

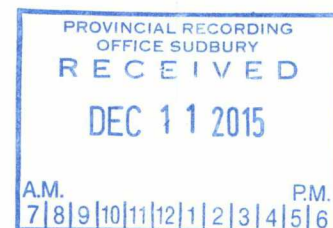
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**2015 Prospecting Report  
Langmuir #2 Project/Shaw Dome Property  
Langmuir Township  
Porcupine Mining Division, Ontario**

**By:  
Todd Mathieu  
Northern Sun Mining Corp.  
December 9, 2015**



## Langmuir #2 Project – 2015 Prospecting Report

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## **1.0 INTRODUCTION**

### **1.1 Scope of Work**

This report describes the prospecting, Beep Mat surveying, and GPS Georeferencing work completed between June 15, 2015 to October 7, 2015 on the Langmuir #2 Project on the Northern Sun Mining Corp. 100% owned Shaw Dome Property.

### **1.2 Technical Parameters**

GPS Receiver Type:

- Garmin GPSmap 60CSx
- Differential correcting enabled
- Averaging (minimum 150 positional fixes over 150 seconds)

Beep Mat 8 (GDD Instrumentation)

Coordinate System:

- NAD83, UTM Zone 17

## **2.0 PROPERTY DESCRIPTION**

### **2.1 Location and Access**

The Northern Sun Mining Corp. 100% owned Shaw Dome Property resides 13km south southeast of Timmins Ontario in the Porcupine Mining Division and consists of 5 leases with 147 claim units and 65 claim blocks with 584 claim units for a combined total of 731 claim units/11,570 hectares.

More specifically this report focuses on the Langmuir #2 Project which consists of 3 single non-contiguous claim units numbered 1224497, 1224498, and 1224499, within the larger Shaw Dome Property.

Ground access to the Langmuir #2 Project is possible by proceeding south from South Porcupine a total of 18km down Stringers/Langmuir road until reaching claim 1224499. (Figure 1-1).

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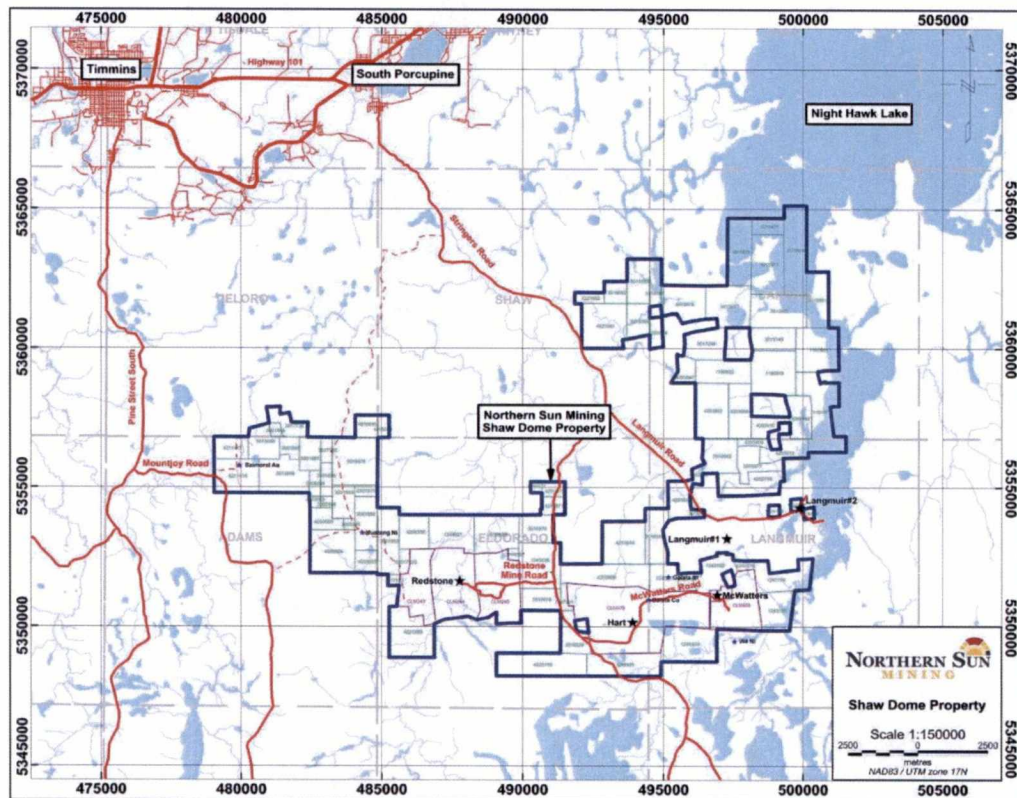


