3 October 2023

ChemX Materials (ASX:CMX) (ChemX or the Company), an Australian based high purity critical materials business provides further information to the previously released announcement on 6th September 2023, Test Work Delivers HPA Flowsheet Enhancements.

The additional information is provided on pages 2, 3 and pages 8-14

This announcement has been authorised for release by the Board.

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CHEMX MATERIALS

ASX ANNOUNCEMENT

6 September 2023

Testwork delivers HPA flowsheet enhancements and HPM market update

- **High Purity Alumina (HPA)**
  - **Pilot Plant flowsheet optimised following further operational testwork success of HPA Micro Plant.**
  - **Pilot Plant to allow for intermediate HPA products for qualification with battery separator manufacturers.**
  - **CMX's 100%-owned HiPurA® HPA International Patent progressing on track**
  - **Pilot Plant equipment first deliveries to ChemX expected this month.**
- **High Purity Manganese (HPM)**
  - **Maiden Mineral Resource Estimate for Jamieson Tank Manganese Project on the Eyre Peninsula, South Australia to be finalised in consultation with CSA Global this month.**

ChemX Materials (**ASX:CMX**) (**ChemX** or **the Company**), an Australian based high purity critical materials business, is pleased to announce significant progress in both HPA and HPM business streams.

ChemX Materials has been advancing the development of its 100%-owned HiPurA® HPA Pilot Plant, to be located at its dedicated facility in O'Connor Perth, Western Australia to deliver the required volumes of HPA for product qualification with Battery Separator manufacturers and consumers of high purity aluminous products and synthetic sapphire producers. As a result of marketing activities and industry discussions, ChemX has identified markets for intermediate high purity aluminous products, which offer potential volume increases in addition to the markets for 4N and 5N HPA.

Chief Executive Officer Peter Lee commented:

"The Micro Plant has proven extremely effective in delivering the process data required to improve the design and optimise the operation of the Pilot Plant ahead of time. This has resulted in a significant reduction in capital costs and reagent requirements.

Importantly, the resized pilot plant will still meet expected customer demand in producing sufficient product to complete qualification with battery separator makers, synthetic sapphire growers and other burgeoning markets".

Following recent strategic investment in high precision analytical equipment and dedicated human resources for high purity analysis, the HPA Micro Plant has experienced increased operational performance, with these enhancements being fed directly into the HPA Pilot Plant flowsheet design.

The step-change in performance of the HPA Micro Plant has been a key highlight and success of the scaled development approach, which has provided added confidence and reduced the risk associated with scaling up high purity metallurgical processes, which is common under continuous operation for novel technologies.

HPA Update

As part of its process of continuous optimisation of the HPA Micro Plant, ChemX made adjustments throughout the time periods shown in Figures 1 and 2 below which delivered an increased stability of the system and resulted in reductions in total impurities in samples tested as shown in Figures 1 and 2 below.

In initial runs, the process experienced an anomalous spike in phosphorus impurities in June which was not present in later assays. The data obtained from the results below is currently being fed by ChemX into the design of its HPA Pilot Plant. ChemX's process selectively removes impurities from feedstock solution to target total impurities across elements of less than 100pm or 4N HPA.

Further information including full assay data is available in Appendix A and JORC Table 1 (Appended).

