



SANDFIRE RESOURCES NL

EL26833 'NORTH BATTEN' PROJECT

PARTIAL RELINQUISHMENT REPORT 2019

REPORTING PERIOD 09/06/2009 - 09/06/2019

TENEMENT HOLDER:	SANDFIRE RESOURCES NL
TENEMENT OPERATOR:	SANDFIRE RESOURCES NL
TARGET COMMODITIES:	CU-PB-ZN
MAP SHEET:	MOUNT YOUNG SD5315

Distribution

Department of Primary Industry and
Resources (DPIR)

Digital (EL26833_201906_P)

Sandfire Resources NL

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(EL26833_201906_P)

**BIBLIOGRAPHIC DATA SHEET**

Project Name	North Batten Project
Group Reporting No	GR121-13, GR321-13, GR504
Tenement Number	EL26833
Tenement Operator	Sandfire Resources NL
Tenement Holder	Sandfire Resources NL
Report Type	Partial Relinquishment Report
Report Period	9 June 2009 – 9 June 2019
Date of Report	11 August 2019
Authors	M. Reid, A. Wynne, L. Collier, Sandfire Resources NL
1:250,000 Map sheet	MOUNT YOUNG SD5315
1:100,000 Map sheet	Tawallah Range 6066
Target Commodity	Cu-Pb-Zn
Keywords	Stream Sediment Geochemistry
Map Projection	MGA94 Zone 53
Location	65km North Northwest of Boroloola town site
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**ABSTRACT**

EL26833 forms parts of Sandfire's Borroloola project which is located in the McArthur Basin. The McArthur Basin contains volcanic rocks and related intrusive igneous rocks and is a prime target for SEDEX type economic sulphide deposits. The Borroloola project is also prospective for sedimentary manganese mineralisation, similar to the nearby world-class Groote Eyelandt manganese deposit in the Gulf of Carpentaria.

Sandfire submitted a partial surrender on 22 May 2019 to relinquish 7 blocks from EL26833. Approval of the partial surrender was received from DPIR on 18 June 2019.

Under the provisions of section 94(2)(e) of the MTA and regulation 86(4) and (5) of the Mineral Titles Regulations 2011 this is a final report relating to the reduced area of 7 Blocks from EL26833.

Within the period 2009 to 2013, prior to the term of the Joint Venture with MMG, Sandfire dominantly focussed on the retained portion of EL26833 where drilling was undertaken. Subsequently, within the term of the Joint Venture with Sandfire, MMG collected 12 stream sediment samples across the relinquished portion of EL26833 in 2014-2015. The samples were analysed at both coarse and fine fractions to assess for proximity and homogeneity indicators. Samples taken from the relinquished portion of EL26833 did not exhibit anomalous geochemistry in any of the elements analysed. Ultimately it was interpreted that the areas of main interest for the tenement lie within the retained portion of EL26833.



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1. LOCATION AND ACCESS

EL26833 is located about 660km southeast of Darwin and approximately 400km east south-east of Katherine in the “Gulf Country” of the Northern Territory, Australia. On the eastern boundary are the township of Borrooloola, the McArthur River (HYC) Mine, and its loading facility at Bing Bong on the Gulf of Carpentaria. To the south is Cape Crawford and to the northwest is Roper Bar.

Access to the project is via the Stuart, Carpentaria and Tablelands Highways and a network of station tracks. Access deteriorates significantly on unsealed roads in the north where multiple creek crossings need to be negotiated. Each wet season results in substantial damage to most creek crossings which need to be re-established.



