JACARANDA MINERALS LTD & MINERALS AUSTRALIA PTY LTD

EPM19120 LAKELAND EXTENDED NORTH QUEENSLAND

FINAL REPORT

Grant Date 28th August 2012 MAY 2014

Prepared for
Jacaranda Minerals Ltd
&
Minerals Australia Pty Ltd

By

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MAP SHEETS

1: 250,000 scale

COOKTOWN SD 55-13

1: 100,000 scale

BUTCHERS HILL 7866

KEY WORDS

Airborne, chromite, chrome diopside, eclogite, geochemistry, geophysics, gravity, kimberlite, kimberlitic zircon, magnetics, pyrope garnet, picroilmenite, radiometrics, structure.

SUMMARY

EPM19120 consists of 59 sub-blocks with a size of 195 km². It was granted to Jacaranda Minerals Ltd and Minerals Australia Pty Ltd in equal shares on 28th August 2012. The tenement was surrendered in March 2014.

Jacaranda Minerals Ltd ("JML") and Minerals Australia Pty Ltd ("MAPL") are equal partners in the Jacaranda Alliance Joint Venture ("JAJV"). Hancock Exploration Management Services Pty Ltd ("HEMS") is the operator of the joint venture and is a wholly owned subsidiary of Hancock Prospecting Pty Ltd.

The JAJV exploration objective was the discovery of diamondiferous kimberlite and lamproite pipes within Devonian metasediments and/or Tertiary mafic volcanics at the northern part of the Hodgkinson Basin.

Airborne magnetic and radiometric data over the Cooktown Project and surrounding areas were extracted from the 1999 Hodgkinson-Georgetown (Block A) survey, which was flown for the Geological Survey of Queensland by Kevron Geophysics.

Diamond exploration data released by the Queensland Government Department of Mines and Energy shows that a range of diamond indicator minerals occur in the broad region around and within the Lakeland Downs area, and presenting the possibility that diamonds may also occur.

EPM19120 is located over aero-magnetic and local gravity lows, some corresponding to topographic lows and highs and some with coincident radiometric signatures. Radiometric data delineated potassium highs corresponding to circular morphological features with magnetic lows, possibly defining kimberlite pipes.

A 2009 Australian Geoscience magnetic and gravity survey across Cape York Peninsula enabled JAJV to do detailed geophysical modeling and interpretation of these features indicate that they are caused by vents associated with volcanic eruptions which the JAJV considers may be interpreted as possibly diamondiferous mantle-tapping pipes.

Analysis of local geology, aeromagnetics, radiometrics and gravity as well as morphological surface features using Google Earth helped define areas of high interest. Drainage intersecting areas of high interest, such as circular craters and circular geomorphological features, volcanic plugs and swampy depressions were targeted for stream sediment sampling.

Sub blocks relinquished from the company's adjacent tenement EPM16283 between 2009 and 2012 have been incorporated into EPM19120. A total of 29 stream sediment samples previously taken in EPM16283, with the 4 letter COOK are now in EPM19120.

In the 2012-2013 reporting total of 12 stream sediment samples, with a 3 letter code LLE, were collected in the western portion of the tenement. The designated 3 letter code is LLE for Lakeland Extended. These results were pending in the 2012-2013 report and are summarized in this report. A total of 38 stream sediment samples were taken in the 2013-2014 reporting period.

Laboratory and electron microprobe results from the previous 29 samples, designated COOK for Cooktown EPM16283, has produced geochemical indications that possibly reflect EPM19120 Lakeland Extended Final Report May 2014

ultramafic source rock for the diamond indicator minerals, with the possibility that diamondiferous diatremes and/or dykes may be found within the tenement. Stream sediment samples with the code LLE were processed at IDL Laboratories in Perth, Western Australia. To date, a total of 14 stream sediment samples have been processed with results not reflecting the abundance of diamond indicator minerals necessary to define an area most likely to contain mantle tapping vents. Abundances of diamond indicator grains reflect the average background of eroded alkali basalts and volcanic ash deposits that outcrop throughout the tenement.

Electron microprobe analyses have confirmed low chromium levels in most indicator minerals with consistent graphical clustering of results, indicating re-melting of high temperature and pressure magmas, with strong resorption of mineral grains, thus placing the minerals within the Eclogite Field. A few indicator minerals have higher chromium values with some Picroilmenites and Chrome Diopsides overlapping the Eclogite Field into the Diamond Inclusion Field and Diamond Eclogite Field. The tiny volume of these high interest grains suggests incorporation within occasional mantle xenoliths found widespread within the Tertiary McLean Basalt.

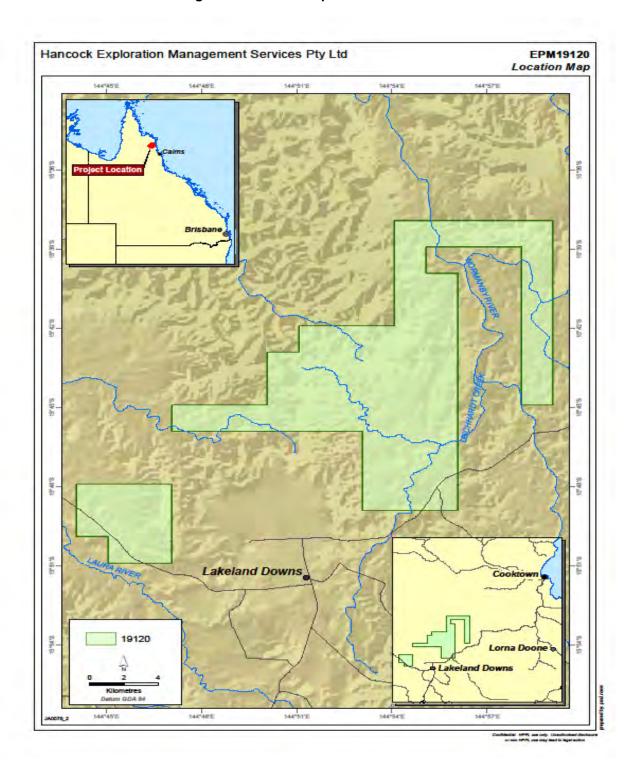


Figure 1: Location Map EPM19120

2. INTRODUCTION

2.1 LOCATION AND ACCESS

The JAJV Cooktown Project is centered on the town of Lakeland in North Queensland, approximately 80 km wests-south-west of Cooktown, and 80km southeast of Laura (Latitude 15o 50' South, Longitude 144o 50' East). Reliable access to the prospects is gained via Peninsula Development Road and Cooktown Development Road.

