

ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN

Dip: -86.00

Easting: 379741.8 mE

MAG_Azim: 66.00

RL: 386.5 mRL

Total Depth: 1498.1 m

CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
0															
10															
20															
30															
40															
50															

▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic
▲ Andesite Flow	■ Dolomite	▨ Interbedded VSS/VSL/VSM &	▲ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcaniclastic
▲ Basalt	■ Fault Zone	▨ Intermediate flow	■ Quartz	■ Semi-massive Sulphides	■ Vein Carbonate
▲ Breccia - Undifferentiated	■ Feldspathic (ash) tuff	▨ Intermediate Volcaniclastic	■ Quartz Carbonate Vein	■ Shale	■ Vein quartz
▲ Calcarenite	■ Feldspathic porphyry	▨ Lapilli Tuff	■ Quartz Feldspar Porphyry	■ Siltstone	■ Volcanic Breccia
▲ Chert	■ Felsic Flow	▨ Limestone	■ Quartz Porphyry	■ Slate	■ Volcanic Conglomerate
▲ Clay	■ Felsic tuff	▨ Lithic Tuff	■ Quartzite	■ Tuff Siltstone	■ Volcanic Sandstone
▲ Crystal Tuff	■ Felsic Volcaniclastic	▨ Mafic Dyke	■ Rhyodacite	■ Undifferentiated Black Shale	■ Volcanic Siltstone
▲ Dacite	■ Greywacke	▨ Mafic Volcaniclastic	■ Rhyolite	■ Undifferentiated Felsic Volcanic	
▲ Dacite Breccia	■ Hyaloclastite Breccia	▨ Massive sulphide	■ Rhyolite Breccia	■ Undifferentiated Fluvio-glacial Sediment	
▲ Dacite Flow	■ Interbedded sandstone/shale	▨ Mudstone	■ Rhyolite Tuff	■ Undifferentiated Mafic Intrusive	
▲ Dacite Lapilli Tuff	■ Interbedded sandstone/siltsto	▨ No Core Present	■ Sandstone	■ Undifferentiated Tuff	

Mineralisation	
■	Background
■	Elevated
■	Anomalous
■	Strongly Anomalous
■	Sub-Grade
■	Low-Grade
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60															
70															
80															
90															
100															

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110															
120															
130															
140															
150															

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160															
170															
180															
190															
200															

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210															
220															
230															
240															
250															

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280															
290															
300															

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320															
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▲ Clay	■ Felsic tuff	▨ Lithic Tuff	■ Quartzite	■ Tuff Siltstone	■ Volcanic Sandstone
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▲ Crystal Tuff	■ Felsic Volcaniclastic	▨ Mafic Dyke	■ Rhyodacite	■ Undifferentiated Black Shale	■ Undifferentiated Felsic Volcanic
▲ Dacite	■ Greywacke	▨ Mafic Volcaniclastic	■ Rhyolite	■ Undifferentiated Felsic Volcanic	■ Undifferentiated Fluvio-glacial Sediment
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430	MBV	GRY	VCF	VolClas	brc	fia	ch si	Felsic volcanic breccia, presumably dacitic to rhyolitic in composition. Coming off wedge - full core from 429.9							
	MBV	GRN	IMK	Intrusv			ch	Green mafic dyke							
	MBV	GRY	VBX	VolClas	brc		se	Volcaniclastic sandstone to breccia, strange rock with apparent Cb nodules.							
440	MBV	GRN	IMK	Intrusv			ch	Dark green mafic dyke							
	MBV	GRY	VBX	VolClas	brc	fia	ab ch	Volcaniclastic sandstone that grades into a dacite and pumice clast bearing breccia.							
450															

<ul style="list-style-type: none"> ▲ Andesite ▲ Andesite Flow ▲ Basalt ▲ Breccia - Undifferentiated ▲ Calcarenite ▲ Chert ▲ Clay ▲ Crystal Tuff ▲ Dacite ▲ Dacite Breccia ▲ Dacite Flow ▲ Dacite Lapilli Tuff 	<ul style="list-style-type: none"> ■ Disseminated Sulphides ■ Dolomite ■ Fault Zone ■ Feldspathic (ash) tuff ■ Feldspathic porphyry ■ Felsic Flow ■ Felsic tuff ■ Felsic Volcaniclastic ■ Greywacke ■ Hyaloclastite Breccia ■ Interbedded sandstone/shale ■ Interbedded sandstone/siltsto 	<ul style="list-style-type: none"> ■ Interbedded siltstone/shale ■ Interbedded VSS/VSL/VSM & ■ Intermediate flow ■ Intermediate Volcaniclastic ■ Lapilli Tuff ■ Limestone ■ Lithic Tuff ■ Mafic Dyke ■ Mafic Volcaniclastic ■ Massive sulphide ■ Mudstone ■ No Core Present 	<ul style="list-style-type: none"> ■ Not logged ■ Pyroclastic Breccia ■ Quartz ■ Quartz Carbonate Vein ■ Quartz Feldspar Porphyry ■ Quartz Porphyry ■ Quartzite ■ Rhyodacite ■ Rhyolite ■ Rhyolite Breccia ■ Rhyolite Tuff ■ Sandstone 	<ul style="list-style-type: none"> ■ Schist ■ See comments for full descrip ■ Semi-massive Sulphides ■ Shale ■ Siltstone ■ Slate ■ Tuff Siltstone ■ Undifferentiated Black Shale ■ Undifferentiated Felsic Volcanic ■ Undifferentiated Fluvio-glacial Sediment ■ Undifferentiated Mafic Intrusive ■ Undifferentiated Tuff 	<ul style="list-style-type: none"> ■ Undifferentiated Volcanic ■ Undifferentiated Volcaniclastic ■ Vein Carbonate ■ Vein quartz ■ Volcanic Breccia ■ Volcanic Conglomerate ■ Volcanic Sandstone ■ Volcanic Siltstone 	<p>Mineralisation</p> <ul style="list-style-type: none"> ■ Background ■ Elevated ■ Anomalous ■ Strongly Anomalous ■ Sub-Grade ■ Low-Grade ■ High-Grade
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MBV	GRY	VBX	VolClas	brc	fia	ab ch		Volcaniclastic sandstone that grades into a dacite and pumice clast bearing breccia.							
MBV	GRY-GRN	VAN	Extrusv	mas		ch		Andesite lava/breccia. Really not sure if this is a coherent or volcaniclastic. Regardless, it appears to be a more intermediate composition, possibly andesite. Ch has selectively replaced pheno's or clasts.							
DK	GRN	IMK	Intrusv			ch		Green mafic dyke							

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▲ Dacite Breccia	■ Hyaloclastite Breccia	▨ Massive sulphide	■ Rhyolite Breccia	■ Undifferentiated Fluvio-glacial Sediment										
▲ Dacite Flow	■ Interbedded sandstone/shale	▨ Mudstone	■ Rhyolite Tuff	■ Undifferentiated Mafic Intrusive										
▲ Dacite Lapilli Tuff	■ Interbedded sandstone/siltsto	▨ No Core Present	■ Sandstone	■ Undifferentiated Tuff										

ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN
Easting: 379741.8 mE
RL: 386.5 mRL
CoordSys: MGA55 (GDA94)

Dip: -86.00
MAG_Azim: 66.00
Total Depth: 1498.1 m
DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
DK	GRN	IMK	Intrusv			ch		Green mafic dyke							
MBV	GRY	VSL	VolClas	wst	silt	si		Fine grained volcaniclastic siltstone - very siliceous rock. This could possibly be an aphanitic dacite. There is bedding but this could also arguably be flow banding.							

