MINEMAKERS LIMITED
ABN 48 116 296 541

Titleholder	Minemakers Australia Pty Ltd
Operator	Minemakers Australia Pty Ltd
Tenements	EL26452 (Wonarah)
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Corporate author	Minemakers Australia Pty Ltd
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100,000 map sheet	Wonarah 6158, Joildung 6157, Ranken 6258 and Barry Caves 6257
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ABSTRACT

This Annual and Final Report details work completed on EL26452 from 09 January 2008 to 19 March 2013. The tenement was held and operated by Minemakers Australia Pty Ltd as part of the Wonarah Phosphate Project, with phosphate being the target commodity. The project area lies around a palaeohigh within the Georgina Basin. In 1967 the area was first pegged for phosphate potential by IMC Development Corporation and Minemakers Australia Pty Ltd has held the titles since 2008. Work since 2008 has defined two areas of JORC resources on the project area on ML27244, EL26452 and EL26451. The local geology comprises basement granite of Palaeoproterozoic age, unconformably overlain by basalt of the Helen Springs Volcanics. The volcanics are unconformably overlain by dolomitic rocks of the Thorntonia Limestone equivalent in part. The overlying phosphate-bearing Upper Gum Ridge Formation is divided locally into five units and is overlain by mudstone, siltstone and sandstone of the Wonarah Formation.

Minemakers drilled 78 RC exploration and resource holes in 2008, 2 RC exploration and 9 RAB water search holes in 2009, 65 reconnaissance RC exploration holes in 2010, 23 RC resource holes in 2011 and 51 RC exploration holes in 2012. Excluding water search holes, 10,468 metres of RC drilling were completed.

A total of 3686 samples were submitted for analysis.

The Main Zone resource although primarily on ML27244 also extends south onto EL26452. Best intercepts from the 2008 and 2011 resource drilling in the area south of ML27244 but within the Main Zone resource are: WNRC1666 with 22m @ 25.5% P_2O_5 from 34 metres depth, WNRC1686 with 13m @ 25.6% P_2O_5 from 42 metres depth, WNRC0015 with 13m @ 22.8% P_2O_5 from 34 metres depth and WNRC0026 with 13 metres @ 22.2% P_2O_5 from 24 metres depth.

Exploration in the west and north-west part of the tenement intercepted shallow but patchy mineralisation. Best results were WNRC1546 with 11m @ 19.8% P_2O_5 from 8 metres depth and WNRC1714 with 10m @ 14.2% P_2O_5 from 27 metres depth.

An updated mineral resource estimation for the project as a whole was completed in 2012 and a Measured Resource was defined for the first time. The total Measured, Indicated and Inferred Resource for both Main Zone and Arruwurra on ML27244, EL26452 and EL26451 now totals 842 Mt at 18% P_2O_5 (10% P_2O_5 % cut-off) including a Measured Resource of 78.3 Mt at 20.8% P_2O_5. A technical report summarising all resource estimation work is included in this final report.

There is a significant phosphate resource on EL26452 and good potential to increase it further. It is likely that a mining lease will be applied for on the replacing tenement to cover the area immediately south of ML27244.

The tenement was surrendered on 19 March 2013 in order to be amalgamated with another Minemakers tenement into EL2984. Exploration will continue on the new tenement.

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FIGURES

1. INTRODUCTION

1.1 Location, accessibility, climate and topography

The Wonarah Phosphate Project is located in the Barkly region of the eastern Northern Territory, approximately 240km east of Tennant Creek. The nearest town is Camooweal in western Queensland, approximately 180km to the east.

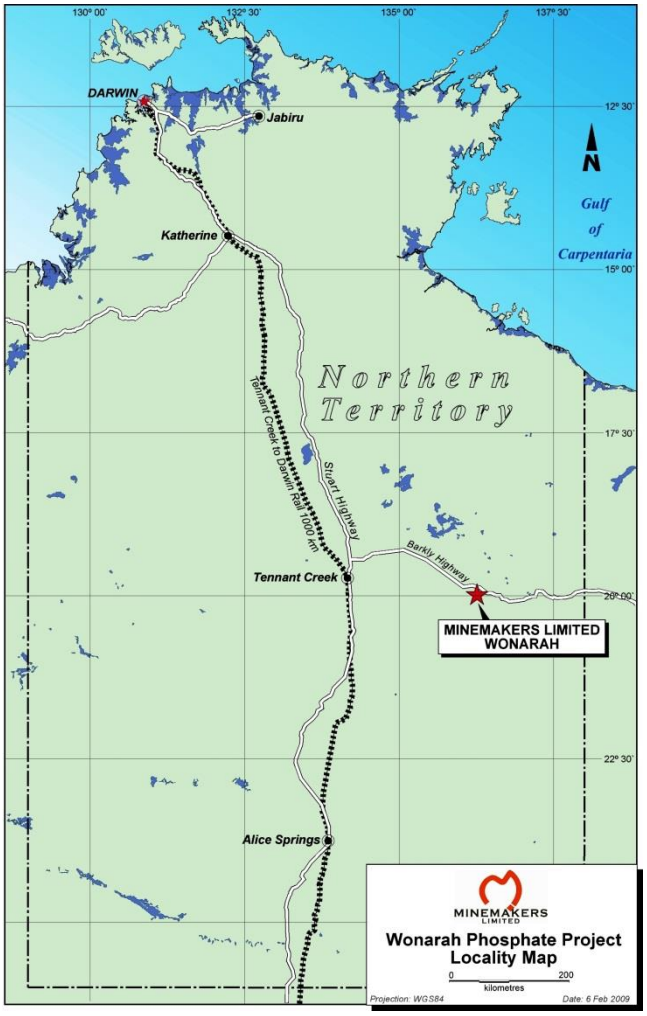

Figure 1: Location of Wonarah Project

Access to the project is via the Barkly Highway, the main paved freight link between Queensland and the Northern Territory, which runs along the northern boundary of EL 26452. Access within the tenement is via a network of dozed tracks suitable for 4WD only.

The topography relief is very gentle with elevation ranging from about 250m at Arruwurra in the south-west part of the tenement to about 300m above sea level at the Main Zone in the north-eastern part of the tenement. The area is semi-desert with generally sparse tree and shrub cover.

1.2 Tenure

Minemakers Australia Pty Ltd (MAPL) is 100% holder of Exploration Licence 26452 in accordance with the NT Mining Act & Regulations. The licence was granted as an SEL on 09 January 2008 and comprised 304 blocks (938 km^2). It reverted to an EL in 2012.

EL26452 is located on NT Freehold Land (NT Portions 03747-03756) owned by the Arruwurra Aboriginal Corporation. ATC's NT Portion 1413 is excluded from EL 26452.

EL 26452 is subject to a confidential Deed For Exploration (19 March 2009) between MAPL, the Arruwurra Aboriginal Corporation and the Central Land Council (CLC).

Exploration drilling programs have been authorised by the Dept of Resource Development, Primary Industries, Fisheries & Mines (Mining Management Plan): Wonarah Project Authorisation 0413-01, 0413-02, 0413-03, 0413-04 and 0417-02.

MAPL has obtained sacred site clearances through the Central Land Council: Sacred Site Clearance Certificate C2008-008, C2008-087, C2009-003, C2010-032 and C2012-094. The tenements are shown in Figures 2 and 3

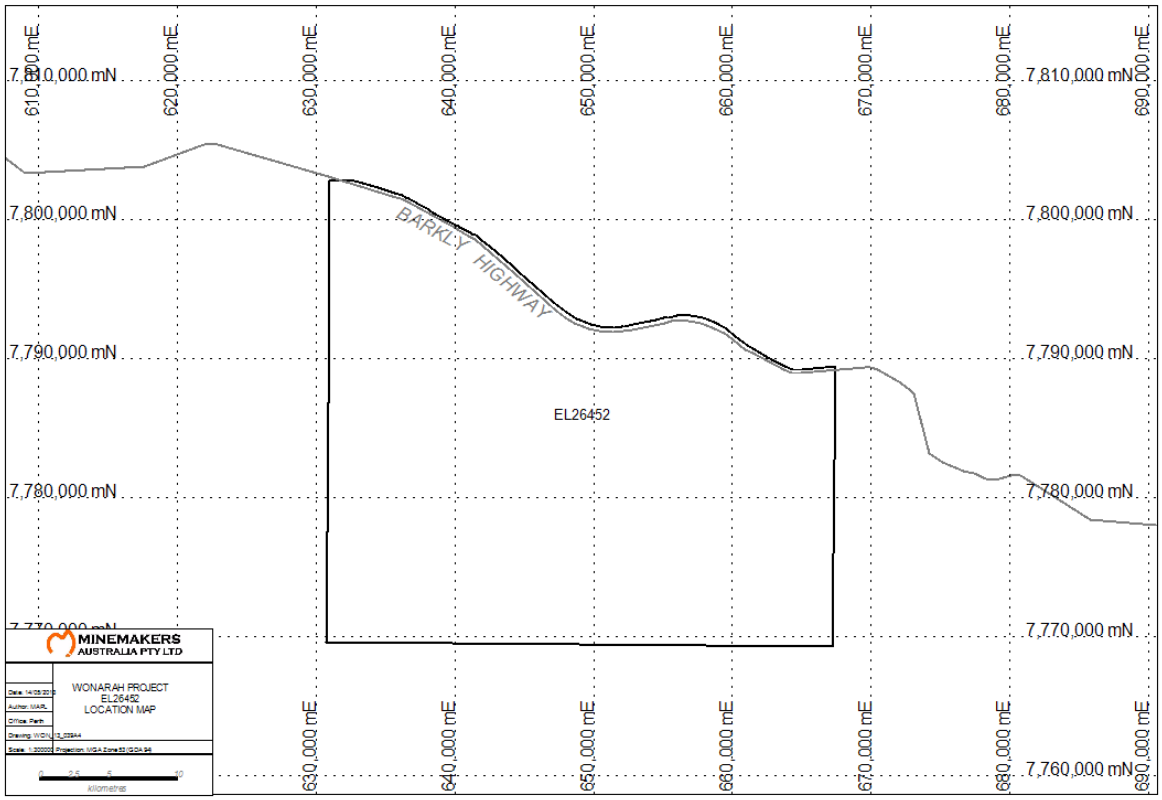

Figure 2: Location of EL26452

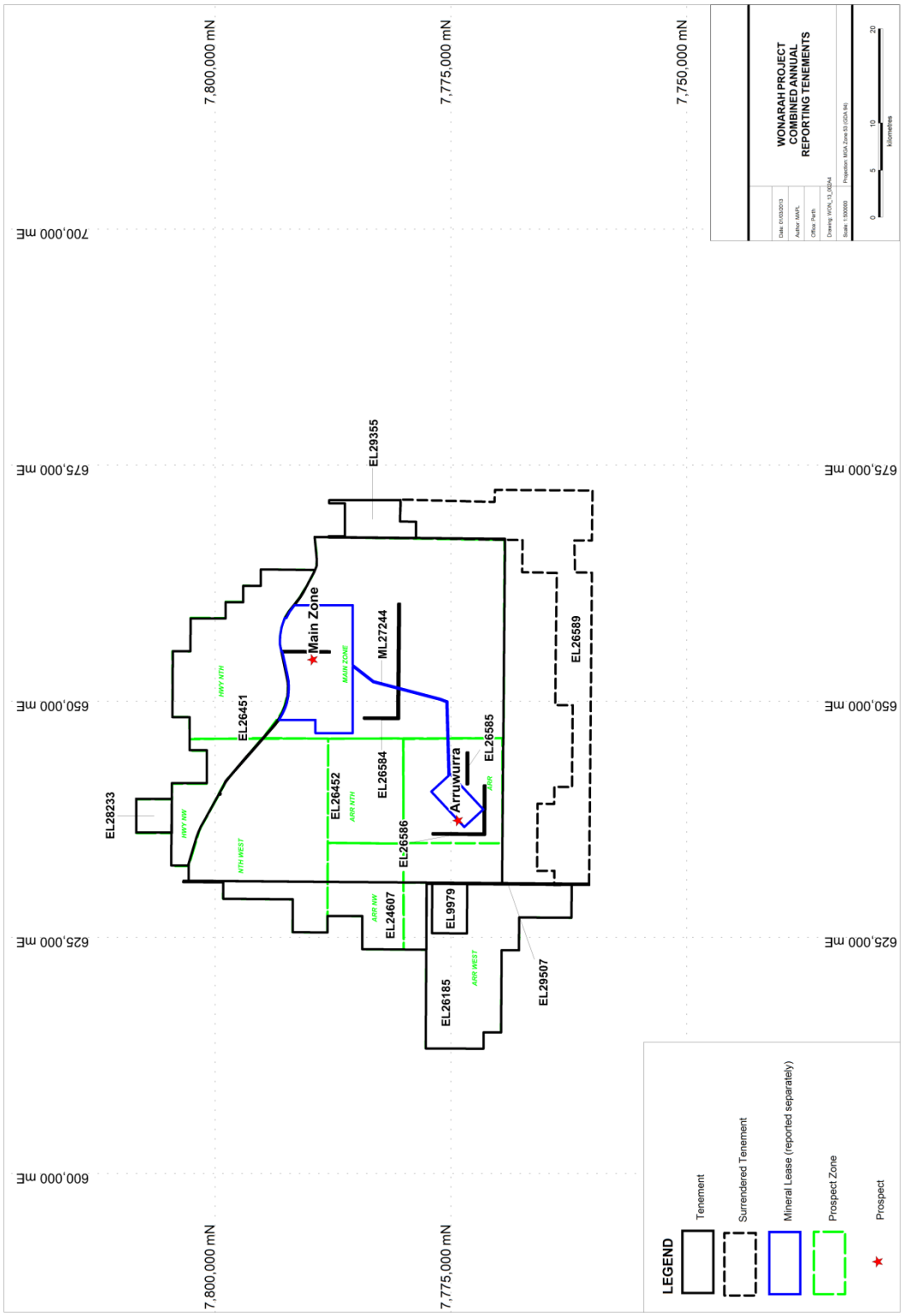

Figure 3: Wonarah Phosphate Project tenements

2. REGIONAL AND LOCAL GEOLOGY

2.1 Deposit style and model

Minemakers Australia is seeking to develop a large sedimentary phosphate deposit within the Georgina Basin. The Georgina Basin is an extensive late Proterozoic to early Palaeozoic basin that extends from northwestern Queensland through much of the eastern Northern Territory area and which hosts several large sedimentary phosphate deposits. A map representing the regional geological setting is presented in Figure 4.

Sedimentary phosphate deposits are restricted in their occurrence globally. The model for phosphate deposition requires upwelling, cold phosphate-saturated water depositing phosphate onto the continental shelf where the required narrow pH range is locally present. Co-deposition with carbonate occurs at slightly higher pH values. Carbonate deposition becomes dominant at higher pH. Post-depositional reworking and replacement of carbonate facies by phosphatic mineralisation is probably an important factor in upgrading phosphorite grades to economic levels.

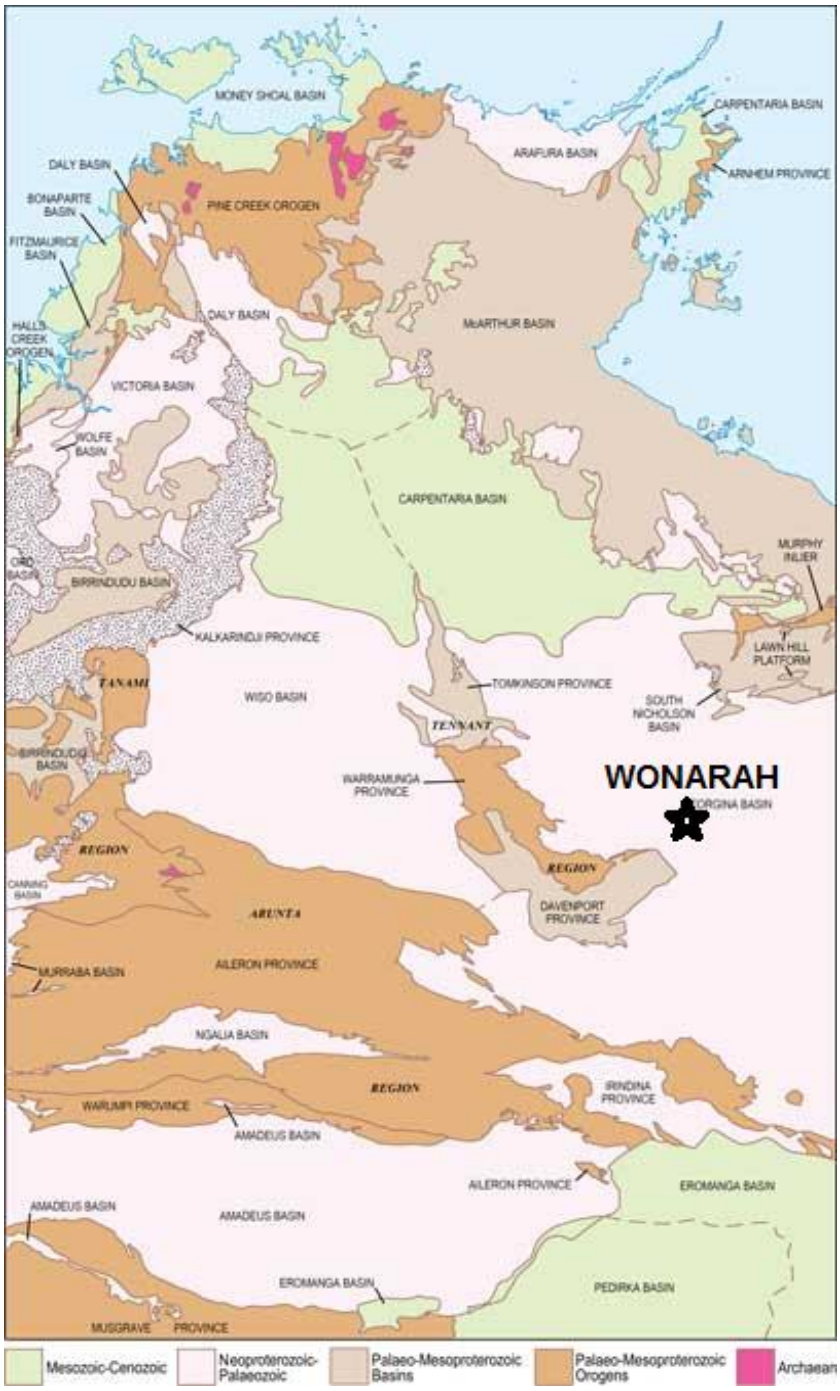

Figure 4: Regional geological setting

2.2 Regional geology

The Wonarah phosphate project is situated in the central western Georgina Basin, a large late Proterozoic to early Palaeozoic basin that extends from northwestern Queensland through much of the eastern Northern Territory.

Basement rocks in this part of the Georgina Basin are comprised of granites of unknown age. They are possibly correlates of the Palaeo-proterozoic rocks of the Tennant Creek region. Mesoproterozoic sediments and volcanics are overlain by the Early Cambrian Helen Springs Volcanics (formerly Peaker Piker Volcanics). A northeast-southwest trending basement high runs through the Wonarah project area.

Overlying Middle Cambrian sediments are divided into two basin-wide sequences. Sequence One deposited clastics, carbonates, organic shales and minor phosphorites during gradual transgression which was abruptly terminated by rapid regression. In the Wonarah region, basement highs are flanked by on lapping dolomitic rocks equivalent to the Thorntonia Limestone. An erosional unconformity is represented by the development of a karst surface.

Sequence Two deposited shallow clastics, carbonates, grainstones, peritidal phosphorites and phosphatic limestones in a transgressive tract system. At Wonarah dolostone, mudstone and phosphorite of the lower Middle Cambrian Upper Gum Ridge Formation overlie Sequence One rocks and basement highs. This formation contains major phosphorite mineralisation and is equivalent to the Beetle Creek Formation on the eastern Margin of the basin which hosts Phosphate Hill and Lady Annie-D-Tree phosphate deposits. The overlying Wonarah Beds are Middle Cambrian mudstone, siltstone and dolostones. Silcrete, ferricrete and calcrete regolith are extensively developed and large areas are covered by stabilised aeolian sand.

2.3 Project Geology

2.3.1 Main Zone

Basement in the Main Zone area is alkali feldspar granite of Palaeo-proterozoic age. Zircons were obtained from the granite and a 207 Pb/206 Pb age of 1838±12 Ma was estimated using LA-ICPMS at the University of Tasmania. These are overlain by the Helen Springs Volcanics. The top of the basalt is extremely weathered and a ferruginous and manganiferous duricrust is developed locally. Where less weathered, the basalt is vesicular, amygdaloidal and irregularly porphyritic. Dolomitic rocks of the Thorntonia Limestone equivalent are present above the basalt at the southeastern extremity of the Main Zone. To the east and the south the carbonate rocks are developed extensively.

The overlying phosphate-bearing Upper Gum Ridge Formation is divided into five main units: a basal, indurated high grade phosphorite; muddy to sandy, clay-rich transitional sediments; a chert breccia phosphorites; a mudstone phosphorite; and a convolute mudstone.

The basal Transitional Phosphorite is a laterally discontinuous high grade indurated phosphorite up to 3m thick developed throughout the eastern and southern part of the Main Zone.

The Transition Sediments (TUN) are laterally continuous, 4-6m thick and comprised of clay-rich mudstone and siltstone with minor phosphorite, dolomite, sandstone and basal epiclastic.

