POSEIDONNICKEL

23rd May 2016

High Grade Lithium Bearing Pegmatites Located at Lake Johnston

Highlights

- **High grade lithium bearing pegmatites discovered within the 100% owned Lake Johnston tenements**
- **Composite samples from outcrops returned high grades from 2.80% to 3.85% Li_2O**
- **Historical drill core intersected abundant, thick pegmatite dykes previously considered waste material**
- **Pegmatite material from the Maggie Hays underground mine shows favourable mineralogy for the potential development of nearby lithium mineralisation**
- **Commencing a detailed interpretation & sampling programme using the extensive pegmatite drill core stored in the core yard as well as exposed pegmatites within the Maggie Hays mine**
- **Poseidon remains focussed on developing its nickel assets however, the identification of lithium bearing pegmatites provides diversification during the nickel market down turn**
- **The Lake Johnston concentrator has the ability to process both nickel and lithium ores via two parallel circuits. This has the potential to provide a rapid path to production of concentrate**

Poseidon Nickel Limited (ASX:POS or the Company) is pleased to announce high grade lithium bearing pegmatites have been located within the Company's 100% owned Lake Johnston Operations located 440km east of Perth. Reconnaissance field work by Poseidon's geologists located numerous pegmatites within E63/1067 (Figure 1) and composite sampling along the pegmatite exposures has returned assay results grading from **2.80% to 3.85% Li_2O** (Table 1 & Figure 2).

Global awareness in the lithium markets has risen sharply recently due to prevailing interest in lithium-ion batteries which have emerged as the most widely used choice for Electric Vehicles and Green Energy (wind & solar) power storage. Lithium battery manufacturing costs are dropping in price as lithium battery technology is improving, resulting in a high demand from manufacturers requiring lithium-ion batteries.

As a result of the global demands and the recent awareness of a shortage in global lithium supplies, Poseidon has commenced a programme of sampling historically identified outcropping pegmatites as well as the pegmatites already exposed during mining at Maggie Hays. In addition, modelling and sampling of the core already drilled and stacked in the core yard will commence to get a better understanding of the nature and distribution of the Li-Ta-Rare-Earth Element (REE) bearing minerals in the Lake Johnston pegmatites.

The Company identified historical samples in the DMP's MINDEX and WAMEX system (Amax Australian Ltd, Mt Day Tantalum Prospect, Dec 1981) which were collected from the northeast of the project within E63/1067 (Figure 1). Beryl crystals were historically dug from exploratory pits at Mt Day and tantalum mineralisation was noted at the time. Amax identified outcropping tantalite and lepidolite bearing pegmatites which were noted to be 10-15m in width and up to 500m long. Amax assayed for Ta, Li, Nb, Sn and Sn, however no significant tantalum mineralisation was identified and no further work completed.

Preliminary mapping and sampling by Poseidon located these pegmatites during reconnaissance field work (Figures 3 & 4). Our geologist's focussed on a zone ~30m wide of sub cropping lithium bearing pegmatite veins which strike NE-SW for ~160m before disappearing under cover (Figure 2). To date only lithium has been analysed to fast track laboratory analysis. Field samples are anomalous in rubidium, tantalum and other pathfinder REE elements (using Niton pXRF) supporting the presence of the identified lithium bearing minerals in the hand specimens (Li does not report on a pXRF machine as its atomic weight is too low (Li=3) making it undetectable). Multi-element analysis of all the samples is underway to ascertain rare-earth elements (REE) and accessory mineralisation associated with the lithium bearing pegmatites.

Follow-up mapping/sampling is expected to locate more pegmatite veins in the area. Trenching across the outcrop-subcrop areas will be needed to fully expose and accurately channel sample these lithium bearing pegmatites.

In addition, historical drill core and mining at Maggie Hays & Emily Ann mines intersected abundant, thick pegmatite dykes which were previously considered waste material and have not been sampled for Li-Ta or REE's. Poseidon has sampled selective pegmatite material from the Maggie Hays underground mine which returned best results of 0.37% & 0.41% Li_2O. These samples show favourable mineralogy for the potential development of nearby lithium mineralisation and further investigation/sampling is underway. This work will also be integrated with detailed interpretation, modelling & sampling programmes using the pegmatite exposures within the Maggie Hays mine as well as the extensive pegmatite material already drilled and stacked in the core yard (Figure 5). This will allow the geologists to focus on the most prospective areas of mineralised pegmatite development.