Mineralisation																																																																												
▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic	■ Background	▲ Andesite Flow	■ Dolomite	▨ Interbedded VSS/VSL/VSM &	▲ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcaniclastic	■ Elevated	▲ Basalt	■ Fault Zone	■ Intermediate flow	■ Quartz	■ Semi-massive Sulphides	■ Vein Carbonate	■ Anomalous	▲ Breccia - Undifferentiated	■ Feldspathic (ash) tuff	■ Intermediate Volcaniclastic	■ Quartz Carbonate Vein	■ Shale	■ Vein quartz	■ Strongly Anomalous	▲ Calcarenite	■ Feldspathic porphyry	■ Lapilli Tuff	■ Quartz Feldspar Porphyry	■ Siltstone	■ Volcanic Breccia	■ Sub-Grade	▲ Chert	■ Felsic Flow	■ Limestone	■ Quartz Porphyry	■ Slate	■ Volcanic Conglomerate	■ Low-Grade	▲ Clay	■ Felsic tuff	■ Lithic Tuff	■ Quartzite	■ Tuff Siltstone	■ Volcanic Sandstone	■ Undifferentiated Mafic Intrusive	▲ Crystal Tuff	■ Felsic Volcaniclastic	■ Mafic Dyke	■ Rhyodacite	■ Undifferentiated Black Shale	■ Volcanic Siltstone	■ High-Grade	▲ Dacite	■ Greywacke	■ Mafic Volcaniclastic	■ Rhyolite	■ Undifferentiated Felsic Volcanic	■ Undifferentiated Fluvioglacial Sediment	▲ Dacite Breccia	■ Hyaloclastite Breccia	■ Massive sulphide	■ Rhyolite Breccia	■ Rhyolite Tuff	■ Undifferentiated Mafic Intrusive	▲ Dacite Flow	■ Interbedded sandstone/shale	■ Mudstone	■ Sandstone	■ Undifferentiated Tuff	▲ Dacite Lapilli Tuff	■ Interbedded sandstone/siltsto	■ No Core Present	■ Sandstone

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Hole ID: 411R-D2



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Rosebery

Prospect: NRL

North Lake Rosebery

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CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
MBV	GRY	VSL	VolClas	wst	slt	si		Fine grained volcaniclastic siltstone - very siliceous rock. This could possibly be an aphanitic dacite. There is bedding but this could also arguably be flow banding.							
MBV	GRY-GRN	VAN	Extrusv	mas	fph	ch		Coherent andesite lava. Appears to be more intermediate composition - however, could be a secondary dyke.							
MBV	GRY	VSS	VolClas	mso	fgr	ch cb		Volcaniclastic sandstone							
MBV	GRY	VDA	Extrusv		fph	si cb		Dacite lava - feldspar phyric.							

<ul style="list-style-type: none"> ▲ Andesite ▲ Andesite Flow ▲ Basalt ▲ Breccia - Undifferentiated ▲ Calcarenite ▲ Chert ▲ Clay ▲ Crystal Tuff ▲ Dacite ▲ Dacite Breccia ▲ Dacite Flow ▲ Dacite Lapilli Tuff 	<ul style="list-style-type: none"> ■ Disseminated Sulphides ■ Dolomite ■ Fault Zone ■ Feldspathic (ash) tuff ■ Feldspathic porphyry ■ Felsic Flow ■ Felsic tuff ■ Felsic Volcaniclastic ■ Greywacke ■ Hyaloclastite Breccia ■ Interbedded sandstone/shale ■ Interbedded sandstone/siltsto 	<ul style="list-style-type: none"> ■ Interbedded siltstone/shale ■ Interbedded VSS/VSL/VSM & ■ Intermediate flow ■ Intermediate Volcaniclastic ■ Lapilli Tuff ■ Limestone ■ Lithic Tuff ■ Mafic Dyke ■ Mafic Volcaniclastic ■ Massive sulphide ■ Mudstone ■ No Core Present 	<ul style="list-style-type: none"> ■ Not logged ■ Pyroclastic Breccia ■ Quartz ■ Quartz Carbonate Vein ■ Quartz Feldspar Porphyry ■ Quartz Porphyry ■ Quartzite ■ Rhodacite ■ Rhyolite ■ Rhyolite Breccia ■ Rhyolite Tuff ■ Sandstone 	<ul style="list-style-type: none"> ■ Schist ■ See comments for full descrip ■ Semi-massive Sulphides ■ Shale ■ Siltstone ■ Slate ■ Tuff Siltstone ■ Undifferentiated Black Shale ■ Undifferentiated Felsic Volcanic ■ Undifferentiated Fluvioglacial Sediment ■ Undifferentiated Mafic Intrusive ■ Undifferentiated Tuff 	<ul style="list-style-type: none"> ■ Undifferentiated Volcanic ■ Undifferentiated Volcaniclastic ■ Vein Carbonate ■ Vein quartz ■ Volcanic Breccia ■ Volcanic Conglomerate ■ Volcanic Sandstone ■ Volcanic Siltstone 	<p>Mineralisation</p> <ul style="list-style-type: none"> ■ Background ■ Elevated ■ Anomalous ■ Strongly Anomalous ■ Sub-Grade ■ Low-Grade ■ High-Grade
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ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN
Easting: 379741.8 mE
RL: 386.5 mRL
CoordSys: MGA55 (GDA94)

Dip: -86.00
MAG_Azim: 66.00
Total Depth: 1498.1 m
DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
MBV	GRY	VDA	Extrusv		fph	si cb		Dacite lava - feldspar phyric.							
DK	GRN	IMK	Intrusv			ch		Green mafic dyke							
MBV	GRY	VDR	VolClas	brc	pum	si cb		Dacitic volcanoclastic breccia with occasional fiamme. Minor cross cutting green mafic dykes.							

▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic
▲ Andesite Flow	■ Dolomite	▨ Interbedded VSS/VSL/VSM &	▲ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcanoclastic
▲ Basalt	■ Fault Zone	▨ Intermediate flow	■ Quartz	■ Semi-massive Sulphides	■ Vein Carbonate
▲ Breccia - Undifferentiated	■ Feldspathic (ash) tuff	▨ Intermediate Volcanoclastic	■ Quartz Carbonate Vein	■ Shale	■ Vein quartz
▲ Calcarenite	■ Feldspathic porphyry	▨ Lapilli Tuff	■ Quartz Feldspar Porphyry	■ Siltstone	■ Volcanic Breccia
▲ Chert	■ Felsic Flow	▨ Limestone	■ Quartz Porphyry	■ Tuff Siltstone	■ Volcanic Conglomerate
▲ Clay	■ Felsic tuff	▨ Lithic Tuff	■ Quartzite	■ Volcanic Sandstone	■ Volcanic Siltstone
▲ Crystal Tuff	■ Felsic Volcanoclastic	▨ Mafic Dyke	■ Rhyodacite	■ Undifferentiated Black Shale	■ Undifferentiated Felsic Volcanic
▲ Dacite	○ Greywacke	▨ Mafic Volcanoclastic	■ Rhyolite	■ Undifferentiated Fluvio-glacial Sediment	■ Undifferentiated Mafic Intrusive
▲ Dacite Breccia	○ Hyaloclastite Breccia	▨ Massive sulphide	■ Rhyolite Breccia	■ Undifferentiated Tuff	
▲ Dacite Flow	○ Interbedded sandstone/shale	▨ Mudstone	■ Rhyolite Tuff		
▲ Dacite Lapilli Tuff	○ Interbedded sandstone/siltsto	▨ No Core Present	■ Sandstone		

