

5 July 2018

Greenpower Energy Limited to acquire high grade Australian cobalt and vanadium focused company Ion Minerals

Accelerated push to continue development as a battery metals focused company led by experienced mining executives Cameron McLean and Alistair Williams

- Flagship Lincoln Springs Cobalt Project in north-east Queensland with rock chip samples reporting up to 3.16% Cobalt and 10.4% Copper, located near the Australian Mines Limited SCONI Project.
- The Ion Minerals acquisition also includes the:
 - Ashburton Cobalt Project with rock chips up to 1.89% Cobalt located in the Ashburton region of Western Australia.
 - Julia Creek Vanadium Project located in Queensland.
- Greenpower planning for aggressive exploration push including drilling planned to commence on the cobalt projects in the next quarter.
- Board and management team bolstered by the appointment of leading industry figures:
 - Cameron McLean: (Proposed Managing Director) more than 20 years' experience leading and managing a range of commercial activities in the minerals sector.
 - Alistair Williams: (Proposed Non-Executive Director) experienced London based finance executive with a background in natural resources as a result of management roles undertaken at BG Group and Rio Tinto. His last major corporate role was Deputy CFO at BG Group.
- Greenpower currently well-funded with ~\$3 million in cash to support acquisition and maintain its existing portfolio.

Greenpower Energy Limited ("Greenpower" or "the Company") (ASX:GPP) is pleased to announce that it has entered into an option agreement to acquire Australian battery minerals exploration company, Ion Minerals Pty Ltd ("Ion Minerals") ("Option Agreement").

Ion Minerals is a private company formed by experienced mining executives Cameron McLean and Alistair Williams. Subject to the satisfaction of conditions precedent (including final diligence and shareholder approval) 100% of the shares in Ion Minerals will be acquired by GPP in three phases under the Option Agreement (each phase at GPP's election based on exploration results) which includes the appointment of Mr Cameron McLean and Mr Alistair Williams to the Board. The material terms and conditions of the Option Agreement are outlined on page 8 of this announcement.

Ion Minerals has the right to acquire an interest in two high grade cobalt projects in Northern Queensland (Lincoln Springs – up to 3.16% Co) and Western Australia (Ashburton – up to 1.89% Co), and currently holds a 100% interest in a vanadium project in Julia Creek, also in Queensland (collectively "the Ion Projects"). Battery minerals are fuelling the mining industry in Australia; global

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demand for cobalt and vanadium far exceeds supply. The acquisition of Ion Minerals and the Ion Projects strengthens and complements Greenpower’s current asset portfolio and is consistent with its ongoing battery metals strategy.

The Ion Minerals Projects

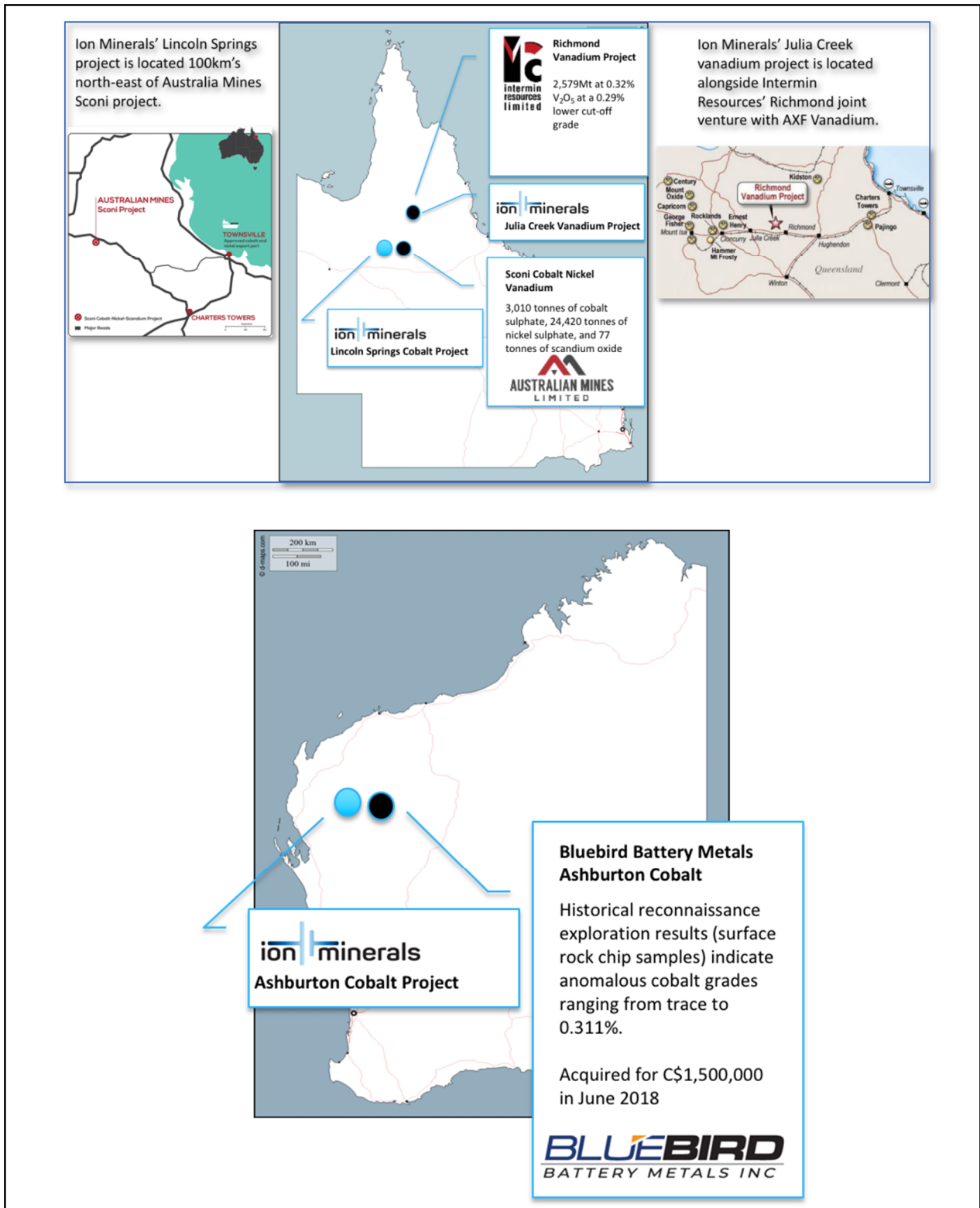


Figure 1: Location of the Ion Minerals Projects

Ashburton Cobalt Project (right to acquire 100%)

The Ashburton Cobalt Project is an exploration licence application (ELA), E52/3612, located c. 80km south of Paraburdoo along the Meekatharra- Ashburton Road. The Project area consists of 70 blocks covering an area of approximately 218km². Previous exploration on the Project has defined extensive multi-element anomalism and mineralisation within the Ashburton Sediments with enrichment seen in Co, Cu, Zn, Pb, Ni. Co-enrichment in rock chip and soils within the proposed ELA occurs over a 15km by 7km area and includes maximum rock chip value of 1.89% Co + 0.35% Zn + 0.28% Ni from historic exploration. Please refer to Annexure C for a complete schedule of all historic rock chip samples from the Project.

A reconnaissance soil sampling is planned in August 2018 followed by EM sampling.

Ion Minerals currently has the right to acquire 100% of the Ashburton Project from Reclaim Pty Ltd. Reclaim Pty Ltd lodged the exploration licence application for the Ashburton Project on 18 January 2018, the application is currently in process and expected to be granted in September 2018.

Lincoln Springs Project (right to acquire 70%)

The Lincoln Springs Project consists of two granted exploration permits consisting of 49 sub-blocks covering an area of approximately 240 km², being EPM 26411 and EPM26716. Assay results previously taken by Australian Lime Company Pty Ltd have returned values of up to 3.16% Co, 10.4% Cu (see Figure 2). Rock samples collected by Ion Minerals have confirmed that high-grade Co and Cu is present at the prospect (See Table 1, below). The Cockatoo Gold Prospect which is contained within the Lincoln Springs Project comprises an extensive quartz vein system with gold anomalies from historic workings.

Prior to RC drilling, a programme of detailed mapping and close-pattern sampling of residual soil and/or bedrock, using hand or mechanical auger, will be completed over the immediate prospect area.



Figure 2 - Erythrite (Cobalt Bloom)

The area is currently attracting international interest as evidenced by the recent Sconi off-take agreement from SK Innovation, a very large battery supplier and one of the largest companies listed on the Korean Stock Exchange. Sconi is located some 60km away from Lincoln Springs.

Ion Minerals currently has the right to acquire an interest in up to 70% of the Lincoln Springs Project.



