



A P P E N D I X

M

HERITAGE ADDENDUM REPORT



17 January 2020

Charlie Litchfield
Snowy Hydro
PO Box 332
Cooma, NSW, 2630

Dear Charlie

Re. Snowy 2.0 Main Works – Additional Heritage Survey

At the completion of the heritage reporting for Snowy 2.0 Main Works, several areas to the project footprint remained un-surveyed. In the Aboriginal Cultural Heritage Assessment Report (ACHAR) these areas had been added to the individual survey areas described in Section 6.2.2 and were assigned Survey Unit numbers; their location is shown on relevant mapping in Annexure 3 of the ACHAR (Dibden 2019: see page 83). An assessment had been made of the archaeological potential and sensitivity of each of these un-surveyed Survey Units based on a consideration of their landform characteristics and relevant predictive modelling. Recommendations for whether they warrant further investigations were made in respect of each of these un-surveyed Survey Units in the Impact Management and Mitigation section of the ACHAR. Two Survey Units were assessed to warrant a field survey: CCSU20 and NCTSU37. This survey was completed in November 2019 and the results are presented in this letter.

The two Survey Units were subject to a comprehensive field inspection and heritage assessment in accordance with the relevant guidelines and methodologies as set out in the Main Works heritage reports. The survey results are described below.

CCSU20

This Survey Unit located at Rock Forest is comprised of generally amorphous, undulating and low gradient simple slopes that are separated by low order drainage lines with little or no gullied channel. The predicted Aboriginal lithic density is low to negligible. No Aboriginal objects were recorded during the field inspection. The area of CCSU20 is assessed to be of low Aboriginal heritage potential and significance. There are no Aboriginal heritage constraints to any proposed impacts to this survey unit and no further assessments or management measures are necessary.

One historic item was identified in CCSU20, as described below:

CCSU20/H1 grid reference: 650613.6020466

This item is a cast iron pipe almost certainly not *in situ* and currently in a minor drainage line in a paddock (see location in Figure 1). It measures 5.25m long by 30cm diameter and has a metal collar at one end. It has been manufactured by sheet metal welded to form a circular pipe. We have been unable to glean any historic information or context for this pipe. The item is assessed to be of little to no heritage value; however, it is recommended that impacts are avoided.

NCTSU37

This Survey Unit adjacent to the Nungar Creek Trail is comprised of two landforms; a low elevation and narrow crest and a narrow creek valley. The predicted Aboriginal lithic density is negligible. No Aboriginal objects were recorded during the field inspection. The area of NCTSU37 is assessed to be of low Aboriginal heritage potential and significance. There are no Aboriginal heritage constraints to any proposed impacts to this survey unit and no further assessments or management measures are necessary.

One historic feature was identified in NCTSU37, as described below:

NCTSU37/H1 grid reference: 641653.6032665 (north end)

The heritage feature is an extensive area of alluvial gold workings consisting of tailing mounds, modified and relic creek channels and water races situated in and adjacent to a tributary creek of Boggy Plains. The workings extend from a point in the creek adjacent to the bedrock of a low spur crest (as shown in Figure 2), south southwesterly for a distance of at least 500 m. There is no historic information available for these workings; they do not feature in any of the available literature. The features are consistent in form with any of the alluvial

gold working in and around Kiandra and accordingly, are likely to be associated historically with this gold field and to date from the 1860s.


This historic feature is a part of a broader landscape that has landmark qualities, demonstrable research potential and that is representative of mid-nineteenth to early twentieth century alluvial mining techniques within the Snowy Mountains. While further research is necessary to fully assess the sites potential significance against the relevant criteria, the feature is assessed as having contributory significance at a local level against criteria c, and g, and local significance against criterion e due to the potential for the site to yield information relating to phases and types of mining at Kiandra and the associated engineering (cf. NSW Heritage Act 1977 heritage assessment criteria).

The proposed impacts to NCTSU37 are unspecified although assumed to be direct and comprehensive. It is recommended that impacts to NCTSU37/H1 are avoided, if feasible. However, if impacts are unavoidable, a comprehensive archival recording is proposed in order to mitigate impacts.

The recommendations made in respect of the Aboriginal and historic heritage as outlined here would need to be included in the Heritage Management Plans prepared for Snowy 2.0 Main Works,

I trust this information is of assistance. Please do not hesitate to call if you wish to discuss further.

Yours faithfully

A handwritten signature in dark ink, appearing to read 'Julie Dibden', written in a cursive style.

Dr Julie Dibden
New South Wales Archaeology Pty Limited

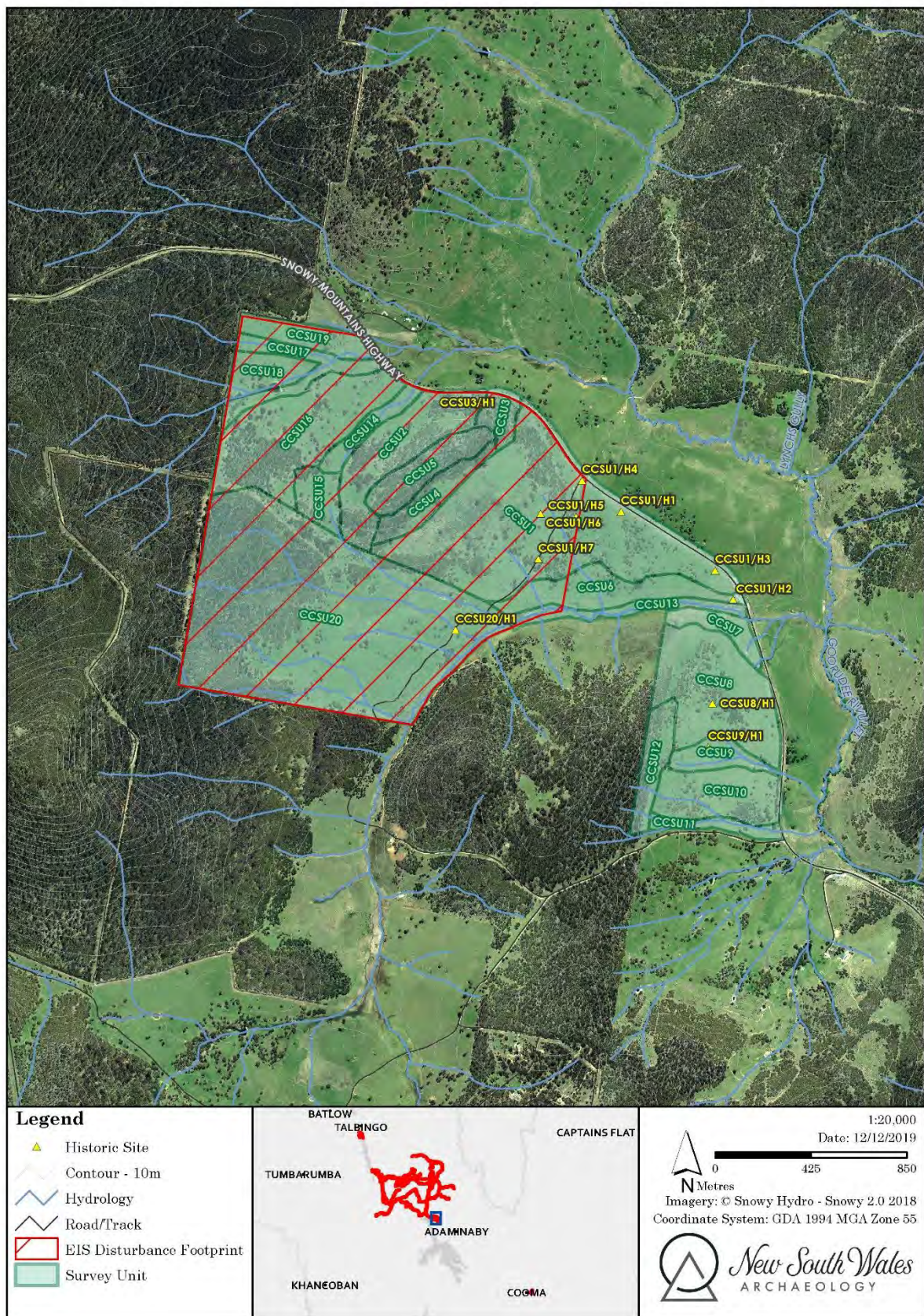


Figure 1. Location of CCSU20 and historic item CCSU20/H1.

