Newt Ayle

011001

OPEN FILE

RGC (TASMANIA) LIMITED

MICROFILMED
FICHE No. 012806-08

HENTY GOLD PROJECT

HENTY GOLD PROJECT

OPEN FILE

Proposed Shaft Access

AMG REFERENCE POINTS ADDED

Division of Mines Presentation

June 1993

93-3440.

THIS REPORT WAS PUBLICLY RELEASED AND THEREFORE PLACED ON OPEN FILE G.O.

A member of the Renison Goldfields Group of Companies

CONTENTS

LIST OF FIGURES

LIST OF DRAWINGS

011004A.

? For Royalty Purposes
Is the shale exploratory or a development
? write back of royalty profit credit?

approval for in principle agreement.

1. INTRODUCTION

The Henty Gold Project involves the development of an underground mine to access, explore, and mine the Zone 96 gold ore resource which extends some 450 metres below existing ground surface level. The Zone 96 orebody lies in the footwall of the Henty fault and comprises a competent massive quartz structure contained within a zone of less competent host structures.

Planning and engineering work has been ongoing at Henty over recent years and progressed to a Division Of Mines Presentation and Submission in December 1991. The submission achieved agreement "in principle" to the concepts and planning for the proposed shaft access pertaining at that time. Refer to letter from Chief Inspector of Mines dated 8 January, 1992.

Since achieving the agreement of the Division Of Mines, considerable geotechnical investigation and additional engineering studies have resulted in significant changes to the proposed shaft access system.

These changes include the relocation and reconfiguration of the shaft and its associated facilities. The resulting proposal is significantly different from the December 1991 proposal. The shaft is now collared underground accessed via a new ramp off the existing decline; two levels of ore body access are proposed; and the previous ventilation & single entry restrictions during shaft construction and exploration are eliminated. The surface environmental conditions are also greatly improved.

The reconfiguration of the shaft has been made possible by an increase in shaft diameter. This has enabled fast tracking of the installation of the permanent mechanised shaft ore/waste hoisting facilities. The resultant increase in waste hoisting capacity during development to the exploratory drilling sites now permits early establishment of major ventilation infrastructure.

This report summarises the current planning for shaft construction, shaft layout, winder type, and mine access design. The report has been prepared to inform the Tasmanian Division Of Mines of current planning, and with a view to obtaining agreement "in principle" of the overall proposals. This report is also intended to serve as the commencement to formal approvals applications for Hoisting Machinery as required under the Tasmanian Mines Inspection Regulations 1991, Division 1, Regulation 1002.

2. CURRENT STATUS OF PROJECT

RGC has committed to the development of the Henty Gold Project after final agreement between Renison Goldfields Consolidated Limited (RGC) and Little River Goldfields N.L. (LRG) to convert the LRG interest in the Henty Joint Venture to a gross royalty.

A feasibility study completed last year by RGC, as operator of the Henty Joint Venture, has shown that a viable underground mining operation should be able to be developed.

Geotechnical investigations to locate the shaft site were completed in May 1993. Construction of mine water settling ponds and the mine access road upgrade commenced in May 1993.

3. OVERVIEW & DEVELOPMENT PHASES

3.1 Overview

The Henty Gold Project involves the development of an underground mine to access, explore and mine the Zone 96 gold ore resource which extends some 450 metres below existing ground surface level. The longitudinal section in Figure 1 shows the location of Zone 96 relative to the existing decline and sill mineralisation.

The Zone 96 ore body lies in the footwall of the Henty fault and comprises a competent massive quartz unit contained within a zone of less competent host units. The ore body is to be accessed from two main mine levels to be arranged at 325 ±5 metres (RL2265) and 465 ±5 metres (RL2125) below the existing mine portal entrance.

The project will be developed in three phases being;

- Shaft Construction Phase (including exploration)
- Pre-Production Phase
- Operations Phase

The current project development schedule is shown in Figure 2.

3.2 Shaft Construction Phase

The Shaft Construction Phase of the project is shown schematically in Figure 3 and is currently planned to include;

- The construction of underground access by internal (sub-vertical) shaft, which will be fitted out with permanent facilities and the construction of return ventilation.
- Crosscutting to the orebody and development of footwall diamond drill drives at both mine levels (RL2265 & RL2125).
- The completion of a close spaced diamond drilling campaign to enable determination of the extent of commercial mineralisation, evaluation of mining methods, orebody delineation and stope design.
- Trial driving and raising in the orebody to ascertain mining conditions.

All of the project construction & development work which is the subject of this report will be completed during the Shaft Construction Phase.

3.3 Pre-Production Phase

The Pre-Production Phase of the project will follow on from the Shaft Construction Phase (subject to confirmation of commercial viability) and is currently planned to involve;

- Construction of a 2.4m diameter inclined main ventilation return rise.
- Increasing the loading station feed storage capacity.
- Stope access construction and stope preparation.
- Establishment of an ore processing plant.
- Establishment of a backfill plant.
- Establishment of tailings disposal facilities.

All of these activities will occur after the completion of the access shaft construction. Therefore this phase is only discussed in general terms throughout this report.

3.4 Operations Phase

The Operations Phase of the project will commence immediately following the completion of the Pre-Production Phase and will involve;

- Production mining.
- Ore processing & gold production.
- Mine closure & rehabilitation.

3.5 Project Area

The project area comprises the existing mine site facilities located at the existing Portal Pad site, the future Plant site, the future Tailings Pond area, the White Spur Quarry & No Name Creek dumpsites and the existing interconnecting road infrastructure.

All of the new underground development originates at the existing Portal Pad Site and utilises the existing infrastructure at that location. The shaft bench and access road required in the previous proposal has been eliminated.

The relationship and locations of these areas is shown on Figure 4.

4. GENERAL PROJECT DESCRIPTION

4.1 General

Underground access will comprise construction of a vertical main shaft and a system of raise bored return air ventilation rises. The ventilation rise system will be developed as mine construction progresses.

The shaft will be an internal sub-vertical shaft which is to be developed off the existing exploration decline and is to be collared at a level approximately 45 metres below the existing decline portal level. The shaft will be constructed by blind drilling and will be approximately 440 metres deep to the bottom of the shaft sump.

The shaft will provide all means for normally servicing underground workings with a main hoisting system, an emergency hoisting system and all services (power, water, compressed air, & communications).

The main hoisting system will comprise a combined cage over skip facility to provide normal man access & egress, all servicing & equipment handling facilities, and all ore and waste hoisting facilities. The winder for the main hoisting system will be located underground in a chamber approximately 15m below the existing decline portal level. A sheave chamber will also be constructed at the winder level and will be atop a 30 metre high skyshaft excavated above the shaft collar level.

The existing exploration decline is to be dewatered and refurbished to remove hydrostatic head from the underground development and thus improve underground hydrology. Some advance trial stoping may be carried out from the refurbished decline during shaft construction and initial off-shaft development.

Mining operations will comprise cut & fill techniques utilising development waste and cemented paste fill having low moisture levels to minimise excess underground drainage.

The main underground equipment will comprise diesel powered trucks, load haul dump units and service vehicles. Drilling equipment will comprise electro-hydraulic jumbos and hand held compressed air operated machines. Maintenance of major underground equipment will be carried out underground in suitably equipped workshops.

All underground mine water output is to be discharged to the Upper Henty River following settlement of suspended solids and oil separation treatment. The underground pumping system will be connected via an overland pipeline to treatment facilities located at the Plant Site.

The existing power supply and HEC sub-station has been assessed as being suitable and having sufficient capacity (by the addition of a 4th transformer) to allow decline dewatering & refurbishment, initial shaft access development, and shaft drilling. A new sub-station is to be constructed as the project progresses to provide sufficient capacity for the future mine and shaft operation. Once the new sub-station becomes available, the existing sub-station will be de-commissioned and dismantled.

Emergency power generation equipment is to be provided to cover HEC power supply outages and will have sufficient capacity to cover at least minimal requirements during various stages of development. Minimal requirements are identified as being;

- All pumping (including discharge treatment).
- Mine ventilation once underground work commences.
- Compressed air for fresh air bases & emergency egress hoisting systems once work commences below shaft collar.

Standby power generation capacity to enable main winder operation will not be provided.

4.2 Emergency Egress & Flooding

The current mine construction plan incorporates significant improvements over the previous proposal for the provision of emergency egress and security against flooding.

4.2.1 Emergency Egress

The shaft collar area will be provided with 2 means of egress being;

- via the portal and the shaft access development.
- via the return ventilation crosscut and a ladderway in the ventilation shaft. ? design to incorporate

The main shaft will incorporate 2 means of egress at all times being the main hoisting system and an emergency cage hoisting system. Both of these egress systems will access the RL2265 & RL2125 levels of the mine at all times. Any heavy loads stationary in the shaft, will not interfere with the emergency cage when accessing the RL2265 & RL2125 levels.

The first return air ventilation rise (which will become downcast when the main return air rise is constructed) will also incorporate an emergency hoisting system. (x) This system will permit egress from the RL2265 level to collar level.

A ladderway will be provided in a raise bored hole to permit egress from the RL2125 level to the RL2265 level. This ladderway will also incorporate provisions to enable transport of a stretcher between levels as required under regulation 301 (2) (c).

4.2.2 Security Against Flooding

The mine development plan includes contingencies against flooding by reducing the local area hydrological head with dewatering of the existing decline and by the provision of emergency storage capacity below the lowest working level (RL2125) of the mine. (x)

The shaft sump is to be accessed via a 3m x 3m decline descending at 1:6 from the RL2125 level. This decline will have a pump sump constructed at a low point away from the shaft. A pump rise will connect this sump to the RL2125 level. The combined decline, pump sump, pump rise and shaft sump provide in excess of 1.75 million litres emergency storage.

Spirals required to access stopes below the RL2125 level will provide additional emergency storage and will be developed early in the life of the mine.

(x) ? development schedule

All electrical equipment and non-submersible pumping equipment located on the RL2265 level will be located in cuddies with floor levels 1.5m above the plat floor level to provide additional emergency storage.

5. MINE CONSTRUCTION SEQUENCE

The proposed underground mine construction sequence is as follows;

- Completion of all geotechnical assessments relating to shaft position and orientation including pre-grouting if required.
- Upgrading of existing surface infrastructure such as road, offices, water supply, etc., and establishment of additional facilities such as an overland pipeline, water treatment & disposal plants, etc.
- Drilling of a navigated pilot hole from the surface for shaft drilling guidance.
- Dewatering and refurbishment of the existing decline including the installation of permanent pumping and return air ventilation systems. These pumps will feed water into the overland pipeline.
- Construction of the underground shaft access openings off the existing decline. This will comprise construction (& associated civil works) of the winder chamber, shaft access ramp, shaft collar chamber, skyshaft, ventilation crosscut, ventilation shaft (to surface), and the shaft pre-sink.
- Equipping the above excavations with all permanent services (power, water, compressed air, rising main, lighting, etc.) and establishment of a ventilation fan at the top of the ventilation shaft. The drilling chamber sump will be equipped with a small pumping system to feed water directly into the decline pumping facility.
- Excavation of the main shaft using blind drilling techniques. The shaft will be unlined except for the 8m deep presink.
- Progressive dewatering, securing with rockbolts & mesh, and equipping of the shaft with guides and services from collar level to RL2265 utilising temporary shaft staging and a ventilation duct in the shaft.
- Excavation of the RL2265 plat and establishment of power and services including installation of the permanent main pumping system and preparation of the first raise borer cuddy at this level. The main pumping system will pump all mine water occurring below shaft collar level directly into the overland pipeline.
- Progressive dewatering, securing with rockbolts & mesh, and equipping of the shaft with guides and services from RL2265 to RL2125 and a temporary ventilation duct.

- Excavation of the RL2125 plat and associated initial development as well as establishment of power and services including installation of the permanent lower level pumping system. The lower level pumping system feeds directly into the main pumping system at RL2265.

- Establishment of permanent hoisting facilities including the permanent loading station with receiving bin and mechanical feeder. The hoisting system shaft will be in its permanent configuration in all respects except the size of equipment lowered in the shaft will be restricted by the presence of temporary ventilation ducting in the shaft until the return air ventilation rise circuit is established.

- Raise boring of the 1.8m diameter ladderway between RL2265 & RL2125 to be used as a temporary waste pass for upper level development.

- Raise boring of the 1.8m diameter return air ventilation rise between the ventilation crosscut (shaft collar level) and RL2265. This activity is timed to commence as soon as the lower temporary waste pass (future ladderway) is established. Upon completion, a barricade will be constructed in the ventilation crosscut to provide return ventilation.

- Simultaneous development on RL2265 & RL2125 levels to establish access for sequential raise boring between these levels of the 1.8m diameter return air ventilation rise (future ore pass) and 1.5m diameter permanent waste pass. Establishment of the first of these two rises will enable the return ventilation circuit through the RL2125 level to be established and the removal of the ventilation ducting from the shaft.

- Installation of the RL2265 to RL2125 ladderway in the temporary waste pass, as soon as the permanent waste pass is reamed.

- Excavation of a 1:6 shaft bottom access decline and establishment of permanent mine bottom pumps. This pumping system comprises a shaft bottom pickup system employing removable/mobile submersible pumps which feed water to the fixed pumping facility located at the RL2125 plat.

Having fully established the shaft system, pumping system, and initial ventilation circuit, the ore body access development and diamond drilling programs will proceed simultaneously on both mine levels using the nominated trucks, loaders, jumbos, etc.

6. CONSTRUCTION OF SHAFT ACCESS

The main shaft is to be accessed via underground development which is to be constructed off the existing Henty decline. The proposed shaft access arrangement is shown on Drawing No's 5510/296 & 5510/297.

The nature of this work is conventional underground construction and the work is to be undertaken by an experienced mine construction contractor. It is proposed that this contractor will fully establish all of the shaft access development including all permanent ventilation and services prior to the shaft drilling work proceeding. The shaft access development works involve;

- Dewatering and refurbishment of the existing flooded decline including repairs to ground support and existing services, re-establishment of the existing sub-station and installation of a permanent Decline Pump Station which involves a system of sump pumps and main pumps. The pump station arrangement is shown on Drawing No 056-G-005 Sheets 1 & 2.

- Construction of underground development for the Winder Chamber (including access drive), Sheave Chamber and interconnecting Ropeway.

- Construction of some 450 metres of 4m x 4.5m decline development off the existing decline to form a Shaft Access Ramp and a Truck Loop. The descending grade will be variable up to 1:8. ✓

- Construction of the Shaft Collar Chamber having nominal dimensions of 12m wide x 40m long x 6m high including construction of a vertical 30m high 7m x 8m (nominal) Skyshaft between the Sheave Chamber and the Shaft Collar Chamber.

- Construction of the Ventilation Crosscut and a short Ventilation Shaft from surface as well as installation and commissioning of a Main Ventilation Fan.