Lab Ref TV096341
 Client Ref **Rock Chip**
 Project *
 Reported 19/02/18
 Status Final
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ANALYTICAL REPORT

Scheme	IMS40Q	IMS40Q	IMS40Q	IMS40Q	ICP41Q	ICP41Q
Units	PPM	PPM	PPM	PPM	PPM	PPM
Detection Limit	0.10	2.00	0.10	2.00	5.00	25.00
Upper Limit	1000.00	2000.00	1000.00	2000.00	25000.00	50000.00
	Cd	Ba	Bi	Ni	Co	Cu
319970	87.5	34	4.5	276	2.69%	3.99%
319971	1.2	118	0.2	16		1.19%
319972	21.0	95	3.1	220	3.16%	3.12%
319973	1.3	71	10.1	47		
319974	2.6	100	4.7	9		
319975	18.2	5	1.9	29		
319976	2.2	48	0.6	30		>5.00%
319977	2.4	147	1.3	32		4.23%
319978	1.2	1270	2.1	28		
319979	6.7	41	0.3	23		
319980	28.6	23	6.6	8		
319981	30.1	7	7.5	15		
319982	37.4	48	0.6	78		
319983	12.0	53	2.1	6		

Figure 3: Assay results from Australian Lime Company's sampling at Lincoln Springs (February 2018) - SGS assay report no. TV096341 returning results of 3.16% Co.

Lincoln Springs Rockchip Sampling and Results taken by Ion Minerals in May 2018

Six selective rockchip samples of mineralised mullock from the immediate environs of the old workings were submitted for assay to characterise the tenor of mineralisation, particularly cobalt grade. All samples returned highly elevated cobalt, copper and zinc with the highest cobalt assay of 1.95% coincident with the highest zinc result of 4.1% and with 4.38% copper in sample 8811 (Table 1 below).

Sample	Co%	Cu%	Zn%	Description
8810	0.21	2.25	0.56	Highly gossanous iron oxides
8811	1.95	4.38	4.10	Silicified, brecciated sediment with erythrite and malachite
8812	0.20	10.4	0.80	Silicified, brecciated sediment with abundant malachite and azurite
8813	0.241	8.47	0.68	Silicified, brecciated sediment with manganese oxide coatings and abundant malachite
8814	0.243	1.72	0.49	Silicified, brecciated sediment with manganese oxide coatings – no visible copper or cobalt
8818	0.41	0.92	2.05	Silicified sediment with erythrite and malachite

Table 1. Rockchip sample descriptions and Co, Cu and Zn assay results – Lincoln Springs mullock (May 2018). The complete list of assay results is outlined in Annexure D

Julia Creek Project (100%)

Ion Minerals has an exploration permit application, EPM 29624, for 64 sub blocks at Julia Creek covering approximately 200 square kilometres. The tenements within the Julia Creek Project are reasonably expected to host elevated values of vanadium. A field trip to confirm the extent of outcropping prospective Toolebuc Formation is scheduled for August 2018.

Ion Minerals lodged the exploration permit application for the Ashburton Project on 11 May 2018, the application is currently in process and expected to be granted in December 2018.

