



ASX ANNOUNCEMENT

28 August 2023

## NMR to Commence Work at High-Grade Lithium Project in Manitoba Canada

*Initial exploration program at McLaughlin Lake to follow-up historic sampling grades of up to 2.87% Li<sub>2</sub>O*

### HIGHLIGHTS:

- Geophysical survey, mapping and ground-based sampling to commence early September at the highly prospective McLaughlin Lake Lithium Project (MEL 1208A)
- Geophysical survey to include helicopter magnetic and radiometric geophysical survey & LiDAR survey
- Targeted mapping, channel and rock chip sampling program of known lithium bearing pegmatites and the surrounding area will be conducted simultaneously
- **Recently sourced historic Manitoba Government reports indicate that the known pegmatite outcrops within McLaughlin Lake are more numerous and larger than previously recognised**
- Previous work in MEL 1208A has mapped a 400m long outcropping pegmatite dyke that is open at both ends with important results including:
  - ***A 1.5m long channel sample from across the dyke assayed 1.32% Li<sub>2</sub>O.***
  - ***Grab sampling of a 2<sup>nd</sup> dyke returned assays of 0.98% & 2.87% Li<sub>2</sub>O.***
  - ***The pegmatite pinches and swells with higher concentrations of spodumene found in wider sections***
- Initial field work program to assist in drill targeting and confirm extent and grade of pegmatite outcrops
- Drilling expected to commence in January 2024

**Native Mineral Resources Holdings Limited** (ASX: NMR), or (“NMR” or “the Company”), is pleased to announce that exploration at the newly acquired McLaughlin Lake Lithium Project in Manitoba, Canada is scheduled to commence in the first week of September.

This initial work program, to be undertaken with New Age Metals Inc (TSXV: NAM), will include an airborne magnetic and radiometric survey of the entire Mineral Exploration Licence (MEL) 1208A. Concurrently, NMR and NAM personnel will conduct a mapping and sampling program which will focus on the known pegmatite outcrops and then expand into areas previously not mapped or sampled.

NMR has entered into an agreement (Acquisition Agreement) to acquire 51% of the McLaughlin Lake Lithium Project for \$200,000 AUD in NMR shares, \$75,000 CAD in cash and \$500,000 CAD funding of exploration over 18 months. NMR can acquire up to 75% of Mineral Exploration License (MEL 1208A) after meeting certain milestones (for further details see ASX announcement dated 17 July 2023).

**Commenting on the upcoming work NMR’s Managing Director, Blake Cannavo, said “NMR has moved quickly to get our feet on the ground in Canada with our maiden exploration program set to commence very soon at McLaughlin Lake.**

*NMR continues to be excited by the underlying potential at McLaughlin Lake with recently sourced geological reports from the Manitoba Department of Mines and Natural Resources suggesting that the pegmatite outcrops within the project area are far more frequent than we previously thought.*

*We anticipate this first phase of exploration will confirm the presence of high-grade lithium in the known pegmatites, whilst we also aim to improve our knowledge of the lithium potential of the broader project area through both the Heli-mag survey and the geological mapping and sampling.*

*We are entering an exciting and busy phase for the company with our second diamond drilling program also scheduled to get underway at the Maneater Project in QLD in early September, so we look forward to providing regular updates on exploration progress.”*

### **McLaughlin Lake Heli-Mag Survey**

NMR, through its Canadian geological contractors Axiom Exploration Group, expect to commence a tenement wide helicopter magnetic and radiometric survey (Heli-Mag) which will also include a tenement wide LiDAR survey, on the 10<sup>th</sup> September.

Data from the Heli-Mag survey will be used to build a 3D Magnetic Inversion (Susceptibility Inversion) model of the bedrock within the MEL and allow horizontal slices to be extracted at selected depths which will assist in drillhole planning in the future.