All chamber areas will be fully equipped with graded concrete floors (for drainage), permanent services and lifting equipment, and good quality lighting. The skyshaft is to be fitted with a stairway to interconnect the winder area with the shaft collar area. This stairway is the proposed route for all pedestrian traffic between the mine portal and the shaft collar.

7. CONSTRUCTION OF MAIN SHAFT

7.1 Shaft Site Selection

Numerous geotechnical holes have been drilled specifically to understand geological conditions in the region of the shaft. As a result of this drilling program, and geological mapping of the decline, a suitable shaft location has been selected.

Figure 5, Section 63850N, shows the shaft in relation to the geological features which dictated the selection of the footwall location. The location was chosen to avoid the Henty Fault, the Newton Creek Shales, and the CF_3 Fault.

The Henty Fault is a regional structure running north-south and is a major zone of weakness, which at the surface is marked by the Henty River Valley. Underground it consists of highly sheared and broken rock sometimes taking the form of mud of pug.

The Newton Creek Shale is a rock unit running north-south and situated on the footwall side of the Henty Fault. These shales are highly fractured and friable with the facture planes running along strike and down-dip. Since the shales dip slightly west the shaft cannot be located between them and the Henty Fault.

The CF_3 Fault is a 5 to 10 metre wide fault zone that trends northerly with a variable westerly dip of 60 to 80 degrees. The fault zone typically contains several imbricate faults enclosing strongly sheared fault slices of epiclastics and quartz porphyry. An earlier shear fabric is overprinted by later "brittle" faults which are often puggy and/or limonitic, and which can produce moderate water flows. The shaft and major shaft chambers avoid CF_3 entirely and other development is designed to be perpendicular to the structure thereby minimising the risk of ground failure and reducing ground support requirements.

In the previous December 1991 proposal the shaft location was fixed at a position nearly 100 metres east of the portal site. Drillhole HG141 was extended in early 1992 and confirmed the expected good ground conditions for the shaft at depth. However, significant geotechnical and drilling work associated with assessment of the stability of the upper shaft zone has since been carried out. This has given greater insight into the location of the CF_3 Fault and the difficulties associated with it. The outcome of this work is that the shaft has been reconfigured to be collared underground at a position approximately 135m east of and approximately 45m below the portal site.

Ground conditions for the shaft at depth have been postulated from the existing drill hole data. When the pilot hole for the shaft is drilled it will be cored and logged to check the assumptions on ground conditions and shaft liner requirements.

7.2 Blind Drilling

7.2.1 Blind Drilling System

The shaft will be excavated by the Zeni Drilling Company using a blind drilling technique. A turntable at the shaft collar provides the necessary rotation, via a drill string, to a vertically mounted large diameter cutter head whilst drill thrust is provided by weights attached to the drill string behind the cutter head. The shaft is filled with drilling fluid throughout the drilling process to provide support for the shaft walls. During drilling an air lift is used to circulate the drilling fluid containing cuttings from the cutter head upwards through the drill string. At the top of the shaft these cuttings are removed using screens and settling ponds and the fluid is returned to the shaft.

The Henty shaft will be drilled using the skyshaft steelwork for drilling equipment support in place of the normal drilling mast. This arrangement is shown in Figure 6 and the drilling sequence is shown in Figure 7.

The shaft drilling process will involve:

- Drilling of a pilot hole, (HQ size) from a temporary pad on the surface to the final shaft depth. This hole will be directionally drilled to act as a guide for the main boring head.
- Construction of a concrete lined presink in the floor of the shaft collar chamber.
- Reaming of the pilot hole full depth at approximately 300mm diameter.
- Drilling at 3.1 metres diameter to 440 metres depth.
- Flushing of the drilling fluid to remove suspended particles and to dilute additives leaving the shaft full of clean water.

7.2.2 Grouting

Geotechnical investigations currently indicate that a pregrouting program is not required to enhance shaft stability as was the case for the previous shaft proposal.

It is possible that the shaft drilling contractor may elect to carry out some pregrouting of limited zones in the shaft once the pilot hole has been completed and geologically assessed. Any pregrouting requirement would be to:

- improve ground conditions in shales associated with Tyndall Epiclastics
- reduce groundwater inflow through fissures in the country rock
- reduce the potential for shaft drilling fluid losses through fissures to the country rock.

7.2.3 Pilot Hole

A directionally controlled pilot hole will be drilled utilising the Wellnav downhole survey system. This will ensure that the shaft is drilled with sufficient accuracy to ensure the hoist rope cannot foul any obstacles or shaft fittings. To meet this criteria the pilot hole must remain within a 750mm diameter cylinder over the full 440 metre shaft depth and changes in direction must not exceed 1 in 1000 measured over a 10 metre interval.

Geological and geotechnical assessments of the pilot hole core will be completed prior to excavation of the shaft access workings. The pilot hole will be secured against loss by filling with a marker sand.

7.2.4 Presink and Foundations for Drilling & Winder Equipment

The 8 metre deep presink will be excavated below the floor of the shaft collar chamber by the shaft access construction contractor. The presink will be concrete lined to an internal diameter of 3.8 metres.

All drilling and winding equipment will be located on concrete works constructed integrally with the host country rock of the excavated workings. Geotechnical evaluations have not indicated any difficulty with distribution of high foundation loads into the local strata.

7.2.5 Pilot Hole Reaming

The pilot hole will be reamed to approximately 300mm diameter by means of the shaft drilling equipment. The shaft turntable at collar level and the shaft borer drill string will be used in conjunction with a rotary drill bit fitted with a stinger for this work.

7.2.6 Shaft Drilling

After completion of the presink and pilot hole reaming, the shaft will be drilled at 3.1 metres diameter down to the shaft bottom at 440 metres below collar level. The drilling is expected to be in competent ground, not requiring an elaborate drilling mud program. The final requirements relating to drilling mud program will be evaluated during the pilot hole drilling.

During shaft drilling operations, drill cuttings and fines will be separated from the recirculating drilling fluid by means of screens and shakers. This equipment will be located adjacent to the shaft collar. Waste material will be trucked from underground and disposed of in accordance with licence provisions. Some of the waste material is expected to be used for surfacing site roadways and hardstand areas.

It is intended that the shaft drilling contractor will leave the shaft full of water and that the underground development contractor will dewater and equip the shaft as discussed below.

7.3 Shaft Ground Support & Equipping

The shaft will be supported and equipped by the underground development contractor. This work will include installation of all shaft furniture, pipework and shaft cables. The detailed methodology for carrying out this work will not be established until these works are tendered. The main hoisting system winder and the emergency cage winder will be used by the underground development contractor to carry out these works. These winders are discussed in Section 9 below.

7.3.1 Installation of Skyshaft and Winder

The winder will be installed and commissioned without the rope during the latter stages of shaft drilling. The shell of the skyshaft will be erected prior to shaft drilling. The remainder of the skyshaft including ore bin, fixed guides, tipping station, overwind equipment and access platforms will be installed immediately the shaft drilling equipment is removed. All equipment is being designed to enable a quick changeover from shaft drilling to shaft equipping.

The emergency cage winder will also be installed during the changeover works.

7.3.2 Dewatering of Shaft and Installation of Fixed Guides and Services

The Contractor will progressively install the fixed guides and shaft services including a temporary rigid vent duct as the shaft is dewatered. Thus, guided access will be available in a kibble down to the water level. The winder control system will be set up with a special low speed zone above the water. All winding within this zone will be by local bell signal. The winder driver will be required to stop the winder before entering this zone to prevent winding into the water.

Installation of the steel fixed guides and service pipes (up to 12m lengths) will be undertaken conventionally by lowering and connecting them in the shaft.

7.3.3 Shaft Ground Support

Geotechnical investigation indicates that the shaft will be located mainly in very competent quartz porphyry and conglomerate. The shaft should be able to stand unsupported except for rockbolting, meshing and localised shotcreting. Some grouting for water control may be required.

011017A

? Equipping stage procedures
i) Suspecion
ii) Emerge, new cage
Suctions.

8. SHAFT ARRANGEMENT

8.1 Shaft Arrangement

Drawing No's 056-G-011 to 056-G-015 inclusive show the proposed arrangement for the shaft. The arrangement has been developed to suit all phases of mine development and operations and avoids the need for major modifications between development and production phases.

Details of the shaft proposal are discussed in the following sections of this report.

8.1.1 Phases of Development

The shaft will undergo three distinct and short phases of development during establishment of permanent facilities.

The first phase will be during the shaft equipping works when temporary equipment will be operating on the permanent shaft furniture. The underground development contractor will most likely use a kibble and stage until works are sufficiently advanced to permit implementation of the second phase. The kibble will be guided by a traveller running on the fixed guides. The stage would most likely be suspended from the shaft wall. The second means of egress will be via the emergency cage and its winder. The emergency cage will not be able to be guided during these works until the equipping works reach the RL2125 level to enable guide rope installation. Rigid ventilation ducting will be used for ventilation of the shaft.

The second phase involves operating the shaft with the permanent main hoisting system (including conveyance, loading station and tipping station) installed but with the ventilation ducting still in place. The emergency cage will be installed in a temporary location to permit this phase of the development, which will commence as soon as plat development (on both levels) is sufficiently advanced to prevent blast damage to the shaft equipment and to allow establishment of a small diesel or compressed air LHD on the lower level. The size of underground mining equipment that can be transported in the shaft during this time is limited.

Following completion of the upper ventilation raise and the second raise between the upper and lower mine levels the third phase will commence. This phase involves operation of the shaft with the ventilation duct removed and the emergency cage in its final location and allows large mobile equipment items to be transported in the shaft.

8.1.2 Shaft Layout (Section)

The proposed shaft layout is shown on Drawing No 056-G-011. Drawing No 056-G-012 shows the temporary positioning of the emergency cage and the location of the temporary rigid ventilation duct.

The shaft layout is based on the proposed shaft drilling size of 3.1m diameter less a 100mm annulus for ground support (mesh & rockbolts and occasional shotcrete). The 100mm annulus will also permit installation of water drainage rings if these become necessary.

The features of the proposed shaft layout are discussed below.

- A cage over skip conveyance operating on fixed guides and hoisted by a single drum winder is provided. The skip will be a conventional overturning skip operated by fixed tipping scrolls in the skyshaft. Two safety latches will be provided to ensure that it does not move out of its correct position during winding.
- An emergency cage operating on rope guides will be located adjacent to the western shaft wall. This cage will have bullet shaped ends to prevent catching on the shaft fittings and will provide access to the main cage and each mine level in the case of break-down of the main winder or power failure. The emergency cage will also be able to pass a major load suspended below the main cage if required.
- The fixed guides are set 2050mm apart to enable large mobile equipment components to be transported to the level in an upright position, thereby avoiding the need for the extra handling involved when placing equipment on its side at both ends of the journey.
- The depth of the compartment available for transporting heavy loads is 1800mm which will allow the transport of most equipment components with wheels and axles in place. For example, the components of the proposed mining equipment (typically an ST - 3½ loader and an MT 413 truck) can be transported in the shaft without being cut or excessively dismantled.
- The inside dimensions of the skip are 1350mm by 1450mm which is more than adequate for hoisting uncrushed ore and waste.
- The internal dimensions of the cage are 1500mm x 1400mm providing capacity for up to 10 persons.
- Skip loading and tipping will be on the west side whilst cage access will be from the east of the shaft at the collar and plats.

- The shaft services will be installed in locations suitable for all phases of mine operations. Pipes for compressed air, mine water supply, rising main, and shaft drain are arranged on fittings connected to the shaft steelwork installation. Shaft cables will be attached to a special purpose bracket fitted to the shaft wall.

8.1.3 Winder Control and Safety Features

During the first phase of shaft equipping and development the winder will be under manual control and will be fitted with appropriate supervisory systems. Communications requirements, slack rope detection and other requirements will not be determined in detail until the shaft fitout work has been tendered and the contractor's methodologies are known.

During all subsequent phases of shaft development and mining operations (when the shaft is fitted out with permanent loading & tipping stations), the winder operation will be under fully automatic push button control. A number of winders are currently being evaluated and the details of the proposed automatic control system are therefore not able to be provided at this time. Voice communication will be provided to both the main cage/skip and to the emergency cage and slack rope protection will also be provided for the cage/skip.

8.1.4 Emergency Cage Relocation

As soon as the ventilation raises become commissioned, the temporary ventilation duct in the shaft will be removed and the emergency cage relocated to its final position. This will enable the larger mining machinery to be transported in the shaft to the mine levels.

8.2 Skyshaft & Tipping Station

The skyshaft & tipping station arrangement is shown on Drawing No 056-G-013.

The skyshaft comprises a steel frame structure that houses;

- Fixed guides for conveyance operation.
- Skip tipping scrolls.
- 120 tonne nominal capacity ore/waste bin and truck outloading feeder.
- Overwind zone and detection equipment.
- Conveyance detaching and anti-fallback appliances.

- Main sheave.
- Service platforms at all service levels.
- Main pedestrian stairway and services duct for cables and pipes between sheave and collar levels.

The conveyance overwind zone has been fixed to suit fully automatic hoisting operations and includes the following allowances;

Decking tolerance above the lowest fully tipped position	300 mm
Rope stretch differential between loaded and unloaded rope	500 mm
Adjustment zone for winder controller overwind trip out	300 mm
Controller overwind emergency stop zone before ultimate trip	1,000 mm
Ultimate overwind trip out and emergency stop zone	1,600 mm
Safety clearance to detachment and engagement in jack catch	300 mm
TOTAL	4,000 mm

8.3 Loading Station & Shaft Sump Area

The loading station, which is located below RL2125 level, and shaft sump arrangements are shown on Drawing No 056-G-014.

The loading station comprises a receiving bin arranged to receive loads directly from trucks or LHD's at plat level. The receiving bin is fitted with a reciprocating plate feeder to feed the ore or waste into the skip load measuring flask. The skip will be batch loaded from the measuring flask with the predetermined load being regulated by means of a load cell mounted under the flask.

The loading station is to be arranged to allow installation immediately plat development is sufficiently advanced and to receive development waste directly from a small development LHD which can operate around the shaft. This will allow mechanised handling of raise borer cuttings whilst the level development is still continuing on this level.

The loading station design will also enable a 5m vertical extension to the receiving bin in the future to increase loading station storage/surge capacity during production operations. Ore and waste will be delivered to the loading station bin via an inclined ramp at this time.

8.4 Plats & Associated Development

Indicative plat arrangements for both underground mine levels are shown on Drawing No 056-G-015. These are discussed in the following sections.

8.4.1 Upper (RL2265) Mine Level

The upper mine level plat will be arranged to provide the following facilities;

- Single bay workshop with oil skim drainage system.
- Main pump station.
- Combined crib room and fresh air base.
- Access to 1.8m escape and ventilation rise up to collar level.
- Access to 1.8m ladderway (initially waste pass) down to lower mine level.
- Sub-station.
- Stores and Magazines.