Figure 1-1: Borrooloola Project Location

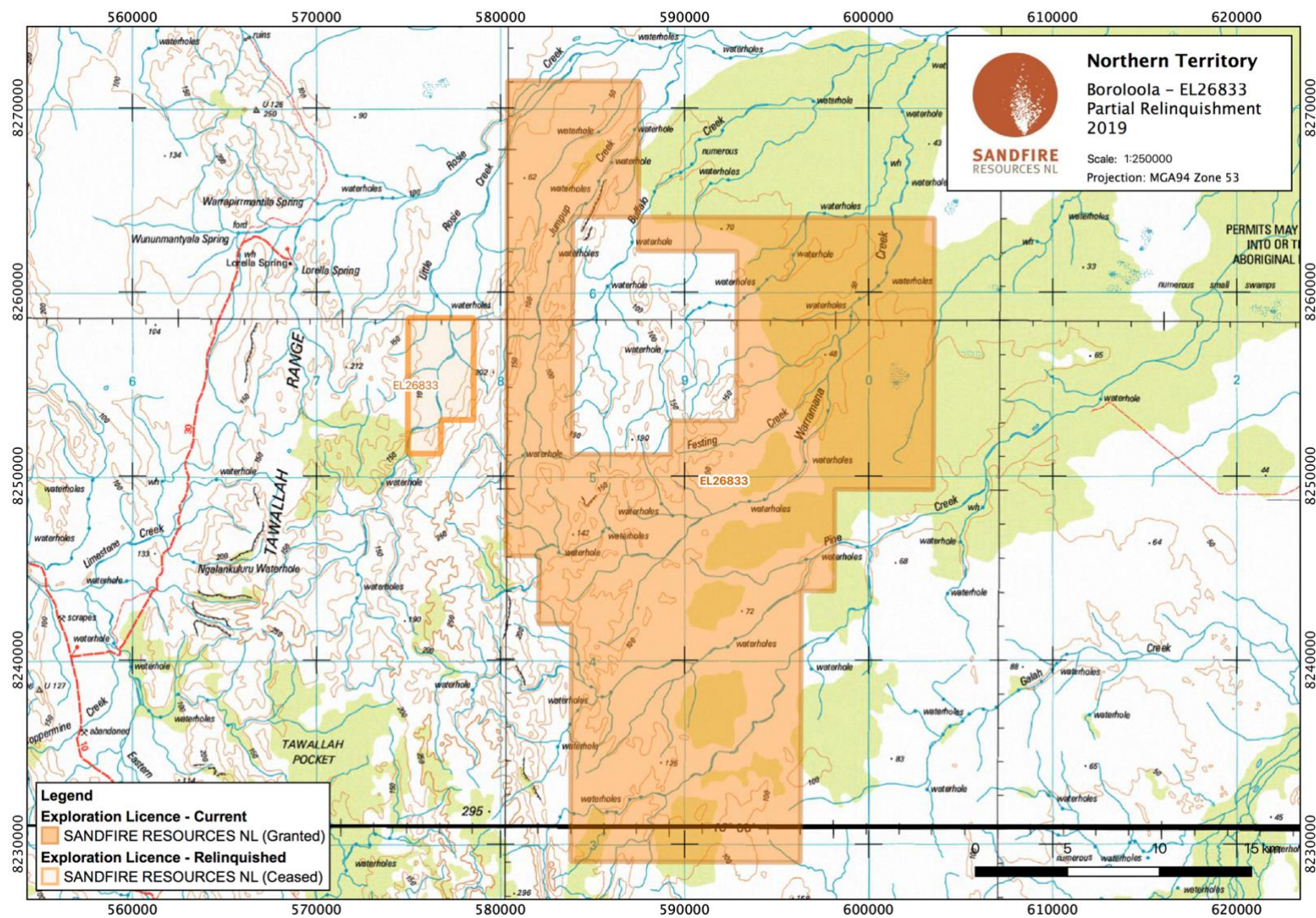


Figure 1-2: EL26833 Location and Access



2. TITLE

2.1 Tenement Details

28 Contiguous Exploration Licences in the central part of Sandfire Resources NL ('Sandfire') Borroloola Project were surrendered on 9 June 2009 in lieu of 7 Substitution Exploration Licences being, SEL26831, SEL26833, SEL26835, SEL26836, SEL26837, SEL26938 and SEL26939.

Subsequently SEL26833 was granted on 9 June 2009 over 380 sub-blocks for a period of 4 years with an expiry date of 8 June 2013.

Waivers of Reduction for all of the abovementioned SEL's were submitted on 21 May 2010. The Waivers of Reduction were subsequently refused and following a meeting with the Department of Primary Industry and Resources (DPIR), agreement was reached to relinquish 25% of each tenement, rather than the originally programmed 50% of the total tenement area. In total, 750 sub-blocks were partially relinquished from the seven SEL's on 25 January 2011. SEL26833 partially relinquished 98 sub-blocks during this process and retained a total of 282 sub-blocks.