The Chert Breccia Phosphorite forms a distinctive, laterally continuous horizon, 1-10m thick, and comprised of yellow, grey or pink, variably friable or indurated, low to high grade phosphorite with abundant dark grey chert. Chert averages 50-60%.

The Mudstone Phosphorite is the main phosphate-bearing unit at Wonarah and is comprised of 1-10m of yellow and pink mudstone phosphorite with trace to minor dark grey chert. The mineralogy is dominated by fluorapatite, $Ca_5(PO_4)_3F$, although XRD analysis indicates the either the presence of hydroxyl fluorapatite or carbonate fluorapatite (francolite) in minor amounts or the minor substitution of hydroxyl or carbonate within the apatite structure. The MPH is variably friable or indurated with the indurated phosphorite typically being high to very high grade (30-40 % P_2O_5).

The Convolute Mudstone is a 1-10m thick unit of white, light grey and yellow clay-rich variably convolute mudstone with minor siltstone and fine sandstone interbeds. It generally contains minor (<10 %) P_2O_5. Crandallite, a lateritic phosphate mineral with the composition $CaAl_3(PO_4)_2(OH)_5.H_2O$,

The Wonarah Beds overlie the Convolute Mudstone and are comprised of mudstone and siltstone with minor chert, the Hangingwall Mudstone. The Wonarah Beds thicken towards the east and south away from the basement high that defines the western fringe of the Main Zone. Dolomitic units, the Hangingwall Dolostone, are present east and south of the Main Zone.

Regolith is extensively developed throughout the Main Zone with silcrete and ferricrete present in most holes. Low silcrete ridges are prominent features. Colluvial and alluvial deposits are common and extensive stabilised aeolian deposits cover much of the regolith.

The phosphatic units thin and peter out towards the basement high which trends in a northeast-southwest direction towards Arruwurra. To the east and south the phosphatic units, although still present with grade and thickness, are too deep to be of economic interest at this time.

A stratigraphic column and schematic section are presented in Figure 5 and Figure 6, respectively.

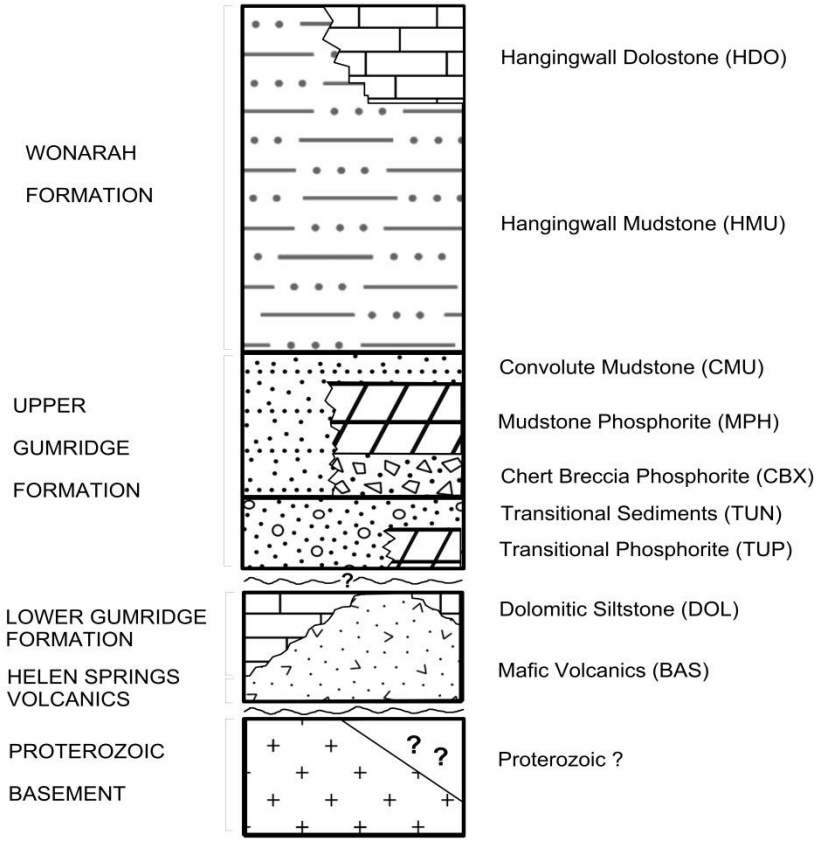

Figure 5: Regional stratigraphic column

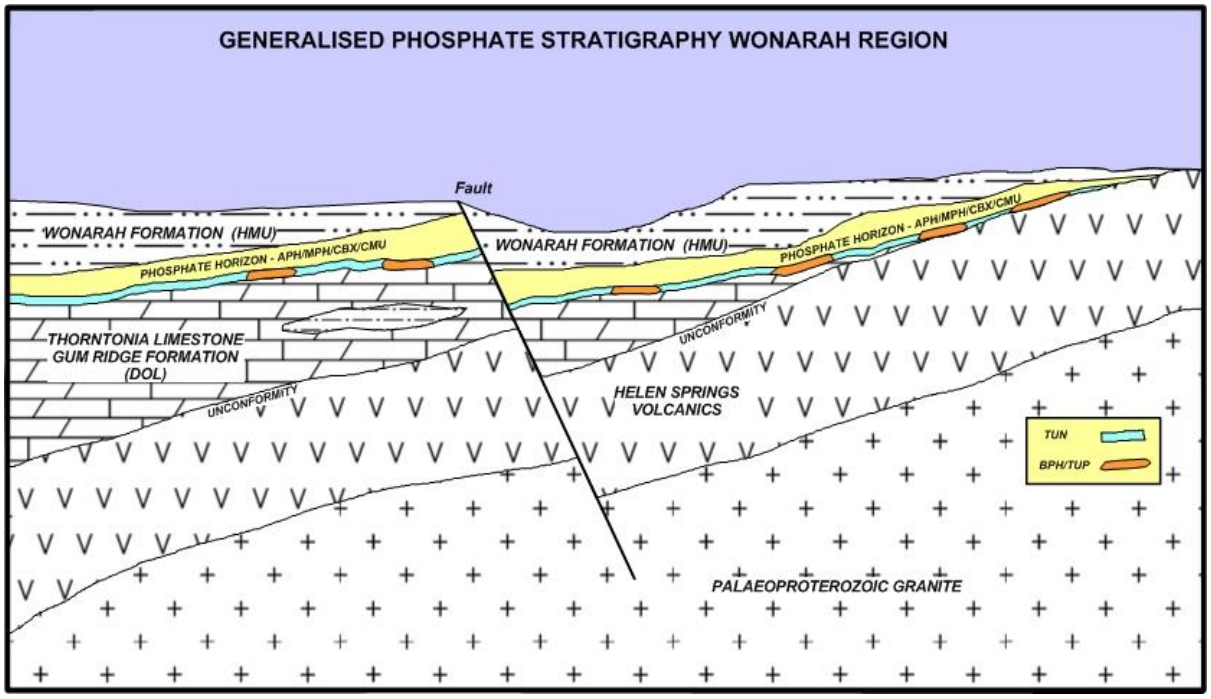

Figure 6: Schematic regional geology section.

2.3.2 Arruwurra

At Arruwurra, the economic phosphate mineralisation occupies a broad northeast-southwest trending shelf sloping gently to the southwest. The shelf drops away sharply at the western end and along the southeastern edge. Mineralisation outcrops in the northeast before petering out against the basement high to the north.

Basement at Arruwurra is similar to the Main Zone and comprised of alkali feldspar granite of possible Palaeo-proterozoic age. This is overlain by the Helen Springs Volcanics which are similar in character to Main Zone. Thorntonia Limestone equivalent dolomites and dolostones overlay the basalt along the southeastern and southern margin of the deposit. An abrupt change in lithology and depth to basalt basement indicates a probable fault which has thrown the deposit side upwards. A karst surface is present on the dolomite.

The Upper Gum Ridge Formation at Arruwurra is somewhat attenuated in comparison to the Main Zone. The stratigraphic equivalent of the high grade Transitional Phosphorite is called the Basal Phosphorite at Arruwurra and is the main unit of economic importance. It is a strongly indurated, very high grade brown phosphorite mudstone which averaged approximately 2 m in thickness and is developed throughout the north-eastern part of Arruwurra. The overlying Transitional Sediments are thinner than in the Main Zone and are comprised of 1-3 m of mudstone, siltstone and phosphorite. The Chert Breccia Phosphorite is absent at Arruwurra and the overlying Arruwurra Phosphorite (APH) is the stratigraphic equivalent of the Mudstone Phosphorite. The Arruwurra Phosphorite is grey to yellow and is more chert-rich that the Mudstone Phosphorite at the Main Zone. The unit varies in thickness from 1 to 6 m and is thickest along a north-east trending axis through the centre of the deposit. The Arruwurra Phosphorite is overlain by and, near surface, interdigitates with a limestone carbonate unit in the northeastern part of the deposit area. Outcropping high grade phosphorites occur in this area.

The Convolute Mudstone is not logged at Arruwurra. The Hangingwall Mudstone unit is similar to the Main Zone except in the far east of Arruwurra where dolomitic and calcareous units, the Hangingwall Dolomite, are present.

Stabilised aeolian sand covers much of the area and is underlain by ferricrete, silcrete, and, above the carbonate unit in the northeast, calcrete and black soil.

3. REVIEW OF PREVIOUS WORK

3.1 Prior ownership

The following relates to the entire Wonarah tenement package.

IMC Development Corporation was granted PL 1802 over the Wonarah region on 18 July 1967 covering a total area of 3309 square miles (8570.31 km^2) (CR19680030). The tenure converted to PA 2161 Wonarah (CR19690022) on renewal on 12 December 1968 due to conditions governing the expiry and renewal of

prospecting Licenses in NT. The area was relinquished and declared Ministerial Reserve No 819 by the Northern Territory Government.

EL1084 was granted to ICI Australia Ltd and Australian Fertilizers Ltd on 8 May 1976 for an area of 410 square miles (1061.9 km^2) north and adjacent to the Barkly Highway. The adjacent EL1083, located south of the Barkly Highway, was granted in February 1978 for a total area of 848.5 km^2 (CR19780059).

The area to the south of the Ministerial Reserve 819 was taken up by CRA Exploration Pty Ltd (CRAE) and EL3571 was granted on 25 May 1983. The project was abandoned in April 1985.

In September 1997 Rare Earths and Minerals Pty Ltd and Pilbara Chemical Corporation NL applied for four exploration Licenses, covering the Wonarah phosphate deposit and adjacent areas including the former CRAE tenure.

In January 1998 AKD entered into an exclusive option with REM/PCC to acquire the project and subsequently EL 9976 was applied for by AKD Ltd (Australian Kimberley Diamonds N/L, changed to INDO Mines Ltd in 1996) which was granted on 6 February 1998. In March 1999 Rio Tinto Exploration Pty Limited (RTE) entered into a farm-in and joint venture agreement for EL 9976 with Indo Mines (AKD N/L). RTE was the manager of this tenement. EL's 22167 and 22168 were applied for by RTE on 31 August 1999 and granted on 4 August 2000 (CR2001-0280). RTE withdrew from the joint venture in November 2002 due to a determination that the project was NPV negative.

The underlying land tenure is Arruwurra Aboriginal Corporation NT freehold. Tenure information was extracted from the Consultant Geologists' report within the Minemakers Prospectus where reports are not cited.

3.2 Historical exploration

Pre-Minemakers

The following is a summary of exploration across all the Minemakers Wonarah tenements, but predominantly on EL26452. Pre-Minemakers phosphate exploration drilling on the current EL26452 consisted of 36 RAB holes drilled by IMC in the period 1967 to 1971 and 61 RC holes drilled by Rio Tinto between 2000 and 2001. IMC drilling is shown on Figure 7 as RAB and Rio drilling as WON collars.

During the period of 1967 to 1971 IMC Development Corporation drilled 139 vertical rotary-percussion holes within PA2161, accompanied by mapping of photo patterns and soil types, radiometric traverses, analysis of B.M.R. gravity data and radiometric logging of open water bore holes. The drill pattern was spaced at 1 hole per 5.5 km^2 with no two holes less than 1.2 km apart (CR2000071). IMC described a common phosphorite association within silt-chert, with the main chert concentration located above the phosphorite, and an extensive but non-DSO Phosphorite was defined using the widely spaced drilling pattern. The phosphorite was located at depths of 17 m to 45 m and reached a maximum thickness of 18 m at the eastern end of the deposit.

Beneficiation studies (CR19690022) were undertaken on 6 samples taken from samples of clayey-siltstone-chert. The study produced a high-grade beneficiated

product with an overall BPL recovery of 45-48 %. Flotation concentrate of the samples yielded 77.8 % BPL, 7.8 % Insol, 2.8 % total I & A and a CaO/P_2O_5 ratio of 1.32.

Following completion of the 139 open hole rotary percussion series, (total of 18,733 ft or 5709.8 m) calculations of the phosphorite were reported in CR19700038 as 669 million short tons (606.8 Mt) averaging 15.73 % P_2O_5, calculated at a cut off average at 10 % P_2O_5. A total of 532 million short tons (482.5 Mt), using a cut-off of 14 % P_2O_5 averaging 16.74 % P_2O_5 and 307 million short tons (278.4 Mt) averaging 18.98 % P_2O_5 indicated using a cut-off average of 18 % P_2O_5. Restrictions applied included limitation of phosphorite reserves to 2000 ft (6096 m) beyond a drill hole on the margins of the deposit.

IMC's second calculation of reserves was made extending the limit of phosphorite to 4000 ft (1219 m) beyond a hole. Calculations were reported as : at 10 %, 14 % and at 18 % P_2O_5 cut-off reserves were 970 million short tons (879.8 Mt) at 15.71 % P_2O_5, 771 million short tons (699.3 Mt) at 16.46 % P_2O_5 and 418 million short tons (379.1 Mt) at 18.96 % P_2O_5 respectively. Calculations were undertaken using the polygon method, with consideration to the widely spaced drilling. Mining-related limiting factors were not accounted for in the calculations.

At that time, conditions did not allow for an economic deposit.

Between 1976 and 1979, ICI and AFL tenure was marked by problematic re-location of IMC drilling and a rotary percussion drilling program (CR19780059) on the eastern side of the mineralisation, of 10 rotary-percussion holes (9 holes for 514 m and a 5 m hole abandoned). The program intersected phosphorite at depth, accompanied by drilling difficulties that plagued IMC in the same area. Drilling results indicated a thickening of the phosphorite on the eastern edge of the Wonarah volcanic high and confirmed the depths and phosphate grades, and indicated reasonable continuity of the phosphorite bed over an area of some 6 square kilometres at overburden ratios of less than 7/1" (CR197800007). Results from a 1979 metallurgical investigation were not cited.

In 1983-1984 CRAE carried out a low-level aeromagnetic survey, to define the volcanic basement, however internal review of commodity targets and lack of transport infrastructure closed the project in 1985.

In 1992-1993 the area was explored for diamondiferous diatremes based on airborne magnetic and radiometric surveys. A program of loam sampling was undertaken and in 1993 one hole was drilled to test a ground magnetic anomaly, within EL 9976, which intersected a thin phosphatic claystone unit overlying mafic volcanic.

In January 2000, Rio Tinto Technical Services conducted a Prefeasibility Study using available data, which identified a "global resource estimate of 1955 Mt at 14.4 % P_2O_5" (CR20000071), at depths ranging from 30 and 50 m, with a maximum assayed grade of 28.6 % P_2O_5.

During 2000-2001, RTE drilled three phases of mainly RC holes (120 holes, 6215.5 m), minor PAB (2 holes, 130 m) and 12 diamond holes for 296.1 m core and 368.1 m of pre-collar, with accompanied down-hole gamma ray logging. A gravity survey was undertaken to define basement highs, with limited success. The drilling program focused upon ground with no previous drilling and placed a series of closely spaced

holes within the well mineralised region in the southern area of the mineralisation identified by IMC, enabling them to define an Inferred Resource.

A 23 square kilometre resource, that mainly excludes the area drilled by IMC, was delineated within mudstone phosphorite, but did not include the underlying lower grade chert breccia phosphorite, which runs poorer lateral continuity. The inferred mineral resource was reported as 115 Mt at 22 % P_2O_5 at a cut-off grade of 15 %.

Following additional infill drilling, a recalculation and delineation of an inferred resource in December 2001 was reported as 72 Mt at 23 % P_2O_5, at a cut-off of 15 %. The drill density and pattern was noted as uneven with some holes up to 1800 m apart and the author of the resource report advised caution if this category was to be considered in economic studies.

Rio Tinto carried out beneficiation tests to determine the potential of upgrading the Wonarah ore, based upon tests limited to washing and screening. The deleterious elements were reduced but the process failed to give a major increase in grade.

A combination of reduced estimate size and failure to upgrade the mineralisation economically lowered the projects potential and after RTE initiated a reverse economic study, indicating that the project was then NPV negative, withdrew from the joint venture in 2002.

Exploration also included field work on the outcropping phosphorite beds at Arruwurra, where rock chip sampling indicated that the grade was high but of unknown extent. Joint venture exploration activity also included interpretation of Landsat 5 Thematic Mapping of regolith types, petrological study of core samples and the Arruwurra outcrop and soil sampling.

Historical exploration information was extracted from the Consultant Geologists' report within the Minemakers Prospectus where reports are not cited.

Minemakers

Minemakers commenced field work at Wonarah in February 2008.

During the year ended January 2009 the following work was carried out:

- 220 reverse circulation percussion holes were completed for 10,500 m
- 40 PQ, HQ and NQ sized diamond cored holes were competed for 1,990 m
- 4,973 split RC samples were submitted for XRF analysis of major oxide elements
- 109 crushed core samples were submitted for XRF analysis of major oxide elements
- The majority of metres drilled were tested for magnetic susceptibility and gamma radiation by hand-held instruments
- Metallurgical test work was carried out at Optimet Laboratories in Adelaide to determine optimal beneficiation pathways for phosphorite ore
- An airborne EM survey was carried out by Fugro Airborne Surveys Corporation Ontario, with the purpose of providing information that could be used to map the geology and structure of the surveyed area as part of program to delineate potential ground water resources
- A scoping study was commenced and then terminated in December prior to commencement of a full feasibility study

During the year ended January 2010 the following work was carried out:

- 1,066 reverse circulation percussion holes were completed for 52,491 m
- 58 PQ and HQ-sized diamond cored holes were competed for 1,326 m
- 19,712 split RC samples were submitted for XRF analysis of major oxide elements
- 599 crushed core samples were submitted for XRF analysis of major oxide elements
- The majority of metres drilled were tested for magnetic susceptibility and gamma radiation by hand-held instruments
- A full feasibility study was conducted into mining “direct shipping ore” DSO from the Arruwurra deposit

During the year ended January 2011 the following work was carried out:

- Completion of a full feasibility study into mining at the Arruwurra deposit
- Conversion of the part of SEL 26452 containing the majority of the JORC-compliant resources to ML status
- 100 reverse circulation percussion holes were completed for 4,347 m
- 1,462 samples split RC samples were submitted for XRF analysis of major oxide elements
- All RC samples were tested for gamma radiation and a number were tested for magnetic susceptibility
- 20 samples from the mineralised zones (drilled in previous years) were submitted for REE content by ICP-MS
- 92 soil samples were collected for analysis using a proprietary Ionic leach method
- A ground magnetic survey to better define some magnetic anomalies

During the year ended January 2012 the following work was carried out:

- RC program comprising 83 holes for 4,797 m
- Y testing of RC chips from this program and previous drilling
- Updated resource calculation: 252 Mt Indicated @ 18.2% P_2O_5 (10% P_2O_5 cut-off) and 395 Mt Inferred (18% P_2O_5 cut-off)
- Review of metallurgical test work
- Enabling feasibility study
- Rehabilitation procedures manual
- Exploration activities site audit

4. WORK COMPLETED DURING THE REPORTING PERIOD

4.1 Geological

4.1.1 RC Drilling

Minemakers drilled 78 RC holes between May and November 2008 in the EL26452 part of Main Zone and at Arruwurra some 25km to the south west. The drilling was planned to infill and extend the resource area defined by Rio Tinto in the Main Zone and to further explore the shallow mineralisation at Arruwurra. Drilling was conducted by Well Drilled Pty Ltd from Townsville utilising a truck-mounted Warman Investigator Mk IV drill rig using three metre (RD90) rods. The rig was equipped with sufficient air, 500psi, and a blowdown to ensure clean sample and minimal blockages. The first

two holes were drilled using a 3.5" bit. All subsequent holes were drilled with a 4.6" bit. All holes were drilled vertically.

Two diamond holes were drilled in the Main Zone to recover core for metallurgical purposes. Jerry's Drilling from Dubbo used a truck-mounted RD750 to drill PQ core.

In 2009, 35 holes were drilled to search for water, without success, and 1 RC hole was drilled (most of Minemakers' RC drilling in 2009 was conducted on ML27244). The drilling carried out by Tom Browne Drilling Services of Dubbo, NSW

In 2010 a regional reconnaissance program was carried out in the western and northwest part of the tenement.

The first program commenced in July and continued throughout until late August with 39 holes drilled for 1518 metres. This drilling was carried out by Well Drilled Townsville using Warman Investigator Mk IV with 1050cfm x 350psi, deck mounted on a 4x4 Isuzu truck. A support truck with 600psi booster was available.