8.4.2 Lower (RL2125) Mine Level

The lower mine level plat will be arranged to provide the following facilities;

- Double bay workshop with oil skim drainage system.
- Elevated lower level pump station.
- Elevated combined crib room and fresh air base.
- Access to 1.8m ladderway (initially waste pass) to upper mine level.
- Stores & magazines.
- LHD access to loading station.

9. WINDERS

The three winders required for the Henty shaft system comprise the main hoist winder and two emergency cage winders (one for the main shaft emergency cage and the other for the ventilation raise emergency cage). The specific equipment for each of these machines has not yet been selected. A number of options are currently under review as discussed below.

9.1 Main Hoisting System Winder

The main hoisting system winder is required to be a single drum DC machine. In order to satisfy the proposed mine construction schedule it is necessary for RGC to acquire a second hand machine. A search for a suitable winder has been conducted worldwide and a number of alternatives are currently being evaluated. Following selection, firm proposals and details will be submitted to the Division of Mines for approval.

The options existing at this time are;

- A single drum winder with wide drum arranged in the winder chamber (RL2575) hoisting the combined cage/skip via a 36mm wire rope. The winder drive will be DC electric with thyristor power converter and the drive rated at 440kW RMS. In this case the winder chamber location will be as shown on Drawing No 5510/296 and as discussed in 6. above.

- A large double drum winder arranged in the winder chamber (RL2575) operating with only one drum roped up and hoisting the combined cage/skip via a 36mm wire rope. The winder drive will be DC electric with thyristor power converter and the drive rated at 580kW RMS. In this case the winder chamber location will be as show on Drawing No 5510/296 and as discussed in 6. above.

- A single drum winder with narrow drum arranged in the winder chamber (RL2575) hoisting the combined cage/skip via a 36mm wire rope. The winder drive will be DC electric with thyristor power converter and the drive rated at 415kW RMS. In this case the winder chamber will be located similar to that shown on the current drawing but with the winder in a position some 15 to 20 metres from the skyshaft position.

- A single drum winder with narrow drum arranged in the shaft collar chamber (RL2545) hoisting the combined cage/skip via a 36mm wire rope. The winder will be located immediately adjacent to the shaft collar with the rope leading off vertically to the sheave mounted on top of the skyshaft. The winder drive will be DC electric with thyristor power converter and the drive rated at 415kW RMS. In this case the winder chamber shown on the drawings at RL 2575 will be reduced in size and used mainly for access and for the shaft drilling rig.

- A single drum winder with narrow drum arranged in the shaft collar chamber (RL2545) hoisting the combined cage/skip via a 24mm wire rope doubled down the shaft with a large sheave on the cage. The winder will be located immediately adjacent to the shaft collar with the rope leading off vertically to the sheave mounted on top of the skyshaft. The winder drive will be DC electric with thyristor power converter and the drive rated at 415kW RMS. In this case the winder chamber shown on the drawings at RL 2575 will be reduced in size and used mainly for access and for the shaft drilling rig.

9.1.1 Winder Duty - Hoisting Rate Required

The peak mining and development production rate is envisaged to be equivalent to 200,000 tonnes per annum of ore and waste. The hoisting rate required for this level of production is calculated based on the following assumptions:

- Day shift dedicated to servicing.
- Time available for hoisting ore and waste on afternoon and night shifts is 6.5 hours per shift.
- 250 days available for production per annum.
- 85% efficiency is assumed as the percentage of the available hoisting hours during which the winder would actually hoist ore and waste.

Thus the required hoisting rate is:

$$\frac{200000}{250 \times 6.5 \times 2 \times 0.85} = 72.4 \textit{ tonnes per hour}$$

The skip payload has been determined as being in the range of 5 to 6 tonnes to suit the required skip section and yield a sensible skip aspect ratio. With 6 tonne payloads the hoisting speed is required to be 3.75m/sec to give the required hoisting rate.

9.2 *Emergency Hoisting System Winders*

The emergency hoisting system winders for the main shaft emergency cage and the ventilation raise emergency cage are not yet selected. These will either be compressed air or small electro-hydraulic winches. Details of these machines will be submitted when available.

10. VENTILATION DURING SHAFT CONSTRUCTION PHASE

Mine development was restricted under the previous proposal by the limited quantity of air supplied to the underground workings via the twin ventilation ducts in the shaft. The current proposal, which includes a 1.8m diameter ventilation raise parallel to the shaft early in the off-shaft development program, has improved ventilation capacity. The proposal is described below.

10.1 Ventilation Of Shaft Access Development

The shaft access development workings will be constructed by an experienced mining contractor who will ventilate the works as they progress using appropriate fans and temporary ductwork routed from the existing portal. The specific arrangement with respect to quantities and direction of flow will not be known until the works are tendered. At the completion of these works the contractor will install ventilation equipment to form a circuit suitable for subsequent development and mining activities.

The shaft access development circuit is shown in Figure 8 and will comprise fresh air entering the existing decline, passing through the winder chamber area and down the skyshaft, also passing through the shaft access ramp, truck loop and shaft collar chamber, and returning to the surface via the ventilation crosscut and the proposed 3.5m ventilation shaft. The main ventilation fan will be located at the ventilation shaft collar. This fan will be upgraded as necessary to provide adequate ventilation for the various project stages.

10.2 Initial Ventilation Of Shaft And Off-Shaft Development

During shaft equipping and initial plat development ventilation will be via a temporary duct in the shaft. Provision for a 900mm rigid duct has been made. The shaft will be downcast at all times drawing fresh being air from the collar with return air drawn up the duct and routed into the ventilation crosscut downstream of the shaft collar chamber. This arrangement is shown in Figure 8. Specific fans are the responsibility of the underground development contractor. Faces will be ventilated with overlapping force ventilation.

This system of ventilation is required until the following development is completed:

- The upper level (RL2265) plat and access to the upper and lower vent raise area.
- The lower level (RL2125) plat and access to the lower vent raise area.
- The ladderway (to be used as a temporary waste pass) between the upper and lower levels.

- The upper ventilation raise between the upper (RL2265) level and the ventilation crosscut at shaft collar level.

- The lower ventilation raise between the lower (RL2125) and upper (RL2265) levels.

Ventilation engineering indicates a maximum ventilation capability (after losses) of some 15 m^3/sec during this phase of work depending on the arrangement of fans and plenums. The construction program for the initial off-shaft development is based on the ability to ventilate the upper and lower levels at 7.0 m^3/sec each simultaneously. This is to allow a small diesel LHD (Toro 150D or Eimco 922 requiring 4 m^3/sec) to be placed on each level for simultaneous level development and raise mucking.

Detailed requirements are determined as follows;

Upper level worst case scenario:

- Single 3m x 3m heading development using hand held rockdrills - 2.3m^3/sec.

- LHD mucking upper ventilation raise or development heading - 4.0m^3/sec.

- Total requirement 6.3m^3/sec.

Lower level worst case scenario:

- Single 3m x 3m heading development using single boom electric jumbo - 2.3m^3/sec.

- LHD mucking upper ventilation raise or development heading - 4.0m^3/sec.

- Total requirement 6.3m^3/sec.

11. FUTURE MINING OPERATIONS

Sections 3.3 and 3.4 above give a general overview of the Pre-Production and Operations Phases of the Henty Gold Project. The following is a general description of current proposals for mining operations for general information purposes.

11.1 Summary of Mine Layout and Proposed Mining Method

The Pre-Production Phase will commence with the reaming of a 2.4 metre diameter, inclined, ventilation raise from the RL2265 level to the ventilation crosscut which is connected to the surface via the ventilation shaft. Fresh air will downcast in the shaft, pass into the working areas and be upcast in the exhaust raise. Ventilation via the raise will facilitate the development of ramp declines and inclines, accesses and return airways to allow stoping to commence. Figure 9, Section 63,900N, shows the layout of the main shaft, spiral accesses, return airways and the exhaust and emergency escape raise.

Mining is envisaged to be by cut and fill utilising mechanised and handheld equipment. Conditions encountered will determine if variations to this basic method need be applied. Stopes will vary in width up to 8 metres, averaging 4 metres. The use of high density fill, cemented above recoverable pillars, is being considered.

Typical equipment considered for use in the Operations Phase includes:

- Boring - Development
  Single boom hydraulic jumbo's (eg Atlas 126N, Atlas H104, Tamrock Minimatic, Secoma Quasar).

- Boring - Stopes
  As above and with handheld machines in narrow stopes.
  Wider stopes could use two boom E/H jumbo's (eg Atlas 127, Tamrock Paramatic, Secoma Pluton).

- Mucking - LHD's (diesel) (eg TORO 300D, Eimco 922, Wagner ST-3½) in wide stopes and Scrapers in narrow stopes.

- Trucking - Low profile articulated unit (eg Wagner MT-413 or MT-416).

- Raising - Choice of Alimak, longhole (eg Cubex and Roger V-30 drill) or raiseboring (eg Dresser 480 or Redbore 40)

11.2 Production Rate

An annual production rate of up to 120,000 t.p.a. has been planned. This production rate is based on a minimum of four cut and fill stopes operating at one time. Initially, production will be less than this while stopes are being developed. The maximum tonnage of ore and waste hoisted in any one year is estimated to be 200,000 t.p.a.

11.3 Life of Mine

Based on the current probable ore reserve, a mine life of 4 to 4½ years is anticipated at the stated production rate.

11.4 Ventilation

Primary ventilation will be provided by the one major exhaust system. A ventilation circuit will be established to this exhaust raise via the following system:

main shaft & ventilation raise
↓
spirals and accesses
↓
stopes
↓
stope raises
↓
stope return airways
↓
single footwall vent raise
↓
single return airway connection to exhaust raise

11.5 Fresh Air Bases

The fresh air bases noted in Section 8.4 would remain in place for the life of underground operations.

12 APPROVALS

12.1 Request For Approval In Principle

The shaft system described in the preceding sections of this report is submitted for approval in principle by the Tasmanian Division Of Mines. Approval in principle will permit RGC (Tasmania) Limited to progress engineering designs for formal submission to the Division Of Mines.

12.2 Compliance With Mines Inspection Regulations 1991

The current design proposal, (winders are currently under evaluation), for the shaft system complies with the Tasmanian Mines Inspection Regulations 1991 where regulations are applicable to the designed system. The design provides for margins above minimum regulatory requirements with respect to factors of safety, safety devices, etc. The shaft system design is based on exemption being granted to the regulatory requirement to fit a gripper type system to the main conveyance as required by regulation 1024 (2). Formal exemption is requested in the following section.

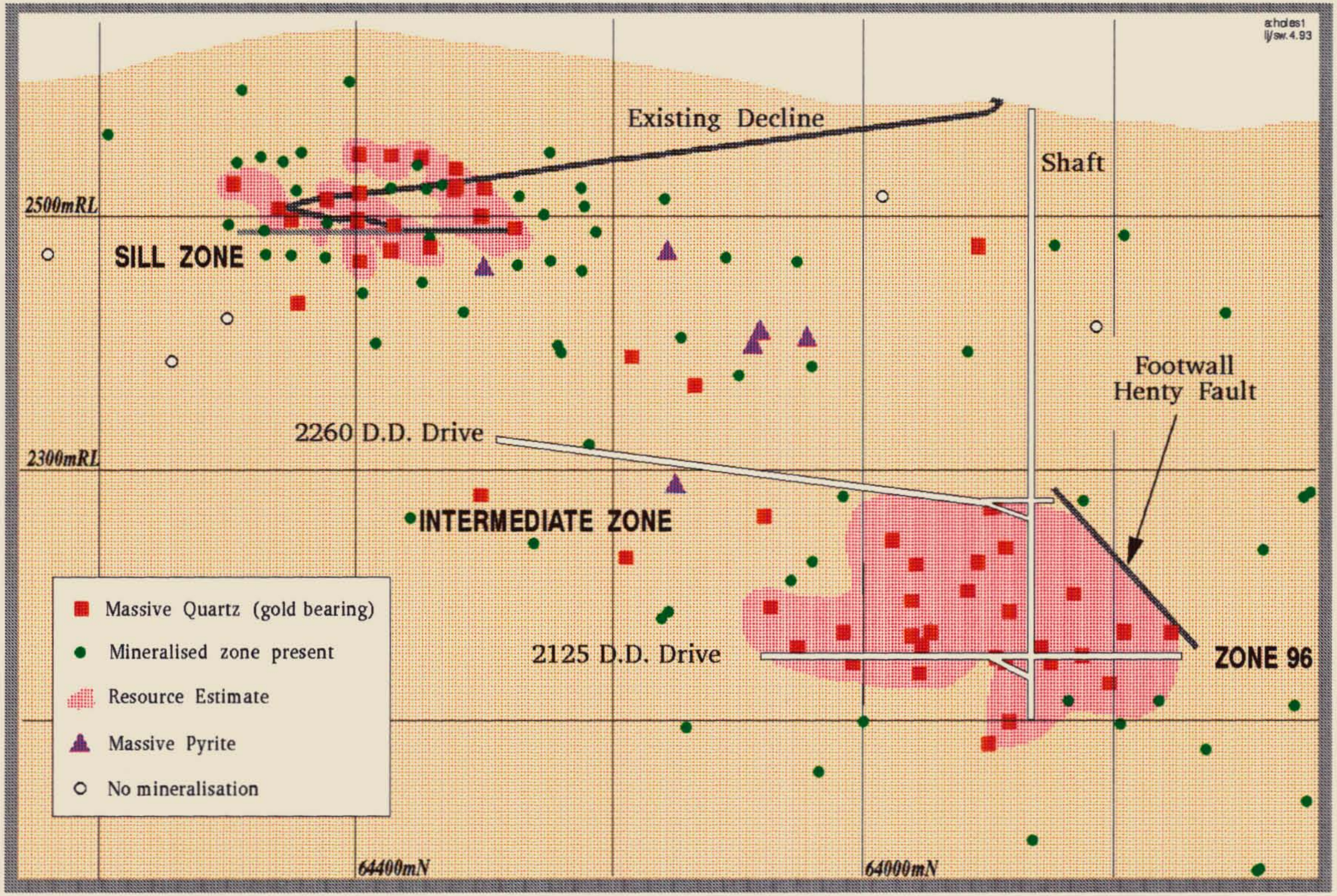
12.3 Request For Exemption

Tasmanian Mines Inspection Regulations 1991 regulation 1024 (2) provides for the fitting of "approved arresting devices that will prevent the cage falling if the rope or the winding system fails" unless exempted in writing by the Chief Inspector".

The proposed Henty hoisting system design is based on the use of steel fixed guides in the case of the main hoist, and rope guides in the case of the emergency cage hoists.

In accordance with the provisions of Regulation 1024 (2), exemption from Regulation 1024 (2) is sought herewith.