Significant rock chip sample results are shown over in Table 1.

Sample No.	East MGA	North MGA	Description	Li_2O %
POS024	~264900	~6430930	Maggie Hays UG Sample	0.37
POS029	~264900	~6430930	Maggie Hays UG Sample	0.41
POS030	264228	6439614	E63/1067 pegmatite	**3.10**
POS031	264225	6439640	E63/1067 pegmatite	**3.85**
POS036	264213	6439639	E63/1067 pegmatite	**3.51**
POS037	264217	6439631	E63/1067 pegmatite	**3.77**
POS038	264205	6439617	E63/1067 pegmatite	**3.29**
POS039	264180	6439610	E63/1067 pegmatite	**3.44**
POS040	264167	6439563	E63/1067 pegmatite	**2.80**
POS041	264139	6439543	E63/1067 pegmatite	**2.91**
POS042	264108	6439554	E63/1067 pegmatite	**3.68**

Table 1: Significant Rock Chip Sample Results

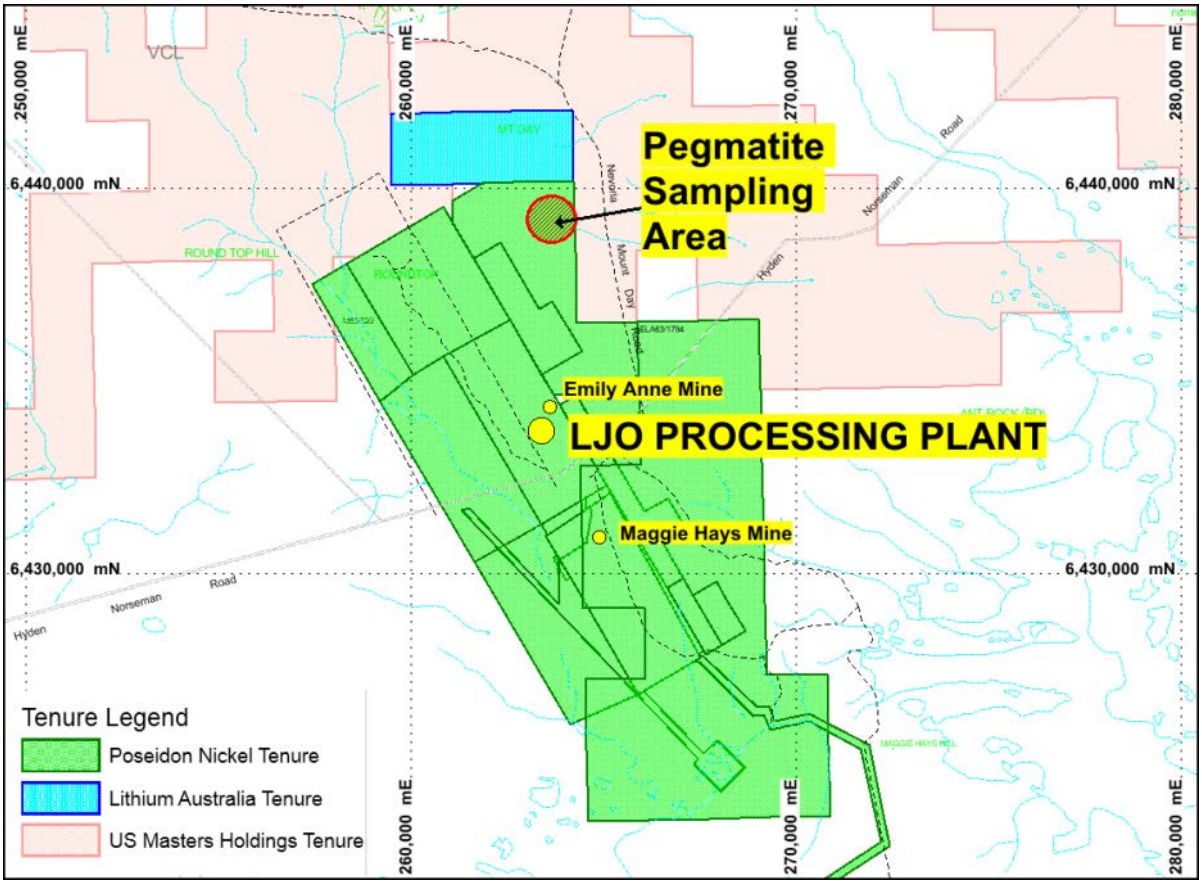

Figure 1: Lake Johnston map showing a zone of identified outcropping pegmatites with historic lithium results in the northern area of the Company's 100% owned tenure