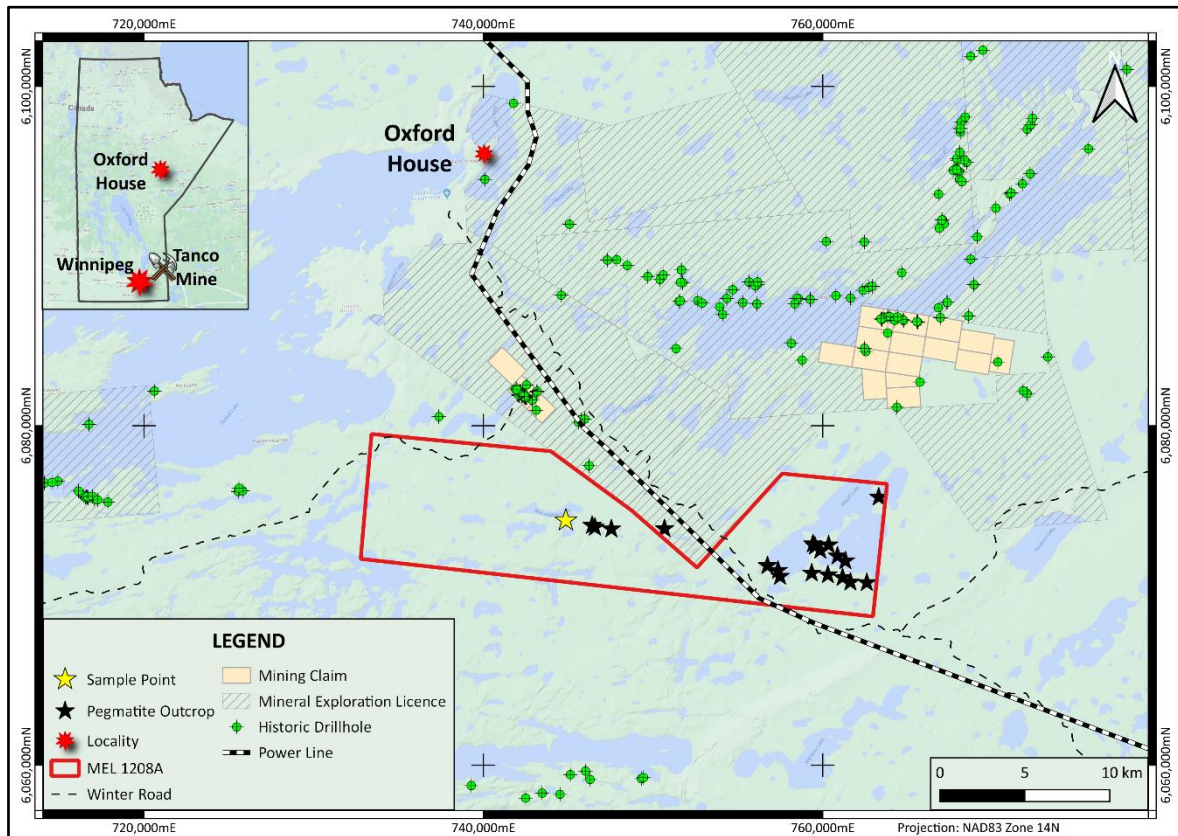
The LiDAR data will be used to delineated areas of relief where slightly elevated pegmatites are covered by overgrowth and moss and cannot be visually identified from the air. This will allow the field crew to prioritise areas of potential pegmatite outcrops to visit during the mapping work.

### **McLaughlin Lake Fieldwork**

In conjunction with the Heli-Mag survey, a field crew will commence a mapping and sampling program that will update the property bedrock geology with detailed structural analysis of pegmatite distribution and zonation. The mapping will also include the surface extent of the pegmatites and record orientation for potential future drilling.

Property wide rock sampling will gather geochemical data on known targets, including areas identified by historic data, and targets identified from the magnetics survey. The collected geochemical data will be used to determine the fractionation level of pegmatites and assist in prioritising areas for future work and possible drilling targets.

This work will include taking channel samples over main spodumene occurrence and any other mineralised pegmatites.