The second program commenced in late October in the northwest part of the tenement and was abandoned in early November with 26 holes for 975 metres. This program was carried out by Australian Mineral and Waterwell Drilling (AMWD) using a small truck-mounted rig. The booster that normally accompanies this rig was unavailable and therefore the rig had insufficient air for some of the ground conditions. Rainfall from early wet season storms caused ground access delays so the program was abandoned for the year with less than 25% of the proposed infill drilling being completed.

23 RC holes were drilled in 2011 for 1336 metres to infill an area drilled in 2008 to allow a JORC resource to be increased for the project area.

An RC drilling program was conducted in September-October 2012 in the northwest part of the tenement, to further investigate the shallow mineralisation present there, comprising 51 holes for 2329 metres. Location of holes is shown in Figure 7.

The 2010 and 2011 drilling was carried out by Kennedy Drilling, Kalgoorlie using a KD 150 RCA rig mounted on a MAN 6x6 truck with a Sullair 1150 cfm x 350 psi auxiliary compressor and a 1400 cfm x 700 psi Hurricane 636-41B booster. The hole diameter was 4 ¾" diameter.

Table 1: Significant intersections summary table

Hole ID	Dip ($-^0$)	Azimuth (^{0})	MGA East (m)	MGA North (m)	Sample Interval (m)	From (m)	Cut-off 10% P_2O_5	Total depth (m)
WNRC1546	-90	360	635997	7796005	1	8	11m @ 19.8% P_2O_5	54
WNRC1714	-90	360	639997	7796993	1	27	10m @ 14.2% P_2O_5	53
WNRC1666	-90	360	655751	7784248	1	34	22m @ 25.5% P_2O_5	59
WNRC1675	-90	360	652749	7785254	1	35	13m @ 16.9% P_2O_5	53
WNRC1686	-90	360	655253	7784753	1	42	13m @ 25.6% P_2O_5	59
WNRC0015	-90	360	651137	7783105	1	34	13m @ 22.8% P_2O_5	52
WNRC0026	-90	360	651128	7784700	1	24	13m @ 22.2% P_2O_5	46
WNRC0066	-90	360	656630	7783150	1	45	18m @ 16.2% P_2O_5	64
WNRC0087	-90	360	658126	7784600	1	53	16m @ 17.7% P_2O_5	73
WNRC0111	-90	360	657626	7785214	1	53	15m @ 20.6% P_2O_5	73

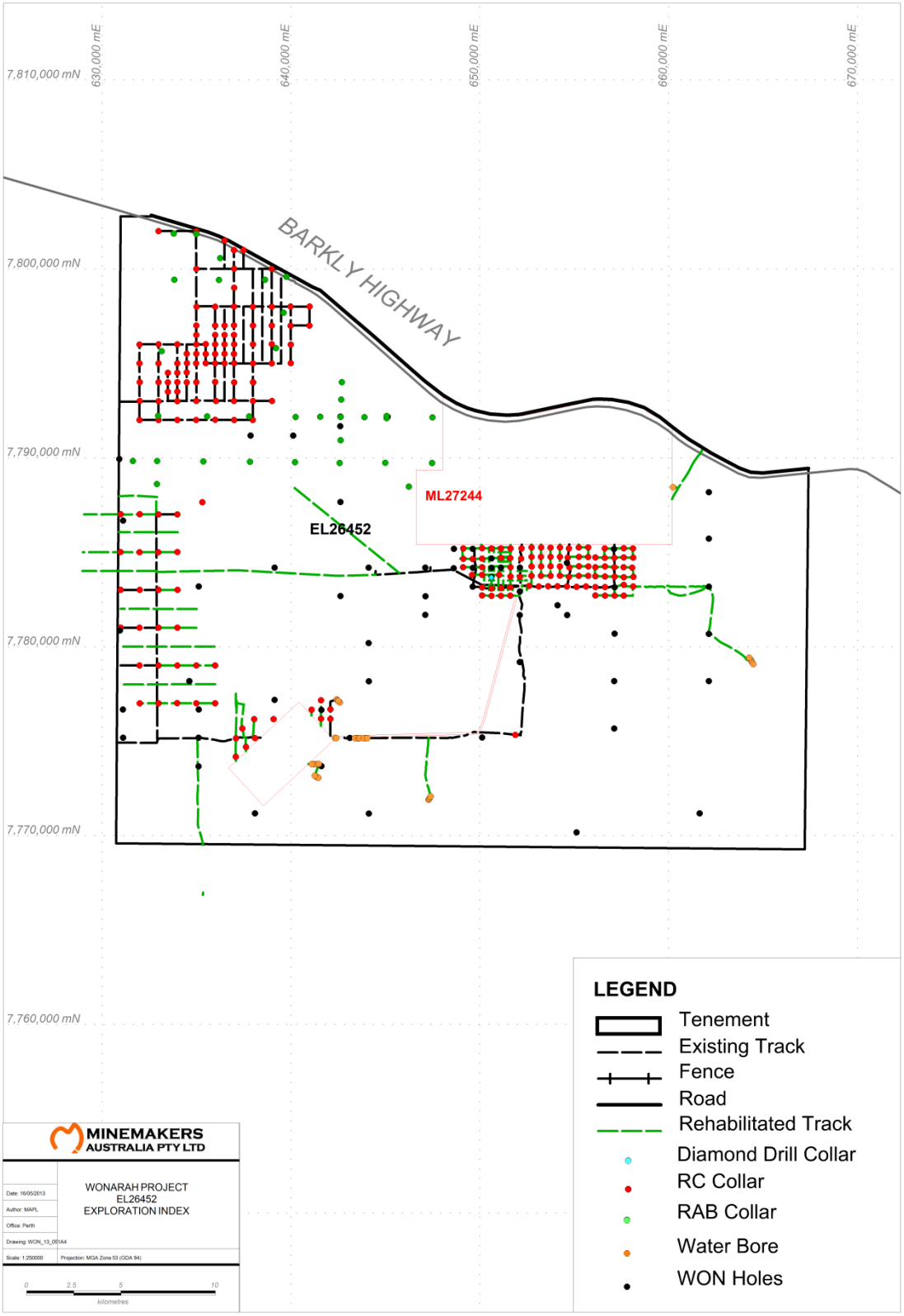

Figure 7: Exploration Index Plan.

4.2 Geochemical

4.2.1 Drilling

Over the life of the tenement, a total of 3686 samples, including originals, duplicates, standards and blanks were sent for laboratory analysis. All RC samples were submitted to Amdel in Mt Isa. Samples were dried at 105-110 ^{0} C then crushed in a Boyd crusher. A nominal 100 g sample was rotary split from the bulk then pulverised in a tungsten-carbide mill to minimise iron contamination. A sub-sample of the analytical pulp was fused with lithium metaborate to form a glass disc which was then analysed by XRF for the following oxides:P_2O_5, Al_2O_3, CaO, K_2O, Total Fe as Fe_2O_3, MgO, MnO, Na_2O, SiO_2, TiO_2 (lower detection limit of 0.01 % for each.) A minimum laboratory repeat rate from the pulp sample of 1 in 20 samples is carried out.

4.2.2 Radeye, magnetic susceptibility and yttrium sampling

Some samples were tested with a RadEye personal radiation detector to scan for anomalous radioactivity associated with elevated uranium. Magnetic susceptibility readings were also taken for selected samples.

A hand held portable XRF machine was used to yttrium values over selected one metre intervals from chip trays. The target intervals were from within the target horizon within the ore zone up to the probable overlying unconformity. The yttrium readings are interpreted to reflect the mineral xenotime. This work was intended as a reconnaissance scan to determine whether laboratory analyses, further to those already undertaken for yttrium, are justified. The work was discontinued when it became obvious that there was very little yttrium associated with the mineralisation

4.3 Mineral Resource Estimation Update

In 2012, MAPL engaged the services of MPR Geological Consultants Pty Ltd (MPR), Perth to complete an updated Mineral Resource estimation for the Wonarah project based on the requirement to feed a beneficiation plant. The original Mineral Resource estimate for Wonarah and Arruwurra study was completed in 2009. This estimate contains resources in the Measured category for the first time.

This update incorporates drilling results from Highway North during 2011 and since there has been no additional sampling at Arruwurra since the 2009 estimate, the estimates for Arruwurra remain unchanged.

Table 2: Wonarah Mineral Estimate at 10 % P_2O_5 cut-off

	Measured		Indicated		Measured + Indicated		Inferred	
	Mt	**P_2O_5 %**	**Mt**	**P_2O_5 %**	**Mt**	**P_2O_5 %**	**Mt**	**P_2O_5 %**
Arruwurra	25.7	18.7	27.7	17.8	53.4	18.2	82	16
Main Zone	52.6	21.8	194	17.4	247	18.3	460	18
Total	**78.3**	**20.8**	**222**	**17.5**	**300**	**18.3**	**542**	**18**

MPR used Ordinary Kriging of one metre drill hole composites within mineralised domains using Vulcan, Gemcom and GS3 software to complete the estimation. Bulk densities of 1.7 to 2.0t/bcm were derived from immersion measurements of MAPL's diamond core.

The full report is provided as Appendix 1.

5.0 ENVIRONMENT

5.1 Environmental disturbance

Holes drilled in 2008, 2009, 2010 and 2011 have been rehabilitated. The 2012 drill holes have had their collars cut, plugged and buried but the RC material has not been disposed of yet. Rehabilitation will occur in 2013.

There were approximately 458.6 kilometres of access track constructed on EL26452 and approximately 137.6 kilometres have been closed off for rehabilitation. Unrehabilitated tracks will be required for future exploration work on the replacement tenement, EL29841.

6.0 CONCLUSIONS AND RECOMMENDATIONS

6.1 Drilling

Drilling in 2008 extended the known extent of mineralisation defined by Rio Tinto as Main Zone in the early 2000s. It also confirmed that a JORC resource existed at Arruwurra to the southwest of the Main Zone. The bulk of the drilling in 2008 and almost all of the 2009 drilling occurred on what is now ML27244. The drilling, results and resource estimations are summarised in the latest technical report on resource estimation included as Appendix1.

In 2011 a further round of resource drilling took place on EL26452 adjacent to ML27244 to add further JORC resources to the project total. This drilling encountered some very good mineralisation. Best intercepts from the 2008 and 2011 resource drilling in the area south of ML27244 but within the Main Zone resource on EL26452 are: WNRC1666 with 22m @ 25.5% P_2O_5 from 34 metres depth, WNRC1686 with 13m @ 25.6% P_2O_5 from 42 metres depth, WNRC0015 with 13m @ 22.8% P_2O_5 from 34 metres depth, WNRC0026 with 13 metres @ 22.2% P_2O_5 from 24 metres depth and WNRC0111 with 15m @ 20.6% x P_2O_5 from 53 metres depth.

Drilling in the western part of the tenement, west of Arruwurra, was aimed at finding shallow high grade mineralisation suitable for use as direct shipping ore. This program returned disappointing results. Exploration in the northwest part of EL26452 in 2010, 15-20 kilometres from the Main Zone, encountered very shallow phosphate mineralisation in WNRC1546, 11m @ 19.8% P_2O_5 from 8 metres depth. Follow up drilling in 2012 demonstrated that the mineralisation in the area is shallow but very patchy. The best result in 2012 was WNRC1714 with 10m @ 14.2% P_2O_5 from 27 metres depth.

New resource estimations for the entire project area were made by Jon Abbott of Hellman and Schofield in 2012. The purpose of this work was to use a lower cut-off to provide a resource suitable for feed into a beneficiation plant. At the lower cut-off of around 10% a Measured Resource was able to be estimated for Wonarah for the first time (Table 2).

In 2013, it is planned to conduct some more RC drilling in the area to immediately south of the Main Zone on ML27244 where 2011 drilling indicated a high grade and thick interval of mineralisation that may become part of the initial pit for the proposed mining development on ML27244. This work is not yet planned in detail but will require drilling out several square kilometres at 125x125m drill spacing. This work will take place on the replacement tenement EL29841.

6.2 Environmental rehabilitation

Minemakers now has an effective partnership with a traditional owner contractor for ongoing rehabilitation work. During 2012 some previously unrehabilitated RC and diamond sites dating back to the 2010 and 2011 field seasons were remediated..

It is now standard operating practice to temporarily cap RC and diamond holes and then permanently cap and bury collars to 0.4m within a week of completion of drilling.

All plastics have been removed other than those for the 2012 drill season.

All damaged tracks (from the early 2011 wet season) were remediated by the rehabilitation contractor other than two badly washed out sections of tracks that will require material to be carted and dumped to prevent further erosion. This work commenced in early 2013.

Photography of drill sites and tracks is ongoing.

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APPENDICES

Appendix 1 – Technical Report Mineral Resource Estimation for the Wonarah Phosphate Project Northern Territory, Australia

Technical Report
Mineral Resource Estimation for the Wonarah Phosphate Project Northern Territory, Australia

Jonathon Abbott, BASc Appl. Geol, MAIG

Prepared for

Minemakers Ltd by

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15th October 2012

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1. Summary

Minemakers Wonarah project lies around 250 kilometres to the east of Tennant Creek in the Northern Territory. The project includes two deposits designated as Arruwurra and Main Zone.

This Technical Report has been prepared for Minemakers to describe Mineral Resources estimated for Wonarah. Minemakers specified that this report only describes the Mineral Resource estimates and associated exploration, drilling, sampling and analyses with no description of the project's Mineral Reserves, or associated analyses such as metallurgical test work.

Wonarah is one of several phosphate deposits hosted by late Proterozoic to early Palaeozoic sedimentary rocks of the Georgina Basin in the Northern Territory and western Queensland. The phosphate mineralization is hosted by gently undulating mudstone phosphorite and chert breccia phosphorite units of the Upper Gum Ridge Formation.

The majority of Arruwurra mineralization lies within a layer of mudstone phosphorite which averages around six metres thick with a variably developed high grade indurated basal zone averaging approximately 1.6 metres thick. Arruwurra resources cover an area around 6 kilometres by 2.5 kilometres.

Main Zone mineralization is hosted within a sequence of mudstone phosphorite and chert breccia phosphorite and undifferentiated transitional sediments with an average combined thickness of around ten metres. The majority of Main Zone Mineral Resources lie within the mudstone phosphorite and chert breccia. The undifferentiated transitional sediments contain generally low phosphate grades and represent only a small proportion of estimated Mineral Resources. The Main Zone estimates extend over an area approximately 10 kilometres by 14 kilometres.

Exploration and resource drilling undertaken by Minemakers and previous holders of the Wonarah tenements totals 2,111 rotary percussion (RAB), aircore, reverse circulation (RC) and diamond cored holes for 100,238 metres of drilling. Mining to date is limited to a 2009 bulk sampling exercise.

The current estimates are primarily based on results from Minemakers RC and diamond sampling. Data from a small number of holes drilled by previous tenement holders were included to provide information in areas of limited Minemakers sampling.

Information available to demonstrate the reliability of the sampling and assaying for Minemakers drilling includes recovered sample weights, field duplicates, reference standards and inter-laboratory repeats. Additional confirmation of the reliability of RC sampling is provided by comparison of results from nearby RC and diamond holes.

The author considers that quality control measures undertaken by Minemakers have established that the RC sampling is representative and free of any biases or other factors that may materially impact the reliability of the sampling, and analytical results. The sample preparation, security and analytical procedures adopted by Minemakers provide an adequate basis for the current Mineral Resource estimates.

Wonarah Mineral Resources were estimated by Ordinary Kriging of one metre down-hole composited assay grades within mineralized domains interpreted for Arruwurra and Main Zone. The estimates reflect Minemakers current conceptual development plans for the project which comprise a large scale operation feeding a beneficiation plant with mineralization defined at comparatively low P_2O_5 cut off grades.

The estimates include bulk densities of 1.7 to 2.0 t/bcm derived from 520 immersion density measurements performed on core samples from Minemakers diamond drilling.

The Mineral Resources are classified as Measured, Indicated and Inferred on the basis of estimation search passes and plan view polygons defining areas of relatively consistent drill spacing. The classification scheme varies between mineralized domains and cut off grades reflecting the differences in grade continuity between different zones, and the decreasing continuity of the mineralization with increasing P_2O_5 cut off grades.

The estimated Mineral Resources lie within Exploration Licences EL26451 and EL26452 and Mineral Lease ML27244 which are held by Minemakers and have a combined area of 115,386 hectares. The project lies on Northern Territory Freehold Land owned by the Arruwurra Aboriginal Corporation.

Table 1 summarizes the combined Wonarah Mineral Resource estimates. The figures in this table are rounded to reflect the precision of the estimates and include rounding errors.

Table 1: Wonarah Mineral Resource estimates

Cut off	Measured		Indicated		Measured + Indicated		Inferred	
P_2O_5 %	Mt	P_2O_5 %	Mt	P_2O_5 %	Mt	P_2O_5 %	Mt	P_2O_5 %
5	82.2	20.2	391	13.2	473	14.4	933	13
10	78.3	20.8	222	17.5	300	18.3	542	18
15	64.9	22.4	133	21.1	198	21.5	352	21
20	35.5	25.8	75	24.0	111	24.5	171	24

Minemakers evaluations of the Wonarah project to date have concentrated on a potential operation targeting high grade direct ship ore (DSO). Assessment of the lower grade mineralization is at an early stage of evaluation. Minemakers has not established the economic viability of the Mineral Resources. Mineral Resources that are not Mineral Reserves do not have demonstrated economic validity. The extents to which mining, metallurgical, marketing, infrastructure, permitting, marketing and other financial factors may affect the Mineral Resource Estimates are not well defined.

Minemakers proposed future resource development programs for Wonarah focus on improving confidence in estimated resources with the target of increasing the proportion of estimates classified as Measured.

Minemakers proposed future work programs include 31,200 metres of infill RC and diamond drilling targeting resources currently classified as Inferred and Indicated followed by data interpretation and resource estimation. The goal of these proposed programs is the upgrading of confidence in estimates for selected areas to the Measured category. Estimated cost of the combined work programs is approximately $AUD 3.5 million.

Although it is uncertain that further drilling will be successful, the author believes that the work programs provided by Minemakers are appropriate for improving confidence in estimated resources.

2. Introduction

This Technical Report has been prepared for Minemakers to describe Mineral Resource estimates for the Wonarah Project. The estimates are reported at comparatively low P_2O_5 cut off grades reflecting Minemakers current conceptual development plans for the project which comprise a large scale mining operation feeding a beneficiation plant.

Minemakers specified that this Technical Report includes only a description of the Mineral Resource estimates and associated exploration, drilling, sampling and analyses with no description of the project's Mineral Reserves, or associated analyses such as metallurgical test work.

This report is based on the references listed in Section 27, and information provided by Minemakers including discussions with Mr Russell Fulton (Minemakers Geological Manager). This report relies on other experts for the description of project tenure, regional geology and environmental considerations.

The work reported herein was undertaken by Jonathon Abbott, MAIG, who is a full-time employee of MPR Geological Consultants Pty Ltd. Mr Abbott has more than five years experience in the field of mineral resource estimation and is a Qualified Person in terms of NI43-101 standards for resource estimation.

Mr Abbott visited Wonarah on the 12th and 13th of March 2009 and is responsible for all sections of this Technical Report.

3. Reliance on Other Experts

This report is based on the references listed in Section 27, and information provided by Minemakers including discussions with Mr Russell Fulton (Minemakers Geological Manager).

This report relies on other experts for the description of project tenure, regional geology and environmental considerations.

The report author is not qualified to comment on any environmental or legal considerations relating to the status of the Wonarah tenements, or for any marketing considerations related to the economic viability of the Wonarah mineralization.

4. Property Description and Location

The Wonarah project lies in the Northern Territory around 250 kilometres to the east of Tennant Creek and around 320 kilometres to the west of Mount Isa in Queensland (Figure 1).

As stipulated by Minemakers this report describes of the current Mineral Resource estimates and associated geological controls, exploration, drilling and analyses. Descriptions of any royalties, mining permits and environmental liabilities are beyond the scope of this report. The author is not qualified to comment on any environmental or legal considerations relating to the status of the Wonarah tenements.

The following description of the Wonarah tenements is based on information supplied by Minemakers and McColl, 2012.

Minemakers holds a Mineral Lease and several Exploration Licences in the Wonarah area. The estimated Mineral Resources lie within Exploration Licences EL26451 and EL26452 and Mineral Lease ML27244 which is entirely within EL26451. The combined area of the tenements is 115,386 hectares (Table 2). The tenements hosting the current resources are wholly owned by Minemakers.

The Wonarah project lies on Northern Territory Freehold Land owned by the Arruwurra Aboriginal Corporation.

Figure 2 shows the extents of mineralization included in the current estimates relative to the tenement boundaries. The coordinate system used in Figure 2 and throughout this report is Map Grid of Australia 1994 (MGA94) Zone 53. In this coordinate system, the centroid of the project is approximately 650,000 mE, 7,785,000 mN.