2.2 GEOLOGY

Within EPM19120 essentially three major rock types exist, the meta sedimentary assemblage of the Late Silurian to Late Devonian Hodgkinson Formation (D-Ch) and the Tertiary McLean olivine basalt and associated pyroclastics (Cze), with a few patches of Lower Cretaceous Battle Camp (Klc) and Jurassic Dalrymple (JI) sandstones, shales and conglomerates with minor Cainozoic alluvials (Czx) in patchy deposits along major drainage (Figure 2)

Uplift and erosion has stripped the majority of Cretaceous and Jurassic sediments from the Hodgkinson Formation, with only the Tertiary McLean Basalt unconformably overlying the Hodgkinson Formation within the tenement.

The Hodgkinson Formation (D-Ch) is a NNW trending belt of Mid Devonian to Lower Carboniferous deep water turbidites, with a range of major rock types of mudstone, siltstone, slate, hyalite, schist; and minor rock types of arenate, quartzite, limestone, marble, conglomerate, chert, mafic schist, amphibolite and calc-silicate gneiss.

Deep water turbidity current deposits from the Late Silurian to the Late Devonian extend from Tully north up to Cape Melville. The metamorphic grade is generally lower greenschist facies where fine grained rock types predominate. They consist mainly of meta mudstone, meta siltstone, slate, phyllite and schist, consisting of mainly quartz, K-feldspar, muscovite, sericite with minor plagioclase feldspar and ilmenite

Thickness of the Hodgkinson Formation is unknown, it is also un-fossiliferous and metamorphosed to lower greenschist facies and upper greenschist facies in areas to the south.

Unconformably overlying the Hodgkinson Formation is the McLean Basalt (Cze) which covers slightly more than 20% of the tenement and is a Tertiary Olivine Basalt with associated pyroclastics. Successive flows show a range of textures and inclusions. Vesicular basalts with lherzolite nodules are common as is a fine grained non-vesicular basalt with polygonal cooling features and chilled margins of black volcanic glass.

Pyroclastic rocks have been noted in a few scattered outcrops. These are moderately weathered and metasomatised, with angular to well-rounded country fragments and mantle xenoliths. Many fragments exhibit strong fracturing, most likely due to decompression and interaction with groundwater during eruption. Many fragments also have reaction rinds, typical of diatreme and hyperbyssal facies.

Epiclastic rocks formed from weathering and erosion of pyroclastics are generally mixtures of re-sedimented syn-eruptive volcaniclastic and metasedimentary erosion material termed volcaniquenic sedimentary rocks which are widespread but not common.

Stream Alluvials (Czx) are all derived from the two rock types within the tenement. Metasediments such as slates, phyllites, greywackes, cherts and white vein quartz material derived from the Hodgkinson Formation.

Basalts, both vesicular and non vesicular, scoria, volcanic glass, lherzolite nodules from the McLean basalts with pyroclastic and volcanigenic sedimentary rocks.

Fine grained sands are chiefly quartz from the meta sediments and iron oxides from the basalts with calcite and chalcedony as secondary infill in vesicular lavas.

There is one known occurrence of a basaltic pipe within EPM19120 and another on the tenement boundary in the west.

2.3 PREVIOUS EXPLORATION

Diamond exploration data released by the Queensland Government Department of Mines and Energy shows that a range of diamond indicator minerals occur in the broad region around and within the Lakeland Downs area, and presenting the possibility that diamonds may also occur.

Various indicator minerals were found in the samples, such as pyrope, chrome diopside, chromite, picroilmenite. The morphology of some indicator minerals indicated a likely kimberlitic affinity, with their chemistry similar to those for the alkali basalts with which macrodiamonds are associated elsewhere in eastern Australia. No indicators of undoubted kimberlitic/lamproitic affinity were found.

Oilmin NL, Transoil NL and Petromin NL were granted EPM3238 in May 1982. These companies explored for diamonds in kimberlites and alluvial deposits in the McLean Volcanic Province, 80km west-south-west of Cooktown. Air photo interpretation was used to identify any possible kimberlitic intrusions, but none were found. No diamonds had been previously found in this area and no gravel samples were collected. Existing aeromagnetic and radiometric data were analysed to delineate any anomalies, but none were found. The Permit was relinquished in July 1982.

The Lakeland area has historically produced very minor quantities of Sapphire and Ruby with variously coloured Zircons, Almandine and Pyrope Garnets and Peridot (magnesium olivine), by prospectors, from streams draining the McLean Tertiary alkali basaltic vents, with occasional very fine alluvial gold from narrow auriferous quartz veins within the Hodgkinson Formation metasediments.

2.4 EXPLORATION RATIONALE

The exploration objective was the discovery of diamondiferous Kimberlite and Lamproite pipes within Devonian metasediments and/or Tertiary mafic volcanics at the northern part of the Hodgkinson Basin.

The hypothesis is that diamonds can occur in alkaline basaltic rocks as well as in the "traditional" kimberlite and lamprophyre rock associations. This hypothesis has not previously been tested in Australia, where the source rocks of numerous alluvial diamond occurrences along the eastern hinterland have identified interpreted volcanic vents in the areas of JAJV exploration tenements. These vents may never have been previously identified or investigated.

Most of the known areas with alluvial diamonds have adjacent occurrences of alkaline basalts. The joint venture hypothesis is that the vent structures may be potential hosts for diamonds

A 2009 Australian Geoscience magnetic and gravity survey across Cape York Peninsula enabled the JAJV to do a detailed gravity survey across key target areas within the tenement. Geophysical modeling and interpretation of these features indicate that they are caused by vents associated with volcanic eruptions which JAJV geologists consider may be interpreted as possibly diamondiferous mantle-tapping pipes.

All drainages were to be stream sediment sampled and areas of clay alteration being loam sampled with rock outcrops with unusual lithologies to be digested by caustic fusion. Diamond indicator mineral grains recovered from tabling, dense media and magnetic separation, were to be electron microprobed to assess mantle chemistry. All geological, geophysical and geochemical data to be assessed for the possibility of diamondiferous breccias, kimberlite and/or Lamproite pipes.

Delineation of possible pipes would require RC and diamond drilling to determine areal extent and depth.