On 29 May 2013 MMG Exploration Pty Ltd ('MMG') executed a Joint Venture Agreement with Sandfire, this Joint Venture Agreement originally contained 2 Applications and 7 Exploration Licenses which included SEL26833 and was referred to as the North Batten project. From 29 May 2013 the North Batten tenements were operated by MMG in joint venture with Sandfire.

A Renewal for a further 2 year term together with a Waiver of Reduction was lodged on 31 May 2013 and was subsequently granted on 31 January 2014. The expiry date of SEL26833 was then amended to 8 June 2015.

On 25 June 2013, notice was received from DPIR to split the seven aforementioned SEL's which formed part of the North Batten project, so that each tenement did not exceed the maximum allowable 250 sub-blocks under the Mineral Titles Act 2010. SEL26833 was one of these tenements with the total number of blocks making up the tenement being 282 sub-blocks. The nominated areas for compulsory division of SEL26833 were lodged with DPIR on 26 August 2013. The new tenement number allocated for the split area of EL26833 was EL30137. EL26833 retained 183 blocks and EL30137 obtained 99 blocks from the split. A grant notice for the split was received 14 January 2014 and the grant was backdated to 8 June 2009 as there was no lapse in tenure.

EL26833 was originally part of the Borroloola Amalgamated Reporting Group (GR121/131) which was held by Sandfire. A request to amend the Borroloola Amalgamated Reporting Group (GR121/13) to remove the North Batten Joint Venture tenements from the Borroloola Project so they can form a new Amalgamated Reporting Group was submitted on 11 September 2013. Approval of the amendment request was accepted on 13 September 2013.

As a result of the above amendment, a request was subsequently made to create a new Amalgamated Reporting Group for the North Batten project on 17 September 2013. Approval was received from DPIR on 18 September 2013 and given an Amalgamated Reporting Group ID of GR321-13.

A Renewal for a further 2 year term together with a Waiver of Reduction for EL26833 was lodged on 29 May 2015. Approval for the Renewal was received on 19 January 2016 for a period of 2 years with an expiry date of 8 June 2017, retaining the entire area of 183 blocks.

A further Renewal for another term of 2 years together with a Waiver of Reduction for EL26833 was submitted on 26 May 2017 and approved by DPIR on 31 January 2018. The new expiry date for EL26833 was amended to 8 June 2019 and the entire area of 183 blocks was retained.

On 20 March 2019, MMG gave notice to Sandfire of its election to withdraw from the North Batten Joint Venture Agreement. The withdrawal took effect on 21 April 2019, being 30 full days after the date of receipt of withdrawal. As of 21 April 2019 Sandfire became the appointed manager and beneficial holder of the North Batten project.

A Transfer of Mineral Title of MMG's 60% interest in EL26833 and other tenements within the North Batten project back to Sandfire was submitted to DPIR on 13 June 2019. The transfer was subsequently approved on 17 June 2019 and Sandfire returned to full ownership of all North Batten tenements.

Sandfire submitted a partial surrender on 22 May 2019 to relinquish 7 blocks of the tenement area. Approval of the partial surrender was received from DPIR on 18 June 2019, see Figure 2.1: EL26833 2019 Relinquished and Retained Portions, Table 1 and Table 2.

A renewal application for 2 years was applied for on the 24 May 2019. At the time of writing this report, the Renewal is still subject to review and approval by DPIR.