Table 2: Tenement areas

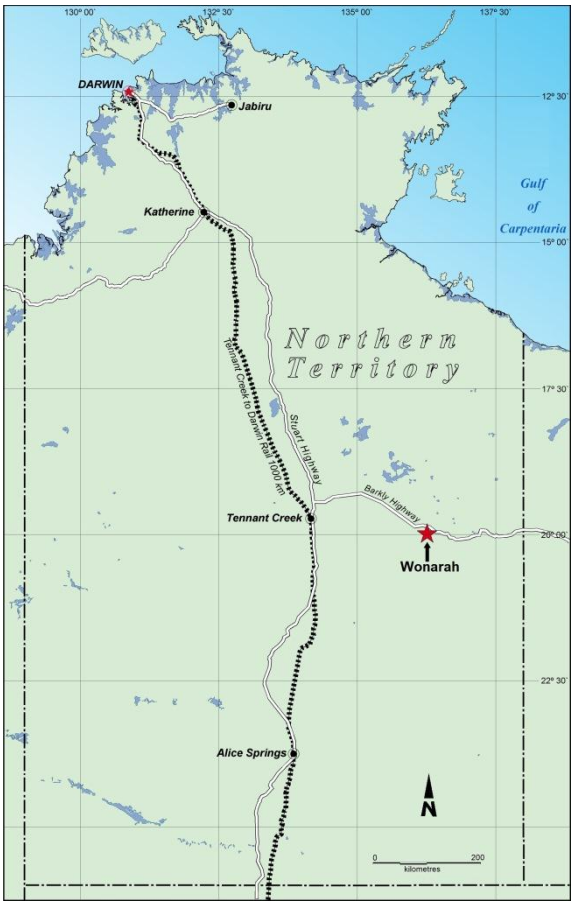
Tenement	Area (Hectares)
EL26451	21,590
Includes ML27244	10,800
EL26452	93,796
Total	**115,386**

Exploration Licence EL26451 was granted to Minemakers on the 31st of March 2008 for a period of four years. The licence was renewed in 2012 and has an expiry date of the 30th March 2014.

Exploration Licence EL26452 was granted to Minemakers on the 9th of January 2008 for a period of four years. The licence was renewed in 2012 and expires on the 8th of January 2014.

Mineral Lease ML27244 was granted to Minemakers on the 18th of February 2010 for a period of 25 years. The Mineral Lease covers most of the Arruwurra and Main Zone resource areas and includes a 100 metre wide corridor linking the deposits.

Chesher & Abbott, 2012 report that Minemakers has applied for and is currently in the process of obtaining or has obtained, a number of approvals required to commence mining and that additional approvals will be required by Minemakers throughout the life of the project. Chesher, 2010 reports that the project is not subject to any outstanding environmental liabilities.



(Figure courtesy Minemakers)

Figure 1: Location diagram

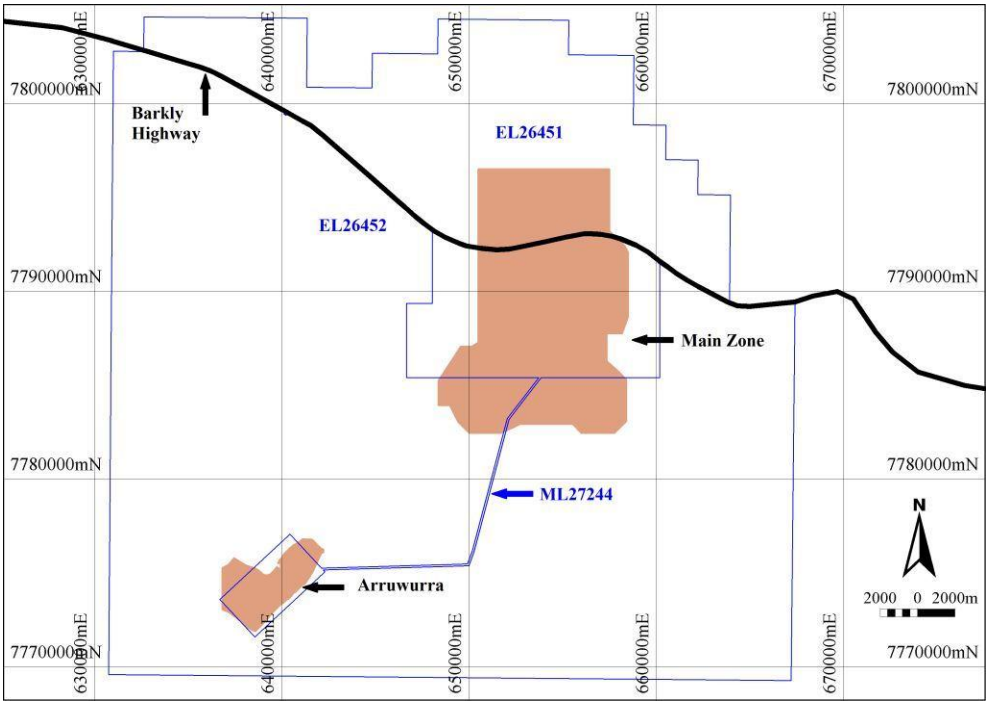


Figure 2: Resource areas and tenement boundaries

5. Accessibility, Climate, Local Resources, Infrastructure and Physiography

The Wonarah resource project straddles the Barkly Highway, and can be accessed by road from Tennant Creek which is around 250 kilometres to the west or Mount Isa which is around 320 kilometres to the east in Queensland (Figure 1). The nearest airstrip to the project is at the Barkly Roadhouse around 75 kilometres to the west.

The Wonarah area is characterized by flat lying to gently undulating sand plains and open woodlands with rare rocky rises and generally short, scrubby vegetation and few large trees. Chesher, 2010 describes the area's vegetation as Acacia, Grevillea and Hakea over Aristida and Triodia in the sand plains, Acacia, Eucalyptus, Hakea and Melaleuca over Triodia in the open woodlands and Acacia, Eucalyptus over Triodia in the rocky rises.

Climate of the Wonarah region includes distinct wet and dry seasons with most of the average rainfall of 361 millimetres falling between November and March. Average maximum temperatures range from around 38^{o}C between November and January to approximately 25^{o}C in June and July (Chesher, 2010).

Minemakers have generally undertaken field exploration during the cooler and drier winter months. However exploration activities can be undertaken throughout the year with commonly only short interruptions during the wet season.

6. History

6.1. Project ownership

The following summary of the ownership history of the Wonarah project area is derived from Barrie (1968), Perrino (1969, 1970), Hackett (1978) and Abbott (2010, 2011).

- 1967: IMC Development (IMC) was granted a Prospecting Licence covering the Wonarah Region. The Prospecting Licence was converted to a Prospecting Authority in 1968 and subsequently relinquished by IMC.

- 1976: ICI Australia Ltd and Australian Fertilizers Ltd (AFL) were granted two Exploration Licences in the Wonarah area including and EL1083 which covered portions of the current resource area.

- 1983: CRA Exploration Pty Ltd was granted an Exploration Licence in the south of the Wonarah area. CRA relinquished the Exploration Licence in 1984.

- 1997: Rare Earths and Minerals Pty Ltd (REM) and Pilbara Chemical Corporation NL (PCC) were granted several Exploration Licenses covering the project area.

- 1998: Australian Kimberley Diamonds NL (AKD) acquired REM's and PCC's tenements. Between 1999 and 2000 Rio Tinto Exploration Pty Limited (Rio Tinto) explored the tenement in joint venture with AKD.

- 2006: AKD was renamed to Indo Mines NL (Indo Mines).Minemakers acquired 90% equity in Indo Mine's Wonarah tenements in October 2006, and in June 2008 Minemakers acquired Indo Mine's remaining share of the tenements.

6.2. Exploration and production activities

Significant phosphate exploration activities undertaken by previous tenement holders between 1967 and 2001 are described by Barrie (1968), Perrino, (1969, 1970) Hackett, (1978), Cotton, (2000) and Lowien & Virisheff (2009) and summarized below:

- 1967-1971: IMC's exploration of the Wonarah area included aerial photo interpretation, soil mapping and drilling of 87 RAB holes1976-1979: ICI and AFL drilled 10 RAB holes in the eastern part of the Main Zone area.

- 2000-2001: Rio Tinto's exploration activities concentrated on aircore, RC and diamond drilling. This drilling targeted areas with little previous exploration and totalled 138 holes for 7,182 metres of drilling.

Exploration activities undertaken by Minemakers since 2008 are described in Sections 10 and 11 of this report.

Production to date for Wonarah is limited to a bulk sampling exercise undertaken by Minemakers at Arruwurra during 2009.

6.3. Historic resource estimates

Table 3 lists significant previous resource estimates for the Wonarah project as described by Lowien & Virisheff (2009) and Abbott (2010, 2011). To provide a consistent comparison this table shows the estimates for the closest available cut off grade to 15% P_2O_5.

The historic estimates in Table 3 are not reported in accordance with NI43-101 standards. These estimates are not considered reliable and are included for background information only. A qualified person has not done sufficient work to classify the historic estimates as mineral resources and the historic estimates are not considered as current mineral resources.

Since 2009 Minemakers have commissioned several resource estimates for the Wonarah area including estimates by Coffey Mining and Hellman & Schofield Pty Ltd. These estimates were reported in accordance with NI43-101 guidelines in Lowien & Virisheff (2009) and Abbott (2010, 2011).

IMC's 1970 polygonal estimates represent the earliest resource estimate completed for Wonarah. These estimates were extrapolated to a maximum of 610 metres beyond drill holes.

Rio Tinto's 1999 estimate was based on data collected by previous explorers. Rio Tinto describes this estimate as a "global resource estimate" and states that the estimates are too poorly defined for classification under the JORC Code. Subsequent resource estimates by Rio Tinto in 2001 were completed after they commenced exploration activities and these estimates were classified as Inferred in accordance with the JORC Code.

Table 3: Historic resource estimates

Description	**Cut off P_2O_5**	**Category**	**Area**	**Resource (Mt @ P_2O_5 grade)**
1970 IMC Polygonal	14%	-	-	483 Mt @ 16.7 %
1999 Rio Tinto	10%	-	-	1,955 Mt @ 14.4 %
2001 Rio Tinto prior drilling completion	15%	JORC Inferred	-	115 Mt @ 22%
2001 Rio Tinto after drilling completion	15%	JORC Inferred	-	72 Mt @ 23%
2009 Coffey Mining Pty Ltd	15%	Inferred	Arruwurra Main Zone Total	131 Mt @18.7% 330 Mt @18.9% 461 Mt @ 18.8%
2010 Hellman & Schofield Pty Ltd	15%	Indicated	Arruwurra Main Zone Total	37 Mt @ 20.4 160 Mt @ 20.8% 197 Mt @ 21.6%
		Inferred	Arruwurra Main Zone Total	60 Mt @ 17% 147 Mt @ 21% 207 Mt @ 20%
2011 Hellman & Schofield Pty Ltd	15%	Indicated	Arruwurra Main Zone Total	37 Mt @ 20.4% 162 Mt @ 21.7% 199 Mt @ 21.5%
		Inferred	Arruwurra Main Zone Total	60 Mt @ 17% 267 Mt @ 22% 328 Mt @ 21%

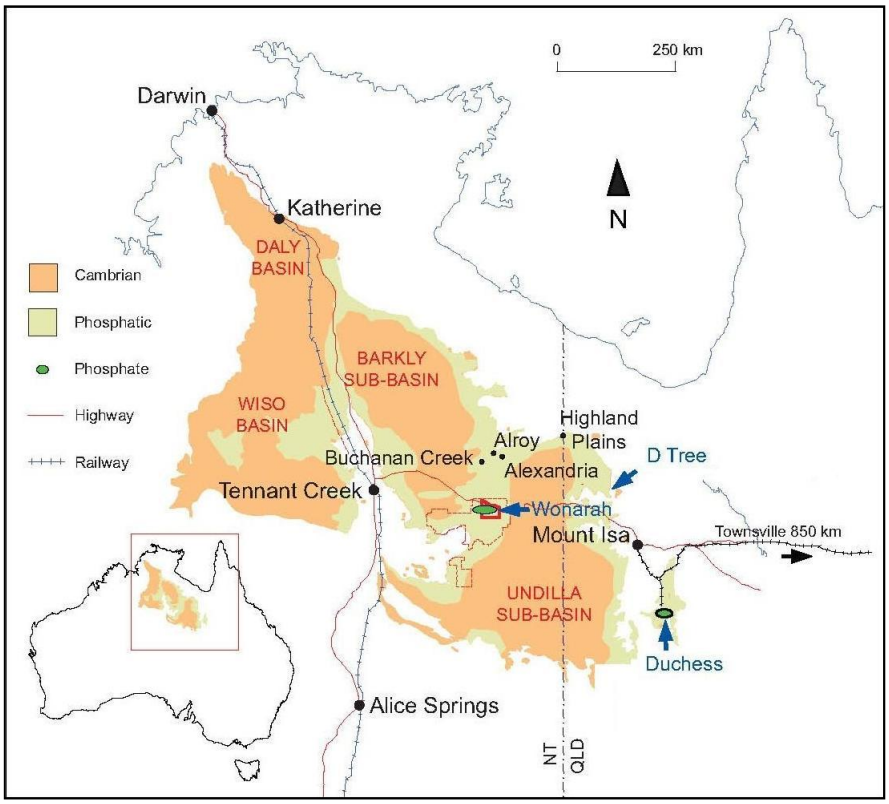
7. Geological Setting and Mineralization

The following descriptions of the Wonarah geological setting and mineralization are sourced from Abbott (2010), Lilley & Andrews (2001) and discussions with Minemakers geologists.

7.1. Regional geological setting

Wonarah mineralization lies within late Proterozoic to early Palaeozoic sedimentary rocks of the Georgina Basin which hosts several phosphate deposits in eastern Northern Territory and western Queensland (Figure 3). Wonarah is located in the area of a basement high between the Barkly and Undilla Sub-basins.

Basement rock types in the Wonarah region include a range of sedimentary rocks that are overlain by basalts and dolomites. These basement rocks are uncomformably overlain by sedimentary units of the Georgina Basin including dolostone, mudstone, and phosphorite of the lower Middle Cambrian Upper Gum Ridge Formation, and mudstone, siltstone, and dolostone of the Middle Cambrian Wonarah Beds.



(Figure courtesy Minemakers)

Figure 3: Regional geological setting and phosphate deposits

7.2. Local geological setting

Un-mineralized basement in the Wonarah area comprises the Peaker Piker Volcanics which generally appear in drilling intersections as highly weathered saprolitic basalt overlain by ferruginous duricrust, and the dolomitic Thorntonia Limestone (DOL) which laterally onlaps the Peaker Piker volcanics.

The basal Georgina Basin sedimentary unit is represented by the Upper Gum Ridge Formation which unconformably overlays the basement volcanics and dolomites. This unit consists of mudstone and siltstones variably overlain by brecciated chert and mudstone phosphorite which hosts the phosphorite mineralization included in the current estimates.

The Upper Gum Ridge Formation is overlain by the Wonarah Beds which are devoid of significant phosphate mineralization comprise mudstone and siltstone with minor nodular chert.

Several metres of aeolian sands and variably developed, locally outcropping silcrete, ferricrete and calcrete overlays most of the Wonarah area. The phosphorite bearing units of the Upper Gum Ridge Formation do not outcrop within the project area.

Minemakers subdivide the Upper Gum Ridge Formation into four units which are listed in stratigraphic (top down) order in Table 4. For some units, Minemakers use different logging codes at Arruwurra and Main Zone. This approach reflects variations in the rock types between the projects and simplifies summaries of mineralization. For these units, the code used for Main Zone is shown after the Arruwurra code in Table 4.

Table 4: General stratigraphic sequence

Code	Unit	Description
CMU/HMU	Convolute Mudstone	Convolute Mudstone
APH/MPH	Mudstone Phosphorite	mudstone phosphorite with traces of chert
CBX	Chert Breccia Phosphorite	brecciated phosphatic chert fragments within a mudstone phosphorite matrix
TUN	Undifferentiated transitional sediments	weathered mudstone and siltstone

The TUN unit shows generally only low phosphate grades. Higher grade portions include rare generally discontinuous beds of high grade porcellaneous mudstone phosphorite designated as transitional phosphorite (TUP).

The chert fragments within the CBX unit are interpreted to represent silicified phosphatic dolostone bands, replaced by silica during diagenesis, and brecciated through post depositional collapse processes.

The Mudstone Phosphorite (MPH) unit is commonly friable with typically medium to high phosphate grades. At Arruwurra this unit is designated as APH and locally includes a visually distinct indurated, high grade phosphorite basal unit designated as the Basal Phosphorite (BPH).

The Convolute Mudstone (CMU) overlies the main mineralized zones and generally contains only low grade phosphorus values interpreted to be of supergene origin with rare, discontinuous high grade mudstone phosphorite interbeds.

7.3. Mineralization distribution

The mineralized domains used for resource estimation reflect the rock units described above and were interpreted on the basis of Minemakers geological logging and one metre down-hole composited assay grades. These domains are gently undulating, with an overall gentle dip of less than one degree towards the south and west.

Figure 4 shows the plan-view extents of the combined mineralized domains interpreted for each deposit relative to drill hole collars and block model extents. Figure 5 presents example cross sections of the domain interpretation for each deposit relative to drill hole traces annotated by one metre down-hole composited P_2O_5 grades.

Table 5 summarizes the thicknesses of each resource domain. This table is based on mineralized domain wire-frame vertical thicknesses measured at 50 by 50 metre spaced discretisation points.

The distribution of the mineralized domains interpreted for Arruwurra and Main Zone is summarised below.

Arruwurra

At Arruwurra, the CBX unit is less well developed than at Main Zone. The majority of Arruwurra phosphate mineralization is hosted by the APH unit which averages around six metres thick. The high grade basal BPH zone is developed in central portions of the deposit with an average interpreted thickness of approximately 1.6 metres over an area around 0.9 by 2.2 kilometres.

The Arruwurra domains cover an area around 6 kilometres by 2.5 kilometres. Figure 6 shows the extents of the APH and BPH domains relative to drill hole collars.

Main Zone

The Main Zone mineralized domains are interpreted to cover an area around 10 kilometres east-west by 14 kilometres north-south. Figure 7 shows the extents of the MPH and CBX domains relative to drill hole collars. These domains dominate the Main Zone resources and contain around 96% of combined Measured and Indicated Mineral Resources estimated for this deposit at a cut off grade of 10% P_2O_5 (Table 20).

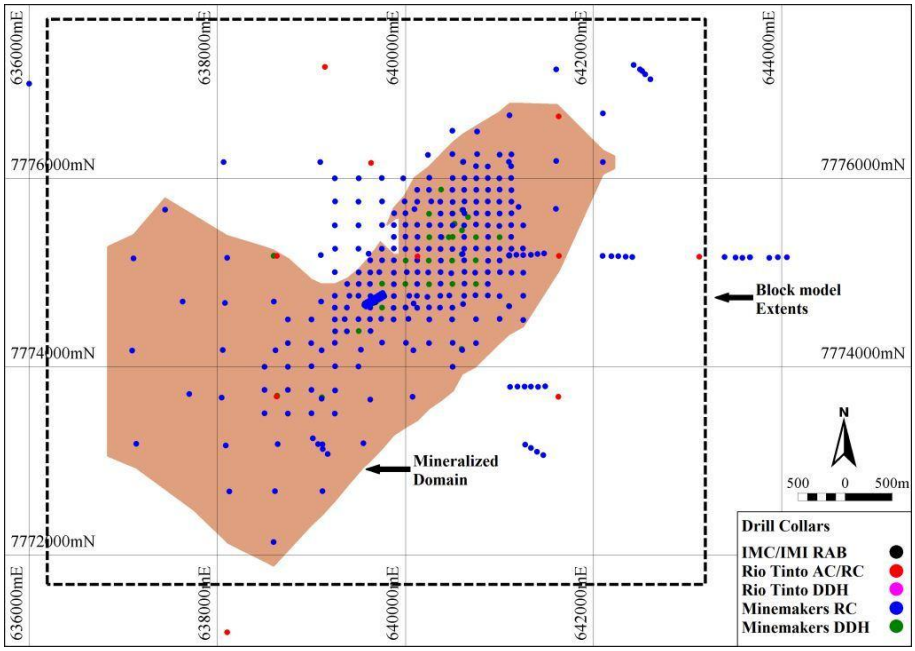
The MPH domain averages approximately four metres thick. This domain is not continuous over the full extents of the resource area, and as shown in Figure 7 is not interpreted in the central west of the deposit, and is interpreted as relatively discontinuous zones in the central and southern parts of the deposit.

CBX mineralization is significantly more continuous than the MPH zone. It is interpreted over most of the Main Zone area with an average thickness of around four metres.

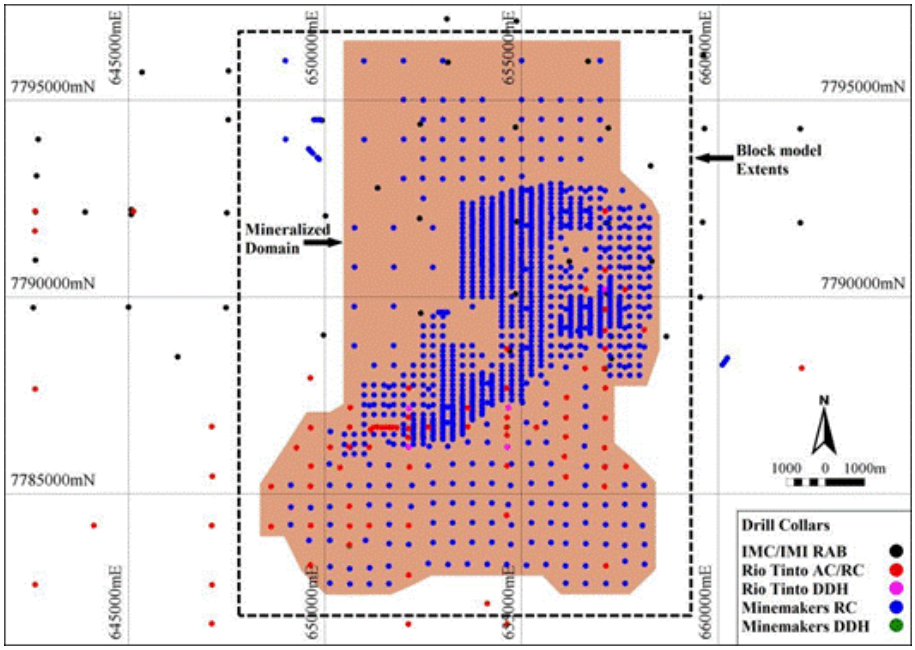
The TUP and CMU mineralized domains represent comparatively small, discontinuous zones that are generally intersected by only a small number of drill holes.

