



TERRITORY IRON PTY LTD

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9th November 2016 to 9th November 2017

PROGRESSIVE REMEDIATION REPORT




FOR

**FRANCES CREEK
EXPLORATION PROJECT**

Authorisation 0707-01

EL10137, EL22856, EL23506, EL23824, EL24045, EL24715, EL24990, EL29862,
EL30832, EL9999, MA389

ML24727, ML25087, ML25088, ML25152, ML25396, ML25529, ML26222,
ML27224, ML27225, ML27226, ML27227, ML27228, ML27229, ML27230,
ML27807, ML27808

	Author	Reviewed by	Approved by
Date		24/11/2016	24/11/2016
Name	Linda Glass	John Milsom	John Milsom
Signature			

I John Milsom, General Manager declare that to the best of my knowledge the information contained in this mining management plan is true and correct and commit to undertake the works detailed in this plan in accordance with all the relevant Local, Northern Territory and Commonwealth Government legislation.

SIGNATURE:



DATE: 24/11/2016

AMENDED: 19/01/2017

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AMENDMENTS TO 2015-2016 PROGRESSIVE REMEDIATION REPORT

Section	Amendment
Section 2.0: Project Details: Table 4: Tenement details for the Frances Creek Exploration Project	Titles updated in Table 4 and on cover page
Section 2.0: Table 4	Tenement Details for the Frances Creek Exploration Project updated
Section 2.1: Title Holders and Joint Venture Partners	Updated Application for Authorisation and Nomination of Operator forms submitted to DPIR with this Report
Section 3.0: 3.2.2 Rehabilitation Status - Tracks	Data for tracks submitted as KML file as per DME request. <i>Note these can be submitted as ArcGIS shape files if DPIR Compliance uses this GIS programme</i>
Section 3.0: 3.2 Post Closure Monitoring	Schedule for maintenance and monitoring included
Appendix I and III	Data provided in Excel format

1.0 OPERATOR DETAILS

Table 1: Frances Creek Exploration Project Operator Details

OPERATOR NAME	Territory Iron Pty Ltd
KEY CONTACT PERSON	Linda Glass
POSTAL ADDRESS	PO Box 3324 Palmerston NT 0830
STREET ADDRESS	Frances Creek Operations NT
PHONE	0415 344 787 Linda Glass mobile (08) 8911 1238 or (08) 8911 1270 (Frances Creek mine site office) Andrew Koerber
EMAIL	lglass@territoryresources.com.au

1.1 ORGANISATIONAL STRUCTURE

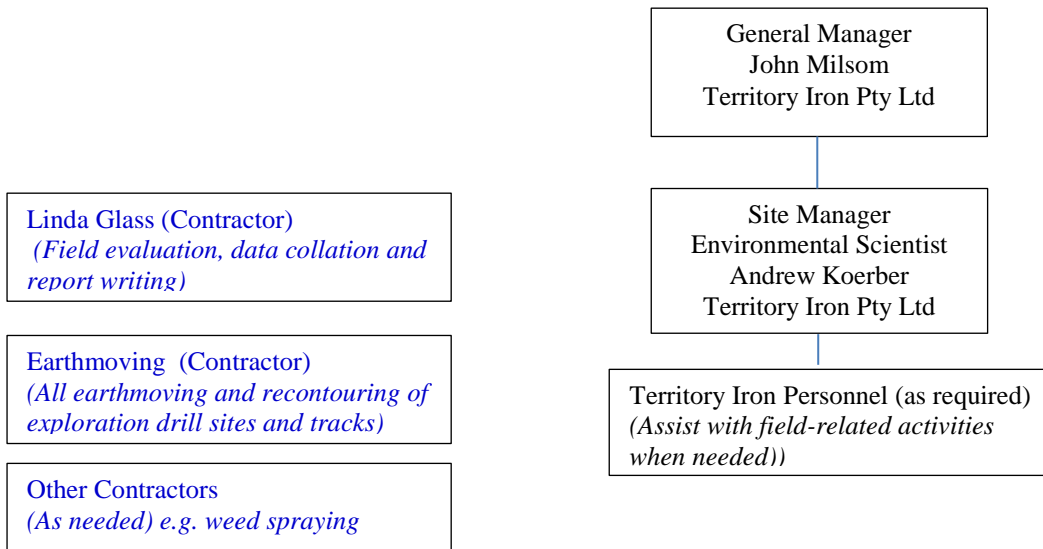


Figure 1: Organisational Structure Chart for Territory Iron personnel who are directly or indirectly involved with the Frances Creek Project. Consultants and non-Territory Iron personnel are shown in blue

1.2 WORKFORCE

The breakdown of personnel and responsibilities are shown in Table 2.

Table 2: Personnel and Responsibilities

Department	Personnel	Role	Responsibility
Administration	John Milsom	General Management	Overall Management of Frances Creek Mine and Territory Iron Projects
Environment and Rehabilitation	Andrew Koerber	Site Manager	Site Management Frances Creek Mine Remediation
	James Kepui	Environmental Advisor	Environmental Scientist
	Jack Tapp	Cutting remaining identified collars and plugging drill holes. Cleaning drill sites where required	Field Technician
	Pat O'Brien	Cutting remaining identified collars and plugging drill holes. Cleaning drill sites where required	Mine Site Maintenance
External Contractor	Linda Glass	External Contractor	Field evaluation, data collation and report writing
External Contractor	Union Extended	External Contractor	Recontouring of drill sites and tracks
External Contractor	NT Quality Hay & Contracting Pty Ltd	External Contractor	Weed spraying

2.0 IDENTIFIED STAKEHOLDERS AND CONSULTATION

2.1 TITLE HOLDERS AND JOINT VENTURE PARTNERS

The interested parties for the Frances Creek project area are as follows:

- Ark Mines Limited (Joint Venture partner on tenements MA389 and EL10137)
- Newmarket Gold NT Holdings Pty Ltd (Title holder of EL24715 and Joint Venture partner)
- Territory Iron Pty Ltd (ACN 125 984 401) wholly owned subsidiary of Territory Resources Ltd
- Outback Metals Pty Ltd (part-title holder (49%) of EL23824)
- Element 92 Pty Ltd – Title holder of EL23506)
- Woodleigh Nominees Pty Ltd (Joint Venture partner for EL29862)
- Department of Primary Industry and Resources (DPIR)

The current status for tenure and the Title Holders for the Frances Creek Exploration Project are listed in Section 3.0 Project Details. An updated Application for Authorisation form and Nomination of Operator forms are located in **Appendix I**.

2.2 PASTORAL LEASE OWNER/LAND TENURE

The exploration project area lies within Ban Ban Springs Pty Ltd pastoral station lease boundary (NT Portion 695; Perpetual Pastoral Lease 1111), Mary River West (NT Portion 1630; Pastoral Lease 815) and Mary River East Pastoral Lease (NT Portion 1631; Perpetual Pastoral Lease 1134).

At this stage, given the current economic climate for exploration, Territory Iron is focusing solely on remediation of earlier drill programmes. If during remediation site audits, any irregularities concerning pastoralist's property (e.g. injured stock etc.) are noticed, they will be immediately reported as a matter of courtesy. In the past, Territory Iron have consulted with pastoralists every year regarding fire management strategies, however, Territory Iron is not planning to conduct any burns in the near future.

An Agreement was made with the station manager of Ban Ban Springs station to leave ~41 km of exploration track in their current state i.e. "*in-situ*". These tracks serve to allow pastoralists to have better access to areas on the station without further disturbance to the natural environment. Tracks to be left "*in-situ*" at the request of the Ban Ban Springs station manager are shown in Figure 38 of the 2015-2016 Progressive Remediation Report and the signed agreement located in Appendix III of that report.

2.3 LAND CLAIMANTS (NATIVE TITLE)

The exploration project falls within the traditional lands of the Wurrkbarbar, Matjba and Bolmo people, who are also referred to as the Jawoyn Three Clans Group. The Three Clans Group are the Native Title Claimants for the project area and represented, in part, by the Northern Land Council (NLC). Both formal and informal communication was historically undertaken between the Company, Traditional Owners and the NLC when the company was in active exploration mode.

Historically, during the active exploration phase, a Liaison Committee was established and met each year. The Liaison Committee agenda generally centers on the follow discussion points:

- Mining/exploration activities – both current and past
- Cultural heritage management and Sacred Sites
- Employment/training
- Environmental works/issues
- Rehabilitation
- Land access; and
- Community events/support

2.4 NEIGHBOURS AND COMMUNITIES

- Kakadu National Park
- Pine Creek Community
- Kybrook Farm Community

2.5 TENEMENT MANAGER

- Linda Glass (External Consultant)

2.6 GOVERNMENT DEPARTMENTS

- Department of Land Resource Management (NT)
- Department of Lands, Planning and the Environment (NT)
- Department of Primary Industry and Resources (NT)

3.0 PROJECT DETAILS

On the 9th November 2011, Territory Iron Pty Ltd was issued with Authorisation 0707-01 for the Frances Creek Exploration Project. Details relating to the project are shown below in Table 3.

Table 3: Frances Creek Exploration Project Details

PROJECT NAME	Frances Creek Exploration Project – Authorisation 0707-01
LOCATION	23 km north of Pine Creek township; 210 km south of Darwin
SITE ACCESS	Approximately 3 km northeast from Pine Creek township on the Kakadu Highway then 23 km north on graded (unsealed) track
AUTHORISATION NUMBER	Authorisation 0707-01
MINING INTEREST/S	EL, ML, MA

Table 4: Tenement details for the Frances Creek Exploration Project

Tenement	Holder	Grant Date	Expiry Date	Blocks	Hectares	Comments
EL10137	Territory Iron Pty Ltd	10/07/2002	9/07/2018	8		
EL22856	Territory Iron Pty Ltd	5/02/2003	4/02/2017	17		<i>Renewal Submitted and Awaiting Approval</i>
EL23506	Element 92 Pty Ltd	8/05/2003	7/05/2017	52		
EL23824	Territory Resources Ltd 51%, Outback Metals Ltd 49% <i>(previously Softwood Plantations Pty Ltd)</i>	9/02/2004	8/02/2018	31		
EL24045	Territory Iron Pty Ltd	19/08/2004	<i>18/08/2018</i>	2		
EL24715	Crocodile Gold Australia Pty Ltd	1/03/2006	28/02/2018	17		
EL24990	Territory Iron Pty Ltd	24/07/2006	<i>23/07/2018</i>	1		
EL29862	Territory Iron Pty Ltd	26/11/2013	25/11/2019	11		
EL30832	Territory Iron Pty Ltd	13/07/2015	12/07/2017	7		
EL9999	Territory Iron Pty Ltd	22/07/2003	21/07/2017	2		
MA389	Frances Creek Pty Ltd	15/11/1993	14/11/2016	4		<i>Renewal Submitted and Awaiting Approval</i>
ML24727	Territory Resources Ltd	5/04/2007	4/04/2032		1216.00	
ML25087	Territory Resources Ltd	24/04/2007	23/04/2032		61.30	
ML25088	Territory Resources Ltd	24/04/2007	23/04/2032		33.00	
ML25152	Territory Resources Ltd	24/04/2007	23/04/2032		137.90	
ML25396	Territory Resources Ltd	24/04/2007	23/04/2032		165.10	
ML25529	Territory Resources Ltd	22/12/2010	21/12/2035		31.50	
ML26222	Territory Resources Ltd	22/12/2010	21/12/2035		6.00	
ML27224	Territory Resources Ltd	26/09/2011	25/09/2036		129.00	
ML27225	Territory Resources Ltd	17/08/2012	16/08/2037		242.80	
ML27226	Territory Resources Ltd	21/01/2014	20/01/2039		388.00	
ML27227	Frances Creek Pty Ltd	20/10/2011	19/10/2036		13.00	
ML27228	Territory Resources Ltd	26/09/2011	25/09/2036		116.00	
ML27229	Frances Creek Pty Ltd	20/10/2011	19/10/2036		92.00	
ML27230	Territory Resources Ltd	21/01/2014	20/01/2039		97.00	
ML27807	Territory Resources Ltd	9/02/2012	8/02/2037		79.63	
ML27808	Territory Resources Ltd	9/02/2012	8/02/2037		333.20	

Four tenements underwent partial and complete relinquishment in 2015. Table 5 provides details pertaining to these tenements.

Table 5: Partial and Complete Relinquishment of tenure in 2015 and status of remediation

Title Surrendered	Relinquishment	Date Surrendered	Drill Activity	Remediation Complete
EL29015	Partial Surrender	7/05/2015	1 Reverse Circulation (RC) drill hole	Yes
EL24040	Partial Surrender	7/05/2015	14 RC drill holes	Yes
EL29564	Total Surrender	2/04/2015	No land disturbing activity took place on this tenement	N/A
EL28514	Total Surrender	19/06/2015	No land disturbing activity took place on this tenement	N/A

In May 2015, an application seeking approval for the amalgamation and partial relinquishment of EL24040 and EL29015 was granted by the Department of Mines and Energy. Twelve graticular blocks were surrendered from EL24040 and three from EL29015, the balance making up the new Exploration Licence EL30832. The remediation status for drill holes in surrendered tenure EL24040 and EL29015 (all drill holes entirely within new tenement EL30832) were evaluated in September 2015 as being *successfully remediated* and reported in the 2015-2016 Progressive Remediation Report. Photographs of drill sites are located in Appendix IV of the 2015-2016 Progressive Remediation Report. No further ground disturbing activity has been undertaken on EL30832 since grant of tenure.

Tenements EL29864 and EL28514 were surrendered on the 2nd April 2015 and 19th June 2015 respectively. No ground disturbing activity has ever been undertaken on these tenements since the date of grant, Table 5.

The Frances Creek Exploration Project (Authorisation 0707-01) is located in the Pine Creek Orogen in the Northern Territory. The project area is located about 220 km south of Darwin and ~20km north of Pine Creek town ship, Figure 2. Figure 3 shows the area in greater detail and highlights the main historical access tracks in the project area.

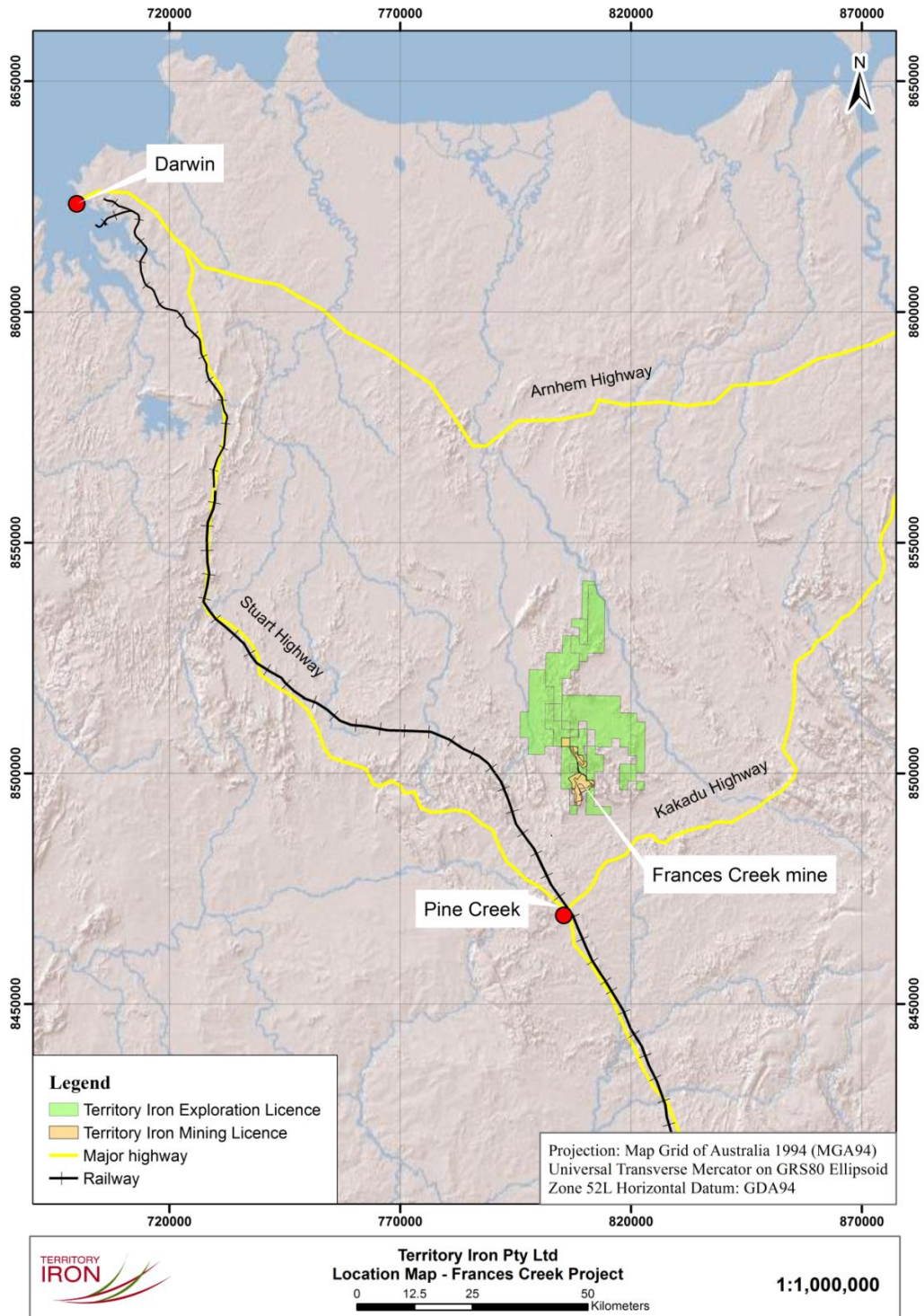


Figure 2: Location of Frances Creek Exploration Project showing tenure (Exploration Licences in green and Mineral Leases in tan) with ESRI world shaded relief defining background topographic elevation

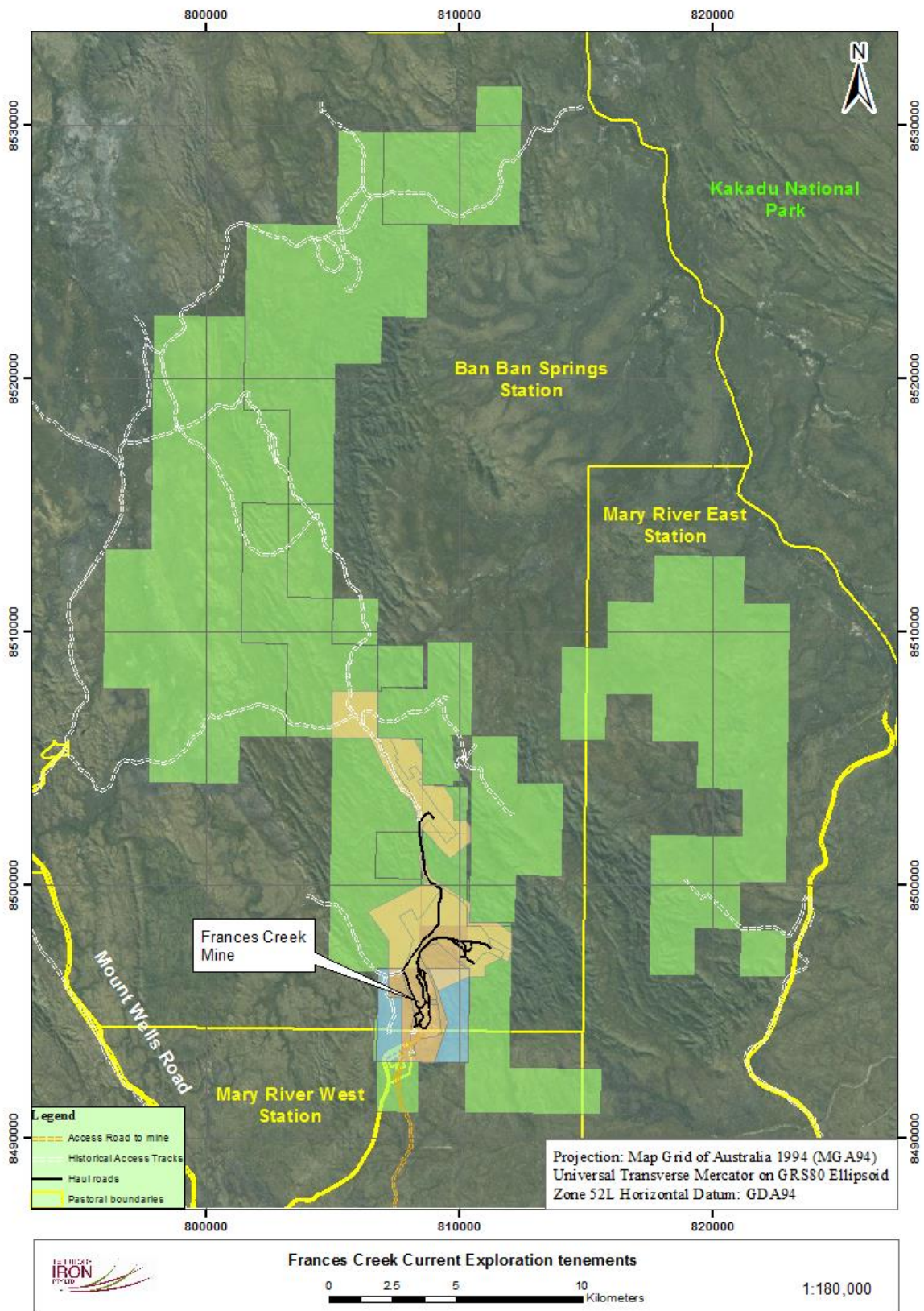


Figure 3: Location of Frances Creek Project Area tenements. Exploration Licences are shown in green, Mining Leases in tan and Mineral Authority as blue. Pastoral station boundaries are shown in yellow and ESRI world satellite imagery defines background relief

Figure 4 shows the current Exploration Licences for the Frances Creek Exploration Project, Figure 5 the allocation of tenure relating to Title Holders and Figure 6 the location of Mineral Leases.

