CHEMX MATERIALS

ASX ANNOUNCEMENT

5 September 2022

ChemX Drill Results Confirm Significant REE Prospect

ChemX Materials (**ASX:CMX**) (**ChemX** or the **Company**), a materials technology company focused on providing critical materials required for electrification and decarbonisation, is pleased to announce the Rare Earth Elements (REE) results from the 2022 aircore drilling campaign at its Kimba Kaolin-REE project on the Eyre Peninsula in South Australia.

Highlights

- **Final assays from kaolin-REE targets at the Company's Eyre Peninsula tenements further confirm the potential of ionically adsorbed rare earth elements (REE)**
- **Widespread REE across the tenements delivering high grades of Total Rare Earth Oxides (TREO) plus Yttrium (Y), with the best individual hole results from the screened, sub 45-micron fraction being:**

Hole Id	Depth From	Depth To	Int	TREO	High Value (Magnet) Rare Earths								
					Neodymium Nd_2O_3		Praseodymium Pr_6O_{11}		Dysprosium Dy_2O_3		Terbium Tb_4O_7		MREO
#	m	m	m	ppm	ppm	%TREO	ppm	%TREO	ppm	%TREO	ppm	%TREO	%TREO
MK_77	16	26	10	1190	209.4	17.8%	59.8	5.0%	14.6	1.3%	3.2	0.3%	24.5%
MK_75	19	30	11	842	126.1	14.9%	40.0	4.7%	3.7	0.4%	1.2	0.1%	20.2%
KT_13	31	36	5	1502	205.3	13.7%	65.2	4.3%	14.9	1.0%	2.9	0.2%	19.2%
	1	41	40	896	142.2	16.1%	43.8	5.0%	9.8	1.1%	2.1	0.2%	22.3%
KT_21	33	39	6	2228	302.1	13.6%	84.6	3.8%	39.0	1.8%	7.6	0.3%	19.4%
KT_7	7	12	5	2468	449.1	18.2%	141.4	5.7%	32.1	1.3%	6.5	0.3%	25.5%
KT_5	16	32	16	1123	187.4	16.8%	57.6	5.2%	10.7	0.9%	2.4	0.2%	23.1%
SP_53	29	31	2	2140	284.6	13.3%	80.9	3.8%	5.2	0.2%	1.8	0.1%	17.4%
SP_53A	10	14	4	1773	247.3	13.9%	65.2	3.7%	11.5	0.6%	2.9	0.2%	18.4%
SP_53B	2	6	4	1729	472.4	27.3%	138.9	8.0%	17.8	1.0%	5.3	0.3%	36.7%
	33	38	5	2169	433.9	20.0%	147.4	6.8%	17.8	0.8%	4.1	0.2%	27.8%
SP_53G	1	6	5	1468	212.3	14.5%	66.4	4.5%	26.4	1.8%	4.7	0.3%	21.1%
SP_55	26	31	5	2270	509.7	22.5%	140.1	6.2%	10.3	0.5%	2.9	0.1%	29.2%
JC_96	1	6	5	1187	172.6	14.5%	58.0	4.9%	13.8	1.2%	2.9	0.2%	20.8%

Table 1 – Significant intercepts

The significant intercepts are from a total of 363 sub 45-micron TREO assay results across 80 drill holes. The concentration of TREO in parts per million (ppm) ranged from 19ppm (low) to 2468ppm (maximum) with the average and median as 505ppm and 404ppm, respectively. All collar location details are provided in Figure 3 with full collar details shown in Appendix 2. All results of sub 45-micron TREO greater than 500ppm is included as Appendix 3.

ChemX Managing Director, David Leavy, commented:

"These assay results confirm a significant body of clay hosted REE within ChemX's tenements and will assist to rapidly advance our tenement geological modelling program. As an integral part of the REE study program, the Australian Nuclear Science Organisation (ANSTO) is undertaking a testwork program to determine the optimum conditions for liberating the REE from the clay host materials.

These REE results, together with several other regional discoveries are very positive for future development options."

Figure 1 – White Kaolin sample within ChemX's tenements

A regional location plan is included as Figure 2 below.

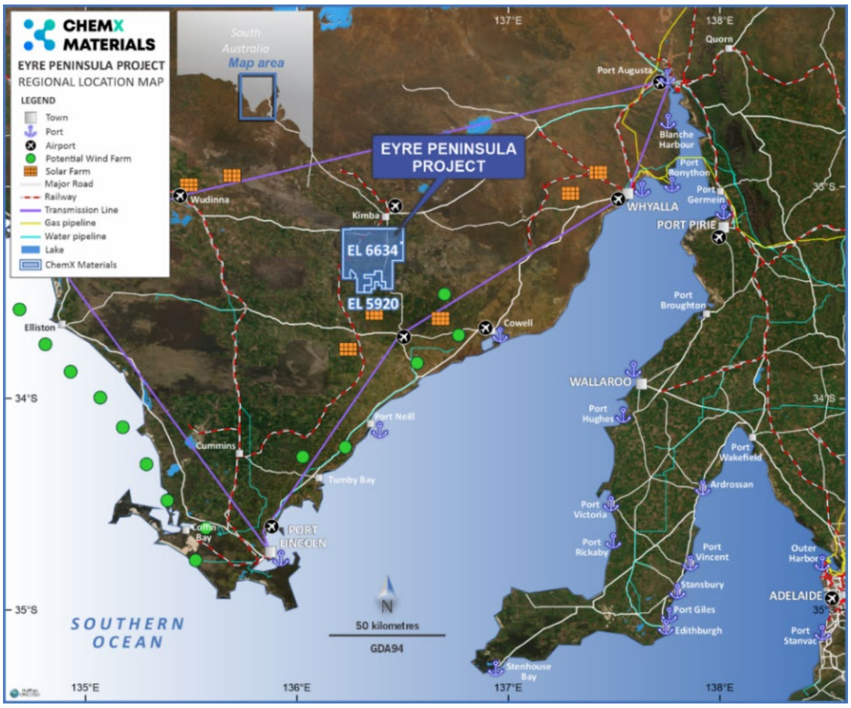

Figure 2 – Regional Location Plan – infrastructure rich with key assets shown

A tenement and drill hole location plan illustrating where individual intervals were sampled for analysis is shown below in Figure 3.