Table 5: Mineralized domain thicknesses

Deposit	Domain	Domain thickness (metres)		
		Minimum	**Average**	**Maximum**
Arruwurra	APH	0.1	5.7	13.1
	BPH	0.1	1.6	4.5
	Combined mineralization	**0.1**	**5.9**	**18.5**
Main Zone	MPH	0.1	4.3	17.2
	CBX	0.1	4.2	13.2
	TUN	0.1	3.5	11.1
	TUP	0.1	1.2	5.2
	Combined main domains	**2.0**	**10.1**	**26.8**
	CMU	0.2	1.4	3.0

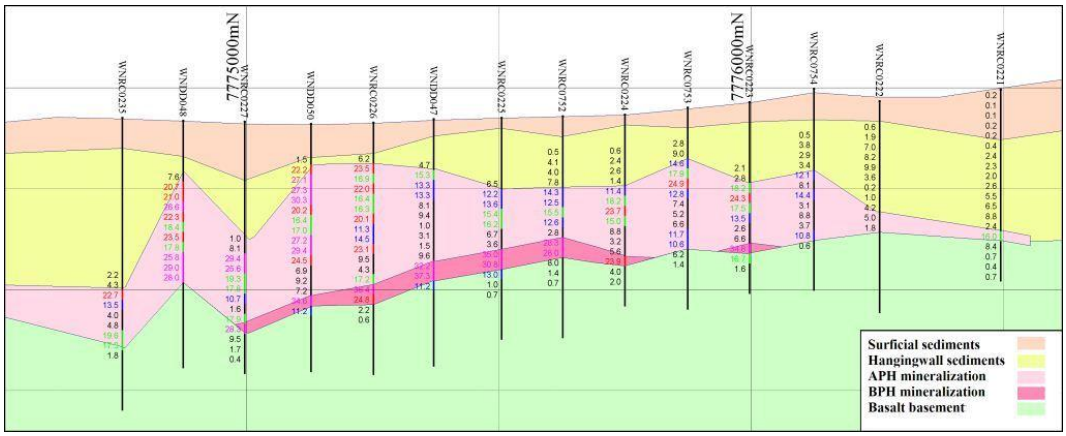


Arruwurra

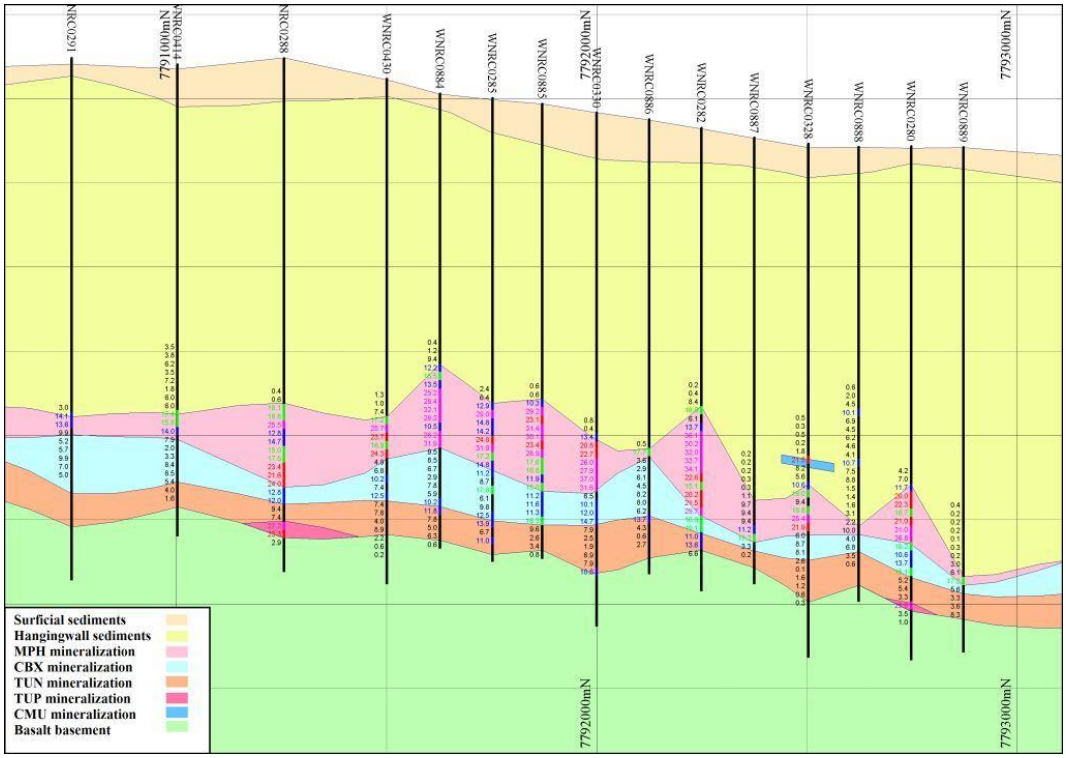


Main Zone

Figure 4: Combined mineralized domains, drill hole collars and model limits



Arruwurra: 640,750 mE 20:1 vertical exaggeration



Main Zone: 655,750 mE 20:1 vertical exaggeration

Figure 5: Example cross sections of mineralized domains

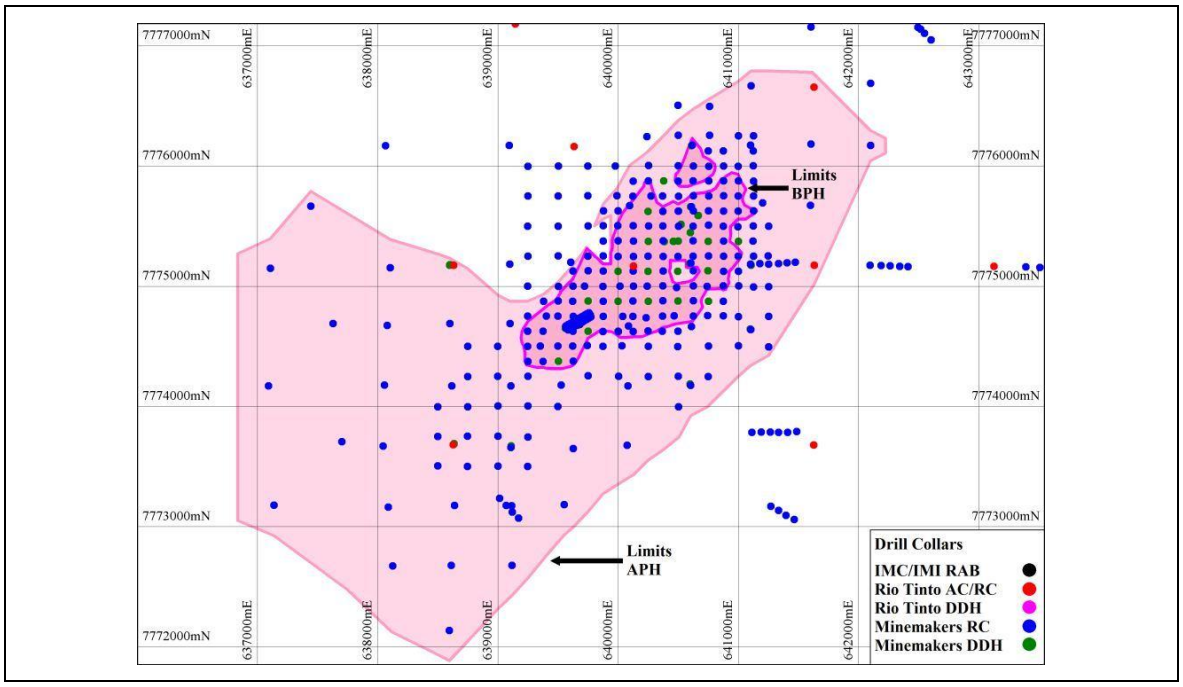
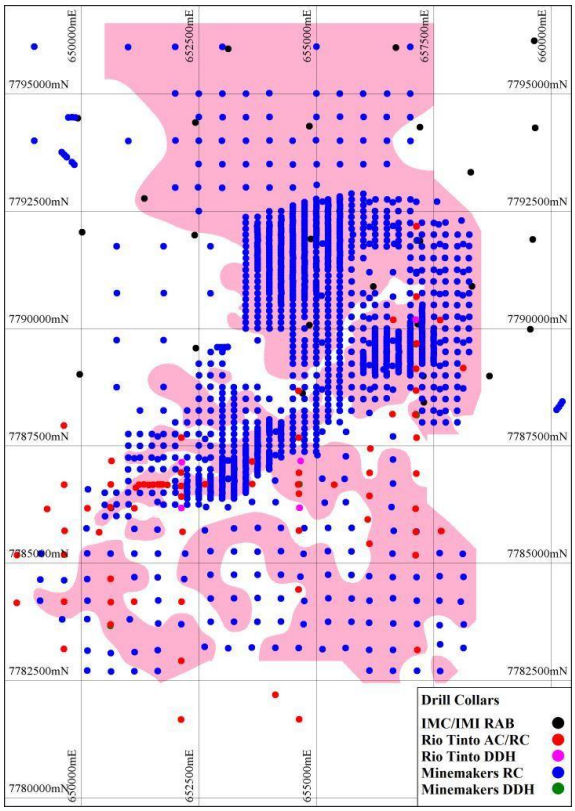
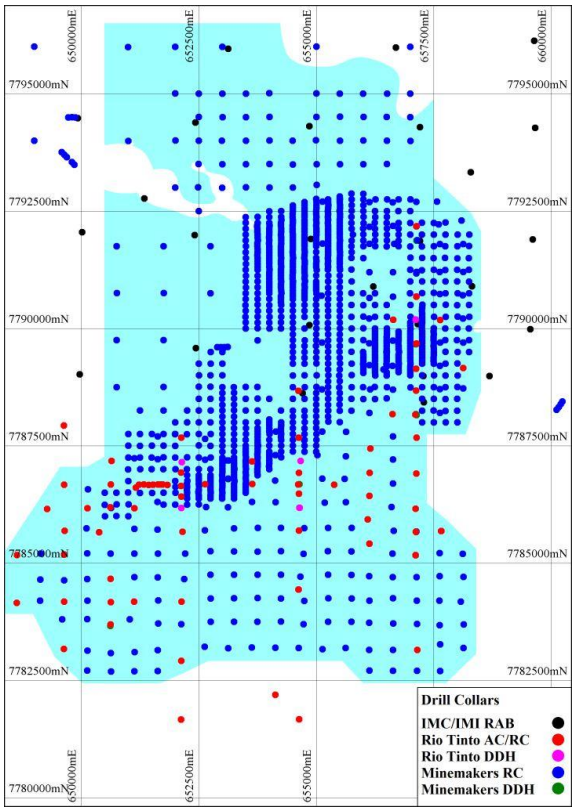


Figure 6: Arruwurra mineralized domains relative to drill hole collars



MPH



CBX

Figure 7: Main Zone major mineralized domains relative to drill hole collars

8. Deposit Types

Wonarah phosphate mineralization is hosted by flat lying to gently undulating sedimentary rocks of the Upper Gum Ridge Formation. These rocks comprise mudstones, siltstones and variably developed phosphorite units including chert breccia phosphorite, mudstone phosphorite and convolute mudstones.

The Upper Gum Ridge Formation units unconformably overlay the un-mineralized basaltic and dolomitic basement, and are overlain by the barren sediments of the Wonarah beds and several metres of aeolian sands.

Minemakers exploration activities have generally comprised initial broad spaced RC drilling aimed at outlining the extents of the main mineralized zones followed by successively tighter infill drilling designed to improve definition of the distribution of phosphate mineralization within the broader zones. The infill drilling has been focused on higher grade portions of the mineralization with drill hole spacings selected on the basis of interpreted local mineralization trends.

Higher grade portions of the mineralization which have been the focus of Minemakers closer spaced infill drilling include the basal BPH zone at Arruwurra and higher grade, generally northeast trending zones within the MPH at Main Zone.

9. Exploration

Exploration activities by Minemakers and previous holders of the Wonarah tenements have been dominated by RAB, RC and diamond drilling.

Additional exploration activities have included comparatively minor amounts of surface sampling geological mapping. These activities are of little relevance to the current resource estimates and are not discussed in this report.

10. Drilling

10.1. Available drilling

Since phosphate exploration of the Wonarah project began in 1967, a number of RAB, RC and diamond drilling programs have been completed in the project area. Table 6 summarizes the Wonarah sampling database by drilling type and phase including a summary of drilling within the area covered by the current block models.

Section 11 describes sampling and assaying for the main resource drilling types including a description of sampling quality.

Figure 6 shows the location of drill hole collars in the Arruwurra and Main Zone deposit areas relative to the extents of the mineralized domains included in the current estimates. Figure 8 shows drill hole collars for the full database relative to the combined mineralized domains and block model limits.

Figure 5 presents example cross sections of drill hole traces annotated by one metre down-hole composited P_2O_5 grades relative to the interpreted resource domains for Arruwurra and Main Zone.

Table 6 demonstrates that the resource area drilling is dominated by Minemakers RC holes which represent 88% of the drilling within the block model limits. Minemakers diamond holes represent 5% of the drilling and drilling by previous explorers contributes a combined 7% of the drilling.

Minemakers diamond holes were primarily drilled to provide samples for metallurgical test work, density measurement and comparison with the results of RC sampling.

The Minemakers RAB drilling shown in Table 6 represents blast holes drilled during the 2009 Arruwurra bulk sampling exercise.

All of the holes drilled at Wonarah to date are vertical with the exception of 48 inclined Minemakers holes comprising four diamond holes and 44 RC holes primarily drilled for ground-water investigations. For the majority of drilling down-hole sample lengths generally closely reflect true thicknesses of the gently undulating domains.

Within the current model areas, drill hole depths range from rarely around 1.4 to 162 metres and average approximately 46 metres. For the routine Minemakers RC resource drilling, which dominates the resource dataset most holes (98%) are between 20 and 70 metres depth.

As shown in Figure 4, drill hole spacing at Main Zone varies from more than one by one kilometre in peripheral portions of the deposit to around 250 by 62.5 metres in several comparatively small areas. Central and northern portions of the deposit have been drilled at generally 250 by 125 metre or closer spacing with several areas of higher grade MPH mineralization tested by nominally 250 by 62.5 metre spaced drilling.

In comparison with Main Zone, the Arruwurra drilling is generally more consistently gridded with less variation in drill hole spacing. For peripheral zones, drill spacing ranges from around 500 by 500 metres to one by one kilometre in the far west of the deposit. Central portions have been sampled by generally 250 by 250 metres spaced drilling with an area including virtually the entire BPH zone infilled to 125 by 125 metre spacing.

Table 6: Summary of Wonarah drilling

Full database for Wonarah Project						
		IMC 1967-69	**ICI 1978**	**Rio Tinto 2000-01**	**Minemakers 2008-11**	**Total**
RAB	Holes	87	10	-	209	306
	Metres	3,677	514	-	514	4,705
Aircore	Holes	-	-	4	-	4
	Metres	-	-	238	-	238
RC	Holes	-	-	122	1,568	1,690
	Metres	-	-	6,280	84,514	90,794
Diamond	Holes	-	-	12	99	111
	Metres	-	-	664	3,838	4,502
Total	**Holes**	**87**	**10**	**138**	**1,876**	**2,111**
	Metres	**3,677**	**514**	**7,182**	**88,866**	**100,238**
Database subset to current model areas						
		IMC 1967-69	**ICI 1978**	**Rio Tinto 2000-01**	**Minemakers 2008-11**	**Total**
RAB	Holes	17	7	-	209	233
	Metres	794	343	-	514	1,651
Aircore	Holes	-	-	4	-	4
	Metres	-	-	238	-	238
RC	Holes	-	-	79	1,431	1,510
	Metres	-	-	4,030	75,363	79,393
Diamond	Holes	-	-	12	99	111
	Metres	-	-	664	3,838	4,502
Total	**Holes**	**17**	**7**	**95**	**1,739**	**1,858**
	Metres	**794**	**343**	**4,932**	**79,715**	**85,784**

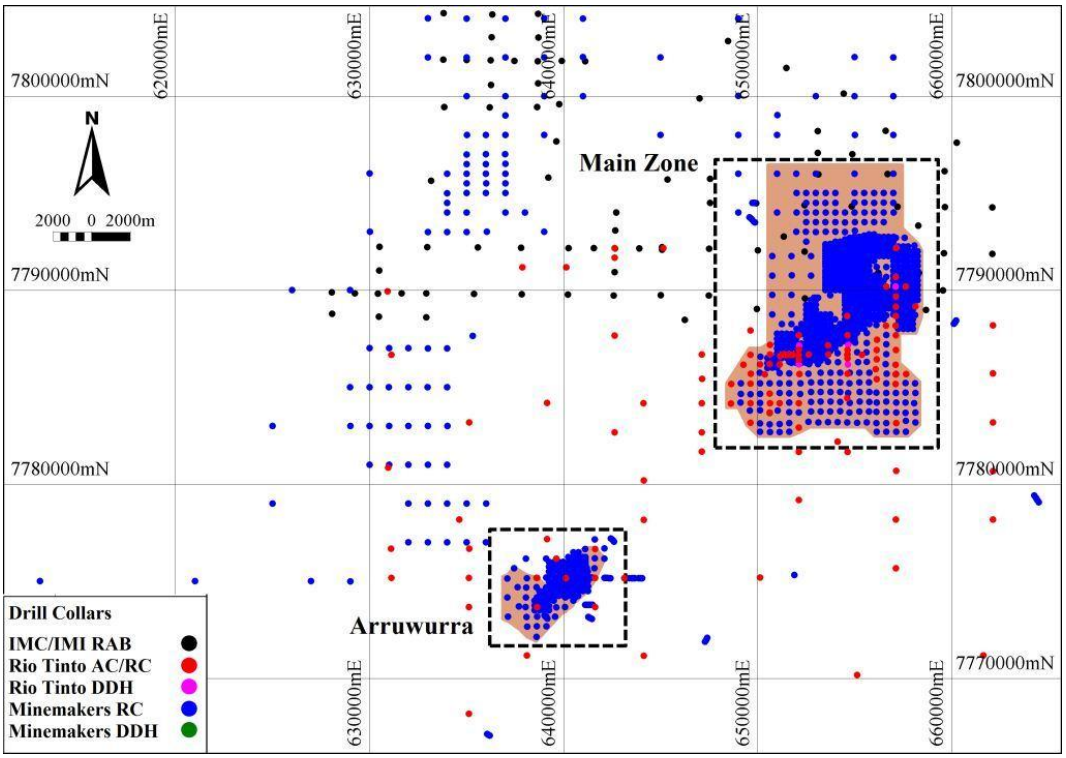


Figure 8: Model extents and drill hole collars

10.2. Resource datasets by sampling phase

The selection criteria used for the resource composite dataset is outlined below:

- Only RC, diamond and minor aircore drilling was included in the dataset. RAB and trial pit blast hole sampling were excluded.
- Data from Rio Tinto holes were selected only to infill areas with very broadly spaced Minemakers drilling.
- A set of inclined Minemakers RC holes which were drilled for ground water investigations and have incomplete assay coverage were excluded.
- For both Arruwurra and Main Zone a number of locations have been tested by up to three closely spaced holes including twinned diamond and RC holes. To reduce the impact of clustered sampling on resource estimates, a single hole was selected for each of these locations with Minemakers RC drilling prioritised over Rio Tinto holes or Minemakers diamond holes.
- Minemakers RC holes were selected in preference to twinned Minemakers diamond drilling due to the commonly incomplete assay coverage for the diamond drilling and for consistency with the RC dominated dataset. This approach is justified by the consistent grades shown by RC and diamond drilling described in Section 11.
- Arruwurra drilling includes three traverses of twenty metre spaced holes in the vicinity of the bulk sample open pit. These clustered holes were excluded from the resource dataset.

Figure 9 shows the contribution of each sampling group to composite datasets used for resource estimation. This figure provides an indication of the relative contribution of each sampling phase to estimated resources and demonstrates that the estimates are primarily based on data from Minemakers RC sampling which represents 95% of the combined composite dataset.

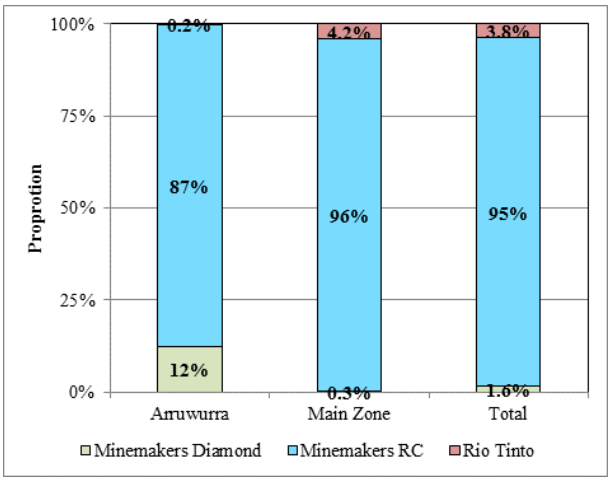


Figure 9: Resource composite datasets by sampling group

11. Sample Preparation, Analyses and Security

11.1. Introduction and summary

As described in Section 10, the resource dataset is dominated by Minemakers RC and diamond drilling which represent a combined 96% of the resource composites. This section describes only Minemakers sampling and assaying. Reliability of the Rio Tinto sampling which contributes around 4% of the resource dataset has little impact on the reliability of the estimates.

