

VITAL METALS LIMITED WATERSHED PROJECT

INITIAL ADVICE STATEMENT

**PREPARED BY
ENVIRONMENTAL & LICENSING PROFESSIONALS
PTY LTD**

VERSION 01

MARCH 2007



WATERSHED PROJECT

INITIAL ADVICE STATEMENT

VERSION 01

Prepared for:

Vital Metals Limited

Prepared by:

Environmental and Licensing Professionals Pty Ltd

ABN 40 010 095 379

Level 27, 288 Edward St Brisbane QLD 4000

GPO Box 559, Brisbane QLD 4001

T +61 7 3239 9700 **F** +61 7 3220 2135 **E** elp@elp.com.au **W** www.elp.com.au

DOCUMENT CONTROL SHEET

Environmental & Licensing Professionals Pty Ltd	
Street Address	Level 27, 288 Edward Street Brisbane QLD 4000
Postal Address	GPO Box 559 Brisbane QLD 4001
Phone	+61 7 3239 9700
Fax	+61 7 3220 2135
Email	elp@elp.com.au
Web	www.elp.com.au

Project	VITGEN	Issue date	21 Mar. 07
Title	Initial Advice Statement DOCUMENT10		
Project Manager	Margaret Harris		
Author	Margaret Harris		
Client	Vital Metals Limited		
Client Contact	William J Ryan		

REVISION/VERIFICATION HISTORY

REVISION NUMBER	DATE	PREPARED BY	APPROVED BY
RevA			
RevB			
RevC			
00	08/12/06	M Harris	M Harris
01	22/03/07	M Harris	M Harris

DISTRIBUTION

NUMBER OF COPIES									
Revision Number	A	B	C	D	00	01	02	03	04
ELP File					1	1			
Client					1	1			
Department					1				

TABLE OF CONTENTS

INTRODUCTION	1
1.1 Site Description	1
1.2 Tenure Details.....	2
1.3 Native Title	3
1.4 Local Context	3
1.5 Interested and Affected Persons.....	3
2.0 COMMUNITY CONSULTATION	8
3.0 MINING	8
3.1 Overview	8
3.2 Mining Methodology	9
3.3 Mine Design	10
3.4 Metallurgical Treatment/Beneficiation	10
3.5 Product Handling and Transport	11
3.6 Infrastructure Requirements	11
3.7 Decommissioning	12
4.0 GEOLOGY	12
4.1 Regional Geology	12
4.2 Project Geology	13
4.3 Mineralisation.....	13
5.0 RECEIVING ENVIRONMENT	14
5.1 Physiography and Climate.....	14
5.1.1 <i>POTENTIAL IMPACTS AND MITIGATION MEASURES</i>	14
5.2 Vegetation	14
5.2.1 <i>POTENTIAL IMPACTS AND MITIGATION MEASURES</i>	15
5.3 Fauna	16
5.3.1 <i>POTENTIAL EFFECTS AND MITIGATION MEASURES</i>	16
5.4 Surface Water	17
5.4.1 <i>POTENTIAL EFFECTS AND MITIGATION MEASURES</i>	18
5.5 Air and Noise	18
6.0 KEY ENVIRONMENTAL ISSUES.....	18

TABLES

Table 1:	MLA Areas and Background Tenures	2
Table 2:	Affected Persons	4
Table 3:	Interested Persons	5
Table 4:	Advisory Bodies	7
Table 5:	Water Quality Parameter Ranges	17

APPENDICES

Attachment 1: Concept Plan

FIGURES

Figure 1	Watershed Project Location
Figure 2	Topographic Map of MLA Area
Figure 3	MLA Area with Underlying Tenures
Figure 4	MLA Area with Underlying Mining Tenements
Figure 5	Watershed Geology
Figure 6	Watershed Geological Cross-Section
Figure 7	Watershed Exploration Areas
Figure 8	Environmentally Sensitive Areas
Figure 9	Mitchell Creek Catchment Drainage Area

INTRODUCTION

Vital Metals Limited ("Vital Metals") is currently developing a tungsten resource under Mineral Development Licence ("MDL") 127 at the Watershed deposit some 23 kilometres north-west of Mount Carbine on the boundary between Cook and Mareeba Shires.

The deposit was initially investigated by the Utah Development Company between 1978 and 1985. Vital Metals acquired the MDL in 2005 at the time of its listing on the Australian Stock Exchange. The exploration activities have been the basis of a feasibility assessment to define the economic and commercial viability of the development of a large scheelite mining and processing operation.

Vital Metals have applied for four (4) mining leases over the area required to develop a relatively large tungsten mining operations to produce approximately 4000 tonnes per year of scheelite (CaWO_3) concentrate containing 65% WO_3 for a period of at least ten (10) years.

The proposed mine layout is under development with final areas to be defined through survey and ground truthing. The concept plan is detailed in Attachment 1. The operation will comprise a conventional open cut, metalliferous mine and a simple gravity and floatation concentration process. Waste from the floatation process will be retained within a tailings dam.

This paper contains the information required to be attached to an Application for a Voluntary Environmental Impact Statement ("EIS").

1.1 Site Description

The proposed Mining Lease Applications ("MLAs") are situated in far North Queensland, approximately 30 kilometres north-west of the township of Mt Carbine (Figure 1).

The deposit is located in the northern portion of the MDL, which straddles the Watershed (between the Mitchell and Palmer Rivers) boundary between Curraghmore and Maitland Downs Stations. A detailed topographic map of the MLA areas is included as Figure 2.

Access is currently by means of a 24 kilometre, formed and graded, dirt track from the bituminised Peninsula Development Road. The turn-off point (eastward from the Peninsula Development Road) is located some 23 kilometres north of Mt Carbine immediately north of the Desailly Creek crossing. An alternative access track could be formed from near the Campbell Creek crossing, closer to Mt Carbine, but at this stage, the existing access track is the preferred option.

The geographical co-ordinates of the area are as expressed under the Australian Map Grid, AGD - Zone 55, are 8193365 N / 272910 E. The total area of the MLAs is 1,314.58 hectares.

1.2 Tenure Details

The Watershed scheelite deposit is located, and accordingly the proposed MLAs are situated on two properties (Figure 3);

- Lot 191 on DA805299, Curraghmore Station; and
- Lot 113 on SP161900, Maitland Downs.

Curraghmore Station lies to the south of the Watershed boundary in the Mareeba Shire, and is a 64,300 ha property chiefly used for low intensity grazing. Only a small portion of MLA 'Watershed A' lies on this property, with 'Watershed B' and 'Watershed C' wholly on Curraghmore Station. The station homestead is approximately 20 km southwest of the project area.

Maitland Downs Station is to the north of the Watershed boundary in the Cook Shire, also with a primary land use of low intensity grazing. It is approximately 70,200 ha in size, within which lies an airstrip. The homestead is roughly 20 km northwest of the project area, and will contain all of MLA 'Watershed D' and the majority of MLA 'Watershed A'.

Table 1 describes the background tenures for each MLA and their respective area.

Table 1: MLA Areas and Background Tenures

Mining Lease	Area (ha)	Lot and Plan
MLA 20535 'Watershed A'	332.6	Lot 191 on DA 805299
		Lot 113 on SP161900
MLA 20536 'Watershed B'	590.2	Lot 191 on DA 805299
MLA 20537 'Watershed C'	308.1	Lot 191 on DA 805299
MLA 20538 'Watershed D'	83.68	Lot 113 on SP161900

The MLAs were pegged with Prospecting Permits 21059 and 21060 as prerequisite tenures.

Other underlying tenures include MDL127, which is held by North Queensland Tungsten Pty Ltd, a wholly-owned subsidiary of Vital Metals. Exploration Permit Mineral ("EPM") 15064 to the north and is held by Vital Metals. EPM14735 is held by Republic Gold Ltd. See Figure 4 for details of underlying mining tenements.

Vital Metals has exploration and tungsten rights along with the right to peg MLA's on all of the aforementioned mining tenements.

