

CAPE YORK HMS & Bauxite

> SCONI Ni-Co & Sc

Emerging Resource Developer to Producer



MESCA, Townsville 19 March 2015

ASX:MLM



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The Cape York Heavy Mineral Sands (HMS) and Bauxite (Bx) Projects (Incl Urquhart Pt) and the SCONI Scandium-Cobalt-Nickel Project, are at the exploration, advanced evaluation & feasibility stage & although reasonable care has been taken to ensure that the facts stated in this presentation are accurate & or that the opinions expressed are fair & reasonable, no reliance can be placed for any purpose whatsoever on the information contained in this document or on its completeness.

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- > The **Urquhart Point Project** is at an advanced feasibility and development stage and reasonable care has been taken to ensure that the facts stated in this announcement are accurate and or that the opinions expressed are fair and reasonable. However, actual results may differ materially from those expressed or implied by these forward looking statements depending on a variety of factors.
- A key conclusion of the **Feasibility Study (FS)** which is based on forward looking statements is that the Urquhart HMS Project is considered to have positive economic potential project development funding has been through a Joint Venture with Ozore resources and the project is intended to be developed.

Technical information contained in this report has been compiled by Metallica Minerals Managing Director Mr Andrew Gillies B.Sc. & M. AUSIMM, who is a **competent person** & a member of the Australasian Institute of Mining & Metallurgy & have relevant experience to the mineralisation being reported on to qualify as Competent Persons as defined by the Australasian Code for Reporting of Minerals Resources & Reserves. Mr Gillies consents to the inclusion in this presentation of the matters based on the information in the form & context in which it appears.

*Exploration Target - The potential quantity and grade of the bauxite deposits are conceptual in nature. There is insufficient information at this time to define a mineral resource and there is no certainty that further exploration will result in the determination of a mineral resource in these areas.

For further detailed information on the content of this presentation please also refer to the following ASX Releases dated: 20 May 2014, 17 June & 24 June 2014 & 11 July 2014, 1 & 27 August 2014, 29 & 30 September 2014, Annual Report 6 October 2014, 25 November 2014, 3 December 2014, 21 January 2015, 3 and 26 February 2015



METALLICA'S VISION

Become a successful producer of zircon-rutile, bauxite & scandium-nickel-cobalt products

Financial Information	
Share price (26 Feb 2015)	5.0c
Shares on Issue	166.9M
Market Cap (26 Feb 2015)	\$8.4M
Cash Position (31 Dec 2014) No Debt	~\$2.47M

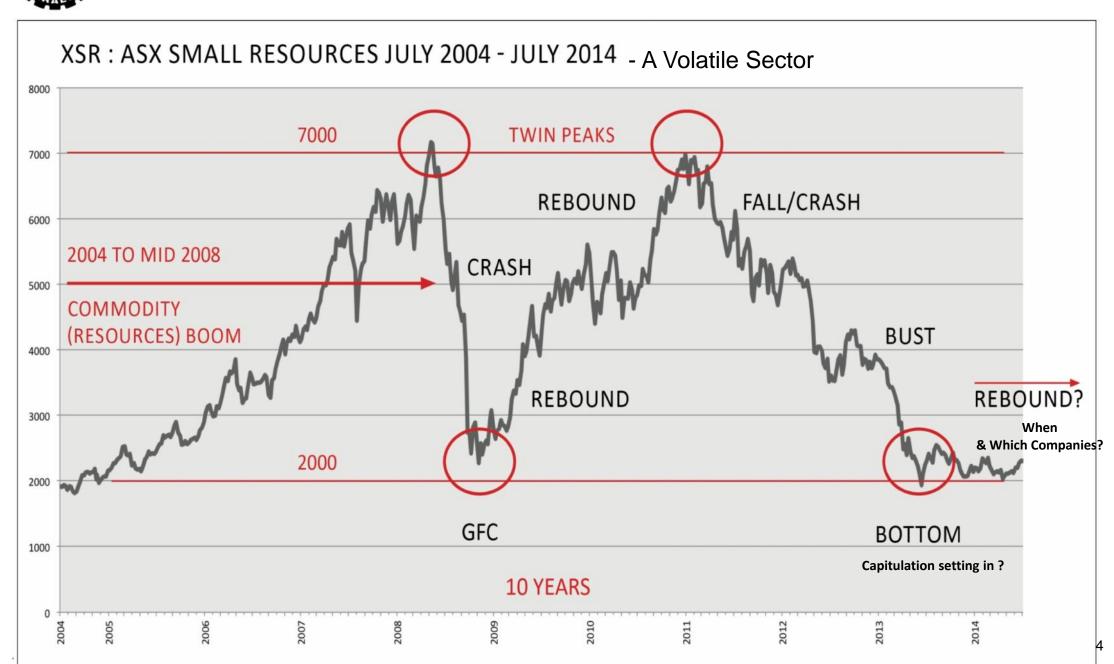
Major Shareholders	
Jien Mining Pty Ltd	24.0%
Victorian Ferries Pty Ltd	10.4%
Golden Breed Pty Ltd	5.3%
Bondline Ltd	2.9%
Top 20 shareholders (2,056)	59%

Name	Position	Background	Experience
David Barwick	Non-Executive Chairman	Financial / Corporate	40+ years
Andrew Gillies	Managing Director - CEO	Geology / Mining / Corp Dev	29+ years
Barry Casson	Non-Executive Director	Financial / Corporate	40+ years
Wu Shu (Shu Zhang- Alternate)	Non-Executive Director	Engineering	30+ years
John Haley	CFO/Company Secretary	Financial	30+ years



Australian Junior Resources Sector Market

Timing & Commodity selection critical





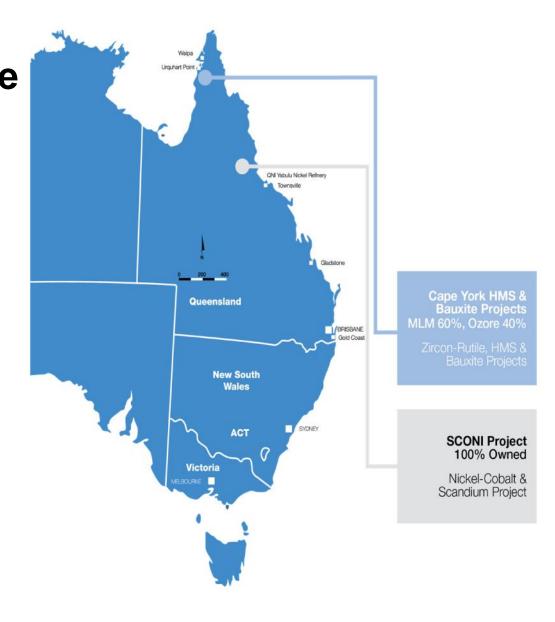
HMS – (Zircon, Rutile) & Bauxite
 Cape York HMS & Bauxite
 Project

MLM 60% Ozore 40% (earning up 50%)

 Nickel – Cobalt – Scandium SCONI (Sc-Co-Ni) Project

100% MLM (seeking partners)

All commodities which <u>China needs</u>





Emerging Resource Developer – Project Pipeline

- ✓ Short Term Urquhart Point HMS 2015 Production
- ✓ Medium Term Urquhart Bauxite 2016-17
- ✓ Longer Term Regional Bauxite, Regional HMS, SCONI Ni-Co-Sc



Similar HMS Processing Plant



Weipa (Urguhart) pisolitic Bauxite



Greenvale Nickel Laterite exposure

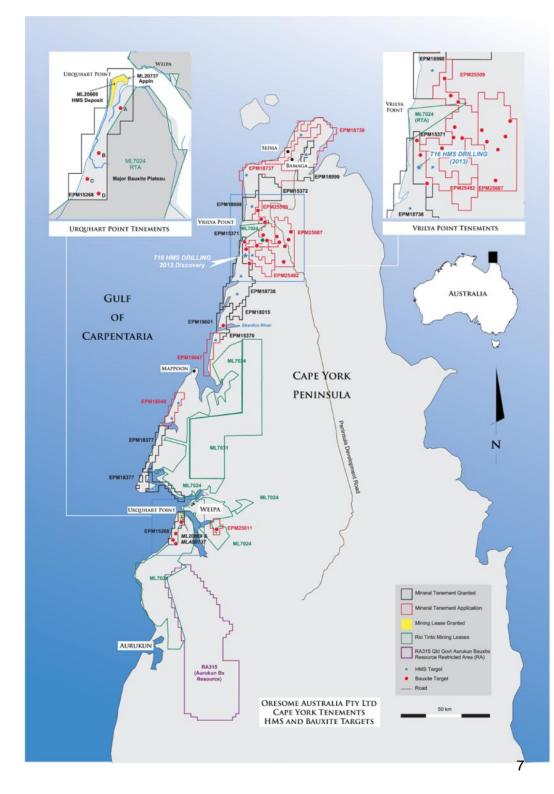


Cape York Tenure "Title is Vital"

- √ 2,500km² highly prospective yet under explored exploration tenure
- √ 300km sandy coastal tenure (typically adjoining bauxite plateaus)



Photo looking east above the Urquhart Point mining lease and proposed HMS mining area (including processing plant & barge loading sites) across the Embley River (a deep sheltered shipping channel), Weipa Port and Township. Further distance is Rio Tinto's Weipa bauxite mining and shipping operations.