Mineralisation	
■ Background	
■ Elevated	
■ Anomalous	
■ Strongly Anomalous	
■ Sub-Grade	
■ Low-Grade	
■ High-Grade	

ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN

Dip: -86.00

Easting: 379741.8 mE

MAG_Azim: 66.00

RL: 386.5 mRL

Total Depth: 1498.1 m

CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
650	MBV	GRY	VDR	VolClas	brc	pum	si cb	Dacitic volcanoclastic breccia with occasional fiamme. Minor cross cutting green mafic dykes.							
660															
670															
680															
690															
700															

<ul style="list-style-type: none"> ▲ Andesite ▲ Andesite Flow ▼ Basalt ▲ Breccia - Undifferentiated ▲ Calcarenite ▲ Chert ▲ Clay ▲ Crystal Tuff ▲ Dacite ▲ Dacite Breccia ▲ Dacite Flow ▲ Dacite Lapilli Tuff 	<ul style="list-style-type: none"> ■ Disseminated Sulphides ○ Dolomite ○ Fault Zone ○ Feldspathic (ash) tuff ○ Feldspathic porphyry ○ Felsic Flow ○ Felsic tuff ○ Felsic Volcanoclastic ○ Greywacke ○ Hyaloclastite Breccia ○ Interbedded sandstone/shale ○ Interbedded sandstone/siltsto 	<ul style="list-style-type: none"> ■ Interbedded siltstone/shale ■ Interbedded VSS/VSL/VSM & ■ Intermediate flow ■ Intermediate Volcanoclastic ■ Lapilli Tuff ■ Limestone ■ Lithic Tuff ■ Mafic Dyke ■ Mafic Volcanoclastic ■ Massive sulphide ■ Mudstone ■ No Core Present 	<ul style="list-style-type: none"> ■ Not logged ▲ Pyroclastic Breccia ■ Quartz ■ Quartz Carbonate Vein ■ Quartz Feldspar Porphyry ■ Quartz Porphyry ■ Quartzite ■ Rhodacite ■ Rhyolite ■ Rhyolite Breccia ■ Rhyolite Tuff ■ Sandstone 	<ul style="list-style-type: none"> ■ Schist ■ See comments for full descrip ■ Semi-massive Sulphides ■ Shale ○ Siltstone ■ Slate ■ Tuff Siltstone ○ Volcanic Sandstone ○ Volcanic Siltstone ■ Undifferentiated Black Shale ■ Undifferentiated Felsic Volcanic ■ Undifferentiated Fluvio-glacial Sediment ■ Undifferentiated Mafic Intrusive ■ Undifferentiated Tuff 	<ul style="list-style-type: none"> ■ Undifferentiated Volcanic ■ Undifferentiated Volcanoclastic ■ Vein Carbonate ■ Vein quartz ○ Volcanic Breccia ○ Volcanic Conglomerate ○ Volcanic Sandstone ○ Volcanic Siltstone 	<p>Mineralisation</p> <ul style="list-style-type: none"> ■ Background ■ Elevated ■ Anomalous ■ Strongly Anomalous ■ Sub-Grade ■ Low-Grade ■ High-Grade
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ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN

Dip: -86.00

Easting: 379741.8 mE

MAG_Azim: 66.00

RL: 386.5 mRL

Total Depth: 1498.1 m

CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
MBV	GRY	VDA	Extrusv	mas		si		Dacite lava - predominantly coherent now.							
MBV	GRY	VDR	VolClas	brc	pum	si ch		Dacite volcanoclastic breccia with common fiamme.							

▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic
▲ Andesite Flow	■ Dolomite	▨ Interbedded VSS/VSL/VSM &	▲ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcanoclastic
▲ Basalt	■ Fault Zone	▨ Intermediate flow	■ Quartz	■ Semi-massive Sulphides	■ Vein Carbonate
▲ Breccia - Undifferentiated	■ Feldspathic (ash) tuff	▨ Intermediate Volcanoclastic	■ Quartz Carbonate Vein	■ Shale	■ Vein quartz
▲ Calcarenite	■ Feldspathic porphyry	▨ Lapilli Tuff	■ Quartz Feldspar Porphyry	■ Siltstone	■ Volcanic Breccia
▲ Chert	■ Felsic Flow	▨ Limestone	■ Quartz Porphyry	■ Slate	■ Volcanic Conglomerate
▲ Clay	■ Felsic tuff	▨ Lithic Tuff	■ Quartzite	■ Tuff Siltstone	■ Volcanic Sandstone
▲ Crystal Tuff	■ Felsic Volcanoclastic	▨ Mafic Dyke	■ Rhyodacite	■ Undifferentiated Black Shale	■ Volcanic Siltstone
▲ Dacite	■ Greywacke	▨ Mafic Volcanoclastic	■ Rhyolite	■ Undifferentiated Felsic Volcanic	
▲ Dacite Breccia	■ Hyaloclastite Breccia	▨ Massive sulphide	■ Rhyolite Breccia	■ Undifferentiated Fluvio-glacial Sediment	
▲ Dacite Flow	■ Interbedded sandstone/shale	▨ Mudstone	■ Rhyolite Tuff	■ Undifferentiated Mafic Intrusive	
▲ Dacite Lapilli Tuff	■ Interbedded sandstone/siltsto	▨ No Core Present	■ Sandstone	■ Undifferentiated Tuff	

Mineralisation	
■ Background	
■ Elevated	
■ Anomalous	
■ Strongly Anomalous	
■ Sub-Grade	
■ Low-Grade	
■ High-Grade	

ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN

Dip: -86.00

Easting: 379741.8 mE

MAG_Azim: 66.00

RL: 386.5 mRL

Total Depth: 1498.1 m

CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
MBV	GRY	VDR	VolClas	brc	pum	si ch		Dacite volcanoclastic breccia with common fiamme.							
MBV	GRY	VDA	Extrusv	mas	aph	si cb		Dacite lava. Typically has an aphanitic texture - however, this could be due to the alteration "washing out" the phenocryst phases. Some small zones are more a breccia however, overall this is a coherent lava. Occasional small green mafic dykes.							

Legend										Mineralisation																																																															
▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic	■ Background	■ Dolomite	■ Interbedded VSS/VSL/VSM &	■ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcanoclastic	■ Elevated	■ Fault Zone	■ Intermediate flow	■ Quartz	■ Semi-massive Sulphides	■ Vein Carbonate	■ Anomalous	■ Breccia - Undifferentiated	■ Feldspathic (ash) tuff	■ Intermediate Volcanoclastic	■ Quartz Carbonate Vein	■ Shale	■ Vein quartz	■ Strongly Anomalous	■ Calcarenite	■ Feldspathic porphyry	■ Lapilli Tuff	■ Quartz Feldspar Porphyry	■ Siltstone	■ Volcanic Breccia	■ Vein quartz	■ Sub-Grade	■ Chert	■ Felsic Flow	■ Limestone	■ Quartz Porphyry	■ Slate	■ Volcanic Conglomerate	■ Clay	■ Felsic tuff	■ Lithic Tuff	■ Quartzite	■ Tuff Siltstone	■ Volcanic Sandstone	■ Low-Grade	■ Crystal Tuff	■ Felsic Volcanoclastic	■ Mafic Dyke	■ Rhyodacite	■ Undifferentiated Black Shale	■ Volcanic Siltstone	■ High-Grade	■ Dacite	■ Greywacke	■ Mafic Volcanoclastic	■ Rhyolite	■ Undifferentiated Felsic Volcanic	■ Dacite Breccia	■ Hyaloclastite Breccia	■ Massive sulphide	■ Rhyolite Breccia	■ Undifferentiated Fluvioglacial Sediment	■ Dacite Flow	■ Interbedded sandstone/shale	■ Mudstone	■ Rhyolite Tuff	■ Undifferentiated Mafic Intrusive	■ Dacite Lapilli Tuff	■ Interbedded sandstone/siltsto	■ No Core Present	■ Sandstone	■ Undifferentiated Tuff

