

History of MLN 37

Compiled by JN Dunster
Exploration Evaluation Geologist, NTGS
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The Touhy (also erroneously spelt Touhey) brothers found a surface tin occurrence while prospecting in the McKinlay River 1:100 000 sheet in 1966. They lodged an application, ML 277A, known as "Touhy's (or Touhey's) Tin Prospect" which was referred to by these names and application number for some years after grant. MLN 37, as such, was granted to John and Patrick Touhy of Mount Wells in 1967 for the stated purpose of tin mining. The 40 acre lease should have then officially been known by the new name "Rose Mary" (not Rosemary or Rose Marie which are other prospects with which it has been confused). Continued use of the former Touhys name and tenement number, particularly in Government reports, has also created some confusion.

United Uranium was offered an option on the lease in early 1967 and carried out extensive channel sampling over the entire length of the lode (CR1967-0038).

The lease was visited by the Chief Government Geologist during April 1967. The purpose was to independently evaluate the ML for the United Uranium option agreement. The results, including interpretation of the United Uranium channel samples, are given in CR1967-0038. Tin mineralisation was found to be controlled by a fissure in siltstone country rocks and the lode dipped at 75 degrees east and trended NW over about 1400 feet on the west side of two prominent hills. The same lode may continue north outside MLN 37 and mineralised float persisted 85 feet beyond the then trenched and sampled portion. Tin mineralisation is mainly cassiterite, too fine to be seen with the naked eye. It typically occurs in a chlorite-quartz matrix, sometimes with small amounts of tourmaline. Pyrite and arsenopyrite are scattered throughout the matrix of the lode. The wall rocks are highly altered and weathered, mainly kaolinised. They were assigned to what is now possibly Gerowie Tuff, Koolpin Formation or Wildman Siltstone. After evaluating United Uranium's sampling and making optimistic assumptions about the vertical extent, the Chief Government Geologist estimated that 80,000 to 90,000 tons of ore could be present at a recoverable grade of 0.68% to 0.82% tin over 4 to 5 feet stopping widths (CR1967-0038). After the Government assessment, United Uranium did not take up their option.

A series of transfers of shares took place in 1968. These involved various members of the Ah Toy family. In 1969, Mount Masson Mining lodged a caveat but later withdrew it, in favour of an option. Between 1968 and 1970, Mount Masson Mining and later Mary River Mines carried out sporadic but extensive underground development in the form of two adits. During this period, the Touhy brothers also put in shafts and drives. Some ore from this period was crushed at the Mount Harris battery but no production figures are available.

On 26/06/1969, the Ah Toys filed several Applications for Exemption "due to serious illness of one of the miners". Folio 29 states that the prior to that, two brothers (presumably the Touhys) had been "continually working the lease". In August 1970, it was reported that the Touhy brothers died at their campsite at the mine on or about the 12th and 15th July 1970. It was believed that up to that time either Mary River Mines or Mount Masson Mining, or both, had been taking the ore won from the lease. The public Trustee requested a Mining Inspector to ascertain the extent of operations

and what ore remained and what had been removed. Mount Masson Mining then wrote to Public Trustee saying that they did not intend to exercise their option over the ML. Folio 45 (copy attached) contains Mount Masson Mining's assessment of the orebody for the Public Trustee:

"the extent of the ore body is far smaller than anticipated going only to a depth of some 38 feet and averaging only 3 feet in width. A drive commenced at a point 700 feet from the southern boundary and driving north for 502 feet encountered ore for only the first 200 feet. It was found that the ore body carried only iron from this point to the end of the drive. A rise from 350 feet peg of the drive intersected Touhys old workings, but it found the lode carried tin only for 4 feet below their old workings. A drive running south from the 600 foot peg for a distance of 160 feet encountered lode, but carried little tin. A shaft 61 feet in depth at 320 feet peg encountered a seam of tin only 12 inches wide of 2% ore. A 100 ton bulk sample treated at Mount Wells Battery came from the first 200 feet of the north drive, but only selected heaps (by Touhys) were allowed to be carted with the following results:

98 tons treated
2.1% head value
0.9% recovery
1.2% tailings.

It should be further noted that this ore contains a large amount of iron pyrites which makes treatment difficult."

Folio 46 details the terms of the Mount Masson option as \$4,000 consideration for grant and \$90,000 total should the option have been taken up.

On 12/09/1970, FD Dykstra, the Inspector of Mines, recommended that a sampling program would need to be undertaken by a mining consulting firm before the true value of the ML could be determined. Folio 47 states that the Inspector anticipated that about 1,000 tons of low grade (less than 2%) should be on surface and he accepted that "a purchase price of \$26,000 appears to be reasonable." Folios 50-52 (copies attached) give details of the five parcels of tin sold from ML 227A which were used in the Mines' evaluation.

The title, or a share, was then transferred to Mr Edward Ah Toy in September 1971 and Mr Ah Toy's interest was transferred to the Public Trustee 05/10/1971. The Public Trustee also acknowledged an agreement between the estate of the Touhy brothers and Mr Walter Edward Casey that gave the latter the balance of the estate. Mr Casey sent low-grade mullock material for crushing during the 1972-1974 period. A total of 1,058 tonnes of ore were crushed yielding 1.26 tonnes of tin at an average grade of 1.32% tin.

Folio 67B (copy attached) is a November 1974 offer by Mr Murray Ross Millwood to purchase the ML which he called "Rosemary". He reported assays of chip samples from the mine as 0.573%, 0.002%, 0.001% (presumably SnO₂ but not stated).