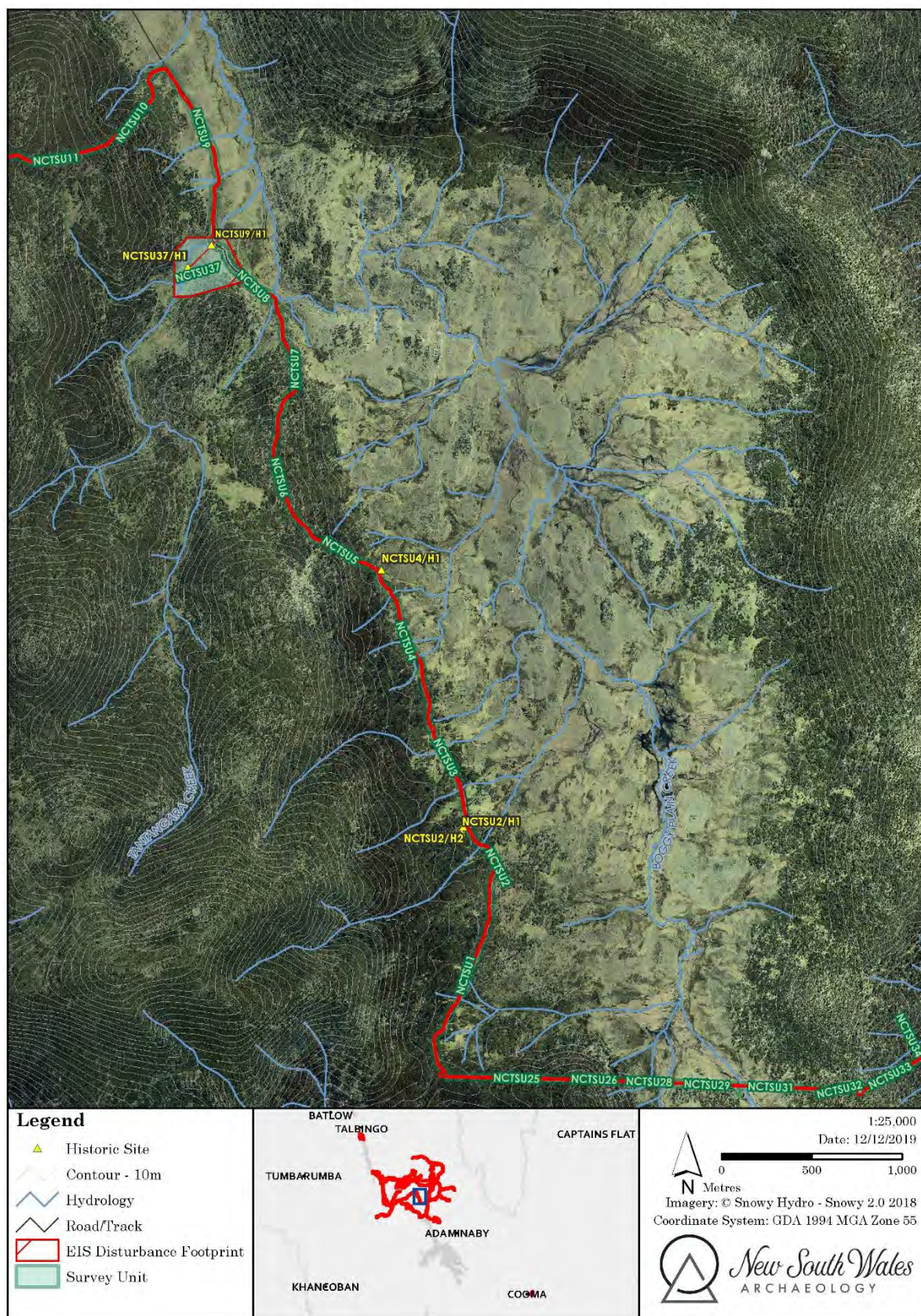


Figure 2. Location of NCTSU37 and historic item NCTSU37/H1.

7 February 2020

Charlie Litchfield
Snowy Hydro
PO Box 332
Cooma, NSW, 2630

Dear Charlie

Re. Snowy 2.0 Main Works Land Spoil – Aboriginal and Historic Heritage

Several areas of proposed impact relating to an additional land spoil sites have recently been added to the Snowy 2.0 Main Works project area. These areas are located at Tantangara Reservoir, Lobs Hole Ravine and Rock Forest (see Figures 1 - 5 below).

A summary of the proposal is as follows:

Tantangara Reservoir

The additional land spoil site named *Peninsula* at Tantangara Reservoir is located partially within previously assessed Survey Units TSU17, TSU18, TSU19 and TSU22 (see Snowy 2.0 Main Works ACHAR: Section 6.2.2.21). A small area of the additional land spoil site is located outside these previously assessed areas. This area is located immediately to the north of TSU14 and has been assigned a new Survey Unit name: TSU14b. A proposed access road is located entirely within a previously assessed Survey Unit TSU15.

Rock Forest

The additional land spoil site is located in Survey Unit CCSU20 at Rock Forest. This survey unit was assessed during a field survey conducted in November 2019 and documented in a letter to Snowy Hydro dated 17 January 2020.

Ravine

Three additional land spoil sites are proposed at Lobs Hole Ravine. All are located either fully or partially within previously assessed Survey Units (see Snowy 2.0 Main Works ACHAR: Section 6.2.2.2).

- The land spoil sites *Ravine Bay north* and *Ravine Bay south* are located at the north end of the Ravine project area and are partially within previously assessed Survey Units RSU40 and RSU44. Areas of the two additional land spoil sites are located outside previously assessed Survey Units. These areas are located immediately to the north of RSU40 and has been assigned a new Survey Unit name: RSU40b.
- The land spoil site *GFO1* is located partially within previously assessed Survey Units RSU24, RSU34 and RSU38. A small area of the additional land spoil site is located outside previously assessed areas. This area is located immediately to the north of RSU38 and has been assigned a new SU name: RSU38b.
- The land spoil site *Lobs Hole* is located entirely within previously assessed Survey Units RSU4, RSU5, RSU6, RSU7, RSU8, RSU9 and RSU10.