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Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN

Dip: -86.00

Easting: 379741.8 mE

MAG_Azim: 66.00

RL: 386.5 mRL

Total Depth: 1498.1 m

CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
850	MBV	GRY	VDA	Extrusv	mas	aph	si cb	Dacite lava. Typically has an aphanitic texture - however, this could be due to the alteration "washing out" the phenocryst phases. Some small zones are more a breccia however, overall this is a coherent lava. Occasional small green mafic dykes.							
860															
870															
880															
890															
900															

▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic
▲ Andesite Flow	○ Dolomite	▨ Interbedded VSS/VSL/VSM &	▲ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcaniclastic
▲ Basalt	○ Fault Zone	▨ Intermediate flow	■ Quartz	■ Semi-massive Sulphides	■ Vein Carbonate
▲ Breccia - Undifferentiated	○ Feldspathic (ash) tuff	▨ Intermediate Volcaniclastic	■ Quartz Carbonate Vein	■ Shale	■ Vein quartz
▲ Calcarenite	○ Feldspathic porphyry	▨ Lapilli Tuff	■ Quartz Feldspar Porphyry	○ Siltstone	■ Volcanic Breccia
▲ Chert	○ Felsic Flow	▨ Limestone	■ Quartz Porphyry	○ Tuff Siltstone	■ Volcanic Conglomerate
▲ Clay	○ Felsic tuff	▨ Lithic Tuff	■ Quartzite	○ Volcanic Sandstone	■ Volcanic Sandstone
▲ Crystal Tuff	○ Felsic Volcaniclastic	▨ Mafic Dyke	■ Rhyodacite	○ Undifferentiated Black Shale	○ Volcanic Siltstone
▲ Dacite	○ Greywacke	▨ Mafic Volcaniclastic	■ Rhyolite	■ Undifferentiated Felsic Volcanic	
▲ Dacite Breccia	○ Hyaloclastite Breccia	▨ Massive sulphide	■ Rhyolite Breccia	■ Undifferentiated Fluvio-glacial Sediment	
▲ Dacite Flow	○ Interbedded sandstone/shale	▨ Mudstone	■ Rhyolite Tuff	■ Undifferentiated Mafic Intrusive	
▲ Dacite Lapilli Tuff	○ Interbedded sandstone/siltsto	▨ No Core Present	■ Sandstone	■ Undifferentiated Tuff	

Mineralisation

■ Background
■ Elevated
■ Anomalous
■ Strongly Anomalous
■ Sub-Grade
■ Low-Grade
■ High-Grade

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Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

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DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
MBV	GRY	VDA	Extrusv	mas	aph	si cb		Dacite lava. Typically has an aphanitic texture - however, this could be due to the alteration "washing out" the phenocryst phases. Some small zones are more a breccia however, overall this is a coherent lava. Occasional small green mafic dykes.							

Mineralisation																																																																													
▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic	■ Background	▲ Andesite Flow	○ Dolomite	▨ Interbedded VSS/VSL/VSM &	▲ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcaniclastic	■ Elevated	▲ Basalt	○ Fault Zone	■ Intermediate flow	■ Quartz	■ Semi-massive Sulphides	■ Vein Carbonate	■ Anomalous	▲ Breccia - Undifferentiated	▲ Feldspathic (ash) tuff	■ Intermediate Volcaniclastic	■ Quartz Carbonate Vein	■ Shale	■ Vein quartz	■ Strongly Anomalous	▲ Calcarenite	▲ Feldspathic porphyry	■ Lapilli Tuff	■ Quartz Feldspar Porphyry	■ Siltstone	■ Volcanic Breccia	■ Sub-Grade	▲ Chert	▲ Felsic Flow	■ Limestone	■ Quartz Porphyry	■ Slate	■ Volcanic Conglomerate	■ Low-Grade	▲ Clay	▲ Felsic tuff	■ Lithic Tuff	■ Rhyolite	■ Tuff Siltstone	■ Volcanic Sandstone	■ Undifferentiated Mafic Intrusive	▲ Crystal Tuff	▲ Felsic Volcaniclastic	■ Mafic Dyke	■ Rhyodacite	■ Undifferentiated Black Shale	■ Volcanic Siltstone	■ High-Grade	▲ Dacite	○ Greywacke	■ Mafic Volcaniclastic	■ Rhyolite	■ Undifferentiated Felsic Volcanic	■ Undifferentiated Fluvioglacial Sediment	▲ Dacite Breccia	○ Hyaloclastite Breccia	■ Massive sulphide	■ Rhyolite Breccia	■ Undifferentiated Mafic Intrusive	▲ Dacite Flow	○ Interbedded sandstone/shale	■ Mudstone	■ Rhyolite Tuff	■ Sandstone	■ Undifferentiated Tuff	▲ Dacite Lapilli Tuff	■ Interbedded sandstone/siltsto	■ No Core Present	■ Sandstone	

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DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
950	MBV	GRY	VDA	Extrusv	mas	aph	si cb	Dacite lava. Typically has an aphanitic texture - however, this could be due to the alteration "washing out" the phenocryst phases. Some small zones are more a breccia however, overall this is a coherent lava. Occasional small green mafic dykes.							
960															
970															
980															
990															
1000															

Mineralisation																																																																											
▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic	■ Background	▲ Andesite Flow	○ Dolomite	▨ Interbedded VSS/VSL/VSM &	▲ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcaniclastic	■ Elevated	▲ Basalt	○ Fault Zone	▨ Intermediate flow	■ Quartz	■ Semi-massive Sulphides	■ Vein Carbonate	■ Anomalous	▲ Breccia - Undifferentiated	▨ Feldspathic (ash) tuff	▨ Intermediate Volcaniclastic	■ Quartz Carbonate Vein	■ Shale	■ Vein quartz	■ Strongly Anomalous	▲ Calcarenite	▨ Feldspathic porphyry	▨ Lapilli Tuff	■ Quartz Feldspar Porphyry	■ Siltstone	■ Volcanic Breccia	■ Sub-Grade	▲ Chert	▨ Felsic Flow	▨ Limestone	■ Quartz Porphyry	■ Slate	■ Volcanic Conglomerate	■ Low-Grade	▲ Clay	▨ Felsic tuff	▨ Lithic Tuff	■ Rhyolite Breccia	■ Tuff Siltstone	■ Volcanic Sandstone	■ Undifferentiated Mafic Intrusive	▲ Crystal Tuff	▨ Felsic Volcaniclastic	▨ Mafic Dyke	■ Rhyolite	■ Undifferentiated Black Shale	■ Volcanic Siltstone	■ High-Grade	▲ Dacite	○ Greywacke	▨ Mafic Volcaniclastic	■ Rhyolite	■ Undifferentiated Felsic Volcanic	■ Undifferentiated Fluvio-glacial Sediment	▲ Dacite Breccia	○ Hyaloclastite Breccia	▨ Massive sulphide	■ Rhyolite Tuff	■ Undifferentiated Mafic Intrusive	▲ Dacite Flow	○ Interbedded sandstone/shale	▨ Mudstone	■ Sandstone	■ Undifferentiated Tuff	▲ Dacite Lapilli Tuff	▨ Interbedded sandstone/siltsto	▨ No Core Present	■ Sandstone

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Rosebery

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DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
MBV	GRY	VDA	Extrusv	mas	aph	si cb		Dacite lava. Typically has an aphanitic texture - however, this could be due to the alteration "washing out" the phenocryst phases. Some small zones are more a breccia however, overall this is a coherent lava. Occasional small green mafic dykes.							