1.3 Native Title

Curraghmore Station (Lot 191) is a Grazing Homestead Perpetual Lease which is tenure listed as extinguishing native title under Schedule 1 of the *Native Title Act* 1993. Maitland Downs Station (or Lot 113) is a Pastoral Holding which does not extinguish native title. A National Native Title Tribunal Search identified the Western Yalanji People 6 as registered native title claimants for an area including Curraghmore Station.

As noted in Table 2, the North Queensland Aboriginal Land Council and the Cape York Land Council are the representative Aboriginal bodies for the area. The Watershed defines the boundary between the two Indigenous Representative Bodies administrations.

Vital Metals will conduct a community consultation program which will include Indigenous peoples recognised as the traditional owners of the area (see section 2). These groups will be consulted on an inclusive basis in relation to cultural heritage studies.

1.4 Local Context

Presently the predominant land use of Curraghmore and Maitland Downs Stations are for low intensity grazing, with the area classified as 'Rural' under the Mareeba and Cook Shire Council Local Planning Schemes. See Photo Plates 1 and 2 for aerial views.

The Watershed Project is approximately 3 km to the west of Mount Windsor Forest Reserve (a National Park). A further 8 km to the east, is the Wet Tropics World Heritage Area.

The Peninsular Development Road is the main transport corridor from Mareeba to the Project site. It is a state controlled regional road. As seen in Figure 1, running parallel to the road is a 132 kV power line, from which it is planned the Project will source the required power.

The site is in the Mitchell River Catchment which flows into the Gulf of Carpentaria. Creeks to the north and east drain into Prospect Creek and the Palmer River, where creeks to the south and west drain into Desailly Creek and the Mitchell River.

1.5 Interested and Affected Persons

There are a number of interested and affected persons in relation to the proposed Watershed Project. Table 2 below details the affected persons in accordance with section 38 of the *Environmental Protection Act* 1994 ("EP Act").

2.0 COMMUNITY CONSULTATION

Vital Metals believes that successful community consultation is essential to the long-term success of the Watershed Project. The parties identified in Tables 2 - 4 will be engaged at an early stage in order to identify and address issues early on in the Project approvals process.

The objectives of Vital Metals' community consultation programs are;

- To inform the wider community about the Project and Vital Metals' commitment to protecting the environment and public health;
- Encourage stakeholder involvement and participation in the decision making process to facilitate enhanced outcomes;
- Provide a range of opportunities for stakeholders to voice their issues throughout the EIS process; and
- Maintain open and transparent communication on all aspects of the Project and impact assessments.

A range of communication tools will be implemented in order to achieve the stated community consultation goals. For the EIS this will include:

- A company website (www.vitalmetals.com.au);
- A dedicated communications access for example: email address, phone number and fax number;
- Local and state newspaper advertisements;
- Display of information on the Project at public venue (eg Mareeba public library)
- Additional public and selected affected/interested parties information sessions and site visits

The Terms of Reference drafted for the Voluntary EIS submission includes the scope of a Community Consultation Program proposed for the Project.

3.0 MINING

3.1 Overview

Exploration work undertaken by Utah Development, on the basis of 43 diamond core holes drilled between 1978 and 1984, estimated an Inferred Resource of 13,900,000 tonnes of mineralised material at an average grade of 0.35% WO₃ for a contained tungstic trioxide content of 48,650 tonnes. Vital Metals is currently carrying out an extensive program of in-fill drilling to confirm this resource estimate and upgrade the figures to Measured and Indicated Classification under the JORC Code.

As there is a high degree of confidence in the Utah estimates, the in-fill drilling work is being conducted concurrently with the engineering, logistical, environmental and metallurgical studies.

Using Utah's average grade and applying appropriate mining dilution and metallurgical recovery factors, the production of 4000 tonnes per year of WO_3 contained will require a mining rate of between 1,500,000 and 1,750,000 tonnes per year of ore.

At a grade of 65 percent WO_3 in the concentrate, the operation will produce, for export, a total of 6667 tonnes of actual concentrate per year.

The operation will be a simple open cut mine with a waste to ore ratio of approximately three to one based on Utah's average grade and a treatment facility involving crushing and some grinding, gravity recovery of the scheelite with flotation of the fines.

The erratic nature of the distribution of scheelite within the host rock and the continuous inflow of new information from current drilling and engineering studies means that, later in 2007, the actual mining operation will be the subject of a major optimisation investigation. The principal objective of this study will be the economic optimisation of the mining methodology to ascertain at what grade will be most beneficial to actually extract the ore. In other words the effective actual grade to be mined may change substantially if a more selective mining operation can beneficially be employed. In such a case, the annual mining (and treatment) rate of ore would reduce – possibly substantially - although the annual waste tonnage is likely to increase slightly.

The mining operation itself will be a conventional, metalliferous, open cut mine using diesel powered equipment, almost certainly on a contractual basis, at the rate of the order of 1,500,000 tonnes per annum. Although a final pit design has not been completed at this stage, a waste to ore ratio of three to 1 would require a waste removal rate of approximately 4.5 million tonnes per year.

Waste rock will be dumped in out of pit landforms currently allocated to the eastern side of the deposit. The anticipated volume of 35 million cubic metres will be designed so as to conform to the existing landforms.

The handling of any removed topsoil and the progressive rehabilitation of the mined area will be conducted in accordance with best mining and environmental practice commensurate with the logistics of this particular ore deposit.

3.2 Mining Methodology

The deposit will be mined on a contractual basis using diesel powered earthmoving equipment such as bull dozers, excavators and rear dump trucks. Ancillary equipment such as light vehicles, water truck and service trucks will be required.

The method will involve clearing, topsoil removal and stockpiling, drill and blasting of both ore and waste and the usage of excavators and conventional dump trucks for both waste removal and ore mining.

3.3 Mine Design

The Watershed Project will comprise four Mining Leases – “MLA 20535 - Watershed A”, “MLA 20536 - Watershed B”, “MLA 20537 - Watershed C” and “MLA 20538 - Watershed D” (Figure 2).

MLA “Watershed A” will contain the waste rock dump. A small portion of the pit will fall into this MLA. It is estimated that the dump will reach 35 million cubic metres, with the low grade stockpile approximately 10 million tonnes. Of course, these figures may change following further optimisation studies detailed in section 3.1.

To the west of MLA “Watershed A” is MLA “Watershed B”. This is where the majority of the pit will lie, in addition to the processing plant, administration and workshop. The main tailings dam will be located on this MLA. Site selection for the low grade stockpile is under investigation.

MLA “Watershed C” is the southernmost MLA. This area will hold future wastes (namely tailings) during a later stage in the mine’s life.

MLA “Watershed D” will contain the accommodation village. Section 3.6 lists the infrastructure associated with the village.

3.4 Metallurgical Treatment/Beneficiation

The final metallurgical flow sheet is still under development but, in essence, will comprise the following stages:

- Primary Crushing
- Secondary Crushing
- Possible use of X-Ray Ore Sorting
- High Pressure Grinding Rolls for further size reduction
- Size Classification
- Gravity Recovery (In-Line Pressure Jigs and Wilfley Tables)
- Re-grind of the fines
- Flotation of the fines

The product from the gravity and flotation circuits will both be crude concentrates which will require further cleaning using electrostatic and magnetic separators.

A feature of this treatment route is that an unusually high proportion of the tailings from the process route will be more coarse (in size) than other mineral plants. The scheelite appears to have a liberation size around 0.15 to 0.3 millimetres; unusually coarse and this fraction – anticipated to be the majority, will present few tails storage problems.

The flotation process involves the use of basically innocuous reagents which will, for the most part, find their way into the tailings retention dam.

The type and quantities of these reagents has been estimated on a per annum usage basis as follows:

- 30 to 35 tonnes of sodium-ethyl xanthate
- 900 to 1000 tonnes of sodium silicate
- 300 to 350 tonnes of oleic acid
- 60 to 70 tonnes of wood resin
- Possibly up to 300 tonnes of sodium carbonate.

3.5 Product Handling and Transport

The concentrates will be almost certainly sold to overseas buyers in the USA, Europe and /or China as there are no local (Australian) consumers.

The concentrates will be packed in 3 tonne, fabric bulk bags and hauled to Brisbane port for despatch. The actual tonnage moved from the mine site is estimated at approximately 550 tonnes per month (140 tonnes per week). This will probably be trucked via the inland route to Brisbane (i.e. not via Cairns), using at least one truck per day.