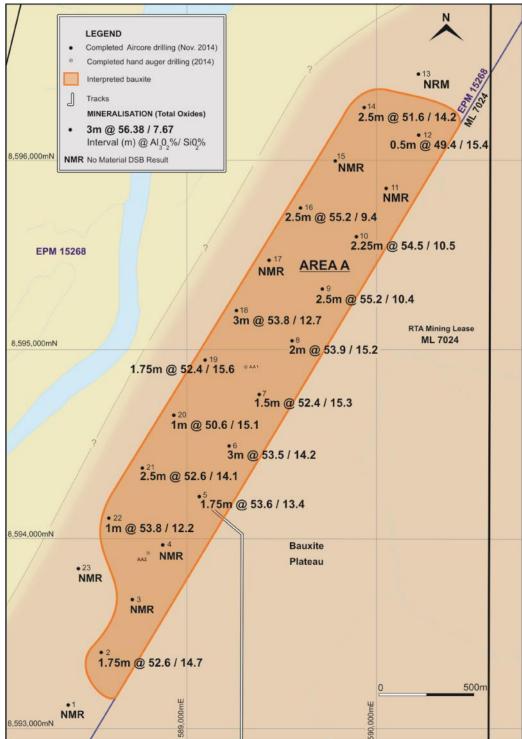
Recent Highlights

Urquhart Bauxite drilling (Area A & B) completed - high grade bauxite (Direct Shipping (DSB) confirmed.

- ✓ Bauxite Mining Lease Application(s) underway
- ✓ HMS Drilling completed at T16 in Dec, results pending
- ✓ JV Agreement with Ozore invests \$7.5M for 50% CY HMS & Bx Project \$6M in funding received (MLM 60% : Ozore 40%)
- ✓ Fixed sum Plant Supply contract executed with Consulmet for Urquhart Point HMS Project
- ✓ Committed Development Plant Commissioning expected mid 2015 Cashflow expected 3Q 2015
- √ \$250,000 received in January for Dingo Dam Nickel Ore Royalty Agreement
- Exciting Bauxite Direct Shipping Bauxite (DSB) opportunity after Indonesia's export ban – excellent bauxite market fundamentals
- ✓ Actively progressing & adding value to Cape York HMS & Bauxite projects without having to directly dilute shareholders

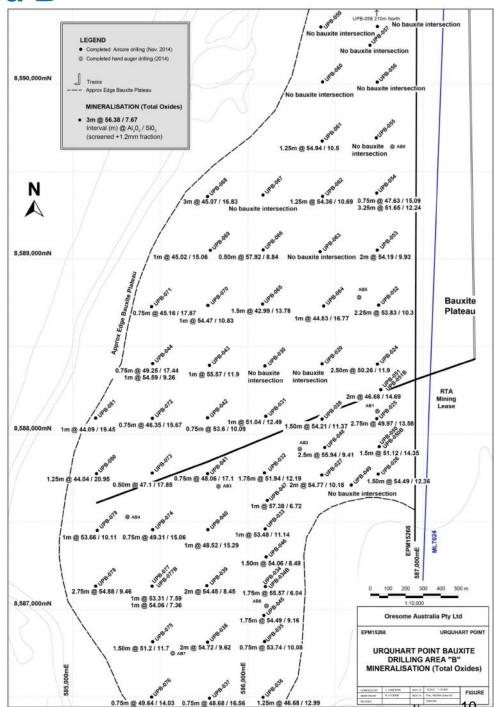
Urquhart Bauxite Project - Area A

- High grade pisolitic bauxite in 21 of 23 drill hole program
- Drilling on a 320m by 320m spacing within 3.5km by 600m, for an area of bauxite of 2km² at an average thickness of 2.4m
- Average grades of 21 holes recorded aluminium oxide (Al₂O₃) of 56.0% with average silicon dioxide (SiO₂) of 8.0% SiO₂. The grades are based on beneficiated screening +1.2mm fraction, with an excellent average yield of 65.5%, see Table 1, slide 36.
- Direct Shipping Bauxite (DSB) or insitu (unscreened) average grade was 53.4% Al₂O₃, 13.2% SiO₂ with average thickness of ~2m
- Average 2.4m thickness of bauxite at an average of approximately 1.5 metre overburden to 1 metre bauxite
- Bauxite deposit <14km from sheltered waters ideal for simple barge to ship export operation



Urquhart Bauxite Project - Area B

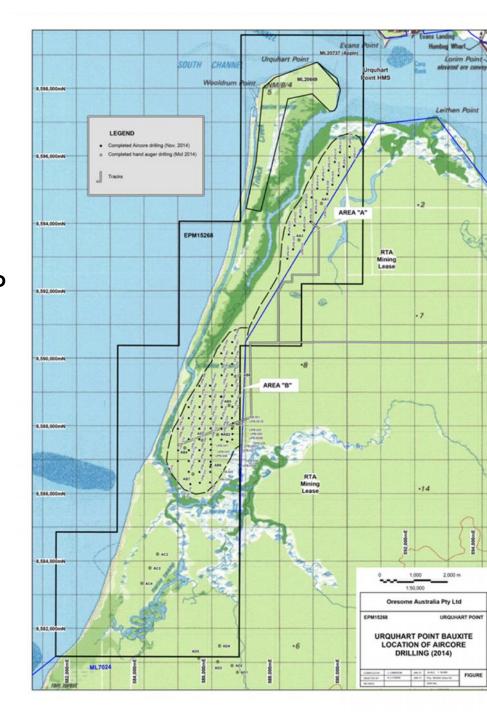
- Pisolitic bauxite mineralisation with an average thickness of 1.4m identified in 40 of the 62 holes drilled.
- Grades of up to 57.9% aluminium oxide (Al₂O₃) and as low as 6% silicon dioxide (SiO₂) were returned with an overall average grade of 51.5% Al₂O₃ and 12% SiO₂.
- This drilling has defined a pisolitic bauxite area > 5km² with approximate dimensions of 3.1km x 1.6km
- The grades are so far based on beneficiated screening (+1.2mm fraction) returning an average yield (ie oversize fraction) of 55.4%, see Table 1 slide 37-38





Urquhart Bauxite - Next Steps

- Apply for a mining lease over Area A (and Area B or portion(s) of Area B) – ASAP
- Low temperature (150°c) caustic leaching testwork on representative samples for available alumina and reactive silica - ASAP
- Larger Direct Shipping Bauxite ("DSB") samples to be supplied to potential bauxite off takers – coming months
- Resource estimation May 15
- Develop conceptual development plan (subject to appropriate permitting) and Scoping Study – May – Jun 15





Direct Shipping Bauxite (DSB) Opportunity

Mine → Truck → Barge → Ship → \$\$



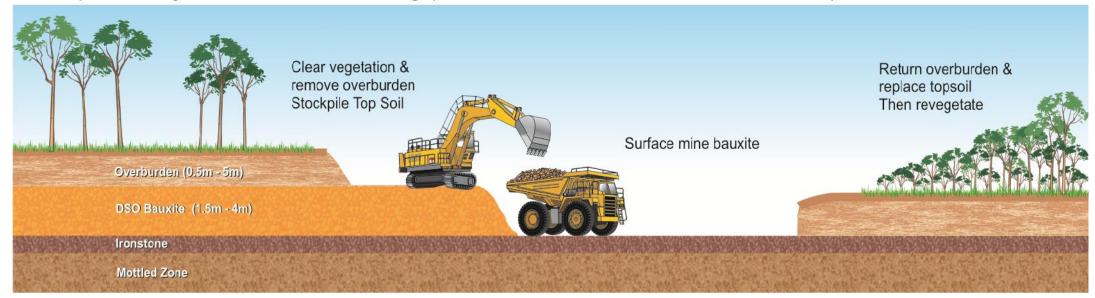
Quote accredited to Leonardo da Vinci



Direct Shipping Bauxite (DSB) Opportunity

Mine → Truck → Barge → Ship → \$\$

1. Simple Mining - Shallow and Free Dig (Continous/Simultaneous Rehabilitation)



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Bauxite Strategy: Simple Mine-Truck-Barge-Ship (1)

- Simple shallow free dig, basic processing, truck, barge, ship HMC & Bauxite
- Low Capex, low start up cost, relatively quick startup (+ payback)
- Focus only on accessible HMS & DSB deposits (coastal)
- Close to <u>bargable</u> river-creek/mouths & sheltered deep waters (ships)





Barge in deep ship channel next to Urquhart Pt

Barge in landed drill rig on Urquhart Pt beach



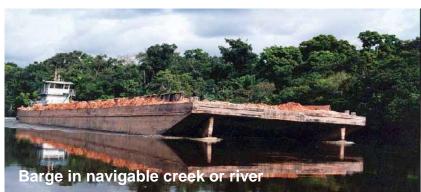
Bauxite Strategy Simple Mine-Barge-Ship (2)

Photos that encapsulate strategy – simple construction & operation.