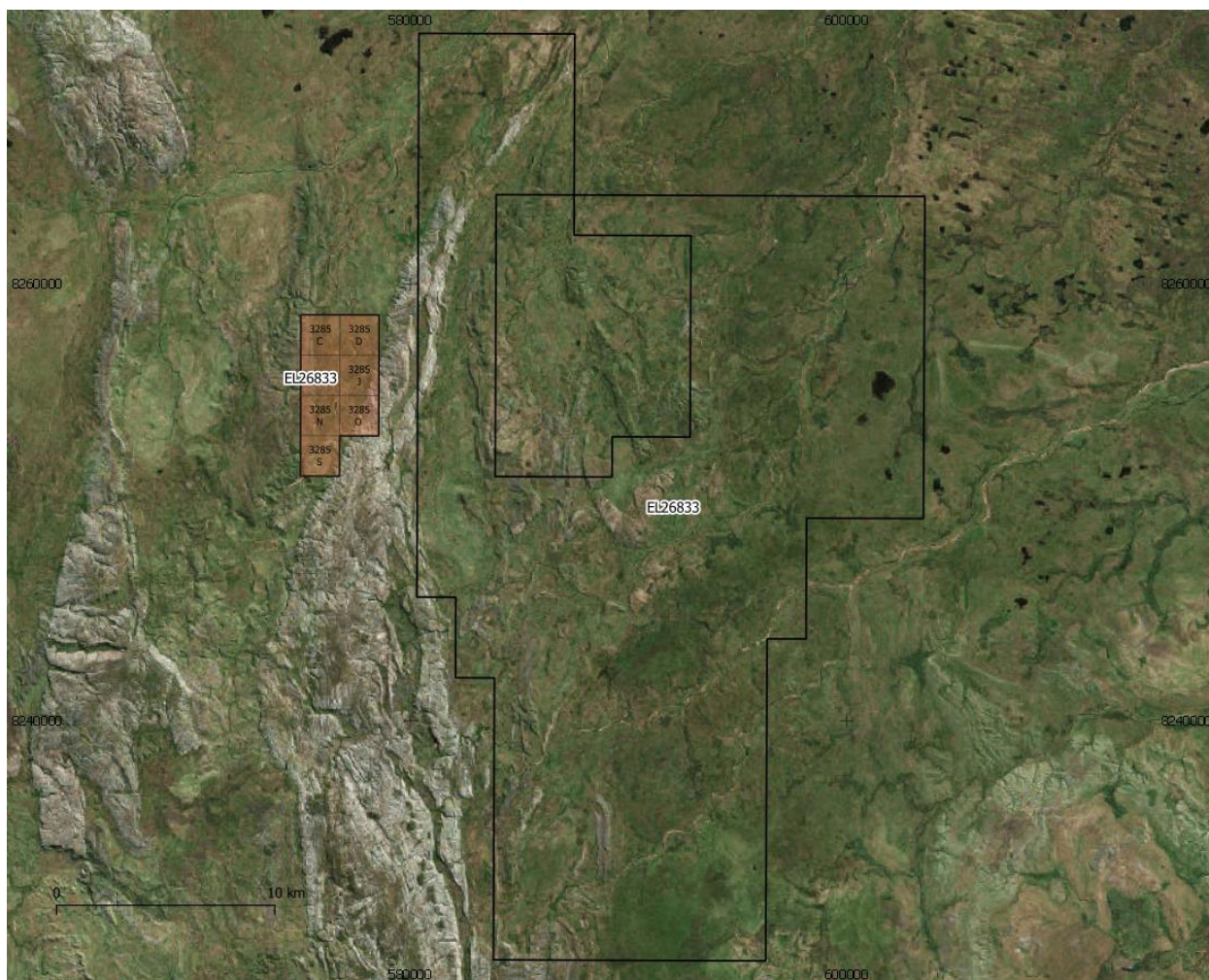


Figure 2.1: EL26833 2019 Relinquished and Retained Portions



Table 1 - EL26833 Blocks to be Relinquished

Primary Block	Graticular Block(s)	Number of Blocks
3285	C D H J N O S	7
Total		7

Table 2 - EL26833 Blocks to be Retained

Primary Block	Graticular Block(s)	Number of Blocks
3142	QRSTUVWXYZ	8
3214	ABCDEFGHJLMPQRVW	15
3215	LMNOPSTUXYZ	11
3216	LMNQRSVWX	9
3286	ABFGLMQRVWXYZ	13
3287	CDEHJKNOPQRSTUVWXYZ	19
3288	ABCFGHLMNQRSVWX	15
3358	ABCDEFGHIJKMNOPRSTUXYZ	21
3359	ABCDEFGHIJKLMNOPQRSTUVWXYZ	23
3430	CDEHJKNOPSTUXYZ	15
3431	ABCDEFGHJLMNOQRSTUVWXYZ	20
46	CDE	3
47	ABCD	4
Total		176