**Figure 1: McLaughlin Lake Tenement**

## **McLaughlin Lake Lithium Project – Historical Summary**

The McLaughlin Lake Pegmatite Project consists of Mineral Exploration License (MEL) 1208A which covers 19,321 Ha and was granted on the 18<sup>th</sup> August 2023 for three years.

MEL 1208A is a 30 km east-west striking tenement located approximately 560km north of Winnipeg and 10km south-east of the locality of Oxford House which is accessible by air and winter road in the Canadian province of Manitoba (**Figure 1**).

McLaughlin Lake is located in the Archean-aged Superior Province of the Canadian Shield, which is host to some of the most significant lithium resources in the world, mainly in Quebec and Ontario, though the Lithium Tanco Mine is located within Manitoba and has been mined for tantalum and caesium since the 1920's, and has a reserve of 7.3 MT @ 2.76% Li (Figure 1).

An east-west 30km long inferred shear zone contact running through the MEL which has the potential for lithium bearing pegmatites to be associated with it.

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NMR has recently sourced additional Manitoba Department of Mines and Natural Resources reports on the Geology of the Oxford House region that accompany the Departments's mapping programs in the 1950's and 1960's.

Below is an extract from the Economic Geology section in The Geology of the Oxford House - Knee Lake Area report which comments on the pegmatites found at Lake J (McLaughlin Lake)<sup>1</sup> (Barry, Geology of the Oxford House - Knee Lake Area 53L/14 and 53L/15, 1959).

**No. 10 (Map 58-3A).** A pegmatite dyke averaging 4 feet in width has been traced for 1,300 feet at Lake "J". The dyke is concordant, trends easterly, and is open at both ends. It is very coarse grained and contains quartz, potash feldspar, plagioclase, light green muscovite, in books up to three-quarters of an inch thick, garnet, blue-green apatite, hornblende and crystals of spodumene up to 5 inches in length and 1½ inches in diameter. The pegmatite pinches and swells. Higher concentrations of spodumene are found in the wider sections. Spodumene may account for as much as 40 per cent of the rock in certain places.

During a second visit to the area in 1962, Barry<sup>2</sup>, recorded the excerpt below on the pegmatite outcrops in the McLaughlin Lake region, noting that several pegmatite outcrops were several tens of feet in width but appear to have no lateral extent, which may be due to the erratic pinch and swelling nature of the dykes or to the outcrops being buried (Barry, Geology of the Munro Lake Area. 53L/11 (east half), 1962).

#### *APLITE AND PEGMATITE (10)*

Aplite and pegmatite are common in rocks of the granitic gneiss complex. They invade rocks of the greenstone belt on a minor scale only. Most of the dykes are small, have irregular contacts, and cut across the trend of the enclosing rocks at various angles. They also intrude the gneisses in a lit-par-lit fashion.

Only those dykes more than 10 feet in width are shown on the accompanying map. No attempt was made to trace the continuity of individual dykes. Some pegmatite occurs as large irregular masses several tens of feet across but appear to be of no lateral extent. Remnants of country rock, contorted gneisses, and tonalite, commonly occur within such pegmatite bodies. The pegmatite is most abundant in migmatites, at places accounting for up to 30 per cent of the outcrop surface.

On a regional basis, the strikes of individual pegmatites are variable but were not studied in sufficient detail to indicate prevalent trends. Locally, however, as in the vicinity of Laplante Lake, the more regular dykes strike north-northeast. South of Reekie Lake, many large dykes trend east-southeast, nearly parallel to the foliation of the country rock. Exceptions are numerous.

The aplites and pegmatites are of two types: pink and white; the white variety is rare. The age relationship between the two is not known and there is no direct evidence indicating the derivation of the pegmatite and aprite from any particular granitic body within the map-area.

The most common pink pegmatite contains microcline and only traces of ferromagnesian minerals. Some large dykes near Laplante Lake contain 2 to 5 per cent muscovite. Tourmaline and garnet were also observed.

<sup>1</sup> Barry, 1959. P37.

<sup>2</sup> Barry, 1962. P18.