Hancock Exploration Management Services Pty Ltd EPM19120 Geology Map and Sample Locations D-Ch Sample Locations

Figure 2: Geological Map and Sample Locations of EPM19120 (from COOKTOWN 1: 250,000 (SD 55-13)

3. EXPLORATION COMPLETED BY THE JAJV

3.1 Exploration completed in the 2013-2014 Reporting Period

- A total of 38 stream sediments were taken in the 2013-2014 reporting period but only 14 of these were submitted for mineralogical investigation.
- A total of 12 stream sediment samples were taken in the 2012-2013 reporting period, when results were pending. Samples have been processed and results discussed in this report.
- Relinquished sub blocks from EPM16283 were incorporated into EPM19120 with 29 previous COOK samples. These were previously laboratory tested and a selection of kimberlitic diamond indicator mineral grains were electron microprobed.
- Re-analysis and interpretation of mineral chemistry providing new sampling and mapping targets.
- Laboratory processing of geochemical samples and selection of grains for electron microprobing.
- Review of geological and geophysical data in relation to previous laboratory and electron microprobe results.
- Reinterpretation of recently acquired gravity and magnetic data and reinterpretation of the northern structural corridor.

3.2 Geochemical Results and Discussion

Samples taken across the western portion of the tenement were to follow up an original sample, COOK 020 taken in relinquished EPM16283 sub blocks (Figure 2). Diamond indicator minerals from COOK 020 were abundant with all drainages upstream requiring sampling. The headwaters of the main drainage are sourced from the two Goldtyne volcanic craters and extensive areas of basaltic flows.

West flowing drainages previously taken in relinquished sub blocks of EPM16283 were COOK 023 and 024, 071-074 and 109 to 111. The dominant geology is Hodgkinson meta sediments, with very minor amounts of diamond indicator minerals recovered. The source of the indicators appears to be minor layered deposits of extensively weathered volcanic ash scattered across the western drainage divide.

East flowing drainages were also previously sampled by COOK 027, 029-033, 126, 131-136. The sample locations are in EPM19120 but the source areas in the headwater regions are in EPM16283. Very minor diamond indicators were recovered. Stream sediment sample COOK 031 directly sources a diamondiferous breccia pipe within EPM16283 and returned abundant diamond indicator minerals with mantle chemistry.

North flowing drainages COOK 093-096, with COOK 094 sampling Boggy Creek that sources most of the eastern ranges within adjacent EPM16283. Samples 095 and 095 were short drainages returning very few indicators. Sample COOK 093 returned abundant indicator minerals as the upper drainages within EPM19120 source a cluster of small volcanic vents. This area is very prospective with 183 Chromites, 3 Picroilmenites, 226 G9 Pyrope Garnets and 2 Chrome Pyrope Garnets all deemed possible to probably kimberlitic.

Lakeland Extended LLE sampling targeted the McLean alkali basalts that outcrop along the Laura Development Road and drainages that erode the Hodgkinson metasediments in ranges north of the Cooktown Development Road, Figure 2. The priority samples were the drainages sourced from the basalts. These were LLE001 to LLE 014, of which 4 were negative and 5 contained background indicator volumes.

The remaining samples LLE005, 006, 008, 009, 010 contained slightly elevated abundances of diamond indicator minerals, such as Pyrope Garnet, Picroilmenite, Chromite and Chrome Diopside.

Electron microprobe results of Pyrope Garnets from the COOK series had chrome values below 2wt%, well outside the Diamond Inclusion Field and were deemed Eclogitic in origin. Chrome Diopsides were more Kimberlitic with a few containing over 2wt% Chrome and another population well below 2wt%. Plots over 2wt% within the DIF and well outside. Origin is Eclogitic to Lamporphyric.

Chromites have chrome values well below the 60wt% cutoff for inclusion in the DIF. Averaging between 45 to 55wt % Chrome, they are deemed more Lamprophyric and belong to a possible reworked kimberlite that has undergone partial melting with graphical clustering of chemistry.

Picroilmenite. If the grains have enhanced chromium oxide (Cr2O3) and high Titanium (TiO2) and Magnesium (MgO) oxide, they fall within the Diamond Inclusion Field. DIF = >1wt% Cr2O3, >7wt% MgO

Microprobe plots of magnesium (MgO) verses titanium (TiO2) indicate that the grains fall outside of the kimberlite field, also the chromium content is too low and the iron content is too high for picroilmenite from EPM19120 to plot within the Diamond Inclusion Field, however they do plot within the Eclogite Field, with possible origins in deep seated reworked kimberlite.

4. CONCLUSIONS AND RECOMMENDATIONS

Stream sediment and loam sampling has identified a complete suite of diamond indicator minerals indicating possible mantle tapping pipes within the tenement boundary.

The recovery of microdiamonds in adjacent tenements has confirmed that there are local sources of ultra high temperature and pressure rock types capable of sourcing diamondiferous deep crustal to mantle material.

Recent discoveries of kimberlitic clays and loams in Hancock's adjacent tenements suggests multiple pipes, consistent with the pipe clustering model.

The surface morphology of the LLE grains were the same as the COOK series grains, with pale pink and orange Pyrope Garnets with generally low chrome values. The Picroilmenites were generally boarderline ilmenites, with the Chrome Diopsides a very pale green colour indicating again the low chrome concentrations. The Chromites were generally hard on the streak and shards did not show any red reflectance, typical of the chromites and picotites recovered from the alkali basalts and basanites.

The remaining samples were collected within the Hodgkinson Formation and panned concentrates recovered few to nil indicator minerals.

Microprobe chemistry of selected grains has shown a depletion in chrome content consistent with an Eclogitic ultramafic rock type and a possibly reworked/partially remelted Kimberlite.

A second population of high chrome indicator minerals, indicates through graphical plotting of microprobe chemistry, that two or more populations of diamond indicator minerals exist, although NO microprobe chemistry has elevated chrome values high enough to plot within the Diamond Inclusion Field, suggesting a paragenesis that reflects an alkali basalt heritage and a reworked/remelted ultramafic. This is consistent with multiple eruption episodes with different rock types sourced from high temperature and pressure regions.

The lack of a significant amount of Chrome Diopsides and Pyrope Garnets suggest that all diamond indicator minerals came from mantle xenoliths caught up in the deep crustal Basanites, Alkali Olivine Basalts and rocks of Lamprophyric composition.