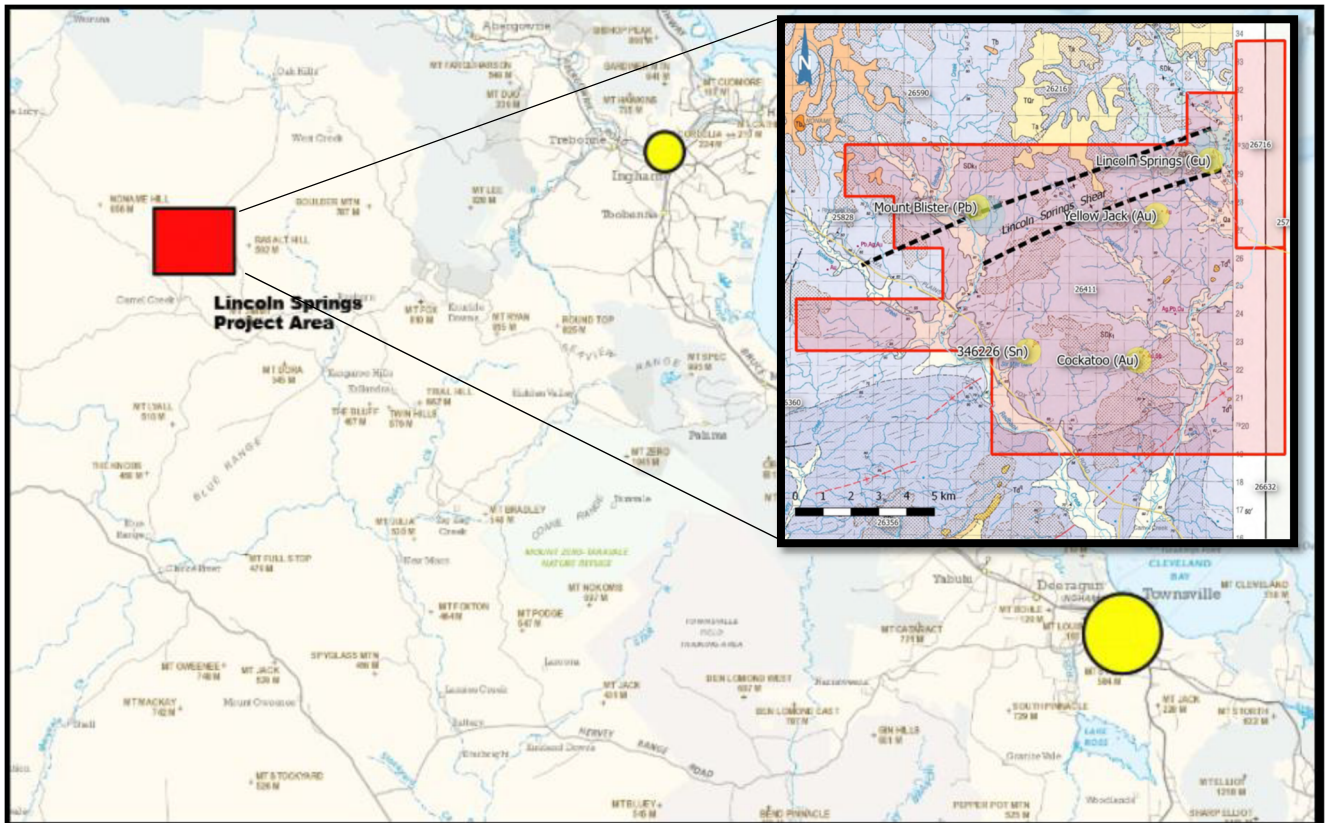


Figure 4: Lincoln Springs Project Map

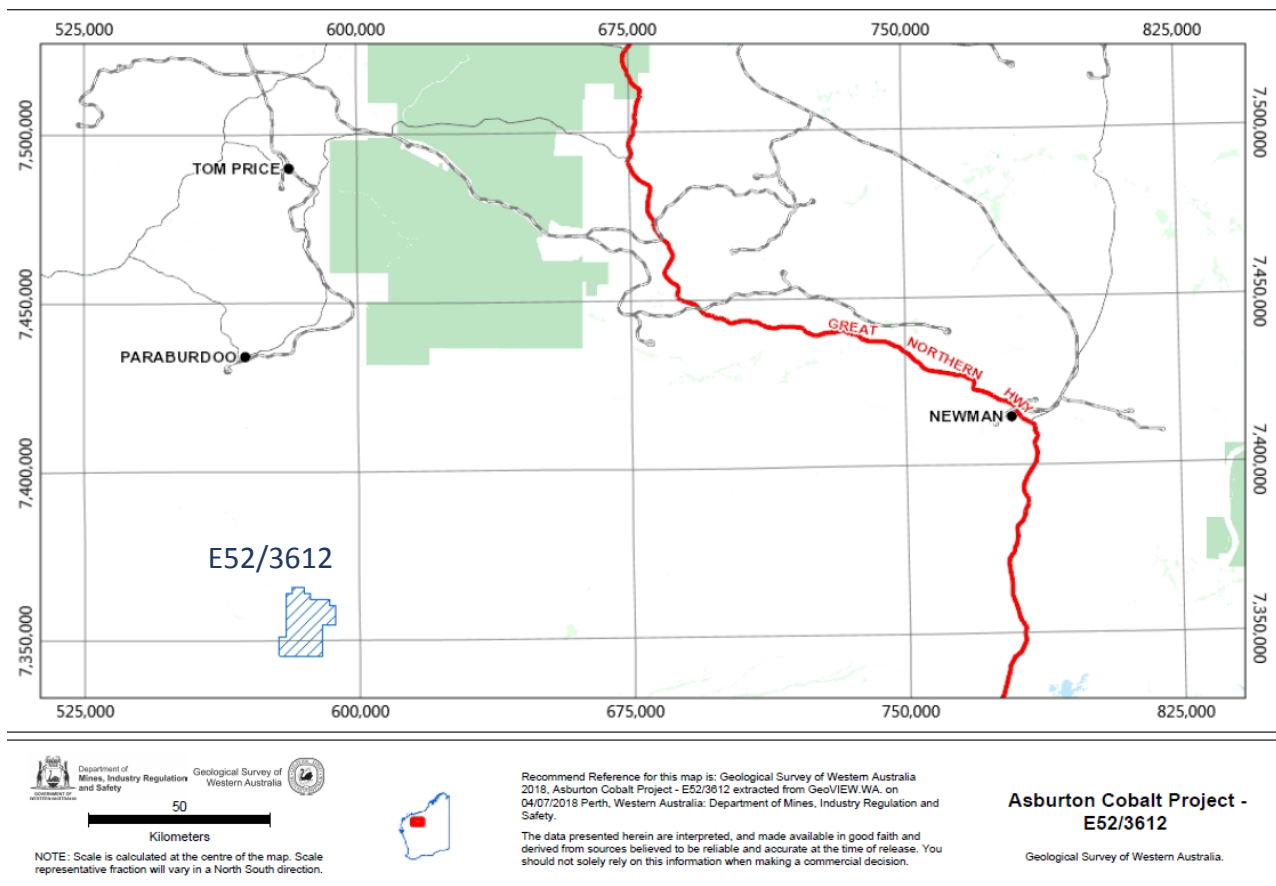


Figure 5: Ashburton Project Map

Board & Management Appointments

Mr Cameron McLean – Proposed Managing Director

Cameron McLean has more than 20 years’ experience leading and managing a range of commercial activities, including co-directing London business, iBase Limited in the geo-technology sector and as CFO at Snowden Mining Industry Consultants, Kagara Limited and Atrum Coal. Mr McLean has a background in accounting and finance with experience originating at Western Mining in Melbourne. Mr McLean is the founder and major shareholder of the mining investment platform, Mineral Intelligence. Through Mineral Intelligence Mr McLean has facilitated over \$100M in mining transactions over the past 5 years. Mr McLean identified, secured and introduced the cobalt and vanadium projects through Ion Minerals of which he is Managing Director.

Mr Alistair Williams – Proposed Non-Executive Director

Alistair Williams is an experienced London based finance executive with a background in natural resources as a result of management roles undertaken at BG Group and Rio Tinto. His last major corporate role was Deputy CFO at BG Group where, in addition to running the Finance function for the Group, he was also Chair of the Investment and Energy Trading and Risk Committees. Since leaving the large corporate world in 2011, Mr Williams has pursued a successful career as an entrepreneur and private investor in early stage companies and has developed a diversified portfolio of investments in natural resources, life sciences and IM technology. In Australia, he has served as a Director of Ion Minerals since inception and has also been a Director of Goldfield Argonaut Pty Ltd since

2015. Goldfield Argonaut recently concluded the sale of its interest in the Mulwarrie gold exploration licence to Spitfire Materials.

Upon exercise of the Option by Greenpower, Cameron Mclean will join the Board as Managing Director, and Alistair Williams as a Non-Executive Director. Gerard King will step down from his executive position and remain on the Board as Non-Executive Chairman, Simon Peters will remain as a Non-Executive Director. Matthew Suttling will step down as a Director and continue as Company Secretary and CFO.

Anticipated Timeline in respect of the Ion Minerals Projects

August 2018	Lincoln Springs	Detailed mapping and EM survey
September 2018	Julia Creek/Ashburton	Soil/Rock-chip sampling
October 2018	Lincoln Springs	Commence drilling
November 2018	Ashburton	Detailed mapping and EM survey

*The above dates are indicative only and subject to change.

Key Terms of the Option Agreement

- (i) GPP pays a \$25,000 non-refundable deposit on execution of the Option Agreement to secure exclusivity of the Option and a 60 day due diligence period.
- (ii) In the event GPP exercises the Option (on or before expiry of the due diligence period):
- GPP has the right (but not the obligation) to earn-in to Ion Minerals (and in turn, the Ion Projects), over 3 phases as described below;
 - Cameron Mclean and Alistair Williams will be appointed to the Board of GPP; and
 - GPP will be in control and responsible for programs and expenditure on the Ion Projects.
- (iii) GPP's right to earn-in and acquire shares in Ion Minerals at each Phase may be exercised by GPP at its sole and absolute discretion based on exploration results.
- (iv) **Phase 1 – to earn 40%:**
After exercise of the Option, GPP will earn-in a 40% interest in Ion Minerals in consideration for:
- 110,000,000 shares in GPP (at an issue price of \$0.005 per share) with a 6 month voluntary escrow period (subject to prior shareholder approval); and
 - cash consideration of \$510,000 (substantially for re-imburement of Ion Mineral's previous exploration costs and vendor payment costs in respect of the Lincoln Springs Project earn-in).
- GPP will be entitled to move to Phase 2 after expending \$500,000 on exploration works on the Ion Projects.
- (v) **Phase 2 – to earn 70% cumulative:**
Subsequent to GPP obtaining the Phase 1 interest, GPP can elect to earn-in an additional 30% interest in Ion Minerals (70% cumulative) in consideration for:
- issuing shares in GPP equal to \$550,000 based on an issue price of the previous 30 day VWAP prior to GPP's Phase 2 election and with a 6 month voluntary escrow period (subject to prior shareholder approval); and
 - cash consideration of \$310,000 (substantially for vendor payment costs in respect of the Lincoln Springs Project earn-in).
- GPP will be entitled to move to Phase 3 after expending a further \$1,500,000 on exploration works on the Ion Projects.
- (vi) **Phase 3 – to earn 100% cumulative:**
Subsequent to GPP obtaining the Phase 2 interest, GPP can elect to earn-in the final 30% interest in Ion Minerals (100% cumulative) in consideration for:
- the issue shares in GPP equal to \$1,050,000 based on an issue price of the previous 30 day VWAP prior to GPP's Phase 3 election and with a 6 month voluntary escrow period (subject to prior shareholder approval); and
 - cash consideration of \$150,000.
- (vii) **Acquisition of the Ashburton Project**
Subject to the Ashburton Project (currently in application) being granted as an exploration licence, GPP will acquire 100% of the Ashburton Project from Ion Minerals outright in consideration for payment of \$250,000, which is intended to be staged over the course of 6 months.

(viii) **Conditions Precedent:** It is intended that the acquisition is subject to and conditional upon the following material conditions precedent:

- (A) GPP being satisfied with its legal, financial and technical due diligence on Ion Minerals the Ion Projects within 60 days from execution of the Option Agreement;
- (B) GPP obtaining all necessary shareholder and regulatory approvals/waivers to implement the transactions contemplated by the Option Agreement as required (being for the issue of securities under Listing Rule 7.1);
- (C) Ion Minerals obtaining variations of specific agreements relating to the Ashburton Project and the Lincoln Springs Project on terms reasonably agreeable to GPP; and
- (D) the GPP and Ion Minerals obtaining any necessary third party consents and government approvals.

The Option Agreement otherwise contains terms, conditions and warranties which are considered commercially standard for an agreement of this type.

Subject to exercising the Option, Green Power intends to convene a shareholder meeting after the due diligence period to seek the relevant approvals for the acquisition and will update the market in due course.

ENDS

For further information:

Gerard King, Chairman of the Board

The information in this report that relates to Exploration Results is based on, and fairly represents, information and supporting documentation compiled by Ion Minerals staff on site and provided to Mr Steven Groves who is a Member of The Australian Institute of Geoscientists. Mr Groves is acting as an independent consulting geologist to Ion Minerals. Mr Groves has sufficient experience which is relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as a Competent Person as defined in the 2012 edition of the "Australasian Code for Reporting of Exploration Results, Mineral Resources and Ore Reserves". Mr Groves consents to the inclusion in this report of the matters based on his information in the form and context in which it appears.