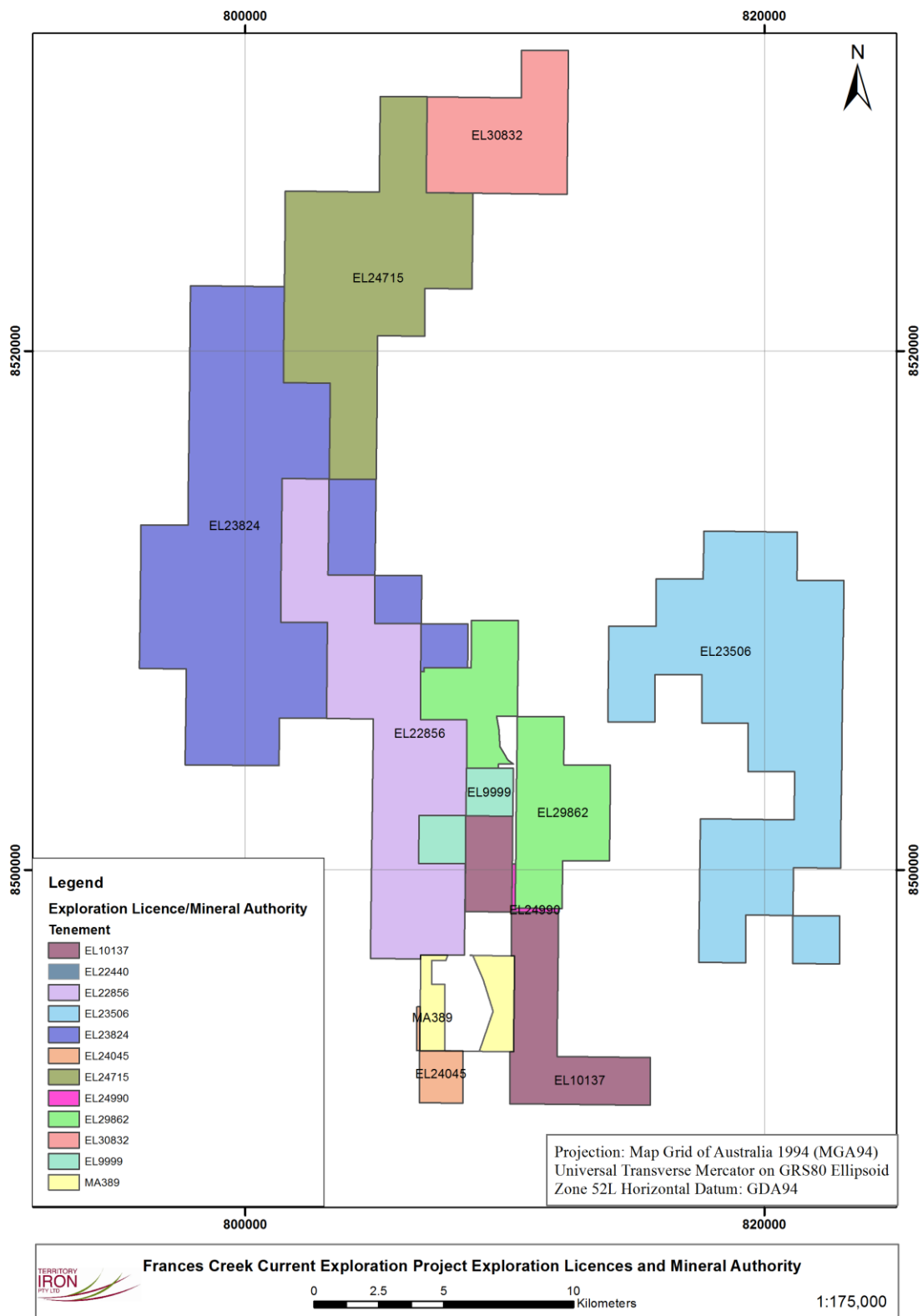


Figure 4: Location map showing current Exploration Licences for the Frances Creek Exploration Project

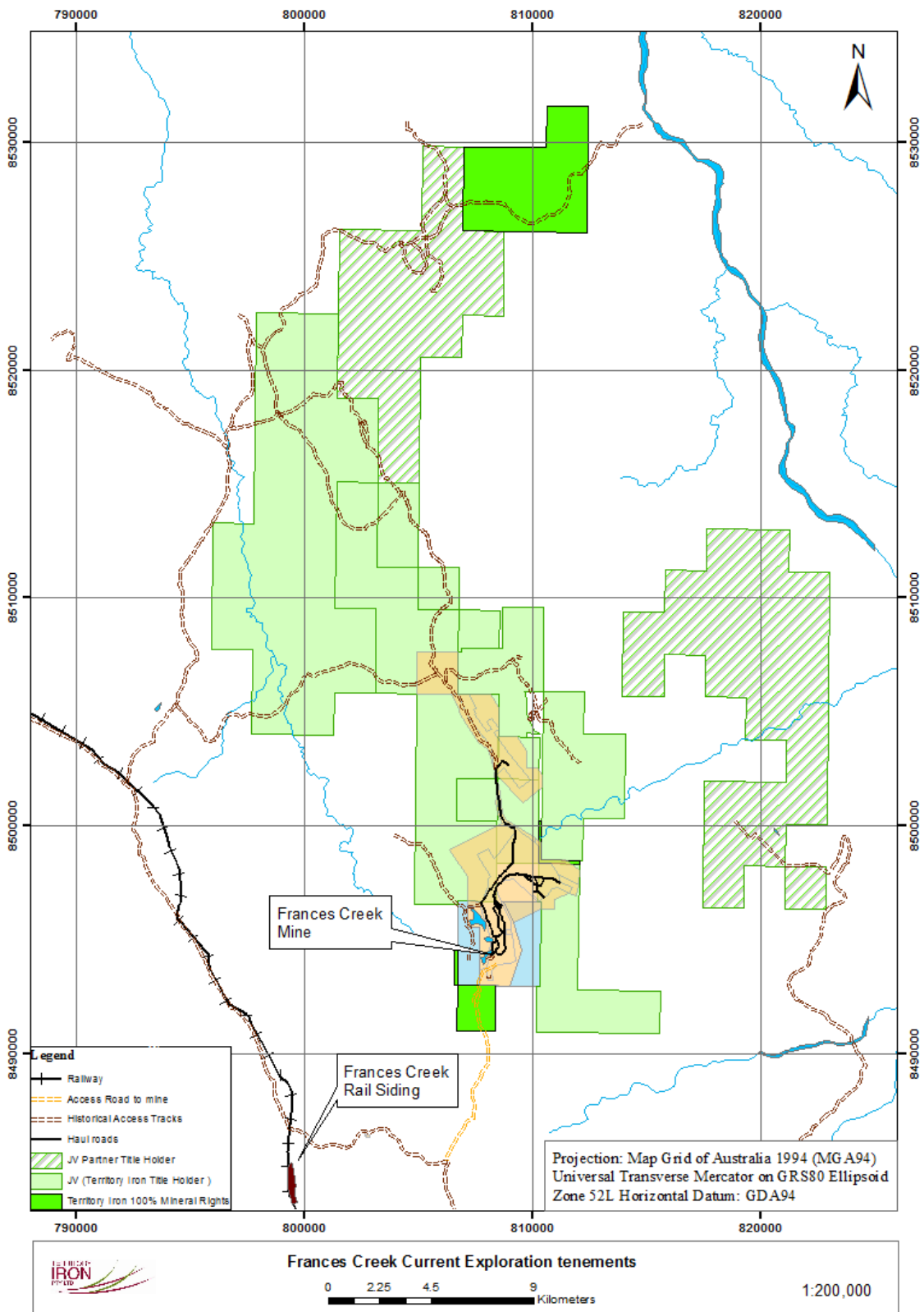


Figure 5: Frances Creek Exploration Project tenure. The solid green polygon shows Exploration Licences where Territory Iron is the Title Holder 100%, the pale green polygons where Territory Iron is the Exploration Licence Title Holder in a Joint Venture, the green hatched polygons where the Joint Venture partner is the Exploration Licence Title Holder, blue the Mineral Authority and tan, Territory Iron Mining Leases

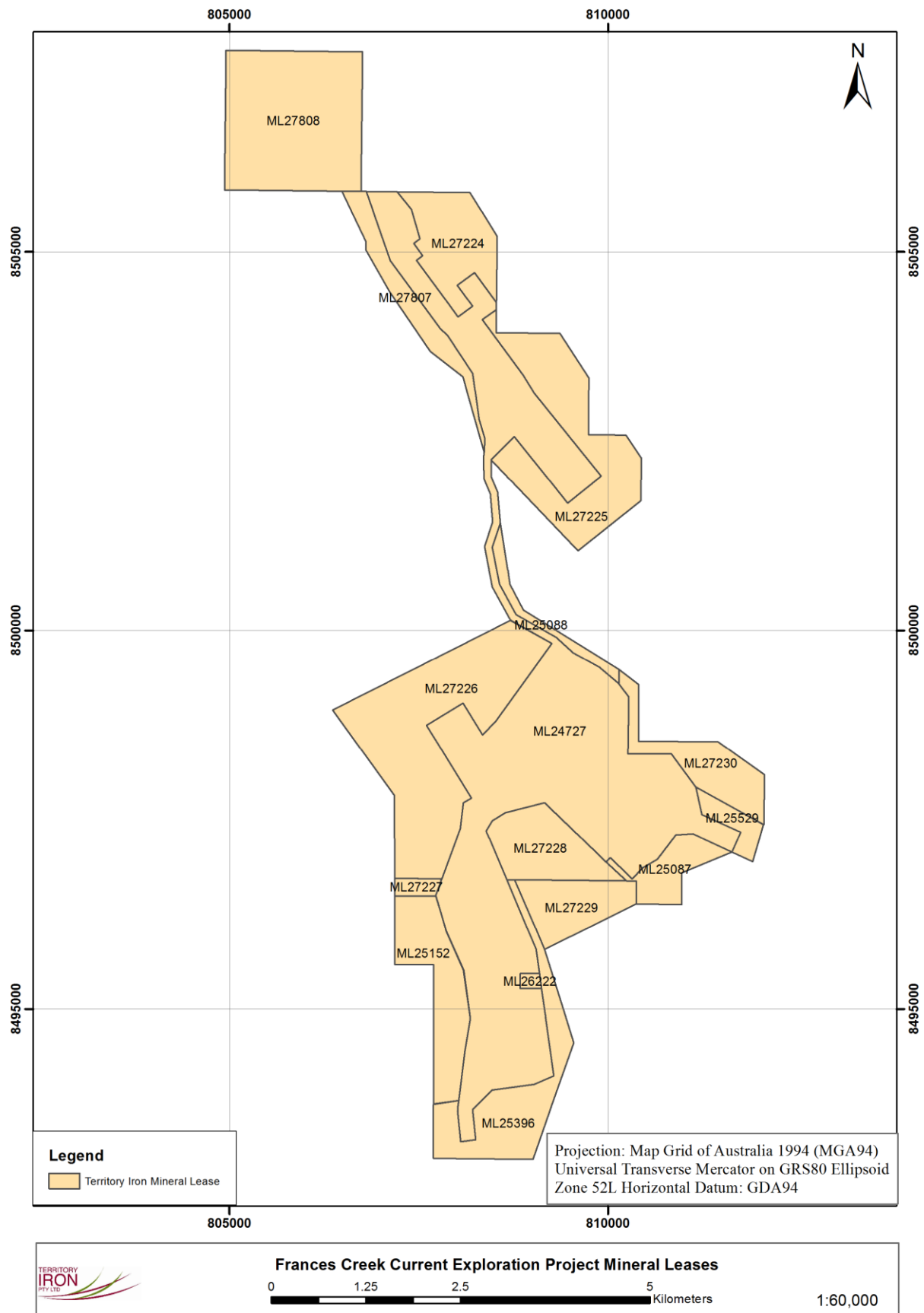


Figure 6: Frances Creek Project Mineral Leases

Figure 7 shows major and minor water features and Figure 8 the tenure overlying the Pine Creek and McKinlay River 1:100,000 topographical maps.

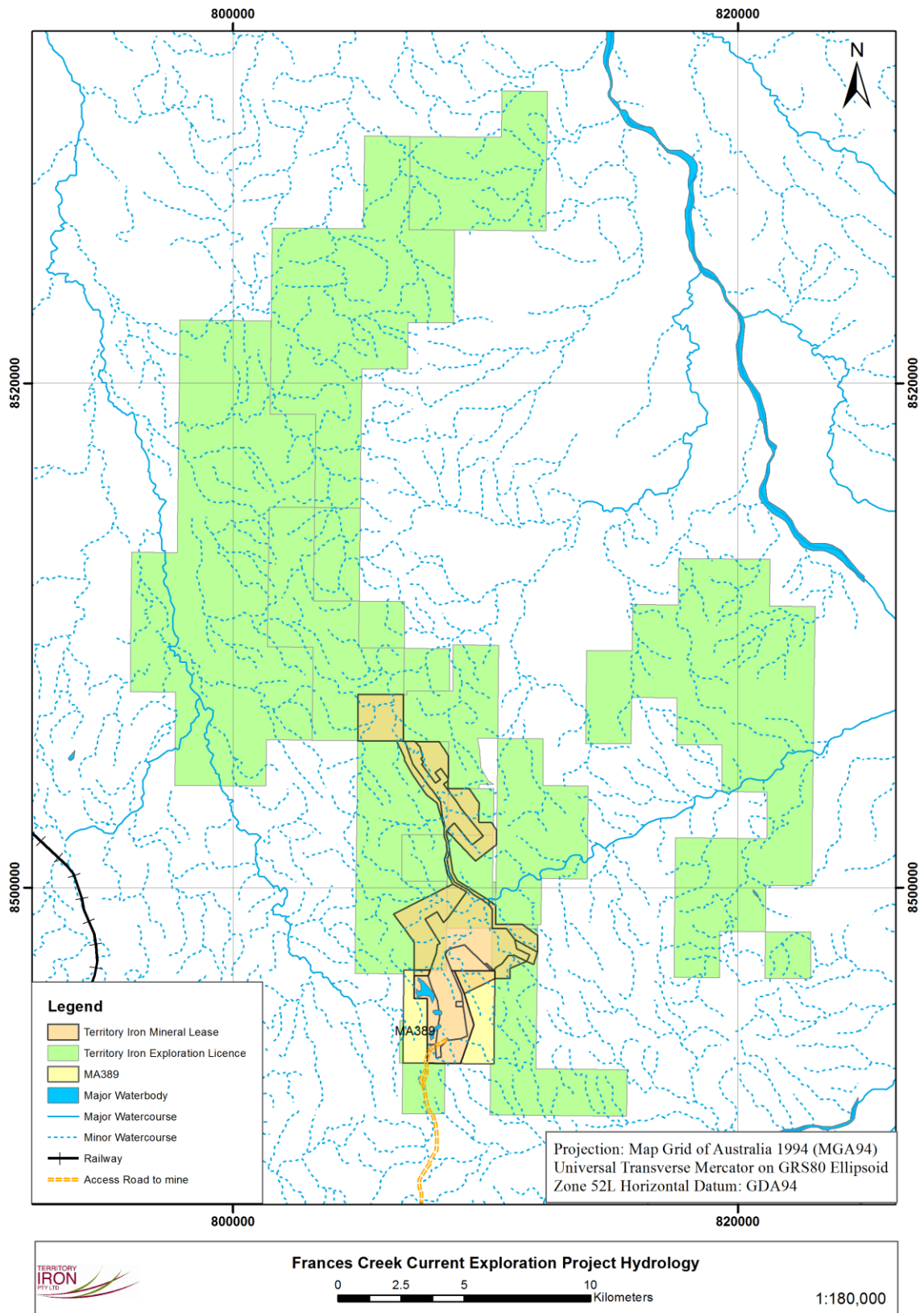


Figure 7: Frances Creek Project Area showing hydrology

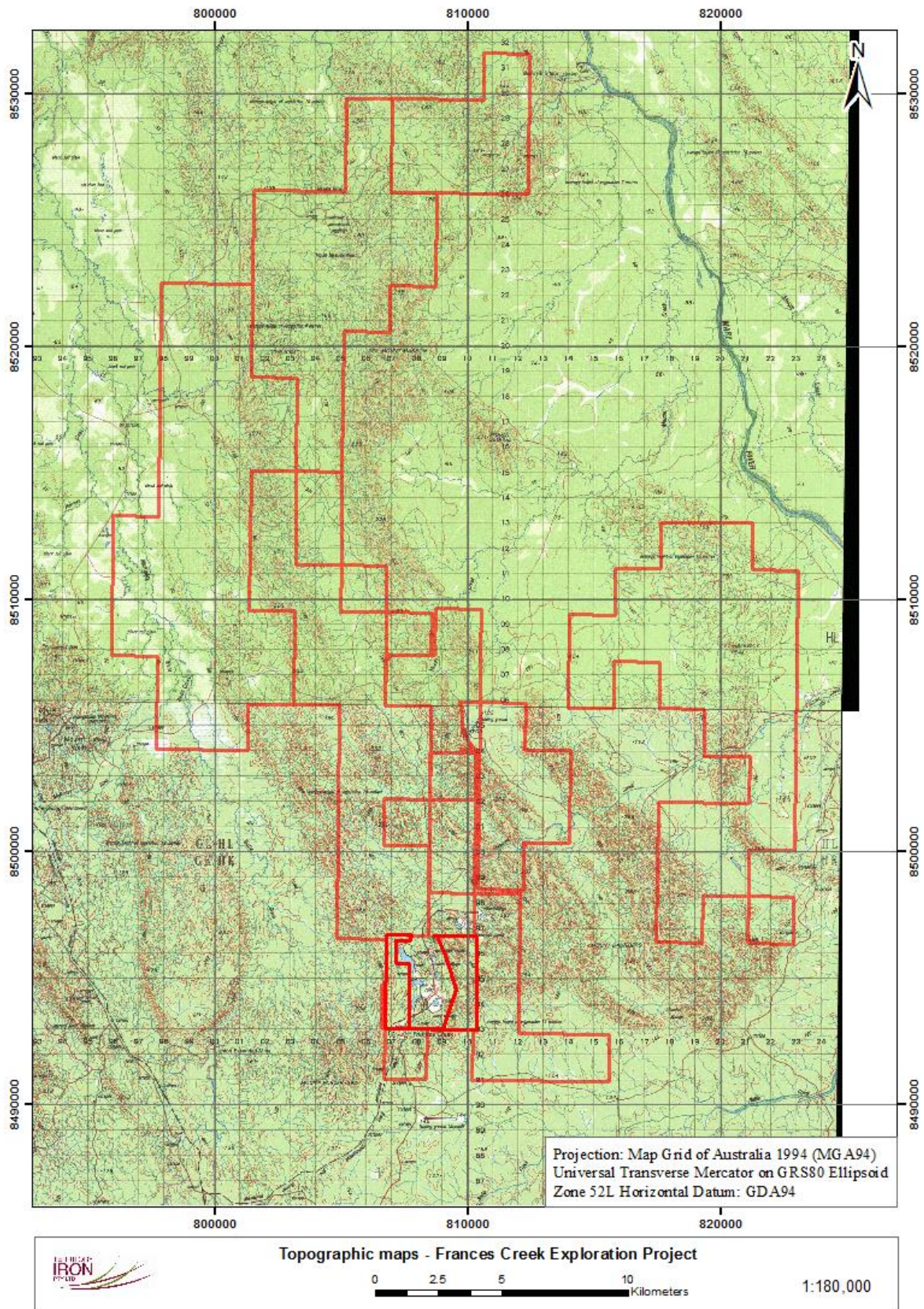


Figure 8: Pine Creek 5270 and McKinlay River 5271 1:100,000 topographic maps showing contours overlain by Territory Iron Exploration Licence tenure

From an exploration perspective, the Frances Creek Project Area has been informally subdivided into nine regional prospect areas (Figure 9) which are broadly defined by the location of exploration drill sites (see Section 2.2 of the 2015-2016 Progressive Remediation Report, Frances Creek Exploration Project).

