

HATCHES CREEK PTY LTD
(ACN 124 296 091)

Hatches Creek
(EL22912 and EL23463)
Year 2 Annual Report

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CONTENTS

	PAGE
1.0 SUMMARY	3
2.0 INTRODUCTION	4
3.0 TENURE	5
4.0 GEOLOGY	6
5.0 PREVIOUS EXPLORATION	7
6.0 YEAR 2 WORK COMPLETED	10
7.0 RECOMMENDATIONS	11
8.0 APPENDICES	12

FIGURES

FIGURE 1- Hatches Creek Prospect - Geological map	7
FIGURE 2 - Hatches Creek Sample and Prospect Locations on Orthophoto Base.	9

APPENDICES

APPENDIX 1 – OPEN FILE REPORT LIST	
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1.0 Summary (History of the Field)

The earliest recorded visit to the Hatches Creek district was made by H. Y. L. Brown (1896), who mentions in page 10 of the report the presence of 'a few quartz reefs containing solid oxides of iron.' Brown was followed a few years later by a prospecting expedition led by A. A. Davidson (1905). Davidson had several men prospecting for gold in the area although one of his employees, D. Pedlar, showed him a black mineral which is believed to have been wolfram, the discovery was not followed up. A second prospecting expedition (George & Murray, 1907) passed through the area in 1906 and recorded the presence of traces of copper carbonates, gold, and galena. Wolfram was not recorded.

In 1913 Pedlar returned to the field, having obtained Government assistance of £50. He prospected a reef on Wolfram Hill, probably near Windy Point, and sent a sample of ore to Darwin; the ore assayed 53.7% W03 (Oliver, 1916). The first lease was registered by Hanlon and Warne in 1915 on the site of the present Treasure and Hidden Treasure leases.

When T. G. Oliver visited the field in 1916 twenty men were working there. The British Government was providing a guaranteed market for wolfram at the time and production rose steadily to a maximum of 105 tons in 1920. The British Government ceased buying in 1919 and the price of wolfram dropped rapidly from 60/- per unit to about 11/- per unit in 1923. Recorded production from Hatches Creek ceased in 1923, and was not resumed for eight years. The accuracy of early figures is much in doubt and tonnages quoted should be considered as approximate only: communications were bad and many miners neglected to send in their returns. Not until 1948 were production figures taken from buyers' returns. Reliable assay results were first obtained at about the same time.

Until 1923 all wolfram had to be transported by camel to the railhead at Oodnadatta, 600 miles to the south in South Australia, or by similar transportation to Queensland. Official records show a total production to 1923 of 387 tons of wolfram valued at £65,623, but this figure is almost certainly much lower than the true output.

From 1923 to 1931 there was intermittent activity on the field, but not until 1931 was any further production (6.9 tons) recorded. Regular production recommenced in 1934. Between 1930 and 1932 some supposed gold-bearing reefs were discovered and examined in the Hatches Creek district (Ann. Rep. Administrator N.T., 1930-1932). Assays were reported to be promising but no development was undertaken.

The price of wolfram started to rise in the early 1930's and by 1937 owing to the Japanese invasion of China together with the German stockpiling of both standard and sub-grade wolfram (Li & Wang, 1947), the price reached an unprecedented height of 130/- a unit. The railhead had been extended to Alice Springs by then, and motor transport was readily available, which considerably aided the development of the field. The field boomed from 1937 to 1941, and at the height of the boom more than 200 miners were working at Hatches Creek. Production rose steadily to a maximum of 241 tons of concentrate in 1941 - about three-quarters of the wolfram production from the Northern Territory.

A battery was installed by Mr J. Walsh, who owned several leases at Hatches Creek and at Wauchope. The Government provided a regular water supply and mail service.

In 1942 the Commonwealth Government took over the field and concentrated attention on the larger mines however small-scale operations were allowed to continue independently. A large Chinese labour force was brought to the field at that time. By 1944 the Allies' demand for wolfram had lessened and mines were handed back to their owners. A Parliamentary Committee was set up to investigate the production of wolfram and mica in the Northern Territory, and it recommended that while the owners of mines already in operation should be given every opportunity to resume production, the opening of new mines should be discouraged. The committee also recommended that some compensation should be paid to owners of mines appropriated by the Commonwealth. It was considered that, in the light of the increase of wolfram prices during the war, the royalty originally agreed upon had been too low (N.T.W.M.I.C., 1944).