Annexure A – JORC Table – Lincoln Springs and Julia Creek Vanadium

Criteria	JORC Code explanation	Commentary
Sampling techniques	<p><i>Nature and quality of sampling (eg cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></p> <p><i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i></p> <p><i>Aspects of the determination of mineralisation that are Material to the Public Report.</i></p> <p><i>In cases where ‘industry standard’ work has been done this would be relatively simple (eg ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (eg submarine nodules) may warrant disclosure of detailed information.</i></p>	<p>Lincoln Springs</p> <ul style="list-style-type: none"> Sampling by Ion Minerals Pty Ltd has been limited to the Lincoln Springs Project. Rockchip samples are highly selective and were collected to confirm the presence of anomalous cobalt and determine element associations. All samples were collected from mullock around the historical Lincoln Springs copper workings Samples 8810-8814 and 8818 were collected from mullock in the immediate environs of the historic Lincoln Springs copper workings and located using a Garmin GPSmap 60Cx unit. Rock Samples 319970 – 319983 were collected by Australian Lime Company Pty Ltd from mullock from the immediate environs of historic workings and from available float and sparsely scattered outcrop along strike from the historic mine workings
Drilling techniques	<p><i>Drill type (eg core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc) and details (eg core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc).</i></p>	N/A
Drill sample recovery	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p> <p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p> <p><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></p>	N/A
Logging	<p><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate Mineral Resource estimation, mining studies and</i></p>	N/A

Criteria	JORC Code explanation	Commentary
	<p><i>metallurgical studies.</i></p> <p><i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc) photography.</i></p> <p><i>The total length and percentage of the relevant intersections logged.</i></p>	
<p><i>Sub-sampling techniques and sample preparation</i></p>	<p><i>If core, whether cut or sawn and whether quarter, half or all core taken.</i></p> <p><i>If non-core, whether riffled, tube sampled, rotary split, etc and whether sampled wet or dry.</i></p> <p><i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i></p> <p><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples.</i></p> <p><i>Measures taken to ensure that the sampling is representative of the in situ material collected, including for instance results for field duplicate/second-half sampling.</i></p> <p><i>Whether sample sizes are appropriate to the grain size of the material being sampled.</i></p>	<p>Sample Preparation – Lincoln Springs</p> <ul style="list-style-type: none"> All samples collected by Ion Minerals were sent as collected to ALS Laboratory where they were crushed, pulverized and split to obtain a representative portion for analysis All samples collected by ALC were sent as collected to SGS Laboratory where they were crushed, pulverized and split to obtain a representative portion for analysis Rock samples were collected to either specifically assess the tenor of ore mineralization from old mine dumps or were limited to available outcrop or float away from the old workings. Thus, the rock samples cannot be considered fully representative of any ore horizons or surrounding geology
<p><i>Quality of assay data and laboratory tests</i></p>	<p><i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i></p> <p><i>For geophysical tools, spectrometers, handheld XRF instruments, etc, the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i></p> <p><i>Nature of quality control procedures adopted (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.</i></p>	<ul style="list-style-type: none"> Samples collected by ALC were analysed at SGS Laboratory via the IMS40Q method which is an acid digest followed by Mass Spectrometer element analysis. High grade base metal results were analysed using the ICP41Q method which employs a 4-acid digest followed by Induced Coupled Plasma Atomic Adsorption analysis. Samples 8810-8814 and 8818 were assayed by ALS by 4 acid digest method ICP-AES with above detection results for Co, Cu and Zn repeated by method OG62. Both laboratories are highly reputable. The analyses were completed by industry-leading laboratories. Laboratory standards were included in the batches.
<p><i>Verification of sampling and assaying</i></p>	<p><i>The verification of significant intersections by either independent or alternative company personnel.</i></p> <p><i>The use of twinned holes.</i></p> <p><i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i></p> <p><i>Discuss any adjustment to assay data.</i></p>	<ul style="list-style-type: none"> Data have been verified by an industry professional and data has been entered into an electronic database. <p>No adjustment to assay data has occurred.</p>

Criteria	JORC Code explanation	Commentary
<i>Location of data points</i>	<p><i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i></p> <p><i>Specification of the grid system used.</i></p> <p><i>Quality and adequacy of topographic control.</i></p>	<ul style="list-style-type: none"> Rockchip samples 8810-8814 and 8818 were located with a Garmin hand-held GPS, model GPSmap 60Cx. Accuracy is assumed to be within +/- 5m. Sites are measured in GDA94, MGA Zone 55. Sample 319972 location was described adequately to confirm location from the same site as samples 8810-8814 and 8818.
<i>Data spacing and distribution</i>	<p><i>Data spacing for reporting of Exploration Results.</i></p> <p><i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i></p> <p><i>Whether sample compositing has been applied.</i></p>	All samples collected from the same site.
<i>Orientation of data in relation to geological structure</i>	<p><i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i></p> <p><i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i></p>	N/A to this release
<i>Sample security</i>	<i>The measures taken to ensure sample security.</i>	Samples delivered to the laboratory by personnel who collected the samples. The laboratory issues a receipt and a reconciliation of delivered samples against the laboratory analysis submission form completed by the appropriate personnel.
<i>Audits or reviews</i>	<i>The results of any audits or reviews of sampling techniques and data.</i>	Ion Minerals has not completed any external audits or reviews of the sampling techniques and data.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i>	The Lincoln Springs Cobalt Project comprises a granted tenement, EPM 26411 of 45 sub-blocks, and a tenement application, EPMA 26716 of 4 sub-blocks. Both tenements are held by Australian Lime Company Pty Ltd (ALC). Ion Minerals Pty Ltd has entered into a Farm-in arrangement with ALC. Subject to final

Criteria	JORC Code explanation	Commentary
	<i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i>	<p>due diligence, Greenpower Energy Limited (ASX: GPP) will acquire 100% of Ion Minerals Pty Ltd. Ion Minerals Pty Ltd has the right to acquire a 70% interest in the Lincoln Springs Project from Australian Lime Company Pty Ltd pursuant to a binding earn-in agreement dated 20 April 2018. The exploration permits that make up the Lincoln Springs Project are currently owned 100% by Australian Lime Company Pty Ltd and are in good standing</p> <p>The Julia Creek Vanadium Project comprises two tenement applications: EPMA 26924 of 64 sub-blocks, and EPMA 26915 of 22 sub-blocks. Both applications have been lodged by Ion Minerals Pty Ltd.</p>
<i>Exploration done by other parties</i>	<i>Acknowledgment and appraisal of exploration by other parties.</i>	<ul style="list-style-type: none"> Lincoln Springs Cobalt Project: The only previous exploration specifically targeting cobalt mineralisation has been conducted by the current tenement holder, Australian Lime Company Pty Ltd. This has included rockchip and soil sampling mostly within the immediate area of the historic Lincoln Springs copper deposit. Julia Creek Vanadium Project: The project is conceptual and detailed appraisal of legacy exploration has not yet been undertaken but will comprise the first stage of planned investigations.
<i>Geology</i>	<i>Deposit type, geological setting and style of mineralisation.</i>	<ul style="list-style-type: none"> Lincoln Springs Cobalt Project: Shear zone-hosted cobalt-copper-zinc mineralisation has been identified within the poorly defined Lincoln Springs Shear Zone in Siluro-Devonian Kangaroo Hills Formation siliciclastic sediments. Late Carboniferous-Early Permian granitic intrusions in the region may be related to mineralisation. Julia Creek Vanadium Project: Highly anomalous vanadium is widespread in the coquinitic and kerogenous shales of the Early Cretaceous Toolebuc Formation in the Julia Creek region. This style of mineralisation is the sole target within this project area.
<i>Drill hole Information</i>	<p><i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i></p> <ul style="list-style-type: none"> <i>o easting and northing of the drill hole collar</i> 	N/A

Criteria	JORC Code explanation	Commentary
	<ul style="list-style-type: none"> o <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> o <i>dip and azimuth of the hole</i> o <i>down hole length and interception depth</i> o <i>hole length.</i> <p><i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i></p>	
<i>Data aggregation methods</i>	<p><i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material and should be stated.</i></p> <p><i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i></p> <p><i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i></p>	N/A
<i>Relationship between mineralisation widths and intercept lengths</i>	<p><i>These relationships are particularly important in the reporting of Exploration Results.</i></p> <p><i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i></p> <p><i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg ‘down hole length, true width not known’).</i></p>	N/A
<i>Diagrams</i>	<p><i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i></p>	Appropriate maps are included within the body of the accompanying document
<i>Balanced reporting</i>	<p><i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i></p>	The accompanying document is considered to represent a balanced report.
<i>Other substantive</i>	<p><i>Other exploration data, if meaningful and material, should be reported including (but</i></p>	Other exploration data collected is not considered as material to this document at this

Criteria	JORC Code explanation	Commentary
<i>exploration data</i>	<i>not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i>	stage. Further data collection will be reviewed and reported when considered material
<i>Further work</i>	<p><i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i></p> <p><i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i></p>	Ion Minerals has planned staged and appropriate exploration programmes to assess the potential of each of the project areas.