Microprobe chemistries of indicator grains do not compare with Diamond Inclusion Field chemistry and are more likely crustal in origin.

The JAJV considers the area within EPM19120 offer little, if any prospectivity for the discovery of diamondiferous kimberlite and or lamproite pipes.

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AGSO Journal of Australian geology and geophysics. Volume 17, Number 2, 1997

APPENDIX

Laboratory mineralogical investigation results

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Mineralogist/Observer: NJT-EH

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Independent Diamond Laboratories Pty Ltd

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After T Ø/mm		l . 1	16		>0.4	>0.3	1.0.25	Fractio		1) Ohaa		1(a) C		a = 1(a)
<u>Ø/mm</u> Mill	>2	>1	>0.8	>0.5	>0.4	>0.5	<0.25	Ø/mm	ons Ana >1	1 <u>vsea(x</u> >0.8	>0.5	>0.4	> 0.3		oniv(s) >0.1
Table	X	X	Х	Х	X	Х	Х	NM	X	Х	X	X	X		
HL Mag		X X	X	X X	X X	X X		M4 M3	X X	X X	X X	X X	X		
	erlite		proite			-	l	1113		<u> </u>		<u> </u>	<u> </u>	<u> </u>	<u> </u>
			ize/mm	>2	>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	/km	Appe	arance
Diam	ond														
		opside	<u> </u>												
Chror		орысс													
Phlog															
Picroi		te													
Pyrop								1	3				<5	Poss	Kimb
Pyrop													ν.	1 055 .	IXIIIIO
Pyrop								1	1				<5	Poss	Kimb
		Zirco	n											1 000	
	Mine		Size/1	nm		!	!			Desci	ription			!	
Pyrop			0120/1		Angu	lar fra	gment	s, Pale	e pink				tinge.		
Pyrop								s, Pale		ge.					
		erais	(Volur				Liqui					<u> </u>			l
Alma			О		pyrox		E	Spine				Apati			
Andra			-		pyrox	ene	F	Magn			C	Mona			
Gross					<u>iibole</u>			Leuce			S	Phosp			
Spess			Б	Biotit					emite		A	Olivi		4 .	O
Diops			F	Prehn				Limo		1-\	C	ROCK	Fragn	nents	A
Anda			-	Corui			<u> </u>		e(psue	uo)	<u>T</u>	7:			177
Kyani			-	Hema				Pyrite				Zirco			F
Sillim			-	Ilmen			т	Barite				Titani			
Staure				Rutile			T	Anhy				Picoti			0
<u>Epido</u>				Anata			Т	Diasp			T	Pleon	aste		S
Tourn P >50		A 20-	O 50%	Brook	<u>kite</u>)-20%	C	F 1-10%	Magn	<u>iesite</u> 20grain	s_1%	F	5-20gra	ine	T 1-5	grains
1 /30	70	11 20-	JU /U	C 10	· 20 /0	IJ.	1-10/0	0	20graill	5-1/0	1.	J-20g1a	1113	1 1-3	grams

Mineralogist/Observer: NJT-EH

Date Completed: 3-4-14

Independent Diamond Laboratories Pty Ltd

ABN 34 005 948 185 40272

DIAN	MON	II dv	NDIC	ATO	$\mathbf{R} \mathbf{D} A$	ATA		Samp	ole No	:	LLE	010			
Job N		723													
Date Sta													Pos	sitive	X
Process	sing W	/eights													
Initial:			31.8	kg									Neg	ative	
+2mm:			N/A	kg											
After Ta	abling:	:	5.13	kg								Positi	ive (O	ther)	
After T	BE:		254	g											
Ø/mm	>2	>1	>0.8	>0.5	>0.4	>0.3	< 0.25							canned	
Mill Table	X	X	X	X	X	Х	X	Ø/mm NM	>1 x	>0.8 x	>0.5 x	>0.4 x	>0.3 x	>0.25	>0.1
HL		X	X	X	X	X	^	M4	X	X	X	X	X		
Mag		_ X	X	<u> x</u>	X	X		M3	X	X	X	X	X		
Kimb			proit				1.05	l . o 4	. 0.2	l. 0.05	. 0.1	1 337	/1	Ι .	
		sieve S	ize/mm	>2	>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	/km	Appe	arance
Diamo															
Chron		opside	2						2				<3	Poss	<u>Kimb</u>
Chron															
Phlogo															
Picroil	lmeni	te						1	1				<3	Kimb	erlitic
Pyrope	e						2	3	3				<5	Poss	Kimb
Pyrope	e Cr														
Pyrope	e Ti					1	1	1	4				<5	Prob	Kimb
Kimbe	erlitic	Zirco	n												
]	Mine	ral	Size/1	mm						Desci	ription	1			
Cr Dio	pside	e			Stubb	y, Pris	smatic	, CrO	~1%, 0	Cr bea	ring D	Diopsio	le in b	ackgro	ound.
Picroil	lmeni	te			coatir	ng/con	choid	agmen al frac akly pa	ture, C).3mm	grain	is wh		th grai	nular
Pyrope	e				Angu	lar fra	gment	ts, Pinl	k.						
Pyrope	e Ti				Angu one.	lar fra	gment	ts, Ora	nge -	fleshy	orang	ge, Etc	hed su	ırface	on
Other	Min	erals	(Volu	ne% a	after I	Heavy	Liau	id-HL	<u>,)</u>						
Alman			F		pyrox			Spine				Apati	te		F
Andra				i	pyrox		S	Magn				Mona			
Grossi			F		hibole		S	Leuce			0	Phos			
Spessa			1	Biotit					emite		A	Olivi			0
Diopsi			S	Prehr				Limo			A		Fragr	nents	A
Andalı			<u>5</u>		ndum				e(psue	do)	0	ROCK	Tragi	Henris	71
Kyanit				Hema				Pyrite		<u>uo)</u>	T	Zirco	n		Т
Sillima			Т	Ilmen				Barite			1	Titan			1
			1	Rutile			F	Anhy				Picot			О
Stauro Enidot			T				<u> </u>				Т				
Epidot			1	Anata				Diasp			1	Pleon	iasie		S
Tourm P >509	<u>iaiine</u> %	A 20-	1 50%	Brool	11te 0-20%	Ç	<u> </u> 1-10%	Magn	esite 20grain	s-1%	F	5-20gra	ins	Т 1_4	grains
1 /307	···	11 20-	20/0	C 10	J-20/0	S.	1-10/0	J	20graill	5-1/0	1.	5-20g1a	1113	1 1	Siams