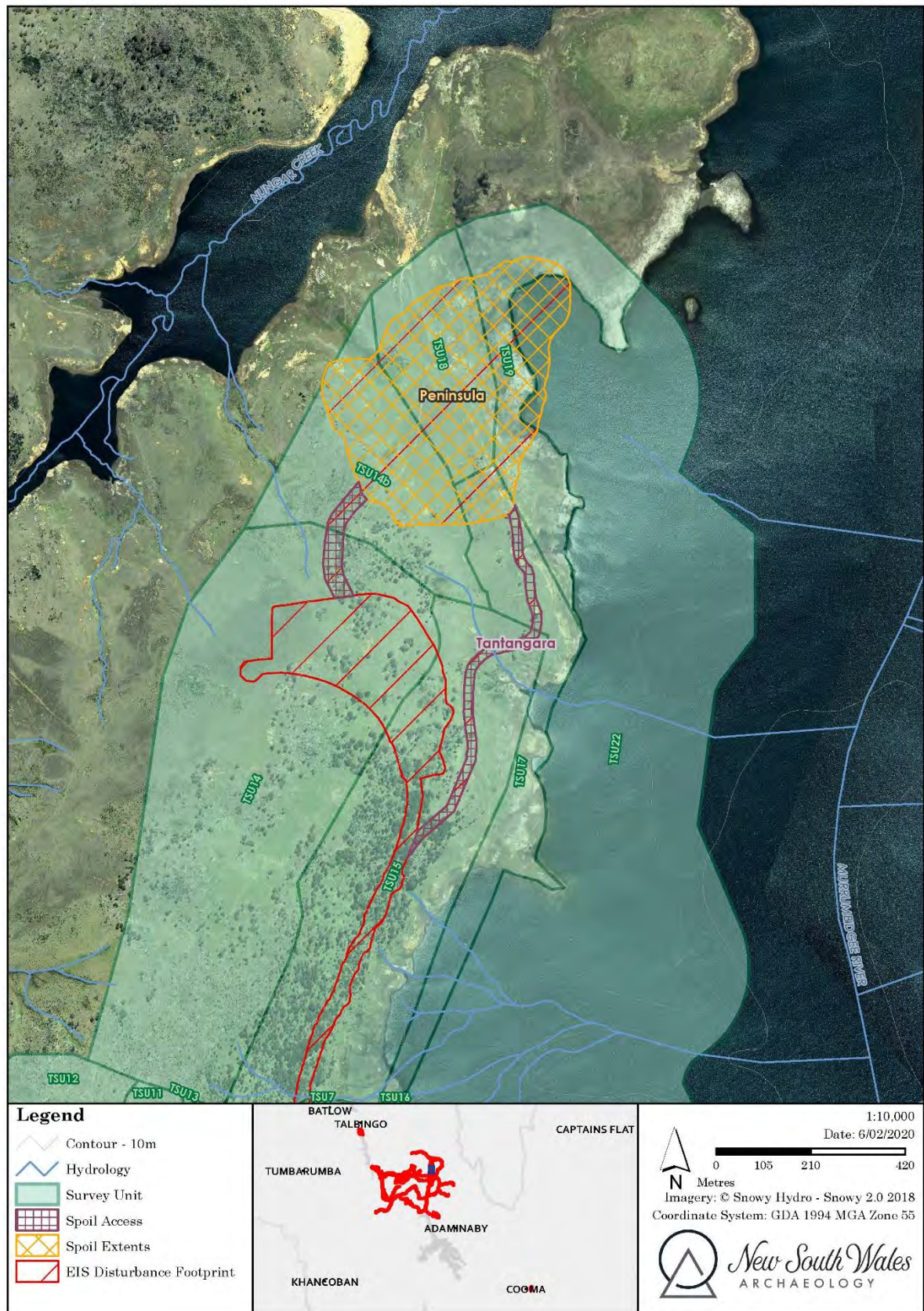


Figure 1. Location of Land Spoil *Peninsula* site and access at Tantangara.

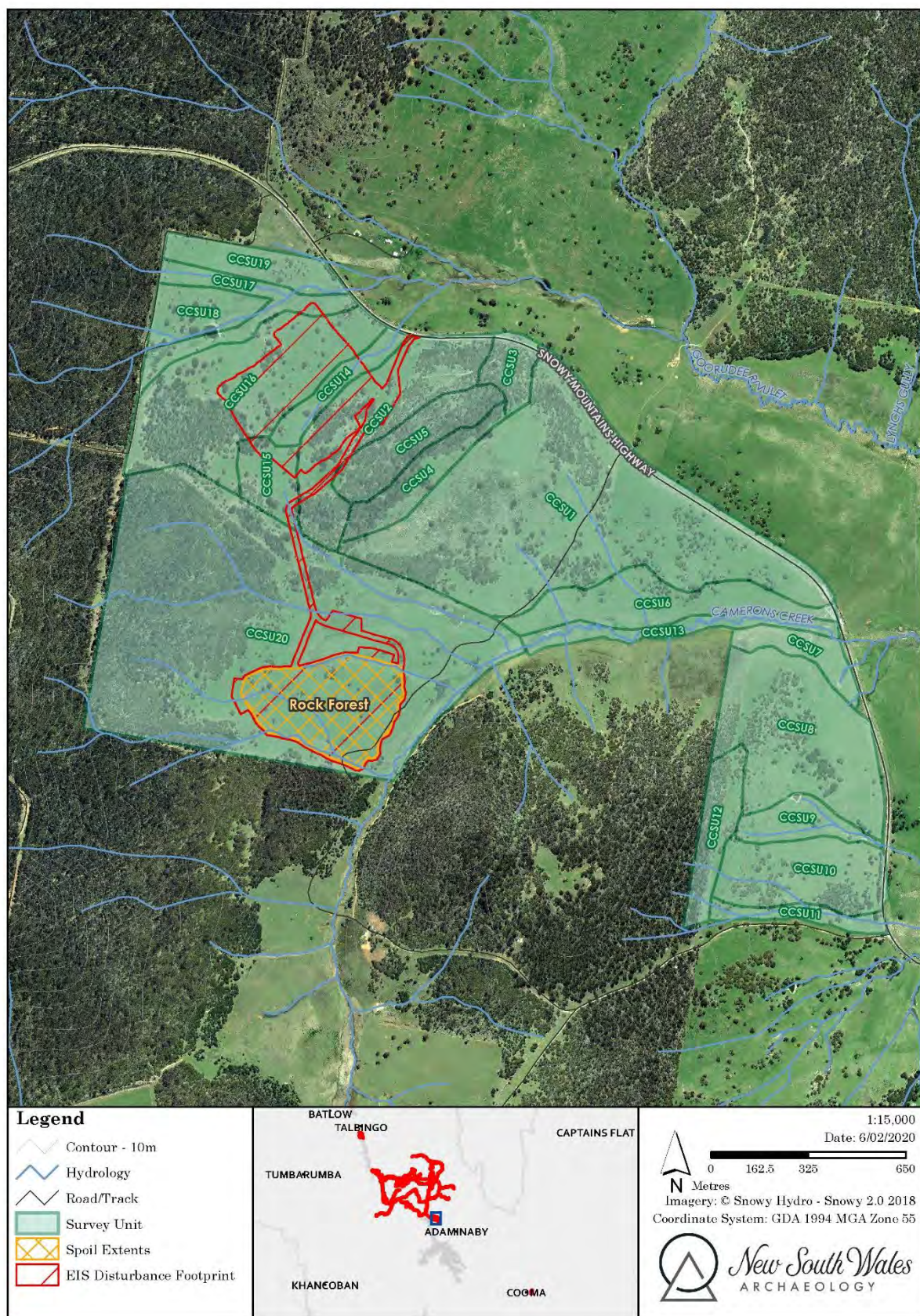


Figure 2. Location of Land Spoil site at Rock Forest.

