EL26534

HELEN SPRINGS PROJECT

ANNUAL AND FINAL REPORT

for the period ending 1 August 2012

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Tenement Holder: Sinosteel Australia Pty Ltd

Exploration Operator: Sinosteel Australia Pty Ltd

Tenement type and number: EL26534

Commodities sought: Mn and Cu

Map Sheets: 1:250K Helen Springs SE53-10

1:100K Helen 5661 and Monmoona 5761

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EXECUTIVE SUMMARY

Tenement number EL26534 was granted on 1 August 2008, and is held in the name of Sinosteel Australia Pty Ltd., who is also the operator of the tenement. The tenement has been termed the “Helen Springs Project”. Initially the tenement covered 284 blocks for 926.0 sq kms. The tenure was reduced to 106 blocks for 345.45 sq kms, after the initial 2 year period, on 1st August 2010. Tenure was then reduced again to 53 blocks for 172.72 sq kms, on 1st August 2011. At the completion of the current reporting period Sinosteel are relinquishing the tenement following disappointing drilling results for a primary Manganese target or a secondary carbonatite target.

A review of open-file geology and geophysical data conducted by Sinosteel Australia during the initial 2008/2009 reporting period had indicated that the Bootu syncline may continue into the tenement and that the Bootu Formation hosting the Bootu Creek Mn mineralisation may form part of an anticline and syncline under Cainozoic regolith cover in the south-eastern part of the tenement and in a narrow strip along the central western side of the tenement. Manganese mineralisation likely formed from low temperature hydrothermal fluids associated with silicification of dolomite deposits, and potential copper mineralisation may be related to mineralising fluids associated with intrusive sources from the Cambrian Helen Springs volcanics.

A RepTEM high-resolution helicopter, time-domain electromagnetic survey was flown in January 2009 over the SW part of the tenement, covering an area of 283 sq kms. Data and preliminary results were provided in the 2008/2009 annual report. Some highly conductive and magnetic bedrock features were identified as potential mineralisation targets, during review of the geophysical and geological data in the 2009/2010 reporting year. A reverse circulation (RC) drill program was designed to test drill targets and a Mine Management Plan (MMP) for drilling operations was submitted during October 2010. During the 2010/2011 reporting period Sinosteel made a site visit to plan drill program logistics, review site environmental conditions, and meet with land owners and station managers.

The MMP for drill operations was approved on 24 November 2010 but a prolonged wet season prevented access to the field areas until June 2011. CSA Global Pty Ltd were contracted to organise and carry out the drilling program. The drilling targets were further refined and the geophysical data were modelled in great detail to better position the drill collars. A senior geologist from CSA Global organised the preparation of tracks and drill pads. Interdrill were contracted to carry out the drilling and a deposit was paid for mobilisation. CSA staff were on site for the start of the drilling campaign, but then the contract with Interdrill was cancelled due to the inability of the drilling rig to get sufficient depth and meter rates on the previous job.

Mackay Drilling completed the program during the period 1 - 9 September 2011. 17 out of 20 planned drill holes were completed. A drilling report has been provided by CSA Global and is appended to this report. CSA Global was also in charge of drill site rehabilitation and a memo is also appended detailing the rehabilitation work completed. No significant mineralisation was intersected in the drilling. Minor veinlets of Mn mineralisation were intersected between 39-40m in drill hole HSRC006, which returned assays of 0.78% Mn. A saprock-saprolite interface within mafics between
44-45m in drill hole HSRC016 also had weak Mn mineralisation, which returned assays 1.78% Mn and 345ppm Cu. Some circular magnetic bodies in the younger volcanic sequence were also drill tested for carbonatite intrusions hosting REE or copper mineralisation. These magnetic bodies were found to be caused by basalt lavas. The drilling database is presented with this report.

Sinosteel Australia is relinquishing the tenement in its entirety, due to poor drilling results.
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INTRODUCTION

Tenement number EL 26534 was granted on 1 August 2008, and is held in the name of Sinosteel Australia Pty Ltd., who is also the operator of the tenement. The tenement has been termed the “Helen Springs project” by the company. For the first 2 years, it covered 284 blocks for 926.0 sq kms. During the current reporting period the tenure covered 53 blocks for 172.72 sq kms.

The tenement area is 120 kms north of Tennant Creek, 25 km east of the Stuart Highway from Helen Springs, and is within 20 kms to the north of OM Holdings’ Bootu Creek manganese mine. The tenement was pegged to explore for manganese and copper mineralisation hosted in the Palaeoproterozoic rocks that sit under the Cainozoic cover, and for possible palaeochannel uranium deposits. The Palaeoproterozoic rocks in the SW part of the tenement likely correlate to the Tomkinson Creek, Namerinni and Renner groups. Most of the Namerinni Group rocks are absent in the tenement, as the Renner Group sits unconformably over the Tomkinson Group due to an erosional unconformity or low angle faulting prior to folding. The Tomkinson Group is the same interval that hosts the most significant manganese and copper mineralisation within the district, the Bootu Creek manganese deposits being mined along the southern nose of the Bootu Syncline.