HPA Micro Plant Performance Following Process Enhancements

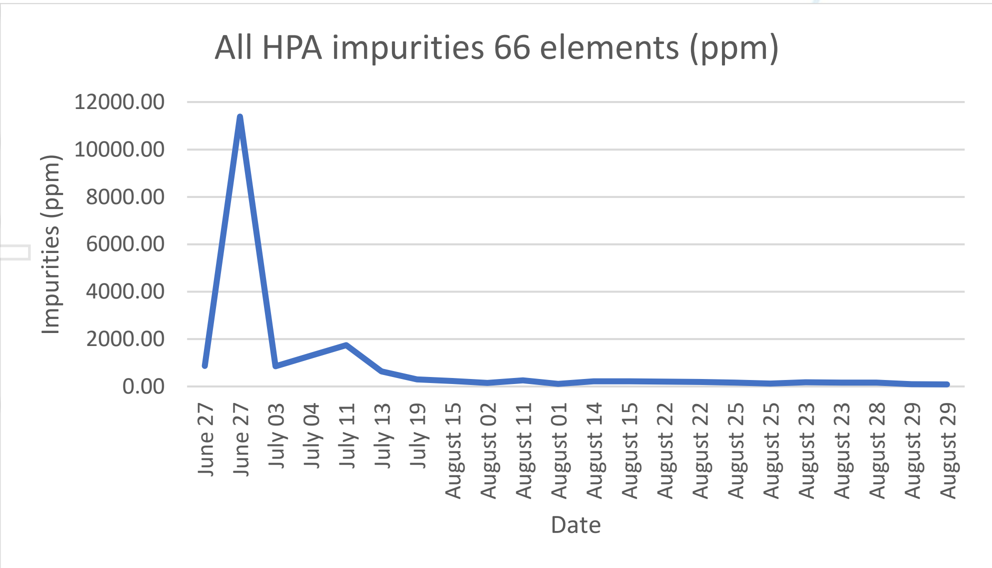

Figure 1. HPA Impurities Chart

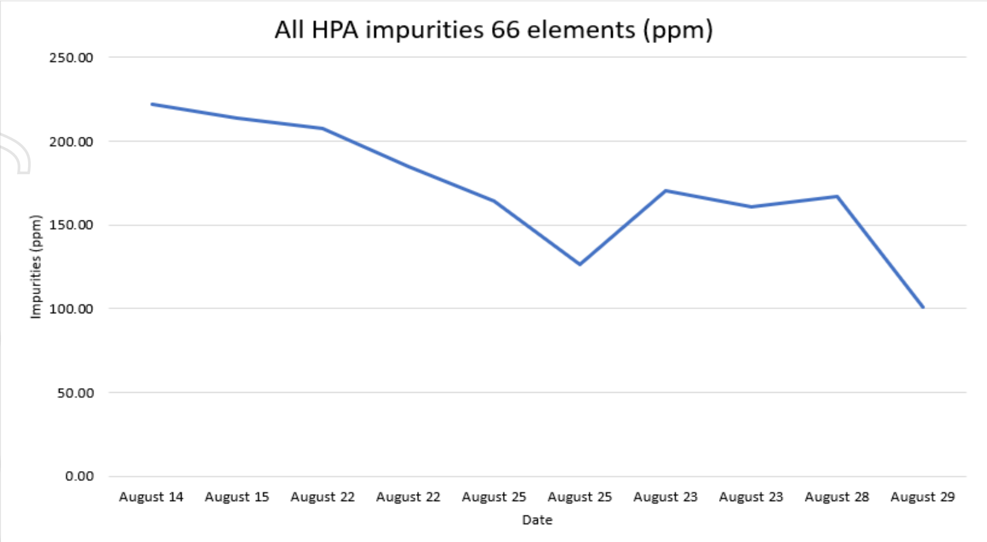

Figure 2. HPA Impurities Chart without June and July readings.

Notes:
1) Analysis conducted by LabWest Minerals Analysis Pty Ltd. (NATA accredited Laboratory)
2) Analysis Method – Microwave Digest, HF/Multiacid, 66 Elements including REE's by ICP-MS/OES.
3) Complete analysis provided in Appendix A with supporting JORC table 1.

CMX's 100%-owned HiPurA® process is a disruptive flowsheet which converts aluminous chemical feedstocks through selective refining to high purity alumina. Ultimately, CMX aims to achieve the delivery of 4N high grade and potentially 5N HPA products for the electric vehicle battery separator and synthetic sapphire markets, LEDs, semi-conductor and optical lenses.

Figure 3. HPA Micro Plant Production

In July 2022, the Company lodged an international patent application, with a recent preliminary international report indicating ChemX's claims complied with requirements for novelty, inventive step and industrial applicability. The patent approval process is ongoing. The progression of the HiPurA® patent is a significant step for the Company in the protection of its intellectual property and competitive advantage against incumbent operators who rely on non-novel, licenced, energy and reagent intensive technologies to produce high purity alumina.

As the HiPurA® HPA process is modular, scalable and independent of direct mine production, this will enable ChemX to locate key production facilities close to customers. Ongoing customer engagement has led to the identification of new intermediate products. The inclusion of these requisite flowsheet process enhancements and alternative product pathways will now add several weeks to the construction timeframe and result in a robust pilot plant design, negating the requirement to build additional plant(s) to produce alternative intermediate products for customer qualification.

With the success of the Micro Plant under continuous operation, it will be modified to take feedstock from the Pilot Plant to produce premium products such as 5N (99.999%) HPA, used for synthetic sapphire production.

HPM Update

The Company has been working with ERM Australia Consultants Pty Ltd, (trading as CSA Global) toward a maiden Mineral Resource estimate (MRe). This work is in its final stages and the Company expects to release the results this month.

ChemX's manganese deposit is strategically located on the Eyre Peninsula, South Australia, approximately 150km west of Whyalla, an important regional industrial and steel manufacturing town capable of supporting a skilled local workforce with excellent multi-commodity processing, having significant road, rail, port logistics infrastructure already in place.

The Company has been in discussions with relevant parties for local sourcing of chemical reagents required to produce battery grade Manganese Sulphate for the electric vehicle battery cathode market. The project's manganese mineralisation is near surface and has demonstrated the ore can be upgraded via beneficiation (ASX 11 May 2022), which can then be processed into High Purity Manganese Sulphate Monohydrate (HPMSM).

In early 2022, the Company secured a Non-Binding MoU with US based C4V, a leader in battery technology and is involved in some of the world's largest gigafactory developments to progress ChemX's High Purity Manganese Project and work towards HPM offtake following the qualification process.

ChemX is investigating using the Eyre Peninsula Manganese deposit as a feedstock for a high purity manganese sulphate production facility to be located in Whyalla, South Australia, which boasts an abundance of renewable energy in the region within a tier-one sovereign jurisdiction, offering potential customers superior ESG credentials.