3.6 Infrastructure Requirements

Roads

Internal haul roads will have to be established across the MLA areas to provide all weather access for the haulage and delivery requirements of the Project. Detailed design will be included in the mine development plan for crossings and dedicated access.

Water

The estimated requirement is 700 ML of water per annum for the treatment plant plus dust suppression for the mining operation. Approximately 8 ML per annum will be required for the accommodation village on MLA 'Watershed D'. Possible sources for this water are currently under investigation, where it is hoped adequate groundwater can be sourced on site.

Fuel

Mining equipment will require diesel fuel, of which approximately 100,000 L will be stored on site. Limited unleaded petrol will be stored on site for light vehicles (<10,000L).

Power

An existing 132,000 volt power line running along the main Peninsula Development Road (to Cooktown) has sufficient capacity to supply a mine at Watershed. Discussions with Ergon Energy are underway regarding the construction of infrastructure required to supply the Project.

Staff Accommodation

A full estimate has not yet been made of the staffing/labour requirement and cannot be finalised without completion of the optimisation study. However, a preliminary estimate of 80 to 120 employees seems likely at this stage.

The workers village will be located on 'Watershed D' and will contain the following facilities;

- Accommodation for approximately 120 personnel;
- A laundry facility;
- First aid facility;
- Recreation facilities;
- Waste disposal facility;
- Bulk storage facility;
- Car parking;
- A wet mess complex; and
- A sewage treatment plant.

3.7 Decommissioning

Following mine closure, which will occur no less than ten years after the commencement mine operations, it is proposed that the final land use is low intensity grazing.

4.0 GEOLOGY

4.1 Regional Geology

The Watershed Project is located within the Hodgkinson Province, which comprises metamorphosed mudstone, siltstone, sandstone, minor calcareous sediment and subordinate basaltic volcanic rocks forming the Siluro-Devonian Hodgkinson Formation, intruded by granitoids of the Permian Whypalla Supersuite. Figure 5 illustrates the geology of the Watershed area.

The Whypalla Supersuite comprises of a series of dominantly medium to coarse grained biotite granite intrusions, ranging in size from tens of metres through to 10 kilometres in diameter. Contact metamorphic aureoles are typically 200m wide, and where isolated from the visible intrusions, suggest that granitoid occurs at shallow depth below surface.

The Hodgkinsons Formation is characterised by a four-stage deformation history, with the original sedimentary layering strongly rotated into a regional north-south striking foliation. This foliation predominantly represents the fourth stage of deformation, with earlier stages typically only preserved within contact metamorphic rocks adjacent of granitic intrusions.

The Hodgkinson Province is characteristically associated with two styles of mineralisation, lode-vein gold deposits and lode tin-tungsten deposits. Gold mineralisation is broadly associated with regional lineaments that terminate against granitoid in proximity to granitoids. Tin-tungsten deposits are typically developed within the contact metamorphic aureoles rocks in close proximity to the granitoids.

4.2 Project Geology

The Watershed Project area is dominated by slate and phyllite of the Hodgkinson Formation, with minor calc-silicate skarn representing metamorphosed calcareous sandstone and conglomerate. These rocks form a prominent ridge that hosts the known tungsten mineralisation. Minor chert and quartz feldspar porphyry have been mapped within the project area, the latter as a dyke-like body to the east of the Watershed deposit.

The dominant structural fabric is an upright, north-northwest trending cleavage. The cleavage corresponds broadly with the fabric developed during the fourth regional deformation. However, the structural geometries are locally complex, and the detailed local structural history requires further study.

The nearest exposure of granitoid to the Watershed property is a northwest-trending porphyritic granitoid exposed approximately two kilometres to the east of the project area.

4.3 Mineralisation

Tungsten mineralisation occurs as scheelite, hosted by calc-silicate rock units and in quartz-feldspar veins invading the skarn and the enclosing host rocks. Scheelite mineralisation is recorded over a strike length of approximately 3,000 metres, sub-parallel to the regional north-northwest trend. See Figure 6 for a geological cross-section of the deposit.

Three styles of mineralisation are observed.

- High grade scheelite mineralisation developed within calcareous sandstone and conglomerate pods, referred to as calc-silicate pods. These pods have been interpreted as having dimensions of between 30m and 200m in length and 5m to 70m in width.
- Disseminated scheelite mineralisation within broad horizons of calcareous sandy phyllite units, which is broadly continuous between drill sections. These units appear to envelope the calc-silicate pods.
- Coarse scheelite within granitic and pegmatitic veins, including east-west veins and locally developed north-south subsidiary veins. Minor pyrrhotite, pyrite and arsenopyrite have been observed. The veins display the highest tungsten grade, where a biotite is present and the calc-silicate units are the host to veining. The veins are typically tungsten-poor when a biotite is absent and are barren of scheelite where hosted by rock units other than calc-silicate.

5.0 RECEIVING ENVIRONMENT

5.1 Physiography and Climate

The general physiography comprises moderately, semi-rugged, north-south striking ridges, interspersed with prominent mountains and tablelands over granite exposures. The Project is located on a watershed between the Palmer River and Mitchell River systems, which both drain west into the Gulf of Carpentaria. The Watershed campsite is located at an elevation of approximately 550 metres, with local elevations up to 850 metres on ridgetops.

The climate is typical of monsoonal northern Australia. Summers are hot with regular thunderstorms and sporadic heavy seasonal rains from tropical depressions, modified by the rain-shadow effect of the Great Dividing Range. Winters are typically warm and dry.

5.1.1 POTENTIAL IMPACTS AND MITIGATION MEASURES

The Watershed will be altered throughout the life of the Project. It is not expected that this will have a deleterious effect on the visual amenity of the area as the nearest public viewing area is known as Bob's Lookout, is some 16 km south of the Project from which this Project site cannot be seen. Adjacent to the open pit, a waste dump approximately 35 million m³ in size will be established. The final landforms will be the subject of investigation during the EIS process.

5.2 Vegetation

Within the Watershed area most of the vegetation communities remain relatively undisturbed. Regional Ecosystem ("RE") Mapping identified Ironbark dominated mixed eucalypt woodland (RE: 9.11.3a) as the most dominant vegetation community.

Other major vegetation communities identified include Molloy Red Box Woodland (RE: 9.11.26a), Lemon-scented Gum Woodland (RE: 9.11.10), open forest containing Lemon-scented Gum and White Mahogany Woodland (RE: 9.11.4) and Riparian Closed to Open Woodland (RE: NA).

Vegetation communities identified by the EPA as being 'Of Concern' are the Lemon-scented Gum Woodlands, Ironbark Woodland with occasional White Mahogany and Blue Gum and *Melaleuca trichostachya* Woodland on creeks. Although the stand of Riparian Closed to Open Woodland along the western slope of the Main Ridge is not designated as an RE 'Of Concern' it is an important vegetation community as it provides a core habitat for the endangered Northern Quoll and supports populations of Cooktown Orchids.

Species considered to be of ecological significance located within the project boundaries include the Cooktown Orchid (*Dendrobium bigibbum* var. *superbum*), *Plectranthus spectabilis* and *Solanum multiglochidiatum*.

During 2006 wet season flora surveys, one conservation listed species was identified as potentially present in the MLA area, the *Corymbia rhodops* which is listed as being vulnerable under the *Environment Protection and Biodiversity Conservation Act 1999* ("EPBC"). *C. rhodops* is associated with RE's 9.11.3a, 9.11.26a and 9.11.10 which are found throughout the study area, however the absence of fruits during the 2006 study precluded confident species identification of *C. rhodops* or *C. erythrophloia*.

Further investigations during the 2007 flowering season (December to March) indicated that the identified species is not likely to be *C. rhodops* as individuals had not yet flowered. The EIS will discuss conclusions of further investigations.

Adjacent to Curraghmore and Maitland Downs Stations is a National Park, of which a portion comprises part of the Wet Tropics World Heritage Area (Figure 8).

5.2.1 POTENTIAL IMPACTS AND MITIGATION MEASURES

A large area of vegetation must be cleared in order for resource extraction and the construction of project infrastructure, yet portions of vegetation within the MLA areas will remain.

