²) by surrendering the western half at the end of Year 8. On July 25, 2013 the tenement was again reduced by voluntary partial surrender to 72 blocks comprising a total area of just over 228 square km as shown in Figure 1.



Figure 1: Mount Sainthill (EL22349) location

LOCATION AND ACCESS

EL 22349 is located on the Huckitta 1:250,000 map sheet (SF53-11) 330km northeast of Alice Springs. Access is via the Stuart Highway for 70km north of Alice Springs, then east for 230km along the Plenty Highway until the turnoff to Jinka Station is reached. The unsealed station road leads north for approximately 30km to the Molyhil mine site located on the southern boundary of the licence. The area of the licence is well served by station roads and tracks (Figure 1).

NATIVE TITLE AND SITE CLEARANCE

A Tripartite Deed exists between Molyhil Mining Pty Ltd (Thor), Central Land Council (CLC) and the Traditional owners. A mining agreement exists between the parties. The location of aboriginal sacred sites was investigated during exploration work undertaken in the area in 2003.

The Authority Certificate from the Aboriginal Areas Protection Authority was issued on 20 March 2012.

A search of the Australian Heritage database was undertaken for the project with the coordinates -22°40'—22°50' and 135°40'— 135°50'. No sites were identified within the search area. The Dulcie Range, listed as an indicative place on the Register of National Estate, is located northeast of the licence area and will not be impacted by the project. The licence is substantially covered by the area of the Site of Conservation Significance Area 51, Dulcie Ranges and Surrounds (Figure 2).



Figure 2: EL22349 and Area 51, Dulcie Ranges and Surrounds

GEOLOGY

The Mount Sainthill tenement covers Early Proterozoic rocks with high magnetic relief along the Delny-Mt Sainthill Fault, a feature developed within a wide west-north-west tectonic zone. This structure was active during the 1800Ma Strangways Event, which affected the entire Arunta Orogenic Domain.

A second dominant east-north-east trending fracture zone (Oomoomilla Fault) intersects the west-north-west fracture west of Molyhil. This intersection has been the locus for repetitive granite intrusion, including the Marshall and Jinka Granites (Figure 3). Faults within this tectonic zone have been periodically reactivated with a major remobilisation during the Carboniferous Alice Springs Orogeny.

Metamorphism varies up to granulite facies and polyphase granitoids intrude Arunta Division One and Two mafic and felsic volcanogenic sequences hosting proportions of pelitic and calcareous sediments.

The basement rocks are unconformably overlain by Adelaidean and Palaeozoic marine and terrestrial sedimentary sequences of the intracratonic Georgina Basin.



Figure 3: Mount Sainthill regional geology

Mineralisation is widespread within the Huckitta 1:250 000 sheet with past production from the Jervois deposits (Cu, Pb, Zn, Ag, Bi) the Molyhil "skarn" (Mo, W, Cu) and numerous other Cu and W vein deposits. Resources of barite-fluorite have also been established within huge quartz (carbonate-haematite) veins ("Oorabra Reefs") cutting the Jinka Granite and other basement rocks. These veins also appear to penetrate the basal Adelaidean sedimentary sequence.

The area was subjected to deep weathering and laterisation during late Mesozoic to Miocene time. Most of this old surface has been eroded away with small remnants preserved at the top of Mt Sainthill.

The area was uplifted during the Late Tertiary and erosion continues to the present day. Extensive outwash fans have developed at the base of hills and obscure the basement rocks. A return to arid conditions during the Pleistocene produced sand plains, and loess was deposited throughout the hilly areas. The combination of the effects of deep weathering and extensive younger sedimentary deposits results in a difficult environment for effective surface geochemical sampling.

EXPLORATION HISTORY

Exploration prior to 2012 is detailed in previous annual technical reports for this tenement and has not been included in this report.

Hyperspectral data flown in March 2012 was obtained from Hy-Vista Corporation. The block of data covers the area of the mining leases ML23825, and ML24429. Remote sensing consultants Agarss provided advice on the application of hyperspectral imagery for tungsten targeting on the tenement. Hand specimens were scanned to determine the likely hyperspectral signature for potential tungsten targets and a series of targets were identified. Subsequent surface soil – XRF geochemistry over the identified targets failed to locate anomalous tungsten.