In December 1974, J Shields and M Roarty of the Mines Branch inspected what they referred to as "Touhys Tin Prospect" (GS1975-016). Mineralisation was concordant with fault-induced cleavage and trended 325 degrees magnetic and dipped east at 85 degrees. The highest grades appeared to be in the southeast of the lode. Examination of the underground workings revealed a more complex structure with two separate (or structurally repeated) lodes being found. The authors concluded that structural complexity and low grade indicated "limited potential" (GS1975-016). Annual production from 1967 to 1970 and 1972 was tabulated. The best in terms of

metal produced was 1967, when 248 tons of ore at 7.58% resulted in 3.02% metal content produced (GS1975-016).

Folio 68 from P Purich, the Assistant Secretary of Mines, to the Public Trustee says that the main entrance to the mine had, by then, collapsed and that there has been no geological work done by the leaseholders and there are no proven ore reserves. He agreed that the price offered by Mr Millwood seemed reasonable and the ML was transferred to Mr Millwood 02/11/1975 who promptly applied for an exemption from working it, citing financial problems and access issues. Specifically, the road to the mine was closed from January to March each year by flooding of the McKinley River. Further exemptions cited the unavailability of suitable crushing facilities. When he did start mining, Mr Millwood concentrated on the southern section of the lode, stopping material above the southern development adit.

In May 1975, Mr Millwood applied for and was granted drilling assistance from the Mines Branch. Five diamond drillholes (DDH1 – DDH5) totalling 292 m were drilled between June and November 1975 in conjunction with surface and underground mapping by Mines Branch officers. The drilling was plagued by poor core recovery. The drilling and mapping were documented by Newton and Shields (GS1977-007). The host rocks were assigned by them to the then Golden Dyke Formation. The drilling indicated that the joint/fault – lode intersection plunges at a shallow angle to the north and that mineralisation is not repeated below the joint/fault as previously thought. These authors concluded that there was limited potential to delineate further ore or to locate higher grade material, except possibly to the north.

Millwood's production from 1976 (and possibly including 1975) was 6.5 tonnes at an average grade of 1.32% tin.

The Bureau of Mineral Resources revised the stratigraphy of the area during regional mapping in 1979 and assigned the mineralisation to close to the contact of what they called the Kapalgga Formation and the Gerowie Tuff. They recognised some tuff marker beds within sedimentary rocks in the mine area, making the latter the host rock.

Mr Millwood again applied for, and was granted, drilling assistance during 1979. The Department of Mines and Energy Drilling Section drilled one more 100 metre hole, DDH6, during 1979, to test the northern extension of mineralisation (GS1979-019). The hole location was given (imprecisely) as 13°24'30" and 131°46'20" or HL002161. Mineralisation was intersected in quartz veins between 78.5 m and 78.8 m in a highly sheared pyritic shale host that extended from 79.4 m and 80.7 m downhole. This mineralised interval assayed 0.42% tin between 78.4 m and 78.9 m. The main lode between 79.4 m and 80.7 m gave a best assay of 0.51% tin from 79.4 m to 79.9 m. Thus, a combined true width of 2.3 m averaged 0.23% tin from 78.4 m to 80.7 m. Based on the 1975 and 1979 drilling, a total volume of 1,380 cubic metres or 3,864 tonnes would contain 19.32 tonnes of tin over a 65 m strike length (GS1979-019). This is a rudimentary estimate and not JORC-compliant.

The ML was transferred from Millwood's own name to MR Millwood Pty Ltd 14/09/1982. Folio 99 (copy attached) is an advertisement offering Rosemary (one word) Tin Mine with living accommodation for sale for \$50,000. Folio 100 (copy attached) is an annual report for 1984 by Mr Millwood which states that it was a fully functional tin mine at the time of closure of the Mount Wells Battery and the introduction of tin quotas.

Folios 104 to 107 (copies attached) are information provided by Mr J Whitfield, tenement officer at Territory Resources, to justify renewal. Territory Resources state that that company had recently purchased the lease. He states that the Touhy Brothers mined approximately 250 tons of ore at a grade of 3% tin in 1967. Small yearly crushings with an average grade of 1.04% continued until 1979 when the low tin prices made the mine uneconomical. There had been no mining from 1979 to 1987. Territory Resources estimated that a minimum of 20,000 tons of ore could remain but conceded that it was uneconomical to mine tin at the then price. The ML was then renewed for 10 years. No work was undertaken by Territory Resources.

In October 1991, a transfer was lodged from Territory Resources to Mr Michael Antony McNally. In 1992, an inspection by Mr J Whitfield, then with the Department, found the lease corners to be adequately marked. A revised description of survey position was requested from Mr M McNally. KT Flockhart, on behalf of M McNally, noted that there was a discrepancy between the physical location of the lease markers and the location shown on maps. Folios 121 to 124 (copies attached) are survey plans for MLN 37 by J Fisher and S Cox which repositions the lease description by about 2500 metres.

A handwritten report (folio 129) was lodged for 1996. In 1997, the MLN was transferred from MA McNally to his brother Paul Angelo McNally. Some site works were completed and equipment purchased, but the low tin price still precluded mining. The MLN was renewed again, for five years, in 1998. Another handwritten annual report (CR2000-0032) stated that road access had been improved and that the site would be fenced when capital became available. No mining had taken place. MLN 37 was renewed again in 2003 for ten years. There have been no annual reports since then to 2009 and no mining has been undertaken since 1979.

The abandoned mine on MLN 37 is called "Rose Mary Sn" in the NTGS databases to distinguish it from nearby iron deposits of the same name.