The Company continues to advance its marketing efforts to enter early qualification with electric vehicle battery manufacturers and cathode chemical companies. The Company's pending initial manganese resource estimate, internal development and metallurgical studies to follow will be key milestones to advance discussions with entities seeking to secure Australian sourced manganese sulphate supply.

ENDS

This Announcement has been authorised for release by the Board.

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Alwyn Vorster	Non-Executive Director
Tara Berrie	Non-Executive Director (US Based)
Stephen Strubel	Executive Director & Company Secretary

Management

Peter Lee	Chief Executive Officer

Reporting confirmation

11 May 2022 ChemX Battery Materials Strategy Moves Forward

The Company confirms that it is not aware of any new information or data that materially affects the information included in the market announcement.

COMPETENT PERSON STATEMENT – Metallurgy

Mr Steven Hoban is a Principal Metallurgist with a Bachelor of Mineral Science degree and Member of the AusIMM institute with more than 25 years of experience. Steven's expertise lies across many fields in the minerals industry with a key role in the development, design and interpretation of laboratory testwork with significant recent experience in high purity applications such as silica, lithium and alumina. Mr Hoban has sufficient experience relevant to the type of processing and analysis under consideration and the activity undertaken to qualify as a Competent Person as defined by the AusIMM.

Mr Hoban deems these results as true and correct at the time of reporting and representative of the product produced from the HiPurA® process pilot plant by ChemX Materials.

Mr Hoban consents to the inclusion in this announcement of the matters based upon the information in the form and context in which it appears.

About ChemX Materials (ASX: CMX)

ChemX is an advanced materials company focused on providing high purity critical materials for the battery industry. The Company's vision is to become a leading supplier of sustainable and ethically sourced critical materials to support the global energy transition.

ChemX is applying its high purity expertise to advance its Manganese project located on the Eyre Peninsula in South Australia. Metallurgical test work has indicated the manganese ore is amendable to upgrade through beneficiation and being processed into a high purity manganese sulphate to supply the Lithium-ion battery industry.

Developed in-house, ChemX's HiPurA® Process is capable of producing high purity alumina (HPA) and high purity aluminium cathode precursor salts for lithium-ion batteries. Initial test work has indicated that the process is low cost and low in energy consumption, compared to alternative methods. A key competitive advantage is that the HiPurA® process modular, scalable and is not tied to direct mine production, instead utilising chemical feedstock.

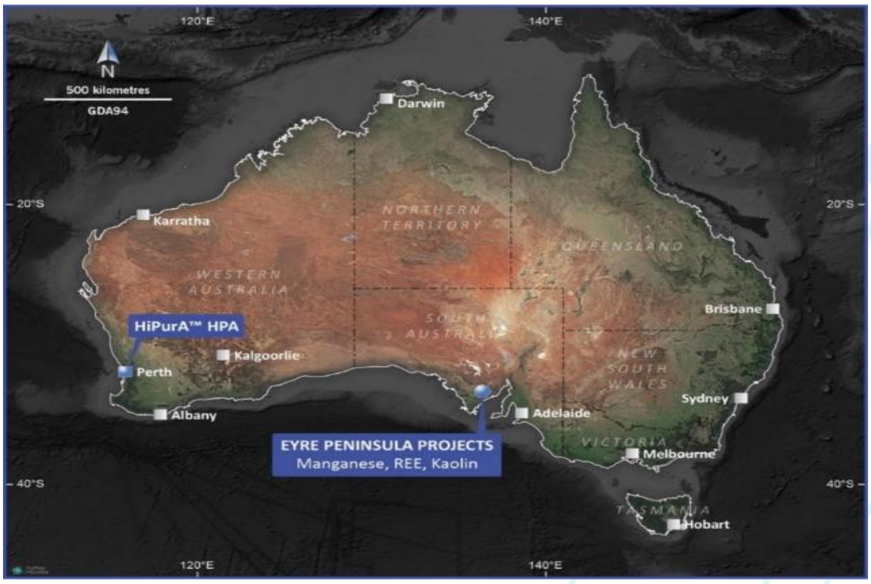

***Figure 2** – ChemX Project Locations*

JORC Code (2012 Edition) Table 1 – High Purity Alumina

Section 1: Sampling Techniques and Data

(Criteria in this section apply to all succeeding sections)

Criteria	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., "RC 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.*	Final HPA product (post calcination material) is obtained from several areas within the crucible volume to provide a representative composite sample mass of approximately 50 grams. Robust testwork with external laboratories (predominantly Intertek Perth and LabWest Perth) has resulted in sufficient confidence within the reported results. Predominant analytical methods included ICP-MS and Microwave Digest Methods (both NATA Accredited) to analyse 66 elements with sub parts per million (ppm) precision achieved. The Competent Person (CP) considers that the sample techniques adopted by ChemX are appropriate for the intended purpose and aforementioned analytical methods.
Drilling techniques	*Drill type (e.g., core, RC, 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.).*	Not Applicable. Samples were obtained from ChemX's Micro Plant employing a novel process, using an industrial sourced feedstock.