Mineralisation																																																																															
▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic	■ Background	▲ Andesite Flow	○ Dolomite	▨ Interbedded VSS/VSL/VSM &	▲ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcaniclastic	■ Elevated	▲ Basalt	○ Fault Zone	▨ Intermediate flow	■ Quartz	■ Semi-massive Sulphides	■ Undifferentiated Volcaniclastic	■ Anomalous	▲ Breccia - Undifferentiated	▨ Feldspathic (ash) tuff	▨ Intermediate Volcaniclastic	■ Quartz Carbonate Vein	■ Shale	■ Vein Carbonate	■ Strongly Anomalous	▲ Calcarenite	▨ Feldspathic porphyry	▨ Lapilli Tuff	■ Quartz Feldspar Porphyry	■ Siltstone	■ Vein quartz	■ Sub-Grade	▲ Chert	▨ Felsic Flow	▨ Limestone	■ Quartz Porphyry	■ Slate	■ Volcanic Breccia	■ Volcanic Conglomerate	■ Low-Grade	▲ Clay	▨ Felsic tuff	▨ Lithic Tuff	■ Rhyolite Breccia	■ Tuff Siltstone	■ Volcanic Sandstone	■ Undifferentiated Mafic Intrusive	■ High-Grade	▲ Crystal Tuff	▨ Felsic Volcaniclastic	▨ Mafic Dyke	■ Rhyolite	■ Undifferentiated Black Shale	■ Volcanic Siltstone	■ Undifferentiated Felsic Volcanic	■ Undifferentiated Fluvio-glacial Sediment	▲ Dacite	○ Greywacke	▨ Mafic Volcaniclastic	■ Rhyolite	■ Undifferentiated Mafic Intrusive	■ Undifferentiated Tuff	▲ Dacite Breccia	○ Hyaloclastite Breccia	▨ Massive sulphide	■ Rhyolite Tuff	■ Sandstone	■ Undifferentiated Tuff	▲ Dacite Flow	○ Interbedded sandstone/shale	▨ Mudstone	■ No Core Present	■ Sandstone	▲ Dacite Lapilli Tuff	▨ Interbedded sandstone/siltsto	▨ No Core Present	■ Sandstone

ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN
Easting: 379741.8 mE
RL: 386.5 mRL
CoordSys: MGA55 (GDA94)

Dip: -86.00
MAG_Azim: 66.00
Total Depth: 1498.1 m
DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
MBV	GRY	VDA	Extrusv	mas	aph	si cb		Dacite lava. Typically has an aphanitic texture - however, this could be due to the alteration "washing out" the phenocryst phases. Some small zones are more a breccia however, overall this is a coherent lava. Occasional small green mafic dykes.							
									D1395179	0.0	0.0	0.0	0.12		4.3
									D1395180	0.0	0.0	0.0	0.04		2.9

Lithology Legend										Mineralisation			
▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic	■ Background	■ Andesite Flow	○ Dolomite	▨ Interbedded VSS/VSL/VSM &	▲ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcaniclastic	■ Elevated
▼ Basalt	⊗ Fault Zone	▨ Intermediate flow	■ Quartz	■ Semi-massive Sulphides	■ Vein Carbonate	■ Anomalous	▲ Breccia - Undifferentiated	▨ Feldspathic (ash) tuff	▨ Intermediate Volcaniclastic	■ Quartz Carbonate Vein	■ Shale	■ Vein quartz	■ Strongly Anomalous
■ Calcarenite	▨ Feldspathic porphyry	▨ Lapilli Tuff	▨ Quartz Feldspar Porphyry	■ Siltstone	■ Volcanic Breccia	■ Sub-Grade	■ Chert	▨ Felsic Flow	▨ Limestone	▨ Quartz Porphyry	■ Tuff Siltstone	■ Volcanic Conglomerate	■ Low-Grade
■ Clay	▨ Felsic tuff	▨ Lithic Tuff	▨ Rhyodacite	■ Undifferentiated Black Shale	■ Volcanic Sandstone	■ High-Grade	■ Crystal Tuff	▨ Felsic Volcaniclastic	▨ Mafic Dyke	▨ Quartzite	■ Tuff Siltstone	■ Volcanic Sandstone	
■ Dacite	○ Greywacke	▨ Mafic Volcaniclastic	▨ Rhyolite	■ Undifferentiated Felsic Volcanic	■ Undifferentiated Mafic Intrusive		■ Dacite Breccia	▨ Hyaloclastite Breccia	▨ Massive sulphide	▨ Rhyolite Breccia	■ Undifferentiated Fluvioglacial Sediment	■ Undifferentiated Mafic Intrusive	
■ Dacite Flow	⊗ Interbedded sandstone/shale	▨ Mudstone	▨ Rhyolite Tuff	■ Undifferentiated Tuff			■ Dacite Lapilli Tuff	▨ Interbedded sandstone/siltsto	▨ No Core Present	▨ Sandstone			

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Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN

Dip: -86.00

Easting: 379741.8 mE

MAG_Azim: 66.00

RL: 386.5 mRL

Total Depth: 1498.1 m

CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
MBV	GRY	VDA	Extrusv	mas	aph	si	cb	Dacite lava. Typically has an aphanitic texture - however, this could be due to the alteration "washing out" the phenocryst phases. Some small zones are more a breccia however, overall this is a coherent lava. Occasional small green mafic dykes.	D1395186	0.0	0.0	0.0	0.05		2.1
									D1395187	0.0	0.0	0.0	0.04		1.9
									D1395188	0.0	0.0	0.0	0.06		4.6
MBV	BUF-GRN	VDR	VolClas	brc		cb	ch	Dacite - brecciated presumably due to proximity with Mt Black Fault. Increased and pervasive Se-Cb-Ch alteration.							
F	BUF-GRY	FTZ	Clastic	shr	fol	cb	se	Mt Black Fault position. Strong and pervasive Se-Cb alteration. Strong sheared fabric throughout rock - however, does not appear to be a typical fault with no pug and full competent core.	D1395189	0.0	0.0	0.0	0.29		5.0
HW	BUF-GRY	VBX	VolClas	msh	qph	cb	se	Quartz crystal rich volcanoclastic breccia. Interval is still displaying increased alteration effects, presumably due to above fault. Qz rich unit with abundant sub-rounded Qz crystals up to 10mm. Appears to be a matrix supported volcanoclastic rather than a porphyritic lava.							
									D1395190	0.0	0.0	0.0	0.06		2.2