Cape York has high quality export grade bauxite with high Al₂O₃ content





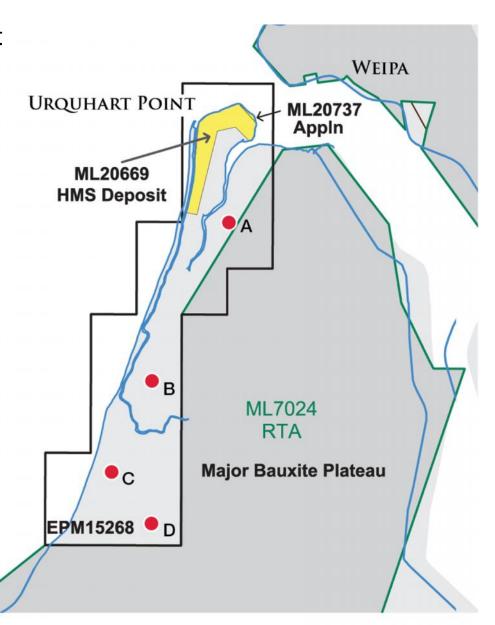




Urquhart HMS & Bx Project (near Weipa – <u>Hub 1</u>)

- Permitted granted ML (yellow) covering Urquhart Pt HMS Resource/Reserve
- Urquhart Point EPM15268 also covers drilled high grade bauxite deposits (undergoing resource study)
- Urquhart Pt Tenements adjacent to huge bauxite resources held by RTA (South of Embley) & North Qld Gov (Aurukun) Bx deposits
- Possible potential for accessing third party bauxite using Urquhart barging/shipping infrastructure will be investigated





URQUHART POINT TENEMENTS

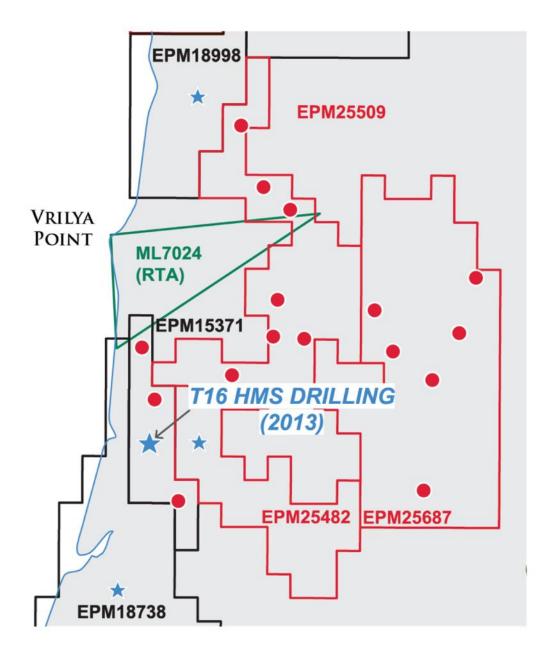


Vrilya Point HMS & Bx Project (160km N Weipa – Hub 2)

- RIO ML (green) covering portion of Vrilya Pt Bauxite deposit
- JV holds 5 EPM(black)/EPMA's (red) near Vrilya Pt cover numerous priority HMS & Bx targets
- Extensive Bx areas within tenure need to establish quantity & quality by drilling
- Very good potential for large Zircon rich HM deposits N & S Vrilya Pt (eg T16)
- Combined Vrilya Bauxite Exploration
 Target* of 42Mt to 128Mt Range
 (See ASX Release dated 11 July 2014)

^{*}Exploration Target - The potential quantity and grade of the bauxite deposits are conceptual in nature.

There is insufficient information at this time to define a mineral resource and there is no certainty that further exploration will result in the determination of a mineral resource in these areas.



VRILYA POINT TENEMENTS

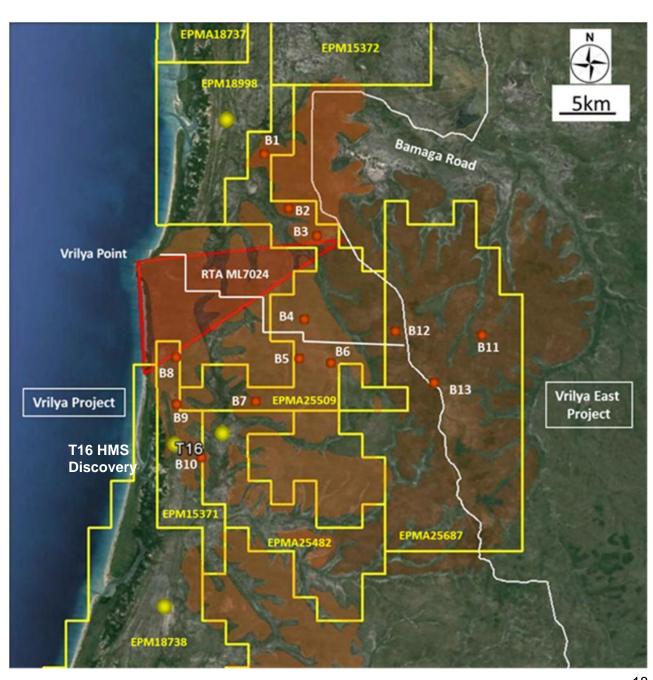


Vrilya & Vrilya East Project Exploration Targets*

- Vrilya & Vrilya East Project
 Tenements with outline of
 Government and Oresome
 mapped laterite/Bx plateaus
 (orange colour)
- 13 Identified bauxite Exploration Targets (**Orange** circles) & regional HMS exploration targets



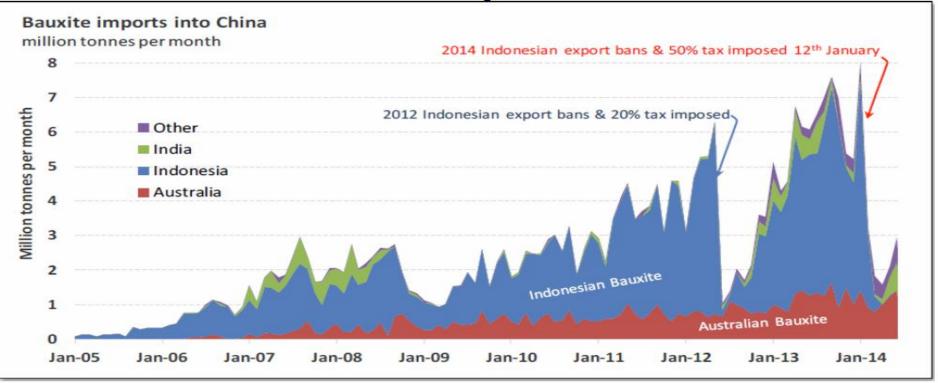
Photo from helicopter showing extensive Vrilya East bauxite laterite plateaus targeted for grid drilling





Bauxite Market Outlook - Indonesian Bx Bans, (2013 supplied ¾ Chinese Imports), Forecasts Increasing Demand & Price

Bauxite Volumes Imported into China



Source: ABX Quarterly Report June 2014

••• Indonesia, the largest global exporter has implemented an export ban on bauxite and other minerals unless they are processed. This is a major opportunity for Queensland to replace this supply

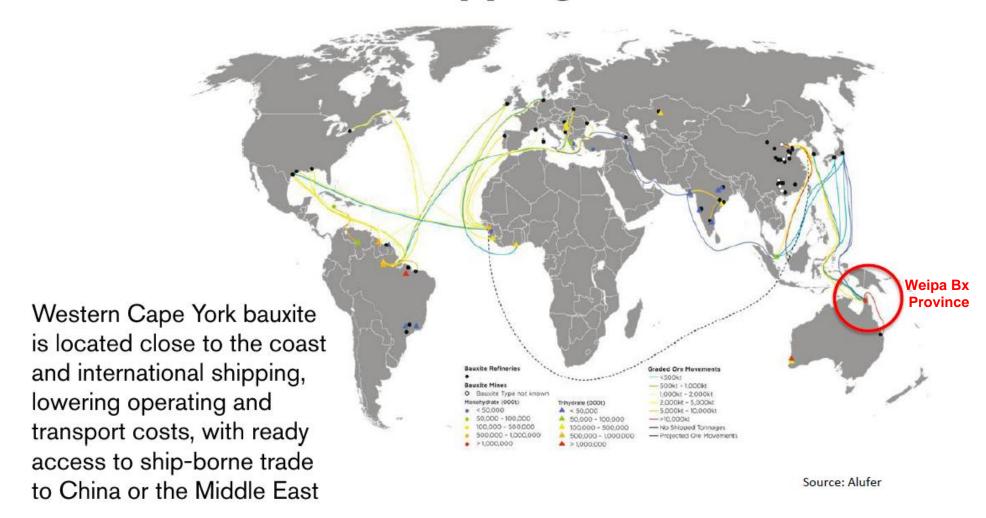
✓ Increasing bauxite demand and prices are expected to intensify due to the simultaneous major reduction in bauxite supply from Indonesia and India, and increased demand for alumina to supply rising aluminium production and consumption in China, India and Middle East.