Table 3 - North Batten Project EL26833 - Tenement Status

Year	Grant and Renewal	Graticule Blocks	Partial Surrender	Expiry
0	09/06/2009	380	Compulsory division of 99 blks to form new EL30137/Renewal	08/06/2013
4	31/01/2014	183	Renewal/Waiver	08/06/2015
6	19/01/2016	183	Renewal/Waiver	08/06/2017
8	31/01/2018	183	Renewal/Partial Surrender 7 Blks	08/06/2019
10	Pending	176		08/06/2021



2.2 Native Title

EL26833 is subject to the Lorella Downs Native Title Claim (NTD6016/2000) in the northern portion of the tenement. The Lorella Downs Native Title Claim was filed on 5 December 2000 and accepted for registration by the Federal Court of Australia on 4 January 2001. The Native Title Claim is still awaiting determination.

The McArthur River Pastoral Lease Native Title Determination (NTD17/2014) covers the southern portion of EL26833. The McArthur River Pastoral Lease Claim was filed on 13 June 2014 and subsequently determined by the Federal Court of Australia on 26 November 2015.

2.3 Land Holders

EL26833 overlies the Lorella Springs pastoral lease (PL757 Lorella Springs NT Por. 1333). Geology, Mineralisation and Exploration Rationale.

3. GEOLOGY AND MINERALISATION

3.1 Geology, Mineralisation and Exploration Rationale

The McArthur Basin is a large sedimentary basin with an exposed area of about 180,000 km. Most of it lies within the north-eastern Northern Territory, and it extends over the border into the state of Queensland. Thick marine and non-marine sedimentary rocks were deposited from the late Palaeoproterozoic to the early Mesoproterozoic (1800-1430 Ma). The Borroloola Project area lies within the Batten Fault Zone (BFZ) where sediments of the Tawallah, McArthur and Roper Groups rest unconformably on the Scrutton Volcanics, and are partially concealed by Cretaceous and Tertiary sediments.

As a base metals target, the McArthur Basin contains sedimentary, volcano-sedimentary and intrusive lithologies and is a prime target area for SEDEX deposits. This type of deposit holds 50% of the world's zinc and lead reserves, and make up around 25% of world zinc and lead production. In particular the McArthur Basin hosts the world-class McArthur River (HYC) zinc-lead-silver deposits in close proximity to the northerly trending Emu Fault Zone along the eastern margin of the Project area. The Batten Fault Zone may also be considered prospective for stratiform (red-bed) copper and structurally controlled base metal mineralisation (Mississippi Valley Type). Around the margins of the Lorella Pocket the Mallapunyah/Masterton Formations contact may host red-beds style mineralisation within the Masterton Sandstone. There are some subtle EM features which probably correspond with black shales and may or may not have relevance to the conceptual target horizon. Within the McArthur Basin stratigraphic sequence, siltstone and dolomite lithologies may have provided hosts for replacement lead-zinc mineralisation analogous to the MVT deposition style.

The north and north-east, the project area covers ground prospective for cretaceous nodular manganese analogous to Groote Eylandt, unconformity related uranium analogous to Westmoreland, Queensland and Mesoproterozoic iron ore related to the neighbouring Western Desert Resources specular hematite deposit.



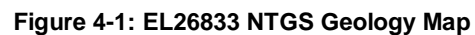
4. EXPLORATION ACTIVITIES

4.1 Summary

Within the period 2009 to 2013, prior to the term of the Joint Venture with MMG, Sandfire dominantly focussed on the retained portion of EL26833 where drilling was undertaken. Subsequently, within the term of the Joint Venture with Sandfire, MMG collected 12 stream sediment samples across the relinquished portion of EL26833. Ultimately it was interpreted that the areas of main interest for the tenement lie within the retained portion of EL26833.

4.2 Surface Sampling

In 2014-2015 a total of 12 stream sediment samples were collected from the relinquished portion of EL26833. These samples were collected as a part of a larger survey conducted in 2014 and 2015 across MMG's North Batten project that collected 1,488 stream sediment samples and aimed to establish a 3.5km catchment. The samples were analysed at both coarse and fine fractions to assess for proximity and homogeneity indicators. Samples taken from the relinquished portion of EL26833 did not exhibit anomalous geochemistry in any of the elements analysed.