Pegmatites typically demonstrate grainsize variation and zonation of minerals such as biotite, spodumene, lepidolite and zinnwaldite away from the molten granitic magma source of the pegmatite dykes. Understanding and mapping these zones of mineral concentration is paramount in successfully discovering and mining economic Li-Ta-REE deposits. Poseidon is in a fortunate position as there are thousands of kilometres of diamond drill core stored in the core yard (Figure 5) and the geological logging information has been stored in the digital database. There is no record of any Li-Ta or other REE sampling in the Lake Johnston database records and the uncut core trays supports this.

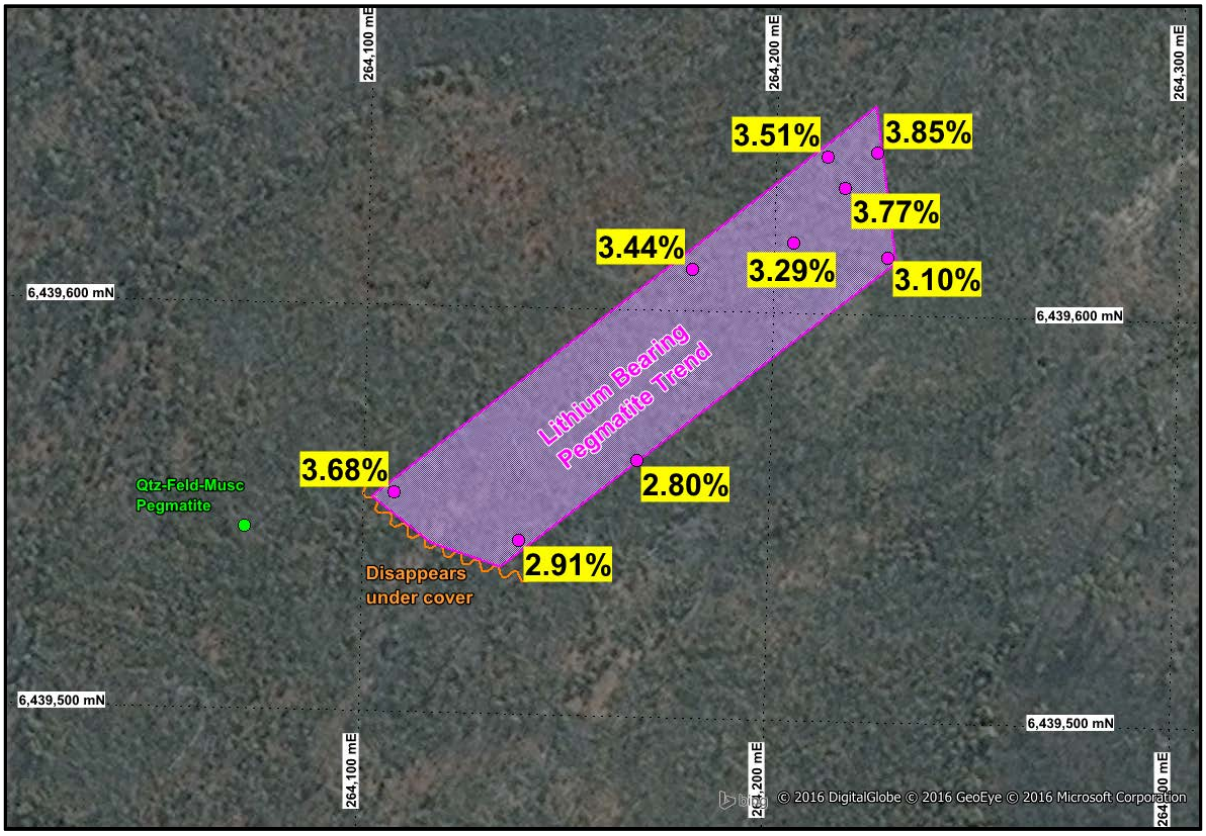

Figure 2: Location of sampled lithium bearing pegmatite with Li_2O% assay results

Recently, Western Areas (WSA) announced in their March Quarterly Activity Report (22/4/2016) that they had commenced a high level review of historical drill core as the Forrestania district is also known to contain a significant number of pegmatites which were intersected during nickel sulphide exploration drilling. Sampling returned intersections of up to 2.58% Li_2O in pegmatites which intersected a favourable host unit within the Forrestania greenstone belt, located 80km to the west of Lake Johnston. The Forrestania belt has undergone a similar geological history as Lake Johnston and demonstrates the zonation of mineral development as well as the potential for the South-western Goldfields region to have developed previously overlooked Li-Ta bearing pegmatites.