<ul style="list-style-type: none"> ▲ Andesite ▲ Andesite Flow ▲ Basalt ▲ Breccia - Undifferentiated ▲ Calcarenite ▲ Chert ▲ Clay ▲ Crystal Tuff ▲ Dacite ▲ Dacite Breccia ▲ Dacite Flow ▲ Dacite Lapilli Tuff 	<ul style="list-style-type: none"> ■ Disseminated Sulphides ■ Dolomite ■ Fault Zone ■ Feldspathic (ash) tuff ■ Feldspathic porphyry ■ Felsic Flow ■ Felsic tuff ■ Felsic Volcanoclastic ■ Greywacke ■ Hyaloclastite Breccia ■ Interbedded sandstone/shale ■ Interbedded sandstone/siltsto 	<ul style="list-style-type: none"> ■ Interbedded siltstone/shale ■ Interbedded VSS/VSL/VSM & ■ Intermediate flow ■ Intermediate Volcanoclastic ■ Lapilli Tuff ■ Limestone ■ Lithic Tuff ■ Mafic Dyke ■ Mafic Volcanoclastic ■ Massive sulphide ■ Mudstone ■ No Core Present 	<ul style="list-style-type: none"> ■ Not logged ■ Pyroclastic Breccia ■ Quartz ■ Quartz Carbonate Vein ■ Quartz Feldspar Porphyry ■ Quartz Porphyry ■ Quartzite ■ Rhyodacite ■ Rhyolite ■ Rhyolite Breccia ■ Rhyolite Tuff ■ Sandstone 	<ul style="list-style-type: none"> ■ Schist ■ See comments for full descrip ■ Semi-massive Sulphides ■ Shale ■ Slate ■ Tuff Siltstone ■ Undifferentiated Black Shale ■ Undifferentiated Felsic Volcanic ■ Undifferentiated Fluvio-glacial Sediment ■ Undifferentiated Mafic Intrusive ■ Undifferentiated Tuff 	<ul style="list-style-type: none"> ■ Undifferentiated Volcanic ■ Undifferentiated Volcanoclastic ■ Vein Carbonate ■ Vein quartz ■ Volcanic Breccia ■ Volcanic Conglomerate ■ Volcanic Sandstone ■ Volcanic Siltstone 	<p>Mineralisation</p> <ul style="list-style-type: none"> ■ Background ■ Elevated ■ Anomalous ■ Strongly Anomalous ■ Sub-Grade ■ Low-Grade ■ High-Grade
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ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN

Dip: -86.00

Easting: 379741.8 mE

MAG_Azim: 66.00

RL: 386.5 mRL

Total Depth: 1498.1 m

CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
HW	BUF-GRY	VBX	VolClas	msh	qph	cb	se	<p>Quartz crystal rich volcanoclastic breccia. Interval is still displaying increased alteration effects, presumably due to above fault. Qz rich unit with abundant sub-rounded Qz crystals up to 10mm. Appears to be a matrix supported volcanoclastic rather than a porphyritic lava.</p> <p>Polymict volcanoclastic mass flow. Grades from a fine siltstone/sandstone into a coarse grained volcanoclastic. The rock contains abundant 1-2mm Qz-Fd crystals, common bands of fiamme, occasional siltstone clasts, rare shale clasts up to 20cm and rare amygdaloidal clasts. There is no clear contact at 1201.6m, however, this is where the rock appears to fine up from.</p>	D1395191	0.0	0.1	0.0	4.17		5.3
HW	BUF-GRY	VBX	VolClas	brc	pol	se	si		D1395192	0.0	0.0	0.0	0.33		2.5
									D1395193	0.0	0.0	0.0	0.17		2.2
									D1395194	0.0	0.0	0.0	0.33		1.7
									D1395195	0.0	0.0	0.0	0.08		2.1

<ul style="list-style-type: none"> ▲ Andesite ▲ Andesite Flow ▲ Basalt ▲ Breccia - Undifferentiated ▲ Calcarenite ▲ Chert ▲ Clay ▲ Crystal Tuff ▲ Dacite ▲ Dacite Breccia ▲ Dacite Flow ▲ Dacite Lapilli Tuff 	<ul style="list-style-type: none"> ■ Disseminated Sulphides ■ Dolomite ■ Fault Zone ■ Feldspathic (ash) tuff ■ Feldspathic porphyry ■ Felsic Flow ■ Felsic tuff ■ Felsic Volcanoclastic ■ Greywacke ■ Hyaloclastite Breccia ■ Interbedded sandstone/shale ■ Interbedded sandstone/siltstone 	<ul style="list-style-type: none"> ■ Interbedded siltstone/shale ■ Interbedded VSS/VSL/VSM & Intermediate flow ■ Intermediate Volcanoclastic ■ Lapilli Tuff ■ Limestone ■ Lithic Tuff ■ Mafic Dyke ■ Mafic Volcanoclastic ■ Massive sulphide ■ Mudstone ■ No Core Present 	<ul style="list-style-type: none"> ■ Not logged ▲ Pyroclastic Breccia ■ Quartz ■ Quartz Carbonate Vein ■ Quartz Feldspar Porphyry ■ Quartz Porphyry ■ Quartzite ■ Rhyodacite ■ Rhyolite ■ Rhyolite Breccia ■ Rhyolite Tuff ■ Sandstone 	<ul style="list-style-type: none"> ■ Schist ■ See comments for full description ■ Semi-massive Sulphides ■ Shale ■ Siltstone ■ Slate ■ Tuff Siltstone ■ Undifferentiated Black Shale ■ Undifferentiated Felsic Volcanic ■ Undifferentiated Fluvio-glacial Sediment ■ Undifferentiated Mafic Intrusive ■ Undifferentiated Tuff 	<ul style="list-style-type: none"> ■ Undifferentiated Volcanic ■ Undifferentiated Volcanoclastic ■ Vein Carbonate ■ Vein quartz ■ Volcanic Breccia ■ Volcanic Conglomerate ■ Volcanic Sandstone ■ Volcanic Siltstone 	<p>Mineralisation</p> <ul style="list-style-type: none"> ■ Background ■ Elevated ■ Anomalous ■ Strongly Anomalous ■ Sub-Grade ■ Low-Grade ■ High-Grade
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ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN

Dip: -86.00

Easting: 379741.8 mE

MAG_Azim: 66.00

RL: 386.5 mRL

Total Depth: 1498.1 m

CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct	
1250	HW	BUF-GRY	VBX	VolClas	brc	pol	se	Polymict volcaniclastic mass flow. Grades from a fine siltstone/sandstone into a coarse grained volcaniclastic. The rock contains abundant 1-2mm Qz-Fd crystals, common bands of fiamme, occasional siltstone clasts, rare shale clasts up to 20cm and rare amygdaloidal clasts. There is no clear contact at 1201.6m, however, this is where the rock appears to fine up from.	D1395196	0.0	0.0	0.0	0.03		1.4	
	HW	GRY-GRN	VBX	VolClas	brc	pol	si		Polymict volcaniclastic mass flow. Similar to above unit, however, more Qz crystal dominant and less fiamme. Again there is no clear contact at 1250.7m but this is clearly a distinct mass flow unit. The coarse basal part of the flow is predominantly composed of common Fd-Qz phytic clasts (rhyolitic) and siltstone clasts	D1395197	0.0	0.0	0.0	0.03		1.4
						qph	ch			D1395198	0.0	0.0	0.0	0.02		1.6
										D1395199	0.0	0.0	0.0	0.16		1.8
								D1395200		0.0	0.0	0.0	0.25		1.3	
1290	HW	GRY-BUF	VBX	VolClas	brc	pol	cb	Quartz crystal rich volcaniclastic sandstone which grades into a breccia containing abundant Qz crystals and sub-angular to sub-rounded siltstone clasts (10-30mm).								
						qph	si	Black shale, possibly a very large clast! The lower contact is irregular/clastic like and does not grade into a siltstone-sandstone unit. It moves straight back into a volcaniclastic breccia. However, this is a comparatively large clast to the other clasts in the flow.								
	BS	BLK-GRY	VST	VolClas		sla	cb	Polymict volcaniclastic mass flow. Abundant "fat" 1-10mm Qz crystals, common Qz-Fd phytic Rhyolitic clasts (up to 10cm) and occasional elongate siltstone clasts. Trace patches of reddish Sp.								
	HW	GRY-GRN	VBX	VolClas	brc	pol	py									
						qph	se									
							si									