Annexure B – JORC Table – Ashburton Cobalt Project

Criteria	JORC Code explanation	Commentary
Sampling techniques	<p><i>Nature and quality of sampling (e.g. cut channels, random chips, or specific specialised industry standard measurement tools appropriate to the minerals under investigation, such as down-hole gamma sondes, or handheld XRF instruments, etc). These examples should not be taken as limiting the broad meaning of sampling.</i></p> <ul style="list-style-type: none"> • <i>Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.</i> • <i>Aspects of the determination of mineralisation that are Material to the Public Report.</i> • <i>In cases where ‘industry standard’ work has been done this would be relatively simple (e.g. ‘reverse circulation drilling was used to obtain 1 m samples from which 3 kg was pulverised to produce a 30 g charge for fire assay’). In other cases more explanation may be required, such as where there is coarse gold that has inherent sampling problems. Unusual commodities or mineralisation types (e.g. submarine nodules) may warrant disclosure of detailed information.</i> 	<ul style="list-style-type: none"> • The purpose of this release is to announce historical exploration results that occur within E52/3612 that are considered relevant to a new base metal focussed exploration model. • Results announced in this release are historical in nature with technical details of historical sampling provided – where known – in this table. • Ion Minerals considers these historical results to sufficiently demonstrate the exploration potential of E52/3612 in advance of a more detailed exploration program being undertaken. • Historical results released in this announcement include soil sampling and rock chip sampling by Newcrest and Peak Resources. • Rock chip sampling reported by Newcrest within E52/3612 was randomly distributed; details of sample collection and analytical procedures used by Newcrest are not clearly reported. • Peak Resources collected minus 2mm size fractions for soil samples from 20cm depth in 2007 with samples submitted for multi element analysis at ALS Chemex in Perth. • Peak Resources rock chips were randomly distributed within E52/3612 and were analysed for multi element at ALS Chemex in Perth.
Drilling techniques	<p><i>Drill type (e.g. core, reverse circulation, open-hole hammer, rotary air blast, auger, Bangka, sonic, etc.) and details (e.g. core diameter, triple or standard tube, depth of diamond tails, face-sampling bit or other type, whether core is oriented and if so, by what method, etc.).</i></p>	<ul style="list-style-type: none"> • N/A to this release
Drill sample recovery	<p><i>Method of recording and assessing core and chip sample recoveries and results assessed.</i></p> <p><i>Measures taken to maximise sample recovery and ensure representative nature of the samples.</i></p> <p><i>Whether a relationship exists between sample recovery and grade and whether sample bias may have occurred due to preferential loss/gain of fine/coarse material.</i></p>	<ul style="list-style-type: none"> • N/A to this release
Logging	<p><i>Whether core and chip samples have been geologically and geotechnically logged to a level of detail to support appropriate</i></p>	<ul style="list-style-type: none"> • N/A to this release

	<p><i>Mineral Resource estimation, mining studies and metallurgical studies.</i></p> <ul style="list-style-type: none"> <i>Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography. The total length and percentage of the relevant intersections logged.</i> 	
Subsampling techniques and sample preparation	<ul style="list-style-type: none"> <i>If core, whether cut or sawn and whether quarter, half or all core taken. If non-core, whether riffled, tube sampled, rotary split, etc. and whether sampled wet or dry.</i> <i>For all sample types, the nature, quality and appropriateness of the sample preparation technique.</i> <p><i>Quality control procedures adopted for all sub-sampling stages to maximise representivity of samples. Measures taken to ensure that the sampling is representative of the in-situ material collected, including for instance results for field duplicate/second-half sampling. Whether sample sizes are appropriate to the grain size of the material being sampled.</i></p>	<ul style="list-style-type: none"> Specific details of sampling techniques and analytical procedures used by Newcrest are not clearly reported. Soil sampling reported by Peak Resources was undertaken on a 450m by 450m spaced offset grid with minus 2mm sized material collected from hand dug holes to 20cm depth; samples were dried and pulverised by ALS Chemex in Perth and analysed for multi element by ICP-MS and ME-ICP61s; use of QA/QC samples is not known. Rock chip sampling by Peak Resources was randomly distributed within E52/3612 and guided by outcrop locations; samples are thought to be grab samples; samples were dried, pulverised, and riffle split by ALS Chemex in Perth and analysed for multi element by ME-ICP61 and for gold by Au-AA26; use of QA/QC samples is unknown.
Quality of assay data and laboratory tests	<ul style="list-style-type: none"> <i>The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total.</i> <i>For geophysical tools, spectrometers, handheld XRF instruments, etc., the parameters used in determining the analysis including instrument make and model, reading times, calibrations factors applied and their derivation, etc.</i> 	<ul style="list-style-type: none"> Specific details of analytical procedures used by Newcrest are not clearly reported by past explorers. Soil sampling results reported by Peak Resources were dried and pulverised by ALS Chemex in Perth and analysed for multi element by ICP-MS and ME-ICP61s; use of QA/QC samples is not known. Rock chip sampling results reported by Peak Resources were dried, pulverised, and riffle split by ALS Chemex in Perth and analysed for multi element by ME-ICP61 and for gold by Au-AA26; use of QA/QC samples is unknown.
Quality of assay data and laboratory tests (Cont'd)	<ul style="list-style-type: none"> <i>Nature of quality control procedures adopted (e.g. standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (i.e. lack of bias) and precision have been established.</i> 	<ul style="list-style-type: none"> Specific details of analytical procedures used by past explorers are not always clearly reported and it is not known if QA/QC samples were included during analysis.
Verification of sampling and assaying	<ul style="list-style-type: none"> <i>The verification of significant intersections by either independent or alternative company personnel.</i> <i>The use of twinned holes.</i> <i>Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.</i> <i>Discuss any adjustment to assay data.</i> 	<ul style="list-style-type: none"> Data has been verified by Ion Minerals personnel and contract professionals and results are considered to sufficiently demonstrate the exploration potential of E52/3612. A more detailed exploration program is planned by the Company with the dual aim of confirming historically reported base metal enrichment and advancing the project

		<p>through the use of the newly generated exploration model.</p> <ul style="list-style-type: none"> No adjustment to historical assay data has occurred.
Location of data points	<ul style="list-style-type: none"> <i>Accuracy and quality of surveys used to locate drill holes (collar and down-hole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.</i> <i>Specification of the grid system used.</i> <i>Quality and adequacy of topographic control.</i> 	<ul style="list-style-type: none"> Locations of historical data points presented in this release are as reported in the Western Australian DMP online database. Method of coordinate capture of these points is not readily available in historical reports; however, data points are reported in MGA94 Zone 50. Confirmation of historical sampling locations and reported base metal enrichment will form part of the Company's initial exploration plan.
Data spacing and distribution	<ul style="list-style-type: none"> <i>Data spacing for reporting of Exploration Results.</i> <i>Whether the data spacing and distribution is sufficient to establish the degree of geological and grade continuity appropriate for the Mineral Resource and Ore Reserve estimation procedure(s) and classifications applied.</i> <i>Whether sample compositing has been applied.</i> 	<ul style="list-style-type: none"> Soil sampling by Peak Resources was undertaken on a 450m by 450m spaced offset grid pattern over much of E52/3612 with 762 samples collected. Rock chip sampling distribution by Newcrest and Peak Resources was random across the tenement area and was guided by outcrop location. Historically reported results are considered to sufficiently demonstrate exploration potential of E52/3612. No compositing is reported in historical sampling.
Orientation of data in relation to geological structure	<ul style="list-style-type: none"> <i>Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type.</i> <i>If the relationship between the drilling orientation and the orientation of key mineralised structures is considered to have introduced a sampling bias, this should be assessed and reported if material.</i> 	<ul style="list-style-type: none"> No orientation based bias appears to have occurred in reported historical sampling.
Sample security	<ul style="list-style-type: none"> <i>The measures taken to ensure sample security.</i> 	<ul style="list-style-type: none"> All results reported in this release are historical in nature and as such, knowledge of sample security by the respective exploration companies is unknown.
Audits or reviews	<ul style="list-style-type: none"> <i>The results of any audits or reviews of sampling techniques and data.</i> 	<ul style="list-style-type: none"> The Company has undertaken a review of the compiled historical results that have formed the basis of the newly generated exploration model; confirmation of reported base metal enrichment with form an integral part of the initial exploration program proposed by the Company.

Section 2 Reporting of Exploration Results

(Criteria listed in the preceding section also apply to this section.)