At the end of the war the price of tungsten fell again dramatically and remained very low until late 1950 however most of the larger mines continued operations on a small scale. The outbreak of the Korean War caused a sudden steep rise in the price of wolfram, which reached a maximum of 680/- per unit in 1951. But the boom was short lived, and by 1954 wolfram was worth an uneconomical 155/- per unit. A slight increase in prices in 1955 and 1956 stimulated some further activity, but late in 1956 the price began to fall again. In mid-1957 the price was fluctuating around 115/-per unit and there was very little market for wolfram. By August 1957 only the Pioneer Mine was operating at Hatches Creek on a very limited basis but it also ceased operations before the end of the year.

The total recorded production from the Hatches Creek Wolfram Field has been 2,839.85 tons of wolfram and scheelite concentrates worth about £1,294,110. In addition some bismuth concentrates and copper ore have been produced.

In June 1956 the following mines were producing: Pioneer, Endurance, Black Diamond, Green Diamond, Hen and Chickens, Masters Gully, Hit or Miss Extended, Hit or Miss, and several other' lodes on the Hit or Miss lease, Silver Granites, Kangaroo, Lady Hamilton, and Copper Show. In addition, prospectors were active on the Kangaroo Group.

In 1958 the field closed and has remained virtually untouched until the present day. Several companies have held the tenements since this time with predominantly a gold focus however exploration has been limited.

Year 1 exploration in 2008 by Thor staff included a site meeting with the CLC and Traditional Owners. Reconnaissance mapping and sampling of old workings was also completed.

The visit confirmed that mineralisation in the Hatches Creek area occurs as narrow quartz veins (up to 1.5m thick and extending up to 200m in individual lenses) hosting exceptionally high grade tungsten as wolframite crystals several centimetres in length in most cases. Virtually all veins visited at old prospects and exploration pits had visible wolframite evident. Historical underground mining at most prospects has been very efficient and removal of vein material has been extensive.

174 rock chip samples (Figure 2) were collected over old workings and from abandoned stockpiles associated with the historic mining centre.

Year 2 work completed in 2009 by Thor included registration of all historical maps of prospects and acquisition of earlier black & white Aerial Photography from 1947 and 1963 to aid in compilation work.

2.0 Introduction

The Hatches Creek Project is comprised of two exploration licences located in the central portion of the Northern Territory. The project is located about 325km northeast of Alice Springs and 160km southeast of Tennant Creek.

Hatches Creek Pty Ltd is a wholly owned subsidiary of Thor Mining PLC. The Hatches Creek Project is comprised of two contiguous tenements EL 22912 and EL 23463.

It contains the historical Hatches Creek mining field, which was known as the Hatches Creek Wolfram Field, within which numerous underground mines exploited quartz veins containing wolframite and to lesser extent scheelite, bismuth and copper oxides. Mining of eluvial deposits containing wolframite, gold and copper also occurred.

In May 2008 a meeting held at Hatches Creek between Thor personnel, CLC staff and Traditional Owners from the area approved a rock chip and mapping program to assist with planning of future work.

The tenements are on Aboriginal Land which means access to the area is restricted to permit holders only, issued on an annual basis, by the CLC. A formal work programme needs to be lodged with CLC to allow any ground disturbing activities to commence (i.e. clearing and drilling).

3.0 Tenure

The tenement details are summarised below and their locations are shown in Figure 1.