For each of Minemakers drilling programs field sampling was undertaken by drilling contractors and Minemakers field staff and supervised by Minemakers geologists. Subsequent sample preparation and analyses were undertaken by commercial assay laboratories.

Wonarah is in an isolated area with limited access to the general public. Sub-samples selected for routine assaying were collected in heavy-duty polywoven plastic bags that were immediately sealed. The bagged samples were then delivered directly to the analytical laboratories in Mount Isa by Minemakers employees or contractors, or less commonly by a local freight carrier.

Routine quality-assurance quality-control measures undertaken by Minemakers to demonstrate the reliability of the sampling and assaying include weighing recovered samples, collection of field duplicates, submission of reference standards, and inter-laboratory repeat assaying. Additional confirmation of the reliability of RC sampling is provided by comparison of results from nearby RC and diamond holes.

The author considers that quality control measures undertaken by Minemakers have established that the RC sampling is representative and free of any biases or other factors that may materially impact the reliability of the sampling, and analytical results.

The author considers that the sample preparation, security and analytical procedures adopted by Minemakers provide an adequate basis for the current Mineral Resource estimates.

11.2. Field sampling procedures

Drilling and sampling procedures for Minemakers RC drilling programs were supervised by Minemakers geologists. The RC holes were sampled over one metre intervals with bulk samples collected from the base of rig mounted cyclones and stored at the drill site. For the samples selected for assaying, Minemakers field staff sub-sampled the bulk samples using a three tier riffle splitter.

For each interval a sample of the chips was collected in chip tray for geological logging, and phosphorus and calcium grades were measured with a hand-held XRF unit. In conjunction with geological logging, the hand-held XRF measurements were used to aid selection of intervals for assaying. These measurements were not used for resource estimation.

For the 2008 to 2010 drilling programs, Minemakers routinely measured the radioactivity of bulk one metre RC samples with a hand-held Radeye Personal Radiometric Detector which measures gamma radiation, in conjunction with incomplete uranium assaying, these measurements provide some indication of the uranium grade of the samples.

Minemakers routine quality assurance monitoring included weighing of bulk samples, and submission of generally one field duplicate, one standard and for later drilling one blank per drill hole. The field duplicates, standards and blanks were submitted to the assay laboratory in the same batch as the primary samples.

11.3. Sample preparation and assaying

Minemakers samples selected for assaying were submitted to one of three commercial laboratories. As summarized in Table 7, the majority of assaying was completed by Amdel. For Amdel assaying up to November 2008, the samples were prepared at Amdel's Mount Isa laboratory and sent to Amdel's laboratory in Cardiff, New South Wales, for analysis. For later Amdel assaying, sample preparation and analysis were undertaken at Amdel's Mount Isa laboratory.

Amdel's sample preparation comprised oven drying at 110^{o}C followed by crushing of the entire sample to -2mm in a Boyd crusher. A 100 gram sub-sample of the crushed material was collected by rotary splitter and pulverised to -106 microns. A 0.1 gram sub-sample of the pulverised material was fused with lithium metaborate and analysed by XRF for P_2O_5, Al_2O_3, CaO, Fe_2O_3, K_2O, MgO, MnO, Na_2O, SiO_2 and TiO_2. In addition to the routine assaying, around 750 samples were analysed for uranium by XRF.

A small proportion of samples were assayed by ALS when Amdel were unable to keep pace with sampling, and some diamond core assaying was undertaken by Ammtec as part of metallurgical test work. The author understands that ALS and Ammtec used similar procedures to those described for Amdel.

Amdel's quality control systems are based on ISO9001. The National Association of Testing Authorities (NATA) has accredited Amdel's Cardiff laboratory in accordance with ISO/IEC 17025, which includes the management requirements of ISO9001:2000. NATA's accreditation number for Cardiff is 626.

Table 7: Minemakers resource composites by assay laboratory

	Number of composites			Proportion		
	Arruwurra	**Main Zone**	**Total**	**Arruwurra**	**Main Zone**	**Total**
Amdel	1,429	12,120	13,549	88%	92%	92%
ALS	-	985	985	-	8%	7%
Ammtec	194	-	194	12%	-	1%
Total	**1,623**	**13,105**	**14,728**	**100%**	**100%**	**100%**

11.4. Sampling and assay quality

Key aspects of the information available to demonstrate the reliability of sampling and assaying for Minemakers RC drilling are outlined below. The author considers that these data demonstrate that Minemakers RC data is representative and free of any biases or other factors that may materially impact the reliability of the current estimates.

Recovered sample weights

Recovered sample weights are available for most of the Minemakers RC drilling. Sample recoveries were calculated for each weighed interval using bit diameters specified by Minemakers and the bulk densities applied to the resource estimates.

The recovered weights show generally reasonably consistent sample recoveries averaging 84% for the mineralized domain samples (Table 8). In the author's experience this average recovery is consistent with good quality RC drilling.

Table 8: Recovery estimates for Minemakers mineralized domain RC samples

	Arruwurra	Main Zone	Total
Number	1,651	12,509	14,160
Average recovery	88%	83%	84%

Twinned hole comparisons

Table 9 compares the lengths and assayed P_2O_5 grades of mineralized intercepts from paired Minemakers RC and diamond holes separated by less than ten metres. This table includes only pairs with reasonably comparable assay coverage, and excludes pairs without reasonably complete assaying for the diamond holes. For the Main Zone pairs, the mineralized intervals include only the combined MPH and CBX mineralization as diamond core assaying generally does not extend into the underlying TUN and TUP zones.

Many of the Main Zone diamond holes were assayed over shorter intervals than their RC pair. Excluding all Main Zone pairs without comprehensive diamond assay coverage gives too few pairs for reliable comparison. The pairs selected for Main Zone include several diamond holes with incomplete assay coverage, giving slightly shorter average lengths than shown for RC drilling.

Table 9 shows that for both Arruwurra and Main Zone the combined set of twinned intervals show similar mean P_2O_5 grades for RC and diamond drilling. The grades for secondary attributes show similar trends. The consistency of mean grades from RC and diamond sampling provides confidence in the reliability of the RC sampling.

Table 9: Twinned Minemakers RC and diamond holes

	No.	Average Lengths (m)			Average grade (P_2O_5 %))		
	Pairs	RC	DDH	Difference	RC	DDH	Difference
Arruwurra	19	7.4	7.1	-4%	7.4	7.1	-4%
Main Zone	11	10.5	9.6	-9%	25.3	24.3	-4%
Total	**30**	**8.6**	**8.0**	**-6%**	**14.0**	**13.4**	**-4%**

Field duplicates

Minemakers collected field duplicates at an average frequency of one duplicate per 21 primary samples with a total of 1,071 duplicate results available. Duplicate assays generally correlate well with original results demonstrating the adequacy of field sub-sampling procedures. The scatter plot in Figure 10 compares original and field duplicate P_2O_5 results. The other assayed attributes show similarly good correlation.

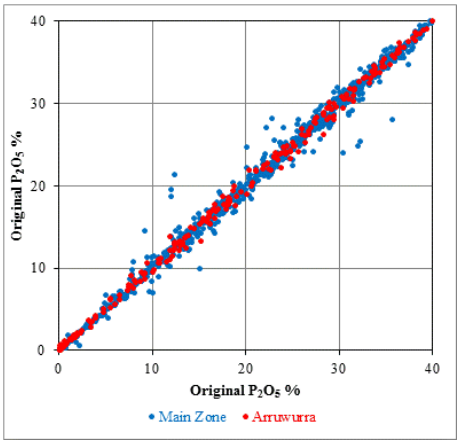


Figure 10: Scatter plot for field duplicate results

Coarse blanks

For drilling after March 2009 Minemakers routinely included samples of coarse blank material in assay batches. Minemakers produced the coarse blanks by compositing remnant RC sample material from continuous intervals of hanging-wall mudstone with uniformly low initial P_2O_5 assay results.

In addition to checking for laboratory contamination, the coarse blanks test for sample misallocation.

With the exception of five samples with anomalous results, the 268 assay results available for coarse blanks show generally low phosphate grades with no evidence of significant contamination. The magnitude of grades reported for the anomalous samples suggest that they reflect sample misallocation rather than laboratory contamination.

Reference standards

The reference standards used by Minemakers comprise eight standards purchased from commercial suppliers and four standards prepared from samples of Wonarah mineralization by Ore Research & Exploration Pty Ltd (Ore Research). The Ore Research standards have expected grades derived from the average of assay results from ten laboratories.

Assay results are available for 910 standards representing an average frequency of around one standard per 25 primary samples.

For each standard the average assay results reported by Amdel closely match expected values (Figure 11) with exception of Na_2O grades for three of the Ore Research standards. For these standards Amdel reports grades considerably higher than expected values. Rather than a bias in Amdel's assaying, this difference appears to reflect uncertainty over the certification Na_2O assaying which shows considerable variation between the ten laboratories.

The Na_2O grades of Wonarah mineralization are generally very low. The author understands that any uncertainty over the estimated grades for this attribute associates with the standards results does not affect marketing considerations for potential exploitation of the resource or overall confidence in the estimates.

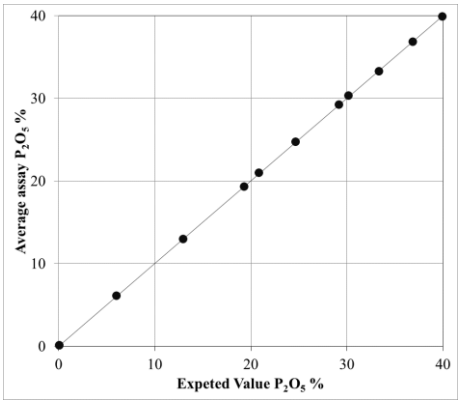


Figure 11: Reference standards P_2O_5 assays versus expected values

Inter-laboratory repeats

Inter-laboratory repeats available for Minemakers resource assaying comprise 138 samples with XRF assays by both Amdel and ALS for splits of the same assay pulp. The ALS and Amdel assay results are generally closely correlated confirming the reliability of the primary Amdel assaying.

11.5. Bulk density measurements

Analytical data available for Wonarah includes 520 immersion density measurements performed by Ammtec on oven dried core samples from Minemakers diamond drilling.

Table 10 summarizes the available density measurements by mineralized domain. For the MPH zone, the density measurements show a general trend of increasing density with increasing P_2O_5 grade. Samples from this domain with assayed P_2O_5 grades of greater than 30% show significantly higher average densities than lower grade samples.

Table 10: Minemakers immersion density measurements for mineralized domains

		Number of measurements	Average t/bcm
Arruwurra	APH	279	1.94
	BPH	55	2.26
Main Zone	MPH <30% P_2O_5	79	1.69
	MPH >30% P_2O_5	53	2.04
	CBX	46	1.86
	TUN	7	1.81
	TUP	1	1.92

12. Data Verification

Verification checks undertaken by the author to confirm the validity of the databases supplied by Minemakers include:

- Routine comparison of assay values with geological logging.
- Comparison of assay values between nearby holes.
- Checking for internal consistency between, and within tables in the supplied database.
- Comparisons between assay results from different sampling phases.
- For most assays from Minemakers drilling the results from laboratory source files supplied by Minemakers were compared with database assay entries.

These checks showed no significant discrepancies in the databases used for resource estimation.

No original source data is available for checking of database entries for Rio Tinto drilling results. However these data represent only a small proportion of the resource dataset (3.8%), and any uncertainty associated with their validity does not significantly affect confidence in the resource estimates.

The report author considers that the resource data has been sufficiently verified to form the basis of the current Mineral Resource estimates, and that the database is adequate for the current estimates.

13. Mineral Processing and Metallurgical Testing

This section is not applicable to the current report.

14. Mineral Resource Estimates

14.1. Introduction

Arruwurra and Main Zone, Mineral Resources were estimated by Ordinary Kriging of one metre down-hole composited assay grades within wireframes representing the mineralized domains.

The current models provide estimates at comparatively low cut off grades of around 10% P_2O_5 as envisaged by Minemakers for a potential mining operation feeding a beneficiation plant.

Estimation methodologies and parameters adopted for Arruwurra and Main Zone include several differences reflecting the differences in mineralization styles, and sample coverage for the two deposits.

Prior to variogram modelling and resource estimation for Arruwurra, the mineralized domain composites were un-folded to remove the gentle undulations from the mineralized domains. The Kriged estimates were un-folded to their correct positions in the compiled block model.

Minemakers evaluations to date have primarily focussed on potential DSO operations and assessment of the lower grade mineralization is at an early stage. The extent to which mining, metallurgical, marketing, infrastructure, permitting, marketing and other financial factors may affect the Mineral Resource Estimates has not yet been established. Mineral Resources that are not Mineral Reserves do not have demonstrated economic validity.

14.2. Composite dataset

Section 10.2 describes the selection criteria used to select the resource composite dataset. Statistics for the one-metre down-hole composited assays used for the Arruwurra and Main Zone resource estimates are presented in Table 11.

The highest grade composites lie within the MPH domain. The maximum P_2O_5 and CaO grades of 41.0% and 54.8% for this domain are close to typical composition of fluorapatite of 42.2% P_2O_5 and 55.6% CaO indicating that high grade portions of the mineralization are composed of mainly fluorapatite.

Table 11: Statistics for resource composites

	P_2O_5 %	Al_2O_3 %	CaO %	Fe_2O_3 %	K_2O %	MgO %	MnO %	Na_2O %	SiO_2 %	TiO_2 %
APH: 1445 composites										
Mean	15.9	5.77	22.7	1.43	0.59	0.56	0.08	0.11	46.8	0.27
Variance	54.2	10.4	105	6.4	0.20	0.24	0.09	0.003	207	0.03
Coef. Var.	0.46	0.56	0.45	1.76	0.76	0.86	3.80	0.52	0.31	0.63
Minimum	0.51	0.44	0.35	0.14	0.03	0.02	0.01	0.01	7.98	0.01
Median	15.3	5.06	22.3	0.65	0.43	0.43	0.02	0.11	47.5	0.21
Maximum	36.8	23.3	49.8	29.1	2.38	5.70	7.00	0.40	92.9	0.93
BPH: 181 composites										
Mean	30.0	3.35	40.8	0.91	0.20	0.22	0.05	0.08	20.0	0.15
Variance	30.3	3.77	59.1	0.87	0.04	0.02	0.003	0.001	120	0.01
Coef. Var.	0.18	0.58	0.19	1.03	0.97	0.61	1.16	0.38	0.55	0.67
Minimum	15.0	0.32	20.6	0.14	0.02	0.03	0.01	0.01	1.87	0.02
Median	29.8	3.02	40.2	0.57	0.16	0.17	0.03	0.08	20.6	0.13
Maximum	39.4	10.8	54.4	5.70	2.13	0.73	0.43	0.16	52.2	0.56
CMU: 49 composites										
Mean	21.3	6.3	27.2	0.96	0.59	0.18	0.02	0.13	38.3	0.27
Variance	58.0	10.0	123	2.43	0.09	0.01	0.00	0.00	241	0.03
Coef. Var.	0.36	0.50	0.41	1.63	0.50	0.44	2.10	0.26	0.41	0.61
Minimum	10.6	1.67	5.24	0.19	0.13	0.04	0.01	0.07	9.60	0.08
Median	19.7	5.6	25.9	0.66	0.54	0.17	0.01	0.12	40.8	0.26
Maximum	36.5	18.9	49.0	11.3	1.44	0.37	0.36	0.24	64.5	1.05
MPH: 5,270 composites										
Mean	21.1	5.0	27.8	1.45	0.47	0.15	0.03	0.09	39.7	0.22
Variance	72.8	9.2	139	7.24	0.10	0.01	0.01	0.00	340	0.02
Coef. Var.	0.41	0.61	0.42	1.86	0.69	0.66	3.35	0.61	0.47	0.59
Minimum	0.54	0.17	0.29	0.12	0.01	0.00	0.01	0.01	0.55	0.01
Median	20.4	4.5	27.1	0.72	0.40	0.13	0.02	0.08	40.9	0.20
Maximum	41.0	29.9	54.8	43.4	2.56	1.21	5.90	1.02	94.7	1.33
CBX: 4,108 composites										
Mean	9.0	4.4	11.8	1.31	0.41	0.14	0.03	0.07	69.0	0.20
Variance	33.4	6.0	63.2	6.18	0.07	0.02	0.02	0.00	185	0.01
Coef. Var.	0.64	0.55	0.68	1.90	0.65	0.90	4.71	0.58	0.20	0.57
Minimum	0.05	0.47	0.04	0.13	0.04	0.00	0.01	0.01	11.3	0.02
Median	8.04	3.7	10.6	0.70	0.33	0.10	0.01	0.07	71.0	0.17
Maximum	34.0	20.3	46.6	42.5	2.20	1.20	5.60	0.89	96.2	0.92
TUN: 3,858 composites										
Mean	5.5	8.8	7.33	3.52	0.98	0.51	0.21	0.08	67.2	0.50
Variance	23.9	9.8	42.9	39.5	0.23	0.25	0.85	0.00	110	0.04
Coef. Var.	0.88	0.35	0.89	1.79	0.49	0.97	4.46	0.47	0.16	0.40
Minimum	0.01	0.04	0.01	0.14	0.06	0.01	0.01	0.01	0.05	0.04
Median	4.76	9.3	6.30	1.73	1.00	0.49	0.03	0.08	68.4	0.51
Maximum	34.3	27.7	46.3	62.1	4.70	8.78	24.10	0.52	93.1	1.96
TUP: 396 composites										
Mean	26.4	3.2	35.3	1.34	0.23	0.11	0.11	0.06	29.3	0.19
Variance	41.7	3.4	76.4	1.65	0.03	0.01	0.06	0.00	174	0.01
Coef. Var.	0.24	0.58	0.25	0.96	0.74	0.95	2.15	0.67	0.45	0.62
Minimum	10.0	0.11	13.2	0.13	0.00	0.01	0.01	0.01	0.89	0.00
Median	25.6	3.0	34.3	0.87	0.19	0.08	0.04	0.06	30.8	0.17
Maximum	40.6	10.6	55.2	13.5	1.30	1.33	2.58	0.59	63.3	0.78

14.3. Estimation parameters

Table 12 shows the extents, and block sizes of the Arruwurra and Main Zone block models. Figure 4 shows the model extents relative to the mineralized domains and drill hole collars for each deposit. For both deposits grades were Kriged into parent blocks that were sub-blocked at domain boundaries for accurate representation of the wireframe volumes.

Table 12: Block model extents and block sizes

	Minimum	Maximum	Extents	Parent block	Sub-block
Arruwurra					
Easting	636,187.5 mE	643,187.5 mE	7,000 m	125 m	12.5 m
Northing	7,771,687.5 mN	7,777,687.5 mN	6,000 m	125 m	12.5 m
Elevation	200 mRL	300 mRL	100 m	1.0 m	0.25 m
Main Zone					
Easting	647,812.5 mE	659,312.5 mE	11,500 m	125 m	25 m
Northing	7,781,895 mN	7,796,745 mN	14,850 m	30 m	15 m
Elevation	190 mRL	310 mRL	120 m	1 m	0.25 m

Table 13 presents the search criteria used for the Arruwurra and Main Zone models. These criteria were selected to provide estimates for the all but the most broadly drilled portions of the interpreted domains while ensuring that blocks were estimated by nearby data where possible. For each deposit, the long axis of the search ellipsoid was aligned with the interpreted strike direction as shown in Table 13.

For the Arruwurra estimates, all domain boundaries were treated as hard. For each of the Main Zone domains, the estimates included six search passes with domain boundaries treated as hard. For the MPH, CBX, TUN and TUP a second set of searches with soft boundaries were used to inform blocks that were not informed by the initial hard-boundary searches.

Main Zone blocks estimated by search pass 6 and each of the soft-boundary searches are poorly related to nearby data. These blocks are not included in the estimates of Mineral Resources and are used only for estimation of Exploration Potential.

Table 13: Search criteria

	Search Pass	Radius (x,y,z)	Minimum Data	Minimum Octants	Maximum Data
Arruwurra Strike: 045	1	300,150,1.50	8	2	32
	2	390,195,2.25	8	2	32
	3	390,195,2.25	4	1	32
	4	800,800,3.00	4	1	32
Main Zone Strike: 060	1	400,90,1.50	8	2	32
	2	533,120,2.00	8	2	32
	3	533,120,2.00	4	1	32
	4	600,200,3.00	4	1	32
	5	900,300,4.50	4	1	32
	6	900,300,4.50	2	1	32

14.4. Bulk densities

Bulk densities assigned to the current estimates as listed in Table 14 were derived from the density measurements described in Section 11.

The Main Zone CMU and TUP domains have too few density measurements to provide reliable density estimates. These domains were assigned densities from the comparable APH and BPH domains at Arruwurra. All Mineral Resources estimated for the CMU and TUP domains are classified as Inferred, and the lack of confidence in density measurements for these domains does not affect general confidence in the estimates.