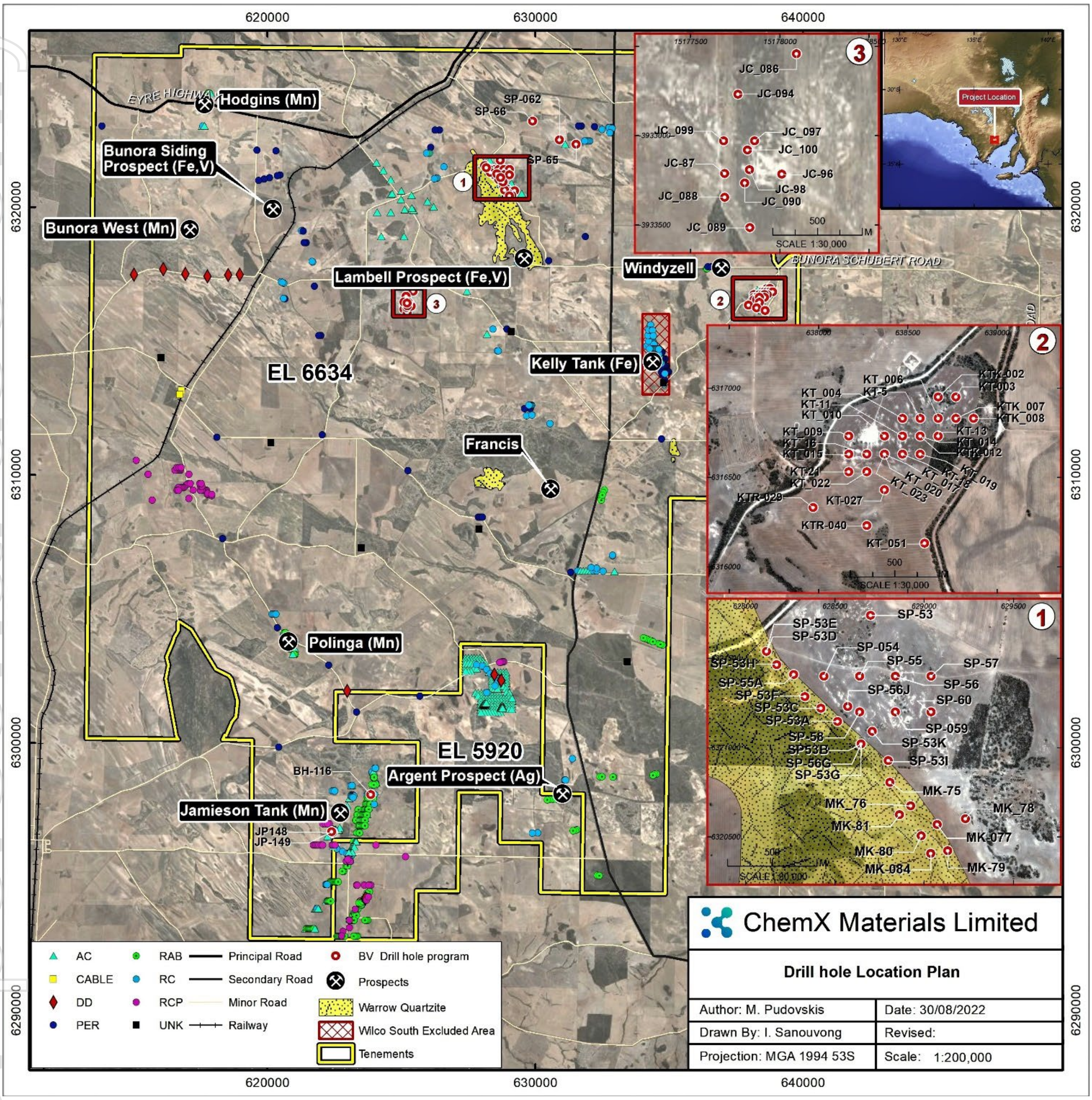

Figure 3 – Project Drill Program and Hole Location Plan

REE Results

Samples collected from the Kelly Tank, Bunora East and Bunora South prospects, comprised predominantly kaolin clay associated with silica as quartz sand, and mica with variable quantities of iron oxides, were screened at sub 45 micron and assayed.

The results demonstrate the strong potential of the Company's Eyre Peninsula tenements for ionically adsorbed REE. All results of sub 45-micron TREO greater than 500 ppm is included as Appendix 3.

Further results interpretation is in progress and will inform future exploration activities.

The relevance of REE being associated with kaolin clay is that; they are loosely bonded to the surface of the clay particles and can be readily displaced by simple low-cost chemical solutions which can be further processed to recover the individual rare earth oxides. ChemX has engaged ANSTO to conduct diagnostic testwork for determination of potential REE extractability, with the results of this programme expected late 2022. Once received, this report will inform ChemX on feasible flowsheet optionality and serve as a key input to future downstream processing studies.

Kaolin potential

The Kimba Kaolin-REE project is also specifically targeting high quality kaolin clays and the kaolinite polymorph, halloysite, that has been identified at both Kelly Tank and Bunora prospects. The presence of REE associated with the clays, if proven to be economically viable to extract, adds another level to the prospectivity of the Kimba Kaolin-REE project that will be consistently investigated within the framework of the developing project.

The assay results for kaolin are currently being collated and analysed, the results will be advised as soon as practical.

Additionally noteworthy, is ChemX's unique position with key projects situated within near proximity of established major infrastructure (road, rail and port) routes, each of which have the potential to significantly enhance the economics of any project development.

This Announcement has been authorised for release by the Board.

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About ChemX Materials (ASX: CMX)

ChemX is a materials technology company focused on providing critical materials required for electrification and decarbonisation. The Company's vision is to support the energy transition with materials and technology that provide real solutions to lowering carbon emissions.

Developed in-house, ChemX's HiPurA™ Process is a unique technology that is capable of producing high purity alumina (HPA) and high purity aluminium cathode precursor salts for lithium-ion batteries. Initial testwork has indicated that the process is low cost and low in energy consumption, compared to alternative technologies. A key competitive advantage is that the HiPurA™ process is not tied to mine production, with the feedstock being a widely available chemical.

The Company has projects in South Australia and Western Australia.

The South Australian Eyre Peninsula projects include the Kimba Kaolin-REE Project and the Jamieson Tank Manganese Project. The ChemX HiPurA™ Project is located in Western Australia.

COMPETENT PERSON STATEMENT - EXPLORATION RESULTS

The information in this report that relates to Exploration Results is based on information compiled by Mr Mark Pudovskis. Mr Pudovskis is a full-time employee of CSA Global Pty Ltd and is a Member of the Australasian Institute of Mining and Metallurgy. Mr Pudovskis has sufficient experience relevant to the style of mineralisation and type of deposit under consideration and to the activity which he is undertaking to qualify as Competent Person as defined in the 2012 edition of the Australasian Code for the Reporting of Exploration Results, Mineral Resources, and Ore Reserves (JORC Code). Mr Pudovskis consents to the disclosure of the information in this report in the form and context in which it appears.

GLOSSARY

REE = Rare Earth Elements

TREO = Total Rare Earth Element Oxide ($Y_2O_3+La_2O_3+CeO_2+Pr_6O_{11}+Nd_2O_3+Sm_2O_3+Eu_2O_3+Gd_2O_3+Tb_4O_7+Dy_2O_3+Ho_2O_3+Er_2O_3+Tm_2O_3+Yb_2O_3+Lu_2O_3$)

MREO = Magnetic Rare Earth Element Oxide ($Nd_2O_3 + Pr_6O_{11} + Tb_4O_7 + Dy_2O_3$)

%NdPr = Percentage of Neodymium and praseodymium as proportion or TREO

-45µm fraction = the undersize from screening across a 45 micron (325 mesh) sieve

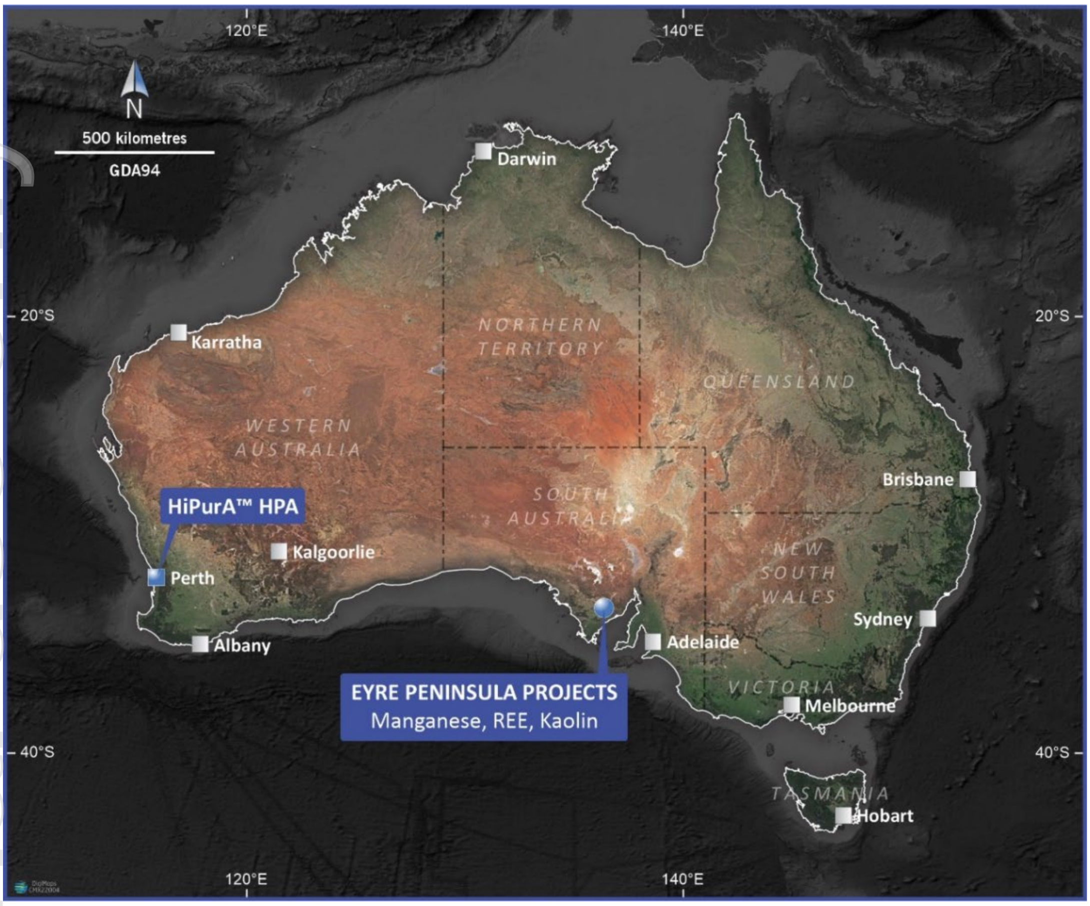

Figure 4 - ChemX Project Locations

www.chemxmaterials.com.au

[LinkedIn]