Table 1. - Tenement Details

Tenement	Area	Status	Grant Date	Expenditure Commitment
EL22912	17 Blocks	Live	25/07/2007	\$15,000
EL23463	3 Blocks	Live	25/07/2007	\$15,000

4.0 Geology

The Hatches Creek tenements are underlain by a Palaeoproterozoic sequence of weakly metamorphosed clastic sedimentary and felsic volcanic rocks (Figure 1). The sequence is intruded by igneous sills. Sandstone is the dominant sedimentary lithology. The sequence has been subjected to folding and faulting and has been cut by numerous narrow quartz reefs which follow lines of shearing. The quartz reefs are mineralised, the main mineral of economic interest being wolframite, although bismuth, gold and copper mineralisation is also present within them. The average tungsten grade of the mined reefs was between 1% and 5% WO₃.

The mineralised reefs are present in groups. The average reef width is 30cm, with the maximum width being 1.5m. The maximum strike length of any one reef is around 170m however an echelon lines of reefs are up to 1.5km in length. The reefs strike in two main directions, just east of north, parallel to the main fault direction, and east-northeast. The north-striking reefs dip at moderate to steep angles either to the west or the east; those striking easterly dip at moderate to steep angles to the south. The majority of the reefs are within volcanic or intrusive rocks, rather than in the sandstone units. The more mafic host rocks (gabbro, diorite) appear to have been important host rocks for some of the significant mineralisation in the area.