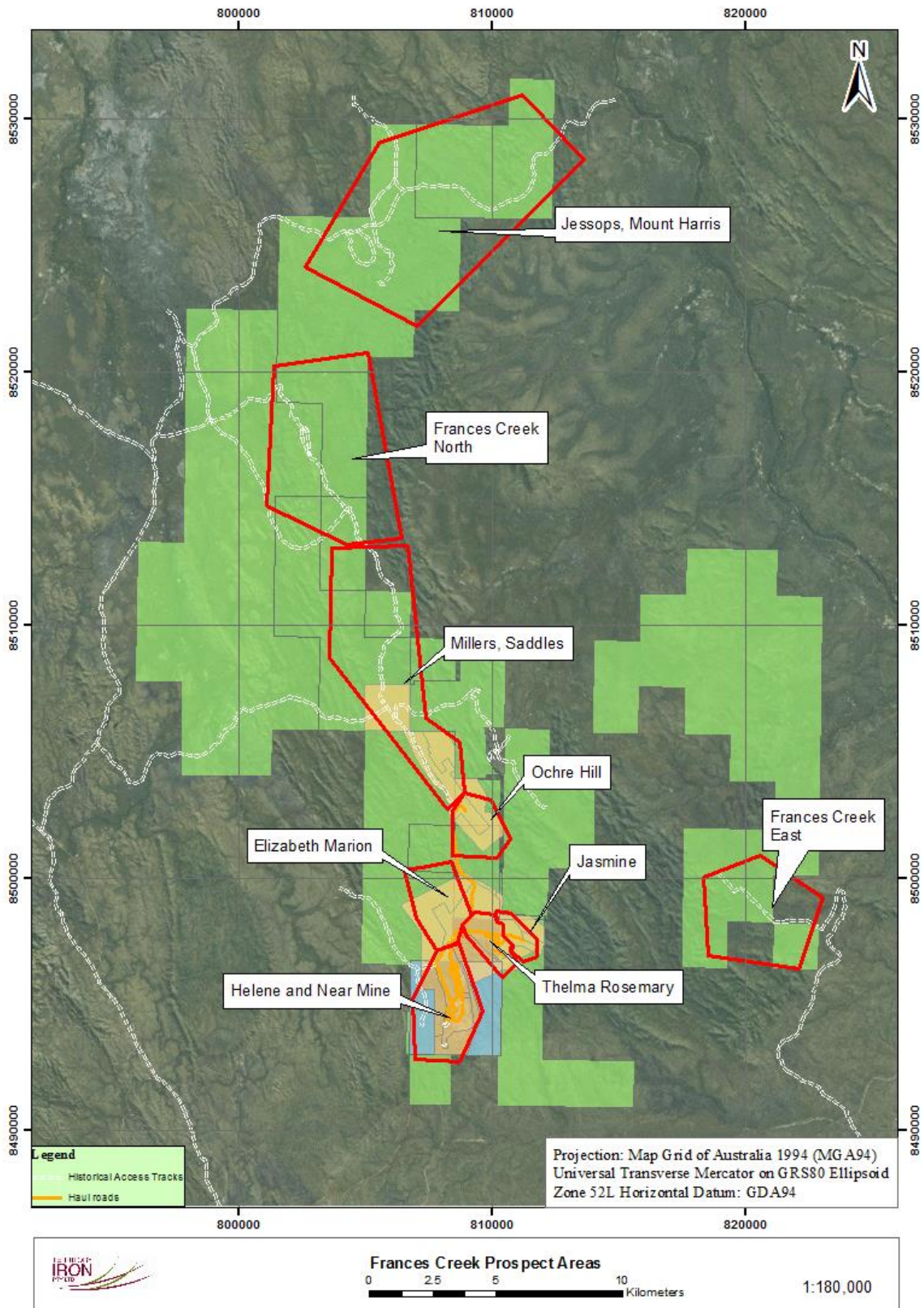


Figure 9: Frances Creek Exploration Project Prospect Areas. ESRI world satellite imagery defines background relief

3.1 PREVIOUS ACTIVITIES AND CURRENT STATUS

3.1.1 DRILL SITE ACTIVITY AND REMEDIATION

The entire exploration drill history for the Frances Creek Exploration Project was described in detail in the 2015-2016 Frances Creek Progressive Remediation Report and an extract documenting some of this information has been reproduced (*verbatim*) in **Appendix II**. In addition, the status of remediation for the Frances Creek Exploration Project as at November 2015 (extracted *verbatim* from the 2015-2016 Frances Creek Progressive Remediation Report) is shown in **Appendix II**. The latter is briefly summarised here.

A site audit was undertaken in 2015 and the results of that audit were as follows:

- i. Drill holes successfully rehabilitated (2,377)
- ii. Drill holes naturalising (48)
- iii. Drill holes on already disturbed ground (2,915)
- iv. Drill holes that require rehabilitation and/or recontouring (828)
- v. Drill holes that are leaking water (6)
- vi. Drill holes that are close to vital infrastructure that should be left in-situ (8)

There was no active exploration activity for the Frances Creek Exploration Project over the last twelve months (the previous MMP reporting period) apart from numerous desktop studies to better define the resource potential. The rehabilitation of drill sites and tracks that were identified as incomplete from the previous years' MMP (2015-2016 Progressive Remediation Report) was the main focus of field activity.

As outlined in the previous year's MMP (2015-2016 Progressive Remediation Report) as a result of the 2015 site audit, 828 drill holes were identified as requiring recontouring, Figure 10. Figure 11 shows the near mine area subdivided into prospect areas. Figure 12 shows tracks that required recontouring and earthmoving from the 2015 site audit. The tracks needing rehabilitation diagram is slightly different to the previous year's MMP as some tracks that lead to water bores were mistakenly identified as requiring recontouring. For clarity, Figure 12 shows access tracks including those leading to groundwater and surface water monitoring stations.

Territory Iron commenced remediation works for these sites this year. The same local contractor (Union Extended) who prepared the original drill sites was engaged to undertake the remediation earthmoving. The contractor's work is currently shared between Territory Iron Exploration and the Frances Creek mine site rehabilitation, with the mine site remediation taking precedence over exploration due to the fact that areas within the mine require urgent attention before the oncoming wet season. The mine site remediation is subject to a separate Mining MMP. The outcome of remediation work during the last MMP reporting period associated with the designated recontoured areas is discussed in Section 6.0 Exploration Rehabilitation Register.

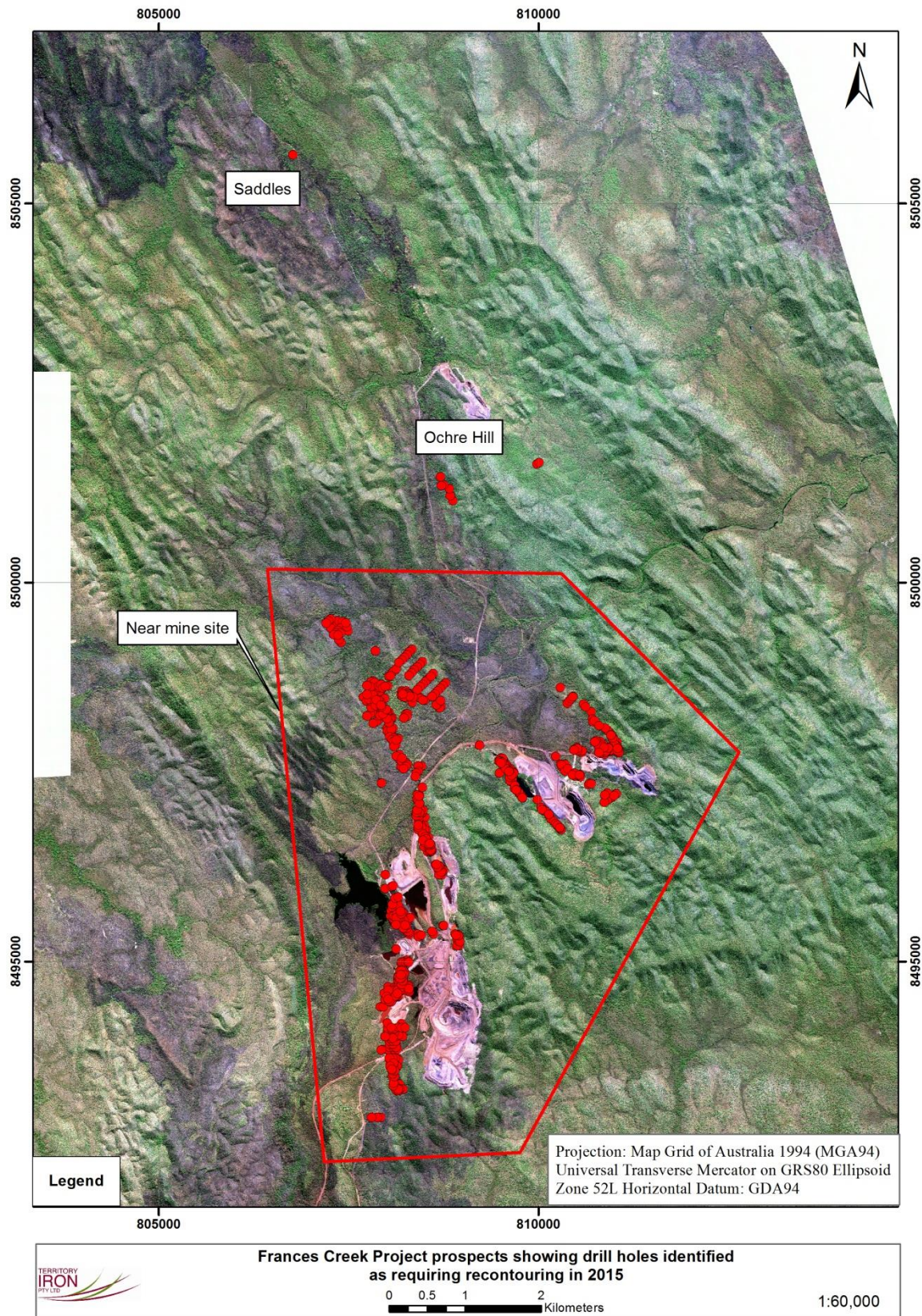


Figure 10: Frances Creek Project exploration drill sites that were identified as needing recontouring from the 2015 site audits as documented in the 2015-2016 Progressive Remediation Report. The near mine site area has been further subdivided in Figure 11

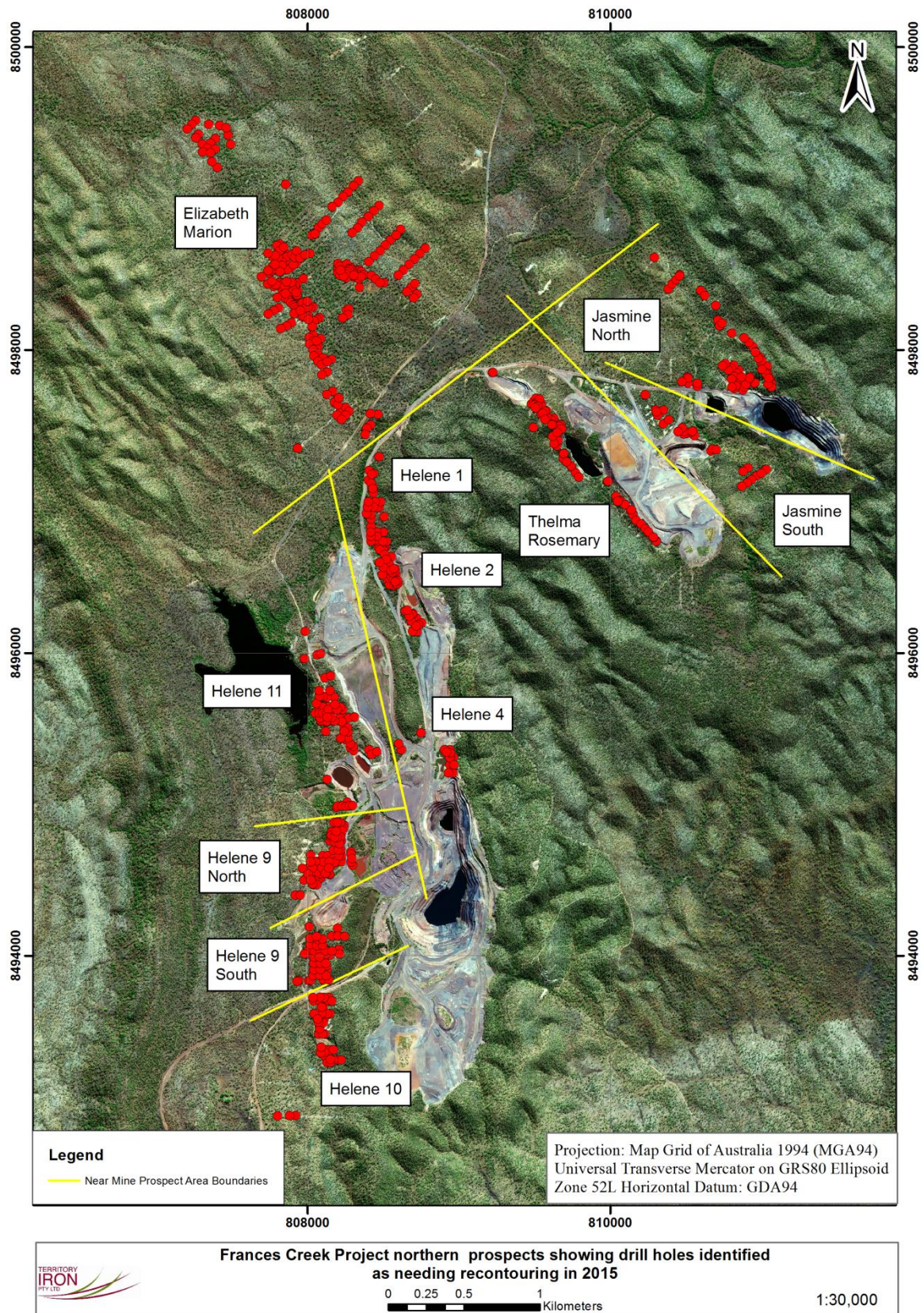


Figure 11: Near mine site areas that were identified from the 2015 site audits as requiring recontouring as detailed in the 2015-2016 Progressive Remediation Report.

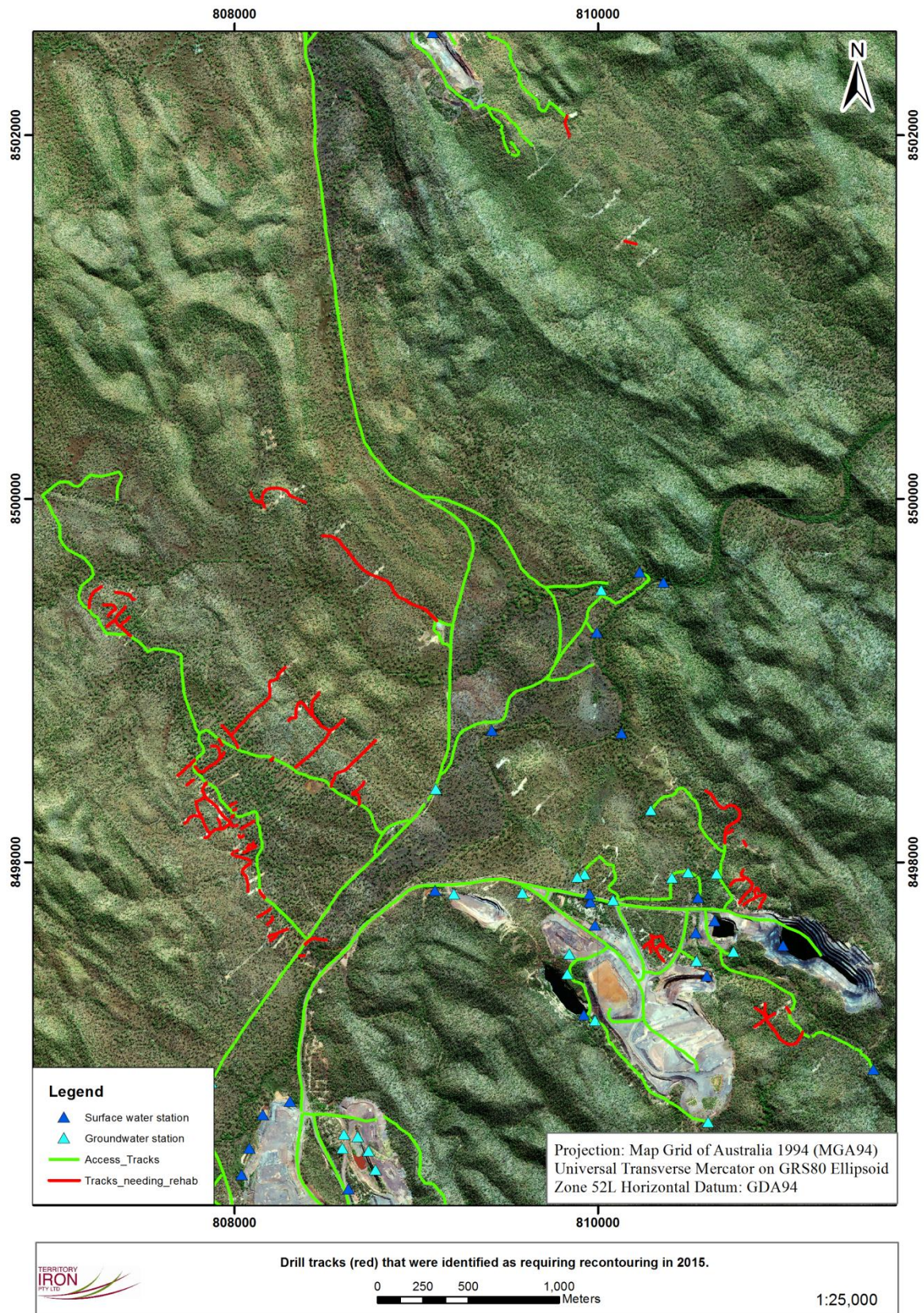


Figure 12: Tracks associated with drill sites that required recontouring (red) from the 2015 audit. Shown also are access tracks (green) including tracks leading to water monitoring stations

3.1.2 EARLIER WEED CONTROL

Weed identification and management for the Frances Creek Project Area when the Frances Creek mine was fully operational were historically undertaken by Territory Iron Environment personnel and Community and Heritage staff including Traditional Owners. The Frances Creek mine went into Care and Maintenance about end-2014. With the transition from mining activities to Care and Maintenance and loss of virtually the entire Territory Iron staff, the weed records were sketchy and often verbal. This *is changing* with weed management and control (including documented audits) becoming a priority for both the Frances Creek mine site and the exploration areas (please see Section 6.1.3: Weed Management). A weed management survey undertaken in 2012 is documented in **Appendix VI**.

Verbal results from the 2015 Frances Creek Exploration Project audit undertaken by an external consultant indicated that areas north of the mine site were largely free of invasive weeds, however some areas had been burnt off* and weeds if present may have been destroyed in this process. Weeds (*Hyptis sp.*) were identified in the Saddles area north of the mine site and this area is scheduled for weed control as soon as weather permits at the time of writing. Areas identified in September 2016 are discussed in Section 6.1.3: Weed Management).

****Please be advised that Territory Iron is not responsible for burn-offs in the Frances Creek Project area and it is definitely NOT company policy to undertake any burn-related activities for weed control. After earlier consultation and discussion with the Ban Ban Springs station owner regarding fires in the project area, the station manager indicated that poachers (illegal hunters in the area) are most likely responsible for the burn-offs.***

The next weed audit for the Frances Creek Project Area is scheduled for early-April 2017 as soon as the wet season has finished and it is safe to drive to the northern areas. This is important, as the ground to the north of the project is susceptible to areas of extreme mud and numerous vehicles in the past have become severely bogged by attempting to access these regions too soon after the wet.

3.2 PROPOSED ACTIVITIES

The only proposed activity associated with the Frances Creek Exploration Project is the remediation of earlier drill sites and tracks and monitoring. This will be an ongoing process until all earlier drill sites are successfully remediated. There will be routine monitoring (twice yearly) to check for the incidence of weed spread. ***A weed inspection/audit for the Frances Creek Project will be conducted after the wet season early 2017 and at the time of writing, this will be undertaken in about 3 months' time once the ground is dry enough to be safely driven on. These results will be included in the next Progressive Remediation Report.***

4.0 CURRENT PROJECT SITE CONDITIONS

Historical drill activities within the MMP reporting area cover an expanse of ~37 km, originating at the Frances Creek mine site and at various locations north of the mine site. As such, exploration activities have been conducted on already disturbed ground (Frances Creek mine site and surrounds) and also previously undisturbed ground (e.g. north of the mine site). Historical access tracks link the mine site to the northern project area. The information in this section (and ecological reports referenced in **Appendix VI**) provides an overview of the landforms, fauna and flora in the region.

A NT NRM Report for information relating to the Frances Creek Exploration Project is located in **Appendix VI**. The website link for accessing the data is www.ntinonet.org.au

The report provides information relating to climate, soil types, vegetation communities, fire history, threatened species, identified weeds and pests.

4.1 LOCAL AND REGIONAL GEOLOGY

4.1.1 REGIONAL GEOLOGY

The Frances Creek mine site and adjacent exploration area are located within the Palaeoproterozoic Pine Creek Orogen which forms part of the North Australian Craton. The Pine Creek Orogen covers an area of ~50,000 km² and represents a >4 km succession of carbonate, clastic and carbonaceous sedimentary and volcanic rocks, which unconformably overlie Neoproterozoic (~2500 Ma) basement granite and gneiss. Based on the timing of sedimentation, magmatism and metamorphism, the Pine Creek Orogen has been divided into three distinct domains, from west to east; the amphibolite to granulite facies Litchfield Domain, the greenschist facies Central Domain and the amphibolite facies Nimbawah Domain. The Frances Creek mine site and adjacent exploration area is located within the Central Domain.

The oldest rocks (the Palaeoproterozoic Woodcutters Supergroup) comprise the Namoon Group (Masson Formation) to the east of the Frances Creek project area. They are unconformably overlain by the Mount Partridge Group (Mundogie Sandstone and Wildman Siltstone) which cover the majority of the Frances Creek project. The Mundogie Sandstone (Mount Partridge Group) forms prominent continuous northwest-striking ridges of dominantly coarse, pebbly, feldspathic quartzite and arkosic sandstone (Stuart-Smith et al., 1987). Massive, graded beds of pebble conglomerate are common and units often display graded bedding and lenticular cross-bedding. Subsequent to sedimentation of the Mundogie Sandstone, the Wildman Siltstone (subdivided into two members; the Lower Wildman Siltstone and Upper Wildman Siltstone) were deposited with apparent conformity. The unit mainly comprises metapelitic assemblages with subordinate sandstone. The Lower Wildman Siltstone is host to the majority of the iron mineralisation at Frances Creek.

In the western portion of the Frances Creek project area, the Mt Partridge Group is unconformably overlain by the stratigraphic sequences of the Cosmo Supergroup, comprising the South Alligator Group (Koolpin Formation, Gerowie Tuff and Mt Bonnie Formation) stratigraphic sequence. Subsequent to deposition of these units, pre-orogenic Zamu Dolerite sills intruded these stratigraphic successions.

Syn- to post-orogenic activity is represented by intrusion of the 1835-1800 Ma Cullen Supersuite granitoids. Intrusion of the granite led to contact aureoles in the surrounding pre-orogenic Masson Formation, Mundogie Sandstone and Zamu Dolerite.

Two major episodes of folding are recognised, earlier tight to isoclinal F1 folds followed by younger open (widely spaced) folds (Stuart-Smith et al., 1987). The major structural controls in the tenement area are related to D3 1-3 km scale northwest-trending non-cylindrical folds, which plunge gently to the northwest to form a series of anticlines and synclines pre-dating the intrusion of the Cullen Supersuite, and 1-3 km long northwest and northeast-trending faults.