Mineralogist/Observer: NJT-EH-LG

Date Completed: 11-4-14



Independent Diamond Laboratories Pty Ltd

ABN 34 005 948 185

DIA	MON	II di	NDIC	ATO	R DA	ATA		Samp	ole No	:	LLE	009			
Job N		723						•							
Date S		_	14										Po	sitive	X
Proces	_	eights/												1	
Initial:			32.4	_									Neg	ative	
+2mm:			N/A	kg										i	
After T	_		3.41	-								Positi	ive (O	ther)	
After T			115												
Ø/mm	>2	>1	>0.8	>0.5	>0.4	>0.3	< 0.25	Fractio	ns Ana					canned	
Mill Table	X	X	Х	X	X	Х	X	Ø/mm NM	>1 x	>0.8 x	>0.5 x	>0.4 x	>0.3 X	>0.25	>0.1
HL	••	X	X	X	X	X		M4	X	X	X	X	X		
Mag	124 -	X	X	X T 12	X	X		M3	X	X	X	X	X		
Kimb			i proit ize/mm		cators >1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	·/km	Anne	arance
Diam		neve bi	120/111111		/1	70.0	70.3	70.4	70.3	70.23	70.1	Wear	/ KIII	Търс	arance
		neida													
Chror Chror		opside	;												
Phlog															
Picroi		to							1				<2	Vimb	erlitic
		ie						3	4				<3	 	Kimb
Pyrop Pyrop								3	4				<3	FIOU	KIIIIU
Pyrop							1	3	5				<3	Vimb	erlitic
Kimb		7iroo	n				1	3					< 3	Kiiiiu	CHILL
	Mine:		Size/ı						<u> </u>	Dogg	intion	<u> </u>		<u> </u>	
Picroi			SIZE/I	11111	Angu	lor wh	volo gr	ain, M	[otolli		ription boids		uro		
Pyrop Pyrop					paran 2 who fleshy Angu	nagnet ole etc y pink	hed gr with s	rains, l slight 1	Remai	nder a e.	ngula	r fragı	nents,	Pink to the with	0
		erals (ı			Liqu	id-HL							
Alma			O		pyrox			Spine				Apati			
Andra			<u> </u>		pyrox		F	Magn			S	Mona			
Gross			F		<u>hibole</u>			Leuce			S	Phos			_
Spess				Bioti					<u>emite</u>		A	Olivi			0
Diops			F	Prehr				Limo			A	Rock	Fragr	nents	A
Anda					<u>ndum</u>				e(psue	do)	F				
Kyani				Hema				Pyrite				Zirco			
Sillim			T	Ilmer			F	Barite				Titan			_
Stauro				Rutile			T	Anhy				Picot			O
Epido				Anata			T	Diasp			T	Pleor	aste		S
Tourn		A 20	O	Brool			T 100/	Magn		a 10/		5 20 :	inc	Tr 1.7	
P >50		A 20-			0-20%	S	1-10%	U	20grain	18-1%		5-20gra			grains
Miner	alogis	st/Obs	erver:	NJT-l	EH						Date	Comp	leted:	3-4-1	14

Independent Diamond Laboratories Pty Ltd

ABN 34 005 948 185 40272

		ND II		ATO	K DA	ATA		Samp	le No	:	LLE	008			
Job N Date S		723						1					ъ	•	37
		_											Pos	sitive	X
Proces Initial:	_	veignis		lzα									N.T	4•	
+2mm:			35.2	_									Neg	ative	
		_	N/A	-								D 4		41	
After T	_	:	4.63	_								Positi	ive (O	ther)	
After T		l . 1	92		I . o . ı	>0.3	-0.25	Enantia		1 4/	· \ Oh		1(a) C		a == l= . (a)
<u>Ø/mm</u> Mill	>2	>1	>0.8	>0.5	>0.4	>0.5	<0.25	Fractio Ø/mm		>0.8	>0.5 >0.5		11 <u>v(0).3</u> >0.3	>0.25	oniv(s) >0.1
Table	X	Х	Х	Х	Х	Х	Х	NM	X	X	X	X	X		, ,,,
HL Mag		X	X	X	X	X		M4 M3	X	X	X	X	X		
	erlite	Lam	<u> </u>	L X e Indi	<u> </u>	<u> x </u>		11015	X	X	X	X	X		
1211110			ize/mm		>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	/km	Appe	arance
Diam													•	TT.	
		opside	`												
Chror		opside	7						2				5 10	Docc	Kimb
Phlog													J-10	1 055	Kiiiio
Picroi	_	ita													
Pyrop		ite					2		1				<3	Drob	Kimb
Pyrop								1	1				< 5		erlitic
Pyrop								1					< 6		Kimb
		Zirco	n					1					<0	F 088	KIIIIU
KIIIIU	Mine		Size/i	<u> </u>			<u> </u>			Dogg	ription				
Chror		1 41	SIZE/	111111	Cubb	adral	Dictor	ted, A	hrasia						
Pyrop Pyrop Pyrop	e Cr				Flesh Angu	pink. dar fra	gment	ns with	or wea	ar, Lila	ic with	ı Cr gı	reen ti	nge.	
Other	r Min	erals	Volui	ne% a	after l	Heavy	Liqu	id-HL)						
Alma	ndine		S	Ortho	pyrox	ene		Spine	1		T	Apati	ite		F
Andra	adite			Clino	pyrox	ene	0	Magn	etite			Mona	azite		
Gross	ular			Ampl	nibole		F	Leuco	oxene		S	Phos	phate		
Spess	artine			Musc	ovite		T	Magh	emite		C	Olivi	ne		F
Diops	side		T	Prehr	ite			Limo	nite		Α	Rock	Fragn	nents	A
Andal	lusite			Coru	ndum			Pyrite	(psue	do)					
Kyani	ite			Hema	atite			Pyrite)			Zirco	n		Т
Sillim	nanite			Ilmen	nite			Barite	<u> </u>			Titan	ite		
Stauro	olite			Rutile	e		F	Anhy	drite			Picot	ite		
Epido	te			Anata	ase		Т					Pleon	naste		С
Tourn	naline		О	Brool	kite			Magn	esite						
P >50		A 20-	50%	C 10)-20%	S	1-10%	O	20grain	s-1%	F	5-20gra	ins	T 1-5	grains
Mine	ralogis	st/Obs	erver:	NJT-l	LG						Date	Comp	leted:	3-4-	14

