Helix Resources Ltd
West Pilbara JV Project
Partial Surrender Report
GSWA Ref No: M 3618/1
Combined Report C223/1997
For tenements
E47/905
E47/1074
E47/1075

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Project Name:	West Pilbara JV Project
Report Title:	West Pilbara JV Project E47/905, 1074 & 1075 Partial Surrender Report .
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Author:	M. Wilson
Tenement Holder:	Helix Resources Limited
Key words:	West Pilbara Craton, Munni Munni Intrusive Complex, and Platinum Group Metals.
Commodities:	Platinum, Palladium, Gold, Rhodium, Iridium, Osmium, Ruthenium, Copper, Nickel, and Cobalt. Diamonds
Assayed elements:	Au, Cu, As, Ni, Ag, Pt, Pd, S, Rh, Ir, Os, Ru, and Cr.
Tectonic Unit:	Pilbara Craton
Geological Age:	Archaean
Geographic Location	Karratha - nearest town Yarraloola SF50-06, 1:250,000 sheet reference Pinderi Hills 1:100,000 sheet reference

Executive Summary

The Munni Munni Intrusive Complex (MMIC) is an Archean layered mafic – ultramafic intrusive located in the West Pilbara region of Western Australia, approximately 45kms south of the township of Karratha.

Hunter Resources Ltd recognised the potential of the MMIC to host PGE mineralisation during the mid 1980's and began a four year exploration program. During this time they identified a specific sulphide zone proximal to the contact between the mafic and ultramafic sequences which was subsequently named the Ferguson Reef after Dr. John Ferguson.

Work on the project was stalled during the early 1990's due primarily to low PGE prices and later due to plaints lodged against Hunter Resources Ltd in the Wardens Court.

Late in 2000 Helix Resources resolved the plaints and obtained 100% ownership of the tenements and exploration and development work was accelerated to take advantage of elevated PGE and particularly palladium prices.

A program of re-assessment of Hunter Resources data including the re-assay of mineralised intercepts was completed late in 2000. An aggressive program of diamond and RC drilling followed, extending the known mineralisation to 700m below surface in the Central Zone with preliminary exploration commenced in areas peripheral to the Central Zone.

In May 2002 Lonmin PLC entered into a joint venture on the Munni Munni Project where they could earn 50% equity in the project by funding all exploration through top the completion of a feasibility study.

In March 2003 Lonmin PLC withdrew from the project following 'in house' financial analysis which indicated that the project was sub economic.

As a result of the extensive drilling programs completed during the Lonmin JV period a JORC compliant PGM resource was estimated at Munni Munni **(23.6mt at 2.9g/t PGM + 0.15% Cu + 0.09% Ni).** Economic evaluations in November 2002 showed that at the then current metal prices the project was sub economic. During the current period there have been some substantial changes in both metal prices and AUD$ exchange rate but the net effect has been that there has only been a minor increase in the basket price for the metal prices within the resource and it still remains subeconomic.

During July 2003 Helix signed a joint venture agreement with De Beers Australia Exploration Limited covering 11 exploration licences and applications surrounding the Munni Munni PGE project. The Joint Venture excludes the Mining Leases covering the Munni Munni PGM resources.

Field work over the areas being surrendered consists entirely of De Beers regional diamond sampling program. Helix has assayed these sampling for precious and base metals.

1 Introduction

1.1 Tenure

The areas being surrendered are from the following granted exploration licences (E47/1074, 1075 and 905).

This ground holding covers the region surrounding the Munni Munni Intrusive Complex Figure 1 summarises Helix Resources Ltd ground holding over the MMIC and the area being surrendered. Table 1 outlines relevant details:

Lease Number	Status	Size	Date Applied	Date Granted	Date Expired	Annual Commitment
E47/905	**JV De Beers**	**41 sub-blocks**		**23rd Jan 2002**	**21st Jan 2007**	**$36,900**
MLA47/641	**JV De Beers**	**957.5 Ha**	**6th May 2005**			
MLA47/642	**JV De Beers**	**957.7 Ha**	**6th May 2005**			
MLA47/643	**JV De Beers**	**957.5 Ha**	**6th May 2005**			
E47/1074	**JV De Beers**	**27 sub-blocks**		**12th Dec 2001**	**11th Dec 2006**	**$24,300**
MLA47/639	**JV De Beers**	**956.6 Ha**	**6th May 2005**			
MLA47/640	**JV De Beers**	**956.7 Ha**	**6th May 2005**			
E47/1075	**JV De Beers**	**27 sub-blocks**		**10th May 2002**	**9th May 2007**	**$24,300**
MLA47/786	**JV De Beers**	**956.4 Ha**	**9th Aug 2005**			
MLA47/787	**JV De Beers**	**956.3 Ha**	**9th Aug 2005**			
MLA47/788	**JV De Beers**	**956.0 Ha**	**9th Aug 2005**			
MLA47/789	**JV De Beers**	**956.0 Ha**	**9th Aug 2005**			
MLA47/790	**JV De Beers**	**956.0 Ha**	**9th Aug 2005**			
MLA47/791	**JV De Beers**	**955.6 Ha**	**9th Aug 2005**			
MLA47/792	**JV De Beers**	**955.0 Ha**	**9th Aug 2005**			
MLA47/793	**JV De Beers**	**637.0 Ha**	**9th Aug 2005**			
MLA47/794	**JV De Beers**	**954.5 Ha**	**9th Aug 2005**			

Table 1. Lease details for the West Pilbara JVi Project after surrenders and mining lease applications

In July 2003 Helix signed a joint venture agreement with De Beers Australia Exploration Limited covering 11 exploration licences and applications surrounding the Munni Munni PGE project. The Joint Venture excludes the Mining Leases covering the Munni Munni PGM resources. The exploration licences include E47/1015, E47/1074-75, E471090, E47/1144-46, E47/1169-71 & E47/0905.

Under the Joint Venture, De Beers has the right to earn 51% in any new diamond discoveries by spending $3 million on exploration within the next three years. Helix will then have the option to participate in further exploration or development by contributing on a pro rata basis, 49%, or further diluting to a minimum interest of 25%.

1.2 Location and Access

The area lies 45km directly south of the township of Karratha in the Western Pilbara Region of Western Australia, a location map is included as Figure 2.

Karratha is approximately 1600km north of Perth, and has a present population of around 11,000 people. Large resource companies such as Woodside Petroleum, Hamersley Iron and Dampier Salt utilise the infrastructure in Karratha and the port facilities at nearby Dampier on the Burrup Peninsula.

Access to the project area is via the Hamersley Iron (HI) rail access road travelling south off the North West Coastal Highway for approximately 35kms and then turning east onto the Whundoo Pit Road for approximately 16kms.

The area is transacted by station tracks in various states of disuse, some being only navigable in dry weather.

Figure 1. Tenement Location Map.