4.1.2 LOCAL GEOLOGY

Figure 13 shows the geology for the Frances Creek Project Area at the 1:250,000 scale. In the Frances Creek area to the south (Figure 14) economic grade iron mineralisation is concentrated primarily within basal breccias of the Lower Wildman Siltstone, within regional fold hinge zones and limbs of overturned NNW-trending, shallow plunging, non-cylindrical folds and subordinate parasitic folds and fold flexures. The lower sequence consists of carbonaceous phyllite, ironstone, siltstone and phyllite which is overlain by laminated grey, brown, red and cream banded siltstone (Stuart-Smith et al, 1987). At depth, the sequence grades into pyritic carbonaceous shale. The lower member in surface outcrop consists of bleached white to grey carbonaceous

shale including highly angular iron-rich breccias and massive ironstone, overlain by laminated grey, brown, red and cream shale and siltstone.

Although not recognized in the official stratigraphic definition for the Wildman Siltstone, drilling at Frances Creek has revealed extensive dolostone in the lower member. Iron enrichment is not restricted to one stratigraphic unit and occurs in strata both above and below the Wildman Siltstone, although these enrichments do not reach economic levels. A characteristic feature of the Frances Creek deposit is that high-grade zones comprise numerous, small, irregular, “pod-like” ore bodies that are of the order of 10 – 20 m in diameter and generally within 100 m of the contact to the underlying Mundogie Sandstone.

Iron-bearing oxides include hematite (Fe_2O_3) and goethite ($\text{FeO}(\text{OH}) \pm$ accessory manganese minerals which are associated with goethite. High grade Fe-ore ($>65\% \text{Fe}$) is characterized by hard, grey, massive hematite or friable purple, microplaty hematite. These ores can range from extremely fine grained to coarse grained and bladed with numerous irregularly shaped vugs and skeletal-textures reminiscent of boxworks, in which vugs are often filled with late-crystallising, coarse-grained hematite. Goethite occurs as both ochreous and vitreous forms.

4.1.3 SOILS DERIVED FROM GEOLOGICAL SUCCESSIONS

The Frances Creek Project area is dominated by tenosols, loams and hydrosols and also includes kandosols, calcareous earths and rudosols. Tenosols have a weakly developed soil profile which is typically sandy and without obvious horizons. Tenosols form from highly parent material where rainfall in the region is between 0 to 1400 mm. Hydrosols in contrast, are soils that are saturated with water for long periods of time and are typically grey to green-grey in colour. Kandosols are soils that do not have a strong textural contrast between the A and B horizons. They have a massive or weakly structured B horizon and are not calcareous. The parent material of kandosols ranges from highly siliceous, siliceous to intermediate in composition. Calcareous earths are alkaline in composition and have topsoil which is loamy textured, grading to clay. They may appear powdery when dry but can set hard following rain. The topsoil will be water repellent when dry. The subsoil of calcareous earths are loamy to clay in composition derived from limestone. They have a high alkalinity and are saline in the lower subsoil. Rudosols have the least profile development of all soils. They often occur as a shallow soil profile from weathered parent material and with minor organic matter.

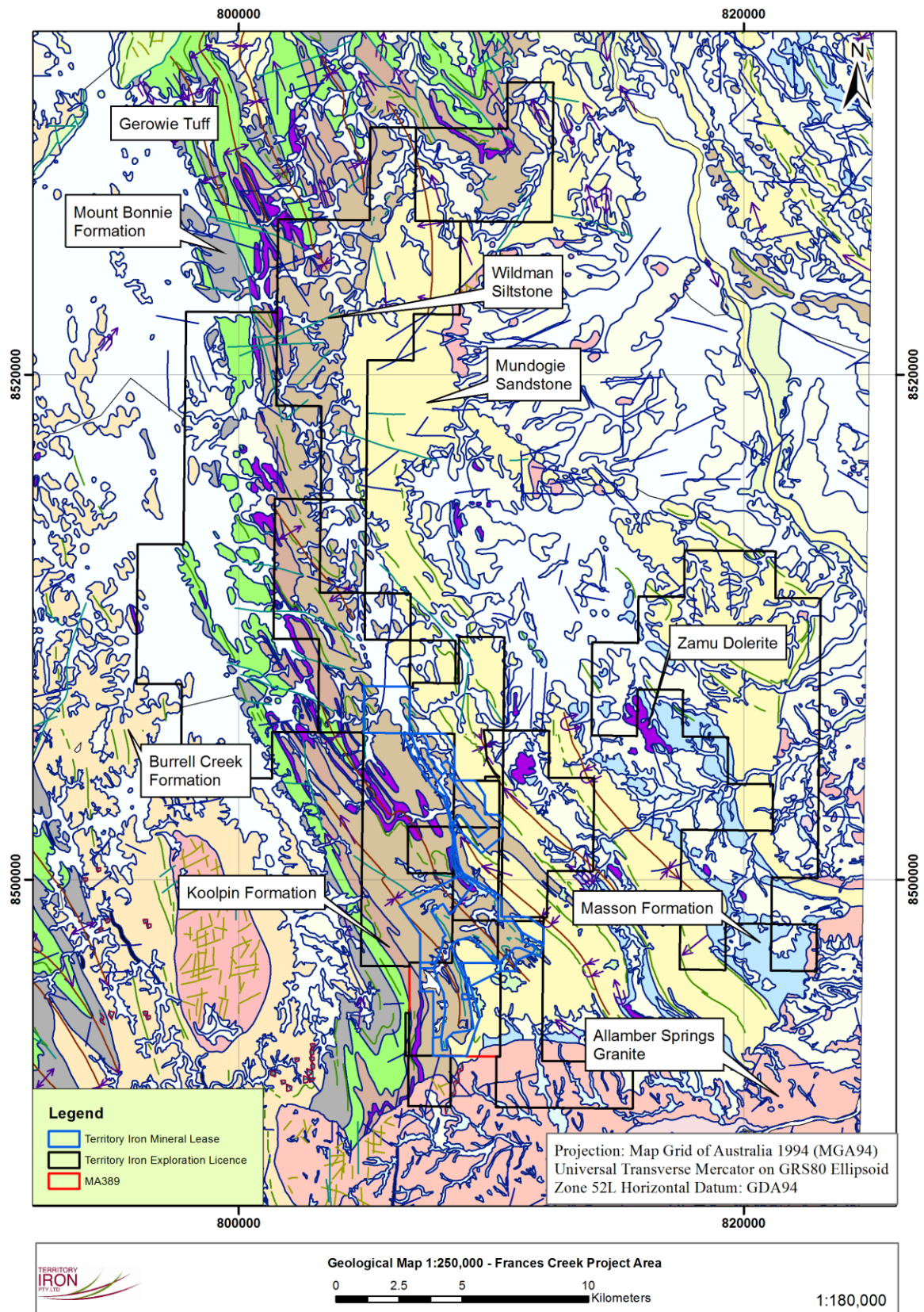


Figure 13: Geological Map 1:250,000 with tenement overlay for the Frances Creek Exploration Project. Geological digital data is from the Northern Territory Geological Survey, Darwin

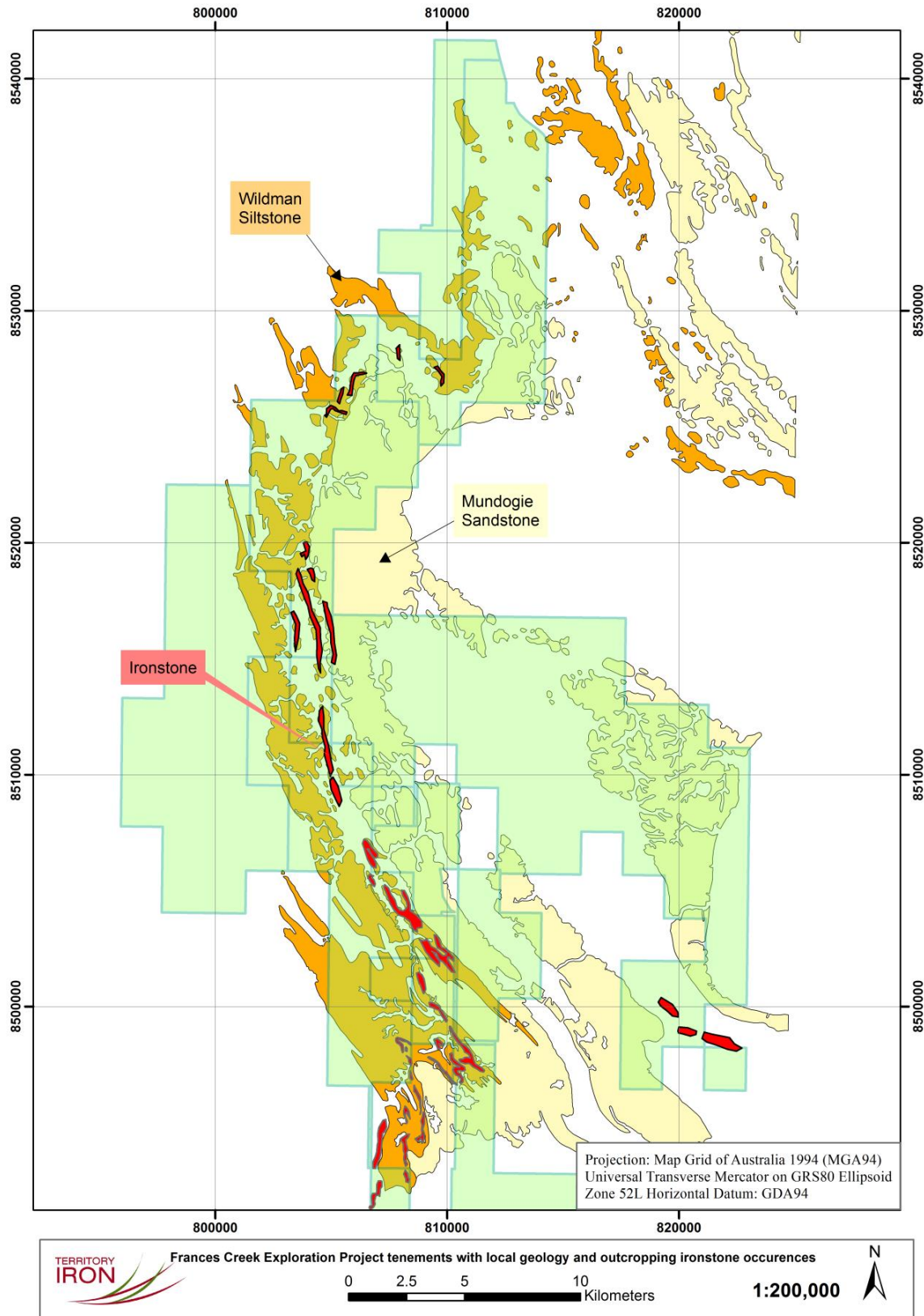


Figure 14: Frances Creek Exploration Project showing tenements, local geology and outcropping ironstone occurrences

4.2 HYDROLOGY

Incised valleys amongst the hills indicate the area has occasional heavy rainfall and surface water run-off during the wet season. Areas of grey soil are evident in the lower plateau areas, however the areas underlain by granite drain freely after heavy rainfall. The location of surface water and groundwater bores that are routinely tested at Frances Creek are shown in Figure 15.

Water which was required for historical drill-related activities was sourced from production well FCPB02 (Figure 15) at the Frances Creek mine site. Groundwater sampling of all water bores on site at Frances Creek are conducted monthly. Field measurements include pH; electrical conductivity (EC us/cm); Turbidity (NTU); Dissolved Oxygen (% saturation); Temperature (°C); Total Dissolved Solids (mg/L); Salinity (ppt); Redox (mV) and Standing Water Level (SWL mBTOC) metres below top of casing. Metals and metalloids analysed include (total and filtered using 0.45 µm; units µg/L) Al, As III, As IV, Be, Cd, Cr, Co, Cu, Fe, Pb, Mn, Mo, Ni, Se, Th, Sn, U, Zn and units mg/L include CO₃, HCO₃, Ca, Mg, K, Na, Cl, and SO₄. Territory Iron's Groundwater Sampling Procedure detailing this process is located in **Appendix V**.

Water quality for all bores must meet the ANZECC (2000) guidelines and are evaluated on site specific guidelines (based on existing data). All water sourced within the MMP reporting period from production well FCPB02 has met the strict guidelines required for water quality.

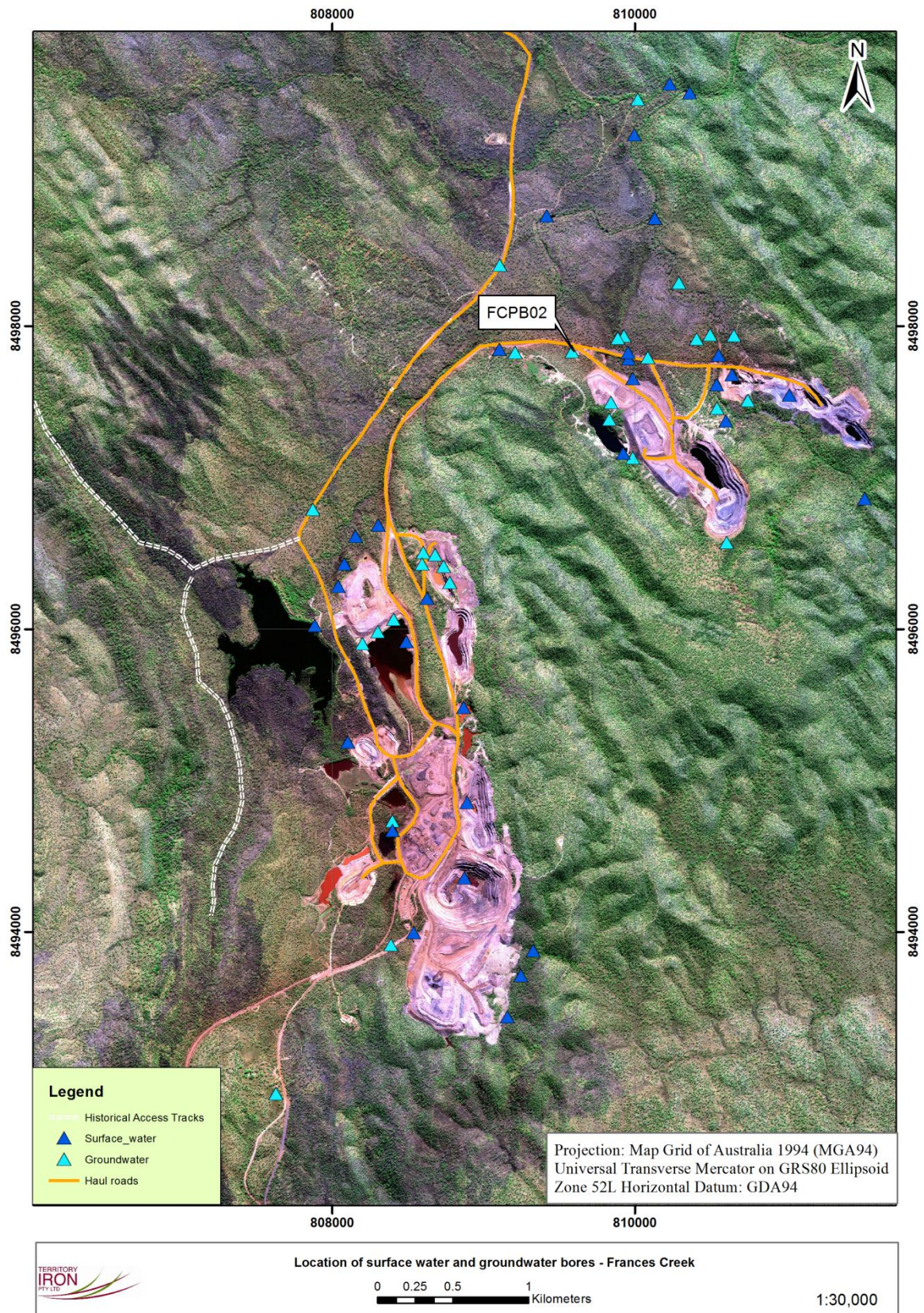


Figure 15: Location of surface water and groundwater bores at Frances Creek. Groundwater bore FCPB02 was historically sourced by drilling contractors during the active exploration phase for the Frances Creek Project.

4.3 FLORA AND FAUNA

Vegetation types include open mixed forest and woodlands with tall grass contrasting with diverse and complex vegetation including palms, shrubs, vines and water plants in riparian systems. In general, riparian areas host *Pandanus spiralis*, while *Livistona humilis* is found more distal to drainage areas, often clustered in low-lying sandy areas and on ridge crests. *Cycas armstrongii* is listed as a vulnerable species in the Top End of the Northern Territory and occurs as small, isolated populations within the Frances Creek project area. Territory Iron recognizes the importance of protecting this species, and restricts clearing and land disturbance where these plants are found. Pyke and Low (2008) indicate that the vegetation and landforms are representative of a much larger region of the Northern Territory (**Appendix VI**). *Eucalyptus tintinnans*, *Eucalyptus miniata*, *Eucalyptus tectifica*, *Corymbia dichromoploia* and *Corymbia latifolia* dominate in the low open woodland with *Sorghum* grassland. Comprehensive ecological studies for the Frances Creek project area are located in **Appendix VI** (Pyke and Low, 2008, 2009; Stewart and Low, 2011). All environmental reports pertaining to the Frances Creek Exploration Project are located in **Appendix VI**.

The Frances Creek project area has a number of significant fauna (Pyke and Low, 2008, 2009; **Appendix VI**). Mammals include the Northern Quoll, Calaby’s Pebble Mound Mouse, Western Chestnut Mouse, Pale-field Rat, Ghost Bat, Orange Horseshoe Bat, Bare-rumped Sheathtail Bat and Arnhem Sheathtail Bat. Significant birds include the Bush Thicknee, Red-tailed Black Cockatoo, Red Goshawk, Gouldian Finch, Partridge Pigeon, Star Finch and Masked Owl. **Appendix VI** contains a history of Gouldian Finch sightings. Introduced feral animals observed in the project area include buffalo, horses, donkeys and wild pigs.

Threatened species as sourced from the NRM Report (**Appendix VI**) are listed in Table 6.

Table 6: Threatened species identified within the Frances Creek Project Area

Common Name	Scientific Name	Northern Territory Status
Armstrong's Cycad	<i>Cycas armstrongii</i>	Vulnerable
Yellow-snouted Gecko	<i>Lucasium occultum</i>	Vulnerable
Mertens' Water Monitor	<i>Varanus mertensi</i>	Vulnerable
Mitchell's Water Monitor	<i>Varanus mitchelli</i>	Vulnerable
Yellow-spotted Monitor	<i>Varanus panoples</i>	Vulnerable
Partridge Pigeon	<i>Geophaps smithii</i>	Vulnerable
Gouldian Finch	<i>Erythura gouldiae</i>	Vulnerable
Northern Quoll	<i>Dasyurus hallucatus</i>	
Fawn Antechinus	<i>Antechinus bellus</i>	
Ghost Bat	<i>Macroderma gigas</i>	Vulnerable
Northern Leaf-nosed Bat	<i>Hipposideros stenotis</i>	Vulnerable
Black-footed Tree-rat	<i>Mesembriomys gouldii gouldii</i>	
Pale Field-rat	<i>Rattus tunneyi</i>	Vulnerable

4.4 LAND USE

The exploration project area (Figure 3) lies within the Ban Ban Springs Pty Ltd pastoral station lease boundary (NP Portions 695 and 1344 – Perpetuity Pastoral Lease 1111). Whilst Ban Ban Pty Ltd is a grazing cattle station limited stock numbers exist within the proposed exploration areas. Territory Iron has a Landholder Agreement with Ban Ban Springs to undertake mining and exploration activities within their lease area. Territory Iron has an Indigenous Land Use and Ancillary Agreements with the Native Title claimant group. Exploration activities also occur within the Mary River West and Mary River East Pastoral Leases.

4.5 HERITAGE SITES

Territory Iron will act in compliance with the NT *Sacred Sites Act* 1989 and NT *Heritage Act* 2012. When the mine was operational (pre-2015) and Territory Iron was undertaking exploration activities, the Company had an Indigenous, Heritage and Community Affairs Department which employed two permanent Archaeologists and several Jawoyn Traditional Owners (and/or their Representatives) to manage the cultural heritage resources within the Company's operational areas. In December 2013, Territory Iron was granted a Regional Permit under Section 72 of the NT *Heritage Act* (2012) to disturb sites throughout the entire Frances Creek project area.

Territory Iron commissioned the undertaking of an initial cultural heritage assessment in 2005 and the ongoing cultural heritage management surveys have been integrated into the Land Disturbance Permit (internal process) since 2008. To date, these surveys have resulted in the recording of a large number of Aboriginal archaeological sites and isolated artefacts that are protected under Section 17/18 of the NT *Heritage Act* (2012). Cultural heritage surveys were undertaken prior to any ground disturbance activities associated with exploration, with a policy of 'site avoidance' implemented for ground disturbance activity where possible.

Figure 16 shows the location of centroids for the Frances Creek Exploration Project as identified by the two former Archaeologists and Traditional Owners when the mine site was operational. Centroids are the centre point for a number of recorded artefacts and are not representative of the entire area. All recorded sites are lodged with the Northern Territory Heritage Branch, Department of Lands, Planning and the Environment.