Criteria	JORC Code explanation	Commentary
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.*	Not Applicable.. Not Reporting exploration Results.
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 intersections logged.*	Not Applicable. Not Reporting exploration Results.
Subsampling 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 subsampling 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.*	Samples presented as a homogenised high purity crystalline alumina, obtained from precipitation, followed by filtration, drying and final calcination processes. The nature of the precipitation and filtration stages results in this homogenised product, which is split into four crucibles for removal of crystalline water via calcination. This material is then parcelled to 100 to 500g allotments for batch storage within ChemX's production sample archive. With the high level of precision within the analytical methods applied, there is no evidence the sample sizes are inadequate or inappropriate for subsampling using the techniques adopted. The CP does not consider there is any bias in the ChemX sampling process.
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.*	LabWest completed internal quality assurance/quality control (QAQC) assay procedures comprising appropriate reference samples and standards. No material issues were identified in the laboratory QAQC. LabWest is NATA accredited in accordance with ISO/IEC 17025, and obtained this certification 16/9/2011 (#17061). The CP considers that a reasonable level of confidence can be placed in the accuracy and precision of the assay data used in the preparation of the reported results.

Criteria	JORC Code explanation	Commentary
	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.	
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.*	ChemX uses third party 5N reference material to provide benchmark on selected assay submissions. The CP considers the verification of sampling and assaying appropriate for the high purity nature of HPA.
Location of data points	*Accuracy and quality of surveys used to locate drillholes (collar and downhole surveys), trenches, mine workings and other locations used in Mineral Resource estimation.* *Specification of the grid system used.* *Quality and adequacy of topographic control.*	Not applicable. Not Reporting exploration Results.
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.*	Not applicable. Not Reporting exploration Results.
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.*	Not applicable. Not Reporting exploration Results.
Sample security	*The measures taken to ensure sample security.*	Samples as captured from the calcination crucibles are kept within 100 to 500g allotments to provide batch verification capability as may be deemed warranted.

Criteria	JORC Code explanation	Commentary
		Submitted samples (nominally 50g) are held securely (and registered within Laboratory Information Management System (LIMS) upon arrival) by the responsible external laboratory to ensure ability to verify analysis as deemed necessary. Sample bottles are sampled and sealed immediately to prevent inadvertent contamination with incorrect sampling or foreign matter. The CP considers the sample security does not pose any risk for the reporting of these results.
Audits or reviews	*The results of any audits or reviews of sampling techniques and data.*	ChemX has conducted several visits to LabWest's facilities with no concerns being identified.

Section 2: Reporting of Exploration Results

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

Criteria	JORC Code explanation	Commentary
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.*	Not applicable. Not Reporting exploration Results.
Exploration done by other parties	*Acknowledgment and appraisal of exploration by other parties.*	Not applicable. *Not Reporting exploration Results.*
Geology	*Deposit type, geological setting and style of mineralisation.*	Not applicable. Not Reporting exploration Results.
Drillhole information	*A summary of all information material to the understanding of the exploration results including a tabulation of the following information for all Material drillholes:* • *Easting and northing of the drillhole collar* • *Elevation or RL (Reduced Level – Elevation above sea level in metres) of the drillhole collar* • *Dip and azimuth of the hole* • *Downhole length and interception depth* • *Hole length.*	Not applicable. Not Reporting exploration Results.

Criteria	JORC Code explanation	Commentary
	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.	
Data aggregation methods	*In reporting Exploration Results, weighting averaging techniques, maximum and/or minimum grade truncations (e.g., cutting of high grades) and cut-off grades are usually Material and should be stated.* *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.* *The assumptions used for any reporting of metal equivalent values should be clearly stated.*	Not applicable. Not Reporting exploration Results.
Relationship between mineralisation widths and intercept lengths	*These relationships are particularly important in the reporting of Exploration Results.* *If the geometry of the mineralisation with respect to the drillhole angle is known, its nature should be reported.* *If it is not known and only the down hole lengths are reported, there should be a clear statement to this effect (e.g., "downhole length, true width not known").*	Not applicable. Not Reporting exploration Results.
Diagrams	*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 drillhole collar locations and appropriate sectional views.*	Not applicable. Not Reporting exploration Results.
Balanced reporting	*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.*	Not applicable. Not Reporting exploration Results.

Criteria	JORC Code explanation	Commentary
Other substantive exploration data	*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.*	Not applicable. Not Reporting exploration Results.
Further work	*The nature and scale of planned further work (e.g., tests for lateral extensions or depth extensions or large-scale step-out drilling).* *Diagrams clearly highlighting the areas of possible extensions, including the main geological interpretations and future drilling areas, provided this information is not commercially sensitive.*	The Company is continuing optimisation activities within its Micro Plant with the objective to achieve higher purity HPA targets. The optimised Micro Plant learnings will be applied to the larger Pilot Plant, which is to be constructed within Q4 CY2023.