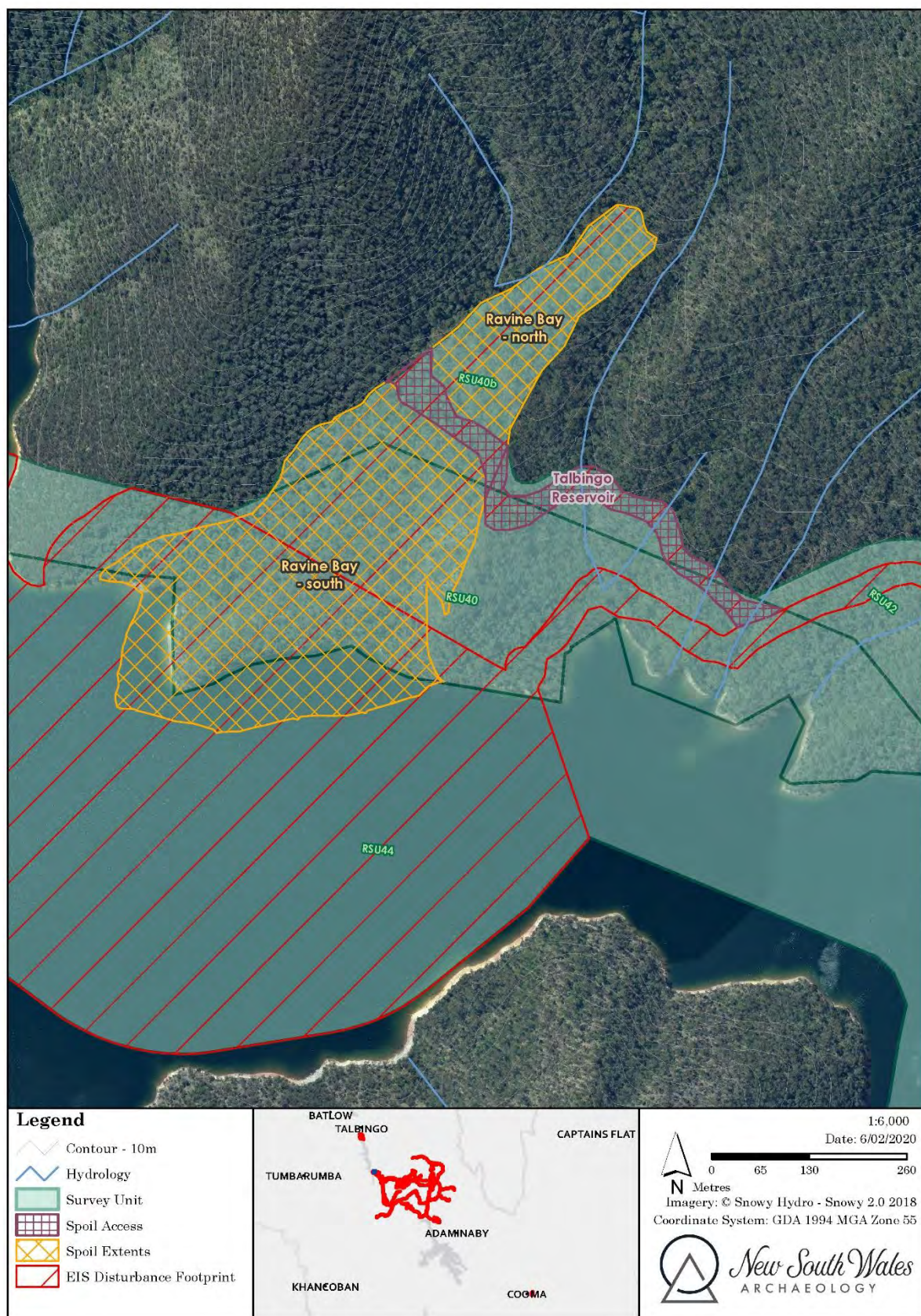


Figure 3. Location of Land Spoil sites *Ravine Bay North* and *Ravine Bay South* and access at Ravine Bay.



Figure 4. Location of Land Spoil site *GFO1* and access at Ravine.

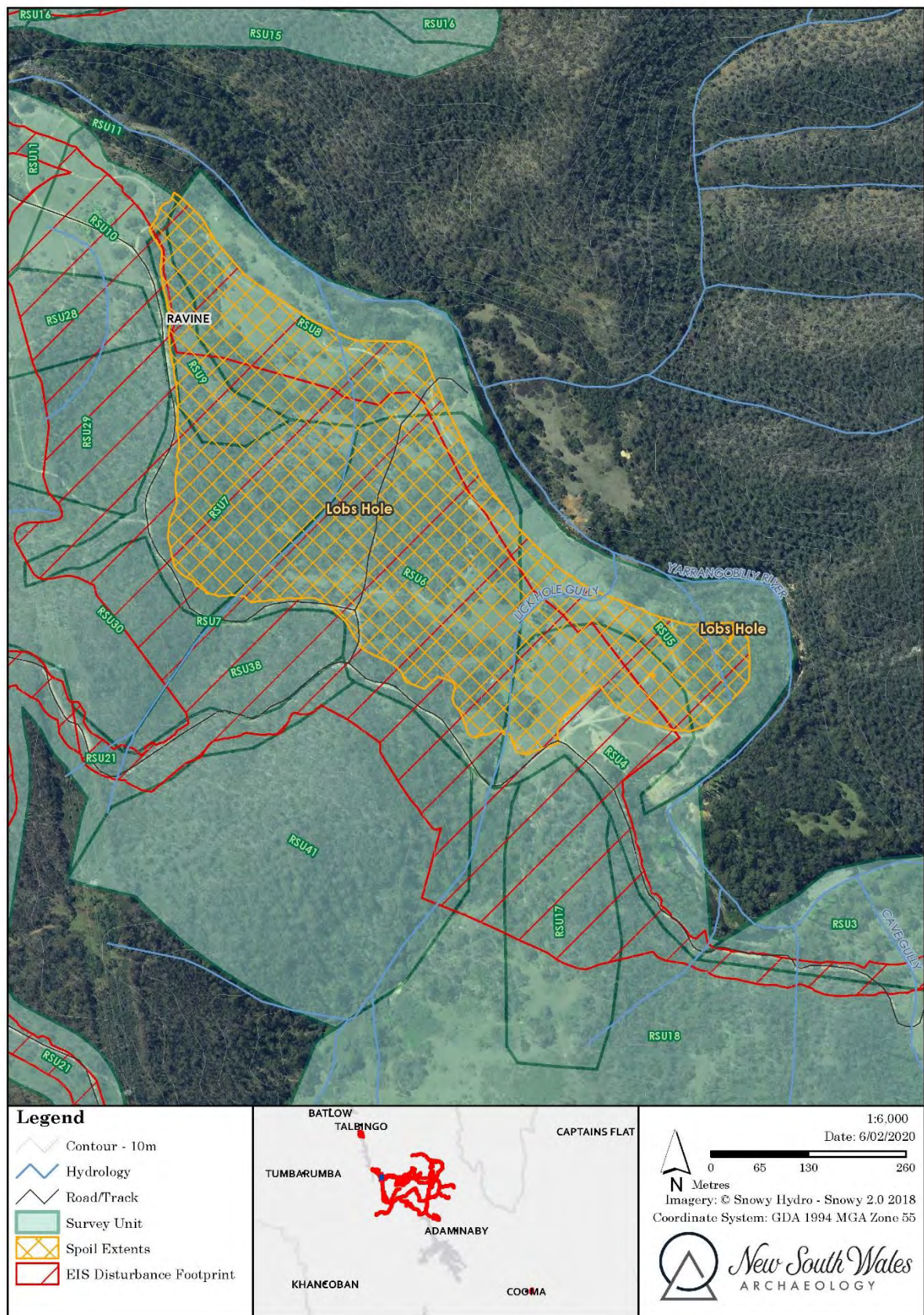


Figure 5. Location of Land Spoil site at Lobs Hole.

The archaeological potential and sensitivity of each of the land spoil sites is set out below. Where relevant, sites in previously assessed Survey Units area summarised based on the data presented in the Snowy 2.0 Exploratory works and Main Works ACHARs.

For areas with new Survey Unit identification, an archaeological assessment is made of the archaeological potential and sensitivity based on a consideration of its landform characteristics and relevant predictive modelling, as discussed below.

Tantangara Reservoir

Survey Unit TSU14 is a broad, low elevation ridge crest landform which separates Nungar Creek and the Murrumbidgee River. The archaeological potential of TSU14 is assessed to be negligible on higher elevations and western parts of crest, with artefact density known and predicted to increase to low/moderate on low relief benches/shoulder on the east side of the main ridge crest (Snowy 2.0 Main Works ACHAR Table 77). The new Survey Unit TSU14b is a northerly extension of this landform and is effectively the northern and terminal end of the ridge at the confluence of the Murrumbidgee River and Nungar Creek. Both the Murrumbidgee River and Nungar Creek and adjacent areas are now submerged within the Tantangara Reservoir.

The previously assessed Survey Units TSU17, TSU17, TSU18, TSU19 and TSU22 in which the Peninsula land spoil site and access partially extends are described fully in the Snowy 2.0 Main Works ACHAR and are summarised briefly here (see Figures 6 and 7).

- TSU15 A series of upper valley spur crests interspersed with minor drainage lines. The gradient is gentle to very gentle and the aspect is easterly. Five Aboriginal sites occur in this Survey Unit and comprehensive test excavation was also undertaken and artefact density has been calculated to be 29.6 artefacts per square metre. The Survey Unit has been assessed to be of moderate archaeological significance.
- TSU17 is a series of simple lower slopes interspersed with minor drainage lines. The assessed artefact incidence is very low. No Aboriginal or historic sites were recorded in the Survey Unit during the field survey conducted for Main Works. TSU17 has been assessed to be of generally low archaeological significance.
- TSU18 is a series of simple lower slopes interspersed with minor drainage lines. The assessed artefact incidence is very low. No historic sites were recorded in the Survey Unit during the field survey conducted for Main Works. On Aboriginal site, TSU18/L1 (AHIMS #57-4-0436), an

Archaeologically Sensitive Landform, is located on the northern margin of the Land Spoil area in TSU18. TSU18 has been assessed to be of generally low archaeological significance.