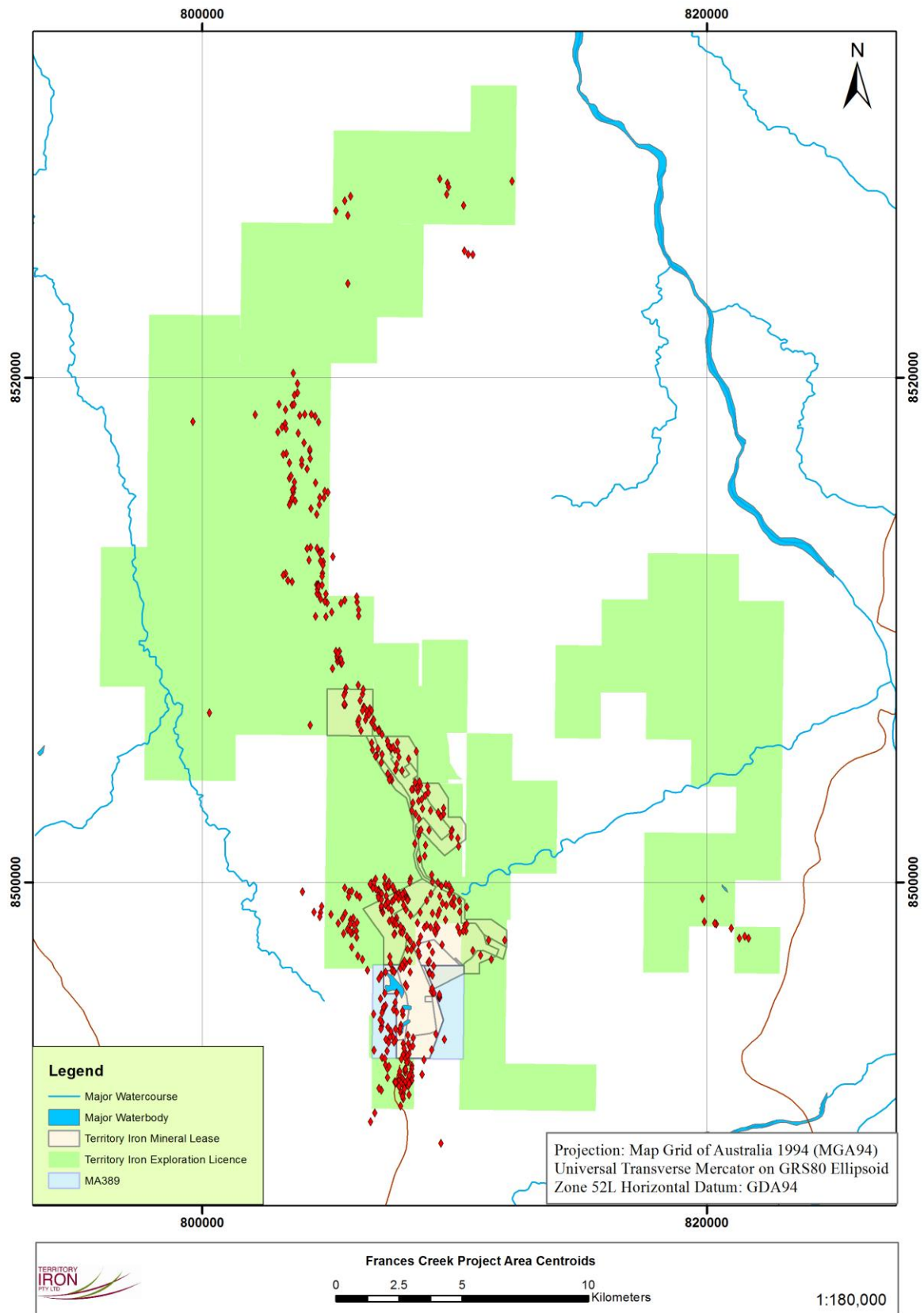


Figure 16: Location of centroids for the Frances Creek Exploration Project

5.0 ENVIRONMENTAL MANAGEMENT SYSTEM

5.1 ENVIRONMENTAL POLICY AND RESPONSIBILITIES

Territory Iron has implemented strategies designed to minimize the potential impact to the environment directly relating to exploration activities. These include utilizing existing tracks where possible in preference to constructing new tracks, keeping the track width to a minimum and constructing new tracks along topographic contours, minimising the disturbance of significant vegetation (e.g. avoiding large trees and *Cycas armstrongii*) and avoiding watercourses. Preservation of large trees is important as they are often sites for nesting, e.g. *Eucalyptus tintinnans* (Salmon Gum) is believed to be the preferred breeding tree for Gouldian Finches (Hanrahan and Low, 2012). Moreover, all Territory Iron staff and contractors undergo a site induction which highlights endangered flora/fauna and the importance to minimise environmental disturbance at all times.

As recommended by Pyke and Low (2008, 2009) land disturbance (drill pad sites and tracks) are designed to avoid riparian environments and associated low-lying alluvial areas. Buffer zones of 50 metres are used to avoid damage to the fringing vegetation at the interface between the land and a river or stream. This practice ensures the ecological integrity and biodiversity of permanent and ephemeral watercourses and associated vegetation are preserved. During track construction, watercourse crossings are designed to minimise disturbance to natural water flow. In addition, it is standard practice for Territory Iron staff and contractors to design tracks around large or significant trees to ensure their preservation.

All Territory Iron personnel take responsibility for the implementation of environmental practices and these measures were monitored by senior staff members. All personnel associated with the exploration program (including contractors) are aware and responsible for their own actions and how that may negatively impact on the environment. Current Territory Iron personnel take environmental issues seriously and work hard to minimise unnecessary disturbance to the environment.

An earlier version of Territory Iron's Environmental Policy (*as of 2013*) is presented on the next page. Territory Iron is currently re-evaluating the Environmental Policy and once finalised and signed by the General Manager, will be submitted as an amendment to this Progressive Remediation Report.



Environmental Policy

Territory Iron Pty Limited believes that protection of the environment is a key responsibility. Company management recognises that environmental management is an integral part of all activities, from exploration and mining to processing and exporting. Maintaining a high level of environmental performance at our operations will benefit all stakeholders, including shareholders, employees, Traditional Owners and the broader community.

In order to achieve and maintain high environmental standards, Territory Iron Pty Limited and its employees undertake to:

- *Comply with all applicable environmental laws, regulations and standards;*
- *Implement systems to identify, control and monitor environmental risks arising from our operations;*
- *Cooperate with regulators and stakeholders in the development of standards that improve protection of the environment and the community;*
- *Implement strategies, methods and technologies to prevent pollution, minimise waste and conserve natural resources;*
- *Ensure that all company employees and contractors are aware of their environmental responsibilities and conduct operational activities, including appropriate environmental controls, with a high level of competence;*
- *Promote cross cultural awareness and where possible, protect sites of cultural and heritage significance;*
- *Engage in timely and effective communication with landowners, relevant Indigenous people and others who may be directly affected by Company operations;*
- *Communicate regularly with employees, suppliers, contractors and customers about the objectives of the Company environmental policy and its implied responsibilities;*
- *Provide information to the community, shareholders and regulatory authorities regarding the environmental performance of the Company; and*
- *Continually seek to improve Company environmental performance.*

Authorised by:

Darren Gibcus
General Manager - Operations
10 August 2013

5.2 STATUTORY AND NON-STATUTORY REQUIREMENTS

5.2.1: STATUTORY REQUIREMENTS

The Frances Creek Project Area is subject to the following statutory requirements.

- Mining Management Act 2013
- Mineral Titles Act 2011
- Heritage Act 2011
- Northern Territory Aboriginal Sacred Sites Act 1989
- Commonwealth Native Title Act 1993
- Commonwealth Environment Protection and Biodiversity Conservation Act 1999
- Northern Territory Environmental Assessment Act 1994
- Bushfires Act 2009 (subject to permits from Bushfires NT)
- Weeds Management Act 2001
- Environmental Protection and Biodiversity Conservation Act 1999
- Environmental Assessment Act 1992
- Pastoral Lands Act
- Work, Health and Safety Act (National Uniform Legislation) Act 2011

5.2.2 NON-STATUTORY REQUIREMENTS

5.2.2.1 Land Use Agreements – Native Title

Territory Iron has an Indigenous Land Use Agreement (ILUA) and Ancillary Agreements with the Native Title claimant group and the Northern Land Council (NLC). Additional Ancillary Agreements (or Exploration Access Agreements) will be sought for any exploration activities undertaken on Native Title land not currently covered under the Company's existing Indigenous Land Use or Ancillary Agreements.

5.2.2.1 Pastoral Agreements

The Frances Creek Exploration Project lies within the Ban Ban Springs Pty Ltd pastoral station lease boundary (NT Portions 695 – Perpetual Pastoral Lease 1111). Territory Iron has a Landholder Agreement with Ban Ban Springs to undertake mining and exploration activities within their lease area.

In 2015, Territory Iron made an Agreement with the station manager of Ban Ban Springs station to leave ~41 km of exploration track in their current state i.e. “*in-situ*”. These tracks will enable pastoralists to have better access to areas on the station without further disturbance to the natural environment. Tracks to be left “*in-situ*” at the request of the Ban Ban Springs station manager are shown in Figure 38 of the 2015-2016 Frances Creek Project Progressive Remediation Report and the signed agreement located in Appendix III of that report.

5.3 INDUCTION AND TRAINING

All Territory Iron personnel and contractors must comply with all applicable Environmental and Heritage laws, Regulations and Standards and ensure that they are aware of their Environmental and Heritage responsibilities and obligations. To meet these objectives, all personnel and contractors to the mine site and Frances Creek Project Area undertake a half-hour site induction prior to work engagement. The site induction is conducted by the Frances Creek Operations Site Manager who is an Environmental Scientist. As the Frances Creek mine site is currently in Care and Maintenance, the focus is now strongly towards Environmental issues and awareness.

The induction training includes:

- Environmental and heritage policy and commitments
- Environmental and heritage setting
- Environmental monitoring
- Cultural heritage management practices
- Land disturbance
- Rehabilitation
- Flora and fauna (including threatened species, feral animals and weed identification and management)
- Waste management
- Environmental spills/accidents
- Effects of uncontrolled burns
- Safety

5.4 IDENTIFICATION OF ENVIRONMENTAL ASPECTS AND IMPACTS

Prior to any land disturbing exploration activity, an internal Territory Iron Land Disturbance Permit (LDP) was required to be completed by the Exploration, Community and Heritage and Environmental Departments prior to approval by management. The LDP served to protect any identified significant cultural heritage sites and/or endangered flora and fauna which required isolation and protection.

As recommended by Pyke and Low (2008, 2009) land disturbance (drill pad sites and tracks) are designed to avoid riparian environments and associated low-lying alluvial areas. Buffer zones of 50 metres are used to avoid damage to the fringing vegetation at the interface between the land and a river or stream. This practice ensures the ecological integrity and biodiversity of permanent and ephemeral watercourses and associated vegetation are preserved. In addition, during track construction, it is standard practice for Territory Iron staff and contractors to design tracks around large or significant trees to ensure their preservation.

A vehicle wash down area (high pressure hose) is located within the Frances Creek mine site and vehicles are washed regularly to prevent the spread of invasive weeds (seeds) and to maintain cleanliness. It is standard practice for vehicles to be routinely washed if they have been in areas away from the Frances Creek Project area.

Table 7: Identification of Environmental Aspects and Impacts associated with Remediation of drill sites and tracks for the Frances Creek Exploration Project

ASPECT	POTENTIAL IMPACT	RISK RATING	MANAGEMENT MEASURES (PREVENTION)	MANAGEMENT MEASURES (REMEDIATION)
Driving between drill sites	Spread of weeds	medium	Wash vehicle before accessing area. Ensure all personnel are aware of potential weeds and weed management practices. The Territory Iron Weed Management Plan is located in Appendix VI	Monitor vehicle to prevent spread of seeds and/or pests. Report the location of any weed species identified to be a threat to the area. Initiate a weed spraying programme at onset of wet season when new shoots emerge. Monitor progress of spraying about a month later. See 2016 Weed Management Plan in Appendix VI
Remediation of drill pads and tracks	Threat to native flora/fauna	low	Adhere to recommendations from external flora/fauna environmental surveys. Ensure that site personnel and contractors have taken and understand the Environmental Site Induction they are required to take before they can work on site	There is no future land disturbance, so impact will be low. Report any sightings of endangered species to the Frances Creek Site Manager
Remediation of drill pads and tracks	Ground/soil disturbance	low	Use experienced personnel to minimize potential damage including “blade up” techniques in track remediation to preserve rootstock where possible. Inspect hollow logs for quolls or other small animals	During remediation process, spread topsoil that was retained during the original land clearing
Drill holes not capped	Fauna entrapment down open drill hole	medium	If uncut and uncapped drill holes are encountered during site audits, then the field person should place a temporary cover (usually a large rock) over the open drill hole and report the location immediately to the Site Manager	The drill hole must have the collar cut 0.4 m below the ground surface and the drill hole plugged with a concrete plug, then backfilled with soil.
Erosion and Sediment Control	Erosion channels forming	medium	Ensure that rehabilitation includes scarification across the slope to prevent erosion channels forming in the wet season	Monitor remediation sites especially on sloping ground. Engage earthmoving contractor or site personnel to rectify the situation in order to prevent future erosion channels forming
Waste	Visual disruption and pollution	low	Monitor which sites have waste material (rubbish) and dispose of material at the Frances Creek mine site waste facility	Remove all waste as observed. Remind all personnel and contractors of the importance of not littering and damaging the environment
Remediation of drill pads and tracks	Disturbance to cultural heritage sites	low	Ensure earthmoving contractor and site personnel are aware of areas of cultural significance	Have awareness of areas that have cultural or archaeological significance and make sure these areas are not disturbed
Fuel leak	Hydrocarbon spill (fuel tank)	low	Ensure all vehicles are in good condition	Report any fuel spills to the Frances Creek Site Manager and remove contaminated soil to the designated mine site disposal area
Fire	Damage to the environment – displace native fauna and destroy endemic flora	medium	Report all fires immediately to the Site Manager, who will then inform the Station Manager at Ban Ban Springs Station. Often fires are started by pig/buffalo hunters who hunt illegally on the pastoral station	Report fire immediately to Site Manager and Station Manager. Small fires caused by vehicle mufflers should be put out with a fire extinguisher. If back-burning is necessary, then follow fire safety guidelines including not lighting fires on windy days. Territory Iron will not be engaging in any future back-burning activity associated with the Frances Creek Exploration Project

5.5 ENVIRONMENTAL AUDITS, INSPECTIONS AND MONITORING

Environmental inspections are conducted throughout and upon completion of the exploration activity or drill programme to ensure compliance with environmental regulations. The ongoing rehabilitation programme is planned based on these observations and upon completion, an annual audit of the area is undertaken to ensure successful rehabilitation.

A site audit to determine the status of drill site and track remediation will take place after the 2016-2017 wet season (March to April 2017) to determine the status of natural regrowth of native vegetation. Additional photographs will be taken to compare with earlier photographs taken prior to the wet season rain during the September 2016 audit (~580 photographs and discussed further in Section 6.0 and located in **Appendix IV**) and will be included in next year's MMP.

A second weed identification audit will be undertaken after the 2016-2017 wet season following a spraying regime that will take place early-December 2016. Areas that still have strong weed growth will be earmarked for a follow-up spray programme shortly after the second site audit. A third weed audit will then take place a couple of months after the second spray programme to ensure the incidence of weed spread is arrested.

5.6 ENVIRONMENTAL PERFORMANCE

5.6.1 OBJECTIVES AND TARGETS

The main objective and overall target concerning the exploration drill programmes was to successfully rehabilitate the drill sites and tracks back as close as possible to their original natural condition. The plan is to restore the ground disturbed areas to a state which promotes a long-term successful rehabilitation in which the appearance and biodiversity of the rehabilitated areas is in keeping with the surrounding undisturbed areas. The objectives and targets for the rehabilitation did not change over time. Territory Iron is trying to achieve these targets.

5.6.2 PERFORMANCE REPORTING

Environmental inspections are conducted during and after the remediation process to ensure compliance with environmental regulations. This includes drill collar cutting and capping and also recontouring involving earthmoving equipment. The ongoing rehabilitation programme is planned based on these observations and upon completion, an annual audit of the area is undertaken to ensure successful rehabilitation. Good progress was made last year involving earthworks remediation of drill sites and tracks (see photographic evidence in **Appendix IV**). All photographs were taken during the 2016 September audit for drill sites that had undergone recent earthworks remediation. Completion of all earthwork activity will take place early 2017 and this will include sites identified as requiring additional work from the 2016 September environmental audit. To check the status of remediation, a second site audit will take place early 2017 and will be undertaken by the author of this report.

5.7 EMERGENCY PROCEDURES AND INCIDENT REPORTING

All environmental incidents are recorded in a Territory Iron site register and upon investigation; remedial action is taken in accordance with the severity of the incident. Information relating to environmental incidents are analysed and communicated to the Frances Creek Site Manager. See also **Appendix VI** – 2016 Environmental Exploration Management Plan. The plan has been written to account for future exploration activity for the Frances Creek Exploration Project, including drilling and land disturbance. Incidents rated as “Class 2” and

above (using the impact and severity classification matrix as outlined in the Department of Primary Industry and Resources Draft Guideline Environmental incident reporting under Section 29 of the Mining Management Act) are to be reported to the Chief Executive Officer of the DPIR.

6.0 EXPLORATION REHABILITATION

6.1 REHABILITATION METHODS

6.1.1 DRILL HOLE REHABILITATION

The rehabilitation procedure for RC drill holes involves a two-stage process including an initial clean-up process, drill hole capping, collar cutting, drill hole plugging and secondly, earthworks involving scarification of the soil and recontouring (if required) to return conditions as close as possible to the original natural topography.

Upon completion of drilling, all bags and other foreign matter were removed from the drill sites and transported and disposed at the waste area at the Frances Creek mine site (which is located at Territory Iron's Frances Creek mine and field operations base). The mine site waste disposal is in accordance with Territory Iron's mine site Waste Management Plan 2013 which is aimed at compliance with the Mining Management Act (2012) and the Waste Management and Pollution Control Act (NT) 2011.

All drill holes are cased to 12 m with PVC pipe and the PVC pipe then cut below ground level to 0.4 m and plugged. Preserved topsoil was placed over the collar once the drill hole was surveyed for accurate positioning. In more recent times, Territory Iron field personnel adopted the procedure to tip black shale that was encountered during drilling back down the drill hole during the rehabilitation clean-up process. However, this procedure was not adopted for earlier drill programmes and historically the drill spoils were left to lie on the ground once the plastic bags were removed.

For more recent near-mine drill holes, an IT (front loader) was used to scoop up the black shale which was then transported to the Frances Creek Waste Dump A, where it is buried and contained. For drill pads requiring rehabilitation involving recontouring with earthmoving equipment, black shale (if encountered) is placed within the area that will undergo remediation so that it will be completely contained once the earthmoving process is complete.

The second stage in the rehabilitation process involves gentle recontouring with earthmoving equipment for the entire drill area to redistribute and scarify the topsoil set aside when clearing, to control and prevent erosion. The recontouring aims to reproduce as closely as possible, the original contours and topography of the land surface prior to drill pad construction. In general, the drill pads are rehabilitated in order to promote rapid revegetation with a minimum of erosional damage. For drill pads on near flat surface areas, the topsoil was redistributed and ripped (scarified) to provide conditions ideal for seed capture and germination. For drill sites on gentle slopes, the earlier removed topsoil (collected upslope at initial site preparation was again redistributed over the disturbed area. It is hoped that the topsoil would contain native seeds endemic to the area and the uneven (scarified) surface would provide an ideal environment for additional (airborne) seeds to be captured to facilitate natural revegetation. During the scarification process for gentle slopes, the soil was ripped across slope (not downslope) to prevent erosion channels forming during the wet season. Drill hole closure and rehabilitation follows the guidelines as closely as possible from the NT Department of Resources' Advisory Note *Construction and Rehabilitation of Exploration Drill Sites*.

6.1.1.1 Current Status of Remediation as of September 2016

During the last MMP reporting period, the earthmoving contractor made good progress with the exploration drill site and track recontouring and remediated a considerable area. In September 2016, a site audit was undertaken

by the author of this report and a contract geologist for areas that had undergone recontouring during the last MMP reporting year.

The results from the September audit are as follows:

- **COMPLETED:** n = 655 Drill sites that show successful recontouring
- **NEEDS RECONTOURING:** n = 123 Drill sites that require recontouring and are scheduled for completion early next year
- **NATURALISING:** n = 3 Areas that have not been recontoured but appear to be naturalising
- **CHECK:** n = 12 Drill sites that don't have photographic support. There was a problem with the camera's memory card, however, these sites will be checked again and photos taken
- **CLEAN UP SITE DRILL SPOILS:** n = 1 Drill spoils left on ground need cleaning up
- **COLLAR NOT CUT OR PLUGGED:** n = 47 Drill sites where the collars have not been cut or plugged yet
- **GREEN BAGS NEED REMOVING:** n = 1 Green drill bags need to be cleaned up
- **SUMP NEEDS INFILLING:** n = 1 Drill sump needs to be infilled

Drill areas that have not yet undergone recontouring are shown in Figure 17 and on an expanded scale in Figure 18. These areas will undergo recontouring involving earthwork after the 2016-2017 wet season, probably around April to May next year with completion by end-July 2017..

As a result of the 2016 September site audit, the current status for the remediation is shown in Figures 19 to 28 and also documented as a table in **Appendix III**. A GIS format shape file for the data is also located in **Appendix III**. Tracks associated with the drill sites have been recontoured at the same time. Photographs of successfully remediated drill sites for all prospect areas are located in **Appendix IV**.

Clean-up work (including collar cutting and plugging) that has been identified for the Frances Creek Exploration Project will be undertaken after the 2016-2017 wet season, as Territory Iron field staff are currently engaged with work on the Frances Creek mine site and are not available until early next year. After discussions with the General Manager, the clean-up work should commence in April with completion by end-July 2017. Drill holes that have not been cut or plugged had large rocks placed over the drill hole to prevent fauna from falling in and marked clearly with pink flagging which will be removed once the collar cutting and plugging process has been completed. A large number of wooden drill pegs will also be removed from the Helene 10 area.