Weipa Bauxite Advantage

Well Known Quality, Coastal & Relatively Close to China

Global Bauxite Shipping Route





Urquhart Point – HMS Development (Weipa)

- Urquhart Point Reserve & Positive FS (See ASX Release 24 June 2014)
- NPV of \$4.9 m & IRR of 69% 5 year mine life
- 1 year payback on \$6.5M operations establishment costs
- Simple mine (<3m depth), basic 110tph (270ktpa) processing (wet gravity-Spirals), barge conc. & ship operation
- Model uses TZMI Zircon-Ti Mineral forecast prices
- 0.85 long term FX rate
- Offtake in advanced negotiations
- Development committed plant currently being constructed in South Africa
- Supply Contract signed with Consulmet fixed price ~\$3.7M
- Expect Plant commissioning and production start in July 2015
- Producing mixed Zircon + Rutile + Ilmenite (+ trash sands) in concentrate

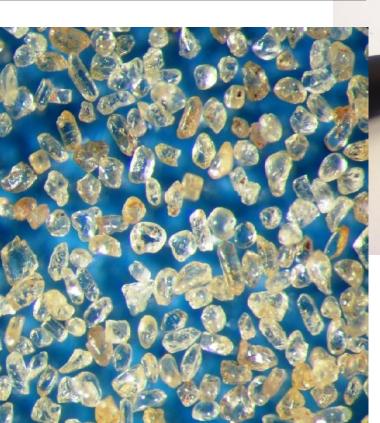
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Urquhart Point Zircon & Rutile Specifications

Urquhart Point Primary ZIRCON Specifications

ZrO ₂ + HfO ₂ (%)	65.0 – 66.0
U + Th (ppm)	420 – 500
TiO ₂ (%)	0.05 – 0.10
Al ₂ O ₃ (%)	0.10 - 0.30
Fe ₂ O ₃ (%)	0.08 - 0.10

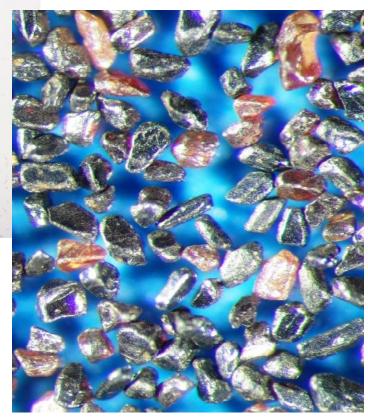


Microscope view of Urquhart Point zircon sand ASX:MLM



The Urquhart Point Project will produce a HM concentrate containing high quality zircon and rutile mineral sands

Urquhart Point Primar	y RUTILE Specifications
ZrO ₂ + HfO ₂ (%)	0.30 – 0.10
U + Th (ppm)	50 - 100
TiO ₂ (%)	96.0 – 97.0
Al ₂ O ₃ (%)	0.20 - 0.30
Fe ₂ O ₃ (%)	0.25 - 0.30

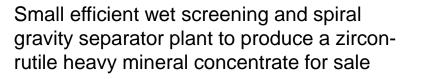


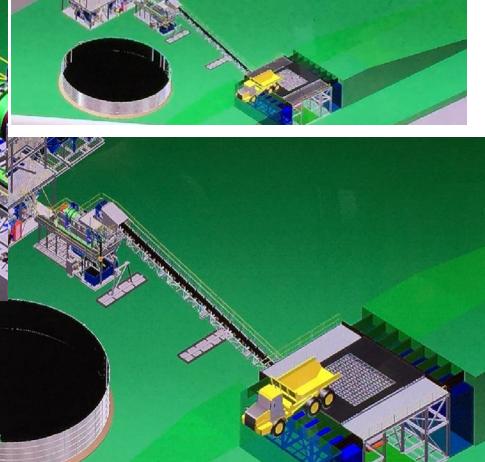
Microscope view of Urquhart Point rutile sand

3D images Urquhart Point HMS plant design

Engineered & constructed by Consulmet in SA

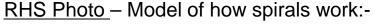






Wet Spiral Gravity Separation/Concentration Core Unit of the HMS Processing Plant





- 1. CONS **Black** heavy sands inside spiral
- 2. MIDS Red Midlings medium & mixed recycled
- 3. TAILS Blue Light sands quartz and shell grits, back to mine

TAILS



Urquhart Point HMS Reserve Estimate (June 2014)

The HMS Reserves have been independently estimated by consultants IMC Mining Pty Ltd

				HM Tonnage & Mineral Assemblage								
Ore Reserve	erve Tonnes HM OS			Slimes	Zircon Rutile IIr		Ilmenite	НМ	Zircon	Rutile	Ilmenite	
Category	(kt)	%	%	%	%	%	%	(kt)	% of HM	% of HM	% of HM	
Proved	967	10.6	8.1	1.0	1.2	1.4	1.4	102	11.1	13.7	12.9	
Probable	210	4.8	6.7	1.2	0.9	0.6	0.7	10	17.7	13.2	14.4	
Total	1,177	9.5	7.9	1.0	1.1	1.3	1.2	112	11.7	13.6	13.1	

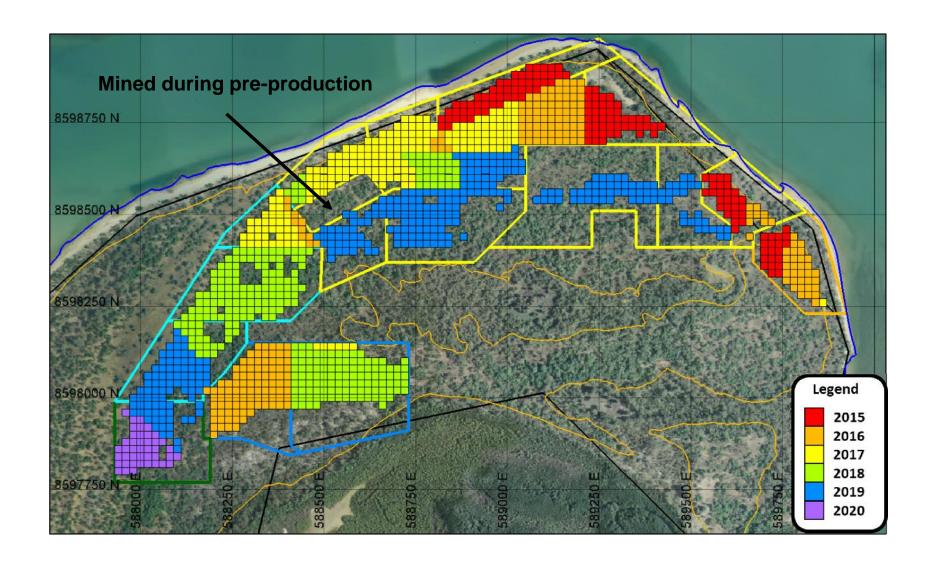
- The Ore Reserves are based on the following long term FOB prices: Zircon \$1,500/t, Rutile US\$1,200/t and Ilmenite US\$200/t (prices early 2014) using 85c \$US/AUD\$ exchange rate
- Ore Reserves are based on a Zircon Equivalent cut-off grade of 0.90%.
- Zircon Equivalent = Zircon% + 0.8xRutile % + 0.13xIlmenite%. Recoveries used in the equivalence calculation are 98.2%, 98.0% and 95.8% for Zircon, Rutile and Ilmenite respectively.

(Note: HMS prices have fallen significantly since reserve estimate, especially Ti Minerals Ilmenite and Rutile this is partly offset by falling A\$)

For further information see ASX Release 24 June 2014

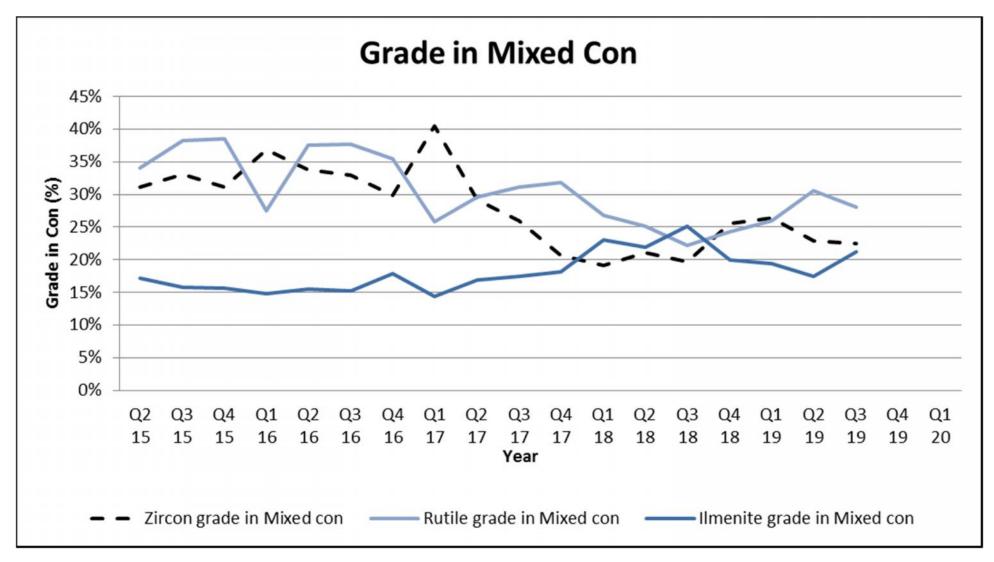


Proposed Mining Sequence of HMS Reserve Blocks





HM Concentrate Grade Production Estimate

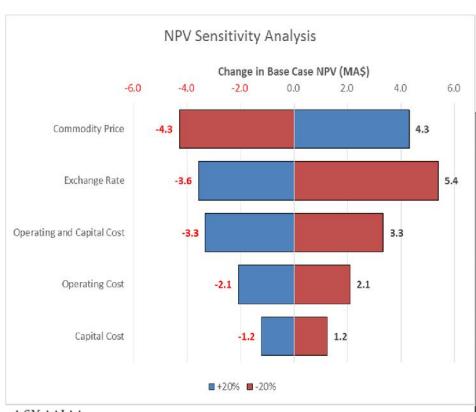


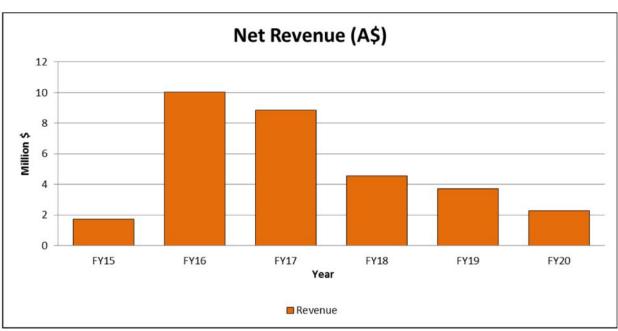


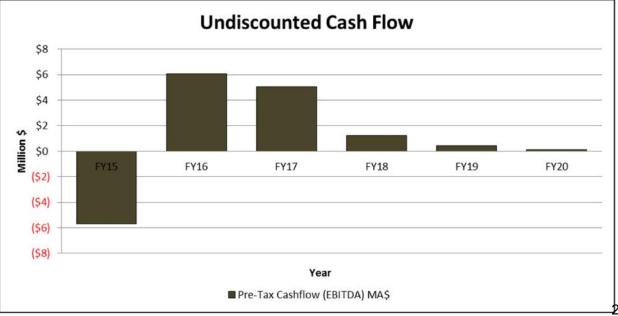
Urquhart Point HMS Project Financial Metrics*