Independent Diamond Laboratories Pty Ltd ABN 34 005 948 185

DIA		MD IN	NDIC	ATO	$\mathbf{R} \mathbf{D} A$	ATA		Samp	ole No	:	LLE	007			
Job N		723						1					_	1	
Date St		10-3-1											Pos	sitive	X
Process Initial:	sing w	eignts		1											
			26.6	•									Neg	ative	
+2mm:			N/A	-								D '4'	(0)		
After T After T	_		6.20	·								Positi	ve (O	ther)	
Ø/mm	>2	>1	45 >0.8	g >0.5	>0.4	>0.3	∠0.25	Fractio	na Ana	lycod(v) Obco	mind on	ly(a) C	aannad	only(c)
Mill	>2	>1	>0.8	>0.3	>0.4	>0.5	<0.23	Ø/mm	>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1
Table	X	Х	Х	Х	Х	Х	Х	NM	X	Х	X	X	X		
HL Mag		X X	X	X X	X X	X X		M4 M3	X X	X X	X X	X	X X		
Kimb	erlite							11113	Λ	Ι Λ	Λ	Ι Λ	Λ		
			ize/mm		>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	/km	Appe	arance
Diamo	ond														
Chron		onside	<u> </u>												
Chron		эрыче	<u> </u>						1				5-10	Poss	Kimb
Phloge													2 10	1 000	
Picroi		te													
Pyrop															
Pyrop															
Pyrop															
Kimbe		Zirco	n												
	Mine		Size/ı	mm			ļ			Desci	ription				
Chron			D120/1		Subh	edral	Dull.	Abrasi	on roi				rim		
Other	· Min	erals ((Volur	ne% :	after l	Heavv	Lian	id-HL	.)						
Almar			T		pyrox		4	Spine				Apati	te		
Andra					pyrox			Magn				Mona			
Gross					nibole			Leuco				Phos			
Spessa				Musc			Т	Magh			С	Olivi			
Diops				Prehn				Limo			C		Fragn	nents	P
Andal				Corui				Pyrite		do)	C	I	- 14511		<u> </u>
Kyani				Hema				Pyrite		<i></i>		Zirco	n		Т
Sillim				Ilmen				Barite				Titan			_
Stauro				Rutile			Т	Anhy				Picot			
Epido				Anata			1	Diasp				Pleon			Т
Tourn			0	Brool				Magn				1 1001	asic		1
P >50°		A 20-)-20%	S	<u> </u> 1-10%	uviagii O	20grain	s-1%	F	1 5-20gra	ins	T 1-5	grains
Miner								-	<i>y</i>			_	leted:		_

Observer: NJT-LG Date Completed: 25-3-14

Independent Diamond Laboratories Pty Ltd



		ND II	NDIC	ATO	R DA	ATA		Samp	ole No	:	LLE	006			
Job N Date S		723						1					D.	•4•	T 7
													Pos	sitive	X
Initial:	_	Veights	30.4	kα									NT.		
+2mm:			N/A	·									Neg	ative	
After T			3.42	-								Dag!4!	(O	4la a.m)	
After T	_	•	92	_								Posiu	ive (O	mer)	
Ø/mm		>1	>0.8	>0.5	>0.4	>0.3	<0.25	Fractio	ne Ana	lvsed(v) Ohse	rved on	lv(a) S	canned	only(s)
Mill		/1	70.0	70.5	70.1	70.5	X0.23	Ø/mm	>1	>0.8	>0.5	>0.4	>0.3		
Table	X	X	X	X	X	X	X	NM M4	X	X	X	X	X		
HL Mag		X	X	X	X	X		M4 M3	X	X	X	X	X		
	erlite	, Lan	proite	e Indi	cators	-									
			ize/mm	>2	>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	/km	Appe	arance
Diam	ond														
Chror	ne Di	opside)												
Chror	nite														
Phlog	opite														
Picroi		ite													
Pyrop	e							2	2				<5	Prob	Kimb
Pyrop	e Cr														
Pyrop							2	3	3				<5	Poss :	Kimb
Kimb	erlitic	Zirco	n												
	Mine		Size/ı	nm						Desci	iption				
Pyrop	e				Angu	lar fra	gment	ts, Pale	e lilac	with s	light (Cr ting	ge.		
Pyrop					orang	ge to o	range	ts, Ora	light r			Mino	r wear	, Pale	
		erais	(Volur				Liqu 					A == = 4.	4.0		
Alma Andra			F		pyrox			Spine				Apati Mona			
			0		pyrox	ene		Magn							
Gross			О		<u>nibole</u>			Leuce			Λ	Phos			
Spess			T	Biotit					<u>emite</u>		A	Olivi		aanta	O
Diops			1	Prehn				Limo		طم) احاد	C	ROCK	Fragn	nents	A
Andal Kwani				Corui					e(psue	uu)	S	7:000	n		F
Kyani				Hema				Pyrite				Zirco			Г
Sillim				Ilmen			0	Barite				Titan			
Stauro				Rutile				Anhy	urite			Picot			0
Epido				Anata				Maar	aaita			Pleon	iaste		S
Tourn P >50		A 20-	<u> O</u> 50%	Brool	<u>xite</u>)-20%	ç	<u> </u> 1-10%	Magn	iesite 20grain	s-1%	F		ins	T 1-5	grains
. /30	, 0	11 20-	2070	C 10	. 2070		10/0	0	2051 aiii	J 1/0	1	2 20g1a	-110	1 1 2	5141113