Figure 1-1

### 2.2 Property Overview

The Langmuir #2 Project consists of 3 single non-contiguous claim units in Langmuir Township in the Porcupine Mining Division (Figure 1-2). In 1972 a shaft was sunk to 444.4 meters with 8 levels established. Production from the Langmuir #2 deposit in the period 1973-1978 is estimated at 1,100,00 tons grading 1.43% Ni (Production Source: 1996 OGS OFR 5943, PAGE 246). In the South Zone of the Langmuir #2 deposit a historical non 43-101 compliant inferred resource of about 181,400 tonnes grading 1.5% Ni is thought to remain.



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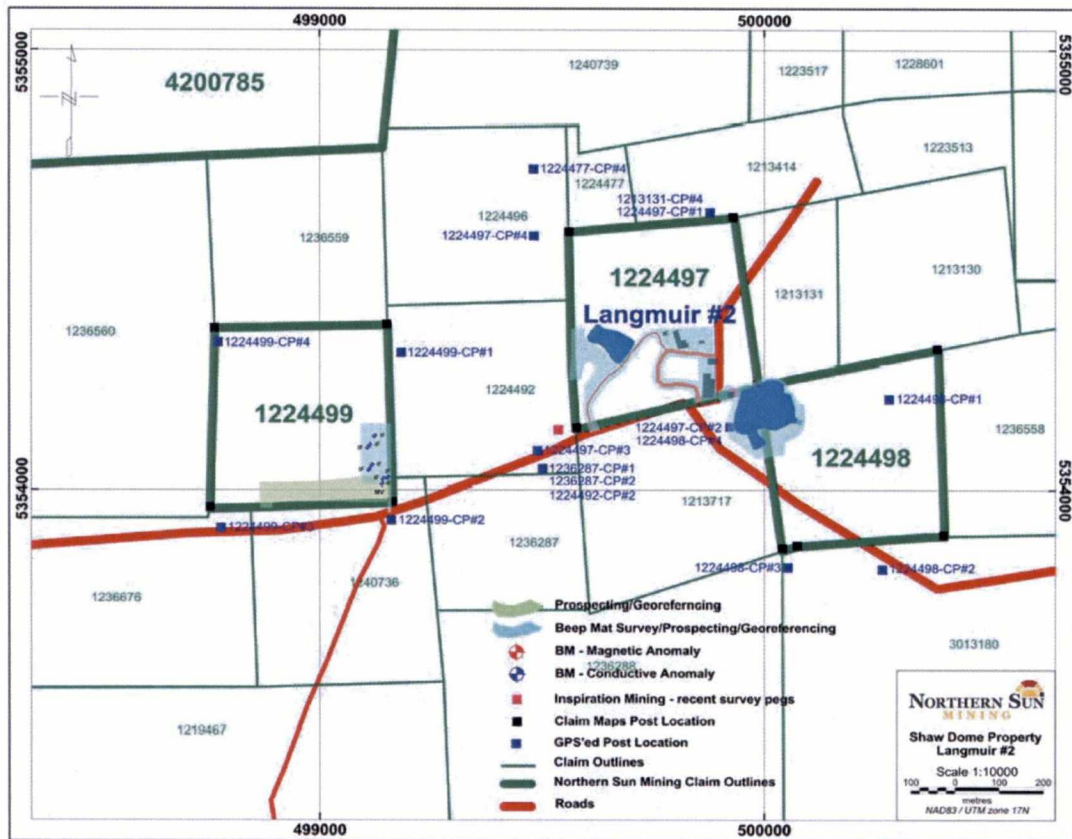


Figure 1-2

### 3.0 GPS GEOREFERENCING OF DATA

#### 3.1 Collection of Data & Quality Control

Data was collected by Todd Mathieu and a helper who were both employees/contractors of Northern Sun Mining Corp. The technical specifications as outlined in the document labelled "Georeferencing Standards for Unpatented Mining Claims" was used as a guide. Weather on the days of data collection was overcast. Satellite reception was adequate with five or more satellite connections established at any one time.