- TSU19 is assessed to be of generally low archaeological potential. No Aboriginal or historic sites are known to be present in the Survey Unit.
- TSU22 is assessed to be of generally low archaeological potential. No Aboriginal or historic sites are known to be present in the Survey Unit in the vicinity of the land spoil site.
- There are no known Aboriginal or historic sites in TSU14b. Given its location at the terminal end of the crest landform and at the confluence of the Murrumbidgee River and Nungar Creeks, TSU14b is assessed to potentially possess a higher Aboriginal artefact incidence compared to that found in TSU14.

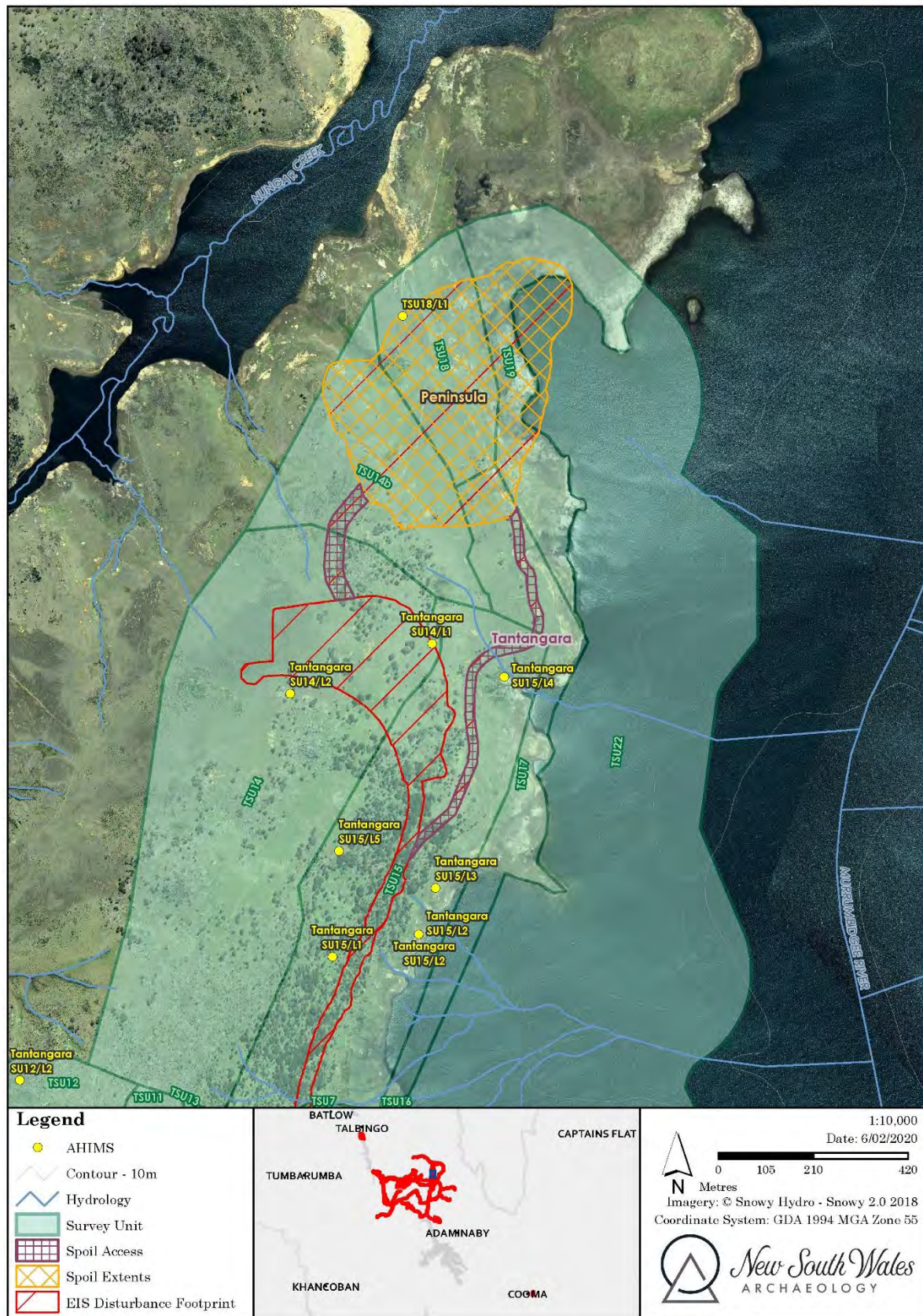


Figure 6 Location of Survey Units and Aboriginal sites at the *Peninsula* Land Spoil site at Tantangara Reservoir.



Figure 7. Location of Historic sites in the vicinity of Peninsula Land Spoil site at Tantangara Reservoir.

Rock Forest

The additional land spoil site is located in Survey Unit CCSU20 at Rock Forest. This survey unit was assessed during a field survey conducted in November 2019 and documented in a letter to Snowy Hydro dated 17 January 2020.

This Survey Unit located at Rock Forest is comprised of generally amorphous, undulating and low gradient simple slopes that are separated by low order drainage lines with little or no gullied channel. The predicted Aboriginal lithic density is low to negligible. There are no historic sites located within the Rock Forest Land Spoil site (Figures 8 and 9).

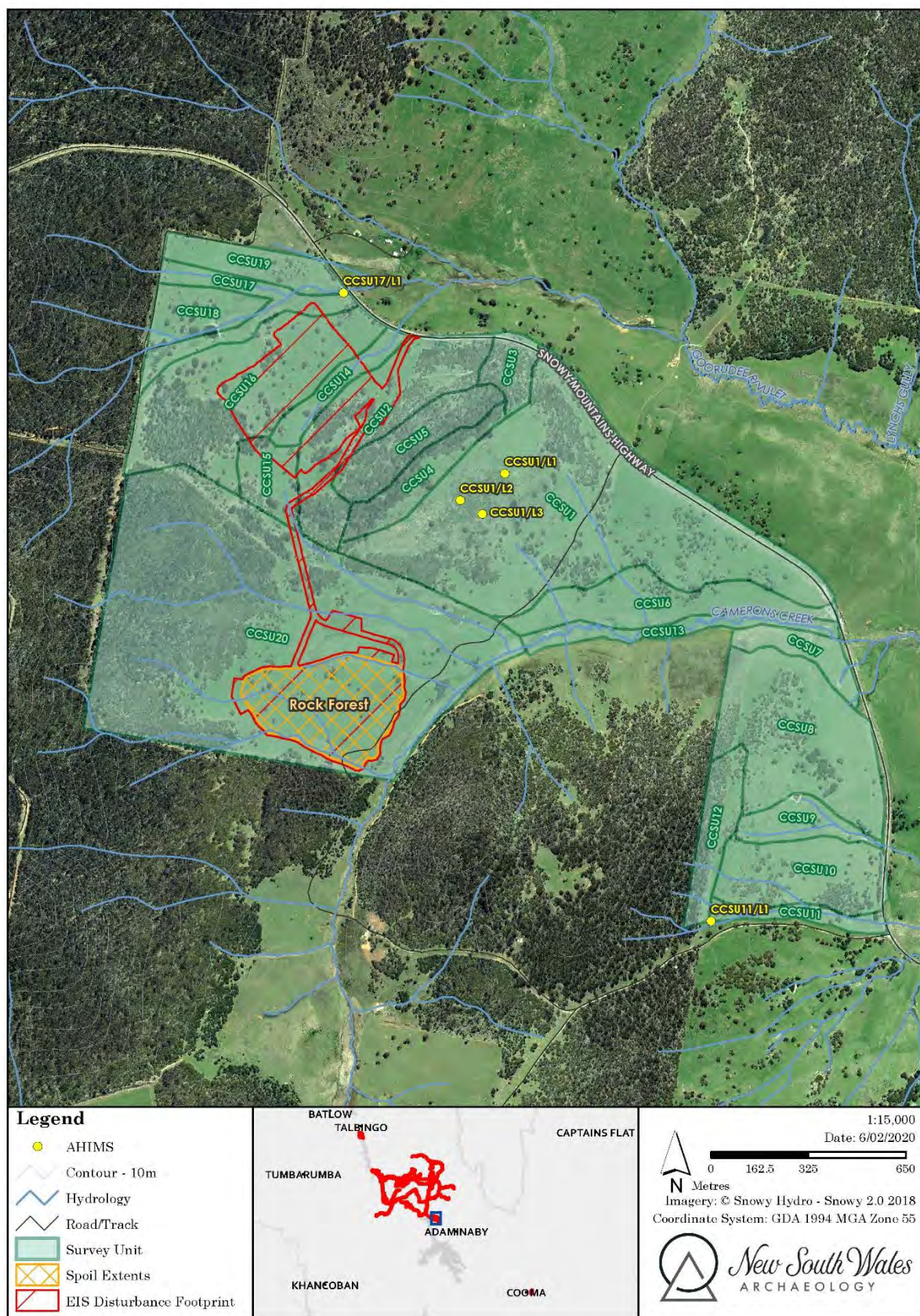


Figure 8. Location of Survey Units and Aboriginal sites at the Rock Forest Land Spoil site.