Key Metrics (*June 14 – Feasibility Study)

Parameter	Quantity
NPV _{10%}	A\$4.9M
IRR	69%
Mine life	4.9 years
Capex estimate	A\$6.51M
Undiscounted cash-flow (after	A\$7.3M
CAPEX)EBITDA	ΑŞ/.SIVI







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Excellent Regional Exploration Opportunities (HMS & Bauxite)

- 1. Excellent scope to discover major HMS (potentially a province)
- 2. Known extensive bauxite plateaus ready for drill testing
- Typically HMS & Bauxite deposits/projects are located close to each other and therefore potentially sharing and integrating exploration, feasibility, development, infrastructure and future costs (Mutual Cost Savings Expected).



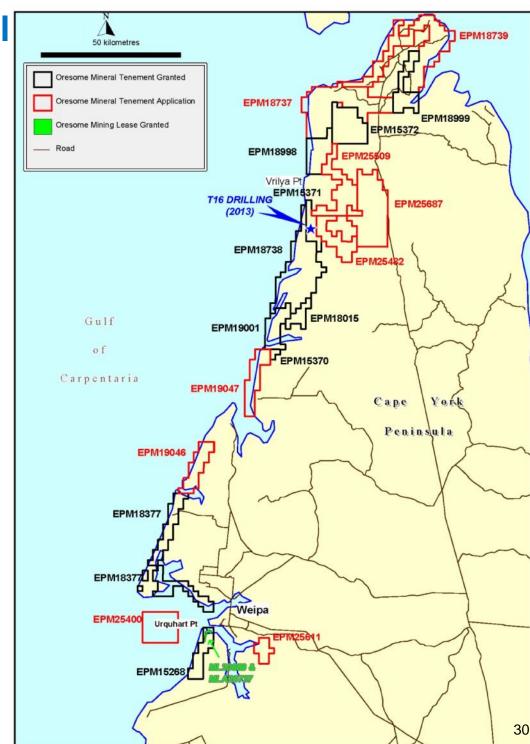






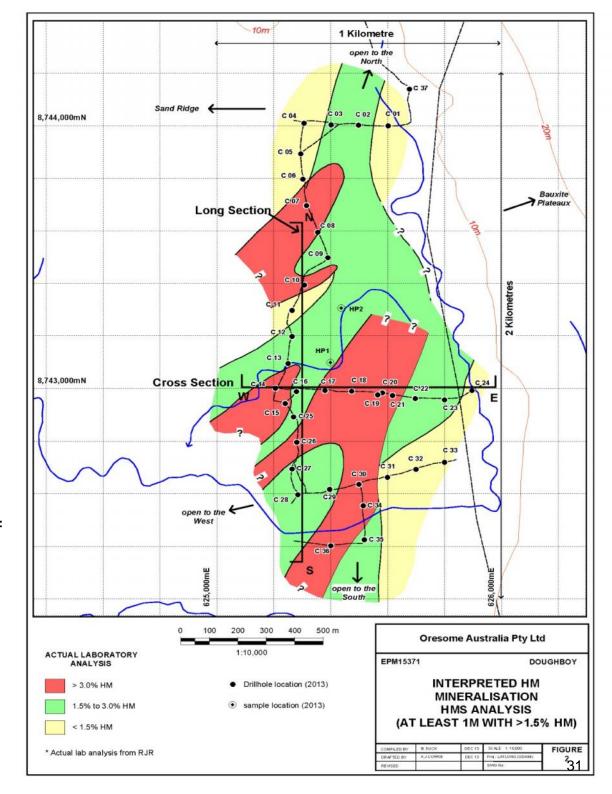
Major Regional HMS Potential

- 2,500 sq km prospective tenure
- Highly prospective for HMS & Bx deposits
- 300 km coastal belt (near Weipa to the tip of CYP)
- T16 regional project 160km N of Urquhart Point – first regional target tested – resulted in Discovery
- T16 is one of many HMS targets (>20) along 300km of coastal belt from Weipa to tip Cape York
- Drilling completed Dec 2014 awaiting results



T16 HMS Discovery

- Significant mineralisation drilled over 1.8km
 x 800m area open in most directions
- 49% HM is Zircon (33%) & Ti Mineral (16%)
- All 36 auger holes drilled (average depth 3.7m) recorded significant mineralisation
- T16 HM mineralisation is within fine quartz sand with generally low slimes, average 1.7%HM, HM containing 33% Zircon, 16% Ti Minerals (49% VHM)
- In December 2014, approx 300 aircore drill holes were completed on and along strike of the T16 discovery area (results pending)
- For further information see ASX Release dated 22 January 2014



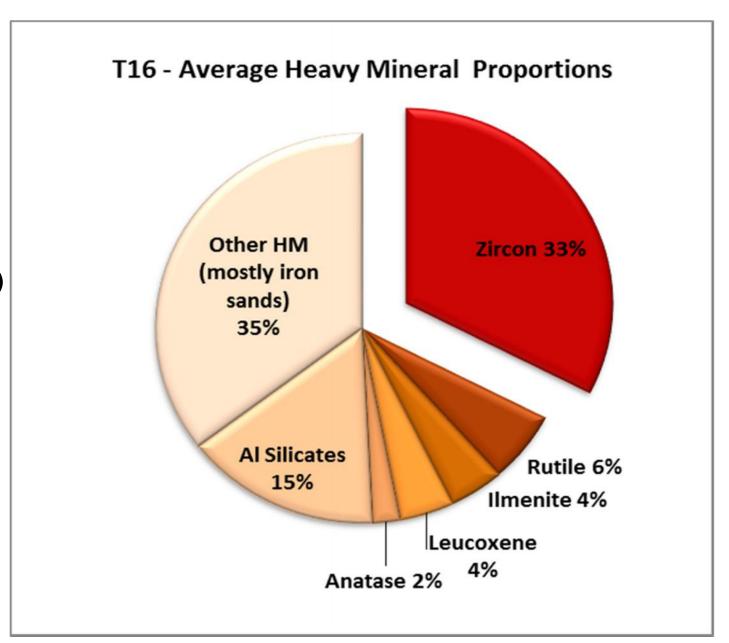


Summary of the T16 HM Assemblage Analysis

of Composited Samples of 35 drill holes (Zircon rich 33%, 16% Ti Minerals : 49% VHM)

Very attractive HM Assemblage

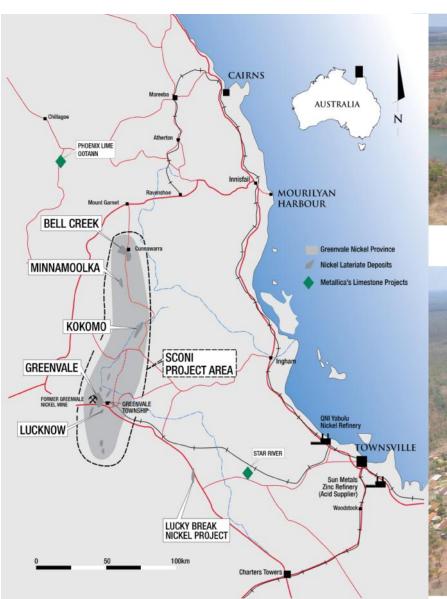
- 49% Valuable HM (VHM)
- 33% high quality Zircon





SCONI Scandium-Cobalt-Nickel Tri-metal Project









✓ Greenvale – Ideal location

- ✓ Established JORC Ni-Co & Sc laterite Resources — 89Mt combined resources containing 514kt Ni, 55kt Co, 4,300t Sc metals (see Tables back this presentation p 37-40)
- ✓ Historical Greenvale nickel mine site - Mined 1974 – 92 produced 40Mt @ 1.56% Ni, 0.12% Co (containing 624,000t Ni & 48,000t Co)
- ✓ Low sovereign risk country
- Close proximity to industrial services & port in Townsville
- Good metallurgical oretypes, own Sc recovery IP
- Low environmental impact & strong community support

"Seeking Partners"