Clearing will be minimised by only removing the vegetation required for the mine infrastructure and roads. Pre-existing exploration tracks will be utilised where possible.

Vegetation surveys undertaken by Natural Resource Assessments Pty Ltd ("NRA") have indicated up to four species of ecological significance established in the Project area. Additional surveys are to be undertaken in the current wet season by NRA which will increase the knowledge base of the local floral species of significance.

This information will also aid in the preparation of management plans in order to mitigate the impact on recognised significant species.

Vegetation will be removed in accordance with best practice for minimising and avoiding impacts on adjacent communities, while keeping soil disturbance and soil removal to a minimum for areas not required to be pre-stripped for mining.

5.3 Fauna

The fauna of the MLA was studied during June 2006 using desktop and field studies. Field studies included Cage Trapping, Hair Trapping, Night-time Spotlighting, Water-hole Watches, Diurnal Bird Surveys, Raptor Watches, Reptile Searches, Harp Trapping and Anabat Acoustic Surveys.

During the study no macropods were observed. Vital Metals site staff provided information indicating that the area is not frequently used by macropods and individuals are occasionally observed between November – February. Five species of terrestrial/arboreal mammal species or traces of were found during the study. Eleven bat species of the area were either observed or had calls recorded. Three raptor bird species were observed either within the site or adjacent to the site. A number of waterbird species were observed at dams adjacent to the exploration camp. Seven reptile species were observed. Four amphibian species were observed within or adjacent to dams and their associated creek.

The Northern Quoll (*Dasyurus hallucatus*) was the only species protected under state or federal legislation to be observed during the survey.

Threatened species protected under state or government legislation that were not observed during the area study but have high potential for occurrence in the area include the Yellow-naped Snake (*Furina barnardi*) and the Red Goshawk (*Erythrotriorchis radiatus*).

5.3.1 POTENTIAL EFFECTS AND MITIGATION MEASURES

Fauna will be affected by the Project due to the removal of vegetation/habitat that will occur, in addition to the fragmentation of habitat. There is also potential for harm to native fauna during the act of clearing, such as tree fall events and during vehicle movement. Mitigation measures may include the capture and relocation of individuals and inclusion of habitat enhancement in rehabilitation efforts.

Quoll habitat and management options will be presented in the EIS and may form a part of the decision of DEH on the Referral presented to them.

5.4 Surface Water

The Project area is located within the upper Desailly Creek catchment. The catchment lies in dry country to the west of the Mount Windsor Tableland. Desailly Creek itself rises at approximately 900 m above sea-level in hills to the east of the Project area and discharges to the Mitchell River as a fourth order stream just south of Peninsula Development Road. Please refer to Figure 9 for an illustration of the Mitchell Creek Catchment drainage area.

Stream flow is ephemeral in the upper catchment, whereby flow only occurs for periods of days to weeks following major rainfall events. Lower in the catchment, flow may be more even and persistent with possible substantial pools throughout the year.

Some watercourses abutting the northern and eastern sections of the Project area drain into the Palmer River catchment, yet runoff is expected to drain to the west to a single third order tributary which travels southward more or less parallel to the ridge to enter Desailly Creek approximately 2 km southwest.

In the 2006 wet season a sampling regime for the assessment of baseline water quality was undertaken within the Watershed Project catchment. A summary of the in-stream analysis is presented below.

Table 5: Water Quality Parameter Ranges

Parameter	Range (Units)
pH	6.5 - 9.5
Electrical conductivity	40 - 900 μ S/cm
Sulphate	2 - 27 mg/L
Aluminium	<0.05 - 8.6 mg/L
Arsenic	<0.005 - 0.048 mg/L
Iron	<0.05 - 1.5 mg/L
Lead	<0.001 - 0.007 mg/L
Zinc	<0.005 - 0.026 mg/L
Fluoride	0.25 - 2 mg/L

Parameters which did not exceed detection limits include cadmium, copper, manganese, molybdenum and nickel.

5.4.1 POTENTIAL EFFECTS AND MITIGATION MEASURES

Disturbance of vegetation and soil will be the primary source of potential contaminants to local waterways. The implementation of appropriate erosion and sediment controls over the life of project will mitigate the effects.

Storage of tailings and mine wastes will be investigated in the EIS process and incorporated into the design of structures and landforms.

5.5 Air and Noise

Due to the low impact grazing use and minimal exploration activity, the Project has a high quality local airshed. The main source of airborne contaminant is bushfire or dust from stock or vehicle movement on unsealed roads.

Background noise is typical of remote rural areas. The nearest sensitive receptors are the Curraghmore Station homestead, approximately 20 km southeast, and the Maitland Downs Station homestead, approximately 20 km northwest.

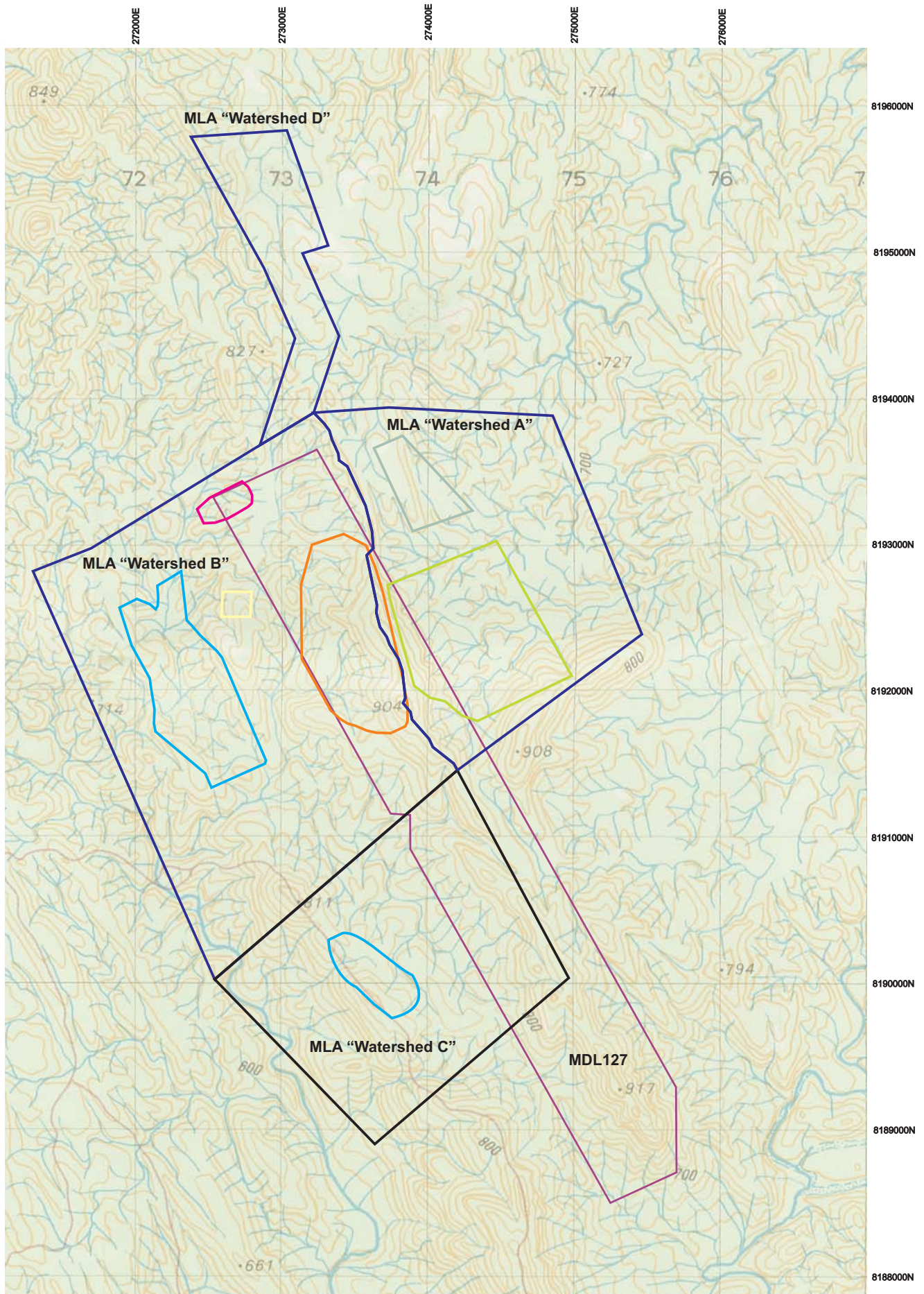
The main impact to air quality will be from dust created during construction and blasting activities. Dust suppression can be mitigated on unsealed roads and during construction via the use of water trucks. The dust created from blasting is not expected to have major adverse effects to persons in the vicinity of the area, as the nearest residence is approximately 20 km from the Project area.