APPENDIX A

Sample	66 Element Total (ppm)	Ag	As	Au	B	Ba	Be	Bi	Ca	Cd	Ce	Co	Cr	Cs	Cu	Dy	Er	Eu	Fe	Ga	Gd	Ge	Hf	Hg	Ho	I	In	K	La	Li	Lu	Mg	Mn	Mo
M1S_022_5401_JUNE27	858.93	0.0505	0.0100	0.0005	28.5200	0.0296	0.0035	0.0087	10.2600	0.0025	0.0073	0.0028	0.0640	0.0014	0.5440	0.0011	0.0005	0.0005	12.8200	16.3200	0.0014	0.0030	0.0008	0.0039	0.0006	0.0590	0.0000	4.4080	0.0104	0.0390	0.0000	0.6210	0.3040	0.0045
M1S_023_5401_JUNE28	11386.03	0.0562	0.0390	0.0005	17.3800	0.0262	0.0042	0.0030	8.5630	0.0021	0.0056	0.0002	0.1360	0.0003	0.3180	0.0014	0.0018	0.0006	54.0500	63.7000	0.0025	0.0030	0.0035	0.0008	0.0005	0.0520	0.0005	10.8300	0.0070	0.3020	0.0001	0.8580	0.4540	0.0470
M1S0245401JULY3	858.64	0.0611	0.0140	0.0005	36.3500	0.0420	0.0021	0.0088	5.7460	0.0038	0.0053	0.0073	0.1670	0.0000	0.5860	0.0002	0.0003	0.0002	10.0600	11.0600	0.0006	0.0030	0.0001	0.0002	0.0001	0.0140	0.0001	0.7653	0.0073	0.0710	0.0000	2.0240	6.3420	0.0150
M1S0255401JULY4	1304.11	0.0211	0.0100	0.0005	31.6800	0.0311	0.0028	0.0039	13.3500	0.0023	0.0087	0.0126	0.0680	0.0001	0.5600	0.0003	0.0002	0.0004	13.5000	14.6600	0.0005	0.0010	0.0007	0.0011	0.0002	0.0100	0.0001	1.9670	0.0068	0.0970	0.0001	4.4950	1.0840	0.0185
M1S026A5401JULY11	1741.89	0.0213	0.0100	0.0005	37.7500	0.0264	0.0021	0.0038	46.6400	0.0032	0.0090	0.0070	0.1020	0.0002	0.4430	0.0010	0.0006	0.0002	25.8400	28.1500	0.0009	0.0010	0.0005	0.0002	0.0002	0.0110	0.0000	2.5730	0.0060	0.0420	0.0001	27.5000	0.9880	0.0070
M1S027R5401JULY13	634.58	0.0253	0.0100	0.0005	43.0500	0.0274	0.0021	0.0037	9.9920	0.0030	0.0045	0.0648	0.0680	0.0001	2.1200	0.0002	0.0003	0.0004	10.6100	6.0560	0.0003	0.0020	0.0004	0.0007	0.0001	0.0100	0.0003	2.1940	0.0040	0.0500	0.0001	3.1240	0.4630	0.0200
M1S028A5401JULY19	293.22	0.0459	0.0100	0.0005	24.1400	0.0251	0.0026	0.0017	17.5400	0.0014	0.0086	0.0133	0.0500	0.0002	0.7760	0.0003	0.0001	0.0003	5.1310	2.9040	0.0006	0.0030	0.0004	0.0008	0.0001	0.0100	0.0001	1.5040	0.0054	0.0320	0.0001	7.4720	0.2430	0.0092
M1S_028B_5401_AUG15	232.12	0.0200	0.0100	0.0005	23.3800	0.1011	0.0012	0.0058	14.3000	0.0001	0.0032	0.0398	0.3770	0.0000	1.1480	0.0002	0.0000	0.0000	12.0800	4.1090	0.0000	0.0010	0.0017	0.0053	0.0000	0.2020	0.0001	0.0521	0.0040	0.3740	0.0000	8.8680	0.4180	0.0384
M1S029A5401AUG2	148.39	0.0100	0.0100	0.0005	15.3400	0.1027	0.0089	0.0012	7.0860	0.0016	0.0052	0.0146	0.2330	0.0001	1.4830	0.0002	0.0000	0.0001	8.7240	2.3790	0.0000	0.0010	0.0007	0.0015	0.0001	0.0270	0.0001	2.1690	0.0042	0.0480	0.0001	2.9270	0.2410	0.0273
M1S_30A_5401_AU11	255.66	0.0208	0.0100	0.0005	38.9400	0.0568	0.0045	0.0024	7.1030	0.0013	0.0016	0.0226	0.1500	0.0000	0.9470	0.0003	0.0005	0.0000	23.3700	3.9170	0.0000	0.0010	0.0025	0.0032	0.0000	0.1740	0.0001	0.4253	0.0048	0.5010	0.0000	2.9370	0.4290	0.0522