FIGURES



LONGITUDINAL PROJECTION SHOWING DRILLING RESULTS

Figure 1

HENTY GOLD PROJECT

Mine Development Schedule

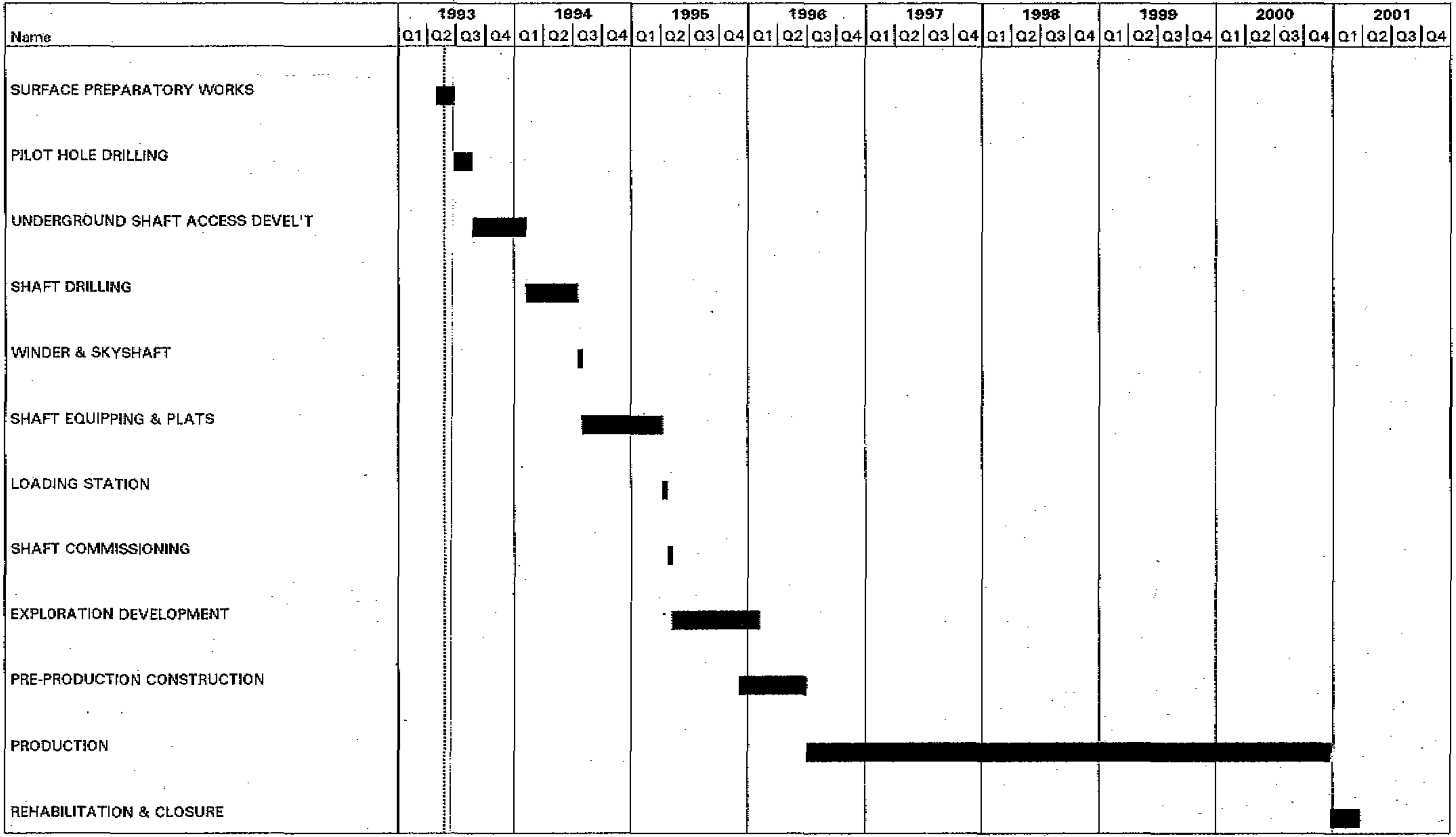


Figure 2

011033

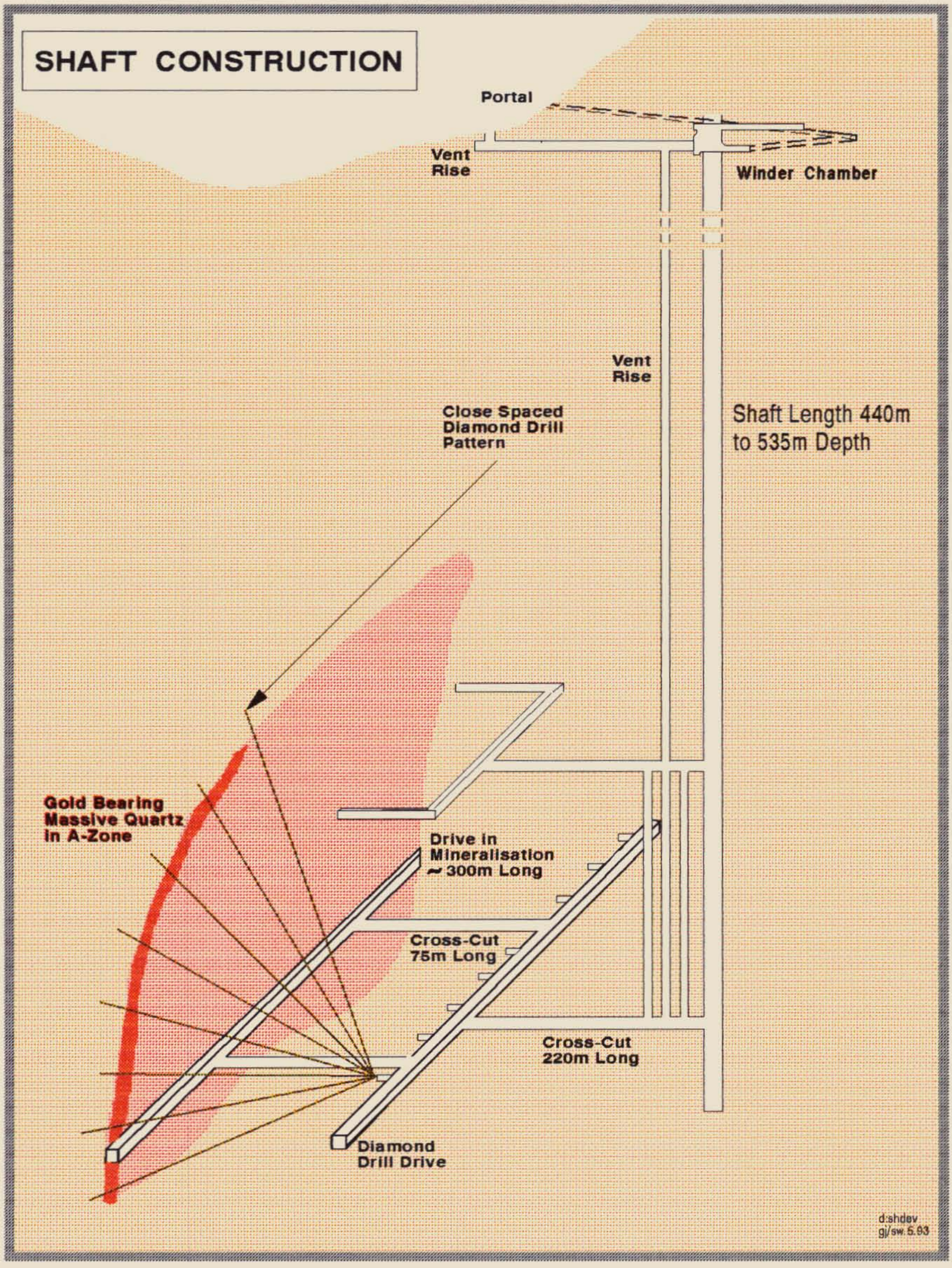
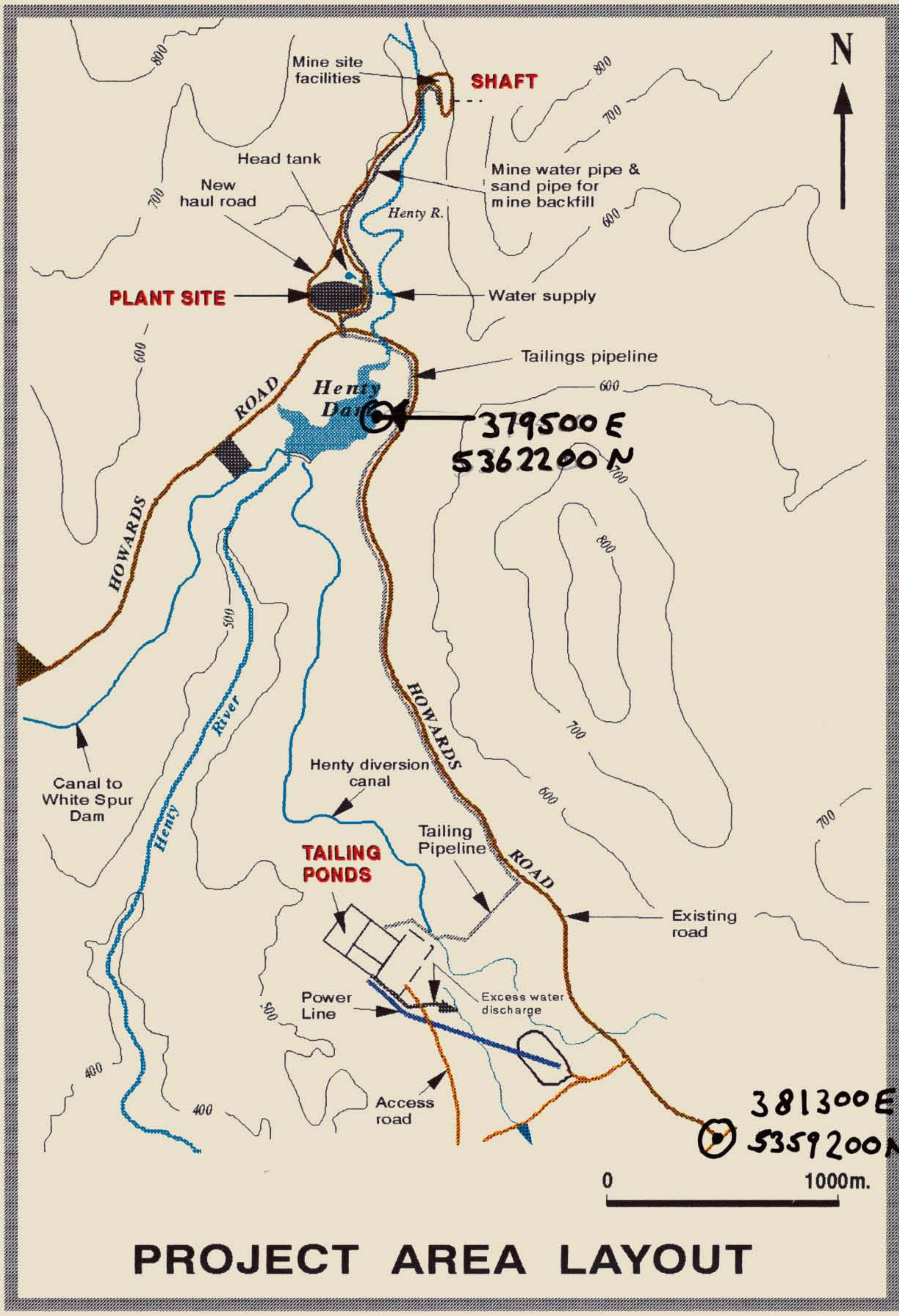