Directors

Kristie Young	**Non-Executive Chair**
David Leavy	**Managing Director**
Stephen Strubel	**Executive Director**
Warrick Hazeldine	**Non-Executive Director**

Appendix 1 – JORC Table 1

Criteria	JORC Code explanation	ChemX Materials Ltd. Commentary
Sampling techniques	• *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.* • *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 (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.*	• The results presented are in reference to the company's drilling, sampling, and initial assaying of kaolin rich clays in the Kimba Project area, South Australia. The data presented relates to the quality of the clay sections analysed and the associated presence of Rare Earth Elements (REE) that are potentially ionically adsorbed elements and accordingly may represent an IAC-REE deposit. • Drill holes within the kaolin rich clays were sampled at 1 metre intervals from surface to the end-of-hole (EOH) via a sampling collar fitted at the foot of the mast and thence via a delivery hose to a cyclone fitted with a large plastic bag attached to the base of the cone. • 100% of the sample delivered to the cyclone was collected with sub-sample taken from the bag, with a concave trowel, that were placed on a black plastic sheet, in rows of 6 metre intervals. A headboard recording date, hole ID and depth of hole from surface to EOH was placed at the top of the display prior to photographing the array. After photographing the material was returned to the hole. • The Competent Person (CP) considers that the sampling techniques and the recording of the display were appropriate for the style of mineralization and the visual record.
Drilling techniques	• *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).*	• The drilling was undertaken using a 6x6 Landcruiser mounted rig running a NQ Aircore system and powered by a 200 psi, 400 cfm compressor. The rig has dual purpose capability and is owned and operated by McLeod Drilling. • The kaolin prospects were drilled with vertical uncased Aircore holes. In all cases the technique was considered by the C.P. to be appropriate for penetrating and sampling the weathered strata of interest.

Criteria	JORC Code explanation	ChemX Materials Ltd. 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.*	• Sample recoveries were not generally recorded. However, if wet or damp zones were encountered, and recoveries were visibly affected, the drilling would stop, and the cyclone and hose heads would be cleaned before drilling would continue. Where the moisture was persistent, and affected the sampling, the hole was abandoned. Between holes the cyclone was checked and cleaned as required. • It is believed that under normal ground conditions, limiting the down-hole intervals to 1 metre provided a satisfactory sample with no apparent down-hole sampling bias. • Where exceptionally poor ground conditions were encountered, mainly due to moisture down hole and blocking of the cyclone, or conditions that resulted in caving of the hole, the hole was abandoned and not sampled. • Representative material from all satisfactorily drilled and sampled holes and intervals have been retained either in bulk, as recovered from the cyclone, or as a reference sub-sample, where the interval had no apparent interest, based upon geological or resource related criteria.
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.*	• Intervals were logged, as drilled, based upon the sub-samples laid-out in rows on the black plastic sheet. • All logged intervals were sampled from the photo display with representative material stored in chip trays with a record of Hole ID and interval from surface recorded on the tray. For example, interval 5 represents the section from 4 to 5 metres. • Kaolin intervals, at one metre intervals, were assessed and logged based on their qualitative and quantitative characteristics referencing, colour, clay content , grittiness, and inclusive minerals, where present. • Non-kaolin intervals, generally sands or transported sediments at or near surface, or psammitic intervals in a clay rich unit were logged based upon mineralogy, colour and physical characteristics. Occasionally foreign minerals, notably flakes of graphite or iron-rich nodules were also noted and recorded.

Criteria	JORC Code explanation	ChemX Materials Ltd. Commentary
		• Within the total length of the hole, as recorded on the field logging sheet, clay intervals for later sampling and analysis were recorded.
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.*	• Reconnaissance (sighter) samples for both clay and REE assaying were taken in the field from the individual interval after roughly blended the material in the bag, using a concave, pointed trowel forced into the bulk field sample bag. These sighter samples, comprising various intervals, were composited in plastic bags marked with a hole number and interval to which a unique sample number was latter assigned. • At the Bag Farm, assay samples were obtained as pre-recorded on the field logs and/or latter determined from the field logs. Sub-samples were up to a maximum of 6 metre intervals on occasions, but commonly 5 metre intervals or less based upon the perceived mineralogy of the interval, the grittiness (suggestive of the probable kaolin yield), the colour of the individual intervals (reflecting the probable iron oxide content), and occasionally graphite content of the interval. • Sub-samples were obtained using either a concave pointed trowel or a poly-pipe spear of 50mm diameter thrust into the individual sample bags after blending of the bag contents. The sub-sample was subsequently transferred to polythene sample bag annotated with the sample number and the from-to metres. • Given the styles of drilling used, and the resultant range of fineness within the cyclone capture, there is no evidence that the sub-sampling techniques were inadequate or inappropriate for composited the intervals. • All samples were submitted to Bureau Veritas for weighing, drying and re-weighing to determine moisture content upon receipt. Following, a head assay sample was obtained by Riffle splitting out a 10 gram sample and an approximate 250 gram sample for dry screening at 45-micron and determination of the mass recovery of each fraction. Each fraction was subsequently retained with the head sample and a 10 gram sub-sample of the -45-micron fraction was sent for whole rock (silicate) assay +Sc and V by ICP-OES (13 elements) and 32 elements by ICP-MS including 14 REE.

Criteria	JORC Code explanation	ChemX Materials Ltd. Commentary
		• Two randomly selected samples were Head assayed and subsequently screened at 45-micron both wet, using Adelaide tap water, and dry screened. Samples were dried, fused with Lithium Borate with the standard 4 acid digestion and assayed for 45 elements by ICP-OES and ICP-MS techniques. The assay suite was the same as the that assayed throughout the program, including rare earths, as identifies in the section hereunder. • The results indicated that there was no significant difference in assay results between samples obtained by wet screening compared to dry screening, and that the occasional variability in results for some elements were unrelated to the method of preparation. • The competent person does not consider there has been any bias in the sampling or the analytical processes.
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 (eg standards, blanks, duplicates, external laboratory checks) and whether acceptable levels of accuracy (ie lack of bias) and precision have been established.*	• Results from an initial batch of samples submitted to Bureau Veritas (BV) in Adelaide are those referenced within a previous release by the company. These being the reconnaissance or sighter sample assays. • The details reported herein relate exclusively to the most recent and more extensive suite of assays, relating to both the clay intervals and their associated REE components. • All assays relate to unprocessed material as drilled, recovered and sub-sampled in conformance with the criteria above. • All samples were assayed by ICP-OES for a standard suite of silicate elements plus Sc and V, and % loss on ignition (LOI) determined by TGA. 14 Rare Earth Elements (REE) and 18 additional elements were assayed by ICP-MS • Sample preparation consisted of a Lithium Borate fusion with an acid finish consisting of perchloric, hydrochloric, nitric and hydrofluoric acids. • Elements and oxides determined by ICP-OES were reported as percentages, with their detection limits (%), for Al_2O_3 (0.01), CaO (0.01), Fe (0.01), K_2O (0.01), MgO (0.01), Mn (0.005), Na_2O_3 (0.01), P (0.005), SiO_2

