Hazardous Substances Use and Management Plan - Underground Depot

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Department	**Underground**
Location/Site	Waihi

Approval table

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Revision number	Revision date	Section	Page	Description	Effective Date
1	01/05/2019	All	All	Revise to OGNZL and incorporate new consents	31/05/2019
2	07/07/2022	All	All	Three yearly review, update to new OGL template	29/07/2022

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1. INTRODUCTION

The purpose of this Hazardous Substances Use and Management Plan - Underground Depot is to identify details of hazardous substances stored underground at the underground depot, containment methods, management of spills/leaks and any emergency precautions.

The Plan is prepared to comply with the requirement of the following Hauraki District Council (HDC) Consents:

- RC-15774 (Trio mine), Condition 22, Trio Mine.
- LUC 202.2012 Condition 36, Correnso.
- LUC 202.2016.00000544.001 Condition 30, Slevin Underground Project (SUPA)
- LUC 202.2018.857.001, Condition 76, Project Martha (Martha)

Included in these conditions is the requirement that hazardous substances are managed in accordance with the relevant New Zealand Standards and Codes of Practice and the Hazardous Substances and New Organisms Act 1996 and Regulations.

It is important to note that the Underground Depot is not a primary maintenance facility. Its purpose is as a 'top-up' facility whereby underground machinery can quickly and safely have fluids replaced prior to either returning to the workface or travelling to surface for repair. As part of this facility, there is a small workshop to implement minor repairs and a single wash-bay to enable machinery to be cleaned for inspection.

2. QUANTITIES STORED

The following are the primary products, and their maximum quantities, to be retained at the depot:

Product	Max. qty.	Product specifications	Hazard Rating
Diesel	3,400L	BP	Amber
Hydraulic Oil	2,000L	Castrol TFC 410 / Hyspin AWS 68	Green
Engine Oil	1,000L	Castrol RX Plus	Green
Rockdrill Oil	1,000L	Biofluid RD320	Green
Transmission Fluid	1,000L	Castrol TFC 430	Green
Bulk Grease	1,000L	Castrol MGX Grease	Green

Note: Hazard Rating (Green (low), Amber (moderate), Red (high)) relates to ChemAlert® health hazard assessment

3. CONTAINMENT

Two methods of containment will be utilised:

- The diesel will be held in a purpose-built 3,400L "SatStat satellite fuel station®" (pictured right). This facility offers spill containment as well as a thermally activated fire suppression system and automatic closing roll-up door in case of fire.
- The other oils, fluids and grease will be held in 1,000L pods placed over a concrete block containment bund. The design for the bund results in a capacity of approximately 50,000L, more than 110% of the single largest container.

4. SPILLAGE

In the event of any spillage at the facility outside of containment (i.e. during fluid transfer), fluids will report to the wash-bay area. The wash-bay drains to a sump from which fluids are processed through an oil skimmer/separator. Treated water is pumped to surface via the mine dewatering system. Recovered waste oil builds up in a tank which is periodically relocated to the primary waste oil facility at surface, for recovery by the site's licenced removal contractor.

It is in the company's best interest to maximise the recovery of hydrocarbons from any water that may be pumped to surface. Water pumped to surface is used in the site's milling circuit and the presence of hydrocarbons suppresses the recovery of minerals.

5. HAZARDOUS FACILITIES SCREENING

The products (and their volumes) to be stored in the depot were used to determine whether the depot was within the Permitted Status limits as determined by Section 7.7.5 in the Hauraki District Plan. The Plan uses the Ministry for the Environment's Hazardous Facilities Screening Procedure (HFSP).

Of the bulk products stored at the depot, only diesel was assessed as hazardous and requiring calculation under the HFSP. The maximum quantity (effect) ratio determined for the facility was calculated at 0.04 (for Environment), which can be compared to the Permitted value in the Proposed District Plan of ≤0.25 for Rural Zone). *Even if all the products at the depot were determined as having the equivalent hazard as diesel, the maximum quantity ratio would be 0.10.*

The volume of diesel that calculates a maximum quantity ratio of 0.25 is 22,500 litres (using the specifications as listed in the HFSP). If future demands for stored products necessitate an increase in the stored volumes to a combined volume of 22,500 litres or greater, the Underground Mine Manager shall inform the Sustainability Manager prior to increasing the stored volumes. The Sustainability Manager shall arrange for a reassessment of the quantity ratio in accordance with the HFSP. Should the resulting quantity ratio exceed 0.25, the Sustainability Manager shall work with the Underground Mine Manager to either reduce the volumes of stored product or shall apply to HDC for the appropriate new or varied land use consent to enable the increased volumes to be stored in the depot.