Mineralogist/Observer: NJT-EH

Date Completed: 2-4-14

Independent Diamond Laboratories Pty Ltd

ABN 34 005 948 185 40272

	_	ND IN	NDIC	ATO	$\mathbf{R} \mathbf{D} A$	ATA		Samp	ole No	:	LLE	005			
Job N		723						1					_		
Date St		10-3-1											Po	sitive	X
Proces	sing W	eights													
Initial:			30.8	_									Neg	ative	
+2mm:			N/A	-											
After T	_	:	3.60	-								Positi	ive (O	ther)	
After T			66	<u> </u>	1 0 4	I 0.0				1 1/	\ O1	,	1 () 0		1 ()
Ø/mm Mill	>2	>1	>0.8	>0.5	>0.4	>0.3	<0.25	Fractic Ø/mm	ons Ana >1	11ysed(x >0.8),Obse >0.5	rved on >0.4	1 <u>v(o).S</u> >0.3	>0.25	only(s) >0 1
Table	X	Х	Х	Х	Х	Х	Х	NM	X	X	X	X	X	70.23	ZU.1
HL Mag		X	X	X	X	X		M4	X	X	X	X	X		
Kimb	erlite	Lam	l X Inroit	X 2 Indi	<u> </u>	<u> </u>		M3	X	X	X	X	X		
KIIII		Sieve Si			>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	/km	Appe	arance
Diamo															
		opside						1					<5	Poss	Kimh
Chron		opside	,					1					<u> </u>	1 055	KIIIIU
Phlog															
Picroi		ita													
		ite						1	6				<5	Poss	Vimh
Pyrop Pyrop							1	1	0				< <u>5</u>		erlitic
Pyrop							1						<2	KIIIIU	CIIIIIC
		7iroo	n												
	Mine	Zirco	Size/1				<u> </u>			Dogos	iption	<u> </u>		<u> </u>	
Cr Di			Size	11111	Drian	otio I	Dibboo	l, CrO	1.0/		триоп				
Pyrop Cr Py N.B.					Angu	lar fra	gmen	ts, 4 pi t, Lilac	e, gree	en ting	e.	-		Gross	sular).
Other	r Min	erals ((Volui	ne% :	after l	Heavy	Liqu	id-HL	₁)						
Almai	ndine		О	Ortho	pyrox	ene		Spine	1			Apati	te		
Andra	dite			Clino	pyrox	ene	О	Magn	etite			Mona	azite		
Gross	ular		О	Ampl	hibole		О	Leuce	oxene			Phos	hate		
Spess	artine			Musc	ovite			Magh	emite		Α	Olivi	ne		О
Diops	ide		0	Prehr	nite			Limo	nite		С	Rock	Fragr	nents	A
Andal	lusite			Coru	ndum			Pyrite	e(psue	do)	О				
Kyani	ite			Hema	atite			Pyrite				Zirco	n		
Sillim			F	Ilmer	nite			Barite	2			Titan			
Stauro	olite			Rutile	e			Anhy	drite			Picot	ite		О
Epido	te			Anata				Diasp			Т	Pleon	aste		S
Tourn			S	Brool				Magn							
P >50		A 20-		C 10	0-20%	S	1-10%	Ö	20grain	ıs-1%	F	5-20gra	ins	T 1-5	grains
Miner	alogi	st/Obs	erver:	NJT-l	ЕН						Date	Comp	leted:	25-3	-14

Independent Diamond Laboratories Pty Ltd

ABN 34 005 948 185

		ND IN		ATO	K DA	ΛIA		Samp	ole No	:	LLE	υ υ 4			
Job N		723	14					l					Do	sitive	
Proces			17										ro	siuve	
Initial:	_	reights	27.4	kg									Nag	otivo	X
+2mm:			N/A	-									THE	auve	Λ
After T		:	9.13	_								Positi	ve (O	ther)	
After T	_		22	•								I USILI	(O	ilici)	
Ø/mm	>2	>1	>0.8	>0.5	>0.4	>0.3	< 0.25	Fractio	ns Ana	alysed(x),Obse	rved on	ly(o),S	canned	only(s)
Mill								Ø/mm	>1	>0.8	>0.5	>0.4	>0.3		
Table HL	X	X	X	X	X	X X	X	NM M4	X X	X	X X	X	X		
Mag		X	X	X	X	X		M3	X	X	X	X	X		
Kimb		, Lam			cators		•								
	5	Sieve Si	ze/mm	>2	>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	/km	Appe	arance
Diam	ond														
		<u>opside</u>	;												
Chror															
Phlog	_														
Picroi	lmen	ite													
Pyrop	e														
Pyrop															
Pyrop															
Kimb		Zirco													
	Mine	<u>ral</u>	Size/1	nm						Desci	ription	1			
		erals (Liqui								
Alma			F	Ortho				Spine				Apati			F
Andra					<u>pyrox</u>	ene	T	Magn				Mona			
Gross				Ampl				Leuce			0	Phos			
Spess				Musc				Magh		;	C	Olivi			
Diops				Prehn				Limo		1 \	A	Rock	Fragr	nents	P
Andal				Corur				Pyrite		do)	S				<u> </u>
Kyani				Hema				Pyrite				Zirco			T
Sillim				Ilmen				Barite				Titan			T
Stauro				Rutile			O	Anhy				Picot			<u> </u>
<u>Epido</u>				Anata				Diasp				Pleon	aste		T
Tourn		A 20-:	O_	Brook		C -	1.100/	Magn	esite	10/		5.20		Tr 1 /	
P >50	70	A 20-3	<i>3</i> U%	C 10	J-ZU%	S .	1-10%	U	20grain	18-1%		5-20gra			grains
Miner	alogi	st/Obs	erver:	NJT-I	LG						Date	Comp	leted:	25-3	-14

Independent Diamond Laboratories Pty Ltd

ABN 34 005 948 185

DIAMOND INDICATOR DATA								Samp	ole No	:	LLE	LLE003					
Job N		723						l					ъ	• 4 •	X 7		
Date Started: 7-3-14 Processing Weights													Pos	sitive	X		
Initial:	sing v	reignis	32.6	kα				Negative									
+2mm:			N/A	-									Neg	auve			
After T			3.79	-								Dagiti	(O	than)			
After T	_	•	43	•								Posiu	ive (O	mer)			
Ø/mm	>2	>1	>0.8	>0.5	>0.4	>0.3	<0.25	Fractic	ne Ana	lvsed(v) Ohse	rved on	lv(o),S	ranned	only(s)		
Mill		/1	70.0	70.5	70.1	70.5	X0.23	Ø/mm	>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1		
Table	X	X	X	X	X	X	Х	NM M4	X	X	X	X	X				
HL Mag		X	X X	X	X	X		M4 M3	X	X	X	X	X X				
	erlite	, Lan	proite	e Indi	cators												
			ize/mm	>2	>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	/km	Appe	arance		
Diam	ond																
		opside)														
Chror	nite								1				5-10	Poss	Kimb		
Phlog	opite																
Picroi		ite															
Pyrop	e																
Pyrop	e Cr																
Pyrop																	
Kimb	erlitic	Zirco	n														
	Mine		Size/1	nm						Descr	iption						
					Mino	r groo	ves.										
		erals										Ι			ı		
			0		pyrox		S	Spine				Apati					
Other Minerals (Volu Almandine O Andradite Grossular					pyrox	ene	T	Magn				Mona					
			Amphibole			†			S	Phosphate							
Spessartine			Muscovite				Maghemite C Olivine										
Diopside			Prehn				Limo			A	Rock	Fragn	nents	A			
Andalusite			Corui					e(psue	do)	O							
Kyanite				Hema				Pyrite				Zirco			T		
Sillim				Ilmen			_	Barite				Titanite					
Stauro				Rutile	2		0	Anhy				Picotite T					
Epido			T	Anata				Diasp				Pleonaste T					
Tourn			O	Brook				Magn		a							
P >50	%	A 20-	50%	C 10)-20%	S	1-10%	О	20grain	s-1%	F	5-20gra	ıns	T 1-5	grains		