Figure 3

AMG REFERENCE POINTS ADDED

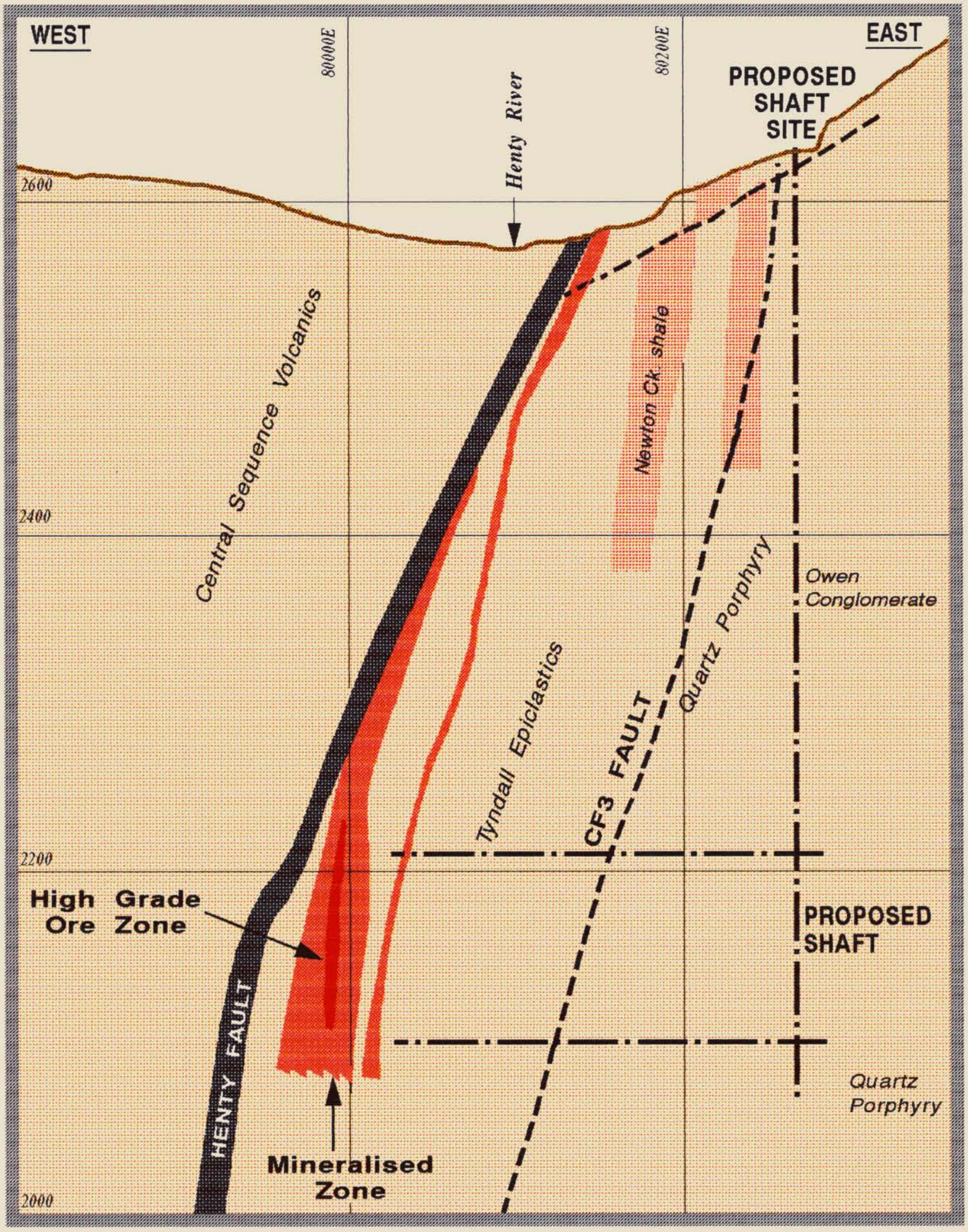


PROJECT AREA LAYOUT

5 cm

Figure 4

011035

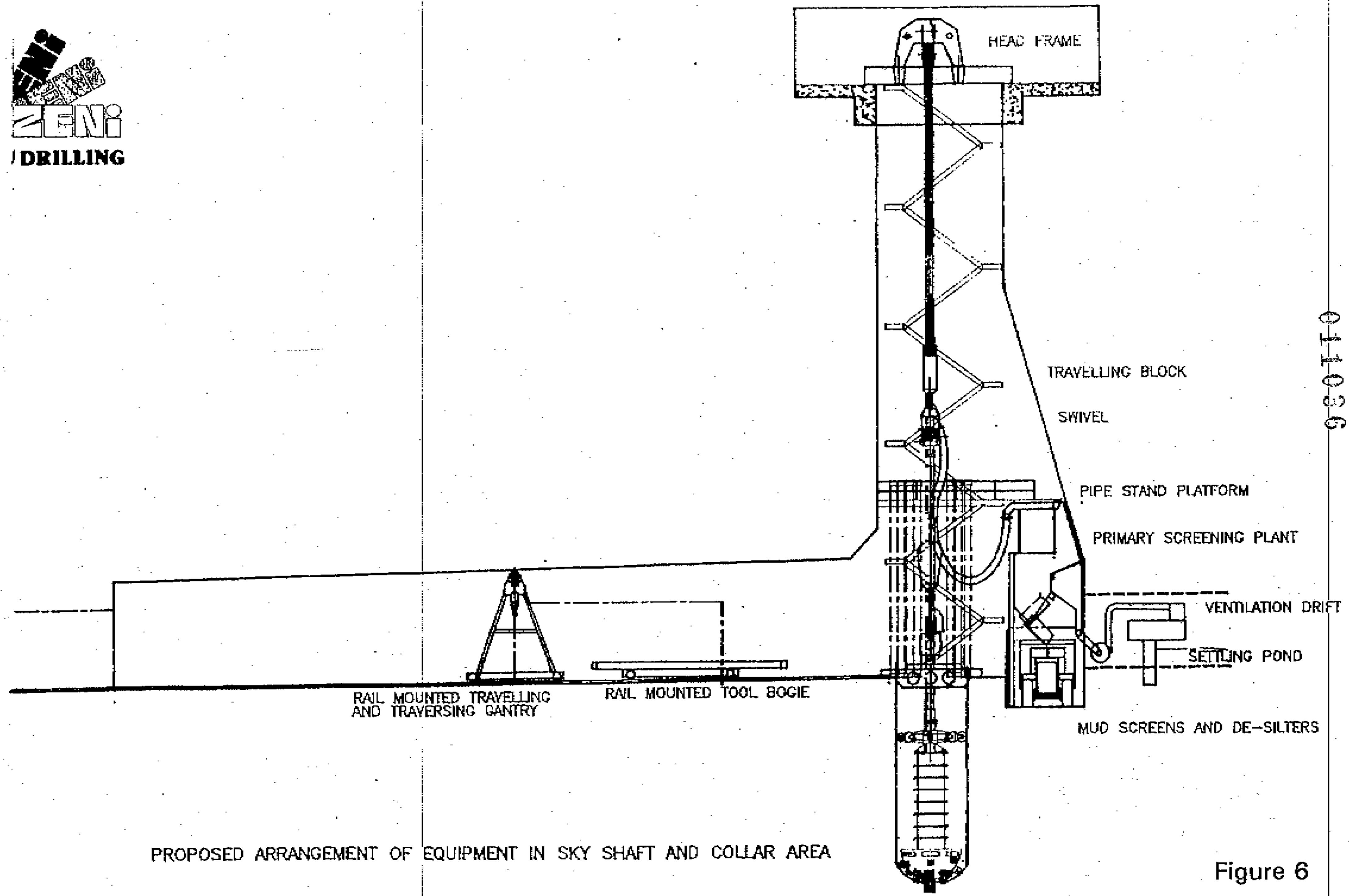


CROSS-SECTION 63850N

d:63850
gj/sw.5.93

Figure 5

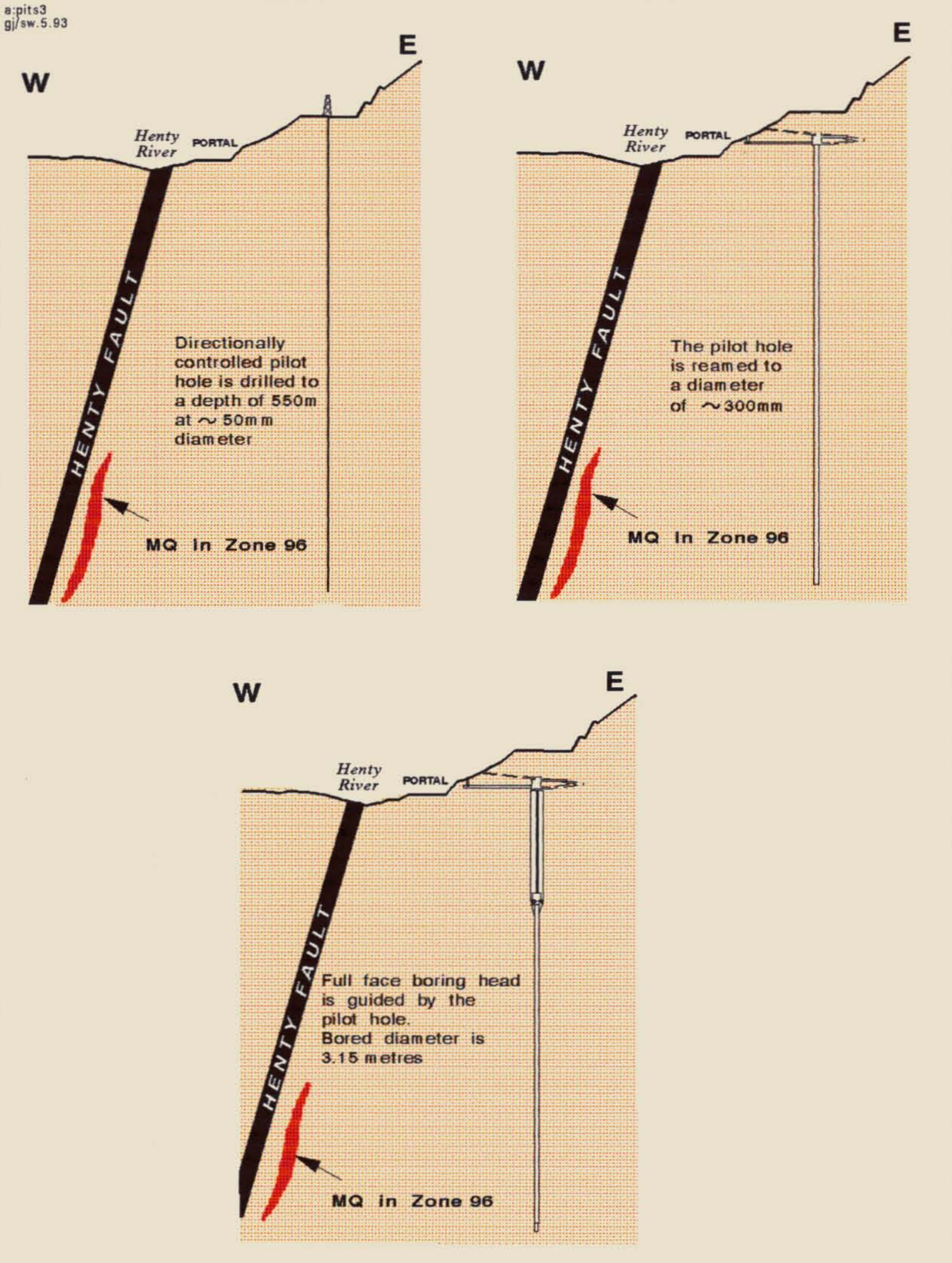
ZENI DRILLING



PROPOSED ARRANGEMENT OF EQUIPMENT IN SKY SHAFT AND COLLAR AREA

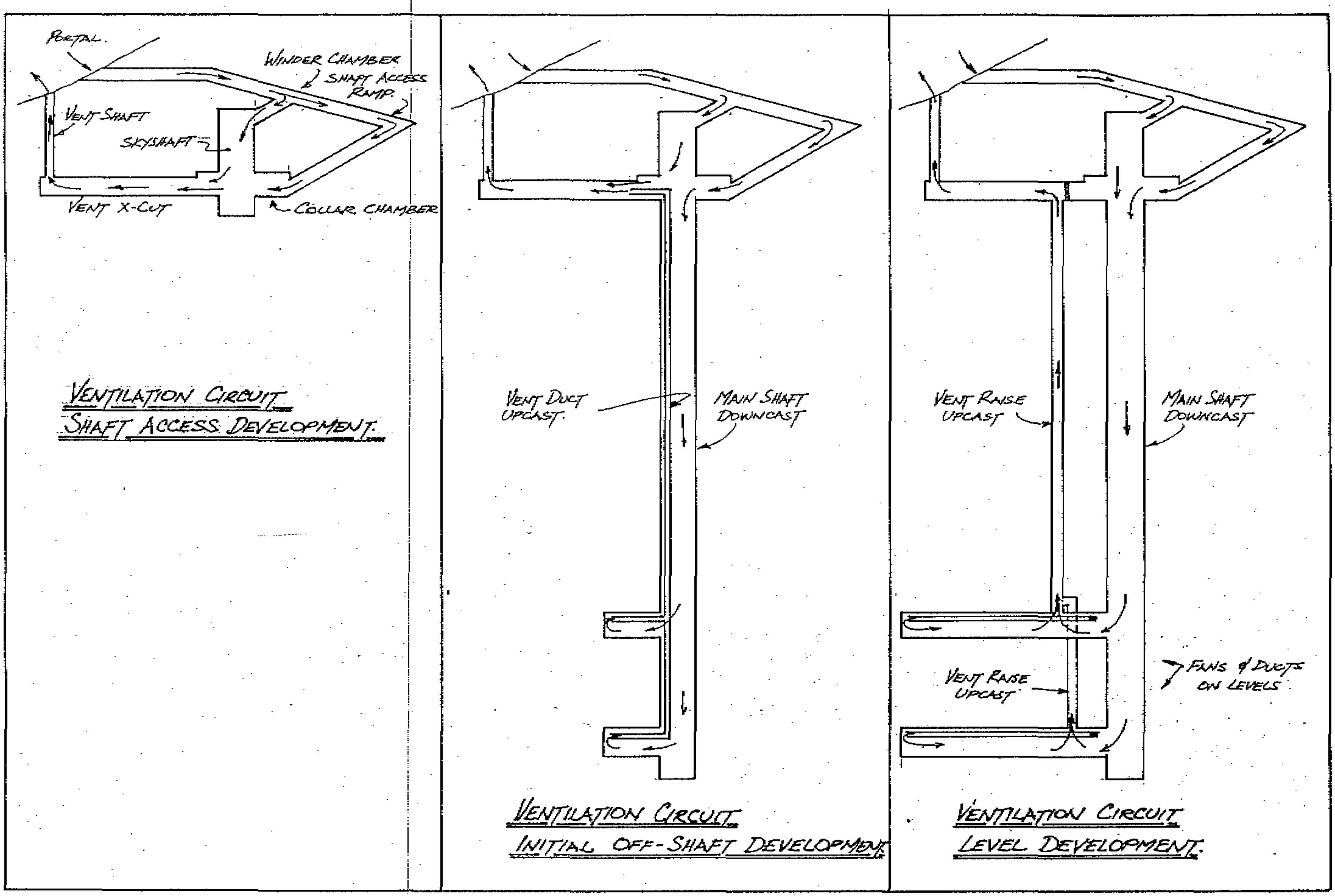
Figure 6

011037



SHAFT BORING SEQUENCE - Schematic

Figure 7



VENTILATION DURING SHAFT CONSTRUCTION PHASE Figure 8

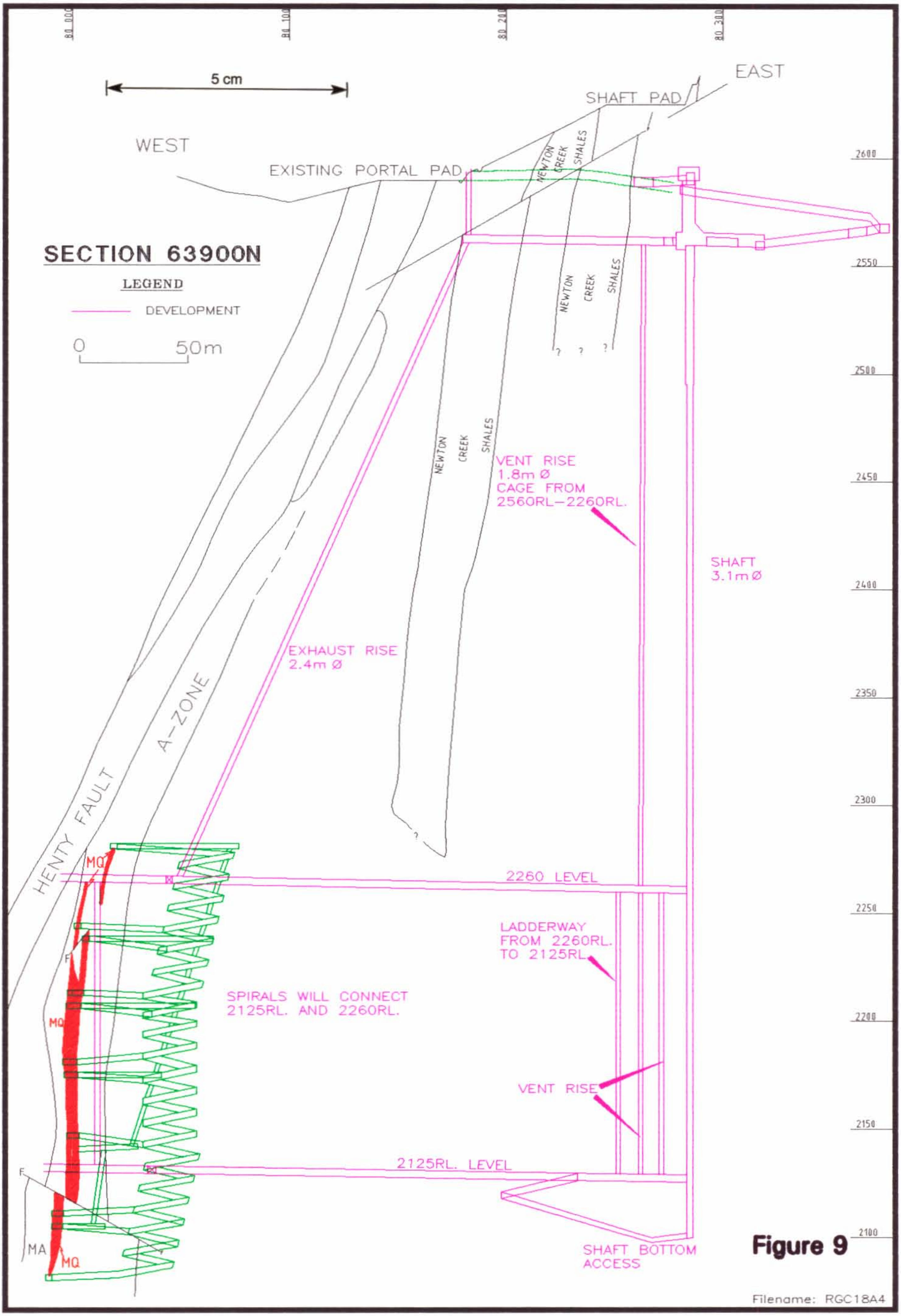
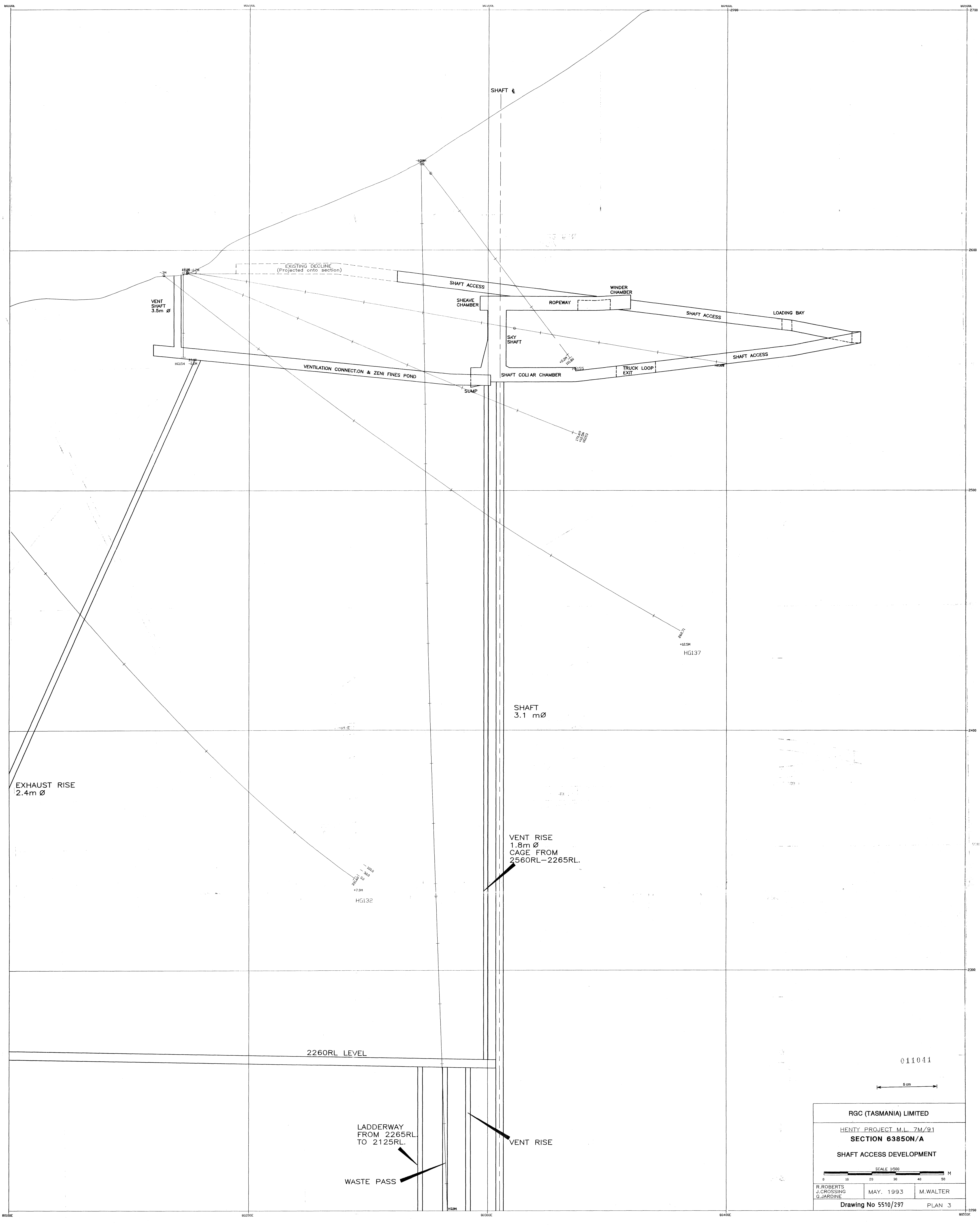


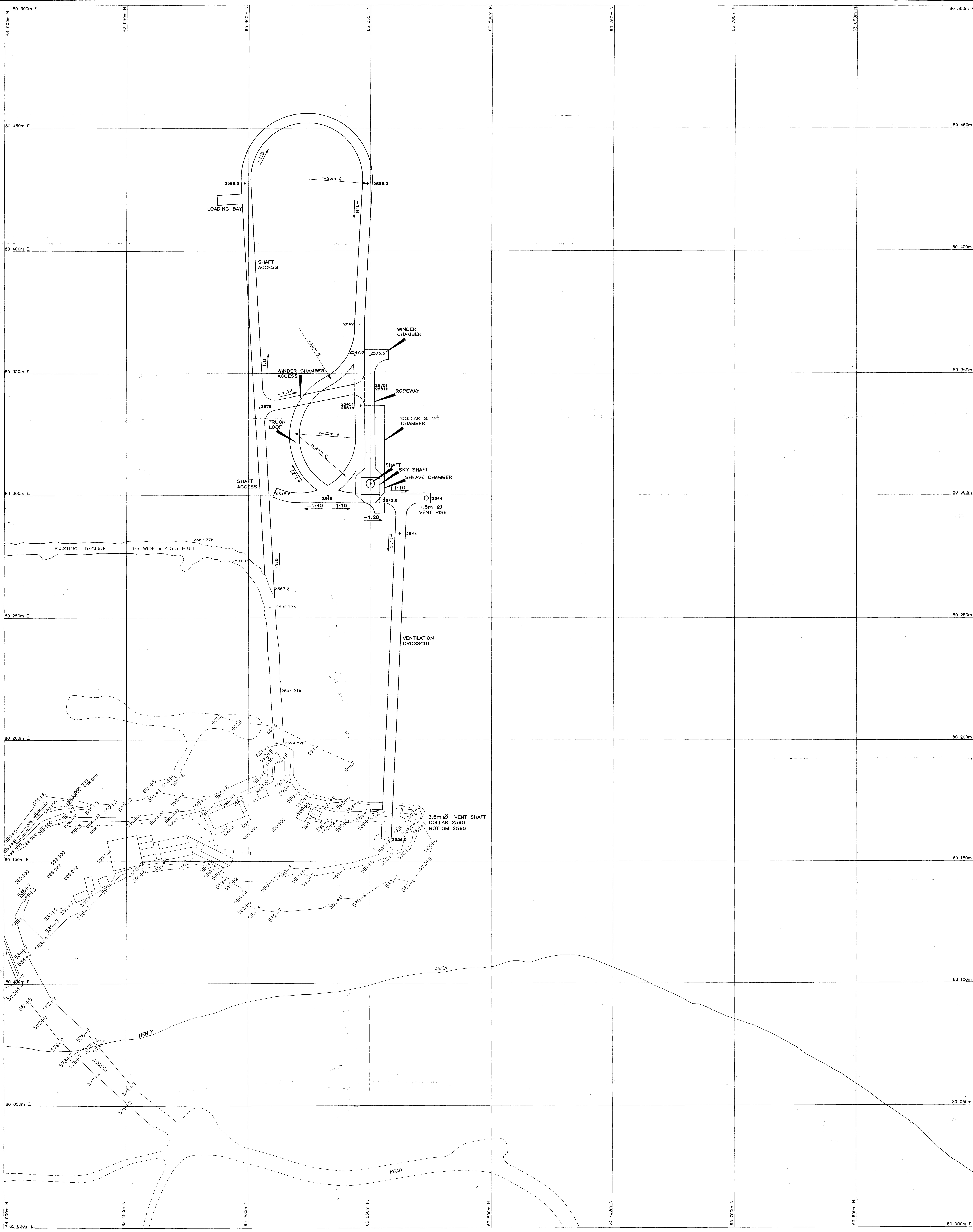
Figure 9

Filename: RGC18A4

DRAWINGS

5510/296	Shaft Access Development
5510/297	Section 63850 N/A Shaft Access Development
056-G-005 Sheet 1	General Arrangement - Decline Pump Station
056-G-005 Sheet 2	General Arrangement - Decline Pump Station
056-G-011 Sheet 1	General Arrangement - Shaft Layout
056-G-012 Sheet 1	General Arrangement - Shaft Layout Temporary Construction Configuration
056-G-013 Sheet 1	General Arrangement - Skyshaft & Tipping Station