Criteria	JORC Code explanation	Commentary
<i>Mineral tenement and land tenure status</i>	<ul style="list-style-type: none"> • <i>Type, reference name/number, location and ownership including agreements or material issues with third parties such as joint ventures, partnerships, overriding royalties, native title interests, historical sites, wilderness or national park and environmental settings.</i> • <i>The security of the tenure held at the time of reporting along with any known impediments to obtaining a licence to operate in the area.</i> 	<ul style="list-style-type: none"> • The Ashburton Cobalt Project comprises an exploration licence application (ELA) of 70 blocks lodged by Ion Minerals Pty Ltd
<i>Exploration done by other parties</i>	<ul style="list-style-type: none"> • <i>Acknowledgment and appraisal of exploration by other parties.</i> 	<ul style="list-style-type: none"> • Previous exploration has defined extensive multi-element anomalism and mineralisation within the Ashburton Sediments with enrichment seen in Co, Cu, Zn, Pb, Ni. Co-enrichment in rock chip and soils within the proposed ELA occurs over a 15km by 7km area and includes maximum rock chip value of 1.89% Co + 0.35% Zn + 0.28% Ni.
<i>Geology</i>	<ul style="list-style-type: none"> • <i>Deposit type, geological setting and style of mineralisation.</i> 	<ul style="list-style-type: none"> • Cobalt mineralisation with associated highly anomalous copper, zinc, lead and nickel is shear-zone related within Palaeoproterozoic Ashburton Formation sequences.
<i>Drill hole Information</i>	<ul style="list-style-type: none"> • <i>A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drill holes:</i> <ul style="list-style-type: none"> ○ <i>easting and northing of the drill hole collar</i> ○ <i>elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar</i> ○ <i>dip and azimuth of the hole</i> ○ <i>down hole length and interception depth</i> ○ <i>hole length.</i> • <i>If the exclusion of this information is justified on the basis that the information is not Material and this exclusion does not detract from the understanding of the report, the Competent Person should clearly explain why this is the case.</i> 	<ul style="list-style-type: none"> • N/A
<i>Data aggregation methods</i>	<ul style="list-style-type: none"> • <i>In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (eg cutting of high grades) and cut-off grades are usually Material</i> 	<ul style="list-style-type: none"> • N/A

Criteria	JORC Code explanation	Commentary
	<p><i>and should be stated.</i></p> <ul style="list-style-type: none"> • <i>Where aggregate intercepts incorporate short lengths of high grade results and longer lengths of low grade results, the procedure used for such aggregation should be stated and some typical examples of such aggregations should be shown in detail.</i> • <i>The assumptions used for any reporting of metal equivalent values should be clearly stated.</i> 	
<i>Relationship between mineralisation widths and intercept lengths</i>	<ul style="list-style-type: none"> • <i>These relationships are particularly important in the reporting of Exploration Results.</i> • <i>If the geometry of the mineralisation with respect to the drill hole angle is known, its nature should be reported.</i> • <i>If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (eg 'down hole length, true width not known').</i> 	<ul style="list-style-type: none"> • N/A
<i>Diagrams</i>	<ul style="list-style-type: none"> • <i>Appropriate maps and sections (with scales) and tabulations of intercepts should be included for any significant discovery being reported. These should include, but not be limited to a plan view of drill hole collar locations and appropriate sectional views.</i> 	<ul style="list-style-type: none"> • Appropriate maps are included within the body of the accompanying document.
<i>Balanced reporting</i>	<ul style="list-style-type: none"> • <i>Where comprehensive reporting of all Exploration Results is not practicable, representative reporting of both low and high grades and/or widths should be practiced to avoid misleading reporting of Exploration Results.</i> 	<ul style="list-style-type: none"> • The accompanying document is considered to represent a balanced report.
<i>Other substantive exploration data</i>	<ul style="list-style-type: none"> • <i>Other exploration data, if meaningful and material, should be reported including (but not limited to): geological observations; geophysical survey results; geochemical survey results; bulk samples – size and method of treatment; metallurgical test results; bulk density, groundwater, geotechnical and rock characteristics; potential deleterious or contaminating substances.</i> 	<ul style="list-style-type: none"> • Other exploration data collected is not considered as material to this document at this stage. Further data collection will be reviewed and reported when considered material.
<i>Further work</i>	<ul style="list-style-type: none"> • <i>The nature and scale of planned further work (eg tests for lateral extensions or depth extensions or large-scale step-out drilling).</i> • <i>Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.</i> 	<ul style="list-style-type: none"> • Ion Minerals has planned staged and appropriate exploration programmes to assess the potential of each of the project areas.

Annexure C – Ashburton Rock Chip Samples

Sample_ID	Company	Co (ppm)	Cu (ppm)	Zn (ppm)	Pb (ppm)	Ni (ppm)	Ag (g/t)	Au (g/t)	Easting	Northing
MV064	Peak Resources	18950	546	3490	238	2790	1.6	BD	580586	7348837
MV032	Peak Resources	2910	1530	1370	84	639	2.6	BD	581726	7356264
MV026	Peak Resources	2170	468	710	7210	310	BD	BD	584790	7346680
MV083	Peak Resources	2119	4092	930	478	NA	6.6	NA	583889	7361509
MV048	Peak Resources	2060	1830	1560	20	1460	1.3	BD	585746	7360482
MV062	Peak Resources	1850	928	407	18	165	0.5	BD	580109	7359523
MV045	Peak Resources	1825	350	781	17	462	BD	BD	589875	7356093
MV007	Peak Resources	1710	767	776	9440	230	2.1	BD	582755	7357267
MV084	Peak Resources	1558	951	957	2	NA	1.6	NA	582293	7359652
MV008	Peak Resources	1330	740	827	5540	471	3.1	BD	582753	7357259
MV021	Peak Resources	1290	186	1720	398	508	0.8	BD	582761	7350290
MV020	Peak Resources	1280	185	1720	412	510	0.8	BD	582976	7350507
MV054	Peak Resources	1210	434	776	1620	317	2	BD	584247	7357639
MV060	Peak Resources	1170	291	579	20	146	1.4	BD	585546	7354251
MV024	Peak Resources	1075	243	1760	52	588	3.1	BD	584646	7351411
MV023	Peak Resources	1010	1200	878	55	333	4.4	BD	589726	7349197
MV047	Peak Resources	980	189	382	31	84	0.9	BD	589653	7356772
MV006	Peak Resources	874	237	1320	12600	117	1.3	BD	583817	7357088
MV004	Peak Resources	853	2640	1460	10900	178	1.9	BD	583867	7357488
101469	Newcrest	783	205	BD	145	BD	BD	BD	582304	7356822
MV050	Peak Resources	731	374	222	75	374	1.6	BD	580564	7360222
MV059	Peak Resources	692	630	620	32	152	2.2	BD	586034	7354642
MV076	Peak Resources	671	543	1253	25	NA	6.4	NA	582140	7359324
MV065	Peak Resources	660	126	620	6	NA	1.5	NA	586904	7356902
MV063	Peak Resources	592	252	647	166	593	0.9	0.02	585096	7348337
111193	Newcrest	587	587	463	BD	181	BD	BD	589633	7352885
MV001	Peak Resources	582	502	1050	2690	94	46.5	BD	583895	7357152
MV046	Peak Resources	561	214	957	54	123	1.1	BD	589653	7356772
MV003	Peak Resources	175	187	488	13100	84	BD	BD	583844	7357233
MV022	Peak Resources	174	188	501	11500	57	0.5	BD	587611	7349174
111450	Newcrest	58	94200	899	119	105	BD	BD	590076	7357629
111451	Newcrest	8	15700	27	BD	62	BD	BD	589670	7357753
109397	Newcrest	8	335000	36	BD	28	BD	0.1	584424	7361992

Annexure D – Lincoln Springs Project Rock Chip Samples



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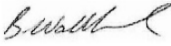
CERTIFICATE TVI8108743	
Project: Lincoln Springs P.O. No.: 321021 This report is for 87 Rock samples submitted to our lab in Townsville, QLD, Australia on 11- MAY- 2018. The following have access to data associated with this certificate: CAMERON MCLEAN IAN MORRISON	

SAMPLE PREPARATION	
ALS CODE	DESCRIPTION
WEI- 21	Received Sample Weight
LEV- 01	Waste Disposal Levy
LOG- 22	Sample login - Rcd w/o BarCode
PUL- QC	Pulverizing QC Test
CRU- 21	Crush entire sample > 70% - 6 mm
PUL- 23	Pulv Sample - Split/Retain

ANALYTICAL PROCEDURES		
ALS CODE	DESCRIPTION	INSTRUMENT
ME- OG62	Ore Grade Elements - Four Acid	ICP- AES
Co- OG62	Ore Grade Co - Four Acid	ICP- AES
Cu- OG62	Ore Grade Cu - Four Acid	ICP- AES
Zn- OG62	Ore Grade Zn - Four Acid	ICP- AES
ME- ICP61	33 element four acid ICP- AES	ICP- AES

To: ION MINERALS
 ATTN: IAN MORRISON
 LEVEL 3
 35 HAVELOCK STREET
 WEST PERTH WA 6005

This is the Final Report and supersedes any preliminary report with this certificate number. Results apply to samples as submitted. All pages of this report have been checked and approved for release.
 ***** See Appendix Page for comments regarding this certificate *****