6.0 KEY ENVIRONMENTAL ISSUES

From the preliminary investigations key environmental issues for the Project will be associated with the project establishment and operations including:

- Flora and fauna impacts associated with clearing
- Rehabilitation of mining disturbances
- Final land use for areas storing and retaining mining waste
- Surface water management
- Water supply
- Infrastructure/supply of services

A wider appreciation of the issues will evolve from the environmental impact and consultation processes ahead of the Project. The basis of the impact assessment will be subject to further discussions with the Environmental Protection Agency. This activity was been referred to the Commonwealth Department of Environment and Water Resources as specified under the EPBC Act. It was determined that the project is not a controlled action under the EPBC Act, if undertaken in the manner specified by the department.



Scale - 1:25,000

Grid lines are 1000 m intervals of the AMG, Zone 55
Horizontal Datum - AGD66
Vertical Datum - AHD
Contour Interval - 40 m
Note: Infrastructure outline as at December 2006.

LEGEND:

- MLA boundary
- MDL127 boundary
- Tailings/water storage
- Pit outline
- Low grade stockpile
- Waste rock dump
- Treatment plant
- Administration and workshop



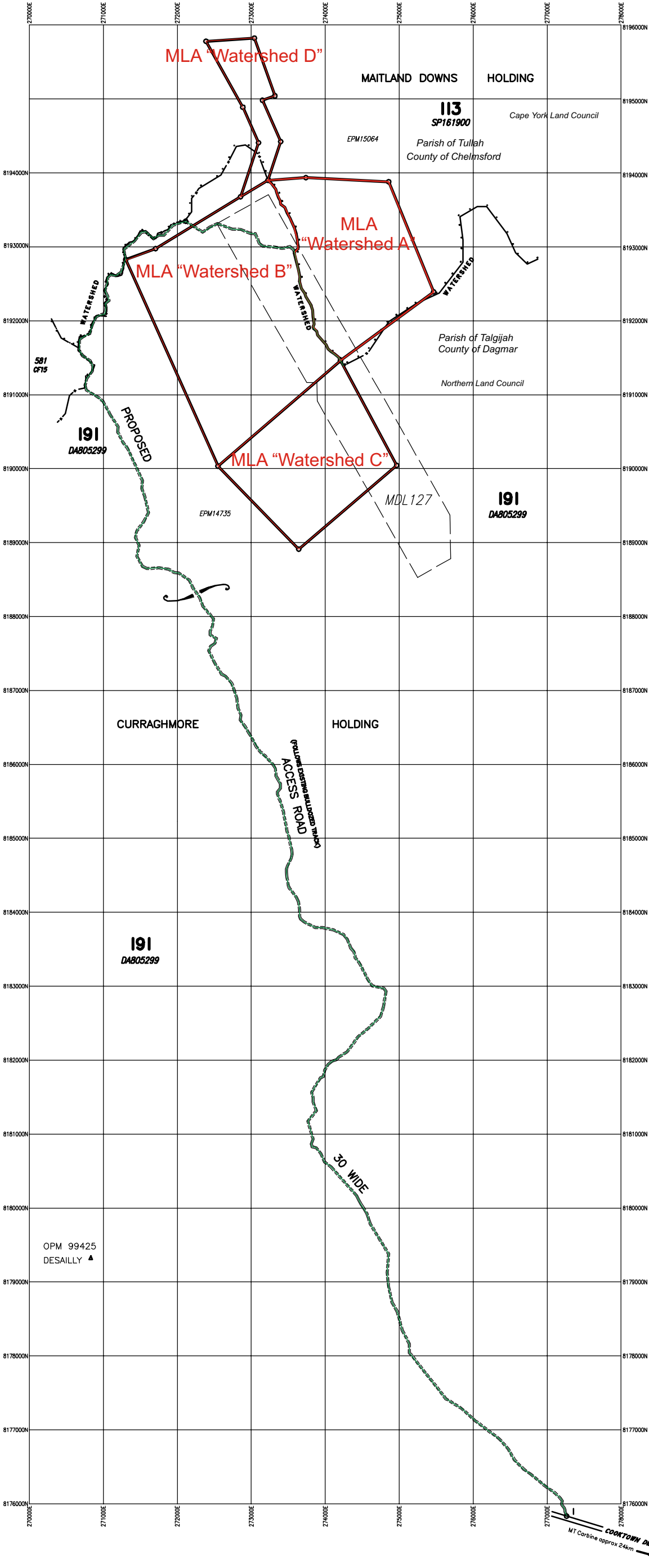
ENVIRONMENTAL & LICENSING PROFESSIONALS PTY LTD

DRAWN: GB
CHECKED: MH
DATE: Dec 2006
CLIENT: VITGEN

Figure 2

Topographic Map of MLA Areas

Vital Metals Ltd



COPYRIGHT
This document is held in digital format and shall remain the property of John MacIsaac and Associates Pty Ltd. The document may only be used for the purpose for which it was commissioned and in accordance with the terms of engagement for the commission. Unauthorised use or alteration of this document in any form is prohibited.

LEGEND

County Boundary
Parish Boundary
MULTI BOUNDARY
County Boundary
Pastoral Holding Boundary
Local Authority Boundary

MULTI BOUNDARY
Parish Boundary
Pastoral Holding Boundary
Local Authority Boundary

NOTES
Boundaries of Curraghmore Holding and Maitland Downs Holding compiled from plans SP161900 and DA805299 held by the Dept of Natural Resources and Water and from 1:50000 Topographic map 7865-2 DESAILLY published by the Commonwealth of Australia 1983.

NB: It should be noted that the boundary between the Holdings is a Watershed which is a physical feature capable of definition on the ground. That portion of the watershed boundary between Curraghmore and Maitland Downs Holdings coincident with the common boundary of proposed Mining Leases A and B has been defined on the ground using RTK GPS techniques.

Gazetted County and Parish boundaries compiled from 1:250000 Cadastral map SE55-1 MOSSMAN published by the Dept of Natural Resources and Water 1980.

Gazetted Local Authority boundaries compiled from digital information supplied by the Dept of Natural Resources and Mines in November 2005.

WATERSHED PROJECT

CLIENT:
NORTH QUEENSLAND TUNGSTEN PTY LTD
A.C.N. 113 586 440

PROPOSED MINING LEASE A OVER PART OF LOT 113 ON SP161900 AND PART OF LOT 191 ON DA805299 & LOCATION OF ACCESS ROAD OVER PART OF LOT 191 ON DA805299 AND PART OF LOT 113 ON SP161900

Parish of TALGIJAH County of DAGMAR & Parish of TULLAH County of CHELMSFORD

JOHN MAC ISAAC AND ASSOCIATES PTY LTD
ACN 010 553312

CONSULTING SURVEYORS AND PROPERTY DEVELOPMENT CONSULTANTS

146 MARTYN STREET CAIRNS NQ

PO Box 5174, Cairns Q. 4870
Ph. (070) 313288 Fax (070) 515692
Email jmaclao@ozemail.com.au

John MacIsaac and Associates Pty Ltd ACN 010 553 312
I hereby certify that David Wilson, Registered Cadastral Surveyor for whose work the company accepts responsibility, has prepared this plan.