056-G-014 Sheet 1	General Arrangement - Loading Station & Shaft Sump
056-G-015 Sheet 1	General Arrangement - Plats At Levels


SHAFT ℄
EXISTING DECLINE
(Projected onto section)
SHAFT ACCESS
WINDER CHAMBER
SHEAVE CHAMBER
ROPEWAY
SHAFT ACCESS
LOADING BAY
VENT SHAFT 3.5m Ø
SKY SHAFT
SHAFT ACCESS
TRUCK LOOP EXIT
VENTILATION CONNECTION & ZENI FINES POND
SHAFT COLLAR CHAMBER
SUMP
HG137
SHAFT 3.1 mØ
EXHAUST RISE 2.4m Ø
VENT RISE 1.8m Ø CAGE FROM 2560RL–2265RL.
HG132
2260RL LEVEL
LADDERWAY FROM 2265RL. TO 2125RL.
VENT RISE
WASTE PASS
011041
5 cm
RGC (TASMANIA) LIMITED
HENTY PROJECT M.L. 7M/91
SECTION 63850N/A
SHAFT ACCESS DEVELOPMENT
SCALE 1:500
0 10 20 30 40 50 M
R.ROBERTS
J.CROSSING
G.JARDINE
MAY. 1993
M.WALTER
Drawing No 5510/297
PLAN 3



* ALL DEVELOPMENT RL's ARE FLOORS & HAVE HAD 2000 ADDED .
EXISTING DECLINE LEVELS ARE BACKS.

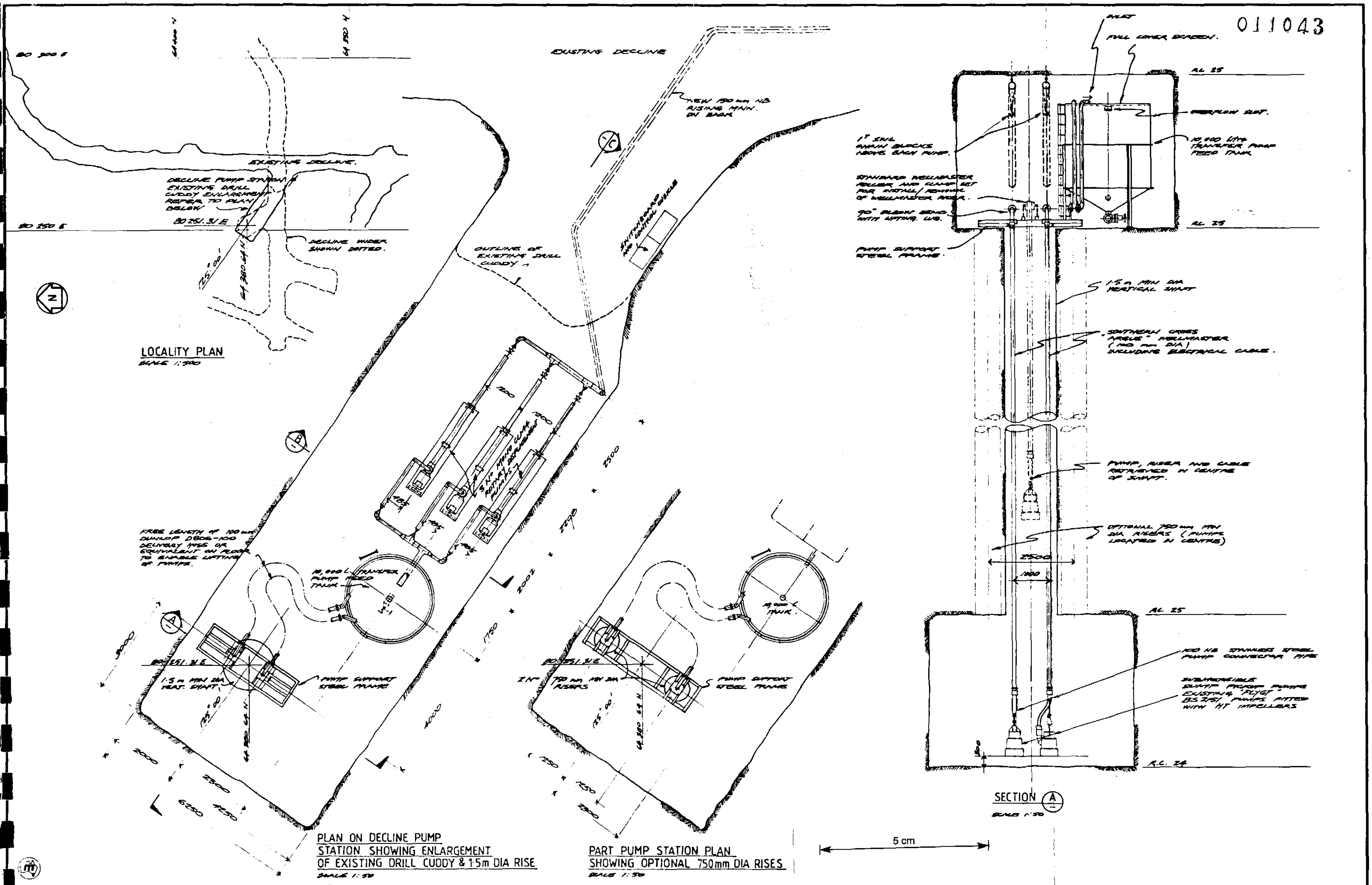
011042

RGC (TASMANIA) LIMITED		
COMPILED	G.JARDINE J.CROSSING	HENTY PROJECT M.L. 7M/91
DRAWN	M.WALTER	SHAFT ACCESS DEVELOPMENT
DATE	MAY 1993	
CHECKED		5 cm
1:25000 REF.		Drawing No 5510/296