The main target sought after is Bootu style and other forms of manganese mineralisation, copper mineralisation similar to that recently discovered at Bootu Creek, and volcanic/intrusion related REE or copper mineralisation. The massive zones of manganese mineralisation at Bootu Creek are predominantly cryptomelane and a range of other manganese oxide minerals, most of which are conductive (Ferenczi, 2001; Scriven and Munson, 2005). The source of the manganese is believed to be basalt rocks that were leached by hydrothermal fluids, with the manganese precipitated in the dolomitic stratigraphy, and then later enriched by supergene processes (Ferenczi, 2001; Scriven and Munson, 2005). This type of deposit style is very similar to Mn mineralisation at the Woodie Woodie mine in Western Australia that can usually be targeted using helicopter borne electromagnetic methods (Meyers, 2003; Hashemi, 2005).

A helicopter time-domain electromagnetic (HEM) survey was flown over the more prospective Neoproterozoic geological terrain interpreted to underlie Cainozoic cover in the southern part of the tenement during the 2008/2009 reporting period. Data processing and analysis of the REPTEM helicopter EM survey were completed during the 2009/2010 reporting period. Final targeting, drill planning and drill site preparation were completed during the 2010/2011 reporting period. This report covers the RC drill program completed during this reporting period.
The project area is in the NTGS Helen Springs 1:250,000 scale geological map sheet SE53-10 (Hussey et al., 2001). This map sheet shows that rocks of the Proterozoic Upper Tomkinson Creek Group host the Bootu style manganese mineralisation in this region. The Tomkinson Creek Group is a ca. 1.8 Ga succession of shallow marine and continental sedimentary rocks that form part of the Ashburton /Tomkinson Creek Province of the Tennant Creek Inlier. The Bootu Formation is the host rock to the currently mined manganese mineralisation, where the manganese bearing horizon at Bootu creek can be traced around the nose of the Bootu Syncline for some 24 km. These units continue under the transported regolith and Cambrian sedimentary cover to the northeast, but their extent and cover thickness are unknown.

The southern tenement boundary is 20 kms north of the Bootu Creek manganese mine. The mine is owned by OM Holdings Ltd and operated by its wholly owned subsidiary, OM (Manganese) Ltd. The mine commenced operations in 2005 and OM has published mineral resources (including ore reserves) of 15.9 Mt at 25% Mn, estimated using a cut-off grade of 18% Mn (Scriven and Munson, 2005). The mineralisation forms shallow dipping seams of massive Mn mineralisation hosted in mudstone and dolomitic siltstone units in the nose of the Bootu Syncline. The host rocks are approximately 1.8 Ga old and the manganese mineralisation likely formed as low temperature hydrothermal deposits (Ferenczi, 2001; Scriven and Munson, 2005). The manganese mineralisation is usually conductive and can be identified at depth using electromagnetic methods (Ferenczi, 2001; Scriven and Munson, 2005). Recently, Cu mineralisation has been identified by drilling stratiform conductivity anomalies near the Mn mineralisation, and this type of mineralisation will also be targeted in the Sinosteel tenement.

There are no known mineral occurrences within the tenement due to transported regolith cover. The geology is mostly transported regolith cover of Quaternary sand, colluvium, and alluvium. The core of the Bootu Syncline occurs in the SW part of the tenement, and the Bootu Formation may occur in the SE part of it. However, vertical faulting, unconformities and possible low angle faulting has juxtaposed rocks from different stratigraphic levels within the exposed Proterozoic areas. Therefore, the structures and stratigraphy under Cainozoic cover in the project area are unknown and hard to predict due to the lack of drilling data.

NTGS has mapped the surface geology, and have carried out regional aeromagnetic surveying using 400m spaced E-W flight lines and very widely spaced gravity surveying. These data show the magnetically quiet nature of the Tomkinson Creek group sedimentary deposits with some magnetic, flat laying features suggested to be lava flows in the Cambrian sequence. The higher gravity response is likely related to thick dolomite and volcanic rock units at depth. However these data sets do not provide enough detail to interpret structures and stratigraphy below the Cainozoic cover, and they are unable to predict the cover thickness across the tenement.

During the 2008/2009 reporting period, Sinosteel flew a RepTEM airborne electromagnetic survey to map conductive units with depth, look for conductivity anomalies that may correspond to
mineralisation, and get detailed magnetic information to improve the resolution over the existing government data.

