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Introduction
This report covers all exploration completed on ML 23825, ML 24429 and ML 25721 comprising the Molyhil Mine project for the period 2 May 2011 to 1 May 2012. The tenements are summarised in Table 1 and Figure 1 below.

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Table 1: Tenement Summary

Location and Access
The tenement is located on the Huckitta 1:250,000 map sheet (SF53-11) 330km northeast of Alice Springs (Figure 2). 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 20km 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 2: Molyhil Site Location](image)

**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. Aside from Molyhil, there does not appear to be any aboriginal sacred sites in the project area.

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 project area and will not be impacted by the project.
The Authority Certificate from the Aboriginal Areas Protection Authority is was issued on 20 March 2012. The following is an excerpt from the approval letter.

“The Aboriginal Custodians of the area have asked us to convey to you a number of requests relating to the protection of areas of cultural significance outside the application area referred to in the Authority Certificate. You are reminded that no works are to occur beyond the 'subject land' as shown on Annexure 'A' hereto. Aboriginal custodians request in addition that:

- No works take place west of the creek running north/south along the western third of MLAs 23825 and 24429;
- No damage is to occur to any mature River Red Gum in the vicinity of the creek crossing on the mine access road located at coordinates 577230E 7481920N;
- Minimal damage is to occur to three hills located in the south-eastern corner of MLA 24429 and north eastern corner of MLA 25721.”

**Geology**

The Molyhil tenement covers Early Proterozoic rocks with high magnetic relief along and flanking 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 2). Faults within this tectonic zone have been periodically reactivated with a major remobilisation during the Carboniferous Alice Springs Orogeny.
Figure 3: Molyhil & Oorabra Reef ML’s on Jinka 1:100,000 Geology Map

Magnetic rocks are variously metamorphosed 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 Adelaidian and Palaeozoic marine and terrestrial sedimentary sequences of the intracratonic Georgina Basin.

Mineralisation is widespread within the Huckitta 1:250 000 sheet with past production from the Jervois deposits (Cu, Pg, 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 provide for a difficult environment for effective surface geochemical sampling.
The Molyhil deposit consists of two adjacent outcropping iron-rich skarn bodies that contain scheelite and molybdenite mineralisation. The mineralisation is coarse-grained and its distribution is irregular.

Molybdenum - tungsten mineralisation mostly occurs in the Molyhil skarn which is essentially a magnetite-rich hornfels unit, comprising up to 80% magnetite (massive ‘black rock skarn’ or BRS) or lesser magnetite (10-20%) to form a ‘banded mineralized skarn’ (or BMS). Both units are iron-rich (>18%) and contain minor pyrite and/or chalcopyrite along with molybdenum and tungsten. Occasional blebbly (primary) molybdenum can be seen in the pink granite matrix that suggests the granite is the source of the mineralisation.

**Exploration History**

Tungsten and Molybdenum mineralisation was originally discovered at Molyhil in 1973. Fama Mines Pty Ltd selectively mined approximately 20,000 tonnes of ore during 1976 - 1977. Petrocarb Exploration NL acquired the operation in 1978 and production continued until late 1981 when Tungsten prices collapsed. Petrocarb published an indicated open cut reserve of 1.8 million tonnes at 0.6% WO$_3$ and 0.3% MoS$_2$. The reserve ore grade was primarily based on statistical analysis of mining head grades. Mining experience indicated that the drill estimated grades were low, with production head grades significantly higher.

In June and July 2004, Tennant Creek Gold completed 5 diamond drill holes for 675.59 metres and 23 Reverse Circulation (RC) holes for 3,146.7 metres. A JORC compliant drill indicated resource was subsequently calculated at 2,065,009 tonnes grading 0.304% WO$_3$ and 0.182% MoS$_2$. The resource remains open at depth down plunge to the south.

In December 2004, 3 trenches were excavated over an 80-metre strike length of the southern orebody and 15 tonnes of ore extracted for metallurgical testwork. An average grade of 0.70% WO$_3$ and 0.58% MoS$_2$ was calculated for the 15 tonne sample and is an almost identical grade to Petrocarb historical mined grade. The bulk sample results were considerably higher than assayed intersections from nearby RC drillholes, and provide further evidence that the drill indicated grade substantially underestimates the true grade of the deposit.

In July 2005 Sunsphere commenced a trial underground mining program to confirm the head grade of the deposit relative to the previous drilling and historical grades. Three shafts and crosscuts were excavated in the Southern Lode and totalled 96 and 102m respectively. The extracted ore was crushed, sampled and assayed. Further samples were used for metallurgical test work.

The bulk sampling was used to upgrade the JORC resource to a Measured Resource of 370,000t at 0.52% WO$_3$ and 0.32% MoS$_2$, an Indicated Resource of 1,750,000t at 0.52% WO$_3$ and 0.26% MoS$_2$, and an Inferred Resource of 250,000t at 0.7% WO$_3$ and 0.2% MoS$_2$. This resource has been estimated to a depth of 150m (RL250m). The Measured Resource is to a depth of 45m (RL 355m).

Two RC programmes were completed during year 5 exploration for a total of 56 holes (TMRC024-054 and 07MHRC001-025). The first programme was completed in September and October 2006 (TMRC024-054) and included 14 reconnaissance water bores (TMRC037-050) supervised by KH Morgan and Associates.
The second RC programme was completed in March 2007 (07MHRC001-025). 5,723 metres of RC drilling was completed in total. 3,281 samples were sent to ALS and Genalysis in Perth for assay. The additional drill data led to a revised Measured Resource of 530,000t at 0.42% WO3 and 0.27% MoS2, an Indicated Resource of 2,400,000t at 0.39% WO3 and 0.17% MoS2, and an Inferred Resource of 800,000t at 0.15% WO3 and 0.1% MoS2. This revised resource has been estimated to a depth of 265m (RL135m).

Search Exploration Services of Adelaide were contracted to complete a detailed high power dipole-dipole IP survey over the Molyhil deposit in August 2007. The aim was to outline magnetite skarn lode positions down to a vertical depth of 300m.

The results from the IP survey identified the down plunge position of the Southern and Yacht Club Lodes at the south end of the deposit and a near surface anomaly to the south on line 19600N at approximately 10250E.

Additional conductors were identified at the north end of the deposit on line 20240N however the source of the conductors could not be identified with the reconnaissance RC drill holes.

Year 7 Exploration included 16 RC holes completed by McKay Drilling of WA for a total of 2,340m (09MHRC001-016). RC holes drilled to the north and south of the main pit area failed to identify any magnetite skarn associated with the previously identified IP anomalies.

All other holes drilled in and adjacent to the existing pit intersected good widths of mineralised magnetite skarn. The existing model and the notion of two separate lodes (Southern and Yacht Club) were revised and updated during Year 8.

After incorporation of the 2009 drilling results into the database the Molyhil scheelite-molybdenite deposit is estimated to contain a Measured Resource of 540,000t at 0.33% WO3 and 0.24% MoS2, an Indicated Resource of 2,300,000t at 0.38% WO3 and 0.18% MoS2.

Exploration Activity
Aside from feasibility study work relating to the Molyhil mine camp proposed to be located on this ML, no work was undertaken on the ML.

Proposed Exploration Activity
Pending the successful outcome of the Definitive Feasibility Study, the Molyhil Mine project will undergo mine construction phase over the 2012 / 2103 period with mine production scheduled for commencement in late 2013. Exploration activity planned for the ML during this period will comprise geophysical and geochemical evaluation for satellite resources predominately outside the ML as shown below (Figure 4).
Figure 4: Magnetic anomalies identified in the vicinity of the Molyhil MLs.