Reconnaissance soil XRF geochemistry surveys were undertaken in May 2012. This work targeted known occurrences of tungsten mineralisation to the east of the tenement that had not been commercially mined in an attempt to determine if a specific geochemical signature could be identified for the tungsten occurrences. Initial findings are that aside from tungsten and molybdenum in the immediate vicinity of the mineralisation outcrop, there is no apparent anomalous geochemical halo.

On the basis of MODAT mineral occurrence distribution relative to aeromagnetic data (Figure 4), future tungsten exploration efforts will be focussed on the south west region of the tenement principally targeting areas of elevated magnetic response.

In the aileron province of the eastern Arunta, Molyhil is the only known occurrence of tungsten mineralisation with a magnetite association. While magnetic targeting will continue to comprise an element of the ongoing tungsten exploration model, other targeting vectors must be considered. The 1996 report by SB Warne for Roebuck Resources NL emphasises the importance of major structural framework in the positioning of the Molyhil tungsten deposit, in particular intersections with the Delny - Mt Sainthill fault zone.



Figure 4: Regional MODAT mineral distribution over regional magnetics.

(Note EL22349 tenement boundary provided in Figure 4 predates the July 2013 partial surrender)

Geochemistry

During 2012 a trial program of in situ XRF soil geochemistry was undertaken using an Olympus Delta field portable XRF analyser. The program comprised 1,237 multi-element determinations of the soil at the surface (results provided in 2012 ATR). The surveys covered a selection of targets generated from the earlier geophysical and hyper-spectral studies.

The trial soil geochemistry program appears to have been of limited value with the only areas of elevated response were found to be as a result contamination from earlier mining and processing activities. Further geochemistry is likely to comprise XRF analysis of auger or aircore drill cuttings to penetrate the transported cover.

EXPLORATION ACTIVITY 2016-17

A bedrock geochemistry drill program was undertaken in late August 2016. The program comprised 65 short holes up to 18m in depth, drilled to sample bedrock beneath shallow alluvium in five target areas. The targets were selected principally on the basis of elevated magnetic signature depicted in Figure 5 by the warmer colours. Program success will be achieved if any one, or more, of the many characteristics of the Molyhil deposit are intersected thus substantiating the magnetic targeting and vectoring follow up evaluation efforts.

The program commenced with air-core drilling but reverted to RAB (rotary air blast) after 31 holes due to difficulty penetrating to bedrock with aircore. While RAB drilling has a greater chance of sample contamination than aircore, this was deemed acceptable due to the reconnaissance nature of the program and the superior penetration of the underlying bedrock. None of the sample analyses will be used for resource estimation.



Figure 5: August 2016 bedrock geochemistry targets and drill hole locations.

Cattle Track

The area between the two historically mined Molyhil and the Molyhil Pinnacle lodes has an elevated magnetic signature. Ten aircore holes and three RAB holes targeted this area intersecting a mixture of meta-carbonates, calc-silicates and altered granite. Two XRF analyses returned traces of tungsten (37 and 30 ppm) in holes 16MAC013 & 16MAC014 located within 150m northwest of the Molyhil pit.

Gap Track

Two aircore and fourteen RAB holes targeted the Gap Track anomaly which comprises an elevated magnetic response extending over 2.7 km with a northwest trend parallel to the regional Mount Sainthill fault zone. The surface cover was a combination of transported sediment up to 10m thick and in-situ weathered Marshall Granite with occasional isolated insitu weathered remnants of Georgina Basin sedimentary rock.

Beneath the cover and hosted within unaltered Marshall Granite, drilling intersected altered granite similar to that exposed in Molyhil pit and drill core (comprising predominantly orange feldspar, abundant magnetite and epidote) in addition to a core zone of calc-silicate and magnetite skarn. While no significant XRF analyses were obtained, the geology is strongly analogous to Molyhil.

Think Big

Thirteen RAB holes in two north-south traverses cross the northwest trending Think Big magnetic anomaly. The holes were spaced 100m and the traverses 400m apart. Assuming geological continuity between the two traverses, the holes defined a magnetite skarn body hosted in Marshall Granite with preliminary dimensions of 150m to 200m north-south and 400m to 500m along the northwest/southeast trend. Hole 16MRAB056 intersected dark brown to black magnetite skarn from surface (1m of soil cover) to 18m depth. The hole was stopped on drill capacity.