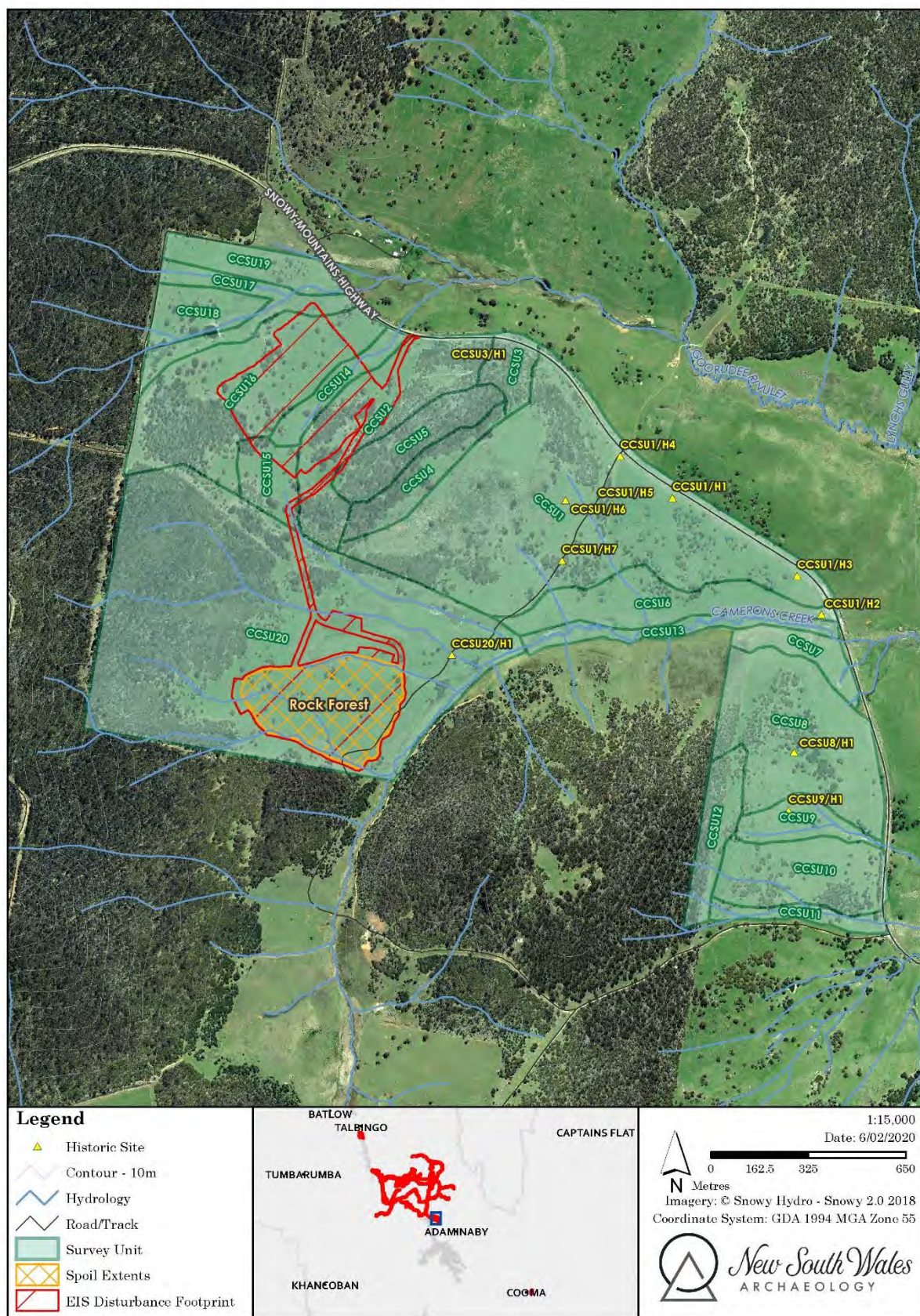


Figure 9. Location of Historic sites at the Rock Forest Land Spoil site.

Ravine

- Survey Unit RSU40 is a steep simple slope landform assessed to possess negligible artefact incidence. The new RSU40b is a northerly extension of the landform. There are no previously recorded Aboriginal or historic sites in this area. Survey Unit RSU40b is predicted to possess negligible artefact incidence (Figure 10).
- Survey Unit RSU38 is a spur crest landform assessed to possess negligible artefact incidence. The new Survey Unit, RSU38b, is a similar landform dissected by short creeklines. There are no previously recorded Aboriginal or historic sites in this area. Survey Unit RSU38b is predicted to possess negligible artefact incidence (Figures 11 and 12).
- The land spoil site *Lobs Hole* is located entirely within previously assessed Survey Units RSU4, RSU5, RSU6, RSU7, RSU8, RSU9 and RSU10. These Survey Units and the Aboriginal and historic heritage they possess are described in detail in the Snowy 2.0 Exploratory Works and Main Works ACHARs and all have been subject to a program of comprehensive Aboriginal and Historic impact mitigation and salvage excavations in 2019. Any required further impact mitigation relevant to the Main Works project are described in the Snowy 2.0 Main Works ACHAR (Figures 13 and 14).