Criteria	JORC Code explanation	ChemX Materials Ltd. Commentary
		(0.01), TiO_2 (0.005), with (reported in ppm) Cr_2O_3 (30), Sc (5) and V (20). • Elements determined by ICP-MS were reported in ppm. Elements and detection limits (ppm) were Ba (10), Co (10), Cs (1), Ga (1), Hf (1), In (0.5), Mo (2), Nb (5), Rb (0.5), Re (0.1), Sb (1), Sr (5), Ta (2), Th (0.5), U (0.5), W (3),Y (1) and Zr (10). The REE suite included La (1), Ce (0.5), Pr (1), Nd (0.5), Sm (0.5), Eu (0.5), Gd (1), Tb (0.5), Dy (0.5), Ho (1), Er (1), Tm (1), Yb (1) and Lu (0.5).
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.*	• Verification of sampling and assaying has not generally been undertaken on the batch of assays being reported. However, the laboratory introduced the appropriate levels of repeats and OREAS standards and Blanks to ensure analytical precision and limits of detection were maintained. • At this stage the company has no basis for twinning holes. • Primary data is stored securely by the company. • Independent reviews, visual presentations, interrogation, and integration of primary data is undertaken outside of the primary data bank with supplementary uploads as required.
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.*	• Drill hole sites were pre-pegged using a Garmin hand-held GPSMAP 62s based upon the MGA94 Zone 53 grid. Accuracy (+/-5m) is considered by the CP to be acceptable for the reporting of Exploration Results. • Topographic survey control at this preliminary drilling stage was not undertaken.
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.*	• Kelly Tank was drilled on a 100x100 grid to determine the lateral extent of the mineralization. Limited silicate analyses from a 2020 drilling program consisting of 7 holes was available together with some historic analyses from the 1970's and early 1990's to establish the location of the grid. The assay data remains to be processed to identify a possible exploration target. • Of the remaining Kaolin prospects reliable assays consisted of logs and assay data from 3 holes at Bunora East drilled in 2020. This area was

Criteria	JORC Code explanation	ChemX Materials Ltd. Commentary
		investigated both on a reconnaissance basis and once high-grade residual clays were identified on a single line of drill holes approximately 100 m apart for 1.8 km along a ridge line. Lateral holes were drilled to relate the topography to the mineralization and establish a basis for subsequent programs. • The exploration results are based on a variable drill grid density and considered by the CP as appropriate for the reporting of Exploration Results only. Additional drilling is required to potentially establish and report a maiden Mineral Resource. • Depths were to the extent of the kaolin mineralisation, to a maximum of 56 m. Drilling and assaying has established the basis for a follow-up phase to investigate an exploration target and an inferred to indicated resource. • Sample compositing was applied only to down hole intervals according to the procedures detailed above. There was no compositing of mineralized intervals from separate holes.
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.*	• There is no basis for drilling other than vertical holes at the kaolin prospects. • There is no evidence available, or considered likely to exist, that would require a re-orientation of the drilling. Accordingly, there is considered to be no identifiable bias in the results that could relate to other than normal weathering processes.
Sample security	• *The measures taken to ensure sample security.*	• Samples were collected from the field on the day or following day from drilling and transported to the exploration laydown area located on a private property within EL6634. The exploration laydown area is within 200m of the homestead/outbuildings and is secure. • Individual sample bags are folded and on a slight slope with open end folded under the sample and pointed down-slope to mitigate to ingress of moisture or foreign matter.

Criteria	JORC Code explanation	ChemX Materials Ltd. Commentary
Audits or reviews	• *The results of any audits or reviews of sampling techniques and data.*	• There have been no external reviews completed.

Section 2 Reporting of Exploration Results

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

Criteria	JORC Code explanation	ChemX Materials Ltd. 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.*	• The Project comprises licences EL6634 and EL5920, colloquially named Carappee Hill. • EL6634 is located approximately 20km SSW of Kimba (Legal Area 664km2), and EL5920 approximately 60km NW of Cowell (Legal Area 54km2), with the tenements being held 100% by ChemX Materials Ltd. • No Native Title has been registered. • There are two small Conservation Parks within EL6634 (Malgra and Lacroma) and one, Caralue Bluff, excised from EL6634. Several Heritage Vegetation areas have also been identified within the tenements. • Within the tenements are MPL150 (within EL5920) and MPL151 (within both EL6634 & 5020). These are registered to Pirie Resources P/L as part of their Campoona Graphite project. • EML6324, covering 5.6 Ha, is a private mine registered for sand production within EL6634. • The Company is duly bound under a Mineral Rights Agreement with Pirie Resources from conducting exploration for, mining or processing graphite within the Wilclo South excluded area, contained within the Tenements (Wilclo South Excluded Area). Other Minerals, noted as Excluded Minerals, ChemX Materials holds eligibility with respect to exploration, mining and processing

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Exploration done by other parties	• *Acknowledgment and appraisal of exploration by other parties.*	**<u>Clay Activities:</u>** • There have been no published studies specifically relating to Rare Earth Elements and Ionic Adsorption Clays in the Kimba project area. During 1969-72, kaolinised bedrock, south of Kimba on northern Eyre Peninsula, was investigated by Pechiney and CSR Ltd as a potential source of alumina. Exploration drilling of 102 holes outlined 4 broad areas of kaolinisation at Kelly Tank, Bunora-Balumbah, Campoona Hill and Chinmina Creek. • Acid soluble alumina content for kaolin was between 20-30%, but at these grades the process of alumina extraction was deemed uneconomic. Kaolin from areas with the largest inferred resources at Kelly Tank and Bunora- Balumbah were subsequently investigated as a raw material for coating paper and for refractory ceramic manufacture. Kaolin quality was variable and considered to be below that required for high-grade kaolin markets and applications. • While the presence of halloysite was speculated as a possible cause of the poor rheological behaviour of the clays in high concentration slips under high shear, its presence was not definitively proven. • The South Australia Department of Mineral Resources undertook limited drilling in the area to follow-up on the results obtained by Pechiney in the Kelly Tank and Bunora East areas and in 1993 published a comprehensive report. • Drilling by Archer during 2019/2020, within EL6634, identified several areas with high grade white kaolin clay at Kelly Tank and Bunora as well as providing substantial analytical, and some mineralogical data orientated towards the identification of halloysite in both areas. At Kelly Tank and Bunora 10 out of 21 holes drilled assayed >35% Al_2O_3 and <0.9% Fe_2O_3. **<u>Highlights included:</u>** • 14m assaying 35.5% Al_2O_3, 0.38% Fe_2O_3, within a section yielding 52.6% of -45µm material and

Criteria	JORC Code explanation	ChemX Materials Ltd. Commentary
		• 23m assaying 36.1% Al2O3, 0.38% Fe2O3, within a section that yielded 77.1% of -45µm material confirming suitable kaolinite quality at Kelly Tank and Bunora. • Testing revealed the presence of halloysite at both prospects. **References** • Ferris G.M. S.A. Mineral Resources Report 93/37. Review of Exploration for Kimba Area, Eyre Peninsular, • South Australia. • Ashworth D.R 1974. Report on clay samples from Kimba. Progress Report No. 1 for period ending 14 • September 1970. S.A Dept. of Mines and Energy. Open File Envelope 1262 (Unpublished). • Deschamps J.M. 1969. Synthesis of research work as at 1 August 1969. Kimba. SML 160. S.A. Dept. Mines and Energy. Open File Envelope 893 (Unpublished). • Spry, Dr. A. H., Ashworth, D. R. and Pluck, K. M. 1972. Assessment of clay samples for Kimba. Amdel Ltd • Final progress Rpt. S.A Dept Mines and Energy. Open file Envelope 1948 (Unpublished)
Geology	• *Deposit type, geological setting and style of mineralization.*	• Dominant within the tenements are Palaeoproterozoic basin sediments, of circa 2000-1850 Ma Hutchison Group sediments, unconformably overlying late Archaean (ca 2400 Ma) inliers of para and orthogneiss. • The kaolinite mineralization is a product of intense weathering and leaching of acid volcanic schist and Granitic gneiss within the Cleve sub-domain of the Gawler Craton.
Drill hole Information	• *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:* ○ *easting and northing of the drill hole collar*	• All drill hole collar information is presented in Appendix 2, Drill Hole Collar Table. • The significant assays are included as Appendix 3. Significant intervals

Criteria	JORC Code explanation	ChemX Materials Ltd. Commentary
	○ *elevation or RL (Reduced Level – elevation above sea level in metres) of the drill hole collar* ○ *dip and azimuth of the hole* ○ *down hole length and interception depth* ○ *hole length.* • *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.*	tend to be related to those of the highest chemical purity, in relation to kaolin in the -45 micron fraction or, the overall concentration of REE, or a particular grouping of REE, for example the high value magnet metals (MREO).
Data aggregation methods	• *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.* • *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.*	• All screened -45 micron results are reported as received from the laboratory with data filtering applied to show only those samples exceeding a >500ppm TREO basis, with no aggregation of 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 drill hole 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 (eg 'down hole length, true width not known').	• All samples and results relate to single continuous down hole intervals be they single metres or composited samples.
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 drill hole collar locations and appropriate sectional views.*	• A map illustrating the locations of drill holes related to this release in presented in the release as Figure 3 and significant intervals are included in Appendix 3 of this release. • Several additional prospects are shown on the map that are not necessarily related to areas prospective for kaolin.