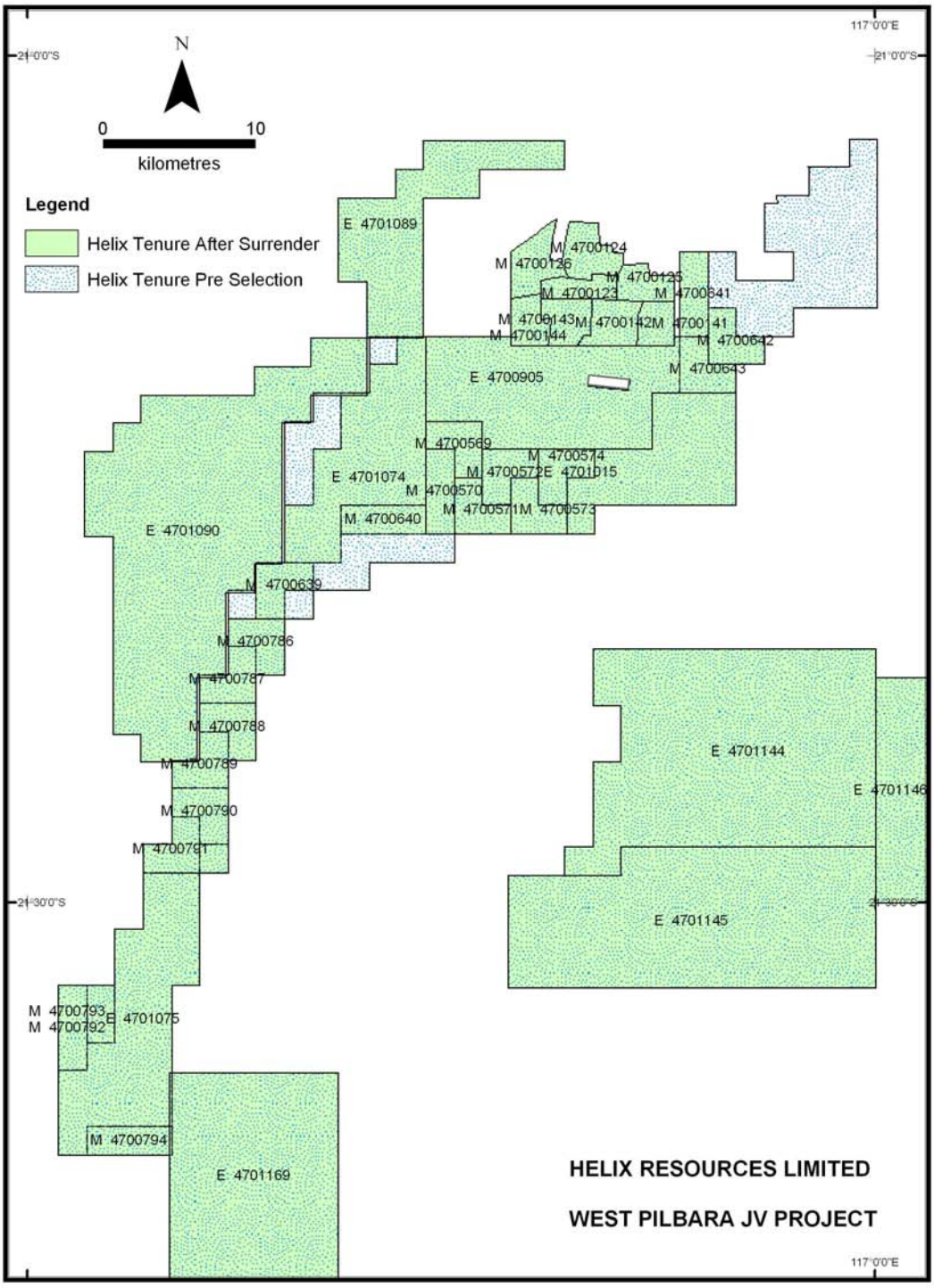

Figure 1

1.3 Physiography and Climate

The West Pilbara JV Project area consists of several different terrains, ranging from low rocky spinifex and eucalypt covered hills to acacia and grass covered alluvial flats.

Although ephemeral themselves, most of the larger creek systems contain semi-permanent waterholes. Vegetation along the creek systems comprises several different species of eucalypt, acacia, tea-tree and herbaceous plants.

The climate is sub-tropical with rainfall of between 350 – 500mm per year, falling mostly in the summer months and up until April. The temperature ranges from 22 - 25° during the dry winter months to 45° in the humid summer. The area is frequently effected by tropical cyclones in the November to April cyclone season.

Access during the wet season is by 4WD vehicle only and the area can be subject to flash flooding. The high summer rainfall often seriously denudes tracks particularly in areas of high run off.