5510/296
FILENAME: 10BDEV

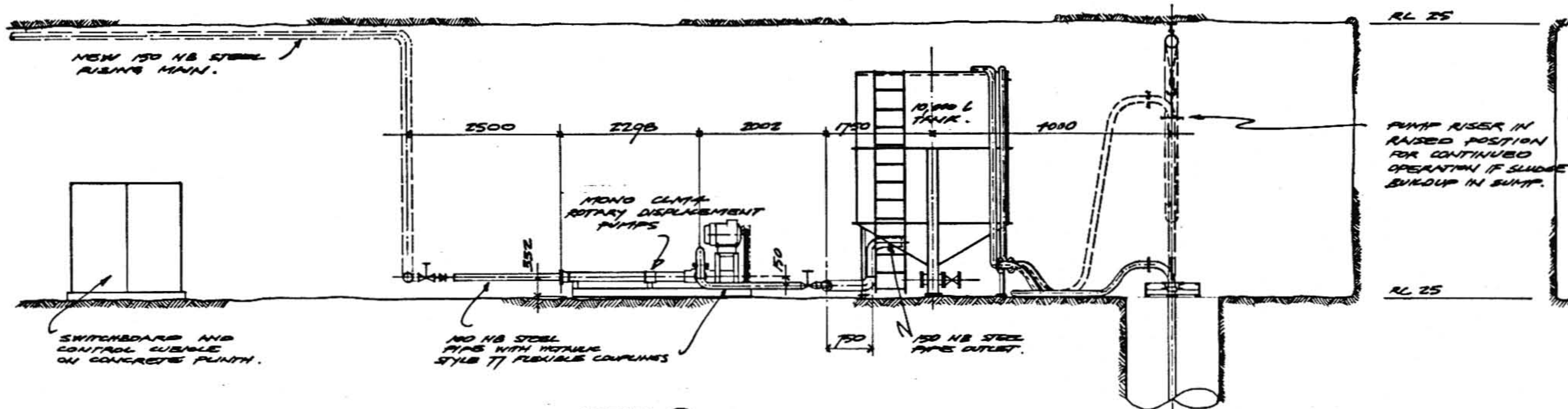
SCALE 1:500

011043

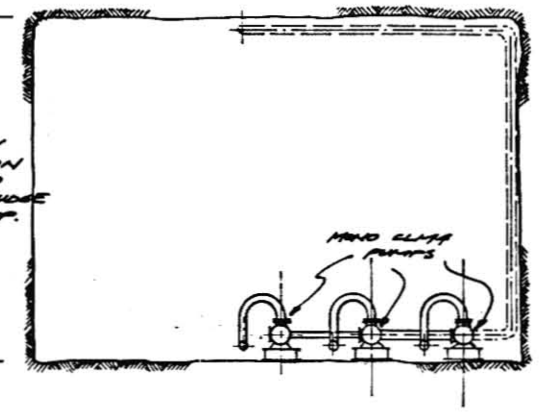


NEVILLE J WIGGS & ASSOCIATES PTY LTD Technical & Consulting Services 48 Ayr Street, Doncaster, Vic. 3108 ☎ (03) 816 3130 : Fax (03) 816 3128 A.C.N. 005 457 894	DESIGN NJW · SCALE 1:50 DRAWN KA · TRACED CHECKED · PASSED APPROVED DATE 19.5.95	George Deutsch Consulting Pty Ltd 25 Barrington Ave, Kew Victoria 3101 Ph (03) 817 5555 Fax (03) 816 9599	HENTY GOLD PROJECT
RGC (TASMANIA) LIMITED HENTY GOLD PROJECT	DECLINE PUMP STATION GENERAL ARRANGEMENT SHEET 1	DRAWING No 056-G-005 SHEET SIZE A1 REVISION SHEET 1 OF 2	

011044



SECTION C
SCALE 1:50



SECTION B
SCALE 1:50

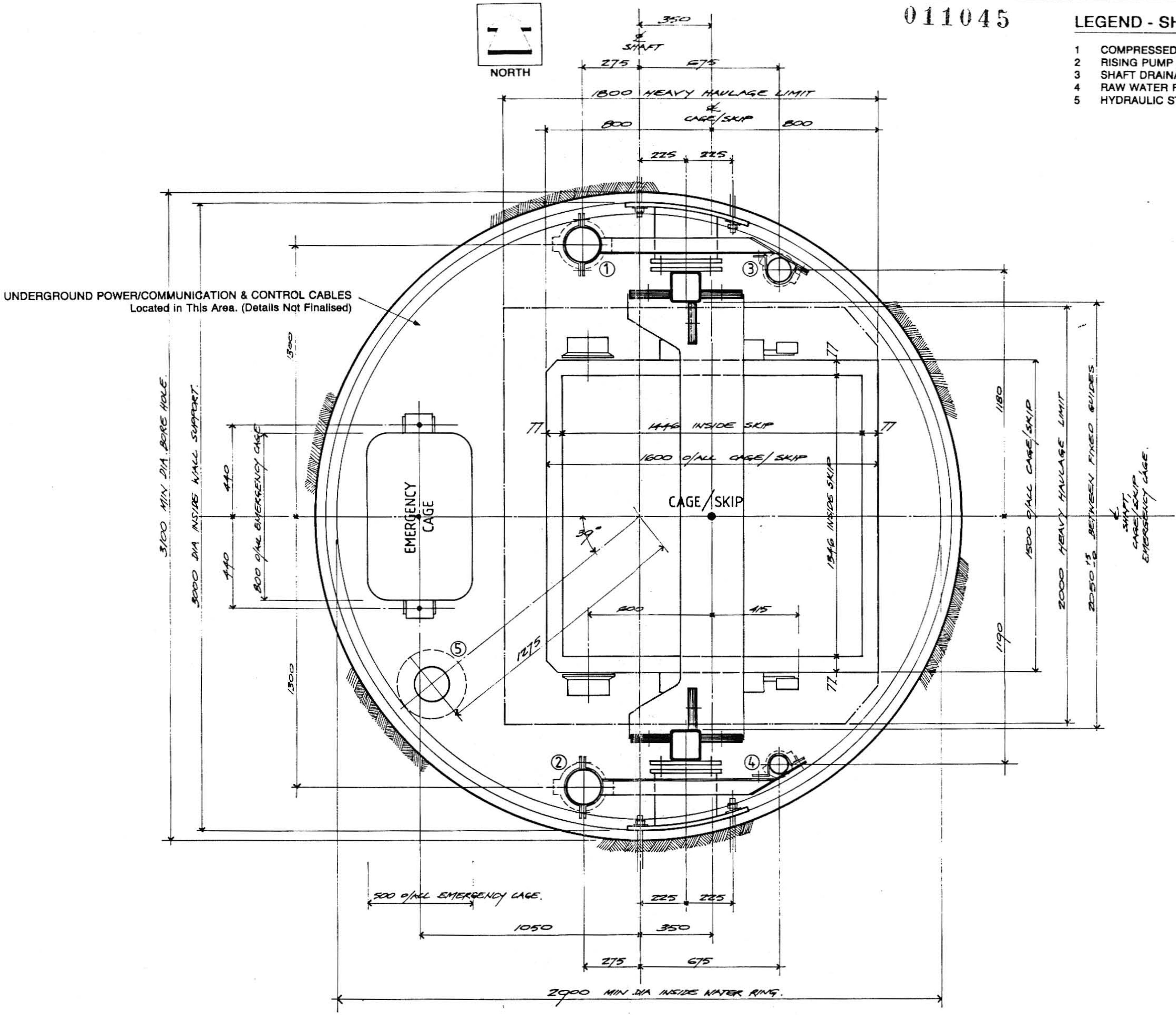
5 cm

NEVILLE J WIGGS & ASSOCIATES PTY LTD Technical & Consulting Services 48 Ayr Street, Doncaster, Vic. 3108 ☎ (03) 816 3130 : Fax (03) 816 3128 A.C.N. 005 457 894	DESIGN: NJW DRAWN: KA CHECKED: APPROVED: DATE: 19.5.93	SCALE: 1:50 TRACED: PASSED:	George Deutsch Consulting Pty Ltd 25 Barrington Ave, Kew Victoria 3101 Ph (03) 817 5555 Fax (03) 816 9599	HENTY GOLD PROJECT	RGC (TASMANIA) LIMITED HENTY GOLD PROJECT	DECLINE PUMP STATION GENERAL ARRANGEMENT SHEET 2	DRAWING No 056-G-005 SHEET SIZE A1 REVISION SHEET 2 OF 2

011045

LEGEND - SHAFT SERVICES

1. COMPRESSED AIR MAIN (150mm steel Victaulic Style 77)
2. RISING PUMP MAIN (150mm steel Victaulic Style 77)
3. SHAFT DRAINAGE LINE (100MM steel Victaulic Style 77)
4. RAW WATER FEED LINE (75mm steel Victaulic Style 77)
5. HYDRAULIC STOPE FILL LINE (100mm steel details not finalised)



SHAFT LAYOUT

5 cm

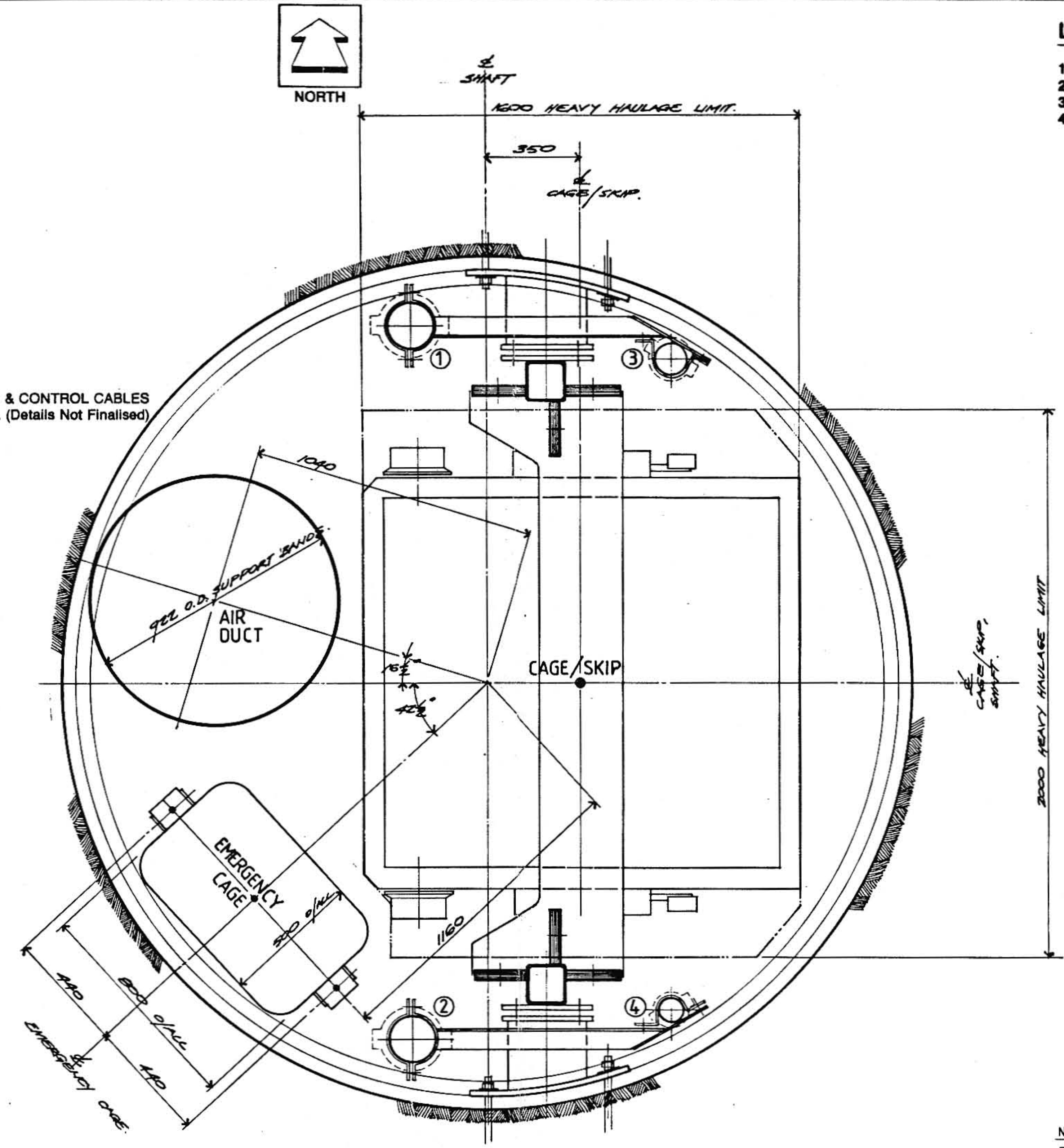
NEVILLE J WIGGS & ASSOCIATES PTY LTD Technical & Consulting Services 48 Ayr Street, Doncaster, Vic. 3108 ☎ (03) 816 3130 : Fax (03) 816 3128 A.C.N. 005 457 894	DESIGN V.J.W / DRAWN K.A / CHECKED / APPROVED / DATE 19.5.93	SCALE 1:10 / TRACED / PASSED	George Deutsch Consulting Pty Ltd 25 Barrington Ave, Kew Victoria 3101 Ph (03) 817 5555 Fax (03) 816 9599	HENTY GOLD PROJECT	RGC (TASMANIA) LIMITED HENTY GOLD PROJECT	SHAFT LAYOUT GENERAL ARRANGEMENT

DRAWING No. 056-G-011
SHEET SIZE A1
REVISION
SHEET 1 OF 1

LEGEND - SHAFT SERVICES

1 COMPRESSED AIR MAIN (150mm steel Victaulic Style 77)
2 RISING PUMP MAIN (150mm steel Victaulic Style 77)
3 SHAFT DRAINAGE LINE (100MM steel Victaulic Style 77)
4 RAW WATER FEED LINE (75mm steel Victaulic Style 77)