Note: The wording of the HFSP procedure indicates that underground mining applications were not considered in its development. The absence of any direct pathway from the Trio depot either onto

neighbouring properties or into the environment means that use of the HFSP procedure may not be strictly applicable. However, in the absence of a procedure that provides for underground operations, or any alternative approach in the Hauraki District Plan, the HFSP has been adopted here, recognising that it produces a very conservative result. As an alternative to seeking a land use consent as provided for above, review of the use of the procedure may be warranted if at any time the volumes of stored substances increase to the point where the quantity ratio approaches the limits stipulated in the District Plan.

6. SAFEGUARDS AND EMERGENCY RESPONSE

The greatest risk in the underground depot is fire. To mitigate this risk, all stored hydrocarbons are of low flammability and are stored in contained areas. No oxidisers (e.g. blasting components) are kept in the vicinity.

As mentioned in Section 3, diesel is contained in a SatStat station. In the event of fire (either inside the station or outside), this facility will automatically seal itself with automatic closing roll-up door and activate its fire suppression system. If the station is the origin of the fire, this system will extinguish the fire and protect the surrounding area. If there is an external fire, the system will effectively isolate the fuel from the fire.

The other oils, fluids and grease are stored within the spray pattern of a precautionary deluge system installed around the wash-bay.

Fire extinguishers are mounted at relevant locations around the depot and workshop. Moveable screens will also be installed to ensure that hot work cannot be undertaken in the vicinity of the bulk hydrocarbons. All mobile equipment that use hydrocarbons are fitted with automated fire suppression (AFFF).

7. PLAN REVIEW

This Plan should be regarded as a working document. Amendments to the document may be required as;

- operations proceed. The depot may need to change in size (to match a changing equipment fleet), or in location (moved closer to the mining activity),
- new operations are consented, or
- legislation changes.

Reviews will be subject to recertification by HDC to continue compliance with consent requirements.