As reported in the previous year's MMP, a small number of drill holes intersected wet season surface level groundwater in areas close to the Frances Creek mine site. The collars for these drill holes have since collapsed and during the wet season, water gently seeps from these areas. The water table for the surrounding terrain is also at surface level and these areas are also waterlogged during the wet season. During the dry season, the drill sites are dry, similar to the surrounding terrain. An Environmental staff member of Territory Iron will visit each site end-January 2017 and record (with photographs) the status of the leaking drill holes. This information will be included in the next year's Progressive Remediation Report. In order to fix this problem,

Territory Iron was previously informed that since the drill collars may have collapsed, it may be impossible to drill back down the drill hole and re-grout with concrete. Territory Iron has now engaged the services of a very experienced drill company to assist and provide guidance regarding the leaking drill holes. The author of this report has already been in contact with a drill company representative and will schedule a meeting in April 2017 to visit the drill sites if not before. It is envisaged that the drill company will provide the necessary expertise to remedy this situation. If attempts to fix the drill holes by the drill company do not succeed Territory Iron will engage the services of a Hydrogeologist to provide scientific advice. It is hoped that the situation will be remedied by end-August 2017.

Territory Iron is monitoring the status of the drill holes and in February to March 2016, took two water samples from drill holes from each area where the leaking drill holes have been identified. These samples were submitted to Envirolab Services, Sydney for water chemistry analysis. The location of the drill sites and adjacent surface water and groundwater sample sites that were sampled on the same day and were analysed in the same batch are shown in Figure 29 and the analytical results located in **Appendix V**. The groundwater and surface water sample sites are part of an ongoing water monitoring programme related to the Territory Iron Frances Creek mine site Waste Discharge Licence (unrelated to exploration activities). Trigger values for the analytes in the Excel table in **Appendix V** were provided by the Territory Iron Site Manager (Environmental Scientist). The drill sites will be tested on a yearly basis (after the wet season) to monitor the quality of the water.

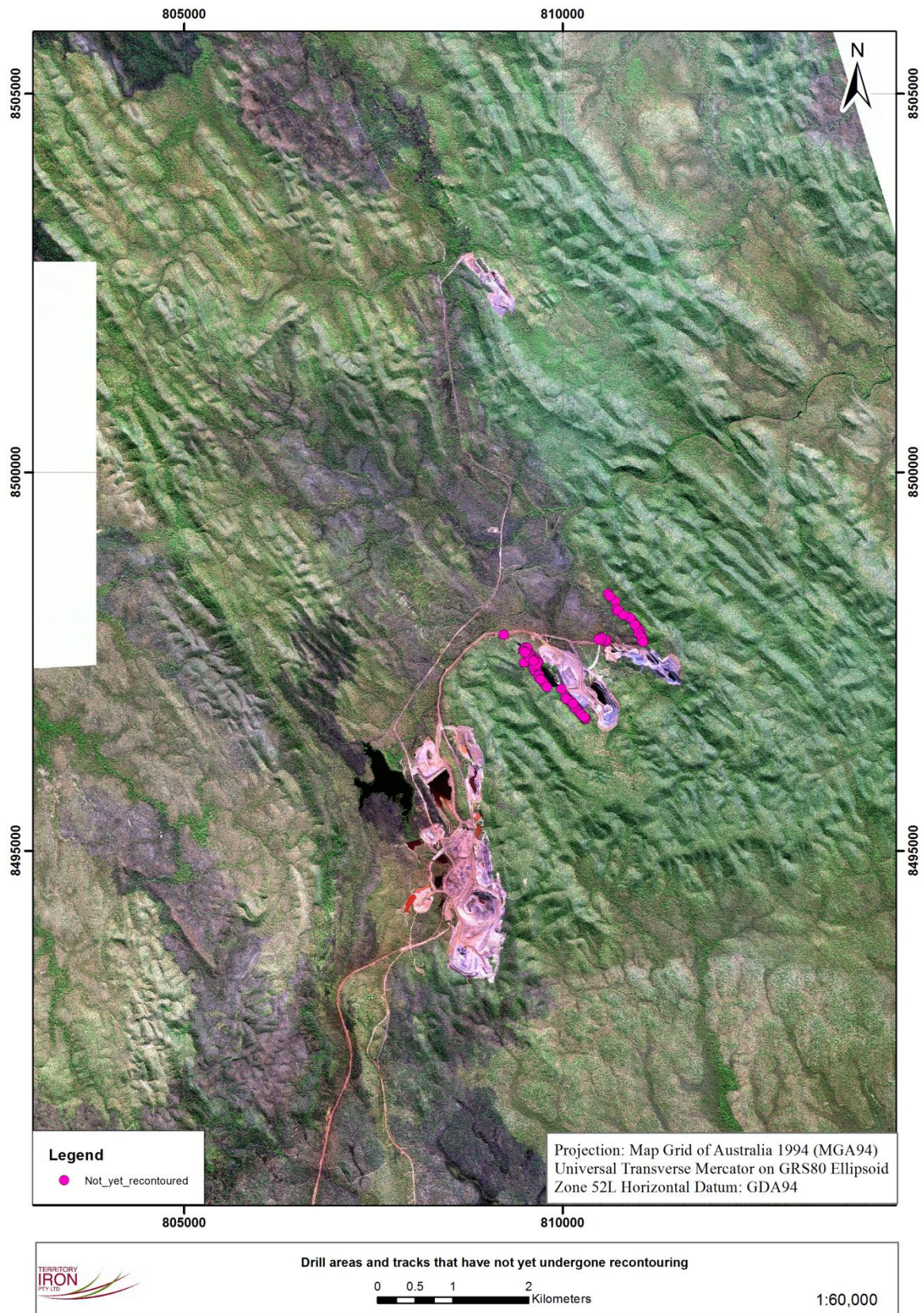


Figure 17: Drill sites and tracks that have not yet undergone recontouring

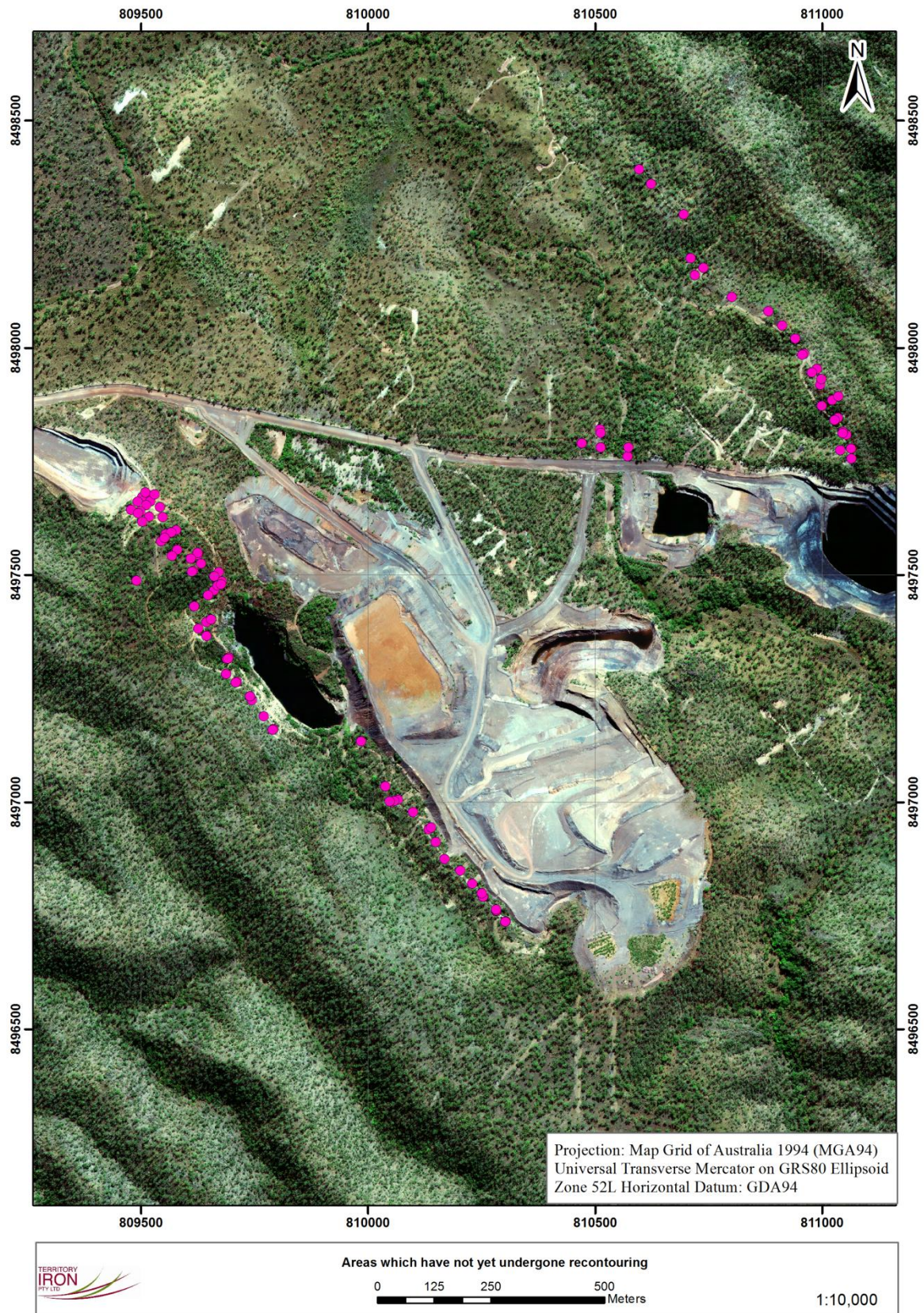


Figure 18: Drill sites and tracks that have not yet undergone recontouring on an expanded scale

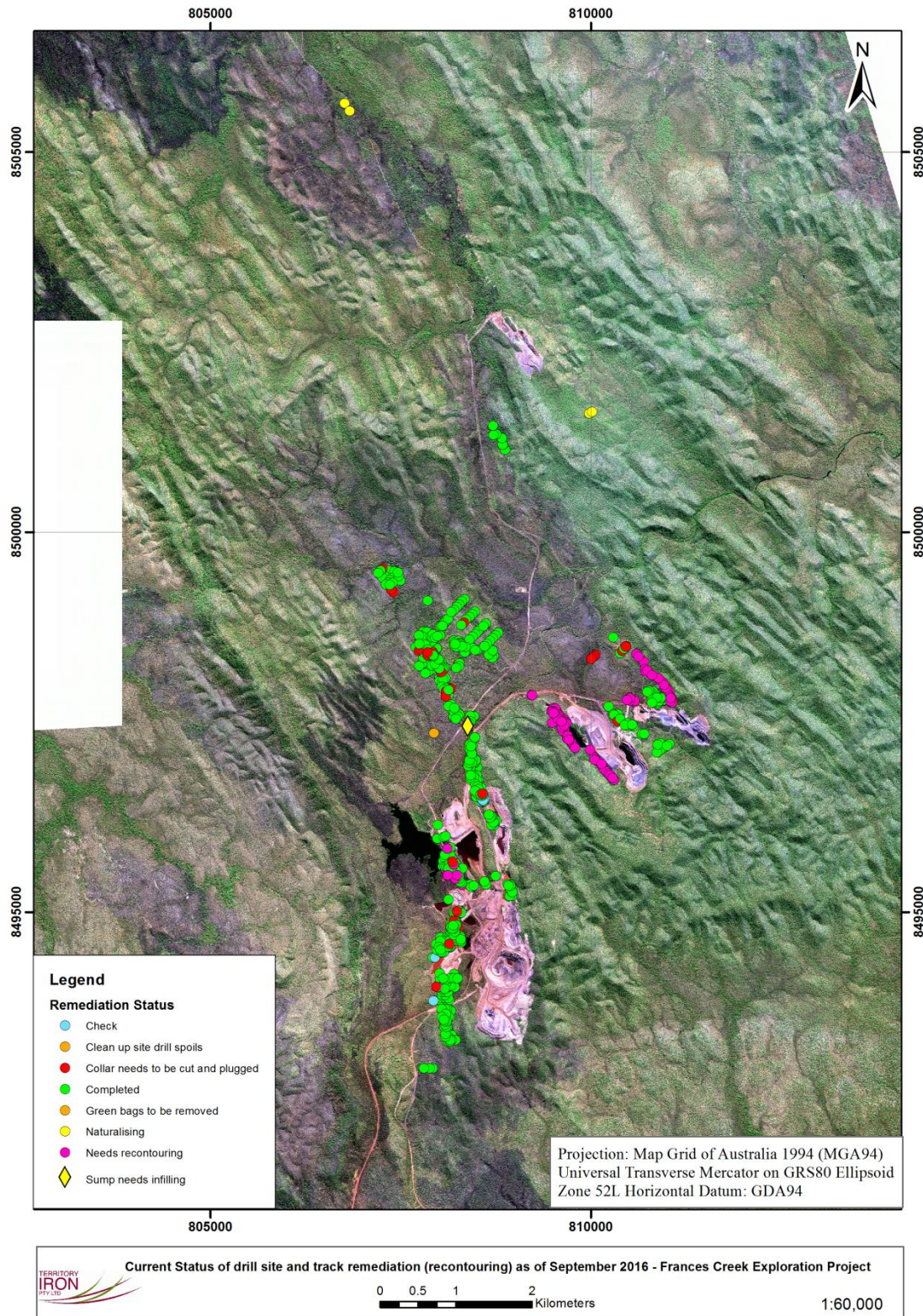


Figure 19: Remediation status of drill sites from the September audit

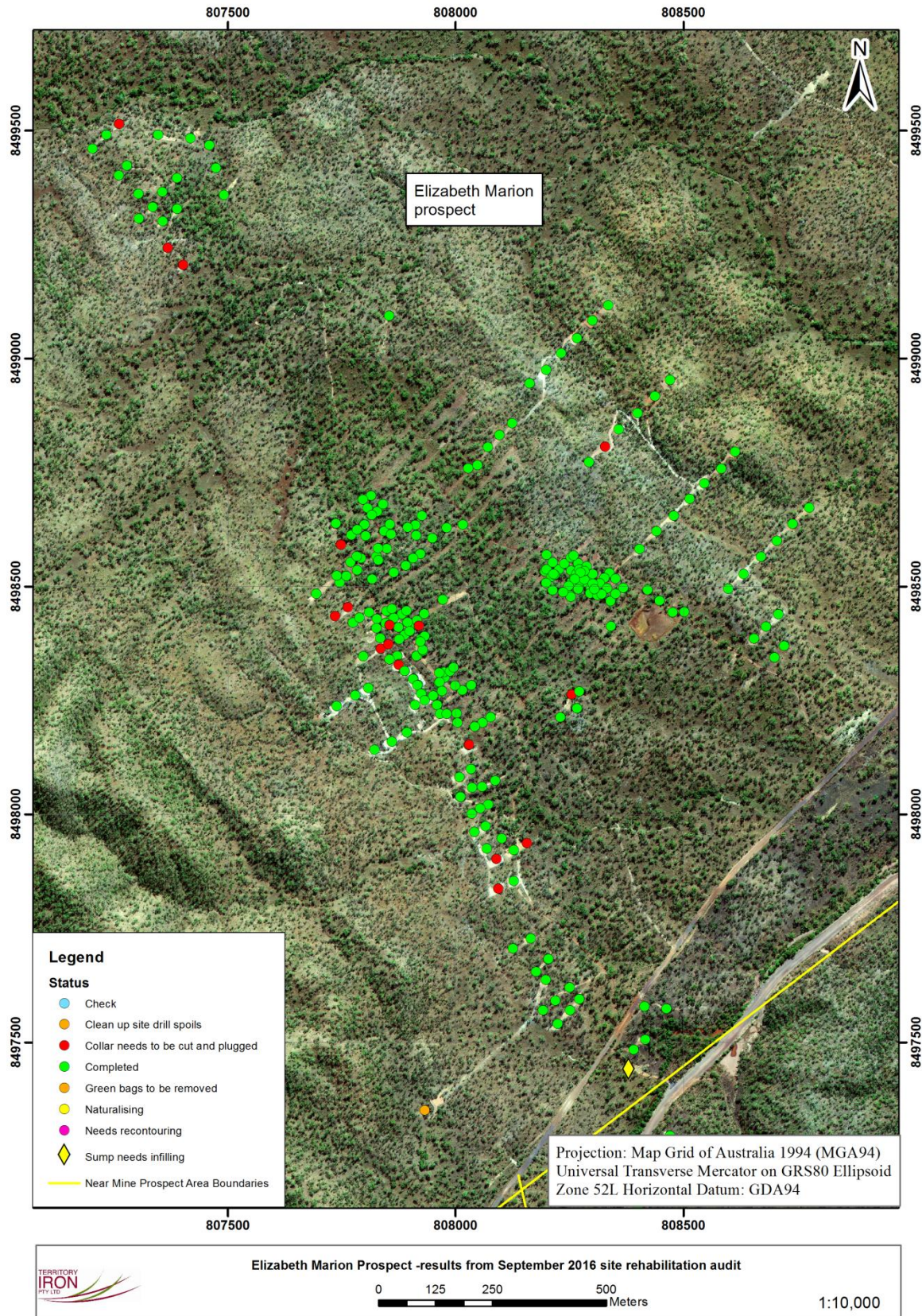


Figure 20: September 2016 Rehabilitation Site Audit - Elizabeth Marion prospect

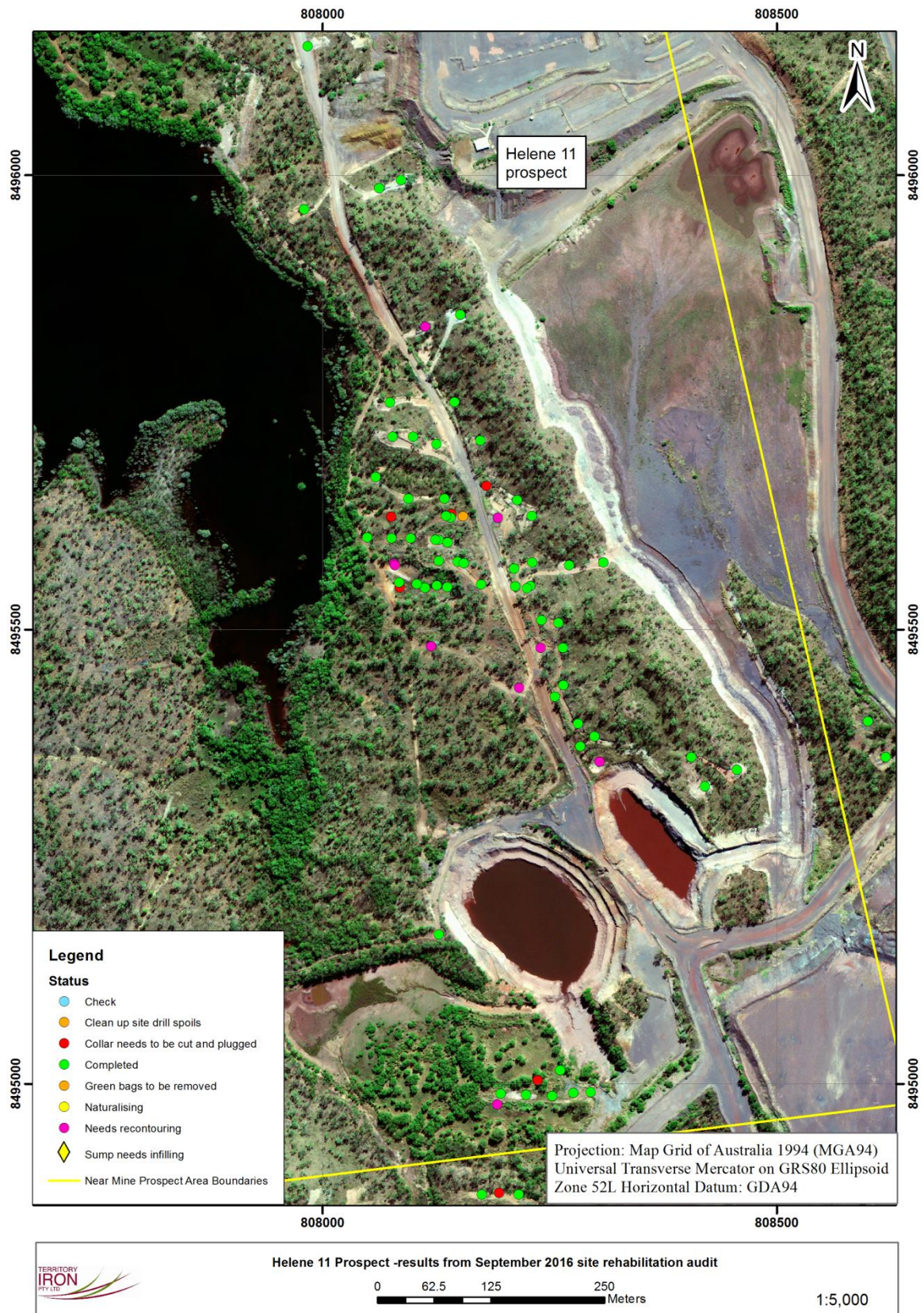


Figure 21: September 2016 Rehabilitation Site Audit – Helene 11 prospect

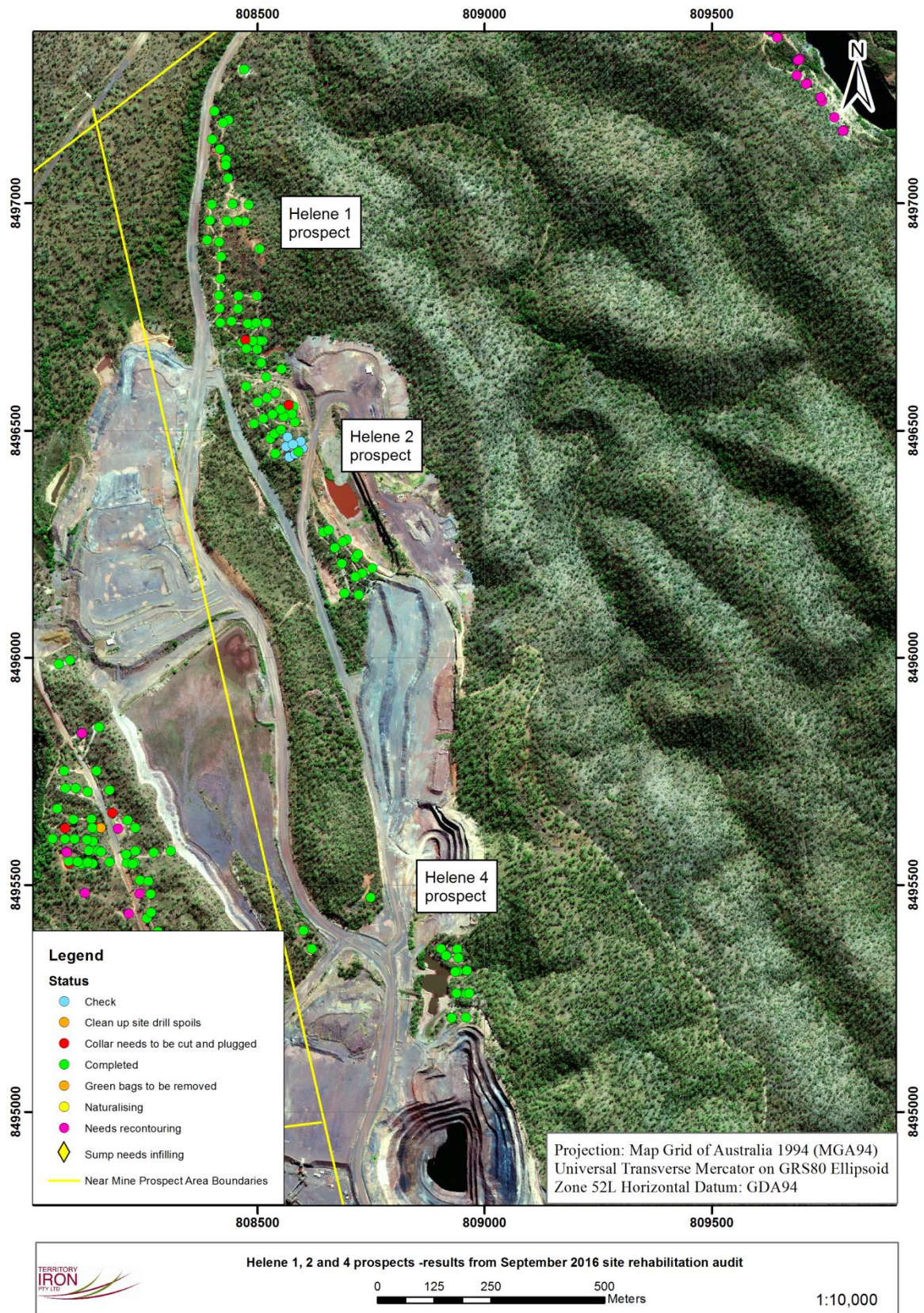


Figure 22: September 2016 Rehabilitation Site Audit – Helene 1, Helene 2 and Helene 4 prospects