In the Economic Geology section of the 1962 report, Barry<sup>3</sup> records the only known assay results from the McLaughlin Lake pegmatites that are noted in the highlight section above.

*Lithium:* (lat. 54°45'30", long. 95°12'30")

In 1958, spodumene-bearing pegmatite was discovered on a lake ½ mile north of the map boundary, north of Laplante Lake. (See Mines Branch, Publ. 58-3; Mineral Occurrence No. 10.) This deposit was re-examined and samples were taken during the field season of 1961. The following additional information was gathered.

The spodumene-bearing pegmatite outcrops on the west and east shore of the lake, at localities approximately 1,000 feet apart. The western outcrop consists of fine-grained medium-grey micaceous and siliceous meta-sediments. The meta-sediment is very finely banded and, in places, has "cherty-looking" beds. About 5 per cent of the outcrop consists of parallel stringers and veinlets of clear to grey-coloured quartz. These pinch and swell at random and are very irregularly distributed. The pegmatite dyke lies parallel to the foliation of the rock. The dyke is 5'3" wide at the shore and 12" wide 60 feet to the west where it disappears under overburden. It has a maximum width of 8 feet. The pegmatite is white, very coarse grained and consists of feldspar, quartz, spodumene and muscovite, with minor fluorite, tourmaline, garnet, and apatite. The average mineral content was estimated visually at: feldspar and quartz 85 per cent, spodumene 9 per cent, muscovite 4 per cent, accessories 2 per cent.

Spodumene occurs as creamy-coloured crystals, in some places hexagonal in cross section, up to 2 inches wide and 4 inches in length. The mica occurs as small booklets and flakes, randomly distributed and up to ½ inch in diameter. There is no zoning or orientation of minerals.

A channel sample was taken across a width of 5 feet at the shore of the lake. It assayed 1.32 per cent Li<sub>2</sub>O; thus the content of spodumene was visually underestimated.

Although outcrops are abundant to the west, the main pegmatite was not found to continue on strike; only a 2- to 8-inch wide dykelet was found 190 feet from shore.

Approximately 65 feet west from the shore of the lake and several feet south of the main dyke, a spodumene-bearing pegmatite transgresses the foliation of the rocks. This exposure was traced for a length of 42 feet and varies in width from 2 inches to 4 feet. Two representative grab samples assayed 2.87 and 0.98 per cent Li<sub>2</sub>O.

On the east shore of the lake, the pegmatite is up to 3 feet wide and extends 30 feet to the east where it disappears under overburden. The pegmatite was not observed 400 feet to the east, along the strike, where outcrop coverage is good. This pegmatite has the same mineralogical composition as, but is finer grained than, its extension on the west shore of the lake.

<sup>3</sup> Barry G.S., Department of Mines and Natural Resources Geology of the Munro Lake Area 53L/11 (east half). Province of Manitoba. 1962. P25-26.

## **References**

Barry, G. S. (1959). *Geology of the Oxford House - Knee Lake Area 53L/14 and 53L/15*. Winnipeg: Province of Manitoba Department of Mines and NATural Resources.

Barry, G. S. (1962). *Geology of the Munro Lake Area. 53L/11 (east half)*. Winnipeg: Province of Manitoba Department of Mines and NATural Resources.

The Board of Native Mineral Resources Holdings Ltd authorised this announcement to be lodged with the ASX.

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### **Competent Person Statement:**

The information in this report relating to Exploration Results is based on information compiled by and/or provided to Mr Greg Curnow, a Competent Person who is a Member of the Australasian Institute of Mining and Metallurgy. Mr Greg Curnow is a full-time employee of Native Mineral Resources. Mr Curnow has sufficient experience that is relevant to the styles of mineralisation and type of deposit under consideration and to the activity being undertaken to qualify as a Competent Person as defined in the 2012 Edition of the 'Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Curnow has no potential conflict of interest in accepting Competent Person responsibility for the information presented in this report and consents to the inclusion in the report of the matters based on his information in the form and context in which it appears.

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