Criteria	JORC Code explanation	ChemX Materials Ltd. Commentary
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.*	• All assay results received from samples submitted to Bureau Veritas from the drilling program have now been reported and all not previously reported are included in this release.
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.*	• During drilling, a significant relationship was observed between the quality of the clay, the thickness of the weathered profile and the topography and elevation in some areas. Transported kaolin clays and associated sands were also noted in broad drainages related to elevated residual clays that require follow-up for a potential enrichment of Rare Earth Elements.
Further work	• *The nature and scale of planned further work (eg 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.*	• Additional exploration work is required to extend the geological understanding of the kaolin in terms of resources and quality for various markets, the distribution and quantification of Halloysite through the various prospects, the distribution of the Rare Earth Elements (REE) and the recovery of these elements from the host clays. • Additional drilling at Kelly Tank, Bunora East and Bunora South will now be planned for the next available opportunity to follow-up on current results and define the limits of mineralization at each prospect as well as testing new prospective areas.

Appendix 2 – Drill Hole Collar Table

Hole ID	Datum				
	MGA94 Z53_mE	MGA94 Z53_mN	Collar Elevation ASL m.	Dip	EOH m.
KT_001	638570	6316950	316	-90	39
KT_002	638670	6316950	318	-90	33
KT_003	638770	6316950	314	-90	30
KT_004	638470	6316830	318	-90	36
KT_005	638570	6316830	319	-90	39
KT_006	638670	6316830	321	-90	30
KT_007	638770	6316830	315	-90	48
KT_008	638870	6316830	320	-90	36
KT_009	638170	6316730	322	-90	54
KT_010	638370	6316730	323	-90	27
KT_011	638470	6316730	326	-90	33
KT_012	638570	6316730	328	-90	42
KT_013	638670	6316730	329	-90	42
KT_014	638070	6316630	342	-90	12
KT_015	638170	6316630	330	-90	30
KT_016	638270	6316630	323	-90	27
KT_017	638370	6316630	321	-90	30
KT_018	638470	6316630	321	-90	20
KT_019	638570	6316630	329	-90	24
KT_020	638070	6316530	328	-90	17
KT_021	638170	6316530	328	-90	38
KT_022	638270	6316530	334	-90	30
KT_023	638370	6316530	324	-90	36
KT_027	638370	6316430	329	-90	12
KT_028	638470	6316430	326	-90	12
KT_029	637970	6316330	324	-90	21
KT_040	638270	6316230	343	-90	15
KT_050	638470	6316130	304	-90	18
KT_051	638595	6316130	305	-90	24
MK_75	628808	6320806	318	-90	47
MK_76	628925	6320674	321	-90	39
MK_77	629074	6320570	322	-90	33
MK_78	629232	6320602	317	-90	30
MK_79	629133	6320423	323	-90	21
MK_80	628984	6320506	331	-90	55
MK_81	628862	6320624	318	-90	30
MK_82	628695	6320876	322	-90	10
MK_83	628660	6320339	319	-90	11
MK_84	629037	6320407	327	-90	24
SP_53	628700	6321740	312	-90	31
SP_054	628440	6321400	307	-90	18

Hole ID	Datum				
	MGA94 Z53_mE	MGA94 Z53_mN	Collar Elevation ASL m.	Dip	EOH m.
SP_055	628640	6321400	304	-90	24
SP_055A	628270	6321410	297	-90	18
SP_056	628840	6321400	299	-90	12
SP_057	629040	6321400	298	-90	12
SP_058	628640	6321200	311	-90	24
SP_059	628840	6321200	308	-90	9
SP_060	629040	6321200	301	-90	18
SP_062	630900	6322500	315	-90	18
SP_065	631525	6322340	291	-90	21
SP_066	629900	6323200	286	-90	15
SP_53A	628515	6321147	314	-90	42
SP_53B	628646	6321020	312	-90	45
SP_53C	628423	6321220	318	-90	32
SP_53D	628117	6321538	306	-90	56
SP_53E	628117	6321538	306	-90	42
SP_53F	628333	6321286	307	-90	56
SP_53G	628646	6321020	309	-90	21
SP_53H	628175	6321464	315	-90	33
SP_53I	628800	6320928	314	-90	18
SP_53J	628573	6321230	301	-90	42
SP_53K	628710	6321092	298	-90	39
SP_55	628333	5321286	312	-90	24
JP_69	626200	6320000	253	-90	11
JP_70	625972	6320202	257	-90	9
CN_103	624600	6319800	279	-90	15
CN_104	624100	6319800	276	-90	15
CN_107	624250	6318900	266	-90	12
CN_108	625100	6318900	268	-90	9
JC_086	625450	6316850	248	-90	24
JC_087	625106	6316296	270	-90	30
JC_088	625104	6316186	277	-90	27
JC_089	625221	6316043	267	-90	12
JC_090	625200	6316250	258	-90	11
JC_094	625173	6316665	283	-90	18
JC_096	625374	6316289	271	-90	15
JC_097	625249	6316446	279	-90	19
JC_098	625223	6316312	274	-90	39
JC_099	625104	6316449	272	-90	23
JC_100	625215	6316405	277	-90	27
			Total m.		**2204**

*All drill holes were vertical. All coordinates MGA94 53S.

Appendix 3 – Significant Results (-45µm & > 500ppm TREO)

HOLE ID	Sample ID	Al_2O_3	TREO	Nd_2O_3		Pr_6O_{11}		Dy_2O_3		Tb_4O_7		%NdPr	%MREO
		%	*ppm*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*%TREO*	*%TREO*
JC_100	JCK 181 -45µm	30.8	588.5	99.1	16.8%	27.8	4.7%	9.8	1.7%	1.8	0.3%	21.6%	23.5%
JC_100	JCK 183 -45µm	31.6	613.6	95.1	15.5%	27.8	4.5%	9.2	1.5%	1.8	0.3%	20.0%	21.8%
JC_100	JCK 184 -45µm	31.0	718.7	111.4	15.5%	33.8	4.7%	12.1	1.7%	2.4	0.3%	20.2%	22.2%
JC_87	JCK 195 -45µm	35.5	706.0	88.1	12.5%	26.6	3.8%	21.8	3.1%	3.5	0.5%	16.2%	19.8%
JC_87	JCK 196 -45µm	37.4	609.9	83.4	13.7%	26.6	4.4%	7.5	1.2%	1.2	0.2%	18.0%	19.4%
JC_87	JCK 306 -45µm	36.8	842.7	116.1	13.8%	37.5	4.4%	9.2	1.1%	1.8	0.2%	18.2%	19.5%
JC_87	JCK 307 -45µm	37.0	627.6	75.2	12.0%	27.8	4.4%	4.6	0.7%	1.2	0.2%	16.4%	17.3%
JC_87	JCK 310 -45µm	35.0	635.6	100.9	15.9%	29.0	4.6%	12.1	1.9%	2.4	0.4%	20.4%	22.7%
JC_88	JCK 190 -45µm	37.4	562.9	85.7	15.2%	26.6	4.7%	6.3	1.1%	1.2	0.2%	20.0%	21.3%
JC_88	JCK 191 -45µm	36.8	628.4	86.9	13.8%	30.2	4.8%	6.9	1.1%	1.2	0.2%	18.6%	19.9%
JC_88	JCK 192 -45µm	36.3	657.9	98.0	14.9%	32.6	5.0%	8.0	1.2%	1.8	0.3%	19.9%	21.3%
JC_88	JCK 193 -45µm	35.5	844.1	121.3	14.4%	41.1	4.9%	9.8	1.2%	2.4	0.3%	19.2%	20.7%
JC_88	JCK 194 -45µm	32.9	572.9	75.8	13.2%	25.4	4.4%	8.0	1.4%	1.8	0.3%	17.7%	19.4%
JC_88	JCK 202 -45µm	37.0	684.7	106.7	15.6%	32.6	4.8%	9.2	1.3%	1.8	0.3%	20.4%	22.0%
JC_96	JCK 179 -45µm	34.4	1188.5	172.6	14.5%	58.0	4.9%	13.8	1.2%	2.9	0.2%	19.4%	20.8%
JC_96	JCK 180 -45µm	35.3	538.9	83.4	15.5%	26.6	4.9%	6.3	1.2%	1.2	0.2%	20.4%	21.8%
JC_99	JCK 207 -45µm	35.5	614.7	81.6	13.3%	27.8	4.5%	5.7	0.9%	1.2	0.2%	17.8%	18.9%
KT_11	KTK 116 -45µm	35.1	577.8	98.6	17.1%	29.0	5.0%	7.5	1.3%	1.8	0.3%	22.1%	23.7%
KT_11	KTK 117 -45µm	33.8	680.6	104.4	15.3%	32.6	4.8%	7.5	1.1%	1.8	0.3%	20.1%	21.5%
KT_11	KTK 57 -45µm	32.7	655.7	95.6	14.6%	29.0	4.4%	7.5	1.1%	1.2	0.2%	19.0%	20.3%
KT_11	KTK 58 -45µm	32.7	701.5	103.8	14.8%	30.2	4.3%	8.0	1.1%	1.8	0.3%	19.1%	20.5%
KT_11	KTK 59 -45µm	32.9	630.7	91.6	14.5%	27.8	4.4%	8.6	1.4%	1.8	0.3%	18.9%	20.6%
KT_12	KTK 33 -45µm	33.1	523.9	84.6	16.1%	24.2	4.6%	8.6	1.6%	1.8	0.3%	20.8%	22.7%
KT_12	KTK 34 -45µm	34.2	528.2	78.1	14.8%	23.0	4.3%	10.9	2.1%	2.4	0.4%	19.1%	21.7%
KT_12	KTK 35 -45µm	33.1	561.3	78.1	13.9%	25.4	4.5%	8.0	1.4%	1.8	0.3%	18.4%	20.2%