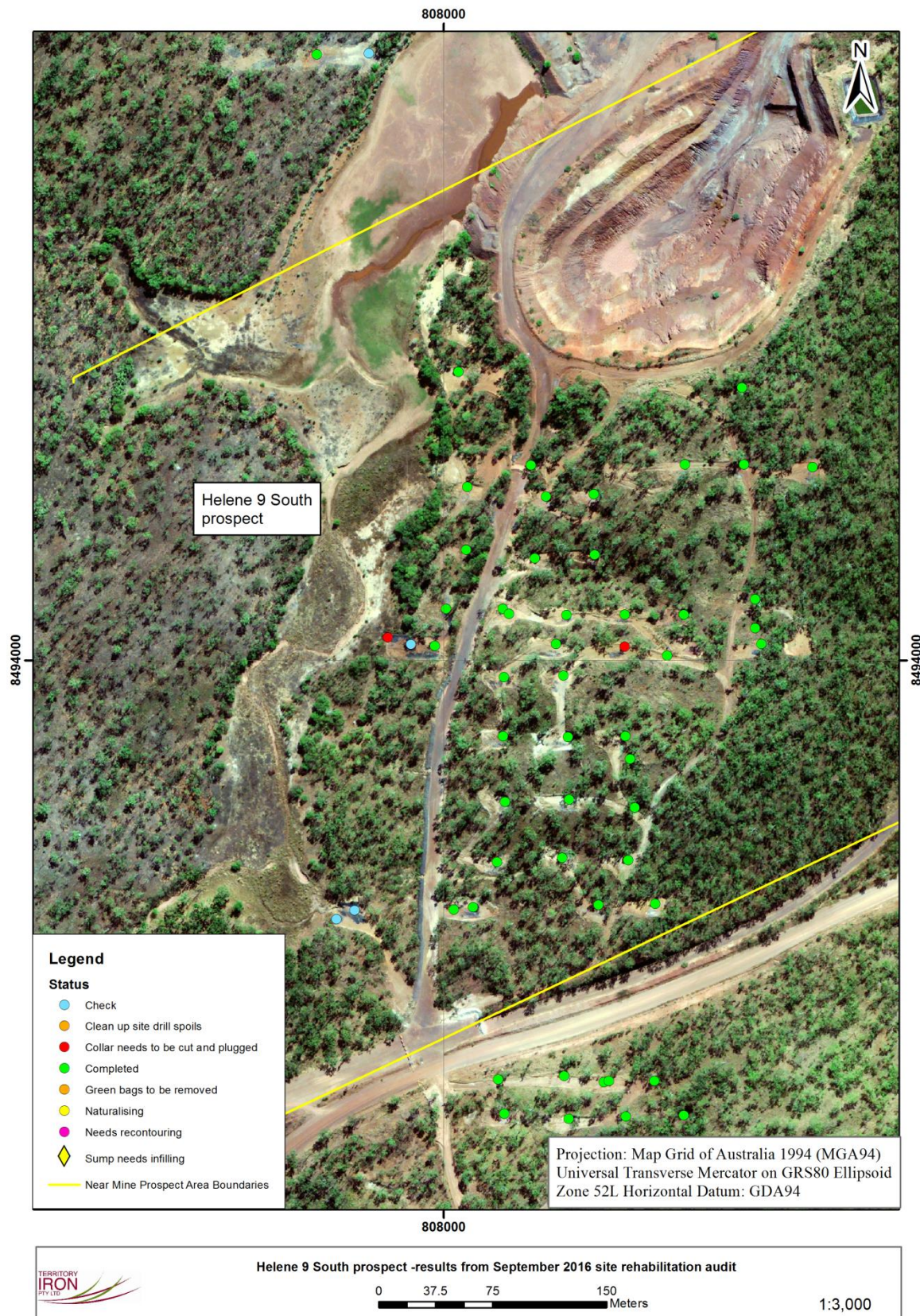


Figure 23: September 2016 Rehabilitation Site Audit – Helene 9 South prospect

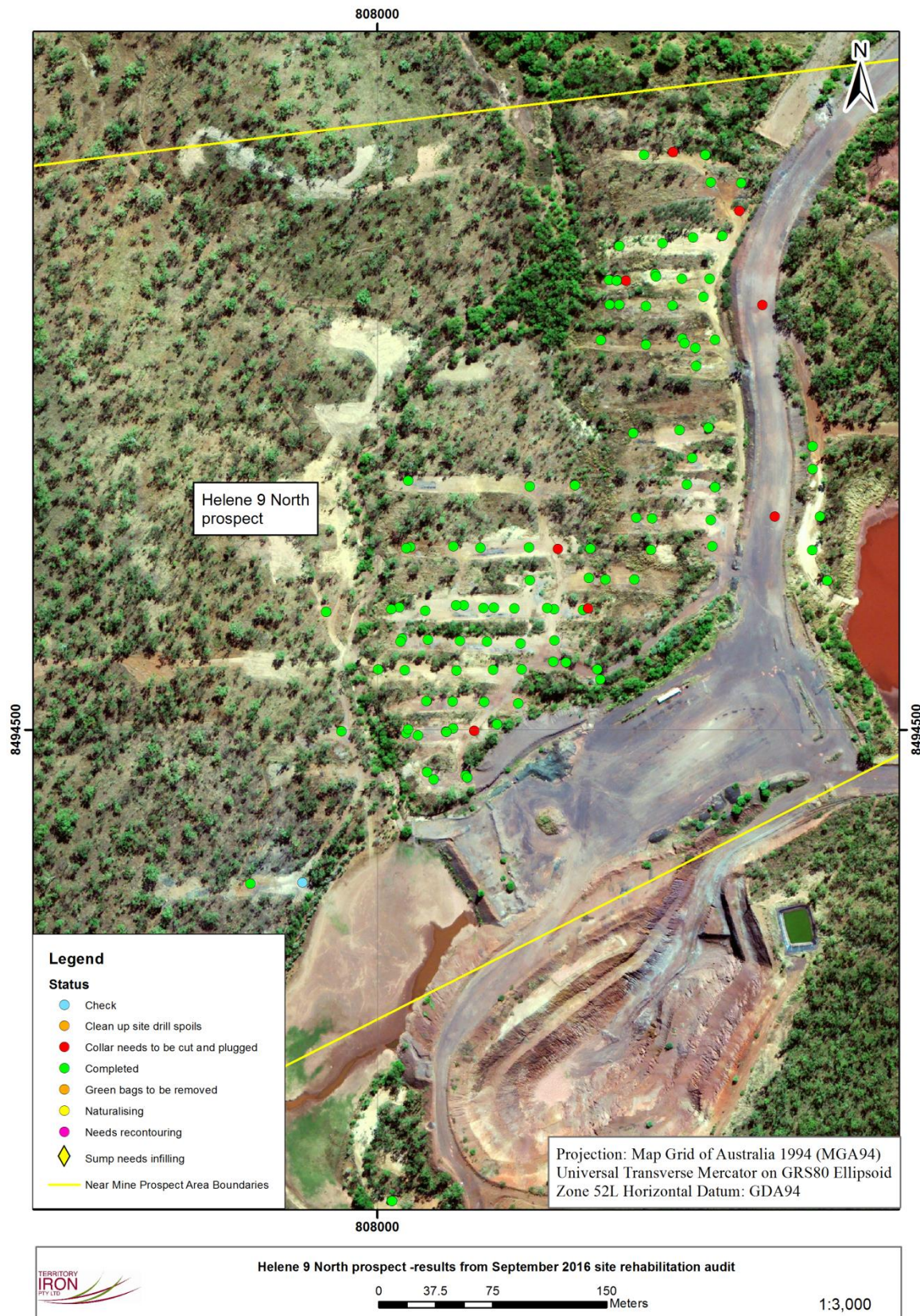


Figure 24: September 2016 Rehabilitation Site Audit – Helene 9 North prospect

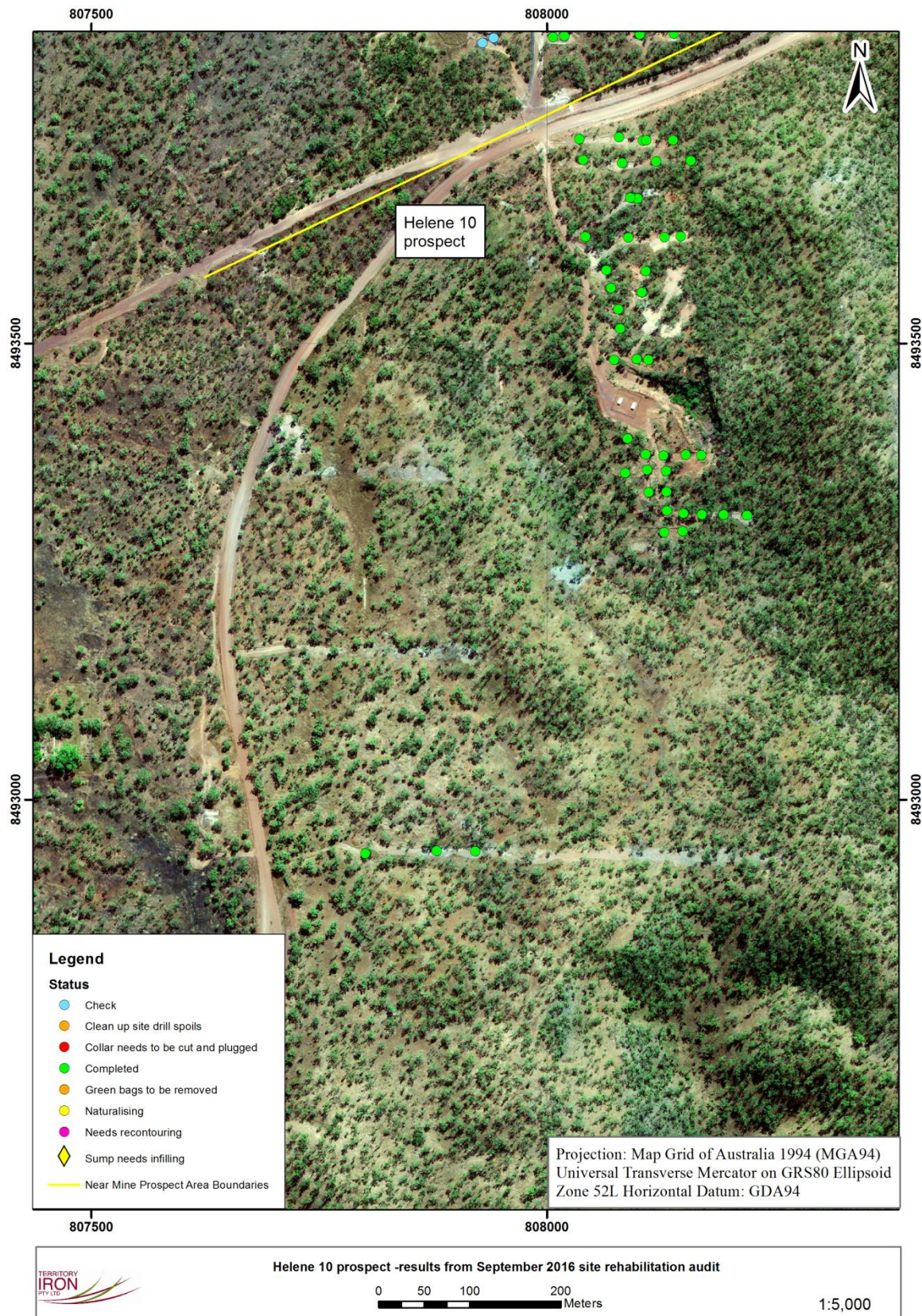


Figure 25: September 2016 Rehabilitation Site Audit – Helene 10 prospect

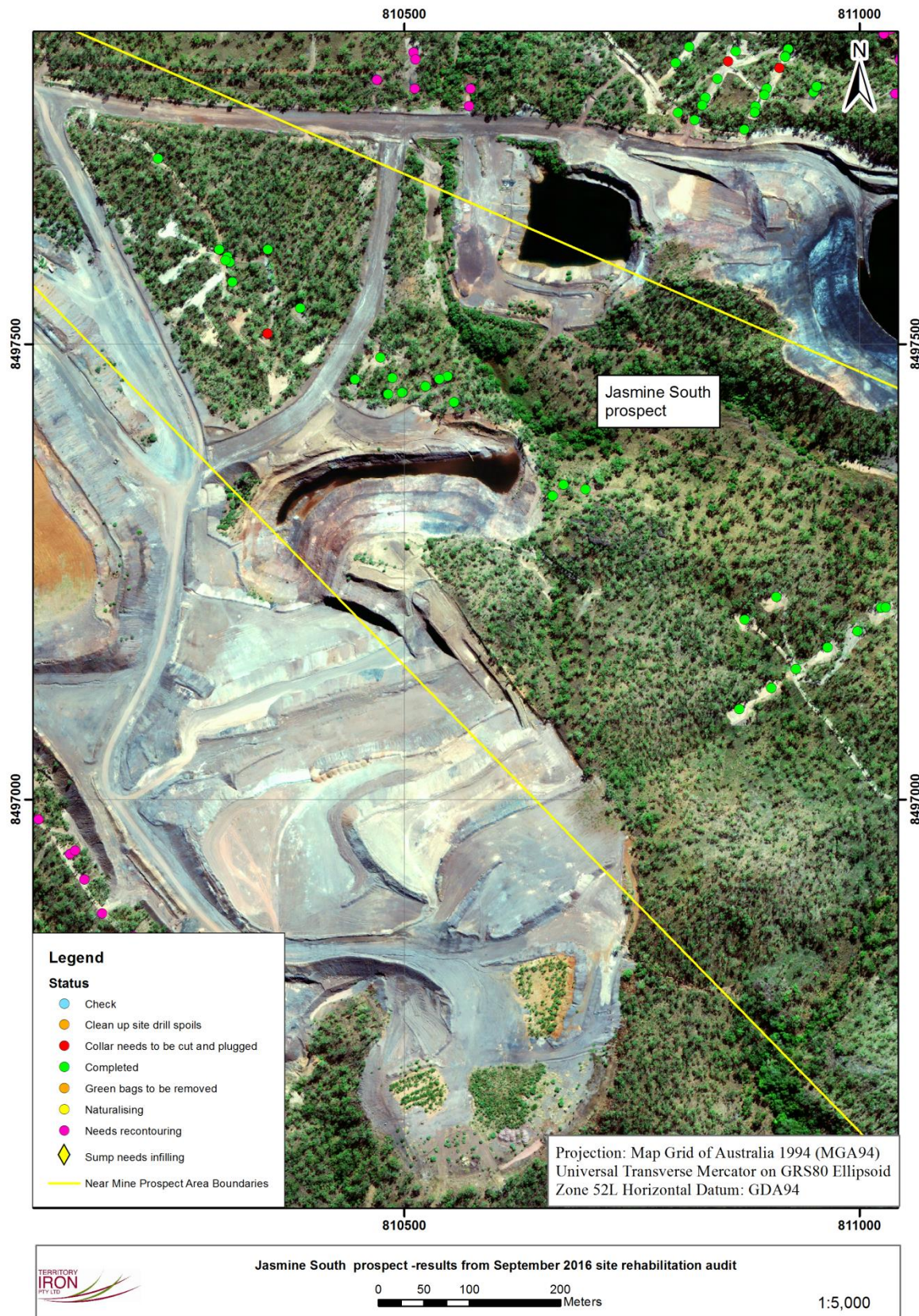


Figure 26: September 2016 Rehabilitation Site Audit – Jasmine South prospect

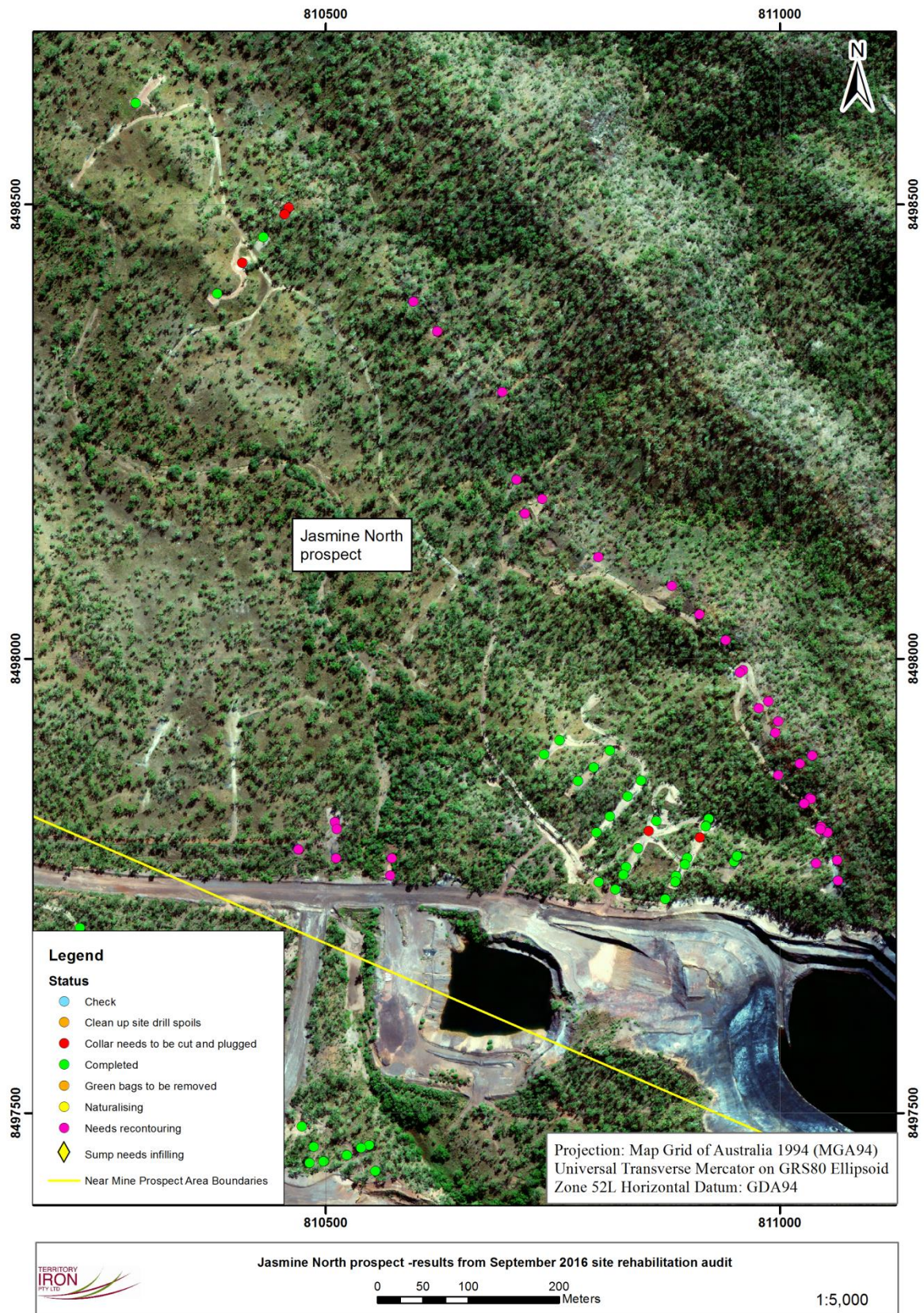


Figure 27: September 2016 Rehabilitation Site Audit – Jasmine North prospect

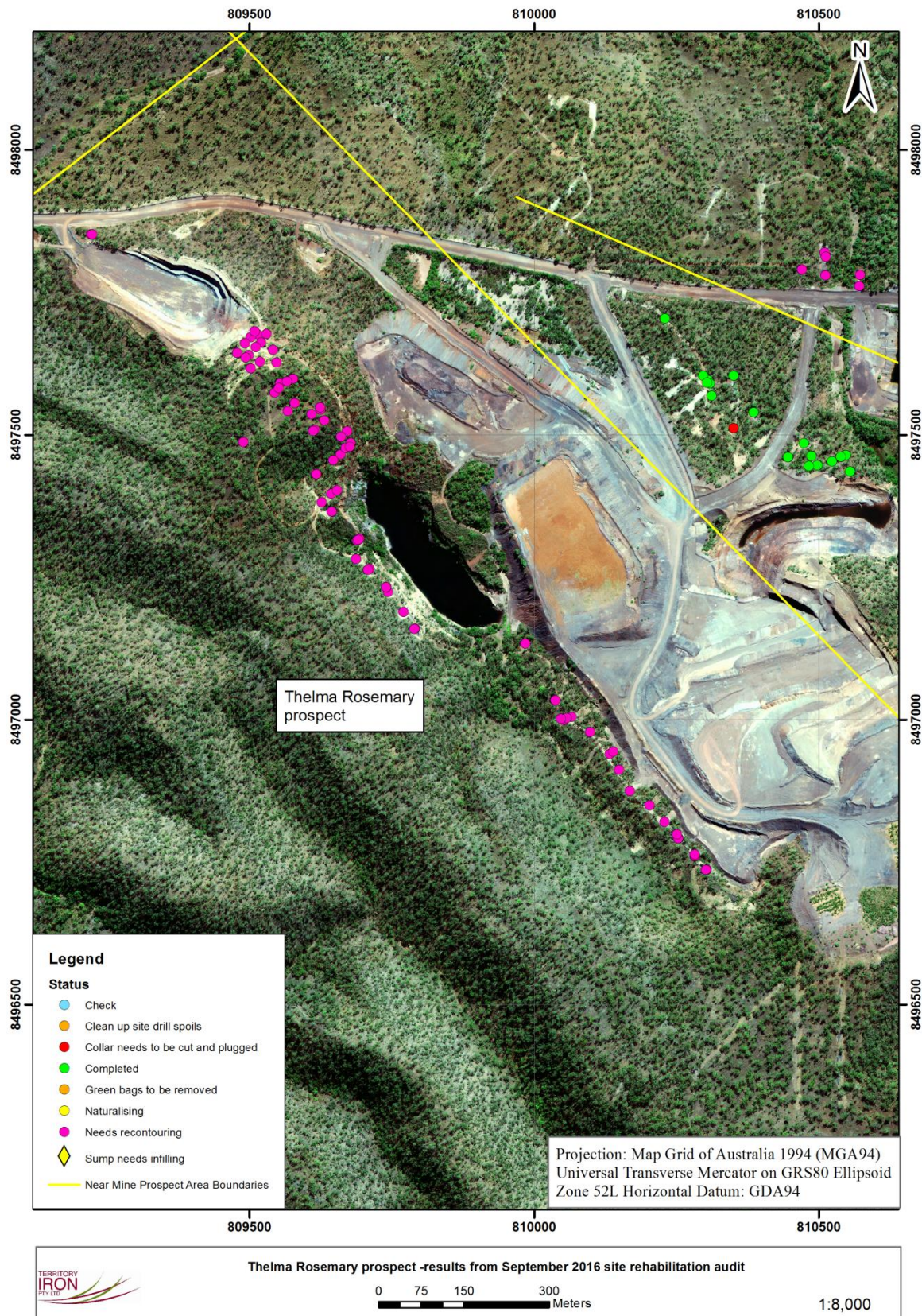


Figure 28: September 2016 Rehabilitation Site Audit – Thelma Rosemary prospect

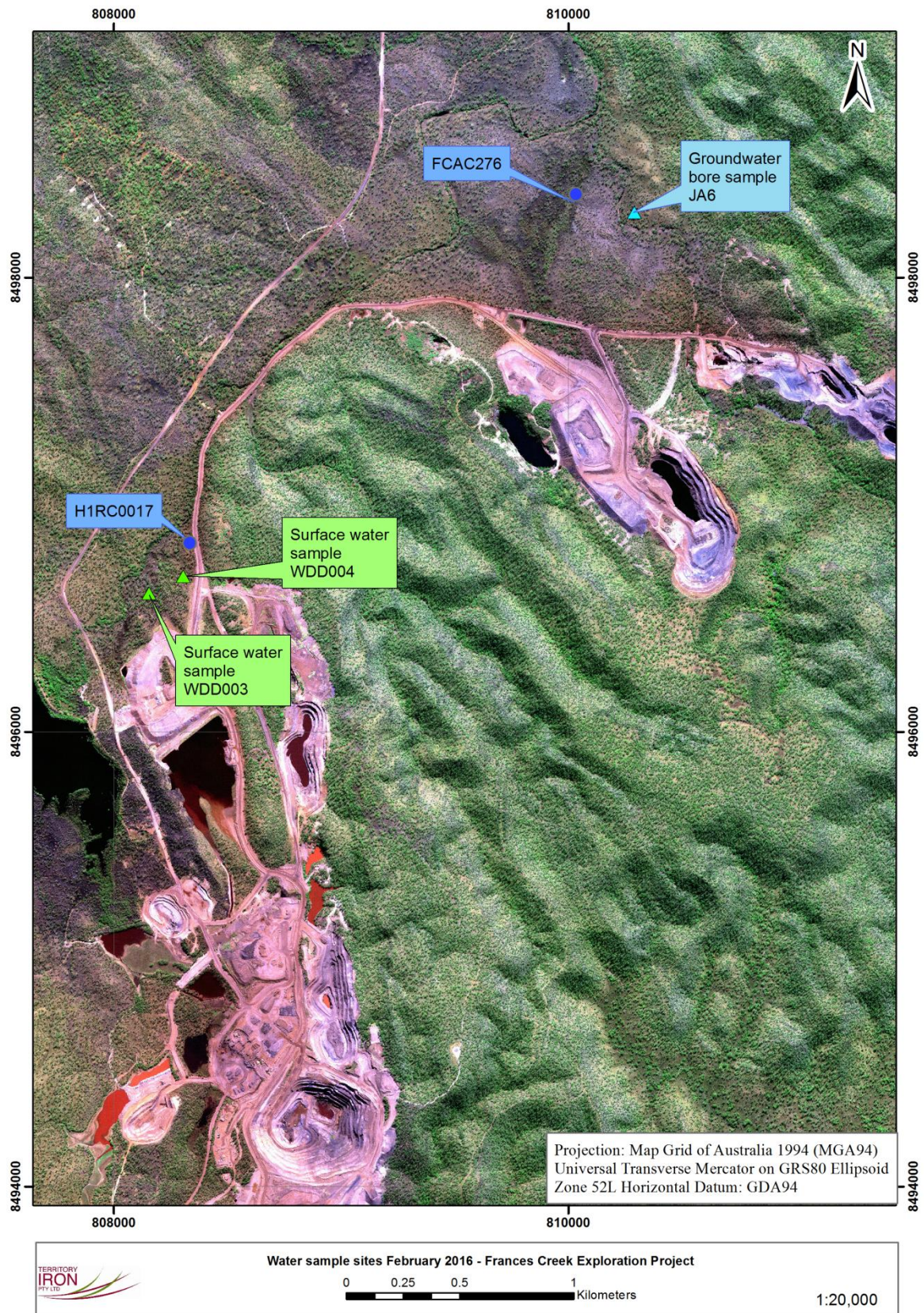


Figure 29: Location of drill, surface water and groundwater sites that were sampled for water chemical analysis

6.1.2 REHABILITATION STATUS – TRACKS

During the exploration process, tracks were constructed specifically to access sites for drill pads. For AC and RAB drill holes, the ground only required a light ‘skimming’ without the creation of windrows. These tracks were constructed mainly to remove fallen logs and tree stumps. For RC and Diamond drill holes, the tracks were gently graded with the construction of windrows. Where required, tracks that were constructed specifically for the drill programmes were graded as closely as possible to approximate the original landform conditions.

During the drill site recontouring process involving earthmoving equipment, drill tracks associated with the drill holes (except existing tracks) were included in the remediation process.

6.1.3 REHABILITATION STATUS – WEED MANAGEMENT

Prior to the Frances Creek mine site going into Care and Maintenance, Traditional Owners were employed to assist in weed identification and management. More recently results from the 2015 Frances Creek Exploration Project audit undertaken by an external consultant, indicated that areas north of the mine site were largely free of invasive weeds. However, some areas had been burnt off* and weeds if present may have been destroyed in this process. Weeds were identified in the Saddles area north of the mine site.

****Please be advised that Territory Iron is not responsible for burn-offs in the Frances Creek Project area and it is definitely NOT company policy to undertake any burn-related activities for weed control. After earlier consultation and discussion with the Ban Ban Springs station owner regarding fires in the project area, the station manager indicated that poachers (illegal hunters in the area) are most likely responsible for the burn-offs.***

The September 2016 Frances Creek Exploration Project audit concentrated on the remaining areas which were earmarked for earthmoving recontouring. *Hyptis suaveolens* was observed in a number of places (see Figure 30) and the sites recorded for a weed spraying programme was initially scheduled for early December 2016. The weed spraying scheduled for December was not able to be undertaken due to high rainfall. The Frances Creek mine Site Manager has just verbally informed the author (18th January 2017) that the external weed spraying contractor (who specialises in rural weed spraying on a large scale) came to the mine site second week of January 2017 (during a window of fine weather) and undertook weed control (spraying) closer to the mine site where the incidence of getting bogged is reduced. The area covered by the spray regime is shown in Figure 31. Once weather conditions improve, the rest of the area designated for spraying in Figure 30 will be undertaken hopefully in the next few weeks from the time of writing (mid-January 2017). The weed spraying is scheduled for whenever the contractor is available to do the work as soon as weather conditions ameliorate. The author of this report will be on site early-April 2017 and will undertake an inspection of the results of the January 2017 spray programme.