Director and
Cadastral Surveyor
Director

Nº	AMENDMENT	DATE

SURVEYED

DATE

DRAWN RW PENTECOST 14-10-2006

CHECKED

Cadastral Surveyor / /

MERIDIAN AMG

LEVEL DATUM

DATA SOURCE 2105-03access.DWG
210550.PTS,STR

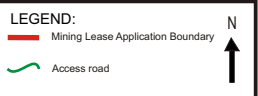
CONTOUR INTERVAL

SCALE 1:30000

SHEET 1 **OF** 1 **SHEETS**

PLAN

2105-03A AI





ENVIRONMENTAL & LICENSING PROFESSIONALS PTY LTD

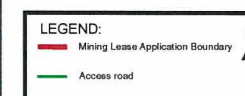
DRAWN	GB	Figure 3 MLA Area with Underlying Tenures
CHECKED	MH	
DATE	Dec 2006	
CLIENT	VITGEN	Vital Metals Ltd
Ref: VITEIS/IAS/Figures Source: JMI & Assoc Pty Ltd		



**Queensland
Government**
Natural Resources,
Mines and Water

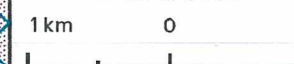
Active Layers

DCDB Parcels
Local Authorities
Sterile Land
Constrained Land - Nil
Wild River
Constrained Land - Nil
Native Title
Indigenous Land Use Agreement
Restricted Areas - Nil
Moratoriums (Minerals) - Nil
Exploration Permits (Minerals)
Mineral Development Licences
Mining Leases
Mining Claims