HOLE ID	Sample ID	Al_2O_3	TREO	Nd_2O_3		Pr_6O_{11}		Dy_2O_3		Tb_4O_7		%NdPr	%MREO
		%	*ppm*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*%TREO*	*%TREO*
KT_12	KTK 36 -45µm	34.4	501.3	71.1	14.2%	24.2	4.8%	7.5	1.5%	1.2	0.2%	19.0%	20.7%
KT_13	KTK 77 -45µm	35.3	946.2	171.5	18.1%	54.4	5.7%	9.8	1.0%	2.4	0.2%	23.9%	25.1%
KT_13	KTK 78 -45µm	35.3	627.1	101.5	16.2%	31.4	5.0%	6.3	1.0%	1.2	0.2%	21.2%	22.4%
KT_13	KTK 79 -45µm	35.3	599.8	99.1	16.5%	30.2	5.0%	6.3	1.1%	1.2	0.2%	21.6%	22.8%
KT_13	KTK 80 -45µm	34.2	616.2	95.1	15.4%	30.2	4.9%	6.9	1.1%	1.8	0.3%	20.3%	21.7%
KT_13	KTK 81 -45µm	32.7	824.1	133.0	16.1%	41.1	5.0%	10.3	1.3%	2.4	0.3%	21.1%	22.7%
KT_13	KTK 82 -45µm	34.4	984.7	158.6	16.1%	49.5	5.0%	8.6	0.9%	2.4	0.2%	21.1%	22.3%
KT_13	KTK 83 -45µm	32.1	1503.3	205.3	13.7%	65.2	4.3%	14.9	1.0%	2.9	0.2%	18.0%	19.2%
KT_13	KTK 84 -45µm	30.6	1077.4	173.8	16.1%	48.3	4.5%	14.9	1.4%	2.9	0.3%	20.6%	22.3%
KT_14	KTK 53 -45µm	29.9	592.6	96.2	16.2%	27.8	4.7%	9.2	1.5%	1.8	0.3%	20.9%	22.8%
KT_15	KTK 120 -45µm	36.5	718.5	137.6	19.2%	38.7	5.4%	13.8	1.9%	2.9	0.4%	24.5%	26.9%
KT_15	KTK 122 -45µm	35.7	597.4	105.6	17.7%	30.2	5.1%	11.5	1.9%	2.4	0.4%	22.7%	25.0%
KT_15	KTK 123 -45µm	34.0	650.3	116.6	17.9%	33.8	5.2%	13.8	2.1%	2.4	0.4%	23.1%	25.6%
KT_15	KTK 54 -45µm	27.8	590.9	95.6	16.2%	27.8	4.7%	9.2	1.6%	1.8	0.3%	20.9%	22.7%
KT_15	KTK 85 -45µm	33.4	852.5	144.6	17.0%	49.5	5.8%	9.8	1.1%	2.4	0.3%	22.8%	24.2%
KT_16	KTK 112 -45µm	36.1	1138.3	127.1	11.2%	38.7	3.4%	8.0	0.7%	1.8	0.2%	14.6%	15.4%
KT_16	KTK 113 -45µm	32.3	937.5	122.5	13.1%	38.7	4.1%	12.6	1.3%	2.4	0.3%	17.2%	18.8%
KT_16	KTK 114 -45µm	33.4	501.8	86.3	17.2%	24.2	4.8%	6.9	1.4%	1.8	0.4%	22.0%	23.7%
KT_16	KTK 40 -45µm	27.4	514.0	78.7	15.3%	25.4	4.9%	4.0	0.8%	0.6	0.1%	20.3%	21.1%
KT_16	KTK 86 -45µm	34.2	797.5	114.3	14.3%	37.5	4.7%	13.2	1.7%	2.4	0.3%	19.0%	21.0%
KT_17	KTK 41 -45µm	30.2	878.6	154.0	17.5%	42.3	4.8%	9.8	1.1%	1.8	0.2%	22.3%	23.6%
KT_17	KTK 87 -45µm	33.4	668.5	102.1	15.3%	29.0	4.3%	14.3	2.1%	2.9	0.4%	19.6%	22.2%
KT_18	KTK 88 -45µm	31.6	888.3	126.0	14.2%	35.0	3.9%	19.5	2.2%	2.9	0.3%	18.1%	20.7%
KT_19	KTK 130 -45µm	35.3	625.4	95.1	15.2%	27.8	4.4%	6.9	1.1%	1.8	0.3%	19.6%	21.0%
KT_19	KTK 131 -45µm	36.1	772.8	176.1	22.8%	41.1	5.3%	10.3	1.3%	2.9	0.4%	28.1%	29.8%
KT_19	KTK 132 -45µm	34.6	816.4	176.1	21.6%	42.3	5.2%	11.5	1.4%	2.9	0.4%	26.8%	28.5%