Signature: 
 Brett Wallbank, Laboratory Manager, Townsville



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Project: Lincoln Springs

CERTIFICATE OF ANALYSIS TVI8108743																	
Sample Description	Method Analyte Units LOR	WEI- 21 Recvd Wt. kg	PUL- QC Pass% Sum %	ME- ICP61 Ag ppm	ME- ICP61 Al %	ME- ICP61 As ppm	ME- ICP61 Ba ppm	ME- ICP61 Be ppm	ME- ICP61 Bi ppm	ME- ICP61 Ca %	ME- ICP61 Cd ppm	ME- ICP61 Co ppm	ME- ICP61 Cr ppm	ME- ICP61 Cu ppm	ME- ICP61 Fe %	ME- ICP61 Ga ppm	
8801		0.08	<0.5	0.09	70	400	3.3	<2	0.01	<0.5	60	52	124	8.45	10		
8802		1.38	<0.5	5.84	14	360	4.8	<2	0.04	<0.5	23	70	92	13.45	10		
8803		0.94	<0.5	2.02	151	1030	4.4	<2	0.03	<0.5	241	101	181	10.65	10		
8804		0.95	<0.5	4.89	8	470	2.1	<2	0.02	<0.5	19	36	48	2.88	10		
8805		1.59	<0.5	6.88	57	510	5.8	2	0.04	<0.5	43	90	114	20.3	20		
8806		1.28	<0.5	2.80	7	120	0.8	<2	0.04	<0.5	7	16	19	1.79	<10		
8807		0.79	<0.5	0.27	26	180	0.8	<2	0.01	<0.5	9	3	11	0.68	<10		
8808		1.03	<0.5	2.32	125	260	0.8	<2	0.01	<0.5	48	46	97	2.29	10		
8809		1.81	<0.5	2.46	<5	100	0.5	<2	0.04	<0.5	7	12	15	1.33	<10		
8810		0.75	<0.5	4.69	238	50	2.9	<2	0.05	1.0	2100	21	>10000	41.1	<10		
8811		1.50	<0.5	1.2	2.02	131	100	1.2	2	0.07	78.7	>10000	24	>10000	17.75	10	
8812		1.10	<0.5	3.63	192	210	2.0	2	0.06	5.3	1990	33	>10000	19.25	10		
8813		0.69	<0.5	2.86	232	150	1.4	<2	0.05	4.3	2410	29	>10000	26.7	10		
8814		0.64	<0.5	5.47	75	310	2.8	<2	0.03	5.0	2430	47	>10000	18.80	10		
8815		1.80	<0.5	5.39	15	420	2.1	2	0.04	<0.5	34	37	1050	5.11	10		
8816		1.55	<0.5	2.10	62	180	0.6	<2	0.02	<0.5	51	13	1590	1.21	<10		
8817		1.40	<0.5	2.85	83	260	0.8	<2	0.02	<0.5	102	19	488	1.32	10		
8818		0.24	<0.5	3.96	101	190	3.1	<2	0.02	22.0	4000	31	9200	19.40	10		
LS61		1.68	<0.5	0.49	102	80	1.2	2	0.01	<0.5	38	1805	50	3.66	<10		
LS62		2.02	<0.5	6.14	56	390	5.5	<2	0.03	<0.5	43	77	105	19.10	20		
LS63		1.23	<0.5	2.99	12	330	1.9	<2	0.05	<0.5	130	20	178	3.65	10		
LS64		2.06	<0.5	4.02	18	220	2.5	<2	0.03	<0.5	15	57	75	6.02	10		
LS65		2.44	<0.5	4.34	15	320	4.4	<2	0.06	<0.5	72	80	72	12.80	10		
LS66		1.44	<0.5	0.53	73	80	<0.5	<2	0.04	<0.5	44	1890	38	3.63	<10		
LS66A		1.29	<0.5	1.6	6.92	79	260	1.4	<2	0.11	<0.5	273	238	1620	7.49	20	
LS67		1.44	<0.5	0.7	2.38	151	250	16.1	2	0.02	<0.5	37	38	188	24.9	<10	
LS67A		1.67	<0.5	4.69	12	330	5.5	<2	0.02	<0.5	67	34	72	15.25	10		
LS68		1.67	<0.5	3.50	<5	2830	5.0	5	0.02	0.5	3080	16	1160	8.62	10		
LS68A		1.71	<0.5	4.52	24	1150	8.8	3	0.02	0.9	632	31	389	15.20	10		
LS69		1.62	89.0	3.5	0.94	510	50	0.5	<2	0.03	<0.5	78	26	459	13.05	<10	
LS70		0.18	<0.5	0.8	6.54	89	480	2.2	3	0.07	2.4	1850	69	>10000	12.10	20	
LS71		1.65	<0.5	8.46	57	460	2.3	5	0.12	1.9	1110	83	>10000	7.39	20		
LS72		0.88	<0.5	9.34	24	770	3.4	<2	0.01	<0.5	38	63	102	4.64	20		
SOL61		0.41	<0.5	8.93	21	540	2.6	2	0.03	<0.5	75	69	969	4.57	20		
SOL62		0.37	<0.5	7.72	7	450	1.9	<2	0.52	<0.5	20	109	63	3.31	20		
SOL63		0.24	<0.5	7.45	5	420	1.7	3	0.41	<0.5	31	138	121	3.67	20		
SOL64		0.24	<0.5	6.46	<5	300	1.2	<2	0.67	<0.5	37	175	150	3.91	10		
SOL65		0.42	<0.5	6.78	<5	260	1.2	2	0.51	<0.5	29	232	78	5.29	20		
SOL66		0.41	<0.5	6.59	5	200	0.9	<2	0.74	<0.5	36	291	56	6.17	10		
SOL67		0.39	<0.5	7.07	<5	150	0.5	<2	1.03	<0.5	44	345	55	6.55	10		

***** See Appendix Page for comments regarding this certificate *****



CERTIFICATE OF ANALYSIS TV18108743

Sample Description	Method Analyte Units LOR	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61
		K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Sc ppm	Sr ppm	Th ppm	Ti %	Ti %	Ti %
8801		1.85	20	0.21	1160	1	0.05	107	350	38	0.01	<5	10	10	<20	0.20		
8802		1.74	10	0.17	546	<1	0.03	88	170	29	0.01	9	13	23	<20	0.23		
8803		0.49	10	0.07	10300	1	0.02	228	1060	16	0.01	<5	6	78	<20	0.07		
8804		1.88	20	0.20	403	1	0.03	47	300	15	0.01	<5	9	28	<20	0.18		
8805		2.22	70	0.21	784	1	0.05	96	1670	35	0.01	8	15	27	<20	0.23		
8806		0.39	20	0.40	836	1	0.84	14	180	12	0.01	<5	4	48	<20	0.09		
8807		0.10	<10	0.02	22200	1	0.01	5	100	22	<0.01	<5	1	59	<20	0.02		
8808		0.98	10	0.11	157	4	0.02	3	280	117	0.02	<5	7	40	<20	0.12		
8809		0.33	10	0.22	414	1	0.95	10	90	12	0.01	<5	3	50	<20	0.08		
8810		0.13	30	0.06	1270	87	0.02	85	1390	149	0.13	44	7	128	<20	0.01		
8811		0.71	10	0.65	2740	23	0.02	195	980	40	0.05	8	3	40	<20	0.07		
8812		1.60	20	0.37	372	20	0.03	77	840	59	0.05	12	7	48	<20	0.13		
8813		1.09	10	0.23	794	26	0.05	52	740	32	0.29	15	6	88	<20	0.10		
8814		1.92	20	0.73	3790	3	0.03	37	1170	29	0.03	6	10	72	<20	0.24		
8815		1.98	20	0.22	310	<1	0.03	21	330	14	0.01	<5	10	17	<20	0.19		
8816		0.69	10	0.09	182	<1	0.02	5	40	6	0.01	12	2	8	<20	0.08		
8817		1.22	20	0.12	346	<1	0.02	5	70	7	0.01	12	3	9	<20	0.10		
8818		1.42	10	0.95	995	7	0.02	82	1360	18	0.01	11	7	4	<20	0.16		
LS61		0.04	<10	4.30	536	<1	0.01	854	180	7	<0.01	7	5	4	<20	0.01		
LS62		1.89	20	0.20	432	<1	0.05	117	2010	31	0.01	6	11	22	<20	0.20		
LS63		0.80	10	0.12	1380	<1	0.02	108	190	16	0.01	<5	5	17	<20	0.10		
LS64		0.99	20	0.16	442	<1	0.03	80	180	16	0.01	<5	9	18	<20	0.12		
LS65		1.34	30	0.17	1110	<1	0.02	166	970	16	0.01	7	9	21	<20	0.16		
LS66		0.05	<10	1.80	705	<1	0.02	739	100	<2	0.01	54	7	5	<20	0.01		
LS66A		1.05	20	3.01	1250	2	0.18	116	450	34	0.04	<5	23	161	<20	0.28		
LS67		0.67	70	0.09	652	<1	0.02	135	3260	58	0.01	6	12	30	<20	0.09		
LS67A		0.78	20	0.09	2080	<1	0.03	117	2420	16	0.01	<5	8	28	<20	0.12		
LS68		0.49	10	0.07	5660	4	0.01	523	1440	40	<0.01	<5	4	59	<20	0.08		
LS68A		1.00	20	0.10	17700	3	0.03	376	2400	50	0.01	<5	7	31	<20	0.13		
LS69		0.13	10	0.05	301	10	0.21	7	270	52	0.06	20	1	22	<20	0.11		
LS70		2.68	20	0.61	3340	13	0.05	68	830	39	0.08	8	12	96	<20	0.25		
LS71		3.53	30	0.76	802	8	0.06	32	520	31	0.09	8	16	120	20	0.33		
LS72		2.89	40	1.26	2190	<1	0.25	90	150	29	0.01	5	16	39	20	0.31		
SOL61		2.85	60	1.21	855	<1	0.45	41	210	23	0.01	<5	16	35	20	0.34		
SOL62		1.97	30	0.85	1340	1	0.26	54	610	15	0.04	<5	19	72	<20	0.45		
SOL63		1.80	30	1.07	2120	1	0.98	70	990	17	0.03	<5	21	66	<20	0.48		
SOL64		1.29	20	1.38	1910	<1	0.58	79	760	16	0.04	<5	22	79	<20	0.49		
SOL65		1.21	20	1.51	1060	<1	0.73	91	860	10	0.03	<5	23	64	<20	0.58		
SOL66		0.87	10	1.91	1490	<1	0.85	111	810	5	0.03	<5	26	75	<20	0.60		
SOL67		0.62	10	2.77	1560	<1	1.12	141	930	4	0.02	<5	31	90	<20	0.69		