Table 14: Bulk densities assigned to estimates

Deposit	Domain	Assigned density (t/bcm)
Arruwurra	APH	1.8
	BPH	2.0
Main Zone	CMU	1.8
	MPH <30% P_2O_5	1.8
	MPH >30% P_2O_5	2.0
	CBX	1.7
	TUN	1.7
	TUP	2.0

14.5. Resource classification

The current estimates are classified as Measured, Indicated and Inferred on the basis of estimation search passes and plan view polygons defining areas of relatively consistent drill spacing. The classification scheme varies between mineralized domains and cut off grades reflecting differences in grade continuity between different zones, and the decreasing continuity of the mineralization with increasing P_2O_5 cut off grades.

The resource classifications applied to the current estimates are intended only for cut off grades of up to 20% P_2O_5. At higher cut off grades the mineralization is less continuous and revisions to the classifications would be required for reporting estimates at higher cut offs.

Figure 12 shows the classification polygons used for Arruwurra and Main Zone and Table 15 and Table 16 summarise the classification criteria for Arruwurra and Main Zone respectively. The resource classification methodology applied to each deposit is discussed below.

Arruwurra

The Arruwurra classification polygons subdivide the mineralized domains into three zones representing mineralization tested at nominal drill spacings of 125 by 125 metres, 250 by 250 metres and broader drilling.

BPH mineralization has been generally tested by 125 by 125 metre spaced drilling. Only a small proportion of this domain has 250 by 250 metre sampling, and none lies outside the area tested by 250 by 250 metre spaced sampling.

The 125 by 125 metre spaced drilling does not reliably define the continuity of APH mineralization at high P_2O_5 cut off grades. For cut off grades of greater than 18%, none of the estimates for this domain are classified as Measured with search pass one and two blocks assigned to the Indicated category.

Table 15: General Arruwurra resource classification scheme

Domain	Search Pass	Nominal spacing < 125 by 125 m	Nominal spacing < 250 by 250 m	Nominal spacing > 250 by 250 m
APH	1&2	Measured	Indicated	Inferred
	3	Indicated	Indicated	Inferred
	4	Indicated	Inferred	Inferred
BPH	1&2	Measured	Indicated	Inferred
	3&4	Indicated	Indicated	Inferred

Main Zone

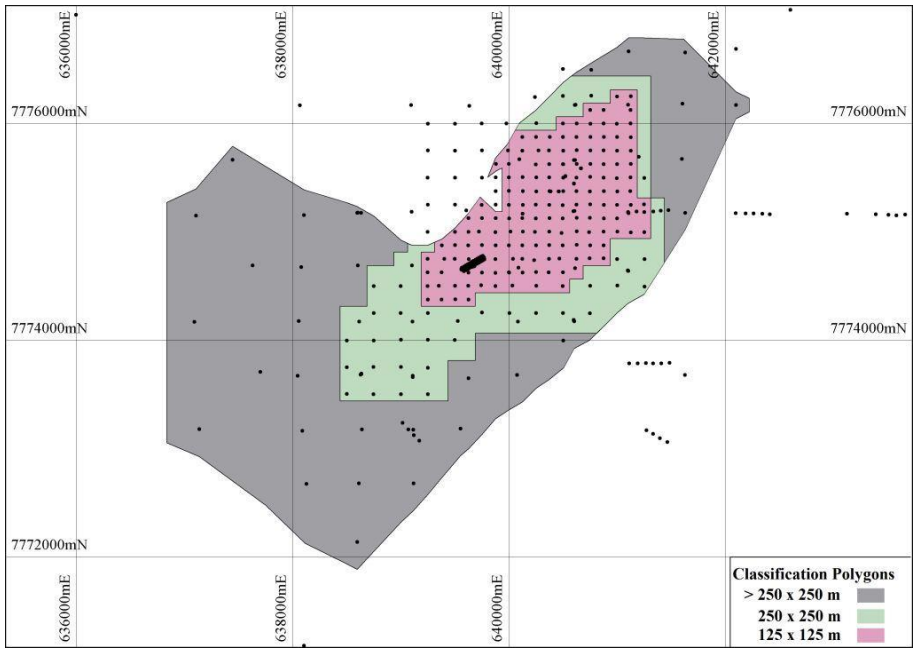
The Main Zone classification polygons subdivide the main resource domains into four areas representing nominal drilling grids of 125 by 62.5 metres, 250 by 250 metres, 500 by 500 metres and broader sampling.

The CBX and TUN domains are generally comparatively low grade with mineralization within these domains above cut-offs showing notably less continuity than for other domains including the APH and MPH zones. For the CBX and TUN domains, Indicated resources are restricted to the more closely sampled areas.

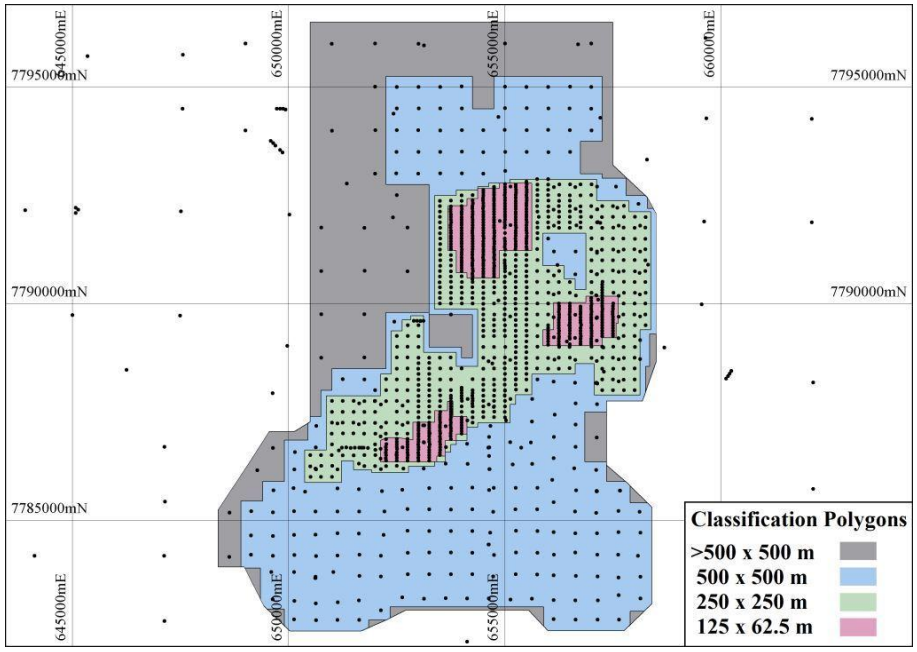
The CMU and TUP domains comprise small zones that are generally intersected by few drill holes. The estimates for these zones are of low confidence and all estimated resources for these domains are assigned to the Inferred category.

Table 16: General Main Zone resource classification scheme

	Search Pass	Nominal spacing < 125 by 62.5 m	Nominal spacing < 250 by 250 m	Nominal spacing < 500 by 500 m	Nominal spacing >500 by 500m
MPH	1-3	Measured	Indicated	Inferred	Inferred
	4	Indicated	Inferred	Inferred	Inferred
	5	Inferred	Inferred	Inferred	Exp. Potent.
	6	Exp. Potent.	Exp. Potent.	Exp. Potent.	Exp. Potent.
	Soft 1-6	Exp. Potent.	Exp. Potent.	Exp. Potent.	Exp. Potent.
CBX and TUN	1-3	Indicated	Indicated	Inferred	Inferred
	4	Inferred	Inferred	Inferred	Inferred
	5	Inferred	Inferred	Inferred	Exp. Potent.
	6	Exp. Potent.	Exp. Potent.	Exp. Potent.	Exp. Potent.
	Soft 1-6	Exp. Potent.	Exp. Potent.	Exp. Potent.	Exp. Potent.
TUP and CMU	1-5	Inferred	Inferred	Inferred	Inferred
	6	Exp. Potent.	Exp. Potent.	Exp. Potent.	Exp. Potent.
	Soft 1-6	Exp. Potent.	Exp. Potent.	Exp. Potent.	Exp. Potent.



Arruwurra



Main Zone

Figure 12: Resource classification polygons

14.6. Resource estimates

Table 17 summarizes estimated Mineral Resources for Wonarah for the P_2O_5 cut off grades specified by Minemakers and Table 18 to Table 22 detail the estimates including all secondary attributes. As stipulated by Minemakers, these tables include the model estimates reported at zero cut off which represent the entire estimated volumes of the mineralized domains.

The figures in Table 17 to Table 22 are rounded to reflect the precision of estimates and include rounding errors.

Table 17: Wonarah Mineral Resource estimates

Cut off	Deposit and Domain	Measured		Indicated		Measured and Indicated		Inferred	
		Mt	P_2O_5 %	Mt	P_2O_5 %	Mt	P_2O_5 %	Mt	P_2O_5 %
	Arruwurra								
	APH	25.6	15.3	28.2	17.1	53.8	16.2	82	16
	BPH	3.9	30.3	0.7	29.8	4.6	30.2	-	-
	Subtotal	**29.5**	**17.3**	**28.9**	**17.4**	**58.4**	**17.3**	**82**	**16**
	Main Zone								
0% P_2O_5	MPH	52.9	21.7	117	20.8	170	21.1	266	20
	CBX	-	-	185	9.1	185	9.1	416	9
	TUN	-	-	146	5.5	146	5.5	375	6
	TUP	-	-	-	-	-	-	35	27
	CMU	-	-	-	-	-	-	1	20
	Subtotal	**52.9**	**21.7**	**448**	**11.0**	**501**	**12.1**	**1,093**	**11**
	Total	**82.4**	**20.1**	**477**	**11.4**	**559**	**12.7**	**1,175**	**12**
	Arruwurra								
	APH	25.4	15.4	28.2	17.1	53.6	16.3	82	16
	BPH	3.9	30.3	0.7	29.8	4.6	30.2	-	-
	Subtotal	**29.3**	**17.4**	**28.9**	**17.4**	**58.2**	**17.4**	**82**	**16**
	Main Zone								
5% P_2O_5	MPH	52.9	21.7	117	20.8	170	21.1	266	20
	CBX	-	-	165	9.8	165	9.8	336	10
	TUN	-	-	80	7.6	80	7.6	213	7
	TUP	-	-	-	-	-	-	35	27
	CMU	-	-	-	-	-	-	1	20
	Subtotal	**52.9**	**21.7**	**362**	**12.9**	**415**	**14.0**	**851**	**13**
	Total	**82.2**	**20.2**	**391**	**13.2**	**473**	**14.4**	**933**	**13**
	Arruwurra								
	APH	21.8	16.6	27.0	17.5	48.8	17.1	82	16
	BPH	3.9	30.3	0.7	29.8	4.6	30.2	-	-
	Subtotal	**25.7**	**18.7**	**27.7**	**17.8**	**53.4**	**18.2**	**82**	**16**
	Main Zone								
10% P_2O_5	MPH	52.6	21.8	115	20.9	168	21.2	264	20
	CBX	-	-	69	12.4	69	12.4	135	13
	TUN	-	-	10	11.7	10	11.7	25	12
	TUP	-	-	-	-	-	-	35	27
	CMU	-	-	-	-	-	-	1	20
	Subtotal	**52.6**	**21.8**	**194**	**17.4**	**247**	**18.3**	**460**	**18**
	Total	**78.3**	**20.8**	**222**	**17.5**	**300**	**18.3**	**542**	**18**
	Arruwurra								
	APH	13.3	19.1	20.6	18.8	33.9	18.9	58	17
	BPH	3.9	30.3	0.7	29.8	4.6	30.2	-	-
	Subtotal	**17.2**	**21.6**	**21.3**	**19.2**	**38.5**	**20.3**	**58**	**17**
	Main Zone								
15% P_2O_5	MPH	47.7	22.7	104	21.8	152	22.1	229	21
	CBX	-	-	8	16.7	8	16.7	28	17
	TUN	-	-	0.4	16.5	0.4	16.5	1	16
	TUP	-	-	-	-	-	-	35	27
	CMU	-	-	-	-	-	-	1	21
	Subtotal	**47.7**	**22.7**	**112**	**21.4**	**160**	**21.8**	**294**	**21**
	Total	**64.9**	**22.4**	**133**	**21.1**	**198**	**21.5**	**352**	**21**

Table 17: Wonarah Mineral Resource estimates continued

Cut off	Deposit and Domain	Measured		Indicated		Measured and Indicated		Inferred	
		Mt	**P_2O_5 %**	**Mt**	**P_2O_5 %**	**Mt**	**P_2O_5 %**	**Mt**	**P_2O_5 %**
	Arruwurra								
	APH	-	-	10.8	22.2	10.8	22.2	6	22
	BPH	3.9	30.3	0.7	29.8	4.6	30.2	-	-
	Subtotal	**3.9**	**30.3**	**11.5**	**22.7**	**15.4**	**24.6**	**6**	**22**
	Main Zone								
20%	MPH	31.6	25.2	64	24.2	96	24.5	126	24
P_2O_5	CBX	-	-	0.4	21.8	0.4	21.8	3	21
	TUN	-	-	-	-	-	-	-	-
	TUP	-	-	-	-	-	-	35	27
	CMU	-	-	-	-	-	-	1	22
	Subtotal	**31.6**	**25.2**	**64**	**24.2**	**96**	**24.5**	**165**	**25**
	Total	**35.5**	**25.8**	**75**	**24.0**	**111**	**24.5**	**171**	**24**

Table 18: Wonarah resource estimates at 0% P_2O_5 cut off

Deposit	Domain	Category	Mt	P_2O_5 %	AL_2O_3 %	CaO %	Fe_2O_3 %	K_2O %	MgO %	MnO %	Na_2O %	SiO_2 %	TiO_2 %
Arruwurra	APH	Measured	25.6	15.3	6.27	22.0	1.00	0.61	0.61	0.05	0.12	47.8	0.29
		Indicated	28.2	17.1	4.89	24.3	1.74	0.53	0.55	0.10	0.11	44.9	0.23
		Meas.+ Ind.	**53.8**	**16.2**	**5.55**	**23.2**	**1.39**	**0.57**	**0.58**	**0.08**	**0.11**	**46.3**	**0.26**
		Inferred	82	16	4.9	23	3.5	0.6	0.3	0.2	0.05	46	0.2
	BPH	Measured	3.9	30.3	3.33	41.1	0.84	0.19	0.20	0.05	0.08	19.5	0.15
		Indicated	0.7	29.8	3.28	40.4	1.10	0.20	0.23	0.05	0.08	20.3	0.15
		Meas.+ Ind.	**4.6**	**30.2**	**3.32**	**41.0**	**0.88**	**0.19**	**0.20**	**0.05**	**0.08**	**19.6**	**0.15**
	Subtotal	Measured	29.5	17.3	5.88	24.5	0.98	0.55	0.56	0.05	0.11	44.1	0.27
		Indicated	28.9	17.4	4.85	24.7	1.72	0.52	0.54	0.10	0.11	44.3	0.23
		Meas.+ Ind.	**58.4**	**17.3**	**5.37**	**24.6**	**1.35**	**0.54**	**0.55**	**0.07**	**0.11**	**44.2**	**0.25**
		Inferred	82	16	4.9	23	3.5	0.6	0.3	0.2	0.05	46	0.2
Main Zone	MPH	Measured	52.9	21.7	4.62	28.7	1.22	0.40	0.12	0.03	0.09	39.0	0.20
		Indicated	117	20.8	5.09	27.4	1.57	0.51	0.16	0.03	0.09	40.2	0.24
		Meas.+ Ind.	**170**	**21.1**	**4.94**	**27.8**	**1.46**	**0.48**	**0.15**	**0.03**	**0.09**	**39.8**	**0.23**
		Inferred	266	20	5.0	27	2.1	0.5	0.2	0.07	0.06	41	0.2
	CBX	Indicated	185	9.1	4.38	11.8	1.15	0.40	0.13	0.03	0.07	69.0	0.19
		Inferred	416	9	5.1	11	2.0	0.5	0.2	0.04	0.05	68	0.2
	TUN	Indicated	146	5.5	8.84	7.3	3.45	0.98	0.51	0.22	0.08	67.4	0.50
		Inferred	375	6	9.0	7.4	4.2	1.0	0.5	0.3	0.05	66	0.5
	TUP	Inferred	35	27	3.3	36	1.2	0.2	0.1	0.1	0.04	29	0.2
	CMU	Inferred	1	20	6.0	27	0.9	0.6	0.2	0.02	0.13	40	0.3
	Subtotal	Measured	52.9	21.7	4.62	28.7	1.22	0.40	0.12	0.03	0.09	39.0	0.20
		Indicated	448	11.0	6.02	14.4	2.01	0.62	0.26	0.09	0.08	61.0	0.30
		Meas.+ Ind.	**501**	**12.1**	**5.87**	**15.9**	**1.93**	**0.59**	**0.25**	**0.09**	**0.08**	**58.6**	**0.29**
		Inferred	1,093	11	6.4	14	2.8	0.7	0.3	0.1	0.05	59	0.3
Total		Measured	82.4	20.1	5.07	27.2	1.13	0.46	0.28	0.04	0.10	40.8	0.23
		Indicated	477	11.4	5.95	15.0	1.99	0.61	0.28	0.09	0.08	59.9	0.30
		Meas.+ Ind.	**559**	**12.7**	**5.82**	**16.8**	**1.87**	**0.59**	**0.28**	**0.08**	**0.08**	**57.1**	**0.29**
		Inferred	1,175	12	6.3	15	2.8	0.7	0.3	0.1	0.05	59	0.3

Table 19: Wonarah resource estimates at 5% P_2O_5 cut off

Deposit	Domain	Category	Mt	P_2O_5 %	AL_2O_3 %	CaO %	Fe_2O_3 %	K_2O %	MgO %	MnO %	Na_2O %	SiO_2 %	TiO_2 %
Arruwurra	APH	Measured	25.4	15.4	6.25	22.0	1.00	0.61	0.61	0.05	0.12	47.7	0.29
		Indicated	28.2	17.1	4.89	24.3	1.74	0.53	0.55	0.10	0.11	44.9	0.23
		Meas.+ Ind.	**53.6**	**16.3**	**5.53**	**23.2**	**1.39**	**0.57**	**0.58**	**0.08**	**0.11**	**46.2**	**0.26**
		Inferred	82	16	4.9	23	3.5	0.6	0.3	0.19	0.05	46	0.2
	BPH	Measured	3.9	30.3	3.33	41.1	0.84	0.19	0.20	0.05	0.08	19.5	0.15
		Indicated	0.7	29.8	3.28	40.4	1.10	0.20	0.23	0.05	0.08	20.3	0.15
		Meas.+ Ind.	**4.6**	**30.2**	**3.32**	**41.0**	**0.88**	**0.19**	**0.20**	**0.05**	**0.08**	**19.6**	**0.15**
	Subtotal	Measured	29.3	17.4	5.86	24.5	0.98	0.55	0.56	0.05	0.11	43.9	0.27
		Indicated	28.9	17.4	4.85	24.7	1.72	0.52	0.54	0.10	0.11	44.3	0.23
		Meas.+ Ind.	**58.2**	**17.4**	**5.36**	**24.6**	**1.35**	**0.54**	**0.55**	**0.07**	**0.11**	**44.1**	**0.25**
		Inferred	82	16	4.9	23	3.5	0.6	0.3	0.2	0.05	46	0.2
Main Zone	MPH	Measured	52.9	21.7	4.62	28.7	1.22	0.40	0.12	0.03	0.09	39.0	0.20
		Indicated	117	20.8	5.09	27.4	1.57	0.51	0.16	0.03	0.09	40.1	0.24
		Meas.+ Ind.	**170**	**21.1**	**4.94**	**27.8**	**1.46**	**0.5**	**0.15**	**0.03**	**0.09**	**39.8**	**0.23**
		Inferred	266	20	5.0	27	2.1	0.5	0.2	0.07	0.06	41	0.2
	CBX	Indicated	165	9.8	4.19	12.8	1.18	0.39	0.13	0.03	0.07	67.7	0.19
		Inferred	336	10	4.7	13	1.9	0.5	0.2	0.05	0.04	66	0.2
	TUN	Indicated	80	7.6	8.18	10.0	2.60	0.91	0.43	0.13	0.08	64.8	0.45
		Inferred	213	7	8.4	10.0	3.1	0.9	0.4	0.16	0.05	64	0.5
	TUP	Inferred	35	27	3.3	36	1.2	0.2	0.1	0.08	0.04	29	0.2
	CMU	Inferred	1	20	6.0	27	0.9	0.6	0.2	0.02	0.13	40	0.3
	Subtotal	Measured	52.9	21.7	4.62	28.7	1.22	0.40	0.12	0.03	0.09	39.0	0.20
		Indicated	362	12.9	5.36	16.9	1.62	0.54	0.21	0.05	0.08	58.1	0.26
		Meas.+ Ind.	**415**	**14.0**	**5.27**	**18.4**	**1.57**	**0.53**	**0.20**	**0.05**	**0.08**	**55.7**	**0.26**
		Inferred	851	13	5.7	18	2.2	0.6	0.25	0.08	0.05	56	0.3
Total		Measured	82.2	20.2	5.06	27.2	1.13	0.45	0.28	0.04	0.10	40.8	0.23
		Indicated	391	13.2	5.32	17.5	1.63	0.54	0.23	0.06	0.08	57.1	0.26
		Meas.+ Ind.	**473**	**14.4**	**5.28**	**19.2**	**1.54**	**0.53**	**0.24**	**0.05**	**0.08**	**54.3**	**0.25**
		Inferred	933	13	5.6	18	2.3	0.6	0.3	0.09	0.05	55	0.3