HOLE ID	Sample ID	Al_2O_3	TREO	Nd_2O_3		Pr_6O_{11}		Dy_2O_3		Tb_4O_7		%NdPr	%MREO
		%	*ppm*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*%TREO*	*%TREO*
KT_19	KTK 133 -45µm	32.5	655.8	122.5	18.7%	36.2	5.5%	9.2	1.4%	2.4	0.4%	24.2%	26.0%
KT_2	KTK 1 -45µm	32.1	615.6	99.1	16.1%	29.0	4.7%	8.0	1.3%	1.2	0.2%	20.8%	22.3%
KT_2	KTK 2 -45µm	32.7	725.4	109.6	15.1%	32.6	4.5%	8.6	1.2%	1.8	0.2%	19.6%	21.0%
KT_2	KTK 3 -45µm	30.4	729.9	105.0	14.4%	31.4	4.3%	9.2	1.3%	1.8	0.2%	18.7%	20.2%
KT_2	KTK 4 -45µm	33.1	962.4	145.8	15.1%	47.1	4.9%	9.2	1.0%	1.8	0.2%	20.0%	21.2%
KT_2	KTK 5 -45µm	31.2	1060.1	158.6	15.0%	52.0	4.9%	8.0	0.8%	1.8	0.2%	19.9%	20.8%
KT_21	KTK 100 -45µm	34.2	675.1	97.4	14.4%	27.8	4.1%	10.9	1.6%	2.4	0.3%	18.5%	20.5%
KT_21	KTK 101 -45µm	31.0	2228.5	302.1	13.6%	84.6	3.8%	39.0	1.8%	7.6	0.3%	17.4%	19.4%
KT_21	KTK 96 -45µm	35.3	577.2	77.0	13.3%	24.2	4.2%	8.6	1.5%	1.8	0.3%	17.5%	19.3%
KT_21	KTK 98 -45µm	34.4	697.6	98.6	14.1%	31.4	4.5%	10.9	1.6%	2.4	0.3%	18.6%	20.5%
KT_21	KTK 99 -45µm	34.6	519.0	68.8	13.3%	20.5	4.0%	8.6	1.7%	1.8	0.3%	17.2%	19.2%
KT_22	KTK 135 -45µm	35.3	1015.5	129.5	12.7%	39.9	3.9%	13.2	1.3%	2.9	0.3%	16.7%	18.3%
KT_22	KTK 137 -45µm	33.3	971.8	104.4	10.7%	29.0	3.0%	9.2	0.9%	2.4	0.2%	13.7%	14.9%
KT_22	KTK 138 -45µm	30.4	586.7	88.1	15.0%	24.2	4.1%	11.5	2.0%	2.4	0.4%	19.1%	21.5%
KT_22	KTK 46 -45µm	29.9	633.6	95.6	15.1%	29.0	4.6%	8.0	1.3%	1.8	0.3%	19.7%	21.2%
KT_3	KTK 6 -45µm	33.1	504.6	75.8	15.0%	23.0	4.5%	5.7	1.1%	1.2	0.2%	19.6%	20.9%
KT_3	KTK 7 -45µm	34.8	599.8	78.1	13.0%	27.8	4.6%	5.7	1.0%	1.2	0.2%	17.7%	18.8%
KT_4	KTK 10 -45µm	34.6	789.9	117.8	14.9%	37.5	4.7%	8.0	1.0%	1.8	0.2%	19.7%	20.9%
KT_4	KTK 11 -45µm	31.2	992.5	165.6	16.7%	50.7	5.1%	13.2	1.3%	2.4	0.2%	21.8%	23.4%
KT_4	KTK 63 -45µm	33.3	780.0	142.3	18.2%	39.9	5.1%	11.5	1.5%	2.4	0.3%	23.4%	25.1%
KT_4	KTK 64 -45µm	32.9	649.8	121.3	18.7%	33.8	5.2%	10.3	1.6%	2.4	0.4%	23.9%	25.8%
KT_5	KTK 67 -45µm	31.9	822.8	130.6	15.9%	39.9	4.8%	9.8	1.2%	1.8	0.2%	20.7%	22.1%
KT_5	KTK 68 -45µm	31.6	678.9	106.1	15.6%	32.6	4.8%	9.8	1.4%	1.8	0.3%	20.4%	22.1%
KT_5	KTK 69 -45µm	30.4	1117.4	192.5	17.2%	60.4	5.4%	9.8	0.9%	2.4	0.2%	22.6%	23.7%
KT_5	KTK 70 -45µm	29.5	884.3	154.0	17.4%	47.1	5.3%	8.0	0.9%	1.8	0.2%	22.7%	23.8%
KT_5	KTK 71 -45µm	29.1	1330.1	211.1	15.9%	64.0	4.8%	13.8	1.0%	2.9	0.2%	20.7%	21.9%

HOLE ID	Sample ID	Al_2O_3	TREO	Nd_2O_3		Pr_6O_{11}		Dy_2O_3		Tb_4O_7		%NdPr	%MREO
		%	*ppm*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*%TREO*	*%TREO*
KT_51	KTK 108 -45µm	33.4	1108.7	165.6	14.9%	54.4	4.9%	10.3	0.9%	2.4	0.2%	19.8%	21.0%
KT_51	KTK 109 -45µm	33.3	998.8	170.3	17.0%	53.2	5.3%	10.9	1.1%	2.4	0.2%	22.4%	23.7%
KT_51	KTK 110 -45µm	31.4	738.5	120.1	16.3%	33.8	4.6%	11.5	1.6%	2.4	0.3%	20.8%	22.7%
KT_51	KTK 92 -45µm	34.0	940.7	144.6	15.4%	47.1	5.0%	8.6	0.9%	2.4	0.3%	20.4%	21.5%
KT_51	KTK 93 -45µm	33.1	923.9	150.5	16.3%	47.1	5.1%	11.5	1.2%	2.4	0.3%	21.4%	22.9%
KT_51	KTK 94 -45µm	30.6	695.2	110.2	15.9%	32.6	4.7%	10.9	1.6%	2.4	0.3%	20.5%	22.5%
KT_6	KTK 12 -45µm	31.9	1206.1	178.5	14.8%	53.2	4.4%	13.2	1.1%	2.4	0.2%	19.2%	20.5%
KT_6	KTK 13 -45µm	32.3	884.2	135.3	15.3%	39.9	4.5%	10.9	1.2%	1.8	0.2%	19.8%	21.2%
KT_6	KTK 14 -45µm	31.6	867.4	120.1	13.8%	36.2	4.2%	9.8	1.1%	1.8	0.2%	18.0%	19.4%
KT_6	KTK 72 -45µm	32.5	1066.8	138.8	13.0%	44.7	4.2%	8.6	0.8%	1.8	0.2%	17.2%	18.2%
KT_6	KTK 73 -45µm	33.3	1001.4	149.3	14.9%	47.1	4.7%	10.9	1.1%	2.4	0.2%	19.6%	20.9%
KT_6	KTK 74 -45µm	33.6	1121.2	156.3	13.9%	48.3	4.3%	12.1	1.1%	2.4	0.2%	18.3%	19.5%
KT_6	KTK 75 -45µm	31.6	1150.3	158.6	13.8%	48.3	4.2%	13.2	1.1%	2.9	0.3%	18.0%	19.4%
KT_6	KTK 76 -45µm	31.4	606.4	91.0	15.0%	26.6	4.4%	9.8	1.6%	2.4	0.4%	19.4%	21.4%
KT_7	KTK 16 -45µm	34.2	2467.6	449.1	18.2%	141.4	5.7%	32.1	1.3%	6.5	0.3%	23.9%	25.5%
KT_7	KTK 18 -45µm	31.7	1290.3	191.3	14.8%	60.4	4.7%	14.3	1.1%	2.4	0.2%	19.5%	20.8%
KT_7	KTK 19 -45µm	32.7	733.0	99.7	13.6%	31.4	4.3%	9.8	1.3%	1.8	0.2%	17.9%	19.5%
KT_7	KTK 21 -45µm	32.7	653.8	113.1	17.3%	30.2	4.6%	13.2	2.0%	2.4	0.4%	21.9%	24.3%
KT_7	KTK 22 -45µm	31.2	696.6	116.1	16.7%	31.4	4.5%	14.9	2.1%	2.4	0.3%	21.2%	23.6%
KT_8	KTK 25 -45µm	33.1	638.1	93.9	14.7%	30.2	4.7%	10.3	1.6%	1.8	0.3%	19.4%	21.3%
KT_8	KTK 26 -45µm	31.4	1221.7	169.1	13.8%	56.8	4.6%	10.3	0.8%	1.8	0.1%	18.5%	19.5%
MK_75	MKK 247 -45µm	36.3	895.9	138.8	15.5%	45.9	5.1%	4.0	0.4%	1.2	0.1%	20.6%	21.2%
MK_75	MKK 248 -45µm	37.6	800.9	115.5	14.4%	35.0	4.4%	3.4	0.4%	1.2	0.1%	18.8%	19.4%
MK_77	MKK 213 -45µm	36.3	520.0	64.2	12.3%	23.0	4.4%	1.7	0.3%	0.6	0.1%	16.8%	17.2%
MK_77	MKK 215 -45µm	37.2	1320.7	208.8	15.8%	64.0	4.8%	8.0	0.6%	2.4	0.2%	20.7%	21.4%
MK_77	MKK 216 -45µm	36.8	1061.3	209.9	19.8%	55.6	5.2%	21.2	2.0%	4.1	0.4%	25.0%	27.4%