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### 3.2 Coordinate Data Sheet

**Project Name:** Langmuir #2

**NTS Map:** 042A

**Datum:** NAD83

**UTM Zone:** 17

**Mining Division:** Porcupine

Claim Number	UTM Coordinate Easting	UTM Coordinate Northing	Notes
Vent Raise	499925	5354216	Cement cap?
Cement Slab 01	499882	5354291	Giant cement slab, 15x20 meters
Cement Slab 02	499873	5354235	Giant cement slab. 25x55 meters
Building 01	499859	5354336	Con or ore bay building?
Shaft Collar?	499815	5354330	Cement, appears to be shaft collar?
Cement Slab/Pillars	499804	5354348	Attached to shaft. Cement slab with pillars/walls
Tower	499777	5354355	Possible water tower?
Inspiration Mining Survey Post 01	499932	5354224	New survey post - wrong location
Inspiration Mining Survey Post 02	499539	5354135	New survey post - wrong location
Conductor01	499140	5354012	Iron formation
Conductor02	499143	5354024	Iron formation
Conductor03	499153	5354027	Iron formation
Conductor04	499111	5354045	Iron formation
Conductor05	499118	5354055	Iron formation
Conductor06	499108	5354095	Iron formation
Conductor07	499113	5354101	Iron formation
Conductor08	499124	5354122	Iron formation

### 4.0 2015 WORK COMPLETED

Field work began on June 15, 2015, but was immediately halted later that day due to issues noticed with the claim boundaries. Between the times that Northern Sun Mining located and GPS'ed the corner posts related to the Langmuir #2 claims a neighboring property has gone ahead and surveyed their claims in the process of bringing them to lease. The company in question was unable to locate key tie in claim posts, so they have gone ahead and re-established claim posts that are infringing up to 60 meters onto the Northern Sun Mining Langmuir #2 Project claims. The issue was brought to the MNM and as of the writing of this report has still not been settled.

Despite the issue with the claim boundary, additional work was completed in October of 2015 as assessment credits are due. The work completed was

## Langmuir #2 Project – 2015 Prospecting Report

somewhat limited and related directly to prospecting, Beep Mat surveying, and georeferencing of surface infrastructure/topographic features. All of this data has been compiled neatly in spreadsheets and added to Northern Sun Mining's GIS database.

The Beep Mat 8 survey was somewhat disappointing in the direct vicinity of the mine site. Unfortunately a majority of the overburden surrounding the Langmuir #2 mine site on claim 1224497 was conductive. It is not clear if this is related to the numerous iron formations to the northwest or if this is a direct effect from mining in the area. After spending 1.5 days surveying, prospecting, and georeferencing topographic features around the mine site, Beep Mat surveying was abandoned as a useful prospecting technique on claim 1224497.

In areas with shallow overburden, the Beep Mat survey proved much more effective on claim 1224499. Several conductors were noted and sampled. Unfortunately all proved to be related to iron formations.

Georeferencing was completed around the Langmuir #2 mine site to collect GIS data of several of the cement pads/building footprints, the pond, and the area of subsidence where the crown pillar collapsed leaving another small pond in its place.

Prospecting was completed in unison with the Beep Mat surveying and the georeferencing of topographic features. Grab samples were examine, tested in the field with a handheld XRF, and georeferenced, but no samples were submitted for lab analysis. Nothing of significance was noted in this program.

## 5.0 CONCLUSION

The prospecting, Beep Mat surveying, georeferencing 2015 program completed on the Langmuir #2 Project, within the larger Northern Sun Mining Corp. Shaw Dome Property, was limited and cut short of its intended budget. The issue with claim boundaries needs to be resolved before additional work can be completed.