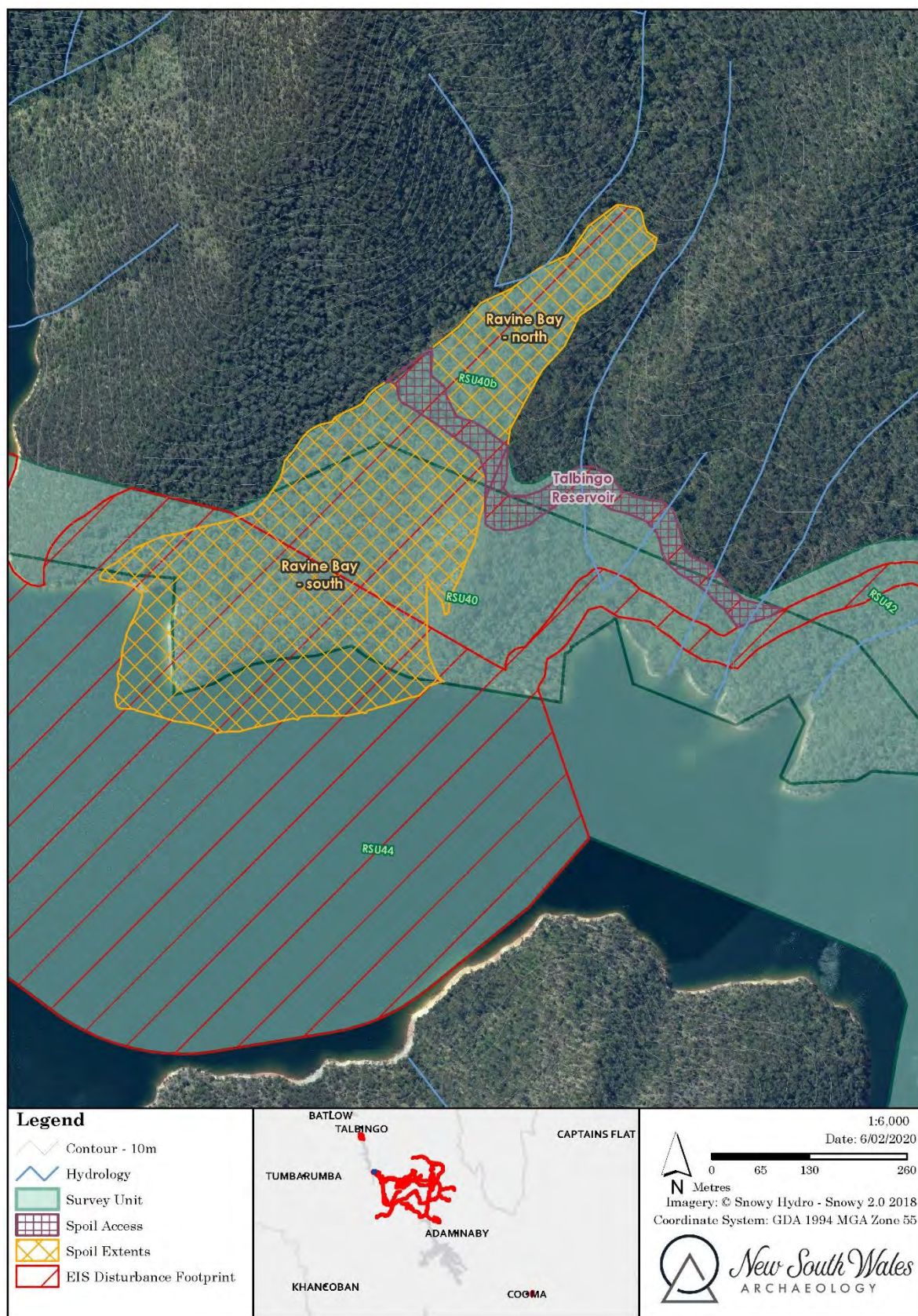


Figure 10. Survey Units at *Ravine Bay North* and *Ravine Bay South*; note the absence of Aboriginal and Historic sites in the immediate locale area.



Figure 11. Survey Units and Aboriginal sites in the vicinity of at Land Stockpile GFO1 at Ravine.

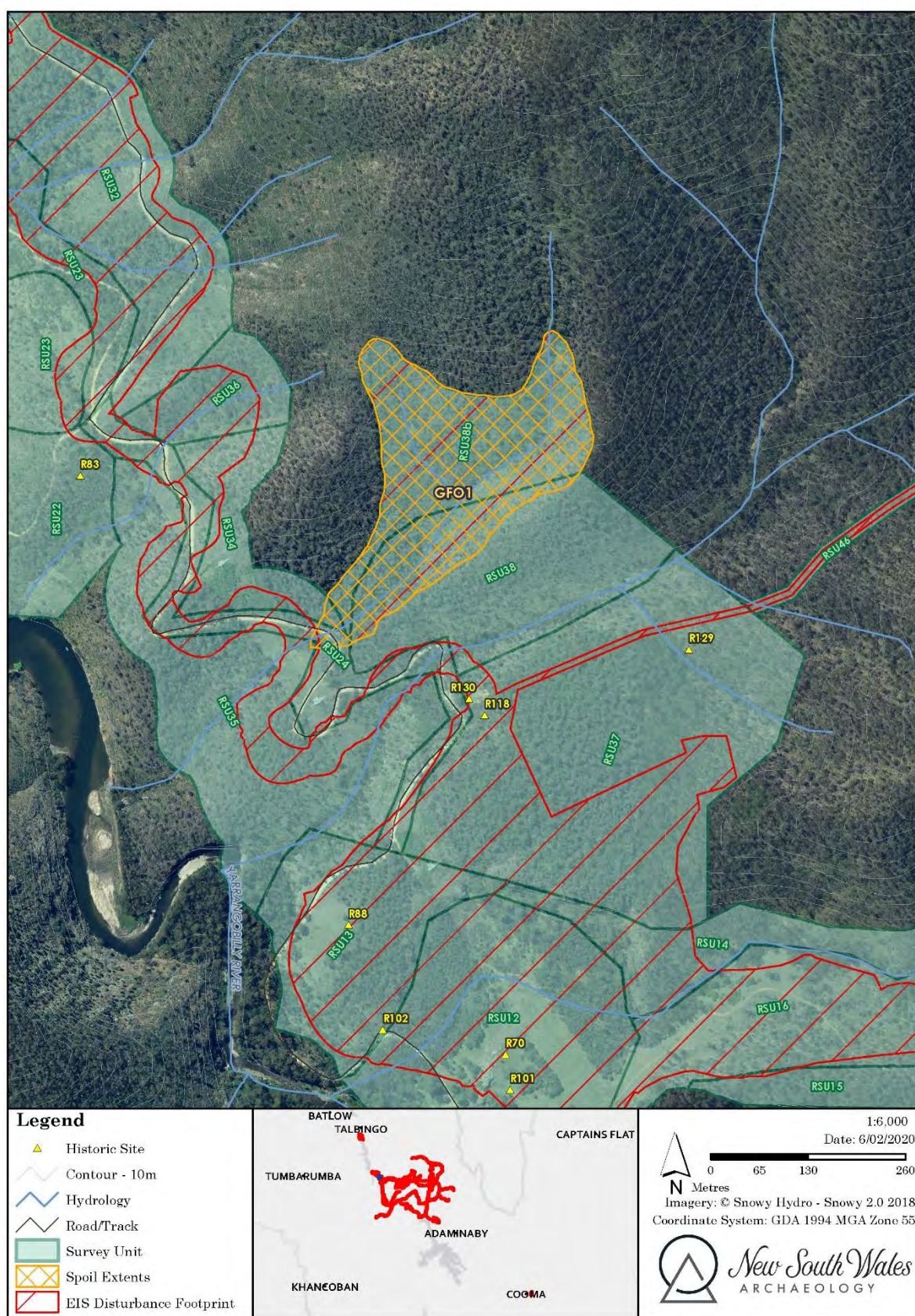


Figure 12. Historic sites in the vicinity of at Land Stockpile *GFO1* at Ravine.