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Sample Description	Method Analyte Units LOR	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	Co-OC62	Cu-OC62	Zn-OC62
		Ti ppm	U ppm	V ppm	W ppm	Zr ppm	Co %	Cu %	Zn %
8801		<10	<10	76	<10	217			
8802		<10	<10	95	<10	248			
8803		<10	<10	82	<10	199			
8804		<10	<10	80	<10	53			
8805		<10	<10	124	<10	456			
8806		<10	<10	27	<10	30			
8807		<10	<10	13	<10	7			
8808		<10	<10	41	<10	146			
8809		<10	<10	22	<10	19			
8810		<10	<10	128	<10	5590		2.25	
8811		<10	<10	94	<10	>10000	1.945	4.38	4.10
8812		<10	<10	83	<10	8010		10.40	
8813		<10	<10	79	<10	8750		8.47	
8814		<10	<10	101	<10	4670		1.715	
8815		<10	<10	87	<10	197			
8816		<10	<10	21	<10	140			
8817		<10	<10	30	<10	225			
8818		<10	<10	47	<10	>10000		2.05	
LS61		<10	<10	28	<10	71			
LS62		<10	<10	87	<10	403			
LS63		<10	<10	38	<10	284			
LS64		<10	<10	45	<10	178			
LS65		<10	<10	82	<10	322			
LS66		<10	<10	56	<10	45			
LS66A		<10	<10	169	<10	741			
LS67		<10	<10	35	<10	571			
LS67A		<10	<10	47	<10	326			
LS68		<10	<10	33	<10	747			
LS68A		<10	<10	56	<10	557			
LS69		<10	<10	40	<10	175			
LS70		<10	<10	100	<10	4630		3.48	
LS71		<10	<10	113	<10	3220		1.690	
LS72		<10	<10	108	<10	95			
SOL61		<10	<10	105	<10	327			
SOL62		<10	<10	104	<10	103			
SOL63		<10	<10	112	<10	143			
SOL64		<10	<10	116	<10	151			
SOL65		<10	<10	158	<10	105			
SOL66		<10	<10	192	<10	94			
SOL67		<10	<10	203	<10	93			

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Sample Description	Method Analyte Units LOR	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	Co- OC62	Cu- OC62	Zn- OC62
		Tl ppm 10	U ppm 10	V ppm 1	W ppm 10	Zn ppm 2	Co % 0.0005	Cu % 0.001	Zn % 0.001
SOL68		10	<10	214	<10	90			
SOL69		<10	<10	236	<10	92			
SOL70		<10	<10	108	<10	204			
SOL71		<10	<10	95	<10	262			
SOL72		<10	<10	109	<10	232			
SOL73		<10	<10	166	<10	175			
SOL74		10	<10	169	<10	91			
SOL75		<10	<10	214	<10	104			
SOL76		<10	<10	203	<10	81			
SOL77		<10	<10	228	<10	83			
SOL78		<10	<10	122	<10	321			
SOL79		<10	<10	113	<10	456			
SOL80		<10	<10	107	<10	529			
SOL91		<10	<10	197	<10	90			
SOL92		<10	<10	220	<10	73			
SOL93		<10	<10	134	<10	195			
SOL94		<10	<10	139	<10	253			
SOL95		<10	<10	149	<10	322			
SOL96		<10	<10	135	<10	299			
SOL97		<10	<10	132	<10	374			
SOL98		<10	<10	167	<10	213			
SOL99		<10	<10	203	<10	86			
SOL100		10	<10	212	<10	72			
SOL101		<10	<10	219	<10	67			
SOL102		<10	<10	119	<10	112			
SOL103		<10	<10	128	<10	122			
SOL104		<10	<10	133	<10	130			
SOL105		<10	<10	131	<10	138			
SOL106		10	<10	119	<10	139			
SOL107		<10	<10	131	<10	151			
SOL108		<10	<10	161	<10	117			
SOL109		<10	<10	215	<10	74			
SOL110		<10	<10	122	<10	91			
SOL111		<10	<10	134	<10	98			
SOL112		<10	<10	128	<10	81			
SOL113		10	<10	133	<10	84			
SOL114		<10	<10	120	<10	78			
SOL115		<10	<10	121	<10	84			
SOL116		10	<10	92	<10	108			
SOL117		<10	<10	190	<10	78			

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Sample Description	Method Analyte Units LOR	WEI- 21	PUL- OC	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	ME- ICP61	
		Recvd Wt: kg 0.02	Pass75um % 0.01	Ag ppm 0.5	Al ppm 0.01	As ppm 5	Ba ppm 10	Be ppm 0.5	Bi ppm 2	Ca % 0.01	Cd ppm 0.5	Co ppm 1	Cr ppm 1	Cu ppm 1	Fe ppm 1	Ca ppm 10
SOL81		0.41		<0.5	6.95	22	370	1.8	<2	0.23	<0.5	129	97	1830	4.59	20
SOL82		0.52		<0.5	6.92	9	100	0.8	<2	0.29	<0.5	71	290	461	6.19	20
SOL83		0.32		<0.5	7.35	7	90	0.7	<2	0.34	<0.5	43	271	84	6.41	20
SOL84		0.34		<0.5	7.29	10	90	0.5	<2	0.42	<0.5	50	369	92	6.89	10
SOL85		0.43	99.0	<0.5	7.57	7	130	<0.5	2	1.26	<0.5	47	336	61	7.31	20
SOL86		0.59		<0.5	6.55	9	330	1.5	2	0.19	<0.5	72	170	427	4.73	20
SOL87		0.32		<0.5	6.16	6	300	1.4	2	0.42	<0.5	58	125	465	4.23	10

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Sample Description	Method Analyte Units LOR	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	
		K %	La ppm	Mg %	Mn ppm	Mo ppm	Na %	Ni ppm	P ppm	Pb ppm	S %	Sb ppm	Se ppm	Sr ppm	Th ppm	Ti %
SOL81		2.11	20	1.07	731	1	0.31	46	830	19	0.03	<5	15	63	<20	0.40
SOL82		0.81	10	2.86	1100	1	0.56	130	530	8	0.02	<5	27	44	<20	0.38
SOL83		0.31	10	3.34	1000	<1	0.61	146	440	7	0.02	<5	32	48	<20	0.42
SOL84		0.27	10	3.62	1410	<1	0.86	168	480	<2	0.02	<5	33	51	<20	0.56
SOL85		0.47	<10	3.13	1430	<1	1.45	147	850	<2	0.02	<5	36	81	<20	0.74
SOL86		1.44	20	1.38	1070	1	0.40	66	580	15	0.02	<5	18	47	<20	0.44
SOL87		1.30	20	1.42	931	1	0.73	60	550	11	0.03	<5	15	74	<20	0.38

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Sample Description	Method Analyte Units LOR	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	ME-ICP61	Co-OC62	Cu-OC62	Zn-OC62
		Ti ppm	U ppm	V ppm	W ppm	Zn ppm	Co %	Cu %	Zn %
SOL81		<10	<10	96	<10	590	0.0005	0.001	0.001
SOL82		<10	<10	174	<10	258			
SOL83		<10	<10	209	<10	89			
SOL84		<10	<10	215	<10	98			
SOL85		<10	<10	232	<10	87			
SOL86		<10	<10	118	<10	278			
SOL87		<10	<10	99	<10	252			

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