The work that was completed in 2015 was technically sound and provides a good base for future work. The Beep Mat surveying clearly was unsuccessful in the area of the historic workings, but was successful in locating conductors related to iron formations elsewhere on the project.

Additional prospecting/mapping and historical compilation should be completed and georeferenced into the Northern Sun Mining GIS database once the claim boundary issue is resolved.



## 6.0 STATEMENT OF QUALIFICATIONS

I, Todd Mathieu, do hereby certify that:

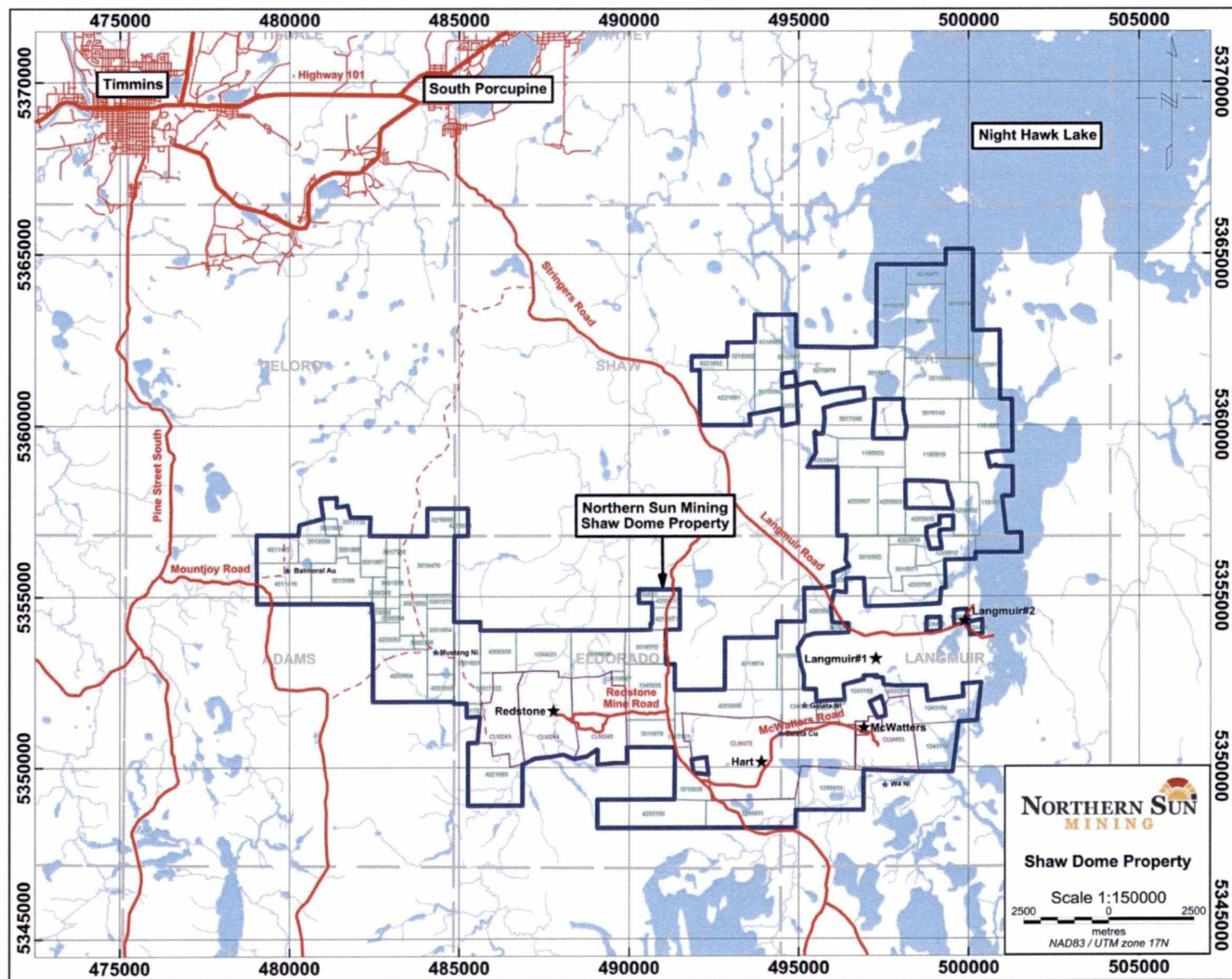
1. I reside at 216 Tisdale Street, South Porcupine, Ontario, Canada, P0N 1H0.
2. I am a graduate of the Computer Programmer/Analyst Program at Canadore College, North Bay, Ontario.
3. I have practiced my geological and geophysical profession intermittently from 1994 to 2009, and consistently from 2009 to present. I have been directly involved in the exploration of several mineral commodities in Ontario and have a strong technical background in geophysics and GIS.
4. I am employed as a Project Geology Technician for Northern Sun Mining Corp. based from its Timmins office.
5. I have knowledge and experience of the geology, geophysics, core logging, sampling, claims management, security practices of Northern Sun Mining Corp. and their portfolio of properties.
6. I have completed the Mining Act Awareness Program (verification number: 0106-D697-DE63-5A37) and I am familiar with the mining act regulations, policies and procedures.