<ul style="list-style-type: none"> ▲ Andesite ▲ Andesite Flow ▲ Basalt ▲ Breccia - Undifferentiated ▲ Calcarenite ▲ Chert ▲ Clay ▲ Crystal Tuff ▲ Dacite ▲ Dacite Breccia ▲ Dacite Flow ▲ Dacite Lapilli Tuff 	<ul style="list-style-type: none"> ■ Disseminated Sulphides ■ Dolomite ■ Fault Zone ■ Feldspathic (ash) tuff ■ Feldspathic porphyry ■ Felsic Flow ■ Felsic tuff ■ Felsic Volcaniclastic ○ Greywacke ○ Hyaloclastite Breccia ○ Interbedded sandstone/shale ○ Interbedded siltstone/siltstone 	<ul style="list-style-type: none"> ■ Interbedded siltstone/shale ■ Interbedded VSS/VSL/VSM & Intermediate flow ■ Intermediate Volcaniclastic ■ Lapilli Tuff ■ Limestone ■ Lithic Tuff ■ Mafic Dyke ■ Mafic Volcaniclastic ■ Massive sulphide ■ Mudstone ■ No Core Present 	<ul style="list-style-type: none"> ■ Not logged ▲ Pyroclastic Breccia ■ Quartz ■ Quartz Carbonate Vein ■ Quartz Feldspar Porphyry ■ Quartz Porphyry ■ Quartzite ■ Rhyodacite ■ Rhyolite ■ Rhyolite Breccia ■ Rhyolite Tuff ■ Sandstone 	<ul style="list-style-type: none"> ■ Schist ■ See comments for full description ■ Semi-massive Sulphides ■ Shale ■ Siltstone ■ Slate ■ Tuff Siltstone ■ Undifferentiated Black Shale ■ Rhyolite ■ Undifferentiated Felsic Volcanic ■ Undifferentiated Fluvio-glacial Sediment ■ Undifferentiated Mafic Intrusive ■ Undifferentiated Tuff 	<ul style="list-style-type: none"> ■ Undifferentiated Volcanic ■ Undifferentiated Volcaniclastic ■ Vein Carbonate ■ Vein quartz ■ Volcanic Breccia ■ Volcanic Conglomerate ○ Volcanic Sandstone ○ Volcanic Siltstone 	<p>Mineralisation</p> <ul style="list-style-type: none"> ■ Background ■ Elevated ■ Anomalous ■ Strongly Anomalous ■ Sub-Grade ■ Low-Grade ■ High-Grade
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ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN
Easting: 379741.8 mE
RL: 386.5 mRL
CoordSys: MGA55 (GDA94)

Dip: -86.00
MAG_Azim: 66.00
Total Depth: 1498.1 m
DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
1350	HW	GRY	VBX	VolClas	mso	qph	se si	Quartz rich volcaniclastic breccia. Starts as a fine siltstone unit with pumice floats which then grades into a poor to moderately sorted finer grained breccia.	D1395206	0.0	0.0	0.0	0.24		1.3
	HW	GRY	VSS	VolClas	wst	san	si	Volcaniclastic sandstone - arguably "host-like" but this is likely just a hangingwall sandstone unit.							
1360									D1395207	0.0	0.0	0.0	0.06		2.9
	HW	GRY-GRN	VBX	VolClas	brc	pol qph	se si	Polymict volcaniclastic mass flow. Grades from a fine siltstone/sandstone into a coarse grained polymict breccia. Clast are composed of abundant 2-10mm Qz crystals, common Qz-Fd phyrhic rhyolite clasts up to 20cm, and irregular shaped siltstone clasts up to 5cm.							
1370									D1395208	0.0	0.0	0.0	0.02		1.3
								Quartz-Feldspar phyrhic rhyolite. The unit appears to move into a coherent lava from 1383.2, however, it is possible this is still a volcaniclastic (the phenocrysts appear to uniform to be clastic).							
1380									D1395209	0.0	0.0	0.0	0.10		2.5
	HW	BUF-GRY	VRY	Extrusv		por qfp	si cb	Strongly silicified unit, presumably due to proximity of fault below. Rosebery Fault. Main zone is a 15cm band of dark grey pug and gouge. Otherwise it is composed of broken core. Pervasively Se-Cb +/- Py altered breccia due to proximity to the above Rosebery Fault. Strongly Py altered zone. Patchy to disseminated in appearance.							
1390								Quartz crystal rich and pumice bearing volcaniclastic breccia. The breccia is composed of irregular shaped and Se altered pumice which occur up to 80mm in size. There are also common dacitic to rhyolitic sub-angular clasts that vary from 10-50mm in size. Abundant sub-rounded Qz crystals occur in the matrix and range fro <1-3mm in size. Generally this breccia is matrix supported and is also poorly sorted, with no obvious grading. Stratigraphically this unit is below or on the footwall side to the D1 intersection.	D1395210	0.0	0.0	0.0	0.03		1.4
	HW	GRY-BUF	VFS	Extrusv	mas	sil bl	si cb								
	F	GRY	FTZ	Clastic	ftz		se								
	FW	BUF-BRN	VBX	VolClas	brc	sil	cb								
	FW	BUF-BRN	VBX	VolClas	brc		se cb								
	FW	BUF-BRN	VBX	VolClas	brc	pum qph	se py se cb								

Mineralisation									
Andesite	Disseminated Sulphides	Interbedded siltstone/shale	Not logged	Schist	Undifferentiated Volcanic				
Andesite Flow	Dolomite	Interbedded VSS/VSL/VSM &	Pyroclastic Breccia	See comments for full descrip	Undifferentiated Volcaniclastic				
Basalt	Fault Zone	Intermediate flow	Quartz	Semi-massive Sulphides	Vein Carbonate				
Breccia - Undifferentiated	Feldspathic (ash) tuff	Intermediate Volcaniclastic	Quartz Carbonate Vein	Shale	Vein quartz				
Calcarenite	Feldspathic porphyry	Lapilli Tuff	Quartz Feldspar Porphyry	Siltstone	Volcanic Breccia				
Chert	Felsic Flow	Limestone	Quartz Porphyry	Slate	Volcanic Conglomerate				
Clay	Felsic tuff	Lithic Tuff	Quartzite	Tuff Siltstone	Volcanic Sandstone				
Crystal Tuff	Felsic Volcaniclastic	Mafic Dyke	Rhyodacite	Undifferentiated Black Shale	Volcanic Siltstone				
Dacite	Greywacke	Mafic Volcaniclastic	Rhyolite	Undifferentiated Felsic Volcanic					
Dacite Breccia	Hyaloclastite Breccia	Massive sulphide	Rhyolite Breccia	Undifferentiated Fluvio-glacial Sediment					
Dacite Flow	Interbedded sandstone/shale	Mudstone	Rhyolite Tuff	Undifferentiated Mafic Intrusive					
Dacite Lapilli Tuff	Interbedded sandstone/siltsto	No Core Present	Sandstone	Undifferentiated Tuff					