M1S_30B_5401_AUG1	106.88	0.0080	0.0100	0.0005	33.4900	0.0148	0.0002	0.0035	6.0800	0.0023	0.0011	0.0255	0.4250	0.0000	0.9960	0.0003	0.0002	0.0000	8.1600	3.0510	0.0004	0.0020	0.0019	0.0021	0.0000	0.1450	0.0000	1.0250	0.0034	0.5860	0.0000	1.8860	0.3670	0.2583
M1S_30C_5401_AUG14	222.36	0.0031	0.0180	0.0005	40.8100	0.1004	0.0012	0.0037	21.2300	0.0021	0.0129	0.0189	0.2330	0.0000	0.9390	0.0004	0.0000	0.0001	8.6420	3.3160	0.0004	0.0030	0.0063	0.0021	0.0000	0.1860	0.0001	0.0001	0.0083	0.6460	0.0000	16.7000	0.6520	0.1126
M1S_30D_5401_AUG15	214.01	0.0241	0.0190	0.0005	39.9800	0.0183	0.0028	0.0023	17.4400	0.0008	0.0070	0.0385	0.1470	0.0001	1.4510	0.0002	0.0001	0.0002	13.8700	4.5730	0.0001	0.0030	0.0025	0.0030	0.0000	0.0900	0.0000	3.6990	0.0059	0.5390	0.0000	9.9890	0.6610	0.0374
M1S_31A_5401_AUG 22	207.83	0.0248	0.0100	0.0005	40.3500	0.0373	0.0011	0.0029	19.0200	0.0011	0.0062	0.0179	0.1430	0.0001	1.3130	0.0007	0.0002	0.0003	8.1170	3.1260	0.0000	0.0030	0.0057	0.0008	0.0001	0.1400	0.0000	2.0540	0.0054	0.7120	0.0000	9.5590	0.3960	0.0317
M1S_31B_5401_AUG 22	184.77	0.0237	0.0100	0.0005	40.2300	0.1349	0.0013	0.0018	14.3000	0.0013	0.0083	0.0261	0.1060	0.0003	1.0820	0.0008	0.0003	0.0001	5.7110	4.0930	0.0005	0.0010	0.0015	0.0048	0.0000	0.1130	0.0000	0.8374	0.0056	0.4680	0.0000	8.7540	0.5180	0.0350
M15_32A_5401_AUG 25	164.33	0.0073	0.0100	0.0005	30.0500	0.0534	0.0037	0.0022	13.5600	0.0009	0.0076	0.0421	0.3000	0.0001	1.5730	0.0031	0.0003	0.0004	16.1600	4.8110	0.0011	0.0030	0.0012	0.0006	0.0006	0.0430	0.0000	2.5560	0.0078	0.5060	0.0000	4.9340	0.9420	0.0750
M15_32B_5401_AUG25	126.17	0.0150	0.0100	0.0005	33.4000	0.0243	0.0001	0.0017	14.1200	0.0024	0.0080	0.0288	0.1450	0.0000	1.5660	0.0044	0.0014	0.0003	12.2600	5.8590	0.0007	0.0010	0.0004	0.0022	0.0009	0.0270	0.0000	1.4110	0.0083	0.3290	0.0000	6.6230	1.3800	0.0300
M1S_33A_5401_AUG 23	170.69	0.0041	0.0100	0.0005	47.8000	0.0357	0.0036	0.0029	7.3310	0.0017	0.0025	0.0147	0.0520	0.0000	1.1590	0.0013	0.0003	0.0002	6.2120	4.5140	0.0008	0.0040	0.0038	0.0022	0.0003	0.0980	0.0000	1.1330	0.0058	0.5050	0.0000	1.3610	0.2420	0.0535
M1S_33B_5401_AUG 23	160.64	0.0101	0.0100	0.0005	48.9900	0.0267	0.0015	0.0022	5.7570	0.0030	0.0044	0.0210	0.0600	0.0001	1.2100	0.0017	0.0008	0.0002	6.5620	5.1340	0.0004	0.0020	0.0059	0.0015	0.0004	0.0980	0.0002	1.0670	0.0065	0.4430	0.0000	1.8410	0.6100	0.0573
M1S_34A_5401_AUG28	166.90	0.0026	0.0320	0.0005	41.4000	0.0595	0.0156	0.0041	3.2910	0.0021	0.0351	0.0375	0.1890	0.0007	1.3480	0.0013	0.0005	0.0007	20.7900	1.3000	0.0014	0.0020	0.1040	0.0026	0.0001	0.0520	0.0005	4.7810	0.0219	0.2880	0.0000	0.8960	0.7210	0.1651
M1S_36A_5401_AUG29	101.30	0.0035	0.0100	0.0008	13.1500	0.0326	0.0045	0.0022	12.3200	0.0023	0.0063	0.0097	0.1360	0.0003	0.5010	0.0008	0.0003	0.0003	2.4750	1.7710	0.0007	0.0020	0.0039	0.0035	0.0001	0.0660	0.0000	3.7800	0.0052	0.3430	0.0000	8.3510	0.1180	0.0396