December 9, 2015

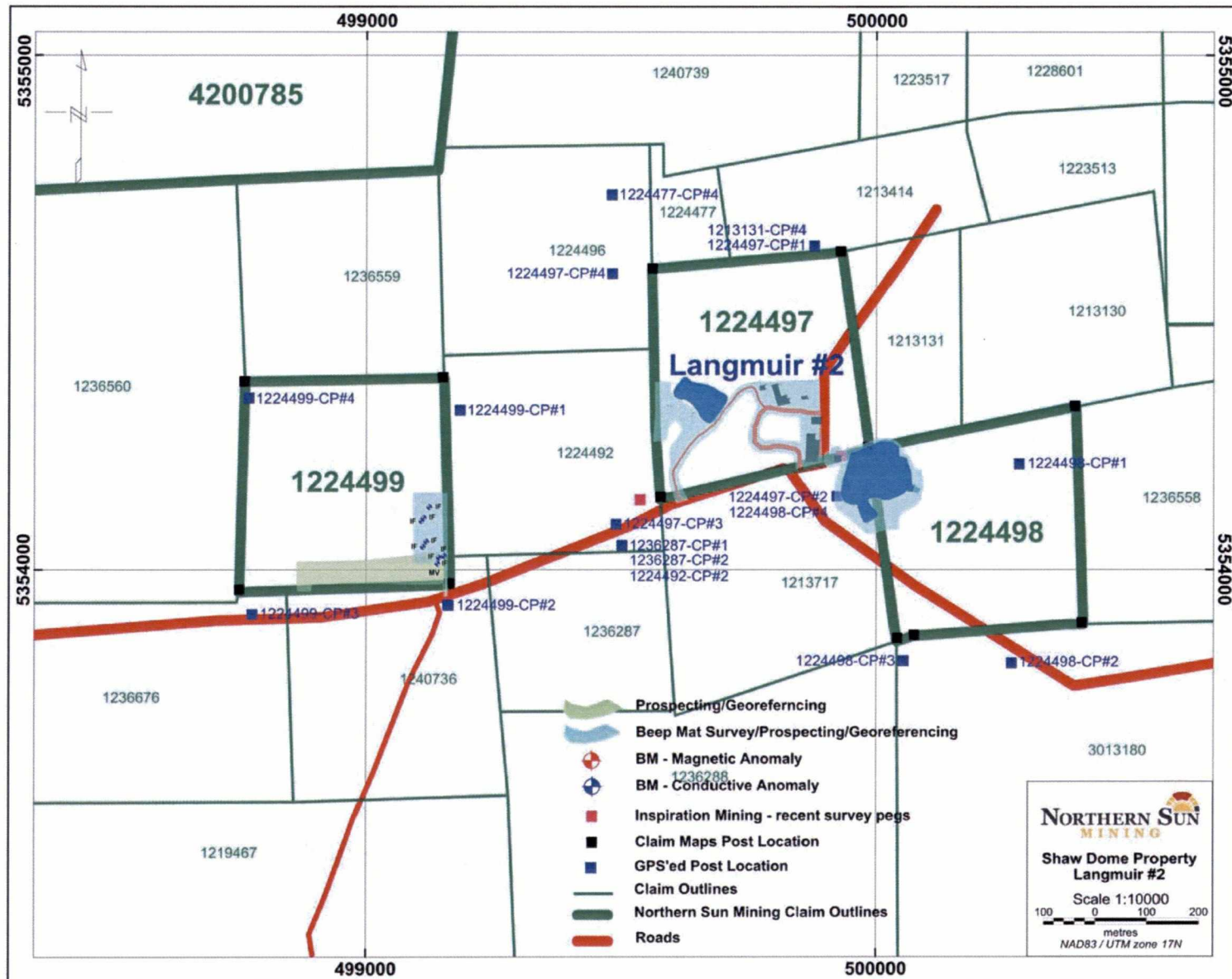


Todd Mathieu  
Project Geology Technician