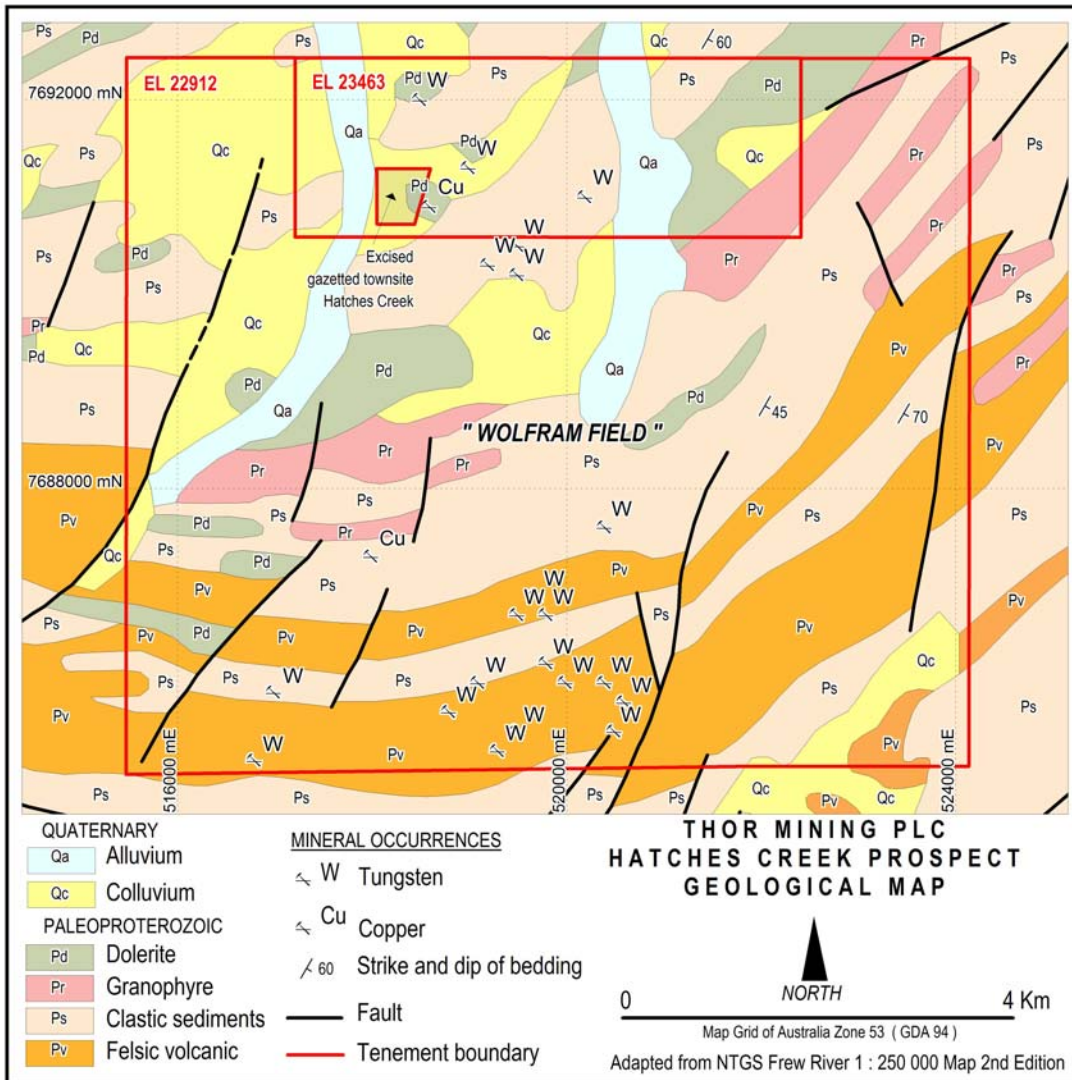


Figure 1 Hatches Creek Prospect - Geological map

5.0 Previous Exploration

In 1937 a brief ground reconnaissance of the area was made by officers of A.G.G.S.N.A., and an area, including the mining field, was photographed from 12,000 feet. This was followed by a detailed survey of the mines and the geology of the surrounding country in 1940. The area was photographed again, from 5,500 feet, in the same year (A.G.G.S.N.A., 1941).

During the Second World War the demand for wolfram increased; considerable interest was shown in the field and several brief reports were prepared (Knight, 1942; Raggatt, 1943; Sullivan, 1943).

C. J. Sullivan examined the Treasure Mine in 1951 (Sullivan, 1951) and contributed a section on Hatches Creek in 'The Geology of Australian Ore Deposits' (Sullivan, 1953).

E. B. Jensen (1955) dealt with the treatment of the complex wolfram-scheelite-bismuth ore from the Pioneer Mine.

A ground party from the Bureau of Mineral Resources completed a regional geological survey of the Davenport Range in October, 1956 (Smith, Stewart, & Smith, 1960). In the same year an airborne scintillometer survey of selected areas in the Davenport Range commenced also conducted by the Bureau of Mineral Resources, and was completed in 1957. Maps showing the results of this survey were released in late 1957.

In 1968 Northern Territory Minerals were granted an Authority to Prospect over a portion of the Hatches Creek Wolfram field. Several costeans were dozed over numerous prospects with varying degrees of success, and a diamond hole was completed at the treasure deposit. The tenement was relinquished in 1970.

Minscope were granted an exploration licence in the area in 1987 and focused on gold exploration. Several costeans were dozed over the different deposits with some anomalous intersections but nothing of economic significance was intersected.

Year 1 exploration in 2008 by Thor staff included a site meeting with the CLC and Traditional Owners. Reconnaissance mapping and sampling of old workings was also allowed whilst in the area. The visit confirmed that mineralisation in the Hatches Creek area occurs as narrow quartz veins (up to 1.5m thick and extending up to 200m in individual lenses) hosting exceptionally high grade tungsten as wolframite crystals several centimetres in length in most cases. Virtually all veins visited at old prospects and exploration pits had visible wolframite evident. Historical underground mining at most prospects has been very efficient and removal of vein material has been extensive.

174 rock chip samples (Figure 2) were collected over old workings and from abandoned stockpiles associated with the historic mining centre. Assaying included Au, Ba, Fe, Mo, Sn, W, Cu Ni, Pb, Ag, and Bi.

A strong gold association was noted at the Pioneer mine area with maximum gold results of up to 7.24ppm Au and an average of 0.92ppm Au. At Hit and Miss group a number of samples also returned favourable Molybdenum assays up to 1.98% from the Chinaman's Shaft area.