The next weed audit for the Frances Creek Project Area is scheduled for April 2017 as soon as the wet season has finished and it is safe to drive to the northern areas. This is important, as the ground to the north of the project is susceptible to areas of extreme mud and numerous vehicles in the past have become bogged by attempting to access these regions too soon after the wet. At this stage, it is envisaged that the author and the Site Manager (who is an Environmental Scientist) will undertake the entire Frances Creek Project Area weed survey. The tabulated results of the audit will be included in the next Progressive Remediation Report.

The weed identification checklist used by Territory Iron is shown in Table 8 and also in a Territory Iron Weed Management Plan located in **Appendix VI**. Weed species include Gamba grass (*Andropogon gayanus*); Rubber bush (*Calotropis procera*); Candle bush (*Senna alata*); Hyptis (*Hyptis suaveolens*); Misson grass (*Cenchrus polystachion*) and Caltrop (*Tribulus terrestris*). These weed species have been identified in the more regional

context in the Pine Creek area. The Northern Territory Department of Lands and Resources Management (DLRM) have identified three categories for weed declaration (Table 8):

- Class A – to be eradicated
- Class B – growth and spread to be controlled
- Class C- not to be introduced into the Northern Territory

List of surveyed weeds and DLRM declaration status

Table 8: List of surveyed weeds and DLRM declaration status

Common Name	Scientific Name	DLRM Classification
Hyptis or Horehound	<i>Hyptis suaveolens</i>	B
Mission Grass	<i>Cenchrus polystachios</i>	B
Gamba Grass	<i>Andropogon gayanus</i>	B
Rubber Bush	<i>Calotropis procera</i>	B
Candle Bush	<i>Senna alata</i>	B
Common Sensitive Plant	<i>Mimosa pudica</i>	B and C
Caltrop	<i>Tribulus terrestris</i>	B

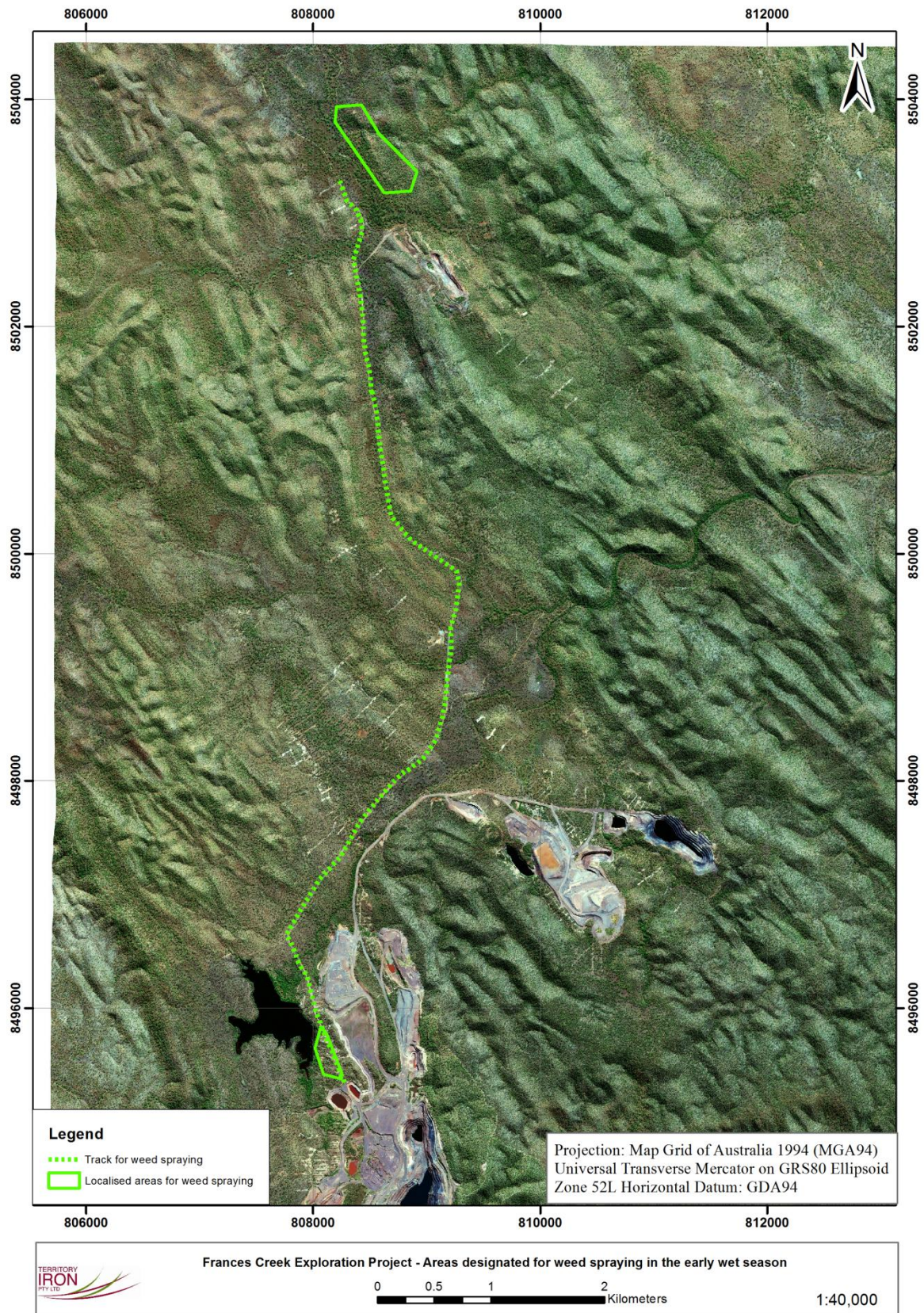


Figure 30: Areas within the Frances Creek Exploration Project where weeds were identified

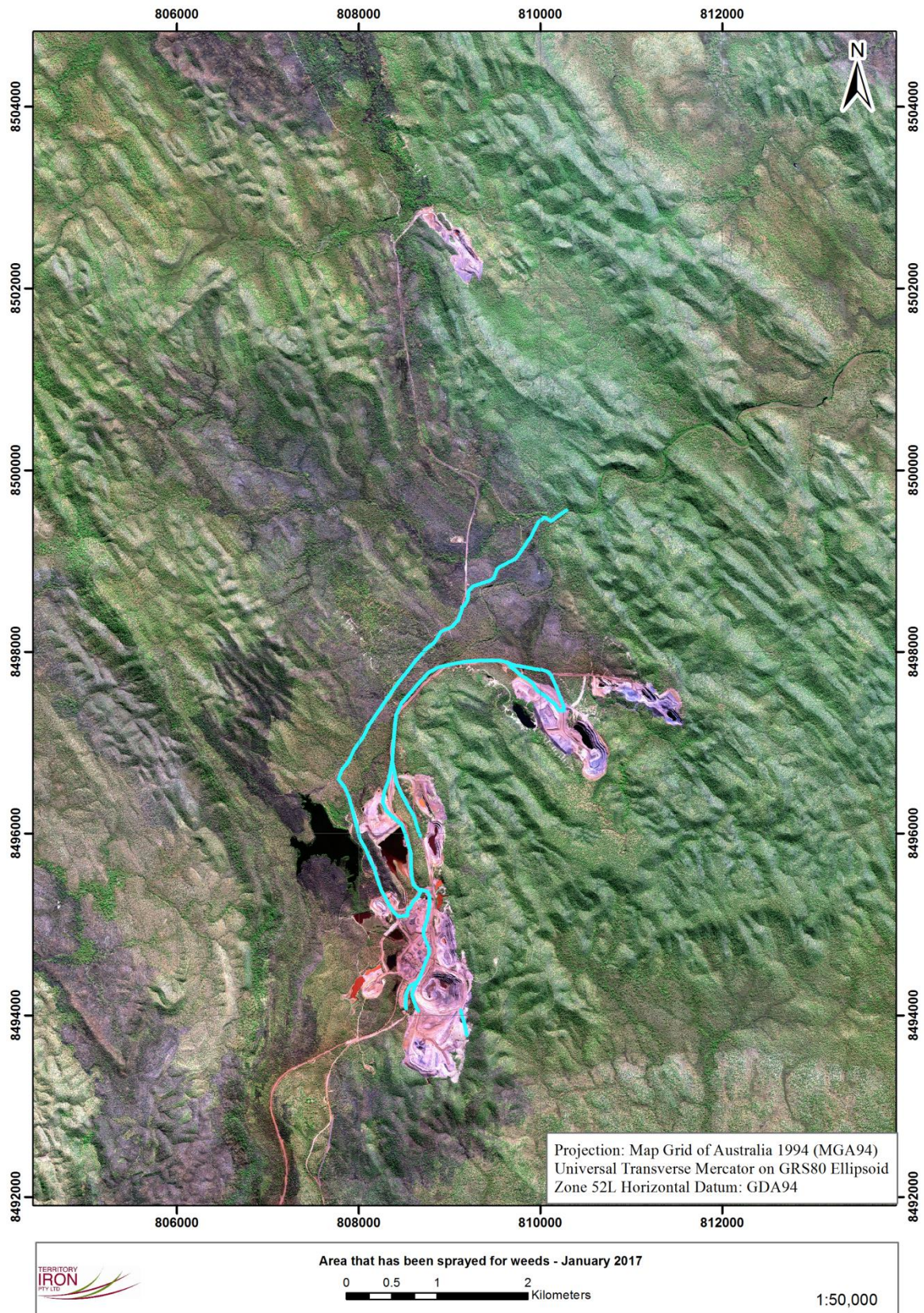


Figure 31: Area that underwent weed spraying in mid-January 2017

6.2 COST OF CLOSURE ACTIVITIES

The 2015 Frances Creek site audit identified 828 drill holes and ~11 km of line track which required additional work involving recontouring with earthmoving equipment. A considerable portion of this work has been conducted by the earthmoving contractor and a site audit undertaken by the author of this report in September 2016 (see Section 6.1.1.1 *Current Status of Remediation as of September 2016*) indicated that more work is required to meet environmental standards. Of the 828 drill sites, 655 show successful earthworks remediation. This is ongoing work for the Frances Creek Exploration Project and is dependent on the availability of the Territory Iron field staff and the earthmoving contractor whose work allocation is shared with the Frances Creek mine site proper.

A site inspection to assess the status of regrowth is scheduled directly after the 2016-2017 wet season and will be undertaken again by the author of this report for consistency in reporting. Following last year's site inspection by representatives of the DPIR, a partial security of \$423,178 was refunded to Territory Iron. The remaining balance of \$258,443 is currently held by the DPIR and will only be refunded upon successful remediation of the remaining drill sites and tracks.

6.3 REHABILITATION MONITORING

As documented in the 2015-2016 Frances Creek Exploration Project MMP, 6,182 holes have been drilled since 2004. The Authorisation for the Frances Creek Exploration Project was granted in 2011; however, an audit was conducted for all Territory Iron exploration drill sites and tracks including those prior to the current Authorisation.

A site audit will be conducted after the 2016-2017 wet season to determine the status of remediation of drill sites and tracks that recently underwent recontouring involving earthmoving. These sites have not yet re-established natural regrowth (see photographs in **Appendix IV** and it is hoped that native seeds in the topsoil will have germinated after the wet season. It is the aim of Territory Iron to successfully complete the remediation process for all earlier ground disturbing exploration activity.

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APPENDIX I: DPIR MMP FORMS

APPENDIX II: EXPLORATION AND REMEDIATION HISTORY

APPENDIX III: REMEDIATION STATUS

APPENDIX IV: REHABILITATION PHOTOGRAPHS

APPENDIX V: DRILL HOLE CHEMICAL AND FIELD ANALYSIS

APPENDIX VI: ENVIRONMENTAL REPORTS