Sample	66 Element Total (ppm)	Na	Nb	Nd	Ni	P	Pb	Pd	Pr	Pt	Rb	Re	S	Sb	Sc	Se	Si	Sm	Sn	Sr	Ta	Tb	Te	Th	Ti	Tl	Tm	U	V	W	Y	Yb	Zn	Zr
M1S_022_5401_JUNE27	858.93	4.3970	0.0001	0.0054	0.1760	699.5000	0.0766	0.0012	0.0007	0.0010	0.0040	0.0007	17.6000	0.0028	0.0010	0.0200	18.2000	0.0007	0.3266	0.0128	0.0008	0.0002	0.0001	0.0097	1.0860	0.0008	0.0001	0.0025	0.7600	0.0100	0.0096	0.0008	42.6100	0.0074
M1S_023_5401_JUNE28	11386.03	11.9700	0.0028	0.0064	0.3250	10990.0000	0.0614	0.0009	0.0011	0.0010	0.0045	0.0002	183.1000	0.0103	0.0010	0.0200	9.2280	0.0007	0.6915	0.0149	0.0023	0.0003	0.0001	0.0098	1.9990	0.0007	0.0002	0.0110	0.4480	0.0100	0.0050	0.0004	31.1900	0.0671
M1S0245401JULY3	858.64	5.0190	0.0014	0.0031	1.4840	633.3000	0.0840	0.0005	0.0006	0.0010	0.0029	0.0003	63.1100	0.0288	0.0010	0.0310	52.0000	0.0015	0.3990	0.0123	0.0043	0.0001	0.0014	0.0127	0.2337	0.0032	0.0001	0.0121	0.3880	0.0100	0.0035	0.0005	29.1300	0.0058
M1S0255401JULY4	1304.11	6.2130	0.0016	0.0049	15.6400	1090.0000	0.0523	0.0005	0.0012	0.0010	0.0050	0.0002	67.2300	0.0162	0.0010	0.0200	27.3600	0.0015	0.3476	0.0205	0.0042	0.0001	0.0031	0.0124	0.2140	0.0020	0.0001	0.0156	0.4510	0.0100	0.0046	0.0001	14.8700	0.0077
M1S026A5401JULY11	1741.89	6.2900	0.0013	0.0048	11.6300	1428.0000	0.0460	0.0005	0.0009	0.0010	0.0057	0.0003	79.6600	0.0108	0.0020	0.0200	32.5100	0.0010	0.4709	0.0405	0.0048	0.0002	0.0021	0.0211	0.3800	0.0014	0.0000	0.0068	0.4300	0.0100	0.0069	0.0003	12.1800	0.0088
M1S027R5401JULY13	634.58	17.1000	0.0003	0.0011	50.0900	433.4000	0.2101	0.0005	0.0005	0.0010	0.0040	0.0001	22.7200	0.0045	0.0010	0.0200	19.1200	0.0004	0.3565	0.0127	0.0026	0.0001	0.0005	0.0133	0.4293	0.0011	0.0000	0.0095	0.6610	0.0100	0.0035	0.0002	12.4900	0.0104
M1S028A5401JULY19	293.22	1.7890	0.0003	0.0046	8.2210	158.6000	0.0687	0.0005	0.0013	0.0010	0.0060	0.0001	38.7900	0.0043	0.0010	0.0200	19.1100	0.0007	0.4907	0.0170	0.0018	0.0001	0.0004	0.0049	0.1887	0.0005	0.0000	0.0095	0.3010	0.0100	0.0020	0.0001	5.6360	0.0070
M1S_028B_5401_AUG15	232.12	2.8160	0.0399	0.0033	8.1600	105.0000	0.1517	0.0005	0.0006	0.0010	0.0044	0.0004	32.5600	0.0134	0.0020	0.0200	9.8660	0.0009	0.6002	0.0130	0.0230	0.0001	0.0019	0.0045	0.2703	0.0125	0.0000	0.0159	0.6020	0.0430	0.0029	0.0004	6.3390	0.0110
M1S029A5401AUG2	148.39	3.9900	0.0003	0.0023	6.8260	47.3900	0.0943	0.0005	0.0007	0.0010	0.0022	0.0001	23.5200	0.0056	0.0010	0.0200	21.1800	0.0009	0.3021	0.0220	0.0014	0.0001	0.0027	0.0037	0.0764	0.0028	0.0000	0.0203	0.3740	0.0100	0.0022	0.0001	3.6920	0.0030
M1S_30A_5401_AU11	255.66	4.7830	0.0275	0.0004	4.5390	121.0000	0.1574	0.0005	0.0003	0.0010	0.0101	0.0004	31.0000	0.0067	0.0010	0.0200	10.8400	0.0005	0.5206	0.0211	0.0219	0.0000	0.0030	0.0049	0.1233	0.0056	0.0001	0.0146	0.8290	0.0330	0.0025	0.0004	2.6020	0.0074