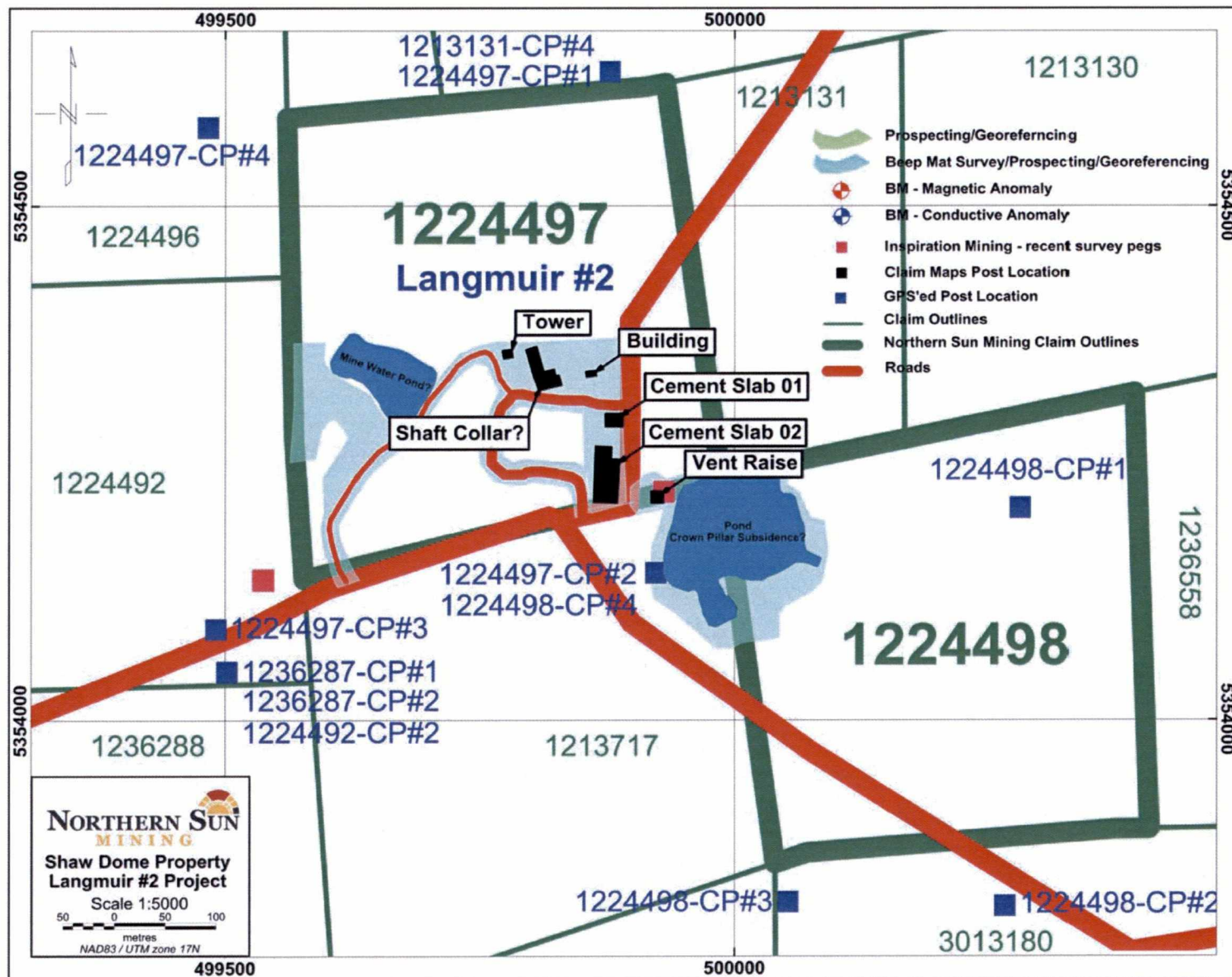
## 7.0 APPENDIX A – PROPERTY MAPS



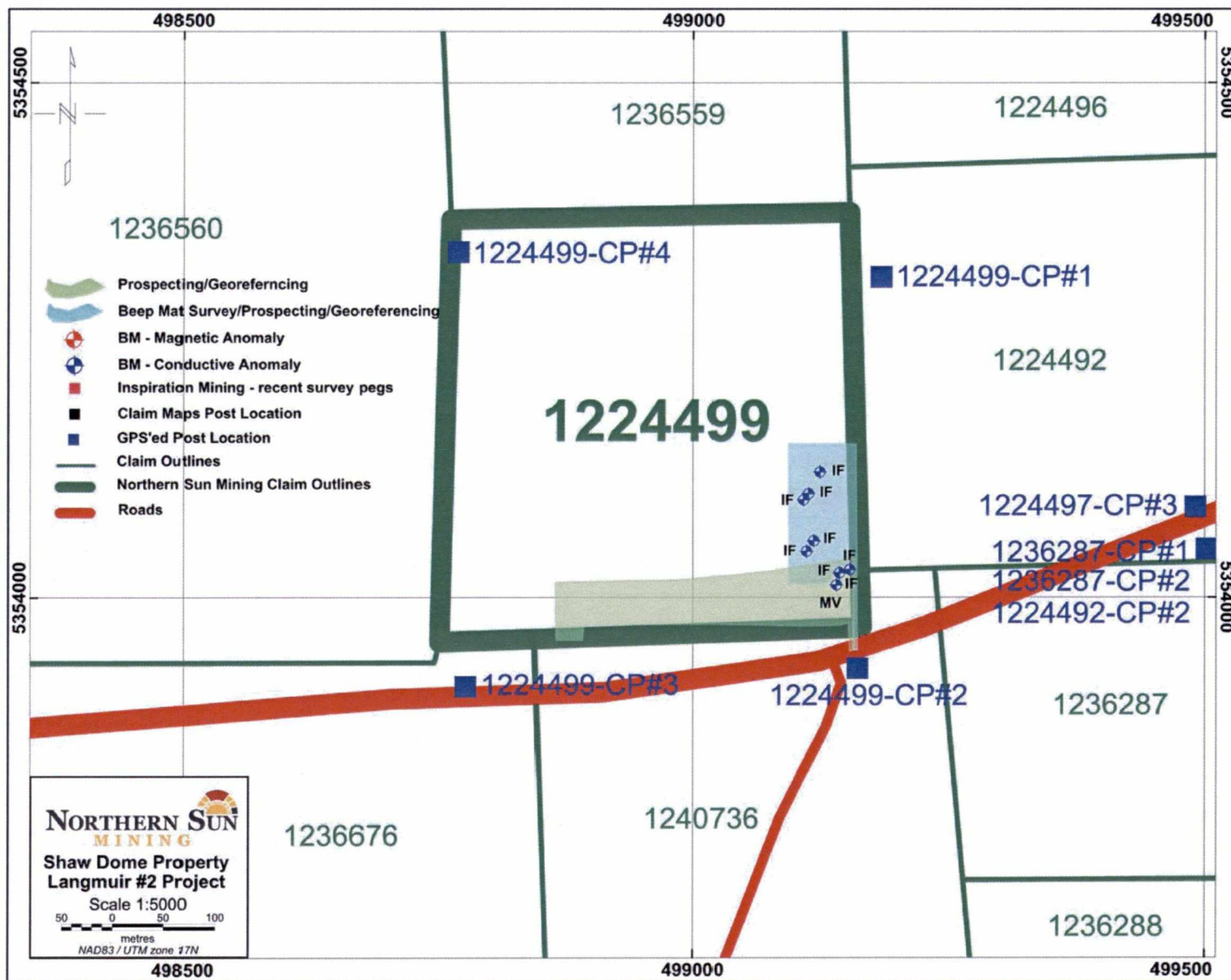
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## Langmuir #2 Project – 2015 Prospecting Report