Prospects visited during the 2008 reconnaissance included the following:

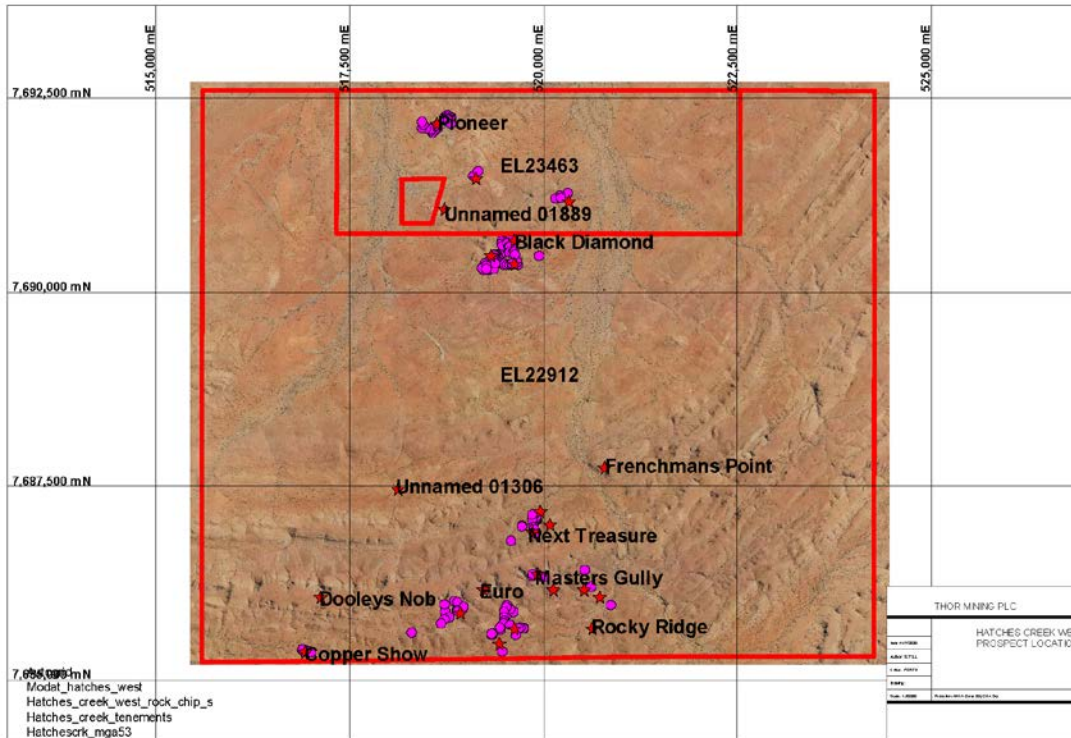


Figure 2 – Hatches Creek Sample and Prospect Locations on Orthophoto Base.

Pioneer Mine Area

Significant gold assays were received from the Pioneer workings at the north end of the Wolfram Field, with gold results up to 7.24g/t Au returned from mullock dumps at the Pioneer Mine. It is also interesting to note that anomalous gold assays were returned from Battery Sands at the mine up to 2.48g/t Au. Visible wolfram was noted in many of the quartz rock chip samples with a number of results >1% W, average of the 27 samples taken returned 1.16% W and 0.3% Bi.

Green Diamond Group

At Green Diamond tungsten mineralisation in the Hatches Creek area occurs as narrow quartz veins (up to 1.5m thick and extending up to 200m in individual lenses) hosting exceptionally high grade tungsten as wolframite crystals several centimetres in length. Virtually all veins visited at old prospects and exploration pits had visible wolframite evident. Thirty eight samples were taken returning an average grade of 1.42% W with a maximum of 7.22% W.

Significant copper mineralisation was evident at numerous locations also associated with quartz veining occurring as malachite and/or azurite. High grade copper mineralisation was evident at the Green Diamond Prospect where quartz vein mullock from deeper parts of the workings exhibited massive sulphide veining containing bornite and chalcopyrite.

High concentrations of malachite and azurite were also noted with four sample returning results of >1% Cu.

Hit and Miss Group

Results from quartz vein samples at Hit and Miss returned an average grade from 23 samples of 2.9% W, with a maximum of 13.3%. Other than the obvious wolframite mineralisation, significant molybdenite was noted in mullock at the “Hit & Miss” workings near Chainman’s shaft with assays returning up to 1.98%. The workings are associated with one of the largest veins noted to date although numerous other parallel vein sets occur at the prospect. Not tabled here are the anomalous Ag assays of up to 46ppm and Sn to 0.2%.