Solar Farm

Nine aircore and one RAB hole were drilled to test a northwest trending magnetic anomaly at the Solar Farm prospect to the immediate north of the Molyhil mineral licence area. A narrow zone of calc-silicate with a few per cent magnetite was intersected within unaltered Marshall Granite. The magnetite explained the magnetic anomaly and while no significant XRF analyses were obtained, the geological setting is analogous to Molyhil, and although now low priority it remains worthy of follow up RAB testing.

Stock Yard

Six aircore and two RAB holes targeted the stockyard anomaly comprising a northwest trending magnetic high to the south of the Molyhil Pinnacle. Holes intersected zones of metasediments, coarse micaceous pegmatite, calc-silicate, and magnetite skarn. A trace of tungsten (26ppm) was detected in hole 16MAC026 within 1.5m from surface, otherwise no significant XRF analyses were obtained. Subject to follow up assays this prospect is very low priority for any follow up work.

Three aircore and one RAB were drilled on a magnetic high to the northwest of the Molyhil Pinnacle. The holes confirmed the NW extension of the Pinnacle calc-silicate rocks constrained by Marshall Granite intersected in the northern most hole. No significant XRF analyses were obtained and subject to follow up assays this prospect is very low priority for any follow up work.

Results

Following the initial on-site analyses using hand held XRF analyser, samples were sent for laboratory follow up assay. The laboratory assay process has a lower detection limit of 1 part per million ("ppm") compared with 10ppm for the hand held XRF. Trends in tungsten distribution are now apparent in the laboratory assays that were not apparent in the XRF analyses (Figure 6).

The laboratory analyses show tungsten elevated at two to three times background levels in the vicinity of the Molyhil Pinnacle (Cattle track) and along the southern margin of the Gap Track prospect (Figure 6). At Gap Track, where a broader spread of data points was collected, a trend of elevated tungsten is apparent which reflects the trend in elevated magnetic response. These are encouraging results albeit at subdued levels.

Due to its low chemical reactivity and high physical density, tungsten does not tend to disperse in the soil and weathered rock profile as much as more reactive metals such as copper. As a result, any detection of tungsten is considered encouraging and worthy of follow up investigation.



Figure 6: Bedrock geochemistry results August 2017

Hole Id	Easting GDA94	Northing GDA94	Sample depth- from (m)	Sample depth- to (m)	W (ppm)	Cu (ppm)	Mo (ppm)	Fe (ppm)	Ti (ppm)
16MAC001	577,893	7,483,253	1.5	2.8	3	30	2	20315	1350
16MAC002	577,897	7,483,300	0	1.5	<1	<10	<1	2795	220
16MAC003	577,900	7,483,348	1.5	3	3	20	1	11725	700
16MAC012	576,901	7,483,103	3	4.5	4	20	<1	23810	940
16MAC013	576,903	7,483,045	3	4.5	6	20	<1	30985	1660
16MAC014	576,899	7,482,999	1.5	3	4	20	<1	15140	1040
16MAC015	576,610	7,483,110	3	4.5	3	20	2	20760	1070
16MAC016	576,599	7,483,052	1.5	3	2	10	<1	61430	1430
16MAC017	576,589	7,482,996	1.5	3	3	50	1	34115	920
16MAC018	576,600	7,482,956	1.5	3	2	<10	<1	18285	1040
16MAC019	576,606	7,482,902	1.5	3	<1	<10	1	39530	1690
16MAC020	576,605	7,482,905	3	4.5	1	<10	4	42520	1870
16MAC021	576,298	7,482,888	6	7.5	5	10	6	26155	510
16MAC022	576,300	7,482,851	3	4.5	4	30	4	41445	1530
16MAC023	576,299	7,482,800	3	4.5	3	20	1	28625	1150
16MAC024	576,208	7,482,899	6	7.5	7	10	3	42175	2550
16MAC025	576,206	7,482,851	7.5	9	3	20	3	61045	2220
16MAC026	576,199	7,482,805	3	4.5	5	20	2	41810	1100
16MAC027	576,099	7,483,200	4.5	6	3	20	<1	38250	2520