### 8.0 APPENDIX B - LANGMUIR #2 – 2015 DAILY LOG

#### June 2015

I, Todd Mathieu, mobilized from the Redstone Mine Site late morning to mining claim 1224499. Along the northern side of the road on the southeastern portion of the claim, there is a small pool of water with what appears to be an outcrop that has been stripped of its overburden. It is unclear if this is related to exploration or if the overburden was removed for mining purposes at the Langmuir #2 Mine Site/tailings area. Within the exposed outcrop there is an iron formation which seems to be at the contact of a fine grained mafic volcanic/possible peridotite. Although abundant sulphides are available within the iron formation (Po, Py), there are no minerals of economic interest. Prospecting was completed further west in a zig zag pattern along the rise in topography, but no additional outcrops were noted due to the thickness of overburden. The vegetation remained mixed bush west of the exposed outcrop with short tags, balsams, cedar along the main road. Due to the lack of outcrop, it was decided to postpone the prospecting until a Beep Mat 8 survey unit could be rented. I began to review the Langmuir #2 mine site with the idea of georeferencing key points for the GIS compilation, but in the process it was discovered that a neighboring claim has recently been surveyed to bring to lease. Two recently erected posts for the survey are clearly encroaching onto the Northern Sun Mining claim 1224497. The work program was put on halt to deal with the MNDM on this issue.

0.5 day Todd Mathieu

#### October 6, 2015

My helper, Tyler Breadmore, and I, Todd Mathieu, mobilized from my home in South Porcupine to the Langmuir #2 Project on mining claim 1224497. We began with Beep Mat surveying, prospecting, georeferencing all surface structures, cement pads, trails and roads around the Langmuir #2 mine site. Unfortunately the overburden in the area is extremely conductive. It is unclear whether this is related to mining activities or the several large iron formations spread out through the local area causing the overburden to be conductive, but the Beep Mat unit never stopped beeping (indicating a constant conductor). To verify that the unit was not malfunctioning, the unit was driven up the road to claim 1224499 and tested otop of the exposed outcrop. The unit responded fine during the test. For this reason we then surveyed north of the outcrop locating several Beep Mat anomalies. At each anomaly we proceeded to strip back the overburden and sample bedrock. A total of 8 anomalies were found and verified. Each appear to be iron formation, and was tested using a handheld XRF. Each proved to contain no mineralization of economic interest.

1 day Todd Mathieu & helper

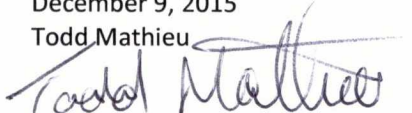
#### October 7, 2015

My helper, Tyler Breadmore, and I, Todd Mathieu, mobilized from my home in South Porcupine to the Langmuir #2 Project on mining claim 1224497. We once again began with Beep Mat surveying, prospecting, georeferencing around the area of the subsidence/historical mine collapse which is now water filled. The Beep Mat once again proved ineffective due to the highly conductive overburden. Once again the newly established survey posts from the neighboring company were verified for boundaries and due to the huge discrepancy in location, the rest of the field work for the project was put on hold as the boundaries of the claims could vary up to 60 meters. The original plan/budget for 2015 was 7-10 field days, but was cut short to 1 full day and 2 half days while we wait for the MNDM to resolve the issue with the recent survey discrepancy.

0.5 day Todd Mathieu & helper

December 9, 2015

Todd Mathieu



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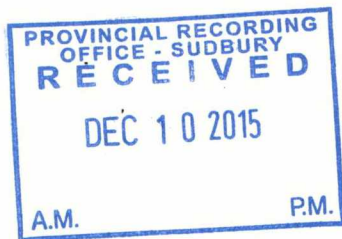
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*16*

**COMMENTS:**

Thanks,

Client Services Advisor  
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