METALLICA MINERALS

CAPE YORK HMS & Bauxite

THANK YOU

SCONI Ni-Co & Sc

METALLICA SUBSIDIARIES

NORNICO Pty Ltd | MLM 100%
Greenvale Operations Pty Ltd | MLM 100%
Lucky Break Operations Pty Ltd | MLM 100%
Scandium Pty Ltd | MLM 100%
Phoenix Lime Pty Ltd | MLM 100%
Oresome Australia Pty Ltd | MLM 100%

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Urquhart Point HMS Resource Estimate

Global Mineral Resource – 0% HM COG

See ASX Release dated 20 May 2014

COG = 0% HM											
Resource Category	Tonnes	HM%	HM Tonnes	OS%	Slimes%	Zircon %	Rutile %	Ilmenite %			
Measured	1,945,360	6.92	134,529	13.83	1.07	10.2	12.5	12.5			
Indicated	1,365,440	4.60	62,746	15.33	1.15	11.4	10.9	13.2			
Total	3,310,800	5.96	197,275	14.45	1.11	10.6	12.0	12.7			

Mineral Resource constrained by mining lease and environmental buffers – 0% HM COG

COG = 0% HM											
Resource Category	Tonnes	HM%	HM Tonnes	OS%	Slimes%	Zircon %	Rutile %	Ilmenite %			
Measured	1,882,960	6.57	123,716	14.17	1.07	9.7	12.0	12.4			
Indicated	1,345,840	4.60	61,930	15.41	1.16	11.4	10.9	13.2			
Total	3,228,800	5.75	185,646	14.68	1.11	10.3	11.6	12.7			

Mineral Resource constrained by mining lease and environmental buffers – 2% HM COG

COG = 2% HM											
Resource Category	Tonnes	HM%	HM Tonnes	OS%	Slimes%	Zircon %	Rutile %	Ilmenite %			
Measured	1,781,360	6.85	122,090	12.46	1.03	9.8	12.0	12.4			
Indicated	1,305,680	4.70	61,335	14.44	1.15	11.4	10.9	13.2			
Total	3,087,040	5.94	183,425	13.30	1.08	10.3	11.6	12.7			

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Table 1: EPM15268 Urquhart Point Bauxite Exploration Drillhole Results Area A

Drillhole	Date Drilled	Easting MGA94 Z54	Northing MGA94 Z54	RL metres	Dip degrees	TD metres	Interval From metres	Interval To metres	Interval metres	Yield (+1.2mm) %	Al203 %	SiO2%	Fe2O3%
UPB-001	1/11/2014	588375	8593132	16	-90	6.00	4.00	5.00	1.00	31.55	48.59	16.29	13.9
UPB-002	1/11/2014	588546	8593408	13	-90	7.50	2.50	3.50	1.00	59.13	49.78	12.45	14.72
							4.00	6.25	2.25	77.22	56.01	9.58	10.41
UPB-003	2/11/2014	588710	8593685	11	-90	7.25	4.00	6.00	2.00	68.70	51.87	9.86	14.03
UPB-004	2/11/2014	588870	8593970	17	-90	5.75	2.25	4.25	2.00	30.34	47.93	14.97	14.91
UPB-005	2/11/2014	589060	8594228	8	-90	7.00	2.50	5.75	3.25	56.58	55.03	10.02	9.58
UPB-006	2/11/2014	589220	8594494	10	-90	6.00	2.50	6.00	3.50	70.26	56.53	8.85	8.71
UPB-007	2/11/2014	589375	8594768	9	-90	6.00	2.00	4.75	2.75	58.06	56.82	8.52	6.81
UPB-008	2/11/2014	589553	8595049	14	-90	7.00	2.25	5.75	3.50	73.68	58.25	7.99	4.49
UPB-009	2/11/2014	589708	8595324	13	-90	6.00	2.00	5.00	3.00	76.02	57.33	6.72	6.67
UPB-010	2/11/2014	589889	8595599	14	-90	7.00	3.50	5.75	2.25	86.19	57.14	6.06	6.58
UPB-011	2/11/2014	590043	8595857	12	-90	6.00	4.00	5.50	1.50	38.90	55.95	9.01	8.01
UPB-012	2/11/2014	590218	8596137	12	-90	8.00	4.75	7.00	2.25	67.31	55.58	7.29	8.75
UPB-013	2/11/2014	590217	8596459	12	-90	6.00			No bau	ixite intersection	on		
UPB-014	2/11/2014	589930	8596285	12	-90	9.00	5.75	8.75	3.00	66.07	56.38	7.67	5.79
UPB-015	2/11/2014	589777	8595998	7	-90	9.00	6.00	9.00	3.00	62.48	58.17	7.96	4.58
UPB-016	2/11/2014	589595	8595749	2	-90	10.00	6.00	9.00	3.00	70.87	57.49	6.19	6.02
UPB-017	3/11/2014	589428	8595475	12	-90	9.00	5.75	7.50	1.75	56.09	57.91	6.94	4.84
UPB-018	3/11/2014	589259	8595207	15	-90	10.00	4.75	8.50	3.75	71.72	57.86	5.94	5.54
UPB-019	3/11/2014	589092	8594947	10	-90	8.00	4.25	6.50	2.25	66.22	58.54	5.88	5.20
UPB-020	3/11/2014	588928	8594656	13	-90	7.00	4.00	6.50	2.50	70.18	55.77	5.78	8.61
UPB-021	3/11/2014	588757	8594378	16	-90	7.00	3.25	6.00	2.75	70.26	57.27	6.19	6.87
UPB-022	3/11/2014	588587	8594113	12	-90	7.00	5.25	6.25	1.00	62.13	56.58	5.88	6.85
UPB-023	3/11/2014	588422	8593846	16	-90	6.00			No bat	ixite intersection	on		
								Average*	2.42	65.48	56.01	8.00	7.92

Note: * Interval average is simple average of interval metres, Yield average is weighted for interval thickness, Al2O3/SiO2/Fe2O3 averages are weighted for Yield.



Drill hole	Date Drilled	Easting MGA94 Z54	Northing MGA94 Z54	RL metre s	Dip degre es	TD metre s	From metres	Interval To metres	Interval metres	Yield (+1.2mm) %	Al ₂ O ₃ %	SiO ₂ %	Fe ₂ O ₃ %
UPB-024	3/11/2014	586745	8588401	10	-90	4.00	0.75	3.25	2.50	60.94	50.26	11.90	13.26
UPB-025	3/11/2014	586740	8588090	0	-90	5.00	1.00	3.75	2.75	57.38	49.97	13.58	12.21
UPB-026	3/11/2014	586748	8597772	11	-90	6.00	2.75	4.25	1.50	68.60	54.49	12.36	8.70
UPB-027	3/11/2014	586429	8587769	14	-90	6.00	1.25	3.25	2.00	66.91	54.77	10.18	8.72
UPB-028	3/11/2014	586428	8588086	16	-90	5.00	2.00	3.50	1.50	55.82	54.21	11.37	8.81
UPB-029	3/11/2014	586428	8588402	16	-90	6.00			No ba	uxite interse	ection	98	25
UPB-030	3/11/2014	586102	8588390	13	-90	4.75			No ba	uxite interse	ection		
UPB-031	4/11/2014	586107	8588102	ND	-90	6.00	3.00	4.00	1.00	61.50	51.04	12.49	10.66
UPB-032	4/11/2014	585101	8587780	5	-90	4.50	1.75	3.50	1.75	55.90	51.94	12.19	10.14
UPB-033	4/11/2014	587458	8587458	4	-90	4.25	1.50	2.50	1.00	50.55	53.48	11.14	7.26
UPB-034	4/11/2014	586105	8587131	10	-90	4.75	0.75	2.50	1.75	66.23	55.57	6.04	8.94
UPB-034B	4/11/2014	586107	8587131	10	-90	3.00		Twir	hole - san	nples retaine	ed not assa	yed	\$2
UPB-035	4/11/2014	586095	8586813	13	-90	4.75	0.75	1.50	0.75	55.77	53.74	10.08	11.40
UPB-036	4/11/2014	586090	8586499	14	-90	3.00	0.75	2.00	1.25	63.82	46.68	12.99	17.19
UPB-037	4/11/2014	585786	8586492	17	-90	4.00	2.50	3.25	0.75	49.43	48.68	16.56	12.01
UPB-038	4/11/2014	585775	8586813	20	-90	5.00	1.75	3.75	2.00	55.95	54.72	9.62	9.77
UPB-039	4/11/2014	585773	8587134	18	-90	5.00	2.75	4.75	2.00	54.33	54.45	8.45	8.02
UPB-040	4/11/2014	585777	8587454	16	-90	5.00	3.00	4.00	1.00	30.85	48.52	15.29	11.89
UPB-041	4/11/2014	585773	8587775	17	-90	4.00	2.25	3.00	0.75	27.50	48.06	17.10	13.13
UPB-042	4/11/2014	585773	8588093	15	-90	3.00	1.50	2.25	0.75	56.87	53.60	10.09	10.93
UPB-043	4/11/2014	585786	8588395	18	-90	4.00	2.00	3.00	1.00	49.95	55.57	11.90	11.10
LIDD OAA	4/11/2014	FOFACA	000403	10	00	6.00	2.25	3.00	0.75	34.70	49.25	17.44	14.20
UPB-044	4/11/2014	585461	8588403	16	-90	6.00	3.50	4.50	1.00	54.10	54.59	9.26	17.52
UPB-045	4/11/2014	586096	8586966	16	-90	3.00	0.50	2.25	1.75	56.77	54.49	9.16	9.76
UPB-046	4/11/2014	586110	8587299	17	-90	3.00	0.75	2.25	1.50	50.77	54.06	8.49	9.57
UPB-047	4/11/2014	586117	8587623	14	-90	3.00	1.25	2.25	1.00	60.85	57.38	6.72	7.62
UPB-048	4/11/2014	586443	8587924	14	-90	5.25	2.00	4.50	2.50	61.08	55.94	9.41	8.40
UPB-049	4/11/2014	586595	8587711	12	-90	4.75			No ba	uxite interse	ection		22
UPB-050	5/11/2014	586754	8587930	11	-90	4.25		Twir	hole - san	nples retaine	ed not assa	yed	
UPB-050B	5/11/2014	586754	8587932	11	-90	4.25	1.50	3.00	1.50	75.17	51.12	14.35	11.46
UPB-051	5/11/2014	586765	8588254	11	-90	4.75		Twir	hole - san	nples retaine	ed not assa	yed	
UPB-051B	5/11/2014	586765	8588250	11	-90	4.75	1.25	3.25	2.00	57.31	46.68	14.69	16.86