011046



NOTE
REFER TO DRG Nº 056-G-011
FOR DIMENSIONS NOT SHOWN

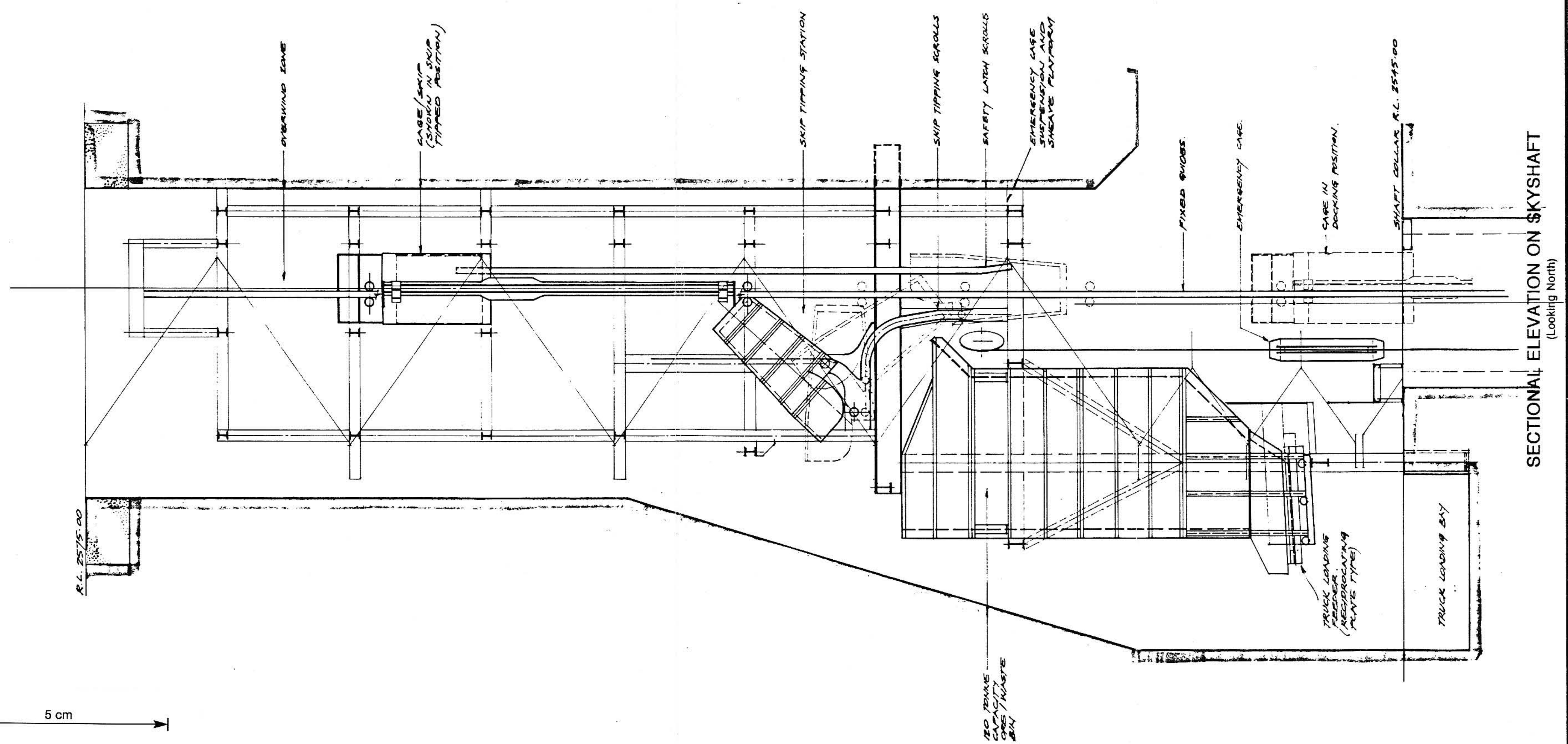
SHAFT LAYOUT
Temporary Construction Configuration

5 cm

NEVILLE J WIGGS & ASSOCIATES PTY LTD Technical & Consulting Services 48 Ayr Street, Doncaster, Vic. 3108 ☎ (03) 816 3130 : Fax (03) 816 3128 A.C.N. 005 457 894	DESIGN: NJW DRAWN: KA CHECKED: APPROVED: DATE: 19.5.93	SCALE: 1:20 TRACED PASSED	George Deutsch Consulting Pty Ltd 25 Barrington Ave, Kew Victoria 3101 Ph (03) 817 5555 Fax (03) 816 9599	HENTY GOLD PROJECT RGC (TASMANIA) LIMITED HENTY GOLD PROJECT	SHAFT LAYOUT GENERAL ARRANGEMENT Temporary Construction Configuration

DRAWING No.	056-G-012
SHEET SIZE	A1
REVISION	
SHEET	1 OF 1

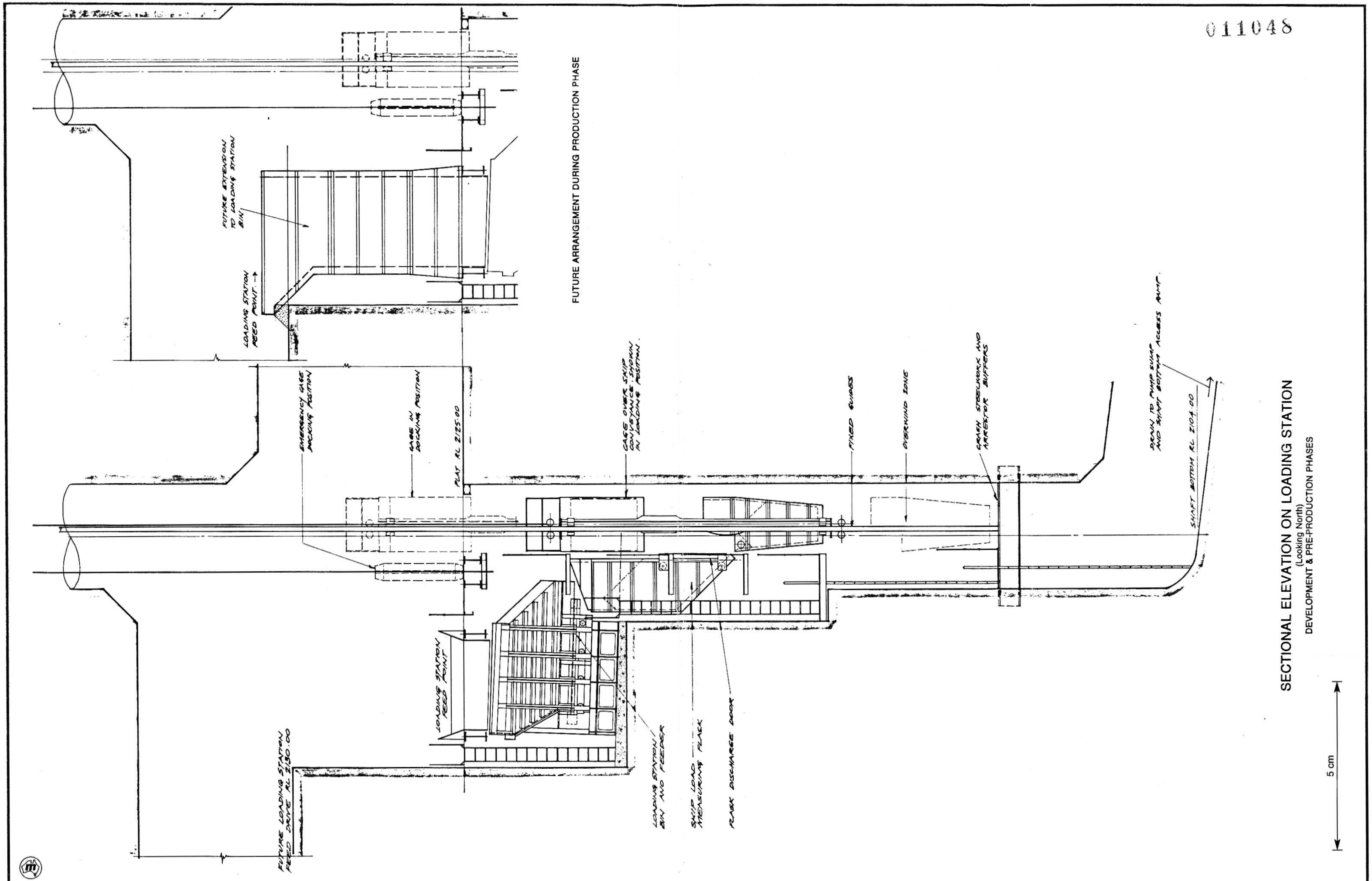
011047



5 cm

NEVILLE J WIGGS & ASSOCIATES PTY LTD Technical & Consulting Services 48 Ayr Street, Doncaster, Vic. 3108 ☎ (03) 816 3130 : Fax (03) 816 3128 A.C.N. 005 457 894	DESIGN N.J.W. / DRAWN KA / CHECKED / APPROVED / DATE 19.5.93	SCALE 1:50 / TRACED / PASSED	George Deutsch Consulting Pty Ltd 25 Barrington Ave, Kew Victoria 3101 Ph (03) 817 5555 Fax (03) 816 9599	RGC (TASMANIA) LIMITED HENTY GOLD PROJECT	SKYSHAFT & TIPPING STATION GENERAL ARRANGEMENT SHEET 1	DRAWING No. 056-G-013 SHEET SIZE A1 REVISION SHEET 1 OF 1

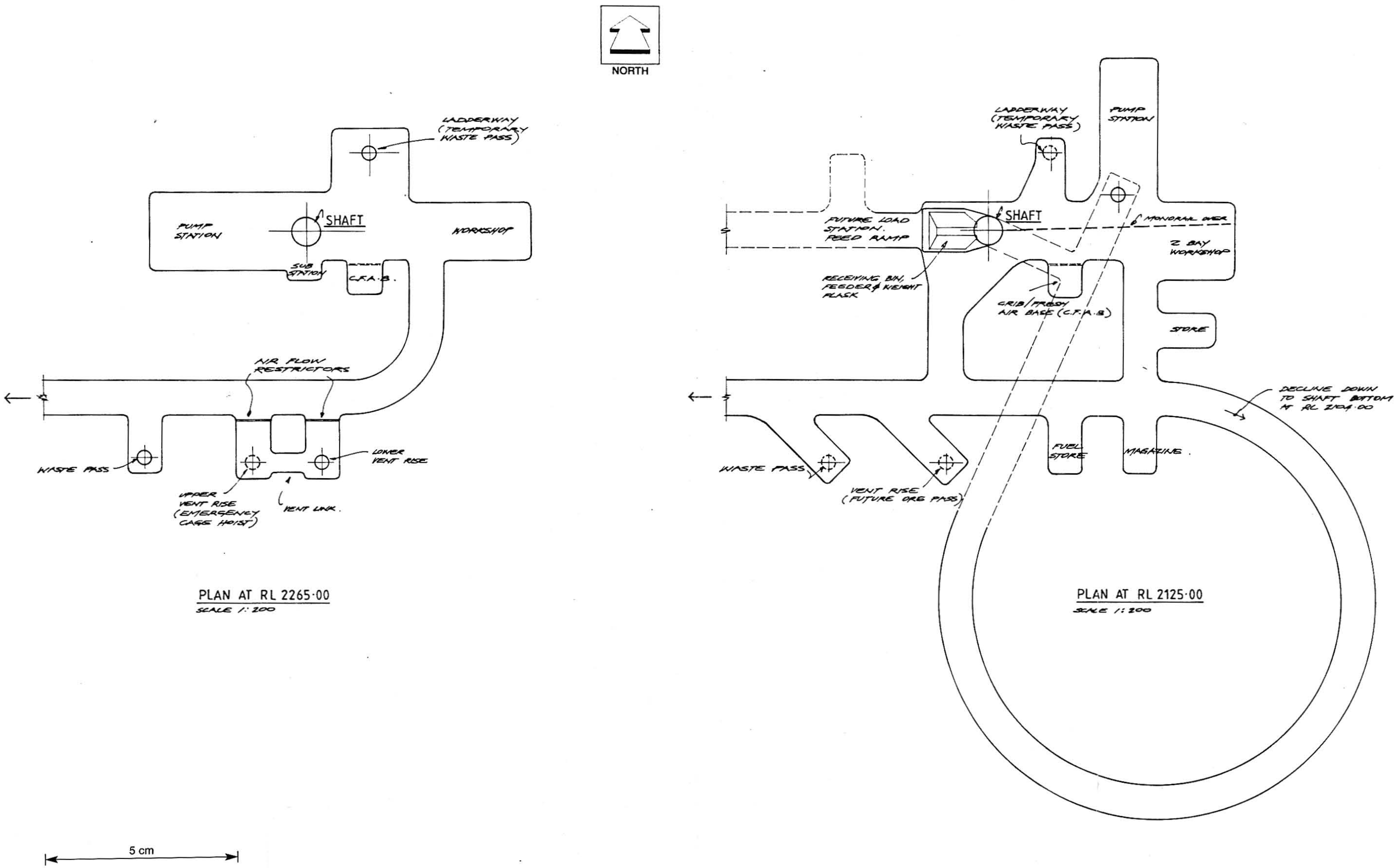
011048



SECTIONAL ELEVATION ON LOADING STATION
(Looking North)
DEVELOPMENT & PRE-PRODUCTION PHASES

NEVILLE J WIGGS & ASSOCIATES PTY LTD Technical & Consulting Services 48 Ayr Street, Doncaster, Vic. 3108 ☎ (03) 816 3130 : Fax (03) 816 3128 A.C.N. 005 457 894	DESIGN NJW / SCALE 1:50 DRAWN KA / TRACED CHECKED / PASSED APPROVED DATE 19.5.93	George Deutsch Consulting Pty Ltd 25 Barrington Ave, Kew Victoria 3101 Ph (03) 817 5555 Fax (03) 816 9599	RGC (TASMANIA) LIMITED HENTY GOLD PROJECT	LOADING STATION & SHAFT SUMP GENERAL ARRANGEMENT SHEET 1	DRAWING No. 056-G-014 SHEET SIZE A1 REVISION SHEET 1 OF 1

011049



NEVILLE J WIGGS & ASSOCIATES PTY LTD
Technical & Consulting Services
48 Ayr Street, Doncaster, Vic. 3108
☎ (03) 816 3130 : Fax (03) 816 3128
A.C.N. 005 457 894

DESIGN	NJW	SCALE	1:200
DRAWN	KA	TRACED	
CHECKED		PASSED	
APPROVED			
DATE	21.5.93		

George Deutsch Consulting Pty Ltd
25 Barrington Ave,
Kew Victoria 3101
Ph (03) 817 5555 Fax (03) 816 9599

HENTY GOLD PROJECT

RGC (TASMANIA) LIMITED
HENTY GOLD PROJECT

PLATS AT LEVELS
GENERAL ARRANGEMENT

DRAWING No.	056-G-015
SHEET SIZE	A1
REVISION	
SHEET	1 OF 1

011050

Recent key resolutions:

1) Thursday 27 May

Capital expenditure $53m (plus $6m capitalised pre-production) approved for development of Henty Gold Project subject to LRG Shareholders approving resolution for LRG's interest in the Project to pass to RGC in exchange for gross royalty of 10% of gold produced in defined Project Area.*

2) Friday 28 May

LRG shareholders approved the required resolution at a General Meeting of LRG Shareholders.

* Also Gross Royalty of 1% in areas outside the Project Area but within Mining Lease