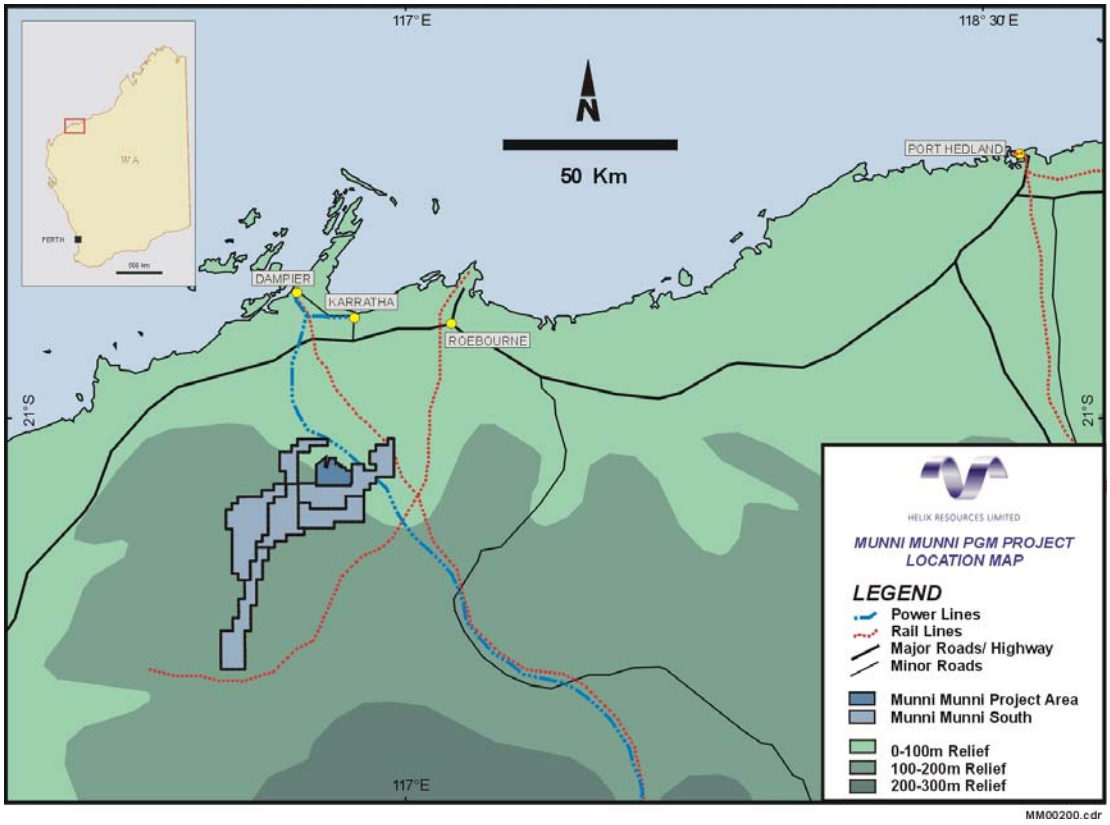

Figure 2. West Pilbara JV Project Location Map

2 Geology

2.1 Regional Geology

The West Pilbara JV Project area is situated within the 61,000km^2 Archaean Pilbara Block of the Pilbara Craton. The East Pilbara Block consists of a series of E-W trending granite – greenstone terranes consisting of domal granitic batholiths separated by synclinal belts of greenschist to lower amphibolite facies meta sedimentary and meta volcanic rocks. Collectively called the Pilbara Supergroup they range in age from 2.8 to 3.0 Ga. It is unconformably overlain by late Archaean to early Proterozoic sediments and volcanics of the Mount Bruce Supergroup.

Differentiated Archaean layered mafic and ultramafic complexes occur throughout the Pilbara although intrusions with a stratigraphic height in excess of 2kms are restricted to the West Pilbara. The Munni Munni Igneous Complex (MMIC) is one of the largest and best preserved of these complexes and has been dated at 2.92 Ga.

2.2 Geology of the Munni Munni Complex

The MMIC is a relatively large (25km x 9km) intrusive complex composed of an alternating sequence of ultramafic rocks overlain by a thick mafic package of predominantly gabbroic rock. Mapping by Hoatson (1992) suggests that the intrusion is in excess of 5km thick with the keel of ultramafic material 1.8km thick and the upper gabbroic package 3.6km thick.

The ultramafic portion of the intrusion has been sub-divided by Hoatson (1992) into nine sub-zones containing varying proportions of websterite, olivine websterite, lherzolite, weherlite and minor dunite. Strong magnetic layering apparent in regional aero-magnetic images reflects serpentinised olivine and identifies the transitions into olivine dominant zones.

Rock types of the ultramafic package are dominated by three cumulus mineral phases, augite, bronzite and olivine. Intercumulus minerals include plagioclase, biotite, magnetite, ilmenite, pyrite, pyrrhotite, chalcopyrite and pentlandite as well as minor proportions of the cumulate mineral phases trapped as inter-cumulus liquid.