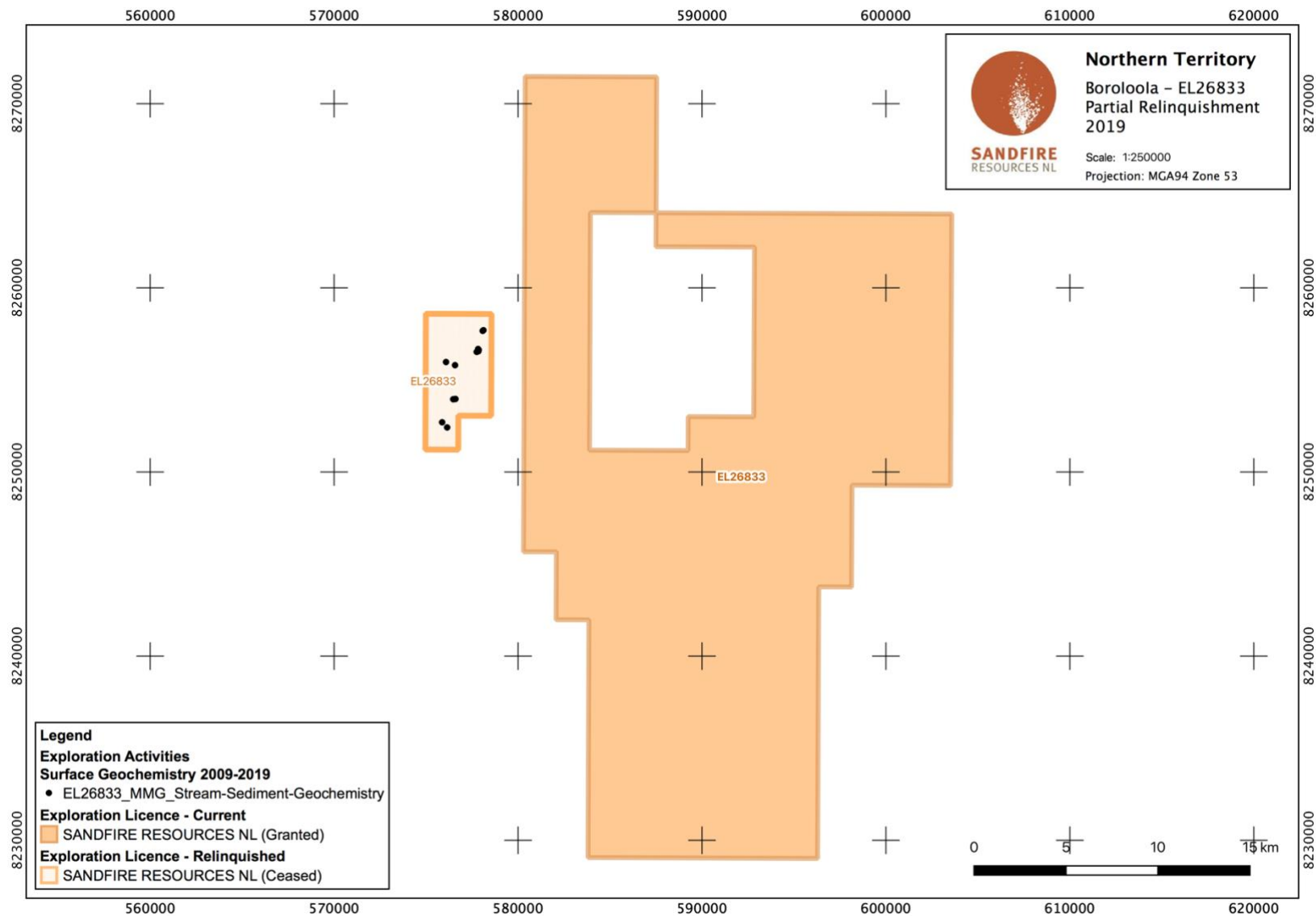


Figure 4-2: EL26833 Exploration Index Plan

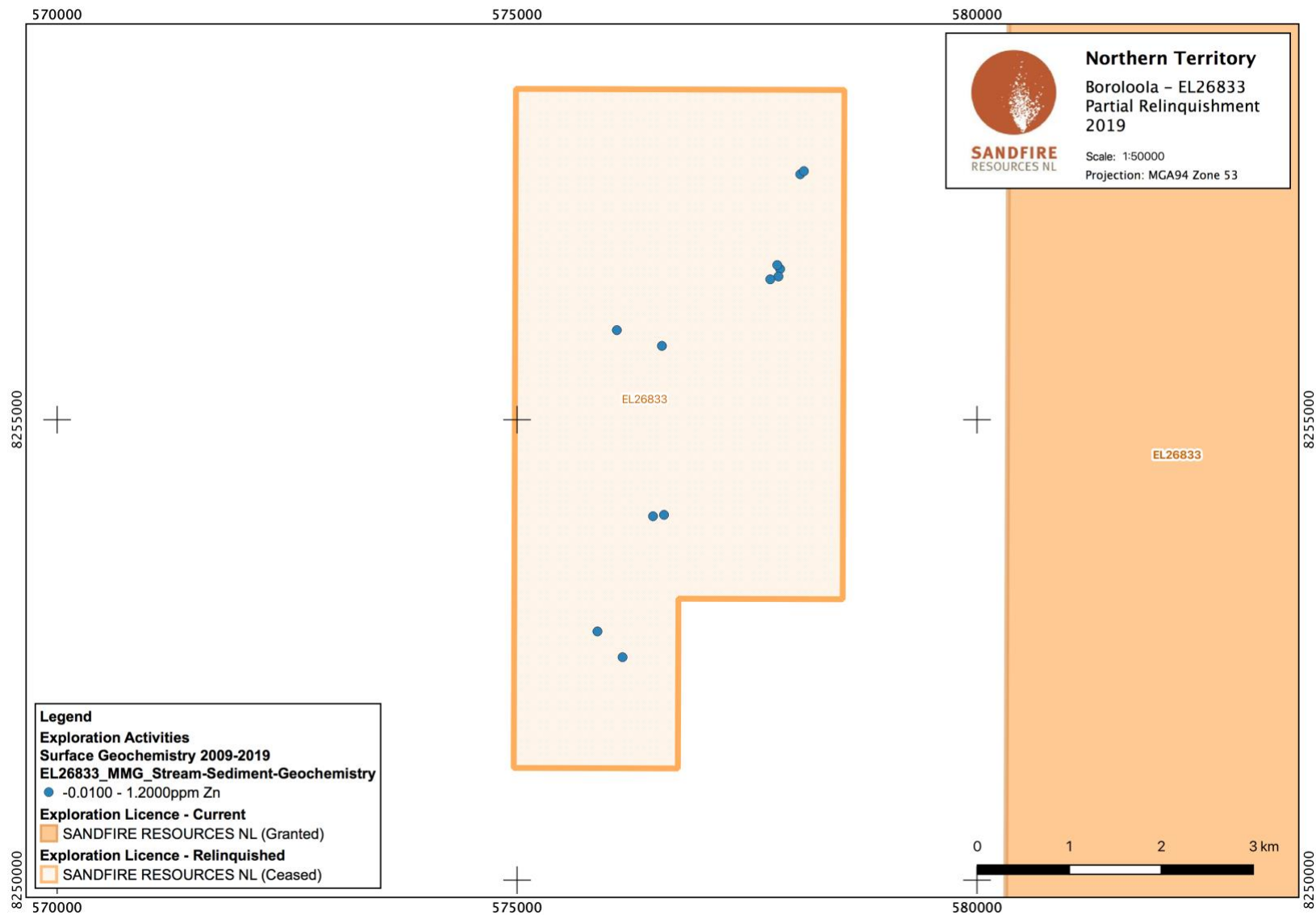


Figure 4-3: EL26833 Zinc Geochemistry



5. PROPOSED ACTIVITIES

No further work is proposed within the relinquished portion of EL26833.

6. CONCLUSIONS AND RECOMMENDATIONS

Sandfire considers the retained portion of EL26833 to be the most prospective portion of the tenement for base metals deposits of the type targeted within the project. The 7 blocks which are the subject of this report were therefore elected for relinquishment.

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APPENDIX 1 SOIL GEOCHEMISTRY