Projection: UTM (AGD66)
Zone: 55

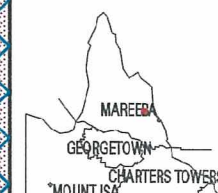
Scale 1:50 000



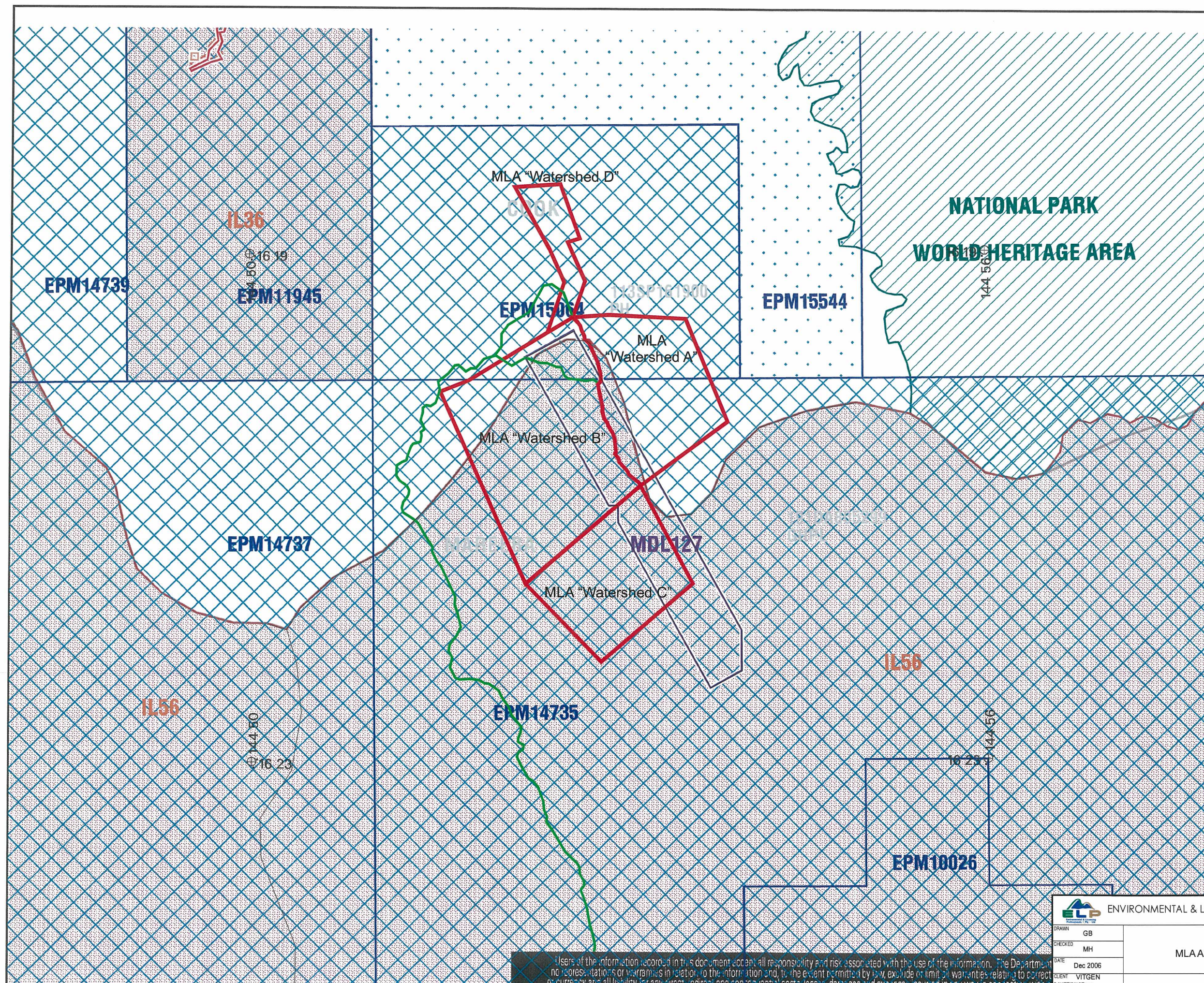
Requested By: brisenq1

Date: 29 Sep 06

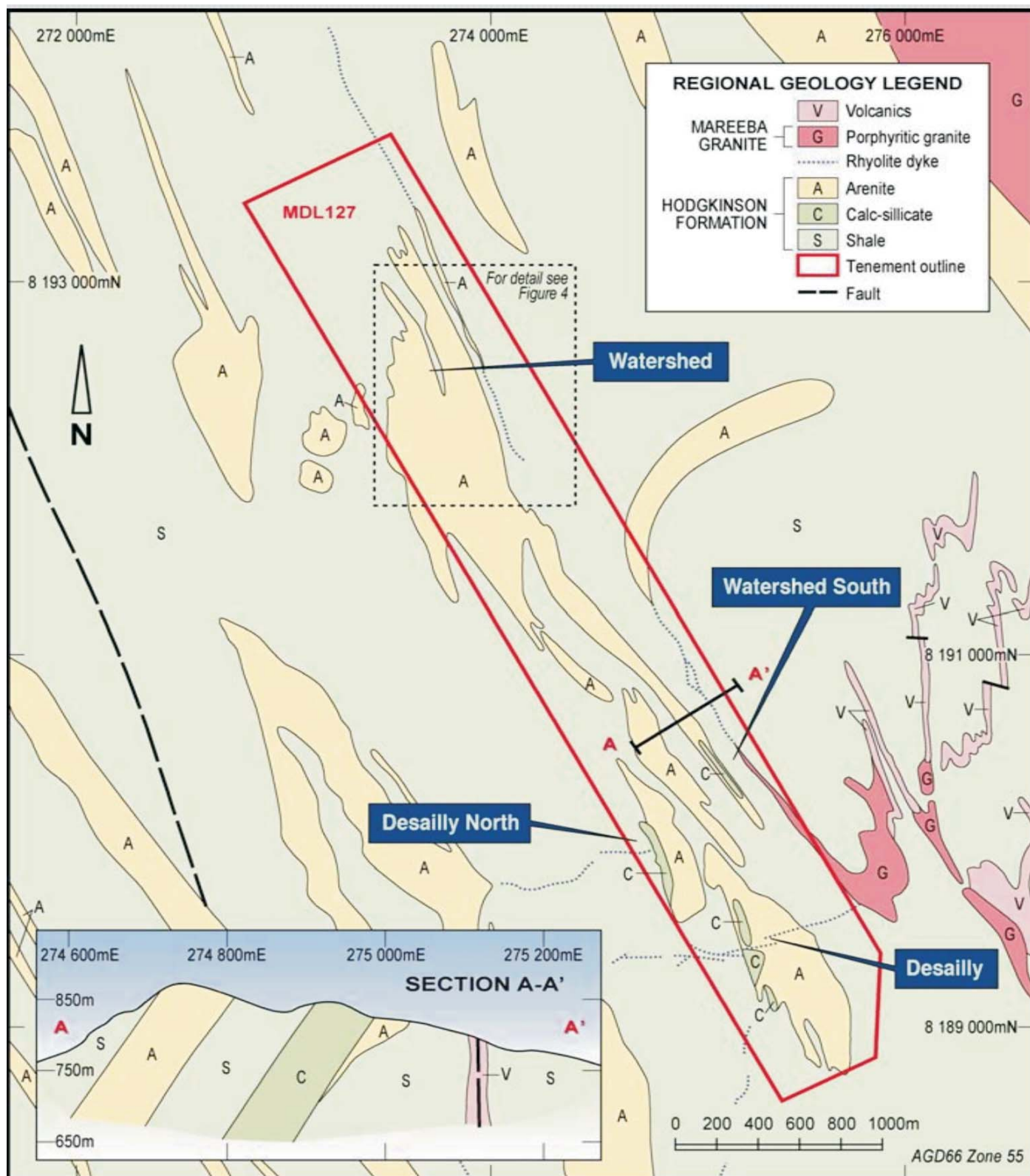
Time: 10:39 AM



 ENVIRONMENTAL & LICENSING PROFESSIONALS PTY LTD	
DRAWN	GB
CHECKED	MH
DATE	Dec 2006
CLIENT	VITGEN
Prepared by: VITGEN Checked by: MH	
Figure 4	
MLA Area with Underlying Mining Tenements	
Vital Metals Ltd	



Users of the information recorded in this document accept all responsibility and risk associated with the use of the information. The Department makes no representations or warranties in relation to the information and, to the extent permitted by law, excludes or limits all warranties relating to correct or currency and all liability for any direct, indirect and consequential costs, losses, damages and expenses incurred in any way in connection with a