The uppermost unit of the ultramafic zone is a medium to coarse grained porphrytic websterite. The upper portion of this unit is the host to the PGE mineralised Ferguson Reef.

The most obvious alteration in the ultramafic series is the serpentinisation of olivine although pervasive talc alteration is also apparent.

The boundary between the lower ultramafic sequence and the upper gabbroic sequence is marked by the first appearance of cumulus plagioclase and is variable in nature from sharp to gradational over 8 – 10m.

The upper gabbroic material is a monotonous sequence of poorly layered gabbro to gabbro-norite. Local variation in the pigeonite content reflects the most significant mineralogical variation in the lower portion of the gabbro pile, although these variations are generally not traceable between drill hole sections. Minor anorthositic gabbro to anorthosite bands have been noted in a number of drill sections but are generally not laterally continuous. Coarse gabbroic pegmatite sweats are found throughout the lower gabbro sequence.

Approximately 800m above the basal gabbro contact, magnetite first appears as cumulate phase. This ‘magnetite in’ horizon marks the only significant and laterally continuous cumulus phase change in the gabbroic sequence.

Cumulus mineralogy of the gabbro includes plagioclase, augite, inverted pigeonite and magnetite. Intercumulus minerals include inverted pigeonite, clinopyroxene, orthopyroxene, minor quartz and biotite.

Alteration within the gabbro is mostly related to deuteric sausseritisation with minor sodic and calcic alteration adjacent to major faults.

The southern portion of the MMIC is unconformably overlain by sediments and volcanics of the Mount Bruce Supergroup and more particularly the Fortescue Group.

Within the Fortescue Group four tectono-stratigraphic sequences have been recognised by Thorne and Trendall (2001). The lower most sequence is the Mount Roe Basalt which lies unconformably on the basement granite – greenstone. In areas of the southern Hamersley Basin the Mount Roe Basalt is underlain by a poorly exposed and discontinuous sequence of sediments and volcanics belonging to the Bellary Formation. The Hardey Formation is the next tetono-stratigraphic sequence and is overlain by the Kylena/Boongal, Tumbiana/Pyradie

and Maddina/Bunjinah Formations of sequence three. The uppermost sequence is the Jeerinah Formation.

In the project area units of the Hardey Formation and Kylena Formation are noted.

In the project area the Hardey Formation is seen mostly as fine to medium grained quartz sandstone to feldspathic sandstone with minor shale and siltstone beds. Some fine grained basaltic and minor tuffs have been recorded but they are subservient to the clastics. Historical mapping completed by Hunter Resources has indicated a semi-continuous horizon of felsic volcanics near the unconformity in the centre of the intrusive complex, although this has not been unambiguously identified in drilling completed during the current reporting period.

The Kylena Formation is a fine to occasionally medium grained basalt to amygdaloidal basalt, with quartz and carbonate filled amygdales variable from 5mm-15mm long. In some samples the amygdales had been elongated and stretched. Percentage of the sample as amygdales is variable between 5 – 50% with a broad decrease noted with depth in some intervals. Occasional and very minor quartzite has been logged in some of the drill holes within the Kylena, although vertically narrow and laterally discontinuous.

3 Exploration

3.1 Exploration by Helix Resources –

No fieldwork was undertaken by Helix over the areas being surrendered. However, Helix did carry out assaying of stream samples collected by DeBeers over these areas.
Samples were assayed at Ultratrace Laboratories for precious and base metals using a lead collection fire assay for Au, Pt and Pd and a mixed acid digest for Ag, As, Bi, Pb, Cr, Cu, Ni and Zn. Details are included in appendix 1.

3.2 Exploration by De Beers Australia Exploration Limited –

Diamond exploration by De Beers over the surrendered area involved reconnaissance stream sampling, and ground investigation of Hyperspectral Scanner anomalies. Sampling did not highlight any significantly anomalous areas for follow up diamond sampling on the surrendered areas

4 Recommendations

The areas being outright surrendered have shown little prospectivity for diamonds or precious and base metals from the regional sampling carried out. Some areas of the tenements have been held through Mining Lease Applications where there is anomalism present and follow up work is warranted

5 References

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APPENDIX 1 – DeBeers Stream Sample Data