HOLE ID	Sample ID	Al_2O_3	TREO	Nd_2O_3		Pr_6O_{11}		Dy_2O_3		Tb_4O_7		%NdPr	%MREO
		%	*ppm*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*%TREO*	*%TREO*
MK_78	MKK 221 -45µm	35.9	517.9	85.1	16.4%	25.4	4.9%	6.3	1.2%	1.2	0.2%	21.3%	22.8%
MK_78	MKK 222 -45µm	34.6	735.6	103.2	14.0%	33.8	4.6%	7.5	1.0%	1.2	0.2%	18.6%	19.8%
MK_78	MKK 223 -45µm	26.6	656.5	99.1	15.1%	30.2	4.6%	8.6	1.3%	1.8	0.3%	19.7%	21.3%
MK_80	MKK 204 -45µm	35.9	670.7	137.6	20.5%	39.9	5.9%	6.3	0.9%	1.8	0.3%	26.5%	27.7%
MK_81	MKK 241 -45µm	33.1	751.2	155.1	20.6%	42.3	5.6%	4.0	0.5%	1.8	0.2%	26.3%	27.0%
SP_53	SPK 153 -45µm	35.9	523.6	101.5	19.4%	27.8	5.3%	2.3	0.4%	0.6	0.1%	24.7%	25.2%
SP_53	SPK 154 -45µm	24.9	573.3	93.9	16.4%	21.7	3.8%	4.6	0.8%	1.2	0.2%	20.2%	21.2%
SP_53	SPK 155 -45µm	35.1	2141.2	284.6	13.3%	80.9	3.8%	5.2	0.2%	1.8	0.1%	17.1%	17.4%
SP_53	SPK 195 -45µm	36.1	730.9	148.1	20.3%	37.5	5.1%	4.0	0.5%	1.2	0.2%	25.4%	26.1%
SP_53A	SPK 150 -45µm	24.6	596.5	91.0	15.3%	26.6	4.5%	5.2	0.9%	1.2	0.2%	19.7%	20.8%
SP_53A	SPK 151 -45µm	31.2	572.6	89.2	15.6%	25.4	4.4%	5.2	0.9%	1.2	0.2%	20.0%	21.1%
SP_53A	SPK 201 -45µm	35.5	1774.2	247.3	13.9%	65.2	3.7%	11.5	0.6%	2.9	0.2%	17.6%	18.4%
SP_53A	SPK 204 -45µm	30.4	527.3	77.6	14.7%	23.0	4.4%	5.2	1.0%	1.2	0.2%	19.1%	20.3%
SP_53A	SPK 206 -45µm	35.1	504.5	58.9	11.7%	16.9	3.4%	6.9	1.4%	1.2	0.2%	15.0%	16.6%
SP_53B	SPK 111 -45µm	32.7	1730.4	472.4	27.3%	138.9	8.0%	17.8	1.0%	5.3	0.3%	35.3%	36.7%
SP_53B	SPK 117 -45µm	31.4	2170.3	433.9	20.0%	147.4	6.8%	17.8	0.8%	4.1	0.2%	26.8%	27.8%
SP_53B	SPK 118 -45µm	32.7	719.8	117.8	16.4%	36.2	5.0%	3.4	0.5%	1.2	0.2%	21.4%	22.0%
SP_53D	SPK 160 -45µm	33.8	562.4	63.0	11.2%	20.5	3.7%	2.9	0.5%	0.6	0.1%	14.9%	15.5%
SP_53D	SPK 191 -45µm	30.8	983.6	106.1	10.8%	32.6	3.3%	4.6	0.5%	1.2	0.1%	14.1%	14.7%
SP_53D	SPK 194 -45µm	32.7	816.5	122.5	15.0%	37.5	4.6%	3.4	0.4%	1.2	0.1%	19.6%	20.2%
SP_53F	SPK 107 -45µm	32.3	546.6	117.8	21.6%	30.2	5.5%	4.6	0.8%	1.2	0.2%	27.1%	28.1%
SP_53F	SPK 109 -45µm	35.5	599.3	116.6	19.5%	30.2	5.0%	6.9	1.1%	1.8	0.3%	24.5%	25.9%
SP_53F	SPK 110 -45µm	34.4	501.1	88.6	17.7%	24.2	4.8%	2.9	0.6%	1.2	0.2%	22.5%	23.3%
SP_53G	SPK 119 -45µm	31.7	1468.0	212.3	14.5%	66.4	4.5%	26.4	1.8%	4.7	0.3%	19.0%	21.1%
SP_53G	SPK 168 -45µm	33.3	1194.7	157.5	13.2%	50.7	4.2%	23.0	1.9%	4.1	0.3%	17.4%	19.7%
SP_53H	SPK 167 -45µm	24.2	785.7	140.0	17.8%	42.3	5.4%	7.5	0.9%	1.8	0.2%	23.2%	24.4%

HOLE ID	Sample ID	Al_2O_3	TREO	Nd_2O_3		Pr_6O_{11}		Dy_2O_3		Tb_4O_7		%NdPr	%MREO
		%	*ppm*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*ppm*	*%TREO*	*%TREO*	*%TREO*
SP_53H	SPK 233 -45µm	35.1	544.9	84.6	15.5%	25.4	4.7%	2.9	0.5%	0.6	0.1%	20.2%	20.8%
SP_53I	SPK 165 -45µm	25.5	981.8	161.0	16.4%	48.3	4.9%	8.6	0.9%	2.4	0.2%	21.3%	22.4%
SP_53J	SPK 173 -45µm	33.6	718.4	140.0	19.5%	42.3	5.9%	4.6	0.6%	1.2	0.2%	25.4%	26.2%
SP_53J	SPK 174 -45µm	36.5	888.8	157.5	17.7%	59.2	6.7%	4.0	0.5%	1.2	0.1%	24.4%	25.0%
SP_53J	SPK 245 -45µm	36.8	504.9	79.9	15.8%	27.8	5.5%	2.9	0.6%	0.6	0.1%	21.3%	22.0%
SP_53J	SPK 246 -45µm	36.3	912.3	161.0	17.6%	52.0	5.7%	4.0	0.4%	1.2	0.1%	23.3%	23.9%
SP_53K	SPK 177 -45µm	33.8	763.3	123.6	16.2%	38.7	5.1%	10.3	1.4%	1.8	0.2%	21.3%	22.8%
SP_53K	SPK 179 -45µm	36.3	652.0	137.6	21.1%	33.8	5.2%	13.2	2.0%	2.9	0.5%	26.3%	28.8%
SP_53K	SPK 181 -45µm	36.1	663.6	102.6	15.5%	32.6	4.9%	2.9	0.4%	1.2	0.2%	20.4%	21.0%
SP_53K	SPK 183 -45µm	35.1	773.3	147.0	19.0%	41.1	5.3%	5.7	0.7%	1.8	0.2%	24.3%	25.3%
SP_55	SPK 143 -45µm	33.4	512.8	84.0	16.4%	23.0	4.5%	2.9	0.6%	0.6	0.1%	20.9%	21.5%
SP_55	SPK 145 -45µm	32.5	2271.1	509.7	22.4%	140.1	6.2%	10.3	0.5%	2.9	0.1%	28.6%	29.2%
SP_55	SPK 229 -45µm	37.6	647.1	86.9	13.4%	27.8	4.3%	2.3	0.4%	0.6	0.1%	17.7%	18.2%
SP_55A	SPK 243 -45µm	28.7	1001.1	169.1	16.9%	49.5	4.9%	12.1	1.2%	2.9	0.3%	21.8%	23.3%
SP_56	SPK 135 -45µm	31.2	500.9	67.1	13.4%	18.1	3.6%	14.3	2.9%	2.4	0.5%	17.0%	20.3%
SP_56	SPK 136 -45µm	24.9	641.0	91.0	14.2%	24.2	3.8%	15.5	2.4%	2.9	0.5%	18.0%	20.8%
SP_57	SPK 230 -45µm	27.4	852.8	122.5	14.4%	36.2	4.3%	20.1	2.4%	2.9	0.3%	18.6%	21.3%
SP_58	SPK 222 -45µm	31.7	804.9	110.2	13.7%	31.4	3.9%	13.8	1.7%	2.4	0.3%	17.6%	19.6%
SP_59	SPK 148 -45µm	35.3	727.6	133.0	18.3%	39.9	5.5%	1.7	0.2%	0.6	0.1%	23.8%	24.1%
SP_60	SPK 225 -45µm	30.4	784.5	120.1	15.3%	36.2	4.6%	14.3	1.8%	2.9	0.4%	19.9%	22.1%
SP_62	SPK 216 -45µm	36.3	664.1	83.4	12.6%	30.2	4.5%	5.7	0.9%	1.2	0.2%	17.1%	18.1%
SP_65	SPK 219 -45µm	27.8	918.0	164.5	17.9%	45.9	5.0%	14.3	1.6%	2.9	0.3%	22.9%	24.8%
SP_66	SPK 127 -45µm	27.6	634.7	109.6	17.3%	30.2	4.8%	8.0	1.3%	1.8	0.3%	22.0%	23.6%
SP_66	SPK 129 -45µm	28.0	585.4	102.6	17.5%	27.8	4.7%	8.6	1.5%	2.4	0.4%	22.3%	24.2%

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