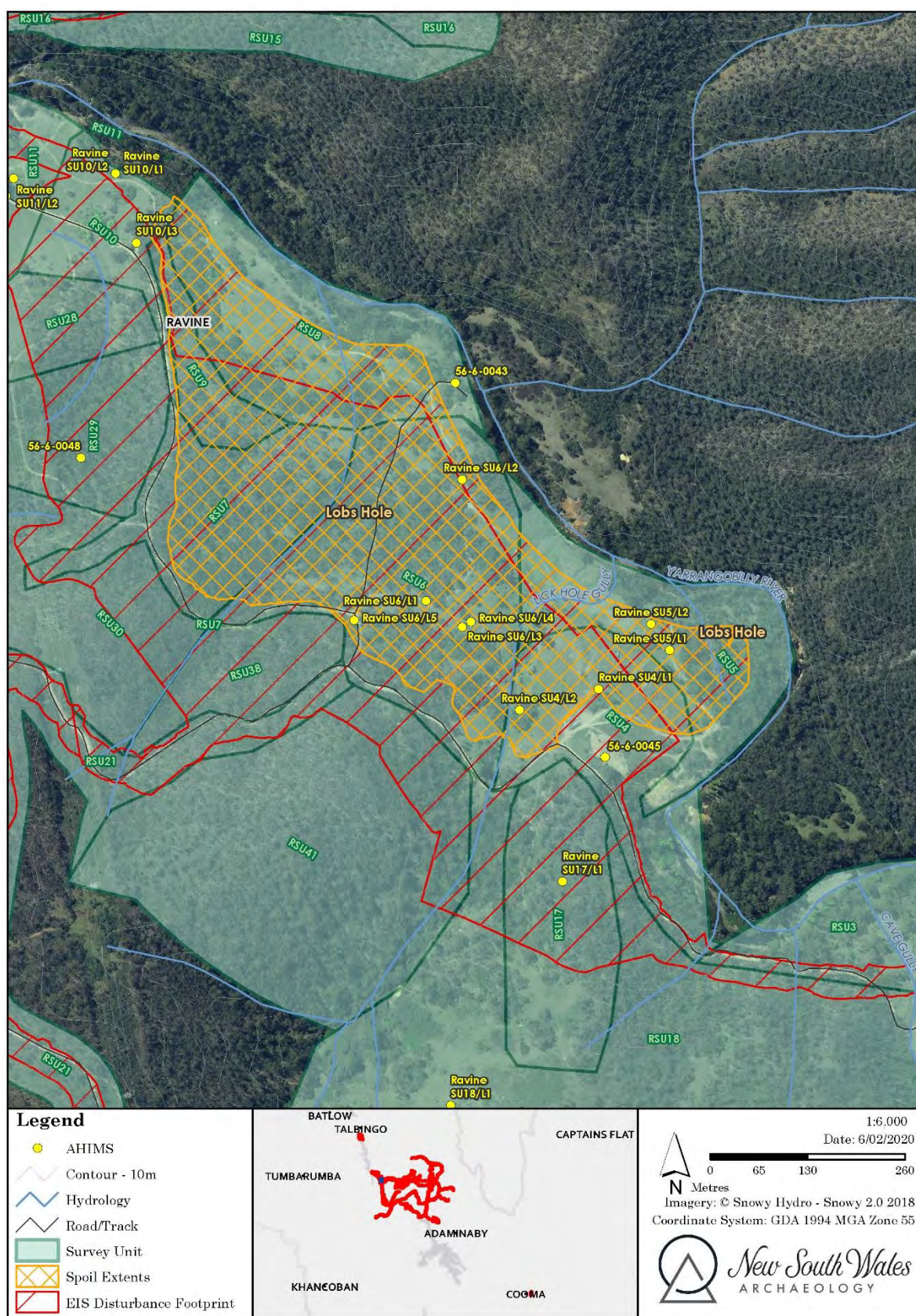


Figure 13. Survey Units and Aboriginal sites in the vicinity of the Land Stockpile at Lobs Hole.

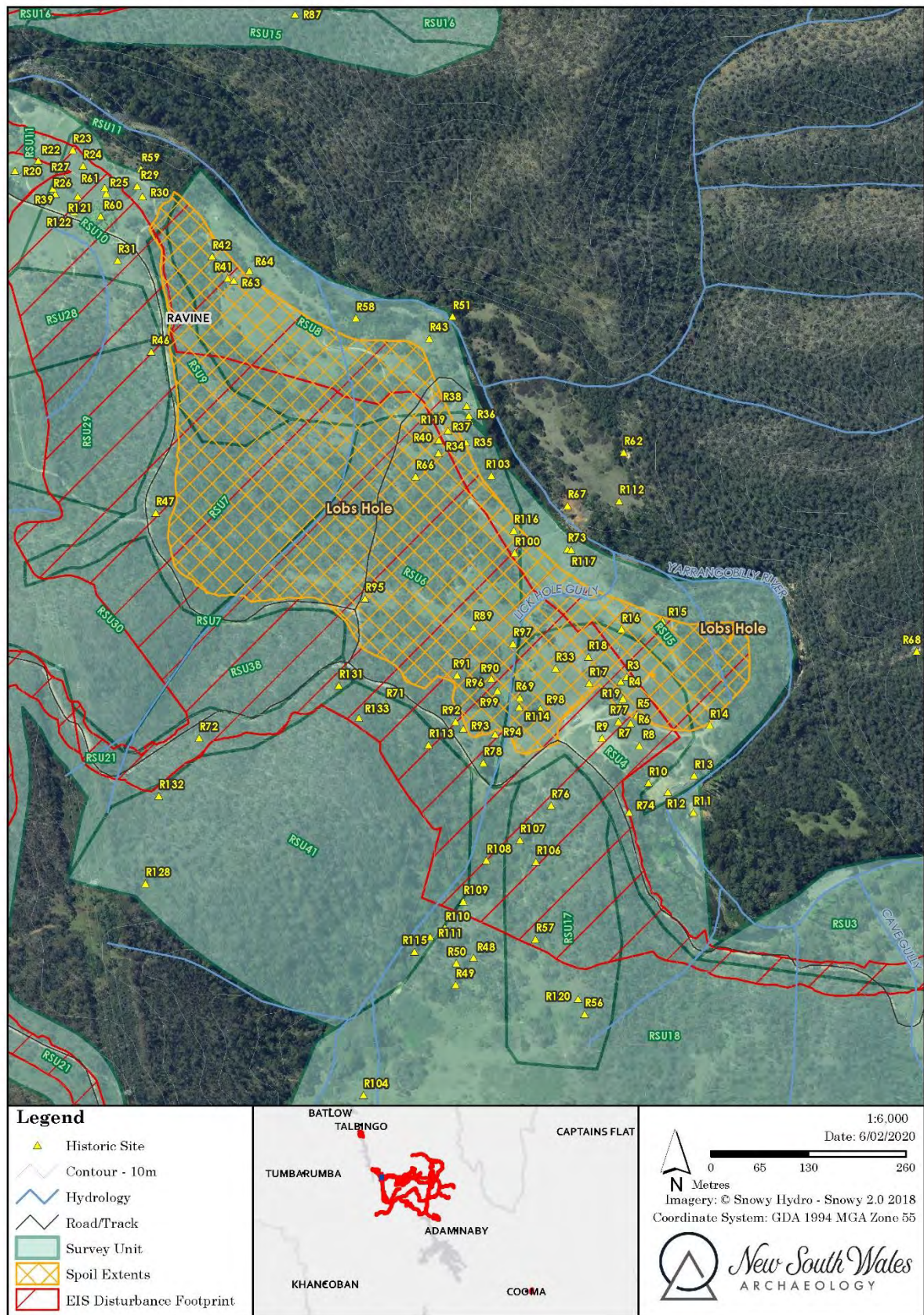


Figure 14. Survey Historic sites in the vicinity of the Land Stockpile at Lobs Hole.

The following recommendations are made:

Tantangara Reservoir

- TSU15 Salvage excavation (see recommendations in Snowy 2.0 Main Works ACHAR).
- TSU17 Unmitigated impact.
- TSU18 Unmitigated impacts except for Aboriginal site, TSU18/L1 (AHIMS #57-4-0436), in which salvage excavations should be undertaken (see recommendations in Snowy 2.0 Main Works ACHAR).
- TSU19 Unmitigated impact.
- TSU22 Unmitigated impact.
- TSU14b A field survey should be undertaken after project approval. Given Survey Unit TSU14b is assessed to potentially possess a higher Aboriginal artefact incidence, Aboriginal salvage excavations are likely to be required.

Rock Forest

CCSU20 Unmitigated impact.

Ravine

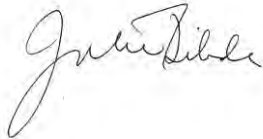
- The land spoil sites *Ravine Bay north* and *Ravine Bay south*
RSU40 Unmitigated impact.
RSU44 Unmitigated impact.
RSU40b Unmitigated impact.
- The land spoil site *GFO1*
RSU24 Unmitigated impact.
RSU34 Unmitigated impact.
RSU38 Unmitigated impact.
RSU38b Unmitigated impact.
- The land spoil site *Lobs Hole* is located entirely within previously assessed Survey Units RSU4, RSU5, RSU6, RSU7, RSU8, RSU9 and RSU10. The recommendations for these areas have been set out in the Snowy 2.0 Exploratory Works and Main Works ACHAR and should be referred to, noting that impact mitigation has largely been completed during 2019 salvage excavations.

Any relevant areas that require further investigation or impact mitigation after project approval would be completed in accordance with the methods used for the previous Aboriginal and historic assessments conducted during the Main Works EIS works.

The recommendations made in respect of the Aboriginal and historic heritage as outlined here would need to be included in the Heritage Management Plans prepared for Snowy 2.0 Main Works,

I trust this information is of assistance. Please do not hesitate to call if you wish to discuss further.

Yours faithfully

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Dr Julie Dibden
New South Wales Archaeology Pty Limited