Whilst Poseidon remains focussed on the development of the technical aspects of Silver Swan and the recent drilling programme at Lake Johnston, which identified a new zone of high grade nickel sulphides at Emily Ann, the potential for Li-Ta bearing pegmatites within the Company's 100% owned assets provides diversification during the nickel market down turn. Recent engineering works have confirmed that the Lake Johnston concentrator's parallel circuits have the ability to process both nickel and lithium ores through to a concentrate simultaneously should economic quantities of Li-Ta be identified.

The ability to utilise the existing plant and infrastructure at Lake Johnston to produce a lithium concentrate potentially offers Poseidon a significant cost and time advantage.

Figures 3: Outcropping pegmatites within E63/1067

Figures 4: Lithium bearing rock samples collected from the pegmatites

Figure 5: The core yard holds many trays containing thick intersections of unsampled pegmatites (white rocks) as they have always been considered barren waste rock until the significance of these potential lithium-tantalum bearing pegmatites were recently recognised

Notes

The information in this report that relates to Exploration Results is based on information compiled and reviewed by Mr N Hutchison, General Manager of Geology who is a full-time employee at Poseidon Nickel, and is a Member of The Australian Institute of Geoscientists. Mr Hutchison has sufficient experience which is relevant to the style of mineralisation and type of deposits 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' (the JORC Code 2012). Mr Hutchison has consented to the inclusion in the report of the matters based on his information in the form and context in which it appears.

The Australian Securities Exchange has not reviewed and does not accept responsibility for the accuracy or adequacy of this release.

CORPORATE DIRECTORY

Director / Senior Management

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David Singleton	Non-Executive Director
Geoff Brayshaw	Non-Executive Director
Robert Dennis	Non-Executive Director
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Home Exchange
The Company's shares are listed on the Australian Securities Exchange and the home exchange is Perth
ASX code: POS

ATTACHMENT A
JORC (2012) Table 1
E63/1067 Lithium Sampling

E63/1067 LITHIUM SAMPLING

SECTION 1 Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

JORC Code explanation	Commentary
Sampling techniques	
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. *Include reference to measures taken to ensure sample representivity and the appropriate calibration of any measurement tools or systems used.* *Aspects of the determination of mineralisation that are Material to the Public Report.* *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.*	**Rock Chip Sampling** • Reconnaissance rock-chip sampling completed via visual identification by qualified geologist looking for favourable rock types within surface exposures. • Location of samples was determined using a Garmin handheld GPS unit with an accuracy of +/- 10m. • Samples submitted for assay typically weigh 1-2kg • Assays are by four acid digest with AAS finish.
Drilling techniques	
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.).	NA
Drill sample recovery	
Method of recording and assessing core and chip sample recoveries and results assessed. *Measures taken to maximise sample recovery and ensure representative nature of the samples.* *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.*	NA
Logging	
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 metallurgical studies. *Whether logging is qualitative or quantitative in nature. Core (or costean, channel, etc.) photography.* *The total length and percentage of the relevant*	NA