Table 1: Bedrock geochemistry assay results August 2017

Hole Id	Easting GDA94	Northing GDA94	Sample depth- from (m)	Sample depth- to (m)	W (ppm)	Cu (ppm)	Mo (ppm)	Fe (ppm)	Ti (ppm)
16MAC028	576,103	7,483,248	3	4.5	3	40	<1	33075	2280
16MAC029	576,109	7,483,303	3	4.5	8	10	3	26635	2040
16MAC030	582,689	7,480,489	10.5	12	7	30	1	46590	4090
16MAC031	582,702	7,480,612	6	7.5	4	20	2	34205	1220
16MRAB032	583,400	7,480,298	7.5	9	1	30	<1	44750	5160
16MRAB033	583,398	7,480,400	6	7.5	3	10	<1	22735	1690
16MRAB034	583,398	7,480,493	4.5	6	3	10	<1	16545	2070
16MRAB035	583,204	7,480,601	3	4.5	3	20	3	19585	1510
16MRAB036	583,199	7,480,494	3	4.5	5	10	<1	18155	1550
16MRAB037	583,200	7,480,406	6	7.5	3	10	<1	22315	2130
16MRAB038	583,000	7,480,400	4.5	6	2	40	<1	54115	3080
16MRAB039	583,000	7,480,500	9	10.5	2	30	<1	35270	4100
16MRAB040	583,003	7,480,597	9	10.5	2	10	<1	22180	1840
16MRAB041	582,698	7,480,698	7.5	9	3	<10	<1	10855	710
16MRAB042	582,999	7,480,301	7.5	9	9	30	2	33460	1150
16MRAB043	583,202	7,480,301	6	7.5	7	30	2	27680	2000
16MRAB044	583,600	7,480,303	9	10.5	2	40	<1	38920	3160
16MRAB045	583,596	7,480,398	6	7.5	2	20	<1	39690	3250
16MRAB046	575,303	7,481,402	4.5	5	3	30	<1	49425	4970
16MRAB048	575,305	7,481,201	4.5	6	2	20	<1	47525	3900
16MRAB049	575,300	7,481,102	6	7.5	5	20	<1	18435	570
16MRAB050	574,898	7,480,908	4.5	6	3	30	<1	45895	3370
16MRAB051	574,899	7,481,003	3	4.5	2	20	<1	20920	790
16MRAB052	574,898	7,481,101	4.5	6	5	40	<1	31965	2800
16MRAB053	574,897	7,481,200	4.5	6	2	<10	<1	61125	3960
16MRAB054	574,895	7,481,295	4.5	6	1	30	<1	43950	4100
16MRAB055	574,856	7,481,393	7.5	9	2	20	<1	54035	2350
16MRAB056	574,895	7,481,497	1.5	3	<1	220	<1	86605	4200
16MRAB057	574,900	7,481,595	3	4.5	4	<10	<1	16870	2250
16MRAB058	575,305	7,481,504	4.5	6	4	<10	<1	16620	1470
16MRAB059	576,613	7,482,906	1.5	3	2	<10	<1	45370	1520
16MRAB060	576,602	7,482,899	3	4.5	2	<10	<1	37130	1600
16MRAB061	576,602	7,482,906	4.5	6	3	<10	<1	44060	2200
16MRAB062	577,897	7,483,301	1.5	3	3	<10	<1	54520	4900
16MRAB063	576,300	7,482,856	9	10.5	8	60	<1	27575	1760
16MRAB064	576,206	7,482,852	4.5	6	5	<10	1	51265	1810
16MRAB065	576,102	7,483,205	7.5	9	7	<10	<1	29245	1720

PROPOSED EXPLORATION ACTIVITY

Follow up bedrock geochemistry drilling is planned to infill and extend areas identified in 2016.

CONCLUSION AND RECOMMENDATIONS

Work undertaken to date by Thor Mining has improved understanding of the project area in terms of geology, mineralising potential and exploration methods required. Bedrock geochemistry drilling has confirmed a link between elevated magnetic response and elevated tungsten albeit at very low levels. Further drilling should follow to firm up existing targets and test others.