Copper Show Group

The “Copper Show” workings were also located and are worthy of some follow up work as the main lode is easily traceable in later costeans that have been excavated. Along with the ubiquitous wolframite mineralisation the main lode exhibits significant malachite and azurite. The prospect area is relatively flat lying surrounded by hills.

Treasure Group

The Treasure Group workings cover an extensive area that occupies two valleys and the sides of the adjacent hills in the central part of the Hatches Creek Wolfram Field. The Treasure Group also boasted a general store a generator shed and large living quarters and office the ruins of which are still evident. Workings extend to the west previously known as “Next Treasure”. The results returned consistently high tungsten assays from visible wolframite in quartz veining, the average tungsten grade returned 3.84% W. Only minor copper was noted in hand specimens in this area which is reflected in the assays.

6.0 Year 2 Work Completed

Work during the second year of tenure included locating all historical prospect maps based on GPS data collected from the reconnaissance visit in the previous year. All historical Aerial Photography was acquired to aid in locating old tracks and prospects. Recent colour photography is not an effective tool for locating prospects and in particular tracks that have not been disturbed for around 50 years.

Significant potential exists for additional mineralisation under cover between the northern and southern areas of EL22912.

The traditional owners have no problem with re clearing of the old access tracks (now over 50 years old and badly damaged) however concerns were raised by the CLC. There also appears to be no problem with working around existing prospects as the amount of disturbed ground is extensive in some cases (concerns were also raised by the CLC regarding this issue).

Four generations of Aerial Photography cover the Hatches Creek area as part of the Frew River 1:250,000 sheet (SF53-3) photography. Colour photography was flown in 1997 and again in 2005 by Fugro.

Two black & white photographic series are available. The Frew River 1947 1:50,000 set and the Frew River 1963 1:80,000 set. The black & white Aerial Photography has proved to be a useful series for compilation work and locating infrastructure and tracks from previous mining activity.

7.0 Recommendations

Re-clearing of existing tracks, when approved, is best supervised by Traditional Owners. Two traditional owners who live on an outstation nearby (Stanley Holmes and John Wickham) who assisted with reconnaissance work in 2008 could be utilised for such a task due to their wealth of local knowledge.

Reconnaissance RC drilling below the vertical extent of existing workings is recommended on more accessible prospects such as Pioneer, Green Diamond and the Treasure Group. Reconnaissance drilling will determine if mineralisation is continuous down dip on the quartz reefs and if the grade can be reasonably predicted by RC drill holes.

8.0 APPENDICES

Appendix 1 – Open File Report List

Prospect	Type	Tenement	Report Number	Original Title
Hatches Creek	AP	1561	CR1966-0045	Report on the inspection of the Crystal mine, Hatches Creek area (G Birchmore Gold prospect)
Hatches Creek	AP	1782	CR1968-0040	The geology of Hatches Creek area
Hatches Creek	EL	1633	CR1979-0098	Final report on exploration.
Hatches Creek	EL	4807	CR1987-0115	Annual report exploration licence 4807.
Hatches Creek	EL	4947	CR1987-0189	First Annual Report Hatches Creek Area N T.
Hatches Creek	EL	4807	CR1988-0071	Annual report on EL 4807. First year of Tenure May 1986 - 1987.
Hatches Creek	EL	4947	CR1988-0300	Annual Report on EL 4947 Hatches Creek 2nd year of tenure.
Hatches Creek	EL	5501	CR1989-0407	Progress report year ending 15 February 1989
Hatches Creek	EL	4947	CR1989-0620	Final report Hatches Creek prospect 20-07-1986 to 20-06-1989
Hatches Creek	EL	4807	CR1989-0676	Final report
Hatches Creek	EL	5203	CR1991-0231	Report on EL 5203 1988-1989
Hatches Creek	EL	5203	CR1991-0232	Annual Report.
Hatches Creek	EL	5203	CR1993-0105	Surrender report EL 5203 Hatches Creek June 1992.
Hatches Creek	EL	8447	CR1995-0191	EL 8285, 8379, 8447, initial progress report to August 1994
Hatches Creek	EL	8447	CR1995-0496	ELs 8285, 8370, 8447, final report