M1S_30B_5401_AUG1	106.88	0.2010	0.0189	0.0011	5.0050	20.4500	0.1201	0.0005	0.0002	0.0010	0.0065	0.0009	12.1900	0.0139	0.0010	0.0200	8.3760	0.0002	0.4121	0.0126	0.0120	0.0001	0.0012	0.0038	0.1285	0.0029	0.0001	0.0101	1.1440	0.0320	0.0020	0.0001	2.1590	0.0035
M1S_30C_5401_AUG14	222.36	4.5240	0.0276	0.0079	4.6410	33.7700	0.1888	0.0005	0.0017	0.0010	0.0060	0.0010	69.5400	0.0123	0.0010	0.0200	11.8500	0.0007	0.4670	0.0164	0.0238	0.0001	0.0012	0.0064	0.1430	0.0034	0.0000	0.0158	0.9990	0.0340	0.0015	0.0001	2.3950	0.0092
M1S_30D_5401_AUG15	214.01	5.1430	0.0209	0.0052	6.8080	48.9200	0.1236	0.0005	0.0013	0.0010	0.0084	0.0003	41.2400	0.0071	0.0010	0.0200	13.7400	0.0007	0.6402	0.0140	0.0162	0.0001	0.0021	0.0056	0.1674	0.0022	0.0001	0.0130	1.4960	0.0260	0.0052	0.0003	2.9640	0.0070
M1S_31A_5401_AUG 22	207.83	4.1160	0.0318	0.0042	2.7100	71.9000	0.1095	0.0008	0.0011	0.0010	0.0111	0.0009	19.8100	0.0084	0.0010	0.0200	19.4500	0.0014	0.7413	0.0190	0.0324	0.0001	0.0039	0.0058	0.1630	0.0026	0.0001	0.0071	1.5850	0.0270	0.0075	0.0001	1.9670	0.0110
M1S_31B_5401_AUG 22	184.77	0.6460	0.0136	0.0042	2.6800	64.6400	0.0994	0.0005	0.0010	0.0010	0.0058	0.0004	24.4600	0.0021	0.0010	0.0200	11.2000	0.0006	0.9367	0.0118	0.0133	0.0001	0.0021	0.0051	0.2063	0.0024	0.0000	0.0058	1.3320	0.0230	0.0084	0.0001	1.9730	0.0074
M15_32A_5401_AUG 25	164.33	0.4650	0.0105	0.0037	3.7180	43.6300	0.1269	0.0005	0.0012	0.0010	0.0065	0.0005	25.7000	0.0306	0.0010	0.0200	9.9880	0.0012	0.8833	0.0173	0.0122	0.0003	0.0008	0.0102	0.1682	0.0018	0.0002	0.0128	1.5700	0.0240	0.0218	0.0003	2.2340	0.0075
M15_32B_5401_AUG25	126.17	0.1000	0.0053	0.0042	3.1130	25.3200	0.1052	0.0005	0.0011	0.0010	0.0061	0.0006	9.4930	0.0001	0.0010	0.0200	5.6310	0.0012	1.0440	0.0160	0.0042	0.0004	0.0013	0.0101	0.2025	0.0010	0.0001	0.0066	1.4540	0.0150	0.0243	0.0005	2.3170	0.0071
M1S_33A_5401_AUG 23	170.69	2.5810	0.0192	0.0020	1.2750	31.6600	0.1258	0.0005	0.0004	0.0010	0.0052	0.0006	43.3000	0.0074	0.0010	0.0200	17.5800	0.0008	0.1453	0.0213	0.0188	0.0004	0.0001	0.0045	0.1518	0.0015	0.0001	0.0157	1.6290	0.0270	0.0129	0.0001	1.4730	0.0535
M1S_33B_5401_AUG 23	160.64	1.5590	0.0209	0.0014	1.4580	31.0800	0.1339	0.0005	0.0006	0.0010	0.0029	0.0010	29.5400	0.0054	0.0010	0.0200	21.3500	0.0008	0.1881	0.0191	0.0185	0.0003	0.0001	0.0057	0.1982	0.0017	0.0001	0.0134	1.5260	0.0210	0.0137	0.0004	1.4560	0.0743
M1S_34A_5401_AUG28	166.90	9.9540	0.0211	0.0182	1.1850	21.1200	0.2718	0.0005	0.0042	0.0010	0.0085	0.0006	26.0500	0.0349	0.0040	0.0200	21.5800	0.0027	0.2421	0.0106	0.0140	0.0002	0.0037	0.0090	5.6480	0.0070	0.0001	0.1114	1.1530	0.0380	0.0067	0.0007	2.1220	1.7140
M1S_36A_5401_AUG29	101.30	13.5100	0.0101	0.0032	0.6380	8.7020	0.1450	0.0005	0.0006	0.0010	0.0072	0.0006	25.8800	0.0171	0.0010	0.0200	6.5500	0.0008	0.1531	0.0343	0.0073	0.0002	0.0013	0.0033	0.0949	0.0036	0.0001	0.0098	0.9590	0.0260	0.0065	0.0004	1.3110	0.0662