Table 1: EPM15268 Urquhart Point Bauxite Exploration Drillhole Results - Area B continued

Drill hole	Date Drilled	Easting MGA94 Z54	MGA94 Z54	RL metre	Dip degre es	TD metre	From metres	Interval To metres	Interval metres	Yield (+1.2mm) %	Al ₂ O ₃ %	SiO ₂ %	Fe ₂ O ₃ %
UPB-052	27/11/2014	586751	8588739	8	-90	4.75	1.75	4.00	2.25	62.53	53.83	10.30	9.15
UPB-053	27/11/2014	586743	8589055	9	-90	5.00	2.00	4.00	2.00	55.54	54.19	9.93	11.82
UPB-054	27/11/2014	586741	8589377	12	-90	8.25	3.00	3.75	0.75	30.63	47.63	15.09	17.10
UPB-055	27/11/2014	586739	8589693	15	-90	6.00	4.25	7.50	3.25 No ba	59.60 uxite interse	51.65	12.24	11.76
UPB-056	27/11/2014	586744	8590011	11	-90	5.00	3			uxite interse			
UPB-057	27/11/2014	586744	8590328	11	-90	6.00	3			uxite interse			
UPB-058	27/11/2014	586746	8590661	12	-90	6.00				uxite interse			
UPB-059	27/11/2014	586422	8590327	10	-90	6.00				uxite interse			
UPB-060	27/11/2014	586433	8590011	6	-90	6.00	2			uxite interse			
UPB-061	27/11/2014	586430	8589674	9	-90	6.00	4.25	5.50	1.25	45.12	54.94	10.50	8.76
UPB-062	27/11/2014	586431	8589358	9	-90	6.00	4.00	5.25	1.25	56.60	54.36	10.69	9.08
UPB-063	28/11/2014	586419	8589043	5	-90	6.00		5 0	50.000	uxite interse		0	45
UPB-064	27/11/2014	586436	8588734	5	-90	6.00	3.00	4.00	1.00	15.45	44.83	16.77	19.31
UPB-065	27/11/2014	586086	8588744	2	-90	4.75	2.50	4.00	1.50	60.03	42.99	13.78	20.53
UPB-066	27/11/2014	586092	8589054	4	-90	5.25	3.75	4.25	0.50	55.55	57.92	8.84	9.66
UPB-067	27/11/2014	586090	8589369	4	-90	4.50	No bauxite intersection					A-	
UPB-068	28/11/2014	585775	8589359	ND	-90	8.50	4.75	7.75	3.00	73.21	45.07	16.83	17.54
UPB-069	28/11/2014	585791	8589050	ND	-90	6.00	4.50	5.50	1.00	49.20	45.02	15.06	17.27
UPB-070	28/11/2014	585778	8588735	0	-90	6.00	3.50	4.50	1.00	55.90	54.47	10.83	9.64
UPB-071	28/11/2014	585456	8588730	0	-90	4.75	3.50	4.25	0.75	51.00	45.16	17.87	15.96
UPB-072	28/11/2014	585460	8588090	2	-90	3.75	2.25	3.00	0.75	52.43	46.35	15.67	15.42
UPB-073	28/11/2014	585459	8587780	4	-90	3.00	2.25	2.75	0.50	51.30	47.10	17.85	11.90
UPB-074	28/11/2014	585463	8587455	10	-90	4.00	2.25	3.00	0.75	41.60	49.31	15.06	11.37
UPB-075	28/11/2014	585461	8586815	12	-90	4.75	2.25	3.75	1.50	42.83	51.20	11.70	11.67
UPB-076	28/11/2014	585455	8586499	6	-90	5.00	2.75	3.50	0.75	42.40	49.64	14.03	12.24
UPB-077	28/11/2014	585460	8587135	6	-90	3.75	1.75	2.75	1.00	50.30	53.31	7.59	10.37
UPB-077B	28/11/2014	585460	8587135	6	-90	3.75	1.75	2.75	1.00	55.15	54.06	7.36	9.26
UPB-078	28/11/2014	585138	8587132	9	-90	6.00	2.50	5.25	2.75	55.79	54.88	9.46	6.32
UPB-079	28/11/2014	585145	8587450	8	-90	4.00	2.50	3.50	1.00	55.18	53.66	10.11	8.21
UPB-080	28/11/2014	585139	8587776	8	-90	4.50	2.50	3.75	1.25	40.02	44.04	20.95	13.68
UPB-081	28/11/2014	585139	8588092	6	-90	3.75	2.00	3.00	1.00	41.25	44.09	19.45	16.13
Average ¹						4.89			1.40	55.42	51.58	12.08	11.65

¹ Interval average is simple average of interval metres. Yield average is weighted on interval thickness. Al₂O₃/SiO₂/Fe₂O₃ averages are weighted on Yield.
ND No Data

Southern Deposits Sc & Ni-Co Resource Statement JORC 2012 - For further details see ASX Release 21 October 2013



SPALS		Southe	rn Deposits <i>–</i> C	OG NiEa (Ni + 1	l.5Co + 0.01Sc) =	0.7%		
Description	Tonnes (Mt)	Ni (%)	Co (%)	Sc (g/t)	Ni Metal (kt)	Co Metal (kt)	Sc Metal (t)	Equivalent Sc Oxide (t)
Kokomo								
Measured	2.2	0.57	0.11	80	12.2	2.5	173	265
ndicated	17.2	0.56	0.09	49	95.8	15.5	843	1,292
nferred	10.2	0.36	0.04	59	36.7	4.5	603	924
Γotals	29.5	0.49	0.08	55	144.8	22.4	1,619	2,483
Greenvale (Insitu &	Dumps)							
Measured	5.4	0.77	0.06	39	41.6	3.3	208	319
ndicated	10.5	0.70	0.05	36	74.3	5.3	379	581
nferred	11.5	0.42	0.03	44	48.8	4.0	509	780
Totals	27.4	0.60	0.04	40	164.8	12.7	1,097	1,682
Lucknow								
Measured	1.7	0.45	0.10	103	7.9	1.8	180	276
ndicated	10.6	0.27	0.07	128	28.5	7.2	1,357	2,081
Inferred	1.5	0.40	0.07	41	5.8	1.0	60	92
Гotals	13.8	0.31	0.07	116	42.2	10.0	1,597	2,449
Combined Souther	n Deposits (COG 0.7	%)						
Measured	9.3	0.66	0.08	60	61.7	7.6	561	860
Indicated	38.3	0.52	0.07	67	198.7	28.0	2,580	3,957
Inferred	23.2	0.39	0.04	51	91.4	9.6	1,172	1,797
Totals	70.7	0.50	0.06	61	351.8	45.2	4,313	6,615
		Southe	rn Deposits – CC	OG NiEq = 1.0%	(Ni + 1.5 Co + 0.0)1 Sc)		
Description	Tonnes	Ni	Со	Sc	Ni Metal	Co Metal	Sc Metal	Equivalent Sc
	(Mt)	(%)	(%)	(g/t)	(kt)	(kt)	(t)	Oxide (t)
Combined Souther	n Deposits (COG 1.0	%)						
Measured	6.2	0.79	0.10	73	48.8	6.2	451	691
Indicated	23.2	0.56	0.08	92	129.5	19.5	2,140	3,282
Inferred	6.6	0.49	0.06	67	32.9	3.9	445	682
Totals _M	36.1	0.59	0.08	84	211.2	29.5	3,036	4,656 3





For further details see ASX Release 21 October 2013 Lucknow Scandium Resource

	Lucknow Scandium Resource using a 120g/t COG (excluding Ni-Co Resource)								
Description	Tonnes (Mt)	Sc (g/t)	Ni (%)	Co (%)	Fe (%)	Mg (%)			
Measured	0.6	231	0.30	0.08	31.6	1.6			
Indicated	5.1	191	0.23	0.06	34.9	1.1			
Inferred	0.04	130	0.10	0.01	29.5	0.5			
Totals	5.7	195	0.23	0.06	34.5	1.1			

Competent Person's Statement

The SCONI Scandium-Cobalt-Nickel project Mineral Resource estimate(s) is based upon and accurately reflects data compiled, validated or supervised by Mr John Horton, Principal Geologist FAusIMM (CP) who is a full time employee of Golder Associates Pty Ltd. Mr Horton has sufficient experience that is relevant to the style of mineralisation and the type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr. Horton consents to the inclusion of this information in the form and context in which it appears in this document.