8. APPENDIX 1 – DEPOT LOCATION AND DETAILS

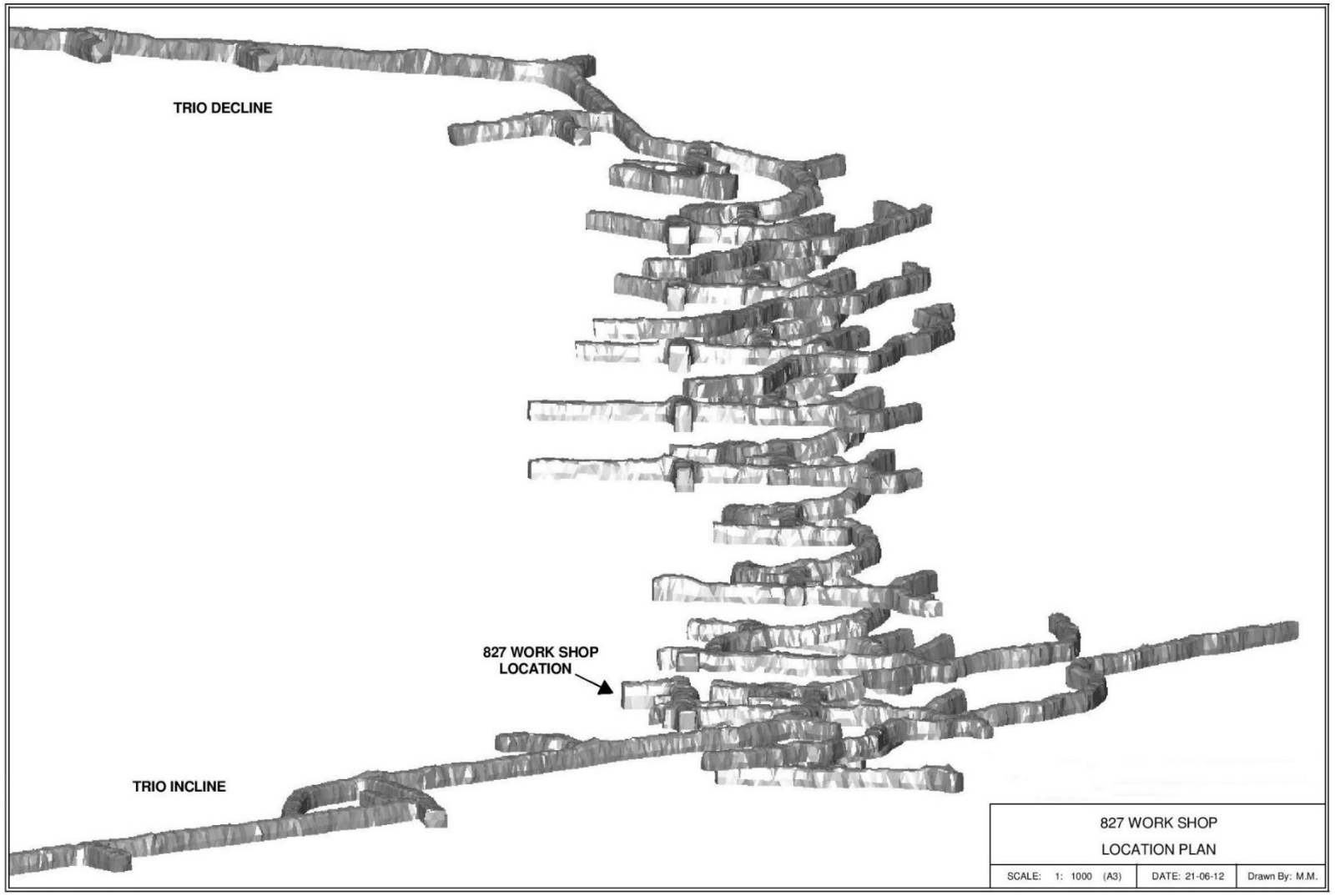

Figure 1: Workshop Location

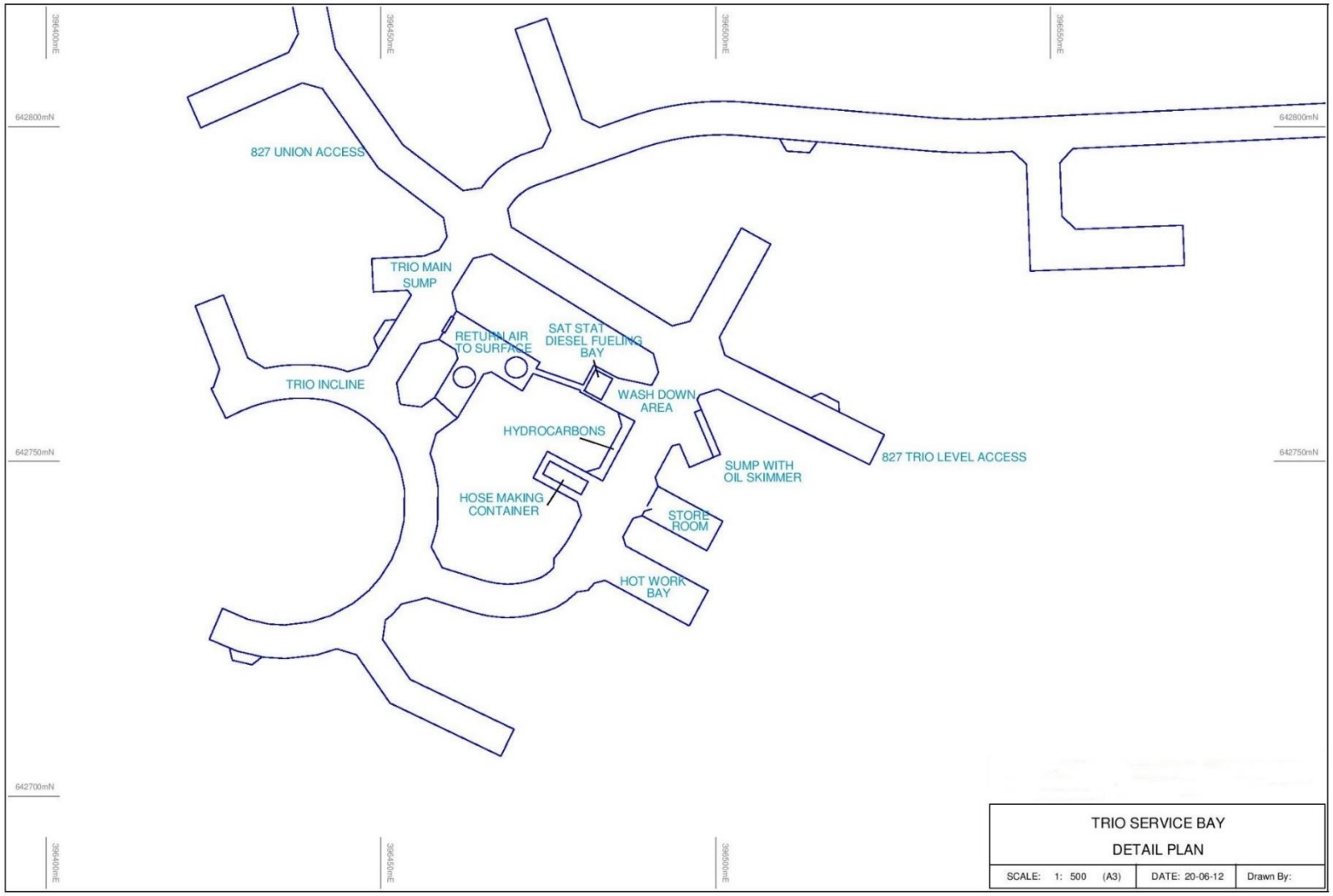

Figure 2: Workshop Detail

9. APPENDIX 2: CONSENT CONDITIONS

TRIO MINE LAND USE CONSENT RC-15774

Hazardous Substances Underground Depot

22 All hazardous substances are to be stored in approved and bunded containment in accordance with the relevant New Zealand Standards and Codes of Practice and the Hazardous Substances and New Organisms Act 1996 and Regulations. A Hazardous Substances Use and Management Plan setting out details of the substances used / stored, containment measures, risk management and emergency response approach shall be submitted to the Manager, Planning and Environmental Services, Hauraki District Council prior to the use of the hazardous substances underground depot.

CORRENSO LAND USE CONSENT 202.2012

Hazardous Substances Underground Depot(s)

36 All hazardous substances are to be stored in approved and bunded containment in accordance with the relevant New Zealand Standards and Codes of Practice and the Hazardous Substances and New Organisms Act 1996 and Regulations. A Hazardous Substances Use and Management Plan setting out details of the substances used / stored, containment measures, risk management and emergency response approach shall be submitted to the Manager, Planning and Environmental Services, Hauraki District Council prior to the use of the hazardous substances underground depot(s).

SUPA LAND USE CONSENT 202.2016.00000544.001

Hazardous Substances

30 Prior to the exercise of this consent as provided for by condition 4, the consent holder shall produce a Hazardous Substances Use and Management Plan. All hazardous substances use shall be in accordance with the Hazardous Substances Use and Management Plan.

Advice Note:

The Hazardous Substances Use and Management Plan may be prepared in conjunction with the plan prepared in accordance with the consent conditions applying to the Trio and CEPPA projects.

PROJECT MARTHA, LAND USE CONSENT NO. 202.2018.857.001

Hazardous Substances Management

76. All hazardous substances are to be stored in approved and bunded containment in accordance with the relevant New Zealand Standards and Codes of Practice and the Hazardous Substances and New Organisms Act 1996 and Regulations. A Hazardous Substances Use and Management Plan setting out details of the substances used / stored, containment measures, risk management and emergency response approach shall be submitted to the Council for certification prior to the use of any hazardous substances depot(s) authorised as part of this consent.