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Total Depth: 1498.1 m

CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct
FW	BUF-BRN	VBX	VolClas	brc	pum qph	se cb		Quartz crystal rich and pumice bearing volcanoclastic breccia. The breccia is composed of irregular shaped and Se altered pumice which occur up to 80mm in size. There are also common dacitic to rhyolitic sub-angular clasts that vary from 10-50mm in size. Abundant sub-rounded Qz crystals occur in the matrix and range fro <1-3mm in size. Generally this breccia is matrix supported and is also poorly sorted, with no obvious grading. Stratigraphically this unit is below or on the footwall side to the D1 intersection.	D1395211	0.0	0.0	0.0	0.09		1.9
									D1395212	0.0	0.0	0.0	0.04		1.0
									D1395213	0.0	0.0	0.0	0.10		1.1
									D1395214	0.0	0.0	0.0	0.04		0.8
									D1395215	0.0	0.0	0.0	0.07		1.6

Andesite	Disseminated Sulphides	Interbedded siltstone/shale	Not logged	Schist	Undifferentiated Volcanic
Andesite Flow	Dolomite	Interbedded VSS/VSL/VSM &	Pyroclastic Breccia	See comments for full descrip	Undifferentiated Volcanoclastic
Basalt	Fault Zone	Intermediate flow	Quartz	Semi-massive Sulphides	Vein Carbonate
Breccia - Undifferentiated	Feldspathic (ash) tuff	Intermediate Volcanoclastic	Quartz Carbonate Vein	Shale	Vein quartz
Calcarenite	Feldspathic porphyry	Lapilli Tuff	Quartz Feldspar Porphyry	Siltstone	Volcanic Breccia
Chert	Felsic Flow	Limestone	Quartz Porphyry	Slate	Volcanic Conglomerate
Clay	Felsic tuff	Lithic Tuff	Quartzite	Tuff Siltstone	Volcanic Sandstone
Crystal Tuff	Felsic Volcanoclastic	Mafic Dyke	Rhyodacite	Undifferentiated Black Shale	Volcanic Siltstone
Dacite	Greywacke	Mafic Volcanoclastic	Rhyolite	Undifferentiated Felsic Volcanic	
Dacite Breccia	Hyaloclastite Breccia	Massive sulphide	Rhyolite Breccia	Undifferentiated Fluvio-glacial Sediment	
Dacite Flow	Interbedded sandstone/shale	Mudstone	Rhyolite Tuff	Undifferentiated Mafic Intrusive	
Dacite Lapilli Tuff	Interbedded sandstone/siltsto	No Core Present	Sandstone	Undifferentiated Tuff	

Mineralisation	
Background	
Elevated	
Anomalous	
Strongly Anomalous	
Sub-Grade	
Low-Grade	
High-Grade	

ROSEBERY LITHOLOGY_VMS LOG

Hole ID: 411R-D2



Project: ROS

Rosebery

Prospect: NRL

North Lake Rosebery

Northing: 5378392.8 mN

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MAG_Azim: 66.00

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Total Depth: 1498.1 m

CoordSys: MGA55 (GDA94)

DrillCompany:

Strat	Colour	Lithology	Genetic Text	Litho Facies	Texture	Alt	Min	Summary	Sample_ID	Pb pct	Zn pct	Cu pct	Ag ppm	Au ppm	Fe pct	
FW	BUF-BRN	VBX	VolClas	brc	pum qph	se cb		Quartz crystal rich and pumice bearing volcaniclastic breccia. The breccia is composed of irregular shaped and Se altered pumice which occur up to 80mm in size. There are also common dacitic to rhyolitic sub-angular clasts that vary from 10-50mm in size. Abundant sub-rounded Qz crystals occur in the matrix and range fro <1-3mm in size. Generally this breccia is matrix supported and is also poorly sorted, with no obvious grading. Stratigraphically this unit is below or on the footwall side to the D1 intersection.	D1395216	0.0	0.0	0.0	0.10			1.5
									D1395217	0.0	0.1	0.0	0.44		1.6	
FW	BUF-GRY	VBX	VolClas	brc	pum qph	se py		Quartz crystal rich pumiceous volcaniclastic breccia. Same unit as above, however, possibly a new flow from 1461 where it appears to be a finer sandy unit which then moves into the typical coarse grained volcaniclastic as described above.	D1395218	0.0	0.0	0.0	0.10			0.8
									D1395219	0.0	0.0	0.0	0.43			0.9
									D1395220	0.0	0.0	0.0	0.03			1.3
									D1395221	0.0	0.0	0.0	0.22			1.2

Lithology Legend										Mineralisation		
▲ Andesite	■ Disseminated Sulphides	▨ Interbedded siltstone/shale	■ Not logged	■ Schist	■ Undifferentiated Volcanic	■ Background	■ Elevated	■ Anomalous	■ Strongly Anomalous	■ Sub-Grade	■ Low-Grade	■ High-Grade
▲ Andesite Flow	■ Dolomite	▨ Interbedded VSS/VSL/VSM &	▲ Pyroclastic Breccia	■ See comments for full descrip	■ Undifferentiated Volcaniclastic	■ Basalt	■ Quartz	■ Semi-massive Sulphides	■ Vein Carbonate	■ Vein quartz	■ Volcanic Breccia	■ Volcanic Conglomerate
▲ Breccia - Undifferentiated	■ Fault Zone	▨ Intermediate flow	■ Quartz Carbonate Vein	■ Shale	■ Vein quartz	■ Calcarenite	■ Quartz Feldspar Porphyry	■ Slate	■ Volcanic Sandstone	■ Volcanic Siltstone	■ Volcanic Sandstone	■ Volcanic Siltstone
■ Chert	■ Feldspathic (ash) tuff	▨ Intermediate Volcaniclastic	■ Quartz Feldspar Porphyry	■ Siltstone	■ Volcanic Breccia	■ Clay	■ Felsic Flow	■ Tuff Siltstone	■ Volcanic Sandstone	■ Volcanic Siltstone	■ Volcanic Sandstone	■ Volcanic Siltstone
■ Crystal Tuff	■ Feldspathic porphyry	▨ Lapilli Tuff	■ Quartz Porphyry	■ Undifferentiated Black Shale	■ Undifferentiated Felsic Volcanic	■ Dacite	■ Felsic tuff	■ Slate	■ Undifferentiated Fluvioglacial Sediment	■ Undifferentiated Mafic Intrusive	■ Undifferentiated Tuff	
■ Dacite Breccia	■ Felsic volcaniclastic	▨ Mafic Dyke	■ Rhyodacite	■ Rhyolite	■ Rhyolite Breccia	■ Dacite Flow	■ Lithic Tuff	■ Rhyolite Tuff	■ Rhyolite Tuff			
■ Dacite Lapilli Tuff	■ Greywacke	▨ Mafic Volcaniclastic	■ Rhyolite	■ Rhyolite Tuff	■ Sandstone	■ Interbedded sandstone/shale	■ Hyaloclastite Breccia	■ Sandstone				
	■ Hyaloclastite Breccia	▨ Massive sulphide	■ Rhyolite Breccia			■ Interbedded sandstone/siltsto	■ Dolomite					
	■ Interbedded sandstone/shale	▨ Mudstone	■ Rhyolite Tuff			■ No Core Present	■ Dolomite					
	■ Interbedded sandstone/siltsto	▨ No Core Present	■ Sandstone				■ Dolomite					