During the 2009/2010 reporting period final data processing of the RepTEM data were carried out. A number of geophysical and geological GIS compilation plans were generated at 1:100,000 and 1:50,000 scales. These plans were provided in digital form with the 2009/2010 annual report. Detailed RepTEM data processing, geological bedrock and structural interpretation, target generation and prioritisation, and target modelling were completed to identify drilling targets. Some highly conductive and magnetic bedrock features were identified as potential mineralisation targets.

A reverse circulation (RC) drill program was designed to test drill targets and a Mine Management Plan (MMP) for drilling operations was submitted to the NTGS. The MMP was approved on 24 November 2010. Unfortunately, a prolonged wet season prevented site access until June 2011. CSA Global were contracted to organise and supervise the drilling program. Track clearing was commenced using a local contractor. A contract was signed with Interdrill to complete the drilling program, but that contract had to be cancelled due to Interdrill’s poor performance on their prior job, so the drilling program was delayed until the current 2011/2012 reporting period.
3 EXPLORATION COMPLETED DURING THE REPORTING PERIOD

During this reporting period, an RC drilling program was carried out by Mackay Drilling. CSA Global supervised the drilling program over the period 1 to 9 September 2011. A report on the drilling program has been provided by CSA Global and is appended to this document:

EL26534_2012_02_CSAGlobal_drilling_report.PDF

A memorandum by CSA Global and supporting photographs, detailing the drill site rehabilitation are also appended:

EL26534_2012_03_CSAGlobal_rehabilitation_memo.PDF
and
EL26534_2012_04_CSAGlobal_rehabilitation_photo_record.PDF

17 out of the 20 planned holes were completed for a total of 2,052m. Final drill collar locations are shown over interpreted bedrock geology in Figure 1. Drilling data are provided in digital format and appended to this report:

EL26534_2012_05_drill_data.ZIP

A 1 to 3 kg sample of rock chips was split from every metre drilled using a cone splitter. A small sieved sample of every metre drilled is currently preserved in chip trays at CSA Global's Darwin office. Selected rock chip samples were sent to Amdel Mineral Laboratories for assay, using either 1m cone split or 4m spear composite. Amdel prepared the samples for assay by pulverising the whole sample to 85% passing 75 microns, and taking a 250g split. Assay method used was “multi-acid digest with ICP-OES finish”. In total, 41 samples were assayed from 7 drill holes. No significant mineralisation was intersected in the drilling.

Minor veinlets of Mn were intersected by drill hole HSRC006 and assayed up to 0.78% Mn. Another metre wide interval of weak Mn mineralisation was intersected by drill hole HSRC016, which returned assays of 1.78% Mn and 345ppm Cu. No other significant results were returned.
Figure 1: Drill hole collar locations over interpreted bedrock geology. The interpreted geology has been simplified for this map to reduce clutter at this scale.
4 DISCUSSION OF RESULTS

The drill targets were mainly magnetic and electromagnetic targets. CSA Global interpreted that the magnetic targets may be explained by a non-mineralised mafic rock. CSA Global also suggested that no obvious conductors were intersected in the majority of drilling, but that aquifers at unconformity surfaces and fracture zones, and elements of the regolith and cover sequence may give rise to the EM anomalies.

No significant mineralisation was intersected by the drilling program. The interpretation that Mn mineralisation may extend into the central western part of the tenement may have been confirmed by the presence of weak Mn mineralisation in drill hole HSRC006. The magnetic anomalies that were drill tested were not found to be caused carbonatites, but were found to be barren basalt. The assay results are not considered by Sinosteel to be high enough to warrant further exploration in this area.

5 SAFETY AND ENVIRONMENT

There has been no safety or environmental incidents in the current reporting year.

The drill site rehabilitation was organised by CSA Global. A memorandum by CSA Global and supporting photographic record are appended to this report:

EL26534_2012_03_CSAGlobal_rehabilitation_memo.PDF

and

EL26534_2012_04_CSAGlobal_rehabilitation_photo_record.PDF

Rubbish was removed from all drill sites. Collar pipes were removed and holes were permanently capped using cement plugs. Sample piles were levelled out using a grader. The project area is covered by mobile Eolian sands, which means that the drill pads should quickly become indistinguishable from the surrounding area.
6 REFERENCES

- Curtin R&D Now, 2004, Fields of attraction, Research Highlights Curtin University, p. 17.
- Scriven, N.H. and Munson, 2005, Manganese in the sand and spinifex, Bootu Creek area, Northern Territory: in Munson T.J. and Ambrose, G.J. (Eds) Central Australian Basins Symposium, NTGS Special Publication 2.

KEYWORDS

Sinosteel, Helen Springs, manganese, copper, RepTEM, helicopter electromagnetic survey, bedrock interpretation, magnetic modelling, HEM inversion, drill program, reverse circulation (RC)