Table 20: Wonarah resource estimates at 10% P_2O_5 cut off

Deposit	Domain	Category	Mt	P_2O_5 %	AL_2O_3 %	CaO %	Fe_2O_3 %	K_2O %	MgO %	MnO %	Na_2O %	SiO_2 %	TiO_2 %
Arruwurra	APH	Measured	21.8	16.6	5.69	23.9	0.91	0.53	0.57	0.05	0.12	45.4	0.25
		Indicated	27.0	17.5	4.79	24.8	1.66	0.51	0.51	0.10	0.12	44.4	0.22
		Meas.+ Ind.	**48.8**	**17.1**	**5.19**	**24.4**	**1.32**	**0.52**	**0.54**	**0.08**	**0.12**	**44.8**	**0.23**
		Inferred	82	16	4.9	23	3.5	0.6	0.3	0.2	0.05	46	0.2
	BPH	Measured	3.9	30.3	3.33	41.1	0.84	0.19	0.20	0.05	0.08	19.5	0.15
		Indicated	0.7	29.8	3.28	40.4	1.10	0.20	0.23	0.05	0.08	20.3	0.15
		Meas.+ Ind.	**4.6**	**30.2**	**3.32**	**41.0**	**0.88**	**0.19**	**0.20**	**0.05**	**0.08**	**19.6**	**0.15**
	Subtotal	Measured	25.7	18.7	5.33	26.5	0.90	0.48	0.51	0.05	0.11	41.5	0.23
		Indicated	27.7	17.8	4.75	25.2	1.65	0.50	0.50	0.10	0.12	43.8	0.22
		Meas.+ Ind.	**53.4**	**18.2**	**5.03**	**25.8**	**1.29**	**0.49**	**0.51**	**0.08**	**0.12**	**42.7**	**0.23**
		Inferred	82	16	4.9	23	3.5	0.6	0.3	0.2	0.05	46	0.2
Main Zone	MPH	Measured	52.6	21.8	4.62	28.8	1.22	0.40	0.12	0.03	0.09	38.9	0.20
		Indicated	115	20.9	5.07	27.6	1.57	0.50	0.16	0.03	0.09	39.9	0.24
		Meas.+ Ind.	**168**	**21.2**	**4.93**	**28.0**	**1.46**	**0.47**	**0.15**	**0.03**	**0.09**	**39.6**	**0.23**
		Inferred	264	20	5.0	27	2.1	0.5	0.2	0.07	0.06	41	0.2
	CBX	Indicated	69	12.4	3.87	16.2	1.25	0.38	0.13	0.03	0.07	62.5	0.18
		Inferred	135	13	4.2	17	1.7	0.4	0.2	0.05	0.04	59	0.2
	TUN	Indicated	10	11.7	7.07	14.9	1.89	0.76	0.34	0.09	0.08	59.0	0.38
		Inferred	25	12	7.4	15	2.0	0.7	0.3	0.05	0.05	58	0.4
	TUP	Inferred	35	27	3.3	36	1.2	0.2	0.1	0.1	0.04	29	0.2
	CMU	Inferred	1	20	6.0	27	0.9	0.6	0.2	0.02	0.08	40	0.3
	Subtotal	Measured	52.6	21.8	4.62	28.8	1.22	0.40	0.12	0.03	0.09	38.9	0.20
		Indicated	194	17.4	4.75	22.9	1.47	0.47	0.16	0.03	0.08	48.9	0.23
		Meas.+ Ind.	**247**	**18.3**	**4.72**	**24.2**	**1.42**	**0.46**	**0.15**	**0.03**	**0.08**	**46.8**	**0.22**
		Inferred	460	18	4.8	24	1.9	0.5	0.2	0.06	0.05	46	0.2
Total		Measured	78.3	20.8	4.85	28.0	1.11	0.43	0.25	0.04	0.10	39.7	0.21
		Indicated	222	17.5	4.75	23.2	1.49	0.47	0.20	0.04	0.09	48.3	0.22
		Meas.+ Ind.	**300**	**18.3**	**4.77**	**24.4**	**1.40**	**0.46**	**0.21**	**0.04**	**0.09**	**46.1**	**0.22**
		Inferred	542	18	4.8	24	2.1	0.5	0.2	0.08	0.05	46	0.2

Table 21: Wonarah resource estimates at 15% P_2O_5 cut off

Deposit	Domain	Category	Mt	P_2O_5 %	AL_2O_3 %	CaO %	Fe_2O_3 %	K_2O %	MgO %	MnO %	Na_2O %	SiO_2 %	TiO_2 %
Arruwurra	APH	Measured	13.3	19.1	4.72	27.5	0.73	0.39	0.44	0.06	0.13	40.9	0.19
		Indicated	20.6	18.8	4.42	26.5	1.57	0.47	0.47	0.10	0.12	42.1	0.20
		Meas.+ Ind.	**33.9**	**18.9**	**4.54**	**26.9**	**1.24**	**0.44**	**0.46**	**0.08**	**0.12**	**41.6**	**0.20**
		Inferred	58	17	4.7	24	3.4	0.6	0.3	0.2	0.05	44	0.2
	BPH	Measured	3.9	30.3	3.33	41.1	0.84	0.19	0.20	0.05	0.08	19.5	0.15
		Indicated	0.7	29.8	3.28	40.4	1.10	0.20	0.23	0.05	0.08	20.3	0.15
		Meas.+ Ind.	**4.6**	**30.2**	**3.32**	**41.0**	**0.88**	**0.19**	**0.20**	**0.05**	**0.08**	**19.6**	**0.15**
	Subtotal	Measured	17.2	21.6	4.40	30.6	0.75	0.34	0.39	0.06	0.12	36.0	0.18
		Indicated	21.3	19.2	4.38	27.0	1.55	0.46	0.46	0.10	0.12	41.4	0.20
		Meas.+ Ind.	**38.5**	**20.3**	**4.39**	**28.6**	**1.20**	**0.41**	**0.43**	**0.08**	**0.12**	**39.0**	**0.19**
		Inferred	58	17	4.7	24	3.4	0.6	0.3	0.2	0.05	44	0.2
Main Zone	MPH	Measured	47.7	22.7	4.49	29.8	1.22	0.38	0.12	0.03	0.08	37.4	0.19
		Indicated	104	21.8	4.94	28.7	1.55	0.48	0.16	0.03	0.09	38.2	0.23
		Meas.+ Ind.	**152**	**22.1**	**4.80**	**29.0**	**1.45**	**0.45**	**0.15**	**0.03**	**0.09**	**37.9**	**0.22**
		Inferred	229	21	4.9	28	2.0	0.5	0.2	0.08	0.06	38	0.2
	CBX	Indicated	8	16.7	3.52	21.6	1.13	0.37	0.14	0.04	0.07	54.3	0.17
		Inferred	28	17	3.5	23	1.0	0.4	0.1	0.04	0.05	51	0.2
	TUN	Indicated	0.4	16.5	5.35	20.7	2.16	0.55	0.22	0.10	0.08	51.3	0.26
		Inferred	1	16	5.7	21	1.5	0.5	0.2	0.05	0.07	51	0.3
	TUP	Inferred	35	27	3.3	36	1.2	0.2	0.1	0.08	0.04	29	0.2
	CMU	Inferred	1	21	6.0	27	0.9	0.6	0.2	0.02	0.13	39	0.3
	Subtotal	Measured	47.7	22.7	4.49	29.8	1.22	0.38	0.12	0.03	0.08	37.4	0.19
		Indicated	112	21.4	4.84	28.2	1.52	0.47	0.16	0.03	0.09	39.4	0.23
		Meas.+ Ind.	**160**	**21.8**	**4.73**	**28.7**	**1.43**	**0.44**	**0.15**	**0.03**	**0.09**	**38.8**	**0.22**
		Inferred	294	21	4.6	28	1.8	0.5	0.2	0.08	0.06	38	0.2
Total		Measured	64.9	22.4	4.47	30.0	1.10	0.37	0.19	0.04	0.09	37.0	0.19
		Indicated	133	21.1	4.77	28.0	1.53	0.47	0.21	0.04	0.09	39.7	0.22
		Meas.+ Ind.	**198**	**21.5**	**4.67**	**28.7**	**1.39**	**0.44**	**0.20**	**0.04**	**0.09**	**38.8**	**0.21**
		Inferred	352	21	4.6	28	2.1	0.5	0.2	0.10	0.06	39	0.2

Table 22: Wonarah resource estimates at 20% P_2O_5 cut off

Deposit	Domain	Category	Mt	P_2O_5 %	AL_2O_3 %	CaO %	Fe_2O_3 %	K_2O %	MgO %	MnO %	Na_2O %	SiO_2 %	TiO_2 %
Arruwurra	APH	Measured	-	-	-	-	-	-	-	-	-	-	-
		Indicated	10.8	22.2	3.70	31.6	1.00	0.33	0.42	0.07	0.13	34.9	0.16
		Meas.+ Ind.	**10.8**	**22.2**	**3.70**	**31.6**	**1.00**	**0.33**	**0.42**	**0.07**	**0.13**	**34.9**	**0.16**
		Inferred	6	22	3.9	30	2.4	0.4	0.3	0.1	0.08	37	0.2
	BPH	Measured	3.9	30.3	3.33	41.1	0.84	0.19	0.20	0.05	0.08	19.5	0.15
		Indicated	0.7	29.8	3.28	40.4	1.10	0.20	0.23	0.05	0.08	20.3	0.15
		Meas.+ Ind.	**4.6**	**30.2**	**3.32**	**41.0**	**0.88**	**0.19**	**0.20**	**0.05**	**0.08**	**19.6**	**0.15**
	Subtotal	Measured	3.9	30.3	3.33	41.1	0.84	0.19	0.20	0.05	0.08	19.5	0.15
		Indicated	11.5	22.7	3.68	32.2	1.01	0.32	0.40	0.07	0.13	34.0	0.16
		Meas.+ Ind.	**15.4**	**24.6**	**3.59**	**34.4**	**0.96**	**0.29**	**0.35**	**0.07**	**0.12**	**30.4**	**0.15**
		Inferred	6	22	3.9	30	2.4	0.4	0.3	0.10	0.08	37	0.2
Main Zone	MPH	Measured	31.6	25.2	4.21	32.8	1.22	0.35	0.11	0.03	0.08	33.1	0.18
		Indicated	64	24.2	4.58	31.8	1.58	0.43	0.14	0.03	0.09	33.5	0.21
		Meas.+ Ind.	**96**	**24.5**	**4.46**	**32.1**	**1.46**	**0.40**	**0.13**	**0.03**	**0.09**	**33.4**	**0.20**
		Inferred	126	24	4.5	32	1.6	0.4	0.1	0.06	0.06	32	0.2
	CBX	Indicated	0.4	21.8	3.03	27.6	1.11	0.32	0.12	0.04	0.06	46.1	0.14
		Inferred	3	21	3.3	28	0.9	0.3	0.1	0.04	0.03	43	0.1
	TUN	Indicated	-	-	-	-	-	-	-	-	-	-	-
		Inferred	-	-	-	-	-	-	-	-	-	-	-
	TUP	Inferred	35	27	3.2	36	1.2	0.2	0.1	0.08	0.04	28	0.2
	CMU	Inferred	1	22	5.5	29	0.7	0.6	0.2	0.02	0.1	37	0.2
	Subtotal	Measured	31.6	25.2	4.21	32.8	1.22	0.35	0.11	0.03	0.08	33.1	0.18
		Indicated	64	24.2	4.57	31.8	1.58	0.43	0.14	0.03	0.09	33.6	0.21
		Meas.+ Ind.	**96**	**24.5**	**4.45**	**32.1**	**1.46**	**0.40**	**0.13**	**0.03**	**0.09**	**33.4**	**0.20**
		Inferred	165	25	4.2	33	1.5	0.4	0.1	0.06	0.06	31	0.2
Total		Measured	35.5	25.8	4.11	33.7	1.18	0.33	0.12	0.03	0.08	31.6	0.18
		Indicated	75	24.0	4.44	31.8	1.49	0.41	0.18	0.04	0.10	33.6	0.20
		Meas.+ Ind.	**111**	**24.5**	**4.33**	**32.4**	**1.39**	**0.39**	**0.16**	**0.04**	**0.09**	**33.0**	**0.19**
		Inferred	171	24	4.2	33	1.5	0.4	0.1	0.06	0.06	32	0.2

14.7. Exploration potential

Peripheral portions of the Main Zone deposit include areas with only very broad spaced drilling. Mineralization in these areas is too poorly defined for estimation of Mineral Resources.

The broadly spaced drill holes at Main Zone suggest the presence of mineralization with exploration potential of approximately 50 to 150 million tonnes at an average P_2O_5 grade of approximately 15 to 20%. This potential mineralization is based on broadly spaced drilling and has had insufficient exploration to define a Mineral Resource, and the estimates of tonnage are conceptual in nature. It is uncertain that further drilling will convert any of the exploration potential to a Mineral Resource.

Estimates of Main Zone exploration potential are based on the blocks estimated by search pass six, and the soft boundary Kriging runs reported above a cut off grade of 10% P_2O_5. To provide a range of tonnages and grades, these tonnages estimates were multiplied by factors of 0.5 and 1.5, and the P_2O_5 grades were multiplied by factors of 0.8 and 1.25. These factors are based on the perceived potential of the estimates to overstate or understate potential resources in broadly sampled areas.

15. Mineral Reserve Estimates

This section is not applicable to the current report.

16. Mining Methods

This section is not applicable to the current report.

17. Recovery Methods

This section is not applicable to the current report.

18. Project Infrastructure

This section is not applicable to the current report.

19. Market Studies and Contracts

This section is not applicable to the current report.

20. Environmental Studies, Permitting and Social or Community Impact

This section is not applicable to the current report.

21. Capital and Operating Costs

This section is not applicable to the current report.

22. Economic Analysis

This section is not applicable to the current report.

23. Adjacent Properties

This section is not applicable to the current report.

24. Other Relevant Data and Information

This section is not applicable to the current report.

25. Interpretation and Conclusions

Wonarah Mineral Resources (Table 23) were estimated by Ordinary Kriging of one metre down-hole composited assay grades within interpreted mineralized domains. The estimates reflect Minemakers current conceptual development plans for the project which comprise a large scale, comparatively low grade operation feeding a beneficiation plant with mineralization defined at comparatively low P_2O_5 cut off grades.

The estimates are primarily based on data from RC and proportionally minor amounts of diamond drilling completed by Minemakers since 2008.

Information available to demonstrate the reliability of the sampling and assaying for Minemakers drilling includes recovered sample weights and assay results for field duplicates, reference standards, and inter-laboratory repeats. Additional confirmation of the reliability of RC sampling is provided by comparison of results from nearby RC and diamond holes.

The author considers that quality control measures undertaken by Minemakers have established that the RC sampling is representative and free of any biases or other factors that may materially impact the reliability of the sampling, and analytical results.

The author considers that the sample preparation, security and analytical procedures adopted by Minemakers provide an adequate basis for the current Mineral Resource estimates.

The estimates include bulk densities ranging from 1.7 to 2.0 t/bcm estimated from 520 immersion density measurements of core samples from Minemakers diamond drilling.

The Mineral Resources are classified as Measured, Indicated and Inferred on the basis of estimation search passes and plan view polygons defining areas of relatively consistent drill spacing. The classification scheme varies between mineralized domains and cut off grades reflecting the differences in grade continuity between different zones, and reflects the decreasing continuity of the mineralization with increasing P_2O_5 cut off grades.

The resource classifications applied to the current estimates are intended only for cut off grades of up to 20% P_2O_5. At higher cut off grades the mineralization is less continuous and revisions to the classifications would be required for reporting estimates at higher cut offs.

Table 23: Summary of Wonarah Mineral Resource estimates

Cut off P_2O_5 %	Measured		Indicated		Measured + Indicated		Inferred	
	Mt	P_2O_5 %	Mt	P_2O_5 %	Mt	P_2O_5 %	Mt	P_2O_5 %
5	82.2	20.2	391	13.2	473	14.4	933	13
10	78.3	20.8	222	17.5	300	18.3	542	18
15	64.9	22.4	133	21.1	198	21.5	352	21
20	35.5	25.8	75	24.0	111	24.5	171	24

26. Recommendations

The following summary of recommended future work programs is based on Minemakers description of their objectives for development of the project. These objectives have changed since preparation of previous Technical Reports (Abbott 2010, 2011) and rather than estimation of additional resources are designed to improve confidence in estimated resources with the target of increasing the proportion of estimated Mineral Resources classified as Measured.

The summary of proposed future work programs shown in Table 24 is based on information provided by Minemakers. Unit costs shown in this table are derived from Minemakers experience at Wonarah and include allowance for quality control-quality assurance monitoring comparable to Minemakers procedures for drilling to date.

Although dominated by RC drilling the drilling programs outlined in Table 24 are planned to include some diamond drilling to provide additional density measurements and comparisons with RC results.

The proposed work programs comprise:

a) Infill RC drilling of areas of currently Indicated resources at Arruwurra to nominally 125 by 125 metre spacing with the target of upgrading the estimates in these areas to the Measured category.

b) Infill RC drilling of currently Inferred resources at Arruwurra to a nominal pattern of 250 by 250 metres with the target of upgrading the estimates in these areas to Indicated.

c) Diamond drilling within the area of 125 by 125 metre infill RC drilling described in point a. This drilling is intended for geological and geotechnical investigations and to provide data for comparison with results from the RC drilling.

d) Interim data interpretation and resource estimation for Arruwurra.

e) Additional RC infill drilling of selected portions of any additional Indicated estimates outlined by the drilling described in point b to nominally 125 by 125 metre spacing with the goal of upgrading the estimates in these areas to the Measured category. This drilling is expected to be planned after completion of the drilling and interpretation described above and is contingent on success of the previous programs.

f) Data interpretation and resource estimation for Arruwurra.

g) Infill RC drilling of areas of currently Indicated resources at Main Zone to a nominal pattern of 125 by 125 metres with the goal of upgrading the estimates for these areas from Indicated to Measured. Although this drilling is primarily targeted at MPH mineralisation, the holes will be extended through the full mineralized sequence.

h) Diamond drilling within the area of 125 by125 metre infill RC drilling described in point g. This drilling is intended for geological and geotechnical investigations and to provide data for comparison with results from the RC drilling.

i) Data interpretation and resource estimation for Main Zone.

Although it is uncertain that further drilling will be successful, the author believes that the work programs provided by Minemakers are appropriate for improving confidence in estimated resources.

Table 24: Estimated costs of proposed infill drilling and resource updates

Item	Amount	Unit cost $AUD	Cost $AUD (1000)
Arruwurra (2013)			
a. Infilling drilling of current Indicated resources	3,800 m	$100/m	$380
b. Infilling drilling of current Inferred resources	3,800 m	$100/m	$380
c. Diamond drilling	500 m	$350/m	$175
d. Interpretation and resource estimation			$30
e. Infilling drilling of updated Indicated resources	7,600 m	$100/m	$760
f. Interpretation and resource estimation			$30
Subtotal			**$1,755**
Main Zone (2014)			
g. Infilling drilling of current Indicated resources	15,000 m	$100/m	$1,500
h. Diamond drilling	500 m	$350/m	$175
i. Interpretation and resource estimation			$30
Subtotal			**$1,705**
Total			**$3,460**

27. References

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Date and Signature Page

CERTIFICATE of AUTHOR

I, Jonathon Abbott, BASc, MAIG, do hereby certify that:

a. I am a Consulting Geologist with
MPR Geological Consultants Pty Ltd
19/123A Colin Street
West Perth, Western Australia
AUSTRALIA

b. This Certificate applies to the technical report titled "Technical Report Mineral Resource Estimation for the Wonarah Phosphate Project Northern Territory, Australia" prepared for Minemakers Ltd dated 15th October 2012 (the "Technical Report") relating to the Wonarah property.

c. I graduated with a Bachelor of Applied Science in Applied Geology from the University of South Australia in 1990. I am a member of the Australian Institute of Geoscientists. I have worked as a geologist for a total of 22 years since my graduation from university. My experience includes mine geology and resource estimation for a range of commodities and mineralization styles. I have been involved in preparation and reporting of resource estimates in accordance with JORC guidelines for 17 years, and NI43-101 guidelines for approximately 9 years. I have read the definition of "qualified person" set out in National Instrument 43-101 ("NI 43-101") and certify that by reason of my education, affiliation with a professional association (as defined in NI 43-101) and past relevant work experience, I fulfil the requirements to be a "qualified person" for the purposes of NI 43-101.

d. I have been involved with the Wonarah Project since March 2009 , and visited the project site from the 12th to 13th of March 2009.

e. I am responsible for sections 1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23, 24, 25, 26 and 27 of the Technical Report.

f. I am independent of the issuer as defined in Section 1.4 of the Instrument.

g. I have not had prior involvement with the property that is the subject of the Technical Report.

h. I have read National Instrument 43-101 and Form 43-101F1, and the Technical Report has been prepared in compliance with that instrument and form.

i. As of the date of this Certificate, to the best of my knowledge, information and belief, the Technical Report contains all scientific and technical information that is required to be disclosed to make the Technical Report not misleading.

Dated this 15th day of October, 2012.

Jonathon Abbott, BASc Appl. Geol MAIG