

# St Dizier Geochemical Survey 2013-14

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## Executive Summary

During the field season of December 2013 - February 2014 a geochemical soil sampling program was conducted around the St Dizier prospect with the objective of identifying proximal drill targets.

Three sample areas were selected over identified low level magnetic anomalies. The locations were identified as North St Dizier, South St Dizier and North Central. The three areas were sampled in a 100 x 20m grid using a hand auger to retrieve soil from the B soil horizon. A total of 159 samples were collected and sent to the Burnie Research Lab to be assayed. Results show low levels of tin. Five samples produced high tin readings but could be explained by reasons not associated with mineralisation thus further investigation is not warranted.

## Introduction

From late December 2013 to early February 2014 a geochemical soil sampling program was conducted around the St Dizier prospect. Located 18km Northwest of Zeehan adjacent to the Heemskirk Road, St Dizier is a remote area of button grass country and thick Tea Tree scrub. Rock out crop is sparse with only one sighting of granite in the south west.

Samples were collected at 20m intervals along lines 100m apart over each of the anomalous targets. A total of 159 samples were collected.

## Aim and Objective

The aim of this field work was to complete a geochemical survey over three geophysical target areas with the objective of identifying new proximal drill targets around the St Dizier prospect.

## Equipment and Materials

Handheld GPS (Garmin 60CSx)	Hand Auger	Laptop Computer
4 sample tags books (50 tags per book)	Poly Bags	Stationary
159 Labeled Sample Bags	Zip Ties	Marking Tape

Table 1: Equipment and Materials

## Methods

### Site Selection and Sample Arrangement

Using the magnetic survey image taken over the St Dizier locality three anomalous target areas were identified, North Central, North and South St Dizier. The targets were covered with a grid sample pattern with the anomaly located in the center.

Easting and Northing coordinates were determined for one corner of each site to mark a starting point.

### Locating the Sample Sites in the Field

Using a handheld GPS the starting Easting Northing coordinates were located in the field. From the starting coordinate samples were collected along an East-West line at 20m intervals. Once the line had been sampled, the new sample line would be located 100m North or South of the previously completed line. The sampling process would be repeated until the grid had been completed. Each sample location is marked on the GPS as a 'waypoint'.

### Sample Collection

Samples were collected using a hand auger from the B soil horizon. Sample material in the auger was emptied into a small drawstring calico bag and tied to keep the sample material contained.

The calico bag is labeled both on the outside, with sample number, and inside with a corresponding numbered tag.

In the tag butt book the following information is recorded: waypoint number, Easting and Northing, elevation, depth and any other notable features about the sample location.

### Rehabilitation

Once all data at the site had been collected and recorded holes were back filled with soil.

### Data Handling

The GPS data is loaded onto the laptop and added to the spread sheet with the corresponding sample number. Depth and any other notes recorded in the sample tag butt book were added manually.

### Assaying

Once all descriptions of samples had been completed samples were placed into poly bags, zipped tied up and labeled with the range of sample numbers contained.

Samples were delivered to the Burnie Research Lab to be assayed.

## Results

The 159 samples collected over the three areas predominantly show low levels of tin anomalism.

North Central had the lowest levels of tin with no anomalism. North St Dizier followed with two anomalous readings. The highest readings were South of St Dizier with two anomalous readings.

The three areas are discussed individually below.

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**Figure 1: St Dizier Tin Assay Results**

## Discussion

### North Central

The North Central sample area was the most difficult area to access. Thick vegetation made samples difficult to attain, reflected by the incomplete sample lines in figure 1.

The area yielded the lowest tin levels, predominately within background levels. There is conjecture whether the magnetic anomaly is in response to a basaltic dome feature rather than mineralization. The dome is characterised at the surface by a steep topographic rise of approximately 20m, covering an area between 50 and 100 square meters. The dome is densely vegetated with Eucalypt species, different to that of the shrubs surrounding, supporting the idea that there is a change in geology at this site.

To complete the sample program as planned tracks would have to be cleared through the vegetation as access is currently restricted.

### North St Dizier

North St Dizier was sampled with relative ease and completed as planned. This area yielded low tin levels over the target area, predominately within background levels.

There were two isolated anomalous readings in the north west corner of the survey area of 1000ppm and 1800ppm. An intensive follow survey was conducted around the anomalies however tin remained at background levels. The anomalous samples were collected between a road cutting along the Heemskirk road and an Aurora power pole access track thus the sample material may not have been in situ and thus the sample contaminated.

### South St Dizier

South St Dizier was difficult to access. The planned sample lines ran across a steep, densely vegetated gully which lead into a damp creek bed. Despite the challenging topography the majority of samples were collected as planned. The area yielded low tin results.

The highest results were collected from a creek bed. Two high readings of 3140ppm and 3900ppm were collected 20m apart and 100m North of this location was a reading of 1180ppm.

The high readings, however, do not necessarily suggest that there is significant mineralisation. The fact that the samples were collected in a creek bed raises the question as to whether the tin is in-situ or washed in. Furthermore, in close proximity to the sample area, which generated tin values greater than 3000ppm, there is evidence of historic alluvial workings. Trenches up to two meters deep were located within 15m of the sample site and therefore the sample material is likely to be tailings from alluvial mining.

## **Conclusion**

The completed field work over the 3 geochemical survey areas did not produce significant tin anomalism to warrant follow up investigation in any of the 3 areas. The anomalous tin results can be explained with reasons not associated with mineralisation but from contamination due to road works and historic alluvial workings.