For full details on the SCONI scandium and nickel cobalt resource see Metallica ASX release -21 October 2013



Northern Deposits Ni-Co Resource Statement



Northe	Northern Deposits – COG NiEq (Ni + 1.5Co) = 0.7%								
Description	Tonnes (Mt)	Ni (%)	Co (%)	Ni Metal (kt)	Co Metal (kt)				
Bell Creek Sou	th								
Measured	7.8	0.96	0.07	75.5	5.1				
Indicated	0.1	0.81	0.05	1.2	0.1				
Totals	8.0	0.96	0.06	76.7	5.2				
Bell Creek Nor	th								
Indicated	2.0	0.86	0.03	16.8	0.5				
Totals	2.0	0.86	0.03	16.8	0.5				
Bell Creek Nor	thwest								
Indicated	2.5	0.81	0.05	20.1	1.2				
Totals	2.5	0.81	0.05	20.1	1.2				
The Neck									
Indicated	0.4	0.84	0.03	3.5	0.1				
Totals	0.4	0.84	0.03	3.5	0.1				
Minnamoolka									
Indicated	4.7	0.82	0.05	38.3	2.1				
Inferred	0.9	0.78	0.04	6.7	0.3				
Totals	5.5	0.82	0.04	45.0	2.4				
Combined No	orthern De	posits							
Measured	7.8	0.96	0.07	75.5	5.1				
Indicated	9.7	0.83	0.04	79.9	4.0				
Inferred	0.9	0.78	0.04	6.7	0.3				
Totals	18.4	0.88	0.05	162.1	9.4				

Notes to Resource Statements

- 1. Scandium is typically sold as an oxide product. Hence the equivalent scandium oxide has been calculated at 1.534 times contained scandium metal.
- 2. The resources for the Southern Deposits of Lucknow, Greenvale and Kokomo are reported at a cut-off grade (COG) of NiEq 0.7% (Ni + 1.5Co + 0.01Sc). This NiEq COG formula has been calculated using commodity prices of US\$10/lb nickel, US\$15/lb cobalt and US\$1,500/kg scandium oxide, and recoveries of 90% for all three metals. Metallica indicates that the metallurgical testwork to date provides reasonable potential for the nickel, cobalt and scandium to be recovered at similar recoveries to those achieved in the testwork.
- The Mineral Resources for the Northern Deposits of Bell Creek South, Bell Creek North, Bell Creek Northwest, Minnamoolka and The Neck are reported at a COG of NiEq 0.7% (Ni + 1.5Co). This NiEq COG formula has been calculated using commodity prices of US\$10/lb nickel and US\$15/lb cobalt, and recoveries of 90% for both nickel and cobalt.
- 4. No scandium content was estimated in the Northern deposits as Sc assays are generally not available. From limited data there is good indication the Northern deposits are relatively low in Sc (generally between 5 and 30 g/t Sc).
- 5. Variations in total may be present due to rounding factors.
- For further details on the SCONI scandium and nickel cobalt resource see Metallica ASX release SCONI Mineral Resource upgrade – 21 October 2013

Technical information and exploration results contained in this report have been compiled by Metallica Minerals Ltd full time employee Andrew Gillies B.Sc MAusIMM in the position of Managing Director. Mr Gillies has sufficient experience that is relevant to the style of mineralisation being reported on to qualify as a Competent Person as defined in the 2012 edition of the Australasian Code for Reporting of Minerals Resources and Ore Reserves. Mr Gillies consents to the inclusion in this report of the matters based on the information in the form and context in which it appears

The **SCONI Scandium-Cobalt-Nickel project Mineral Resource estimate(s)** is based upon and accurately reflects data compiled, validated or supervised by Mr John Horton, Principal Geologist FAusIMM (CP) and is a full time employee of Golder Associates Pty Ltd. Mr Horton has sufficient experience that is relevant to the style of mineralisation and the type of deposit under consideration and to the activity which he has undertaken to qualify as a Competent Person as defined in the 2012 edition of the 'Australasian Code for the Reporting of Exploration Results, Mineral Resources and Ore Reserves'. Mr Horton consents to the inclusion of this information in the form and context in which it appears in this presentation.

For further details see ASX Release 21 October 2013

ASX:MLM



Combined SCONI Mineral Resource

For further details see ASX Release 21 October 2013



				ources - COG N				
Deposit	Tonnes (Mt)	Nickel (Ni) %	Cobalt (Co) %	Scandium (Sc) g/t	Ni Metal (kt)	Co Metal (kt)	Sc Metal (t)	Sc Oxide (t)
Kokomo								
Total	29.5	0.49	0.08	55	144.8	22.4	1,619	2,483
Greenvale I	n-situ							
Total	16.3	0.73	0.05	38	118.8	8.9	614	941
Greenvale o	dumps and	stockpiles						
Total	11.1	0.42	0.03	44	46	3.8	483	741
Lucknow								
Total	13.8	0.31	0.07	116	42.2	10	1,597	2,449
Combined S	SCONI Sou	th Project Re	source					
Measured	9.3	0.66	0.08	60	61.7	7.6	561	860
Indicated	38.3	0.52	0.07	67	198.7	28.0	2,580	3,956
Inferred	23.2	0.39	0.04	51	91.4	9.6	1,172	1,798
Total	70.7	0.50	0.06	61	351.8	45.2	4,313	6,615
Bell Creek S	South							
Total	8.0	0.96	0.06	-	76.7	5.2	-	-
Bell Creek N	North							
Total	2.0	0.96	0.03	-	16.8	0.5	-	-
Bell Creek N	Vorthwest							
Total	2.5	0.81	0.05	-	20.1	1.2	-	-
The Neck (p	oart Bell Cre	eek)						
Total	0.4	0.84	0.03	-	3.5	0.1	-	-
Minnamoolk	ка							
Total	5.5	0.82	0.04	-	45	2.4	-	-
Combined S	SCONI Nort	hern deposits	s Resource					
Measured	7.8	0.96	0.07	-	75.5	5.1	-	-
Indicated	9.7	0.83	0.04	-	79.9	4.0	-	-
Inferred	0.9		0.04	-	6.7	0.3		-
Total	18.4	0.88	0.05	-	162.1	9.4	-	-
Combined S	SCONI (Sou	thern and No	orthern dep	osits) Resour	ce			
Measured	17.1	0.8	0.07	33	137.3	12.7	561	860
Indicated	48.0	0.58	0.07	54	278.6	32.0	2,580	3,957
Inferred	24.0		0.04	49	98.1	9.9	1,172	1,797
Total	89.1	0.58	0.06	48	514	54.5	4,313	6,615

Northern deposits Sc grade is typically low (5-30 g/t Sc), therefore no Sc Resource estimated. Resultant Sc grade for combined SCONI (South and North) Project is therefore low.

Variations in totals may be due to rounding factors.

Deposit	Tonnes (Mt)	Nickel (Ni) %	Cobalt (Co) %	Scandiu m (Sc) g/t	Ni Metal (kt)	Co Metal (kt)	Sc Metal (t)	Sc Oxide (t)
Kokomo								
Total	13.9	0.56	0.10	80	77.4	14.2	1,108	1,699
Greenvale	e In-situ							
Total	9.5	0.95	0.07	39	90.3	6.9	365	560
	e dumps a	nd stockp	iles					
Total	2.6	0.58	0.05	40	15.1	1.3	103	158
Lucknow								
Total	10.1	0.28	0.07	145	28.4	7.3	1,459	2,238
Combined	SCONI S	South Proj	ect Resou	ırce				
Measured	6.2	0.79	0.10	73	48.8	6.2	451	691
Indicated	23.2	0.56	0.08	92	129.5	19.5	2,140	3,281
Inferred	6.6	0.49	0.06	67	32.9	3.9	445	682
Total	36.1	0.59	0.08	84	211.2	29.5	3,036	4,656
Bell Creek	s South							
Total	3.6	1.21	0.08	-	43.3	3.0	-	
Bell Creek	k North							
Total	0.4	1.16	0.04	-	4.8	0.1	-	
Bell Creek	Northwe	st						
Total	0.4	1.05	0.06	-	4.5	0.3	-	
The Neck	(part Bell	Creek)						
Total	0.1	1.17	0.03	-	0.9	0.02	-	
Minnamo	olka							
Total	1.0	1.07	0.08		11.0	0.8		
Combined	SCONI	lorthern d	eposits R	esource				
Measured	3.6	1.21	0.08	-	43.0	3.0	-	
ndicated	1.9	1.09	0.06	-	20.4	1.2	-	
Inferred	0.1	1.04	0.07	-	1.0	0.1	-	
Total	5.5	1.16	0.08	-	64.5	4.3	-	
Combined	SCONI (Southern	and North	ern deposi	ts) Resour	се		
Measured	9.8	0.94	0.09	46	91.9	9.2	451	691
ndicated	25.1	0.60	0.08	85	149.9	20.7	2,140	3,281
Inferred	6.7	0.50	0.06	66	33.9	3.9	445	682
Total	41.6	0.66	0.08	73	275.7	33.8		4,656

Northern deposits Sc grade is typically low (5-30 g/t Sc), therefore no Sc Resource estimated. Resultant Sc grade for combined SCONI (South and North) Project is therefore low.

Variations in totals may be due to rounding factors.