Mineralogist/Observer: NJT-LG Date Completed: 25-3-14 Independent Diamond Laboratories Pty Ltd



DIAMOND I	Sample No:			LLE002									
Job No: 723	İ					_	1						
Date Started: 7-3-1										Pos	sitive	X	
Processing Weights Initial:						N.T	، ا						
+2mm:	30.8	•								Neg	ative		
	N/A	_							D '4'	(0	a l		
After Tabling: After TBE:	4.58	_							Positi	ve (O	ther)		
	34		> O 4	>0.3	ر د0 25	Enantin		.1 4/) Ohaa		1(a) C		a.u.l(a)
Ø/mm >2 >1 Mill	>0.8	>0.5	>0.4	>0.5	<0.25	Ø/mm	ons Ana >1	lvsed(x >0.8	>0.5	>0.4	>0.3	>0.25	>0.1
Table x x	X	Х	X	X	X	NM	X	Х	X	X	X		
HL x Mag x	X	X	X X	X X		M4 M3	X X	X	X X	X X	X X		
Kimberlite, Lar						IVIS	Λ	<u> </u>		<u> </u>		<u> </u>	
	Size/mm		>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	/km	Appe	arance
Diamond												- 11	
Chrome Diopsid	Α												
Chromite	<u> </u>						3				6-15	Poss 1	Kimh
Phlogopite											0-13	1 033 1	KIIIIU
Picroilmenite													
Pyrope Pyrope Cr													
Pyrope Ti													
	- n												
Kimberlitic Zirce		22.522						Dagar	intion				
Mineral Chromite	Size/1		C1-1-	11	A 1 '		1 . 1	, Coke	ription				
Other Minerals	(Volu	ne% a	fter I	Heavy	Liqui	id-HL)						
Almandine	0	Ortho				Spinel				Apatite			F
Andradite		Clino	opyroxene			Magnetite				Monazite			
Grossular			Leucoxene				Phosphate						
Spessartine		Musc	ovite		T	Maghemite			C	Olivine			
Diopside	Prehn	ite			Limonite			С				P	
Andalusite	Corun	dum			Pyrite(psuedo)			Т					
Kyanite						Pyrite				Zircon T			
Sillimanite	Ilmen			Т	Barite				Titanite				
Staurolite		Rutile			T		Anhydrite			Picotite			
Epidote		Anata			T		Diaspore						Т
Tourmaline	T	Brook			T		Magnesite Magnesite						
P >50% A 20		C 10		S	-10%	0	20grain	ıs-1%	F	5-20gra	ins	T 1-5	grains
Mineralogist/Ob	server:	NJT-L	.G						Date	Comp	leted:	24-3-	-14

Independent Diamond Laboratories Pty Ltd

ABN 34 005 948 185 40262

DIAMOND INDICATOR DATA									Sample No:			LLE001					
Job N		723						1					-	.,.	T 7		
Date Started: 7-3-14													Pos	sitive	X		
Processing Weights																	
Initial: 30.2 kg								Negative									
+2mm: N/A kg After Tabling: 3.12 kg								Positive (Other)									
	_		29	_								Positi	ve (O	ther)			
After TBE: 29 Ø/mm >2 >1 >0.8			9 >0.5	>0.4	>0.3	∠0.25	Fractions Analysed(x).Observed only(o).Scanned on										
Mill	<i>></i> <u>/</u>	<i>></i> 1	>0.0	>0.5	<u>>0.4</u>	>0.3	<0.23	Ø/mm	>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1		
Table	X	X	X	X	X	X	Х	NM	Х	X	X	X	X				
HL Mag		X X	X X	X X	X X	X X		M4 M3	X X	X X	X X	X	X X				
Kimb	erlite							11113	<u> </u>	<u> </u>	Λ	Ι Λ	Λ				
			ize/mm	>2	>1	>0.8	>0.5	>0.4	>0.3	>0.25	>0.1	Wear	/km	Appe	arance		
Diamo	ond																
Chron		opside	<u>,</u>														
Chron							1		1				6-15	Prob	Kimb		
Phlog																	
Picroi		te															
Pyrop																	
Pyrop																	
Pyrop																	
Kimbe		Zirco	n														
	Mine		Size/ı	nm	Description												
	Chromite				Subhedral, Abrasion rounded, Cokey, Small patch of submetallic												
Other		erals (ne% a	after I	Heavy	Liqu	id-HL	()								
Almar			S		pyrox			Spine				Apatite					
				Clinopyroxene T				Magnetite				Monazite					
Grossular				Amphibole				Leucoxene			O	Phosphate					
Spessartine			Biotite				Maghemite S				Olivine						
Diopside			Prehnite				Limonite S				Rock Fragments A			Α			
Andalusite			Corui					e(psue	do)	S	 						
Kyanite			Hematite				Pyrite				Zircon T						
Sillimanite				Ilmen			_	Barite				Titanite T					
Stauro				Rutile			O	Anhy				Picotite					
Epido				Anatase F			F	Diaspore T				Pleonaste S					
Tourn			O	Brook		~	1 1001	Magnesite O 20grains-1% F 5-20grains T					TD 1 -	<u></u>			
P >50°	%	A 20-	50%	C 10)-20%	S	1-10%	O	20grain	S-1%	F	5-20gra	ıns	1 1-5	grains		

Mineralogist/Observer: NJT-LG Date Completed: 24-3-14



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ABN 34 005 948 185