JORC Code explanation	Commentary
intersections logged.	
Sub-sampling techniques and sample preparation	
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.* *For all sample types, the nature, quality and appropriateness of the sample preparation technique.* *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.*	• 1-2 kg of rock chip sample was collected from the identified outcrop site. • Samples were collected from the pegmatite in a representative method so as to not introduce selective sampling bias. • Whole rock samples were submitted to SGS Perth Laboratories for crushing, grinding and assaying in accordance with industry best practice. No Field prep was applied. • The sample collected is representative of the in-situ exposed rock. • The pegmatite sample is coarse grained and sufficient mass was collected to represent the coarse grain size of the pegmatite. • Sampling was completed by company geologist and transported directly to the lab in Perth.
Quality of assay data and laboratory tests	
The nature, quality and appropriateness of the assaying and laboratory procedures used and whether the technique is considered partial or total. *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.* *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.*	**Sample Analysis** • Samples were submitted to SGS Laboratories in Perth for sample preparation and assaying for lithium analysis by SGS technique AAS43B. • NA. • No standards, blanks or external lab checks have been used due to reconnaissance nature of the sampling programme.
Verification of sampling and assaying	
The verification of significant intersections by either independent or alternative company personnel. *The use of twinned holes.* *Documentation of primary data, data entry procedures, data verification, data storage (physical and electronic) protocols.* *Discuss any adjustment to assay data.*	• POS geologists , Steve Warriner & Neil Hutchison collected the samples in the field. Photos taken of the samples have been verified with assays returned for the samples. • Mr Warriner & Mr Hutchison are both associated with POS and are AIG Members. • All field data is digitally collected on the GPS, then uploaded and stored in the Company's digital database in the Perth office. • Lab reported Li% assays have been converted to standardized Li2O% figures to match industry reporting standards using a standardised formula (Li2O% = Li x 2.153).

Location of data points	
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. *Specification of the grid system used.* *Quality and adequacy of topographic control.*	• Location of samples were collected using a Garmin 62s handheld GPS units with an accuracy of +/- 10m. • All data points were located using the Geocentric Datum of Australia 1994 and the Map Grid of Australia zone 51 projection. Topographic control using GPS is more than adequate for rock chip sampling.
Data spacing and distribution	
Data spacing for reporting of Exploration Results. *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.* *Whether sample compositing has been applied.*	• NA- single point rock chip sample and composite float/scree sampling along strike was completed to meet to 1-2kg sample weight. Not used for the purpose of resource classification.
Orientation of data in relation to geological structure	
Whether the orientation of sampling achieves unbiased sampling of possible structures and the extent to which this is known, considering the deposit type. *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.*	• Single point data. More extensive sampling required and planned • NA.
Sample security	
The measures taken to ensure sample security.	• Sampling was completed by the site Chief Geologist and General Manager-Geology. The samples were transported directly to the lab in Perth by the GM. Sample security was ensured.
Audits or reviews	
The results of any audits or reviews of sampling techniques and data.	• No audits or reviews have been completed at this early reconnaissance exploration stage.

LITHIUM SAMPLING

SECTION 2 Reporting of Exploration Results

(Criteria in this section apply to all succeeding sections)

Mineral Tenement and Land Tenure Status *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.* *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.*	• The reported rock chip samples are located within E63/1067 which is at the northern end of the Lake Johnstone tenement package which is 100% owned by Poseidon Nickel. • The Maggie Hays and Emily Ann mines are situated on M63/163 & M63/283 respectively. The concentrator plant is also located on M63/283 which are located 190km SW of Kalgoorlie. • A long standing Native Title Agreement (since 1997) exists with the Ngadju People and will be continued by Poseidon Nickel. • The tenements are located within the buffer zone of the Bremer Range Priority Ecological Community and within the Proposed Nature Reserve 82. • Lake Johnston Plant commenced operation in 2001 and there are no known impediments to continue operating in this area. • There are no royalties or other interests held.
Exploration Done by Other Parties *Acknowledgment and appraisal of exploration by other parties.*	• AMAX Australia Ltd explored for tantalum within the Mt Day area in 1981. They mapped and rock chipped pegmatites which included Li analysis. • LionOre Australia and Norilsk Nickel Australia previously completed exploration, drilling and mining of the Lake Johnston project until Poseidon's acquisition in late 2014.
Geology *Deposit type, geological setting and style of mineralisation.*	• The Lake Johnston Project is located 80km ENE of Western Areas' Forrestania Project which contains their flagship Flying Fox Mine. Flying Fox and Maggie Hays are both intrusive style ultramafic bodies, not extrusive Kambalda style lava flows. They have undergone similar intrusive emplacement, nickel mineralisation, and structural overprinting histories. Late state felsic pegmatities intruded this rocks from late stage granitic activity.
Drill hole information	• Co-ordinates and other attributes of rock chip samples are included in the release.
Data aggregation methods	NA
Relationship between mineralisation widths and intercept lengths	NA
Diagrams	• Suitable summary plans have been included in the body of report
Balance reporting	• The reporting is factual & balanced
Other substantive exploration data	• All relevant material relating to the lithogeochemical sampling programme have been reported.
Further work	• The Lake Johnstone tenements are unexplored for lithium bearing rocks so substantial grass roots exploration work is still required.