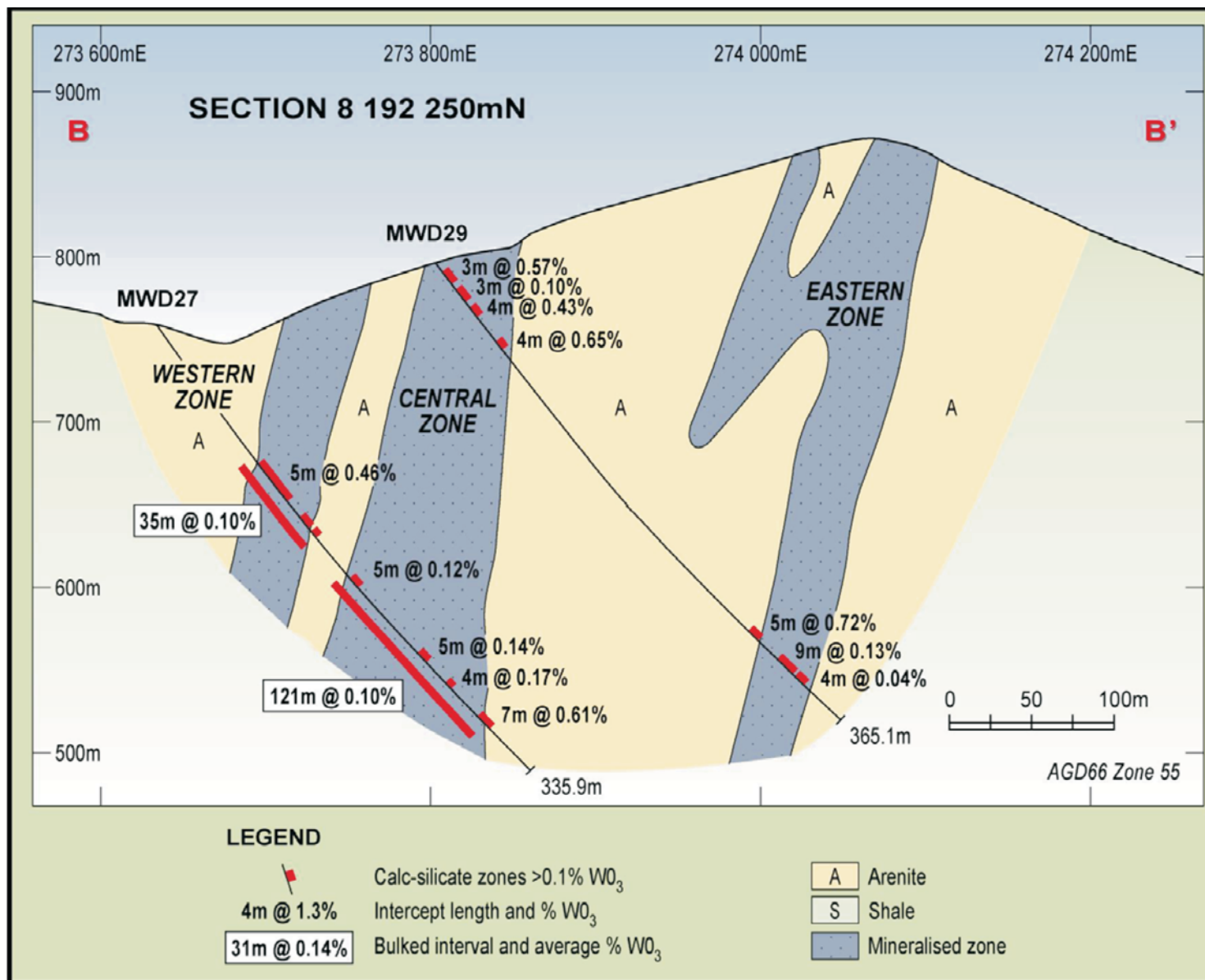
ENVIRONMENTAL & LICENSING PROFESSIONALS PTY LTD

DRAWN GB
CHECKED MH
DATE Dec 2006
CLIENT VITGEN
Ref: VIT/EL/IAS/Figures

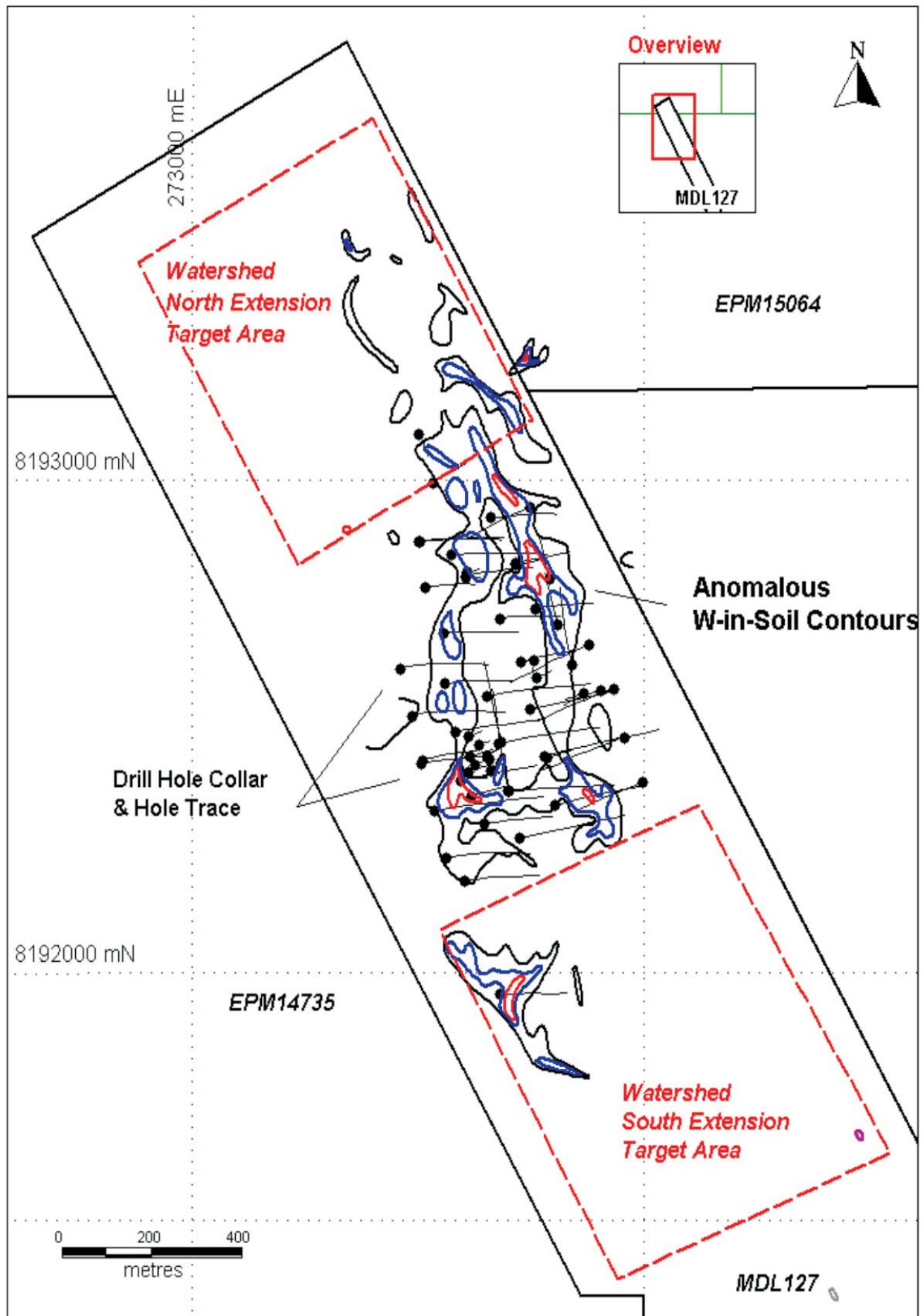
Figure 5

Watershed Geology

Vital Metals Ltd

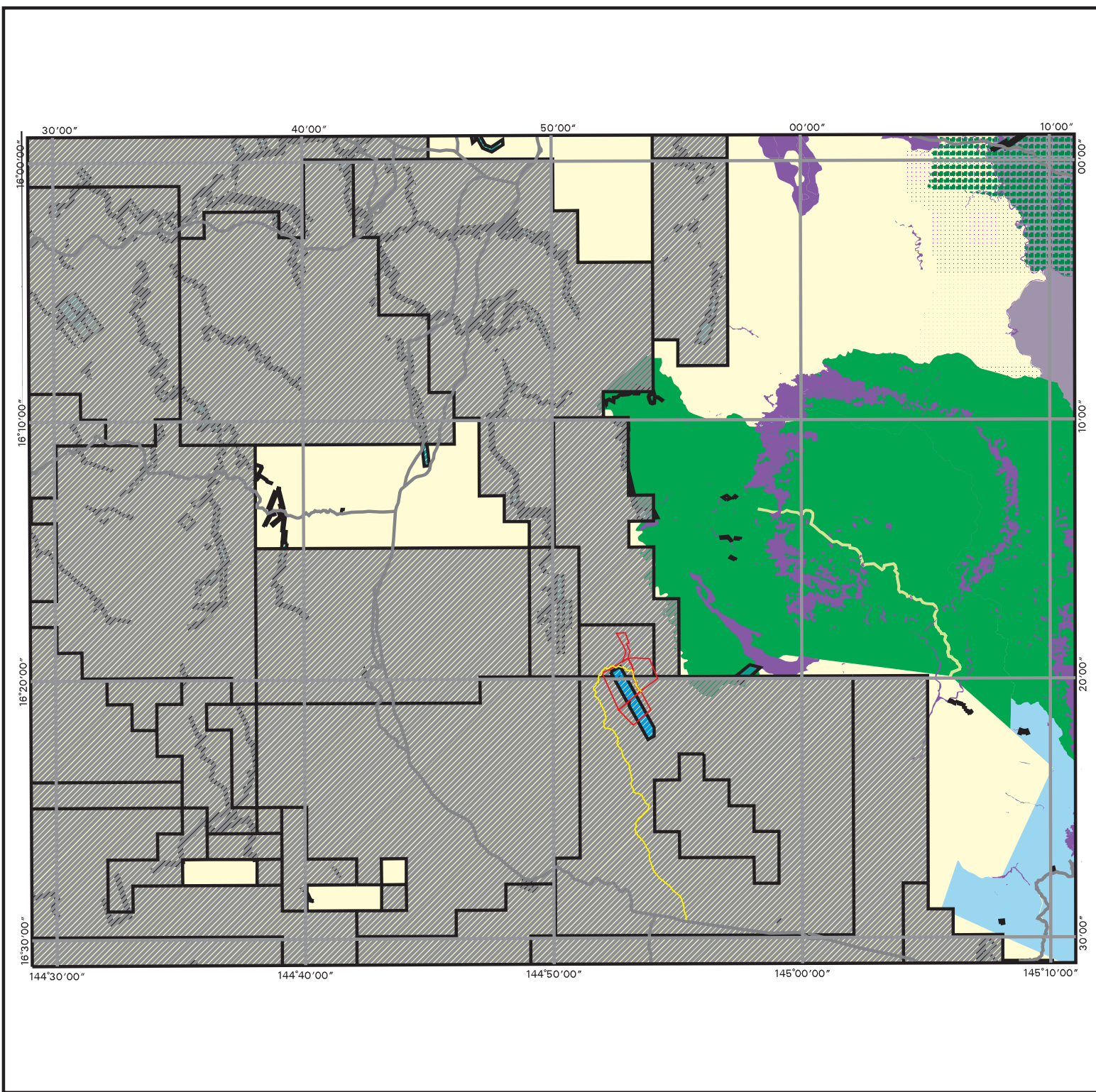


 ENVIRONMENTAL & LICENSING PROFESSIONALS PTY LTD	
DRAWN GB	Figure 6 Watershed Geological Cross-Section Vital Metals Ltd
CHECKED MH	
DATE Dec 2006	
CLIENT VITGEN	
Ref: VIT/ELP/IAS/Figures	



Scale: 1:10,000

 ENVIRONMENTAL & LICENSING PROFESSIONALS PTY LTD	
DRAWN GB	Figure 7 Watershed Exploration Areas Vital Metals Ltd
CHECKED MH	
DATE Dec 2006	
CLIENT VITGEN Ref: VIT/EIS/IAS/Figures	



ENVIRONMENTALLY SENSITIVE AREAS

Requested By: GILLIAN.BENSON@ELP.COM.AU

Date: 02 Oct 06 Time: 14:16.40

5400 0 5400 m

Geocentric Datum of Australia 1994 : Albers Equal Area Projection

CATEGORY A

- National Park
- National Park (Scientific)
- National Park (Recovery)
- Conservation Park
- Forest Reserves
- Wet Tropics World Heritage Area
- Great Barrier Reef Marine Park Region
- Marine Parks other than General Use Zones

- Declared Catchment Areas
- Declared Irrigation Areas
- Drainage Areas
- River Improvement Areas
- Stanbroke DLA
- State Forests
- Timber Reserves
- Coastal Management Control Districts
- Dams and Weirs

OTHERS

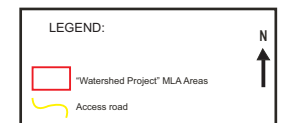
CATEGORY B

- Endangered Regional Ecosystems (Biodiversity Status)
- Coordinated Conservation Areas
- Ramsar Sites
- World Heritage Areas
- General Use Zones of Marine Parks
- Queensland Heritage Register Places
- DLA's other than Stanbroke
- Special Forestry Areas
- Fish Habitat Areas
- Marine Plants
- Koala Plan

- Mining Leases
- Mining Claims
- Mineral Development Licenses
- Exploration Permits Coal
- Exploration Permits Mineral
- Roads
- Towns
- Mahogany Glider Habitat
- Directory of Important Wetlands
- Queensland

CATEGORY C

- Nature Refuges
- Resources Reserves



ENVIRONMENTAL & LICENSING PROFESSIONALS PTY LTD		Figure 8 Watershed Project Environmentally Sensitive Areas Vital Metals Ltd
DRAWN	GB	
CHECKED	MH	
DATE	Dec 2006	
CLIENT	VITGEN	
Revised: 02/10/06		





Photo Plate 1 - Aerial View (East)



Photo Plate 2 - Aerial View (South)

**ATTACHMENT 1:
CONCEPT PLAN**
